

2013 Innovation Fund Proposals

- City of Portland -

2013-14 Innovation Fund Proposals

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Innovation Fund Proposal Framework

The City of Portland **Innovation Fund** is designed to provide seed money for one-time investments that will encourage new, creative ideas to reduce ongoing expenses, increase revenues, create efficiencies, and provide improved services to the City's internal and external customers. Bureaus are encouraged to submit any ideas that accomplish those objectives, but areas of focus may include:

- leveraging technology to reduce manual processes or increase performance
- streamlining business processes
- implementing lean process improvement
- improving customer service
- collaborating with other governments and the private sector to reduce costs
- consolidating services currently provided by multiple entities to enhance service delivery and reduce costs.

Proposals that require work or business process changes from other bureaus or other agencies should be submitted with the approval and support from the other bureaus or agencies.

The Innovation Fund is not limited to General Fund bureaus. All bureaus can submit proposals for funding, including Enterprise Funds and Internal Services where potential savings and efficiencies could help hold down rates for and provide benefits to internal and external customers. Multi-year proposals may be considered, however ongoing operations and maintenance funding will not be available.

Projects will be approved as either a revolving loan (assumes that the initial funding is repaid) or a grant (project will not result in monetary savings that can be returned to the fund). Ongoing savings that result from the projects (once the initial loan has been repaid) will remain within the bureau's budget for reinvestment in other core mission functions.

Timeline

- Distribute draft framework and project evaluation criteria; solicit feedback and suggestions for Innovation Task Force members – August 12th
- Finalize project evaluation criteria – October 4th
- Identify members of Innovation Task Force – October 11th
- Deadline for FY 2013-14 project requests – November 4th
 - Funding may be awarded in two phases. The first phase will include projects that are immediately ready for implementation. The second phase will include projects that are initially submitted as concepts for feedback from the task force about feasibility, implementation strategies, and expected outcomes.
- Follow-up interviews by Innovation Task Force to review top scoring submissions – November

- Innovation Task Force recommends list of projects to Mayor – December 9th
- Mayor considers task force recommendations; determines which projects to forward to Council for phase one and two funding approval – January;
- Council approves phase one projects and directs appropriation of funds – February
- Council approves phase two projects (if any) and directs appropriation of funds in Spring BMP – May

Governance Structure

- The Innovation Fund will be overseen by the Innovation Task Force. The task force will consist of five members external to the City with expertise in one of the following areas: technology, customer service, finance, management, or public policy. Council Offices will submit nominations for members of the task force to the Mayor. Ideally, task force members will have experience in organizational transformation, entrepreneurship, and process improvement, and be willing to use that experience to help the City implement creative solutions to long-standing problems.
- Bureau requests will be submitted to the task force, which will rank the requests based on expected results, revenue generation, cost savings, and other criteria as determined. A ranked list and recommended budget will be forwarded to the Mayor for review and approval.
- Upon Council approval of a project, the appropriation will be transferred from Special Appropriations to the responsible bureau during a Budget Monitoring Process.
- The task force may continue to serve as an oversight body or assign a “project sponsor” during project implementation [to be determined at time of allocation; depending on project, might require coordination with other advisory groups, Bureau Advisory Committees, Technology Oversight Committee, etc.].
- While the voting members of the task force will all be external to the City, selected Council staff, bureau directors/managers, and other key City staff will participate in task force meetings in order to provide input and context, ask questions, and otherwise assist the process.
- The Mayor’s office will convene the Innovation Task Force. The City Budget Office will provide independent financial analysis and support. OMF and bureau staff will provide feedback and support on policy and operational impacts.

Submission requirements

- Project Description
 - Scope of work
 - Type of project (technology, consolidation of services, lean process improvement, redesigning business processes, etc)
 - Identification of potential challenges or obstacles
 - Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc)
 - Project timeline including start and end dates, major milestones, and risks to proposed timeline
- Project Outcomes (qualitative and quantitative)
 - Potential cost savings or increased revenues (one-time and/or ongoing)
 - Potential operational efficiencies
 - Who benefits from the cost savings and/or efficiencies
 - Performance metrics to track progress and expected outcomes
- Budget
 - Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project)
 - Leveraged funds
 - Return on investment timeline, if any, and confidence level of the projections
 - Ongoing operations and maintenance costs (identify costs and funding source)
 - Staff requirements (existing or new)
- All proposals must be approved by the bureau director prior to submission and include contact information for the project lead(s)

Review criteria

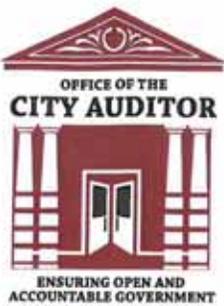
Funds will be awarded through a competitive process. A point system will be created for each criteria listed below to establish an overall “score” to be used as the basis for deciding which projects are funded. Projects that are funded as grants may be ranked separately from those that are funded as loans (i.e., positive ROI).

- Benefit to City government, other governments, and/or the community
- Amount of ongoing and/or one-time cost savings generated (General Fund discretionary savings will score higher)

- Financial sustainability beyond the initial investment (e.g. maintenance fees for a technology project should be accounted for when calculating the return on investment)
- Other funds leveraged (grants, external stakeholders, existing bureau funds, etc.)
- Time before positive return on investment (if any)
- Operational savings for bureaus (estimated efficiencies will be verified by the affected parties)
- Efficiencies resulting from lean process improvement
- Impacts on customer service (weigh the need for savings or efficiencies vs. the need to maintain customer service to the community, employees, and other stakeholders)
- Impacts on stakeholders (who benefits and who is burdened by implementing the proposal)
- Impacts on equity
- Implementation readiness (proposals that are “ready to go” and likely to result in quick outcomes)

Project Reporting

- If selected for funding, the bureau would be required to submit periodic reports (monthly, bi-monthly, or quarterly – to be determined at time of allocation) on the status of the project. The reports may include project status, updates to timeline, progress on meeting stated milestones, expenditures to date, next steps, etc. Early review of progress could lead the task force and implementing bureau to decide the innovation needs redirection, expansion, or is not worth pursuing beyond the initial phase. Meetings among project sponsors may be held periodically to share findings, discuss solutions, and problem solve roadblocks to success for each of the projects.
- Upon conclusion of the project, the bureau will submit a close-out report documenting the actual budget used for the project, actual savings or benefits obtained (one-time or ongoing), and actual impacts, including any unintended consequences. The report will also highlight the lessons learned and the applicability of the project outcomes to other areas of the City.



CITY OF PORTLAND

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Innovation Fund Proposal Creation of Online Citywide Mandatory Records Management Training

Project Description

The Archives & Records Management division (A/RM) of the Auditor's Office presented the "*City of Portland Electronic Recordkeeping: A Roadmap to Improved Practices and Compliance*" report to Council on August 7, 2013. As part of the conversation, Council indicated its interest in making records management training required for Council, City managers and all City employees, modeled after the Bureau of Human Resources 2.02 training. A/RM requests Innovation Fund support to create online training modules that will be available to employees through the existing CityLearner system.

Working with a consultant who specializes in adult learning, training and testing development, A/RM will translate and adapt its current in-person training to the online realm. A consultant who understands how to convey information to a variety of adult learning styles will increase comprehension. Testing components that accurately assess a learner's level of comprehension will lead to increased compliance among those that successfully complete the training.

While the focus of this project is to develop online training specific to employee records responsibilities and electronic recordkeeping, the resulting work product will act as a template for future training in other related areas as well, such as TRIM¹ usage, interacting with the records center, applying retention schedules, etc.

Outside of this discrete project, but running parallel to the timeline, A/RM will introduce an Ordinance to Council establishing Citywide records management training as a requirement. Policies and procedures for the training program will be created and verified against the City training policies currently being shaped by BHR.

Project Timeline

February 2014

- Develop request for proposal for a consultant who specializes in adult online training, development, and delivery; award contract

March 2014 – June 2014

- Work with consultant to develop appropriate training modules and accompanying materials
- Develop a template that can be used for future training
- Work with consultant to develop valid testing criteria
- Link with CityLearner as soon as the E-learner component is available

July 2014

- Test training and testing module effectiveness with a pilot group of users

August 2014

¹ TRIM is the City's designated electronic document and records management system

- Revise training and testing materials as needed based on pilot group feedback

September 2014

- Coordinate with BHR to make training and testing available Citywide via CityLearner

Project Outcomes

Ensuring that all employees are aware of their public records responsibilities will lead to enhanced compliance with the public records laws. Training will include modules on records and information and email management best practices. Consistent adoption of such practices will lead to:

- Increased efficiency in accessing and using City information to make business decisions
- Reduction in the storage of duplicative and useless electronic information
- Risk reduction in the event of litigation

The modules will deliver consistent content that will allow City employees to take the required training when it best fits with their schedules. The integration with CityLearner will track student progress and capture test results to ensure mandatory testing is completed and passed

Challenges and Obstacles

There are no identified significant obstacles to the creation of the training material itself. The implementation timeline may be affected by dependencies on components of the CityLearner system, but close coordination with BHR Training and Development should minimize these risks.

There is a risk that the Auditor's Office will not gain sufficient support from BHR or City Council to make Citywide records management training mandatory. The educational content of the material will be just as valuable in such a case and the training can still be available to all, but there would be a portion of the workforce that would choose not to take the training and the overall benefit to the City would be diminished.

Financial Benefits

It is difficult to quantify how a workforce trained to know its public recordkeeping responsibilities and with an understanding of good records management practices will save the City money. Some benefits can result from:

- Reduced time spent searching for documents
- Reduced storage costs as duplicative or outdated information is properly deleted from servers
- More rapid and complete responses to public records requests

Another benefit is risk reduction. When bureaus are not properly managing their records nor consistently following the City record retention schedules it can cause harm in the event of litigation. Within the past year records that should have been produced in a legal matter were unknown to exist to the bureau that created them. The records were later discovered, but as a result of the delay, the court ordered the City to pay \$40,000 in attorney's fees to the records requestor and plaintiff. Courts are becoming increasingly harsh in their penalties against litigants that fail to maintain and produce electronic records.

Budget

We expect the records management training course to consist of 30 minute modules tailored to different audiences, e.g. City Council, bureau directors, division managers, line staff etc. The training will cover the following topics:

- Public records laws and requirements
- Recordkeeping individual responsibilities
- Email management techniques and tips
- Filing plan techniques and tips
- Electronic indexing and searching

Industry standards on eLearning content development estimate²:

- For every 30 minutes of eLearning, budget 20-40 hours in content development and script writing
- Voiceover is an additional 20-40 hours of writing
- For every 1 minute of eLearning course, budget 2 hours for post-production work
- Add an additional 30% to this time if courses are to be compliant with Section 508 of the Federal Workforce Investment Act Of 1998 (closed captioning)

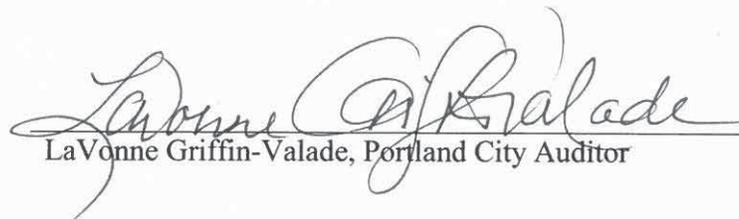
Contractors with the requisite skills³ range in price anywhere from \$40/hour to \$150/hour, depending on their expertise level and specific skills. For the purposes of this project estimate we use the midpoint: \$90.

The table below represents contractor cost for creating five modules at 30 minutes each, including voiceover and closed captioning.

Contractor work and time	Cost @ \$90/hour
Content development and script writing (150 hours)	\$13,500.00
Voiceover (150 hours)	\$13,500.00
Post-production (300 hours)	\$27,000.00
508 compliance (90 hours)	\$8,100.00
Total Contract cost	\$62,100.00

Existing Auditor’s Office and A/RM staff will manage the contract, administer the educational content once in its final form and continue to act as a liaison with BHR Training and Development.

Approved by:


 LaVonne Griffin-Valade, Portland City Auditor

Contacts:

Tim Hunt, Records Management Specialist, ext. 5-4107
 Diana Banning, City Archivist, ext. 5-4110;
 Sarah Landis, Chief Deputy City Auditor, ext 3-4567

² Industry standard estimates were compiled by the City of Portland EBS Division Training and Development Office

³ Ibid

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Innovation Fund Proposal

“Extreme Makeover” Electronic Records Management Edition: Pilot Project

Project Description

The Archives and Records Management (A/RM) division of the City Auditor’s Office has found that not only are good electronic records management practices spotty across the City, they are also inconsistent within bureaus. While one unit may be actively and appropriately managing a specific set of files in TRIM¹, it may not be applying good practices to its email, correspondence or other files. In larger bureaus, electronic records management expectations and practices can vary considerably from one division to the next. The reasons why such gaps exist are many, from lack of resources, to lack of leadership or expectation.

This project seeks to determine what it would take to remake a bureau’s electronic records management practices from top to bottom. We would accomplish this by partnering with a volunteer bureau – preferably a mid-sized bureau – to go through an intensive, top-to-bottom intervention in records management. Once an appropriate bureau has been identified, potential steps for the project include:

- Identify a permanent records management liaison in the bureau, who is responsible for coordinating with the A/RM division to ensure that the project outcomes are sustained going forward
- Conduct a records management needs assessment focusing on bureau core functions
- Work with the bureau to develop a records management plan
- Implement TRIM bureau-wide
- Establish protocols for easy archiving/retention of email and other daily documents
- Establish consistent process for responding to public records requests and legal holds
- Train all staff on general records management requirements and bureau specific procedures
- Establish and incorporate bureau filing conventions, access control needs and retention requirements into the TRIM system

Project Outcomes

The end product of the pilot would be a report detailing the process and results of the makeover, including bureau workflow improvements, time and resource commitments for the Auditor’s Office and the bureau, templates or models for records management plans, and a “lessons learned” section that details what went well and what needs improvement, should this model be replicated in other bureaus.

At this point, the project is in the conceptual stages: it is not fully fleshed out nor have we identified a willing bureau to participate in the pilot. We would hope to gain knowledge about the scope and challenges of truly transforming the way bureaus approach managing their records, so that we can use this information on other “extreme makeovers” or smaller TRIM deployments.

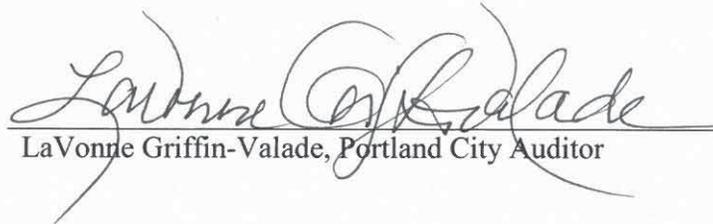
¹ TRIM is the City’s designated electronic document and records management software system

Budget

For the Auditor's Office, a very rough estimate would include:

- 1 additional FTE for 6 months to 1 year depending on pilot group selected
- TRIM licenses for employees who are not current TRIM users (@ \$250/ea)

Approved by:



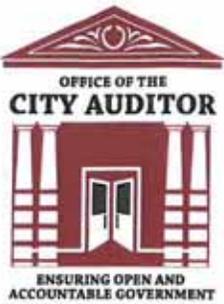
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Innovation Fund Proposal Intergovernmental and Vital Agreement Consolidation and Preservation

Project Description

City bureaus have many agreements with other public agencies in the area; some have gone before Council and exist as inter-governmental agreements (IGAs). Other less formal agreements may exist – either between bureaus or between bureaus and non-City agencies – without formal Council approval.

These types of agreements often designate the parties' responsibilities for infrastructure maintenance or operational roles both on a daily basis and in the event of an emergency. They may be actively employed, or may be in effect for extended periods of time without any action. The inactive, non-IGA agreements are sometimes bundled with bureau correspondence or project records. When they are not managed properly they can be difficult and time consuming to find when most needed.

The goal of this project is to locate all existing City agreements with other agencies and place them in a central electronic repository so they can be easily found and accessed as needed. By better managing these agreements, considerable time will be saved when attempting to determine responsibilities among entities. Quickly knowing each jurisdiction's responsibilities is especially critical in the event of an emergency or disaster.

Scope of Work

This project will integrate existing City technology (the TRIM document and records management application) with solid information management principles to streamline access to critical information.

The Auditor's Office Archives and Records Management Division (A/RM) will lead the project. All bureaus will be invited to participate, with a focus placed on bureaus that have maintenance, operational or administrative responsibilities during emergencies or disasters. Bureaus likely to have related agreements include:

- Office of Management and Finance
- Bureau of Development Services
- Auditor's Office
- Portland Bureau of Emergency Management
- Bureau of Environmental Services
- Portland Water Bureau
- Portland Bureau of Transportation
- Fire and Rescue
- Police Bureau
- Portland Housing Bureau

- Bureau of Parks and Recreation
- Bureau of Planning and Sustainability

A task force under the direction of A/RM will be created to guide the project. Each participating bureau will assign personnel to serve on the task force. A/RM will hire temporary personnel with records management experience to serve as research assistants.

The task force will create the project work plan, specifically, designing the methodology to be used for locating agreements in bureaus and developing a common classification structure and naming conventions for agreements. This structure will be adopted as a Citywide standard for capturing future agreements that meet the specified criteria.

Bureaus will be assigned for a specified number of hours a research assistant who will find and compile agreements, as directed by the bureau. Bureau task force members will supervise research assistants when they are working in their bureau.

A/RM staff will use the task force specifications to create within the TRIM system the necessary structure, naming conventions, access controls and record preservation and retention requirements to be applied to the collected agreements. Agreements that do not already exist in an electronic format will be digitized. Research assistants will enter the agreements into TRIM using the agreed upon structure.

A/RM will acquire and assign TRIM licenses as needed, develop training materials and train assigned bureau personnel in how to use TRIM to locate and manage their agreements.

A/RM will work with the Portland Bureau of Emergency Management to assess integration avenues for making the agreements available via the City's emergency management application (WebEOC) that documents activities and operations in the event of a disaster.

Project Outcomes

This project will result in easy access to current, reliable information that has value every day and that becomes especially vital in the event of a disaster. The process of collecting and assessing existing agreements will vet out vague or conflicting agreements. It will bring to light agreements that may have expired and should be rewritten or have lain invisible to bureaus that could have benefitted from them. As bureaus see the entire spectrum of Citywide agreements they will be able to work together to address areas of concern that may have gone undetected.

Creating the agreed upon naming conventions for both existing and new agreements will ensure that all affected parties have access to consistent, accurate information. Roles and responsibilities for the City and other entities will be clearly documented – if something breaks, time will not be wasted determining whose job it is to fix it.

As new situations arise that call for interagency agreements, bureaus will be able to ascertain quickly whether one already exists. A clear knowledge of all bureaus' responsibilities will mitigate risk and defend the City in the event of litigation.

It is difficult to quantify the savings that result from employees being able to rapidly access current and accurate information that previously may have been buried or irretrievable. It is indisputable, however, that clearly identifying, illuminating, managing and preserving the kind of information held in these intergovernmental and other agreements will pave the way for more efficient sharing of bureau operational and administrative responsibilities. In the event of an emergency or disaster, quick access to critical information can reduce property loss and increase public safety.

Challenges and Obstacles

One foreseeable challenge will be establishing a suitable point person within each bureau. This person has to be someone with enough broad knowledge of the bureau to be able to know where agreements are likely to reside. Bureau management must be willing to allow the point person to devote a portion of their schedule to working with the assigned research assistant. Another challenge may be to find Citywide concurrence for naming conventions and structure for existing and future agreements.

An unknown element is the degree of conflicting and duplicative agreements that may exist. "Ownership" of existing agreements may be debatable among bureaus. Establishing whether the existing agreements are indeed valid may require legal research. Developing a process for addressing such conflicts may be a challenge.

Project Timeline (using February 2014 start date as example – could be adjusted)

February/March 2014

- Establish/convene project task force, bureau representatives
- Create detailed project plan
- Develop agreement collection criteria
- Hire/train research assistants
- Acquire additional TRIM licenses

April/May 2014

- Collection of existing agreements
- Task force creates naming conventions/file structure for existing and ongoing use

June – September 2014

- Inventory and analysis of existing agreements
 - Ownership
 - Validity
 - Duplication
 - Digitization
- Build naming conventions and file structure in TRIM test environment
- Verify system functionality in TRIM test environment
- Solicit/hire contractor for work on WebEOC integration feasibility
- Create training materials for affected TRIM users

September – December 2014

- Build naming conventions and file structure in TRIM production environment
- Begin import of validated agreements into TRIM production environment
- Train affected users on using TRIM to retrieve existing and add future agreements
- Establish TRIM/WebEOC integration if technically possible
- Test expected system functionality

January 2015

- Continue import of existing agreements, if necessary
- Continue testing of system functionality
- Conclude project phase and enter full implementation mode

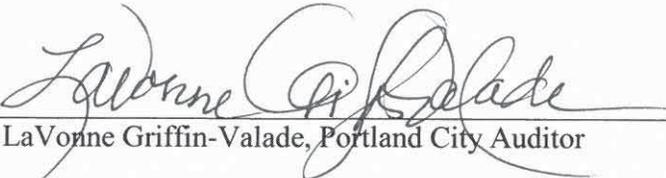
Budget

Technology consultant to explore/establish integration between TRIM repository and PBEM WebEOC system	\$25,000.00
Temporary research assistants. Estimate 2,000 hours towards research, compiling, and entering agreements into TRIM. This number could go up or down depending on discussions with bureaus.	\$40,000.00
Digitization and indexing of agreements that currently do not exist electronically (Printing & Distribution and Archives and Records Management)	\$5,000.00
Creation of training material for go-forward process (consultant)	\$5,000.00
New TRIM licenses (100 @ \$250/ea.)	\$25,000.00
Ongoing license maintenance @ \$50/year	\$5,000.00
Total	\$105,000.00

Total General Fund discretionary requested: \$105,000 one time. Ongoing license maintenance will become part of the Auditor’s Office General Fund overhead.

One-time building of the agreed-upon naming conventions, access controls and structures into the TRIM system will be absorbed by existing Auditor’s Office budget, as will ongoing TRIM administration and training.

Approved by:



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Proposal: Partner with PSU's Center for Public Service to Facilitate the Success of the Innovation Fund

Submitted by:
City Budget Office in collaboration with
Center for Public Service

November 2014

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PROPOSAL OBJECTIVE:

The City Budget Office, in collaboration with Portland State University's Center for Public Service (CPS), proposes to leverage the research and practitioner-focused applied research experience, expertise and resources of CPS to create an effective and sustainable Innovation Fund Program (IFP). The primary desired outcomes of this collaboration include the following:

- Helping staff and facilitating the evaluation of proposals and decision-making efforts of the newly launched Innovation Fund Task Force;
- Improving upon funding proposals submitted to the Innovation Fund;
- Identifying and implementing best practices to cultivate and encourage innovative thinking, management, governance and leadership practices within City bureaus;
- Creating and implementing management and leadership tools to increase the personal and organizational capacity for successful innovation;
- Identifying and recommending specific areas that may warrant future innovation interventions.

The Center would also assist the City, the Task Force, and others in the design and implementation of effective evaluation and performance measurement tools to assess IFP-funded initiatives.

PARTNERSHIP:

Key to the proposal is leveraging the expertise of the Center for Public Service. Below is a description of CPS's experience and knowledge that would be shared through a partnership with the City of Portland.

CENTER FOR PUBLIC SERVICE

Headquartered in the Hatfield School of Government at Portland State University, the Center for Public Service applies evidence-based and theory-informed research and training to improve the effectiveness of public service professionals and organizations. The Center does this by deploying teams of practitioner-oriented faculty, graduate students, and researchers – along with current and former public service professionals and other experts – to assist local governments and similar organizations improve their effectiveness.

For more than 25 years, the Center (and its antecedents, including the Executive Leadership Institute) has delivered high quality training and research services to public service organizations (e.g. government entities and non-profits) throughout the Pacific Northwest and in a number of other countries. As an entrepreneurial, self-support entity anchored within a public university, the Center

offers the cost competitiveness of a not-for-profit organization, the intellectual content of a leading academic center, and the client-driven flexibility of a traditional consulting firm.

Much of the Center's recent work, especially in its research and consulting practice, focuses on serving as such an "innovation catalyst" with local governments. Recent and current projects include assisting the city of Beaverton improve outreach and engagement of its many diverse communities; helping several East Multnomah County jurisdictions improve fire and emergency medical service delivery; and identifying cost effective sustainability initiatives for municipal operations.

Faculty and staff who have experience in developing innovative leadership and practices, especially in partnership with local levels of government, will partner with the City of Portland to aid the leaders of its programs, departments, offices and bureaus to better explore, identify, refine, and implement innovations that will increase efficiency, improve organizational effectiveness, and enhance trust and legitimacy with stakeholders and clients.

For this proposed partnership, the Center's lead team members will include:

Phil Keisling, CPS Director since 2010, Mr. Keisling's career has also included time as a journalist; elected state representative and Oregon Secretary of State; and 9 years' experience as a Vice President of a locally-owned software services company. Throughout his career he has worked on a number of innovative policy and management initiatives, including reforms to Oregon's voting and elections systems; the creation of Oregon's nationally-recognized "Forest Resource Trust" program to encourage private land reforestation; and the web-enablement of Oregon's Corporate Registration system. He has also been a lead participant in several key CPS projects, including the creation of a "Total Cost of Employer Compensation" framework to better analyze and compare public sector personnel budgets.

Dr. Masami Nishishiba, Assistant Professor in PSU's Public Administration Division. As Associate CPS Director, Dr. Nishishiba has been the lead project manager on more than a dozen research and consulting projects for the Center. In addition to the Beaverton engagement noted above -- done under the auspices of the Center's "Public Service Innovation Laboratory" initiative -- she has developed and conducted cultural competency training for the City of Portland; evaluated the effectiveness of Clackamas County's 4-day work week pilot program; and evaluated the performance of the Gateway Center for Domestic Violence Services. This August she also conducted an "International Innovation Laboratory" workshop with 25 visiting local government officials from Japan.

Dr. Marcus Ingle, Professor of Public Administration. In addition to his academic research and teaching work for PSU and several other universities, Dr. Ingle has spent considerable time working in government and the private sector. His focus on strategic planning and public service effectiveness in the face of increasingly "wicked challenges" has led him in recent years to focus on identifying the key conditions for "public service breakthrough innovations." In September 2013, he delivered a paper of that same title to the 3rd International Conference on Government Performance Management and Leadership, convened at Waseda University in Tokyo, Japan. Dr. Ingle's other recent efforts include a strategic assessment of the work of the Oregon Corrections Enterprises and a leadership review of Clackamas County's Emergency Management functions.

Dr. **Doug Morgan, Emeritus** Professor of Public Administration and a founder of the Center for Public Service. Dr. Morgan has more than 30 years of experience in serving on various elected and appointed boards, task forces and commissions in the City of Portland, including the Portland School Board. He has particular expertise in designing governance processes that balance the need for equity, citizen access, efficient use of resources and effective program outcomes. A strong proponent of innovation through governance reform, Dr. Morgan assisted Washington County in the creation of the “Vision Action Network,” an innovative approach that combined and leveraged the resources of public, traditional non-profit, and faith-based organizations to better serve county residents.

George Beard. Throughout much of Mr. Beard’s professional career his work has centered on the interplay between technology, innovation, and leadership. He spent the first half of his working life in a variety of roles with federal, state, and local governments. After a stint as the #2 technology manager with the State of Oregon, he moved to the private sector to serve as Oracle’s global relationship manager to Nike; later, he managed Retek’s global alliance with IBM. The past dozen years, George has directed the Center’s Oregon and Hatfield Resident Fellows programs, and also works within PSU’s Research and Strategic Partnership Office, where he has spearheaded various initiatives including the expansion of use of electric vehicles. Working with the City of Portland and PGE, he helped create the nation’s first street dedicated exclusively to electrical vehicle recharging (“Electric Avenue”).

In addition to the five principals of the CPS team noted above, the Center can draw on other resources at PSU and in the larger community as needed. These include other regular faculty, adjunct faculty, and graduate and undergraduate students across campus; current and former practitioners, including those familiar with City of Portland operations; and other experts locally and around the country. Within the Hatfield School of Government alone, there are currently more than 150 Master degree-seeking students and approximately 50 PhD students.

CITY BUDGET OFFICE

To support the Center for Public Service partnership with the City, the City Budget Office will serve as the project lead for the City’s side of the partnership by administering the Intergovernmental Agreement on behalf of the City and providing staff support as needed.

SCOPE OF WORK

The proposed partnership with the Center for Public Service includes four major tasks: (1) support for and facilitation of Innovation Fund Task Force decision-making, (2) improvement upon current Innovation Fund proposals through collaboration with bureaus, (3) cultivation of future innovative thinking within the City by surveying current conditions, offering workshops to targeted City managers, and connecting City programs with regional partners, and (4) identification of problems for future innovative interventions

TASK ONE: FACILITATION OF INNOVATION FUND TASK FORCE DECISION-MAKING

The Innovation Fund Framework identifies a range of possible innovative strategies and a set of criteria for evaluating which ideas will yield the best results for improving City services to Portland residents. Building upon these objectives and the review criteria, the Center for Public Service will assist the Innovation Fund Task Force with selecting proposals by providing the following services:

- Review and provide initial feedback to the Task Force on proposals;
- Create and provide a proposal evaluation rubric, incorporating both the criteria from the Innovation Fund Framework and additional criteria developed by Center for Public Service partners based upon specific needs and conditions of the City of Portland's innovation opportunities;
- Develop guidance for the proposal selection and preparation process. Such guidance might include workshops that would assist proposers in designing robust proposals, interview processes that the Task Force may wish to use and other similar activities that the Task Force may deem important for improving the quality and efficiency of its work;
- Facilitate interviews between Task Force and bureau proposers.

Through the above-listed tasks, the Center for Public Service will assist the Innovation Fund Task Force with (1) identifying conditions that are optimal for innovative interventions, (2) providing context of how proposals compare to similar ideas implemented in other jurisdictions and (3) recommending additional criteria for evaluating the proposals.

As part of the proposed budget for this partnership, the Center for Public Service is offering to donate a significant amount of time for the project and specifically Task One. (See the discussion under Budget). Regardless of whether this proposal is ultimately accepted, the Center has pledged to donate approximately 80 hours of faculty time – and an equal amount of graduate student time – on this Task One, beginning in November.

TASK TWO: IMPROVE PROPOSALS

The City Budget Office will task the Center with collaborating with selected bureaus to either ensure effective implementation of innovation proposals or to refine their proposals in order to optimize strategy, efficiency of resources and proposal objectives.

As outlined in the Innovation Fund Framework, it is expected some proposed projects submitted to the Task Force will be recommended for immediate funding, while others will be targeted for additional work and resubmission. The table below outlines Center for Public Service tasks for both the accepted and deferred proposals, and the following outcomes due to Center for Public Service consultation with bureaus.

	Center for Public Service Tasks	Outcome
Accepted Proposals	<p>Center for Public Service will collaborate with bureaus that submitted accepted proposals in order to:</p> <ol style="list-style-type: none"> 1. Adjust project plan and objectives in order to optimize innovative outcomes; 2. Identify “critical success factors”; 3. Identify appropriate tools and measurement strategies to implement innovation; 4. Identify other resources of possible nonprofit, governmental and private partners within the community that could be leveraged to improve project proposals. 	<p>Following from Center for Public Service guidance, bureaus will implement improved-upon proposals that achieve the following objectives:</p> <ul style="list-style-type: none"> • Incorporate innovation “lessons learned” from examples that can be identified nationally and internationally; • Foster future innovative thinking within the bureau; • Leverage outside resources and partnerships along common objectives.
Deferred Proposals	<p>Center for Public Service will collaborate with bureaus that submitted rejected proposals in order to:</p> <ol style="list-style-type: none"> 1. Better understand the challenges or conditions that might warrant an innovative intervention; 2. Address reasons that led to the Innovation Fund Task Force to reject the proposal, and propose new or improved approaches; 3. Identify alternative strategies within current bureau resources for addressing challenges identified, or identify appropriate new policies or resources through the traditional legislative and budget processes. 	<p>Following from Center for Public Service guidance, bureaus will have these options:</p> <ul style="list-style-type: none"> • Prepare a proposal for the Task Force’s consideration in future years, incorporating improvements based on Center for Public Service recommendations; • Reorganize the proposal into a budget request for Council’s consideration in future budget processes; • Develop a strategy for addressing issues within current resources.

The Center for Public Service will also assist the City Budget Office and the Task Force to devise evaluation and performance measurement systems for evaluating funded proposals. Such systems will include a reporting structure for “return on investment”, actual costs and savings, measuring customer satisfaction and service quality and improvements in building trust and legitimacy with stakeholders and residents. Once these measurement systems are designed, the City Budget Office and the Center for Public Service team will work with bureaus to implement these measurement systems.

TASK THREE: CULTIVATE INNOVATIVE PRACTICES AND THINKING WITHIN THE CITY

The best innovative ideas are bold, implementable solutions with measurable impact, as described by Bloomberg Philanthropies. Experts in government innovation would add that innovative ideas are the product of culture that thinks innovatively. Given this context, the Innovation Fund will yield the best results as City managers learn to also use innovation as tool for solving problems and identifying opportunities.

The primary goal of the Innovation Fund is to create an environment within the City that welcomes and sustains innovative-thinking, especially by supporting organizational cultures that encourages informed risk-taking and protects employees from legitimate failures.

To that end, and to help ensure the long-term success of the Innovation Fund, the Center for Public Service will complete the tasks below that improve the culture of innovation within the City. These tasks aim to help managers understand the obstacles that limit innovative solutions and identify and apply critical success factors for innovation. This process will be modeled after Dr. Ingle’s and his colleagues recent work that has identified six specific factors, both internal and external to public service organizations, as especially important to success in “breakthrough innovations.” CPS will identify key success factors within the City and among key potential partners for innovation, which will be important for building and sustaining “cultures of innovation” inside and among the City’s many organizations.

