

*Multnomah County*  
Information Technology GIS Department  
Interim Report

**Date:** December 15, 2011

**Agreement Number:** G11AC20055

**Project Title:** Measuring Virtual USA ROI – A Multnomah County Case Study

**Organization:** Multnomah County ([www.multco.us](http://www.multco.us))

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**Listing of Collaborating Organizations:** State of Oregon; University of Washington

**Executive Summary**

“Bridge” (Oregon’s vUSA application) is a virtual common operating picture for the emergency response community, exemplifying the data sharing principles of the National Spatial Data Infrastructure (NSDI), and integrating a wide variety of data from multiple government and private sector organizations to a single platform. An ROI study is being conducted and the findings will be summarized. In addition, there will be a summary of the methodology and a professional review of the findings of the qualitative and quantitative analysis.

**Project Narrative**

This project will provide a case study of the Return on Investment (ROI) resulting from the development of the Virtual USA (vUSA) “Bridge” project for Multnomah County and the State of Oregon. Multnomah County, the State of Oregon and University of Washington are partnering to complete the ROI Study.

**Phase 1. Literature Review and Pilot Interviews (COMPLETE)**

Drawing on the Capability Maturity Model (CMM) for software applications as described by Paulk (1995), U of W has conducted a literature review and systematically explored theoretically relevant costs and benefits of public GIS project implementation. Past studies of GIS-related costs and benefits have been reviewed, including the case studies from the GITA ROI workbook. U of W has extensively examined a cost-benefit analysis of GIS and other spatial information technologies conducted in New Zealand (“Spatial Information in the New Zealand Economy: Realising Productivity Gains”), as well a number of other similar projects. Pilot Interviews have been conducted in this phase in order to inform the development

of the ROI questionnaire.

Phase 1 Deliverable 1: Summary of significant findings of the literature review Report has been compiled.

Phase 1 Deliverable 2: Initial Draft Questionnaire under development.

**Phase 2. Qualitative Interviews (n = 20). (INITIATED, INCOMPLETE)**

U of W has conduct an initial set of interviews with a few key stakeholders in the vUSA project drawing from the user groups defined by County and Oregon GEO. Another round of interviews will likely be required to complete this task. The interviews will further clarify the key costs and benefits associated with the vUSA project. These qualitative interviews will be used to develop and refine the questionnaire for Phase 3.

Phase 2 Deliverable 1: Data resulting from qualitative interviews is being compiled.

Phase 2 Deliverable 2: Summary of refinements to questionnaire report has not yet begun, as interviews have not been completed.

**Phase 3. Survey Questionnaire (n = 100). (NOT INITIATED)**

U of W will develop and refine a detailed questionnaire covering the costs of vUSA implementation and the benefits of vUSA availability which will be completed by a minimum of 100 respondents. The form of the questionnaire will be specifically tailored to the context of vUSA implementation by County and Oregon GEO. However, in an effort to allow comparability with previous studies estimating net benefits of spatial information technology projects and programs, U of W will also draw upon previously used survey instruments in developing the questionnaire.

Phase 3 Deliverable 1: Final Questionnaire developed for use in the study.

Phase 3 Deliverable 2: Raw data resulting from questionnaire data collection.

**Phase 4. Results Refinement for Application to Future Studies. (NOT INITIATED)**

U of W will review the results of the qualitative and quantitative analyses and summarize findings in a Final Report. In addition, the research instruments

themselves and the spreadsheets that contain the detailed ROI results will be revisited and refined for applications to future studies and analyses.

Phase 4 Deliverable 1: Final Report

Phase 4 Deliverable 2: Research Instruments and Spreadsheets and Refinements Report.