

Appendix E

RFP



RIP No.: RT210199LJ

**TRI-COUNTY METROPOLITAN TRANSPORTATION
DISTRICT OF OREGON**

**REQUEST FOR INFORMAL PROPOSALS (RIP)
FOR**

SMART MOBILITY PLATFORM (SMP) PILOT PROJECT

1. The Tri-County Metropolitan Transportation District of Oregon (TriMet) seeks informal proposals from qualified vendors to provide a Smart Mobility Platform (SMP) Pilot Project, in support of TriMet's Mobility and Location-Based Services department, as described in this RIP.
2. TriMet will receive Proposals from interested firms through its eProcurement System (TriP\$). Proposals must be submitted to TriMet through TriP\$ no later than **June 21, 2021 at 11:30 a.m. (Local Time)**. Proposals will not be publicly opened.
3. Proposers must be registered on TriP\$ at:

<https://solutions.scquest.com/apps/Router/SupplierLogin?CustOrg=TriMet>

In the event solicitation addenda are issued, only registered Proposers will be notified of the availability of addenda for download. **Acknowledgement of addenda will be required.**

4. The term of this Contract shall be for one (1) year from the effective date of the contract. By submitting a proposal, the firm or individual warrants that they are able to meet all requirements of the Contract (Section 5). TriMet will award one contract to the responsive and responsible proposer whose proposal is in the best interest of TriMet.
5. All questions regarding this procurement must be directed to Linda Joy, Contract Administrator, via email at joyl@trimet.org.

**TRI-COUNTY METROPOLITAN
TRANSPORTATION DISTRICT
OF OREGON**

By: Linda Joy
Contract Administrator
Procurement & Supply Chain Mgmt.

Issue Date: June 7, 2021

**TRI-COUNTY METROPOLITAN TRANSPORTATION
DISTRICT OF OREGON**

**REQUEST FOR INFORMAL PROPOSALS
FOR**

SMART MOBILITY PLATFORM (SMP) PILOT PROJECT

SUMMARY OF CONTENTS

SECTION 1 – PROPOSAL FORMS, REQUIREMENTS, CONDITIONS, AND EVALUATION OF PROPOSALS

SECTION 2 – BACKGROUND, PURPOSE AND SCOPE OF WORK

SECTION 3 – SAMPLE CONTRACT

1. CONTRACT ORDER OF PRECEDENCE
2. FEDERAL REQUIREMENTS – RESERVED
3. TERM
4. COMPENSATION
5. SCOPE OF WORK
6. SPECIAL CONTRACT CONDITIONS
7. GENERAL CONTRACT CONDITIONS
8. DRUG AND ALCOHOL PROGRAM REQUIREMENTS – RESERVED
9. AUTHORITY
10. CERTIFICATE OF OREGON TAX LAW COMPLIANCE

EXHIBIT A – FEDERAL REQUIREMENTS

APPENDIX A – KEY MOBILITY METRIC CATEGORIES AND RESEARCH QUESTIONS

APPENDIX B – KEY MOBILITY METRICS

APPENDIX C – THIRD PARTY DATA SOURCES

APPENDIX D – TRIMET IMI GRANT APPLICATION

APPENDIX F – DBE PROGRAM

TABLE OF CONTENTS

SECTION 1 – PROPOSAL FORMS, REQUIREMENTS AND CONDITIONS, AND EVALUATION OF PROPOSALS	1
SECTION 1.1 – PROPOSAL FORMS	1
SECTION 1.2 – PROPOSAL REQUIREMENTS AND CONDITIONS	2
1.2.1 Request for Informal Proposals (08/16)	2
1.2.2 Questions and Changes to the RIP (08/16)	2
1.2.3 Pre-Contractual Expenses (08/16).....	2
1.2.4 No Multiple Proposals (08/16)	2
1.2.5 One Award (08/16)	3
1.2.6 Late Proposals (01/21)	3
1.2.7 Supplements to Proposals (08/16).....	3
1.2.8 Submission of Proposals (08/16)	3
1.2.9 Cancellation of RIP (08/16).....	3
1.2.10 Detailed Description of Supplies/Services (08/16)	3
1.2.11 Inclusion of Costs in Proposal (08/16)	4
1.2.12 Confidentiality of Proposal (05/20).....	4
1.2.13 Trade Secrets and other Confidential Information (05/20).....	4
1.2.14 Procurement Confidentiality (08/16)	5
1.2.15 Compliance with Tax Laws (08/16).....	5
1.2.16 Anticipated Selection Schedule	5
1.2.17 Project Estimate	5
SECTION 1.3 – EVALUATION OF PROPOSALS.....	6
1.3.1 Evaluation Procedure (08/16)	6
1.3.2 Evaluation Criteria (08/16)	6
1.3.3 Cost Analysis (08/16)	9
SECTION 2 – BACKGROUND, PURPOSE AND SCOPE OF WORK	10
2.1 Background	10
2.2 Purpose.....	11
2.3 Scope of Work.....	12
2.3.1 IMI Project Goals	12
2.3.2 Functional Requirements and Priorities	15
2.3.3 Data Ingestion	15
2.3.4 Data Storage	15
2.3.5 Aggregation and Analysis	15
2.3.6 Dashboards, Reports and Visualization	16

2.3.7	Technical Requirements and Priorities	16
2.3.7.1	Hosting Solution.....	16
2.3.7.2	Security	17
2.3.7.3	Users	17
2.3.7.4	Data.....	17
2.3.8	Implementation, Configuration, and Training	18
2.3.9	Delivery Method	18
2.3.10	Open System Architecture.....	18
2.3.11	Modular System Components	18
2.3.11.1	Admin	18
2.3.11.2	Data Ingestion	19
2.3.11.3	Data Storage	19
2.3.11.4	Analytics Engine	19
2.3.11.5	Dashboard	20
2.3.11.6	Live Map.....	20
2.3.11.7	Reports.....	20
2.3.11.8	System Performance Monitoring.....	20
2.3.11.9	Optional Modules.....	20
2.3.11.10	Occurrence Management.....	20
2.3.11.11	Traffic Data	20
2.3.11.12	Greenhouse Gas and CO2 Reporting	21
2.3.12	Training and Technical Support.....	21
2.3.12.1	Deployment and System Integration	21
2.3.12.2	Deployment	21
2.3.12.3	System Integration.....	21
2.3.12.4	System Acceptance Testing.....	21
2.3.12.5	Documentation and Training	21
2.3.12.6	Technical Documentation	22
2.3.12.7	User Guide	22
2.3.12.8	Training Plan	22
2.3.12.9	Technical Support.....	22
SECTION 3 – SAMPLE CONTRACT, INCLUDING FEDERAL REQUIREMENTS		23
1.0	Contract Order of Precedence	23
2.0	Federal Requirements (02/19).....	24
3.0	Term.....	24
4.0	Compensation	24

5.0	Scope of Work.....	24
6.0	Special Contract Conditions	24
6.1	Type of Contract (08/16).....	24
6.2	Payments and Invoicing (08/20)	24
6.3	Payment Upon Deliverables (06/21)	25
6.4	Price Adjustments (06/20)	25
6.5	Extra Charges (08/16)	25
6.6	Project Managers (08/16)	25
6.7	Insurance (08/16)	26
6.8	Notice to Proceed (08/16).....	28
6.9	Time of Essence (08/16).....	28
6.10	Warranties (08/16).....	28
6.11	Rejection of Services (08/20).....	29
6.12	Inspection of Goods/Services (08/16).....	30
6.13	Title and Risk of Loss (08/16) – Reserved	31
6.14	Acceptance, Rejection, and Revocation of Acceptance (08/16) – Reserved	31
6.15	Safety (08/16).....	31
6.16	Confidentiality – Information Retrieved/Contained (08/16)	31
6.17	Travel Costs (06/19)	32
6.18	Travel Arrangements (08/16).....	32
6.19	Intergovernmental Cooperative Agreement (08/16)	32
6.20	Disadvantaged Business Enterprise (DBE) Program (10/20)	32
6.21	Electronic Signatures (08/16)	33
6.22	Definitions (08/20)	33
6.23	Service Level Commitments (08/20)	33
7.0	General Contract Conditions	33
7.1	Contractor's Status and General Responsibilities (08/16)	33
7.2	Notices and Communications (08/16)	34
7.3	Assignment and Subcontracting (08/16)	34
7.4	Indemnification (08/20)	34
7.5	Force Majeure (05/20)	35
7.6	Prompt Payment (08/19).....	35
7.7	Payment of Claims by TriMet (08/16).....	36
7.8	Compliance with Laws and Regulations (08/16)	36
7.9	Liens Prohibited (08/16)	37
7.10	Hours of Labor – Personal Services Contracts (08/16)	37

7.11	Prohibited Interests (08/16)	37
7.12	Organizational Conflict of Interest (08/16).....	37
7.13	Integration, Modification, and Administrative Changes (08/16)	38
7.14	Severability/Survivability (08/16).....	38
7.15	Waiver and Nonwaiver (08/16)	38
7.16	Termination for Default (08/16).....	38
7.17	Termination for Convenience (08/16).....	39
7.18	Termination Following Bankruptcy (08/20).....	39
7.19	Intellectual Property (08/16).....	40
7.20	Work Product (08/20)	40
7.21	Paragraph Headings and Other Titles (08/16)	41
7.22	Audit and Inspection of Records (08/16).....	41
7.23	Mediation (08/16)	42
7.24	Applicable Law and Jurisdiction (08/16).....	42
7.25	Nondiscrimination (08/16).....	42
7.26	Changes (08/16).....	42
7.27	Advertising or Publicity (08/16)	43
8.0	Drug and Alcohol Program Requirements (08/16) – Reserved	43
9.0	Authority (08/16).....	43
10.0	Certificate of Oregon Tax Law Compliance (08/16)	43

EXHIBIT A – FEDERAL REQUIREMENTS

APPENDIX A – KEY MOBILITY METRIC CATEGORIES AND RESEARCH QUESTIONS

APPENDIX B – KEY MOBILITY METRICS

APPENDIX C – THIRD PARTY DATA SOURCES

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SECTION 1 – PROPOSAL FORMS, REQUIREMENTS AND CONDITIONS, AND EVALUATION OF PROPOSALS

SECTION 1.1 – PROPOSAL FORMS

Under separate file. **All Proposal Forms, including the Proposal Price Form, must be submitted via upload into TriP\$** (see Section 1.2.8 – Submission of Proposals for additional details). Emailed Proposals, Proposal Forms, and/or Proposal Price Form directly to TriMet's Contract Administrator is not allowed and will not be accepted. **Proposals, Proposal Forms, and/or Proposal Price Form not uploaded into TriP\$ will be deemed non-responsive, and rejected.**

SECTION 1.2 – PROPOSAL REQUIREMENTS AND CONDITIONS

1.2.1 Request for Informal Proposals (08/16)

The Tri-County Metropolitan Transportation District of Oregon (hereinafter "TriMet") requests informal proposals to provide a Smart Mobility Platform (SMP) Pilot Project. This RIP sets forth the minimum requirements that all proposals shall meet. Failure to submit proposals in accordance with this RIP may render the proposal unacceptable. This RIP is issued by the Procurement & Supply Chain Mgmt. Department. All communications pertaining to this RIP shall be directed to Linda Joy via email at joyl@trimet.org.

TriMet reserves the right to analyze, examine, and interpret any proposal for a period of not more than ninety (90) days, commencing from the proposal due date and time. Proposals shall not be conditioned to allow for less than a ninety (90) day acceptance period.

1.2.2 Questions and Changes to the RIP (08/16)

TriMet reserves the right to make changes to the RIP. All changes to the RIP, prior to receipt of proposals shall be electronically posted to TriMet's Procurement System (TriP\$), which can be accessed at <https://solutions.scquest.com/apps/Router/SupplierLogin?CustOrg=TriMet>. Failure to acknowledge receipt of an addendum may cause a proposal to be rejected as non-responsive. Following receipt of proposals, any changes to TriMet's RIP will be conveyed in writing by TriMet to those Proposers determined to be in the competitive range.

Proposers may submit questions, request clarification, or request a change to the RIP by submitting a written request to Linda Joy at joyl@trimet.org. The request shall specify the provision of the RIP in question, and, if a change is requested, contain an explanation for the requested change. Requests must be submitted no later than **June 14, 2021 at 11:30 a.m. (Local Time)**.

TriMet shall evaluate any question or request submitted, but reserves the right to determine whether to respond or accept the requested change.

Proposers shall not rely on oral or written representations regarding this RIP unless issued in writing as an addendum by the Procurement & Supply Chain Mgmt. Department.

1.2.3 Pre-Contractual Expenses (08/16)

Pre-contractual expenses are defined as expenses incurred by the firm in: 1) preparing its proposal in response to the RIP; 2) submitting that proposal to TriMet; 3) negotiating with TriMet any matter related to this proposal; and 4) any other expenses incurred by the firm prior to the effective date of award, if any, of a contract resulting from this solicitation.

TriMet shall not, in any event, be liable for any pre-contractual expenses incurred by firms in the preparation of their proposals. Firms shall not include any such expenses as part of their proposals.

1.2.4 No Multiple Proposals (08/16)

Multiple proposals from a single proposer will not be accepted.

1.2.5 One Award (08/16)

One contract award is anticipated under this solicitation. Multiple contract awards will not be made.

1.2.6 Late Proposals (01/21)

A proposal is late if TriMet receives it after the deadline stated in this RIP for delivery of proposals. A proposal shall be deemed received by TriMet when it has been successfully uploaded to TriMet's procurement system (TriP\$). Proposals received after the exact date and time set forth in this RIP may be rejected.

1.2.7 Supplements to Proposals (08/16)

If any proposal indicates minor noncompliance or variance with the RIP, TriMet may, but need not, request that the proposal be supplemented.

If requested, the Proposer may submit a supplement to the proposal responsive to such a request, within the time period established in such request, which TriMet will receive and evaluate in conjunction with the proposal. Supplements shall not be considered to be Best and Final Offers.

1.2.8 Submission of Proposals (08/16)

Proposers shall submit their proposal via TriMet's eProcurement System (TriP\$), at or before the time specified in this RIP. No proposals shall be accepted by TriMet after the time specified. TriMet shall not be liable for delays in delivery of proposals. TriMet shall keep submitted proposals via its eProcurement System (TriP\$) unopened until the time fixed for the receipt of proposals. TriMet reserves the right to postpone the proposal due date/time for its own convenience.

Proposals must be submitted electronically, via upload into TriMet's eProcurement System (TriP\$), no later than **June 21, 2021 at 11:30 a.m. (Local Time)**. **Proposals, Proposals Forms and/or Proposal Price Form not uploaded into TriP\$ will cause rejection of the proposal.**

Proposals must be submitted (via uploaded) into TriP\$, as follows:

- A. **One (1) PDF version** of the Technical Proposal (at no more than **30 pages total, including illustrations, diagrams, photographs, etc.**), Proposal Forms, and the Proposal Price Form.

1.2.9 Cancellation of RIP (08/16)

TriMet reserves the right to cancel this RIP at any time without liability prior to execution of the contract by TriMet if cancellation is deemed to be in TriMet's best interest. In no event shall TriMet have any liability for the cancellation of award. The proposer assumes the sole risk and responsibility for all expenses connected with the preparation of its proposal.

1.2.10 Detailed Description of Supplies/Services (08/16)

Firms are cautioned that the item descriptions on the price form are not intended as complete descriptions of the required supplies or services to be purchased under this solicitation. Each firm

must consult the Specifications or Statement of Work sections of the solicitation document for complete descriptions of the required supplies or services.

1.2.11 Inclusion of Costs in Proposal (08/16)

The proposed billing rates must include any incidental expenses including, but not limited to indirect costs, overhead, insurance, and other ordinary expenses or incidental costs. Any other expenses or direct costs shall be included in Contractors proposed billing rates; no additional compensation will be allowed.

1.2.12 Confidentiality of Proposal (05/20)

Prior to Contract award, TriMet believes that the public interest will be harmed by disclosure of Proposals, Proposal supplements, and all communications made in the course of procurement negotiations, and will hold all such documentation in confidence, until after Contract award, pursuant to ORS 192.355(4).

After Contract award, TriMet will treat Proposals, Proposal supplements, and all communications made in the course of procurement negotiations a matter of public record, except to the extent they contain trade secrets, confidential information, or are otherwise exempt from disclosure under Oregon or federal law.

1.2.13 Trade Secrets and other Confidential Information (05/20)

Proposers must clearly and specifically identify confidential or trade secret information in their Proposals and must cite statutory or regulatory authority for every asserted exemption from public disclosure. When exempt information is mixed with nonexempt information, the nonexempt information must be disclosed. The fact that a proposer marks and segregates certain information as exempt from disclosure does not mean that the information is necessarily exempt. TriMet believes that Total and Annual price proposal amounts do not meet the qualifying criteria of ORS 192.345(2), and will not assert that this information is trade secret-protected in response to a request for its public disclosure. TriMet will make an independent determination regarding exemptions applicable to information that has been properly marked.

IF A PROPOSER DOES NOT PROPERLY MARK PURPORTEDLY TRADE SECRET AND CONFIDENTIAL INFORMATION IN A PROPOSAL, TRIMET MAY DISCLOSE SUCH INFORMATION IN RESPONSE TO A PUBLIC RECORDS REQUEST WITHOUT NOTICE TO THE PROPOSER.

TriMet disclaims liability for disclosure of trade secrets or other information entitled to confidential treatment if the Proposer fails to identify trade secrets or other confidential information clearly, has failed to cite statutory or regulatory authority for keeping such information confidential, or identifies an entire proposal or proposal supplement as confidential or exempt.

If, in response to a public records request, TriMet refuses to release the records in question due to such information being properly marked by the Proposer as trade secrets or other confidential information, the Proposer agrees to provide information sufficient to sustain TriMet's position to the District Attorney of Multnomah County, who currently considers such appeals. If the District Attorney orders that the records be disclosed, TriMet will notify the Proposer in order for the Proposer to take whatever legal action the Proposer deems appropriate. The Proposer agrees to hold harmless, defend, and indemnify TriMet for all costs, expenses, and attorney fees that may

be incurred by TriMet as a result of any legal proceeding regarding the disclosure of the Proposer's records.

1.2.14 Procurement Confidentiality (08/16)

Proposers are cautioned that until submission of their proposal, they may have contact concerning this RIP with only those District representatives, agents, or personnel designated in writing herein. Discussions or communications concerning this RIP with Evaluators, District Project Managers, District employees, its consultants, or members of the TriMet Board of Directors, are strictly prohibited. Any violation of this restriction may result in disqualification of the Proposer from further participation in this procurement and from award of any contract or subcontract under this solicitation.

1.2.15 Compliance with Tax Laws (08/16)

Each Proposer shall certify in writing, under penalty of perjury as provided in ORS 305.385(6), that the Proposer is, to the best of the Proposer's knowledge, not in violation of any Oregon tax laws set forth at ORS chapters 118, 314, 316 - 318, 321 and 323; under ORS 320.005-320.150; under ORS 403.200-403.250; and local tax laws administered by the Oregon Department of Revenue under ORS 305.620.

1.2.16 Anticipated Selection Schedule

The following schedule is subject to change:

Issue RIP	June 7, 2021
Proposals Due	June 21, 2021
Proposal Evaluation	June 22 - 28, 2021
Notice of Intent to Award	by June 30, 2021
Award of Contract	by July 5, 2021

1.2.17 Project Estimate

TriMet's general order of magnitude for this project is estimated to be in the range of **\$100,000.00 to \$140,000.00**.

