Plan Overview

A Data Management Plan created using DeiC DMP

Title: Passenger Centric Design Standard for Public Transport Terminals (PEDESTAL)

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Affiliation: Danmarks Tekniske Universitet / Technical University of Denmark

Funder: Dansk Standard

Template: DTU DMP Template

Project abstract:
PEDESTAL explores how the design of stations and their urban surroundings shapes the way people travel and experience public transport. The project aims to conduct more disaggregated analyses using novel data sources such as street view imagery and tailor-made surveys to:

- Map the design of stations and their urban surroundings in greater detail, moving beyond broad average indicators.
- Measure travel behaviour, perceived safety and satisfaction along travellers' exact routes from door-to-door.
- Develop design standards and guidelines that make public transport a safer, more inviting, and more accessible choice for all.

The project employs existing data sources such as Transportvaneundersøgelsen and online surveys on public transport journeys, as well as collecting new data on built environment, travel behaviour and travel experiences.

Advanced image recognition and statistical analysis methods will be utilized to explain, for example, mode choice, public transport route choice, perceived safety or satisfaction.

These analyses will lead to a set of evidence-based advice and standards on how to design new public transport terminals and design their surroundings. The project outcomes will be disseminated directly to stakeholders who design, finance, or operate public transport, such as municipalities and public transport agencies.

ID: 7959

Start date: 01-01-2025

End date: 30-06-2027

Last modified: 15-01-2026

Copyright information:

Planning checklist

Policies, guidelines, procedures and best practices that are followed

- Local Guidelines and Procedures
- DTU Research Data Management Policy

Other

NA.

Data collection

Information about the datasets you will create in the project

Dataset (name, ID)	Data type and format	Data collection method/data origin	Equipment/software/instruments involved in data collection (e.g. instrument ID for instrument listed in EIS)	File naming convention and versioning	Folder structure	Expected/estimated volume (MB, GB, TB)	Objective
Data set 1: Street view imagery from station surroundings	Photos	Purchased street view imagery from Google	A Python script was prepared to identify the coordinates of each image within a 10 km buffer around station surroundings in Denmark. The data was downloaded using Google's API.	images.tar.gz	-	35.95 GB	These images will be used to describe the built environment conditions in station surroundings using image recognition techniques.
Data set 2: Preliminary online survey data	Digital survey data, Delimited text file	Tailor-made online survey developed as part of this project, in collaboration with MobiJoule	**Epinion's survey system?**	Rådata_YYYY-MM-DD.csv	-	~ 5 MB per file	This survey data is primarily used to recruit individuals who frequently cycle or use public transport, to the next step of the data collection. It also provides information on their socio-demographic features and attitudes towards cycling and public transport, which will be used as background variables in the consequent analyses.
Data set 3: Mobile app data	Digital data, Delimited text file	Mobile app	**Respondents' mobile phones? Motiontag servers?**	Trips.Group-2.YYYY-MM-DD-YYYY-MM-DD.csv.gz Journeys.Group-2.YYYY-MM-DD-YYYY-MM-DD.csv.gz UserStatisticx.Group-2.YYYY-MM-DD-YYYY-MM-DD.csv.gz		Varies from several KB to several MB	These data will provide information on respondents' travel behaviour within a 14 day period. It will be used as dependent variables on analyses of e.g. mode choice, public transport route choice or access/egress mode choice. It will also provide background information on the journeys to the consequent analyses of experiences during public transport journeys.
Data set 4: Built-in survey data	Digital data, Delimited text file	Tailor-made online survey developed as part of this project, in collaboration with MobiJoule	**Formbricks' survey system?**	export-dtu_pt_base_survey_-_updated-YYYY-MM-DD-HH-MM.csv export-dtu_ferry_trip_survey-YYYY-MM-DD-HH-MM.csv export-dtu_airplane_trip_survey-YYYY-MM-DD-HH-MM.csv export-dtu_ferry_trip_survey-YYYY-MM-DD-HH-MM.csv export-dtu_bicycle_trip_survey-YYYY-MM-DD-HH-MM.csv export-dtu_no_travel_trip_survey-YYYY-MM-DD-HH-MM.csv	-	~ 50-100 KB	These data will provide information on respondents' experience (e.g. safety, wayfinding, comfort) during their public transport journeys from door-to-door. There are several files depending on whether the trip includes e.g. a ferry or airplane. There is also a special survey for bicycle trips. Lastly, one survey targets day without any travel activities. These data will be used in analyses identifying factors which improve travellers' experience from door-to-door.
Data set 5: Register data from Danmarks Statistik	TBC	Danmarks Statistiks' existing register data will be aggregated to the geographic zones defined as part of the PEDESTAL project.	Danmarks Statistiks Forskningsservice servers	TBC	TBC	TBC	These data will be used to describe socio-demographic characteristics of neighbourhoods surrounding public transport stations, and will act as background variables in our analyses.
Data set 6: Crime data from Rigspolitiet	TBC	Rigspolitiets' existing dataset of criminal activities in Denmark will be aggregated to the geographic zones defined as part of the PEDESTAL project.	Data will most likely be delivered to Danmarks Statistiks Forskningsservice servers, and handled there	TBC	TBC	TBC	These data will be used to describe crime statistics of of neighbourhoods surrounding public transport stations, and will act as background variables in our analyses.

