TRIANGLE WEST
Transportation Planning Organization

Transportation Performance Measures

Safety (PM 1)

David Miller, AICP - Triangle West TPO Staff
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Board Meeting
January 27, 2026

AGENDA

01 Background

02 Traffic Safety Data Trends

03 Safety Target Approaches & Options

04 Safety Planning and Coordination

05 Discussion & Questions

06 Requested Action

BACKGROUND

Triangle West Transportation Performance Measure (TPM) adoption cycle:

TPM	Adoption Cycle	Most Recent Adoption	Next Required Adoption
Safety (PM 1)	**1 year**	**January 2025**	**February 27, 2026***
Bridge and Pavement Condition (PM 2)	4 years	May 2023	June 2027*
System Performance/ Reliability (PM 3)	4 years	May 2023	June 2027*

1. Number of fatalities
2. Fatality rate
3. Number of serious injuries
4. Serious injury rate
5. Number of non-motorized fatalities and serious injuries

* MPO adoption is due 180 days after NCDOT adoption

BACKGROUND

TPO Board has endorsed NCDOT's safety targets each year

Discussion and feedback during past target-setting cycles guided TPO staff to explore developing its own safety targets for consideration.

Target setting explored and adopted as part of the TPO's Vision Zero Action Plan process

Set short-term targets for 1- and 5-years.

For the 2026 cycle, set targets for 2026 as required, and for 2030.

Alignment between TPO's Vision Zero Plan and NCDOT's Strategic Highway Safety Plan

Long-term goal alignment:

"Reduce fatalities and serious injuries by half by 2035, with a target of zero by 2050."

Developing and adopting the TPO's short-term safety targets

What approach to short-term target setting best reflects the Triangle West region? Should they be aggressive, aspirational, conservative, or achievable?

NORTH CAROLINA
Department of Transportation

Traffic Safety Data Trends / Performance Measures

Brian Murphy
NCDOT Traffic Safety Unit

January 2026

Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Presentation Overview

1. Statewide Data Trends
2. Triangle West TPO Data Trends
3. Safety Performance Measures
4. Safety Data Resources
5. Questions / Discussion

Statewide Data Trends

- State Population
- Vehicle Miles Travelled
- Fatalities
- Serious Injuries
- Pedestrian Fatal and Serious Injuries
- Bicycle Fatal and Serious Injuries

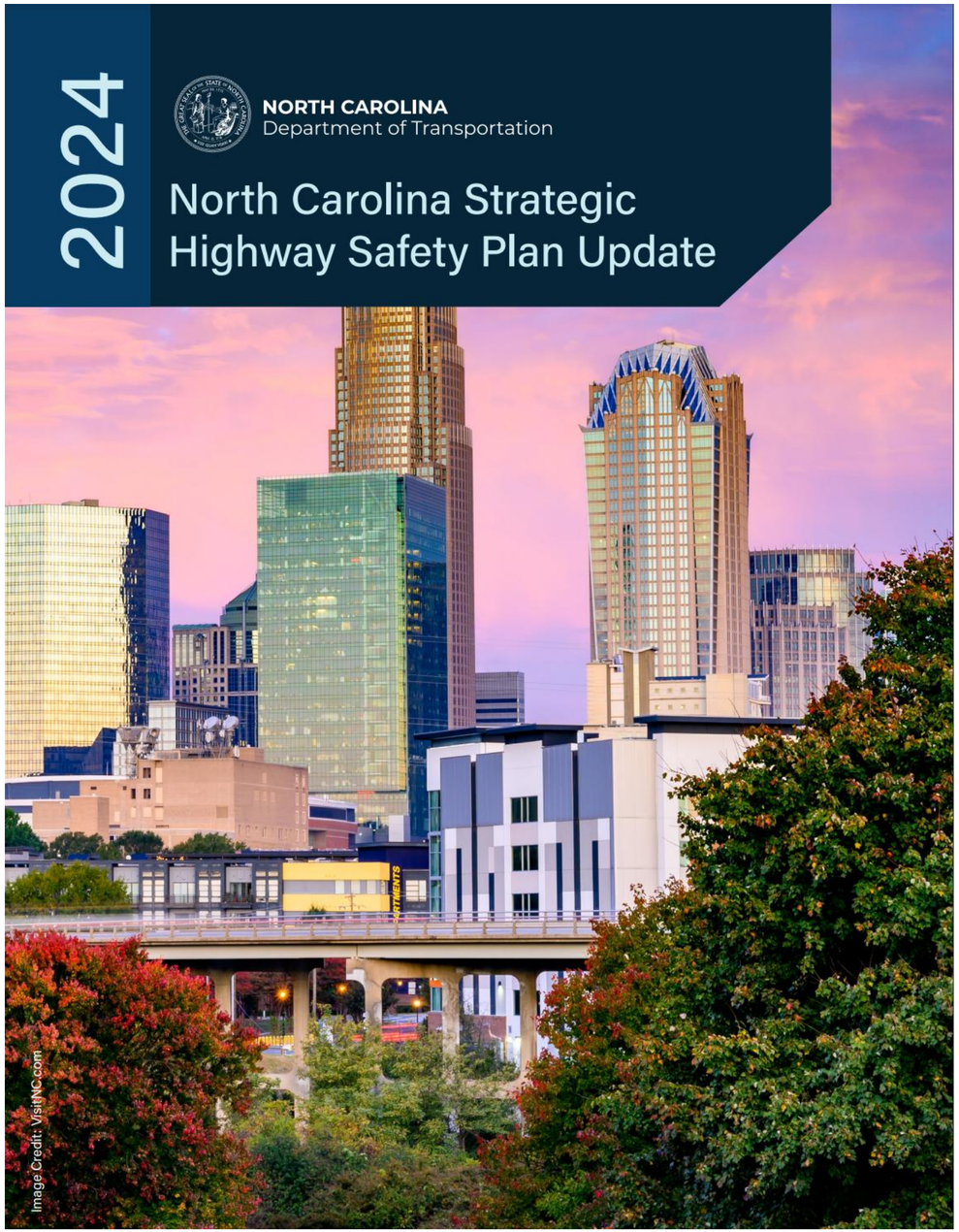
1 Statewide Data Trends

2 Triangle West TPO Data Trends

3 Safety Performance Measures

4 Safety Data Resources

5 Questions / Discussion



SHSP Goal

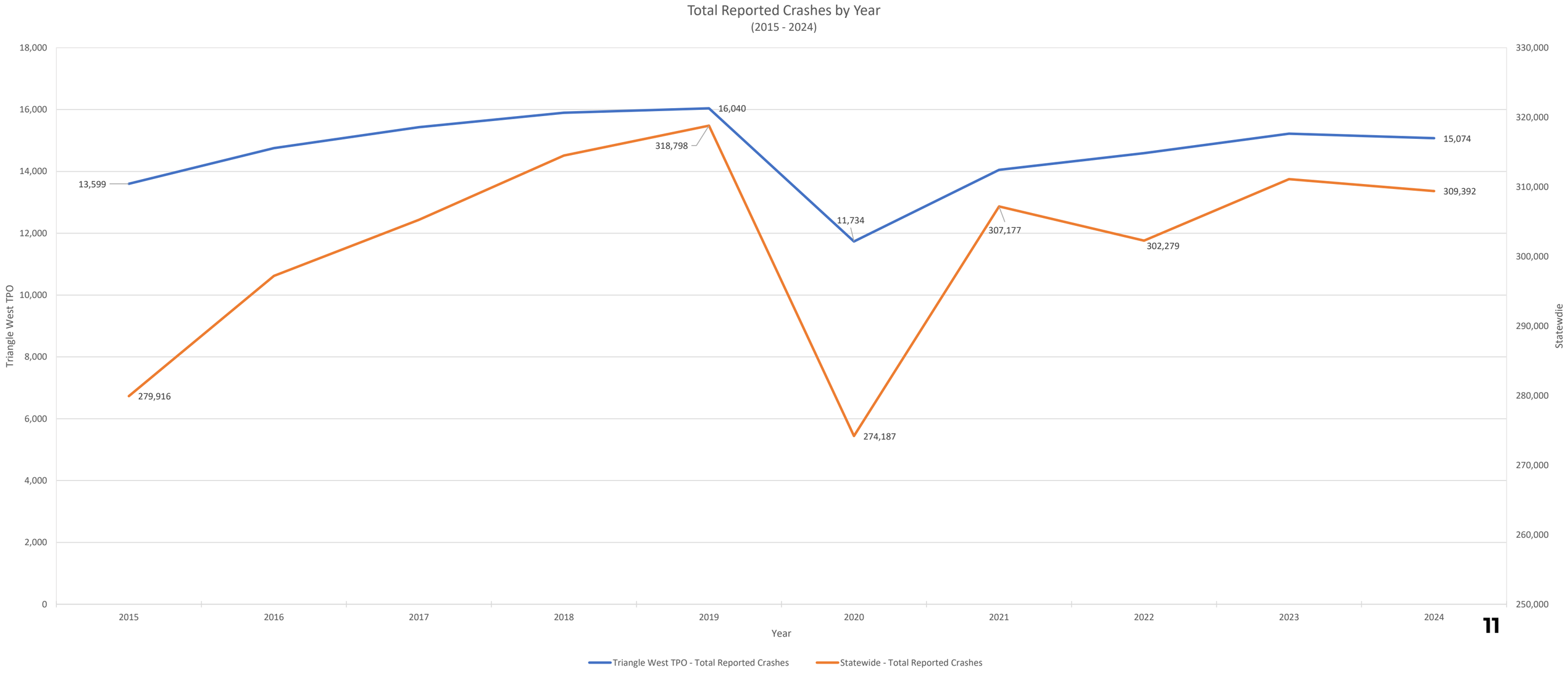
- Reduce <u>all</u> fatalities and serious injuries by half by 2035, moving towards zero by 2050.

