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PEDESTRIAN SAFETY MANAGEMENT SYSTEM

Purpose

New Scoring Methodology

Excel File Demonstration

PSMS Application Demonstration

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What is the Pedestrian Safety Management System?

How does it work?

What are the best practices?

What are their benefits?

Where should they be used?

What is the Pedestrian Safety Management System (PSMS)?

- Quantitative approach to evaluating and prioritizing roadways
- Scores used to initiate NJDOT projects to specifically address specific locations.
- Used in all NJDOT projects as a part of the Data Management Systems
  - The PSMS is specific to the Bicycle and Pedestrian Safety
  - Encourages pedestrian safety countermeasure implementation in projects initiated for other purposes
- Previously developed by Rutgers Center for Advanced Infrastructure and Transportation (CAIT)

Pedestrian Safety Management System (PSMS)

- Previously developed by Rutgers Center for Advanced Infrastructure and Transportation (CAIT)
  - Points based System
  - Mostly based on Crash History – Severity and Frequency
  - Up to 22 points could be given based on other factors – AADT, Speed Limit, Medical Facility Proximity, School Proximity, Transit Proximity, and Population over 55
  - In the top 100 locations, 90% of the score was from Crash History

New PSMS Purpose

- Accounts for Historic Data and Predictive Data
- Assign safety score at any US or NJ roadway segment or intersection
- Ability to update from year to year
- Data-driven, autonomous approach for improving safety
- Visualization of data throughout New Jersey

New PSMS Scoring

HISTORICAL DATA

Crash History – 50%
What is the history of pedestrian crashes in this location?

PREDICTIVE DATA

Roadway Features – 20%
What features of the roadway contribute to the pedestrian crashes?

Demand Factors – 20%
What is the pedestrian demand at this location?

Environmental Justice – 10%
What vulnerable populations are in this environment, and is pedestrian safety a potential environmental justice issue?

New PSMS Scoring

Table 3: Scoring for Roadway Segments

Category and Criteria	Maximum Points
Total Points	**100/100**
Crash History	**50/100**
Pedestrian Injury Severity	30/100
Number of Pedestrian Crashes	20/100
Roadway Features	**20/100**
Posted Speed Limit	8/100
Number of Lanes Along Segment	7/100
AADT	5/100
Demand Factors	**20/100**
Population Density	7/100
Transit Stops	6/100
Schools Nearby	4/100
Medical Facilities Nearby	2/100
Intersecting Trails	1/100
Environmental Justice	**10/100**
Zero Car Households	2.5/100
Journey to Work Trips	2.5/100
Disability Statistics	1.5/100
Population Elderly	1/100
Poverty Statistics	1/100
Population under 18 years	0.5/100
Population Minority	0.5/100
Limited English Speaking	0.5/100

Table 4: Scoring for Roadway Intersections

Category and Criteria	Maximum Points
Total Points	**100/100**
Crash History	**50/100**
Pedestrian Injury Severity	30/100
Number of Pedestrian Crashes	20/100
Roadway Features	**20/100**
Posted Speed Limit	4/100
Number of Lanes at Intersection	4/100
AADT of Major Roadway	3/100
Distance to Nearest Intersections	3/100
Functional Class of Intersecting Route	3/100
Traffic Control Devices	2/100
Number of Approaches	1/100
Demand Factors	**20/100**
Population Density	7/100
Transit Stops	6/100
Schools Nearby	4/100
Medical Facilities Nearby	2/100
Intersecting Trails	1/100
Environmental Justice	**10/100**
Zero Car Households	2.5/100
Journey to Work Trips	2.5/100
Disability Statistics	1.5/100
Population Elderly	1/100
Poverty Statistics	1/100
Population under 18 years	0.5/100
Population Minority	0.5/100
Limited English Speaking	0.5/100

Excel Demonstration