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Considering and Delivering Improvements for Vulnerable Roadway Users

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Infrastructure Investment and Jobs Act (IIJA) – Focus

Increased safety focus in areas (including):

- Pedestrians
- Bicycles
- Individuals with Disabilities
- Equity

IIJA – Expectations

Vulnerable Roadway User Assessment

- “A quantitative analysis of vulnerable road user fatalities and serious injuries that
 - (i) includes data such as location, roadway functional classification, design speed, speed limit, and time of day;
 - (ii) considers the demographics of the locations of fatalities and serious injuries, including race, ethnicity, income, and age; and
 - (iii) based on the data, identifies areas as ‘high-risk’ to vulnerable road users;

IIJA – Initial Feedback from States

Some states can't collect information such as race

States didn't know where to start creating the datasets to begin their studies

Concerned that they wouldn't be able to convey quantifiable information, demonstrating they're considering equity

Georgia Office of Highway Safety + GA Tech

The goal of this investigation is to:

1. Describe the spatial relationship between SVI and pedestrian serious injury and fatal crashes across the Georgia regions (Atlanta Region, other urban counties, and rural counties);
2. Compare the differences in the pedestrian serious injury and fatal crash rates by SVI quintiles across the Georgia regions; and
3. Examine the association between the SVI and pedestrian serious injury and fatal crashes across the Georgia regions.

What is SVI?

Created by the CDC – The Social Vulnerability Index (SVI) assesses and prioritizes geographic areas that may be vulnerable in their ability to respond and prepare for public health emergencies and disasters.

SVI identifies socially vulnerable populations by combining 15 sociodemographic data elements from the 2014-2018 American Community Survey estimates. The SVI value (ranging from zero to one) is a percentile rank that equates to the percentage of census tracts that are at or below the SVI value—the greater the SVI, the more tracts that are below the value, and the greater the vulnerability. CDC grouped related SVI variables into four themes: Socioeconomic Status, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation.

Figure 1. 2018 CDC Social Vulnerability Themes and Related Sociodemographic Variables

Overall Vulnerability	Socioeconomic Status	Below Poverty
		Unemployed
		Income
		No High School Diploma
	Household Composition & Disability	Aged 65 or Older
		Aged 17 or Younger
		Civilian with a Disability
		Single-Parent Households
	Minority Status & Language	Minority
		Speaks English "Less than Well"
	Housing Type & Transportation	Multi-Unit Structures
		Mobile Homes
		Crowding
		No Vehicle
		Group Quarters

Adopted from the 2018 CDC SVI Documentation

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Conclusion:

The correlation identified implies that SVI can be used to gauge pedestrian safety systemically and proactively. It is encouraged to utilize SVI assessment to address pedestrian safety concerns from viewpoints that include public health, engineering, planning, and more. CDC's SVI data is now included in the Georgia Department of Transportation's AASHTOWare Safety crash data platform. Therefore, this information is readily available for practitioners to use in Georgia.

Demo

Sa Crash Query ↔ 🏠 New Crash Query * 📅 January 1, 2018 - December 31, 2021 📄 🔍 💾 Save

Inventory Route ID (Crash Level) = 08910012001 MP: 3.6 - 3.65 ✕ ⚙️ Add Filter ✕

Showing 212 Crashes 👁️ ⚙️

Metrics Chart Builder Raw Table ⚙️

GDOT Summary Collisions Dataset

Intersection Related	212	100.00%
Total Crashes	212	100.00%
Distracted Driver (Suspected)	87	41.04%
Impaired (Suspected)	26	12.26%
CMV Related	11	5.19%
Pedestrian	7	3.30%
Single Motor Vehicle Involved	3	1.42%
Impaired Driving (Confirmed)	2	0.94%
Distracted Driver (Confirmed)	1	0.47%
Motorcycle	1	0.47%
Bicycle	0	0.00%

[Show less](#)

Social Vulnerability Index Group (Minority) Collisions Dataset

0.8 to 0.9	161	75.94%
0.6 to 0.7	51	24.06%
Show all (8 more)	0	0%

Social Vulnerability Index Group (Overall) Collisions Dataset

0.6 to 0.7	161	75.94%
0.8 to 0.9	51	24.06%
Show all (8 more)	0	0%

KABCO Severity Collisions Dataset

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