Triangle West TPO Data Trends

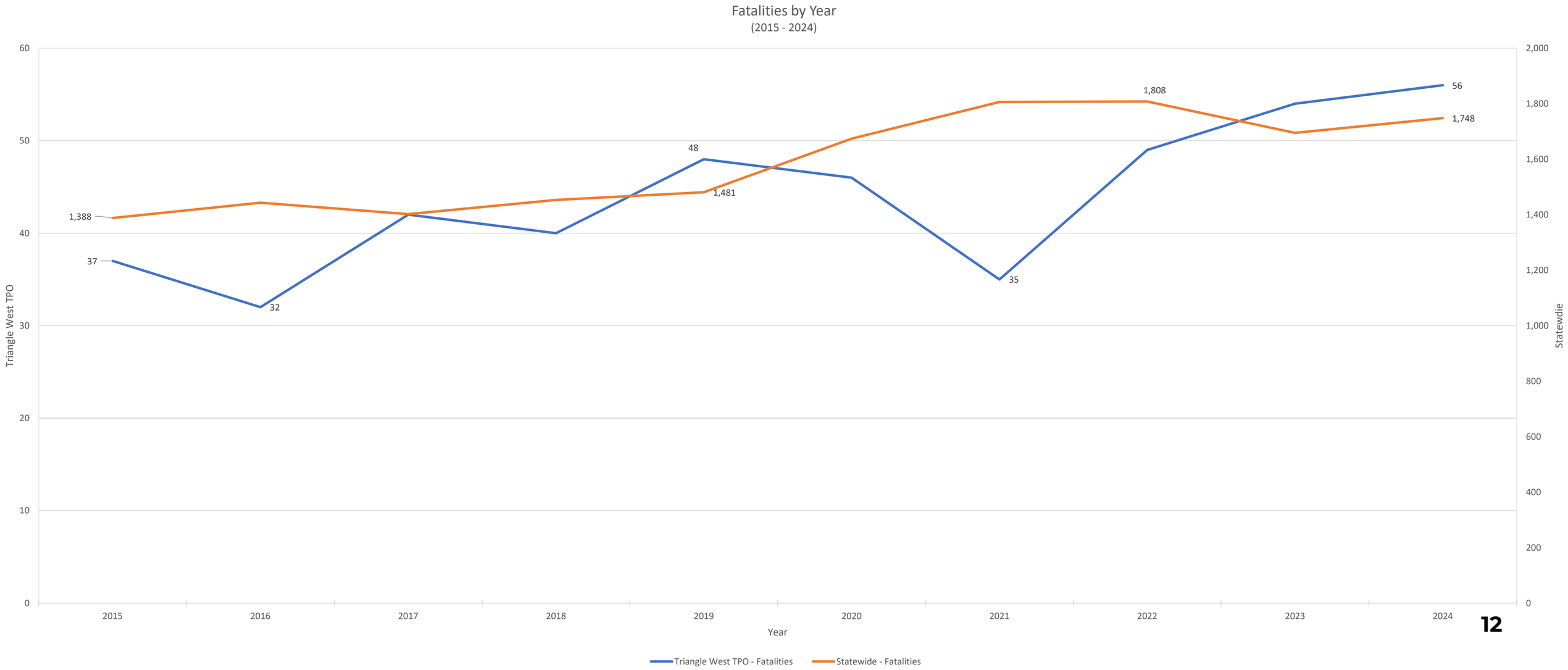
- Vehicle Miles Traveled
- Total Reported Crashes
- Fatalities
- Serious Injuries
- Non-Motorized Fatal and Serious Injuries
- Reported Pedestrian Crashes
- Breakdown by Municipality within the Triangle West TPO

Vehicle Miles Traveled (VMT)

Reported Crashes

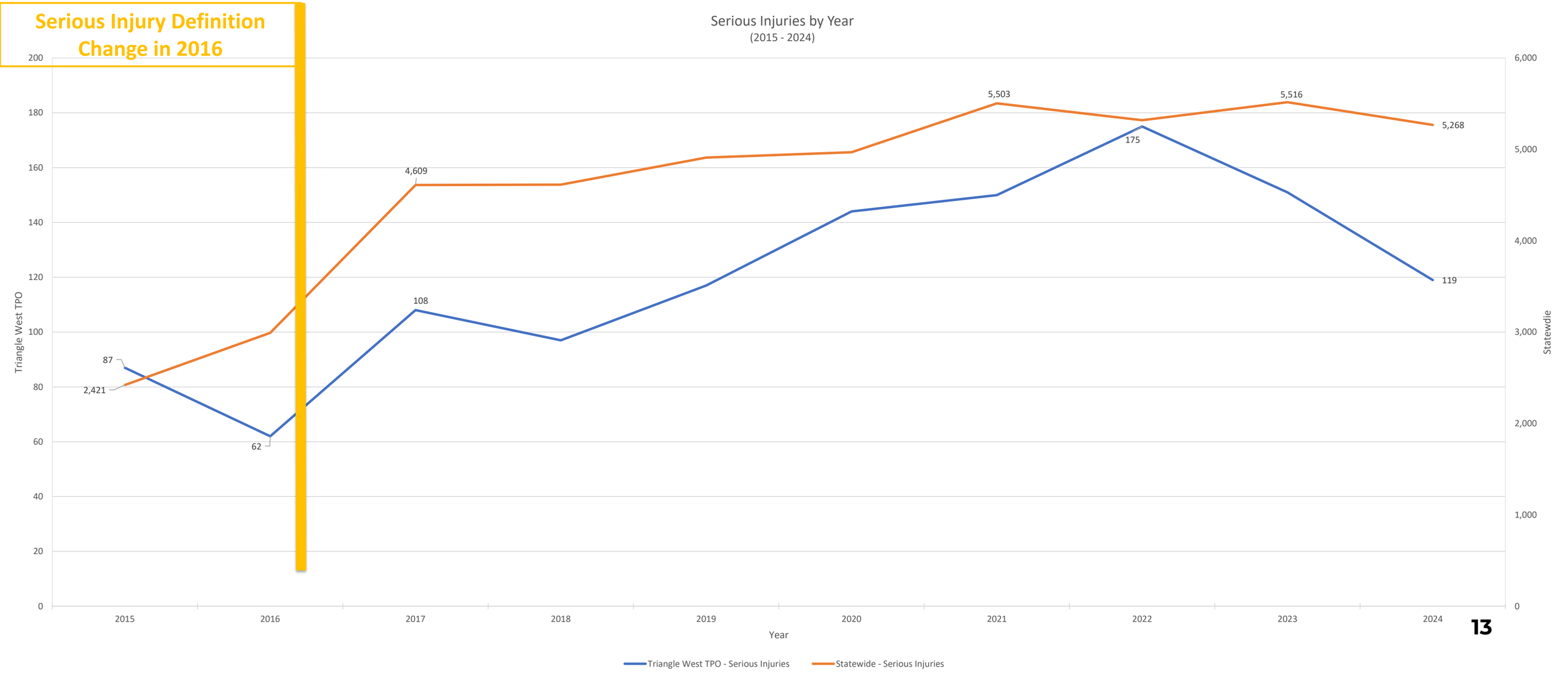


Fatalities

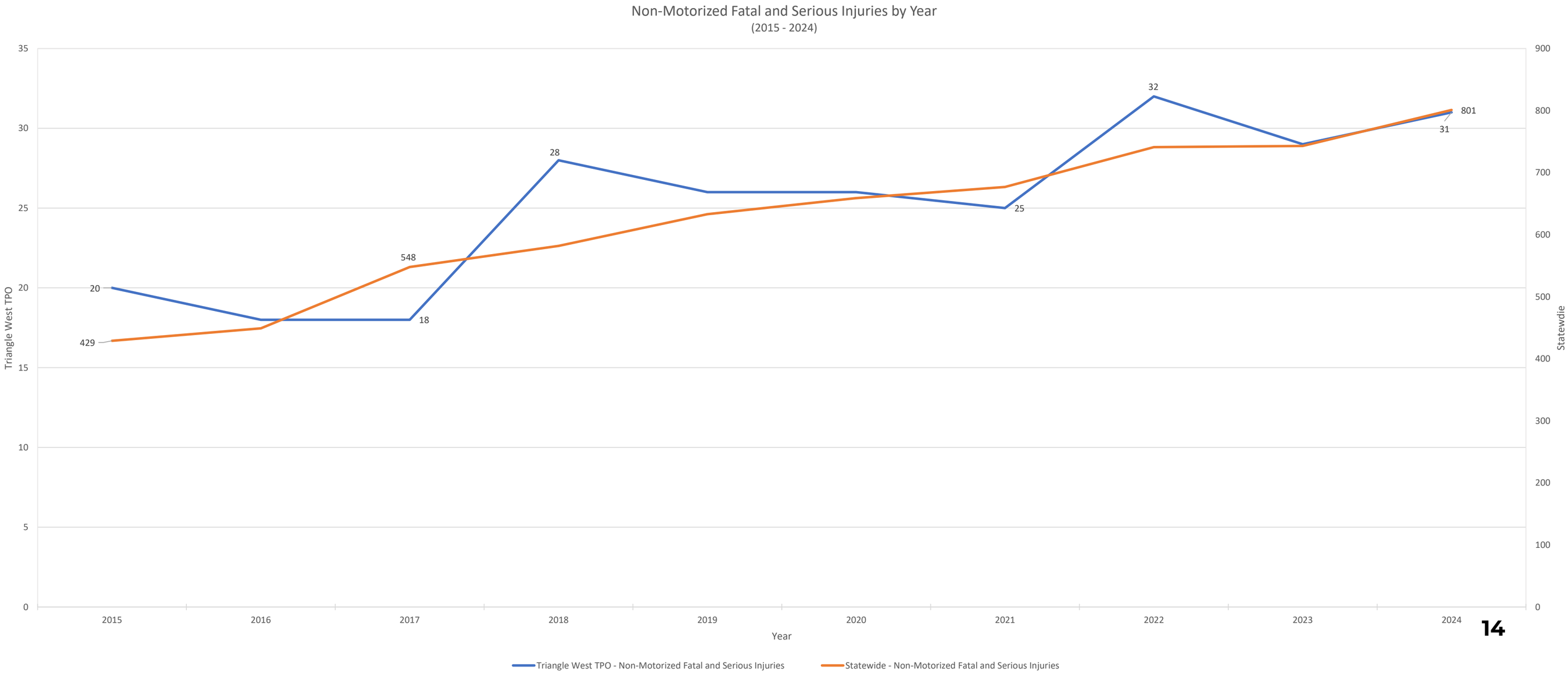

Fatalities by Year
(2015 - 2024)
Triangle West TPO
Statewdie
Year
60
50
40
30
20
10
0
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
1,388
37
32
48
1,481
35
1,808
56
1,748
Triangle West TPO - Fatalities
Statewide - Fatalities

Serious Injuries (A Type – Disabling)