END SECTION 1.2 – PROPOSAL REQUIREMENTS AND CONDITIONS

SECTION 1.3 – EVALUATION OF PROPOSALS

1.3.1 Evaluation Procedure (08/16)

- A. This is a "best value" competitive source selection. TriMet will Award a Contract, based upon a combination of price and qualitative considerations as outlined in this RIP, taking cost/price and other factors into consideration; to the responsive and responsible Offeror whose Proposal is most advantageous and in the overall best interest of TriMet, as determined by TriMet's Project Manager and Contract Administrator.
- B. TriMet reserves the right to investigate the qualifications of all Proposers under consideration and any part of the information furnished by a Proposer, or to require other evidence of managerial, financial or technical capabilities which are considered necessary for the successful performance of the work.

1.3.2 Evaluation Criteria (08/16)

A. Format of Proposal

Proposal shall be prepared simply and economically, providing a straightforward, concise description of the Proposer's capabilities to satisfy the requirements of the RIP. Submission of technical literature, display charts, or other supplemental materials is the responsibility and within the discretion of the Proposer.

- (1) Proposers shall submit proposals as set forth in Paragraph 1.2.8, Submission of Proposals, above.
- (2) Proposers are cautioned not to minimize the importance of an adequate response in any area.
- (3) Technical proposal documents shall be sectionalized as described below. Each section should be preceded by a blank page (not included in page limits).
- (4) **Technical proposal shall not exceed thirty (30) pages total, including resumes, illustrations, diagrams, photographs, etc. Section 1.1 Proposal Forms are not included in the page limit total, and are to be combined at the beginning or end of the Technical Proposal and uploaded in TriP\$ as one (1) pdf document. Pages of the Technical Proposal in excess of the 30 page limitation will be deleted and will be neither read nor evaluated.** Proposers shall use an 11-point or 12-point font, single-spaced and one-inch page margins.

B. Content of Technical Proposal

At a minimum, the items described in each section below shall be addressed. Points will be awarded based on the Proposer's response to the criteria listed below and past performance for services relevant to TriMet's needs. Proposer shall provide the following information:

1. **Technical Proposal Section 1 – Introductions and References (Not Scored)**

- (a) Introduction: Provide an introduction of the Proposer. Describe primary business experience of the Proposer, the Proposer's overall mission statement, length of time in business, ownership, the location of office(s), telephone number, email address, website address and other information Proposer might deem pertinent and introductory in nature. Company resumes are acceptable, as long as all information requested is provided. **A primary contact person for solicitation purposes with phone number and email address must be included.**
- (b) References: Proposer shall provide, at a minimum, a list of three (3) references for similar type of work performed by the Proposer or the Proposer's staff. The references shall give the name of a contact person with knowledge of Proposer or their staff's work; that person's address, telephone number, email, and company; and a description of the type of work performed.

TriMet may contact these references. Failure to include required references may cause the proposal to be rejected as non-responsive.

2. **Technical Proposal Section 2 – Qualifications of Proposer, Staff and Diversity (25 Possible Points)**

- (a) Qualifications of the Proposer: In this Section, the Proposer shall provide its history, experience and past performance relevant to TriMet's needs during the **last three (3) years**, including but not limited to, a description of the Proposer's direct experience which is similar in size, scope and complexity to that required by this Contract. Information regarding the Proposer's direct relevant experience shall include a list which provides dates, locations, cost of contracts, project managers, and names, addresses, contact persons and telephone numbers of clients. Describe the resources that your firm has available for successfully and satisfactorily performing the work under the contract resulting from this RIP.
- (b) Qualifications of Staff: This Section shall contain the Proposer's Staffing and Organizational Plan, which shall identify the Project Manager and any other key personnel who will be assigned to the work under this Contract. This Section shall also contain the direct qualifications, experience and training of each key individual or group of individuals as it relates to the Scope of Work. Resumes must be complete and concise (**limited to a maximum of one (1) page for each employee**), and include, at a minimum, work experience, education, training and certifications, and number of employees supervised, where applicable. Resumes shall be focused upon experience directly relevant to the work to be performed under this Contract.

- (c) Workforce Diversity: TriMet values, encourages, and supports diversity in its workforce and in the workforce of those who contract with TriMet. To that end, this Section shall contain narratives for workforce diversity and any MBE/WBE/ESB/SDVBE utilization as more fully described below. The narratives should include identification of Offeror's certifications and/or nondiscrimination practices, and any historical MBE/WBE/ESB/SDVBE Joint Ventures, Sub Contracting, or Mentoring plan congruent with TriMet's diversity policies.

The Offeror shall provide a narrative description of how it is currently utilizing minorities and women throughout its workforce. Describe how opportunities have previously been provided for minorities and women to receive training and work within the firm. If the Offeror currently has an under-representation of minorities or women describe how it might propose to remedy the underutilization over time. The Offeror shall complete the **Workforce Utilization and Probable MBE/WBE/ESB/SDVBE Subcontracting Opportunities** forms contained in Section 1.1 (Proposal Forms) of the RIP to describe its current workforce and potential subcontractors.

3. **Technical Proposal Section 3 – Work Plan and Technical/Functional Approach (65 Possible Points)**

Proposers shall provide an approach to the work that describes how they will perform the Services described in Section 2. Points will be awarded based on the thoroughness of each Proposer's response and how well each proposal describes meeting the requirements of this RIP. Proposers shall submit a detailed work plan that describes each step or task that they feel is necessary to complete the Scope of Services and submit the required deliverables. Included with the work plan shall be a schedule of the work to be performed with resources that will be required to complete the services and deliverables with an estimated amount of hours to be spent on each step or task. This section shall describe Proposer's approach to achieving program objectives on time and within budget. This section shall detail Proposer's approach to managing interdepartmental and interdivisional relationships as well as facilitating stakeholder communication and collaboration, and shall include, but not be limited to the following:

- (a) Project implementation plan within six (6) weeks of receipt of Notice to Proceed;
- (b) Implementation of test environment within two (2) months of accepted project implementation plan;
- (c) Implementation of production environment within two (2) weeks of accepted test environment; and
- (d) Full production environment implementation no later than December 31, 2021.

4. **Technical Proposal Section 4 – Exceptions or Deviations (Not Scored)**

This Section shall contain any exceptions or deviations from the requirements set forth in the RIP. Technical exceptions or deviations shall be segregated from exceptions or deviations to the contractual terms and conditions. Where the Proposer wishes to propose alternative technical approaches, these alternatives shall be thoroughly explained.

Contractual terms and conditions exceptions or deviations will not be allowed and/or negotiated after the proposal due date/time. **Any exceptions or deviations to the contractual terms and conditions submitted after the proposal due date/time will be denied by TriMet.** Contractual terms and conditions exceptions or deviations submitted by Proposer with their proposal are not accepted or approved by TriMet, but shall be used as a basis for negotiation with the awarded Proposer. **Under no circumstance will TriMet deviate with regards to its Indemnification clause (see Section 7.4 – Indemnification).** TriMet reserves the right to deny any and all submitted exceptions or deviations to all contractual terms and conditions at its sole discretion.

By submission of a proposal, Proposer agrees to all contractual terms and conditions not requested to be excepted or deviated from at the time of proposal submission.

5. **Price Proposal/Cost (10 Points)**

Proposers shall include Proposal Price Form 1.1.1 as part of their Proposal submittal package; pricing will be evaluated for reasonableness, but not scored.

1.3.3 Cost Analysis (08/16)

TriMet may perform a cost analysis upon receipt of proposals. Each Proposer must submit cost data in a format acceptable to TriMet. Allowability of costs will be determined in accordance with the Federal Acquisition Regulations Part 31.

END SECTION 1.3 – EVALUATION OF PROPOSALS

SECTION 2 – BACKGROUND, PURPOSE AND SCOPE OF WORK

2.1 Background

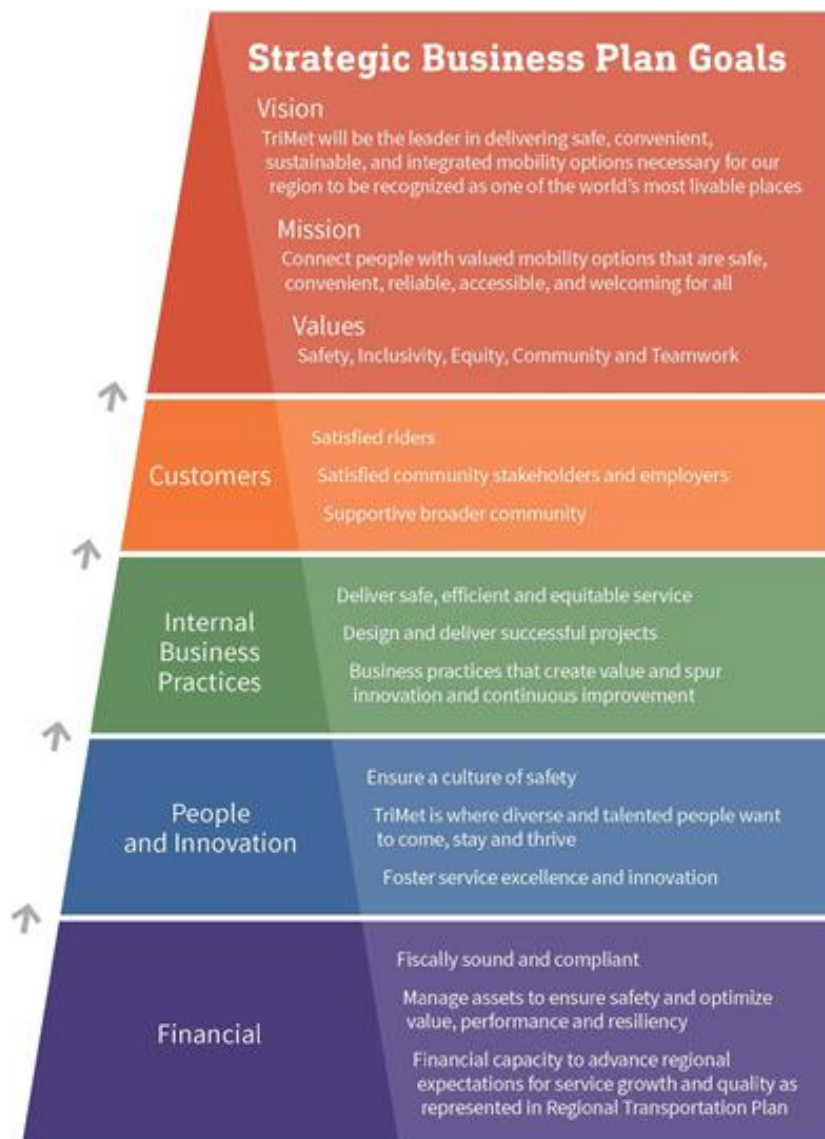
TriMet operates a fleet of approximately 730 transit buses, 145 light rail vehicles (LRVs), 6 diesel multiple-unit commuter rail vehicles, and 285 support vehicles within the Portland, Oregon metropolitan area. TriMet is an Oregon municipal corporation created on October 14, 1969 pursuant to Oregon Revised Statutes Chapter 267, which employs approximately 3,000 workers.

TriMet has consistently been on the leading edge of transit technologies and transit data development. This began with the creation of the General Transit Feed Specification (GTFS) in partnership with Google, and was followed by the development and implementation of OpenTripPlanner (OTP). Developed in partnership with the nonprofit OpenPlans, OTP has grown to become an industry-leading, open-source, multimodal trip planner, (<https://beta.trimet.org/home/>). The OTP was architected to integrate the Open Street Map (OSM) network and TriMet has invested time and resources into updating the OSM basemap for their service area. TriMet plans to continue to use OTP and OSM for enhanced intermodal trip planning and as a basemap for analysis respectfully.

Additionally, TriMet's Hop Fastpass system, launched in 2017, was one of the first fare payment systems in North America to support open application programming interfaces (APIs), open payments, virtualized fare cards and fare capping. With the rise of shared-use mobility options, such as bikeshare, e-scooters and ride-hailing providers in the Portland area, TriMet has recognized the need to help their customers navigate this evolving mobility ecosystem to ensure a seamless complete trip for all.

In response, TriMet has expanded its scope of responsibilities from its core role as a transit provider to serve more broadly through coordination with shared-use mobility providers for the Greater Portland Region. TriMet will be the leader in providing transit and connecting people to their many mobility options. Our mission recognizes the wide variety of options people now have available to travel; our core services will continue to be bus, rail, and paratransit, but there are many options that our customers can connect to now. Our mission is to connect people with valued mobility options that are safe, convenient, reliable, accessible and welcoming for all. TriMet will be the leader in delivering safe, convenient, sustainable and integrated mobility options necessary for our region to be recognized as one of the world's most livable places.

This updated mission and vision is reflected in the goals and objectives articulated in the agency's [2022-2026 Business Plan](#). As shown in the image below, TriMet's Strategic Business Plan Goals have twelve defined goals in four general areas: customers, internal business practices, people and innovation, and financial.



Working towards this vision, TriMet has embarked on the STEPS to Mobility on Demand and Mobility Payment Integration (STEPS to MOD & MPI) initiative, funded through the Federal Transit Administration (FTA) Integrated Mobility Innovations (IMI) demonstration program. This effort is in partnership with the City of Portland and a consortium of private partners. Details on the scope of the STEPS to MOD and MPI project may be found on the TriMet website at <https://trimet.org/imi/>.

2.2 Purpose

TriMet seeks to develop a pilot project of a scalable Smart Mobility Platform (SMP) to help meet the Project Goals of the STEPS (Safe, Total, Equitable, Personalized, Seamless payment and complete trips for all) to Mobility on Demand (MOD) & Mobility Payment Integration (MPI) initiative described below. For this pilot project, TriMet is seeking an SMP that can support MOD and Mobility as a Service (MaaS) initiatives to better manage a more holistic transportation ecosystem.

These may include service planning tools; transportation and traffic management systems; emerging technologies; and business intelligence.

This will require the ingestion, management and storage of structured and unstructured data in a variety of formats.

The focus of this pilot is to provide data analysis and visualization tools within a cohesive SMP that can meet current agency analysis needs (as described in the use cases below), while being flexible enough to meet future use cases for TriMet's evolving role as a mobility manager. Some example use cases include the following:

Operations

- Identify and study the effects of various service disruptions for improved response time
- Measure improvements of real-time information with the use of machine learning and features such as congestion; weather; accidents and incidents.
- Transit Planning and Modeling
- Comparison of micro-mobility route and distance data with transit routes and stops to identify first/last mile connections
- Comparison of TNC origin and destination data with stops and transit centers to address security, infrastructure accessibility issues
- Business Analytics
- Inference of destination data from Hop Fastpass fare payment data for origin and destination studies.
- Simulate and study effects of electric vehicles and bus fleet on effects of CO2 emissions

TriMet welcomes Proposers to suggest additional use cases for which their platform could be applied to help TriMet meet their goals and objectives as a Mobility Manager.

The Proposer must work with the TriMet project team and associated consultants on the demonstration project. Coordination on the SMP framework and analytical benchmarks is required to facilitate general requirements of the SMP. Ensuring SMP modularity is critical to the implementation of the service and integration with existing data structures and analytical processes. The SMP will be tested with existing metrics to test functionality and meet system integration requirements prior to the second-year demonstration of TriMet system enhancements coordinated during year one of the project.

2.3 Scope of Work

2.3.1 IMI Project Goals

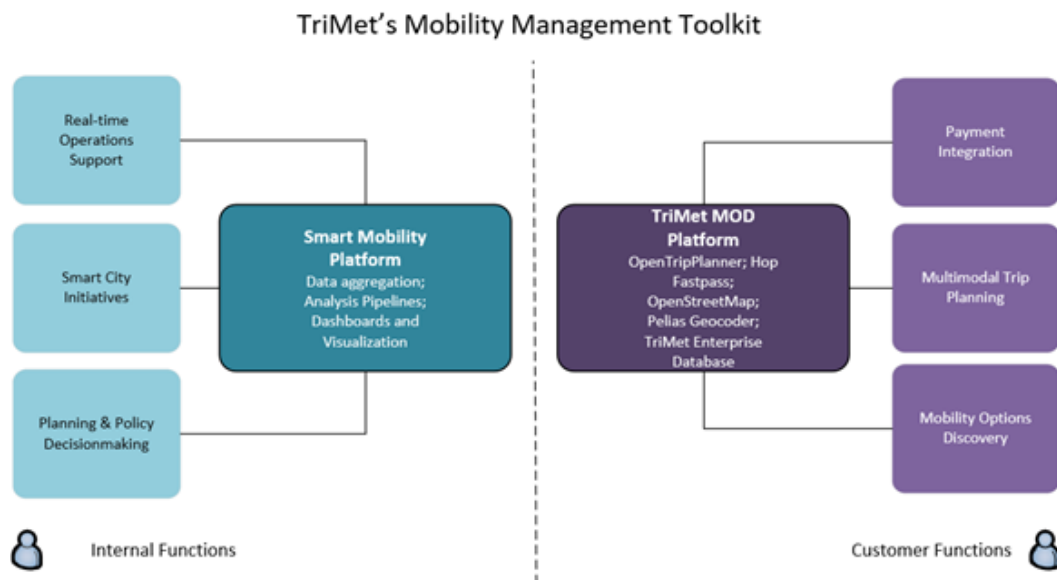
The STEPS to MOD & MPI initiative within the IMI program will advance the future of mobility by leveraging innovative, transferable, and technology-agnostic solutions within three high-level categories to advance the agency towards its goals of mobility on demand and mobility payment integration. Included with these categories are bullets summarizing objectives to be met:

- Integrated Payment: Explore innovative means of making the multimodal trip payment experience more seamless for customers.
 - Analyzing potential uses of payment and payment associated data resources
 - Analyzing customers inferred Origins and Destinations through tap on data

- **Customer Experience:** Expand upon TriMet’s trip planner to help customers discover multimodal trip options, reduce the stress of multimodal travel, and encourage customer behavior change towards more sustainable, multimodal trip options.
 - Enhanced traveler linkages
 - Enabling travelers' access to resources such as accurate arrival information
 - Fostering personal mobility
- **Mobility Data:** Develop a framework of metrics that allows agencies to meaningfully assess how mobility quality and effectiveness changes with the implementation of innovative, mobility management strategies, going beyond ridership and productivity measurements to take into account related impacts and/or benefits.
 - Increased understanding of the individual traveler
 - Demonstrating innovative analysis on mobility metrics

More specifically, TriMet has completed the following goal-oriented actions in preparation of integrating data, analysis and visualizations in the SMP:

1. Define the framework for mobility performance metrics that will allow TriMet to meaningfully assess how mobility quality and effectiveness improves with the implementation of new innovations.
2. Align these metrics with the [TriMet Business Plan](#) Goals and Objectives.
3. Demonstrate a framework for assessing improvements through the life of this project and beyond.
4. Provide innovative data analysis that goes beyond basic ridership and productivity measurements to encompass mobility as a service.



Through this pilot based RFP, TriMet seeks to develop, in partnership with a vendor, a SMP to support mobility initiatives. One of which is the implementation of data analysis tools as defined in the grant, see Appendix E. The SMP described in this RFP should help TriMet accomplish the Mobility Data goals described above.

