APPENDIX B: Data Management Plan

Dataset and Contact Information

Title: Seat and Occupant Response in Energy Absorbing Seats
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https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/cami/
Funder: Federal Aviation Administration (faa.gov)
Grant/Contract(s): N/A
Persistent link: https://doi.org/10.21949/1524450.
Recommended Citation: U.S. Department of Transportation, Federal Aviation Administration. (2024). Seat and Occupant Response in Energy Absorbing Seats [datasets]. https://doi.org/10.21949/1528568

Project abstract:

This project will evaluate potential methods for replacement of worn seat cushions used in energy absorbing seats. Streamlined approaches to the replacement of worn cushions in aircraft seats have been requested by the aviation industry. The FAA developed a method for seats that do not require energy absorption (Part 25 and Part 23 passenger) based on rigid seat performance as a reference point. This method may not be valid for energy absorbing seats used in Part 27/29 and Part 23 pilot seats. As part of an effort to evaluate streamlined approaches, this project will characterize the seat and occupant response of typical energy absorbing seats.

Project start date: 03-01-2017
Project end date: 08-16-2023

Data Description

This dataset contains sled test data of anthropomorphic test devices seated in a rigid seat and a real aircraft seat pitched up at 30° with respect to vertical. This data is created by physical experiments. Sensors include load cells and accelerometers. Data also includes video from high-speed cameras and photos from still cameras. The tests were conducted from 2017 to 2020. No existing data was used for this test series.

It is anticipated that Aircraft seat manufacturers and test laboratories will benefit from access to this data as they design and test real aircraft seats and restraints. This dataset will also provide a public record to support potential rulemaking.

Roles & Responsibilities

The FAA Aeromedical Research Division (see *Contact Information*) is responsible for generating the data and is responsible for managing the data initially. This division is

responsible for managing the internal project management processes to ensure adherence to the published data management plan (DMP). This process requires management review and sign-off at project start and close-out.

This dataset is hosted by the National Highway Traffic Safety Administration (NHTSA) in the biomechanics test database at:
https://www.nhtsa.gov/research-data/research-testing-databases#/biomechanics

Standards Used

The dataset complies with the NHTSA Test Reference Guide available at https://www.nhtsa.gov/databases-and-software/entree-windows. The data files collected are saved in common file formats, including ascii text, .xls, .jpg, .avi, and .mp4. The file formats can be opened using commonly available software such as text editors, picture viewers, and video viewers. .xls files can be opened with Microsoft Excel or freely available software, such as OpenRefine.

Access Policies

These data files are in the public domain and can be shared without restriction. The data files contain no sensitive information.

Sensitive Data Policies

The data files contain no sensitive information.

Sharing Policies

These data are managed by the National Highway Traffic Safety Administration. The data are in the public domain and may be re-use without restriction. Citation of the data is appreciated. Please use the following recommended citation: U.S. Department of Transportation, Federal Aviation Administration. (2024). Seat and Occupant Response in Energy Absorbing Seats [datasets]. https://doi.org/10.21949/1528568

Archiving and Preservation Plans

The dataset will be archived in the NHTSA Biomechanics Test Database at: https://www.nhtsa.gov/research-data/research-testing-databases#/biomechanics. Prior to archiving, the data are stored on the secured FAA networks and drives, which are backed up nightly. The US DOT systems are secured from outside users and backed up daily. The NHTSA Crash Test Database (which includes Vehicle, Biomechanics, and Component databases) is stored in Amazon Aurora PostgreSQL database. The database is hosted in the DOT managed AWS cloud environment. Automated full database backups are taken on daily bases leveraging AWS RDS backups. The retention period for the backups are 14 days. The database is secure and only accessible to selected DOT users while only on the DOT network.

The dataset will be retained in perpetuity.

FAA staff will mint persistent Digital Object Identifiers (DOIs) for each dataset stored in the Biomechanics Test Database. These DOIs will be associated with dataset documentation as soon as they become available for use.

The DOIs associated with this dataset include: https://doi.org/10.21949/1528568.

The assigned DOI resolves to the repository landing page for the "Seat and Occupant Response in Energy Absorbing Seats" dataset, so that users may locate associated metadata and supporting files.

The Biomechanics Test Database meets all the criteria outlined on the "Guidelines for Evaluating Repositories for Conformance with the DOT Public Access Plan" page: https://ntl.bts.gov/ntl/public-access/guidelines-evaluating-repositories.

Applicable laws and policies

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 January 5, 2024.