# Development of a Pedestrian and Bicyclist Safety Data Clearinghouse

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## Problem Statement

Although traffic fatalities have trended downward for decades, recent years have seen an increase in the number of pedestrian and bicyclist fatalities in the United States (approximately one-fifth of all fatal crashes in this country). Safety professionals recognize the problem, but data are unavailable, inaccurate, or incomplete. These limitations make it difficult to compare across jurisdictions, evaluate treatments, and address the larger problem.

## Study Objectives

- Identify common gaps in pedestrian and bicyclist safety literature
- Identify common data sources for pedestrian and bicyclist safety studies
- Compile existing datasets in a useful, accessible, online clearinghouse

## Methods

- Literature inventory of pedestrian and bicyclist datasets as well as data gaps
- Interview of 8 leading pedestrian and bicyclist researchers from 5 universities regarding data needs
- Creation of data clearinghouse

## Data

We focused our scan on national datasets, state datasets, MPO datasets, cities with populations greater than 100,000 people, and some counties. Ultimately, we found 4,126 unique datasets or databases. We then categorized these datasets as follows:

**Category**
- Collisions
- Counts
- Infrastructure

**Source Name**

**Geographic Scale**
- City
- County
- Region
- State
- National

**MPO Name**

**Agency/Owner**

**Availability**
- Publicly available
- By request
- Account needed to access
- Access restricted

**Format**
- Non-static
  - Excel spreadsheet
  - GIS tool
  - HTML site
  - Other
- Static
  - PDF
  - Map

**Date Ranges of Availability**

**Time Period of Data Collected**

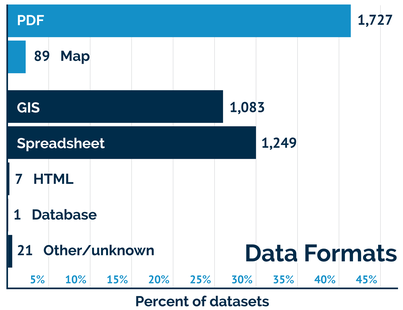



**FIGURE 1.** Distribution of datasets by file type

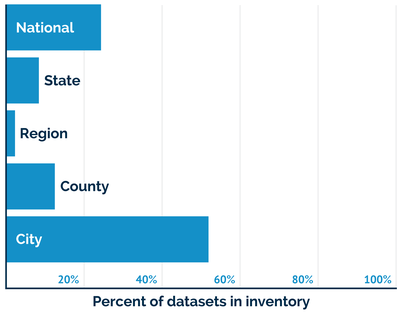



**FIGURE 2.** Distribution of datasets by geographic scale

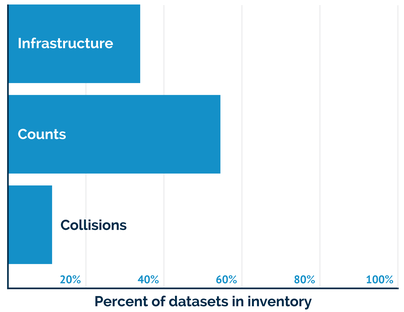
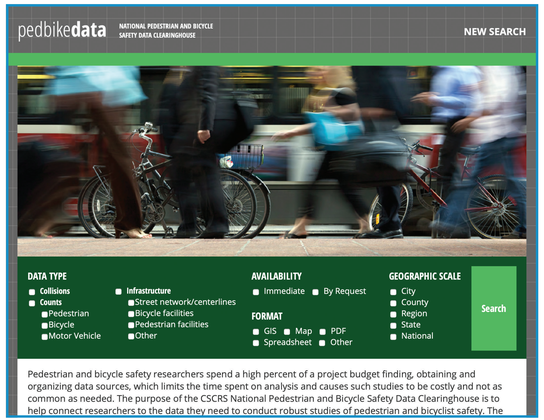



**FIGURE 3.** Distribution of datasets by data type

**FIGURE 4.** Landing page of data clearinghouse




## The Clearinghouse

The data clearinghouse is now housed at www.pedbikedata.org. Users can query datasets by:

- Data type
- Availability
- Format
- Geographic Scale

**FIGURE 5.** Example search results in data clearinghouse

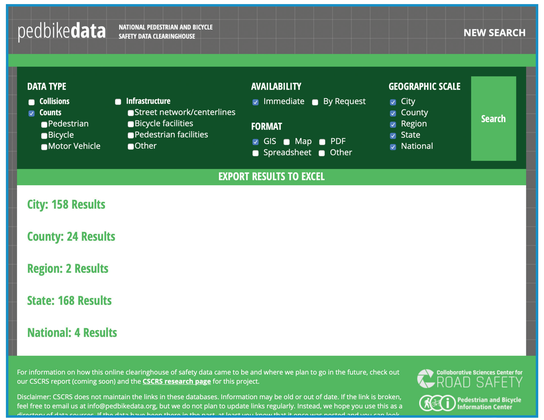
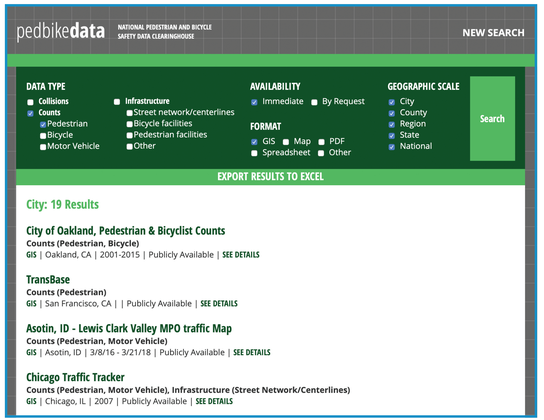



**FIGURE 6.** Example data listings in data clearinghouse




## Key Findings

- We performed an initial rating of a sample of datasets based on temporal completeness, spatial completeness, and linkability, but a more scientific rating system is needed.
- Researchers seem to be unaware of the extent of available datasets
- Datasets may benefit from uniform model parameters

| Data Type | 1★ | 2★ | 3★ | 4★ | 5★ | Total |
|---|---|---|---|---|---|---|
| Collision Event | 0 | 1 | 42 | 40 | 17 | 100 |
| Collision Summary | 0 | 0 | 3 | 7 | 3 | 13 |
| Pedestrian and Bicycle Short Duration Counts | 0 | 1 | 8 | 6 | 1 | 16 |
| Pedestrian and Bicyclist Permanent Counts | 0 | 0 | 4 | 4 | 2 | 10 |
| AADT Counts | 0 | 15 | 78 | 100 | 62 | 255 |
| Infrastructure | 9 | 230 | 41 | 20 | 7 | 307 |
| Total | 9 | 247 | 176 | 177 | 92 | 701 |

**TABLE 1.** Rating of sample datasets

## Next Steps

We recently re-interviewed our pedestrian and bicycle safety experts and distributed a survey to gather feedback on the utility of the clearinghouse. Based on these results, our next steps include:

- Enhance the search function to allow users to query the system by geographic location
- Develop a function for submitting new datasets
- Assess the accuracy of existing datasets and add new data

Please visit us at

# www.pedbikedata.org

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For more information, contact Wesley Kumfer, kumfer@hsrc.unc.edu or go to roadsafety.unc.edu/research/projects/2018r14