

Bicycle & Pedestrian Crash Data Report, 2015-2022

Bicycle Advisory and Safety Committee (BASC)
April 2023



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Crash Datasets 2015-2022 Collected by Huntsville Police



- Location
- Date/time
- Severity
- Impact Description
- Notes



- Location
- Date/time
- Severity
- Impact Description
- Few Notes



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Bicycle & Pedestrian Crash Data Report

This report identifies trends in the data:

- High-risk areas
- Crash types and their severity
- Crashes in relation to existing infrastructure

This report recommends infrastructure improvements to:

- Minimize crashes
- Minimize the severity of injury



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Crash Datasets Reported 2015-2022



- 155 Bicycle Crashes
- 3 Bicyclists Killed
- Cases include notes



- 370 Pedestrian Crashes
- 37 Pedestrians Killed
- 73% cases with no notes



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Unreported and Unavailable Data



- Number of Bicycle Trips, Length
- Where people bicycle
- 7%-46% unreported Crashes
- Assume < 1% bike to work
- UAH Data?
- Number of Pedestrian Trips, Length
- Where people walk
- 44%-75% unreported Crashes
- Assume 2% walk to work

https://www.pedbikeinfo.org/factsfigures/facts_safety.cfm



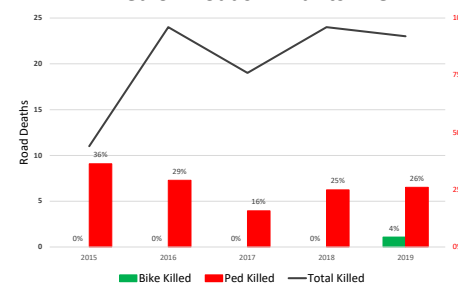
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Pedestrians and Bicyclists are vulnerable road users

Pedestrians are 15%-40% of deaths even though they only comprise 2% of roadway traffic.

Bicyclists are 1%-5% of deaths even though they only comprise < 1% of roadway traffic.

Killed on Roads in Huntsville



ALDOT Crash Facts, 2020 Census



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Road safety increasing: Drivers only

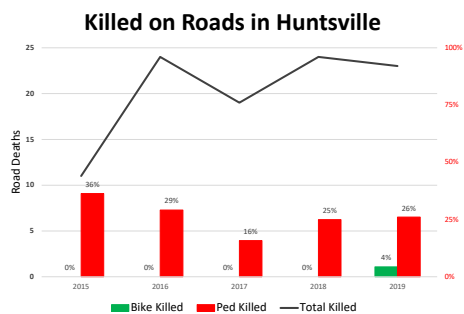
Motor Vehicle Safety Features:

- Seat belts, Air bags, Stability Control, Blind Spot Detection, Lane Assist...

Bike/Ped. Safety Features:

- Light weight helmets, lights, and reflectivity

Infrastructure can lessen the disparity



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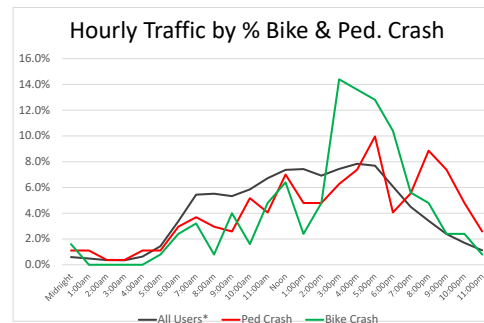
Huntsville Crashes- Crash Time of Day

University Dr on a typical weekday..

