

ACCESSPATH DATA

AccessPath is a pedestrian wayfinding app tailored towards wheelchair users and people with visual impairments. Typical pedestrian wayfinding apps do not use the sidewalk network to provide navigation, nor do they know the quality of the routes that they direct their users. In addition, these apps are not user-friendly for people with disabilities AccessPath considers the pathway network, quality of routes, and user settings when suggesting pedestrian routes to travel.

Primary Features:

- 1) ***Set A New Path***: *Set A New Path* provides real-time step-by-step directions from the user's current location to a destination. AccessPath directions are based on the pedestrian network of sidewalks and crosswalks, and considers the user's custom Comfort Settings described below.
- 2) ***Comfort and Alert Settings***: *Comfort and Alert Settings* is a settings menu that allows users to specify which sidewalk attributes they prefer to travel or avoid and their level of comfort doing so. Users can set their comfort settings for the following pathway attributes: tripping hazards, roughness, running slope, cross slope, and width.
- 3) ***Reports***: Users can submit *Reports* regarding potential hazards along pathways. These reports can be used to alert users of potential hazards visually, audibly, and haptically. When submitting reports, users submit an image, location, and type of report. Hazard types include tripping hazards, construction, curb ramps, and other.

The data in these files is implemented into the AccessPath app for pedestrian navigation. pathMet was used to collect sidewalk data in Pittsburgh and Washington, D.C. pathMet is a manually propelled device that collects data about sidewalk tripping hazards, roughness, running slope, and cross slope.

LICENSE INFORMATION

This data is licensed under the Creative Commons 1.0 Universal (CC0 1.0) license, which can be accessed at: <https://creativecommons.org/publicdomain/zero/1.0/>

RELEASE NOTES

GIS software required to use data

DATA SUMMARY AND SCHEMA

AccessPath All Pathway Data:

<https://github.com/pathVu/AccessPath/tree/master/AccessPath%20Data>

Open Data Links Used:

Pittsburgh, PA Open Transit: https://open-data-paac.hub.arcgis.com/datasets/5f5dd17727214c63abba2159bc374bc2_0

Washington, D.C. Open Curb Ramps: <https://opendata.dc.gov/datasets/sidewalk-ramps-2010>

Washington, D.C. Open Metro Stations: <https://opendata.dc.gov/datasets/metro-stations-in-dc>

Washington, D.C. Open Bus Stops: <https://opendata.dc.gov/datasets/metro-bus-stops>

Portland Open Curb Ramps: <https://gis-pdx.opendata.arcgis.com/datasets/curb-ramps>

Tables 1-3 below show the fields that are available to be included in the database for this project. Certain fields may be null in the dataset, depending on whether they did not pertain to a particular city or existed in open data. For example, only location data and street names were collected for sidewalks and crosswalks in Portland. Shapefiles for each city were delivered to USDOT containing the data for this project. The following shows the number of files and date regarding each city. The date is presented in place of a version. Files are accessed from the link above.

- Pittsburgh, PA
 - Date: 10/29/18
 - 60+ miles of sidewalk centerlines with pathMet data, curb ramp locations, and transit locations
 - Zip file containing pathway (8 files), curb ramp (8 files), and transit (8 files) shapefiles
 - Excel document of all data, including legend/schema (within zip)
- Washington, D.C.
 - Date: 8/28/20
 - 50+ miles of sidewalk centerlines and curb ramp locations

- Zip file containing pathway (8 files), curb ramp (8 files), bus stop (8 files), and metro station (8 files) shapefiles
- Excel document of all data, including legend/schema (within zip)
- Portland, OR
 - Date: 8/20/20
 - 50+ miles of sidewalk centerlines with pathMet data, curb ramp locations, and transit locations
 - Zip file containing pathway (8 files) and curb ramp (8 files) shapefiles
 - Excel document of all data, including legend/schema (within zip)

Table 1: List of Pathway Fields in the Navigation Database

Field Name	Description	Units	Data Type	Example
objectid	Unique ID for pathway	None	Integer	12345
picture_distance	Image distance from the beginning of the run	Feet	Integer	120
max_roughness	Maximum roughness for that segment	mm/m	Double	54.6
max_running	Maximum running slope for that segment	Degrees	Double	2.4
max_cross	Maximum cross slope for that segment	Degrees	Double	1.3
max_trips	Maximum tripping hazard over 0.25 inches for that segment	Inches	Double	0.35
num_trips	Number of tripping hazards greater than or equal to 0.25 inches	None	Integer	3
max_dep	Maximum depression over 0.25 inches for that segment	inches	Double	3.3
num_dep	Number of depressions over 0.25 inches for that segment	None	Integer	2
overall_length	Total length of a particular run (same file name)	Feet	Double	110.5
segment_rai	Route Accessibility Index (RAI) of that segment	None	Double	2.1
run_rai	Average RAI of all the segments of a particular run	None	Double	1.3
width	Width of particular segment	Inches	Integer	48
picture_url	URL for image	None	String	www.myimage.com/1234

Field Name	Description	Units	Data Type	Example
file_name	File name of a particular run	None	String	Run1
picture_id	Unique ID for image	None	String	9d847071-343b-49ac-9208-2f2d22a88123
flags	Subjective hazards flagged during data collection	None	String	Broken Sidewalk
pictureFile	HTML to make image appear in popup window	None	String	(Too long to include sample)
path_type	Segment type (sidewalk, crosswalk, construction, etc.)	None	String	Sidewalk
street_name	Name of corresponding street parallel to segment	None	String	Main Avenue
length	Length of segment	Feet	Double	153.3

Table 2: List of Curb Ramp Fields in the Navigation Database

Field Name	Description	Data Range	Data Type	Example
objectid	Unique ID for each curb ramp	N/A	Integer	13579
latitude	Latitude of curb ramp point	Decimal degrees	Double	40.427422
longitude	Longitude of curb ramp point	Decimal degrees	Double	-79.926416
detectable_warning	Does it have detectable warning	Yes/No	String	Yes
lippage	Quality of transition from street to curb ramp or curb ramp to sidewalk (1 Poor – 3 Good)	1-3	Integer	2
user_width	Quality of width of curb ramp (1 Poor – 3 Good)	1-3	Integer	1
user_slope	Quality of running or cross slope of curb ramp (1 Poor – 3 Good)	1-3	Integer	3
obstructions	Are there obstructions on or near the curb ramp	Yes/No	String	No

Field Name	Description	Data Range	Data Type	Example
overall_condition	Overall quality of curb ramp (1 Poor – 3 Good)	1-3	Integer	3
imageurl	URL to access image	N/A	String	www.myimage.com/789
passability	Is the curb ramp passable or not	Passable/Not Passable	String	Passable

Table 3: List of Transit Fields in the Navigation Database

Field Name	Description	Data Type	Example
objectid	Unique ID for each transit stop	Integer	56789
latitude	Latitude of transit stop	Double	40.543422
longitude	Longitude of transit stop	Double	-79.123416
stopid	Unique ID given by port authority for each transit stop	String	A12345
stop_name	Name/Location of stop	String	Main Street at 1 st Avenue
direction	Direction into or out of downtown	String	Inbound
routes	Transit routes that stop at this location	String	61A, 61C, 71D
mode	Mode of transportation this stop supports	String	Bus
shelter	Type of shelter	String	No Shelter
stop_type	Type of transit stop	String	Bus Stop

SUPPORT CONTACT:

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