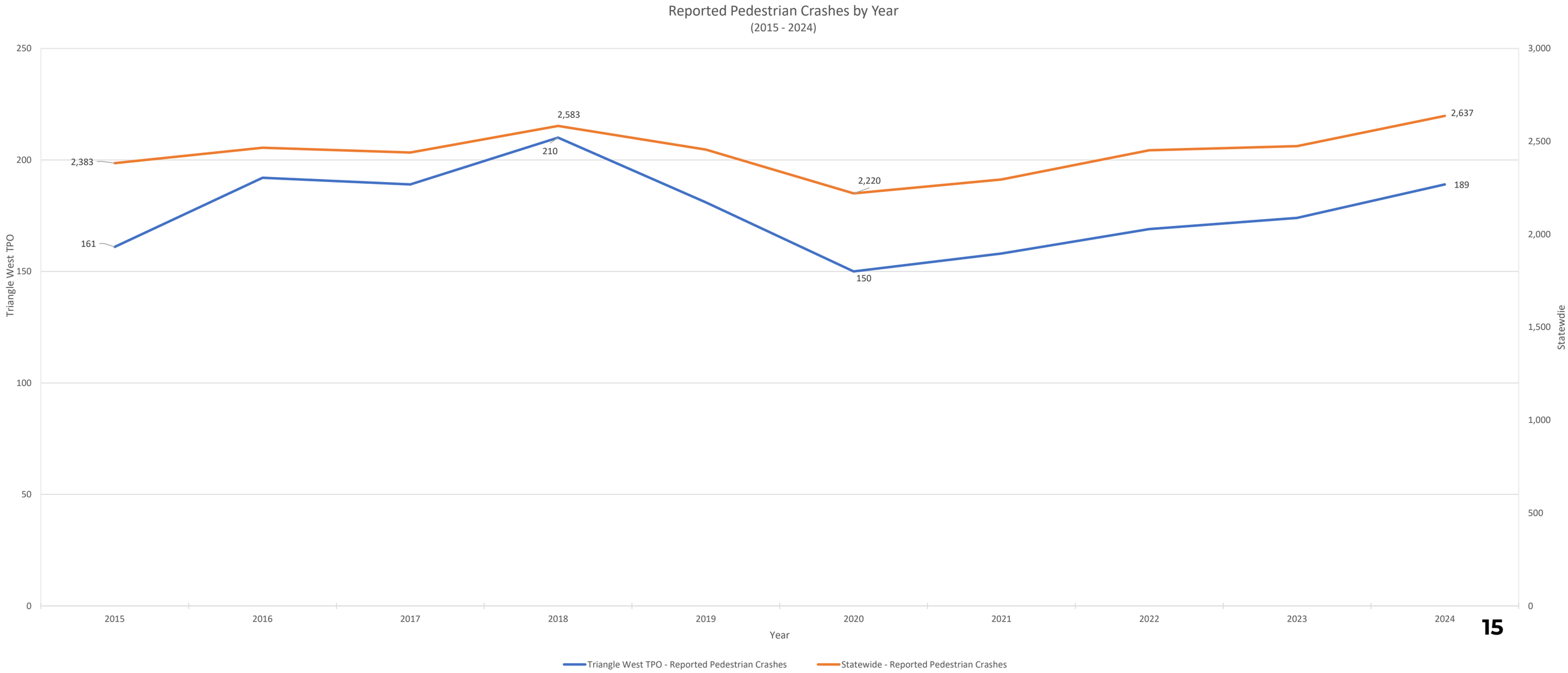
Serious Injury Definition Change in 2016



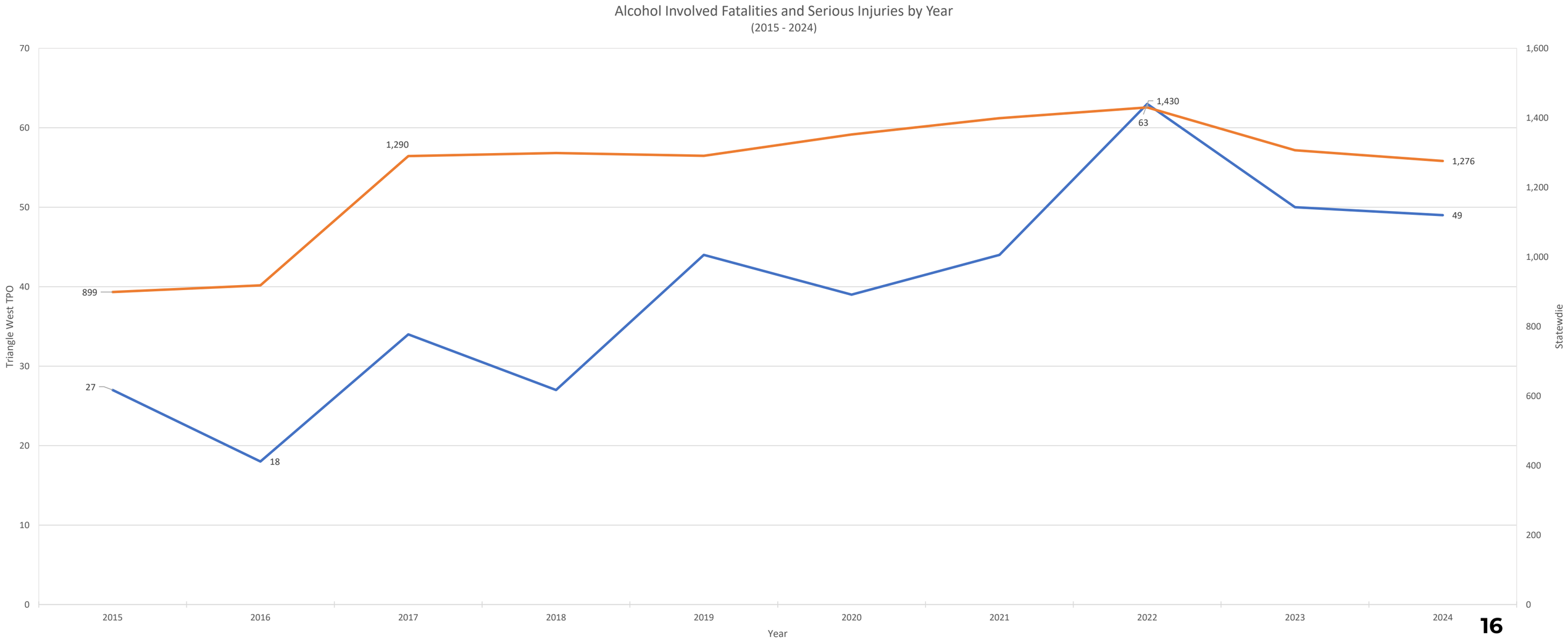
Non-Motorized Fatalities and Serious Injuries