- Peak usage for all traffic between 4-5 pm
- Expect crashes between 4-5 pm

Bike crashes peak 2-3 pm, schools

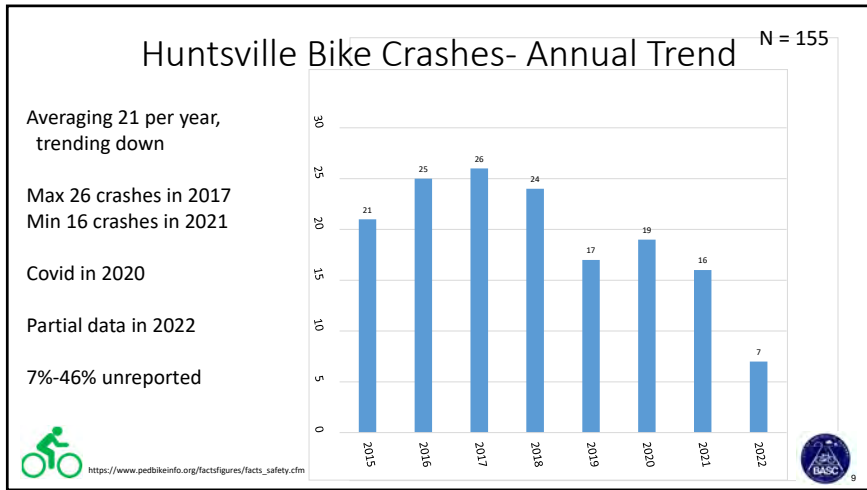
Ped crashes peak 5-6 and 8-9 pm, lighting conditions



