

EXHIBIT A - MENU OF SERVICES (MOS)

The Statement of Work contained in each subsequent Work Order Contract must be within the scope of the Menu of Services included and described here.

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A. DESCRIPTION of WORK

The Contractor shall provide household survey and database design and completion services for the Oregon Department of Transportation through individual WOCs. The WOC will include a detailed description of the Project to which the WOC applies (Project). The WOC Statement of Work (SOW) will include the specific services and deliverables required for each Project, derived from the categories described in this -Menu of Services (MOS).

B. PROJECT PHILOSOPHY

Contractor commits to oversee and direct activities to obtain the greatest long-term value for the State of Oregon, and which reflects the prudent expenditure of public funds within the constraints of the Project program, context and budget.

In pursuing this goal Contractor, with Agency's assistance, commits to:

- (i.) Provide services that are appropriate for the context of the Project and the nature of its function, both present and future;
- (ii.) Avoid expenditures for aesthetic effect which are disproportionate to the Project as a whole;
- (iii.) Help assure that the Project is completed on time and within budget;
- (iv.) Strive to reduce the construction cost of the Project while keeping life-cycle costs low;
- (v.) Apprise Agency throughout the Project concerning the economic impact of all design decisions;
- (vi.) Use recycled products to the maximum extent economically feasible in the performance of the contract work set forth in this document; and

C. GLOSSARY and TERMS

AASHTO - American Association of State Highway and Transportation Officials

Agency – The Oregon Department of Transportation

CA - Contract Administrator

CAC – Community Action Committee

CADD – Computer Aided Design and Drafting

Computer Aided Design and Drafting – Software programs that facilitate the designing and drafting of projects.

CFR - Code of Federal Regulations

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Contingency – Project work resources held in reserve for significant tasks that are anticipated, but not certain to be needed.

Contract – The binding written agreement between the Agency and a Contractor describing the work to be done and defining the obligations of Agency and the Contractor.

DBE - Disadvantaged Business Enterprise

EEO - Equal Employment Opportunity

FHWA - Federal Highway Administration

GIS – Geographic Information System

GPS – Geographic Positioning System

MOS – Menu of Services

Menu of Services – The portion of a Price Agreement that establishes parameters for the WOC Statement of Work and provides general information to prospective Contractors. The Menu of Services (MOS) identifies the services, tasks and deliverables that could potentially be required of the Contractor.

Model - series of mathematical equations used to represent transportation and land use decisions or choices made by people. A Model may consist of several transportation and land use sub-models linked together in order to operate in tandem, or a Model may be one larger aggregate representation of the activity being modeled.

MPO - Metropolitan Planning Organization

NHS - National Highway System

NTP – Notice to Proceed

Notice to Proceed – The written notification the Agency issues to a Contractor giving instruction to proceed with work agreed to under a Contract or Work Order Contract.

OAR - Oregon Administrative Rules

ODOT – Oregon Department of Transportation

OMIP – Oregon Modeling Improvement Program

OMSC - Oregon Modeling Steering Committee

OMWESB - Office of Minority, Women, and Emerging Small Business

Oregon Modeling Steering Committee - OMSC

ORS - Oregon Revised Statutes

OSHD - Oregon State Highway Division

OR-OSHA - Oregon Occupational Safety & Health Administration

OTC - Oregon Transportation Commission

OTP – Oregon Transportation Plan

OTIA – Oregon Transportation Investment Act

Oregon Transportation Investment Act – House Bill 2142 was approved by the Oregon Legislature and signed by Gov. John Kitzhaber in Summer 2001, authorizing the sale of bonds to fund major transportation infrastructure programs. OTIA provides \$500 million for transportation improvements: \$200 million for projects that add lane capacity or improve interchanges; \$200 million for bridge projects and repaving; and another \$100 million for "OTIA II" projects to be selected in Summer 2002. OTIA III (House bill 2041, Summer 2003) added \$2.5 billion of which \$1.3 billion is for the "Bridge Repair and Replacement Program".

PA– *Price Agreement* – A document of understanding between the Agency and an Independent Contractor that contains contractual provisions that can be utilized in future contracts between the parties. These can be used either through incorporation by reference or by attachment. The provisions identify potential tasks or services the Agency may request the Contractor to perform, but which are not specifically identified until the Agency issues a Work Order Contract.

