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)

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: 01-18-2024

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Expanded use of analytic modeling in cabin safety applications

Question not answered.

Question not answered.

Question not answered.

CONTENTS:

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

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

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

Modeling data.

The data will be created by simulations.

Data will be collected from 2023 to 2024.

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

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.

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.

Data will be made publicly available.

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.

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:

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.

Not using proprietary data formats.

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.

The file formats used are standard to our field.

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.

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.).

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.

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.

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.”

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.

NA

NA

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.

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.

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

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

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.

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.

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

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.

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.

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.

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.

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.

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.

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