



AGENDA
WATAUGA CITY COUNCIL
WORKSHOP MEETING
MONDAY, JULY 27, 2026
CITY HALL COUNCIL CHAMBER, 7105 WHITLEY ROAD
5:30 PM

This notice is posted pursuant to the Texas Open Meetings Act. Notice is hereby given that a **City Council Workshop Meeting** of the City of Watauga, Texas will be held at which time the following subjects will be discussed and may be acted upon.

CALL TO ORDER (Council Members, City Staff, Members of the Public - when speaking during the meeting please speak directly into the microphones on the dais or podium)

ROLL CALL

PUBLIC COMMENT This is an opportunity for citizens to address the Council on items not posted on the current meeting agenda. Only those who have submitted a proper "Request to Speak Form" shall be permitted to speak. Citizens should provide their name and address for the record and will have no more than 3 minutes to speak. If representing an organization or group, the speaker should identify who they represent. Those wishing to speak are reminded 1). All comments are to be directed to the Council. 2) Be respectful of others. 3) No profanity permitted. 4) Violators will be removed from the premises. No discussion by the Council or Staff is allowed except to correct factual inaccuracies or request that the item be placed on a future agenda.

PRESENTATIONS

1. Public Sector Personnel Consultants' presentation of the 2026 Compensation Study.
Juliet Rodriguez, Human Resources and Civil Service Director
2. Council Update on the Comprehensive Safety Action Plan provided through Burgess & Niple Inc.
Randy Richards, CFM, Assistant Director of Public Works

ADJOURNMENT

Meeting Notices and Reservation of Rights

The City Council may retire to executive session any time between the meeting's opening and adjournment for the purpose of consultation with legal counsel pursuant to Chapter 551.071 of the Texas Government Code; discussion of personnel matters pursuant to Chapter 551.074 of the Texas Government Code if the requisite information is otherwise posted; deliberation regarding real property pursuant to Chapter 551.072 of the Texas Government Code; deliberation regarding economic development negotiations pursuant to Chapter 551.087 of the Texas Government Code; and/or deliberation regarding the deployment, or specific occasions for implementation of security personnel or devices pursuant to Chapter 551.076 of the Texas Government Code (as applicable) when determined necessary by the [City Council/Board/Commission/Committee] to address a subject matter on the agenda. Action, if any, will be taken in open session.

Attendance by Other Elected or Appointed Officials: It is anticipated that members of other governmental bodies, and/or city council, boards, commissions and/or committees may attend the meeting in numbers that may constitute a quorum of the body, board, commission and/or committee. Notice is hereby given that the meeting, to the extent required by law, is also noticed as a possible meeting of the other body, board, commission and/or committee, whose members may be in attendance, if such numbers constitute a quorum. The members of the city council, boards, commissions and/or committees may be permitted to participate in discussions on the same items listed on the agenda which occur at the meeting, but no action will be taken by such in attendance unless such item and action is specifically provided for on an agenda for that city council, body, board, commission or committee subject to the Texas Open Meetings Act.

BUDGET STATEMENT: Pursuant to Section 551.043, Government Code, the following taxpayer impact statement must be on the City Council meeting agenda at which the City Council will discuss or adopt a budget for the City of Watauga: For an average-valued homestead property \$ 237,285, the City's portion of the property tax bill in dollars for the current fiscal year (FY2025) is \$1,353, the City's portion of the property tax bill for the upcoming fiscal year (FY2026) for the same property if the proposed budget is adopted is estimated to be \$ \$1,353, and the City's portion of the property tax bill in dollars for the upcoming fiscal year (FY2026) for the same property if a budget funded at the no-new-revenue rate under Chapter 26, Tax Code, is adopted is estimated to be \$ \$1,366.

NOTICE

THIS FACILITY IS WHEELCHAIR ACCESSIBLE AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATIONS OR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT THE CITY SECRETARY'S OFFICE AT (817) 514-5825, OR FAX (817) 514-3625.

I, Linda Proskey, City Secretary for the City of Watauga, hereby certify that this agenda was posted on the bulletin boards at City Hall, 7105 Whitley Road, Watauga, Texas, on July 21, 2026, before 5:00 p.m., in accordance with Chapter 551 of the Texas Government Code.

/S/ Linda Proskey
City Secretary





AGENDA MEMORANDUM

DATE: March 13, 2026

TO: Honorable City Council Members

FROM: Juliet Rodriguez, Human Resources and Civil Service Director

THROUGH: Sandra Gibson, City Manager

SUBJECT: Public Sector Personnel Consultants' presentation of the 2026 Compensation Study.

BACKGROUND/INFORMATION:

Presentation of the 2026 Compensation Study conducted by Public Sector Personnel Consultants.

FINANCIAL IMPLICATIONS:

RECOMMENDATION/ACTION DESIRED:

ATTACHMENTS/ SUPPORTING DOCUMENTATION:

1. Compensation Study Discussions June 22

REVIEWED BY:

Juliet Rodriguez, Human Resources and Civil Service Director

Sandra Gibson, City Manager

Linda Proskey, City Secretary

Approved - 6/10/2026

Approved - 6/16/2026

Final Approval -
6/16/2026

Approved as to form for inclusion on Agenda

Survey Results and FY 2027 Compensation Planning

FINDINGS AND RECOMMENDATIONS



Compensation Studies

Purpose

- ▶ Surveys are conducted to determine an employer's competitive position in the market.
- ▶ Data is often utilized to assist with budgeting and to ensure pay offerings allow an employer to attract and retain talent.

Application

- ▶ Data can be used to develop pay plans that are consistent, sustainable, defensible.
- ▶ Can assist with the creation or reinforcement of compensation strategy or policy.

Compensation Survey Scope

Scope

- ▶ PSPC performed a compensation survey of the City's classifications.
- ▶ Survey job comparisons are made at the job description level.
- ▶ Pay structures compared.
- ▶ Midpoint is the most reliable comparison when surveying civilian (general government) pay grade values as the grade widths from Entry to Top vary from City to City.