More specifically:

- CPS will survey City employees to assess the existing capacity and propensity for innovative thinking, particularly around the idea of risk vs. reward in decision-making.
- CPS will identify specific bureaus or groups of managers within the City who would benefit from learning how to think innovatively and to foster innovative thinking within their bureaus. The Center for Public Service will then provide dialogue-focused workshops for these targeted bureaus with the goal of creating a work culture that values innovation.
- Building upon experience of consultations with other jurisdictions and connections with partners across the Portland region, CPS will collaborate with bureaus – either those bureaus submitting proposals or bureaus with potential opportunities for innovative interventions – to connect them with other regional partners who share common objectives. Ultimately, Innovation Fund proposals are more likely to succeed when strategizing in collaboration with,

and leveraging the resources of, nonprofit, private or governmental organizations to work towards common objectives.

TASK FOUR: IDENTIFY PROBLEMS FOR FUTURE INNOVATIVE INTERVENTIONS

Certain challenges and opportunities require traditional solutions; in other instances, an innovative intervention is required. To the extent that some of these key challenges and opportunities will not be addressed within the initially submitted proposals, the Center for Public Service will identify opportunities that could be considered as future Innovation Fund proposals. The Center for Public Service will identify these opportunities by July 2014 so that bureaus can begin strategizing and planning, costing out the required resources, and collaborating with potential partners in preparation of a proposal.

ADDITIONAL SUPPORT FROM THE CENTER FOR PUBLIC SERVICE

In addition to specific tasks described above, Center for Public Service will serve as an advisory resource to the Innovation Fund Task Force over the next year. As an advisory resource, the Center for Public Service team will attend and participate in Task Force meetings, respond to research requests, provide recommendations at the direction of the Task Force, and update the Task Force on the progress of various deliverables.

TIMETABLE

The proposed partnership would begin immediately and continue over the next twelve months, formally ending as the Innovation Fund Task Force considers its second round of proposals, planned for December 2014. The table below outlines the timeline of the partnership.

	Description of Work	Start and End Dates
<u>Task One:</u> Facilitate of Innovation Fund Task Force decision-making	<ul style="list-style-type: none"> Facilitate the decision making process for Innovation Fund Task Force. 	December 2013 (one month)
<u>Task Two:</u> Implement and Improve Proposals	<ul style="list-style-type: none"> Collaborate with bureaus to successfully implement funded proposals, and improve upon other proposals. 	December 2013 – April 2014
<u>Task Three:</u> Cultivate Innovative-thinking within the City	<ul style="list-style-type: none"> Conduct survey Provide innovation workshops and trainings to targeted bureaus or managers Connect bureaus to regional partners 	April 2014 – September 2014
<u>Task Four:</u> Identify Problems for Future Innovative Interventions	<ul style="list-style-type: none"> Develop list of opportunities for future Innovation Fund proposals 	February 2014 – December 2014

BUDGET

To implement the proposed partnership, the City Budget Office and Center for Public Service request a grant from the Innovation Fund in the amount of \$100,000. The Center for Public Service has also indicated a willingness to donate approximately 300 hours of faculty time and 300 hours of graduate student time (see details below).

The requested amount of \$100,000 will fund approximately 500 hours of time for CPS faculty/high level expertise, and 700 hours of paid graduate student time, based upon the Center of Public Service’s normal charge for faculty and other high-level expertise on a project of this scale of \$160/hour and \$30/hour for graduate student time. The City Budget Office will provide staff support, amounting to approximately 0.25 FTE, to administer the Intergovernmental Agreement and provide staff support as needed.

Other appropriate resources may be available and appropriate whose costs fall in between the faculty and graduate students – e.g., project coordinators, evaluation personnel, assistant project managers,

etc. To remain within budget, adjustments to the CPS team can be made with the mutual agreement of both parties, as per part of the IGA agreement.

Pro Bono Work. The Center for Public Service has also indicated a willingness to donate the following resources on a pro bono basis:

- For Task One, 80 hours of faculty time, and 80 hours of assigned graduate student time
- For Tasks Two through Task Four, another 220 hours of faculty time, and 220 hours of assigned graduate student time.

These in-kind donations could thus be valued at approximately \$57,000. (As noted earlier, even if this proposal not accepted, CPS will donate its time on Task One, for a value of \$15,200.) Combining these donated hours with the amount covered by the grant, total faculty/high level expert time would total approximately 800 hours and graduate student time would total 1,000 hours. The table outlines the total hours included in the proposed partnership.

CPS Proposed Partnership		
	Number of Hours	Value
Contracted Time		
Faculty (\$160/hr)	500	80,000
Graduate Student (\$30/hr)	700	21,000
		\$101,000
Donated Time		
Faculty (\$160/hr)	300	48,000
Graduate Student (\$30/hr)	300	9,000
		\$57,000

Additional CPS Resources. The Center for Public Service has the proven ability to leverage assistance from current and former practitioners and students who will see genuine value in better understanding the City's efforts here. Accordingly, the Center will identify a group of volunteer, unpaid advisors who will periodically help inform our work, thus adding up to 200 additional hours of volunteer time to the equation to further assist the City in its efforts. Another source of significant resources that could be leveraged by this partnership could come from graduate students who could be assigned work by their professors that would align with the City's initiatives. For example, MPA graduate students often spend 200-250 hours working on "capstone projects" to secure their degree (in lieu of a formal thesis). For these projects, students seek sponsor entities in the community. With enough lead time, key faculty here could help recruit 4-6 students (and possibly more) whose capstone projects during 2014 (the life of the engagement) could align with this initiative.

If the enclosed proposal is selected by the Task Force, the City Budget Office will work with the Center for Public Service to prepare an Intergovernmental Agreement that provides further details and timelines for the tasks described above. All figures included in the proposed budget, expectations and deliverables would be further detailed in the IGA. To enter into the proposed IGA, Council would then vote to approve the agreement, after which the formal partnership for Tasks Two through Task Four will begin with the Center for Public Service.



CITY OF PORTLAND

BUREAU OF EMERGENCY COMMUNICATIONS

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Innovation Fund Proposal: Phase 2 of 311 Implementation

The Bureau of Emergency Communications respectfully submits this Innovation Fund proposal for consideration. We believe that our proposal for a 311 system for the City of Portland is an excellent match with the criteria for potential projects since successful implementation of 311 will reduce ongoing expenses, create efficiencies, and improve customer service to both internal and external customers. Although this project would begin as a City of Portland initiative, it could be expanded in a cost-recovery, or even profit, manner to serve Multnomah County, other municipalities within the County, Tri-Met, Metro, the Port of Portland, and even into Washington or Clackamas Counties.

Background

311 is a toll-free number that gives a community access to local government non-emergency services. The benefits of 311 include a single easy-to-remember telephone number for the community, seamless access to general information and government services, the opportunity for extended service hours and days, language translation available immediately for non-English speakers, and quick response to emergencies. Additionally, a non-emergency call center facility can be designed to serve as the backup for the 9-1-1 center. Cities that have implemented 311 are enthusiastic about the success of their systems and cite improved customer service.

Customer Service Representatives are the key to a successful 311 implementation. They provide a "one-stop" call center, answering questions about government services, initiating action on service requests or problems, and assisting callers on most issues. For those few issues beyond the scope of the 311 center, Customer Service Representatives can direct callers to the **single** most appropriate person in a bureau or agency to resolve their concern.

Any 311 system depends on specialized computer technology designed to house a very powerful database of information about City services with network connections to participating offices, bureaus, and agencies. This Customer Service Request System is designed to create and track service requests from callers or individuals who make a request via the Internet, initiate work orders for disparate agencies and bureaus, and serve as a library of information so requests can be completed quickly with little fuss. BOEC proposes to use one-time resources from the Innovation Fund to define and analyze the best system – both in terms of organization and computer technology requirements – and to make design and deployment recommendations.

BOEC will begin work in March 2014 on the first phase of the City's 311 implementation project. Phase 1, which is funded through one-time resources included in the budget for the current fiscal year, involves foundational work to ensure the right organization is in place to manage the work of the appropriate service providers. To ensure the best approach, BOEC will engage a consultant to conduct a comprehensive assessment and analysis of the City's

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current state of readiness for implementation of a 311 system. This study will include a gap analysis of current service delivery with best practices from a 311 perspective. Based on the study, the consultant will write a business case to develop and implement a 311 system for the City of Portland, outlining the steps to implement a 311 Customer Service Center to transition the City to a new generation of technology that centralizes citizen requests and responses through a comprehensive public sector and citizen-focused tool.

Project Description

This Innovation Fund proposal looks forward to Phase 2 of the 311 implementation project. Once the business plan has been developed in Phase 1, the project will require more consultant expertise to develop a detailed implementation plan and work schedule. The City will need to agree to the plan, which will use the Phase 1 assessment findings and include a schedule of planned start dates, completion dates, responsible staff, and other needs. Finally, the implementation plan will provide a recommendation regarding which system is best designed for the City's needs, as well as best-practice suggestions for optimum deployment.

Type of Project

In effect, implementing a 311 system uses technology to create a centralized entry point for all non-emergency telephone calls and service requests, as well as online requests. 311 will clearly make it easier to Portlanders to access their government, but the potential goes beyond simple efficiency. As Philadelphia's 311 system, Philly311, states in a recent news release about the service, "efforts like this are part of a lateral campaign for the contact center to serve as an actual institution for community engagement; they provide the necessary framework and resources to individuals looking to become active members of their community."

By design, a 311 system:

- Leverages technology to reduce manual processes or increase performance – callers dial one, easy-to-remember, number (311) reaching a Customer Service Representative who can:
 - Answer questions accessing up-to-the-minute information via the database.
 - Enter a work order for service which is immediately forwarded to the appropriate unit for completion.
 - Refer the caller to the single, most appropriate person.
- Streamlines business processes by assessing workflow and then designing the database to manage it, all business processes can be evaluated and optimized – even those not incorporated into the 311 system. This enhances transparency into City operations and service delivery.
- Leads to lean process improvement by removing non-value-added waste as defined through the assessment process and by giving City offices and bureaus the best information available to evaluate their customer service and business operations.
- Improves customer service by providing callers and online users with a one-stop method of accessing City services, transforming the way the community experiences government and increasing accountability through better tracking.
- Allows collaboration with other governments (and possibly the private sector) to reduce costs by increasing the scope of the project this effort to include all of Multnomah County, and/or the entire metropolitan area.

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- Consolidates services currently provided by multiple entities, creating the potential for enhanced services and reduced costs by providing a single, citywide, professionally managed call center which will facilitate data-driven decision making by both the City and the community.

Lead Bureau

BOEC is the lead bureau working with an Executive Steering Committee comprised of other key office and bureau stakeholders as identified by City Council. On October 31, 2013, BOEC held a briefing for staff from other bureaus about the status of the 311 project and specifically the upcoming launch of Phase 1. Over 30 staff attended, indicating a high level of interest in this Citywide priority.

Project Timeline

- July-September, 2014 – Procurement process to select Consultant
- October 1, 2014 – Signed contract with Consultant
- October 2014 – Consultant begins work with Executive Steering Committee
- March 2015 – Consultant presents completed Implementation Plan to Executive Steering Committee
- April 2015 – Council work session

Project Outcomes

The final outcome of this proposed project is completion of the second of the three phase 311 Implementation Project. The third and final phase will complete the project, bringing 311 to Portland.

- Potential cost savings
 - Unknown – however, this project has the potential to help the City realize cost savings because it will consolidate call handling staff currently located in offices and bureaus into a 311 center, ensuring that staff left on site can be most effectively utilized in job performance duties
- Potential operational efficiencies
 - 311 technology provides bureaus an efficient, organized, detailed process to help manage and improve the way they conduct business
- Who benefits from cost savings and/or efficiencies
 - Both the City and the community benefit in long-term cost savings and efficiencies as 311 is implemented and business practices are streamlined
- Performance metrics to track progress and expected outcomes
 - Contractor will complete the deliverables as identified in the RFP/contract
 - Contractor will complete and submit a detailed Implementation Plan

Budget

- Total General Fund discretionary requested
 - We estimate the cost of Phase 2 at about \$200,000 to develop an implementation plan and work schedule
 - Leveraged funds
 - The BOEC budget currently includes \$221,000 for Phase 1, which will be completed by June 30, 2014
 - Return on Investment timeline
 - The Innovation Fund request will support development of an Implementation Plan, the second phase of a three-phase project. Phase 1 – Assessment will
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provide the City with a high level of confidence about the best approach to the project and the best cost estimates. 311 will be operational at the conclusion of Phase 3 of the project. We will have a clear sense of the Return on Investment timeline at the conclusion of Phase 1.

- Ongoing operations and maintenance costs
 - This information will be available once the Phase 1 – Assessment has been completed
- Staff requirements
 - Existing staff will be utilized
 - BOEC – Project Manager and support staff
 - Executive Steering Committee – members to be identified by City Council

Project Leads

- Laura Wolfe
 - BOEC Senior Management Analyst
 - 503-823-4762
- Lisa Turley
 - BOEC Director
 - 503-823-0911
- Katie Shriver
 - Policy Analyst for Commissioner Steve Novick
 - 503-823-3005
- Tim Crail
 - Policy Analyst for Commissioner Amanda Fritz
 - 503-823-3988

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FY 2013-14 City of Portland Innovation Fund Proposal

Title: Community Risk Reduction Program
Lead Bureau: Portland Fire & Rescue (PF&R)
Supporting Bureau: After-school programs
Project Lead: PF&R Program Manager
Bureau Proposal #: PF&R-02
Date Submitted: November 4, 2013

1. Executive Summary

Portland Fire & Rescue is requesting resources from the City Innovation Fund to support a limited-term, full-time Program Manager. The Program Manager will develop and deliver a pilot program to reduce demand for emergency services through improving community safety, health outcomes, and also increase the recruitment of people historically underrepresented in emergency services.

The Program Manager will oversee coordination and performance of home safety inspections advertised through the program, requested by the public, and performed by firefighters. In addition to information on home safety inspections, educational material will inform the community of non-emergency resources available at their fire & rescue station, including:

- Blood pressure and blood glucose level checks
- Smoke alarms and current smoke alarm requirements
- CO alarm information
- Safety information
- Recruitment opportunities

Using Portland firefighters as positive role models and mentors, the outreach program (name to be determined) would also deliver safety, health, and fitness education to children in grades 3-6 during after-school programs. Children can then take education materials home to educate family, friends and neighbors. There is substantial evidence supporting the value of providing safety education to children in these age groups. These children are ready to receive and properly assimilate fire/safety information, and also eager to communicate the messages to their family.

If deemed successful, the Program Manager will make any needed changes for broader implementation of this pilot.

2. Project Description

A. Scope of work

- **Hire a limited-term full-time Program Manager**
 - The Program Manager will be charged with researching, developing, and delivering the program
- **Select three fire & rescue stations**
 - Select stations with schools with high percentage involvement in free lunch programs
- **Formalize agreement with specific after-school programs**
- **Program Manager trains participating fire companies how to best connect/interact with residents in their fire management area and children attending after school programs in their fire management area.**
 - Each of the three fire & rescue companies would attend the selected pilot schools during after-school programs for one hour, between 1600 hrs-1800 hrs, on Tuesdays, Wednesdays, and Thursdays, for a total of three hours participation from each company, per week, coaching, mentoring and encouraging.
 - The companies will be trained in proper canvassing strategies and dedicate time to knocking on doors in targeted neighborhoods throughout their fire management area.
 - The after school portion of the program will focus on age-appropriate activities for children in grades 3-6 and include short “Quick Drills” for the crews to deliver and encourage kids to learn more about safety, health and fitness from PF&R firefighters serving as positive role models.
 - Quick Drills would involve topics such as:
 - ▶ Safety, consisting of fire and injury prevention
 - ▶ Education on basic food groups, healthy food choices, impact of diet and exercise on health
 - ▶ Benefits and demonstration of basic exercise/activities
 - ▶ Being a safe, respectful neighbor
 - Following are examples of some of the activities the firefighters will be engaging in:
 - ▶ Documenting heart rate/blood pressure (with parent/guardian approval)
 - ▶ Baseline testing of student’s knowledge of various safety topics: crosswalk safety, bicycle safety, smoke alarms, CO alarms, use of 9-1-1, matches/lighter safety, stop/drop/roll, etc
 - ▶ Baseline of basic exercises - i.e., do they know how to do a sit-up, push-up, throw a ball, skip rope, etc.
 - ▶ Safety quizzes after delivery of Quick drills
 - ▶ Informing the students of career opportunities in Public Service, specifically PF&R.

- **Determine impacts of program**
 - Assess data for changes/improvements compared to recognized benchmarks
 - Assess feedback from firefighters, after-school teachers, children, parents, and residents
- **If program results are positive, implement improvements**

B. Type of Project

This pilot takes a holistic approach to systematic deficits within our culture. Creating a formal program that uses firefighters as role models/mentors for health, fitness and safety has the potential to create a healthier community, in the short and long-term.

- Safety education reduces demand for services with fewer fires and accidents;
- Healthy lifestyle habits, including healthy eating and physical activity, can lower the risk of:
 - Obesity
 - Developing related diseases, including diabetes
 - Diabetes is currently identified as the largest growing preventable disease among youth

Ultimately, a healthier, safer community enjoys better quality of life through longevity, less demand on healthcare, and lower property loss, therefore increasing wealth.

C. Identification of potential challenges or obstacles

Potential challenges to the project timeline include:

- Coordination with after-school programs for best time to begin new curriculum/program
- Willingness of residents to have a firefighter enter and inspect their home for safety issues

D. Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc.)

- **Portland Fire & Rescue** is the lead bureau, and submitter of this proposal. PF&R will be responsible for managing the project, which includes developing the program specifics and delivering to station personnel.
- **Portland Public Schools**
- **Schools Uniting Neighborhoods (SUN) Community Schools,**

E. Project timeline including start and end dates, major milestones, and risks to proposed timeline

- **January 2014 – Program Manager is hired** and charged with developing a Community Risk Reduction Program.
- **January 2014 thru May 2014** – the Program Manager will be establishing relationships with the after-school programs/locations selected for the pilot project; identifying the subject matter that will be presented to the children and designing age-appropriate activities for children in grades 3-6. At the same time, the Program Manager will be working with the three involved stations preparing them to participate in the after school programs, and making sure they have all the necessary materials to be successful.
- **June 2014** – Using three fire & rescue station companies, pilot program (including Home Safety Inspections) is launched at the three pilot schools and incorporated into summer programs.
- **June 2014** – The Program Manager begins accepting calls and coordinating requests for Home Safety Inspections generated from materials provided during program
- **August 2014** – The Program Manager will conduct an analysis of the information gathered during the summer pilot program. Based on the results, the curriculum will be evaluated, and if deemed successful, revised to transition and implement in after-school programs beginning with the new school year.
- **September 2014** – The program is rolled out at the three pilot schools as part of the after school program. Companies will visit kids at the selected pilot after-school programs for one hour, between 1600 hr – 1800 hrs, on Tuesdays, Wednesdays, and Thursdays, for a total of three hours participation from each company, per week.
- **October 2014 – June 2015** – The Program Manager and the companies collaborate together to make sure the materials and information presented to the children remains relevant. Subject matter is revised as necessary.
- **July 2015** – The Program Manager performs an analysis of all the data collected and presents a report to CORE of the first year of the Community Risk Reduction program. Decisions are made about expanding the program beyond the three schools and three stations.

3. Project Outcomes (qualitative and quantitative)

A. Potential cost savings or increased revenues:

- Short term- Fewer preventable injuries/deaths, lower property loss resulting from fewer fires; increase of public trust in government through positive relationships

- Long term- Cost savings result from: reduced demand on emergency services, decrease healthcare costs from healthier community, lower property loss, increase of people historically under represented pursuing careers in emergency services.

B. Potential operational efficiencies

- Increase in response reliability and response times through lower demand on emergency services; lower apparatus operating costs

C. Who benefits from the cost savings and/or efficiencies?

- Children - from safety and health education, and from positive public servant role models
- Community from increased awareness and application of safety standards (smoke alarms/CO alarms; fewer fires/less property damage; bicycle/helmet safety; Patients through more informed healthcare decisions
- Our public through healthcare efficiencies and education outreach (improved health outcomes through diet/exercise)
- People underrepresented in emergency services by improving outreach and increasing confidence in recruitment opportunities

D. Performance metrics to track progress and expected outcomes

- Appropriate performance measures will be identified and tracked throughout the first year of the pilot in order to assess the value of the program.

4. Budget

A. Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project)

- FY2013-14 - \$50,000 for the Program Manager salary and benefits; \$10,000 for material development and equipment
- FY2014-15 - \$50,000 for the Program Manager salary and benefits; \$10,000 for material development and equipment

B. Leveraged Funds and Return on Investment Timeline

- This project does not leverage funds, measureable return on our investment will likely require a number of years

C. Ongoing operations and maintenance costs (identify costs and funding source)

- Once developed, tested through the pilot, PF&R expects to absorb ongoing program management with an existing funded position.

D. Staff requirements (existing or new)

- One limited-term full-time Program Manager.

FY 2013-14 City of Portland Innovation Fund Proposal

Title: PulsePoint
Lead Bureau: Portland Fire & Rescue (PF&R)
Director / Project Lead: Chief Erin Janssens / Andrew Carlstrom
Date Submitted: November 4, 2013

1. Executive Summary

In collaboration with the Bureau of Emergency Communications, Portland Fire & Rescue is requesting resources from the City Innovation Fund to implement PulsePoint, a smart phone app which notifies citizen volunteers that a cardiac arrest has occurred close to them, and where the nearest defibrillator is located. These volunteers then have the ability to respond to the event and commencing CPR and/or utilizing a defibrillator, until emergency responders arrive to begin advanced life support measures. The goal of this project is to utilize PulsePoint-subscribing citizens to increase the cardiac survival rate in PF&R's response area. This will provide concerned citizens with an opportunity to make a difference in their community.

Project funds would be used to pay for:

- The interface between the City's Computer-Aided Dispatch (CAD) system and PulsePoint;
- The first two years of the City's software licensing fees; and
- Three outreach efforts to promote the app. within the city
- Promote and deliver twelve CPR classes throughout the city

PF&R would leverage its public education resources to further promote PulsePoint and CPR training, and would absorb the ongoing PulsePoint costs after an initial two-year pilot program.

2. Project Description

A. Scope of work

The scope of the work funded by the Innovation Fund includes the following:

- Development of technical requirements, and implementation of, an interface between the City's Versadex CAD system and PulsePoint.
- Agreements between the City and PulsePoint, including a licensing fee agreement required of all PulsePoint licensing agencies (typically fire departments).

- Funding for the first two years of the PulsePoint software licensing agreement. The first two years of this implementation, funded by the Innovation Fund, are to be considered a pilot program. After this period, PF&R will work with partner agencies – the Bureau of Emergency Communications and Multnomah County Health Department – to determine the effectiveness of the program and deliver a recommendation report to the Commissioner in Charge.
- Advertising to promote PulsePoint use.

B. Type of project

- This project will leverage technology to increase the likelihood of surviving a cardiac event by decreasing the 'down' time without CPR until fire & rescue crews can arrive and begin advanced life support actions.
- This project is a collaborative effort between PF&R, BOEC, and Multnomah County Health.

C. Identification of potential challenges or obstacles

Potential challenges to the project timeline include:

- Creation of, and training dispatch staff on, proper PulsePoint-triggering protocols (the City uses manual triage cards, not an automated triage system as do many PulsePoint using agencies);
- Review and acceptance of PulsePoint software by the City (Bureau of Technology Services)
- Synchronizing PulsePoint capabilities with CPR education and training within PF&R's response area.

D. Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc)

- Portland Fire & Rescue is the lead bureau, and submitter of this proposal. PF&R will be responsible for:
 - Managing the project;
 - Coordinating agreements and contracts;
 - Collecting performance data; and
 - Developing and implementing a public education campaign.
- The Bureau of Emergency Communications is a supporting bureau and is responsible for assisting in the project. Specifically, BOEC is responsible for:
 - Assisting in the development of an interface between CAD and PulsePoint (BOEC is the owner of the CAD system);
 - Working with PF&R and Multnomah County in the development of new dispatch protocols; and,
 - Implementing PulsePoint-triggering dispatch notifications on a daily basis.

- Multnomah County Health Department, through the Emergency Medical Services Division of the Health Department, will be responsible for:
 - Updates to Triage protocol cards
- The PulsePoint Foundation – This organization has created the mobile app specifically for fire and medical emergency responder agencies. There is no other app on the market at this time that has the support, knowledge base, and agency track record that PulsePoint has. Therefore, PF&R will procure the application from this sole source.
- Versaterm – This company is the provider of Portland’s Versadex CAD system. PF&R and BOEC recommend that, for seamless integration, the City limit development of the CAD-PulsePoint interface to development resources within Versaterm. Therefore, PF&R will procure integration services solely from Versaterm.
- PulsePoint Subscribers – In addition to increasing CPR trained citizens and awareness of the PulsePoint app, PF&R will work to identify CPR-trained volunteer pools to be PulsePoint subscribers/responding volunteers for the pilot program. These will be the individuals who, when they receive a smart phone notification, have the ability to respond to a cardiac arrest incident and begin CPR before professional emergency responders are able to arrive on scene.
- The Public – Delivering CPR training and implementing this smart phone app engages and directly benefits the public. Specifically, PF&R, BOEC and Multnomah County Health seek to improve outcomes for patients in cardiac arrest.

E. Project timeline including start and end dates, major milestones, and risks to proposed timeline

PF&R anticipates working on implementation immediately following approval of funds from Council. Specifically, PF&R will:

- 12/01/13- 01/15/14 Work with BOEC, Procurement Services, and the City Attorney on developing contracts with Versaterm and PulsePoint; and
- 12/01/13- 07/01/2015 CPR training through community outreach
- 12/01/13- 06/15/14 Work with BOEC and all stakeholders on developing technical requirements and operational procedures;
- 01/15/14- 06/15/14 Work with BOEC, Versaterm, and PulsePoint to develop an interface between PulsePoint and CAD;
- 12/01/13- 05/31/14 Design a public outreach campaign using PF&R’s Communications group.
- 06/15/14- 08/15/14 Actively advertise opportunity

3. Project Outcomes (qualitative and quantitative)

A. Potential cost savings or increased revenues: No direct city cost benefit

B. Potential operational efficiencies

- Enhanced ability for the City to facilitate increased cardiac arrest survival rate by engaging citizen responders. At this time, PF&R cannot project with a high confidence the number of PulsePoint notification or “saves.” For that reason, this is a two-year pilot program which will include an evaluation.

C. Who benefits from the cost savings and/or efficiencies?

- Victims of cardiac arrest are the primary beneficiaries of PulsePoint augmentation of the cardiac arrest survival rate.

D. Performance metrics to track progress and expected outcomes

- Number of cardiac arrest incidents
- Number of PulsePoint notifications
- Number of measured citizen responses
- Number of transports from PulsePoint citizen responses
- Survival rate – both with and without PulsePoint citizen responses

4. Budget

A. Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project)

	FY 2013-14	FY 2014-15	Total
Interface Development	48,000		48,000
Interface Support	7,500	7,500	15,000
Annual Licensing Fee	10,000	\$10,000	20,000
Initial Public Outreach	10,000		10,000
Public CPR classes	10,000	5,000	15,000
Subtotal	\$85,500	\$22,500	\$108,000

B. Leveraged Funds and Return on Investment Timeline

- While this project will improve performance (cardiac arrest survival), it is an addition/enhancement to the missions of PF&R and BOEC. As such, it is not an efficiency gain that has an easily projected ROI.
- Ongoing operations and maintenance, including technology and public education, relies on the existing resources, including budgetary of PF&R and BOEC.

C. Ongoing operations and maintenance costs (identify costs and funding source)

- Ongoing O&M, except for licensing fees, will be embedded in the budgets of PF&R (public education/outreach) and BOEC (dispatch).
- Licensing fees: \$10,000 per annum

- Interface support: \$7,500 per annum
- Funding source: to be determined

D. Staff requirements (existing or new)

- This project will be implemented with existing PF&R, BOEC, and County staff.



FY 2013-14 City of Portland Innovation Fund Proposal – Revised

Title: Tablet Computers for Stations and Apparatus
Lead Bureau: Portland Fire & Rescue (PF&R)
Director / Project Lead: Chief Erin Janssens / Andrew Carlstrom
Date Submitted: December 3, 2013

1. Executive Summary

Portland Fire & Rescue is requesting resources from the City Innovation Fund to implement tablet computers and connectivity, in both apparatus and fire & rescue stations. City technology standards approve one hardware platform – the iPad – that will fit this need. PF&R will use this user-intuitive hardware to leverage public safety applications, communications, and business intelligence to better serve Portland.

iPads for fire & rescue apparatus will be used to expand field capabilities, especially the expansion of patient care and treatment options, including telemedicine.

iPads for fire & rescue stations will allow PF&R to collect important information from people visiting stations through confidential surveys completed on site, including demographic information and other data points to improve the prevention of fires and other emergencies through education outreach, and recruitment.

iPads for Fire & Rescue Apparatus

PF&R apparatus do not have internet capabilities. Computers (Mobile Data Computers (MDCs) are fixed in fire & rescue apparatus and used exclusively for connection to the City's Computer-Aided Dispatch (CAD) system; connecting MDCs to the City's network and internet is cost prohibitive and would continue to lack portability needed for field use. PF&R seeks to improve information access, productivity, and situational awareness through mobile computing.

Primary Uses of iPads for Fire & Rescue Apparatus

- **Transmit confidential patient care via email vs radio:** In concert with new Rapid Response Vehicle (RRV) Alternate Care and Transportation Pilot, iPads will provide the ability to quickly send confidential email with patient information to either the Coordination Center or healthcare clinic. The ability to expand this improvement in patient care to all PF&R responders hinges on this capability.
- **Telemedicine:** For Trauma Entry patients or those requiring unique medical rescues, telemedicine capabilities will allow trauma doctors in the hospital to visualize specific injuries to better prepare prior to patient arrival, or provide more informed recommendations to paramedics on scene. This same technology may enable clinics to provide best recommendations for low acuity patients with known conditions.

- **Data collection:** iPad capabilities in the field will also provide forms necessary for fire reports, pre-fire surveys, and web-based documents, improving data collection.

Additional capabilities improving outcomes through increased field functions and productivity include:

- Email and communications (i.e. videoconferencing) capabilities
- Specialized web-accessible databases; including Safety Net contacts
- Medical, prevention, and hazardous materials information resources
- Education outreach through video
- Collection of contact information for education/outreach follow up

iPads for Stations

iPads in fire & rescue stations will be used exclusively for members of the public. Examples of anticipated applications include:

- Collection of demographic data via confidential online surveys, so that PF&R can better target outreach efforts, including fire/injury prevention and recruitment.
- To provide ancillary educational visual aids (i.e. videos and presentations) to specifically address the interest and needs of station visitors, which include wellness information for visitors receiving blood pressure checks from station personnel.
- Confidential customer feedback collection

Revised 12/3/2013: Additional Primary Uses for both Apparatus and Station iPads

PF&R is committed to safely and aggressively protecting life, property, and the environment. Using appropriate technology – iPad hardware and compatible software – will allow PF&R to better serve all Portlanders, especially those who have barriers that prevent them from accessing essential City emergency services.

- **ADA Compliance/Technology to serve persons who are deaf or hard of hearing:** Subsequent to the November submission, PF&R has learned that the Office of the City Attorney has been working with the Bureau of Technology Services to ensure that police, fire and emergency management bureaus are sufficiently equipped to make its services: (1) compliant with the Americans with Disabilities Act, Title II; and (2) available to persons who are deaf or hard of hearing. Specifically, the City has recently fast-tracked the adoption and purchase of nonstandard software which will allow first responders to meet these two goals through iPad/iPhone (iOS) devices. Portland Fire & Rescue does not have sufficient numbers of compatible devices to provide technology-mediated American Sign Language (ASL) to the entire 30-station service area, especially given that Android smart phone devices are City standard.

- **Technology to serve persons who possess Limited English Proficiency:** In addition, along the lines of meeting the needs of all members of the public, if this proposal is funded, PF&R intends to equip first responders with technology (iPad language apps) to communicate with persons who possess Limited English Proficiency (LEP).

2. Project Description

A. Scope of work

The scope of the work funded by the Innovation Fund includes the following:

- 72 iPad 4 devices with protective cases
 - 30 to be used exclusively by the public – one per each fire & rescue station; and
 - 42 to be used by emergency responders in the field – one per each engine, truck, and quint apparatus and RRV
- Two years of Apple-provided warranty protection
- Wi-Fi equipment in 27 fire & rescue stations (3 stations currently have this capability)
 - Wi-Fi will be less expensive than data plans
- One year of City standard Verizon data plans for apparatus iPads

B. Type of project

- This project will leverage technology to increase performance and customer service. Specifically, this project will increase PF&R's mobile computing capabilities on scene and will provide greater customer service to station visitors through technology-facilitated feedback and public education.

C. Identification of potential challenges or obstacles

Potential challenges to the project include:

- Selecting and standardizing mobile apps for all apparatus iPads. However, PF&R command staff have been working with this hardware and are able to use this experience in helping guide selection. In addition, PF&R users are very technologically savvy and are very interested in learning and adopting new tools.

D. Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc)

- Portland Fire & Rescue is the lead bureau, and submitter of this proposal. PF&R will be responsible for: managing the project; working with BTS to procure the hardware; and to develop and implement all application selection, testing, and rollout.

E. Project timeline including start and end dates, major milestones, and risks to proposed timeline

PF&R anticipates working on implementation immediately following approval of funds from Council. Specifically, assuming that Council will approve funds in mid-February 2014, PF&R will:

- **2/17/2014 – 3/31/2014** – Work with BTS to procure iPads, data plans, and Wi-Fi equipment;
- **3/31/2014 – 4/30/2014** – Work with BTS to install Wi-Fi equipment;
- **2/17/2014 – 4/30/2014** – Work with pilot stations to benchmark, select, test, and implement initial apps, communications functionalities, and usage protocols; and
- **2/17/2014 – 4/30/2014** – Develop and implement a public outreach strategy for station visitors, including surveys and demographic data collection.
- **5/1/2014** – Begin bureau usage of all funded iPads
- At the end of one year of operations, PF&R will report to the Commissioner-in-Charge the impacts on operations and public education that have been achieved with this hardware.