PM - Project Manager

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Presentation Materials – For this Price Agreement a resulting WOC's, presentation materials are hard copy or electronic materials used to support the presentation.

Project - A well-defined sequence of events with an identifiable beginning and ending which purpose is to achieve an identifiable goal.

QA/QC - Quality Assurance and Quality Control

RFP - Request for Proposals

SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005, authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009

SOW – Statement of Work

Statement of Work – The portion of the Contract or Work Order Contract that provides the detailed description of the services to be done and sets out the mutual expectations and promises between the Agency and the Contractor. The SOW includes the work tasks, deliverables and schedule.

STIP – Statewide Transportation Improvement Program

Statewide Transportation Improvement Program – A federally required Agency schedule of transportation projects for federally and state funded projects. In Oregon the STIP period is four years long and is updated every two years.

SES - Summary of Estimate for Services - The cost estimate summary that details the Contractor's staff hours and costs for the tasks and deliverables.

TPAU – Transportation Planning Analysis Unit

TPR – Transportation Planning Rule

TSM - Transportation System Management

Transportation Planning Analysis Unit - TPAU

WOC – Work Order Contract

Work Order Contract – The agreement between the Agency and the Contractor that identifies the project requirements, the tasks and deliverables derived from the Menu of Services that are to be provided, and the project costs. The WOC includes a Statement of Work and a Summary of Estimate for Services.

Work Plan – This plan describes project location, physical area, work to be performed, and level of treatment required. The plan typically features a description of tasks, schedule of activities, and a summary of estimate for services.

D. STANDARDS

D.1 REFERENCE STANDARDS

Contractor shall ensure that all aspects of the Contractor's (and subcontractor's if any) performance are in compliance with the following standards, guidelines, requirements, and methodologies as prescribed in the latest editions of the publications listed in this Section or identified in the WOC during the term of the PA.

- AASHTO Manuals
- Development Review Guidelines - Various federal, state, and local government
- ODOT Special Provisions
- Oregon Administrative Procedures Act, ORS 183.310 to 183.550
- Oregon Administrative Rules (OAR)
- Oregon Highway Plan
- Oregon Transportation Investment Act (OTIA)
- Oregon Transportation Plan

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D.2 SOFTWARE STANDARDS

CURRENT SOFTWARE

Software standards currently used by the Agency are specified below.

Windows XP Professional
Microsoft *Office Suite* (*Word, Excel, PowerPoint, Access, etc.*)
R 2.1.1 or most current version
Adobe Acrobat 7.0
ArcGIS
ArcView

Contractor shall commit to delivering all work products in the format(s) required by the Agency as may be specified in this PA and subsequent WOC SOWs, and may be negotiated by amendment to the PA in the future.

ODOT encourages the use of open source software in its environment and also encourages its contractors to also use open source products as alternative software to the extent possible in the projects that contractors perform on ODOT's behalf. The Contractor may propose alternative software for consideration by the Agency. If the Agency determines that the alternative software meets the compatibility requirements of this section, the Agency may choose to accept the use of the alternative software. Agency will document this approval in writing.

SOFTWARE COMPATIBILITY

Contractor's software shall produce deliverables that are fully compatible, readable and useable by Agency software, requiring no modification or translation of the Contractor's deliverables. No loss of data integrity or accuracy shall result from any transfer of data. Compressed data shall be in a "self-expanding executable" format. To ensure this level of compatibility, Contractor and Agency may conduct tests of sample deliverables from the Contractor, and Agency may provide sample or required format(s) to Contractor. Agency reserves the right to reject deliverables that do not meet these requirements. If a deliverable is rejected, Contractor shall resubmit deliverables to Agency that meet these requirements, and shall not bill the Agency for the rejected deliverables or for time associated with correcting the rejected deliverables.

E. GENERAL REQUIREMENTS (Reserved)

F. TASKS and DELIVERABLES

2007-2012 OREGON HOUSEHOLD ACTIVITY SURVEY Statement of Work

BACKGROUND

Oregon conducted a major household travel activity survey in 1994-1995 as a cross-sectional revealed preference survey. The physical area coverage included urban areas in the Willamette Valley, southern Oregon, parts of the Oregon coast, the Columbia Gorge, the Bend-Redmond area and Southwest Washington. This cross-sectional survey resulted in a rich database of activity and travel information for almost 12,000 households. Additional surveys were conducted in 1996, covering Clatsop, Coos,

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Josephine, Klamath, Deschutes, Umatilla, Malheur, and Lincoln Counties and included about 3,200 households.

