

Plan Overview

A Data Management Plan created using DMPTool

DMP ID: <https://doi.org/10.48321/D1GH0G>

Title: Expanded use of analytic modeling in cabin safety applications

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Funder: Federal Aviation Administration ([faa.gov](https://www.faa.gov))

Template: Federal Aviation Administration (FAA) Data Management Plan (DMP) Template v1.1

Project abstract:

This research will explore the potential applications for numerical modeling in various cabin safety areas (including evacuation and ditching), and establish criteria for validation, as well as credibility of models for use in certification. Cabin safety requirements often result in a destructive test (e.g., seat dynamic testing), testing involving risk to persons (e.g., evacuation testing) or testing that has limited statistical basis (e.g., escape slide testing.) In all of these cases the use of numerical modeling would be very useful, provided the models were sufficiently credible and the criteria for their use was well understood. Historically, the FAA has been very cautious about accepting numerical models in these areas, because of the lack of good validation criteria, and because there was very limited experience within the FAA on the use of modeling.

Start date: 10-01-2020

End date: 03-31-2023

Last modified: 05-10-2023

Copyright information:

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Expanded use of analytic modeling in cabin safety applications

Persistent Link

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

Question not answered.

Recommended Citation

The recommended data citation to be used when citing the dataset.

Question not answered.

Change Log

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

Question not answered.

Table of Contents

Optional table of contents included here, in order to better organize the DMP.

CONTENTS:

0. Dataset and Contact Information

0. Dataset and Contact Information

Please provide the following information:

- Name of the dataset or project for which data is being collected.
- Name of the FAA Line-Of-Business/Office for which the associated dataset is being generated.

- **Email for the FAA Line-Of-Business/Office (key field).**
- **If applicable and as reference, project number, contract number, or other number used to link this DMP.**

0. Dataset and Contact Information:

Name of Project: Expanded Use of Analytic Modeling in Cabin Safety Applications

Project Number: 13.6

PI: William Carroll ORCID 0000-0001-6668-6971

Contact Information: 6500 S. MacArthur Blvd, AAM-632, Oklahoma City, OK 73169,
william.h.carroll@faa.gov, 405-954-0248

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: 05/10/2023

1. Data Description

Name the data, data collection project, or data producing program. Provide high level narrative.

The project will include training material and may include physics based modeling data.

Describe the purpose of your research and whether results will be documented in a published document or report. How will it be used?

Certification efficiency enabled through the use and acceptance of M&S for cabin interiors. The results will be published.

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.).

Modeling data.

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).

The data will be created by simulations.

Describe the period of time over which the data will be collected and frequency at which it will be updated.

Data will be collected from 2023 to 2024.

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

Historical test data will supplement the new test and modeling data.

Describe potential users of the data and the expected manner in which they may use it.

Potential users of the data are aircraft and/or seat manufacturers and FAA certification offices. They may use this data to assist in the evaluation of their design.

Discuss the potential value of having the data available not only to your institution but also for the public, e.g., might be renewed interest and value in reanalyzing the data with updated and more universally comparable metrics or recently developed analytical methods.

Typical users of the data include research analyst and principle investigators. Also, research sponsor (policy makers) may refer to the data to confirm their understanding of the results as they develop safety guidance. Industry subject matter experts may refer to the data to verify the justification for following the safety guidance and adapting their operations.

State clearly if data can be shared publicly or not. 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.

Unless otherwise noted, refer to "Section 0: Dataset and Contact Information", the FAA line-of-business (LOB) is identified, which is responsible for generating the data, and is also responsible for

managing the data initially, and by default long-term, the FAA's Enterprise Information Management (EIM) will manage and catalog the data. Refer to the [FAA Data Governance Center](#), this is landing page and access point to EIM uploaded datasets.

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

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.

Unless otherwise noted, refer to "Section 0: Dataset and Contact Information," the FAA line-of-business (LOB) is identified, which is responsible for generating the data, and is also responsible for managing the internal project management processes to ensure adherence to the published data management plan (DMP). Details of the particular FAA LOB's DMP adherence processes can be provided on-demand. Typical processes require management review and sign-off at project start and close-out.

