



DVRPC Regional Sidewalk Inventory

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Sabra & Associates



MPO for the bi-state Philadelphia region

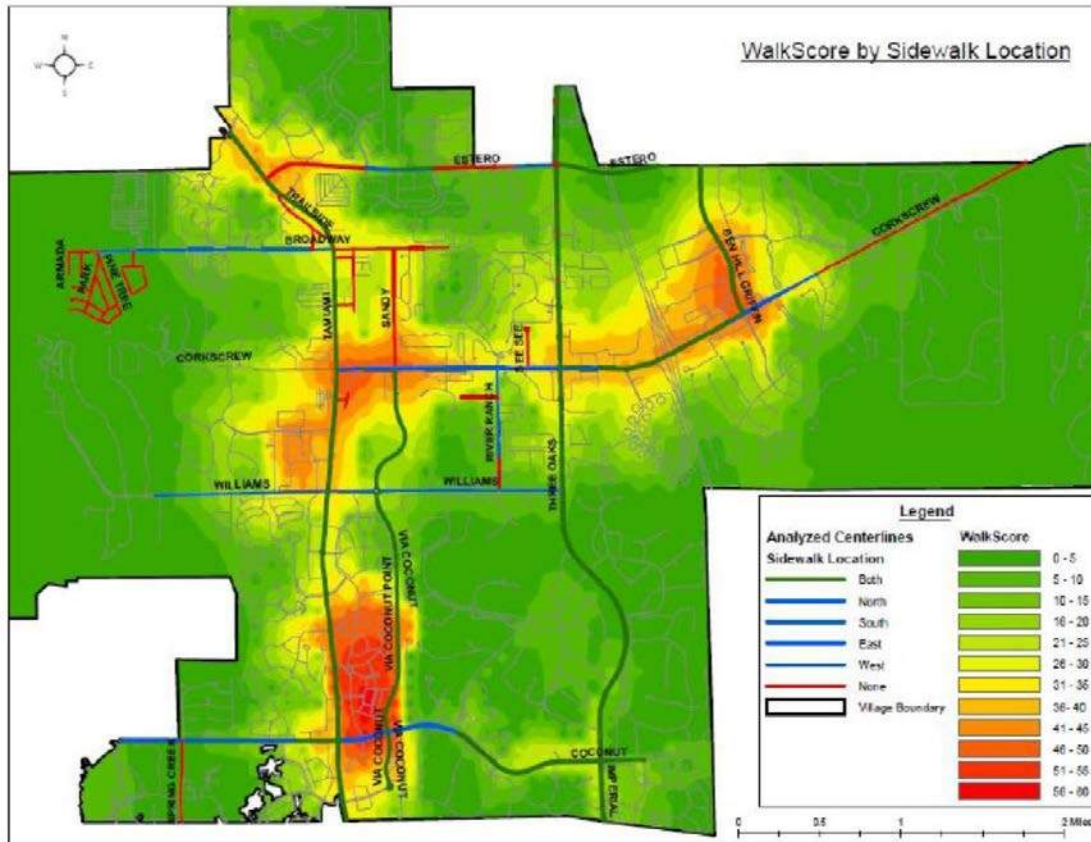
- 2 States
- 9 Counties
- 351 Municipalities





- Quantify accessibility to transit
- Identified as a data gap
- Augment walkability efforts from member counties
- Engage public in pedestrian planning
- PennDOT Connects - *“find creative solutions to sustain and expand mobility throughout the Commonwealth”*

