



## Study Purpose and Goals

- Create a safer transportation network for both motorized and non-motorized modes of transportation
- Focus is on the urbanized areas of Cabell and Wayne counties
- Identify crash trends and high crash locations
- Recommend infrastructure improvements and other strategies
- Prioritize improvements and strategies



- A multi-disciplinary team of traffic and roadway engineers worked together to identify countermeasures.
- Countermeasures included updating clearance intervals, installing new signing, constructing turning lanes, and converting left-turn phasing from protected/permitted to protected only.
- Methodologies in the HSM were used to quantify the safety benefits of the countermeasures.
- Construction costs for each countermeasure were estimated and compared to the safety benefits to obtain a benefit/cost ratio.

- Implementation priorities were determined using a scoring process involving benefit/cost ratios, right-of-way impacts, and estimated construction costs of the project.
- An Implementation Plan was developed in three categories – Infrastructure Improvements, Behavioral Countermeasures, and Corridor Studies.
- The lead agency is responsible for the coordination of the efforts to implement the identified strategy or countermeasure.
- Timeframes were broken into Immediate-Term (0 to 1 year), Short-Term (1 to 2 years), and Medium-Term (2 to 5 years).
- The behavioral countermeasures seek to encourage safer driving behaviors in the study area and support the West Virginia Strategic Highway Safety Plan (SHSP).
- Corridor Studies were identified for segments where priority crash locations are located in proximity to each other and could benefit from corridor-wide countermeasures such as access management or widening to obtain a benefit/cost ratio.

- For the highest-ranked locations from the high-level prioritization, methodologies in the Highway Safety Manual (HSM) were used to determine how the locations in Cabell and Wayne Counties were performing relative to other locations with similar geometric characteristics and traffic volumes.
- The HSM output is called “Potential for Safety Improvement” (PSI).
- Field visits were conducted at the top locations to identify potential contributing factors to crashes. Prior to the field visits, crash data at each location was reviewed to verify the crashes were in the correct location and to identify overall crash patterns occurring at that location.



## Preliminary Crash Trend Analysis



- Through extensive crash data review, 97% (14,300) of crashes in Cabell County and 90% (2,300) of crashes in Wayne County were located.
- “Hot spots” were identified using an iterative heat mapping process.
- Locations were ranked using Equivalent Property Damage Only (EPDO) factors which weights the relative severity of crashes (i.e., One Incapacitating Injury (A) Crash is equivalent to 29 PDO (O) crashes) and total crash frequency.

## Occupant Statistics

	Fatalities	Serious Injuries	Minor Injuries	Possible Injuries	No Injuries
2013	11	125	248	721	5,884
2014	14	102	254	911	7,364
2015	21	96	278	1,005	7,611
2016	16	66	265	1,069	7,714
2017	27	69	222	1,085	6,999
5-Year Total	89	458	1,267	4,791	35,572
5-Year Average	18	92	253	958	7,114



Crash Data Review and Trends Analysis

High Level Evaluation and Screening of High Crash Locations

Detailed Prioritization of High Crash Locations

Countermeasure Identification and Evaluation

Recommended Strategies and Improvements and Implementation Plan