External Comparators and Data Sources

Bedford

Keller

Burleson

North Richland Hills

Eules

Richland Hills

Haltom City

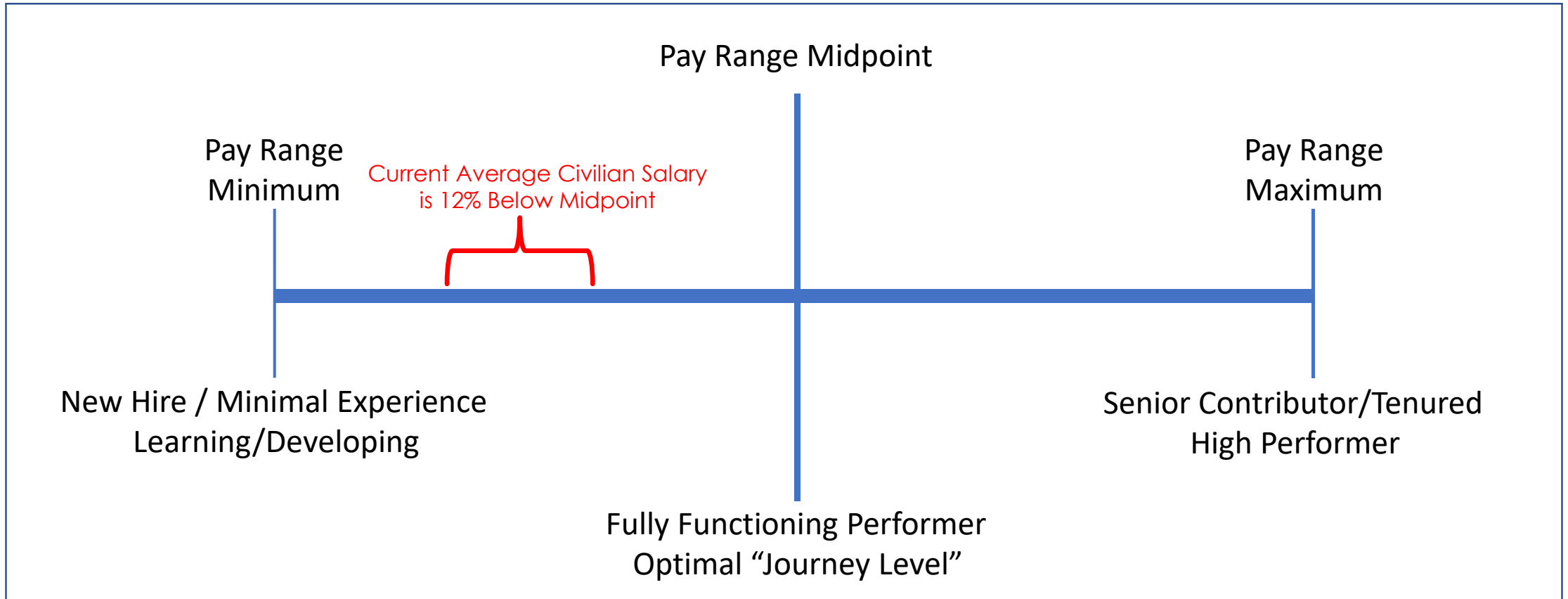
Roanoke

Hurst

Saginaw

- ▶ Data also reported on private sector using Economic Research Institute's Salary Assessor for the immediate area for hard to fill positions.

Salary Grade Components – General Gov’t



Civilian salaries are on average 12% below midpoint with an average of 7 years with the City

Compensation Survey Results

General Government Jobs

- **PSPC surveyed:**
 - 90+ Watauga jobs
 - Salary grade midpoints and average actual salaries
- The City is more than -5% below market for base salary for 39% of the benchmarks

Survey Results	Number of Positions	Percentages of Positions
More than 5% Below Market	31	39%
Comparable – Within 5% of Market	44	56%
More than 5% Ahead of Market	4	5%

88% of jobs were behind in 2024

Survey Findings – Civil Service

The average entry across all ranks surveys within 1% of market.

Top Out for Police and Fire ranks vary from -3% to -6% below market.

Nearly all Police and Fire ranks survey within 1.5%-2% of each other.

Applying the Findings

Implementing Study Recommendations

- ▶ General Government - Jobs found to be below market are proposed to move to higher pay grades. Anyone falling below proposed Minimum moves to new Minimum.
- ▶ Civil Service – 3% Market Adjustment across pay tables.

FY 2027 Budgeting

- ▶ Cost of Living of 1%-3% (all)*, Step Increases (Civil Service), Merit Eligibility (General Government)

Future Budgeting Recommendations to Remain in Market

- ▶ Continue to provide merit increases (General Government) and step increases (Civil Service).

* Could be done at any time

Illustration: Assigning Grades for Benchmark Jobs

Sample Job: Animal Control Officer

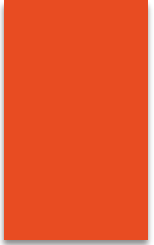
- ▶ Market Midpoint = \$51,692
(average of the Market Midpoints)
- ▶ Current Grade is 20
- ▶ Market Near Grade is 21
- ▶ Current average pay for 3 ACO's is \$43,590 (one falls below new Grade minimum)

Grade	Min	Calc'd MP	Max
9	\$22,277	\$ 27,851	\$33,426
10	\$23,400	\$ 29,245	\$35,090
11	\$24,570	\$ 30,707	\$36,844
12	\$25,792	\$ 32,240	\$38,688
13	\$27,082	\$ 33,852	\$40,622
14	\$28,436	\$ 35,544	\$42,653
15	\$29,857	\$37,322	\$44,786
16	\$31,350	\$39,188	\$47,025
17	\$32,918	\$41,148	\$49,377
18	\$34,564	\$43,205	\$51,845
19	\$36,292	\$45,365	\$54,438
20	\$38,106	\$47,633	\$57,160
21	\$40,012	\$50,015	\$60,018
22	\$42,012	\$52,515	\$63,018
23	\$44,113	\$55,141	\$66,169
24	\$46,319	\$57,899	\$69,478
25	\$48,635	\$60,794	\$72,952

40+ Grades

Recommendations and Fiscal Impact

- ▶ General Government – 10 Employees Below Minimum \$26,000 plus benefits.
- ▶ Civil Service – 3% Market Adjustment to Tables \$160,000 plus benefits.
 - ▶ Total Proposed Study Cost \$190,000 plus benefits.
- ▶ Provide a Cost-of-Living Increase 1%-3% to keep up with inflation (can be done at any time or as soon as possible).
- ▶ Continue to budget for merit (General Government) and Steps (Civil Service).



Questions?



AGENDA MEMORANDUM

DATE: July 1, 2026
TO: Honorable City Council Members
FROM: Randy Richards, CFM, Assistant Director of Public Works
THROUGH: Sandra Gibson, City Manager
SUBJECT: Council Update on the Comprehensive Safety Action Plan provided through Burgess & Niple Inc.

BACKGROUND/INFORMATION:

Burgess & Niple update on the development of the Comprehensive Safety Action Plan for establishing data - driven goals, objectives, and performance measures that reflect Watauga's commitment to eliminating fatal and serious injury crashes.

FINANCIAL IMPLICATIONS:

N/A

RECOMMENDATION/ACTION DESIRED:

Review update of Comprehensive Safety Action Plan.

ATTACHMENTS/ SUPPORTING DOCUMENTATION:

1. WataugaCSAP_CityCouncil_Workshop_20260727_Final_v1.02
2. Watauga CSAP Draft 7-17-2026
3. CSAP Executive Summary - 7-17-26

REVIEWED BY:

Sandra Gibson, City Manager

Linda Proskey, City Secretary

Approved as to form for inclusion on Agenda

Approved - 7/17/2026

New -

Comprehensive Safety Action Plan (CSAP) City Council Workshop Meeting

Safe Streets & Roads for All (SS4A) Grant Program

July 27, 2026

Agenda

- Background & Purpose of the CSAP
- Safe System Approach
- Vision, Goal, & Objective
- Existing Safety Performance (Crash Analysis, Risk Assessment, Equity)
- Public Engagement Results
- Implementation Strategies & Investments
- Progress Tracking Framework
- Council Discussion & Next Steps

Background

From 2019 to 2024, four people tragically lost their lives due to a vehicular crash in Watauga, and 26 people had their lives forever altered by a serious injury (excluding crashes on US 377). **This loss of life is unacceptable.**

The City of Watauga developed a Comprehensive Safety Action Plan (CSAP) — following the Safe System Approach — to identify priority locations, countermeasures, and tracking measures to improve roadway safety.