A draft list of mobility metrics (shown in Appendix A) have been defined to provide the framework for project benchmarks to be measured within the SMP. These metrics are derived from the Business Plan, the research objectives, and the traveler-centric mobility performance metrics established by the FTA. The prioritization of mobility performance metrics from internal stakeholder meetings focused on improvements to the OpenTripPlanner and Mobile Payment Integration. Mobility Metric categories are defined as the following:

Mobility Metric Categories and Description

Metric Category	Question
Accessibility	Is service equitably distributed across customers with different demographics, economic backgrounds, mobility levels, language, etc.?
Availability	Does the project/policy or change/initiative improve the availability of travel/information/payment options for customers?
Cost	Does the project/policy or change/initiative improve cost-effectiveness for TriMet?
Reliability	How reliable is the system for customers (options, travel time, cost, etc.)?
Utilization	How many people are using different mobility services in comparison to capacity?
Customer Satisfaction	How satisfied are customers with quality of service, and with the TriMet trip planner? Total number of trips improved through any TriMet service (direct, through trip planning, payment, etc.)
Demand for MOD	Does the project/policy change/initiative contribute to customer demand for MOD?
Environmental/Economic	How does the project/policy change/initiative contribute to TriMet's goals for the region?
Knowledge Transfer	What new lessons are learned that can be applied to future MOD efforts?
Safety	Does the project/policy change/initiative maintain safe access and travel for travelers?
Time	Does the project/policy change/initiative reduce travel times for customers?

The goal is a successful IMI demonstration of integrated mobility payment along with improved customer experience, monitored through a SMP. The demonstration will be tracked through a data driven analytical process populating specific mobility benchmarks, both before and after roll-out of the IMI enhancements. These benchmarks will shift how mobility metrics are used to inform TriMet about services provided. The SMP will be utilized throughout the duration of the project (through September 12, 2022) with the option to extend beyond as determined by TriMet for its continued use. External stakeholders from the Portland metropolitan region may be included in future enhancements to the SMP.

2.3.2 Functional Requirements and Priorities

TriMet recognizes that the range of off the shelf SaaS products and custom solutions that vendors might propose to meet the goals and objectives of the SMP will have an array of modules and features. This section outlines the functional priorities envisioned for the SMP.

2.3.3 Data Ingestion

As part of the STEPS to MOD & MPI initiative, TriMet has developed a series of research questions and mobility metrics (Appendices A and B) that might be used by the agency to assess its effectiveness as a mobility manager. These will require the use of structured and unstructured data from both TriMet internal systems (more information available at developer.trimet.org) as well as external sources (as described in Appendix C), however data ingestion is not limited to those resources. Proposer shall suggest ancillary data to load into the SMP for TriMet's use.

To support these metrics and data sources, the SMP must be able to ingest a range of data types and formats (CSV, JSON, geoJSON, shapefile, etc) from a variety of sources (flat files, database transfers, etc).

Proposer shall describe SMP's approach to data ingestion, including:

- Supported formats
- Supported sources/connections
- Data translation/standardization processes

2.3.4 Data Storage

The core intent of the SMP is to support analysis and visualization, so functional priorities for data storage are limited to short-term storage of raw, disaggregate data to support analysis and aggregation processes, and long term storage of processed, aggregate data for historical record/analysis. The SMP is not intended to replace TriMet's on-premises, enterprise data storage.

Proposer shall describe their SMP's approach to data storage, including:

- Data lifecycle management
- Ability to interface with external databases and other long-term data stores

2.3.5 Aggregation and Analysis

The key research questions and metrics outlined in Appendices A and B will require processing and aggregation of raw data from a variety of sources. In addition, TriMet also anticipates using the SMP as a data exploration tool to identify novel metrics and analyses using the datasets loaded into the SMP.

Proposer shall describe their SMP's approach to analysis and aggregation, including:

- Data exploration features for viewing raw and processed datasets
- User interface features to build analysis workflows

- Realtime processing
- Historical processing
- Scheduled/automated data processing

2.3.6 Dashboards, Reports and Visualization

Mobility Management at TriMet is a cross-disciplinary initiative, with stakeholders in diverse roles in a range of departments across the agency. The types of data and style of visualization useful to an executive reviewing quarterly performance will be different than that required by a rail or bus dispatcher making real time, operational decisions. To support their work, the SMP must offer a range of dashboard, reporting and other data visualization tools.

Proposer shall describe their SMP's approach to data visualization, including:

- Real-time, snapshot dashboards of current conditions
- Standardized, summary dashboards of historical analysis
- Custom charts and other visualizations, standalone or as part of dashboards
- Map-based, geospatial visualization
- Visualizations to support data exploration and the generation of new analytical workflows
- Describe the extent to which your SMP meets accessibility standards (such as WCAG), and show SMP users could utilize assistive technologies including, but not limited to, screen reader software (e.g. Jaws, Voiceover) to perform tasks in your SMP

2.3.7 Technical Requirements and Priorities

2.3.7.1 Hosting Solution

Understanding hosting solutions for the SMP and the associated database is critical to the requirements provided to respondents. Considerations in hosting solutions must include data feeds via API, data security, and show best to accommodate sensitive data if it is to be included in the SMP.

Solution must be implemented in a public cloud using non-proprietary infrastructure, components, and practices that could be equally viable for an on-prem deployment should TriMet need to re-implement the solution in TriMet owned data centers. Software and services must be able to be deployed and maintained on standard operating systems and standard packaging methods. Proposer shall describe the SMP's approach options for system hosting including:

- Hosting Model
- Preferred Cloud Hosting Service (if applicable)
- Security Considerations
 - Data Backup & Recovery
 - Security Policy and Administration
 - Secure Software Engineering & Vulnerability Scans
 - Physical Security of Data
 - Single Sign-on Integration
 - Application & Data Dependencies & Requirements

It is anticipated that the SMP, whether an on-premises, licensed solution or cloud-hosted solution will require regular system updates and maintenance, as well as support defined through a Service Level Agreement (SLA).

Solution must support and make available non-production environments including development and test that have a clear process for promotion of releases, configuration, and content from lower environments to higher environments.

Proposer shall describe their capabilities in hosting their SMP in the cloud and all associated configurations. A cloud hosted solution must comply with the identified security requirements for data ingestion of specified data feeds or API's. Alternatively, the Proposer shall describe their capabilities in deploying and supporting a solution on Premises within the TriMet network.

2.3.7.2 Security

Proposer shall describe the security details available where their system is hosted. Any associated vulnerability assessments and data center cyber security certifications shall be provided.

2.3.7.3 Users

Proposer shall describe their integration to TriMet's OKTA to facilitate single sign-in authentication. If authentication with TriMet's active directory is not feasible, the Proposer shall identify the integration of TriMet users with authenticated sign-ins. Additionally, account access shall allow TriMet consultants access without being part of TriMet's active directory.

2.3.7.4 Data

Proposer shall coordinate with TriMet to include data resources from TriMet's enterprise databases via API and any other methods identified by TriMet. Additionally, data resources may revolve around the creation of project benchmarks for mobility performance metrics. Proposer shall work with TriMet and consultants to iterate through the ideal integration of data and mobility metrics for the SMP to serve its optimal state. Proposer shall include any ancillary datasets they have access to and can include in the SMP.

2.3.7.4.1 Data Standards at TriMet

The SMP must be compatible with TriMet's current data and map standards, tools, and approaches including OSM, OTP, APIs, GTFS, GTFS-RT, PostGIS, Postgres, and OracleDB. Proposer shall describe whether their SMP is compatible with these practices.

2.3.7.4.2 Data Ownership

TriMet will retain full ownership of all data ingested, processed, analyzed and enabled for export by the SMP.

2.3.7.4.3 Data Export

Proposer shall describe how TriMet may use a data export function to liberate data from the SMP, either via API or other export / extraction tool.

2.3.8 Implementation, Configuration, and Training

The SMP pilot project shall be implemented as part of the one-year demonstration phase of the STEPS to MOD & MPI initiative. Given the time constraints of this project, TriMet will prioritize systems SMP's that can be implemented and configured quickly.

Proposer shall describe their SMP's approach to implementation, configuration, and training, including:

- High-level project plan and implementation timeline, deliverable list provided below
- Necessary input/materials from TriMet for system design and configuration
- Expected design and technical documentation
- Software delivery lifecycle, including quality assurance and deployment methodology
- Training materials for TriMet staff

2.3.9 Delivery Method

The software must comply with open architecture standards. If the entire SMP is built in an open-architecture environment it will allow collaboration and ensure easy extensibility throughout the user ecosystem. The ideal solution is a proven tool supported by an existing user base in production. Please provide a list of clients with applicable references who have an active production version.

2.3.10 Open System Architecture

It is a priority for TriMet that the SMP be built according to open architecture principles and modular design, relying on APIs for interactions between SMP modules as well as with external systems. An open architecture modular design is desired to allow for easy integration with TriMet's existing data systems and workflows, as well as to facilitate future extension and customization of the SMP as needed. The following aspects shall be included by the proposer:

- The proposer shall provide a view of the high-level system architecture and overview of system modules
- The Proposer shall describe how the SMP will allow TriMet to monitor third-party APIs that are consumed by the SMP, which may include APIs provided by ride-hailing and micro-mobility providers.
- The proposer shall provide specifications for all data interfaces

2.3.11 Modular System Components

Modular SMP design is ideal to enable analysis and visualizations for multiple disciplines and business areas within TriMet. Please describe what modules your SMP is capable of providing, how they help TriMet to meet its stated mobility goals, and how they meet the requirements detailed below.

2.3.11.1 Admin

The Proposer shall provide an administrative module to allow TriMet users to perform all necessary administrative functions permissible by the SMP. These may include but not be limited to; user functionality, report configuration, data ingestion and data analysis validation.

2.3.11.2 Data Ingestion

As part of the STEPS to MOD & MPI initiative, TriMet has developed a series of research questions and mobility metrics (Appendices A and B) that might be used by the agency to assess its effectiveness as a mobility manager. These will require the use of structured and unstructured data from both TriMet internal systems (more information available at developer.trimet.org) as well as external sources (see Appendix C).

To support these metrics and data sources, the SMP must be able to ingest a range of data types and formats (CSV, JSON, geoJSON, shapefile, etc) from a variety of sources (flat files, database transfers, etc).

The Proposer shall document the specifications for inbound interfaces defined in the Data Conversion Plan so that the SMP can be initially loaded and refreshed on a regular, appropriate basis.

- The Proposer shall define the specifications for inbound interfaces at a sufficient level of detail to support development of interfaces.
- Detailed specifications for all extract, transform, and load (ETL) programs or scripts needed to populate the Data Analytics Module from source systems.
 - Plan and schedule for ongoing ETLs of data from source systems which addresses the frequency, timing, dependencies, and error handling.
- Interfaces
 - ETL code and/or configuration parameters to achieve all data loading functionality specified in the Interface Specifications.
 - Certification that the interfaces are working in accordance with specifications
- Migrated data
 - The proposer shall convert and load data into the test system

2.3.11.3 Data Storage

The core intent of the SMP is to support analysis and visualization, so functional priorities for data storage are limited to short-term storage of raw, disaggregated data to support analysis and aggregation processes, and long term storage of processed, aggregate data for historical record/analysis. The SMP is not intended to replace TriMet's on-premises enterprise data storage.

Please describe your SMP's approach to data storage, including:

- Data lifecycle management
- Ability to interface with external databases and other long-term data stores

2.3.11.4 Analytics Engine

The Proposer shall provide a Data Analytics Engine that ingests TriMet data and is capable of analyzing data for use on the Live Map, Dashboard or in a Report. The Proposer shall extend through software programming the functions and features of the native Data Analytics application software products to fully implement the design specified for the SMP.

2.3.11.5 Dashboard

The Proposer shall provide a customizable dashboard that is easily navigable by all TriMet staff.

- The dashboard should include the ability to display summary metrics, charts, and graphs.
- The interface should allow users to easily query data in numerous ways, including the ability to filter and summarize data.

2.3.11.6 Live Map

- The Proposer shall provide the ability to display real-time and historic data in a dynamic, map-based display.
- Users should have the ability to filter data and update the map based on queries.

2.3.11.7 Reports

The Proposer shall provide a customizable reporting mechanism for TriMet staff to create specific reports for mobility performance metrics. Provide insight toward a co-creation of advanced reporting including exporting.

2.3.11.8 System Performance Monitoring

The Proposer shall provide system performance monitoring and regular reports on the SMP performance and uptime. The proposer shall describe how they would provide monitoring of features such as:

- SMP uptime
- Data feeds
- System and/or security updates

2.3.11.9 Optional Modules

The following are modules that TriMet is interested in exploring but that are optional in the initial deployment of the SMP. Please describe if your SMP could include these features and if it has additional capabilities that are not listed. Of special note would be modules that could transition this SMP from a mobility management tool to a regional focus on smart cities integration in the future.

2.3.11.10 Occurrence Management

Describe whether your SMP could include an occurrence management system or operations management system to allow TriMet to monitor the performance of the transportation system. This could include monitoring of crashes and roadway incidents, breakdown of transit vehicles, or other incidents impacting the transportation network.

2.3.11.11 Traffic Data

Describe whether your SMP could include traffic data from partner agencies in the region, including traffic counts, speed, travel time, and vehicle miles traveled (VMT). An example of this data can be found in the PORTAL archive (<https://portal.its.pdx.edu/>).

2.3.11.12 Greenhouse Gas and CO2 Reporting

Describe whether your SMP could include greenhouse gas emissions measurements and/or reporting to support regional and state climate goals.

2.3.12 Training and Technical Support

System training is to be provided for how to optimize and update associated analysis, visualizations, or other aspects.

2.3.12.1 Deployment and System Integration

Deployment and System Integration of all software shall be provided by the Proposer.

2.3.12.2 Deployment

- The Proposer shall describe how they deploy their system and the SMP system requirements for hosting.

2.3.12.3 System Integration

- The Proposer shall describe how they coordinate SMP integration of existing data sources at TriMet.
- The Proposer shall provide deployment and system integration experience from other transit and mobility agencies. The Proposer shall outline their typical warranties, which should comply with industry standards.

2.3.12.4 System Acceptance Testing

- Proposer shall provide an acceptance test procedures document for TriMet approval and agency approval prior to contracting and system acceptance testing.
- Proposer shall not conduct system acceptance testing without approval of the procuring agency.
- Proposer shall conduct system acceptance testing only in the presence of a procuring agency witness or delegating witness.
- Proposer shall schedule appropriate testing periods to ensure their installed system is operational according to a provided QA/QC checklist.
- Each good or service provided must be coordinated through the applicable QA/QC checklist and meet the System Acceptance Testing requirements established in the procurement contract.

2.3.12.5 Documentation and Training

This section describes the requirements for the documentation and training for use of the products and services submitted by the Proposer. Upon selection for an interview, the following documentation shall be provided to TriMet for review: Technical Documentation, User Guide, Training Plan, and Technical Support.

2.3.12.6 Technical Documentation

- The Proposer shall submit a copy of all technical documentation that is available for the proposed products or services. Documentation shall accurately and completely describe available functions and features for the proposed products or services. Documentation shall include a data dictionary for each data source included. This should also include system testing and quality assurance documentation.

2.3.12.7 User Guide

- The Proposer shall submit a user guide that includes standard operating procedures (SOP) with written and graphical instructions for all processes that may be required by agency staff to use the proposed products or services.
- The user guide shall be understandable by a typical end user and shall provide agency staff with sufficient instruction to independently use the proposed products or services.
- The user guide may be provided online or as a document.
- The user guide shall be kept up to date.

2.3.12.8 Training Plan

- The Proposer shall submit a training plan that describes the Proposer's approach to providing in-person or remote training to agency staff for the configuration, administration, and operation of all products or services that are being proposed.
- The proposed training plan shall include a description of the Proposer's approach to ensuring that support to agency staff can be tailored to the unique needs of TriMet and to a variety of agency staff expertise.

2.3.12.9 Technical Support

- Proposer shall describe their approach to providing technical support.
- Proposer shall describe their guaranteed uptime for system use.
- Proposer shall describe their incident escalation approach, including levels of severity.

END OF SECTION 2 – BACKGROUND AND SCOPE OF WORK



SECTION 3 – SAMPLE CONTRACT, INCLUDING FEDERAL REQUIREMENTS

****SAMPLE ONLY -- DO NOT INCLUDE WITH PROPOSAL****

Contract No. RT210199LJ

TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

PERSONAL SERVICES CONTRACT FOR

SMART MOBILITY PLATFORM (SMP) PILOT PROJECT

THIS CONTRACT is by and between Tri-County Metropolitan Transportation District of Oregon ("TriMet"), and _____ ("Contractor").

WHEREAS, TriMet solicited RIP No. RT210199LJ for a Smart Mobility Platform (SMP) Pilot Project, and Contractor submitted a proposal in response to the RIP; and

WHEREAS, TriMet has determined that Contractor submitted the overall responsive and responsible "best value" proposal for those services;

NOW, THEREFORE, in consideration of the mutual promises and the terms and conditions set forth in this Contract, the parties agree as follows:

1.0 Contract Order of Precedence

Every provision of the documents listed below are incorporated in this Contract by this reference. Any conflict between or among any of the documents listed below shall be resolved in favor of the order of precedence listed below.

- A. Written contract modifications executed by the parties after contract execution;
- B. This Contract form, including Exhibit A – Federal Requirements;
- C. Addenda issued prior to receipt of proposals, as well as addenda issued during discussions;
- D. The Proposal Requirements and Conditions (Section 1.2 of the RIP) set forth in TriMet's Request for Informal Proposal for this Contract; and
- E. Contractor's Proposal, to include all supplements, and as finally amended by the Contractor's Best and Final Offer (BAFO), if requested.

2.0 Federal Requirements (02/19)

This Contract is funded in part under a financial assistance agreement between TriMet and the U.S. Department of Transportation, Federal Transit Administration (FTA). This Contract is subject to all provisions prescribed for third party contracts by that financial assistance agreement, including, but not necessarily limited to, the provisions in **Exhibit A**, which is attached to, and made a part of this Contract.

3.0 Term

Unless terminated sooner under the provisions of this Contract, the term of this Contract shall be from _____, 2021 through _____, 2022.

4.0 Compensation

Total contract compensation shall not exceed \$_____ during the term of this **Contract**, payment of which shall be in accordance with Contractor's Price Proposal (or BAFO Price Proposal if requested), which is attached as **Exhibit __ – Contractor's Price Proposal** (or BAFO Price Proposal if requested), and made a part of this Contract.

5.0 Scope of Work

Contractor shall perform the work as specified in Section 2 of the Request for Informal Proposals (RIP) document, on time and within budget.

6.0 Special Contract Conditions

6.1 Type of Contract (08/16)

This is a definite quantity/definite delivery (firm/fixed unit price) contract for the supplies or services specified. TriMet shall purchase the quantity of supplies or services specified elsewhere in this Contract and the Contractor shall deliver them in accordance with the terms and conditions stipulated in this Contract.

6.2 Payments and Invoicing (08/20)

TriMet shall pay the Contractor, upon the submission of invoices, the prices stipulated in this Contract for services accepted, less any deductions provided in this Contract. TriMet shall pay the Contractor within thirty (30) days of the receipt of a properly completed and submitted invoice. The Contractor may submit no more than one invoice per month.

Notwithstanding any other additional requirements of this Contract, invoices shall contain the contract number, the date(s) supplies were delivered or services were furnished; a detailed description of the supplies or services furnished, and a price breakdown showing contract prices and units.

All invoices shall be submitted electronically to TriMet's Finance Department via email to accountspayable@trimet.org. **Failure to strictly comply with this provision will result in a delay in payment.**

TriMet no longer offers payment by check. In order to enter into this Contract, Contractor must be willing to accept payment via ACH (Automatic Clearing House). TriMet will not execute this Contract without receiving the required information from the Contractor via its eProcurement System (TriP\$), at <https://solutions.scquest.com/apps/Router/SupplierLogin?CustOrg=TriMet>.