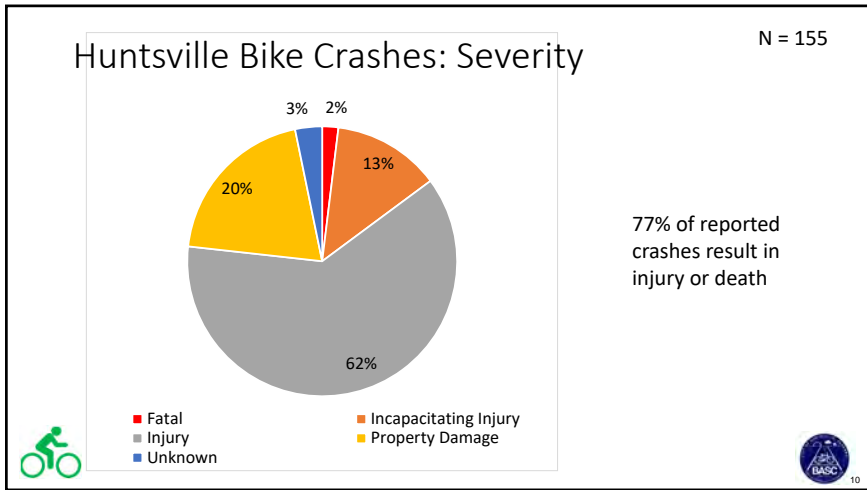
ALDOT Station 105, Feb 2021 Volumes



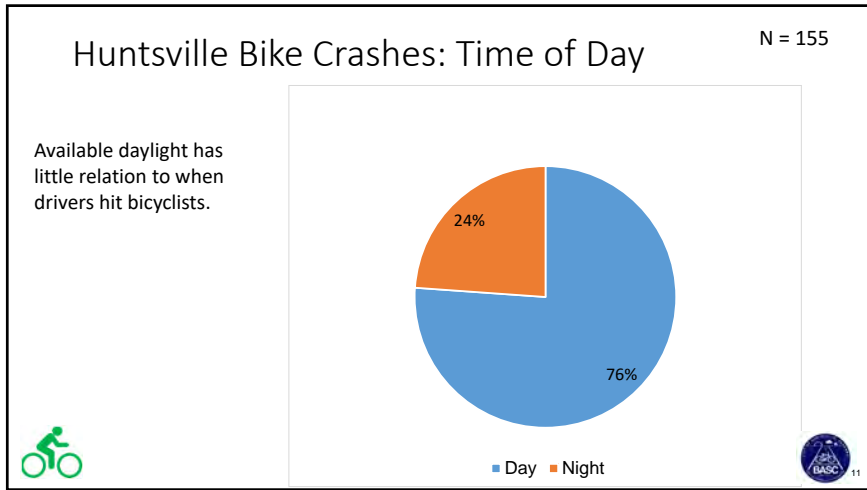
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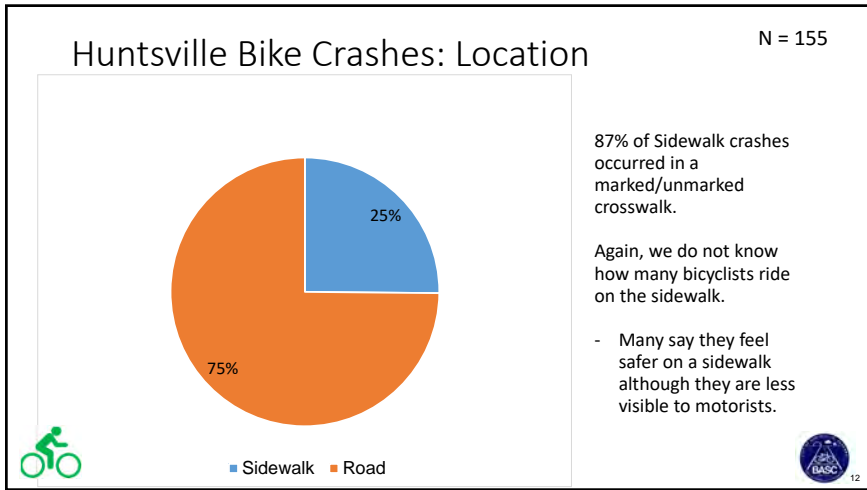
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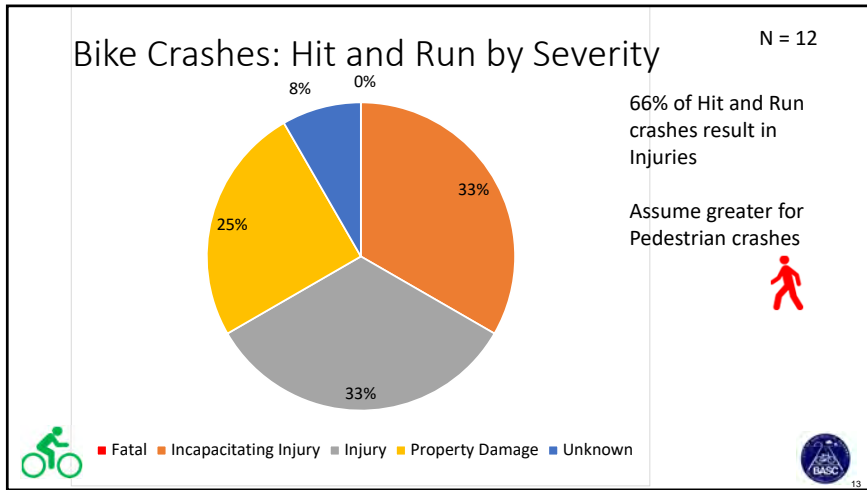
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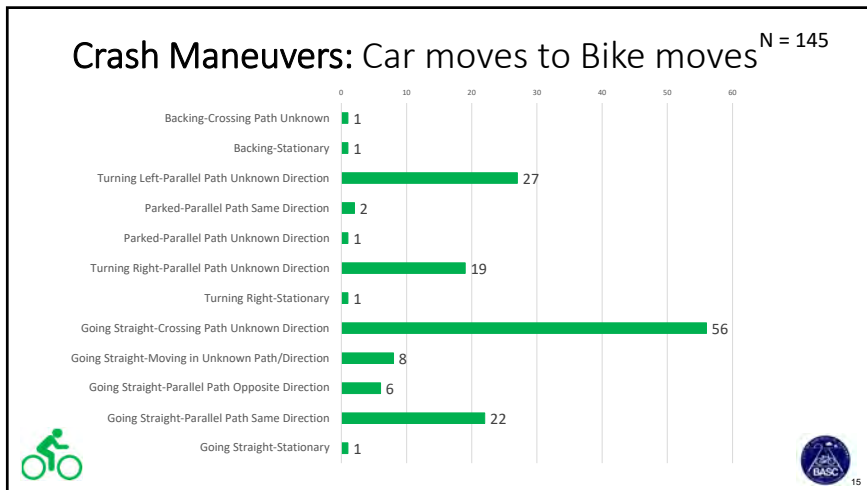
Bike Crash Type

- Pedestrian and Bicyclist Analysis Tool (PBCAT 3) with Countermeasures
- Case notes recoded to identify preventable scenarios
- Focuses on user location and movements before crash
- Geographic location added where needed

