

README for “Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress, DOT-FAA-AM_21/01 [supporting datasets]”.

Civil Aerospace Medical Institute (CAMI), Federal Aviation Administration (FAA), U.S. Department of Transportation (USDOT)
2023-05-02

LINKS TO DATASET

A. Dataset archive link:

<https://doi.org/10.21949/1528948>

B. Link to related report:

<https://doi.org/10.21949/1524433>

C. Link to video data

<https://doi.org/10.21949/1528610>

SUMMARY OF DATASET

Within the Federal Aviation Administration (FAA) Reauthorization Act of 2018, Pub. L. No. 115-254 § 577, Congress required that “...the Administrator of the Federal Aviation Administration shall issue regulations that establish minimum dimensions for passenger seats on aircraft operated by air carriers in interstate air transportation or intrastate air transportation, including minimums for seat pitch, width, and length, and that are necessary for the safety of passengers.” A total of 775 participants were recruited to assist with meeting two research objectives: first, to determine what percentage of the American population, based on anthropometric measurements, would be unable to sit in transport airplane passenger seats at the currently narrowest width and even narrower seat pitch. The second objective was to determine the effect of seat pitch and seat width on individual egress time. The study included 718 participants assigned to 12 groups who participated in up to four evacuations from the FAA’s Flexible Aircraft Cabin Simulator (FlexSim), with various seat pitch and width combinations. Based on this study's results, currently flying seat pitches using seats of similar size or smaller than those used in this project can accommodate and not impede egress for 99% of the American population. This project also concluded that, similar to previous evacuation research, as long as ergonomic minimums are maintained, the transport airplane's interior configuration, including seat pitch and width, has not been shown to influence evacuations. This research project was developed to provide information to rule-makers within the FAA to meet this requirement. The files that are included in this data archive are the associated .csv data and data dictionary.

TABLE OF CONTENTS

- A. General Information
- B. Sharing/Access & Policies Information
- C. Data and Related File Overview
- D. Methodological Information
- E. README Update Log

A. GENERAL INFORMATION

0. Title of Dataset:

“Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress, DOT-FAA-AM_21/01 [supporting datasets]”

1. Description of Dataset:

Within the Federal Aviation Administration (FAA) Reauthorization Act of 2018, Pub. L. No. 115-254 § 577, Congress required that “...the Administrator of the Federal Aviation Administration shall issue regulations that establish minimum dimensions for passenger seats on aircraft operated by air carriers in interstate air transportation or intrastate air transportation, including minimums for seat pitch, width, and length, and that are necessary for the safety of passengers.” A total of 775 participants were recruited to assist with meeting two research objectives: first, to determine what percentage of the American population, based on anthropometric measurements, would be unable to sit in transport airplane passenger seats at the currently narrowest width and even narrower seat pitch. The second objective was to determine the effect of seat pitch and seat width on individual egress time. The study included 718 participants assigned to 12 groups who participated in up to four evacuations from the FAA’s Flexible Aircraft Cabin Simulator (FlexSim), with various seat pitch and width combinations. Based on this study's results, currently flying seat pitches using seats of similar size or smaller than those used in this project can accommodate and not impede egress for 99% of the American population. This project also concluded that, similar to previous evacuation research, as long as ergonomic minimums are maintained, the transport airplane's interior configuration, including seat pitch and width, has not been shown to influence evacuations. This research project was developed to provide information to rule-makers within the FAA to meet this requirement. The files that are included in this data archive are the associated .csv data and data dictionary.

2A. Dataset archive link:

<https://doi.org/10.21949/1528948>

2B. Link to related report:

<https://doi.org/10.21949/1524433>

2C. Link to video data:

<https://doi.org/10.21949/1528610>

3. Authorship Information:

Principal Data Creator or Data Manager Contact Information

Name: David B. Weed

ORCID: <https://orcid.org/0000-0002-5184-6933>

Civil Aerospace Medical Institute (CAMI), Federal Aviation Administration (FAA), U.S. Department of Transportation (USDOT)

Address: PO Box 25082, Oklahoma City, OK 73125

Email: david.weed@faa.gov

Alternate Contact Information

Name: Leighton L Christiansen

ORCID: <https://orcid.org/0000-0002-0543-4268>

Institution: National Transportation Library, Office of Information and Library Sciences, Bureau of Transportation Statistics, U.S. Department of Transportation

Address: 1200 New Jersey Ave SE, Washington D.C. 20590

Email: leighton.christiansen@dot.gov

Organizational Contact Information

Name: National Transportation Library Data Curator

Institution: National Transportation Library, Office of Information and Library Sciences, Bureau of Transportation Statistics, U.S. Department of Transportation

Address: 1200 New Jersey Ave SE, Washington D.C. 20590

Email: ntldatacurator@dot.gov

4. Date of data collection and update interval:

20191119 to 20200112; Collected only once, no updates.

5. Geographic location of data collection:

Oklahoma City, OK

6. Information about funding sources that supported the collection of the data:

6973GH-19-C-00102

B. SHARING/ACCESS & POLICIES INFORMATION

0. Recommended citation for the data:

U.S. Department of Transportation, Federal Aviation Administration, Civil Aerospace Medical Institute. 2021. Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress, DOT-FAA-AM_21/01 [supporting datasets].

<https://doi.org/10.21949/1528948>

1. Licenses/restrictions placed on the data:

These data are in the Public Domain.

2. Policy Statement:

This dataset and its documentation were created and shared 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 May 2, 2023.

C. DATA & RELATED FILE OVERVIEW

1. File List

A. Filename:

README_FAA_AM_21_01_Egress_Data_20230502.txt

Short description:

The README.txt file that includes human-readable information about the data, variable definitions, contact information, and other contextual information. The file you are reading now.

B. Filename:

README_FAA_AM_21_01_Egress_Data_20230502.pdf

Short description:

A PDF version of the README.txt file that includes human-readable information about the data, variable definitions, contact information, and other contextual information. A version of the file you are reading now

C. Filename:

METADATA_FAA_AM_21_01_Egress_Data_20230502.json

Short description:

The machine-readable .json metadata file based on DCAT-US metadata schema v1.1, <https://resources.data.gov/resources/dcat-us/>

D. Filename:

ParticipantEvacData_Effects_of_Airplane_Cabin_Interiors_on_Egress_I.csv

Short description:

A CSV file containing the data collected for the project.

E. Filename:

DataDictionary_Effects_of_Airplane_Cabin_Interiors_on_Egress_I.txt

Short description:

A TXT file that contains the data dictionary for the project that explains the variables and measurements used within the .csv data file.

D. METHODOLOGICAL INFORMATION

1. Description of methods used for collection/generation of data:

See the report 'Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress,' pages 7 to 23 for an explanation of methodology, study design, and recording equipment.

2. Software-specific information needed to interpret the data:

The data files can be opened with:

- The .csv, Comma Separated Value, file is a simple format that is designed for a database table and supported by many applications. The .csv file is often used for moving tabular data between two different computer programs, due to its open format. The most common software used to open .csv files are Microsoft Excel and RecordEditor, (for more information on .csv files and software, please visit <https://www.file-extensions.org/csv-file-extension>).
- The .txt file type is a common text file, which can be opened with a basic text editor. The most common software used to open .txt files are Microsoft Windows Notepad, Sublime Text, Atom, and TextEdit (for more information on .txt files and software, please visit <https://www.file-extensions.org/txt-file-extension>).

E. README UPDATE LOG

2023-05-20: README created by Jesse Ann Long <https://orcid.org/0000-0002-4962-1380>, Data Management and Data Curation Fellow, National Transportation Library, jesse.long.ctr@dot.gov