6.3 Payment Upon Deliverables (06/21)

TriMet shall pay the contractor as per the deliverable schedule below; and only upon the acceptance of the completed deliverable by TriMet's Project Manager. Contractor shall only invoice TriMet upon completion of each deliverable.

Deliverable No.	Description	Payment Percentage	Cumulative Total
1	Project Implementation Plan (within six (6) weeks of Notice to Proceed)	25%	25%
2	Implementation of Test Environment (within two (2) months of accepted project Implementation Plan)	25%	50%
3	Implementation of Productions Environment (within two (2) weeks of accepted Test Environment)	25%	75%
4	Full Production (environment shall be implemented on later than December 31, 2021)	25%	100%

6.4 Price Adjustments (06/20)

No price increases shall occur during the term of this Contract.

Should decreases in Contractor's direct costs occur, Contractor shall promptly notify TriMet and shall promptly decrease price to TriMet by the same amount. Price decreases shall occur on date effective to Contractor.

6.5 Extra Charges (08/16)

Extra charges must be agreed upon by the parties through a written modification of the contract. TriMet will pay no extra charge that is not made a part of the contract through a written modification. Contractor acts at its own risk in incurring an extra expense before an extra charge has been included in a fully-executed modification. TriMet will not pay Contractor extra for overtime needed to meet a delivery deadline.

6.6 Project Managers (08/16)

The Contractor's designated Project Manager shall be the Contractor's representative for the administration of the contract documents and the supervision of the work. In all matters relating to the performance of the work and payment therefore, and in all situations involving actual, recommended or, proposed changes, TriMet shall accept commitments and instructions of the Contractor only from the Project Manager or a duly authorized representative of the Project

Manager so designated in writing. After initial approval by TriMet, the Contractor shall not change the Project Manager without the prior written approval of TriMet. TriMet shall appoint its own Project Manager for the work required by this Contract.

TriMet's Project Manager is:

Name (provided after award of Contract)

Title

503.962.xxxx

ProjectManager@trimet.org

6.7 Insurance (08/16)

During the term of this Contract, Contractor shall purchase and maintain any insurance required by this Contract. Contractor shall furnish acceptable certificates of insurance and additional insured endorsements to TriMet within ten (10) days after award of this Contract, and prior to commencement of any contract work.

Contractor shall be responsible for the payment of all premiums and deductibles and shall indemnify TriMet for any liability or damages that TriMet may incur due to Contractor's failure to purchase or maintain any required insurance.

Contractor shall maintain insurance of the types and in the amounts described below.

(1) Commercial General Liability Insurance

Commercial General Liability insurance, with coverage limits not less than:

- (a) \$2,000,000.00 per occurrence, bodily injury and property damage; and
- (b) \$2,000,000.00 general aggregate, bodily injury and property damage.

Such coverage will be equivalent to or better than the Insurance Service Office (ISO) standard coverages, conditions, and extensions, and shall not contain limitations or exclusions for Blanket Contractual, Broad Form Property Damage, Personal Injury, Premises-Operations, Products and-Completed Operations, Independent Contractors, Fire Legal Liability, and Explosion, Collapse, and Underground (XCU).

The General Liability policy shall be endorsed with CG 2010 1185 or CG 2010 1001 and CG 2037 1001 or equivalent, naming TriMet and its directors, officers, representatives, agents, and employees as additional insured.

If Contractor is working within 50' of a railroad, the commercial general liability policy exclusion must be deleted.

(2) Business Auto Liability Insurance

Automobile bodily injury and property damage liability insurance covering all motor vehicles, whether owned, non-owned, leased, or hired, with not less than the following limits:

- (a) Bodily injury: \$2,000,000.00 per person; \$2,000,000.00 per accident; and
- (b) Property damage: \$2,000,000.00 per accident.

The Automobile policy shall be endorsed with CA 20 48 02 99 or equivalent, naming TriMet and its directors, officers, representatives, agents, and employees as additional insured.

If Contractor's work is within 50' of a railroad, the auto policy shall be endorsed with CA 20 70 10 01 or equivalent and this endorsement must be attached to the insurance certificate.

(3) Worker's Compensation Insurance

Oregon statutory workers' compensation and employer's liability coverage, including all states protection, if applicable, voluntary compensation and Federal endorsement. Contractor shall include U.S. Longshore and Harbor Workers Compensation Act and Maritime coverage ("Jones Act"). Employer's liability coverage shall have the following minimum limits:

- (a) Bodily Injury by Accident: \$1,000,000.00 each accident
- (b) Bodily Injury by Disease \$1,000,000.00 each employee
- (c) Bodily Injury by Disease: \$1,000,000.00 policy limit

Contractors who are non-subject workers meeting one of the exceptions in ORS 656.027 may not be required to carry worker's compensation insurance. Any Contractor requesting an exemption from the worker's compensation coverage listed above must make that request in writing, stating the Contractor's qualification for exemption under ORS 656.027.

Failure of TriMet to demand certificates of insurance, additional insured endorsements or other evidence of full compliance with these insurance requirements or failure of TriMet to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

(4) Professional Technology and Cyber Liability Insurance

Contractor shall maintain at all times while services contemplated by this Contract are being completed, coverage for professional services delivery and include protections for cyber liability, with coverage limits not less than:

- (a) \$2,000,000 per occurrence; and
- (b) \$5,000,000 aggregate.

The insurance required under this Paragraph shall:

- (1) Include (as evidenced by endorsement) TriMet and its directors, officers, representative, agents, and employees as additional insureds with respect to work or operations connected with the contract (excluding Professional Liability and Worker's Compensation policies);
- (2) Require Contractor to give TriMet not less than thirty (30) days written notice prior to termination, cancellation, or non-renewal of coverage;

- (3) Insurance policies shall be purchased only from insurance companies that meet TriMet's A.M. Best Rating criteria of "A-" or better (excluding SAIF) and are authorized to do insurance business in Oregon;
- (4) Contractor will cause its underwriters of insurance policies to waive their rights of subrogation arising from the work performed under this Contract.
- (5) Contractor's insurance shall apply as primary and will not seek contribution from any insurance or self-insurance maintained by, or provided to, the additional insureds listed above. This must be noted on the insurance certificate.
- (6) **Be uploaded into the Contractor's profile via TriP\$** (including an upload of the most current Certificate of Insurance (COI)). Insurance information and most current COI shall be uploaded and maintained by the Contractor, in the Contractor's TriP\$ profile at all times.

6.8 Notice to Proceed (08/16)

The Contractor shall not proceed with any work required under this Contract without a written Notice to Proceed from TriMet's Procurement Department or the authorized TriMet Project Manager. Any work performed or expenses incurred by the Contractor prior to the Contractor's receipt of Notice to Proceed shall be entirely at the Contractor's risk.

6.9 Time of Essence (08/16)

Time is of the essence in this Contract. Contractor's failure to deliver services on time shall be a material breach of this Contract. If Contractor fails to deliver services on time, TriMet, at its discretion, may procure those services from another source. If the price paid by TriMet for services procured from another source under this Paragraph is higher than the price under this Contract, Contractor shall pay TriMet the difference between those prices. TriMet may deduct that difference from any amount TriMet owes Contractor.

6.10 Warranties (08/16)

"Acceptance," as used in this clause, means the act of an authorized representative of TriMet by which TriMet approves specific services, as partial or complete performance of the contract. "Correction," as used in this clause, means the elimination of a defect.

The Contractor warrants that all services performed under this Contract will, at the time of acceptance, be free from defects in workmanship and conform to the requirements of the contract. TriMet shall give written notice of any defect or nonconformance to the Contractor within ninety (90) days of the date of acceptance of the services by TriMet. This notice shall state either (1) that the Contractor shall correct or reperform any defective or non-conforming services, or (2) that TriMet does not require correction or reperformance.

If the Contractor is required to correct or reperform, it shall at no cost to TriMet, and any services corrected or reperformed by the Contractor shall be subject to this clause to same extent as work initially performed. If the Contractor fails or refuse to correct or reperform, TriMet may correct or replace with similar services and charge Contractor the cost to TriMet, or make an equitable adjustment in the contract price. Contractor shall keep records on all reperformed work and the hours and cost associated with such work shall be segregated for accounting purposes.

If TriMet does not require corrections or reperformance, TriMet shall make an equitable adjustment in the contract price.

6.11 Rejection of Services (08/20)

- A. Definition. "Services" as used in this clause includes services performed, workmanship, and material furnished or used in performing services.
- B. If any of the services performed do not conform to contract requirements, TriMet may require the Contractor to perform the services again in conformity with contract requirements, for no additional fee. When the defects in services cannot be corrected by reperformance, TriMet may: (1) require the Contractor to take necessary action to ensure that future performance conforms to the contract requirements and (2) reduce any fee payable under the contract to reflect the reduced value of the services performed.
- C. If the Contractor fails to promptly perform the services again or take the action necessary to ensure future performance in conformity with contract requirements, TriMet may: (1) by contract or otherwise, perform the services and reduce any fee payable by an amount that is equitable under the circumstances or (2) terminate the contract for default.
- D. Contractor has, and throughout the Term and any additional periods during which Contractor does or is required to perform the services will have, the unconditional and irrevocable right, power, and authority, including all permits and licenses required, to provide the Solution and grant and perform all rights and licenses granted or required to be granted by it under this Agreement;
- E. Neither Contractor's grant of the rights or licenses hereunder nor its performance of any Services or other obligations under this Agreement does or at any time will: (i) conflict with or violate any applicable law, including any law relating to data privacy, data security, or personal information; (ii) require the consent, approval, or authorization of any governmental or regulatory authority or other third party; or (iii) require the provision of any payment or other consideration by TriMet to any third party, and Contractor shall promptly notify TriMet in writing if it becomes aware of any change in any applicable law that would preclude Contractor's performance of its obligations hereunder;
- F. The Software, subscription services, documentation, and all other Services and materials provided by Contractor under this Agreement will not infringe, misappropriate, or otherwise violate any intellectual property right or other right of any third party;
- G. There is no settled, pending, or threatened action, and it has not received any written, oral, or other notice of any action (including in the form of any offer to obtain a license): (i) alleging that any access to or use of the Solution does or would infringe, misappropriate, or otherwise violate any intellectual property right of any third party; (ii) challenging Contractor's ownership of, or right to use or license, any software or other materials used or required to be used in connection with the performance, accessing or use of the Solution, or alleging any adverse right, title, or interest with respect thereto; or (iii) that, if decided unfavorably to Contractor, would reasonably be expected to have an actual or potential adverse effect on its ability to perform the Services or its other obligations under this Agreement, and it

has no knowledge of any factual, legal, or other reasonable basis for any such litigation, claim, or proceeding;

- H. The Solution will conform to and perform in accordance with the specifications and all requirements of this Agreement;
- I. All specifications are, and will be continually updated and maintained so that they continue to be, current, complete, and accurate so that they do and will continue to fully describe the term of the Agreement in all respects such that at no time will the Solution have any undocumented feature;
- J. The Contractor's systems and services are and will remain free of harmful code; and
- K. Contractor will perform all services in a professional and workmanlike manner in accordance with best industry standards and practices for similar services, using Contractor personnel with the requisite skill, experience, and qualifications, and shall devote adequate resources to meet its obligations under this Agreement.

Contractor, at its expense, will (a) correct any defective work or other deliverables that do not substantially comply with Contractor's warranty; and if reasonably practicable and cost-effective, assist TriMet in restoring and recovering lost data that resulted directly from a defect in breach of an express warranty by Contractor and which was not due to any acts or omissions of TriMet or third-parties over whom Contractor had no control, management or contractual responsibility; or upon inability to correct defect(s) Contractor may refund as set forth in this Contract.

If the Contractor fails to promptly perform the services again or take the action necessary to ensure future performance in conformity with contract requirements, TriMet may: (1) by contract or otherwise, perform the services and reduce any fee payable by an amount that is equitable under the circumstances or (2) terminate the contract for default.

6.12 Inspection of Goods/Services (08/16)

- A. TriMet has the right to inspect and test all goods/services called for under the contract, to the extent practicable, at all times and places during the term of the contract. TriMet shall perform inspections and tests in a manner that will not unduly delay the work.
- B. If any of the goods or services do not conform with contract requirements, TriMet may require the Contractor to replace the goods or perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in goods or services cannot be corrected by re-performance, TriMet may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and (2) reduce the contract price to reflect the reduced value of the goods/services performed.
- C. If the Contractor fails to promptly perform the services again or to take the necessary action to ensure future performance in conformity with contract requirements, TriMet may (1) by contract or otherwise, perform the services and charge to the Contractor any cost incurred by TriMet or (2) terminate the contract for default.

6.13 Title and Risk of Loss (08/16) – Reserved

6.14 Acceptance, Rejection, and Revocation of Acceptance (08/16) – Reserved

6.15 Safety (08/16)

Notwithstanding any safety provisions elsewhere in this Contract, and in addition to Contractor's own safety procedures, Contractor shall implement and enforce all safety requirements that are standard in the industry and/or that are required by TriMet's Safety Department.

6.16 Confidentiality – Information Retrieved/Contained (08/16)

- A. Contractor hereby acknowledges and agrees that information retrieved and contained on via the Cloud, drives, discs, etc. (the "Information") may constitute and/or contain sensitive, personal information, valuable proprietary products and trade secrets of TriMet, embodying substantial creative efforts and confidential information, ideas, and expressions. Accordingly, Contractor agrees to treat (and take precautions to ensure that its employees treat) the Information as confidential in accordance with the confidentiality requirements and conditions set forth below.
- B. Contractor agrees to keep confidential all Information disclosed to it by TriMet or discovered in Contractor's forensic analysis, in accordance herewith, and to protect the confidentiality thereof in the same manner it protects the confidentiality of similar information and data of its own (at all times exercising at least a reasonable degree of care in the protection of confidential information).
- C. Contractor will not disclose or otherwise make any part of the Information available, in any form, to any person other than Contractor's employees whose job performance requires such access, and to TriMet. Contractor agrees to instruct all such employees on these obligations with respect to use, copying, protection, and confidentiality of the Information.
- D. Notwithstanding the provisions of the foregoing subsection, if Contractor wishes to have a third party consultant or subcontractor perform work which involves access to the Information for the purposes of performing this Contract, Contractor shall obtain a written confidentiality agreement from such consultant or subcontractor, which contains conditions and obligations with respect to the Information no less restrictive than those set forth in this Contract.
- E. Contractor acknowledges that the unauthorized use, transfer or disclosure of the Information thereof will (i) substantially diminish the value to TriMet of the trade secrets and other proprietary interests; (ii) render TriMet's remedy at law for such unauthorized use, disclosure or transfer inadequate; and (iii) cause irreparable injury in a short period of time. If Contractor breaches any of its obligations with respect to the use or confidentiality of the Information, TriMet shall be entitled to equitable relief to protect its interests therein, including, but not limited to, preliminary and permanent injunctive relief.
- F. Contractor's obligations under this paragraph will survive the termination of this Contract.

6.17 Travel Costs (06/19)

Contractor shall be reimbursed for the cost of airfare, lodging (up to allowable government rate), and TriMet's standard per diem costs, as determined in accordance with TriMet's Travel Policy in effect on the date of this Contract. All travel costs must be pre-approved by TriMet's Project Manager in order to be reimbursed. Travel charges shall reflect, where appropriate, any cost savings realized when Contractor is travelling to Portland on behalf of other clients. Contractor's time spent traveling to the Portland area, however, will **not** be reimbursed.

TriMet will reimburse Consultant for authorized local travel only when travel is essential to the normal performance of the work, as determined by TriMet's Project Manager. Local travel expenses shall be limited to mileage and parking costs. All travel shall be conducted in the most efficient and cost-effective manner that results in the best value for TriMet.

6.18 Travel Arrangements (08/16)

Any travel arrangements necessary to perform the services required under this Contract shall be made by and paid for by the Contractor.

6.19 Intergovernmental Cooperative Agreement (08/16)

Pursuant to ORS 279A and TriMet Contracting Rules, other public agencies may have the ability to purchase the awarded goods and services from the awarded Contractor(s) under terms and conditions of the resultant contract.

Any such purchases will be between the Contractor and the participating public agency and shall not impact the Contractor's obligation to TriMet. Any estimated purchase volumes listed herein do not include other public agencies and TriMet makes no guarantee as to their participation.

Any proposer, by written notification included with their solicitation response, may decline to extend the prices and terms of this solicitation to any and/or all other public agencies.

6.20 Disadvantaged Business Enterprise (DBE) Program (10/20)

It is the policy of TriMet that DBEs, as defined in 49 CFR Part 26, shall have an equal opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. The DBE requirements of 49 CFR Part 26 apply to this procurement.

By submitting its bid/proposal, bidder/proposer certifies that it will take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that DBEs are given an equal opportunity to compete for and participate in the performance of this Contract.

Bidder/Proposer further certifies and agrees that it has not and will not discriminate on the basis of race, color, national origin, or sex in the award of subcontracts under this Contract or in performance of this Contract.

TriMet views adherence to **Appendix F** as an important mechanism for meeting this policy objective. **Appendix F** references TriMet's current statement of annual anticipated DBE participation levels, which currently is 10.03%; TriMet strongly encourages bidder/proposers to do their best to meet this goal.

6.21 Electronic Signatures (08/16)

This Contract and related documents may be executed by the parties separately in any number of counterparts, each of which shall be deemed to be the original, and all of which together shall constitute one and the same instrument. Each will be considered signed when the signature of a party is delivered by electronic signature, or electronic (email) transmission to the other party, when it is delivered in a manner that reasonably identifies the signatory as the individual named. Such electronic signatures shall be treated in all respects as having the same effect as an original signature. If requested by either party, documents bearing original signature may be subsequently submitted to replace copies bearing electronic signatures. By signing this Contract, the representative of the Proposer thereby represents that such person is duly authorized by the Company to execute this Contract on behalf of the Proposer and that the Company agrees to be bound by the provisions thereof.

6.22 Definitions (08/20)

As used throughout this Agreement:

- A. **Services** shall mean those activities provided by Contractor relating to this Contract that TriMet has elected to purchase from Contractor. Such services may include, but are not limited to, project management, planning, configuration, customization, interfacing, integration, testing, training, implementation, and/or the ongoing support and maintenance of the Solution.
- B. **Software** shall mean any programming code provided by Contractor to TriMet, including Contractor-supplied third party software, application interfaces, or open-source code including micro-code, firmware, support tools, and operating system software.
- C. **Solution** shall mean Contractor's Software and the related Services and support plans.

6.23 Service Level Commitments (08/20)

The objectives for Service Level Agreements (SLA) shall be documented in the attached and incorporated as **Exhibit C** [supplied upon agreement between the parties].

7.0 General Contract Conditions

7.1 Contractor's Status and General Responsibilities (08/16)

Contractor is an independent Contractor for all purposes and is entitled to no compensation from TriMet other than that provided by this Contract. Contractor shall inform TriMet of Contractor's Federal Internal Revenue Service Employer Identification Number, or, if Contractor is an individual with no employer identification number, Contractor's Social Security Number. The Contractor and its officers, employees, and agents are not officers, employees or agents of TriMet as those terms are used in ORS 30.265. The Contractor, its employees or officers shall not hold themselves out either explicitly or implicitly as officers, employees or agents of TriMet for any purpose whatsoever, nor are they authorized to do so.

Contractor shall provide and pay for all labor, materials, equipment, utilities, and other goods or services necessary for full contract performance unless this Contract specifically provides otherwise. Contractor shall supervise and direct contract performance using its best skill, and shall be responsible for selecting the means of contract performance. If, during or after the term of this Contract, Contractor learns of any actual or potential defect in the services provided under this Contract, of any problem associated with the results of contract performance, or of any nonconformance with a provision of this Contract or of Federal, state, or local law, Contractor shall inform TriMet immediately in writing with a full description of the defect, problem, or nonconformance.