4
Fatalities, 2019–2024

26
Serious Injuries, 2019–2024

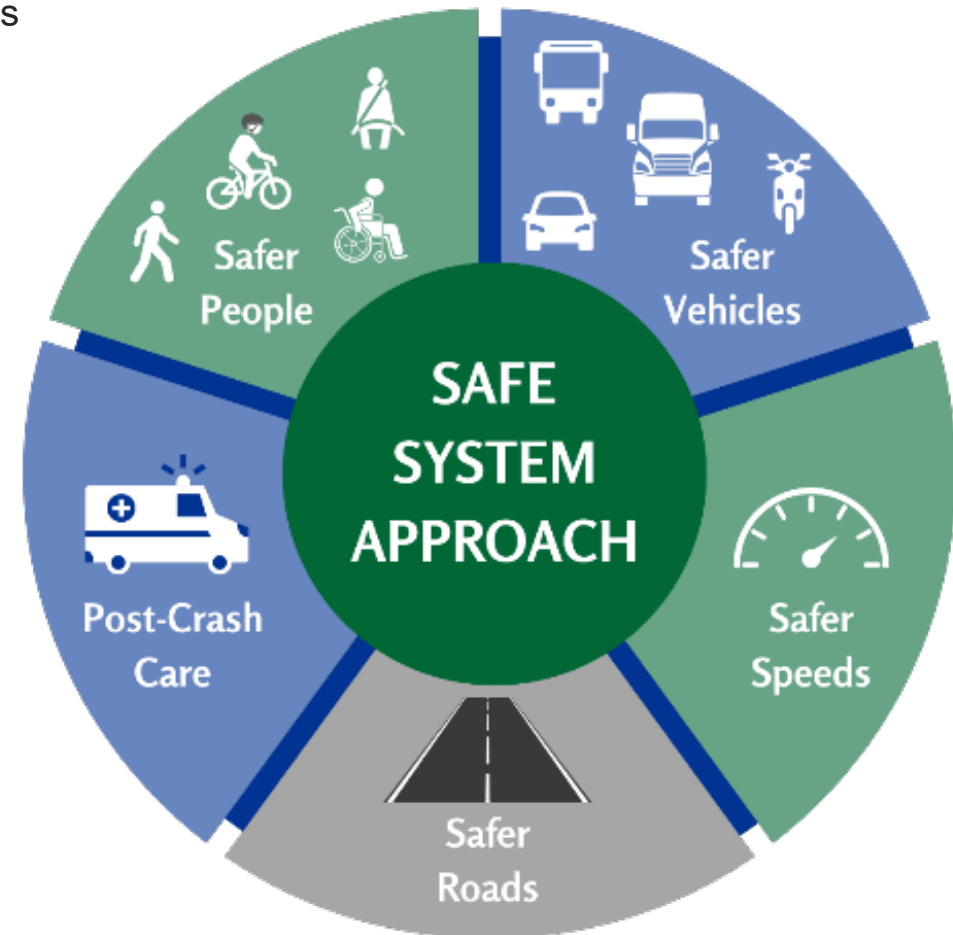
Purpose of the CSAP

Provide a data-driven, proactive framework to eliminate traffic fatalities and serious injuries — identifying high-risk locations and behaviors, prioritizing safety improvements, and guiding investments, policies, and strategies aligned with the Safe System Approach.

Safe System Approach

A methodology adopted by USDOT to build redundancies and protections that prevent crashes and minimize harm when crashes occur — used as the framework for this plan.

- 1 Death and Serious Injuries Are Unacceptable
- 2 Humans Make Mistakes
- 3 Humans Are Vulnerable
- 4 Responsibility is Shared
- 5 Safety is Proactive
- 6 Redundancy is Critical



Vision & Goal

The project team utilized public input to set a safety vision for the City of Watauga.

“A Great Place to Live, A Safe Place to Thrive.”

Zero

Fatalities & Serious Injuries by 2055 (Goal)

35%

Reduction in Fatalities & Serious Injuries by
2035 (Interim Objective)

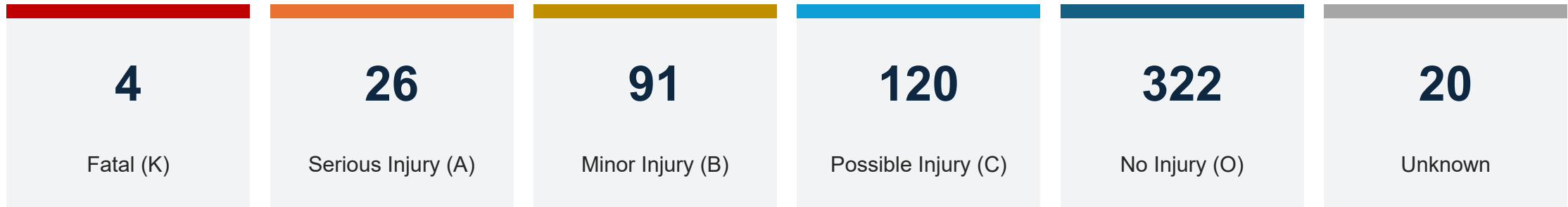
70%+

Of Severe Crashes Are Intersection-Related

The 35% interim target will be achieved by focusing on improving safety at intersections, along with other safety countermeasures and strategies. The concentration of crashes at intersections suggests targeted intersection investments are the most critical focus area for reducing severe crashes.

Existing Safety Performance – Crash Analysis

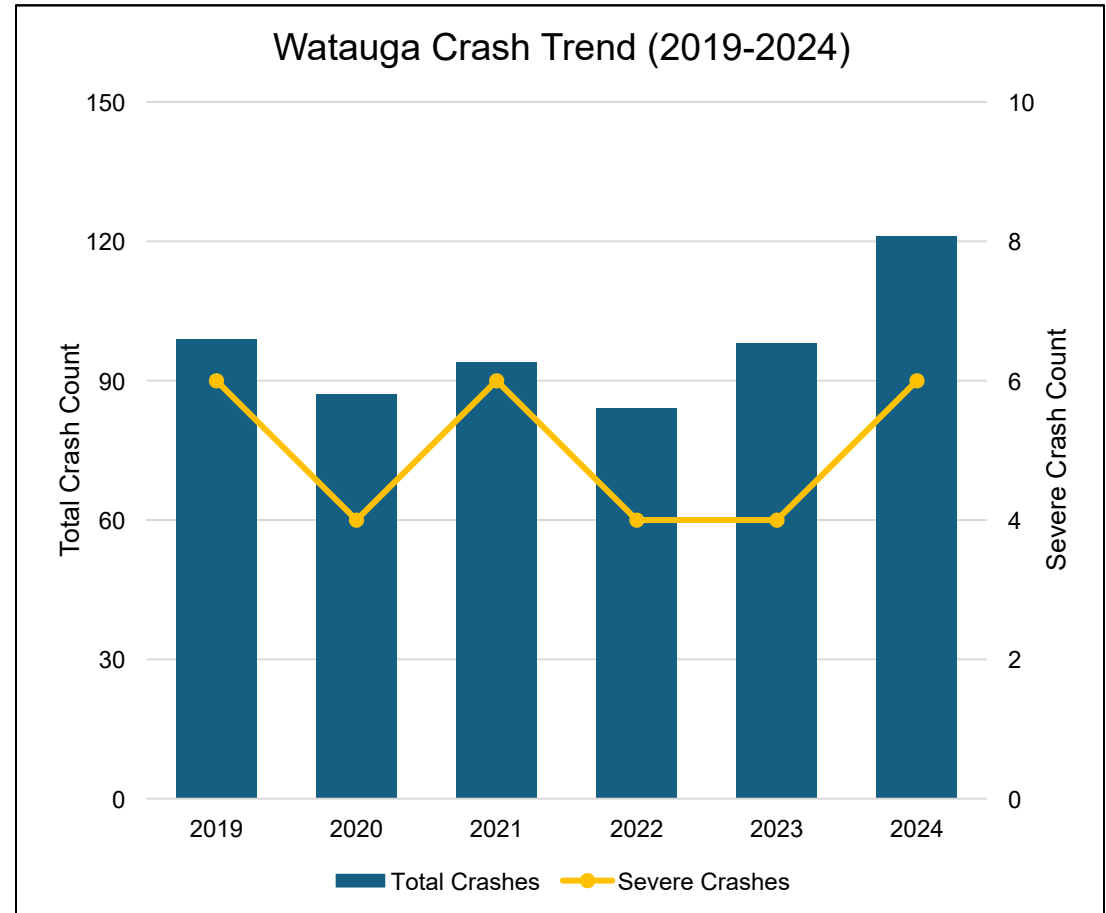
Crash data from TxDOT's Crash Records Information System (CRIS) was analyzed from 2019–2024, covering Fatal (K), Incapacitated (A), Visible Injury (B), Complaint of Pain (C), and no-injury/property-damage-only (O) crashes.



