



MID-AMERICA  
TRANSPORTATION CENTER

**University of Nebraska-Lincoln Data Management Plan for the Mid-America  
Transportation Center for Transportation Safety and Equity (MATC-TSE)  
Regional University Transportation Center for Federal Region 7**

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Effective date: June 01, 2023

UTC Grant Period: June 01, 2023 - May 31, 2028

UTC Grant Number: 69A3552348307

UTC Lead Institution: University of Nebraska-Lincoln

Partner Institutions: Nebraska Indian Community College, the Missouri University of Science and Technology, the University of Iowa, the University of Kansas, and the University of Missouri-St. Louis.

## **1. Background**

The University of Nebraska-Lincoln (UNL) is the lead on the US Department of Transportation (USDOT) Federal Region 7 university transportation center titled the Mid-America Transportation Center for Transportation Safety and Equity (MATC-TSE). The consortium partners include the Nebraska Indian Community College, the Missouri University of Science and Technology, the University of Iowa, the University of Kansas, and the University of Missouri-St. Louis. MATC-TSE conducts safety related research with emphasis on equity in transportation safety as its statutory research priority is safety. This document serves as the Center-level data management plan (DMP). Each research project undertaken by MATC-TSE (including consortium partners) will have a DMP that:

- i. Can reference the Center DMP to reduce copy/paste of repeated language;
- ii. That states the unique and specific aspects of the research project for each section described in the Center DMP; and,
- iii. That Project DMPs are living knowledge management tools that should be reviewed and updated regularly and each time there is a significant change in the research project, the data collected, or in project personnel. Updated DMPs will be presented to USDOT for review.

## **2. Data Description**

Besides supporting the statutory research priority area of safety, MATC-TSE supports the USDOT Strategic Plan goals of economic strength and global competitiveness, equity, climate and sustainability, and transformation. Safety of the US transportation systems remains a concern and a high priority with the USDOT. Researchers at UNL and partner universities will be collecting a variety of data as part of research projects aimed at improving highway safety

as well as equity of safety measures. The products and processes that result from this research will be adopted for use and practice in the highway industry, federal, state, and local transportation agencies, and peer institutions. UNL and partner research projects and data collection will span the length of the five-year grant period, beginning June 01, 2023, and ending May 31, 2028. Projects will generally follow a one-year time frame. At the conclusion of each project, the respective PI will submit their final data to the UNL Program Coordinator for archiving, ensuring compliance with the USDOT Public Access Plan and identifying confidential data, if any.

UNL and partners anticipate collecting final data in various forms including, but not limited to, software codes, mathematical models, laboratory and field experimental data, design drawings, traffic/rail crash images, surveys, maps, system diagrams, sensed data (e.g., temperature, drone LiDAR data), and video data from stationary/mobile cameras. Data will be compiled from existing documents and collected by means of observation, experimentation, and simulation.

### **3. Formats and Standards Used**

UNL and partner research data will be stored through the University of Nebraska-Lincoln (UNL) Data Repository: <https://dataregistry.unl.edu/index.html>. MATC-TSE will support a wide range of projects producing different types of data as described in “Data Description” section. It might not be feasible to provide a list of every format that could be used. However, MATC-TSE are committed wherever feasible to using common, standardized file formats that are readable by widely accessible software. For example, the final data can be archived in machine-readable file formats such as TXT, PDF, Excel, JPEG, and PPTX. When proprietary software is used that cannot be converted into an open-access format, information such as the software version and additional suggestions will be provided so that the users are well-informed about the procedures that must be followed to read the file.

The UNL Data Repository uses the Dublin Core metadata standard (<http://dublincore.org/documents/dcmi-terms/>) for dataset description. At a minimum, the metadata will include Title, Creators (e.g., PI), Contributors (e.g., co-PIs), Identifiers (e.g., researcher ORCID IDs, digital object identifier (DOI), grant number), Publishers (e.g., university performing research, sponsor), Description, Types, Formats, Subjects, Date of Collection and Date of Submission. The UNL Data Repository will also store DCAT-US v1.1 standard metadata as required for all DOT funded datasets (<https://resources.data.gov/resources/dcat-us/>) The established metadata will contribute to the discoverability and accessibility of the research data.

### **4. Access Policies**

The UNL and partners’ data will be publicly accessible and free of charge via the UNL’s MATC Data Repository. Individual PI’s will be responsible for protecting the identity and privacy of research participants and conducting their experiments according to the specific ethical codes and procedures of the UNL and/or partner institutions. All projects involving human subjects will follow the requirements of the Institutional Review Board (IRB) of the institutions. These projects must have an IRB approved protocol to ensure consent and protect the privacy and confidentiality of participants. The protocol includes consent forms that will inform

participants that their data will be coded and/or aggregated prior to dissemination such that no personally identifiable information will be shared outside of the research team. The PIs of the project will be responsible for acquiring IRB approval and adhering to IRB and other data sharing requirements. PIs will remove personally identifiable information before submitting final data to UNL staff for archiving. Confidential information relating to organizations and national security may also be restricted from public use. Confidential data will be appropriately indicated in the database and stored for the purpose of preservation. Data marked as confidential will not be publicly accessible. Only the research team responsible for the confidential data may be granted access to it by UNL.

## **5. Re-Use, Redistribution, and Derivative Products Policies**

UNL MATC staff will be responsible for collecting, inputting, and managing research data. They will work with the project PI/Co-PI's to ensure the data is properly described and archived for future users. The intellectual property rights of the data will follow UNL's policy on ownership of data at the time of deposit.

Materials generated under the project will be disseminated in accordance with University/Participating institutional and USDOT policies. The USDOT 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.

## **6. Data Archiving and Preservation Plans**

UNL and partner research data will be stored through the UNL Data Repository, hosted by UNL as it supports the UTC researchers by providing a secure site to store data for long-term use and dissemination. The data produced as part of the UTC will be archived and shared by this UNL DATA Repository (<https://dataregistry.unl.edu/index.html>) that follows a USDOT approved data management plan. Data will be preserved on UNL Libraries servers and backed up locally and remotely on a regular schedule. Upon acceptance, datasets will be provided with a unique identifier (DOI) and will be discoverable through the UNL Data Repository (following any embargo period, if applicable). It is the intent of UNL Data repository to preserve data long term. It ensures preservation for a minimum of 20 years. Contact [datamangement@unl.edu](mailto:datamangement@unl.edu) for further questions.

## **Change Log**

2023-09-29 Original draft.

2024-02-05 Revisions and additions based on feedback.

2004-02-06 Revision based on feedback.