7.2 Notices and Communications (08/16)

All notices and other communications concerning this Contract shall be written in English and shall bear the contract number assigned by TriMet. Notices and other communications may be delivered personally, by facsimile, by email, by regular, certified or registered mail or other commercial delivery service.

A notice to TriMet will be effective only if it is delivered to that person designated in writing in either (a) the Notice of Award of this Contract, (b) the Notice to Proceed under this Contract, or (c) to another individual specifically designated by this Contract. A notice to the Contractor shall be effective if it is delivered to the individual who signed this Contract on behalf of Contractor at the address shown with that signature, to a corporate officer if Contractor is a corporation, to a general partner if Contractor is a partnership, or to another individual designated in writing by the Contractor in the contract or in a written notice to TriMet.

7.3 Assignment and Subcontracting (08/16)

Contractor shall not assign any of its rights or subcontract any of its responsibilities under this Contract without the prior written consent of TriMet. Contractor shall include in each subcontract any provisions necessary to make all of the provisions of this Contract fully effective. Contractor shall provide all necessary plans, specifications, and instructions to its suppliers and subcontractors to enable them to properly perform their work.

7.4 Indemnification (08/20)

- A. To the fullest extent permitted by law, Contractor shall hold harmless, defend and indemnify TriMet and its officers, employees and agents, from all claims, demands, suits, legal actions, losses, damages, liabilities, judgments, costs and expenses of whatsoever nature, including attorney fees and costs, resulting or arising from the intentional wrongdoing, reckless, grossly negligent or negligent acts or omissions of Contractor and/or its officers, employees, or agents, including any intentional wrongdoing, reckless, grossly negligent or negligent acts or omissions of its subcontractors under this Contract. Contractor shall not be responsible for any damages to the extent caused by the negligent acts or omissions of TriMet, its officers, employees or agents.

The obligations of Contractor under this Section will not in any way be affected or limited by the absence in any case of insurance coverage or by the failure or refusal of any insurance carrier to perform any obligation on its part to be performed under insurance policies affecting this Contract. In no way shall the Contractor limit its liability under this Contract.

- B. This indemnity shall survive the termination of this Contract or final payment hereunder. This indemnity is in addition to any other rights or remedies which TriMet and the other parties to be indemnified may have under the law or under this Contract. In the event of any claim or demand made against any party which is entitled to be indemnified hereunder, TriMet may in its sole discretion reserve, retain or apply any monies due to the Contractor under the contract for the purpose of resolving such claims; provided, however, that TriMet may release such funds if the Contractor provides TriMet with adequate assurance of the protection of TriMet's interests. TriMet shall be the sole judge of whether such assurances are adequate.

7.5 Force Majeure (05/20)

Neither party is liable for delay or default if such delay or default is the result of an event of Force Majeure, meaning acts of God, acts of the public enemy, acts of the government in its sovereign capacity, fires, floods, earthquake, epidemics, pandemics, quarantine restrictions, or freight embargoes. Force majeure shall not include the following: an event which, in whole or in part (a) is the result of a labor strike, work stoppage or slowdown, or other labor related issue caused by employees either of the Contractor, its subcontractor or supplier, or an affiliate; (b) is the result of a change in the federal revenue or income tax laws; or (c) is or was reasonably within the control of or was caused by the fault or negligence of, the party claiming Force Majeure as an excuse for delay or default.

A party asserting Force Majeure as an excuse for delay or default notify the other party within 24 hours after commencement of the delay or default, take reasonable steps to minimize any delay or damages, and continue to perform all non-excused obligations.

7.6 Prompt Payment (08/19)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than ten (10) working days from the receipt of each payment the prime contractor receives from TriMet. The prime contractor agrees further to return retainage payments to each subcontractor within 10 working days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of TriMet. This clause applies to both DBE and non-DBE subcontractors.

Compliance with the prompt payment contract requirement will be part of the Project Managers project meeting with the Prime Contractor and will be monitored on an on- going basis by the DBE Liaison Officer (DBELO).

The contractor must maintain records of all subcontracts entered into with DBEs and records of materials purchased from DBE suppliers. Such records shall show the name and business address of each DBE subcontractor or vendor and the total dollar amount actually paid to each DBE subcontractor or vendor.

The contractor must also submit to the Project Manager's office an affidavit certifying that payment was made to the DBE subcontractor or supplier, to be signed by both the prime contractor and DBE. Such an affidavit must be submitted during the project any time a progress

or final payment is made to a DBE, and when any retainage held is returned. A summary certification affidavit must be submitted at the completion of the project.

The participation of a DBE Subcontractor will not be credited towards the prime contractor's DBE achievements, or the overall aspirational goal, until the amount being counted toward the aspirational goal, and any retainage held by the prime contractor has been paid to the DBE.

7.7 Payment of Claims by TriMet (08/16)

If Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with this Contract as the claim becomes due, TriMet may pay the claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due to Contractor pursuant to this Contract. TriMet's payment of a claim under this Paragraph shall not relieve Contractor or Contractor's surety from responsibility for such claims.

7.8 Compliance with Laws and Regulations (08/16)

Contractor shall adhere to all applicable federal, state, and local laws, regulations, executive orders and ordinances applicable to the work under this Contract. The Contractor shall comply with the clauses required in every public contract entered into in the State of Oregon as set forth in ORS 279B.220, 279B.225, 279B.230, 279B.235, 279C.505, 279C.510, 279C.515, 279C.520, and 279C.530, which are hereby incorporated by reference.

Contractor acknowledges that the Oregon Government Standards and Practices laws ("Ethics Laws"), as set forth in ORS 244.010 et seq. are applicable to contractors when performing certain work on behalf of TriMet under contract and that the individual employees and agents of Contractor may be treated as public officials under ORS 244.020 (14). Contractor agrees to determine whether and under what circumstances it or its agents are subject to the Ethics Laws, as referenced herein and incorporated by reference, and shall comply and ensure compliance by those subject to Contractor's control when performing work under this Contract.

Contractor shall make payment promptly, as due, to all persons supplying to the Contractor labor or material for the performance of the work provided for in the contract; pay all contributions or amounts due the Industrial Accident Fund from the Contractor or subcontractor incurred in the performance of the contract; and pay to the Department of Revenue all sums withheld from employees under ORS 316.167. ORS 279B.220.

Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to the employees of the Contractor, of all sums that the Contractor agrees to pay for the services and all moneys and sums that the Contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services. ORS 279B.230.

All subject employers working under this Contract are either employers that will comply with ORS 656.017 or employers that are exempt under ORS 656.126.

7.9 Liens Prohibited (08/16)

Contractor shall not permit any lien or claim to be filed or prosecuted against TriMet, its property or its right-of-way on account of any labor or material furnished or any other reason for work arising out of this Contract. If any lien shall be filed, Contractor shall satisfy and discharge or cause such lien to be satisfied and discharged immediately at Contractor's sole expense.

7.10 Hours of Labor – Personal Services Contracts (08/16)

In the case of contracts for personal services designated under ORS 279A.055, employees shall receive at least time and a half pay for work performed on the legal holidays specified in ORS 279B.020(1)(b)(B) to (G), and for all overtime worked in excess of 40 hours in any one week, except for individuals who are excluded under ORS 653.010 to 653.261 or under 29 U.S.C. sections 201 to 219 from receiving overtime.

7.11 Prohibited Interests (08/16)

- A. No TriMet Board member, officer, employee or agent who ceases to hold a position at TriMet shall have any direct beneficial financial interest in this Contract, if they authorized this Contract while acting in their official position at TriMet, for two years after the date the contract was authorized. This precludes working on this Contract as Contractor's employee. The term "authorize" in this provision means that the Board member, officer, employee or agent ("public official") performed a significant role in the selection of the Contractor or the execution of this Contract, including recommending approval or signing of the contract, serving on the selection committee or having the final authorizing authority for this Contract.
- B. No TriMet Board member, officer, employee, or agent (or any member of the immediate family or the partner of any of the aforementioned) shall solicit or accept, and Contractor (including any subcontractors) shall not offer or give to any TriMet Board member, officer, employee or agent (or any member of the immediate family or the partner of any of the aforementioned), any gratuities, favors, or anything of monetary value, in connection with the administration of this Contract, except to the extent permitted by applicable law and TriMet policy.

7.12 Organizational Conflict of Interest (08/16)

The contractor warrants that, to the best of the contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, or that the contractor has disclosed all such relevant information.

The contractor agrees that if an actual or potential organizational conflict of interest is discovered after award, the contractor will make a full disclosure in writing to TriMet. This disclosure shall include a description of actions which the contractor has taken or proposes to take, after consultation with TriMet, to avoid, mitigate, or neutralize the actual or potential conflict.

TriMet may terminate this Contract for convenience, in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the contractor was aware of a potential organizational conflict of interest prior to award or discovered an actual or potential conflict after award and did not disclose or misrepresented relevant information to TriMet, TriMet

may terminate the contract for default, or pursue such other remedies as may be permitted by law or this Contract.

The contractor further agrees to insert provisions which shall conform substantially to the language of this clause, including this paragraph (d), in any subcontract or consultant agreement hereunder.

7.13 Integration, Modification, and Administrative Changes (08/16)

This Contract includes the entire agreement of the parties and supersedes any prior discussions or agreements regarding the same subject. This Contract may be modified in writing by a modification that has been signed by individuals authorized to bind each of the parties contractually. TriMet reserves the right to make administrative changes to the contract unilaterally. An administrative change means a written contract change that does not affect the substantive rights of the parties.

7.14 Severability/Survivability (08/16)

If any of the provisions contained in this Agreement are held by a court of law or arbitrator to be illegal, invalid or unenforceable, the enforceability of the remaining provisions shall not be impaired, and the parties shall negotiate an equitable adjustment of this Contract so that the purposes of this Contract are affected. All provisions concerning indemnity survive the termination or expiration of this Contract for any cause.

7.15 Waiver and Nonwaiver (08/16)

- A. A waiver by one party of a right to a remedy for breach of this Contract by the other party shall not be deemed to waive the right to a remedy for a subsequent breach by the other party. TriMet's acceptance of goods or services, or payment under this Contract, shall not preclude TriMet from recovering against Contractor or Contractor's surety for damages due to Contractor's failure to comply with this Contract.
- B. Both parties having had the opportunity to consult an attorney regarding the provisions of this Contract, the parties agree to waive the principle of contract interpretation that an ambiguity will be construed against the party that drafted the ambiguous provision.

7.16 Termination for Default (08/16)

- A. TriMet may, by written notice of default to the Contractor, terminate this Contract in whole or in part if the Contractor fails to (i) Deliver the goods or to perform the services within the time specified in this Contract or any extension; (ii) Make progress, so as to endanger performance of this Contract; or (iii) Perform any of the other provisions of this Contract.
- B. TriMet's right to terminate this Contract under subdivision (A) of this clause may only be exercised if the Contractor does not cure such failure within 10 calendar days (or more if authorized in writing by the Contract Administrator) after receipt of the notice from the Contract Administrator specifying the failure.

- C. If TriMet terminates this Contract in whole or in part under the default provisions, it may acquire, under the terms and in the manner the Contracting Officer considers appropriate, goods or services similar to those terminated, and the Contractor will be liable to TriMet for any excess costs for those goods or services. However, the Contractor shall continue the work not terminated.
- D. Contractor shall be paid the contract price only for completed goods or services delivered and accepted. If it is later determined by TriMet that Contractor had an excusable reason for not performing, such as a strike, fire, flood, or other event that is not the fault of, or is beyond the control of, Contractor, TriMet may allow Contractor to continue work, or may treat the termination as a termination for convenience.
- E. The rights and remedies of TriMet in this Article are in addition to any other rights and remedies provided by law or under this Contract.

7.17 Termination for Convenience (08/16)

TriMet may terminate this Contract, in whole or in part, at any time by written notice to the Contractor when it is in TriMet's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. TriMet will not be responsible for payment for any work performed after the time of termination. After termination, the Contractor shall promptly submit to TriMet its termination claim for payment. If the Contractor has any property in its possession belonging to TriMet, the Contractor will account for the same, and return it to TriMet in the manner that TriMet directs.

7.18 Termination Following Bankruptcy (08/20)

TriMet may terminate any and all of this Agreement and any Task Order(s), effective immediately, by written notice to Contractor if Contractor: (A) is dissolved or liquidated or takes any corporate action for such purpose; (B) becomes insolvent or is generally unable to pay, or fails to pay, its debts as they become due; (C) files or has filed against it a petition for voluntary or involuntary bankruptcy or otherwise becomes subject, voluntarily or involuntarily, to any proceeding under any domestic or foreign bankruptcy or insolvency Law; (D) makes or seeks to make a general assignment for the benefit of its creditors; or (E) applies for or has appointed a receiver, trustee, custodian, or similar agent appointed by order of any court of competent jurisdiction to take charge of or sell any material portion of its property or business.

Effect of Contractor Bankruptcy. All rights and licenses granted by Contractor under this Agreement are and shall be deemed to be rights and licenses to "intellectual property," and the subject matter of this agreement is and shall be deemed to be "embodiment[s]" of "intellectual property" for purposes of and as such terms are used in and interpreted under section 365(n) of the United States Bankruptcy Code (the "**Code**") (11 U.S.C. § 365(n)).

TriMet shall have the right to exercise all rights and elections under the Code and all other applicable bankruptcy, insolvency, and similar laws with respect to this Agreement. Without limiting the generality of the foregoing, if Contractor or its estate becomes subject to any bankruptcy or similar proceeding: (A) subject to TriMet's rights of election, all rights and licenses granted to TriMet under this Agreement will continue subject to the respective terms and conditions hereof and thereof, and will not be affected, even by Contractor's rejection of this Agreement; and (B) TriMet shall be entitled to a complete duplicate of (or complete access to,

as appropriate) all such intellectual property and embodiments of intellectual property, and the same, if not already in TriMet's possession, shall be promptly delivered to TriMet, unless Contractor elects to and does in fact continue to perform all of its obligations under this Agreement.

7.19 Intellectual Property (08/16)

Contractor shall hold harmless, defend and indemnify TriMet, its directors, officers, employees and agents from any loss of any kind, based on a claim that the work performed, or products provided hereunder, including material(s) or any part thereof, constitutes infringement of any patent, trademark, trade-name, copyright, trade secret, or other intellectual property infringement, including but not limited to claims arising out of the manufacture, sale or use of such work, products or materials. Such indemnification shall include all damages and costs incurred by TriMet as the result of the claim, including attorney fees and expert witness fees.

7.20 Work Product (08/20)

Contractor shall own and retain all title, copyright, patents, trademarks, trade secrets, and other proprietary rights in the Software, documentation and deliverables, including but not limited to bug patches, fixes, updates, upgrades, enhancements, modifications and all derivatives and all other manifestations of Contractor's intellectual property. Aside from the license granted hereunder, TriMet nor any third party, acquire any right, express or implied, in any Contractor's intellectual property.

Contractor warrants that it owns the Software and has title to and all rights necessary to deliver the software to TriMet, and has obtained rights to deliver other software to TriMet from any third party software included in Contractor's Solution. No title, ownership or interest in Contractor's Software or any of its parts, in any third party software incorporated into Contractor's Solution, or applicable rights therein such as patents, copyrights and trade secrets, shall be transferred to TriMet.

With respect to Contractor owned intellectual property under this contract or included in a deliverable under a SOW, Contractor grants the TriMet a non-exclusive, non-transferable, irrevocable, perpetual license for the sole purpose of allowing TriMet to make use of thereof for its own internal purposes in the manner contemplated in the applicable SOW. Such license is subject to the TriMet's payment of all fees and expenses under the related SOW.

TriMet and Contractor agree that all custom software developed for TriMet (if any) produced pursuant to this Contract ("Custom Content") shall not be considered work made for hire under the U.S. Copyright Act, 17 U.S.C. §101 et seq., but shall be covered by the license provisions of this Contract.

TriMet and Contractor agree that all Custom Content created pursuant to this Agreement shall be owned by Contractor. Contractor shall provide TriMet with a non-exclusive, non-transferable, non-sub licensable perpetual license to use such Custom Content.

TriMet shall retain ownership, custody, and control of all TriMet Content. "TriMet Content" means any and all information, trademarks, service marks, logos, files, images, text, files data, materials, works, expressions, or other content, including any that are (a) uploaded, submitted, posted, transferred, transmitted, or otherwise provided or made available by or on behalf of TriMet for processing by or through the services provide by this contract, or (b) collected, downloaded, or

otherwise received by TriMet or any authorized user pursuant to this Agreement. All output, copies, reproductions, improvements, modifications, adaptations, translations, and other derivative works of, based on, derived from, or otherwise using any TriMet Content are themselves also TriMet Content. For the avoidance of doubt, TriMet Content includes all user data and personal information

Contractor shall use TriMet Content only to provide and maintain the services provided under this Contract. Contractor will not capture, maintain, scan, index, share or use TriMet Content stored or transmitted by such Services, or otherwise use any data-mining technology, except as authorized or required by this Contract. Contractor shall not use TriMet Content stored or transmitted by such Services for any advertising or other commercial purpose of Contractor or any third party.

Each party is and shall remain the owner of all right, title and interest in and to any and all data that it owned prior to the effective date of this agreement, and in and to any data to which it may hereafter acquire ownership. Without limiting the generality of the foregoing, TriMet shall own all right, title and interest in and to TriMet Content. Except as otherwise provided in this Contract, no party shall be obligated to convey any right, title and/or interest in any data to the other. Subject to the terms of Contract, including the license rights granted to TriMet, each party, upon request of the other, promptly shall return to the other any data owned by the other that may have been disclosed.

7.21 Paragraph Headings and Other Titles (08/16)

The parties agree that paragraph headings and other titles used in this Contract are for convenience only, and are not to be used to interpret this Contract.

7.22 Audit and Inspection of Records (08/16)

- A. Contractor shall maintain a complete set of records relating to this Contract in accordance with generally accepted accounting procedures. Contractor shall permit the authorized representatives of TriMet, the U.S. Department of Transportation, the Oregon Secretary of State and the Comptroller General of the United States to inspect and audit all work, materials, payrolls, books, accounts, and other data and records of Contractor relating to its performance under this Contract until the expiration of three (3) years after final payment under this Contract.
- B. Contractor further agrees to include in all of its subcontracts under this Contract a provision to the effect that the subcontractor agrees that TriMet, the U.S. Department of Transportation, the Oregon Secretary of State and the Comptroller General of the United States, or any of their duly authorized representatives shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and other records of the subcontractor. The term "subcontract" as used in this Section excludes (1) purchase orders not exceeding \$10,000.00 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.
- C. The periods of access and examination described in subparagraphs A and B of this Section for records that relate to (1) disputes between TriMet and Contractor,

(2) litigation or settlement of claims arising out of the performance of this Contract, or (3) costs and expenses of this Contract as to which exception has been taken by the Comptroller General or any of his or her duly authorized representatives, shall continue until all disputes, claims, litigation, appeals, and exceptions have been resolved.

7.23 Mediation (08/16)

Should any dispute arise between the parties concerning this agreement that is not resolved by mutual agreement, it is agreed that it will be submitted to mediated negotiation prior to any party commencing litigation. In such an event, the parties to this agreement agree to participate in good faith in a non-binding mediation process. The mediation shall take place in Portland, Oregon. The mediator shall be selected by mutual agreement of the parties, but in the absence of such agreement each party shall select a temporary mediator and those mediators shall jointly select the permanent mediator. The mediator's fees and costs shall be borne equally by the parties.