This data environment has supported the development of sophisticated tools for policy analysis and planning. As these modeling tools continue to evolve, they are placing increasing demands on the data upon which they are built. To conduct meaningful policy analysis for decision-makers, it is necessary to collect current information regarding household choices, such as activities, automobile acquisition and travel behavior.

In 2001, the Oregon Modeling Steering Committee (OMSC) began discussions on gathering current data on household activity and travel. These discussions included convening a panel of experts to discuss the merits of a longitudinal panel survey (LPS) vs. a cross-sectional survey (CSS), and conducted a pilot survey to test specific survey methods and data collection approaches. The overall process to define the next household activity and travel survey has taken time, but has been methodical, working through issues as they arise. Each metropolitan planning organization (MPO) and the Oregon Department of Transportation (ODOT) were interviewed recently to define specific needs unique to each region of the state.

Additional background information is available on the ODOT website at www.oregon.gov/ODOT/TD/TP/Modeling.shtml. This includes:

- Information on the Oregon Modeling Steering Committee purpose and membership.
- A draft work program developed by the OMSC in March 2006 to facilitate discussion and preliminary agreement on survey components.
- Modeling reference material including information on previous surveys.
- Information on the Oregon Longitudinal Panel Survey research and information on the pilot study “Continuous Survey for Modeling in Oregon” at <http://www.oregon.gov/ODOT/TD/TP/TMR.shtml>.

The proposal must cover the entire survey design, data collection and database preparation. The proposal should be organized around a detailed schedule of tasks, including a timetable of milestones for designing the survey, developing and testing data collection instruments, collecting data, constructing the inventory database, and ensuring quality of the final product. Anticipated staffing, material and hardware requirements, and quality control mechanisms must be identified. Data quality assurance processes, including geo-coding results, must be addressed. In general, peer review and oversight will be provided by the OMSC Oregon Household Activity Survey (OHAS) Subcommittee and by a technical subset of that group. For areas requiring special survey needs (e.g., stated preference survey, recreational survey, etc.) the Contractor will work with the responsible funding agency to finalize the specific data requirements and the methodology for collection.

PROJECT APPROACH

The OMSC desires to do the following:

- Conduct a CSS activity survey for about 19,000 households.
- Conduct a LPS with 1,000 households or more for three to four years.
- Conduct special surveys as needed to address specific issues (e.g., stated preference survey to determine value of time, recreational survey)

It is timely to update the 1994-96 data (CSS) and to capture household and traveler transitional data. It is intended to expand coverage to include seasonal and possibly weekend (Saturday) information. Operationally, it is hoped that a continuous survey program can be funded as an annual expense and the

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survey process and data storage can be institutionalized in a centrally accessible location(s). OMSC members, including MPOs, multiple government agencies and the recently formed Oregon Transportation Research and Education Consortium (OTREC), are partners in developing and funding this survey.

The proposed survey effort differs from traditional surveys in a number of ways:

- Typical surveys focus on only one region. This survey will cover the major urban areas in Oregon and Southwest Washington such that efficiencies of scale can be achieved and data for planning in multiple jurisdictions can be provided for less cost than would be incurred from multiple, separate surveys. Each modeling area in the state has its own needs and priorities that must be expressed and used to guide decisions on investment in data acquisition. The contractor will work in several discrete areas of the state but must treat them as one place to ensure statewide consistency.
- Survey efforts generally are administered over just a few months on a ten or more year cycle, and are therefore limited to describing the population at one point in time. This survey will be administered over several years and may include specialized surveys to learn more about specific issues, such as recreational or seasonal travel.
- It is desired to use a hybrid CSS and LPS approach. Much of the survey will focus on cross-sectional data which describe a single point in time. This survey envisions the use of panel(s) as needed in different parts of the state. Potentially, a small panel in the Portland-Vancouver area could be used to obtain information on the underlying decision-process as it relates to household or environmental change. For example, how do household travel choices change when a child is born, a family member retires, or a teen gets a drivers license? How do choices change as the surrounding built environment evolves? How are housing location choices influenced by a change in work locale? The survey should be designed to embrace both LPS and CSS components and should include a framework for establishing an on-going operational survey program within Oregon.
- Limited funding makes sampling strategies very important. Many households will be surveyed over a large geography. Survey samples must be drawn from households both within the MPO boundary and outside the MPO boundary but within commuting distance.
- Data will be used to develop activity/tour-based models. Care needs to be taken in the data collection to capture complete information for tours (geocoding, etc.), intra-household interactions (shared travel), and with time of day at activities and activity duration. Coordination with ODOT and MPOs to define spatial data needs and to conduct geo-coding of trip-end locations will be important.
- It is desired to use global positioning system (GPS) data collection where it is feasible and economical. With a growing likelihood of road pricing as a funding source, more information on route choice will be needed and this information is not (and cannot) be collected with a diary-based survey alone. GPS data collection can also be used for real speed/time and delay information for travel on the transportation infrastructure.
- ODOT will administer the Price Agreement and will negotiate intergovernmental agreements with all participants (MPOs, OTREC, other state agencies). The Contractor will be expected to coordinate surveys with ODOT, the appropriate MPOs, and other key participants.

