



Center for Equitable Transit Oriented Communities (CETOC) Data Management Plan

Tier 1 UTC, Grant Period June 1, 2023 – May 31, 2028

Date Effective: June 1, 2023

Grant Number: 69A3552348337

Lead University: University of New Orleans

**Consortium Members: Florida Atlantic University, University of Colorado Denver,
University of Florida, University of Utah**

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1. Overview

This Data Management Plan (DMP) outlines the basic procedures and minimum requirements for managing data associated with research projects under the direction and/or funding of the Center for Equitable Transit Oriented Communities (CETOC). All CETOC principal investigators (PIs) are expected to follow the procedures and guidelines outlined in this DMP and to comply with all U.S. Department of Transportation (USDOT) Public Access Plan requirements for storing, archiving, and making accessible data produced as part of CETOC research projects or with the use of CETOC funding. Any deviations from this DMP must be submitted with project proposals as a separate project-level DMP. Project-level DMPs must provide reasoning for deviation from the plan below and detailed descriptions of how the project-level DMP complies with all USDOT requirements and other applicable regulations. All project-level DMPs must be approved by the Center Director.

The Center for Equitable Transit-Oriented Communities (CETOC) is a U.S. Department of Transportation designated University Transportation Center. It focuses on preserving the environment by promoting transit access, multimodal infrastructure, compact and efficient land use patterns, as well as resilience and climate adaptation. CETOC is a consortium of five universities that consists of renowned transportation researchers and educators from the University of New Orleans, Florida Atlantic University, the University of Colorado, Denver, the University of Florida, and the University of Utah. Florida Atlantic University is the USDOT-designated Minority Serving Institution (MSI) and Hispanic Serving Institution of CETOC.

CETOC's Mission is to cultivate transit-centered, equitable, and resilient communities that support residents' multimodal travel needs and preserve the environment. The Center plans to achieve these goals through 1) production of research which will advance scientific knowledge and identify innovations that can inform the planning and development of equitable transit-oriented communities; 2) leadership which will cultivate a diverse group of visionary transportation leaders who will dedicate their careers and inspire others to advance public transportation and build equitable and resilient communities; 3) education and workforce development which will train a new generation of transportation professionals with the knowledge and techniques needed to meet the challenges of the present and be prepared for the future, and 4) technology transfer initiatives which will produce transformative products (e.g., tools, databases, methods, and strategies) to be widely adopted and implemented by the transportation profession for building equitable transit-oriented communities.

2. Data Description

In carrying out this mission, the Center, its PIs, and other associated researchers will produce a wide variety of data. It is the duty of each PI to ensure that data produced as part of CETOC research initiatives complies with this DMP and with all USDOT requirements. Transportation data of all kinds, including historical data, is of great value to researchers both today and into the future. As part of CETOC's mission to promote technology transfer, data produced by the Center should be made accessible to other researchers to the greatest extent possible.

Data types produced by the Center may include, but are not limited to, the following: travel surveys and other types of survey data, interviews, spatial data including GIS, GPS, and other location data, demographic data, infrastructure data, governmental and administrative data, photography, audio, video, 3D models, and more.

Each PI will provide a Data Description as part of their CETOC Project Request Form. This will be considered supplementary to this DMP. For projects with project-level DMPs, the Data Description should be included in that document as well. The Data Description should describe types of data to be used, collected, created, or modified during the course of the project, including but not limited to a description of the methods and software used, data and metadata formats, and potential value of the data for re-use, technology transfer, and further research. This Data Description, along with metadata for each dataset, will be preserved with the data when it is made accessible at the completion of the project according to the guidelines detailed below.

Whenever possible, data containing personal identifiers, proprietary information, or other secure information should be anonymized and made accessible in a modified format that meets all applicable legal and regulatory requirements. When it is not possible to provide data to the public for reasons of intellectual ownership, anonymity, security, etc. the processes for storing and securing the sensitive data must be noted by the PI in the Data Description as well as documented in a project-level DMP and approved by the Center Director.

3. Standards Used

Whenever possible, data should be made accessible in non-proprietary formats to allow for the greatest possible opportunity for future use and transfer of technology and information. Industry-standard open specification file formats, such as shapefiles for GIS data, are also acceptable. When the use of proprietary data types and file formats is unavoidable, the reasoning and format choices should be detailed in a project-level DMP and approved by the Center Director.

Metadata for all datasets should be created by the PI in accordance with industry standards. The Project Open Metadata Schema (DCAT-US Schema v1.1; <https://resources.data.gov/resources/dcat-us>) guidelines should be used whenever possible. Metadata should be stored in a standard, non-proprietary, and accessible file format (e.g., .txt, .csv) and must, at minimum, detail the data's author, contributors, creation data, title, abstract, keywords, file format(s), quality control measures, software used to create, modify, or process the data, and tools or software required to view or utilize the data. Funder information and rights/licensing statement should also be included. This metadata is to be shared and stored with the data everywhere the data is stored or made available.

4. Access Policies

Data collected, utilized, or produced in conjunction with CETOC-associated research is to be made publicly accessible to the fullest extent to which it is possible, legal, and ethical to do so. In cases where data contains personally sensitive information, proprietary or classified information, or other data which presents legal or ethical barriers to open access and distribution, the PI must include in the project-level DMP the reasoning behind restricting the data access and the protocol for doing so. Whenever possible, data should be made available in a modified format (e.g., anonymized) that preserves the data's utility while ensuring that access to it adheres to legal regulations and ethical considerations. When it is not possible to do so, the PI must detail the restrictions on the data and indicate how it will be stored securely and under what conditions it can be accessed.

Any project producing data associated with human subject research must abide by all requirements and protocols of the PI's home institution's Institutional Review Board, including but not limited to ensuring informed consent of participants and protecting participant privacy and confidentiality.

5. Re-Use, Redistribution and Derivative Products Policies

Intellectual property rights shall be maintained by the project's PI and/or their home institution unless otherwise transferred at their discretion. PIs must explicitly state if they choose to transfer intellectual property rights or copyright to the public domain or distribute under a specific license.

The USDOT 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 data produced in conjunction with CETOC-funded projects.

In cases where previous copyrights, such as those pertaining to proprietary data sources or derived from copyrighted instruments apply to project data, those copyrights must be identified and cited, and all legal conditions imposed on the use of such data must be adhered to. This includes but is not limited to citing the data source and license under which the data was accessed and utilized, listing the owner of the intellectual property rights and/or copyrights to the data, and indicating any transfer or re-licensing of the data or rights thereto for reuse, redistribution, or the production of derivative products.

6. Archiving and Preservation Plans

All CETOC data that directly supports research products from completed projects shall be stored and archived on a USDOT Public Access Plan compliant¹ repository with a DOI assigned at the project level and dataset level and linked to on the CETOC webpage. Zenodo (<https://zenodo.org/>) is a free and compliant repository and is the suggested repository for CETOC project data. PIs wishing to use another repository should indicate their reasoning for doing so in a project-level DMP and are responsible for ensuring that the repository meets all USDOT requirements. All stored data for completed projects will be linked to on the CETOC webpage (<https://www.uno.edu/cetoc>) alongside other research outputs generated through the Center (reports, white papers, etc.), with an interface maintained by the Center Director, lead University, or representatives thereof. Non-data research products may be archived in UNO's open access institutional repository with appropriate metadata to facilitate discovery and ensure long-term access.

Change Log:

2023-09-23: Original Draft

¹ SEE: United States. Department of Transportation. (2022). Guidelines for Evaluating Repositories for Conformance with the DOT Public Access Plan. <https://doi.org/10.21949/1520563>