7.24 Applicable Law and Jurisdiction (08/16)

This Contract shall be governed by Oregon law, without resort to any jurisdiction's conflicts of law principles, rules or doctrines. Any suit or action arising from this Contract shall be commenced and prosecuted in the courts of Multnomah County, Oregon or the U.S. District Court for the District of Oregon, in Portland, Oregon, as applicable. The parties agree to submit to the jurisdiction and venue of these courts.

7.25 Nondiscrimination (08/16)

During the term of this Contract, Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, sexual orientation, disability, or national origin.

7.26 Changes (08/16)

- A. TriMet may at any time, by written order, make changes within the general scope of this Contract in any one or more of the following:
 - 1. Description of services to be performed.
 - 2. Time of performance (i.e., hours of the day, days of the week, etc.).
 - 3. Place of performance of the services.
- B. If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this Contract, whether or not changed by the order, TriMet shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the contract.
- C. The Contractor must assert its right to any adjustment under this clause within 30 days from the date of receipt of the written order. However, if TriMet decides that the facts justify it, TriMet may receive and act upon a proposal submitted before final payment of the contract.

7.27 Advertising or Publicity (08/16)

Contractor shall not disclose, use or refer to this Agreement or any of its terms, or the name of TriMet in any advertising, publicity release, promotional materials or materials distributed to existing or prospective customers, without the prior written consent of TriMet.

8.0 Drug and Alcohol Program Requirements (08/16) – Reserved

9.0 Authority (08/16)

The representatives signing on behalf of the parties certify that they are duly authorized by the party for whom they sign to make this Contract.

10.0 Certificate of Oregon Tax Law Compliance (08/16)

By execution of this Contract, Contractor certifies under penalty of perjury as provided in ORS 305.385(6), that it is, to the best of its knowledge, not in violation of any Oregon tax law. For purposes of this Certificate, "Oregon Tax Laws" are state taxes imposed by ORS 320.005 to 320.150 and 403.200 to 403.250 and ORS chapters 118, 314, 316, 317, 318, 321 and 323, and local taxes administered by the Oregon Department of Revenue under ORS 305.620.

CONTRACTOR

TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

By: _____
(signature)

By: _____
(signature)

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Address: _____

APPROVED AS TO FORM

Telephone: _____

Linda Joy
Contract Administrator
Procurement & Supply Chain Mgmt.

Email: _____

Contractor's Federal I.D. No.

EXHIBIT A – FEDERAL REQUIREMENTS (02/19)

This Contract is funded in part under a financial assistance agreement between TriMet and the U.S. Department of Transportation, Federal Transit Administration (FTA). This Contract is subject to all provisions prescribed for third party contracts by that financial assistance agreement, including, but not necessarily limited to, the provisions below. Unless otherwise specified, all terms of this Section shall be included all supplier and subcontractor agreements.

Except as FTA determines otherwise in writing Contractor must comply with all applicable federal laws, regulations, and requirements, and should follow applicable federal guidance. FTA may take enforcement action if Contractor violates an applicable federal law, regulation, or requirement, or does not follow applicable federal guidance.

1. Incorporation of Federal Transit Administration Terms

All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, dated November 1, 2008, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any TriMet requests which would cause TriMet to be in violation of the FTA terms and conditions.

2. Changes to Federal Requirements

Federal requirements may change due to changes in federal law, regulation, other requirements, or guidance, or changes in the FTA funding agreement, including any information incorporated by reference and made part of that agreement. Applicable changes to those federal requirements or the FTA funding agreement will apply to the Contract and parties hereto at any tier.

3. No Federal Government Commitment or Liability to Third Parties

Notwithstanding any concurrence by the Federal Government in or approval of this solicitation or Contract, except as the Federal Government expressly consents in writing, the Federal Government does not and shall not have any commitment or liability related to Contractor or its subcontractors at any tier, or to any other person or entity that is not a party to the FTA/TriMet Master Agreement.

4. Record Retention and Access to Sites of Performance

Contractor and subcontractors shall retain, complete and readily accessible records related to this Contract, including, but not limited to, data, documents, reports, statistics, subagreements, leases, third party contracts, arrangements, other third party agreements of any type, and supporting materials related to those records. Such records shall be maintained for at least three years after the final payment under this Contract or until any disputes, litigation, claims, appeals or exceptions have been resolved, whichever is later.

Contractor and all subcontractors shall:

- a. provide sufficient access to inspect and audit records and information related to this Contract to the U.S. Secretary of Transportation or the Secretary's duly authorized representatives, to the Comptroller General of the United States, and the Comptroller General's duly authorized;
- b. permit those individuals listed above to inspect all work and materials related to the Contract and to audit any related information under the control of the TriMet, Contractor or subcontractor within books, records, accounts, or other locations; and
- c. otherwise comply with 49 U.S.C. § 5325(g), and federal access to records requirements as set forth in the applicable U.S. DOT Common Rules.

Contractor and all subcontractors shall permit FTA to have access to the sites of performance of the Contract and related work and to make site visits as needed in compliance with the U.S. DOT Common Rules. Subcontracts under this section do not include purchase orders not exceeding \$10,000 or subcontracts or purchase orders of public utility services at rates established for uniform applicability to the general public.

5. False or Fraudulent Statements or Claims

The provisions of the Program Fraud Civil Remedies Act of 1986 as amended, 31 U.S.C 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to this Contract. Contractor certifies or affirms the truthfulness of any statement it has made, it makes, or causes to be made, pertaining to this Contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, if Contractor makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate. If Contractor makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. 5307, the Government reserves the right to impose the penalties of 18 U.S.C. 1001 and 49 U.S.C. 5307 (n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

6. Equal Employment and Civil Rights

- a. Nondiscrimination in Federal Public Transportation Programs

Contractor and subcontractors shall:

1. prohibit discrimination based on race, color, religion, national origin, sex (including gender identity), disability, or age;
2. prohibit the exclusion from participation in employment or a business opportunity for reasons identified in 49 U.S.C. § 5332, denial of program benefits in employment or a business opportunity identified in 49 U.S.C. § 5332, or discrimination identified in 49 U.S.C. § 5332, including discrimination in employment or a business opportunity identified in 49 U.S.C. § 5332; and

3. follow the most recent edition of FTA Circular 4702.1, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable federal laws, regulations, requirements, and guidance.

b. Nondiscrimination – Title VI of the Civil Rights Act

Contractor and subcontractors shall:

1. prohibit discrimination based on race, color, or national origin; comply with: Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d et seq., U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964," 49 C.F.R. part 21, and federal transit law, specifically 49 U.S.C. § 5332, and
2. follow the most recent edition of FTA Circular 4702.1, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable federal laws, regulations, requirements, and guidance, U.S. DOJ, "Guidelines for the enforcement of Title VI, Civil Rights Act of 1964," 28 C.F.R. § 50.3, and all other applicable federal guidance that may be issued.

c. Equal Employment Opportunity

Contractor and subcontractors shall:

1. prohibit discrimination based on race, color, religion, sex, sexual orientation, gender identity, or national origin;
2. comply with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e et seq.;
3. facilitate compliance with Executive Order No. 11246, "Equal Employment Opportunity" September 24, 1965 (42 U.S.C. § 2000e note.), as amended by any later Executive Order that amends or supersedes it in part and is applicable to federal assistance programs;
4. comply with federal transit law, specifically 49 U.S.C. § 5332 , FTA Circular 4704.1 "Equal Employment Opportunity (EEO) Requirements and Guidelines for Federal Transit Administration Recipients," and other federal guidance pertaining to EEO laws, regulations, and requirements, and prohibitions against discrimination on the basis of disability;
5. ensure that applicants for employment are employed and employees are treated during employment without discrimination based on their race, color, religion, national origin, disability, age, sexual orientation, gender identity, or status as a parent, as provided in Executive Order No. 11246 and by any later Executive Order that amends or supersedes it, and as specified by U.S. Department of Labor regulations; and

6. take affirmative action that includes, but is not limited to: Recruitment advertising, recruitment, and employment; Rates of pay and other forms of compensation; Selection for training, including apprenticeship, and upgrading, and; transfers, demotions, layoffs, and terminations.

In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

7. Americans with Disabilities Act & Section 504 of the Rehabilitation Act

The Contractor and any of its Subsuppliers under the Contract agree to comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), 42 USC §§ 12101 *et seq.*; Section 504 of the Rehabilitation Act of 1973, as amended, 29 USC § 794; 49 USC § 5301(d); and the following regulations and any amendments thereto:

DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 CFR Part 37;

- a. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 CFR Part 27;
- b. Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB)/U.S. DOT regulations, "American With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38;
- c. Department of Justice (DOJ) regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 CFR Part 35;
- d. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 CFR Part 36;
- e. General Services Administration regulations, "Accommodations for the Physically Handicapped," 41 CFR Subpart 101-19;
- f. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630;
- g. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for Persons with Disabilities," 47 CFR Part 64, Subpart F;
- h. FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 CFR Part 609;
- i. U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 CFR Part 1194; and
- j. Any implementing requirements FTA may issue.

8. Disadvantaged Business Enterprise

TriMet has established a Disadvantaged Business Enterprise (DBE) Program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. TriMet has received Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, TriMet has signed an assurance that it will comply with 49 CFR Part 26. It is the policy of TriMet to ensure that DBEs, as defined in part 26, have an equal opportunity to receive and participate in DOT-assisted contracts. To the extent authorized by applicable federal laws, regulations, or requirements, Contractor and its subcontractors shall facilitate participation by small business concerns owned and controlled by socially and economically disadvantaged individuals, also referred to as "Disadvantaged Business Enterprises" (DBEs).

Contractor and subcontractors shall not discriminate based on race, color, national origin, or sex in the award and performance of any FTA or U.S. DOT-assisted subagreement, third party contract, and third party subcontract, as applicable, and the administration of its DBE program or the requirements of 49 C.F.R. part 26. The Contractor and its subcontractors shall take all necessary and reasonable steps under 49 C.F.R. part 26 to ensure nondiscrimination in the award and administration of U.S. DOT-assisted subagreements, third party contracts, and third party subcontracts, as applicable.

Failure by the Contractor or its subcontractors to carry out the requirements of this subparagraph is a material breach of this subagreement, third party contract, or third party subcontract, as applicable. The following remedies, or such other remedy as TriMet deems appropriate, include, but are not limited to, withholding monthly progress payments, assessing sanctions, liquidated damages, and/or disqualifying the Contractor or subcontractor from future bidding as non-responsible.

9. Veterans Preference

For construction contracts, contractors shall, to the extent practicable, give a hiring preference to veterans, as defined in 5 U.S.C § 2108, who have the skills and abilities required to perform the work except in the case of preference over a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.

10. Debarment and Suspension

Neither TriMet nor Contractor or its subcontractors shall make an award to a party listed on U.S. GSA "System for Award Management – Lists of Parties Excluded from Federal Procurement and Nonprocurement Programs" (SAM) in accordance with OMB guidelines at 2 CFR 180 Proposer shall complete the debarment certification, Proposal Form 1.3. This certification is a material representation of fact relied on by TriMet. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to TriMet, the federal government may pursue available remedies, including but not limited to suspension and/or debarment.

Contractor shall ensure that it and all subcontractors comply with federal debarment and suspension requirements, and review the SAM at <https://www.sam.gov> prior to award.

11. Solid Waste

Contractor and subcontractors shall comply with all applicable standards, orders or regulations issued pursuant to section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

12. Recycled Products

The contractor agrees to comply with all the requirements of section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247

13. Procurement of Recovered Materials

TriMet and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

14. Lobbying Restrictions

Contractor and subcontractors shall not use federal assistance to influence any officer or employee of a federal agency, member of Congress or an employee of a member of Congress, or officer or employee of Congress on matters that involve any federal contract, grant, or any other award covered under by 31 U.S.C. § 1352 , including any extension or modification, as set forth in the Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352, as amended, U.S. DOT regulations, "New Restrictions on Lobbying," 49 C.F.R. part 20, to the extent consistent with 31 U.S.C. § 1352, as amended, and other applicable federal laws, regulations, requirements, and guidance prohibiting the use of federal assistance for any activity concerning legislation or appropriations designed to influence the U.S. Congress or a state legislature. Provided, however, that if permitted by applicable federal law, regulations, requirements, or guidance, such lobbying activities described above may be undertaken through TriMet's proper official channels.

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any Agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with obtaining

any federal contract, grant or any other award covered by 31 USC 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-federal funds with respect to that federal contract, grant or award covered by 31 USC 1352. Such disclosures are forwarded from tier to tier up to the recipient.

15. Dispute Resolution and Remedies

Should any dispute arise between the parties concerning this Contract that is not resolved by mutual agreement, it is agreed that it will be submitted to mediated negotiation prior to any party commencing litigation. In such an event, the parties to this agreement agree to participate in good faith in a non-binding mediation process. The mediation shall take place in Portland, Oregon. The mediator shall be selected by mutual agreement of the parties, but in the absence of such agreement each party shall select a temporary mediator and those mediators shall jointly select the permanent mediator. The mediator's fees and costs shall be borne equally by the parties.

Unless otherwise directed by TriMet, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

All claims, counterclaims, disputes and other matters in question between TriMet and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State of Oregon in which TriMet is located.

The duties and obligations imposed by the Contract documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law. In the event that TriMet or Contractor fail to act, such failure shall not constitute a waiver of any right or obligation afforded to either party under the Contractor or by law, nor shall any such action or failure to act constitute an approval of or acceptance of any breach there under, except as may be specifically agreed in writing by both parties.

16. Clean Air Act

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC §§ 7401 *et seq.* The Contractor agrees to report each violation to the Agency and understands and agrees that the Agency will, in turn, report each violation as required to ensure notification to FTA and the appropriate EPA Regional Office. The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance provided by FTA.

17. Federal Water Pollution Control Act

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 USC 1251 *et seq.* The Contractor agrees to report each violation to the Agency and understands and agrees that the Agency will, in turn, report each violation as required to ensure notification to FTA and the appropriate Environmental Protection Agency (EPA) Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance provided by FTA.

18. Environmental Violations

For all contracts and subcontracts in excess of \$100,000.00, Contractor agrees to comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 USC 1857(h)), section 508 of the Clean Water Act (33 USC 1368), Executive Order 11378, and Environmental Protection Agency regulations (40 CFR, Part 15), which prohibit the use under nonexempt Federal contracts, grants, or loans, of facilities included on the EPA List for Violating Facilities. Contractor shall report violations to FTA and to the USEPA Assistant Administrator for Enforcement (ENO329).

19. Energy Conservation

Contractor and subcontractors shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC section 6321, et seq.).

20. Privacy Act

The following requirements apply to the Contractor, any subcontractor, and those employees that administer any system of records on behalf of the Federal Government under any contract. The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

21. Contract Work Hours and Safety Standards Act

Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

- a. Overtime requirements - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- b. Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
- c. Withholding for unpaid wages and liquidated damages - The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
- d. Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

22. Cargo Preference – Reserved

23. Fly America

If this contract involves the international transportation of goods, equipment, or personnel by air, Contractor agrees 1) to use U.S. flag carriers, to the extent service by these carriers is available and 2) to include this requirement in subcontracts at every tier. The Contractor shall submit, if a foreign carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event provide a certificate of compliance with Fly America Requirements 41 CFR Part 301-10.

24. Davis-Bacon and Copeland Anti-Kickback Acts – Reserved

25. Seismic Safety – Reserved

26. Transit Employee Protective Arrangements – Reserved

27. Charter Service Operations – Reserved

28. School Bus Operations – Reserved

29. Fair Labor Standards Act (Awards Involving Commerce) – Reserved

30. Buy America – Reserved

31. Patent and Rights in Data (05/17)

A. These following requirements apply to each contract involving experimental, developmental or research work:

1. The term "subject data" used in this clause means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the contract. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to contract administration.
2. The following restrictions apply to all subject data first produced in the performance of the contract to which this Attachment has been added:
 - a. Except for its own internal use, the Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the Contractor authorize others to do so, without the written consent of the Federal Government, until such time as the Federal Government may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to any contract with an academic institution.
 - b. In accordance with 49 C.F.R. § 18.34 and 49 C.F.R. § 19.36, the Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for "Federal Government purposes," any subject data or copyright described in subsections (2)(b)1 and (2)(b)2 of this clause below. As used in the previous sentence, "for Federal Government purposes," means use only for the direct purposes of the Federal Government. Without the copyright owner's consent, the Federal Government may not extend its Federal license to any other party.
 - (1) Any subject data developed under that contract, whether or not a copyright has been obtained; and
 - (2) Any rights of copyright purchased by the Contractor using Federal assistance in whole or in part provided by FTA.
 - c. When FTA awards Federal assistance for experimental, developmental, or research work, it is FTA's general intention to increase transportation knowledge available to the public, rather than to restrict the benefits resulting from the work to participants in that work. Therefore, unless FTA determines

otherwise, the Contractor performing experimental, developmental, or research work required by the underlying contract to which this Attachment is added agrees to permit FTA to make available to the public, either FTA's license in the copyright to any subject data developed in the course of that contract, or a copy of the subject data first produced under the contract for which a copyright has not been obtained. If the experimental, developmental, or research work, which is the subject of the underlying contract, is not completed for any reason whatsoever, all data developed under that contract shall become subject data as defined in subsection (a) of this clause and shall be delivered as the Federal Government may direct. This subsection (c), however, does not apply to adaptations of automatic data processing equipment or programs for the Contractor's use whose costs are financed in whole or in part with Federal assistance provided by FTA for transportation capital projects.

- d. Unless prohibited by state law, upon request by the Federal Government, the Contractor agree to indemnify, save, and hold harmless the Federal Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under that contract. Contractor shall not be required to indemnify the Federal Government for any such liability arising out of the wrongful act of any employee, official, or agents of the Federal Government.
 - e. Nothing contained in this clause on rights in data shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.
 - f. Data developed by Contractor and financed entirely without using Federal assistance provided by the Federal Government that has been incorporated into work required by the underlying contract to which this Attachment has been added is exempt from the requirements of subsections (b), (c), and (d) of this clause, provided that the Contractor identifies that data in writing at the time of delivery of the contract work.
 - g. Unless FTA determines otherwise, the Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.
3. Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (i.e., a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual, etc.), Contractor agrees to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.

4. The Contractor also agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.
- B. Patent Rights The following requirements apply to each contract involving experimental, developmental, or research work:
1. General. If any invention, improvement, or discovery is conceived or first actually reduced to practice in the course of or under this Agreement, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, Contractor agrees to take actions necessary to provide immediate notice and a detailed report to the party at a higher tier until FTA is ultimately notified.
 2. Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual), the Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.
 3. The Contractor also agrees to include the requirements of this clause in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.
32. Drug & Alcohol Program Requirements – Reserved

END OF EXHIBIT A – FEDERAL REQUIREMENTS

Appendix A – Key Mobility Metric Categories and Research Questions

Metric Category	Question
Accessibility	Is service equitably distributed across customers with different demographics, economic backgrounds, mobility levels, language, etc.?
Availability	Does the project/policy change/initiative improve the availability of travel/information/payment options for customers?
Cost	Does the project/policy change/initiative improve cost-effectiveness for TriMet?
Reliability	How reliable is the system for customers (options, travel time, cost, etc.)?
Utilization	How many people are using the system?
Customer Satisfaction	How satisfied are customers with quality of service and with the Trip Planner? Total number of trips improved through any TriMet service (direct, through trip Planning, payment, etc.)
Demand for MOD	Does the project/policy change/initiative contribute to customer demand for MOD?
Environmental/Economic	How does the project/policy change/initiative contribute to TriMet's goals for the region?
Knowledge Transfer	What new lessons are learned that can be applied to future MOD efforts?
Safety	Does the project/policy change/initiative maintain safe access and travel for travelers?
Time	Does the project/policy change/initiative reduce travel times for customers?