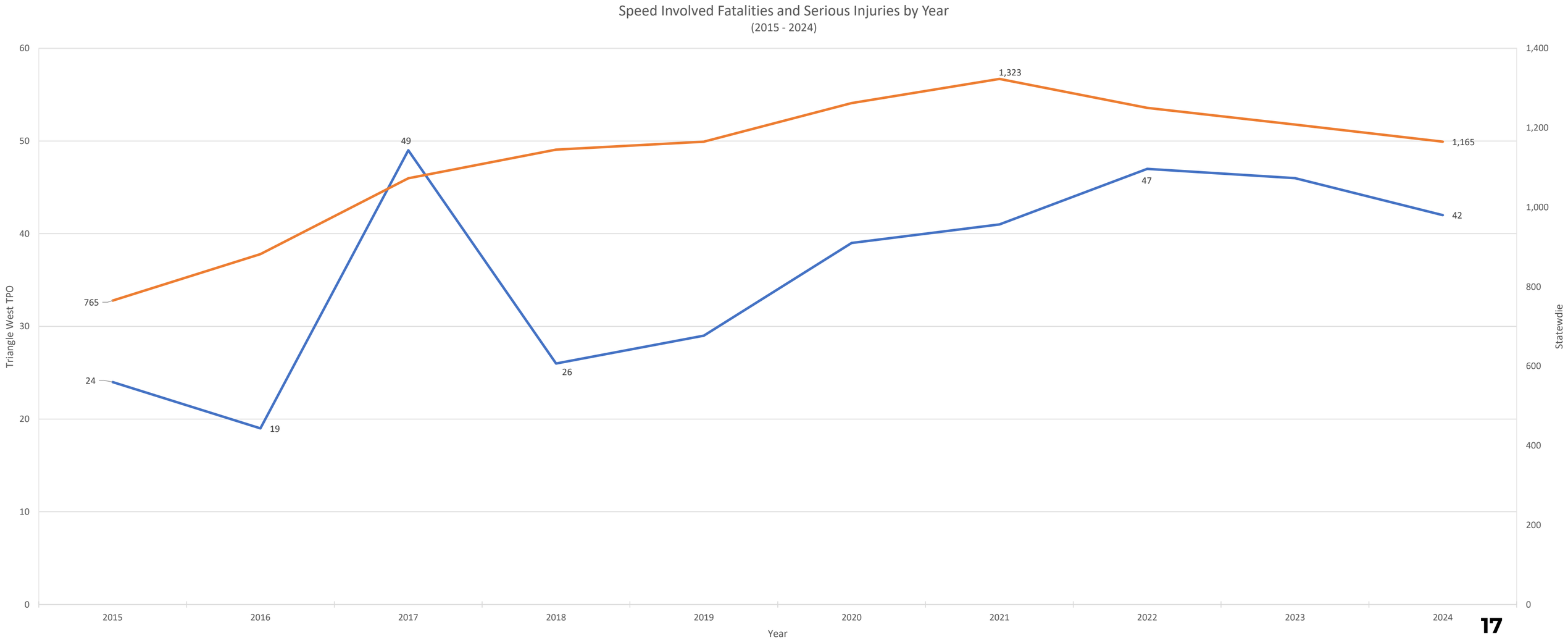
Reported Pedestrian Crashes



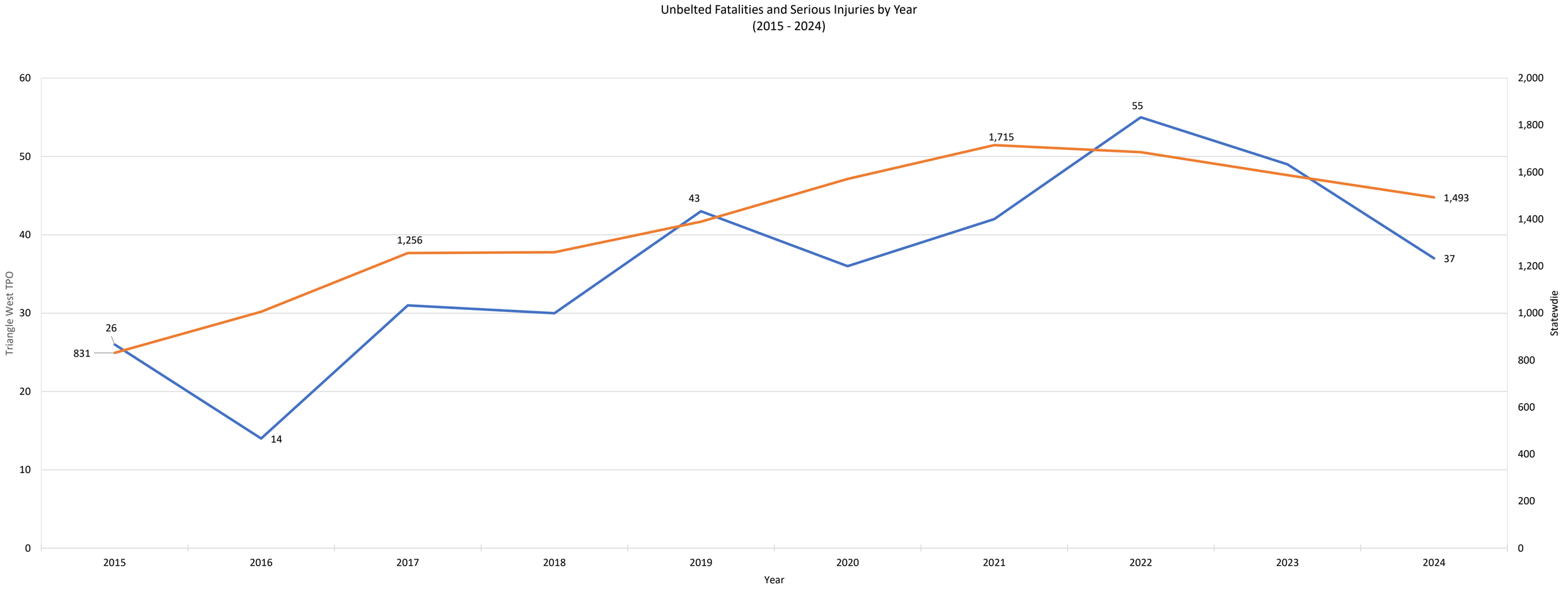
Alcohol Involved Fatalities and Serious Injuries



Speed Involved Fatalities and Serious Injuries



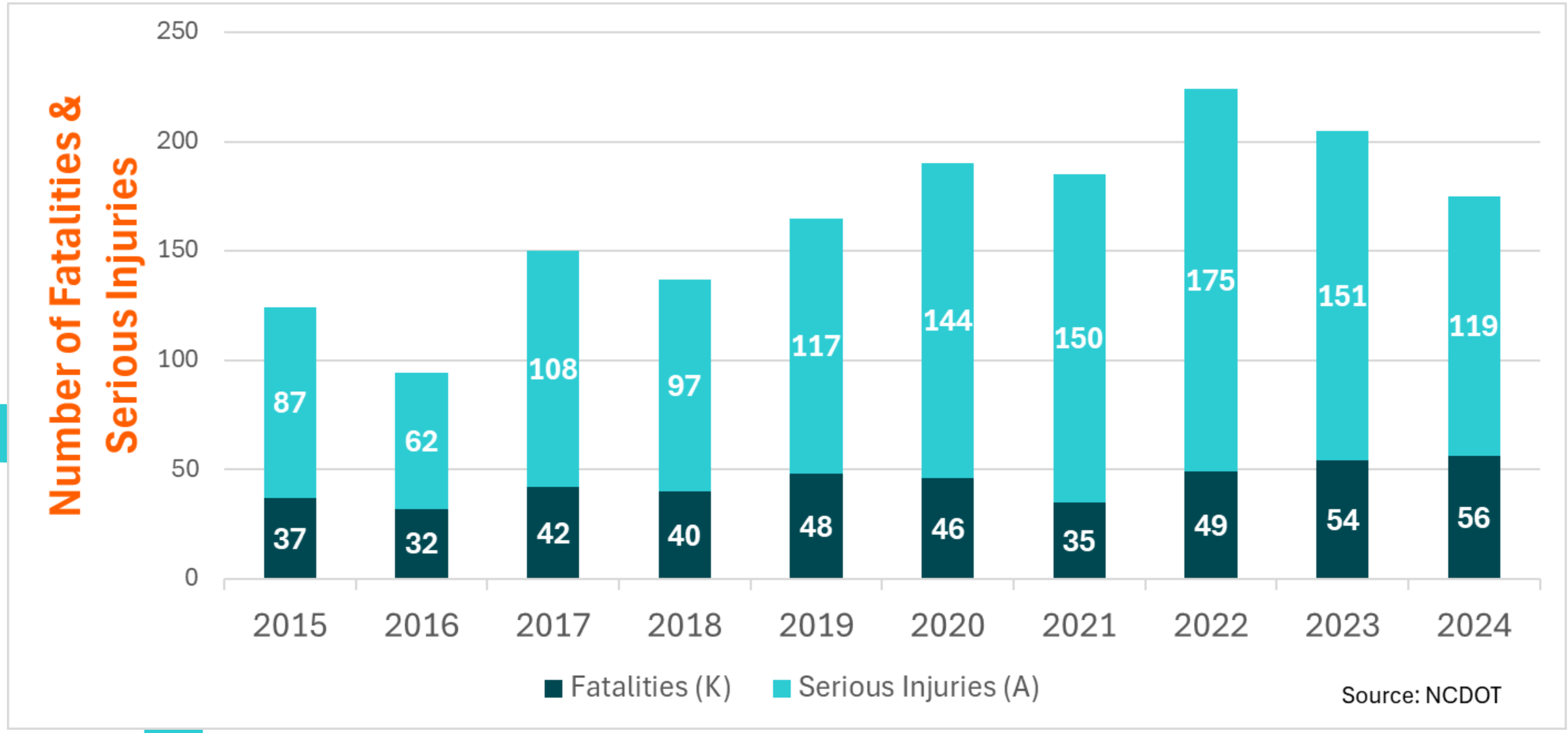
Unbelted Fatalities and Serious Injuries



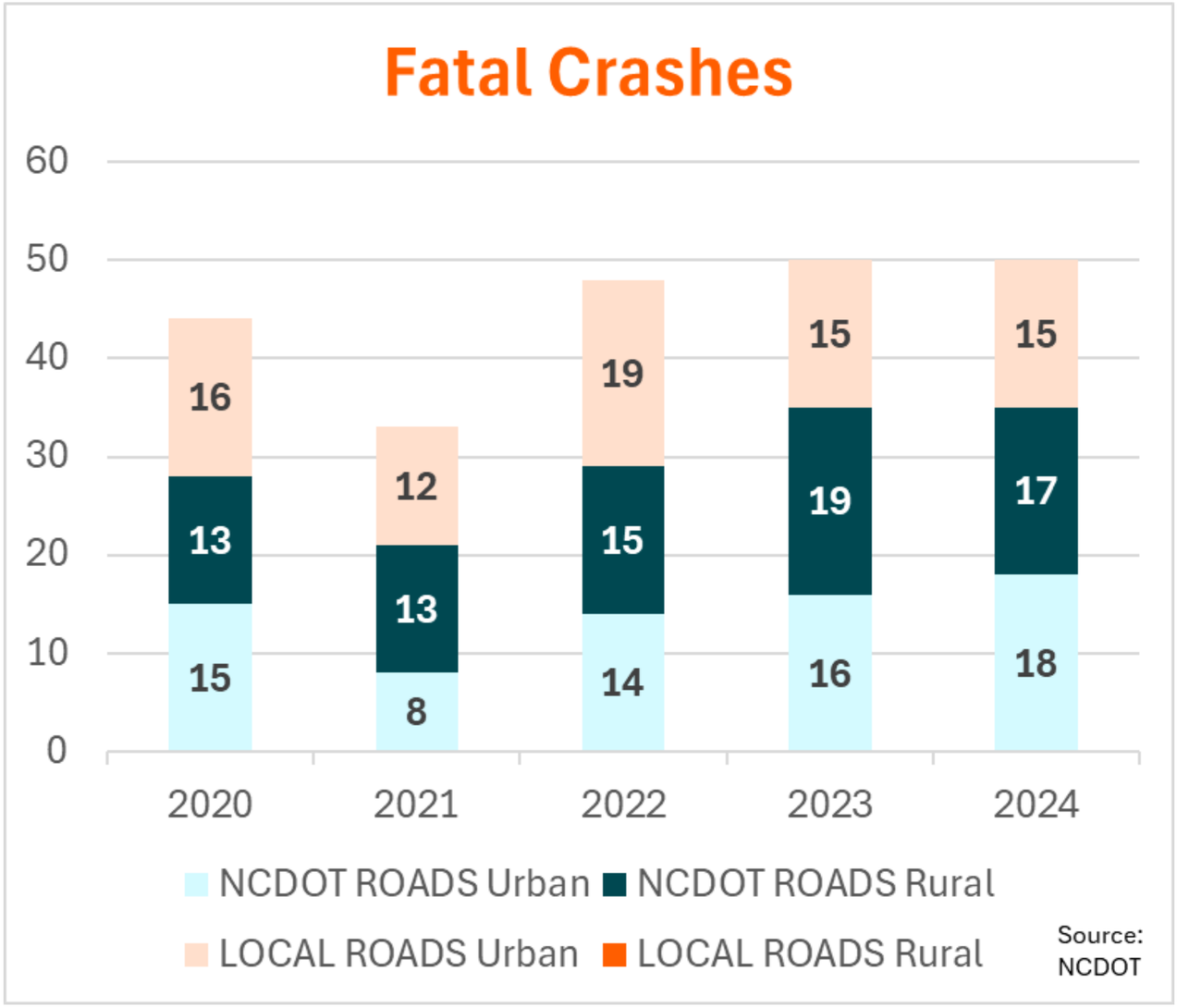
Breakdown by Municipality within the Triangle West TPO (2015 – 2024)