Will you reuse any existing data (including personal data)?

- Yes.

Transportvaneundersøgelsen will be used in mode choice analyses throughout the project.
(Documentation: https://www.man.dtu.dk/myndighedsbetjening/transportvaneundersoegelsen-tu-/data-og-dokumentation)

Legal aspects

Use and reuse of all or parts the data are limited by:

- GDPR

Personal data, only to be used within the two DTU Management research projects PEDESTAL and MobiJoule. Data can be used in future research projects with similar scope.
DTU Central GDPR team has evaluated the data collection.

Describe in the text field any agreements with collaborators and restrictions that can limit the use, reuse, sharing and publication of data.

Data cannot be shared with third parties.

Ethics checklist

None.

Will you use personal data in the project?

- Yes

Trip diary data from a mobile phone application tracking respondents trips over 14 days.
DTU GDPR team has evaluated the data collection.

Will you use special categories of personal data?

- No

Is personal data collected by you or by others?

- Me
- Third party

Are you receiving personal data from others?

- No

Are you transferring personal data to others?

- No

Data is collected by third party (Epinion and Motiontag). Both are within EU, and GDPR compliant. Databehandleraftaler are in place. Third parties will delete all data at project end.

Data storage

Description of storage solutions.

Dataset and datatype	Data storage service	Back – up procedure (to ensure no data is lost)	Folder and file path
Dataset 1-6	DTU Department drive	The folder is encrypted and backed up regularly. It is also possible to access previous versions of files.	O:/Man/Public/4233-113547-PassengerCentricdesignStandard

Description of the solutions used for data sharing with colleagues and collaborators

Data is stored in the project folder created in the Department drive (O-drive), and only project collaborators have access to it.

Procedure for granting access to collaborative data in a secure way

PIs can contact the division secretary to give collaborators access to the encrypted project folder.

Documentation

Indicate the documentation/information necessary to read, interpret and/or reproduce the data:

Type of documentation	Title	Storage location	Version control	Format
Survey documentation for Dataset 2: Preliminary online survey data	Documentation_MobiSurveyQuestionnaire_v2	ait-pdfs.win.dtu.dk/Department/Public/4233-113547-PassengerCentricdesignStandard/Data/Dataset 2_Epinion_Preliminary online survey/Documentation/		
Documentation for Dataset 3: Mobile app data	Documentation_DTUMobility_25_10_24.xlsx	ait-pdfs.win.dtu.dk/Department/Man/Public/4233-113547-PassengerCentricdesignStandard/Data/Dataset 3_Motiontag_Mobile app/Documentation/		
ReadMe file for Dataset 1: Street view imagery from station surroundings	readme.txt	ait-pdfs.win.dtu.dk/Department/Man/Public/4233-113547-PassengerCentricdesignStandard/Data/		

Metadata

Which metadata will be provided to enrich the data?