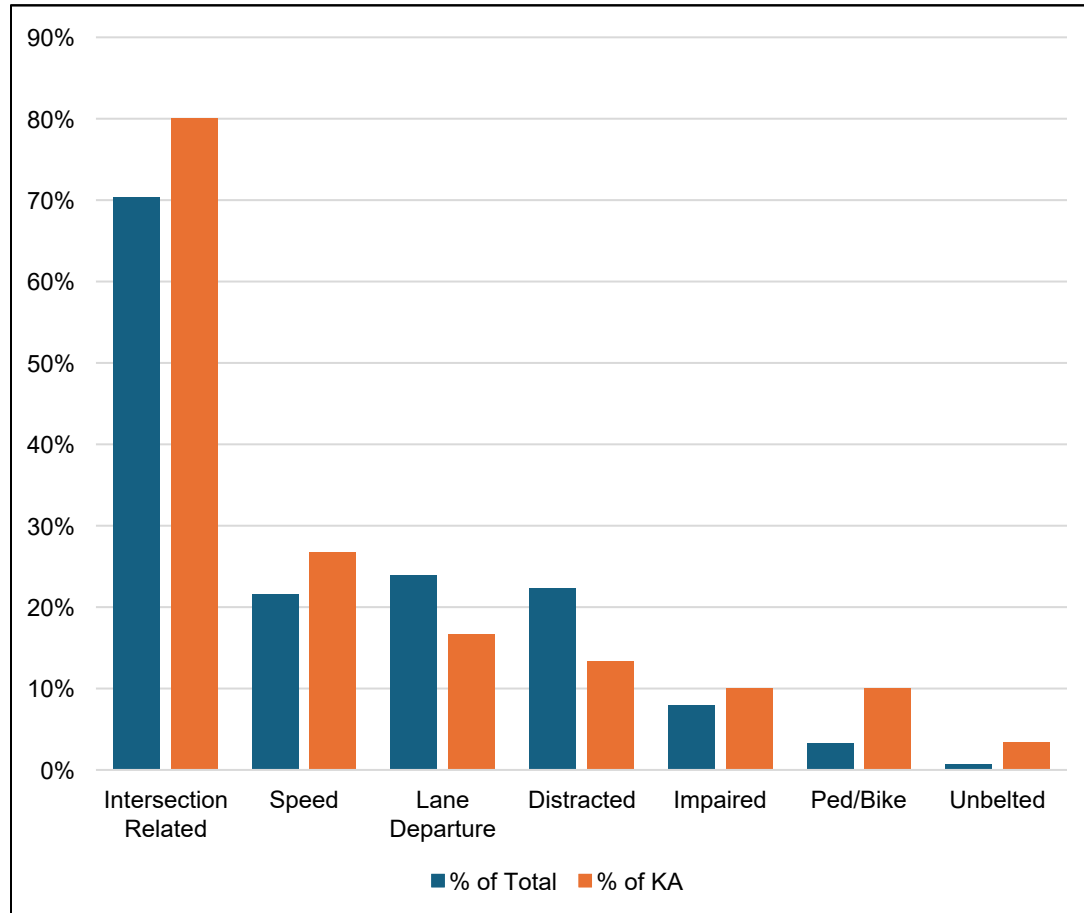
Note: US 377 (Denton Hwy) is not City-owned/maintained and is evaluated separately (see US 377 Corridor Analysis).

Crash History – Trend

- K+A crashes are considered severe
- Slightly upward total crash trend; slightly downward severe crash trend
- Overall, relatively flat overtime
 - ~97 crashes per year
 - ~5 severe crashes per year