Walkscore Map Examples





Our team



Methodology

- Develop data model
- Define data
collection workflow
- Conduct Pilot
- Refine

Defining the data

PED_LINE (Pedestrian Line Features)						
Name	Type /	Description	Nullable	Default	Domain	Edit Type
OBJECTID	OID	ArcGIS Sequential ID	No			A
GlobalID	GlobalID	Global ID	No			A
LINE_TYPE	SHORT	Type of Pedestrian Line	No	1	Line Type Subtype	E / D
STATUS	TEXT (15)	Feature Status	No	EXISTING	dFeatStatus	E / B
MATERIAL	TEXT (15)	Surface Material	No		*	E / B
MATERIAL_O	TEXT (50)	Other Surface Material	Yes			E / B
FEAT_TYPE	TEXT (15)	Feature Type	No		**	E / B
RAISED	TEXT(3)	Raised Crosswalk	No		***	E / B
WIDTH	FLOAT	Feature Width (feet)	Yes			E
CAPTURED	TEXT (5)	Data Capture Method	No	AERIAL	dCaptured	D
STATE	TEXT (2)	State of path	No		dState	D
COUNTY	TEXT (25)	County of path	No		dCounty	D
MUNI	TEXT (50)	Municipality of path	No		dMunicipality	D
COMMUNITY	TEXT (50)	Community / Subdivision of path	Yes		dCommunity	E
CREATED_AT	DATE	Editor Tracking creation date	No			A
CREATED_BY	TEXT (150)	Editor Tracking creation user	No			A
EDITED_AT	DATE	Editor Tracking last update date	No			A
EDITED_BY	TEXT (150)	Editor Tracking last update user	No			A

RAMP_PT (Curb Ramps)						
Name	Type /	Description	Nullable	Default	Domain	Edit Type
OBJECTID	OID	ArcGIS Sequential ID	No			A
GlobalID	GlobalID	Global ID	No			A
STATUS	TEXT (15)	Feature Status	No	EXISTING	dFeatStatus	E / B
POSITION	TEXT (15)	Ramp Position	No	DIAGONAL	dRampPosition	E / B
CAPTURED	TEXT (5)	Data Capture Method	No	AERIAL	dCaptured	E / D
STATE	TEXT (2)	State of path	No		dState	D
COUNTY	TEXT (25)	County of path	No		dCounty	D
MUNI	TEXT (50)	Municipality of path	No		dMunicipality	D
COMMUNITY	TEXT (50)	Community / Subdivision of path	Yes		dCommunity	E
CREATED_AT	DATE	Editor Tracking creation date	No			A
CREATED_BY	TEXT (150)	Editor Tracking creation user	No			A
EDITED_AT	DATE	Editor Tracking last update date	No			A
EDITED_BY	TEXT (150)	Editor Tracking last update user	No			A

dMaterial (Material Type)	
Code	Description
ASPHALT	Asphalt
BRICK	Brick
CONCRETE	Concrete
PAVER	Paver
MIXED	Mixed
OTHER	Other
UNKNOWN	Unknown

dTrailMaterial (Trail Material Type)	
Code	Description
ASPHALT	Asphalt
BRICK	Brick
COMPOSITE	Composite
CONCRETE	Concrete
DIRT	Dirt
GRASS	Grass
GRAVEL	Gravel
MULCH	Mulch
PAVER	Paver
STONE	Stone
WOOD	Wood
OTHER	Other
UNKNOWN	Unknown

dFeatStatus (Feature Status)	
Code	Description
CONSTRUCTION	Under Construction
EXISTING	Existing
PROPOSED	Proposed
REVIEW	Review

dSwalkFeatureType (Sidewalk Path Type)	
Code	Description
PATH	Path
GRADE_SEPARATED	Grade-Separated
UNKNOWN	Unknown

dTrailFeatureType (Trail Feature Type)	
Code	Description
BRIDGE	Bridge
PATH	Path
RR_XING	Railroad Crossing
SHARED_USE	Shared Use
SIDEPATH	Sidepath
STAIRS	Stairs
UNKNOWN	Unknown

PEDESTRIAN PATHWAY & CURB RAMPS PHYSICAL DATA MODEL



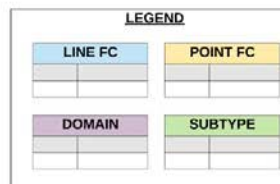
EDIT TYPE CODES
 A - Automatically populated
 E - Existing Data will be incorporated
 B - Best efforts will be made to update / populate this field
 D - Data will be populated during Desktop Editing