2. Project Outcomes (qualitative and quantitative)

A. Potential cost savings or increased revenues:

- This project expects to reduce healthcare system costs for which PF&R is seeking avenues for reimbursement and/or subsidies.

B. Potential operational efficiencies

- Enhanced ability for fire and medical first responders to access critical information and be efficient on scene and in the field.
- Enhanced ability for PF&R stations to provide an easily accessible tailored educational experience.
- Enhanced ability for PF&R visitors to provide both feedback and self-identified demographic data while still at the facility. PF&R will use this information to increase its ability to target public education and outreach efforts.

C. Who benefits from the cost savings and/or efficiencies?

- Patients through more informed healthcare decisions
- Our public through healthcare efficiencies and education outreach
- People underrepresented; identified through demographic data (or lack of)
- First responders and the public through improved data collection for prevention education and recruitment

D. Performance metrics to track progress and expected outcomes

- % of units successfully implemented
- Completion of standardized application/functionality profile
- % of units utilized for patient care coordination, alternate care or transportation, and telemedicine
- Number of visitors receiving tailored educational materials in-station
- Number of in-station surveys completed

3. Budget

A. Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project)

	<u>FY 2013-14</u>	<u>FY 2014-15</u>	<u>Total</u>
iPad 4 @ \$630 each, 72 total	45,630		45,630
iPad Cases @ \$50 each, 72 total	3,600		3,600
2 Years of Apple Care @ \$99/year, 72 total	7,128	7,128	14,256
Verizon Data Plans @ \$40/month, 42 total		20,160	20,160
Wi-Fi Equipment @ \$1,000 each, 27 stations	27,000		27,000
Wiring for Wi-Fi at stations	5,000		5,000
Subtotal	\$88,358	\$27,288	\$115,646

B. Leveraged Funds and Return on Investment Timeline

- This project is integral to both improving performance/ customer service, and being a progressive healthcare partner to then negotiate and implement reimbursement models with healthcare (or other) providers. Anticipate 2 year timeframe for ROI.
- PF&R will leverage its technology budget for the purchase of apps and other software.

C. Ongoing operations and maintenance costs (identify costs and funding source)

- Ongoing O&M will be funded by PF&R's external materials and services budget.
- Data Costs: \$20,160 per annum
- Replacement of hardware: to be absorbed by PF&R's technology budget.

D. Staff requirements (existing or new)

- This project will be implemented with existing PF&R staff.

Portland Housing Bureau - Innovation Fund Proposal

Expanding *Rent Well*, a Community-Based Tenant Education Asset

Background:

Rent Well is a highly effective community-based tenant education curriculum developed in 2009 with leadership from the Portland Housing Bureau (PHB) and in conjunction with the Renter Education Alliance (REAL), a unique partnership of representatives from public and non-profit agencies in the four-county area (Multnomah, Washington, Clackamas and Clark).

Rent Well serves people who experience barriers to accessing rental housing, such as irregular rental history, past evictions and or criminal histories. Most *Rent Well* participants have very low incomes and many have experienced homelessness or other housing challenges. The curriculum provides participants with information, concrete tools and resources to address screening barriers and help people take action to be more successful in their next home. *Rent Well* provides people with the knowledge, self-advocacy, and self-sufficiency skills necessary to attain and maintain a place of their own. A sample of topics from the *Rent Well* Table of Contents is included as Attachment A.

Since its inception, nearly 3,000 low income tenants have gone through the 15-hour *Rent Well* training and nearly 200 instructors have become certified instructors. Participants who complete the course are eligible to access a Landlord Guarantee fund that provides up to \$2,000 for excessive damages, legal fees, or unpaid rent. Since *Rent Well* began, fewer than 1% of graduates have needed to access the fund. Students say that *Rent Well* has made all the difference in their finally finding a landlord willing to rent to them.

Over the last 5 years, PHB has invested its staff resources to *Rent Well* and also contracts with Home Forward at \$70,000 annually to administer the program to 63 agencies in four counties. PHB has also made up to \$40,000/year available for the Landlord Guarantee fund. Home Forward conducts central administrative functions, including instructor certification for the four-county area, curriculum updates, classroom monitoring for quality assurance, managing the Landlord Guarantee funds provided by Oregon Housing and Community Services, and the administration of the *Rent Well* online support community, among other tasks.

PHB staff and the City Attorney's office worked together to establish the legal framework for the curriculum and the City of Portland (PHB) holds a copyright for the curriculum.

The challenge:

PHB has insufficient staffing and funding to adequately maintain oversight of *Rent Well*. Dozens of communities have contacted PHB to inquire about purchasing it, but there hasn't been staff capacity to explore the legal and financial feasibility and potential gains. The opportunity exists to use the curriculum to generate revenue, which will cover the costs of administering it. However, marketing or exploring revenue-generating products fall outside of the usual activities conducted by PHB.

"It's a highly effective class that provides you with a wealth of information. I learned the importance of always, always reading through a lease, even if it means breaking out a magnifying glass, to make sure you're familiar with all of the landlord's requirements. Another valuable part was getting my credit and background check. Even though I didn't have any legal issues, I wanted to be sure that the reports reflected that."

-- Susie, a RentWell graduate

The solution:

PHB wants to shift the ownership and administration of *Rent Well* to a nonprofit entity. Several local agencies currently teach *Rent Well* to their clients, and have expressed interest in potentially administering it.

Having a nonprofit agency administer the curriculum will help to ensure that *Rent Well* is revised and updated as needed to stay a relevant and useful tool for participants, agencies and other communities.



Specific responsibilities would include:

- Manage *Rent Well* lead agency contracts
- Manage four-county relationship
- Manage fiscal tracking of landlord guarantee fund
- Decide to sell or give curriculum to requesters – related copyright considerations
- Staff REAL (Renter Education Alliance) quarterly meetings
- Maintain tenant education portion of

www.rentwell.org

[ell.org](http://www.rentwell.org)

- Continue regular instructor trainings
- Maintain contracts with instructors and agencies
- Ensure compliance through annual onsite agency monitoring

Project Description:

Support from the Innovation Fund is requested to hire a consultant to research the legal and financial framework to shift the ownership and administration of *Rent Well* to a local non-profit organization.

The consultant will perform the following:

- A. Research and develop methodology to sustain the *Rent Well* program without ongoing operations funding from the City. This includes exploring options for marketing and selling the curriculum, charging organizations to have the rights to teach, or charging teachers for taking the training.
- B. Work with the City Attorney to determine legal process to shift ownership of *Rent Well* to a nonprofit entity; determine mechanism(s) and plans for on-going City involvement to ensure the promotion of Fair Housing.
- C. Work with the REAL Committee and other partners in the four participating counties to help shape the future of Rent Well.

Potential challenges or obstacles

PHB could discover that the market demand for the curriculum will not sustain operations. Another potential obstacle is being overly optimistic that the nonprofit can generate enough profit to sustain operations within a six-month time frame.

Project timeline

January 2014

- PHB hire a consultant through an RFQ process.

February 2014

- Consultant conducts a market analysis to determine market scope for the curriculum.
- Consultant works with City Attorney to determine legal process to shift ownership of Rent Well Program to a nonprofit, including transferring copyright from PHB and files and data from Home Forward. Identify legal or confidentiality issues.
- Outline qualifications to administer the marketing, selling, and administration of legal agreements.

March 2014

- Consultant meets with REAL committee and other stakeholders to gather input on how to preserve and improve the current Rent Well program, including streamlining program and removing bureaucratic roadblocks.
- Develop sustainability plan.
- Develop landlord guarantee or plan to market Rent Well without it.
- Write Request For Qualifications.

April 2014

- RFQ to select non-profit.

May 2014

- Do legal paperwork to transfer ownership of Rent Well.

June 2014

- Transfer of ownership complete.

Project Outcomes

The project is estimated to save the City \$70,000 annually in program administration, as well as the \$40,000 Landlord Guarantee Fund commitment. It will relieve the Bureau of current compliance responsibilities and requirements, and preserve additional PHB staff capacity by transferring the responsibilities of contract managing and reporting to a nonprofit entity. It will also relieve PHB staff of the extremely time-consuming process of updating curriculum (approximately 320 hours, every 5 years) and overseeing translation.

A nonprofit may be able to operate the program for less than Home Forward. A nonprofit will be better able to market the *Rent Well* curriculum and have the ability to mold the program in a way that better suits and responds to the needs of both participating agencies and instructors.

The community will benefit from the cost savings and efficiencies, with the most notable benefit being the preservation of the program. People from communities of color are over-represented in *Rent Well* classes, suggesting that *Rent Well* programs are successfully reaching those in need and helping to reduce this historic disparity.

Performance metrics to track progress and expected outcomes

- Written feasibility analysis

- RFQ completed and *Rent Well* ownership transferred to new entity

Budget

The cost of this Innovative Project is \$32,000 to hire a consultant to transfer the program to a non-profit. This translates to approximately nine weeks of work at \$90 per hour over six months.

Leveraged funds include the resources contributed by the REAL Committee that will assist the nonprofit in the ongoing training of instructors (approximately 120 instructors every year) and provide continue to operate as a tenant education advisory committee. PHB will also provide the equivalent of six months of operation as seed money to the nonprofit to allow for them to implement their operations and sustainability plan. Ongoing operations and maintenance costs will be absorbed by the nonprofit. The Consultant will help the nonprofit owner develop a strong plan to ensure success.

Current staff requirements to write and manage contracts, gather and analyze program data, update and translate the curriculum, and respond to community needs will be shifted to the nonprofit owner.

Contact information for Project Lead: Sally Erickson, Ending Homelessness Initiative Manager
Sally.Erickson@Portlandoregon.gov



APPENDIX A

Sample topics from *Rent Well* Table of Contents

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Innovation Fund Proposal XML Data Sharing Pilot Program

Project Description

Project Background

Like many of the City's service bureaus, the Portland Housing Bureau (PHB) uses large web-based databases to hold and report information on the characteristics and needs of the people it serves. These databases are populated with information by users working in many different organizations across the city. Case workers in non-profit agencies that provide assistance to homeless clients enter information on service use and measures of program effectiveness. Property managers at property management companies enter income and compliance information on households living in city regulated affordable housing. Broad participation in these databases helps provide a consistent and accurate snapshot of the populations that PHB serves, as well as information on service use and measurement of performance of programs.

The information these users provide has an important impact on policy at local and regional levels. At the same time, participation and reporting in PHB's databases is not as high as it could be. The database functions have not always been easy to understand and like any software, each system takes time to learn. Users must manually enter data into the systems through web-based interfaces, and in many cases data entry is duplicative of entry that has already been done into agencies own internal information management systems.

The goal of this project is to develop and pilot an XML data sharing program that permits Bureau partners to export data from their own internal information management systems and upload data into PHB databases. Implementation of an XML data sharing program will greatly reduce the data entry burden on PHB partnering agencies, improve the quality and amount of data received by PHB, and ultimately provide better performance information to inform housing policy at the local and regional levels.

XML Data Sharing Pilot

Although not widely used in local government settings, XML is not a new technology. The vendors of the web-based databases that PHB uses have defined and published global schema for use when importing data through an XML tool. The schema provide system logic to reconcile data and import into PHB's web-based database systems. Additionally, the vendors of PHB's web-based databases have made XML import tools available for use with each prescribed XML schema. The work that remains is to do the outreach and programming to "connect the dots" and begin data sharing using XML. The proposed data sharing pilot program will hire a programmer to assist PHB and work with selected agencies source systems to export and map their data to the appropriate XML schema. The mapping tools designed will be flexible, modular, and displayable so that data can be understood by PHB and partnering agency staff during the upload process.

Innovation Fund Proposal XML Data Sharing Pilot Program

The pilot will focus on two groups of PHB partners. Property management companies that manage PHB regulated housing are required to regularly report extensive income and demographic information on the residents of affordable housing. These agencies are currently reporting information to PHB in one source format (a Microsoft Excel spreadsheet) as well as hand-entering tenant data into a PHB web-based database. The proposed pilot will create an XML tool to map the Excel spreadsheet data into a prescribed XML schema. PHB and agency users will then be able to automatically upload the mapped data into PHB's web-based database using the vendor's XML upload tool. **This will eliminate hundreds of hours of duplicate data entry** by the many property management companies that currently report to PHB.

Faith-based organizations that provide homeless services are the second group of partnering agencies targeted by the XML data sharing pilot program. Staffed primarily with volunteers, these agencies struggle to consistently report information into PHB's web-based databases. Staff at the agencies lack the time and background to easily and quickly learn the database functionality and reporting requirements. This limited staff capacity is coupled with some wariness of the constraints that government funding and reporting could potentially place on their agencies. PHB proposes partnering with several of the larger faith-based agencies in the city that provide homeless services to develop a process to map their source data to a prescribed XML schema and upload their data at agreed upon intervals using the vendor XML upload tool. This process will eliminate the need for long hours of staff training as well as relieve the data entry burden currently placed on these agencies.

While XML is a great boon to public and private agencies needing to share data across software environments, it is not without its challenges. The proposed data sharing pilot will require that someone (programmer, PHB staff, or other standard-setter) must reconcile the differences between data sources and the destination web-based databases in order for data to be shared. Data reconciliation will need to overcome possible technical challenges as well as differences in semantics. In the two pilot groups there are many opportunities for agencies to use different formats and terms to describe the same attributes. Staff will need to work as integrators and determine if it is possible to use a particular attribute for a particular purpose. These challenges, while serious, are not great enough to outweigh the potential benefits of implementing XML data sharing.

Project Timeline

January 2014

- Work with Procurement Services to contract with an XML programmer through one of the City's existing flexible services contracts or through a RFP process.

January 2014 – February 2014

- Work with selected XML programmer to translate the Excel spreadsheet currently submitted to PHB by local property management companies to prescribed XML schema.

Innovation Fund Proposal XML Data Sharing Pilot Program

- Document the process of converting the Excel spreadsheet to an XMLfile.
- Test the final XML dataset for successful upload into housing software.
- Verify the documentation created during the XML mapping process.

March 2014

- Meet with faith-based pilot agency leadership to kick-off the XML Data Sharing Pilot Program and put necessary data sharing agreements in place.

April – June 2014

- Work with XML programmer to translate agency source system data into prescribed XML schema.
- Document the process of converting the source data to XML.
- Test the final XML for successful upload into housing software.
- Verify the documentation created during the XML mapping process.
- Repeat above process for each faith-based agency (three total).

June 2014

- Coordinate with PHB to train and test on maintenance of the XML conversion and upload process.

Project Outcomes

Implementation of an XML data sharing program will greatly reduce the data entry burden on PHB partnering agencies, improve the quality and amount of data received by PHB, and ultimately provide better performance information to inform housing policy at the local and regional levels. Being able to provide complete data on homeless services and outcomes in the community to PHB's federal funders such as the Department of Housing and Urban Development (HUD) will improve the Bureau's competitiveness for future funding opportunities.

Implementation of XML tools for property management companies currently reporting to PHB will eliminate hundreds of hours of duplicate data entry. These same tools made available to faith-based organizations will eliminate the need for long hours of staff training as well as relieve the data entry burden currently placed on these agencies. By reducing the need for manual data entry, it is expected that data quality and completeness will increase by a minimum of 25% for each participating agency.

Budget

We expect each agency data source to require a minimum of 50 hours of programming to convert to a prescribed XML schema. An additional 10 hours of time is allocated for documenting the conversion project for each data source. For this pilot project, potential agency data sources include the Excel spreadsheets submitted by property management

**Innovation Fund Proposal
XML Data Sharing Pilot Program**

companies (considered one data source) as well as XML converted data from each faith-based agency. The faith-based agencies are using a wide variety of software applications to maintain their client records, and each agency will be its own XML mapping project.

Contractors with the requisite programming skills range in price from \$50/ hour to \$125 hour, depending on their expertise and skills. For purposes of this project we estimated \$100/hour.

PHB must pay a one-time, \$6,000 XML upload fee per data source for use of the XML uploading tools provided by the vendors of its web-based systems. We anticipate the pilot will convert four data sources to XML files following prescribed XML schemas.

The table below represents the cost of converting and uploading four data sources via XML tools.

Task	Number of Hours	Num
XML Programming	200	\$20,000
XML Upload (One-Time Fee)		\$24,000
XML Documentation	40	\$4,000
Total Project Cost		\$48,000

Project Contact Information

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City of Portland Innovation Fund Proposal
Proposing Bureau and Project Title

OMF Bureau of Human Resources/Training and Workforce Development
New Employee Onboarding Elearning System

***Project Description:** Scope of work; Type of project (technology, consolidation of services, lean process improvement, redesigning business processes, etc); Identification of potential challenges or obstacles; Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc); Project timeline including start and end dates, major milestones, and risks to proposed timeline*

This proposal is to create a Citywide new employee onboarding process, incorporating standardized orientation information and leveraging the City's new eLearning system, CityLearner. This onboarding process can be tailored for specific bureau and job role requirements.

The City of Portland hires approximately 1,000 employees in a fiscal year, of which about one-third are regular fulltime vs. two-thirds seasonal and/or temporary employees. The New Employee Onboarding project will provide resources for both regular and seasonal/temporary hires.

Another factor that has already begun to significantly impact City operations is the number of employees who are eligible to retire over the next three to five years. As is the case for other U.S. employers with large cadres of mature workers, the City is already seeing retirements increase as the economy improves and retirement-age employees are feeling more confident about their ability to accomplish their post-retirement goals. This departing workforce will take with it a vast amount of institutional knowledge that must be replicated. Further, the incoming workforce has needs and expectations for learning and workplace culture that are generationally very different from the City's existing systems for learning and culture. An onboarding process adapts the needs of the employer for talented, effective employees to best leverage the education, skills and abilities of the available workforce.

Onboarding, the process of orienting and integrating employees to their new work experience, requires significant investment in employer time resources as well as incurring hard costs of setting up a new employee in systems, acquiring equipment, work acclimation, etc. New hire onboarding is a major learning trend as employers seek actionable methods and strategies to effectively move new hires to higher levels of performance as quickly as possible. When employers do an inadequate job of onboarding, the result is inefficiency and often, higher turnover. Both employer and employee incur significant costs; the employer's operations are not efficient and effective and the employee's lack of success creates a negative work experience that prompts him or her to seek a better prospect elsewhere.

For the purpose of this discussion, it's important to differentiate between orientation and

onboarding. Employee orientation occurs during the first few days of the new hire's employment, and includes describing City and bureau missions, filling out paperwork, selecting benefit plans, and learning about rules and policies. It can be summarized as what happens to fill an employee's initial knowledge gap.

In contrast, employee onboarding includes orientation, but is recognized as a more prolonged process intended to create and sustain behaviors and build relationships that will ensure the employee's long-term success. In this context, employee success means the employee delivers desired results on the job as quickly and effectively as possible. The employee continues to gain broader (or deeper, in the case of specialized jobs) knowledge and skills over the long term and good performance is consistent and sustained.

Positive impacts of a successful onboarding program include:

- reduce unwanted turnover
- curb unnecessary mistakes
- reinforce ethical conduct
- save money by improving employee effectiveness
- increase employee engagement and morale
- free managers for long-term, strategic planning

HR and Training and Workforce Development function together to design employee onboarding programs; however, what is often overlooked is how to consistently and continuously involve the managers of new hires in the onboarding process.

We know that providing new employee training only at the very outset of employment is not adequate to support and sustain the best performance. By targeting ongoing messaging and learning opportunities to come from immediate supervisors, new employee commitment to understand and meeting performance and ethics standards can be improved long-term.

This project will consist of two components:

Part One will address a comprehensive Employee Onboarding and Orientation process that will be applicable Citywide.

Part Two will provide resources to managers and supervisors to help guide the process and ensure the Employee Onboarding process is completed.

We will leverage the new CityLearner learning management system functionality to deliver the training to new hires. Manager Self-Service may also be used for managers to track employee progress through necessary onboarding steps

Project Timeline: see following for estimated project timeline.

Bureaus Impacted: The instructional design and content will be developed with assistance and feedback from City bureaus and their training liaisons/management as designated. We anticipate identifying a few bureaus to pilot the final version, along with OMF, beginning in

January 2014.

Project design and execution: BHR; Procurement Services; EBS; BTS; City Bureau Training Liaisons.

Project implementation and delivery: BHR; All City Bureaus and offices.

Project Outcomes (qualitative and quantitative): Potential cost savings or increased revenues (one-time and/or ongoing); Potential operational efficiencies; Who benefits from the cost savings and/or efficiencies; Performance metrics to track progress and expected outcomes

This program will benefit all City new hires and managers/supervisors:

New hires will have necessary information and resources readily available and delivered in a timely manner.

Managers and supervisors will be able to invest their time in

- Engaging employees
- Articulating clear responsibilities
- Addressing culture fit
- Linking onboarding to desired job skills
- Delivering feedback early and often

The City will avoid costs associated with employee performance and workplace behavior issues because expectations will be more clearly established and reinforced. Managers and supervisors will become more effective at addressing and resolving employee performance standards.

Citywide information will be standardized and shared, creating a more cohesive workplace culture across the City.

City bureaus will be able to create orientation and onboarding modules to meet specific bureau requirements.

Budget: Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project); Leveraged funds; Return on investment timeline, if any, and confidence level of the projections; Ongoing operations and maintenance costs (identify costs and funding source); Staff requirements (existing or new)

Total request: \$150,000 General Fund discretionary one-time.

One-time costs: \$150,000 for training program development, delivery, and execution.

Savings and payback are not recognized / expressed in cash amounts, but in service delivery improvement and bureau efficiency and effectiveness. Payback period is ongoing for the next 5

- 7 years, at which point a program update and refresh should be conducted.

Project Lead/Contact Information

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Bureau Director	Approval	Contact Information
Anna Kanwit, Human Resources Director		503 823-3506 Anna.Kanwit@portlandoregon.gov

Detailed Timeline

Employee onboarding/orientation - Design, develop and deliver

Start	Stop	
1/6/2014		Project commencement
1/6/2014		Begin process to acquire learning design and development resource (propose temporary hire vs. contractor, but can be re-evaluated)
1/6/2014	1/15/2014	Identify internal and external resources
1/6/2014	1/15/2014	Evaluate needs assessment
1/20/2014	1/24/2014	Project team kickoff meeting
1/27/2014	1/31/2014	Develop content outline for Citywide onboarding topics
2/3/2014	2/7/2014	Meet with bureau training liaisons, present onboarding/orientation outline for feedback
2/7/2014		Finalize initial content outline
2/7/2014		Acquire learning design and development specialist
2/10/2014	2/21/2014	Begin learning design phase - focus on content
3/1/2014		First content draft for review and discussion with project team and bureau liaisons
3/1/2014	3/14/2014	Learning design continues - focus on content, incorporate delivery
3/17/2014		Second content draft for review and discussion with project team and bureau liaisons
3/31/2014		Final content draft
4/1/2014	4/15/2014	Learning design continues - focus on delivery methodology
4/30/2014		Learning design - content and delivery final draft, testing in LMS
5/1/2014		Rollout plan - communication and implementation
5/1/2014	5/15/2014	Communication and implementation rollout
6/1/2014		Employee Onboarding implementation for OMF and pilot bureaus

<p>City of Portland Innovation Fund Proposal</p> <p>Proposing Bureau and Project Title</p>
<p>OMF Bureau of Internal Business Services</p> <p>Replace Laser Printers with Dry Toner Copiers/Printers</p>

Project Description: *Scope of work; Type of project (technology, consolidation of services, lean process improvement, redesigning business processes, etc); Identification of potential challenges or obstacles; Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc); Project timeline including start and end dates, major milestones, and risks to proposed timeline*

This successful proposal will move prints made on bureau laser printers to dry toner copiers/printers. Replacing laser printers with dry toner devices creates long term efficiencies due to the lower cost of color printing.

Printing and Distribution has conducted a bureau convenience print study to determine available savings opportunities. The data indicates bureaus are annually making in excess of 7.5 million monochrome and in excess of 1.8 million color prints on laser devices. Industry data on the cost difference between the two processes is varied, but almost universally accepted that dry toner is a more cost effective way to produce prints. A conservative approach is to consider the cost of monochrome laser prints to be 2 cents higher and color prints to be 6 cents higher.

In FY 2013-14, Printing and Distribution would like to replace 25 high volume laser printers with up to 25 dry toner copiers/printers at \$3,000 per device. P&D has already identified Bureaus that would benefit from this program and have started contacting customers. If this submission is denied, P&D will continue to encourage customers to make this cost savings change, but customers would be responsible for all upfront costs and could delay the project. With approval of this request all upfront cost of \$75,000 would come from the Innovation fund.

Project Outcomes (qualitative and quantitative): *Potential cost savings or increased revenues (one-time and/or ongoing); Potential operational efficiencies; Who benefits from the cost savings and/or efficiencies; Performance metrics to track progress and expected outcomes*

When bureaus buy laser printers, instead of a Printing and Distribution device, the maintenance and supplies are charged against the bureaus' external materials and services. The bureaus are also responsible to coordinate replacement and repair of the device.

Printing and Distribution will focus on replacing large volume, networked laser printers, starting with general fund bureaus. Printing and Distribution would add the volume, at Current Service Level rates, to bureaus internal materials and services budgets and the bureaus would subtract that amount, plus the savings per copy from external materials and services.

An average cost of a printed page taken from three laser printers, with 6% coverage, shows the cost for black copy is \$0.027 and cost for color copy is \$0.1014 per page. This is for toner only.

Printing and Distribution places dry toner copier/printers. The cost per copy for service and supplies is \$0.0075 for black copy and for color copy it is \$0.04.

There are additional costs for paper, administration and general staff time, but those costs would be the same regardless of the source of print.

Cash savings from this project will continue to accumulate for the life of the device. Total savings will be determined by the actual volume of prints. Printing and Distribution's expenses will increase while the bureaus who choose to upgrade will see the internal materials and services rise but overall costs fall as external material and services is reduced.

Budget: Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project); Leveraged funds; Return on investment timeline, if any, and confidence level of the projections; Ongoing operations and maintenance costs (identify costs and funding source); Staff requirements (existing or new)

Total Request: P&D requests \$75,000 General Fund discretionary one-time in FY 2013-14. These funds would be used to replace 25 Laser Printers with 25 Dry Toner Copiers/Printers. To produce an estimated annual savings of \$62,175. The savings is based on an estimated 1.5 million copies. The payback period is a little more than one year.

Project Lead/Contact Information

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City of Portland Innovation Fund Proposal

Proposing Bureau and Project Title

Revenue Bureau

Tax Information Exchange Agreement between IRS and Portland

Project Description: *Scope of work; Type of project (technology, consolidation of services, lean process improvement, redesigning business processes, etc); Identification of potential challenges or obstacles; Lead bureau and other groups impacted (bureaus, governments, customers, the public, etc); Project timeline including start and end dates, major milestones, and risks to proposed timeline*

The Revenue Bureau currently does not have an agreement for direct exchange of taxpayer information with the U.S. Internal Revenue Service (IRS). Having an information exchange with the IRS will provide the Bureau with local taxpayer information such as name, SSN/FEIN, address, income and filing status which will greatly assist in the administration and collection of local income taxes such as the Portland Business License Tax, the Multnomah County Business Income Tax and the Arts Tax. The IRS provides this service free of charge to all 50 states, the District of Columbia and eligible municipalities and counties with over 250,000 residents.

The three primary benefits of such an exchange are:

- 1) **A substantial reduction in tax filing burden for hundreds of thousands of local taxpayers** because completing tax returns in common tax preparation software packages such as TurboTax will satisfy Portland, Multnomah County, Oregon and federal filing requirements simultaneously when e-filing is implemented in conjunction with the Oregon Department of Revenue (data exchange is a precursor to e-filing). Many taxpayers will no longer need to fill out separate forms and mail copies of tax returns and other papers to the Revenue Bureau.
- 2) **A significant increase in compliance with all local income taxes** administered by the Revenue Bureau because key income and filing information will no longer be unknown and unverified. This is especially important in the identification of taxpayers that have never filed tax returns with the Bureau. The Bureau conservatively estimates a compliance increase of 1-3% for business income taxes and up to 5% for the Arts Tax, translating into millions of dollars of increased annual revenue for Portland and Multnomah County general funds, and the Arts Tax Fund.
- 3) **A reduction of Bureau administrative burden** related to processing paper returns; processing times for tax returns and turnaround times on taxpayer refunds will be greatly reduced after e-filing is in place. Other benefits include increased physical security of tax payments resulting from higher numbers of taxpayers paying electronically rather than by check. The reduction in administrative workload for the Bureau will result in reallocating additional staff to audit or other work further increasing revenues.

The Revenue Bureau has already applied for acceptance into the Tax Data Exchange Program with the IRS; the IRS has agreed the City is initially qualified to receive federal tax information pursuant to IRC Section 6103(d)(1). To fully implement an agreement, the City must comply with many security and other requirements delineated in IRS Publication 1075 (Pub 1075), and additional resources are needed to do so.

Timeline, risks and milestones - There is an annual window to join the exchange program; the Bureau must submit a Safeguard Procedures Report (SPR) by July, 2014. The SPR is a detailed report (about 70 pages) that details how the City (Revenue and BTS) will access, store, use and ultimately destroy the tax return and tax information data received. It will take approximately 3-9 months to complete the SPR, ensure the security requirements are in place and receive approval from the IRS. Once approved, bi-annual security reviews will continue to take place and additional implementation work will occur. The timing of E-filing implementation (project benefits 1 and 3, above and below) is currently unknown and will be dependent upon the Oregon Department of Revenue's workload and priorities, following implementation of data sharing with the IRS.

Project Outcomes (qualitative and quantitative): Potential cost savings or increased revenues (one-time and/or ongoing); Potential operational efficiencies; Who benefits from the cost savings and/or efficiencies; Performance metrics to track progress and expected outcomes

- 1) Reduction in taxpayer burden for hundreds of thousands of local taxpayers. Metric: number of taxpayers e-filing returns.
- 2) Increased ongoing General Fund revenues of \$780,000 to \$2.3 million for Portland; \$577,000 to \$1.7 million for Multnomah County; and up to \$540,000 for the Arts Tax. Substantial one-time business income tax revenues will also be realized as many taxpayers will be identified that have multiple unfiled or incorrectly filed previous tax years. Metric: incremental revenue tracking associated with increased compliance of accounts associated with IRS data.
- 3) Decreased administrative burden for the Revenue Bureau which will result in reallocation of staff to other revenue generating tasks, and potentially a longer term reduction in staff. Metric: Bureau will reallocate staff to other tasks, document the transfer, and report on any increase in revenue.

Budget: Total General Fund discretionary requested (split by fiscal year if requesting a multi-year project); Leveraged funds; Return on investment timeline, if any, and confidence level of the projections; Ongoing operations and maintenance costs (identify costs and funding source); Staff requirements (existing or new)

Total request: \$295,000 (estimated FY 13-14 - \$130,000; FY 14-15 - \$165,000)

FY 13-14: BTS - \$73,000 (technical staff time and physical security upgrades) and Revenue - \$57,000 (1.0 FTE for 6 months). Physical security upgrades could be required at BTS

and/or Revenue.

FY 14-15: BTS - \$52,000 (hardware/software/technical staff time) and Revenue - \$113,000 (1.0 FTE)

Leveraged funds: none currently, but Multnomah County could be approached to assist because they also benefit.

ROI timeline: program could be up and running for Tax Year 2014 or 2015 resulting in ongoing and one-time increased revenues beginning in Fiscal Year 2014-2015 or 2015-2016 (the Bureau will use federal data to adjust incorrectly filed tax returns for up to three prior years under City Code; and all prior tax years for taxpayers that have never filed a return).

Confidence in projections: budget—low to moderate; revenues--high.

Ongoing operations and maintenance costs/staff requirements: New 1.0 FTE Senior Management Analyst in Revenue. The Bureau will request a permanent position in the FY14-15 budget process; if approved, this would reduce year two Innovation Fund expenses, dollar for dollar. Estimated annual salary (at midpoint), benefits and M&S is \$114,000. This proposal requests funding for the position for 1.5 years. BTS estimates one-time expenses at \$125,000. Ongoing expenses related to increased security, hardware and/or software are unknown at this time.

Project Lead/Contact Information

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Aquatic Center Water Heating Efficiencies to Fund Scholarships

2013 City of Portland Mayor’s Innovation Fund Request – Portland Parks and Recreation

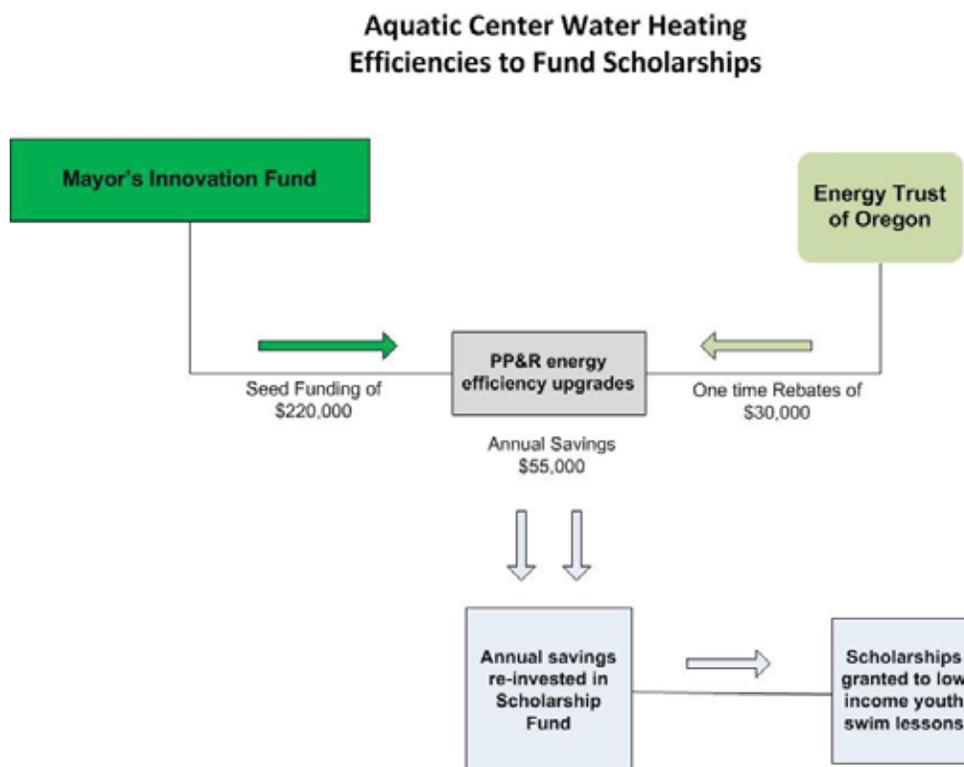
Background

Portland Parks and Recreation spends nearly half a million dollars annually for water heating at Community Pools. Aquatic sites overall consumed 73% of all the natural gas used by PP&R in 2013 FY (446,000 Therms). Replacing boilers that heat pool water can generate significant savings to PP&R’s energy consumption. Parks has a number of boilers that were installed in the early 1970’s that are all now roughly a decade past their replacement dates.

