

## Philadelphia Digital ROW and Mobility Improvement SMART Grant 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. Philadelphia Digital ROW and Mobility Improvement Project
2. SMARTFY22N1P1G49
3. Christopher Shelley
4. 0009-0005-2814-0755
5. christopher.shelley@phila.gov, 609-947-1448
6. City of Philadelphia Managing Director's Office
7. MDO@phila.gov, 215-686-3480
8. <https://www.phila.gov/departments/managing-directors-office/>
9. 2023-11-8

### 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.
  1. Data will include: information about the extent, granularity, and recency of the City's existing (at project start) RoW or RoW-related datasets; information about physical and policy elements of the RoW that are or were missing from the City's existing RoW or RoW-related datasets; maps

(Shapefile, geoJSON) of the RoW; a data topology for all potential RoW elements, including physical features and policies of or relating to the sidewalk, curb, and street; a report on City processes that interact with, impact, or depend upon the actual status of, or information about, the RoW, the automated or digitized (or manual or analog) nature of each City process of or relating to the RoW along with recommendations for automation and integration of the latter; all RoW related datasets, in Shapefile, geoJSON, and JSON formats, necessary for the building of applications for: ingesting geospatial data about the RoW; RoW management; RoW information dissemination to smart devices through existing apps or apps to-be-developed; RoW information dissemination to digital signages such as E Ink-based platforms; data about the efficacy of Transit Signal Priority Enhancement technologies; data about uptime/downtime of all deployed technologies.

2. To the extent feasible, all RoW related data will be made available in a format adhering to version 1.0 of the Open Mobility Foundation's (OMF) Curb Data Specification (CDS). The City already has some data about its curbs and policies in that adhere to this specification; through this project the City seeks to complete that process and make curb data available and query-able via APIs.
3. The City of Philadelphia's Office of Innovation and Technology conducts Gates and Privacy Reviews to ensure the security of Personally Identifiable Information (PII) and other sensitive data. In addition, data is thoroughly vetted for PII before being published on Open Data Philly or elsewhere. Further, as this is not a project for enforcement and collection of individual parking event or similar data is not contemplated, it is unlikely that any PII will be generated from this project in the first place. Thus, no disclosure risks are anticipated here.
4. The data collected during the project will enable the City to effectively integrate highly granular information about the RoW into a variety of new or legacy RoW management systems. The operational value of this data should lead to improved outcomes and experiences for RoW users and improved user experience for RoW managers. Finally, the data will be shared with the seven other cities in the OMF-coordinated cohort to enhance lessons learned and to facilitate further deployments of any relevant technologies.

## 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.**

1. Shapefile, DBF, geoJSON, JSON, CSV, xlsx, xlsxm, docx, docm, pptx, cds, jpeg, png, heif, heic, mpg, mov, pdf, csv
2. While data from the project may in many cases exist in proprietary formats (e.g. those compatible with ESRI products), efforts will be made to recreate such data in non-proprietary

formats. The City is working specifically with the Open Mobility Foundation (OMF) and that cohort of other cities to ensure data is also output in formats comporting with open standards such as OMF's Curb Data Specification or Mobility Data Specification.

3. The City will create metadata to accompany data sets. Data resulting from this project will adhere to metadata standards set by the Office of Innovation and Technology and will create metadata that adheres to the Federal Government DCAT-US Metadata Schema (v1.1). 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.**
1. As mentioned above, as this is not a project for enforcement and collection of individual parking event or similar data is not contemplated, it is unlikely that any PII will be generated from this project.
  2. Nonetheless, OIT conducts Gates and Privacy Reviews to ensure the security of any PII or any other sensitive data, and data is thoroughly vetted for PII before being published on OpenDataPhilly or elsewhere.
  3. The City will provide to USDOT a copy of its IT Policies and Standards upon request as, to the knowledge of this writer at the time of this writing, they are not publicly available via the web. However, no access restrictions are immediately apparent as applies to this project.

## 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.
1. The City will hold the intellectual property rights for the data created or used during this project. Documents will be stored on the City of Philadelphia's Microsoft SharePoint system, the established cloud-based data file storage system. This system is managed by OIT in compliance with all City of Philadelphia security and access protocols.
2. It is intended that data will ultimately be made publicly available on OpenDataPhilly at <https://opendataphilly.org/>
3. The City will share this information with USDOT after the negotiation phase of procurement with vendors is complete.

## 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, the City will be responsible for overall data management and will oversee tasks carried out by its partners and vendors. All external team members will follow data management protocols as established by the City.

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

1. OpenDataPhilly: the City's catalog of open data. In addition to being the official open data repository for the City of Philadelphia, it includes data sets from many organizations in the region. URL: <https://opendataphilly.org/>
2. OMF GitHub Webpage. A publicly accessible data repository documenting the development of the Curb Data Specification and will also provide links to the City's project data APIs funded by the Open Mobility Foundation, one of the project's key partners. URL: <https://github.com/openmobilityfoundation>

For the final repository for archiving and preservation, our project plans to use GitHub. While GitHub does not natively support the use of persistent identifiers, the team and I plan to address this in the following ways. First, we will request a DOI from National Transportation Library Data Services team before publication to include in our README. This DOI will be a persistent link to our GitHub repository. We will also include each author's ORCID iD and each author's organizational ROR ID in the README. Lastly, each author will be added as a contributor to the repository and will have their ORCID iD linked to their GitHub profile. GitHub allows our team to better preserve our research through its robust version control, clear authorship, flexible markdown documentation, and ability to link to other sites easily, such as to our final report in ROSA P.

The datasets and metadata that will be archived after the project are not yet defined as they will be developed as the project scope takes shape and technology is procured. However, as the datasets develop, the City will create metadata that is compliant with the Federal Government DCAT-US Metadata Schema (v1.1) to ensure discoverability when archived.

GitHub and OpenDataPhilly meet the requirements for metadata, accessibility, and persistent identifiers by being a publicly accessible site that has space for metadata files and persistent identifiers.

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