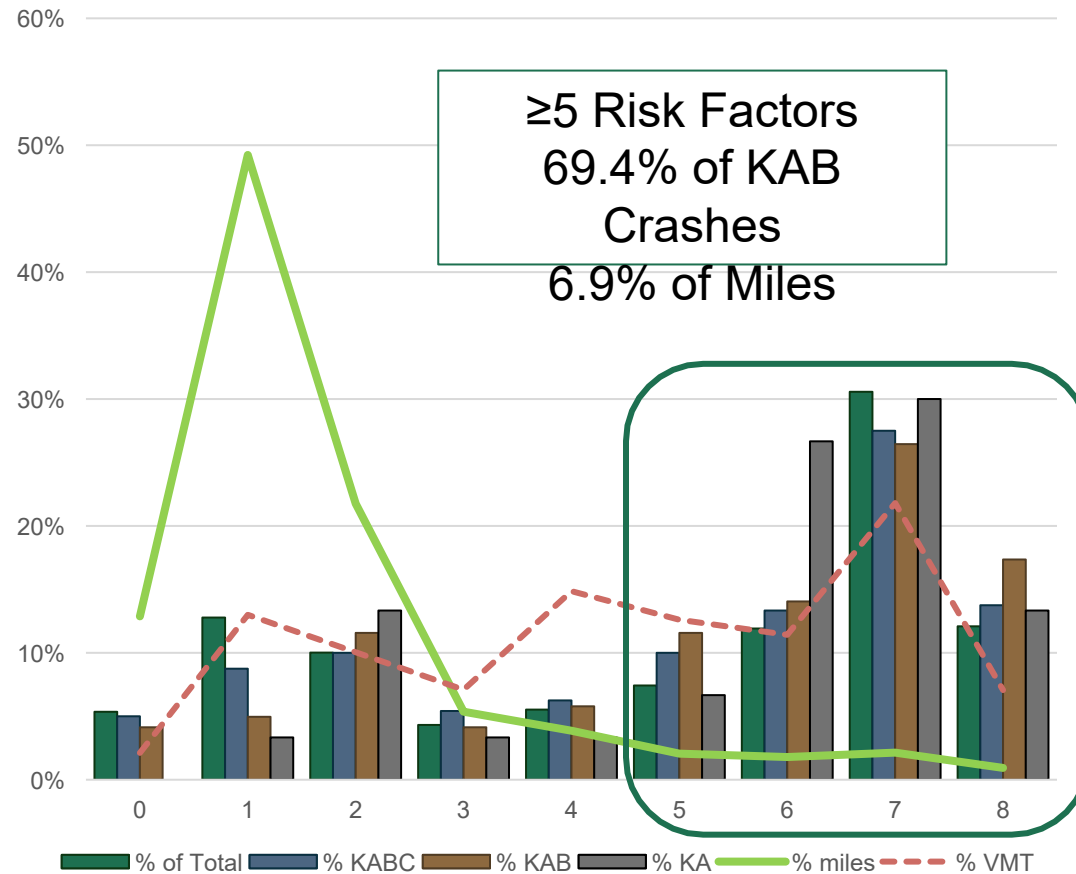
Crash History – Emphasis Areas



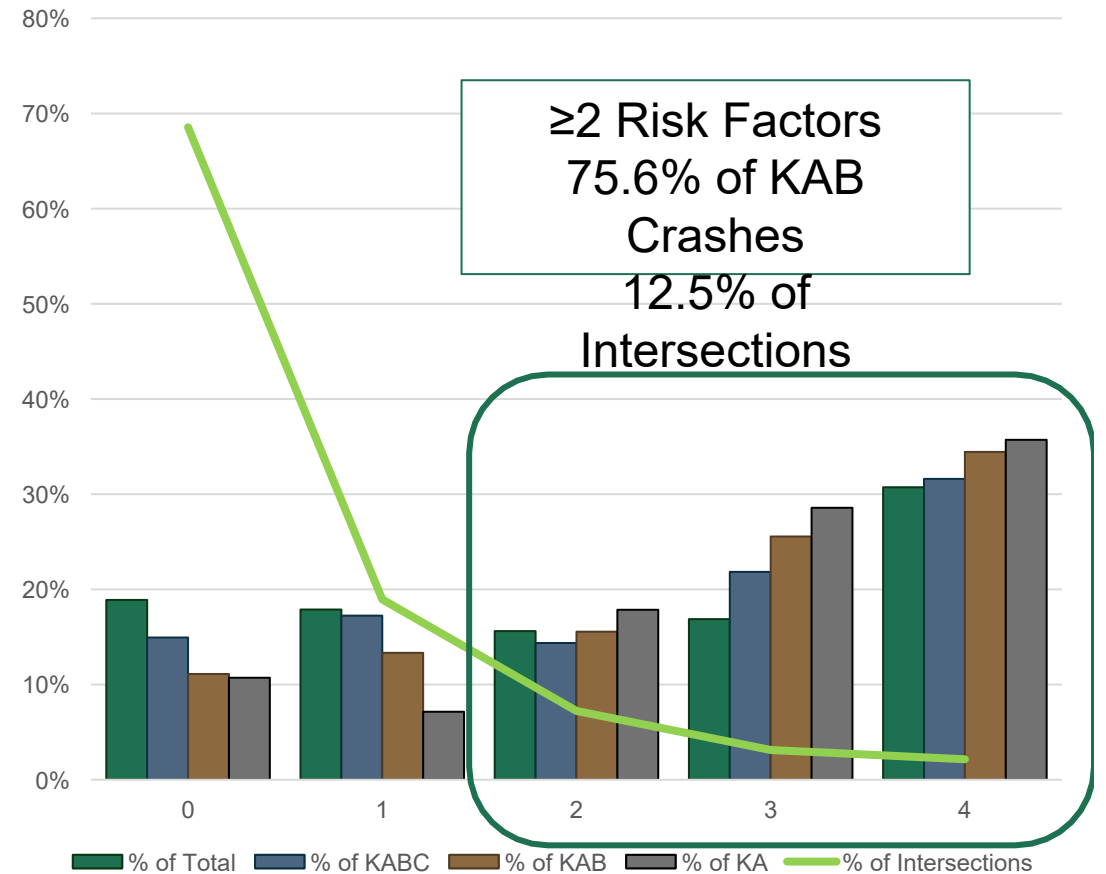
- 7 Emphasis Areas
 - Consistent with Texas SHSP
- Top Four EAs
 - Intersection Related
 - Speed Related
 - Lane Departure
 - Distracted Driving

Systemic Risk Assessment

Roadway Segments



Intersections



High Injury Network

The High Injury Network (HIN) was developed by scoring roadway segments using the Equivalent Property Damage Only (EPDO) methodology, which weighs locations by crash frequency and severity. The top 20 segments citywide were identified as the HIN. (US 377 was excluded — it is not City-owned or maintained.)

7%
of Network Miles

60%
of All City Crashes

The top 20 High Injury Network segments — just 7% of network miles — account for 60% of all crashes citywide, making them the highest-priority locations for safety investment.



Legend

— High Injury Roadway Network — Roadways [] City of Watauga Border

US 377 (Denton Hwy) Corridor Analysis

- US 377 (Denton Hwy) accounts for approximately 40% of all crashes in the Watauga area
- It is not owned or maintained by the City; however, implementation authority for many potential countermeasures rests with TxDOT and will require coordination with the City
- Evaluated as a separate, corridor-specific study to fulfill the SS4A requirement of assessing all public roadways regardless of ownership
- Allows the City to coordinate corridor-specific safety strategies with TxDOT, while the CSAP prioritizes implementable countermeasures on City-owned roadways

Refer to Appendix E for the full US 377 Corridor Analysis.

Equity Analysis

Using Community Development Block Grant (CDBG) low-/moderate-income data (HUD), the project team identified five block groups in Watauga with 51%+ low-or-moderate-income population, to determine whether crash patterns overlap with underserved communities.

5

Low/Moderate-Income Block
Groups Identified

46%

Of All Crashes Occur in Equity
Areas

55%

Of Severe (KA) Crashes Occur in
Equity Areas

68.6%

Of Countermeasure Costs Serve
Equity Areas

Location-specific countermeasures within low-/moderate-income areas total approximately \$909,759 — about 68.6% of the plan's full recommended countermeasure cost of \$1.33 million. The low-moderate income safety projects may be considered as part of the next 5-year Capital Improvement Plan (CIP), to be developed in FY2027.

Public Engagement

The plan used input from both the public and stakeholders to identify Watauga's key safety concerns.

317

Survey Responses

62

Mapping Comments

8

Survey Prompts

The survey gathered input on roadway safety, pedestrian/bicycle infrastructure, traffic operations, and overall community needs. Top priorities are largely focused on enforcement and infrastructure enhancements — increased enforcement of speeding and distracted driving ranked highest, followed closely by improved street lighting and pavement markings.

Refer to Appendix D for full survey results.

Top Priorities to Improve Safety in Watauga

Strategy	Lead	Partner	Timeframe
Continue to implement the 25 mph Neighborhood Speed Limit Changes	Public Works		Ongoing until 2030
Continue enforcement activities	Police		Ongoing
Continue police presence during school pick up and drop off	Police		Ongoing
Continue the Sidewalk Repair Program	Public Works		Ongoing
Develop and implement a Complete Streets Policy	Planning & Zoning	Public Works	Medium Term
Create a Transportation Safety Task Force to monitor the plan's implementation	Public Works	Police	Short Term+
Screen and prioritize future CIP projects for overlap with the High Injury Network, high-risk intersections, systemic risk locations, low-moderate income areas, and community concerns	Public Works	Burgess & Niple	Short Term+
Add safety treatments to planned resurfacing, reconstruction, maintenance, and utility projects	Public Works		Short Term+
Track CSAP recommendations from funding through design, construction, completion, or deferral	Finance Dept	Public Works	Short Term+
Conduct a Citywide On-Street Parking Compliance Study	Public Works	Burgess & Niple	Long Term
Develop a Neighborhood Traffic Calming Program	Public Works	Burgess & Niple	Long Term
Implement the ADA Transition Plan	Human Resources	Public Works	Medium Term
Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles	Planning & Zoning / Public Works	Burgess & Niple	Medium Term
Strengthen driveway/access management and curb cut standards	Planning & Zoning	Public Works	Medium Term
Establish a routine safety review process for capital projects and development review	Public Works	Planning & Zoning	Medium Term
Develop a plan for coordinating school zones, signs, Safe Routes to School (SRTS) activities with the school districts	Benjamin Davis / Police	Public Works	Medium Term
Develop a SRTS Plan centered on the 6 E's of SRTS - engagement, equity, education, encouragement, engineering, and evaluation	Benjamin Davis / Police	Public Works	Long Term
Develop an Active Transportation Plan	Parks / Public Works		Long Term