Project Proposal

PP&R proposes to partner with the Energy Trust of Oregon (ETO) on energy efficient water heating upgrades. A 2012 engineering study completed by the ETO at various PP&R aquatics facilities identified over \$50,000 in annual savings from installing high efficiency condensing boilers at six PP&R facilities. The upfront cost to install the boilers is estimated to be approximately \$250,000. Energy Trust of Oregon will provide PP&R with a \$33,000 rebate to assist with project costs. Return on investment for this project is estimated at just over 3.5 years.

PP&R is proposing that the annual savings from the boiler upgrades be programmed to support a summer swim lesson scholarship fund for low income youth. In FY 2012 the total value of scholarships granted at PP&R was nearly \$500,000 – most of which lacks dedicated funding support. PP&R is engaged in a newly established effort to obtain funding for the bureau’s scholarship program. This proposal allows for initial seed funding that the bureau will use to leverage outside funding.



Benefits Summary:

- Leveraging Energy Trust rebates equivalent to 13% of projects costs
- Return on Investment of under 4 years
- Annual cost savings reprogrammed to benefit low income youth
- A reduction in greenhouse gas emissions
- Reduced maintenance cost and time
- Project is ready for immediate implementation

Replacing the Walker DDC system

2013 City of Portland Mayor's Innovation Fund Request – Portland Parks and Recreation

Background

Direct Digital control (DDC) is the automated control of a condition or process by a digital device. DDC is often used to control heating, ventilating, and air conditioning (HVAC) systems. These systems may be mated with a software package that graphically allows operators to monitor, control, alarm and diagnose building equipment remotely. Significant energy and operational savings can be achieved by properly utilizing a modern day DDC controlled HVAC system.

Portland Parks and Recreation directly manages 14 Community and Art Centers. HVAC equipment at these sites is currently controlled by what is known as the Walker DDC system. The Walker system was designed in the late 1980's and is now obsolete and minimally supported. Currently, when circuit boards need replacement it is necessary to rebuild these components by hand because there are no parts available. Many of the sites have access issues making it difficult or impossible for staff to make changes to the system. Aside from the mechanical obsolescence of the current system, there has been a dramatic increase in building automation technology since the 1980's.

Proposal

PP&R is requesting support from the Mayor's Innovation Fund to cover the initial costs associated with updating the DDC HVAC system. Matt Dishman Community Center has been identified as an initial pilot site. It is projected that full implementation would result in annual energy cost savings of \$20,000. PP&R is requesting \$100,000 from the Mayor's Innovation fund with an expected obligation to pay back the fund over a 10 year period. Rebates and incentives may be available from the Energy Trust of Oregon. The amount of incentive is dependent on the specifics of the project yet to be determined.

In addition to energy cost savings the DDC upgrade will result in significant operational efficiencies. Maintenance staff will have the ability to remotely troubleshoot problems instead of physically visiting a site. HVAC zones within a building will be able to be optimized based on site specific programming schedules. This can lead to greater revenue potential by allowing the bureau to bill tenants for specific energy use. Energy management will be further enhanced by having access to room and or equipment specific energy use data.

Benefits Summary:

- Greater management of building environments.
- Possible new revenue streams through coordinated programming and enhanced cost recovery
- Increased service through customer comfort
- Lower utility cost by minimizing waste
- Reduced maintenance cost and time
- Empowers employees by giving them control over room specific temperature needs
- Energy Trust incentives are available to qualified projects.

Hot Spot Policing Project



Hot Spot Innovation Fund Proposal

10/29/2013

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Sergeant
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Summary

Following more than a decade of steady decline, the crime rate in the City of Portland, Oregon has grown by 15% since 2009¹. Over this same five year period the Portland Police Bureau (PPB) has lost both sworn officers and non-sworn support personnel due to budget cuts. In fact, sworn officers in the PPB have declined from nearly 1,050 sworn officers in the early 2000's to under 950 as of 2012. Despite declining resources, the citizens of Portland (and their elected representatives) expect the Bureau to find evidence-based, cost-effective ways to improve public safety.

Police agencies nationally have begun experimenting with a number of potential strategies to effectively reduce crime and calls for service. One strategy that has shown promise, "Hot Spot Policing", involves "High Visibility Intermittent Random Policing" (HVIRP) of small geographical areas experiencing high volumes of crime and disorder.

This project proposes to address important questions regarding the operationalization of hot spot policing using a randomized control trial to assess if these techniques can be employed in Portland. The proposed methodology will include an experimental design to evaluate the best methods for implementing this strategy with the goal of improvements in how the Portland Police Bureau and its partners (with an emphasis on the support provided by the Bureau of Emergency Communications) impact public safety.

At the conclusion of this project, the PPB will have identified the answers to two important questions:

- 1) Can Hot Spot Policing work to reduce crime and/or calls for service in the Portland?
- 2) If so, what are the best methods for implementing this style of policing in the Portland?

This project faces three major issues that this proposal seeks to address: 1) to successfully implement Hot Spot Policing will require that 100 or more calls be uploaded daily and dispatched to officers. To manually input these calls would require significant additional resources; 2) The PPB does not have experience in conducting and evaluating a randomized control trial for the purposes of delivering an evidence-based policing initiative; 3) in light of current analytic commitments² the PPB does not possess sufficient analytic resources to establish this program.

This proposal seeks one-time monies to: 1) purchase a Versaterm Computer Aided Dispatch license and related software allowing the PPB to test and implement a system that will create recurring calls for PPB officers to respond to crime hot spots and; 2) hire a temporary crime analyst position to help establish the Randomized Control Trial (RCT) and conduct the initial hot spot analysis. This will allow for an evaluation of the effectiveness of the strategy. Such evaluations are essential for evidence-based initiatives.

The proposal is both a technology project in that it requires modification of existing technology and the purchase of new software (see below) and redesign of a business process (modifying how officers use directed patrol time).

¹ As of 2012, as of this report Part I crime had dropped 6% since 2012 but was still up compared with 2009.

Justification

“Hot Spot Policing” is an evidence-based approach to reducing crime and disorder (Telep & Weisburd, 2012). A recent meta-analysis found that only five out of 25 tests of hot spots did not result in noteworthy reductions in crime (Braga, Papachristos, & Hureau, 2012). Additionally, the average effect size of these combined studies was statistically significant. An RCT on hot spot policing in Sacramento, California (a comparable city to Portland) found significant reduction in Part I crimes (murder, rape, robbery, aggravated assault, burglary, motor vehicle theft, larceny and arson) in hot spots compared with matched but untreated (i.e. no hot spot policing) areas (Telep, Mitchell, & Weisburd, 2012).

Studies consistently find that crime is geographically concentrated and that offending rates in these areas remain stable over time (Groff, Weisburd & Yang, 2010)³. Other studies find that increased officer presence in these locations reduces crime (Braga, Papachristos, & Hureau, 2012) without any appreciable displacement to surrounding areas (Bowers, Johnson, Guerette, Summers, & Poynton, 2011). In Sacramento, CA, for example, officers were assigned to randomly patrol high crime areas in 15-minute increments. These “High Visibility Intermittent Random Policing” (HVIRP) activities were associated with a 25% reduction in Part I crimes and a 7.7% reduction in calls for service over time in the experimental areas (Telep, Mitchell & Weisburd, 2012).

Additionally, research suggests that most officers are often not provided sufficient information regarding patrol patterns, but instead generally make these decisions with limited direction (e.g., Famega, Frank, & Mazerolle, 2005). Hot Spot Policing can overcome this limitation by providing officers specific direction on what areas are most in need of police attention.

The PPB’s Strategic Services Division was able to use 2010 to 2012 crime and call data for the months of May to August to identify 167 micro hot spots (500’ x 500’ cells) which comprised 1.1% of the area of the city. 2013 data was then examined using these hot spots (see Appendix A). The areas identified accounted for 19% of the non-officer initiated calls for service and 18% of the crime types which officers could impact through their presence (calls which generally occur indoors such as shoplifting, domestic violence and embezzlement where not included). While not true “predictive policing” this analysis demonstrates the possibility of utilizing these methods to police more effectively. Furthermore, these results confirm an earlier analysis (see Appendix B) in which .9% of the area of the city accounted for 18% of the crimes examined.

While the strategy will initially entail additional dispatched calls, research suggests that if implemented properly many, if not most, of the additional calls should be avoided by the improved patrol strategy. Crime reductions may be realized without additional resources. The development of an automated system for inputting calls has the potential to simultaneously reduce the workload of both dispatchers (reducing call loads) and officers (crime reduction benefits).

Stakeholders

- Chief Michael Reese – PPB Chief
- Lisa Turley – BOEC Director
- Renee Mitchell, Sacramento Police Department, SPD Sergeant and project advisor
- Greg Stewart, PPB - Project Manager
- Sean Sothorn, PPB – Lead Officer

- Patrick Jones, BOEC – Partner Agency Coordinator
- Murrel Morrely, BOEC – Partner Agency
- Kris Henning, Ph.D, PSU – Criminology professor at Portland State University
- Kimberly Kahn, Ph.D PSU – Psychology professor at Portland State University

The PPB has assembled a diverse group of stakeholders/advisors to oversee this innovation project. This group included members of academia, BOEC, PPB, a sergeant from Sacramento PD who is also a Fullbright scholar and is nationally recognized for her work in evidence-based policing. Drs. Kris Henning and Kimberly Kahn (both of Portland State University) are participating in this project and providing analytic expertise for both the evidence-based approaches to crime reduction as well as the potential equity impacts of the project.

The PPB has assembled a Project Advisory Committee of patrol officers who work in the police precincts, (i.e. “the street officers”) to advise the Chief on the progress of the project, to work to spread knowledge of evidence-based policing tactics and to act as a source of information to other officers in their precincts/divisions about the project. This group should help overcome potential cultural obstacles of this new program.

Operationalization

The PPB will utilize the technology and analytic resources provided by this innovation to identify and dispatch officers to pre-selected hot spots for crime on a daily basis. The Strategic Services Division (SSD) will manage the data input of the “hot spot calls”, thus eliminating the adverse impact of creating 100 or more additional calls daily on BOEC, thus creating no additional work for the partner organizations.

Officers will respond to these calls on a non-priority basis (meaning no immediate response) to minimize impact on operations and response times to emergency calls. This will optimize officers’ available time (i.e. time officers are clear and not on other calls). Officers will spend approximately 15 minutes in each hot spot engaged in policing activity selected from a range of options provided by SSD (this will include traffic stops, business checks, citizen contacts and/or meeting with local citizens etc.). Research has shown that spending 15 minutes in hot spots creates a residual benefit in terms of crime reduction after the officers have left (Koper, 1995). These activities will focus on highly visible patrol, which has been demonstrated to reduce crime (Braga, Papachristos, & Hureau, 2012).

Automatic Vehicle Locator (AVL) and Computer Aided Dispatch (CAD) technology will be used to assess compliance with the hot spot program. This approach leverages these existing technologies. Data will be collected for subsequent evaluation.

Data Collection and Analysis

Data collection and analysis related to the proposed study will be managed by the analyst paid for with the innovation grant funds. Pre-post data on calls for service and criminal offenses in each hot spot will be obtained from PPB’s Records Management System and CAD systems. These variables, separately and as change scores (i.e., post – pre), will be subjected to analysis of variance (ANOVA) and post-hoc comparisons to assess whether there is an overall reduction in crime associated with the hot spots selected for treatment in this project when compared with hot spots randomly selected as control locations.

To address concerns about crime displacement we propose using procedures developed by Bowers and Johnson (2003; see also Ratcliffe, Taniguchi, Goff, & Wood, 2011). A weighted displacement quotient will be

calculated using pre and post counts for each dependent variable from treated cells, 500' buffer zones surrounding treatment cells, and control areas. This analysis produces an estimate of the number of crimes and service calls prevented in treatment areas after taking into consideration any increase in surrounding cells resulting from displacement (or decrease resulting from diffusion of benefits).

CAD, AVL, and interview data will be used to determine the feasibility of assigning hot spot patrols via a dispatch system. AVL data will be checked on a random sample of dispatch calls and crosschecked with CAD data to verify compliance with hot spot patrols. CAD and AVL data will also be used to determine whether time on site and methods of clearing calls varies over peak and non-peak hours.

As noted previously, for this project, the PPB will develop clearance codes⁴ to capture officers' activity inside treated hot spots. Activities measured will include: traffic stops, investigative pedestrian contacts, non-investigative citizen contacts, business contacts and high visibility patrol without other associated activity. At the conclusion of the study PPB will examine the distribution of officer activities, assess whether activities varied by shift, precinct, etc., and determine whether outcomes (crime, calls for service) across treatment hot spots are associated with different distributions of officer activities. Supplemental data sources will be collected and analyzed to identify other potential outcomes of the intervention.

Goals (Outcomes)

1) The Ability to Automate Call Entry

The hot spot project will require the entry of over 100 randomized hot spot patrol calls daily. The PPB Crime Analysis Unit possesses the ability to identify the necessary locations, randomize the dispatch patterns and provide this information (either via geographic coordinates or traditional addresses) in a variety of electronic formats. Developing (or exploiting this capacity if it exists) the ability to automatically enter these calls in the dispatch system will be essential in mitigating the project's impact on BOEC. Additionally, this capability is essential to the sustainability of the project in the current budgetary environment.

Quantitative Measurement:

The project will measure time spent establishing calls to be dispatched.

2) Conduct a randomized control trial to establish the optimal Hot Spot Policing strategy for Portland

The hot spot project will require a trial period where both operational issues (such as how best to deploy officers, what are the best activities to conduct in hot spots) are addressed. As well as values-based questions can be examined (such as what impact hot spot policing has on disproportionate minority contact by police). This is especially important as police work to improve community-police relations.

Quantitative Measurement:

The PPB will report lessons learned for operational aspects of the project and analyze the project's impact on crime and calls for service.

⁴ In 2011 the PPB introduced "study codes" into the CAD system. Initially introduced to allow for improved tracking of impact of how issues such as alcohol, drugs, mental health etc. impact officer workloads, these codes will be adapted for capturing data related to officer activity on HVIRP patrols.

The project will also report on the possible impact on disproportionate police contact with minority citizens in hot spots.

3) Conduct the necessary analysis to identify hot spots for treatment

The hot spot project will require additional analytic resources to identify hot spots and utilize emerging technologies such as Geographic Information Systems (GIS) and statistical analysis (possibly including predictive policing) to conduct the necessary analysis to maximize the value of this project.

Quantitative Output:

The project will develop a methodology for determining hot spot locations as well as a notes and material to ensure the capacity to continue using this technique.

4) Project Outcomes

Quantitative Measures

Observed reductions in crime within the treated hotspots relative to matched pairs of untreated locations.

Quantitative Measures

Equity-based outcome measures, citizen feedback on the initiative and officer feedback on the initiative.

Expected Costs (Budget)

Goal 1: Automate call entry for hot spots

PPB and the Bureau of Emergency Communications (BOEC) believes that it will be possible to use the "alarm permit file"⁵ and a recurring call function to automate the call input for the hot spot project. This system will reduce call input times from an estimated 6.66 hours a day (four minutes per call times 100 calls daily) to just .47 hours by using this system. It will allow for calls to be established and rotated every two weeks instead of daily, greatly reducing costs.

To accomplish this automation requires that the PPB purchase a single license of the full Versaterm CAD desktop application (the software used to generate calls). Additionally, software for tracking AVL material is necessary to measure treatment time in the hot spots and ensure compliance with the RCT protocols

This license will cost \$6,270.

Goal 2 & 3: Conduct necessary analysis and randomized control trial

To accomplish this goal the PPB is asking for a limited-term (temporary) crime analyst position. The estimated cost for a 9-month limited term crime analyst is \$66,234.

⁵ A system for creating automated alarm calls which reduces call input times.

Proposals

The PPB is requesting two possible funding packages from the Innovation fund. Both funding packages are being requested as grants, as opposed to loans. The reason for this is that the funds seek to minimize costs associated with the creation of a new project.

While the project should (based on a review of available scientific literature) reduce demand for police services this reduction will reduce the marginal costs of policing (i.e. it may reduce overtime, fuel and other savings but will not reduced fixed costs such as salaries and benefits). Actual cost savings to the Police Bureau will be difficult to capture, and while it would be easy to create estimated savings in terms of average costs, the PPB would still have to pay for existing fixed costs (see the Return on Investment section for "potential" cost savings).

Proposal 1

The first proposal is for \$6,270 to fund the necessary software for call implementation and no other funds. This proposal is a small cost considering the potential benefits in reduced time entering calls.

Total cost for Proposal 1:

\$6,270

Proposal 2

Proposal 2 asks for both the software necessary to support this project (see Proposal 1) as well as a 9-month limited term crime analyst.

Total cost for Proposal 2:

\$72,504

Return on Investment

Cost Savings

As mentioned above, savings generated by this project should not be calculated using a cost average because this project will not reduce fixed costs for the PPB. While police calls do have an average cost (which some agencies calculate by dividing their budget by the number of calls taken) such averaging is inappropriate. The vast majority of PPB costs in terms of personnel and capitol are fixed. Therefore, cost saving because of reductions in calls or crimes creates only marginal savings (i.e. some reduced court over-time, reduces use of paper, gas, electricity etc.) unless they are sufficiently large so that precincts can be closed and personnel laid-off. The inability of the PPB to directly capture the benefits of these cost reductions makes such programs difficult to fund without external assistance. Programs like the Innovation Fund can help address this imbalance.

Calls for service and particularly crimes do cost the City of Portland. In fact, the Rand Corporation has developed a cost calculator for determining societal costs associated with crime and to help calculate potential fiscal benefits in crime reduction (see <http://www.rand.org/jie/centers/quality-policing/cost-of-crime.html>).

The PPB has conducted very preliminary analysis of this issue. The following should be considered a very rough estimate and by no means definitive. This analysis examined crimes that it believed patrol police

officers could impact⁶ in the City of Portland between July 1 and September 30 for the years 2009 to 2012. Using this data the PPB identified 150 hot spots that accounted for just 0.9% of the city in terms of area but was associated with 18% of these kinds of crimes (see Appendix B). This analysis identified an average of 767 crimes occurring in just these hot spots over the three months (July through September) for the time period observed. Table 1 examines the estimated crime reduction if this experiment is run in ½ the identified hot spots between July 1 and September 30⁷.

Table 1: Estimated Crime Reduction for the Hot Spot Experiment

Crimes in HS	Crime Reduction per Sac. RCT	Savings per lowest Rand estimate	Savings after Proposal 2 Costs
767	95.875	\$205,076.63	\$137,572.63

Using the estimates in Table 1 it may be possible to run this experimental trial and save the city, its citizens and its partners (County and State) \$137,572.63.

The PPB will not directly capture the bulk of these savings. The estimate represents reductions in the use of incarceration, court costs, and losses to citizens in terms of the value of property stolen or harms incurred etc.

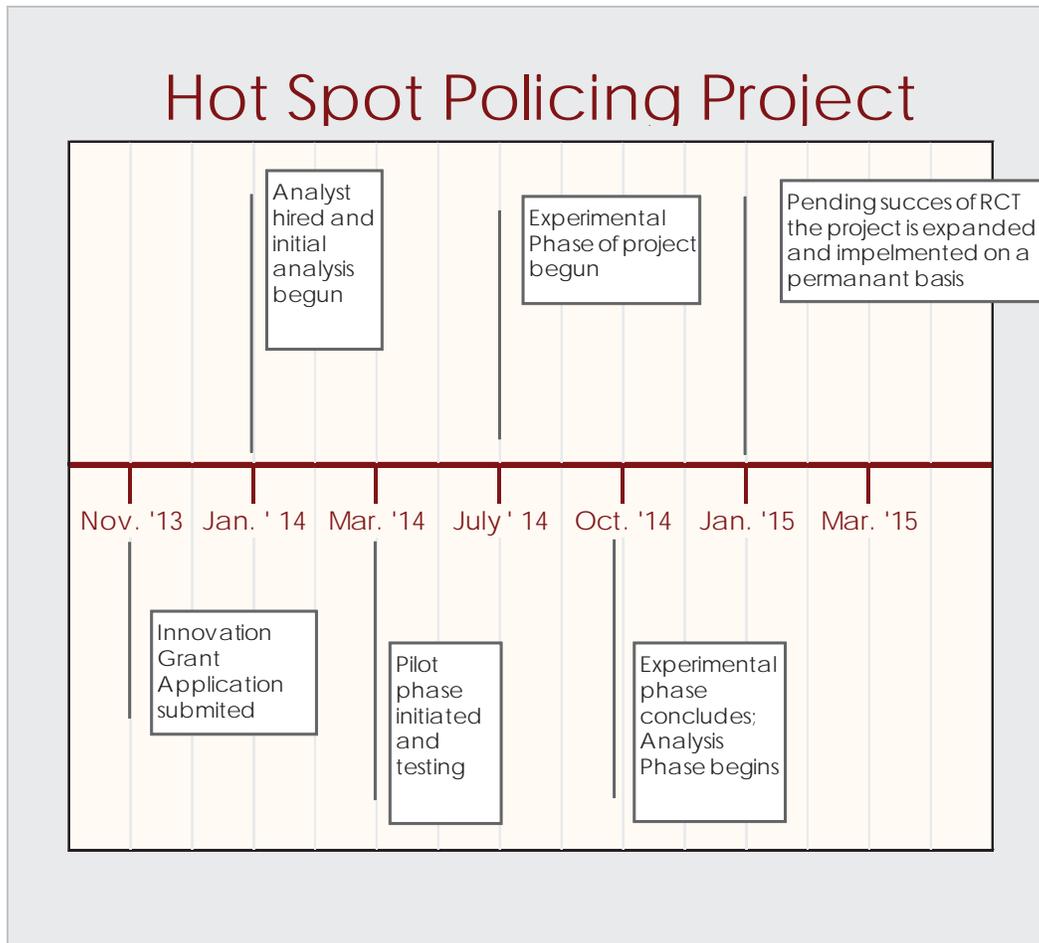
This project has a number of other potential benefits, which cannot be captured in terms of direct savings. Benefits include:

- Develop the use of evidence-based practices in the PPB
- The development of an equity-based evaluation process for this project
- Improved crime rates which should equate to increased livability, property values and social engagement
- The fact that preliminary analysis has been conducted and that processes are in place to rapidly move this project to implementation
- The existence of external stakeholders (such as PSU and Sgt. Mitchell from the Sacramento Police Department) who are volunteering time and expertise to the project

⁶ This included crimes like motor vehicle theft, non-domestic violence assaults, burglary, certain types of larceny etc.

⁷ This figure is derived by taking the average number of annual crimes identified in the early hot spot evaluation, dividing those in half (because only ½ the hot spots will be treated) , using ½ the reduction in crime observed in the Sacramento PD study to determine the crimes prevented and multiplying this by the costs associated with an average larceny (\$2,139). This estimate is not meant as a precise value for the money the City of Portland will save but instead examines the savings for citizens, the city as well as other entities such as savings to the County and State as the result of reduced incarceration. Finally, this estimate is not the result of precise analysis but instead relies on a number assumptions and is therefore subject to significant variation.

Project Timeline



Challenges/Impacted Bureaus

The PPB and BOEC have been working collaboratively on this process for several months and believe they have successfully addressed the technical challenges associated with this project. The funds provided will enable the PPB to conduct this RCT without greatly affecting other Bureaus such as BOEC.

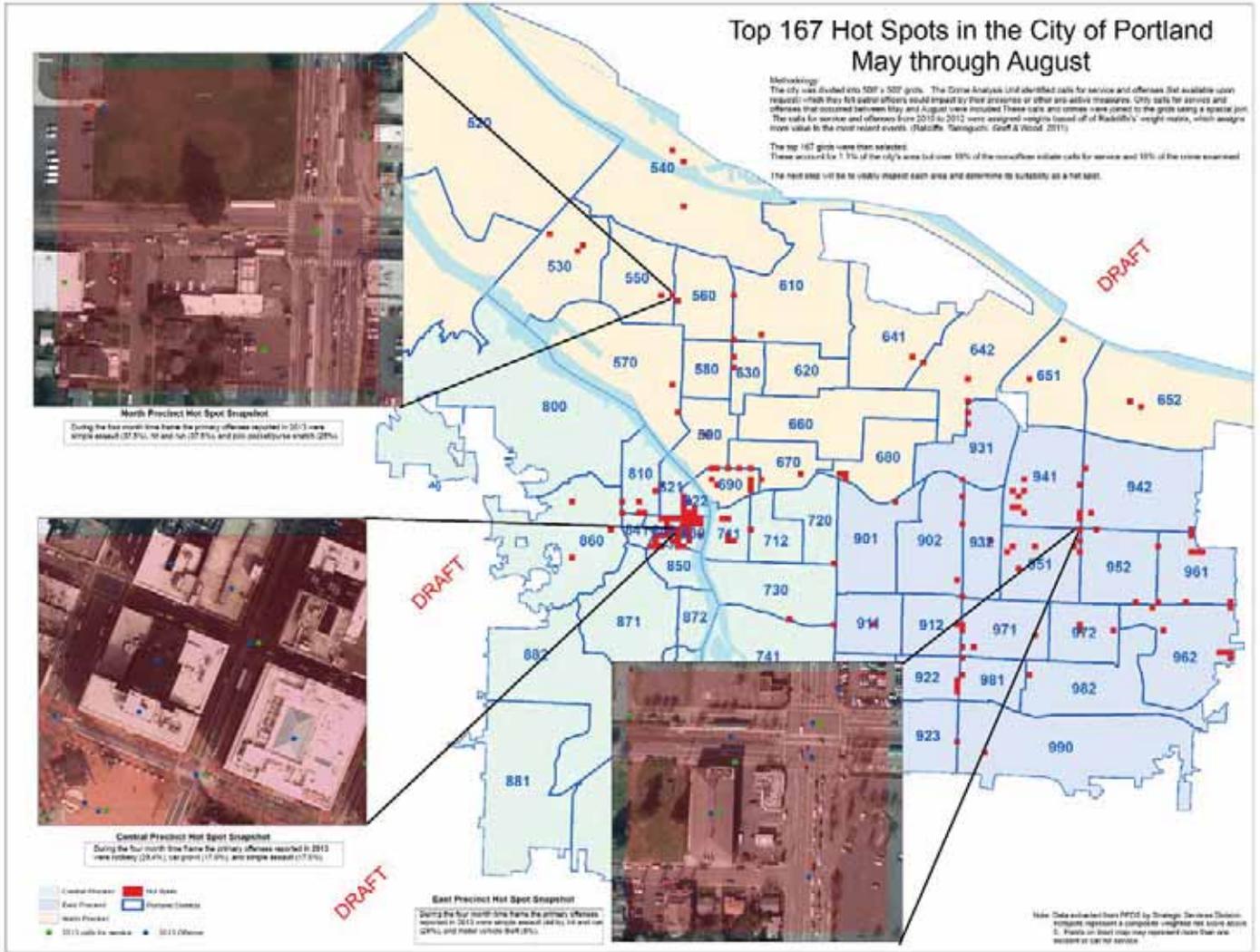
The main challenges remaining are cultural. The PPB will be attempting an evidence-based approach to policing using a randomized control trial to evaluate the implementation. This is a new patrol approach for the PPB and will be challenging. An additional challenge will be that patrol officers will have less discretionary time (as the focus of patrol will shift to directed patrol). This technique will initially generate additional calls and may result in less time for officer to engage in other activities (although research suggests the net benefit will be positive over time). This shift may cause frustration on the part of officers.

To overcome these challenges the PPB has already provided command training to PPB executive level leadership on this program as well as related equity training. The PPB has established an internal advisory board to assist the Chief in evaluating this project. Finally, this board will also be trained in evidence-based policing approaches with the goal of spreading this approach internally.

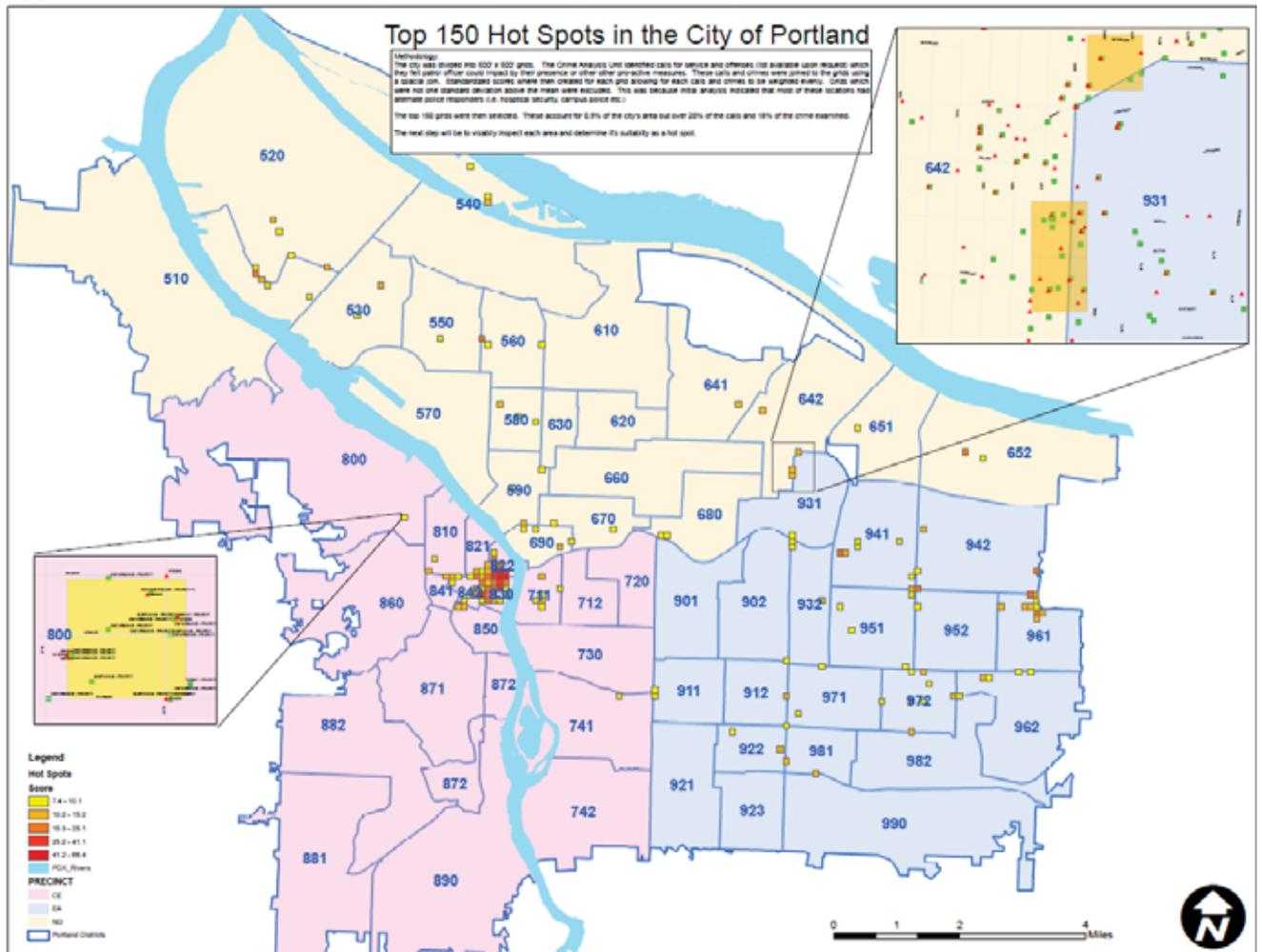
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Appendix A – Proof of Concept Hot Spot Map for the City of Portland



Appendix B – Proof of Concept Hot Spot Map for the City of Portland



CITY OF PORTLAND

PPB/EBS INNOVATION FUND REQUEST

UDAR to SAP Interface

Catherine Reiland and Sue Campbell

11/4/2013

This request for \$197K in Innovation Funds represents a joint project between the Portland Police Bureau and the Enterprise Business Solutions team to develop a two-way interface between the PPB's UDAR system and the SAP system.

PROJECT DESCRIPTION

The Portland Police Bureau (PPB) relies on the Uniform Daily Assignment Roster (UDAR), a scheduling application, to track work assignments of sworn personnel and ensure that precinct minimum staffing needs are met. The UDAR is an essential tool for the Police Bureau, allowing unique functionality in determining and managing minimum staffing levels for patrol. Time data for both sworn and non-sworn employees is captured in the system and timekeeper intervention is required to transfer the time data to SAP, the City's payroll system. This duplicate manual entry is time consuming and prone to error. The Police Bureau, in cooperation with the Enterprise Business Solutions (EBS) team of the Office of Management and Finance (OMF), proposes building a two-way interface between the UDAR system and SAP to streamline and automate time capture processes where possible.

Because of the number of projects in queue and the level of service demands of Police IT, current staffing resources are unable to fully implement this request. This project requires General Fund one-time discretionary funding of approximately \$197,000 over fiscal years 2013-2014 and 2014-2015, primarily to fund two full time equivalents. The costs are outlined under the BUDGET heading of this document.