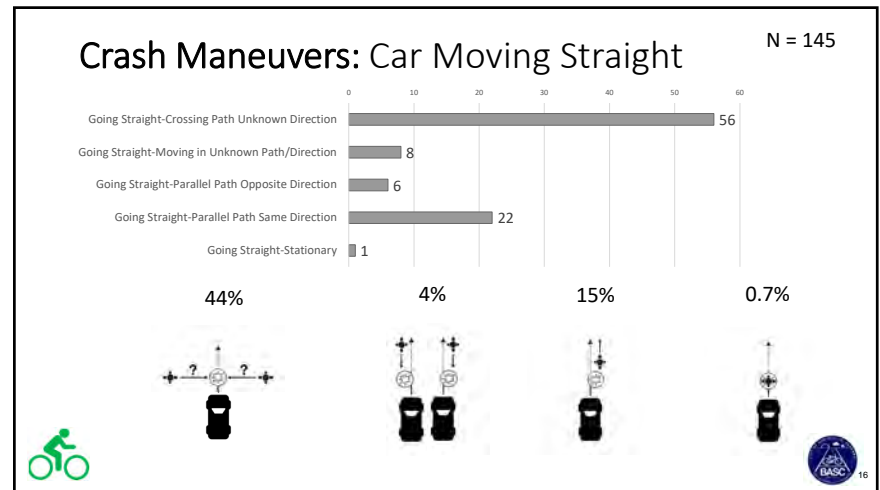
Objective Type	Shared Roadway	On-Road Bike Facilities	Intersection Treatments	Maintenance	Traffic Calming	Trails/Shared Paths	Markings, Signs & Signals	Other Measures
Provide safe on-street facilities/space for bicyclists	X	X		X	X		X	X
Provide off-road paths or trails for bicyclists				X		X	X	X
Provide and maintain quality surfaces for bicyclists	X			X			X	
Provide safe intersections for bicyclists	X		X		X	X	X	
Improve motorist behavior/compliance with traffic laws	X		X	X	X		X	X

<https://www.pbc3.org/>
<https://www.thwa.dot.gov/publications/research/safety/pedbike/06130/index.cfm>
http://www.pedbikesafe.org/BIKESAFE/matrix_objectives.cfm

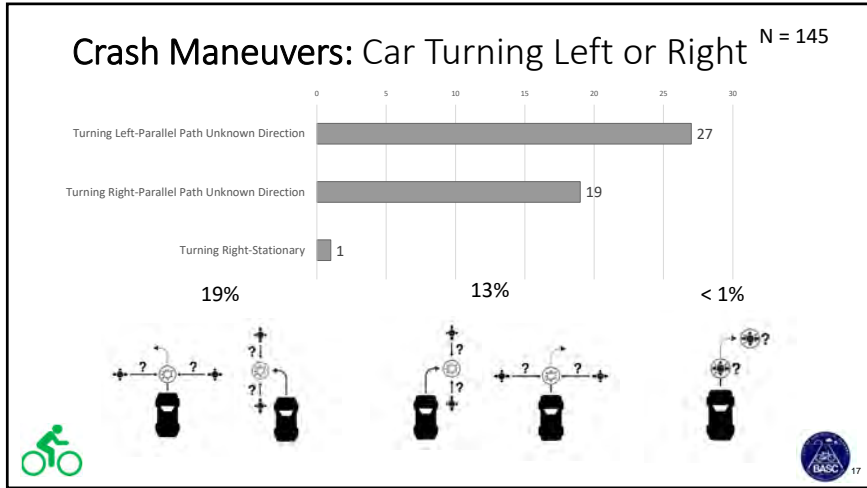
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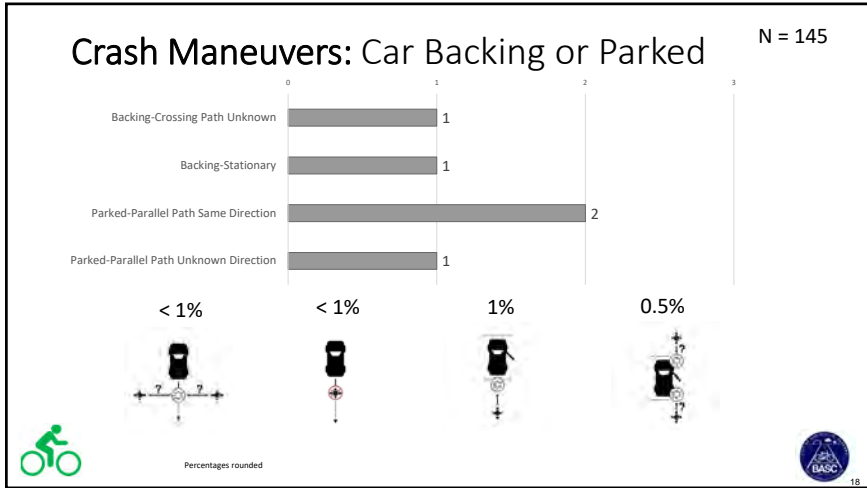
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Crash Maneuvers: Car Moving Straight