Short Term: 1 year, Short Term+: 1 year & ongoing, Medium Term: 2-5 years, Long Term: 5+ years

Implementation – Segment Countermeasures

Vehicular Countermeasures



- Legend**
- Dynamic Speed Feedback Signs
 - Street Lighting
 - Update Pavement Markings
 - Chevrons
 - City of Watauga Border



- Systemic Risk Assessment identified 28 priority segment locations
 - 21 are High Risk Segments (5+ risk factors)
- 7 countermeasure types considered:
 - Curve delineation (chevrons), pavement marking updates, rectangular rapid flash beacons, crosswalk & visibility enhancements, new sidewalk, street lighting, dynamic speed feedback signs

\$1.21M
Total Countermeasure Cost

\$144.4M
Total Crash Cost Addressed

Non-Motorist Countermeasures



- Legend**
- Rectangular Rapid Flashing Beacon
 - New Crosswalk
 - New Sidewalk
 - Crosswalk Visibility Enhancements
 - City of Watauga Border



Implementation – Intersection Countermeasures

- Systemic Risk Assessment identified 50 high-crash intersections
 - 31 are High Risk Intersections (2+ risk factors)
- 3 countermeasure types considered:
 - Crosswalk markings, street signage, and street lighting

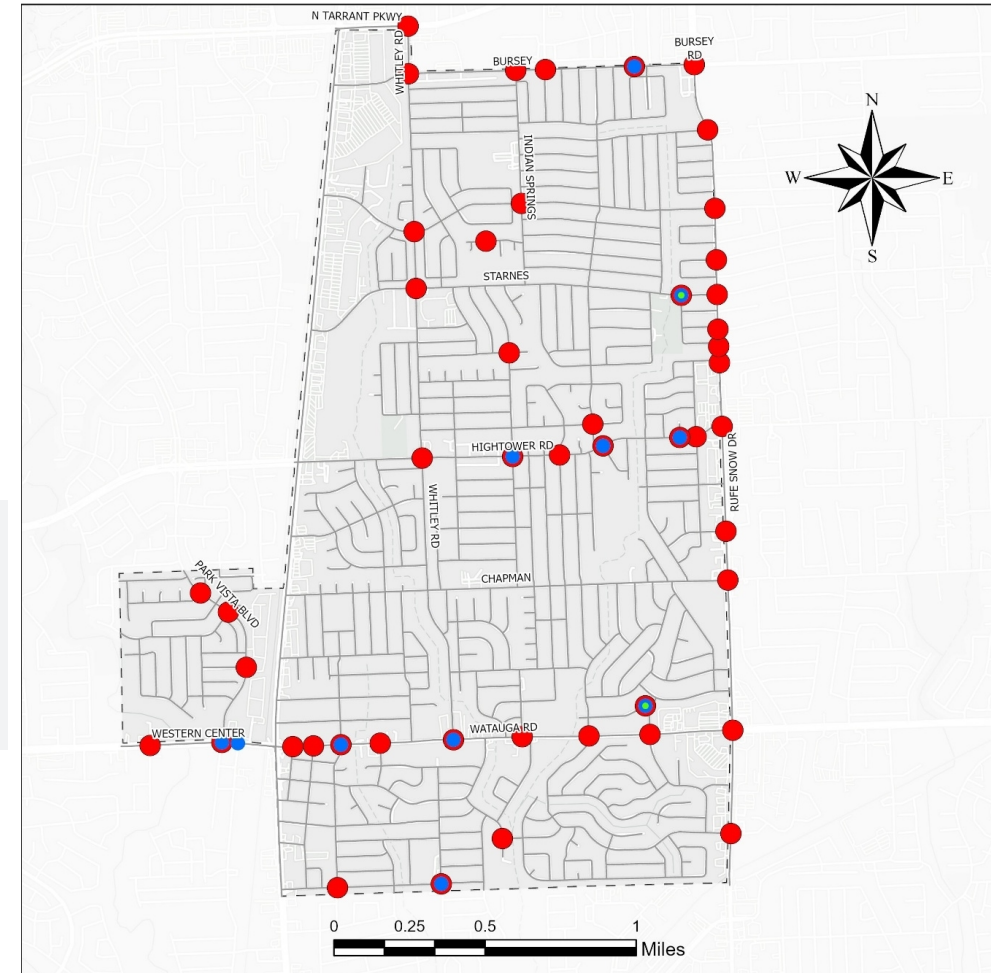
50

High-Crash Intersections Evaluated

31

High-Risk Intersections (2+ Factors)

Full plan appendices show implementation costs itemized per intersection.



Legend

- Crosswalk Visibility Enhancements
- New Crosswalk
- Improved Lighting
- City of Watauga Border

Investment Summary

\$1.33M

In Prioritized Safety Improvements

\$276M+

In Estimated Crash Costs Addressed

TSTF

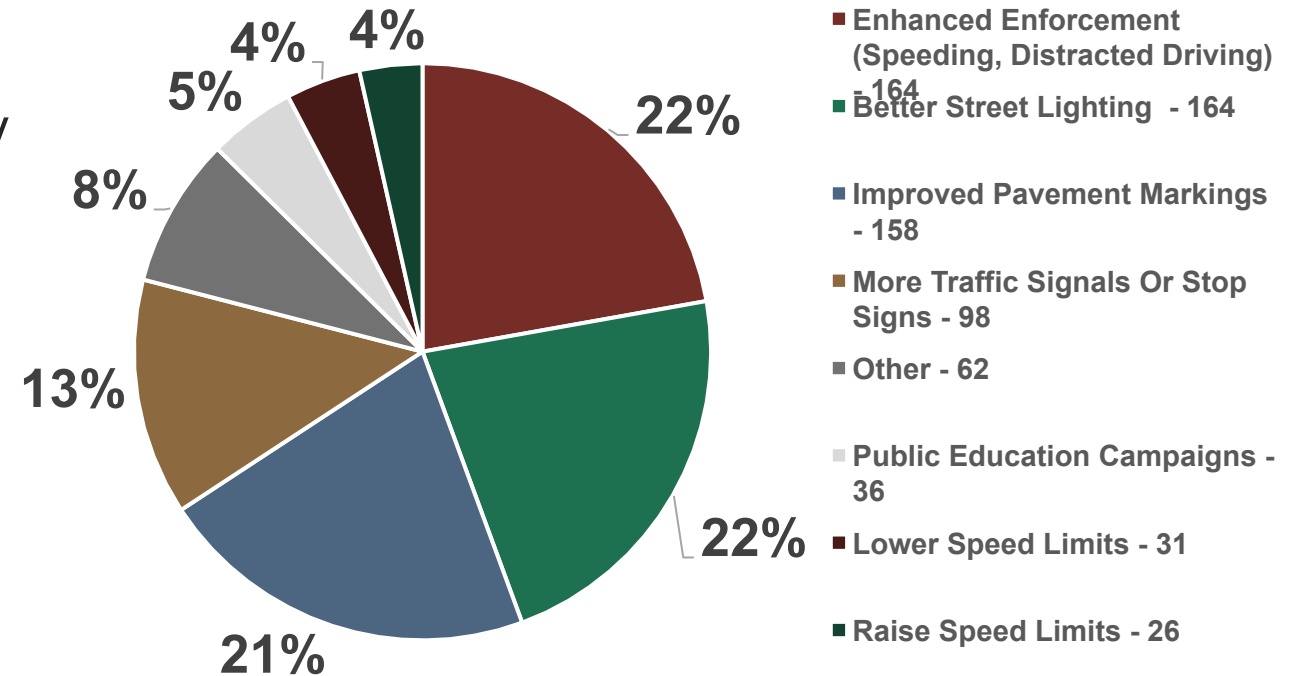
Transportation Safety Task Force Established

Annual

Public Reporting & Dashboard Updates

Policy, Process & Strategy Recommendations

Sustained progress requires embedding safety into everyday decisions — capital planning, development review, maintenance, enforcement coordination, grant pursuits, and performance monitoring. Recommendations are organized into ongoing practices and short-, medium-, and long-term actions.