SCOPE OF WORK

- Document current time capture business process for Police Personnel
- Document required changes to business process and data capture in UDAR
- Blueprint and build the following interface solutions for Police UDAR system:
 - SAP to UDAR– Work schedule data
 - SAP to UDAR– Employee paid holiday data
 - SAP to UDAR– Employee Quota data
 - UDAR to SAP – Cost Center additions and modifications
 - UDAR to SAP – Biweekly work schedule and daily work schedule changes/adjustments
 - UDAR to SAP – Employee attendance and absence data including regular hours worked and exception time
 - UDAR to SAP – Overtime entry (necessitates converting from paper OT to digitized OT entry in the UDAR system)
 - SAP - Expanded overtime reporting functionality

TYPE OF PROJECT

Technology and redesigning business processes

POTENTIAL CHALLENGES OR OBSTACLES

The City of Portland has complex timekeeping requirements to support collective bargaining agreements, and SAP has very specific data requirements. EBS, in collaboration with the Police Bureau, has identified the following complexities associated with this project:

- Police Bureau would need to capture and transmit accurate start and stop times to SAP

- Timekeepers would need to adhere to error handling procedures to ensure timely and accurate employee payroll
- Technical and business process procedures must accurately deal with retroactive changes to employee time data
- Employee master data that affects pay must be kept up to date in SAP
- Interface will need to run frequently to ensure the various systems are kept in sync
- System of record for manager approvals must be clearly defined

LEAD BUREAU AND OTHER GROUPS IMPACTED

Police Bureau, the Bureau of Human Resources and the EBS division of OMF (including the assigned BTS Technical team)

PROJECT TIMELINE

The estimated timeline for the completion of this project is 13 months:

Project start date – January 1, 2014

Project end date – February 1, 2015

In order to complete the project, the Police Bureau Information Technology Division will need to recruit and hire two positions: one Application Analyst IV and one Police Administrative Support Specialist PASS. Both positions will require a level two background check.

Total time to recruit and hire two positions: January 1, 2014 – April 1, 2014 total three months

- Select resource: 1.5 months
- Background (Level 2): 1.5 months

The Application Analyst IV and the PASS will spend ten months on the project from April 1, 2014 to February 1, 2015.

Tasks to be completed by Application Analyst IV:

Prior to UDAR to SAP interface development - April 1, 2014 – June 1, 2014 total two months

- Learn UDAR code
- Become acquainted with SOPs and Directives related to:
 - Staff and supervisor time entry,
 - Supervisor time review,
 - Step taken by supervisors to prepare rosters,
 - Entry of PTO request and process for supervisor approval,

- Reports developed in UDAR for supervisors,
- Personnel's management of active roster and audit reporting,
- Fiscal's timekeeping processes, viewing/printing of timesheets, reporting, SAP exception processes (current time entry methodology), management of staff without assignments, active roster, and auditing;
- Bureau-wide staffing reports, and
- Administrative features such as managing users and RU's in UDAR

Perform UDAR to SAP interface development- June 1, 2014 – December 1, 2014 total six months

- Review SOW
- Review user functionality specs and acceptance criteria
- Review end to end testing specs and acceptance criteria
- Map data fields
- Generate code for each interface
- Develop process, application workflow, and generate code for overtime functions
- Generate testing process to ensure user functions and end to end acceptance criteria are met
- Conduct iterative testing/repair processes
- Initiate and coordinate user group for initial and final product: To include coordinating testing, feedback collection, change management, version history, progress reporting with supervisor and user group. User group will consist of: EBS, Police Fiscal, Police Operations, Police Investigations, and BHR
- Manage deployment of final product to Police personnel

- Brief EBS, ITD, and Fiscal personnel on processes, development, issues and resolutions, and risks

Post implementation support and enhancements – January 1, 2015 – February 1, 2015 total one month

- Support technical issues and revise code.
- Collect, review, approve/disapprove, and develop enhancement requests.
- Brief Duong Pham on requirements, code used, support issues, outstanding requests

Tasks to be completed by PASS:

- All administrative support related to this project, i.e., meeting coordination/scheduling, note taking, copying and distribution, etc.

Tasks to be completed by EBS team:

- Requirements/Blueprinting: March 1, 2014 – June 1, 2014 total three months
- Development (EBS): June 1, 2014 – December 1, 2014 total six months
- Testing: December 1, 2014 – February 1, 2015 total two months

PROJECT OUTCOMES

Full implementation of the UDAR to SAP interface should result in an ongoing savings of one FTE. Additionally, there are operational efficiencies that should result in higher productivity throughout the bureau.

The two-way interface, in conjunction with digitizing overtime entries and bureau-wide ability to use Employee Self Service (ESS) and Management Self Service tools (MSS), would potentially save an estimated 2,080 hours annually in timekeeping-related tasks.

All must be in place to realize these savings, which are estimated as follows:

- Automated biweekly work schedule changes - 52 hours savings annually (timekeeper)
- Automated daily work schedule changes - 104 hours savings annually (timekeeper)
- Automated shift premium changes - 104 hours savings annually (timekeeper)
- Automated exception entry - 510 hours savings annually (timekeeper)
- Digitized overtime entry - 1040 hours savings annually (timekeeper)
- Digitized overtime entry by employee - 270 hours savings annually (employee and supervisor)

This project provides operational efficiencies by eliminating time currently spent processing paper overtime slips. Overtime slips are completed by officers immediately after working the shift. The process of manually filling out overtime slips is error-prone, often resulting in over or under payments to the officer that then need to be reversed. A digitized process will allow for built in drop down menus that restrict choices and increase accuracy. Additionally, an electronic form will contain fields that are automatically populated and the form can be automatically routed to the appropriate supervisor.

Electronic overtime forms can be stored in the UDAR system indefinitely. The forms can be searched, sorted and reported on, eliminating the administrative time spent entering OT information at the precinct level, sending paper slips through interoffice mail to Fiscal Services, and the filing of OT slips in Fiscal. With a digitized overtime process and a UDAR to SAP interface, a greater percentage of overtime generated in the current pay cycle will be paid in that cycle. Currently, 80% of the overtime slips generated in a pay cycle (approximately 1,600 slips) are paid in that cycle. An automated process will increase that to 97%.

The UDAR to SAP interface will allow Fiscal Services to redirect an FTE from timekeeping to an area of greater need, analysis and reporting. Additionally, the role of the timekeeper will evolve into a quality assurance, auditing and analysis function, further increasing the accuracy of time entry and providing more precise data for decision-making. Operational units will benefit from a reduced administrative workload, allowing supervisors to devote more time to operational issues. The Police Bureau as a

whole will experience more accurate data-driven decisions and a greater level of efficiency.

PERFORMANCE METRICS

Qualitative

- Satisfaction (executive, manager, supervisor, timekeeper, employee, EBS)

Quantitative

- Change in the number of and time to perform manual transactions by timekeepers
- Change in the number of and time to perform corrections by timekeepers
- Change in the amount of time available for quality assurance and audit by timekeepers
- Change in the amount of overtime required to complete time entry
- Change in the number of retroactive adjustments

BUDGET

The total General Fund discretionary requested is \$196,597.

	ONE TIME	ON-GOING	TOTAL
Application Analyst IV-Limited term	\$28,882 FY13-14 \$86,716 FY14-15		\$115,598
PASS-Limited term	\$18,173 FY13-14 \$56,826 FY14-15		\$74,999
Computer Equipment	\$3,000 FY13-14		\$3,000
Phone	\$300 FY 13-14 \$800 FY 14-15		\$1,000
Other	\$550 FY 13-14 \$1,450 FY 14-15		\$2,000
Grand Total			\$196,597

The EBS resources dedicated to this project are existing on-going resources as follows:

- EBS Sr. Business Systems Analyst (existing) – EBS Budget
- Principal Information Systems Analyst (existing) – BTS Budget

The project leads dedicated to this project are existing on-going resources as follows:

Police lead: Catherine Reiland, Sr. Business Operations Manager, PPB Fiscal Services Division (3-0727)

EBS lead: Sue Campbell, Principal SAP Business Systems Analyst, EBS team (5-8413)

Innovation Fund submission:

Implement the “Stratified Model of Problem Solving, Analysis, and Accountability” at the Portland Police Bureau

Submitted: November 4th, 2013

This submission is meant to serve as a placeholder for a more fleshed-out plan. Police Chief Mike Reese and his Assistant Chiefs are meeting with the developers of the Stratified Model on November 5th to determine if the model is appropriate for the Portland Police Bureau. Based on what is known of the model so far, it appears to fit well with the PPB’s goals for internal improvements. Due to the timing of this November 5th meeting, and at the suggestion of Budget Director Andrew Scott, this submission is being sent in to the Innovation Fund Task Force to meet the November 4th deadline.

Project description

Scope of work

The Stratified Model of Problem Solving, Analysis, and Accountability (“Stratified Model”) is an evidence-based approach to the reduction of crime and disorder. Developed and tested by Dr. Rachel Boba Santos and Dr. Roberto Santos, a criminal justice professor and police commander respectively, with funding from the federal Office of Community Oriented Policing Services (COPS), the model has been implemented in ten agencies in the US, Canada, and New Zealand. The Port St. Lucie FL Police Department, where the model was first implemented, was given the Excellence in Law Enforcement Research Award from the International Association of Chiefs of Police in 2008 for its partnership with Dr. Rachel Santos in developing and testing the model.

The Stratified Model incorporates tested best practices from well-known policing approaches, including hotspots policing, CompStat, problem-oriented policing, traditional policing, and intelligence-led policing. The model is based on three fundamental assumptions:

1. Problem solving is an effective process for implementing crime reduction strategies;
2. Crime analysis is useful and should guide police in implementing crime reduction strategies; and
3. Systematic accountability is imperative for organizational change and consistency.

A synopsis from the COPS [Guidebook](#) on the Stratified Model explains:

The Stratified Model distinguishes among different types of problems for which crime reduction strategies are implemented, and assigns specific ranks with the responsibility for solving these problems... more complex problems are assigned to higher ranks in the organization and... the traditional hierarchical structure of the police organization ensures, through an accountability process, that the strategies are implemented and effective. That is, by separating and distinguishing the types of problems, different analyses, crime

reduction responses, and accountability are carried out by different personnel within the agency, which stratifies the workload and responsibility.

Importantly, responsibility for systematic problem solving is linearly related... to rank with higher ranking officers being responsible for more complex problems which require more in depth and complex responses. Systematic accountability is also linearly related to rank and is parallel to systematic problem solving. It is carried out through systematic assessment and evaluation, a routine tracking system of responses and their results, as well as regular meetings that correspond to the temporal nature of the activity they address.

The Stratified Model is not an effort to replace an agency's existing approach to crime and disorder reduction, but rather to enhance it for maximum results and accountability.

The most recent adopter of the Stratified Model is Greensboro, North Carolina. The police department there applied for and received a COPS "micro-grant" of \$50,000 to hire Dr. Rachel Boba Santos to assist them in implementing the model. The process is about halfway complete, and involves (1) Dr. Santos conducting a needs assessment; (2) Dr. Santos making recommendations for implementation; (3) Recommendations are operationalized into a specific implementation plan; (4) Three key stages of implementation occur based on previous agencies' implementations; (5) Ongoing evaluation and adjustments are conducted.

We propose to hire Dr. Rachel Santos to assist in the implementation of the Stratified Model at the Portland Police Bureau, similar to her current work with the Greensboro NC police department.

Type of project

Process improvement

Potential challenges or obstacles

Portland Police Bureau is already engaged in significant change, and it may be a workload issue to implement an additional change process.

Lead bureau and other groups impacted

The Portland Police Bureau, the Office of Neighborhood Involvement, their agency partners, and the community.

Project timeline

Two to three years beyond an award of funding for the project.

Project outcomes

Potential cost savings

To be determined.

Potential operational efficiencies

- Faster identification of, response to, and resolution of crime patterns and problems
- Prevention of lower-level crime and disorder problems from becoming bigger, more complex problems
- Consistent application of best response for each crime pattern or problem
- High quality, efficient, evidence-based processes that are consistent regardless of personnel changes
- Most effort directed at highest-priority problems
- Accountability at every level

Who benefits from savings or efficiencies

The community, especially those experiencing crime and disorder problems; PPB's agency partners; and the PPB itself.

Performance metrics

To be determined.

Budget

Total GF discretionary requested

To be determined. Approximately \$50,000.

Leveraged funds

To be determined.

Return on investment timeline

To be determined.

Ongoing operations and maintenance costs

To be determined.

Staff requirements

To be determined.

Project lead contact information

Mike Reese
 Police Chief, Portland Police Bureau
Mike.Reese@portlandoregon.gov

Stephanie Reynolds
 Crime Prevention Program Manager, Office of Neighborhood Involvement
Stephanie.Reynolds@portlandoregon.gov



J. Scott Andrews
Commission Chair

November 4, 2013

Aneshka Dickson
Commissioner

Innovation Fund Task Force
City of Portland Innovation Fund
Portland, OR 97204

John C. Mohlis
Commissioner

Steven Straus
Commissioner

Charles A. Wilhoite
Commissioner

Dear Innovation Fund Task Force,

Charlie Hales
Mayor

Patrick Quinton
Executive Director

We are pleased to submit our application to the City of Portland Innovation Fund for the Early Adopter program. The Innovation Fund aligns with PDC's current strategies to facilitate economic growth and new opportunities for Portland. In particular, our agency is continually identifying creative ways we can leverage the city and its resources efficiently to increase competitiveness, foster urban innovation, and support business vitality throughout the city. The Innovation Fund presents an opportunity for PDC and other bureaus to work together in a way that will support our respective missions while achieving the common goal of a better Portland.

The proposed Early Adopter program is a strategy to more efficiently use the talents and services of our local tech industry to meet city bureau needs for operations, maintenance and capital projects. The program will convene city bureaus to identify current opportunities, challenges and innovation best practices. The bureaus will work as a team (with guidance from a consultant) to develop a technology-based tool to provide an interface between bureaus and industry. The platform will allow each group to post ideas and proposed tech solutions such as software-based management tools or integrated design approaches to hard infrastructure products.

By embracing early adopter approaches and building on its practice of using public-private partnerships to achieve economic and environmental goals, Portland can better reach the local startup community, including minority and women-owned businesses. . . These companies would benefit considerably from the city's active role in their business development through feedback on product demonstrations or direct purchasing.

This program is unique in its creation of collaboration among city bureaus and industry to use technology for a more a productive and livable city.

Thank you for your time and consideration.

222 NW Fifth Avenue
Portland, OR
97209-3859

503-823-3200 Main
503-823-3368 Fax
503-823-3366 TTY

Sincerely,

Patrick Quinton
Executive Director

J. Scott Andrews
Commission Chair

**CITY OF PORTLAND INNOVATION FUND
Project Proposal: Early Adopter Pilot Program
November 4, 2013**

Lead Bureau: Portland Development Commission
Partner Bureaus: Bureau of Environmental Services
 Bureau of Transportation
 Bureau of Planning & Sustainability
Other Groups: Portland Tech Industry Firms

Project Description

PDC will partner with city bureaus to develop and pilot an early adopter program to illuminate tech solutions for city bureaus' operations and maintenance (O&M) and capital project needs, while giving local Portland companies greater access to a potential customer base. As a foundation, the program will:

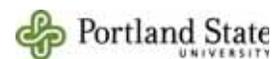
- Develop a platform by identifying current city innovation activities;
- Convene the bureaus to discuss O&M and capital needs, opportunities and challenges, and best practices; and
- Review known local tech products and services, ranging from software-based management solutions to integrated design approaches to hard infrastructure products.

The bureaus will work as a team (with guidance from a consultant) to craft a technology-based tool that will provide an interface between bureaus and industry to exchange needs and proposed solutions.

The concept for this proposal stems from a previous effort that was managed by the Office of Procurement to gauge the interest from both the bureaus and private industry on increasing their accessibility to one another. The city received an overwhelming positive response from both sides about the opportunity, but recommended a more institutionalized, long-lasting approach. This project addresses that recommendation. In addition, bureaus including BES and BPS are engaging with companies in a variety of ways but with the similar goal of incorporating new technology that produces a cost savings on investments and improves project performance. The early adopter program will build on these

Who supports this concept?

City bureaus, a signature research center, Oregon's largest university and local businesses. Letters of support for this concept have been provided by:



Portland Bureau of
Technology Services

City of Portland Innovation Fund
 Project Proposal: Early Adopter Program
 Lead Bureau: Portland Development Commission
 November 4, 2013

activities to formalize and scale the city-to-business relationships.

Portland is known for its *early adopter* practices—using data and technology to implement solutions that enhance the city’s quality of life for businesses and residents. We have seen these successes in areas such as the city’s leadership in the number of LEED-certified projects and electric vehicle infrastructure installation, and our utilities’ early entrance into the renewable and energy efficiency markets. PDC seeks to leverage the city’s early adopter culture by using the City of Portland’s purchasing power to support local technology product and service providers. In addition to the economic efficiency that such a partnership could create, the program complements existing citywide strategies including the Economic Development Strategy and the Climate Action Plan.

Portland’s own tech businesses think of their city as a living laboratory. These emerging firms are typically seeking a first customer to support the commercialization and/or market expansion of a product or service. In many instances, city government is an ideal first customer, whose implementation of a new technology solution also improves services to the public. A recent example of a successful match between government and industry has been the partnership between TriMet and GlobeSherpa, a mobile ticketing platform. TriMet recently implemented the ticketing platform into its own systems. Within the first month, the platform sold 100,000 tickets, translating into \$450,000 in sales. TriMet’s cost for selling electronic tickets is significantly less than the traditional paper ticket, which has the agency promoting the mobile ticketing solution throughout Portland to an overwhelmingly positive response from customers. GlobeSherpa can use the positive promotion to market its service to other transit authorities across the country.

What will this do?

It will bring value to the city and private industry

This proposal creates an interface so needs can be efficiently communicated between the City of Portland and local businesses. It will:

- Help city government function more efficient and provide better service
- Provide real feedback to local businesses and access to a potential first customer



Partnership: GlobeSherpa & TriMet

Through its partnership with start-up GlobeSherpa, TriMet became the nation’s first transit authority to accept mobile payments for multiple modes of public transit.

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The city offers an expansive universe for the application of local technologies and services in both capital projects and O&M ongoing needs. Opportunities range from increasing public participation through smart phone applications, to standardizing and analyzing massive available city datasets for operating efficiencies, to installing new material technologies as part of right of way and infrastructure investments. The options are considerable, and these kinds of pioneering solutions will be unlocked by connecting Portland's city and local industry innovators.

Scope of Work

To ensure long-term benefit and success, this proposal launches a pilot phase of an early adopter program. The pilot consists of two key deliverables: a technical platform and a coordinating cross-bureau advisory committee. The technical platform is the interface between city bureaus and local companies as a means to consolidate points of contact and supply and demand information exchange. Bureaus could post their O&M needs, potential projects to implement policy goals, and/or problem statements; while the firms could upload information about their company, solutions, and/or provide responses to posed problem statements. The following scope of work is required to deliver on these outcomes:

- **Convene Advisory Committee:** PDC would convene an Advisory Committee made up of city bureau staff to launch and promote the pilot phase; serve as project team for the scope of work; and make a recommendation regarding institutionalizing an early adopter program. During the pilot phase, the Advisory Committee will meet monthly to solicit and select a consultant team; share O&M and capital opportunities and challenges and best practices; coordinate with PDC on industry engagement; and provide input on platform development. Once the program is developed and operational, the Advisory Committee will meet on a quarterly basis to review company submissions.

There would also be a set of strategic advisors to support the Advisory Committee by providing insight and expertise to the project. It is envisioned that this group would consist of both local partners such as Portland State University and OR BEST, as well as the Kauffman Foundation who has been a leader this subject area.

- **Retain consultant for design and development of tech solution (likely web-based):** The Committee will develop a RFP to retain a consultant team to facilitate discussions and recommend tech solutions to bureau needs. The consultant team is expected to include a range of skills including engagement, user design and back-end technology development and deployment.
- **Convene industry with Advisory Committee:** Once the Advisory Committee has inventoried a joint list of opportunities and challenges, the Committee will convene a select group of tech companies to provide insight into the kind of information that would be useful in the tech solution to help them market their products and services to bureaus.

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The early adopter program is a strategy to give a greater number of small companies access to working with the city bureaus. PDC will make a special effort to include minority and women-owned businesses in the industry conversation and program development. PDC will do this by integrating its existing initiatives such as inclusive entrepreneurship and connecting traded sector activities to neighborhood economic development into the program. Ultimately, this effort will reach companies that may not be aware of government partnership opportunities or have not been able to enter the market via traditional procurement channels.

- **Assemble the information for the tech platform development:** The tech platform will be an interface between city bureaus and tech companies. The Advisory Committee will determine content based on its inventory of opportunities and industry input.
- **Design and launch tech platform:** The final step of the pilot will be to develop and launch the tech platform. It will be a user-friendly product that creates a more efficient and effective way for the city and industry to connect. Near-term measures of success will be increased exchange between bureaus and industry and the progress of two or more partnerships/projects to test phase.

Advisory Committee

The success of this effort will be based largely upon collaboration among city bureaus to develop a solution that will meet their needs and improve individual bureaus' ability to deliver public services, while providing new economic development opportunities to the city's clean-tech industry. Committee members will have the following responsibilities:

- Provide input on the development of the RFP for consultant and weigh in on the ultimate selection
- Participate in industry convening
- Review technical platform solutions
- City staff act as liaison to their own bureau to ensure engagement, information gathering, and buy-in
- Post pilot phase: review and respond to company submittals (likely on quarterly basis) and

Advisory Committee Members (Proposed)

- Portland Development Commission
- Bureau of Transportation
- Bureau of Environmental Services
- Bureau of Planning & Sustainability
- Bureau of Technology
- Office of Management & Finance / Office for Community Technology
- 2 private sector representatives
- Mayor's Office

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Strategic Advisors

The following is a short list of proposed strategic advisors who are uniquely positioned to supplement the knowledge and expertise of the Advisory Committee. The university system is a key actor in the commercialization of technology by providing laboratory space and equipment as well as gap funding to start-up companies. Entities such as Portland State and Oregon BEST would also benefit from participating in the pilot to better connect their activities with the city's opportunities and constraints. Finally, the Kauffman Foundation is a national leader in supporting the connection between entrepreneurship and resource efficiency in cities. The foundation has given accolades to Portland's budding entrepreneurship ecosystem and sees great potential in this program.

- Portland State University, Institute for Sustainable Solutions: Opportunities for involvement and practicum
- Oregon BEST: Link to the state's university system and provides gap funding to start-up clean technology companies.
- Kauffman Foundation: National leader in entrepreneurship and best practices

Potential Challenges or Obstacles

- Each of the city bureaus has its own mission and culture in which to execute projects and carry out the functions of that agency. It will be imperative for each of the participating bureaus to have a sense of ownership over this program to ensure that the information exchanged within the Advisory Committee and with the tech industry is filtered back through the agency in order to capitalize on opportunities.
- The Advisory Committee and consultant team will need to find the best manner in which to collate and communicate information on the tech solution so that it is useful to the respective bureaus.
- As project or partnership opportunities are identified during the pilot phase, close coordination with existing city policy and processes (including public procurement and permitting) will be important to flag issues or adjustments, if any, that may be needed to address an *early adopter* effort as distinct from the city's conventional approach.

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Project timeline

FY 2013-14	
January	Advisory Committee -off meeting Devise scope of work / Post consultant RFP
February / March	Select consultant Convene industry for input Gather bureau input, opportunities and project proposals
April / May	Tech platform design and development Identify low-hanging project opportunities for early implementation
June	Complete tech platform development
FY 2014-15	
July / August	Public launch of Early Adopter program Outreach to industry Bureaus continue to populate the tech platform with project proposals
September	Convene Advisory Committee to review submittals and discuss potential uses
October / November	Identify at least two additional new project opportunities for early implementation
December	End of pilot – recommendation by Advisory Committee on early adopter program next steps

Risks to Project Timing

- The Advisory Committee members will need to determine how their respective bureaus can best use this program in a manner that will benefit their respective mission and structure and committee members will need to agree across bureaus about pilot program short term focus and prioritization. Simultaneously, the committee will need to reach consensus in a relatively short period of time to determine best way in which to exchange information with industry.

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- The design and development of a tech solution can be time intensive. The consultant will need to be efficient in gleaning information from both bureaus and industry to create the solution.

Project Outcomes

The program is positioned to provide several benefits to both the city and industry in its goal of coordinating and streamlining the way in which the city interacts with the business community on new technology solutions. We will consider the **pilot phase a success** if it achieves the following:

- Provide a platform that facilitates a better exchange of ideas between government (potential purchaser) and firms
- Create a transparent technical solution that is efficient, scalable and can be readily used by both parties
- Establishes five new bureau-industry discussions that otherwise would not have occurred
- Leads to two or more projects that are progressing to test phase

Potential Cost Savings or Increased Revenues

The project will create a process and platform for bureaus to share ideas and experiences around new technology and innovation with direct input from industry. The industry perspective may illuminate new strategies to expedite ways of doing business and/or projects that will ultimately save city resources—most notably time and money. The city would begin to see these cost savings and potential new revenue streams once the solutions have been implemented. In this model, the city will be spending its dollars to support the growth of local businesses which will in turn be paying business fees and taxes that add to Portland's economy.

A recent example of a revenue-generating model stems from a partnership between Lucid Energy, a Portland-based firm and the city's water bureau. In this instance, the bureau installed a LucidPipe Power System (an in-pipe hydropower technology that generates electricity from flowing water) in tandem with a large construction project at Powell Butte. The pipe will generate 1,100 megawatt hours of energy per year—enough to power 150 homes. The \$1.7 million pilot has been privately funded to demonstrate Lucid's proof of concept, while the city will share in the anticipated revenue from the sale of generated electricity estimated at \$55,000 in the first year. This public private partnership demonstrates the variety of ways in which the city could structure early adopter projects.

Potential Operational Efficiencies & Beneficiaries

The key value-add of this project is increased efficiency and responsiveness. By bringing multiple bureaus and private businesses under one effort, we will establish a more formalized method for industry to begin a conversation with the city and simultaneously interface with several bureaus at one time.

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The City of Portland, the local tech industry and the public all benefit from this project.

City of Portland Bureaus	Local Tech Industry	Public Citizens
Better information on what is currently available in the marketplace	Access to market information and exchange with bureaus that may otherwise not occur / greater civic engagement from the business leaders	Long-term challenges may be resolved with new solutions
Greater cost efficiency through testing new technologies and greater coordination between the bureaus on experiences	Locale for product demonstration and proof of concept	Increased efficiency via lower costs or more services
Opportunity to increase cost effectiveness via local purchasing	Potential for City of Portland to be "first customer"	Purchasing dollars stay in the local economy and recirculate.

Performance Metrics

On a quarterly basis this project will report the:

- Number of concepts posted by each bureau
- Number of submittals received from private business
- Number of exchanges between bureaus and industry resulting from platform
- Number of projects under way

Budget

Total General Fund Discretionary Requested

Project Budget FY 2013/14 – FY 2016/17

BUDGET Fiscal Year	Sources of Funds			Uses of Funds				TOTAL
	Request	Match Dollars (PDC)	TOTAL	Site Hosting	Consultant (Technical, branding & marketing)	Reimbursable	Contingency	
2013-14	\$40,000	\$40,000	\$80,000	\$2,000	\$61,000	\$5,000	\$12,000	\$80,000
2014-15	\$40,000	\$40,000	\$80,000	\$2,000	\$61,000	\$5,000	\$12,000	\$80,000
Total	\$80,000	\$80,000	<u>\$160,000</u>	\$4,000	\$122,000	\$10,000	\$24,000	\$160,000

City of Portland Innovation Fund
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Leveraged Funds

The table above shows PDC will commit a total of \$80,000 over the next two fiscal years to this project, which is a 1:1 match for the project funding. PDC will use the federal Jobs, Innovation and Accelerator Challenge (JIAC) Grant as its source for match funding—which will also account for more than half of the costs in the first fiscal year.

Return on Investment Timeline

The upfront costs to establish a process that stands to generate significant sustained cost savings and potential revenue for the City of Portland are relatively low. With a small upfront investment, the pilot will create partnerships between government and industry that would likely not occur but for a catalyst program like early adopter. Ideally, the program will leverage multiple public-private partnerships between bureaus and tech firms.

Ongoing Operations and Maintenance Costs

PDC is committed to being the lead agency for the pilot and providing the staff time and match funds to develop the project. The initial costs in establishing the tech solution will be spent in the first two years of the project. After that, the maintenance costs will likely be nominal hosting fees. (Please see the projected timeline above for the proposed program as an indicator of ongoing costs.) Other incurred costs will depend upon the future of the program in terms of its expansion beyond the tech industry as well as the features made available on the tech solution. PDC proposes a review of the program at the end of year one to confirm that it is adding value for both the bureaus and industry and that it should continue. Assuming that it is successful, the Advisory Committee will agree on future participation and time commitments from participating bureaus.

Staff Requirements

This project aligns with the city’s economic development strategies and the associated PDC clean tech industry strategy and staff work plans. PDC has a plan to reprioritize work, so no additional staff would be needed to execute. Partner bureaus will need to assign one staff member to be the bureau lead and participate on the advisory board for this project.

FY	PDC			Single Bureau*			Total Staff Costs
	FTE for project	Staff Time (Hours)	Est. Staff Costs	FTE for project	Staff Time (Hours)	Est. Staff Costs	
2013-14 (Jan-June)	1.00	1040	\$60,320	0.035	36	\$2,088	\$75,400
2014-15 (July-Dec)	0.50	520	\$30,160	0.035	36	\$2,088	\$32,248
Total	1.50	1,560	\$90,480	0.7	72	\$4,176	\$107,648

*Total number of bureau hours will depend on number of bureaus participating.

DATE: 10.31.13

FROM: Ben McKinley

Cascade web development supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program, which will facilitate greater opportunities for collaboration between the City and the local technology industry in identifying solutions for city bureaus.

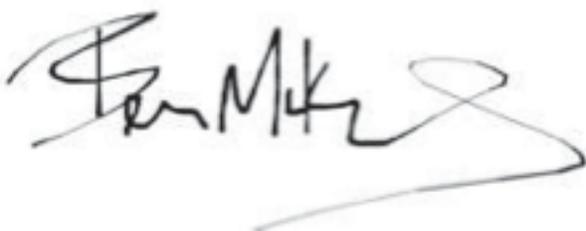
This proposal presents an opportunity for local companies such as mine to connect with the City in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. Simultaneously, cascade finds great value in the potential of a new customer such as the City who is willing to test or purchase an early stage product and provide real feedback on its performance.

Cascade is a digital strategy and development company that offers a variety of web based solutions. Our solutions include web sites, intranets, remote collaboration tools, mobile apps and digital marketing. We are strong supporters of the community with myself and members of my staff sitting on a number of boards and committees to move this city forward.

We are a part of the Portland business community and see the City of Portland as leader in supporting the local innovation economy. Cascade is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,



Ben McKinley
cascade web//development – founder/ceo
brandlive – cofounder/board member



CITY OF PORTLAND
OFFICE OF MANAGEMENT AND FINANCE
Charlie Hales, Mayor
Jack D. Graham, Chief Administrative Officer

Ben Berry
Chief Technology Officer
Bureau of Technology Services
1120 SW Fifth Ave., Suite 450
Portland, Oregon 97204-1912
(503) 823-5198
FAX (503) 823-5194
TTY (503) 823-6868

November 4, 2013

Patrick Quinton
Executive Director
Portland Development Commission
222 NW 5th Avenue
Portland, OR 97209

Dear Mr. Quinton,

The Bureau of Technology Services (BTS) supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program. We believe this pilot and program will help facilitate greater opportunities for the City and local businesses to interact, create a platform for exchange, and identify new ideas and solutions for our City's operational and capital project needs.

We see the potential for the Early Adopter program to support us in our mission to provide cost effective and quality services to the public. The program is structured to create a streamlined approach to provide bureaus with current and new solutions that are in the local marketplace. By testing and even purchasing from local companies, city bureaus will realize cost savings and/or increase their service to the Portland community. In the process this will support the next generation of Portland-based companies.

BTS is committed to working with the Portland Development Commission and fellow bureaus to identify ways in which the City as a whole can maximize its financial and capital resources through stronger cross-bureau coordination and private industry partnerships. We believe the Early Adopter program is well positioned to achieve these goals. We are prepared to participate on the proposed Advisory Committee that will meet regularly throughout the next calendar year to further develop and implement the program.

Thank you for the opportunity to show our support.

Sincerely,

Ben Berry
Chief Technology Officer
Bureau of Technology Services
City of Portland

CoPatient

October 30, 2013

FROM: Katie Vahle

CoPatient enthusiastically supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program which will facilitate greater opportunities for collaboration between the City and the local technology industry in identifying solutions for city bureaus' O&M and capital project needs.

This proposal presents an opportunity for local companies such as mine to connect with the City in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. Simultaneously, CoPatient finds great value in the potential of a new customer such as the City who is willing test or purchase an early stage product and provide real feedback on its performance.

CoPatient helps consumers manage their healthcare expenses and identify opportunities to save money. We distribute these technology-enabled services through employers who offer health insurance benefits to their employees. In particular, ~2/3 of employers choose to self-fund their health insurance benefits. Therefore, when CoPatient finds medical billing errors, overcharges or even fraud and abuse, we wind up saving money for both the employee and the employer.

We are a part of the Portland business community and see the City of Portland as leader in supporting the local innovation economy. CoPatient is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,



Katie Vahle
Co-Founder
CoPatient, Inc

CoPatient, Inc
101 SW Madison #8518 Portland OR 97207 (mailing address)
1220 SE Grand Ave Portland OR 97214 (physical address)
www.copatients.com



November 4, 2013

Nat Parker
GlobeSherpa
2025 NW Overton Street
Portland, OR 97209

GlobeSherpa supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program which will facilitate greater opportunities for collaboration between the City and the local technology industry in identifying solutions for city bureaus.

This proposal presents an opportunity for local companies such as mine to connect with the City in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. Simultaneously, GlobeSherpa finds great value in the potential of a new customer such as the City who is willing test or purchase an early stage product and provide real feedback on its performance.

GlobeSherpa is a Portland, Oregon-based software company that specializes in mobile application development for transit and parking agencies. We strive to be the most innovative provider of mobile software and services that enable our clients to improve operations and better serve their customers.