The resulting data will be useful for policy- and decision-makers across the State. It will be used in the further development of a variety of travel models in Oregon, to include travel demand models in the Portland/Vancouver area and other Oregon metropolitan and non-metropolitan areas, and to further the development of integrated land use-economic-transportation models being developed by ODOT.

Funding for this project will be provided by a variety of participants. The Price Agreement is structured to issue specific Work Order Contracts (WOC) so that individual tasks can proceed as funding is

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secured. Each funded task will require clear definition of goals/objectives, processes, review procedures, and products. It is expected the survey data collection will span a five year period, but this may vary. The entire project may span up to an eight or nine year period as well.

SURVEY AREAS

The six Oregon MPO partners in this survey include:

- Portland Metro-SW Washington Regional Transportation Council (Metro/SWRTC) – the Portland and SW Washington metropolitan area
- Mid-Willamette Valley Council of Governments (MWVCOG) – Salem/Keizer area
- Lane Council of Governments (LCOG) – Eugene/Springfield area
- Bend Metropolitan Planning Organization (BMPO) – Bend area
- Corvallis Area Metropolitan Planning Organization (CAMPO) – Corvallis area
- Rogue Valley Council of Governments (RVCOG) – Medford area

In terms of model complexity and model estimation needs, three distinct groupings of Oregon's MPOs are considered:

- Metro/SWRTC
- LCOG and MWVCOG
- BMPO, CAMPO, RVCOG (smaller non-MPO cities and the Oregon Coast could be considered with the smaller MPOs)

It is likely that for some model estimation steps, LCOG and MWVCOG can be grouped with Metro/SWRTC (mode choice and perhaps destination choice). For others (household activity patterns), they could be grouped with the smaller MPOs. Likewise, RVCOG could be combined with LCOG and MWVCOG for some steps. The following special needs must be considered for these distinct groups.

Metro/SWRTC: A sufficient CSS sample of households displaying use of all modes of travel, including bus transit, light rail, trolley (ideal but unlikely), park-ride, walk and bicycle is necessary. This implies very careful survey sample stratification. In addition, sampling must be chosen to reflect the built environment (i.e., suburban, urban, very urban). LPS data is needed to illuminate traveler and household response to changes in the transport infrastructure, cost stimuli, household profiles, and housing and job locations. Potentially, a stated preference survey can be conducted in year 2 of the survey program (see Table 1) in lieu of the LPS.

LCOG and MWVCOG: Salem/Keizer and Eugene/Springfield have too little transit-use to get a good handle on transit mode choice models with any sampling procedure other than choice-based (which was not cost-effective in the 1994-95 survey). Using borrowed models and calibrating to secondary data will best address these areas. The need for on-board surveys and usage counts to get screen line and cordon flows for model calibration must be addressed. The University of Oregon in Eugene is an important driver of transit needs and other factors.

BMPO, CAMPO and RVCOG: Bend has significant recreational travel, especially in summer, and a separate survey should focus on the use of "second home" developments (Black Butte, Sun River, Crooked River Ranch) and the travel behavior of visitors. The presence of Oregon State University (OSU) in Corvallis likely dominates travel patterns, leading to the need for an OSU-specific model.

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Non-MPO areas: Sampling will be needed in non-MPO areas around the state to support models in cities outside the MPO areas and to support the Oregon statewide model. The Oregon Coast has recreation travel information needs similar to Bend.