Progress Tracking Framework

An online [dashboard and Hubsite](#) was developed to track progress — crashes, intersections, road segments, crash severity, US 377 crashes, top 50 intersections, roadway risk factors, and fatalities/injuries per year.

Annually

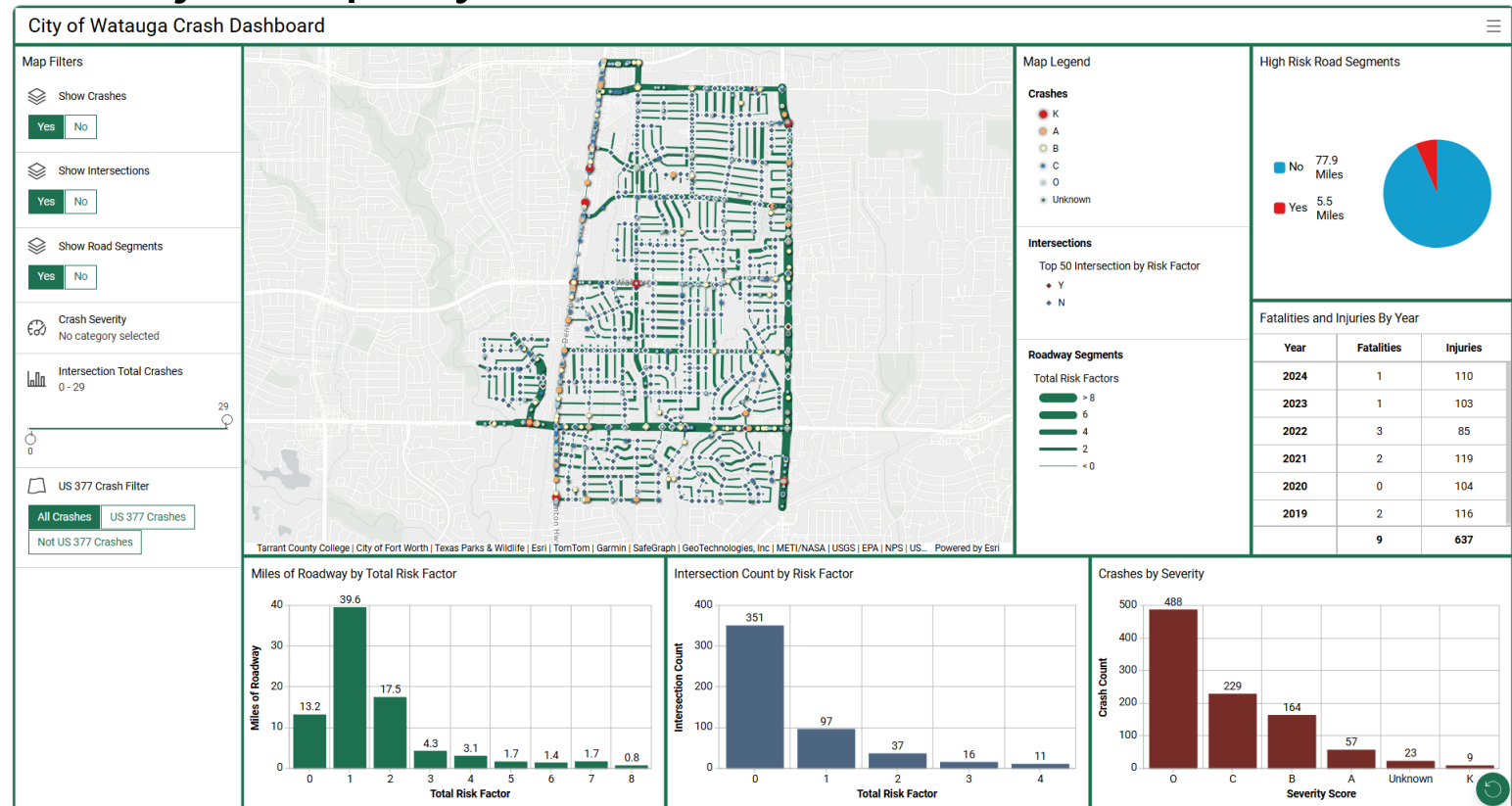
Fatal & Serious-Injury Crash Data Updated;
Report to Council Each September

5 Years

Plan Refresh Cycle (Amendments as Needed)

Public Works

Dept. Presents the Annual Report & Posts It
Online



Next Steps

Requested Action

- Review and discuss the CSAP Executive Summary findings and recommendations
- Provide direction on integrating CSAP projects into the FY2027 5-Year Capital Improvement Plan
- Support continued coordination with TxDOT on the US 377 corridor

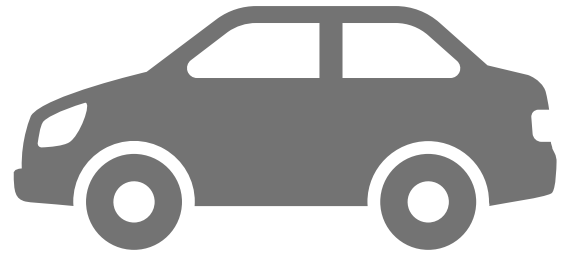
Upcoming Milestones

- Finalize Safety Analyses and full CSAP document
- Launch Transportation Safety Task Force for implementation oversight
- Program prioritized countermeasures into future CIP and grant applications
- Publish annual public report and dashboard updates each September

The CSAP turns this plan from an analysis into an ongoing safety program — guided by data, accountable to the public, and focused on reaching zero fatalities and serious injuries by 2055.

Q&A / Discussion

- Thank you for your time!



Comprehensive Safety Action Plan



City of Watauga Leadership Commitment Statement

The City of Watauga demonstrates its commitment to safer streets through the development and implementation of this Comprehensive Safety Action Plan.

Through the public survey process, the City Council selected **A Great Place to Live, A Safe Place to Thrive** as Watauga's safety vision. This vision is supported by two measurable safety targets: to reduce fatal and serious injury crashes in Watauga by 35% by 2035 as an interim target and eliminate all fatal and serious crashes by 2055.

By adopting this Comprehensive Safety Action Plan, Watauga's leadership affirms its commitment to reducing and ultimately eliminating fatalities and serious injuries across the City's transportation network.

The adoption resolution is on the next page.