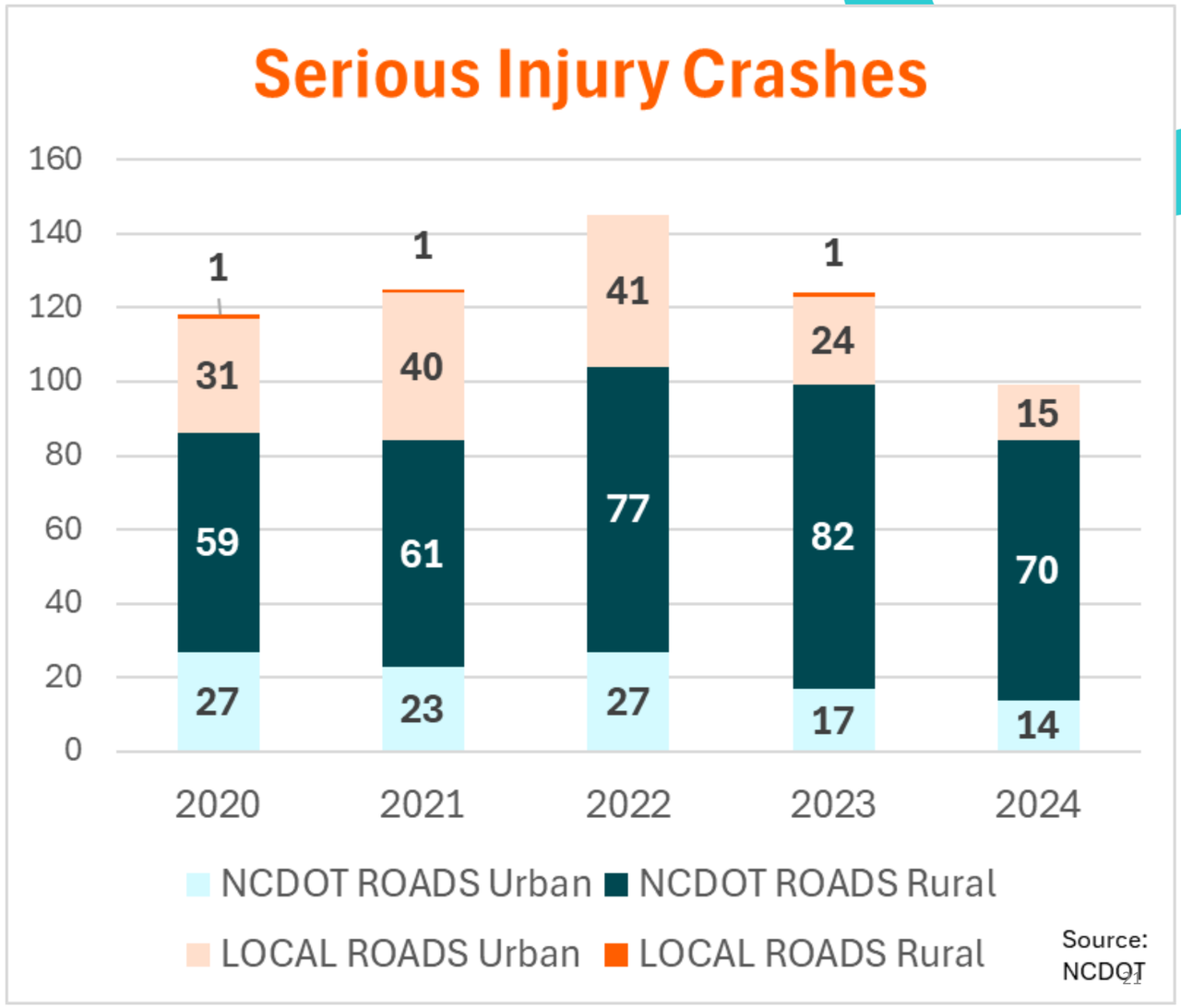
Municipality	Total Reported Crashes	Fatal Crashes	Serious Injury Crashes
Carrboro	1,660	5	5
Chapel Hill	10,198	22	41
Durham	99,589	222	425
Efland	17		
Hillsborough	2,594	4	14
Rougemont	45		
Rural	*32,283*	*159*	*532*
Total	146,386	412	1,017

TRIANGLE WEST K & A DATA (2015 – 2024)



TRIANGLE WEST K & A CRASHES (2020-2024)





Safety Performance Measures

- Background
- Assessment
- 2026 Safety Performance Measures

1	2	3	4	5
Statewide Data Trends	Triangle West TPO Data Trends	Safety Performance Measures	Safety Data Resources	Questions / Discussion

Safety Performance Measures - Background

MAP-21 / FAST Act Rulemaking:

- Requires State DOTs and MPOs to set targets for 5 Highway Safety Improvement Program (HSIP) safety performance metrics
- Final Rules published in the Federal Register March 2016; effective April 2016

HSIP Safety Targets	
1	Number of fatalities
2	Rate of fatalities
3	Number of serious injuries
4	Rate of serious injuries
5	Number of non-motorized fatalities and non-motorized serious injuries

- Targets:
  - Are based on 5 year rolling averages
  - Are for calendar years
  - Are established annually

Safety Performance Measures - Background

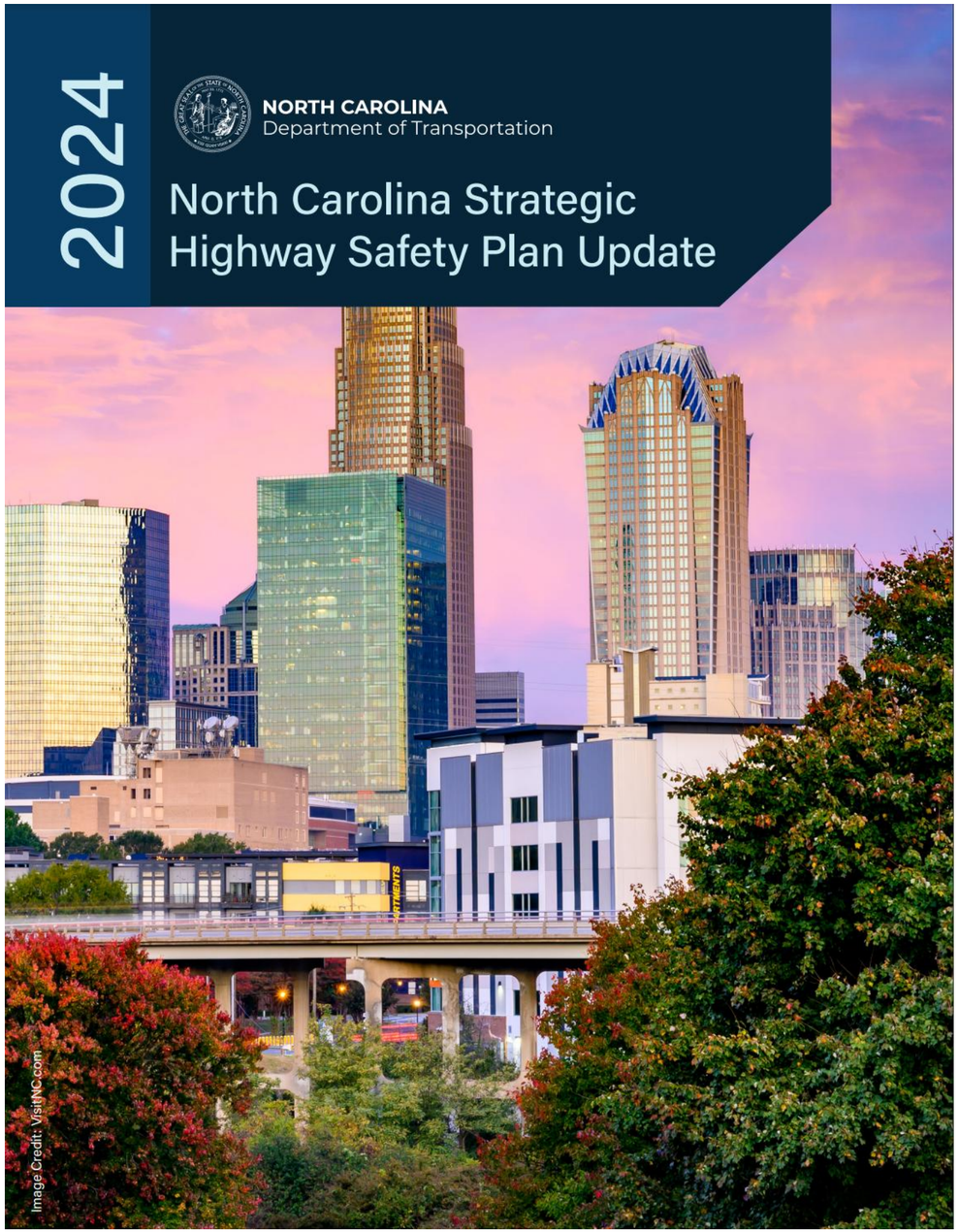
Target Reporting Dates:

- State: August 31st with annual HSIP report
- MPO: February 27th

Safety Performance Measures - Background

How are targets set?

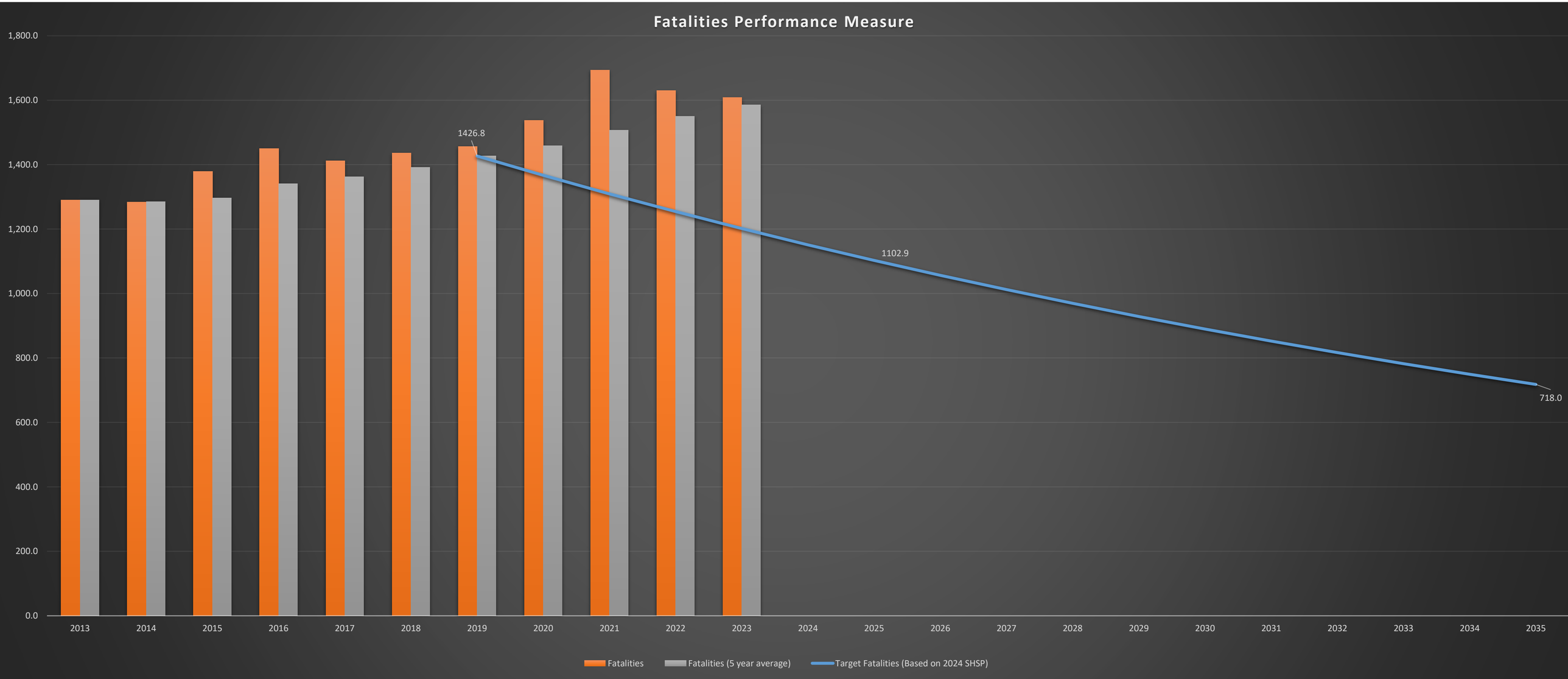
- Up to each State and MPO
  - MPO can adopt State methodology, or come up with their own



SHSP Goal

- Reduce <u>all</u> fatalities and serious injuries by half by 2035, moving towards zero by 2050.