We are a part of the Portland business community and see the City of Portland as leader in supporting the local innovation economy. GlobeSherpa is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,

A handwritten signature in black ink that reads "Nat Parker". The signature is fluid and cursive.

Nat Parker



Keep the warmth inside

November 1, 2013

Patrick Quinton
Executive Director
Portland Development Commission
222 NW 5th Avenue
Portland, OR 97209

Dear Mr. Quinton,

Indow Windows supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program. It will facilitate greater opportunities for collaboration between the city and the local technology and clean tech industries in identifying solutions for city bureaus' operations and maintenance and capital project needs.

This proposal presents an opportunity for local companies such as Indow Windows to connect with the city in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. We are a nimble and innovative company by nature and would find great value in the city as a new customer, who is willing to test or purchase an early stage product and provide real-time feedback on its performance.

Indow Windows produces custom thermal window inserts for the residential and commercial markets. Our product creates a double paned window with a patented compression tube resulting in 94% of the thermal insulation of standard double pane replacement windows and overall energy savings that often exceed replacement windows.

We are a part of the Portland business community and see the City of Portland as a leader in supporting the local innovation economy. Indow Windows is interested in playing a role in the Early Adopter program and is prepared to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Pardue".

Sam Pardue
CEO, Founder

**Institute for Sustainable Solutions**

Post Office Box 751 - SUST
Portland, Oregon 97207-0751
Market Center Building
Suite 110, 1600 SW 4th Ave.
Portland, OR 97201

sustainability@pdx.edu
www.pdx.edu/sustainability

November 3, 2013

Patrick Quinton
Executive Director
Portland Development Commission
222 NW 5th Avenue
Portland, OR 97209

Dear Mr. Quinton,

The Institute for Sustainable Solutions at Portland State University (ISS) supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program. The pilot is an opportunity for greater collaboration amongst the city, technology industry, and academic partners to build upon the city as a living laboratory.

As an academic institution and the hub for sustainability at Portland State University, ISS sees the potential for the Early Adopter program to support our mission in developing sustainable practices via multi-disciplinary approaches. We recently launched the *Clean Challenge* in partnership with Wells Fargo to support campus clean tech innovators and entrepreneurs. The competition was a great success and an indicator that there is much more to be done to elevate our entrepreneurial potential. There is a tremendous amount of synergy amongst the innovation activities occurring throughout the city. The Early Adopter program is the nexus to capture and leverage the work that has been done to date to prepare tomorrow's workforce, support the growth of the entrepreneur tech community, while benefiting city projects.

ISS is committed to working with the Portland Development Commission to identify ways in which the City as a whole can maximize its financial and capital resources through stronger partnerships with academia and industry. We believe the Early Adopter program is well positioned to help us achieve these goals. We are prepared to be a strategic advisor to the project throughout the next calendar year to further develop and implement the program.

Thank you for the opportunity to show our support.

Sincerely,

Jennifer H. Allen
Jennifer H. Allen, Ph.D.
Director, Institute for Sustainable Solutions and Associate Professor, Public Administration



503.725.9849
P.O. Box 212
Portland, OR 97207
oregonbest.org

DATE: 11/1/2013

FROM: Ken Vaughn
Director of Commercialization Programs
Oregon BEST

Oregon BEST wishes to express support for the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program to support commercialization of locally-developed clean technology ("cleantech") products by leveraging the purchasing power of city bureaus.

The City of Portland can play a key role in stimulating the adoption of new products developed by Oregon innovators and research scientists in Oregon Universities. By serving as a test customer or early adopter, the company can receive valuable validation and feedback to accelerate the commercialization of their products. The City can gain benefit of the utilization of cutting-edge technologies focused on energy efficiency, sustainable buildings, renewable energy, water management and other areas of the cleantech cluster of technologies.

Oregon BEST is one of Oregon's Signature Research Centers funded primarily by the Oregon Innovation Council. We work with startup companies and university researchers to grow new businesses, new products and high value jobs in the cleantech sector. We are able to provide valuable assistance in supporting the company's research and development to help them get their product ready for the market. However, one of the critical success factors for further commercialization is the acquisition of one or more "lead customers" who can demonstrate the viability of the product to a wider market. Serving as a "lead customer", the City of Portland could put an important stamp of approval on the product and could provide valuable feedback to the company as they ramp up their marketing and sales activities to a wider market.

We are a part of the Portland community and see the City of Portland as leader in supporting the local innovation economy. Furthermore, Oregon BEST is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to share our experiences of working with early stage businesses and how this effort could be most beneficial.

Thank you for the opportunity to show our support.

Sincerely,



Steve
Novick
Commissioner

October 31, 2013

Leah Treat
Director

Patrick Quinton
Executive Director
Portland Development Commission
222 NW 5th Avenue
Portland, OR 97209

Dear Mr. Quinton,

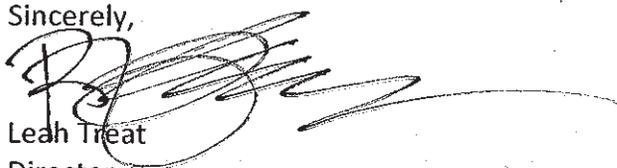
The Bureau of Transportation supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program. We believe this pilot and program will help facilitate greater opportunities for collaboration between the City and the local technology industry, create a platform for exchange, and identify new ideas and solutions for our bureau's operational and capital project needs.

We see the potential for the Early Adopter program to support us in our mission to provide cost effective and quality services to the public. The program is structured to create a streamlined approach to provide bureaus with current and accessible information about new technologies that are in the local marketplace. By testing and even purchasing from local technology companies, city bureaus will benefit from increasing efficiency through expertise, support the next generation of Portland-based companies, and realize cost savings associated with local purchasing practices.

PBOT is committed to working with the Portland Development Commission and fellow bureaus to identify ways in which the City as a whole can maximize its financial and capital resources through stronger cross-bureau coordination and private industry partnerships. We believe the Early Adopter program is well positioned to help us achieve these goals. We are prepared to participate on the proposed Advisory Committee that will meet regularly throughout the next calendar year to further develop and implement the program.

Thank you for the opportunity to show our support.

Sincerely,



Leah Treat
Director

1120 SW Fifth Avenue, Suite 800 • Portland, OR 97204 • 503-823-5185
FAX 503-823-7576 • TTY 503-823-6868 • www.portlandoregon.gov/transportation

An Equal
Opportunity
Employer

To ensure equal access, the Portland Bureau of Transportation will make accommodations in full compliance with Title VI of the Civil Rights Act of 1964, the ADA Title II, and related statutes and regulations in all programs and activities. For accommodations and additional information, and complaints, contact the Title II and Title VI Coordinator at Room 1204, 1120 SW Fifth Ave., Portland, OR 97204, or by telephone 503-823-5185, City TTY 503-823-6868, or use Oregon Relay Service: 711.



DATE: 11/01/13

FROM: Kristofer Beem of RapidMade Inc.

RapidMade Inc supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program which will facilitate greater opportunities for collaboration between the City and the local technology industry in identifying solutions for city bureaus' O&M and capital project needs.

This proposal presents an opportunity for local companies such as mine to connect with the City in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. Simultaneously, RapidMade Inc finds great value in the potential of a new customer such as the City who is willing to test or purchase an early stage product and provide real-time feedback on its performance.

RapidMade provides advanced design, materials and manufacturing solutions that help clients create new products, accelerate development, improve quality, and lower cost. Early stage and up & coming is where we excel.

We are a part of the Portland business community and see the City of Portland as a leader in supporting the local innovation economy. RapidMade Inc is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,

A handwritten signature in black ink, appearing to read "Kristofer Beem". The signature is fluid and cursive, with a large initial "K" and a long, sweeping tail.

Kristofer Beem



October 29, 2013

FROM: Walker Tracker

Walker Tracker supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program which will facilitate greater opportunities for collaboration between the City and the local technology industry in identifying solutions for city bureaus' O&M and capital project needs.

This proposal presents an opportunity for local companies such as mine to connect with the City in a pioneering way, by providing a platform to exchange information and offer expertise that can leverage the City's resources. Simultaneously, Walker Tracker finds great value in the potential of a new customer such as the City who is willing to test or purchase an early stage product and provide real feedback on its performance.

Walker Tracker creates and administers private, activity-based wellness portals for organizations. We provide the tools, communications structure, and expert guidance to integrate wellness into your organizational culture, engaging employees in fun challenge events that promote exercise and well-being.

We are a part of the Portland business community and see the City of Portland as leader in supporting the local innovation economy. Walker Tracker is interested in playing a role in the Early Adopter program and willing to meet with the Advisory Board to provide the private business perspective as well as adding information about our company, products, and services to the tech platform.

Thank you for the opportunity to show our support.

Sincerely,

A handwritten signature in black ink that reads "David Mays".

David Mays
President
Walker Tracker



CITY OF PORTLAND ENVIRONMENTAL SERVICES



1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ■ Nick Fish, Commissioner ■ Dean Marriott, Director

October 31, 2013

Patrick Quinton
Executive Director
Portland Development Commission
222 NW 5th Avenue
Portland, OR 97209

Dear Mr. Quinton,

Patrick

The Bureau of Environmental Services (BES) supports the Portland Development Commission's proposal to the City of Portland Innovation Fund for an Early Adopter program. Like all government, BES is under pressure to accomplish more with fewer resources. We would welcome greater opportunities for collaboration between the City and the local technology industry to identify new ideas and solutions for our bureau's operational and capital project needs. Our understanding is that the Early Adopter program would create a platform for exchanging ideas and solutions between the public and private sectors.

Our core mission requires that we provide cost effective and quality services to the public. Our experience is that information about new technologies that are available in the local marketplace is the key to innovation in our business practices that can help us drive down costs of operations and maximize the effectiveness of our capital improvement program. The ability for BES employees to discuss problems directly with local technology companies allows for rapid development of new ideas, products and services that are beneficial to all parties.

Currently, we meet with companies seeking the kind of feedback and communication that is proposed in the Early Adopter program. We also share best practices with other bureaus. An inter-bureau Advisory Committee that brings focus to these interactions for the benefit of the City and our local technology industry could make the process even more effective.

BES is prepared to work with the Portland Development Commission and other bureaus to identify ways in which the City as a whole can maximize its financial and capital resources through stronger cross-bureau coordination and private industry partnerships. The Early Adopter program should position us to help achieve these goals. We would be pleased to participate on the proposed Advisory Committee to further develop and implement the program.

Thank you for providing leadership on this issue.

Sincerely,

Dean

Dean Marriott



Bureau of Planning and Sustainability
Innovation. Collaboration. Practical Solutions.

MEMO

DATE: November 4, 2013

TO: Innovation Fund Task Force

FROM: Susan Anderson, Director

CC: Andrew Scott, City Budget Office
Patrick Quinton, PDC
Leah Treat, PBOT
Mike Abbaté, Parks and Recreation

SUBJECT: Support for three Innovation Fund proposals

In addition to the two proposals that BPS has submitted, I would like to express support for three other proposals to the Innovation Fund.

1. PDC: Early Adopter Program

This program will help facilitate opportunities for collaboration between the City and the local technology industry, accelerating the adoption of innovative technologies by bureaus and supporting emerging products and services developed by Portland businesses.

The Early Adopter program has the potential to advance BPS's mission to provide creative and practical solutions to community challenges. By testing and in some cases purchasing innovative products and services from local technology companies, bureaus can benefit from increased efficiency while supporting the next generation of Portland-based companies.

This program aligns with existing BPS activities, including assisting new companies with identifying demonstration opportunities throughout the City of Portland. In addition, we are currently updating the Climate Action Plan and have identified business partnerships as a strategy to accelerate carbon-reduction solutions. Improved information exchange with industry will strengthen our ability to recognize and support emerging innovations at local firms.

2. PBOT: Old Town Chinatown Neighborhood Energy Efficient Transportation Mobility Hub

PBOT's proposal to improve both the energy efficiency and functionality of the lighting in the Entertainment District exemplifies the work of the City Energy Challenge, which seeks to cut



City energy bills, reduce carbon pollution, and improve City services. LED lighting offers both energy savings and increased public safety. LED lighting has the dual advantage of using substantially less energy than the technologies it replaces—often savings of 50 percent or more—while also adding the ability to dim or brighten lighting levels as needed. PBOT’s proposal also includes transportation surveillance cameras for monitoring performance of the traffic signal system, expanding the City’s capabilities to manage its transportation system in real-time.

3. Parks: Aquatic Center Water Heating Efficiencies and Replacement of Walker Direct Digital Control System

Parks is proposing to upgrade boilers at six of its aquatic facilities and replace the aging control system for its heating and ventilation system at the Dishman Community Center. Like the PBOT LED project, these projects advance the City’s long-standing City Energy Challenge, in this case by improving the efficiency of building systems to save energy and improve the comfort and customer experience of the facilities. Both of these projects are reliable investments in demonstrated technologies that will produce a return to the General Fund while advancing the City’s energy and carbon goals.

BPS is prepared to provide technical assistance and otherwise support PDC, PBOT and Parks in implementing their proposals, including serving on PDC’s proposed Advisory Committee and assisting in any remaining processes and paperwork to secure Energy Trust rebates.

Please let me know if you have questions about our interest in any of these proposals. Thank you for the opportunity to convey my support.



Bureau of Planning and Sustainability
Innovation. Collaboration. Practical Solutions.

MEMO

DATE: November 4, 2013

TO: Innovation Fund Task Force

FROM: Susan Anderson, Director

CC: Andrew Scott, Director, City Budget Office

SUBJECT: Innovation Fund Proposal: Landslide Mapping Project

Introduction

This proposal is to produce high-quality, detailed maps of landslide risk areas to improve the City's ability to prepare for landslides. These maps will enable City bureaus to route infrastructure to limit risk and avoid costly damage to roads, pipes and other assets. These maps will also enable homeowners and developers to better anticipate costs associated with their building projects and avoid unnecessary and costly geotechnical engineering in low-risk areas.

Landslides are a major geologic hazard in Oregon. Landslides have created a number of problems in and around Portland's hills, damaging private property, transportation corridors, fuel and energy conduits and communication facilities. Development and other human activities can activate landslides. Increased runoff, excavation in hillsides, shocks and vibrations from construction, non-engineered fill and changes in vegetation from land clearing can trigger landslide events. In addition, climate change projections suggest Portland will experience wetter winters, exacerbating landslide events.

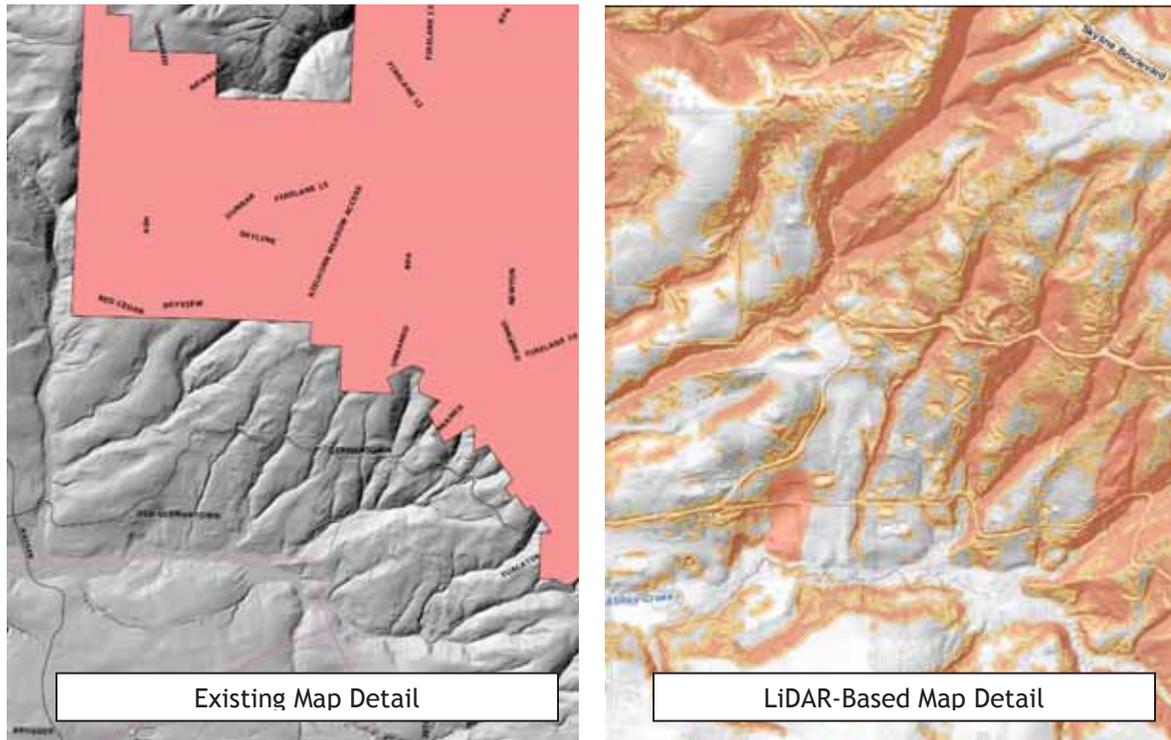
Accurate maps help to prevent and plan around potential landslides. Unfortunately, existing landslide susceptibility maps in use throughout the City are old and known to be inaccurate. More accurate topographic information, derived from 2004, 2005, and 2007 LiDAR (Light Detection and Ranging) flights, is available for the Portland metropolitan region. This project proposes to contract with the Oregon Department of Geology and Mineral Industries (DOGAMI) to use the updated data to generate shallow and deep landslide susceptibility mapping of Portland. This project would greatly improve the detail and accuracy of the landslide hazard maps used by multiple City bureaus (see Figure 1, page 2).



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New, accurate and precise landslide maps will be used by any bureau conducting work related to public construction projects, emergency response coordination, asset management, natural hazard mitigation, and permitting private development. The attached proposal from DOGAMI details the project process, scope of work, and deliverables.

Figure 1: Landslide Hazard Map Examples



Source for LiDAR Based Map: Burns, William J., 2009, *Shallow-Seated Landslide Susceptibility Map of the Northwest Quarter of the Linnton Quadrangle, Multnomah and Washington County, Oregon*, Oregon Department of Geology and Mineral Industries Technical Report to Washington County, Oregon.

Background

The Bureau of Transportation has been documenting landslide events in Portland for decades. Since 1974, over 1,300 landslide events have been recorded, averaging 34 per year. In 1996, due to record rainfalls, a total of 606 events were recorded. Many of these landslides are small events that require removal of debris from roadways. However, when a landslide affects the stability of the roadway itself, or when a landslide undermines a structural foundation, the expense of landslide mitigation is typically very high. Examples from recent landslide mitigation projects are provided in Table 1 on the following page.

Table 1. Examples of costs/losses from recent landslides

Year	Landslide Location	Effect	Mitigation Cost	Public/Private Expense
2011	Springwater on the Willamette	Partial Loss of Trail Support	\$541,000**	Public - BPR
2011	1433 SE Reedway St.	Damage to private property and public trail at Oaks Bottom	\$122,000*	Private
2011	1376 SW Broadway Dr.	Damage to private property and Broadway Drive	Combined \$1,413,000	Public - PBOT
2011	Sam Jackson Parkway	Damage to roadway		Public - PBOT
2011	Cornell Rd. at Audubon Society	Damage to public roadway	\$71,437	Public - PBOT
2012	2740 NW Calumet Dr.	Loss of yard and deck support	\$90,000*	Private

*Estimated cost of repair contract only

**Cost estimate (project in construction)

Portland’s Natural Hazard Mitigation Plan outlines several important landslide-related actions that will reduce risks, improve safety and save both the City and the public money (see Table 2). These actions are dependent on the existence of landslide hazard delineation, which cannot be accomplished without more detailed and accurate landslide hazard maps and data. The completion of this mapping project would enable multiple City bureaus to begin implementing many of the important actions outlined in Table 2.

Table 2: Portland Natural Hazard Mitigation Plan Landslide-Related Actions

Develop a comprehensive landslide map for the City of Portland to identify hazard areas and to improve communications with the public.
Mitigate Portland’s water supply infrastructure from landslide hazards.
Initiate more operations and maintenance pilot projects along roads that inform about the development of standards for managing stormwater in ditches in landslide prone areas.
Review the effectiveness of existing regulations related to development in landslide hazard areas.
Employ alternative construction methods such as trenchless construction on City projects to reduce the impact that development can have in landslide prone areas.
Develop a multiple-agency multi-hazard evacuation plan (earthquake, flood, fire and landslide at a minimum).
Create a mitigation mapping committee to index and maintain GIS mapped inventory and develop prioritized list of critical facilities, residential and commercial buildings within known hazard areas such as earthquake, erosion, the 100-year and 500-year floodplains, invasive plant species, landslide and wildfire areas. Identify parameters and methods for new maps as needed to meet multi-hazard mitigation goals and to improve communication with the public.

<p>Review and amend City Code and other compliance documentation to require that all facilities that store or handle hazardous materials (including large tanks) and which are located in the 500-year floodplain, landslide, or other hazard areas, develop a hazardous materials inventory statement. This statement will be made available for Fire Bureau review. Require that these storage tanks are either adequately protected or relocated outside of the 500 year floodplain, landslide, or other hazard areas.</p>
<p>Develop and incorporate building ordinances commensurate with building codes to reflect survivability from all hazards to ensure occupant safety.</p>
<p>Update the Infrastructure Master Plan and System Vulnerability Assessment, Sewer Failure Response Plan.</p>
<p>Assess existing earthquake related mitigation plans and vulnerability studies to identify areas of conflict, duplication or gaps between studies & secondary hazards of earthquake. (Earthquake triggered landslides are an expected secondary seismic hazard.)</p>
<p>Develop a plan to strengthen sewer infrastructure in areas where street overlays and sewers have potential to collapse in a seismic event. (Earthquake triggered landslides are an expected secondary seismic hazard.)</p>
<p>Assess the vulnerability of the water distribution system to seismic events: work toward hardening the system. (Earthquake triggered landslides are an expected secondary seismic hazard.)</p>

Project Description

1. **Scope of work:** Contract with the Oregon Department of Geology & Mineral Industries (DOGAMI) to use data gathered by Light Detection and Ranging (LiDAR) imaging technology to develop detailed shallow and deep landslide susceptibility maps and Geographic Information System (GIS) files; and to make those maps and files readily accessible for all City bureaus.
2. **Type of project:** Use LiDAR data to develop detailed maps that will enable multiple City bureaus to improve understanding of landslide hazards, and actively reduce risk of landslide impacts through planning and informed engineering to proposed and existing development areas and infrastructure projects.
3. **Potential challenges or obstacles:** No challenges or obstacles are expected. The LiDAR data exists and DOGAMI has the staff expertise and resources to devote to the project (see attached proposal from DOGAMI).
4. **Lead bureau and other groups impacted:**
 - The Bureau of Planning and Sustainability (BPS) will manage the project.
 - Other bureaus that will directly benefit from the maps developed by this project include: Bureau of Transportation (PBOT), Bureau of Development Services (BDS), Bureau of Environmental Services (BES), Water Bureau, Parks & Recreation (PP&R), Bureau of Emergency Management (PBEM), Fire & Rescue (PF&R).
 - The public, including homeowners and developers, will also benefit from improved access to accurate information about landslide risks.

5. **Project timeline:** DOGAMI is available to begin the project in 2014, with project deliverables available within two years. The major milestone of the project includes the delivery of landslide hazard maps, GIS files and a report detailing historic landslide points, landslide inventory, shallow landslide susceptibility and deep landslide susceptibility. These products are expected toward the end of the two-year project period. There are no identified risks to the proposed timeline.

Project Outcomes

6. **Cost savings:** Cost savings as a result of the nonoccurrence of damage from future landslide events cannot be quantified with certainty. However, as indicated in Table 1, the cost of recovering from a single landslide often exceeds the cost of this mapping project.
7. **Benefits:** The City of Portland, homeowners and developers, and populations vulnerable to climate change impacts will all benefit and save money from the completion of this project.

The landslide susceptibility mapping will provide the information necessary for City planners and project designers to incorporate landslide risk into the design process. In some cases, avoiding high landslide risk areas can significantly reduce the cost of infrastructure construction. For example, although alternate alignments to route water or sewer pipes through low landslide risk areas may be longer, they can be cheaper to build and provide a longer life expectancy for the utility. Existing landslide hazard maps do not provide the level of detail needed to enable City bureaus to make informed decisions about the best routing of infrastructure (see Figure 1 on page 2).

Current City codes are not consistent with actual landslide risk, leaving homeowners and developers unsure whether or not a slope stability assessment is required. Existing maps do not enable permit applicants to predict whether a geotechnical engineering report will be required. Conversely, properties that are actually in low-risk areas may currently be required to provide slope stability assessments due to the poor quality of existing hazard delineation. Updated and detailed landslide susceptibility maps will provide the basis for updated city codes related to requirements for construction in high landslide risk areas. This will enable homeowners and developers to better understand the potential risks, anticipate costs associated with their building projects, and avoid unnecessary and costly geotechnical engineering in low-risk areas.

All populations are affected by climate change, but not all communities have the same ability to respond. As a result, some are more vulnerable than others. In Portland, communities of color and low-income communities experience disparities (e.g., greater risk of poor health, reduced access to housing, un- and under-employment, limited access to transportation options, etc.) that will be exacerbated by the impacts of climate change. As a result of climate change, Portland's future climate is projected to include warmer, wetter winters, which will increase the incidence of landslides. The updated maps generated by this project will enable the City to understand where vulnerable populations live in proximity to landslide hazards, and to priority climate change preparation actions accordingly.

8. **Operational efficiencies:** This project will make detailed and accurate landslide hazard information readily available to City planners, engineers and designers. Operational efficiencies will be achieved through avoiding staff time and costs associated with making

uninformed decisions such as routing a water or sewer pipe through the toe of a landslide, requiring a geotechnical engineering assessment on a project that is actually in a low landslide risk area. Additional operational efficiencies will be gained from reducing landslide risks and better protecting public and private property by implementing the landslide-related actions outlined in the Portland Natural Hazard Mitigation Plan.

9. **Performance metrics:** Measuring the avoided costs and/or the nonoccurrence of damage from future landslide events is difficult to quantify. Potential performance metrics for this project include:
 - o Development of a) shallow and deep landslide susceptibility maps for Portland, b) mapping of historic landslide points, and c) a landslide inventory
 - o Integration of these products into the City’s geographic information system (GIS)
 - o Utilization of the new maps and data for infrastructure project design and engineering, land use and hazard mitigation planning, and updates to city codes in high risk areas

Budget

10. Funding request:

Contractor = Oregon Department of Geology & Mineral Industries (DOGAMI)

Estimated Budget = \$101,000 (see attached proposal for more details)

DOGAMI Personnel Services: \$78,000

DOGAMI Services and Supplies: \$2,400

DOGAMI Indirect Costs: \$20,600

Fiscal Year	*Estimated Budget	Billing Cycle
FY 13-14	~\$25,250	Billed over two quarterly invoices.
FY 14-15	~\$50,500	Billed over four quarterly invoices.
FY 15-16	~\$25,250	Billed over two quarterly invoices.

*The actual amount billed during any given quarter will depend on the number of DOGAMI staff hours spent on the project during that time.

11. **Leveraged funds:** No funds are being directly leveraged on this project. However, several in-kind resources are being leveraged including existing City of Portland staff time and the utilization of existing LiDAR topographic data (which is very expensive to generate).
12. **Return on investment:** The return on investment will occur in the future as a result of reduced or avoided private and public losses due to landslides. Cost savings as a result of the nonoccurrence of damage from future events are not feasible to quantify; however, the cost of recovering from a single landslide often exceeds the cost of this mapping project.
13. **Ongoing operations and maintenance costs:** None
14. **Staff requirements:** Staff requirements include project oversight and management by the Bureau of Planning and Sustainability, technical review of draft deliverables by City landslide experts, and negligible Bureau of Technology System (BTS) staff time from the Corporate GIS program to upload the final mapping data to the city database. Existing

staff will complete these tasks; as such no additional funds are requested to cover City staff.

15. Project contacts:

- Project Coordinator: Michele Crim, Sustainability Manager, Bureau of Planning and Sustainability, 503-823-5638 or michele.crim@portlandoregon.gov
- Technical Expert: Ericka Koss, Geotechnical Engineer, Bureau of Environmental Services, 503-823-6316, ericka.koss@portlandoregon.gov



Oregon
Theodore R. Kulongoski, Governor

Department of Geology & Mineral Industries

Administrative Office
800 NE Oregon Street #28, Suite 965
Portland, OR 97232
PHONE 971-673-1555

Proposal to City of Portland

October 16, 2013

Ericka Koss
Environmental Services
City of Portland
1405 North River Street, Building 117
Portland, OR 97227

Re: Proposal, Regional Shallow and Deep Landslide Susceptibility Mapping

We are pleased to provide you with a proposal for conducting a regional LiDAR-based shallow and deep landslide susceptibility map for the City of Portland.

We understand the city is currently working on improving the understanding of natural hazards. Deliverables of this study will include hazard maps, GIS files, and a report describing the analysis. We would be able to start this work in 2014 and estimate 2 years to complete depending on the complexity of landslide hazards in the study area (Figure 1).

Significance of the Problem

Landslides are a major geologic hazard in Oregon, and the impact of landslides on property and life safety for Oregonians will only increase as population increases and development advances into more landslide prone urban peripheries. For a typical year, an estimated \$10 million is spent on landslide losses in Oregon (DOGAMI, OFR 02-05). In years of heavy rainfall, losses can increase to \$100s millions. Ideally, local governments would have detailed and reliable maps of landslide hazards that would allow them to actively reduce risk of landslide impact to proposed and existing development areas through planning and informed engineering. Such maps are available for only a small part of the state. Part of this proposal is to produce such maps for the City of Portland.

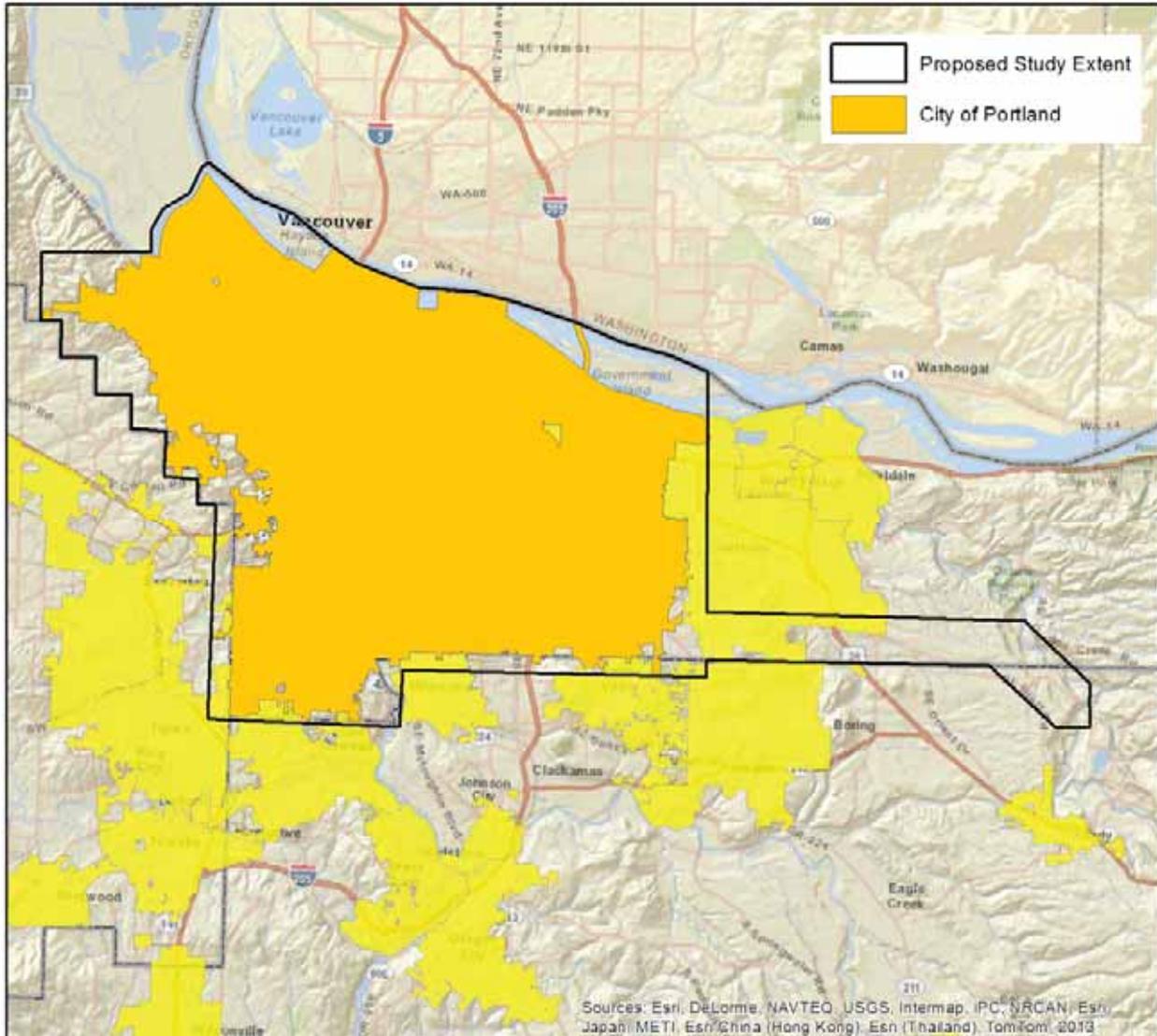


Figure 1. Study area (~197 square miles) including the water pipeline corridor from the Bull Run watershed.

