

Plan Overview

A Data Management Plan created using DMP Tool

DMP ID: <https://doi.org/10.48321/D19E988F93>

Title: BSOOB Transit Smart Grid Transition

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Grant: SMARTFY22N1P1G30

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

Project abstract:

BSOOB Transit will assess the feasibility for renewable energy generation at the depot and develop a demonstration plan to leverage Smart Grid Technology, on-site energy storage, and high-capacity bus charging equipment to reduce emissions, enhance reliability and mitigate the increased energy demand requirements on the utility grid.

Start date: 08-01-2023

End date: 02-01-2025

Last modified: 05-20-2025

BSOOB Transit Smart Grid Transition

Project Contact Information

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.**

BSOOB Transit Smart Grid Transition

SMARTFY22N1P1G30

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DMP updated from Marianne Walters Version 05/20/2025

Data Description

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;**
 - 1. If you answered "No data" above, then you are finished and may skip the most of the steps and sections below, after you:**
 - 1. Save your DMP as it exists;**
 - 2. Submit it to your Grant Manager or the NTL staff for review.**
- 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. Cost per mile to operate diesel fuel buses
 2. Cost per mile to operate BEB
 3. Cost of electricity to operate depot
 4. Reduction in GHG emissions when transitioned to BEB fleet
 5. Reduction of labor cost to operate BEB fleet
 6. Reduction in parts costs for BEB fleet
 7. Cost to operate on-site microgrid
- Data will be collected from various programs that we use now and exported to Excel.
2. Nature: numerical data
Scope: collect data relevant to installation of a microgrid on BSOOB Transit depot operations: energy use, parts and labor costs, GHG emissions, grid resiliency
3. Characteristics of the data: export to Excel from existing platforms: Swiftly, Cradlepoint, Samsara and UMO
Relationship to other data includes a resiliency measure that will require data from CMP, our electricity provider.
We do not anticipate any disclosure risks at this time as we are a public agency and transparency is the norm for most information.
4. The data will provide other transit agencies and transportation operators information about planning and implementing an on-site microgrid, the operational cost savings and environmental impact. It will be especially helpful to small operators like BSOOB Transit while providing scalable solutions to larger operations.

Data Format and Metadata Standards Employed

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.

Much of the data is currently being collected as part of our operations and administrative tasks. As we migrate towards an electric fleet, we will be collecting more data about fuel, parts and labor costs.

2. The anticipated format for our data will be Excel. It is not a database. We do not anticipate using any code. Excel will probably be the primary format to store data, but we will also include a .csv when it is made available for public access in a repository.

3. At this stage, we haven't identified the metadata file. This topic will be discussed with our consultants. However, we will ensure the data at least has the DCAT-US v1.1 (<http://resources.data.gov/resources/dcat-us/>).

ISON file, which is the federal standard for data search and discovery in order to be compliant with the USDOT Public Access Plan.

Access Policies

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.**

The data collected for the microgrid project will not be sensitive data. As a public agency we publish information about fuel usage and labor costs.

Re-use, Redistribution, and Derivatives Products Policies

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.**

We don't anticipate having any intellectual property rights for the data created during the project. We are a public transit agency and are transparent with information.

As of now, there aren't any licenses or rights specific to the microgrid project.

Archiving and Preservation Plan

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.**

Data will be stored within the existing office systems. Our IT department will maintain data, files and storage. Once the microgrid is installed, we will continue to use the best practices available for the systems.

We are evaluating the options for a repository and will update shortly and will ensure it is compliant with the USDOT Public Access Plan.

BSOOB Transit will be using Figshare for a repository.

Final Dataset DOI: 10.6084/m9.figshare.28732166

Implementation Report DOI: 10.6084/m9.figshare.28732544

Planned Research Outputs

Dataset - "SMART Grant Data Repository Files"

Data used by Wildan, BSOOB's Partner, to review, analyze and propose a plan for action in the electrification of the BSOOB Fleet and supporting the fleet with an energy source that allows BSOOB transit to have an energy source to power the buses.

Planned research output details

Title	Type	Anticipated release date	Initial access level	Intended repository(ies)	Anticipated file size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
SMART Grant Data Repository Files	Dataset	2025-04-04	Open	BSOOB Transit SMART Grant Microgrid Feasibility		Creative Commons Zero v1.0 Universal	None specified	No	No