TASKS AND DELIVERABLES

TASK 1.0 – PROJECT ADMINISTRATION AND COORDINATION

The Contractor shall perform project administration and coordination tasks related to each project. The scope of Project Administration and Coordination tasks include: reporting progress, involvement in meetings, preparing work plans and providing the other deliverables identified in this task.

The OMSC OHAS Subcommittee will be conferred with at key milestones and decision-points to provide guidance for the overall project. Other expert panels may be convened to provide peer review and recommendations. In addition, a subset of the OHAS Subcommittee will be assigned responsibility for technical accuracy, quality control and consistency for the project. This technical subset group will proactively work with the contractor to ensure quality and consistent process and products. This is especially important for a multi-year project to ensure that project objectives are consistently applied and that products are comparable. The Contractor shall understand the role of the oversight and peer review in this project and have adequate resources to manage this element of the project.

DELIVERABLES:

- **Progress Reports**
Progress reports must include at a minimum - project status by task breakdown and percent complete; changes and reason for change in schedule, work products, proposed scope, team personnel; unanticipated problems and any issues that will delay the delivery schedule; and other relevant events or information as applicable. Progress reports shall be submitted monthly with Invoice unless otherwise stipulated in the WOC.
- **Project File**
At the conclusion of each WOC the Contractor shall submit at a minimum an electronic copy of all Project File documents (deliverables) produced in approved software, and one (1) hard copy for the Project file of the ODOT (Agency) Work Order Coordinator.
- **Project Meetings**
Contractor shall schedule, conduct, and/or key project personnel shall attend meetings with Agency's Project Leader, Contract Administrator, Project Manager and/or others at a mutually agreed upon time and location as set in the WOC.
 - For meetings scheduled by Contractor – Schedule and notify all attendees with a meeting agenda not less than seven (7) days prior to each meeting.
 - Contractor shall record issues discussed, decisions, and agreements made as minutes of the meeting, and provide a copy of the minutes to Agency within five (5) business days following the meeting.Meetings may be scheduled for, but are not limited to the following:
 - Project Kick-off meeting
 - Site Visit meeting
 - Project Development meeting
 - Project Coordination meeting

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- Community Involvement meeting
 - Plans Review meeting
 - OMSC meeting
 - Expert panels
 - Other
- Work Plan
 - Submit a Work Plan that at a minimum:
 - Summarizes the chronological steps to be taken to complete the project;
 - Describes the quality assurance process used for this project;
 - Identifies and explains Project needs - including specific external requirements;
 - Identifies tasks that may be required to fulfill the needs of the Project (including contingency tasks and subcontractors' tasks).
 - Prepare and submit a draft Statement of Work (including work anticipated of sub Contractors) for review by Agency and others.
 - Prepare a final Statement of Work (including work anticipated of subcontractors), incorporating Agency review comments.

TASK 2.0 – SURVEY DESIGN

The objective is to produce a survey that will result in adequate data for travel demand modeling and other related analyses purposes. The proposal should indicate a substantive familiarity with the current literature and demonstrate a practical understanding of the current state-of-the-practice for survey and sampling design. The proposal should address each of the following issues.

2.1 Sampling Frame

Sampling frame options include address-based, list-assisted, random digit dialing, and others. Non-land line (cell phone-only) households are a growing concern and should be addressed. Methods to over-sample groups of interest should be addressed. The most appropriate sampling frames should be evaluated and documented, possibly through mini-tests, to review the evaluation design, the evaluation results, and to recommend an approach to household recruitment.

DELIVERABLES:

- Preliminary and final design of sampling frame and sample stratification scheme
- Household recruitment scheme
- Evaluation framework for testing recruitment scheme
- Technical memoranda

2.2 Weighting scheme

The weighting scheme for this survey is necessarily related to how the survey design and the sampling plan are devised. For descriptive statistics, the desired design is one that will entail sophisticated and complex post-stratification weights using sound statistical methods. Sampling weights will be based on geographic and other stratification variables. Population proportions used to generate weighting and expansion factors will be based on Census 2000. Documentation of the weighting scheme, including probability of selection and post-stratification weights, are important at the outset of the program. The American Community Survey may have potential for more up-to-date expansion factors.

