

Safety Analysis Noteworthy Practice:

Incorporate Vulnerable Road Users in Data Analysis



Include vulnerable road users in your safety data analysis to understand roadway risks and improve safety outcomes for all users.

Noteworthy Practices for Incorporating Vulnerable Road Users (VRUs) in Your Data Analysis:

- Utilize emerging technology and analytics models to identify high-risk areas for VRUs
- Partner with your State DOT and local organizations to access datasets, analysis frameworks, and methodologies that emphasize VRUs
- Analyze VRU data by transportation mode to understand how different groups interact with roadways
- Identify corridors with roadway conditions that increase risk for VRUs before severe crashes occur

The following success stories highlight how SS4A grant recipients have applied these practices in their grants.

Proactively Identify High-Risk Corridors for VRUs



City of Norfolk
Nebraska, Rural, FY22
[View Norfolk's Action Plan to learn more](#)

Norfolk conducted a systemic High-Risk Network analysis specifically for VRUs to identify corridors with elevated crash risks. Norfolk:



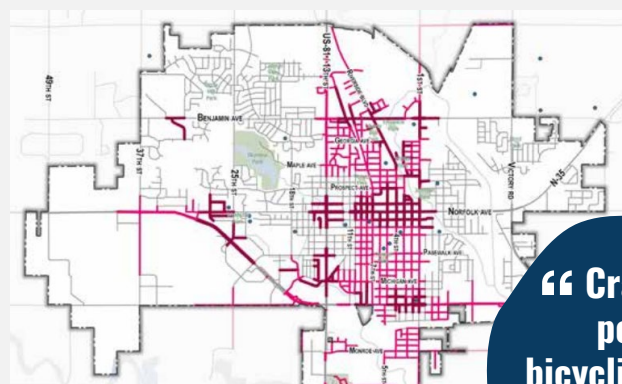
Analyzed roadway features and neighborhood characteristics, such as commercial activity, that is commonly associated with greater VRU activity.



Used a predictive algorithm to identify combinations of characteristics and risk factors most strongly associated with fatal and serious injury crashes.



Applied the risk factors across the entire roadway network to identify corridors with similar characteristics, even where crash counts were lower.



Norfolk performed a VRU-specific systemic analysis to identify a combination of risk factors that have a high number of fatal and serious injury crashes.

“Crashes involving pedestrians and bicyclists are more likely to result in death or serious injury.”

Source: [Norfolk](#), used with permission

Leverage Partners' Analysis, Expertise, and Data



Thomas Jefferson Planning District Commission (TJPDC)
Virginia, Rural, FY22
[View TJPDC's Action Plan to learn more](#)

TJPDC partnered with its State Department of Transportation (DOT) to access broader datasets, analytical tools, and technical expertise, strengthening their understanding of risk patterns affecting VRUs. TJPDC:



Coordinated with the State DOT to adapt a pre-existing statewide pedestrian and bike risk scoring tool at a regional scale.



Used their planning structure to determine emphasis areas, guiding more targeted analysis for pedestrians, bicyclists, motorcyclists, young drivers, and aging road users.



Capitalized on regional analysis, which allowed for more segments to be identified in rural areas and in specific areas with zero access to vehicles.

By applying the statewide [Virginia Vulnerable Road User Safety Assessment \(VRUSA\)](#) at the regional level, TJPDC identified more high-risk mileage in smaller and rural jurisdictions than statewide rankings alone revealed.

Statewide Pedestrian and Bicyclist Safety Action Plan (PBSAP) Analysis			Regional PBSAP Analysis	
Jurisdiction	Mileage in Top 1%	Mileage in Top 5%	Mileage in Top 1%	Mileage in Top 5%
Albemarle County	4.8	26.1	9.4	66.0
City of Charlottesville	4.8	10.3	8.5	27.0
Fluvanna County	0	0	0	10.4
Green County	0	0.3	0	20.0
Louis County	0	0	0	16.0
Nelson County	0	0	0	10.1
TJPDC	9.6	36.7	17.9	149.5

Source: [Thomas Jefferson Planning District Commission](#), used with permission