Dataset	List data and metadata standards that you will use (e.g. DataCite metadata, dicsipline specific controlled vocabulary etc.)	Will metadata be generated automatically or entered manually?
-	-	-

Data publication

List of datasets/outputs of the project, how they will be published and follow the FAIR principles.

Dataset (title/name)	Will data be published open access (yes/no)	When will data be openly available	Embargo period/access level (specify if data will be open access after an embargo period)	Are the dataset supporting data for a publication (yes/no)	In which repository do you intend to publish data	Accompanying documentation, tools or software needed to create, process or visualize the data	How will potential users find the data	DOI (Insert DOIs for published datasets)
Data sets 1-6:	No	-	-	Yes	-	-	-	-

Are there any legal or ethical protection that limits the access of data or subsets of data? (e.g. IPR, Copyright, dual use, GDPR)

- Yes, if yes elaborate below

Dataset 1 was purchased from Google, and it is not possible to share with other parties for free.
GDPR rules limit the access of Datasets 2-4.
Danmarks Statistik and Rigspolitiet do not allow sharing their data (Datasets 5-6) to other projects.

Are the datasets connected to other research outputs and/or resources ? (e.g. research papers, reports, posters, instruments, High performance computing)

Results stemming from the data is communicated in writing through research papers and orally at presentations and various conferences. These are always in aggregate form with no possibility to link to actual persons.

Costs and resources

What resources will be dedicated to data management?

- People
- Hours
- Preparing data publication (conversion of formats etc.)
- Cost for software or hardware

Project participants will work on processing and analysing data, as well as maintaining the data management plans.
There are costs associated with the development of a survey (Epinion) and using a trip diary tracking app (Motiontag). These costs cover both development, storage of data during the data collection, transferring of data from the mentioned third parties to DTU, and finally deletion of data at the third parties when data collections are concluded.
There might be slight costs to prepare Dataset 5, as Danmarks Statistik requires a fee to approve the project and aggregate the data.

Long-term preservation

Specify how data will be preserved beyond the scope of the projects and how the value will be secured:

What is the total amount of data collected (in MB/GB/TB)?	Not known yet, but a significant amount, due to various datasets being collected, including GPS traces for up to 2000 respondents, 14 days each.
What procedure will be used to handle requests for data? (in case data access are restricted)	Data will not be shared outside the project.
Which data will be preserved? (specify criteria for long term preservation (>5-10 years))	Data will be stored for 5 years after publication of research articles.
Where is data archived?	Encrypted DTU MAN servers.
Which documentation created during the project is necessary to interpret the data? (NB: Some types of State research data must be reported to The Danish National Archives).	
Where is documentation stored?	Encrypted DTU MAN servers.
How will readability of the data be guaranteed?	
Which data will be deleted and when?	Personal data, after 5 years.

Data contact persons

Specify names, roles and responsibility for data in the project

People involved in data management (name)	Specify role (e.g. data collector, data analyst)	Contact info (mail and/or ORCID)	Who is responsible for archiving or deleting data?	Where is the final DMP stored and who has access to it?
Otto Anker Nielsen, Jesper Bláfoss Ingvardson, Gülin Göksu Başaran, Lasse Pelle Skytte Hansen	Data collector, data analyst		All	ait-pdfs.win.dtu.dk/Department/Man/Public/4233-113547-PassengerCentricdesignStandard/Data/Data management plan Project collaborators have access to it.

Change history

Indicate version and changes to the DMP

Version and date	Changed by	Changes
-	-	-