2. Standards Employed

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

2. Standards Employed:

Unless otherwise noted, this FAA research project has descriptive project data posted in <https://rip.trb.org/> at project launch and while under development and <https://researchhub.bts.gov/> database beyond. These databases have published standards. The project's metadata will be posted in [Catalog.Data.Faa.Gov](#). This catalog follows the DCAT-US Schema v1.1 (Project Open Data Metadata Schema) <https://resources.data.gov/schemas/dcat-us/v1.1/> – a set of required fields (Title, Description, Tags, Last Update, Publisher, Contact Name, etc.) for every data set displayed on [Catalog.Data.FAA.gov](#).

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.

Unless otherwise noted, refer to "Section 0: Dataset and Contact Information", the FAA line-of-business (LOB) is identified, which is responsible for generating the data, and is also responsible for version control initially. Once uploaded by default upon project completion and long-term, the data

is managed by FAA's Enterprise Information Management (EIM), which also applies configuration control on dataset versions. Refer to the [FAA Data Governance Center](#). This is the internal FAA landing page and access point to EIM uploaded datasets and processes.

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.

Unless otherwise noted, this project's metadata will describe the data and formats and by default should be understandable by other researchers and on the FAA's Enterprise Information Management (EIM), which requires application of published standards like DCAT-US Schema v1.1 (Project Open Data Metadata Schema) <https://resources.data.gov/schemas/dcat-us/v1.1/> – a set of required fields (Title, Description, Tags, Last Update, Publisher, Contact Name, etc.). Most data sets use open standard and common formats (e.g., CSV, XML, JSON) and if not, described in this DMP.

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.

This project's metadata and associated data schema is posted with its data on the FAA's Enterprise Information Management (EIM), which requires application of published standards like DCAT-US Schema v1.1 (Project Open Data Metadata Schema) <https://resources.data.gov/schemas/dcat-us/v1.1/> – a set of required fields (Title, Description, Tags, Last Update, Publisher, Contact Name, etc.).

Describe how will the metadata be managed and stored.

Unless otherwise noted, refer to "Section 0: Dataset and Contact Information", the FAA line-of-business (LOB) is identified, which is responsible for generating the data, and is also responsible for generating the metadata. Once uploaded by default upon project completion and long-term, the data and its associated metadata is managed by FAA's Enterprise Information Management (EIM). Refer to the [FAA Data Governance Center](#). This is the internal FAA landing page and access point to EIM uploaded datasets and processes.

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

Unless otherwise noted, open data formats are used as much as possible. If not possible, the researcher shall list proprietary data formats and associated tools and software required to read/view

the data here. Citations to the required tools and software would be included.

Describe your quality control measures.

Refer to "Section 0: Dataset and Contact Information", the FAA line-of-business (LOB) identified is responsible for managing quality control standards in the data generation and initial creation of the associated metadata. Once uploaded by default upon project completion and long-term, the data and its associated metadata is managed by FAA's Enterprise Information Management (EIM). Refer to the [FAA Data Governance Center](#). This is the internal FAA landing page and access point to EIM uploaded datasets and processes. Thus, all data uploaded to the EIM platform follows the quality control measures set forth in managing FAA datasets, where EIM states "FAA Data Stewards publish data thru the FAA Data Governance Center hosted and managed by the FAA Chief Data Office. Here the metadata is curated and validated for quality and accuracy. The FAA Data Steward enters metadata and verifies quality and accuracy before publishing to data.faa.gov."

3. Access Policies

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

These data files are in the public domain and can be shared without restriction. The data file contain no sensitive information. Data will be publicly available through the Transport Research Board at www.trb.org.

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.

NA

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.

NA

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

Name who has the right to manage the data.

Unless otherwise noted, the data described in this DMP is generated and managed by the Federal Aviation Administration. The data are in the public domain, and may be re-used without restriction.

Indicate who holds the intellectual property rights to the data.

Unless otherwise noted (e.g., data is partially proprietary by an external entity, where intellectual property is shared), this data is required to be made available in open, machine-readable formats, while continuing to ensure privacy and security in accordance with the OPEN Government Data Act, which is Title II of the Foundations for Evidence-Based Policymaking Act.