Background

Until only recently (2006), the only local government in Oregon with access to even partially complete landslide hazard mapping is Salem, which has a detailed map of deep-seated landslide susceptibility. Over the last few years, Oregon has begun to acquire significant swaths of Light Detection and Ranging (LiDAR) topography data, which can be converted into a digital elevation model (DEM) of unprecedented resolution and accuracy even in forested areas. In the first year of the use of this LiDAR data, DOGAMI compared landslide mapping using existing techniques (air photo survey and three other remote sensing types of data sets) to mapping with LiDAR in a small portion of the the Portland Hills. DOGAMI recently published a paper which describes the details of these findings at the First North American Landslide Conference in 2007 (Burns, 2007). The LiDAR reveals many more slides, and allows such rapid and spatially

accurate delineation of slide boundaries that the only way to make truly definitive landslide maps will be with LiDAR. The first municipality in the State of Oregon, the City of Oregon City, is the first city to have one of these “new” landslide maps which was created by DOGAMI using the LIDAR technology (Madin and Burns, 2006). Very fortunately, LIDAR data is available for the entire area which is proposed for this study.

The first step in creating landslide hazard maps is a detailed inventory of past landslides following the Protocol for Inventory Mapping of Landslide Deposits from Light Detection and Ranging (lidar) Imagery (Burns and Madin, 2009). We have just completed creating this database for the entire area in this proposal (Figure 2).

We have already completed some susceptibility maps in the Portland Metro through a collaborative project with Washington County and Clackamas County and just started to work on susceptibility maps for the Bull Run watershed. We proposed to create shallow and deep landslide susceptibility maps for the area in outlined in black on Figure 1.

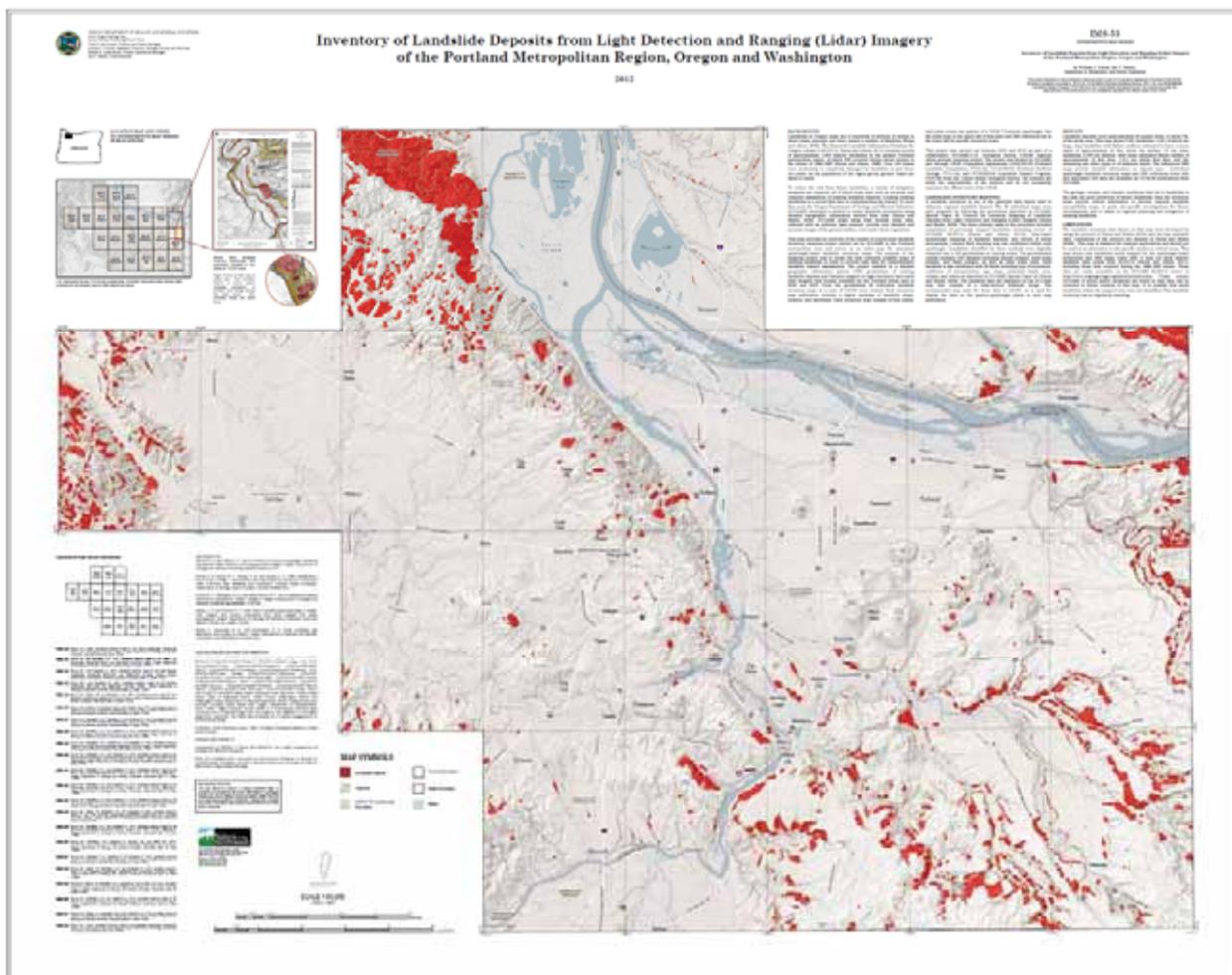


Figure 2. Map of the area with finished landslide inventory maps. There are over 7,000 landslides within the map area.

Proposed Tasks

We propose to assist the City of Portland in understanding the landslide hazards which threaten the Portland Region. The tasks that we propose are aimed at regional geologic hazard assessment. These tasks include the following details:

- Consolidate current available information on: geology and geologic hazards
- Consolidate and finalize a database on historic landslides
- Consolidate lidar based landslide inventory mapping in proposed study area
- Create shallow and deep landslide susceptibility maps for the study area
- Provide landslide hazard maps, GIS files, and report for the following:
 - Historic Landslide Points
 - Landslide Inventory
 - Shallow Landslide Susceptibility
 - Deep Landslide Susceptibility
- Help integrate products into city geographic information system (GIS), planning, and FEMA Predisaster Mitigation Plan
- Present results to the city
- Help integrate map products into city landslide hazard regulations

Fee Estimate

We estimate the following costs for study area and scopes: ~\$101,000 with the tasks described above.

Oregon Dept of Geology & Mineral Industries					
City of Portland Landslide Susceptibility					
Personal Services					
	Staff	Units	# Units	Salary and Benefits	Total
	NRS 4 (Bill Burns)	Month	3.00	\$ 9,323	\$ 27,970
	Geol 2 (tbd)	Month	6.00	\$ 6,364	\$ 38,185
	GIS Specialist	Month	2.00	\$ 5,901	\$ 11,802
	Sum Staff PS:				\$ 77,957
	Services and Supplies				\$ 2,400
	Sum Direct Costs:				\$ 80,357
	Indirect Costs			25.60%	\$ 20,571
	SUM TOTAL COSTS				\$ 100,928

If you have any questions, please contact me at 971-673-1538 or bill.burns@dogami.state.or.us.
Sincerely,

William Burns, MS, CEG
Engineering Geologist

CC: Andree Pollock, DOGAMI



Bureau of Planning and Sustainability
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MEMO

DATE: November 4, 2013

TO: Innovation Fund Task Force

FROM: Susan Anderson, Director

CC: Andrew Scott, Budget Director

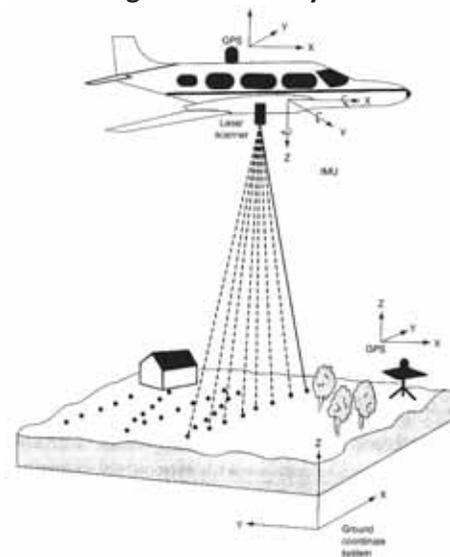
SUBJECT: Innovation Fund Proposal: Updated LiDAR Data for Portland

Introduction

This proposal helps fund a new, summer 2014 regional LiDAR (Light Detection and Ranging) flight to update the City's current LiDAR data which dates from 2004, 2005, and 2007. While the City has used LiDAR for a wide range of innovative analysis to date, as described below, Portland's data sets are drawn from three, non-overlapping LiDAR flights from different years, of varying quality, and therefore of varying utility. The updated data will both capture current development conditions, which have changed substantially since 2004, and provide much higher quality information, giving bureaus vastly improved power to map, analyze, and act on development issues.

LiDAR is a plane-based sensor that sends a pulse of infrared laser light toward the ground, collects the reflections of that pulse back at the sensor, and precisely measures the travel time of the laser from all objects from which it is reflected. This travel time is measured against the known location of the sensor—calculated using GPS and other equipment that measures the orientation of the plane—to establish the elevation of each reflecting location. These pulses are sent in rapid succession, such that a laser pulse hits every 6 to 12 square inches of surface and objects that sit on that surface (buildings, vegetation, power lines, signs, etc.). Figure 1 shows a basic LiDAR system.

Figure 1: LiDAR system



Source: USGS

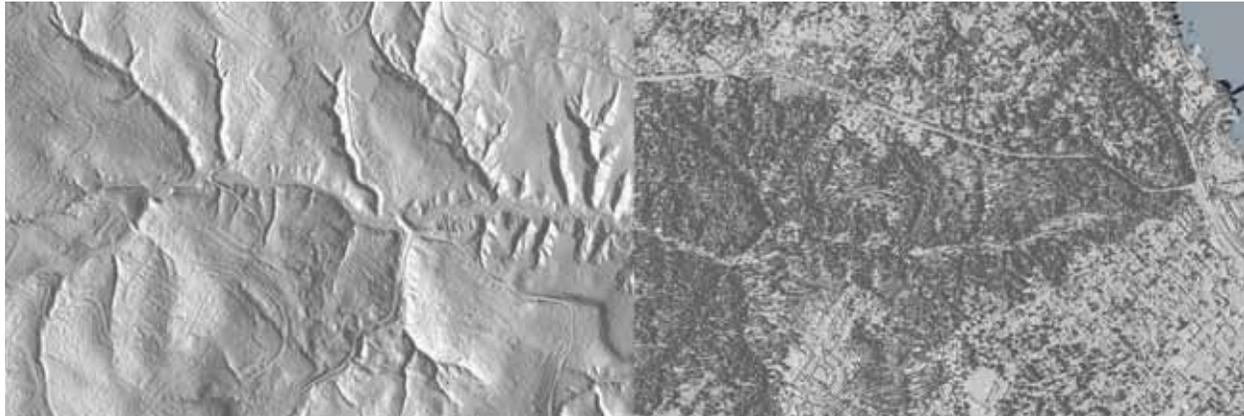


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Through post processing of the data, precise models of both the surface topography (the ground, known as a “digital elevation model”) and the tops of things on that ground (the “first return” model) can be derived. These models are extremely accurate: current sensors can locate objects in three-dimensional space with an average error of three inches or less. Figure 2 below shows an example of these LiDAR-derived models.

Figure 2: Examples of LiDAR-derived elevation models (Tryon Creek)



DEM (showing surface topography) First-return model (showing trees and buildings)

Source: City of Portland, Bureau of Planning and Sustainability

LiDAR is extremely effective at surveying large areas quickly and accurately. A single flight covering the City of Portland urban service boundary could be done in less than one day. It would entail roughly 6 billion laser pulses, with an average of four reflections received from each pulse. This would result in approximately 24 billion individual survey measurements of the surface and all that sits on it. The scale of this measurement is what makes LiDAR so valuable, so cost effective (compared to traditional methods of survey), and so revolutionary in terms of our ability to collect and create geographic data.

The City of Portland has used LiDAR in a variety of ways, some very innovative, including the following:

1. Building mapping:

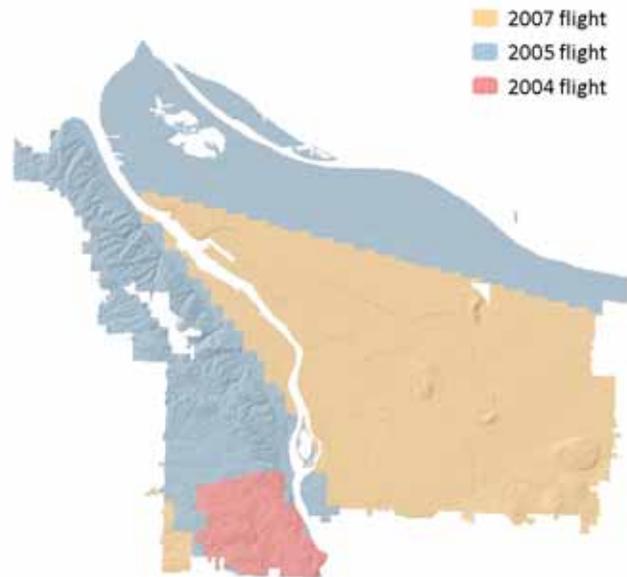
- Until LiDAR data first became available throughout Portland in 2007, the City had a relatively poor understanding of where buildings were located, how tall they were, and their square footage.
- A 2007 LIDAR flight allowed us to automate the mapping of all buildings in the Portland metropolitan area (~600,000 structures); it also allowed us to better identify where there were no buildings, improving the accuracy of our inventory of vacant land.
- LiDAR-derived buildings are one of the primary inputs into the City’s land use and development forecasting models. An accurate map of buildings allows us to compare what exists on the ground with what is allowed to be built, thus identifying buildings likely to be redeveloped because they greatly underutilize their allowed development capacity; these locations will accommodate most of Portland’s growth over the next 30 years.
- Portland was one of the first cities in the nation to create a detailed 3D model of buildings for the entire metropolitan region, a model which is widely used for planning purposes both inside and outside the City.

2. River, stream and wetland mapping:
 - When LiDAR became available throughout the City in 2007, BPS mapped over 300 miles of streams in the City using automated mapping techniques, including 130 miles of streams that were unknown before LiDAR identified them.
 - LiDAR has been the main reference for wetland delineation when a field survey is not possible or practical. LiDAR is also used to supplement field delineation.
 - BPS used LiDAR data and U.S. Army Corps of Engineers surveys to map “Ordinary High Water” for both the Willamette and Columbia Rivers. This has been a critical dataset for the West Hayden Island project.
3. Hydrologic modeling:
 - BES’s Asset Systems Management team developed a tool, the Basin Delineator, to help create high-quality surface water basin boundaries for stormwater system planning. Previously, most basin delineation had been done using manual methods across a variety of programs and projects, which was time consuming and produced relatively low-quality delineations. This tool would not have been possible without the availability of LiDAR.
4. Automated image classification (vegetation and impervious surfaces mapping):
 - LiDAR has allowed for more accurate mapping of vegetation—most notably tree canopy—throughout the City.
 - BPS is working on automated methods of tree canopy mapping that would use future LiDAR flights, with simultaneously collected high-resolution digital aerial images, to map tree canopy in the City with a very high level of accuracy. Portland would be one of the first jurisdictions in the nation to use this approach, especially at the image resolution from a new combined aerial/LiDAR flight (three inches);
 - BPS is also developing a methodology for using new, more accurate and consistent LiDAR data to automatically map impervious surfaces at the same three-inch resolution.
5. Infrastructure planning:
 - LiDAR has been used by BES to identify micro-basins that could negatively impact the performance of green street facilities, and is used extensively in the design of these facilities.
 - LiDAR is used extensively by BES, PBOT and Water in the pre-design of facilities and system changes. Recent examples include the Tryon Creek sewer line replacement, Luther Road Johnson Creek restoration, Glenwood/Bybee culvert replacement, and the Powell Butte and Kelly Butte reservoir projects. LiDAR is also used to augment field surveys, which are expensive and difficult to conduct over large areas.
6. Hazard mapping:
 - City LiDAR data has been used by FEMA to improve the precision of floodplain maps, including the Special Flood Hazard Area (100-year floodplain).
 - BES has used LiDAR data to model potential flood events in the Columbia Slough.
 - LiDAR has been used by Oregon’s Department of Geology and Mineral Industries (DOGAMI) to map earthquake faults in the Portland area.
 - LiDAR has been used extensively for landslide hazard mapping. BPS, PBEM, and BES are currently working with DOGAMI to find funding to produce high-quality, detailed maps of landslide risk areas from LiDAR-derived elevation models to improve the City’s ability to prepare for landslides. (BPS is also submitting a proposal to the Innovation Fund to support the landslide mapping project.) Newer LiDAR data would improve the accuracy of this mapping.

Background

The Portland region was one of the first urban areas in the U.S. to use LiDAR. The City of Portland flew a small LiDAR pilot in the Tryon Creek watershed in 2004. We partnered with DOGAMI and several federal agencies to fly the Columbia Slough and Portland's West Hills in 2005. In 2007, Portland partnered with Metro and 30 or so other local, state, and federal organizations to fly the remaining areas of the Portland metropolitan area that were not flown in 2004 and 2005. Figure 3 below shows the extent of the three Portland LiDAR flights.

Figure 3: Portland LiDAR flights



Source: City of Portland, Bureau of Planning and Sustainability

The technology has improved dramatically in the last decade. The 2004 and 2005 systems in particular were fairly immature, with much less precise measurement compared to the 2007 flight—approximately one measurement per square meter, as opposed to the eight measurements per square meter in 2007. The accuracy of the measurement in 2004/2005 was also significantly lower—12 to 18 inches versus the six to eight inches of the 2007 flight. The result is a significant portion of the City—a portion with some of the most variable terrain and surface cover—is mapped much less accurately than the areas covered in 2007. Consequently, all products derived from the older LiDAR data—buildings, streams, vegetation—and the infrastructure and planning work that relies on LiDAR-derived elevation models for an accurate elevation model is less accurate as well. A new LiDAR flight would be more accurate than the 2007 flight and significantly more accurate than the 2004/2005 flights. Table 1 on the following page summarizes the changes in data quality since 2004.

Table 1: Summary of Portland LiDAR flights

Flight year	Precision	Average Accuracy
2004	1 pulse/square meter	8-12"
2005	1 pulse/square meter	6-12"
2007	8 pulses/square meter	6-8"
2014 (proposed)	12 pulse/square meter	2-6"

Source: TerraPoint (2004/2005), Watershed Sciences (2007), DOGAMI (2014)

The inconsistency in LiDAR data is the basis for this proposal. Portland is currently covered by three outdated, non-overlapping LiDAR flights of varying quality and, therefore, of varying utility.

Project planning is currently underway for a summer 2014 LiDAR flight that would re-fly the entire Portland metropolitan area (as well as collect three-inch resolution aerial photos). The project is being organized by Metro under the umbrella of the “Regional Aerial Consortium,” an organization comprised of all jurisdictions within the urban growth boundary that funds yearly aerial photo flights. The City of Portland belongs to this consortium, and agencies within the City contribute to a budget of approximately \$30,000 per year dedicated to purchasing yearly six-inch resolution photos (this budget is managed by the Bureau of Technology Services Corporate GIS team). Because a combined LiDAR/aerial photo flight and post-processing is significantly more expensive than aerial photos alone, the anticipated cost to the City for the 2014 flight is estimated to be \$120,000 to \$180,000 (of a total project cost to the Metro consortium of approximately \$700,000). Given the wide range of expected innovative applications of these data sets, we are seeking up to \$150,000 from the Mayor’s Innovation Fund to make up some or all of that difference.

Project Description

1. Scope of work: Partner with Metro to contract and fund a summer 2014 LiDAR/aerial photo flight for the Portland metropolitan area; all resulting products will be delivered as Geographic Information System (GIS) files; files and all resulting products will readily accessible to all City bureaus via the City of Portland’s central GIS “hub.”
2. Type of project: Use latest LiDAR technology to improve the mapping of surface topography and objects on the surface in the City of Portland.
3. Potential challenges or obstacles: The project would be contingent on other jurisdictions in the Metro consortium increasingly their yearly funding for aeriels to include LiDAR as well. This is not a certainty, but Portland’s commitment would strongly convey the value to other jurisdictions of participating. Funding LiDAR on our own is probably not feasible at this time, as the cost to Portland would double or triple. There is no financial risk. The City would only commit funding if the project moves forward as planned.
4. Lead bureau and other groups impacted:
 - o Metro is the lead agency for managing and administrating the LiDAR flight and contracting with the consultant.

- BPS has historically served as the lead organization in the City for managing and processing LiDAR data and anticipates continuing to do so. All products will be made available to all City bureaus as they become available.
 - BPS will work with the BTS Corporate GIS team on the specifics of the project budget and administration of any Innovation Fund resources.
 - BPS, BTS Corporate GIS, and BES will continue to participate in the Metro aerial consortium that is planning the 2014 flight.
5. Project timeline: Planning is currently underway for the 2014 flight, targeted for either summer or early fall. The current priority is securing enough funding from all participating jurisdictions. About 20 local jurisdictions have committed to the project, with the condition that most of the 30 or so participating agencies join the project.

Project Outcomes

6. Cost Savings: LiDAR generates in a variety of cost savings across multiple bureaus. It reduces the need for field survey, which is time consuming and requires cooperation of property owners. Manual mapping of features like streams and buildings is also time consuming and, without LiDAR, not possible in many areas due to a lack of consistent data. LiDAR also prevents costly mistakes in the design of systems like green streets and stormwater facilities by accurately mapping surface topography, drainage basins, and allowing for better predictions of overland water flow.
7. Benefits: Current, seamless, consistent LiDAR coverage of the entire City.
8. Operational Efficiencies: This project will make detailed and accurate topographic, building, hydrologic, and vegetation data readily available to City planners, engineers and designers. Efficiencies will be achieved through avoiding staff time and costs associated with field survey. Additional operational efficiencies will be gained from reducing risks from natural hazards like floods, landslides, and earthquakes by better mapping the location of those hazards.
9. Performance Metrics: New LiDAR data and derived elevation models made available to all City agencies by the end of 2014.

Budget

10. Funding Request:

Contractor: TBD (Contract will be administered by Metro)

Estimated Total Budget: ~\$700,000

Estimated City of Portland contribution: \$120,000 to \$180,000

City of Portland currently budgeted: \$30,000

Requested funding for City of Portland shortfall: \$90,000 to \$150,000

**the exact shortfall will depend on how many jurisdictions contribute to the project; \$150,000 is estimated to be the maximum potential shortfall*

Fiscal Year	Budget
FY 13-14	\$0
FY 14-15	\$90,000 to 150,000
FY 15-16	\$0

11. Leveraged Funds: Total cost of a regional LiDAR flight is approximately \$700,000, of which the City will pay a maximum of \$180,000. Metro will also pay \$180,000. The rest of the cost will be paid by other regional jurisdictions such as Washington County, Multnomah County, City of Gresham, Oregon City, Lake Oswego, etc. A complete list of jurisdictions and their potential contribution to the project will be provided when it is finalized in early 2014.
12. Return on Investment: A new LiDAR flight will mean more accurate topographic information for the City as a whole at a relatively low cost. It will mean more efficient use of field survey crews, more comprehensive and more accurate GIS data (buildings, streams, wetlands, etc), more efficient and accurate infrastructure design and planning, and better knowledge of potential hazards (floods, landslides, earthquake) in the Portland area.
13. Ongoing Operations and Maintenance Costs: None
14. Staff Requirements: Staff requirements include project oversight, coordination with Metro and other local jurisdictions, coordination with Metro on the Request for Proposals, and data processing and distribution by the Bureau of Planning and Sustainability and the Bureau of Technology Services Corporate GIS program. BPS is prepared to fulfill these responsibilities within its existing staff and budget.
15. Project Contacts:
 - Project Coordinator: Kevin Martin, Technical Services Manager, Bureau of Planning and Sustainability, 503-823-7710, kevin.martin@portlandoregon.gov
 - Budget Lead: Mitch Vanderperren, Corporate GIS Solutions Architect, Bureau of Technology Services, 503-823-5632, Mitch.Vanderperren@portlandoregon.gov
 - Technical Support: Mark Liebe, Bureau of Environmental Services - Asset Systems Management, 503-823-7607, mark.liebe@portlandoregon.gov

Innovation Fund Proposal

Capital Improvement, Utility, Maintenance, & Construction Coordination

Overview

PBOT is the lead bureau in charge of preserving one of the City's largest assets, our streets, and providing a platform to work and coordinate work in the public right of way. Consolidated coordination will allow the bureau to share basic information to identify and resolve potential conflicts on projects and in-street construction before they result in costly pavement cuts, trench patching or paving, and avoid multiple and conflicting traffic disruptions for the public that we have seen repeatedly over the past few years.

This funding request is for a web-based application system for tracking and mapping agencies' capital improvement (CIP) and maintenance plans, plus management systems to enable coordinated decisions for both immediate and long term work in the public right of way at the most comprehensive level. For optimum performance access of both internal (other City bureaus and agencies) and external stakeholders (other jurisdictions and private utilities and developers) is essential. Participation is required from all public agencies and utilities with assets (pavement, traffic signals, water lines, and sanitary sewer systems, in addition to those owning conduit, vaults and cabinets, poles, transformers, etc.) in the public right of way. The bureau will utilize off-the-shelf systems that interface with electronic data without a need for significant detailed customization. These systems exist in the market currently and can provide broad benefit for managing the City's assets.

Currently CIP and capital maintenance planning and coordination for public right of way work is done through a number of separate and disparate systems. Problems with the current business practices exist: lack of central data and decision making; lack of a lead bureau; several failed attempts to overhaul the process with internal solutions; data on City corporate systems is not current and not well maintained; isolation of various systems creates data error, rework and duplicative data entry; employing technical staff unfamiliar with projects to look for and manage errors and omissions; and, CIP data that does publish to Portland Maps and creates liability for the City due to the inaccuracies. In addition, mapping and reporting is not standardized for the coordination process.

Project Description

The proposed solution is technology plus management and process improvements, with funding requested for testing viability and start-up of the system.

Through the technology, effectiveness will be achieved by public right of way utilities and asset managers mapping planned work in one controlled city-wide system. The system outcomes include at the most basic level, identifying overlapping and potentially conflicting work areas and defining resolution for construction activities. Identified overlaps will inform decision making across the city for planning capital and maintenance work. An agency making self-

motivated bottom-line business decisions today would use this system to decide where to invest in capital expansion/capital maintenance by considering others' pavement cuts, temporary lane or street closures, and pavement work. For PBOT, as asset manager of the pavement system, less pavement cuts and temporary right of way work sites simply equate to longer pavement life and better flowing traffic and safety during construction.

Benefits of technology coupled with process improvements will allow:

- leveraging technology to reduce manual processes or increase performance
- streamlining business processes
- implementing lean process improvement
- improving customer service
- collaborating with other governments and the private sector to reduce costs
- consolidating services currently provided by multiple entities to enhance service delivery and reduce costs.

Work Scope

Project Type: technology; consolidation of services; process improvement; and redesigning business processes

Technology Elements:

- Map-based CIP coordination system
- Allow the sharing of project data with other outside parties involved in construction management in the Portland Metro area.
- Project conflict identification, reporting and resolution.
- Comprehensive CIP Coordination: internal City and external stakeholders
- Data Input: Upload/Project Creation
- Status: Reports and notifications
- Contains historic data
- Watch Flags and Dashboard to monitor conflicts
- Map and Filtering to provide details on locations and projects
- Reporting and querying
- Public Access (with filters and access controls on permission)
- Interface with parcel-based permitting software underway with ITAP Project
- Coordination and Conflict Resolution: Results to inform comprehensive CIP coordination
- Off the shelf technology without the need for special customization
- Work with any standard web browser

Greatest Challenge: For success, this technology must be accompanied by organizational transformation and process improvements; these are key components. This will build upon similar coordination that has occurred with the City's permitting functions. Lack of a coordinated capital expansion and maintenance planning across the city is a long standing problem. The Bureaus of Environmental Services and Transportation, and the private utility Northwest Natural Gas explored a technology solution together in 2009. Barriers that prevented a more coordinated system change included: (a) a lack of City bureau controls on reporting CIP data from inconsistent platforms and inconsistent reporting; (b) cost to implement; and, (c) the need for all asset owners to use the system but lack of sufficient mandates to a broad based use. With this grant, the cost barrier of "(b)" is significantly reduced. The new technology coupled with a project management/process improvements will address "(a)".

Bureaus, agencies, and utilities each use individual separate systems for planning and tracking capital work and this requires a consolidated system. With this new system, the City would require all agencies with assets in the right of way needing maintenance and upkeep (virtually all) to either convert to the city's system, or maintain two systems. Due to the significance of this issue, a feasibility phase is requested to allow for options to be considered in more detail and depth.

The implementation would also be significant enough to merit review by the Council directed Technology Oversight Committee.

Budget Request

The project includes three phases:

- (1) feasibility-scoping including impacts analysis and recommended implementation
- (2) implement technology and business practices including feedback and adjustments
- (3) monitor and manage

A grant is requested for phases (1) and (2):

Start-up costs plus ongoing management and software maintenance costs are anticipated.

Staff requirements: In addition to each bureau's current CIP coordinators, bureaus' maintenance staff need to be involved. IT staff need to be involved for planning, compatibility analysis, procurement and deployment. A new FTE assigned to manage the project during all project phases (planning, development, procurement, etc. and implementation) is anticipated; this would either be an expanded role for an existing PBOT staff-person involved in CIP coordination or a new position.

Program Management: 1.0 FTE in year 1; ½ FTE for year 2 and 3

Each effected bureau is assumed to covered costs and resources with current staffing plans and revenue. Assumption assumes the technology provider converts data at start up and is included in the purchase price.

Technology Procurement and Implementation: Cost depends on data conversion required and customization. Estimate \$250k - \$750k (very low confidence level to be refined during scoping period of the project)

Ongoing Technology Maintenance: \$50-100k annually (low confidence level – to be refined based upon actual off-the-shelf technology selected)

Return on investment timeline: immediately after project implementation for conflict and coordination; 2-4 years estimated to see better asset management results

Stakeholders and Other Bureau Support

Bureau support will come from BTS as this is envisioned to interface with city CGIS and Portland Online systems. It must have the Council directed commitment of other bureaus and outside agencies. By bureaus included in addition to PBOT, PWB and BES, and likely POEM and Community Technology/Cable and Franchise. Other government agency buy-in includes ODOT, TriMet, the Port of Portland, and Multnomah County. Support is essential from franchise/tariff-based Utilities including Gas, Telecom, Electric, etc. Support from these entities would probably be by mandate from the City, however this requires investigation in the initial phase of the project. If a private utility chooses to participate by their choice, it would likely based on a benefit/cost study for holding down rates.

If awarded:

Upon award of the grant PBOT as lead agency will:

- Assign a lead project manager
- Prepare a three-phase plan, including scope, estimates and target milestones:
 - (1) feasibility-scoping (a) impacts analysis (b) recommended implementation (including financing strategies for the ongoing maintenance and management of the system)
 - (2) implement technology and business practices (a) feedback and adjust
 - (3) monitor and manage
- Develop an input strategy including right of way utility/asset managers, technical advisors, legal counsel
- Prepare and submit periodic project reports including status, updates to timeline, progress on meeting stated milestones, expenditures to date, action plans and success factors.
- Be available to meet with project sponsors to share findings, discuss solutions, and problem solve roadblocks to success for each of the projects.
- Upon conclusion of steps (1) and (2) of the project, PBOT will submit a close-out report documenting the actual budget used for the project, actual savings or benefits obtained

(one-time or ongoing), and actual impacts, including any unintended consequences. The report will also highlight the lessons learned and the applicability of the project outcomes to other areas of the City.

Contacts:

This proposal and project funding request is supported by PBOT Director Leah Treat.

Application prepared by Christine Leon, PBOT Development/Street Systems Management Division Manager.

Information sources: Susan Aldrich, Mark Liebe - BES, Kevin York, Alex Bejarano – PBOT



Steve
Novick
Commissioner

Date: November 4, 2013
 To: Bureau Innovation Fund
 From: Dan Bower, Division Manager – Active Transportation
 RE: TMA Partnership – Innovation Fund

Leah Treat
Director

The Portland Bureau of Transportation is happy to submit an application that represents a unique partnership with the private sector that will help advance innovation in the transportation sector. The application is a partnerships with a Transportation Management Associations (TMAs) which is a non-profit, membership driven entity that works with business to improve mobility and advance sustainable practices.

The application is for \$35,000 to begin work on creating a dynamic, or variable priced on-street parking environment in South Waterfront. The work will lead to new parking paradigm in which users pay data-driven market costs for on-street parking in the district, much like users in San Francisco or Seattle do today. The application funds the development of a work program and data collection to support and inform the effort in concert with the TMA.

The partnerships is a worthy investment and will lead to efficiencies and innovation in parking that benefit the City.

Thank you for your consideration. Please let me know if you have any questions.

1120 SW Fifth Avenue, Suite 800 • Portland, OR 97204 • 503-823-5185
 FAX 503-823-7576 • TTY 503-823-6868 • www.portlandoregon.gov/transportation

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To ensure equal access, the Portland Bureau of Transportation will make accommodations in full compliance with Title VI of the Civil Rights Act of 1964, the ADA Title II, and related statutes and regulations in all programs and activities. For accommodations and additional information, and complaints, contact the Title II and Title VI Coordinator at Room 1204, 1120 SW Fifth Ave., Portland, OR 97204, or by telephone 503-823-5185, City TTY 503-823-6868, or use Oregon Relay Service: 711.



November
2013

Pete Collins, Executive Director
South Waterfront Community Relations

November 1st, 2013

Innovation Fund Project Submission

I. SCOPE OF WORK

South Waterfront Community Relations (SWCR) has functioned as a Transportation Management Association over the past three years. SWCR would like to continue as a TMA in a public-private partnership with the City of Portland, Bureau of Transportation. With aggressive VMT and non-SOV goals as outlined by local planning documents, a TMA is a critical component to the South Waterfront and the City of Portland's long-term success.

The Innovation Fund would allow for continued TMA activities including monitoring on-street parking and mode split data collection. This data will be used to better understand parking in the South Waterfront and how it can better managed through efficiencies, including a Progressive Parking structure. **SWCR is asking for \$35,000 from the Innovation Fund.** SWCR will pledge \$15,000 in private funds. Total project cost is \$50,000.

