

Plan Overview

A Data Management Plan created using DMPTool

Title: Seattle SMART Grant Digital Commercial Vehicle Permit Project

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Grant: SMARTFY22N1P1G56

Template: SMART Grants Stage 1 Data Management Plan (DMP)

Project abstract:

The Seattle SMART Grant Digital Commercial Vehicle Permit Project will advance work to provide reliable, modern curb access for commercial delivery vehicles using a collaborative, data-driven approach. Short-term goals are to engage with local businesses and commercial delivery users with a Seattle Department of Transportation (SDOT) issued decal to prototype a new digital permit to make more efficient use of commercial vehicle load zones, automate payment for users, and provide usage data at the zones for City and public use.

Stage 1 of the grant will prototype and evaluate a digital permit in North Downtown. SDOT is also converting the areas curb data to the Curb Data Specification set by the Open Mobility Foundation (OMF). The work includes collaborating with seven other grant receiving cities, organized in a collaborative with OMF. The University of Washington's Urban Freight Lab will be leading the project's research by developing a technology assessment and existing commercial vehicle curbside utilization data collection plans, parking and pricing policy scenarios assessment, analysis of project results, and recommendations for building a digital permit at scale citywide.

Start date: 09-01-2023

End date: 03-01-2025

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Seattle SMART Grant Digital Commercial Vehicle Permit Project

1. Name of project: Seattle SMART Grant Digital Commercial Vehicle Permit Project
2. Grant number: SMARTFY22N1P1G56
3. Name of person submitting DMP: Sarah Gallagher, AICP
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6. Name of the organization for which the person submitting this DMP is working: City of Seattle - Department of Transportation (SDOT)
7. Email and phone number for the organization: 684-Road@seattle.gov, (206) 684-7623
8. Link to organization or project website, if applicable: [Seattle Dept. of Transportation \(SDOT\) Website](#), [SDOT Parking Program Website](#), project website TBD (in process of setting up)
9. Date DMP written: December 14, 2023

The Seattle SMART Grant Digital Commercial Vehicle Permit Project is intended to provide reliable, modern curb access for commercial delivery vehicles using innovative technology approaches with research built on curb and qualitative survey data throughout the project to inform decision-making. Within the project area of north downtown Seattle, the project team expects to collect or create the following:

Curb Data

- Identify locations and curb regulations of designated commercial vehicle load zones (CVLZs)
- Collect usage, vehicle turnover rate, and types of vehicles using CVLZs.
- Collect similar documentation of commercial vehicles parked and/or loading in public right-of-way near to CVLZs, budget dependent, including center left turn lanes, paid parking spaces, and other designated load zones.
- Document payment patterns (use of City permit, mobile, or other).
- Understanding freight flows and delivery demand patterns in study area through stakeholder engagements (business owners in project area, freight carriers) and by using third-party providers of aggregated/anonymized “big data” types of freight data.
- Interviews with urban freight carriers.
- Online surveys of retail, restaurant, and other commercial businesses within the study area about delivery patterns.
- Feedback throughout the project.

Data collection methods will be based on project specific needs as well as be guided by Washington State and City of Seattle laws for public disclosure, privacy, and file retention.

All curb related data (not survey data) that is collected or created will adhere to version 1.0 of the Curb Data Specification (CDS). CDS is a project of the Open Mobility Foundation (OMF) and is data standard designed for cities and companies to publish curb regulations digitally, receive event data from curb users and sensors, and calculate key metrics like historic dwell time, occupancy, usage, and other aggregated statistics in curb areas. SDOT plans to translate its existing sign regulations asset data to the CDS Curbs application programming interfaces (API) format.

The data collected during the project will provide SDOT with the ability to systematically measure commercial vehicle trends to inform curbside management policy. It will lay the groundwork for a data-driven commercial vehicle permit program and is thus highly valuable to SDOT and will provide a public good. This data will also be made publicly available to further academic research, support application development, and to provide curb users

with the information they need to make curbside deliveries more efficient.

Data collected will be directed by SDOT and conducted by its consultants. It is assumed a variety of file formats will be generated. The data will typically be found in the formats below:

- Geographical information system files (.shp, .dbf, .shx, .json, .geojson)
- Microsoft Excel files (.xlsx, .xlsm)
- Word files (.docx, .docm)
- Presentation files (.pptx, .cds)
- Photo files (.jpeg, .png, .heif, .heic)
- Video files (.mpg, .mov)

Datasets will be available in open, non-proprietary formats, such as .csv, .txt, or .pdf, to the fullest extent possible. If any final data is released in proprietary formats the project team will provide reasoning behind this choice and thorough documentation on the software and version needed for a user to open and view the data and documentation files.