63 Crashes

- 19% resulting in death or serious injury
- 32% involved travel on or to sidewalks
- Drivers not stopping at stopbar
- Drivers not looking both ways

CHANNELIZED INTERSECTION

Remedies:

- Speed tables or textured pavement at Greenway intersections.
- Greenways and driveways:
 - No channelized rights
 - No Yield signs
 - Remove sight line obstructions.
- Clearly marked stopbars and crosswalks with Stop Signs.
- Signage attracting driver attention to the right.

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Crash Maneuvers: Car Turning Left

28 Crashes

- 11% resulting in serious injury
 - Avg speed is 15 mph
- 29% involved travel on or to sidewalks
- Drivers trying to beat oncoming traffic

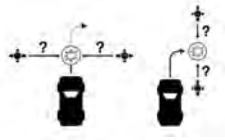
Remedies:

- Protected Left Turn Arrows (Green Arrows).
- Extend Min Green or Yellow for Bicyclists.

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Crash Maneuvers: Car Turning Right

19 Crashes



- 0% resulting in serious injury!!
 - Avg speed for right turn is 9 mph, slower speeds are safer
- 53% involved travel on or to sidewalks
- Drivers not looking both ways



Remedies:

- No channelized rights or Yield signs near Greenways.
- Reduce turning radius – bulb outs.
- Signage attracting driver attention to the right.



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Crash Maneuvers: Both Moving Straight

23 Crashes



- 30% resulting in death or serious injury
- Drivers not passing safely – 3-foot law
- Drunk drivers, ~10%
- Aggressive drivers

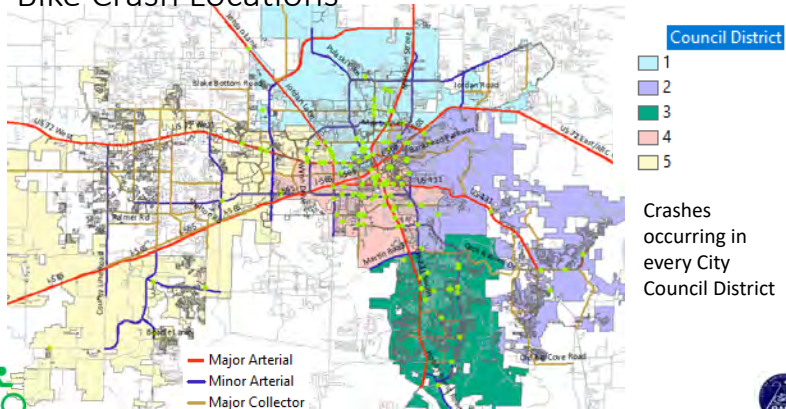
Remedies:

- Separate Cars from Bikes
- Lower travel speeds
- Enforcement of existing law, bicyclists recording on-road events
- Address aggressive drivers early; Near Miss



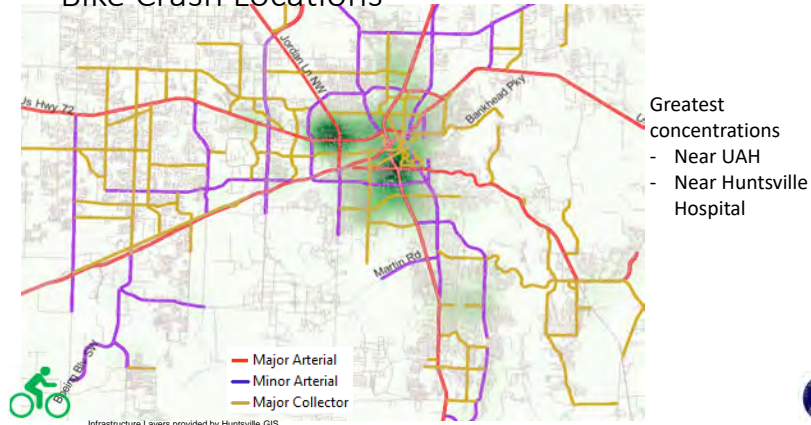
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Bike Crash Locations