Appendix B – Key Mobility Metrics

The following table is a snapshot of key mobility metrics that can be derived from operations and ridership data currently available within TriMet systems.

Metric Category	Metric Name
Cost	Annual System Subsidy
Cost	Subsidy Ratio
Availability*	Vehicle Revenue Miles
Availability*	Vehicle Revenue Hours
Cost*	Operating Cost Per Revenue Hour
Cost*	Cost Per Trip (agency)
Cost*	Price Per Trip (traveler)
Reliability*	Missed Trips
Reliability*	On-Time Performance
Safety*	Incidents (Crashes) Reported
Safety*	Fatalities
Safety*	Injuries
Safety*	Collisions
Safety*	Derailments
Safety*	Fires
Safety*	Hazardous Material Spills
Safety*	Evacuations
Safety*	Arrests
Safety*	Significant Security Events
Utilization*	Passenger Miles Traveled (PMT)
Time	Dwell Times
Utilization	Trips Booked on Prepaid Debit Cards
Customer Satisfaction	Response to Customer Complaints
Accessibility	Satisfaction of Transportation Disadvantaged Travelers
Customer Satisfaction	Trip Planning and Booking Experience

Metric Category	Metric Name
Knowledge Transfer	Trips Planned by Trip Planner
Utilization ^	Taps by Passenger Type
Utilization ^	Taps by Agency
Utilization ^	Open Payments vs Virtual Card
Utilization ^	Ratio of Hop vs Non-Hop rides
Utilization ^	Hop Adoption
Utilization ^	Hop Cards / Hop Tickets
Utilization ^	Call Center Contacts / Contacts Per Tap
Utilization ^	Hop Card Registration
Utilization ^	Hop Value & Products Loaded (by Agency, by Channel)
Utilization ^	Passenger Revenues by Type
Availability	Employers Offering Transit Passes
Time	Total Journey Time (by mode)
Safety	Customer Perception of Safety
Customer Satisfaction	Return Users
Customer Satisfaction	Rider Attrition
Reliability	Travel Time Reliability
Demand for MOD	Number of Multimodal Trips Planned/Completed
Accessibility	Trip Availability/Reliability for Underserved Communities
Reliability	Accuracy of Predicted Wait Time
Demand for MOD	Maximum Number of Trips Planned per Hour

* Generated as part of standard NTD reporting

^ Generated for monthly Hop Fastpass reports

Appendix C – Third Party Data Sources

This section describes potential third party sources of data to support the development of mobility metrics and analysis within the SMP. It is not meant to be exhaustive, but rather illustrate the type of supplemental data that TriMet might want to integrate.

Additional data in support of the mobility metrics can be gathered through surveys.

Oregon Metro

The Metro MPO serves the Clackamas, Multnomah and Washington counties, and has developed a regional travel demand model for the Portland area that provides useful future forecasting capabilities that could be helpful for TriMet when evaluating changes to travel patterns as a result of policies or projects.

Portland Bureau of Transportation (PBOT)

PBOT has collected a variety of transit and travel-related data throughout the Portland area, including vehicle volume counts along major roadways, speed counts and vehicle collision data that could be useful in evaluating potential areas of concern within TriMet boundaries.

Oregon Department of Transportation (ODOT)

ODOT has collected a variety of transit and travel-related data along state and inter-state routes throughout Oregon, including vehicle counts and vehicle collision data. As with PBOT, this data could be useful in evaluating potential areas of concern within TriMet boundaries.

ACS Census Data

ACS census data has been collected for the region that TriMet serves, spanning the 5-year time period of 2014-2018. This census data, and more historic census data, contains useful land use and socioeconomic information that could be used to better evaluate equity-related metrics.

BIKETOWN Data

Biketown is a privately-owned micro-mobility bikeshare service based in Portland. They have collected bike ridership data throughout the Portland area, which could be useful in evaluating bike travel patterns and adapted TriMet services to better meet bike user needs.

Strava Heat Map Data

Strava is a privately-owned app frequently used by runners and cyclists. This app uses location-based software to map routes frequently taken by its users, making it a useful tool to evaluate what areas non-motorized users frequent to better adapt TriMet services to those users.

INRIX

INRIX Speed data provides a comprehensive collection of historic speed and travel time data available in archival or profile formats to help you analyze how traffic responded to a specific moment in time or typically flows on a particular roadway segment.

Micromobility Data (eScooters)

TriMet uses scooters within the OpenTripPlanner to assist in planning intermodal trips. The current scooters used to plan trips include: Bird, Bolt, Lime, and Spin. These data resources are available from their GBFS feeds.

Appendix D – TriMet IMI Grant Application

STEPS to MOD & MPI

TriMet IMI Demonstration Program Project

Mobility on Demand and Mobility Payment Integration

Opening the Door for Safe, Total, Equitable, Personalized, and
Seamless Payment and Complete Trips for All

Table of Contents

TriMet IMI Demonstration Program Project Overview	1
Task 1 – Innovative Payment.....	1
Subtask 1.1 - Business Case for Integrated Payment	2
Subtask 1.2 - Expanding Open Payments	3
Activity 1.2.a - Explore and demonstrate adding concession fare to open payment systems.....	3
Activity 1.2.b - Explore and demonstrate extending open payment to offer monthly capping.....	4
Subtask 1.3 - Expanding/Extending Hop™ Functionality	4
Activity 1.3.a - Explore and demonstrate expanding Hop™ virtual card support to personalized Honored Citizen/Low Income fare instruments.....	5
Activity 1.3.b - Explore and demonstrate expanding Hop™ virtual card support to Institutional Hop™ cards.....	5
Subtask 1.4 - Improving access for the un-/underbanked	6
Activity 1.4.a - Explore and demonstrate prepaid debit cards as a means for the un-/underbanked to create accounts for mobility services.....	6
Activity 1.4.b - Explore expanding the ability to load virtual card funds to the retail network.....	6
Task 2 - Customer Experience.....	7
Subtask 2.1 - Traveler Incentives and Rewards	7
Subtask 2.2 - Reducing Travel Stress by Incorporating Real-Time Incident and Congestion Information	8
Subtask 2.3 - Partnering to Scale the City of Portland Transportation Incentive Program	8
Subtask 2.4 - System Integration	9
Task 3 - Mobility Data	10
Subtask 3.1 - Define Framework for Assessing Improvements in Transit Quality	11
Subtask 3.2 - Mobility Analysis Benchmarks	12
Subtask 3.3 - Demonstrate Framework for Assessing Improvements in Transit Quality	12

TriMet IMI Demonstration Program Project Overview

As a mobility manager, TriMet strives to empower all travelers, not just the tech savvy, to discover, plan, book and pay for the ever-increasing mobility options in the Portland region and achieve a seamless, low-stress, complete trip experience.

To advance the vision of a frictionless mobility experience, TriMet's proposal will develop technology and partnership protocols to provide information, trip planning, payment, and travel that can encompass transit and all other available modes for customers. The Integrated Mobility Innovation (IMI) Demonstration Program can help realize this vision by achieving several fundamental steps, outlined in the following tasks: Innovative Payment, Customer Experience, and Mobility Data.

This project will build upon TriMet's history of innovation in transit data and technology. TriMet was one of the key players in the development of the General Transit Feed Specification, and the OpenTripPlanner software project. As a participant in FTA's 2016 MOD Sandbox Demonstration Program, TriMet built upon the existing OpenTripPlanner's multimodal trip planning platform to incorporate new, shared-use modes including ridesourcing providers, bikeshare, carshare, and e-scooters.

In July of 2017, TriMet, along with C-TRAN (Clark County, WA) and Portland Streetcar, launched Hop Fastpass™ (i.e., Hop™) as the Portland region's first electronic transit fare payment system. Hop™ is an account-based regional fare system with a number of industry-leading features including:

- Open Application Programming Interfaces (APIs)
- Open Payment
- Virtualized Fare Cards, including stored value
- Fare Capping

The open architecture design of the Hop™ system allows for fare policy innovation, as well as the potential for future payment integration for other TriMet services (such as bike lockers at stations) or for other mobility providers' services, such as the BIKETOWN bikeshare network.

These initiatives form the foundation that this project will build upon, moving the Portland region one step further towards the future vision of Mobility on Demand and Mobility Payment Integration.

Task 1 – Innovative Payment

The focus of Task One is to explore innovative means of making the multimodal trip payment experience more seamless for customers. This work builds on TriMet's groundbreaking, account-based, open architecture fare payment system, Hop Fastpass™. A seamless payment experience can be enabled for customers either by integrating payment for multiple modes into a single transaction through the Hop™ system, or by enabling open payment with a credit card or mobile payment (ApplePay/Google Pay). This task will explore both avenues by:

- Developing a white paper outlining the Business Case for Integrated Payment,
- Expanding open payment functionality within the Hop™ system,

- Expanding the accessibility and functionality of the Hop™ smartcard and virtual card systems,
- Improving access for the un-/underbanked.

		Adult	Youth/HC*	Institutional**	Capping	Unbanked
Closed Loop Physical Card Only works with Hop plastic cards and within the Hop system. (TriMet, C-Tran, Streetcar payments only)	 Hop Card	\$	\$	\$/Pass	Day/ Month	Retail Load
Open Payment Apple Pay, Google Pay, Samsung Pay or NFC enabled credit card. Credential is also accepted outside of Hop system.	 Hop Card not needed: just tap with Google & Apple Pay Wallets or credit card.	\$	1.2.a Adding concession fare to open payment systems	N/A	1.2.b Extending open payment to offer monthly capping	1.4.a Prepaid debit cards as a means for un-/underbanked to create accounts for mobility services
Closed Loop Virtual Card Added closed loop to the Apple and Google Virtual Wallet.	 Virtualize Hop card in Google & Apple Pay Wallets	\$	1.3.a Expanding Hop virtual card support to personalized HC/Low Income fare instruments	1.3.b Expanding Hop virtual card support to Institutional Hop cards	Day/ Month	1.4.b Expanding the ability to load virtual card funds to the retail network

Key:

Blue - Addressed by IMI Grant
Yellow - Existing Features
\$ - Funding an Account

* Honored Citizens
** Social service agencies, employee pass participants

Subtask 1.1 - Business Case for Integrated Payment

Fully integrated payment would allow customers to pay for all legs of a multimodal trip as a single transaction through a single transportation account. Many agencies and industry experts have discussed extending eFare Platforms such as TriMet's Hop Fastpass™ to serve as that transportation account and backend clearinghouse to distribute payment to mobility providers for legs of the multimodal trips. This approach, however, introduces significant technical and policy challenges and risks including legal and regulatory implications, so agencies have been hesitant to implement or pilot such an initiative. The subtask will culminate with the development of a white paper that defines integrated payment and the ways in which it could be instrumental in changing customer mobility choices. This white paper will also provide the business case/rationale for transit agencies to determine if pursuit of fully integrated payment through their eFare platforms offers sufficient return on investment, while also exploring alternative approaches that aim to achieve the same goals.

Partner(s): TriMet, Clever Consulting Group, Visa, Uber

Deliverable(s): Business case white paper

Innovation: Provide widely-applicable information about the business case of fully integrated payment.

Transferability: High. Many agencies are interested in integrated payment, but cautious because the business case has not been clearly defined, and the cost is estimated to be high.

Impact and Outcomes: Fully integrated payment would remove friction from multimodal traveling and advance the vision of a Complete Trip for All. If this detailed business case demonstrates that fully integrated payment is a sound investment for transit agencies, they would be empowered to take this approach.

Subtask 1.2 - Expanding Open Payments

Open payments allows customers to use a contactless bank card or virtual payment credential to pay for transit fares. Because these payment credentials are already accepted by most third-party mobility providers, open payments offers the potential for a seamless payment experience without the same level of cost and risk as full integration of payment. This subtask will focus on building upon the open payment capabilities of TriMet's Hop Fastpass™ system to work towards a seamless payment experience, and make open payment more accessible to a broader spectrum of TriMet's customers. This subtask will involve the design, evaluation, and demonstration of open payment improvements/expansions.

Activity 1.2.a - Explore and demonstrate adding concession fare to open payment systems

TriMet currently accepts open payments at its Hop Fastpass™ validators, however, all customers using this method are charged the full adult fare. There is currently no support for concession (discounted) fares. TriMet has two concession fares - Youth and Honored Citizen/Low Income, both of which require proof of eligibility. This activity would explore several technology solutions to enable linking eligibility for a concession fare to an open payment credential. Research that answers widely applicable industry questions such as "How can transit agencies mitigate risk associated with expanded open payment functionality?" will be also be included.

Partner(s): TriMet, Visa, INIT

Deliverable(s): Demonstration & evaluation

Innovation: Expanding qualification-based concession fares beyond closed payment systems

Transferability: High. Other agencies using open payment systems can follow a similar approach for incorporation of concession fares, though individual fare structures will vary.

Impact and Outcomes: Adding concession fare to open payment systems will make it easier for qualifying customers to take advantage of fare discounts because they will no longer have to provide separate proof of eligibility to TriMet. This will allow these customers to save money and may increase their satisfaction with transit services. More straightforward access to discounted

fares may also encourage more transit trips because customers will not need to carry a separate farecard. Finally, other agencies interested in extending concession fares to customers using open payment will be able to take advantage of the risk mitigation strategies determined as part of this task.

Activity 1.2.b - Explore and demonstrate extending open payment to offer monthly capping

TriMet currently offers a monthly fare cap when customers use a Hop™ card (physical or virtual), but this feature is not currently available for those paying their fare with open payments. When a fare is paid with an open payment credential, a day cap is the only cap available. This restriction on open payment functionality was implemented due to the limited information available about open payment customers, making it difficult to offer an elegant customer service experience. Research conducted as part of this activity will include answers to widely applicable questions such as:

- How can payment industry concepts such as Payment Account Reference (PAR) be leveraged to facilitate acceptable levels of customer service for open payment customers?
- In this changing transit environment where “third party mobility packages” are becoming more popular, what are the strategic and revenue implications of fare revenue policies such as monthly capping for open payment?

Partner(s): TriMet, Visa, INIT, Clever Consulting Group

Deliverable(s): Demonstration & evaluation

Innovation: Broaden cost-saving benefits of fare capping to more customers

Transferability: High. Other agencies using open payment systems can follow a similar approach for handling more sophisticated fare capping.

Impact and Outcomes: Allowing open payment customers to take advantage of monthly fare capping can increase customer satisfaction because they will be assured that every transit trip they pay for using open payments is helping them earn a monthly pass. Once the cost of the pass is reached, customers may be even more likely to take discretionary trips via transit because these additional trips come at no added cost.

Other agencies accepting open payments can use a similar approach for extending this benefit to their customers, enabling them to realize these benefits as well. Finally, the impact on agency revenue of this policy change will be better understood as a result of the research performed in this task, enabling other agencies to make informed decisions about whether or not to offer this benefit.

Subtask 1.3 - Expanding/Extending Hop™ Functionality

Account-based fare collection systems such as TriMet’s Hop Fastpass™ offer cutting edge functionality and convenience to the customer, such as the Hop™ virtual card. This subtask will explore expanding existing Hop™ virtual card functionality to lower barriers and broaden access to these new technologies.

Activity 1.3.a - Explore and demonstrate expanding Hop™ virtual card support to personalized Honored Citizen/Low Income fare instruments

Personalized Honored Citizen/Low Income (HC/LI) fare cards are given only to those who meet special eligibility standards (medical disability, low income, etc), and contain additional information beyond a standard Hop™ HC/LI card, such as a photo ID and expiration date, which currently is not transferable to a virtual card system. This activity will explore policy and technical changes needed to support this functionality, culminating in a demonstration of the new feature. This activity will result in access to the Hop™ virtual card for individuals who qualify for a personalized HC/LI card, and eliminate the need for them to carry and keep track of a physical Hop™ card.

Partner(s): TriMet, INIT, moovel

Deliverable(s): Demonstration & evaluation

Innovation: Expand access to the Hop™ virtual farecard for individuals that would otherwise need to use a personalized physical farecard in order to receive discounted fares if they meet specific eligibility criteria.

Transferability: High. Concepts are transferable to other account based fare collection systems.

Impact and Outcomes: Adding virtual card support for paying concession fares will make it easier for qualifying customers to take advantage of these discounts without having to go through the process of being issued a personalized physical farecard. This will allow these customers to more quickly begin to save money on transit fares, gives them access to new technologies, and may increase their satisfaction with transit services. More straightforward access to virtual discounted fares may also encourage more transit trips because customers will not need to carry a separate farecard, just their smartphone. Finally, other agencies interested in extending concession fares to customers using that use the virtual card option will be able to build on the technical and policy changes determined as part of this task and adapt them to their own fare structures and technologies.

Activity 1.3.b - Explore and demonstrate expanding Hop™ virtual card support to Institutional Hop™ cards

TriMet issues Institutional fare cards to community benefit organizations, higher education systems, hospitals, and other major employers. These Institutional fare cards contain additional information beyond a standard Hop™ card, such as a customer's name and institution, which currently is not currently transferable to a virtual card system. This activity will explore policy and technical changes needed to support this functionality, resulting in a demonstration of the new features. This activity will result in access to the Hop™ virtual card for many vulnerable populations that rely on institutions to supply them with a transit benefit, and eliminate the need for them to carry and keep track of a physical Hop™ card.

Partner(s): TriMet, INIT, moovel **Deliverable(s):** Demonstration & evaluation **Innovation:** Expanding virtual card functionality

Transferability: High. Concepts are transferable to other account based fare collection systems

Impact and Outcomes: This task will lay the groundwork to allow TriMet customers with Hop™ cards through an institutional program to use virtual card technology. This activity will explore

policy and technical changes needed to support this functionality, resulting in a demonstration of the new features. This activity will result in access to the Hop™ virtual card for many vulnerable populations that rely on institutions to supply them with a transit benefit, and eliminate the need for them to carry and keep track of a physical Hop™ card.

Subtask 1.4 - Improving access for the un-/underbanked

Outside of transit, the universe of mobility options is largely inaccessible to those without access to a bank card or payment credential. As technology continues to evolve, transit agencies struggle with the need to adopt new technology to maintain relevance with their customer base and ensure equitable access to these new technologies to all riders. This subtask focuses on lowering barriers for the unbanked and underbanked and increasing their access to new technology and mobility.

Activity 1.4.a - Explore and demonstrate prepaid debit cards as a means for the un-/underbanked to create accounts for mobility services.

This activity will focus on existing industry prepaid debit card models and reevaluate them with the intent to reduce the cost impact to the un-/underbanked individual. The outcome of this activity would be providing a prepaid debit card to un-/underbanked communities for use on transit and other modes of mobility.

Partner(s): TriMet, Visa

Deliverable(s): Demonstration & evaluation

Innovation: Leveraging existing third-party payment mechanism/credential to allow un-/underbanked individuals to create accounts for mobility services.

Transferability: Highly transferable. The knowledge gained through this exploration would be applicable to any transit agency and could be used to expand access to other modes of mobility, even if the transit agency did not accept open payments.

Impact and Outcomes: Access to prepaid debit cards could provide a means for the un-/underbanked to create accounts with third party mobility providers including bikeshare and ridesourcing providers, thus expanding their access to a range of mobility options.

