## Plan Overview

*A Data Management Plan created using DMP Tool*

**DMP ID:**

**Title:** Modernization of ATD Apparel

**Creator:** Ian Hellstrom - **ORCID:** 0000-0002-3972-3981

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

**Funder:** Civil Aerospace Medical Institute (faa.gov)

**Template:** U.S. Department of Transportation: Data Management Plan (DMP)

**Project abstract:**

FAA AC 25.562-1B and SAE AS 8049-C require specific ATD clothing that is no longer readily acquired or has changed significantly. This apparel includes US Air Force defined shoes, which have changed from a slick sole to a non-slip sole, and 100% cotton stretch garments, which are no longer manufactured. The change to the sole of the shoe may prevent the ATD's legs from freely swinging during a test. The release of the legs is required during a horizontal test for seat places without foot pedals and can change the head path. A change from 100% cotton to polyester clothing may alter the sliding of the occupant along the seat back cushion during a combined horizontal-vertical test and may alter the sliding of the lap belt on the pelvis (affecting the risk of submarining). Because these changes may alter the response of the ATD during dynamic impact tests, use of apparel different than what is specified may require a deviation before the test data can be accepted by the FAA. This project will investigate any differences in ATD kinematics caused by the modern clothing and provide the FAA policy makers with information to update guidance material on the subject.

**Start date:** 01-01-2021

**End date:** 09-30-2021

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

**Copyright information:**

**Modernization of ATD Apparel**

**Persistent Link**

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**Include the persistent identifier (PID) that is associated with the dataset.**

**Recommended Citation**

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**The recommendeded data citation to be used when citing the dataset.**

**Change Log**

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**Document the changes that are made to the DMP, any and all changes should be noted to ensure a more complete documentation.**

**Change Log:**
7/29/2021: Initial DMP

8/4/2021: Review for DMP workshop

9/22/2021: DMP Updates

9/15/2022: Added Funding Org - needs additional updates due to re-baseline

5/22/2023: Corrections/Updates to DMP

## CONTENTS

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**Include a table of contents, in order to better organize the DMP.**

**CONTENTS:**

## 0. Dataset and Contact Information

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**Please provide the following information:**

- **Name of the dataset or project for which data is being collected**
- **Project number, contract number, or other number used to link this DMP**
- **Name of the person submitting this DMP -ORCiD of the person submitting this DMP**
- **Email and phone number of the person submitting this DMP**

- **Name of the organization for which the person submitting this DMP is working for**
- **Email and phone number for the organization**
- **Link to organization or project website**
- **Date the DMP was written**

**0. Dataset and Contact Information:**
Name of Project: MODERNIZATION OF ATD APPAREL

Project Number: 14.2 DYN-10086

PI: IAN HELLSTROM - ORCID #0000-0002-3972-3981

Contact Information: 6500 S. MacArthur Blvd, AAM-632, Oklahoma City, OK 73169, ian.t.hellstrom@faa.gov, 405-954-5767

U.S. Department of Transportation, Federal Aviation Administration, Civil Aerospace Medical Institute,

URL:https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/cami/

Initial DMP: 7/29/2021

# 1. Data Description

**Name the data, data collection project, or data producing program.**

**1. Data Description:**
One data set will include sled test data used to evaluate the affect of clothing on ATD response. The second data set will be an ATD pelvis response to loading statically and dynamically.

**Describe the purpose of your research.**

This project will investigate any differences in ATD kinematics caused by the modern clothing and effects on an ATD pelvis due to loading. This project will provide the FAA policy makers with information to update guidance material on the subject.

**Describe the data that will be generated in terms of nature and scale (e.g., numerical data, image data, text sequences, video, audio, database, modeling data, source code, etc.).**

Sensor output, pre & post test pictures, high speed video, and photometric results are provided.

**Describe methods for creating the data (e.g., simulated; observed; experimental; software; physical collections; sensors; satellite; enforcement activities; researcher-generated databases, tables, and/or spreadsheets; instrument generated digital data output such as images and video; etc).**

This data is created by physical experiments. Sensors include load cells and accelerometers. Data set also included video from high speed cameras and photos from still cameras.

**Discuss the period of time data will be collected and frequency of update.**

Data from test series scheduled to be collected from 7/21/2021 to 10/3/2021.

**If using existing data, describe the relationship between the data you are collecting and existing data.**

No existing will be used for this test series.

**List potential users of the data.**

Aircraft seat manufactures and test laboratories.

**Discuss the potential value of the data have over the long-term for not only your institution, but also for the public.**

Data from the test series could be utilized to determine future requirements for certification testing that utilize ATDs. Public use would provide a historical record of ATD dynamic response evaluation and datasets.

**If you request permission not to make data publicly accessible, explain rationale for lack of public access.**

Data will be made publicly available.

**Indicate the party responsible for managing the data.**

NHTSA, https://www-nrd.nhtsa.dot.gov/database/veh/

**Describe how you will check for adherence to this data management plan.**

A quarterly plan review will be conducted while the project is active. Once the test series and the project is complete, a full review will be conducted to ensure all data and external references are correct, all data accessible and the DMP outline is met.

## 2. Standards Employed

**List in what format(s) the data will be collected. Indicate if they are open or proprietary.**

**2. Standards Employed:**
Sensor output data will be published as ascii text. High speed video will be available in MP4 format. Still photos published as JPEG. Photometric data available as ascii text. Not using proprietary data formats.

**If you are using proprietary data formats, discuss your rationale for using those standards and formats.**

Not using proprietary data formats.

**Describe how versions of data be signified and/or controlled.**

Data's file formats are standard formats.

**If the file format(s) you are using is(are) not standard to your field, describe how you will document the alternative you are using.**

The file formats used are standard to our field.