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Bike Crash Locations



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Bike Crash Locations – Worst Roads

Road Name	Crashes
Baily Cove Rd	4
Blue Spring Rd	4
Bob Wallace Ave	6
Drake Ave	5
Governors Dr	6
Jordan Ln	5
Memorial Pkwy	5
Oakwood Ave	7
Triana Blvd	4
University Dr	16



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Huntsville Pedestrian Crash Data Reported 2015-2022

- 370 crashes reported by police
- 37 Fatalities, 10% of crashes result in death
- 109 Incapacitating Injuries, 29%



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Huntsville Pedestrian Crashes by Year

N = 364

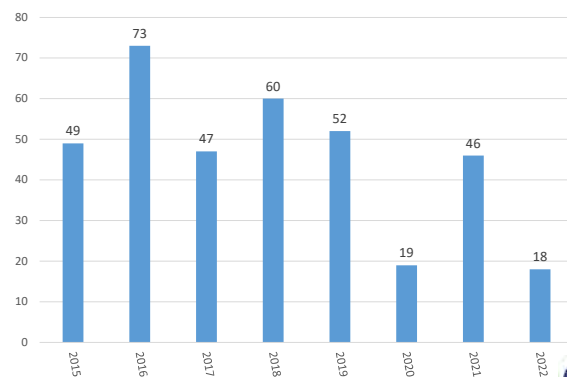
Averaging 49 per year,
trending down

Max 73 crashes in 2016
Min 19 crashes in 2020

Covid in 2020

Partial data in 2022

44%-75% unreported



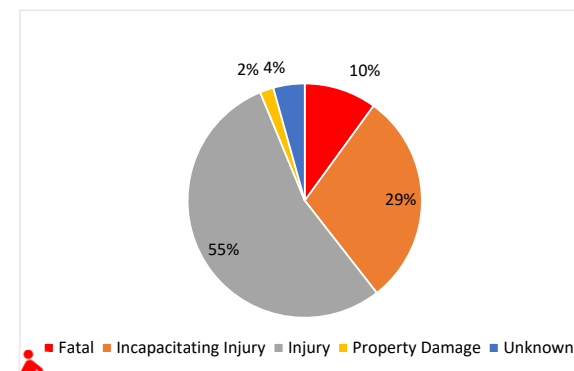
https://www.pedbikeinfo.org/factsfigures/facts_safety.cfm



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Huntsville Pedestrian Crash Severity