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DELIVERABLES:

- Preliminary and final weighting scheme
- Technical memoranda

2.3 Geographic Stratification

Geographic stratification is appropriate at both a macro- and micro-level. At the macro-level, effective representation of the survey population is important (i.e., households in Oregon-southwest Washington, Salem-Eugene/Springfield, remainder of Oregon). Interests at the micro-level could include geographic stratification that is associated with mode use, such as density, accessibility to activity opportunities, and mixed use. This type of micro-level geographic stratification would be defined qualitatively, such as levels of urbanization (very urban, urban, and suburban), or mathematically, such as an index of development density.

Additional stratification strategies might be necessary to minimize selection bias across significant subgroups in the population. Sampling should be used to ensure that adequate numbers of observations are available for zero-car households, low income households, renters, in-migrants, etc. While this could be accommodated by geographic stratification, there are other ways in which “rare” populations can be found in the sample, such as intensive telephone screening during recruitment. Given that a prospective survey design is one in which relatively small yearly samples will be collected to be aggregated in 2-, 3- or 5-year intervals, it is important that the requirements for the representation of subgroups be determined based on statistically sound uses of the data.

DELIVERABLES:

- Research papers
- Preliminary and final stratification strategy
- Technical memoranda

2.4 Methodology/Sample Sizes

The primary intention of this survey is to collect current household activity data. To this end it is intended to primarily rely on CSS, which was the method used in 1994-96. However, transitional effects and responses over time will be captured through the LPS component. Proposed uses of the LPS data need to be clear. In a general modeling structure, the two areas where a LPS could be most useful is (1) in housing location choice and its linkage with mode preferences (investigation of self selection, among other things), and (2) in acquisition and use of motor vehicles, such as in response to changing fuel prices (if, indeed, they are changing). Other areas of interest for the LPS have been mentioned previously.

It will be important to design and document the optimal sampling design, given the objectives of the survey. This documentation will include specifics on the population of inference, survey population, survey objectives, sampling frame, sample size and type, stratification variables, design parameters (respondent eligibility, and screening and interview non-response), the expected sample disposition table, and the sample management plan.

DELIVERABLES:

- Technical memoranda
- Optimal sampling design
- Sample management plan

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- Sample design parameters

TASK 3.0 - DATA ACQUISITION

The proposal should identify the complete set of data collection instruments and processes that will be used for this survey. This includes illustrative examples of survey methods, survey instruments, and supporting materials, as well as descriptions of all electronic data collection tools to be used. The proposal should explain why the recommended instrument is most appropriate for supporting recent advances in travel demand modeling. The proposal should specifically address the following issues.

3.1 LPS and CSS

The CSS is intended to field a continuous survey to collect activity and related travel information, monitor household location, auto acquisition/disposition and travel behavior. It will collect data for all seasons, possibly including week-ends (Saturday). The LPS should be designed to collect similar data, data compatible with the CSS data. In addition, the LPS should be designed to capture household response to contextual changes (i.e., household transitions or changes in the transportation or economic environment).

DELIVERABLES:

- Technical memoranda
- Preliminary and final survey instruments, including basic survey questionnaires with data capture to data files for both the repeated CSS and LPS

3.2 Special Surveys

The primary survey (CSS or LPS) should be structured so that special purpose surveys can be attached as needed. Examples include a before and after survey for a specific project, a survey to investigate an emerging policy question, or a stated preference survey to test hypothetical questions for which there is no revealed preference data available (e.g., value of time).

DELIVERABLES:

- Technical memoranda
- Recommended survey instruments

3.3 GPS

Given the cost of instrumenting households with GPS units, it is clear that insufficient resources are available to complete the entire survey using this technology. However, GPS technology may be suitable for surveys in specific areas or for specific modes. Part of this project will be to evaluate the minimum sample using GPS for this survey that will be useful. The GPS data will provide detail needed for data analysis of time use, to obtain sufficient information on route choice behavior, and attend to trade-offs between resources allocated for GPS versus the recall activity and travel diary. A detailed evaluation of the full cost and benefits associated with GPS technology should be prepared to demonstrate the cost effectiveness of using GPS. For example, GPS requires more funding up front, but saves time and increases accuracy later.

