

## Plan Overview

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*A Data Management Plan created using DMP Tool*

**Title:** Seattle SMART Grant Digital Commercial Vehicle Permit Project

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**Project Administrator:** Brian Hamlin

**Funder:** United States Department of Transportation (DOT) (transportation.gov)

**Funding opportunity number:** DOT-SMART-FY23-01

**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

**Last modified:** 07-08-2024

**Copyright information:**

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# Seattle SMART Grant Digital Commercial Vehicle Permit Project

## Dataset and Contact Information

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Please provide as much of the the following information as possible:

1. Name of the project;
2. Grant number;
3. Name of the person submitting this DMP;
4. ORCID of the person submitting this DMP (need an ORCID? Register here: <https://orcid.org/>);
5. Email and phone number of the person submitting this DMP;
6. Name of the organization for which the person submitting this DMP is working;
7. Email and phone number for the organization;
8. Link to organization or project website, if applicable; and,
9. Date the DMP was written.

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
4. ORCID: N/A
5. Email and phone number of the person submitting this DMP: sarah.gallagher@seattle.gov
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

## Data Description

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Please provide as much information as possible:

1. Provide a description of the data that you will be gathering in the course of your project or data from a third party that you will re-use, if any;
  1. If there will be no data collected or re-used from another source, state that this is case;
2. Address the expected nature, scope, and scale of the data that will be collected, as best as you can at this stage;
3. As best as you can, describe the characteristics of the data, their relationship to other data, and provide sufficient detail so that reviewers will understand any disclosure risks that may apply;
  1. If data might be sensitive, please describe how you will protect privacy and security, if you know that now;
  2. You may need to update your DMP later to add more detail;
4. Discuss the expected value of the data over the long-term.

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 Format and Metadata Standards Employed

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**Please provide as much information as you can:**

- 1. Describe the anticipated file formats of your data and related files;**
- 2. To the maximum extent practicable, your DMP should address how you will use platform-independent and non-proprietary formats to ensure maximum utility of the data in the future;**
  - 1. If you are unable to use platform-independent and non-proprietary formats, you should specify the standards and formats that will be used and the rationale for using those standards and formats.**

### **3. Identify the metadata standards you will use to describe the data.**

#### **1. At least one metadata file should be a DCAT-US v1.1**

**(<https://resources.data.gov/resources/dcat-us/>) .JSON file, the federal standard for data search and discovery.**

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.

## **Access Policies**

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**In general, data from DOT-funded projects must be made publicly accessible.**

**Exceptions to this policy are: data that contain personally identifiable information (PII) that cannot be anonymized; confidential business information; or classified information. Protecting research participants and guarding against the disclosure of identities and/or confidential business information is an essential norm in scientific research. Your DMP should address these issues and outline the efforts you will take to provide informed consent statements to participants, the steps you will take to protect privacy and confidentiality prior to archiving your data, and any additional concerns. In general, in matters of human subject research, your DMP should describe how your informed consent forms will permit sharing with the research community and whether additional steps, such as an Institutional Review Board (IRB), may be used to protect privacy and confidentiality. Additionally, when working with, or conducting research that includes Indigenous populations or Tribal communities, researcher will adhere to the CARE Principles for Indigenous Data Governance <https://www.gida-global.org/care> and make an explicit statement to that effect in this portion of the DMP.**

**Please provide as much information as possible:**

- 1. Describe any sensitive data that may be collected or used;**
- 2. Describe how you will protect PII or other sensitive data, including IRB review, application of CARE Principles guidelines, or other ethical norms and practices;**
  - 1. If you will not be able to deidentify the data in a manner that protects privacy and confidentiality while maintaining the utility of the dataset, you should describe the necessary restrictions on access and use;**
- 3. Describe any access restrictions that may apply to your data;**
- 4. If necessary, describe any division of responsibilities for stewarding and protecting the data among Principal Investigators or other project staff.**

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.

## **Re-use, Redistribution, and Derivatives Products Policies**

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**Recipients are reminded:**

- 1. Data, as a collection of facts, cannot be copyrighted under US copyright law;**
- 2. Projects carried out under a US DOT SMART Grants is federally funded;**  
**therefore, as stated in grant language:**

- 1. Recipients must comply with the US DOT Public Access Plan, meaning, among other requirements, project data must be shared with the public, either by the researchers or by US DOT;**
- 2. That by accepting US DOT funding through this grant, recipients have granted to US DOT a comprehensive non-exclusive, paid-up, royalty-free copyright license for all project outputs (publications, datasets, software, code, etc.). This includes all rights under copyright, including, but not limited to the rights to copy, distribute, prepare derivative works, and the right to display and/or perform a work in public; and,**
- 3. In accordance with Chapter 18 of Title 35 of the United States Code, also known as the Bayh-Dole Act, where grant recipients elect to retain title to any invention developed under this grant, US DOT retains a statutory nonexclusive, nontransferrable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any such invention throughout the world.**

**Please provide as much information as possible:**

- 1. Describe who will hold the intellectual property rights for the data created or used during the project;**
- 2. Describe whether you will transfer those rights to a data archive, if appropriate;**
- 3. Identify whether any licenses apply to the data;**
  - 1. If you will be enforcing terms of use or a requirement for data citation through a license, indicate as much in your DMP;**
- 4. Describe any other legal requirements that might need to be addressed.**

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 Commercial 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.

## Archiving and Preservation Plan

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**Please provide as much information as possible:**

- 1. State where you intend to archive your data and why you have chosen that particular option;**
- 2. Provide a link to the repository;**
- 3. You must describe the dataset that is being archived with a minimum amount of metadata that ensures its discoverability;**
  - 1. Whatever archive option you choose, that archive should support the capture and provision of the US Federal Government DCAT-US Metadata Schema <https://resources.data.gov/resources/dcat-us/>**
- 4. In addition, the archive you choose should support the creation and maintenance of persistent identifiers (e.g., DOIs, handles, etc.) and must provide for maintenance of those identifiers throughout the preservation lifecycle of the data;**
- 5. Your plan should address how your archiving and preservation choices meet these requirements.**

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 SDOTs 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.

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