Safety Performance Measures - Background



Safety Performance Measures - Background

Assessment of Significant Progress:

- FHWA will determine whether a State DOT has met or made significant progress toward meeting HSIP safety targets
  - CY 2023 targets were assessed in early 2025
- FHWA will not directly assess MPO progress towards meeting HSIP safety targets

Safety Performance Measures - Background

Assessment of Significant Progress (cntd):

- FHWA assessed NCDOT's CY 2023 safety targets in early 2025
- Based on FHWA's review, North Carolina has not met or made significant progress toward achieving its safety performance targets.

Assessment of Statewide Targets

Performance Measures	Target	Actual	Baseline	Target Achieved?	(Actual) Better than Baseline?	Met or Made Significant Progress?
	2019 - 2023	2019 - 2023	2017 - 2021			
Number of Fatalities	1,202.2	1,576.0	1,507.2	No	No	No
Rate of Fatalities	1.011	1.346	1.290	No	No	
Number of Serious Injuries	3,423.0	5,217.0	4,898.4	No	No	
Rate of Serious Injury	2.863	4.442	4.186	No	No	
Number of Non-Motorized Fatalities and Serious Injuries	468.2	691.8	625.2	No	No	

Safety Performance Measures - Background

Assessment of Significant Progress (cntd):

"Assessment" of Triangle West TPO Targets

Performance Measures (5-year Rolling Averages)	5-year Rolling Averages			Target Achieved?	(Actual) Better than Baseline?	Met or Made Significant Progress?
	Target	Actual	Baseline			
	2019 - 2023	2019 - 2023	2017 - 2021			
Fatalities	32.9	46.4	42.2	No	No	No
Fatality Rate	0.587	0.866	0.784	No	No	
Serious Injuries	80.8	147.4	123.2	No	No	
Serious Injury Rate	1.443	2.768	2.319	No	No	
Non-Motorized Fatalities and Serious Injuries	19.9	28.4	25.4	No	No	

Triangle West TPO Safety Performance Measures

Triangle West TPO HSIP Safety Measures

Year	Fatalities	Fatality Rate	Serious Injuries	Serious Injury Rate	Non-motorized Fatalities and Serious Injuries
2015	37	0.699	87	1.643	21
2016	32	0.571	62	1.106	17
2017	42	0.732	108	1.883	19
2018	40	0.696	97	1.687	28
2019	48	0.817	117	1.991	26
2020	46	0.990	144	3.098	28
2021	35	0.685	150	2.937	26
2022	49	0.872	175	3.114	33
2023	54	0.966	151	2.700	29
2024	56	0.953	119	2.024	32

2026 Triangle West TPO HSIP Safety Targets

– If adopting the State's methodology of reducing fatalities and serious injuries by half by the year 2035

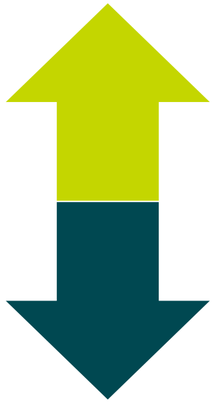
	Fatalities (5 Year Average)	Fatality Rate (5 Year Average)	Serious Injuries (5 Year Average)	Serious Injury Rate (5 Year Average)	Non-motorized Fatalities and Serious Injuries (5 Year Average)
9	39.8	0.703	94.2	1.662	22.4
0	41.6	0.761	105.6	1.953	23.8
1	42.2	0.784	123.2	2.319	25.4
2	43.6	0.812	136.6	2.565	28.2
3	46.4	0.866	147.4	2.768	28.4
4	48.0	0.893	147.8	2.775	29.6
t*	**29.5**	**0.517**	**70.5**	**1.235**	**18.2**

SAFETY TARGET APPROACHES FOR CY2026

Guiding Questions:

- Which scenario best fits the vision for safety for our region?
- Which scenario tells a story that is acceptable for the near and long term for the region?
- Are the targets achievable?

Most Aggressive



Least Aggressive

OPTION A: Dramatic Reduction of 100 % for 2026 through 2050 and beyond. (Zero)

OPTION B: Sharp Reduction for 2026, reduce by 50% by 2035 and moving towards zero by 2050. (NCDOT Targets)

OPTION C: Steady Reduction of 3% for 2026 and annually through 2030, reduce by 50% by 2035 and moving towards zero by 2050.

OPTION D: Steady Reduction of 1% for 2026 and annually through 2030, reduce by 50% by 2035 and moving towards zero by 2050.

CY2026 TARGET OPTIONS OVERVIEW

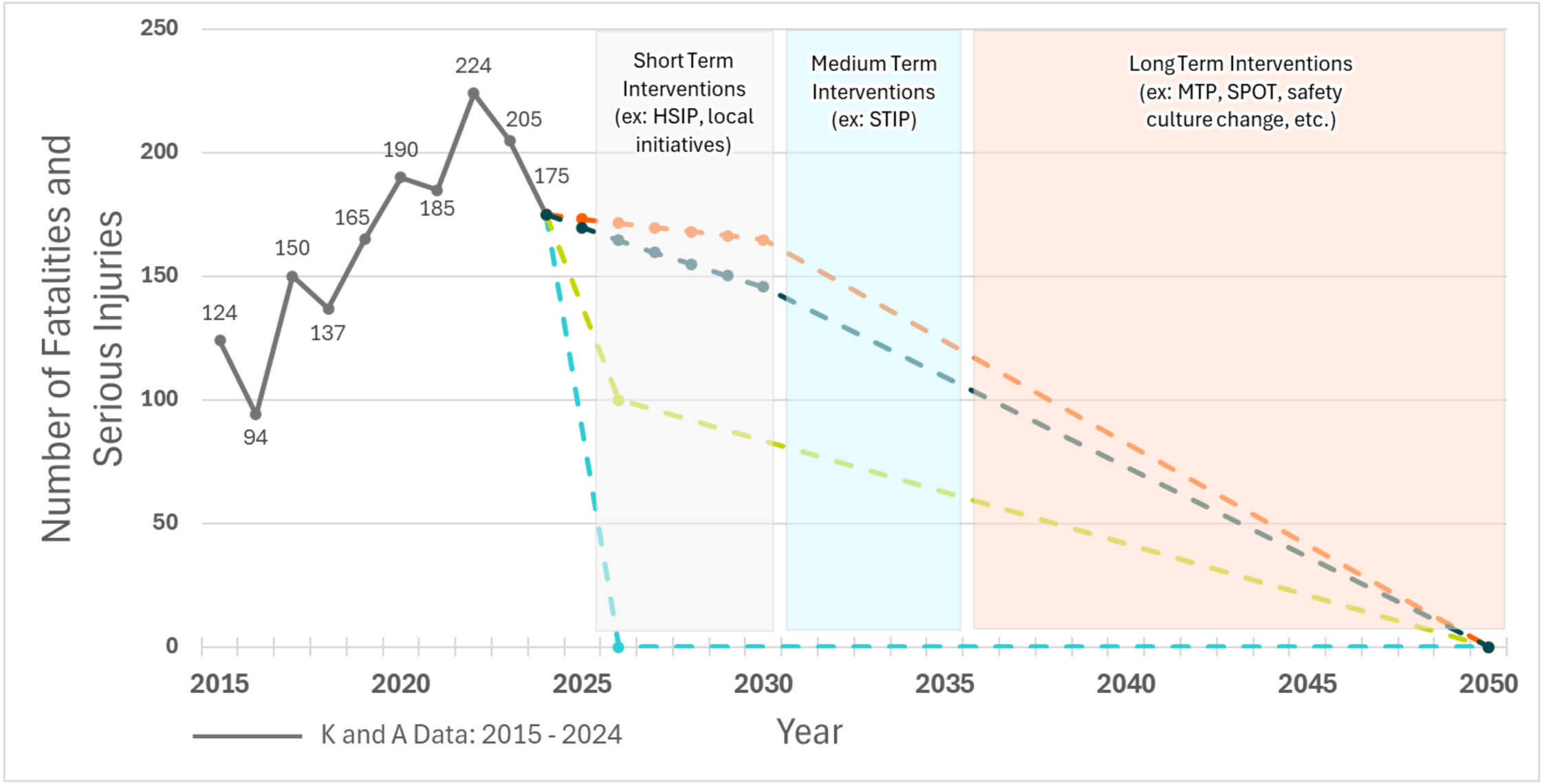
Most Aggressive

Least Aggressive

CY2026 TARGET OPTIONS OVERVIEW					
Target Options	**Fatalities**	**Fatality Rate***	**Serious Injuries**	**Serious Injury Rate***	**Non-motorized Fatalities and Serious Injuries**
Option A: Dramatic Reduction (Zero)	0	0	0	0	0
Option B: Sharp Reduction (NCDOT)	29.5	0.517	70.5	1.235	18.2
Option C: Steady Reduction of 3%	52.69	0.896	111.967	1.905	30.109
Option D: Steady Reduction of 1%	54.886	0.934	116.632	1.979	31.363