Activity 1.4.b - Explore expanding the ability to load virtual card funds to the retail network

The Hop Fastpass™ program already has a robust network of retailers where cash can be loaded onto a physical Hop™ card. However, to load funds onto a Hop™ virtual card, the customer currently must have a bank card. This activity will focus on exploring and demonstrating the technology necessary to facilitate the loading of cash through the Hop™ retail network onto a Hop™ virtual card. This activity will result in access to the Hop™ virtual card for un-/underbanked communities, and eliminate the need for them to carry and keep track of a physical Hop™ card.

Partner(s): TriMet, INIT, moovel, Ready Credit Corporation

Deliverable(s): Demonstration & evaluation

Innovation: Will determine a straightforward and scalable way for the Hop Fastpass™ retail network to allow customers to load value on to virtual cards.

Transferability: High. Concepts are transferable to other account based fare collection systems
Impact and Outcomes: This activity will allow customers to reload a Hop™ virtual card via the existing Hop™ retail network. This will make virtual cards, which were previously only loadable through the Hop™ mobile app or website via credit card, accessible to customers who need or want to load their cards via cash payment.

Task 2 - Customer Experience

The focus of Task Two will be on initiatives that can be embedded into or used to further expand TriMet's Mobility on Demand platform to encourage customer behavior change towards more sustainable, multimodal trip options. This work largely builds off of TriMet's multimodal trip planner, to which shared use modes were incorporated as part of the 2016 MOD Sandbox Grant program. While the trip planning tool helps customers discover travel options, the initiatives under this task will help nudge customers towards accessing and utilizing the increasing mobility services in the region. This task will address travel stress with better transit vehicle arrival predictions. It will also move beyond technical solutions to explore an empathetic approach that meets customers where they are, regardless of their travel preferences or level of technical expertise.

Subtask 2.1 - Traveler Incentives and Rewards

Incentive/reward programs and value strategies can be a mechanism to help customers make sustainable travel choices a habit. Under this subtask, TriMet will partner with moovel to implement and evaluate a demonstration of their Validated rewards program. The Validated platform allows customers to get credit for transportation expenses when they visit/shop at participating businesses. In this demonstration, Validated will allow customers to receive Hop Fastpass™ fare credit in addition to credits already available in the application from third party mobility providers. TriMet will also explore and plan for future, more extensive incentive or reward programs to build the business case for agency investment in such a program as part of a broader Mobility on Demand platform.

Partner(s): TriMet, moovel

Deliverable(s): Demonstration & evaluation

Innovation: TriMet will be among the first transit agencies to participate in this ground-breaking rewards program.

Transferability: Moderate; agencies with e-fare systems in cities where Validated is available could also participate

Impact and Outcomes: By providing travelers with transit fare rewards for shopping, this public-private partnership has the potential to attract new riders to TriMet, reinforce the transit habit in those who ride already, and support local businesses.

Subtask 2.2 - Reducing Travel Stress by Incorporating Real-Time Incident and Congestion Information

A key barrier that keeps customers from taking multimodal trips is the stress and uncertainty that comes from having to transfer between modes. Trip planning and trip monitoring tools could be improved through innovations leveraging real-time traffic information. Trip planning tools are used prior to a trip; trip monitoring tools allow riders to monitor a trip once underway. Currently both trip planning and trip monitoring tools suffer from transit arrival predictions that rely on limited real-time information, namely real-time bus locations. Both tools would provide improved predictions and an improved user experience, especially for transit dependent populations, through incorporation of real time incident and congestion information from both the transit agency and third party providers. These innovations would serve to reduce customer uncertainty around making connections between modes. This subtask will integrate real-time transit location data gathered by TriMet with real-time incident and congestion data. A machine-learning based model and a pilot implementation to generate more accurate transit arrival predictions will be developed and will be deployed in a cloud-based environment. The subtask will also include an analysis of the real-time arrival predictions currently provided by TriMet.

Partner(s): TriMet, City of Portland's Bureau of Planning and Sustainability, Portland State University (PSU)

Deliverable(s): Open source smart prediction engine and prediction analysis model

Innovation: Improves GTFS-RT with real-time traffic incident and congestion data. Integration of data from multiple data sources including data from multiple public-sector agencies and private sector partners.

Transferability: High. The work done in this task will be transferable to other transit agencies and cities. Software will be developed based on standard data feeds, including GTFS, to enable the transferability of the software to other agencies. The software being used and developed for this task will be intentionally technology-agnostic. The system will be designed to be deployable on any cloud, leaving the choice of cloud vendor to each agency and city. Only open source software components will be used. All software developed will be released open source.

Impact and Outcomes: Travel stress due to inaccurate information and related missed transfers is greatest for low-income, minority and other traditionally underserved communities and transit-dependent populations. By improving arrival predictions by integrating real-time congestion and incident information, the project will improve multi-modal travel options for all populations while reducing stress for the populations that need it the most.

Subtask 2.3 - Partnering to Scale the City of Portland Transportation Incentive Program

Through this subtask, TriMet will partner with the City of Portland Bureau of Transportation (PBOT) to automate their Transportation Incentive Program by integrating it with the Hop Fastpass™ system. PBOT's existing incentive program – the "Transportation Wallet" – is one of the city's key transportation demand management strategies to reduce parking demand while increasing use of transit and shared-use mobility services. Since the program's inception, over 1,200 Transportation Wallets have been purchased at 87% off the retail cost and over 1,800 have been offered for free in exchange for opting out of on-street parking passes. The program has reduced demand for parking permits in select neighborhoods by approximately ten percent. Due to its success, Portland is looking to expand the Transportation Incentive Program citywide to

serve more Portlanders by incorporating new neighborhoods and more diverse, low-income communities.

This subtask will work to provide seamless interoperability between the City's Transportation Incentive Program and the Hop Fastpass™ system so that participants can have their transit credits deposited directly into an existing Hop™ account linked to either a physical or virtual Hop™ card. Ways to improve information sharing between partners about program utilization and efficacy will also be examined, and the possibility of distributing other mobility credits, such as bikeshare, carshare, shared e-scooters, or ridesourcing through the Hop™ accounts of Portland's Transportation Incentive Program recipients will be explored.

Partners: TriMet, City of Portland's Portland Bureau of Transportation, INIT

Deliverable: Demonstration & evaluation

Innovation: First known partnership between City and transit agency to integrate account based transit fare system with City-run transportation incentive program aimed at reducing single-occupancy vehicle (SOV) usage/parking demand.

Transferability: Transferable to any account based fare collection system

Project Impact & Outcomes: Decreased usage of SOV in areas of City where parking demand is high. Geographic expansion of Transportation Incentive Program to lower-income, more diverse communities.

Subtask 2.4 - System Integration

This subtask will focus on the integration of the initiatives described above into the existing TriMet Mobility on Demand platform for demonstration and evaluation. In addition, this subtask will include user experience heuristic testing of new functionality to ensure effective design. The result will be a demonstration and evaluation of additions to the open source Mobility on Demand platform that:

- Integrates reward and/or incentive programs that can benefit customers and help incentivize customers toward more sustainable transportation choices
- Reduces traveler confusion and frustration by improving customer data with more accurate arrival times
- Extends the platform to allow more direct integration of other mobility programs, increasing customer convenience, and extending the benefits of transportation demand management efforts

Partner(s): TriMet, IBI Group, Cambridge Systematics, PlusQA

Deliverable(s): Updated mobility on demand platform

Innovation: Incorporating innovative data improvements and more direct integration of other mobility programs and payment options into TriMet's Mobility on Demand platform.

Transferability: High. Because TriMet's MOD platform is built on open source software and open data, the system integration work will be replicable by other agencies leveraging Open Trip Planner as the core of their MOD platform.

Impact and Outcomes: Improved user experience for customers using TriMet's Mobility on Demand Platform.

Task 3 - Mobility Data

Contemporary mobility is rooted and truthed by its data. All modes have associated data. Some modes have standardized open data specifications (e.g., GTFS and GBFS), others have limited data products available, and some are operated with no intent to share data with outside organizations. Transit provides a mobility backbone, however this backbone often has a variety of barriers associated with it. These barriers can be minimized using other modes to connect with the transit backbone, or by leveraging technology and data to better connect commuters to services. With the private industry entering into multimodal trip planning within their apps, and some integrating with transit fare payment, public transit must evolve its mobility services and connections.

Multimodal connectivity with transit is best understood from a holistic perspective. Using congested roadway speeds including incidents will assist in truthing accurate travel times by all modes. Commuter travel pattern data is extremely important in understanding commute shed and origin/destination patterns. Travel pattern data is typically associated with auto trips, however recent work by data aggregators is creating alternative datasets including bike and pedestrian origin/destination patterns. With low interest rates, vehicle ownership has increased and accessing vehicle registration data will assist in analyzing the changing commute patterns in the Portland metropolitan area. The integration of land use and transportation is vital to managing and enhancing an intermodal mobility network. Using applicable Census based data from the American Community Survey (ACS) and the Longitudinal Employer-Household Dynamics (LEHD), which categorize aspects of many commuters, will allow a deeper understanding of the commuters demographics. Understanding cost per service hour, vehicle miles traveled (VMT), and passenger miles traveled from all modes of data can help establish auto competitiveness benchmarks. VMT metrics will also lead to a logical progression in understanding greenhouse gas emissions or CO2 analyses which is a common study in climate action plans.

TriMet has partnered with Uber and successfully used their API to integrate Uber vehicles into the OpenTripPlanner. Uber has agreed to partner with TriMet again for this intermodal mobility analysis. With access to Uber data and in-kind support knowledge sharing of their data resources, TriMet will be able to understand Uber users, frequency of use, time of day, origin and destination, and analyze proximity to transit centers or service areas. The Uber data will assist in analyzing the opportunities to reduce and break barriers to transit service areas.

Additionally, TriMet has a wealth of internal data available from onboard systems including, but not limited to, automatic passenger counting (APC), the Hop Fastpass™ mobile payment system, trip planner origin/destination data, micro-mobility partnerships such as bikeshare and eScooters, access to car share and other shared-use mobility options. Further, TriMet has previous studies on ridership effectiveness, which are foundational building blocks for this next phase in mobility data analytics.

To that end, Task Three is focused on increasing understanding, improving the effectiveness of, and broadening the positive impact of MOD programs. This task will include working with leading MOD firms to:

- Define a framework of metrics for assessing transit quality beyond traditional measures such as ridership.
- Incorporate consistent measurement into data sharing agreement terms.
- Establish the qualitative and quantitative metrics to evaluate the effectiveness of Tasks One and Two.
- Create an analytical methodology to evaluate barriers to effective service for complete trips.
- Apply the framework and benchmarks for analysis of the initiatives proposed in Tasks One and Two, with the goal of understanding the extent to which innovations in payment technology and incentive programs can actually drive changes in travel behavior.

Subtask 3.1 - Define Framework for Assessing Improvements in Transit Quality

This subtask will focus on the development of a framework that allows agencies to meaningfully assess how mobility quality/effectiveness improves with the implementation of new innovations. The goal is to develop an approach that is flexible enough to be applicable to transit agencies outside the Portland area, but detailed enough to yield actionable insights. TriMet will engage consulting and research experts to develop the analytical framework, with key elements such as:

- Key variables and hypotheses for testing.
- Metrics to measure mobility quality/effectiveness of implemented innovations.
- Identification of all core datasets to use in analysis, as listed in the data management plan.
- Desired outcomes of the analysis and how data can help realize those outcomes.
- Sources of data for analysis/how data will be collected for analysis.
- Data privacy/confidentiality concerns.
- Tools that will be used to store, manipulate, and visualize data as part of the analysis.

By the end of this subtask, a set of transit quality/effectiveness measurements, causal and dependent variables, and testing approaches will be established that can be applied to TriMet and beyond. These transit quality/effectiveness measurements are anticipated to go beyond basic ridership and productivity measurements to take into account other related impacts on commute behavior, mode shift, vehicle miles traveled by commuter, congestion mitigation, and impacts on sustainability.

Partner(s): TriMet, Fehr & Peers, Portland State University (PSU)

Deliverable(s): Framework document

Innovation: Creation of an evaluation matrix to measure mobility quality/effectiveness using a mix of mobility data sources, payment strategies, and directed surveys.

Transferability: Transferable to other transit properties identifying with the need to innovate mobility services for passengers.

Impact and Outcomes: Enhanced analysis process to assess mobility options aligned with transit and how innovative payment strategies reduce barriers to those mobility options.

Subtask 3.2 - Mobility Analysis Benchmarks

Once the framework for analysis has been established, benchmarks will be defined. TriMet will clearly define the benchmark(s) for use in before/after analysis and scenario planning. Using accessibility analyses with identified data from the data management plan will enhance the before/after analysis. These benchmarks are standards meant to provide answers to the following questions:

- Should new mobility business and service models focus on traveler centric needs?
- What are existing levels of transit quality/effectiveness in the Portland region?
- Have the goals set for transit quality/effectiveness been met?
- How much must transit quality (as defined in the previous subtask) improve in order to be considered significant?
- Understanding current ridership, its trends, and current alternative mobility use and trends, does increasing mobility on demand decrease transit ridership?
- What are the costs per service hour per passenger by all modes?
- How are services provided comparable to one another by travel time, distance traveled and cost effectiveness?

The benchmarks will also be used in the subsequent subtask to guide the analysis process. While the benchmarks will initially be computed for TriMet's service area, the process will be flexible enough that it can be applied in other jurisdictions.

Partner(s): TriMet, Fehr & Peers, Portland State University (PSU)

Deliverable(s): Report detailing benchmarks and the approach for calculating them

Innovation: Creation of extensible benchmarks to establish industry standards in evaluating the quality of transit from a traveler-centric perspective.

Transferability: Transferable to other transit properties interested in innovating the analysis of their services and enhancing mobility services for passengers.

Impact and Outcomes: Provides a mechanism for transit properties to self analyze their quality and effectiveness of service, enabling them to iterate more rapidly towards a Complete Trip for All.

Subtask 3.3 - Demonstrate Framework for Assessing Improvements in Transit Quality

This subtask combines the framework and the benchmarks to gauge the effectiveness of the initiatives in Task One and Task Two. Applicable pre-demonstration data shall be evaluated in the framework, thus establishing the ability to accurately conduct an analysis of the demonstration. Often agencies do not have access to commute travel pattern data, or Uber origin/destination and passenger miles traveled data to assist in a before analysis. These data resources will provide unique opportunities to analyze commuter patterns and identify potential service area improvements including shared-use mobility partnerships. Evaluating metrics of success for the demonstration is dependent on identifying the goals of the implementation. Using the data framework and benchmarks established in subtasks 3.1 and 3.2, TriMet will work with subject matter experts to apply the framework and benchmarks in order to answer questions such as:

- To what extent do the expansion of open payment and extended Hop™ functionality impact travel behavior and overall transit quality/effectiveness?
- What is the impact of incentive/reward programs on travel behavior and overall transit quality/effectiveness?
- Is there a relationship between reduced uncertainty for multimodal travel and changes in modal choice in travel behavior?
- Is there a relationship between reduced uncertainty for multimodal travel and overall transit quality/effectiveness?
- Is there a relationship between improved MOD payment integration and transit quality/effectiveness and travel behavior?
- Using identified data resources in the data management plan, how do multi-criteria analysis prove the validity of the pilot in reducing barriers to multimodal mobility and connectivity?
- Why will shared-use mobility services be part of the integrated mobility of Portland's future?
- How will shared-use mobility services integrate with TriMet transit services? Will this result in a reduced service model?
- What are the next steps in policy and infrastructure to support mobility service integration with transit in Portland?
- What is required to create an extensible analysis to allow replication and implementation nationally?

Partner(s): TriMet, Fehr & Peers, Portland State University (PSU)

Deliverable(s): Report summarizing results; Data used for analysis

Innovation: Standardize qualitative analysis of customer experiences, travel behavior change, and multimodal trip quality.

Transferability: Allows other transit properties to evaluate multimodal mobility options along with innovative payment systems.

Impact and Outcomes: Establishes a unique method of analyzing the outcomes of multimodal integration and innovative payment to enable the combination of third party mobility options and transit.

APPENDIX F – DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

It is TriMet's policy that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, have an equal opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. TriMet views adherence to the Pre-Award Guidelines and Post-Award Requirements listed below as important mechanisms for meeting this policy objective. For a complete description of TriMet's DBE program, please refer to the latest detailed program document at: <http://trimet.org/dbe>.

I. DBE Program – Pre-Award Guidelines

- A. Proposer may obtain a list of certified DBE firms from the State of Oregon's Certification Office of Business Inclusion and Diversity (COBID) certification list by categories consistent with anticipated subcontracting opportunities.

<http://www.oregon4biz.com/How-We-Can-Help/COBID/>

- B. Proposer should designate a qualified individual to manage all DBE matters on the project (DBE Coordinator).
- C. Proposer should solicit the interest of DBE firms for two consecutive weeks to allow firms time to respond to the solicitation. Proposer should solicit through all reasonable and available means, including mailing and faxing information on subcontracting opportunities to all or some firms on the state certified list and to all other interested DBEs, advertising in local, minority-owned newspapers, and attendance at pre-bid meetings.
- D. Proposer should provide interested DBE firms with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- E. Proposer should document in writing outreach efforts. Proposer to document all of its effort to include DBE participation on this project in the DBE Good Faith Effort Documentation Form or provide the information in a similar format.
- F. Proposer should break out contract work items into economically feasible units and, where possible, identify rotation of work opportunities so that DBE participation from the Portland metropolitan area is included. Proposer is encouraged to utilize small contract packages as necessary to include DBE participation as described below.
- G. Proposer should not reject any DBE firm as unqualified without a thorough investigation of their capabilities.
- H. Proposer should make efforts to assist interested DBE firms in obtaining bonding, lines of credit, or insurance as required by the Proposer.
- I. Proposer should make efforts to assist interested DBE firms in obtaining the necessary equipment, supplies, materials, or related assistance or services needed for a competitive bid/proposal.

- J. Proposer should follow up with all competitive bids/proposals from DBE firms to clarify any questions that may arise. If DBE proposals are not utilized in the identified areas of work, Proposer should document in writing the reasons for this decision, and submit the documentation to TriMet's DBELO.
- K. Proposer should use the services of all minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; the state DBE Directory; and other organizations and resources to provide assistance in the recruitment and placement of DBE firms.
- L. Proposer to complete and submit the DBE Utilization Form showing all identifying DBE subcontractors, as well as additional MBE, WBE, SDVBE, ESB subcontractors expected to be utilized on this project, and the DBE utilization %, should the Proposer win the contract award.

II. DBE Program – Post-Award Requirements

- A. Contractor's DBE Coordinator shall schedule monthly project meetings with TriMet's DBELO, or as otherwise required by TriMet. Contractor must maintain records of all subcontracts entered into with DBEs and records of materials purchased from DBE suppliers. Such records shall show the name and business address of each DBE subcontractor or vendor and the total dollar amount actually paid to each DBE subcontractor or vendor. Records of DBE utilization shall be entered into TriMet's Diversity Compliance Reporting System developed by B2Gnow, which is an on-line database manager more fully described in the Special Provisions of the solicitation.
- B. Contractor must also submit to TriMet's DBELO an affidavit certifying that payment was made to the DBE subcontractor or supplier, to be signed by both the prime contractor and DBE sub. Such an affidavit must be submitted when final payment is made to a DBE sub, and when any retainage held is returned. A summary certification affidavit must be submitted at the completion of the project. TriMet reserves the right to require similar affidavits for interim progress payments in cases where payments to subcontractors are disputed.
- C. The participation of a DBE subcontractor will not be considered part of the Contractor's DBE achievements until progress payments, as well as any retainage held by a Contractor, has been paid to the subcontractor.

END OF APPENDIX F – DBE PROGRAM