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

Unless otherwise noted, there is no shared copyrights on the data described in this DMP.

Discuss any rights that are transferred to a data archive.

There are no rights transferred to the permanent archive or repository to accompany this dataset described in this DMP.

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

Unless otherwise noted, there is not a need for the data in this DMP to be licensed for reuse, redistribution, and/or its derivative products.

5. Archiving and Preservation Plans

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

Unless otherwise noted, the data described in this DMP will be uploaded to the FAA's Enterprise Information Management (EIM) through the [FAA Data Governance Center](#). This is the internal FAA landing page and access point to EIM uploaded datasets and processes. Here the metadata is curated and validated for quality and accuracy. The FAA Data Steward enters metadata and verifies quality and accuracy before publishing to data.faa.gov, which is the FAA's clearinghouse site for publicly

available FAA data and managed and hosted by the FAA's, IT Shared Services organization - Chief Data Office, see <https://catalog.data.faa.gov/about> for more information.

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 completion of data collection.

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

Unless otherwise noted, the permanent archive of the data described in this DMP shall be uploaded, stored, and managed permanently by the FAA's Enterprise Information Management (EIM) platform. However, until the upload upon completion of the project or at a convenient time before, the data will reside locally by the researcher. Refer to "Section 0: Dataset and Contact Information", the FAA line-of-business (LOB) is identified, which is responsible for generating the data, and is also responsible for managing the data initially.

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, initially and for the long-term.

Unless otherwise noted, the data described in this DMP shall be uploaded, stored, and managed permanently by the FAA's Enterprise Information Management (EIM) platform. This platform is managed and hosted by the FAA's, IT Shared Services organization - Chief Data Office and all back-up, disaster recovery, off-site data storage, and other redundant storage strategies are managed internally by this office and adhering to all FAA mission support policies. For more information and details on these processes, see [FAA EIM Platform](#) or contact the FAA line-of-business (LOB) that is identified in "Section 0: Dataset and Contact Information," which is responsible for generating the data.

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

Unless otherwise noted, the data described in this DMP will initially (prior to receipt into the FAA's Enterprise Information Management (EIM) platform) be generated and managed by the FAA line-of-business (LOB), identified in "Section 0: Dataset and Contact Information." The FAA LOB will maintain (3) copies of the data within protected and monitored FAA government servers, facilities, and cloud platforms.

Indicate how long the chosen archive will retain the data.

Unless otherwise noted, the long term storage of the data described in this DMP will persist indefinitely in the FAA's Enterprise Information Management (EIM) platform following standard government policies and best practices.

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

Unless otherwise noted for the FAA researchers in this DMP, the persistent identifiers can only be linked to the Catalog.Data.faa.gov, which provides access to metadata. Access to the research data itself currently requires secure access, including a secure government credentialed sign-on, referred to as MyAccess. This is a role based security profile and intrusion detection monitoring policy to maintain a secure boundary for the EIM Platform that hosts the data.

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.

Unless otherwise noted, the data described in this DMP shall be uploaded, stored, and managed permanently by the FAA's Enterprise Information Management (EIM) platform. The EIM Platform is an FAA-developed, cloud-based, big data platform that consists of two key items: (1) "Data Mall" – this is a large repository for FAA data. It is organized and catalogued for easy access, but safeguarded to preserve its integrity and protect data from unauthorized access. And (2) an "App Mall" – this is a collection of curated technologies and tools to enable FAA personnel to transform data into information. For more information, see [FAA EIM Platform](#). The platform's DATA.FAA.GOV is the FAA's clearinghouse site for publicly available FAA data and managed and hosted by the FAA's, IT Shared Services organization - Chief Data Office. It is public gateway to the Enterprise Information Management (EIM) platform that is dedicated to managing data and information to improve efficiency, reduce costs, promote transparency, and enable business insight across the FAA. Thus, this FAA repository meets all the criteria outlined in the DOT Public Access Plan above.

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.

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 Month(Write out) Day(XX), Year(XXXX).

Planned Research Outputs

Data paper - "TBD"

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?
TBD	Data paper	Unspecified	Open	ROSA P		None specified	None specified	No	No