SURFACE MATERIAL DOMAINS
 Trail Subtype (4) => dTrailMaterial domain
 All others => dMaterial domain

****FEATURE TYPE DOMAINS****
 Sidewalk Subtype (1) => dSwalkFeatureType domain
 Connector Subtype (2) => dNotApplicable domain
 Crosswalk Subtype (3) => dXwalkMarkingType domain
 Trail Subtype (4) => dTrailFeatureType domain
 Bike Lane Subtype (5) => dNotApplicable domain

*****RAISED CROSSWALK*****
 Crosswalk Subtype (3) => dYesNo domain
 All others => dNotApplicable domain

******MUNICIPALITY / COMMUNITY DOMAINS******
 These domains have many values that vary by jurisdiction.
 The full set of values are stored in a separate spreadsheet.



dXwalkMarkingType (Crosswalk Marking)	
Code	Description
UNMARKED	Unmarked
BAR_PAIRS	Bar Pairs
CONTINENTAL	Continental
DASHED	Dashed Parallel
DECORATIVE	Decorative
DIAGONAL	Diagonal
LADDER	Ladder
PARALLEL	Traditional Parallel
SOLID	Solid
UNKNOWN	Unknown

dYesNo (Yes / No)	
Code	Description
YES	Yes
NO	No
UNK	Unknown

dNotApplicable (Not Applicable)	
Code	Description
NA	N/A

Pedestrian Line Type (SubType)	
Code	Description
1	Sidewalk
2	Connector
3	Crosswalk
4	Trail
5	Bike Lane

dCaptured (Data Capture Method)	
Code	Description
AERIAL	Aerial
GPS	GPS
OTHER	Other

dRampPosition (Ramp Position)	
Code	Description
DIAGONAL	Diagonal
INTERSECTION	Intersection
ISLAND_MEDIAN	Island/Median
MID_BLOCK	Mid-Block
NON_DIAGONAL	Non-Diagonal
OTHER	Other
UNKNOWN	Unknown

dState (State)	
Code	Description
NJ	New Jersey
PA	Pennsylvania

dCounty (County)	
Code	Description
BUCKS	Bucks, PA
BURLINGTON	Burlington, PA
CAMDEN	Camden, NJ
CHESTER	Chester, PA
DELAWARE	Delaware, PA
GLOUCESTER	Gloucester, NJ
MERCER	Mercer, NJ
MONTGOMERY	Montgomery, PA
PHILADELPHIA	Philadelphia, PA

dMunicipality (Municipality)	
Code	Description
****	****

dCommunity (Community)	
Code	Description
****	****

Last Update: 06-06-2018

Developed By: CENTURY ENGINEERING

Data Collection Workflow

Challenges

- Multiple people editing data simultaneously from different offices
- Needed standardized interpretation of data
- Progress tracking
- High quality / short timeframe

Data Collection Workflow



QGIS <https://www.qgis.org/en/site/>

- Free
- Multiple editors working simultaneously in different locations
- Versions / backups
- Standardized map / editing environment

Data Collection Workflow

- Skye meetings, screenshare, discuss issues
- Dropbox paper: Documentation, project log
- Progress tracking system
- Quality Assurance / Quality Control

Pilot

- Assess the time /level of effort
- Work out kinks in workflow
- Eliminate non-critical data capture
- DVRPC able to review and comment

Refine

- Skype working sessions
- Update Methodology Documentation –
Dropbox paper
- Clear communication between DVRPC,
Prime (Century) and subs
- Update the QGIS editing environment

In Production

- Crosswalks
 - Crosswalks - Bar Pairs
 - Crosswalks - Continental
 - Crosswalks - Diagonal
 - Crosswalks - Parallel
 - Crosswalks - Ladder
 - Crosswalks - Dashed
 - Crosswalks - Decorative
 - Crosswalks - Solid
 - Crosswalks - Unknown
 - Crosswalks - Unmarked