To ensure the data generated from this project can be utilized in the future, the project team will create metadata to accompany data sets. It is important that metadata is in a standardized format. The project team will adhere to metadata standards set by the City of Seattle's Open Data Program and will create metadata that adheres to the Federal Government DCAT-US Metadata Schema (v1.1). The metadata created will be formatted per the Seattle Open Data Program requirements and will detail the dates, times, locations, and other methods related to data collected. The usefulness is for others reading the metadata and the data results to be able to replicate the study. Where applicable, data that is created or maintained in CDS format will have its data structure documented on the OMF GitHub webpage which is publicly accessible.

In general, data from research projects funded wholly or in part by US DOT must be made publicly accessible. As the data will be collected by or on behalf of the City of Seattle, data sets will primarily be made publicly available with this project. Prior to the start of data collection, and working closely with the project team, SDOT staff will categorize the data planned to be collected by whether it is public, sensitive, or confidential information, as indicated by the City of Seattle Digital Security program team. The expectation is that most of the project data collected will be public data as it will be derived from curbspace inventory and usage, turnover, or otherwise from activity in the public rights-of-way. It is possible that some data from surveys may be considered sensitive or confidential because of containing names, addresses and contact details. With these data categories, SDOT staff will use the framework established by the City's Digital Security program to protect sensitive or confidential data access.

The City of Seattle Information Technology Department (Seattle IT) dictates for city departments a citywide Privacy and Data Security program. The City adopted Privacy Principles and established a Privacy program in 2015. The principles, which SDOT would follow with this data collection, are to:

- Minimize data collection to only what is necessary for the project (versus collecting more data than necessary).
- Provide notice in the study area about data collection process and contact information.
- Disclose information to interview and survey subjects and pilot participants about how data will be handled.
- Follow City retention schedules.
- Complete a University of Washington Institutional Review Board (IRB) review process to assess data collection via human subjects.

In addition, the project is guided by the State of Washington Public Disclosure law, which is quite broad, and might entail most project data to be released if requested. SDOT staff will work with the department's Public Disclosure team if requests are received.

All data saved for further processing will be anonymized (no personal identifier will be recorded). There are no additional restrictions outside the City of Seattle Privacy and Data Security rules to acquire the data.

The City of Seattle will hold the intellectual property rights for the data created or used during this project. SDOT will store documents on the City of Seattle's Microsoft SharePoint system, the established cloud-based data file storage system. This system is managed by the Seattle IT Department in compliance with all City of Seattle security and access protocols.

SDOT will rely on the existing City of Seattle Microsoft SharePoint system that allows for several access and security features. For example, SDOT may grant external project team members (University of Washington, etc.) user-based access which requires email-address authentication. Thus, only specific external members will have access to project files. Additionally, project files will be saved in a separate SharePoint folder from other team project files to minimize internal access.

There are several avenues for data sharing as appropriate for the sources collected:

- The City of Seattle has had a long-standing Open Data Policy since 2010, where Seattle data is "Open by Preference". Data sets can be posted on the open data portal at <https://data.seattle.gov/>
- Via request or made available on [SDOT's Commerical Delivery Load Zone Program webpage](#).
- At business or other stakeholder meetings.
- Presenting data findings on this project in the form of academic papers, workshops, conference presentations, etc.
- Providing publicly accessible (possibly via token) API endpoints containing project data collected in CDS format.

The US DOT also reserves a royalty-free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use and to authorize others to use the work for government purposes.

There are no additional restrictions outside the City of Seattle Privacy and Data Security rules to acquire the data.

As the grant recipient, SDOT will be responsible for overall data management and will oversee tasks carried out by its consultants and the Urban Freight Lab (UFL). All external team members will follow data management protocols as established by the City of Seattle. The City of Seattle file retention policy for these types of files is seven (7) years, established by the City Clerk.

All publicly accessible data shall be available at the following locations:

- [Seattle Open Data](#): the City's open-access data portal where patrons can find, analyze, and download data published by City departments.
- [OMF GitHub Webpage](#), is a publicly accessible data repository documenting the development of the Curb Data Specification managed by the Open Mobility Foundation, one of the project's key partners, and will also provide links to SDOT's project data APIs.
- Seattle City Archives: For project files, SDOT may send final documents and data files to the Seattle Municipal Archives, where government documents are stored.

The datasets and metadata that will be archived after the project are not yet defined as the data will be developed as

the project scope takes shape and technology is procured. However, as the datasets develop SDOT will create metadata that is compliant with the Federal Government DCAT-US Metadata Schema (v1.1) to ensure discoverability when archived.