**List what documentation you will be creating in order to make the data understandable by other researchers.**

The database ensures that all fields are properly defined and provides space for the test conditions to be defined.

**Indicate what metadata schema you are using to describe the data. If the metadata schema is not one standard for your field, discuss your rationale for using that scheme.**

The current metadata schema plan will follow a generic Metadata Object Description Schema (MODS). Likely to change based on future guidance or updated best practices.

**Describe how will the metadata be managed and stored.**

The data are managed by the Federal Aviation Administration, are in the public domain, and may be re-used without restriction.

**Indicate what tools or software is required to read or view the data.**

Necessary software tools: The file formats will include: .txt files, .csv, .jpeg, .mp4. The .txt and .csv file formats can be open with any text editor, such as Microsoft note pad. A free text editor available from Microsoft is Basic Text Editor. The .jpeg files can be viewed with Microsoft Photos, and a free version of One Photo Viewer is available.

**Describe your quality control measures.**

Once the data is published, all quality control measures will be at the direction and guidance from the Transport Research Board.

## 3. Access Policies

**Describe what data will be publicly shared, how data files will be shared, and how others will access them.**

**3. Access Policies:**

The data are managed by the Federal Aviation Administration, are in the public domain, and may be re-used without restriction.

**Indicate whether the data contain private or confidential information. If so:**

- **Discuss how will you guard against disclosure of identities and/or confidential business information.**
- **List what processes you will follow to provide informed consent to participants.**
- **State the party responsible for protecting the data.**

Not applicable.

**Describe what, if any, privacy, ethical, or confidentiality concerns are raised due to data sharing.**

Data collected from this research provides no privacy, ethical, or confidentiality concerns due to data sharing.

**If applicable, describe how you will deidentify your data before sharing. If not:**

- **Identify what restrictions on access and use you will place on the data.**
- **Discuss additional steps, if any you will use to protect privacy and confidentiality.**

No human subjects and/or personal information will be utilized in this research project. No requirements for deidentifying subjects prior to sharing data. No restrictions will be placed on data access.

## 4. Re-Use, Redistribution, and Derivative Products Policies

**Name who has the right to manage the data.**

**4. Re-Use, Redistribution, and Derivative Products Policies:**

The data are managed by the Federal Aviation Administration, are in the public domain, and may be re-used without restriction.

Link will be updated once the link is assigned.

**Indicate who holds the intellectual property rights to the data.**

No intellectual property rights apply to this data set.

**List any copyrights to the data. If so, indicate who owns them.**

No copyrights apply to this data set.

**Discuss any rights be transferred to a data archive.**

No rights will be required to be transferred to the data archive.

**Describe how your data will be licensed for reuse, redistribution, and derivative products.**

The data are in the public domain, may be re-used without restriction, and will not be licensed.

## 5. Archiving and Preservation Plans

**Discuss how you intend to archive your data and where (include URL).**

**5. Archiving and Preservation Plans:**

This data set will be archived at the NHSTA database. Prior to archiving the data set will be stored on the CAMI server which is backed up daily.

URLs will be updated once assigned links.

**Indicate the approximate time period between data collection and submission to the archive.**

The data is expected to be submitted to the archive within six (6) months of competition of data collection.

**Identify where data will be stored prior to being sent to an archive.**

The data will be stored on a Federal Aviation Administration server until data is archived.

**Describe how back-up, disaster recovery, off-site data storage, and other redundant storage strategies will be used to ensure the data's security and integrity.**

The FAA-CAMI server which is backed up daily.

**Describe how data will be protected from accidental or malicious modification or deletion prior to receipt by the archive.**

Computer security prior to transfer will be accomplished by FAA and the MyIT Service Center. Data will be transferred from a MyIT Service Center controlled computer.

**Discuss your chosen data archive's policies and practices for back-up, disaster recovery, off-site data storage, and other redundant storage strategies to ensure the data's security and integrity for the long-term.**

Archive location of data is directed by FAA and AVS guidance.

**Indicate how long the chosen archive will retain the data.**

This dataset will be retained in perpetuity.

**Indicate if the chosen archive employs, or allows for the recording of, persistent identifiers linked to the data.**

Yes, persistent identifiers linked to the data are employed by the archive.

**Discuss how your chosen data repository meets the criteria outlined on the [Guidelines for Evaluating Repositories for Conformance with the DOT Public Access Plan](#) page.**

Archive location of data is directed by FAA and AVS guidance.

## 6. Policies Affecting this Data Management Plan

**Include policies that the data management plan was created to meet, such as the DOT public access plan.**

**6. Policies Affecting this Data Management Plan:**
This data management plan was created to meet the requirements enumerated in the U.S. Department of Transportation's "Plan to Increase Public Access to the Results of Federally-Funded Scientific Research" Version 1.1 << https://doi.org/10.21949/1520559 >> and guidelines suggested by the DOT Public Access website << https://doi.org/10.21949/1503647 >>, in effect and current as of July 30, 2021.

## Planned Research Outputs

### Dataset - "FAA Modernization of ATD Apparel"

This info is addressed in the plan. We need a way to easily bring it forward

### Data paper - "TBD"

This paper will summarize the tests conducted, summarize findings, and draw conclusions.

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## 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? |
|-------|------|--------------------------|---------------------|--------------------------|----------------------|---------|---------------------|----------------------------|------------------|
| FAA Modernization of ATD Apparel | Dataset | 2023-12-31 | Open | None specified | 2 GB | Creative Commons Attribution 4.0 International | None specified | No | No |
| TBD | Data paper | 2022-01-02 | Open | ROSA P | 20 MB | Creative Commons Attribution 4.0 International | None specified | No | No |