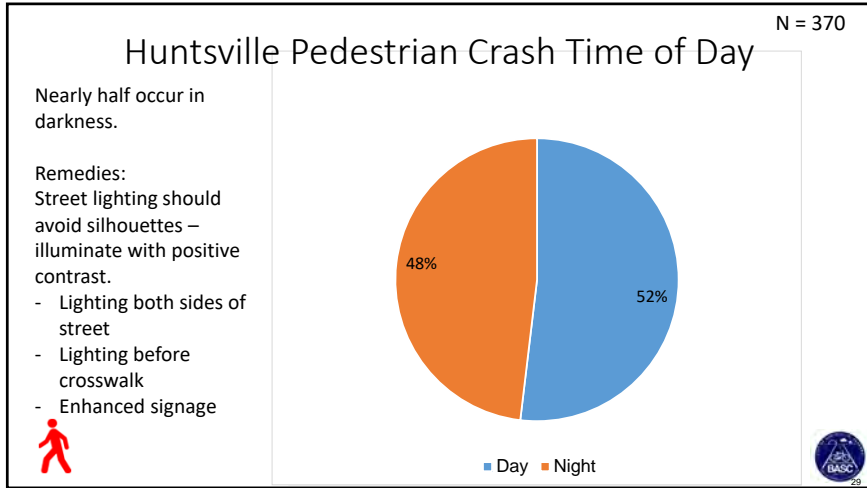
N = 370



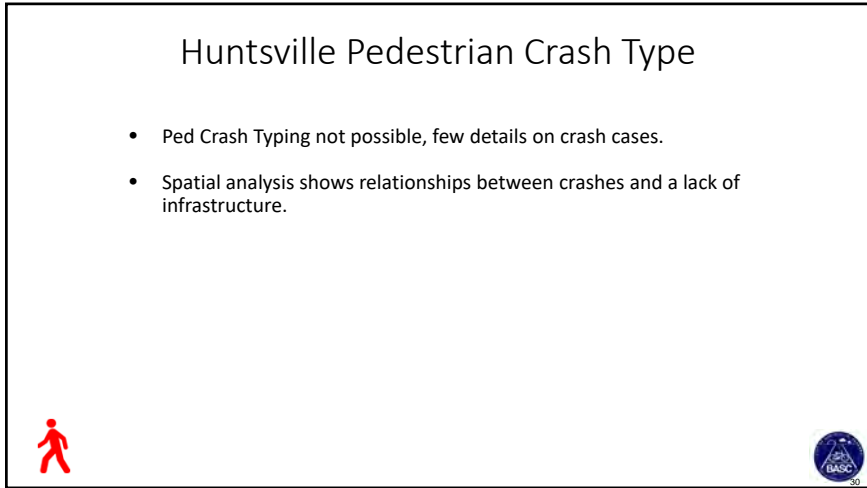
94% of reported
crashes result in
injury or death