* Rates are in units of crashes per 100 Million VMT

NUMBER OF FATALITIES AND SERIOUS INJURIES



Option D: Steady Reduction of 1%

Option C: Steady Reduction of 3%

Option B: Sharp Reduction (NCDOT)

Option A: Dramatic Reduction (Zero)

Safety Data Resources

- Safety Project Mapping
- Bicycle and Pedestrian Crash Data Dashboard
- Statewide Crash Data Dashboard

1 Statewide Data Trends

2 Triangle West TPO Data Trends

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Resources

North Carolina Strategic Highway Safety Plan

- https://www.ncdot.gov/initiatives-policies/safety/traffic-safety/Pages/strategic-highway-safety-plan.aspx

General Safety Data Mapping Site / Dashboards

- Link to general safety data mapping site. Includes links to dashboards for total crashes, pedestrian and bicycle crashes, and MPO safety performance measures: https://www.ncdot.gov/initiatives-policies/safety/traffic-safety/Pages/safety-data-maps.aspx

Highway Safety Improvement Program (HSIP)

- Our HSIP program is our primary method of identifying locations that are likely to produce a safety project. Locations are flagged if they exceed certain criteria and have patterns that we believe are correctable.
- Link to webpage with description of program and tabular reports: https://connect.ncdot.gov/resources/safety/pages/nc-highway-safety-program-and-projects.aspx
- Link to mapped HSIP locations for the last 5 years: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=bb6dd277ce6247438fc096200141949a

Total Crash Frequency Grouped By Intersection

- This product contains planning level crash data grouped by intersection. This data should not be used for detailed design decisions.
  - Special consideration should be given to data at ramps or loop locations.
- Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=dc944f1c834f49a18479c17df1f783b9

Planning Level Safety Scoring Data

- This product contains planning level crash data for each half mile section of roadway. This data should not be used for detailed design decisions. This is the dataset that is used to score projects from a safety perspective as they go through the STI process.
- Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=7415a4df4df1468585225bc74a77369b

Fatal and Serious Injury Crashes

- This product contains fatal and severe injury crashes mapped for the last 10 years.
- Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=9a25021dbe91427a92f2eca57bd71ee2

Bicycle and Pedestrian Crash Data

- This product contains bicycle and pedestrians crashes mapped back to 2007. Link to ArcGIS Online mapped data: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=b4fcdc266d054a1ca075b60715f88aef
- Link to pedestrian and bicycle dashboard information: https://ncdot.maps.arcgis.com/apps/dashboards/78046d11cabd4658a4d45b88c52ab8af

Safety Project Mapping

- This product displays completed, funded, and on-hold safety projects since 2019, and is updated quarterly.
- Link to mapped safety project locations: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=3f8b32844ad04673b391033a86496852

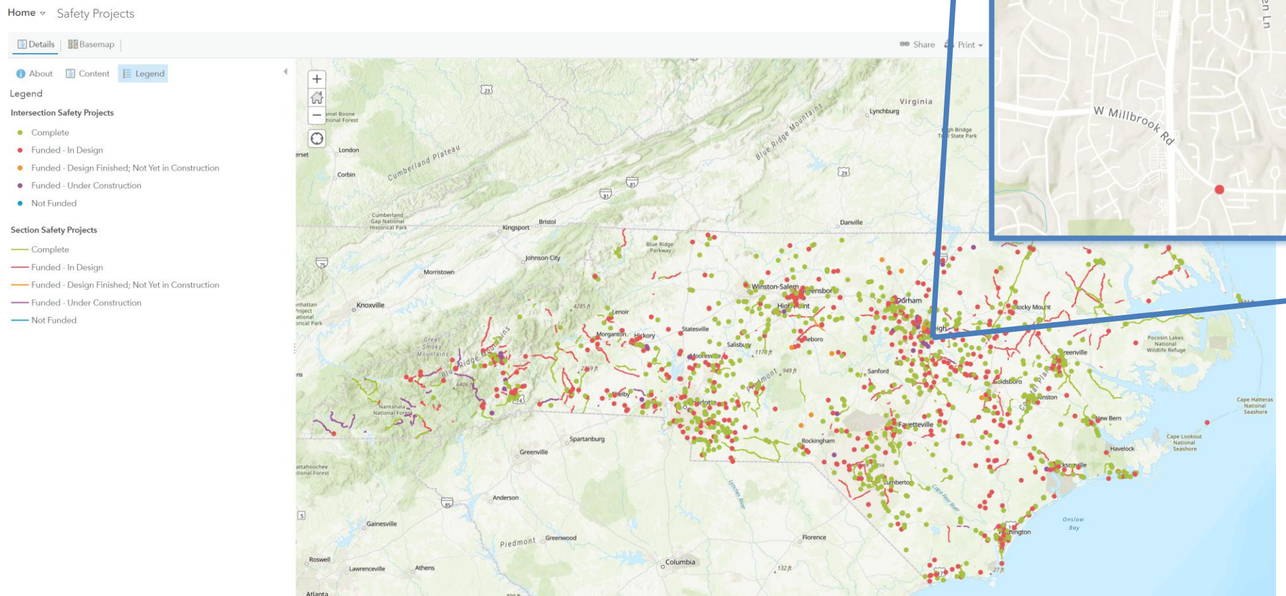
Spot Mobility Project Mapping

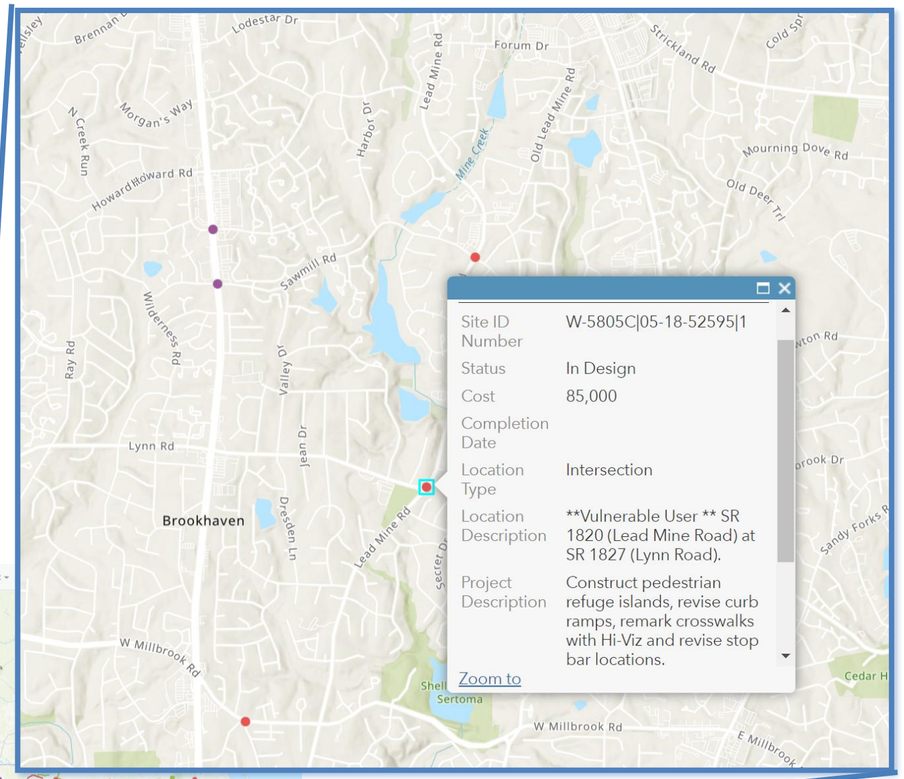
- This product displays completed, funded, and on-hold spot mobility projects since 2019, and is updated quarterly.
- Link to mapped safety project locations: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=af5150835edb4502a26762e966cb5dfa

Safety Project Mapping

Safety Project Mapping

- Projects completed since 2019 are mapped
- All funded, but not completed projects are mapped
- Some systemic or area-wide projects are not mapped
  - e.g. regional guardrail projects, systemic signing projects
- Link: [Safety Project Mapping]