- Assigned Firm**
 - CEI
 - KMJ
 - SABRA
- Municipality Status**
 - Pending
 - Ready For Edits
 - Active Edits
 - Sidewalk Review Complete
 - Intersection Review Complete
 - Initial Review Complete
 - Initial QC Started
 - Initial QC Complete
 - Initial Review Complete
 - Century QC Complete



In Production



Putting the data to use



What you can do with the Greater Philadelphia Pedestrian Portal

Explore Greater Philadelphia's sidewalk inventory or plan your next pedestrian project to join a shared conversation about walkability in our region.

NOTE: SITE UNDER CONSTRUCTION! PLEASE REVISIT THIS FALL

<https://walk.dvrpc.org/>

Putting the data to use

The image shows a web application interface for managing pedestrian infrastructure data. At the top, the header includes the logo for the Greater Philadelphia Pedestrian Portal and the Delaware Valley Regional Planning Commission (dvrpc). Navigation buttons for 'Logout', 'Explore', 'Edit', and 'Plan' are present. A secondary toolbar offers options to 'Add' a 'Note', 'Sidewalk', 'Crosswalk', or 'Ramp', along with 'Cancel', 'My Edits', and 'All Edits' buttons.



The main content area features a map of a city street grid. Several crosswalks are marked with blue circular icons. A search bar at the top right of the map area contains the text 'west chester'. A sidebar on the left, titled 'Crosswalk Attributes', is open, showing a form for editing a selected crosswalk. The form includes the following fields:

- Editing Crosswalks**
- Raised:** A dropdown menu currently set to 'No'.
- Pedestrian Signalization:** An empty dropdown menu.
- Status:** A dropdown menu currently set to 'Existing'.
- Type:** A text input field containing the placeholder text 'Enter comment for edits'.
- SAVE EDITS:** A blue button at the bottom of the sidebar.


The map shows streets including Pine Aly, N New St, W Washington, Pott Aly, and Birdseye Aly. A search bar at the top right of the map area contains the text 'west chester'.

Putting the data to use

GREATER PHILADELPHIA PEDESTRIANportal | DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

Logout   Explore Edit Plan

Create Project My Projects All Projects

Search the map 

< Intersection

Edit your project or draw features on the map.