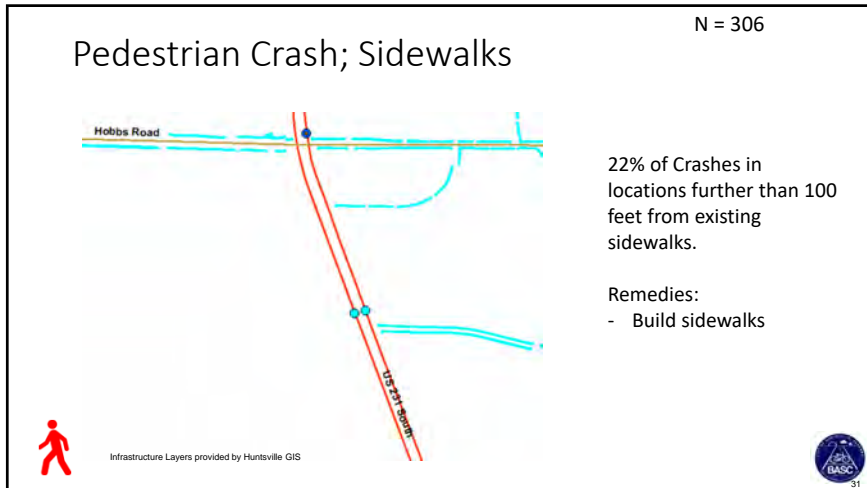
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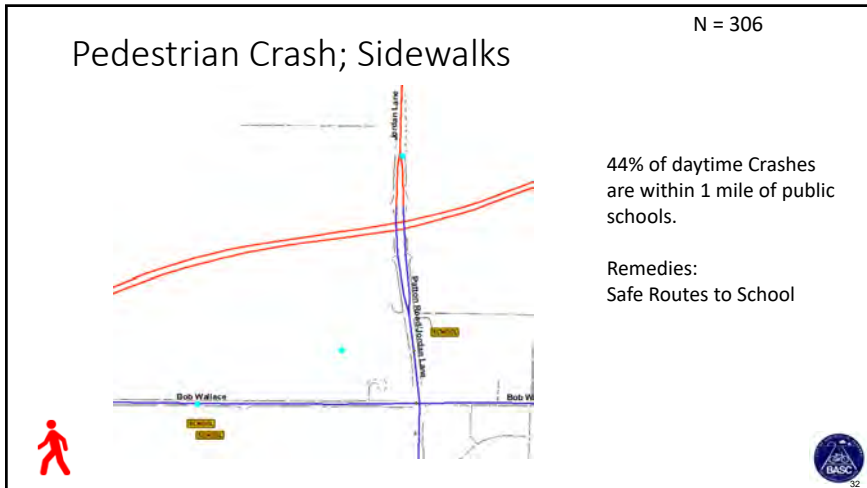
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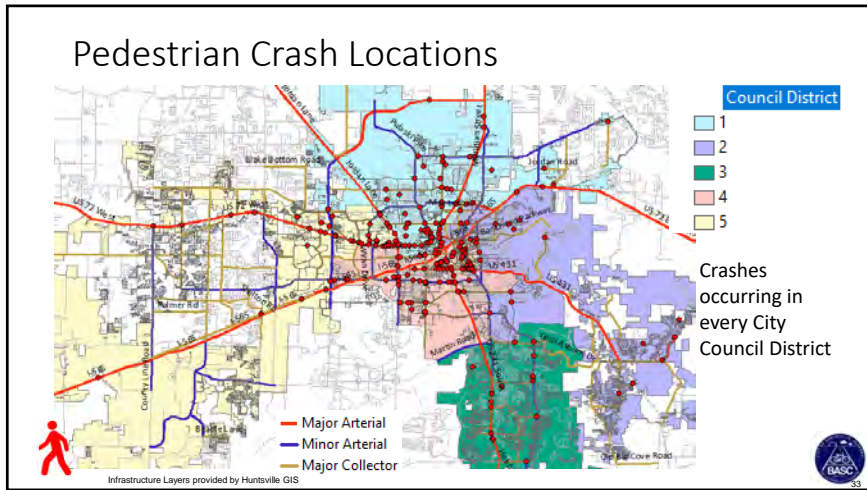
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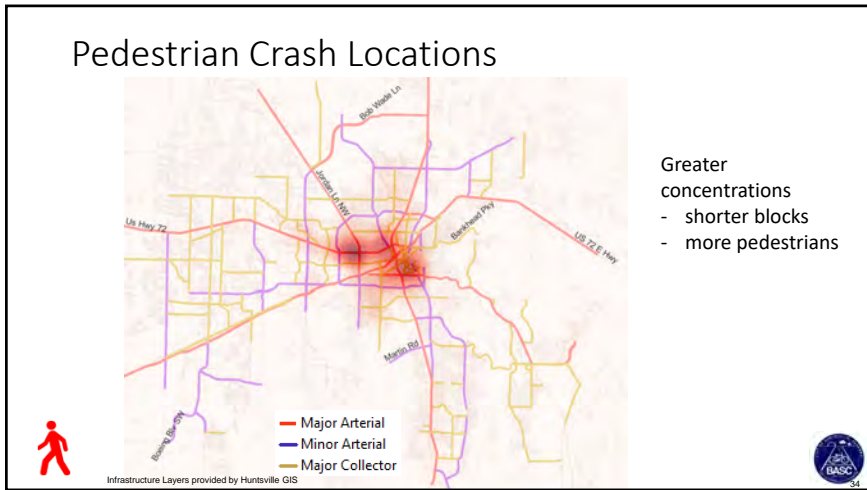
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Pedestrian Crash Locations – Worst Roads

N = 306

Road Name	Crashes
• Bob Wallace Ave	15
• Governors Dr	21
• Holmes Ave	11
• Jordan Ln	20
• Memorial Pkwy	33
• Oakwood Ave	10
• Pulaski Pike	9
• Triana Blvd	12
• University Dr	62

Infrastructure Layers provided by Huntsville GIS

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- ### Conclusions - Remedies
- High risk areas need separation between modes of travel and lower speed limits
 - Build sidewalks
 - Safe Routes to School
 - Improve lighting at crosswalks
 - Intersections near Greenways need special attention: speed tables, no channelized rights, no Yielding rights
 - Extend Minimum Green light duration along Bike Routes so riders can reach the end of the intersection
 - Address aggressive drivers.
 - Enhance signage
 - Signage to look both ways when stopped
 - “Driver Stop Here!”
- Infrastructure Layers provided by Huntsville GIS

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Conclusions - General

- Review crash data annually, request Bike/ped crash data from hospitals, and UAH
- Standardize data collection using Federal Standards. Fatality Analysis Reporting System (FARS) Crash Typing Manual
- Examine fatal crash sites for improved engineering
- Improve reporting, especially of notes collected for Pedestrian Crashes
- Improve crash location analyses. Better location data and queries on crosswalk location?



Ped. Bike Crash Typing Manual - <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813419>