DELIVERABLES:

- Technical memoranda

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- Recommended purchase or leasing of equipment hardware
- Recommended software for GPS data retrieval
- Cost/benefit analysis of GPS use
- Recommendations for GPS procedure, including equipment, downloading of data into the survey database

TASK 4.0 - SURVEY PROCESS

Three major elements of this project include overall design and cost estimation, preparation for and conducting the survey, and establishing a process for a continuous survey. Work tasks need to be evaluated at key milestones to determine whether information developed dictates modifications to subsequent work tasks. Special add-on questions may be solicited by other state agencies, the OTREC or the Oregon Health Sciences University, for example.

4.1 Survey Design and Cost Estimation

The overall structure and context, design and cost estimation of the survey program must be determined. This includes a decision on methodologies and the design of the basic questionnaires for the CSS, the LPS and CSS/LPS follow-ups (housing location, auto acquisition, others) given reported changes, and use of GPS hardware and software. These follow-ups will initially be retrospective.

The proposed data collection plan is a five-year program. However, the cost estimation should include the appropriate organizational structure for maintaining a long-term continuous survey program, including staffing, equipment and outside service requirements. The OTREC, ODOT, MPOs, or combinations of these organizations are candidate process and data owners. An estimated annual budget for the program for long-term operations and maintenance is required. The most appropriate depository for data must be defined, considering ability of the owner to manage storage and provide access to all jurisdictions in the state.

DELIVERABLES:

- Technical memoranda
- An overall framework to establish a continuous survey process, including operating structure and system for ongoing data collection and storage
- Estimated start-up costs of conducting and maintaining the survey
- Estimated annual budget
- Estimated overall program budget, assuming five year program
- Recommended data depository and data access plan

4.2 Prepare for and Conduct the Survey

Preparing for the actual survey includes deciding on and setting up GPS technology (if used), the sample frame, programming and setting up hardware for the computer-assisted telephone interview (CATI) and Internet retrieval systems. Fielding the base CSS and LPS includes testing the survey instruments, collecting and processing data, and testing the framework for data collection and storage – including the design for the inventory database. The proposal should specifically address how quality and consistency will be maintained given the dispersed nature of the surveys and the collection of data over time.

DELIVERABLES:

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- Technical memoranda
- Survey implementation plan
- Survey instrument testing
- Inventory database design
- Data quality control plan
- Quality assurance plan

4.3 Establish a Process for a Continuous Survey

Because this will be an on-going survey program, a process for continual collection, centralized storage and data access must be established. The OMSC OHAS Subcommittee will help to define the appropriate owning agency(s) as well as recommendations on the most effective and efficient method of conducting, processing and storing data.

DELIVERABLES:

- Technical memoranda
- Process for continuous data collection over time
- Recommended methods of conducting survey over time, processing data, and storing data

Table 1 serves as an outline of the geographic layout for the statewide survey effort. This information is not intended to establish the project parameters.

Table 1. Preliminary Sample Size: Oregon Household Activity Survey by Geographic Area			
Year	Survey Area	Sample Type	Households Per MPO
1	Metro/SWRTC	CSS	3,000
1	MWVCOG	CSS	1,500
1	LCOG	CSS	500
1	CAMPO	CSS	300
1	R2 Non-MPO	CSS	1000
2	Metro/SWRTC	CSS	3,000
2	Metro/SWRTC	LPS	1,000
2	LCOG	CSS	500
2	CAMPO	CSS	300
2	R2 Non-MPO	CSS	1000
2	RVMPO	CSS	300
2	R3 Non-MPO	CSS	650
2	BMPO	CSS	300
2	R4 Non-MPO	CSS	400
2	R5 Non-MPO	CSS	400
3	Metro/SWRTC	LPS	1,000
3	LCOG	CSS	500
3	CAMPO	CSS	300
3	R2 Non-MPO	CSS	1000
3	RVMPO	CSS	300
3	R3 Non-MPO	CSS	650
3	BMPO	CSS	300
3	R4 Non-MPO	CSS	400
3	R5 Non-MPO	CSS	400
4	Metro/SWRTC	LPS	1,000
4	RVMPO	CSS	300
4	R3 Non-MPO	CSS	650
4	BMPO	CSS	300
4	R4 Non-MPO	CSS	400
4	R5 Non-MPO	CSS	400
5	Metro/SWRTC	LPS	1,000
Sub Total CSS			19,050
Sub Total LPS		1000 HH	4,000
Grand Total Households			23,050

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G. DELIVERY SCHEDULE

A Delivery Schedule must be developed for each project and included in the respective Work Order Contract.