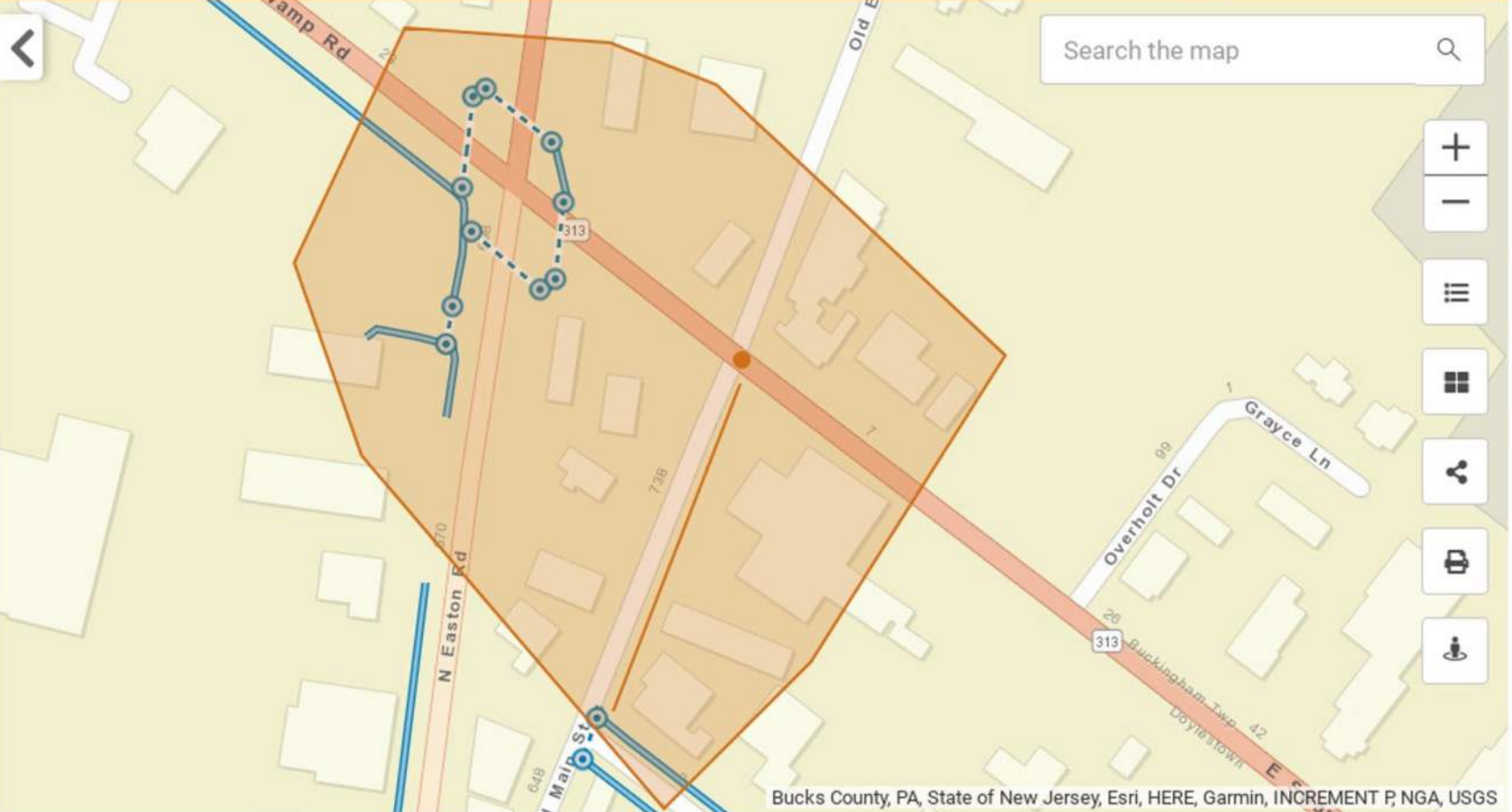
Project Name
Intersection Improvements @ Swamp

Sharing
Viewable by Other Planners

Type
Exploration

UPDATE PROJECT

3 FEATURES



Bucks County, PA, State of New Jersey, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

The image shows a web-based mapping application interface. At the top, there is a navigation bar with the logos for 'GREATER PHILADELPHIA PEDESTRIANportal' and 'DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION'. To the right of the logos are 'Logout', a user profile icon, an information icon, and buttons for 'Explore', 'Edit', and 'Plan'. Below this is a secondary bar with 'Create Project', 'My Projects', and 'All Projects' buttons. The main content area is split into a left sidebar and a right map area. The sidebar, titled '< Intersection', contains a text input for 'Project Name' (filled with 'Intersection Improvements @ Swamp'), a dropdown for 'Sharing' (set to 'Viewable by Other Planners'), and another dropdown for 'Type' (set to 'Exploration'). Below these are two buttons: 'UPDATE PROJECT' and '3 FEATURES'. The map area shows a street map with a blue path and an orange polygon boundary. A search bar at the top right of the map says 'Search the map'. On the right side of the map, there are standard map controls: zoom in (+), zoom out (-), a list icon, a full-screen icon, a share icon, a print icon, and a location pin icon. At the bottom of the map, there is a copyright notice: 'Bucks County, PA, State of New Jersey, Esri, HERE, Garmin, INCREMENT P, NGA, USGS'.

Thank You!

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