II. TYPE OF PROJECT

1. *Transportation Demand Management.* Activities include:
 - o Streetcar Pass Sales
 - o Quarterly Community Walks
 - o Monthly Transportation Tips in Newsletters
 - o Spring Bicycle Repair series
2. *Data Collection for Parking Management Solutions.* Data includes:
 - a. On-street parking occupancy & turnover data
 - b. Transportation Mode split data

III. PROJECT HISTORY

SWCR has functioned as a successful TMA over the past three years, bringing innovative and needed TDM activities to this developing community. With established programs, and local participation (6,700

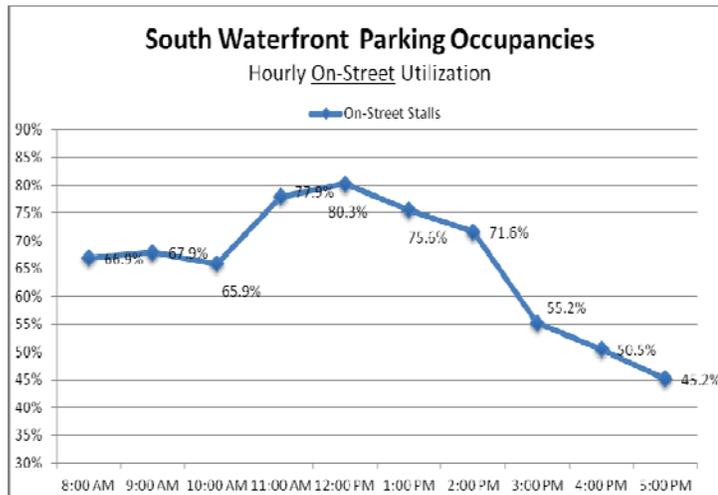
newsletter subscribers, and 300 Facebook members), the TMA is a valued organization in the neighborhood.

SWCR has tracked mode data and parking data as important indicators of current and future TMA projects. As overall trips have increased over the past three years, the percentage of those driving alone has remained fairly constant. To avoid crippling congestion as the district develops, TDM programs and projects will be needed to hold auto trips in line. With decent mode splits and rising parking occupancy levels (see below), a more comprehensive parking management strategy will be paramount to ensure community development and success.

2011-2013 Transportation Mode Split Data:

	Auto Trip	Bicycles	Walk	Streetcar	Bus
2011	62%	13%	14%	9%	2%
2012	68%	14%	12%	5%	1%
2013	65%	10%	20%	2%	3%

2013 Parking Occupancy Data:



IV. CHALLENGES/BARRIERS

As an established TMA, there will be *no challenges/barriers* for continued TMA work and data/mode collection. Over the past three years, SWCR has tracked parking and transportation data, so there are established methodologies and practices.

V. LEAD BUREAU

Portland Bureau of Transportation

VI. PROJECT TIMELINE

1. Transportation Demand Management. Activities include:

2013-2014	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Streetcar Pass Sales	■	■	■	■	■	■	■	■	■	■	□	■
Quarterly Walks			■			■			■			■
Monthly Transportation Tips	■	■	■	■	■	■	■	■	■	■	■	■
Spring Bicycle Repair Series	■	■	■									

2. Data Collection for Parking Management Solutions. Data includes:

2013-2014	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
On-street parking occupancy & turnover data			■	■	■							
Transportation Mode split data	■	■										

VII. PROJECT OUTCOMES & DELIVERABLES

1. *Efficiencies & Measurements*

Transportation Demand Management Activities

Efficiency	Measurement	Benefits	Deliverable(s)
Increased awareness of transportation options	<ul style="list-style-type: none"> • # of subscribers to monthly/weekly newsletter • # of participants 	<ul style="list-style-type: none"> • Reduced congestion • Less CO2 emissions • Increased revenue on transit systems 	<ul style="list-style-type: none"> • TMA Quarterly Report outlining TMA activities & metrics
Increased use of transportation options	<ul style="list-style-type: none"> • # of Portland Streetcar sales • Transportation Mode Split data (historical comparison) 	<ul style="list-style-type: none"> • Increased neighborhood livability • Tracking City mode-split data (<i>Climate Action Plan calls for reducing VMT per capita by 30% by 2030</i>) 	<ul style="list-style-type: none"> • Annual Transportation Mode Split Report – including historical comparisons
Increased knowledge of parking data	<ul style="list-style-type: none"> • On-street occupancy & turnover study 	<ul style="list-style-type: none"> • Data collection can be used for innovative parking management efforts – Progressive Parking initiatives • Local economic metric 	<ul style="list-style-type: none"> • Annual Parking Study Report – Occupancy & Turnover data with recommendations

VIII. BUDGET

The total cost of the year-long project proposal is \$50,000. **SWCR is asking for \$35,000 from the Innovation Fund.** SWCR will contribution \$15,000 as local match.

PROJECT	INNOVATION FUND COS	SWCR COST	TOTAL PROJECT COST
TMA Activities	\$15,000	\$10,000	\$25,000
Parking Data Collection	\$10,000	\$5,000	\$15,000
Transportation Mode Split Data Collection	\$10,000		\$10,000
TOTALS	\$35,000	\$15,000	\$50,000

IX. PROJECT SUCCESS LEVEL

As an established TMA with knowledge of successful TMA programs, transportation mode split methodology and parking data techniques, SWCR is extremely confident the project will be a success.

X. ONGOING COSTS

There will be zero ongoing costs associated with this project.

XI. STAFFING REQUIREMENTS

SWCR will conduct all work for this project. Quarterly and Annual reports will be submitted to PBOT in line with the workplan.

XII. PUBLIC BENEFITS

- Increased Transportation Options awareness & use
- Increased Transit Revenue
- Increased neighborhood livability – more ped/bike use
- Comprehensive understanding of transportation choices
- Accurate parking data in anticipation of a stronger parking management strategy

XIII. PROJECT READINESS

- This project is 100% ready to move forward.

XIV. PROJECT REPORTING

Project Reporting:

- Quarterly reports outlining TMA activities will be submitted to PBOT
- Annual parking and mode split data reports will be submitted to PBOT.



Steve
Novick
Commissioner

Leah Treat
Director

November 4, 2013

Andrew Scott
City Budget Office
1120 SW Fifth Ave, Room 1300
Portland, OR 97204

City of Portland Innovation Fund Proposal:
Old Town Chinatown Energy Efficient Transportation Mobility Hub

Dear Andrew,

The Portland Bureau of Transportation is pleased to present this proposal to your office and the Innovation Task Force for consideration. The goals of this proposal are to update the transportation infrastructure in the Old Town Chinatown Neighborhood to be more energy efficient resulting in energy savings for the City's General Fund and our City's residents. The request for \$300,000 would result in savings during the first year and would ultimately be a net benefit to the City's bottom line.

The attached proposal provides details for an initiative that makes the Old Town Chinatown District safer, more energy efficient and saves on operation and maintenance costs for the City. This includes the following elements:

- Upgrade historic ornamental street lights to LED with dimming controls
- Update PBOT communications infrastructure to support partner agency needs
- Assess the feasibility of an EV charging stations and public WiFi.

The elements of the proposal closely align with the Portland Bureau of Transportation's goals to be a leading and progressive, multimodal, transportation agency focused on improving the quality of life for its citizens through proactive transportation operations, advanced technologies, and best practices for transportation management. As the City seeks to reduce its carbon footprint, LED lighting is a proven way to deliver cost effective services that requires less maintenance.

We understand the requirements of the proposal and look forward to the next steps of the process.

Sincerely,

Peter Koonce, PE
Division Manager, Signals, Street Lighting, & ITS

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CITY OF PORTLAND

Innovation Fund Proposal

Old Town Chinatown Energy Efficient Transportation Mobility Hub



Submitted by



November 4, 2013



CITY OF PORTLAND

INNOVATION FUND PROPOSAL

Old Town China Town Energy Efficient Mobility Hub

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CITY OF PORTLAND

INNOVATION FUND PROPOSAL

Old Town China Town Energy Efficient Mobility Hub



Project Description

The City of Portland Bureau of Transportation (PBOT) is excited to present this proposal to the Mayor's Office for funding under the Innovation Funds Program. The Innovation Fund objectives are to provide seed money for one-time investments that encourage new, creative ideas to reduce ongoing expenses, increase revenues, create efficiencies, and provide improved services to the City's internal and external customers.

Our request for \$300,000 includes some elements that are fundamental to the City's business practices: delivering a safe public street. The primary purpose of the grant is to replace the lighting with LED fixtures to provide a whiter light that can be brighter and dimmed upon request. The project will result in an immediate return of \$13,000 in rebates and cost savings during the first year. The life of the project the energy cost savings exceeds the requested amount and there are numerous environmental benefits. Annualized over 20 years, the LED fixtures return the original investment back to the General Fund. The project is scalable and the award amount can be reduced by as much as \$150,000, assuming PBOT uses existing staff associated with ongoing maintenance and operations of the existing lighting system as a part of the project.

The project proposal includes the development of a pilot public WiFi system that can be used by multiple agencies in this district and an Electric Vehicle (EV) charging station, which would complete a Mobility Hub for the Old Town Chinatown Neighborhood and the City's emerging Entertainment District.

CITY OF PORTLAND

INNOVATION FUND PROPOSAL

Old Town China Town Energy Efficient Mobility Hub



The PBOT Innovative Funds Proposal (PIFP) will result in a cost effective, sustainable lighting system upgrade that will reduce operational and maintenance costs, resulting in long term General Fund savings. PBOT receives General Fund dollars for the cost of electricity and reducing these costs will provide additional ongoing General Fund available for other programs and projects City Council deems a priority.

The proposed system will provide increased efficiencies and a less intrusive and environmentally sensitive lighting system that can be controlled remotely to adapt to events in the Old Town-Chinatown Neighborhood. The project will include innovative lighting controls that can increase light levels (such as when the Old Town Chinatown Entertainment District closes for the evening) and will offer a communications network that others can use. As a part of this project, PBOT will expand its ability to monitor transportation conditions in the area to keep Portland moving.

New IP addressable cameras to monitor lighting levels along with better lighting will provide for improved public safety within a distressed area of Downtown. A feasibility study as a part of the proposal will consider how other agencies may utilize the enhanced communications infrastructure within the Old Town Neighborhood as well for a variety of purposes similar to cities such as San Jose, New York City, and Boston (1).

To further improve upon the existing transportation infrastructure and fill in gaps within the Old Town Neighborhood of Portland, this project is also proposing a feasibility study and

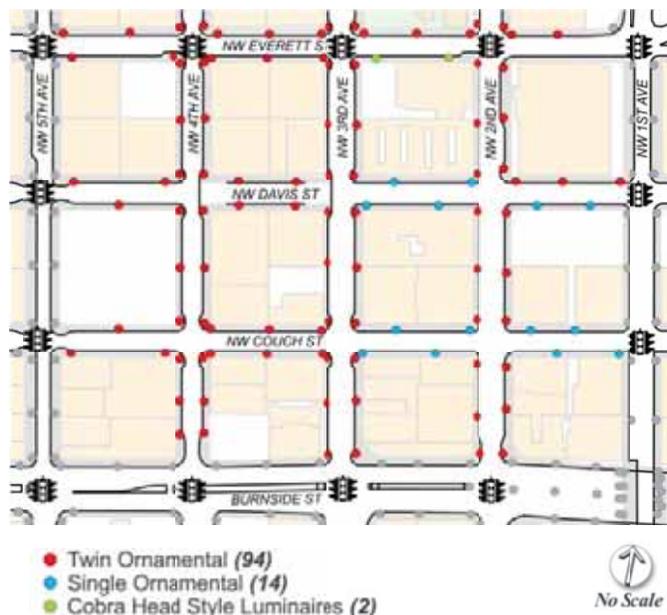
installation of an Electric Vehicle (EV) charging station.

This proposal has five main components that include:

- Conversion of ornamental street lights from high pressure sodium (HPS) lamps and induction (QL) lamps to new energy efficient LED light sources.
- Installation of secure lighting controls for remote access and monitoring
- Future integration with Community Technology (public WiFi), Fire Bureau, and Police Bureau needs
- Modifications to PBOT local communications network to support secure lighting controls and cameras.
- Feasibility study, design, locate, and install an EV charging station.

As shown in Figure 1, the proposed ornamental light conversion under consideration is located within the Entertainment District of the Old Town Chinatown Neighborhood in Downtown Portland and consists of 204 luminaires

Figure 1 - Proposed Project Area





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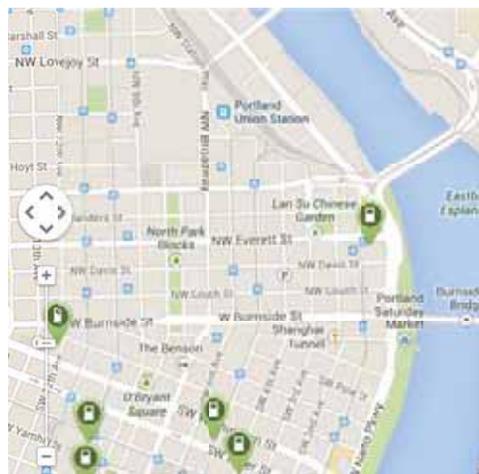
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predominantly City of Portland standard twin and single ornamental poles. The proposal will not change the ornamental poles nor alter the design features of these fixtures. The proposed boundaries consist of the area west of NW 1st Street, east of NW 5th Street north of Burnside Street, and south of NW Everett St (including lighting along both sides of Everett).

Figure 2 shows the current infrastructure of EV Charging stations in the Old Town Chinatown Neighborhood. There is a noticeable gap of facilities within this District. Part of this proposal would evaluate the need for additional infrastructure to modernize the transportation network to meet ChargePortland's goal of making stations available to the public.

Figure 2 - EV Charging Stations in Portland, OR



Exploration of expansion of the City's provision of public WiFi is consistent with the City's Broadband Strategic Plan (3), adopted in fall of 2011. This project will consider the possible implementation of a Neighborhood access point that can be used to increase affordability of broadband services. The expansion of the PBOT communications infrastructure will provide information on the traffic flow in the area, the use of the EV charging station, and the street lighting in a way that lets the infrastructure be more proactively managed.

This proposal has been developed to meet a number of the Mayor's objectives for the program as identified within the remaining sections of this proposal. We feel strongly that this effort represents a "Back to Basics" perspective for Transportation while at the same time stretching to achieve some more laudable transportation innovation that will guide future investments for the City .

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Scope of Work

This Scope of Work identifies and describes the major components of work that needs to be accomplished for a successful project outcome. We have combined the five components of the project into three efforts: design phase/feasibility study, public outreach, and project implementation.

Design Phase/Feasibility Study for EV Charging Station and Use of Communications for Public WiFi

- Assess existing lighting, types of luminaire mounts, and operating voltage in the field.
- Design hardware for connecting the systems into the existing communications system.
- Complete feasibility study (in concert with public outreach) to identify the best location of the EV charging station within the Old Town Chinatown Neighborhood.
- Assess requirements for offering public WiFi identifying requirements of the system and potential private sector or non-profit partners.

Public Outreach

- Conduct public outreach to engage stakeholders within the City and more specifically within the Old Town Chinatown Neighborhood.
- Conduct lighting test implementation for neighborhood to evaluate and insure changes meet their expectations.

Neighborhood feedback will be gathered as a part of the initiative, to insure the lighting meets the community's interests.

- Collaborate with car sharing companies that utilize EVs and the utility companies.
- Gather feedback from partner agencies on effects of the system for future implementation sites.

Ornamental Street Light Conversion, Communication Network Modifications, Control System and Camera Installations

- Procure lighting fixtures for street lighting conversion.
- Implement street light conversion using PBOT maintenance crews.
- Identify light pole locations and other facilities to be converted to facilitate the installation of the communications system.
- Local vendors for roadway lighting, communications, and lighting controls will be engaged to provide a cost effective energy saving system. There are a number of options for ornamental luminaire conversions.
- Produce plans and specifications for use on future implementation of ornamental street lighting conversion projects.



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Type of Project (Focus Areas)

The PIFP includes a focus on a number of areas that help achieve the objectives of the Innovation Fund. These areas of focus include:

- Leveraging Technology to Reduce Manual Processes and Increase Performance

- Improving Customer Service
- Collaborating with Other Governments and the Private Sector to Reduce Costs

Further discussions of these focus areas and how they meet the Innovation Fund objectives can be found under "Project Outcomes" Section of this proposal.

Potential Challenges and Obstacles

The conversion of the existing street lighting fixtures is the majority of this project and this is a fairly straightforward exercise routinely performed by PBOT maintenance staff. Thus, the largest portion of this project has limited risk. That being said, there are two challenges for the work identified under this PIFP. The first of these is the ability to take advantage of the existing communications infrastructure. The existing communications infrastructure will need to be modified to provide access into the existing network. Fortunately, broadband equipment has improved significantly since the

last municipal WiFi roll out attempted by Portland.

The second challenge will be to identify and engaging all of the stakeholders within the Old Town Chinatown Neighborhood. Among known organized groups and agencies, there are generally individuals and other lesser known groups that need to be identified and engaged to build a consensus for the project. Known city bureaus and other impacted interest groups are identified in the following section.

Lead Bureau and Other Impacted Groups

The City of Portland Bureau of Transportation is the lead bureau for the PIFP. Additionally there are a number of other groups both private and public that will benefit with the

proposed project. Public outreach will be an important part of this proposed project to keep everyone informed and in support of the

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proposed improvements. Other groups include the following:

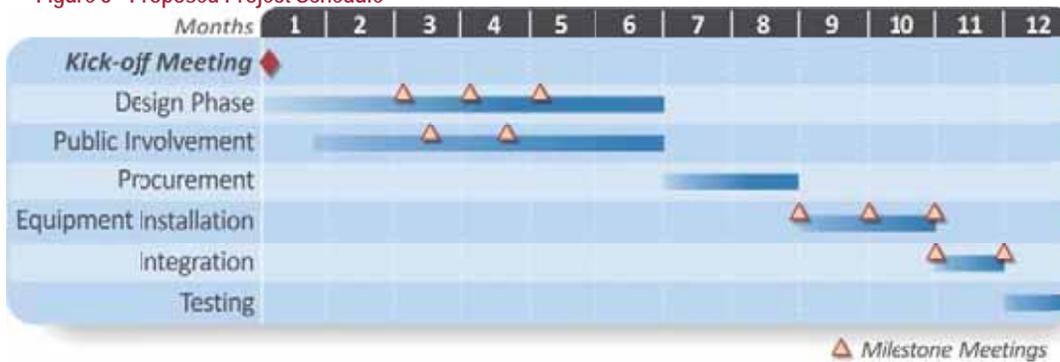
- Chinese Benevolent Association
- Local business owners
- Downtown Public Safety Action Committee
- Portland Parks Bureau Service Coordination Team
- Lan Su Chinese Garden
- Old Town Chinatown Neighborhood Association

Project Timeline

The following is an anticipated schedule for the level of work outlined in this proposal. This schedule will allow for the design, procurement, installation, and system integration (surveillance cameras) needed to complete a successful project. This proposed schedule will allow for PBOT to take advantage of existing maintenance staff to perform the HPS and QL lamp to LED light source conversions, control system and camera installations. The schedule has time

included to allow PBOT and other bureaus to coordinate with stakeholders and special interest groups. The feasibility study efforts may extend through the entire year if early consensus is not reached on location and extent of the implementation for the EV charging stations or the public WiFi system.

Figure 3 - Proposed Project Schedule





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Project Outcomes

The PIFP will provide many positive outcomes for the Old Town Chinatown Neighborhood. This includes both qualitative and quantitative benefits for PBOT and partner agencies, citizens, local businesses, and the ultimately the City's General Fund. These benefits are summarized here as they pertain to the "Focus Areas described previously.

Leveraging Technology to Reduce Manual Processes and Increase Performance

- LED lighting uses 50% less energy than existing technology and will reduce energy costs and maintenance requirements.
- LED luminaires consume less energy than their equivalent HPS and QL luminaires.
- LED light sources are easily controlled reducing light pollution and intrusion onto residences.
- With the addition of a remote lighting control system, both maintenance and operational costs will further be reduced since the lighting system can be monitored remotely.
 - PBOT can monitor the lighting systems, automate identification of troubled luminaires and with GIS mapped luminaires, maintenance crews are able to be dispatched directly to the troubled luminaire.
 - Lights burning during the day due to photocell or other failures can be identified and corrected, saving additional operational costs.
 - Being in the entertainment district with festival streets, The City can lower and increase light levels as needed for the given night time activities.

- The color rendering capabilities of LED white light far exceed the existing HPS technology. This means blues are blue and reds are red making identification of vehicles and people easier in a night time environment.
- Permanent traffic surveillance cameras with connections into the PBOT communications network will provide ability to respond to traffic backups on West Burnside.

Improving Customer Service

- Well lit streets provide a better sense of wellbeing, security and can spur economic development.
- Improved maintenance methods reduce the time to address outages and chances of lights being out at night.
- Higher definition video images and lighting allows for true color rendering to increase public safety.
- The addition of an EV charging station will fill in gaps within the Old Town Chinatown Neighborhood and provide citizens additional opportunity to utilize alternative fuel vehicles. Car sharing companies may benefit from the opportunity to utilize these new facilities. Wireless connectivity to the EV charging station would provide real time information on their use. Wireless connectivity to the EV charging station would provide real time information on their use. Car sharing companies may benefit from the opportunity to utilize these new facilities.

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Collaborating with Other Governments and the Private Sector to Reduce Costs

PBOT has reached out to several partner agencies to collaborate for this proposal, including the Bureau of Planning & Sustainability, the Police Bureau, and the Office of Community Technology. Each agency has missions to serve the citizens and business owners within the Old Town Chinatown Neighborhood. This project will result in collaboration that seeks a mutually

beneficial outcome to provide better lighting and enhanced security that provides a more environmentally friendly delivery of services.

An expansion of the communications infrastructure within the Old Town Chinatown Neighborhood will allow PBOT the opportunity to better manage traffic and allow other government bureaus to take advantage and share the communication infrastructure reducing the need for additional City communication networks to be established.

Potential Operational Efficiencies

The main operational efficiencies will be realized from the conversion of the existing HPS and QL lamps to LED light sources and the implementation of a lighting control system. The following annual energy savings were estimated and summarized in Table 1.

A reduction in annual maintenance will be realized from the conversion of the existing HPS and QL lamps to LED light sources and the implementation of a lighting control system. With longer life, fewer maintenance cycles,

lower failure rates, the ability to monitor luminaire health remotely from maintenance offices, and the ability to dispatch repair crews directly to failing luminaires. PBOT maintenance crews should have a 76 percent reduction in maintenance needs.

In addition, the conversion from HPS and QL lamps to LED light sources and the addition of an EV charging station reduces the overall carbon emissions. This is an additional step in helping the City meet sustainability and reduction in carbon emission goals.

Table 1 – Estimated Annual Energy Savings

Description	Existing Luminaires*	Proposed 45 Watt LED Luminaire		Energy Reduction Existing to LED Conversion	
		Without Dimming	With Dimming	Without Dimming	With Dimming
Power Consumption (kWhr/yr)	79,442	37,613	28,211	41,829 (53%)	51,231 (64%)

*Existing luminaires consist of 50-100W HPS (consuming 126W) and 154-85WQL luminaires.



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Potential Cost Savings

The lighting and controls conversion of the existing HPS and QL lamps to LED light sources has the greatest potential to provide cost savings to PBOT. Table 2 summarizes the anticipated energy savings and resulting costs.

Table 3 identifies the costs that PBOT would invest in the system to replace the street lighting. The existing replacement schedule assumes a combination of HPS and QL fixtures consistent with the current fixtures in

the district. These assumed costs could be subtracted from the requested grant amount and associated as a cost sharing opportunity.

Having the ability to share the PBOT communications infrastructure among city bureaus provides the opportunity to consolidate services reducing the need for costly independent communication networks.

Table 2 – Estimated Lighting System Conversion and Controls Cost Savings

Description	Existing Luminaires*	45W LED Luminaire		Cost Savings from Existing System	
		Without Dimming	With Dimming	Without Dimming	With Dimming
Energy Cost (per year)	\$7,388	\$3,498	\$2,487	\$3,890	\$4,901

*Existing luminaires consist of 50-100W HPS (consuming 126W) and 154-85WQL luminaires.

Table 3 – Estimated Capital Cost Savings Associated with Replacement Luminaires

Description	Replacement Luminaires		Cost Savings Using LEDs
	100W HPS and 85W QL*	45W LED	
Cost (\$)	\$158,000	\$107,000	\$51,000

*Existing luminaires consist of 50-100W HPS (consuming 126W) and 154-85WQL luminaires.

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Who Benefits

The improvements being proposed provide benefits in cost savings and improved efficiencies to many government bureaus and the private sector. Many of these benefits have been discussed throughout this proposal and are briefly summarized here.

- **Portland Bureau of Transportation** – reduced operational costs with energy efficient LED luminaires, reduced maintenance due to long LED luminaire life cycles and controls that can monitor system health.
- **Mayor’s Office** – immediate savings in the General Fund due to decreased energy costs and positive public perception.
- **Private Sector** – enhanced opportunities for EV charging (car sharing companies), increased public safety associated with the enhanced street lighting for the Entertainment District
- **Neighborhood Residents** - Improved civil life due to less intrusive lighting (dimming in off-peak), access to EV charging station, and potential for public WiFi.

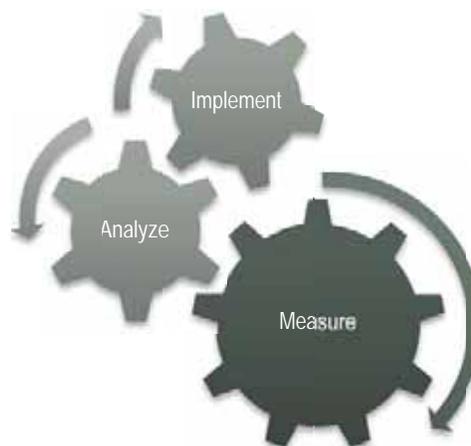
Performance Metrics

A number of performance metrics are available to track proposed improvements to lighting and surveillance. Most of these performance measures rely on implementing the improvement, measuring system performance and conducting an analysis of the new performance results with historical data.

Reduction in Maintenance - PBOT has the capability to monitor maintenance activities for their lighting systems. Reductions in maintenance can be measured by comparing existing maintenance records in the area with future records. Control systems have a multitude of tools available that can help identify trends and outages that can be compared to maintenance activities.

Reduction in Energy Consumption and Cost - PBOT has the capability to monitor operational costs of their lighting systems.

Since a majority of the electrical systems within the City are flat rated, reductions in energy consumption will need to be estimated. Control systems have the ability to monitor energy consumption at the luminaires level. Energy usage can be monitored and compared to utility tariff rates to determine energy costs. These can be compared to historical estimates of luminaire energy consumption within the Old Town Chinatown Neighborhood.





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Reduction in Communication Cost - The City will immediately realize a savings in mobile data requirements currently used for transmitting video and other data through within the Neighborhood.

Improvements in Surveillance and Light Quality - The Police Bureau has expressed

interest in increasing light levels in the Old Town Chinatown Neighborhood to improve Police effectiveness in the area. Improved street lighting is widely thought to be an effective means of preventing crime, second in importance only to increased police presence (3).

Budget

TOTAL GENERAL FUND DISCRETIONARY REQUESTED

The PFIIP proposal can be implemented within a single fiscal year. The total General Fund discretionary being requested is \$300,000 and

includes hardware procurement, engineering, and installation of the various systems included in this proposal. The award amount could be modified by the Innovation Fund Selection Committee as necessary to fit the overall project budget. A breakdown of the proposed project elements is shown in Table 4.

Table 4 – PFIIP Proposed Budget

Item	Notes	Cost
Wireless Communication System	<ul style="list-style-type: none"> Includes root/mesh access points and controller cabinet communications equipment 	\$50,000
CCTV Cameras	<ul style="list-style-type: none"> Cameras to be used to improve safety and monitor traffic. 	\$25,000
EV Charging Station	<ul style="list-style-type: none"> Includes the feasibility study, design, and installation the EV Charging Station 	\$25,000
New LED luminaires	<ul style="list-style-type: none"> Includes 202 new ornamental LED luminaire retrofit kits with globes and two new LED cobra head style luminaires. Cost assumes that existing ornamental globes will be replaced and luminaire installation will be done by the City. 	\$112,000 ¹
New Lighting Controls	<ul style="list-style-type: none"> Includes lighting controls 110 street lights 	\$17,000
Engineering	<ul style="list-style-type: none"> Includes both design and construction management. 	\$45,000 ¹
Installation	<ul style="list-style-type: none"> Includes a two person electrical crew and bucket truck. 	\$26,000 ¹
Total Requested Budget		\$300,000

¹Cost reimbursement of these line items could be eliminated as a part of the project award since some of these activities occur as a part of existing operations and maintenance activities, thus the total request could be \$150,000.

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LEVERAGED FUNDS

PBOT currently provides lighting system maintenance within the Old Town Chinatown Neighborhood. The funds that are currently available to facilitate on-going maintenance (monies currently identified to replace the existing fixtures) will be available for installation of the proposed lighting system and controls.

Energy Trust of Oregon is an external funding source available that the City of Portland that has committed to provide rebates for installation of the LED luminaires and potentially the control system. These funds can be returned to the General Fund at the conclusion of the project.

Energy Trust of Oregon (ETO) – The ETO administers incentives for certain energy saving improvements for a variety of private individuals, companies, and agencies. Discussions with ETO staff have confirmed that agency wide LED or Energy Efficient Street light conversions are eligible for custom incentives. Each project is evaluated individually. Based on information provided on previous conversion projects within the City of Portland, the replacement of existing 70 to 100 Watt lamp sources with new 45 Watt LED light sources can have potential per light incentive payback of \$40 to the City, yielding \$8,000 in immediate savings.

RETURN ON INVESTMENT (ROI)

The largest and easiest quantifiable ROI component of this proposal is the street light conversion from HPS and QL lamps to LED and the control system. A simple payback was calculated for the conversion that included the upfront capital cost of the lighting control

system. No cost escalations were considered as part of the evaluation (thus cost savings are very conservative due to the nature of the 20-year lifespan of the LED fixtures). The factors and assumptions that went into the evaluation process to determine payback are summarized below and have been developed through extensive research and involvement in lighting.

Because of the higher capital cost for QL luminaires and maintenance requirements that do not differ greatly from LED luminaires, the return on investment converting to LED luminaires would be immediate. Therefore the ROI only compares a conversion of HPS lamps to LED light sources.

Initial Costs: The initial cost for a luminaire is simply the time and materials required to install and energize a new luminaire. An experienced crew is capable of an approximate 45-minute installation time.

Installation Cost: The installation costs are assumed to be equal for the HPS and LED luminaires. Both luminaires utilize the same type of mounting mechanism, are assumed to be mountable on the same arms, and wire connections can be made identical.

Annual Operation Cost: The annual operation costs are dependent on energy consumption of the luminaire, the number of hours per day the luminaire will operate, and the electrical rate (cost per kilowatt hour). For this analysis, it was assumed that roadway and area lights are on an average of 4,100 hours per year per luminaire. The average electrical rate paid by the City of Portland is \$0.093 per kilowatt-hour. Watts per luminaire takes into account the luminaire, ballast for HPS and QL luminaires, or drivers for LED luminaires.



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Annual Maintenance Cost: An assumption was made of a 100,000 hour life for LED luminaires and 30,000 hours for HPS luminaires. With a longer lamp life, the maintenance costs for LED luminaires will be less than for HPS luminaires. The HPS luminaires in this study were assumed to have a catastrophic failure rate of 25 percent. LED luminaires were analyzed with an assumed catastrophic failure rate of 0.2 percent. This is based on review of long life cycles for other cities with major LED luminaire installations.

Conservation Incentives: Energy Trust of Oregon currently offers a \$40 per lamp rebate for LED conversions assessed on a project by project basis. This rebate was assumed and applied to the initial fixture cost.

Pay Back: The simple comparison of HPS luminaires to the LED luminaires analyzed in the analysis show a payback can be obtained

in two years for cobra head luminaires and one year for ornamental luminaires. If a lighting control system is utilized, this payback period will respectively occur within two months and one-and-a-half and months sooner.

ONGOING OPERATIONS & MAINTENANCE COSTS

The overall operational and maintenance cost for the improved street lighting and control system will decrease with a conversion of the existing HPS and QL lighting system to a new LED system. All luminaires consume energy and eventually require maintenance. The following are on-going LED lighting maintenance requirements:

- Estimated life of an LED Luminaire is 20 years
- No lamps to burnout. Preventive maintenance will consist of cleaning and inspection only.
- Cleaning is recommended at 10 years (once during life cycle of luminaire).
- Spot re-lamping is estimated at less than 0.2%.

After the first two years of converting the 204 QL and HPS luminaires to LED luminaires within the Old Town Chinatown Neighborhood, PBOT will start to realize the economic benefits of reduced maintenance and operational costs. This means that each year without a control system \$7,080 will be available to the General Fund. If a control system is installed, then \$9,750 will be available to the General Fund.

STAFF REQUIREMENTS

The City of Portland Bureau of Transportation currently has personnel assigned to street lighting systems engineering, maintenance, and administration. The conversion of the

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street lights from HPS and QL lamps to LED light sources will not require additional staff for on-going operations and maintenance of the system. In fact, with the maintenance benefits of LED lighting, the City should experience fewer failures requiring less maintenance calls. This will allow maintenance staff to be allocated to other priority projects. The only exception is that City maintenance personnel will be used to install the new LED light sources. With 110 light poles and 204 luminaires, this is estimated to be 163 hours of installation time.

With the addition of lighting control systems, street lights can be monitored to alert maintenance staff of a luminaire failure and maintenance crews can be dispatched to exact locations rather than an approximate area to locate a failure, saving additional time. Police Bureau staff can take advantage of permanently located IP traffic cameras

connected into the PBOT communication network providing an ability to monitor conditions in the neighborhood.

With better light levels and fewer failures, there is also a potential increase in public safety that can equate to fewer patrols. This will allow police officers to patrol in other areas more regularly. Under white light sources such as with LED luminaires, true colors of objects can be identified allowing police staff to more quickly identify and research incidents.





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