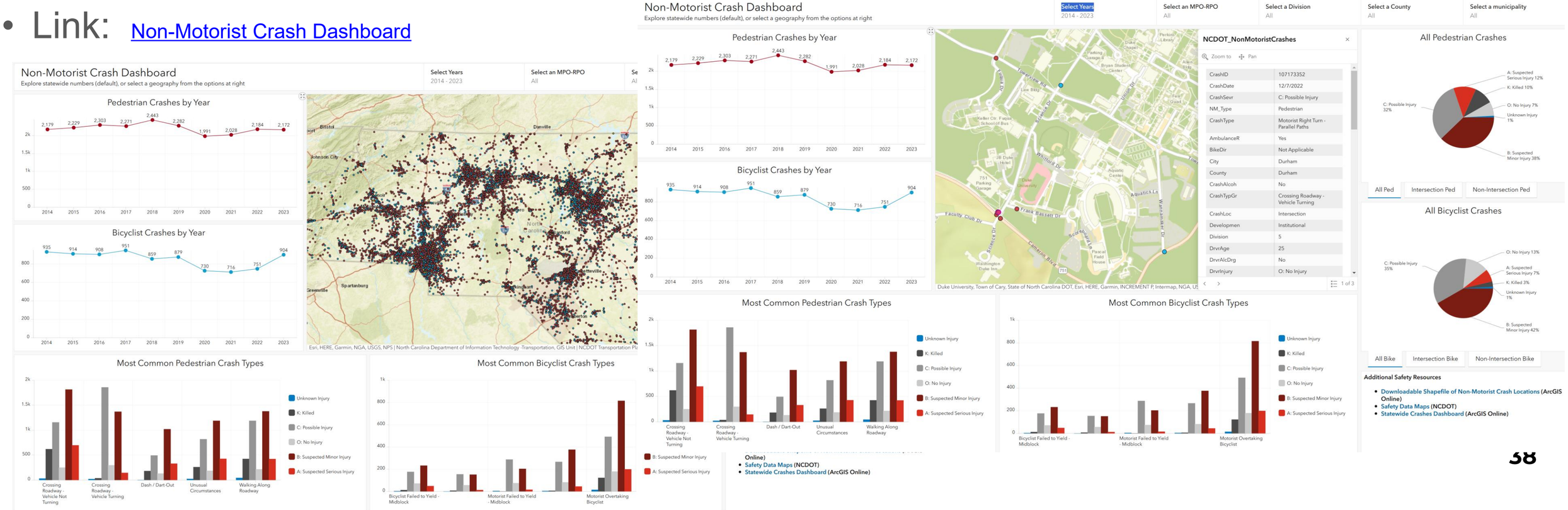




Non-Motorist Crash Data Dashboard

Non-Motorist Crash Data Dashboard

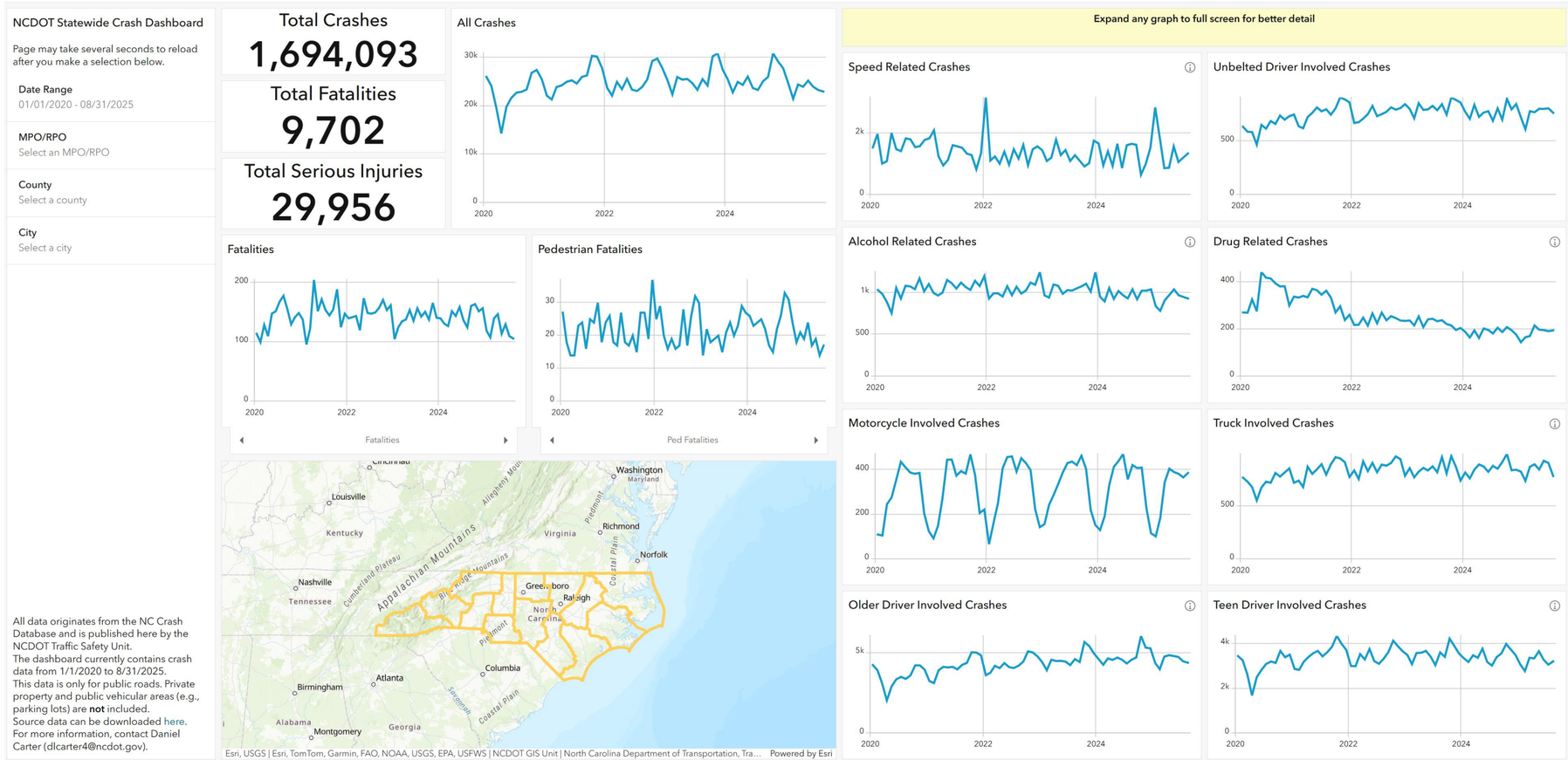
- All non-motorist crashes geolocated and crash typed since 2007
- Query by boundary, get information on individual crashes
- Link: [Non-Motorist Crash Dashboard]



Statewide Crash Data Dashboard

Statewide Crash Data Dashboard

- Latest 5+ years of statewide crash data
- Updated monthly
- Query by boundary
- Link: [NCDOT Statewide Crash Dashboard]



SAFETY PLANNING AND COORDINATION

- Triangle West's Regional Vision Zero Action Plan (2025) and annual safety summit
- Local Vision Zero initiatives, plans and projects
- Speed cameras in school zones
- NCDOT's ongoing investment in safety projects
- Partnerships with NCDOT during planning and design of projects
- Partnerships with law enforcement, public health, schools, planners, community organizations
- Align safety targets with funding

Triangle West Regional Safety Summit, Chapel Hill, November 20, 2025.

SAFETY STRATEGIES AND ACTIONS

Triangle West's Vision Zero Action Plan (2025) identified **12 Strategies** with **87 Actions** organizations can work towards to improve roadway safety.

Safe Routes to School

Increasing safety for students is an opportunity to protect one of the most vulnerable populations in each community and provide opportunities to educate children about mobility in the built environment. These actions are focused on changing infrastructure at and approaching schools to create safer and more intuitive infrastructure for all roadway users.

TABLE 7 Safe Routes to School: Actions & Implementation

Action	Timeframe	Cost	Action Leaders and Partners
Install high-visibility crosswalks within a one-mile travelshed of all schools*	Immediate	$	School Districts, Municipalities
Construct curb extensions and median refuge islands for street crossings within a half mile of all schools*	Short	$$	NCDOT, Municipalities, School Districts
Install separated bikeway facilities—separated bike lanes or shared use paths—along corridors that are within a half-mile of schools*	Short	$$	NCDOT, Municipalities, School Districts
Install speed feedback signage along with RRFBs/PHBs for mid-block crossings within a half mile of all schools*	Short	$$	NCDOT, Municipalities, School Districts
Provide raised crosswalks at mid-block crossings and at intersections used for walking and bicycling to/from schools	Mid	$$$	NCDOT, Municipalities, School Districts
Conduct targeted/automated enforcement of handheld device bans, distracted driving, yielding, and speeding within school zones	Short	$	Law enforcement
Implement a comprehensive crossing guard program	Short	$$	NCDOT, Municipalities, School Districts
Develop a resident/ambassador program to support local SRTS programs (i.e., counts, safety audits, infrastructure project review)	Immediate	$	TPO, School Districts, Municipalities, SRTS
Create a walking and bicycling school bus leader guide and program development information	Immediate	$	School Districts, Municipalities, SRTS
Create a traffic playground pop-up toolkit that can be used at local events to teach walking and bicycling in a playful manner	Immediate	$	County health departments, School Districts, Municipalities, SRTS, TPO
Identify locations for permanent traffic playgrounds and asphalt art locations that can support education and speed management	Short	$$	County health departments, School Districts, Municipalities, SRTS, TPO
Adopt a Safe Routes to School Action Plan	Short	$	Municipalities

* Items followed by an asterisk represent systemic safety countermeasures that can be installed on the HIN or proactively across the region

Traffic Calming on Local Streets

Reducing speed on local streets creates safer and more livable places for residents in communities across the region. Traffic calming actions emphasize changing streets to allow for shared spaces for a variety of users that are comfortable because of slower moving vehicles along streets and at intersections.

TABLE 8 Traffic Calming on Local Streets: Actions & Implementation

Action	Timeframe	Cost	Action Leaders and Partners
Implement road diets/lane removals to provide space for walking, bicycling, transit, green space, and/or on-street parking*	Short	$$$	NCDOT, Municipalities
Develop a neighborhood slow streets program to support community requests for low vehicular traffic residential streets that emphasize slow and safe speeds and support a variety of uses and activities beyond driving	Immediate	$	Municipalities
Create a neighborhood traffic calming program to manage community traffic safety requests in a transparent, consistent, and equitable manner	Short	$	Municipalities
Deploy mini traffic circles, speed cushions, chicanes, neck downs, hardened centerlines, and curb extensions on residential streets to reduce vehicle speeds and cut through traffic	Short	$$	Municipalities
Install a network of bicycle boulevards/neighborhood slow streets to expand existing bicycle networks and reduce motor vehicle speeds	Mid	$$	Municipalities
Narrow travel lane widths along local streets at the corridor level or at strategic locations*	Short	$$	Municipalities

* Items followed by an asterisk represent systemic safety countermeasures that can be installed on the HIN or proactively across the region

Multimodal Safety Along Multilane Arterials

Roadway safety is a key concern along corridors where people are walking, bicycling, using transit, and driving in conditions with high motor vehicle volumes and numerous travel lanes. Safety action items for these corridors must elevate the Safe System principles and framework to ensure that users are separated wherever possible, and design emphasizes slower speeds where conflicts occur.[7] The following actions can impact project development and policy decisions, as well as encourage additional evaluation and study to understand key characteristics that impact local safety on multimodal multilane arterials.

TABLE 5 Multimodal Safety Along Multilane Arterials: Actions & Implementation

Action	Timeframe	Cost	Action Leaders and Partners
Construct separated pedestrian and bicycle facilities-detached sidewalks, sidepaths, separated bike lanes	Short	$$$	NCDOT, Municipalities
Install speed feedback signage	Short	$	NCDOT, Municipalities
Set/reduce speed limits for multilane arterials based on context	Short	$$$	NCDOT, Municipalities
Conduct regular Road Safety Audits on high-risk arterials	Immediate	$	NCDOT, Municipalities
Remove permissive left turns during active pedestrian phases at intersections starting with intersections that include trail crossings and are adjacent to transit stops	Short	$$	NCDOT, Municipalities
Develop corridor studies for HIN corridors, including crash types, speeds, multimodal facilities, crossings, and lighting/visibility	Mid	$$	TPO, NCDOT, Municipalities
Narrow travel lane widths on multilane arterials to support traffic calming and identify opportunities for repurposing existing roadway for multimodal facilities/amenities*	Short	$$	NCDOT, Municipalities

* Items followed by an asterisk represent systemic safety countermeasures that can be installed on the HIN or proactively across the region

7 USDOT FHWA Appropriate Speed Limit for All Road Users. **https://highways.dot.gov/safety/proven-safety-countermeasures/appropriate-speed-limits-all-road-users**

REQUESTED ACTION

January 13 – TC Action: Recommended the TPO Board adopt NCDOT's safety targets (Option B) for CY 2026.

January 27 – Board Action: Adopt a safety target for CY 2026.

Discussion & Questions

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