DRAFT

DRAFT FOR REVIEW

CITY OF WATAUGA, TEXAS

RESOLUTION NO. [Number]

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WATAUGA, TEXAS, AUTHORIZING THE ADOPTION OF THE COMPREHENSIVE SAFETY ACTION PLAN; AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT ON THE CITY'S BEHALF; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Watauga the "City" has adopted a Comprehensive Safety Action Plan; and

WHEREAS, in December 23 of 2023, the City was awarded a Safe Streets for All grant in the amount of \$160,000; and

WHEREAS, the City of Watauga is committed to supporting data-driven transportation planning that enhances functionality, promotes equitable mobility, and improves safety for all road users, including motorists, pedestrians, bicyclists, and transit riders; and

WHEREAS, the Comprehensive Safety Action Plan commits to a guiding principle of promoting a safe and secure transportation system; and

WHEREAS, the United States Department of Transportation (USDOT) promotes the Safe System Approach – a holistic paradigm emphasizing that death and serious injury on our roadways are unacceptable – to anticipate human error and lessen crash impacts; and

WHEREAS, City Council seeks to eliminate all roadway fatalities and serious injuries, and recognizes that obtaining support from leadership and decision-makers is an integral component of the safety action planning process; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WATAUGA, TEXAS AS FOLLOWS:

I.

The City of Watauga formally commits to the eventual goal of zero roadway fatalities and serious injuries. We establish a target of eliminating all roadway deaths and serious injuries by 2055.

II.

The Comprehensive Safety Action Plan is hereby adopted as the guiding framework for data-driven transportation safety improvements, integrating the Safe System Approach into future capital improvement programming, policy updates, and infrastructure design standards.

III.

The City Council commits to establishing a dedicated planning structure and implementation group called the Transportation Safety Task Force charged with oversight of the Comprehensive Safety Action Plan, annual safety analysis updates, and transparent progress reporting to the public.

PASSED AND ADOPTED by the City Council of the City of Watauga, Texas this [Day], [Month], [Year].

APPROVED

ARTHUR L. MINER, Mayor

ATTEST:

LINDA PROSKEY, City Secretary

APPROVED AS TO FORM AND LEGALITY:

DAVID BERMAN, City Attorney

WATAUGA COMPREHENSIVE SAFETY ACTION PLAN (CSAP)

Executive Summary

Plan Highlights

Vision/Goal/Objective

- A Great Place to Live, A Safe Place to Thrive.
- Zero fatalities and serious injuries by 2055.
- A 35% reduction in fatalities and serious injuries by 2035 (interim target).

Key Findings

- 4 fatalities and 26 serious injuries occurred between 2019–2024.
- 70%+ of severe crashes are intersection-related.
- The top 20 roadway segments account for 60% of crashes while representing only 7% of network miles.
- 55% of severe crashes occur in low- and moderate-income areas.
- US 377 accounts for approximately 40% of crashes. Since it isn't a City owned or maintained road, it wasn't included in the various citywide safety analysis, has a separate analysis, and requires coordination with TxDOT to address safety concerns.

Investments

- \$1.33 million in prioritized safety improvements.
- More than \$276 million in estimated crash costs addressed.
- Transportation Safety Task Force established for implementation oversight.
- Annual public reporting and dashboard updates.

Background

From 2019 to 2024, four people tragically lost their lives due to a traffic crash in Watauga and 26 people had their lives forever altered (excluding crashes on US 377). This loss of life is unacceptable. Therefore, the City of Watauga developed a Comprehensive Safety Action Plan (CSAP) following the Safe Systems Approach to identify priority locations, countermeasures, and tracking measures to improve roadway safety.

Purpose

The purpose of the Watauga Comprehensive Safety Action Plan (CSAP) is to provide a data-driven, proactive framework to eliminate traffic fatalities and serious injuries by identifying high-risk locations and behaviors, prioritizing safety improvements, and guiding investments, policies, and strategies that make the transportation system safer for all users. The Plan aligns local efforts with the Safe System Approach to proactively prevent severe crashes and support the City's long-term goal of zero fatalities and serious injuries.

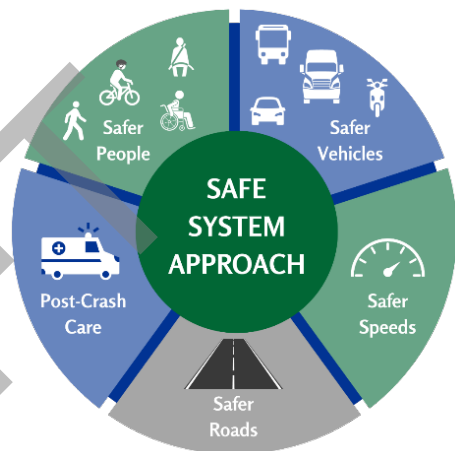
Safe System Approach

The Safe System Approach (SSA, shown in **Figure ES1**) is a methodology adopted by the US Department of Transportation (USDOT) intended to build redundancies and protections to prevent crashes and minimize harm when crashes occur. The SSA is a tool that consists of five complementary elements - Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care. It also includes the following principles:

- Death and Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Critical

The Safe System Approach was used as the framework for this plan by shifting the focus from reacting to individual crashes to proactively identifying and addressing the conditions that contribute to fatal and serious injury risk.

FIGURE ES1: SAFE SYSTEM APPROACH



Vision and Goal

The City Council utilized public input to set a safety vision for the City of Watauga.

A Great Place to Live, A Safe Place to Thrive.

Zero fatalities and serious injuries by 2055.

A 35% REDUCTION IN FATALITIES AND SERIOUS INJURIES BY 2035

is an interim target that

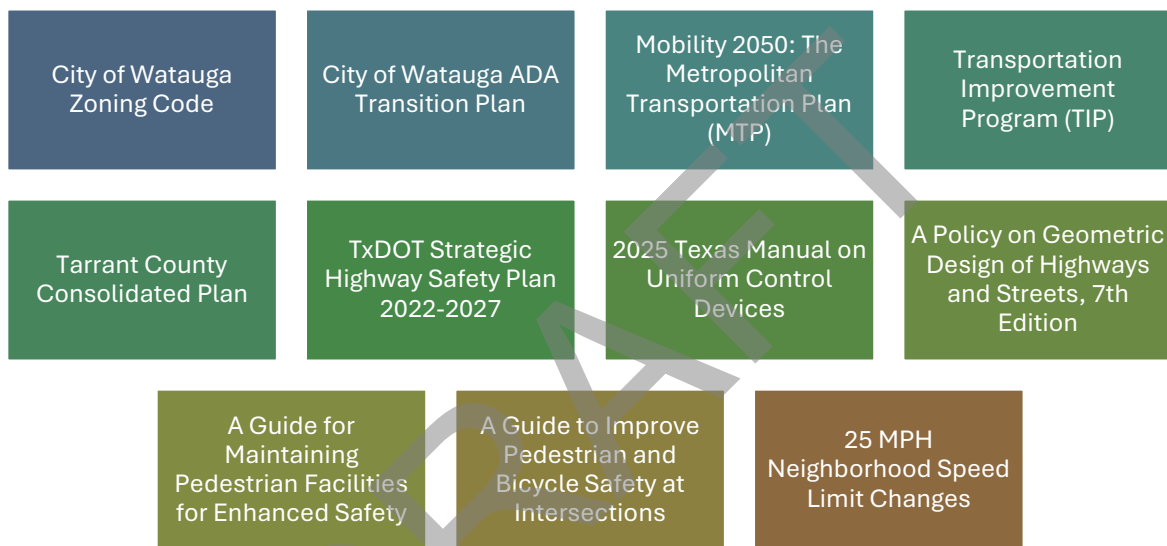
will be achieved by focusing on improving safety at intersections (along with other safety countermeasures and strategies).

At least 70% of all crashes in Watauga between 2019 – 2024 were intersection-related. The concentration of crashes at intersections suggests that targeted intersection safety investments are the most critical focus area for reducing severe crashes.

Current Plans, Policies, and Standards

The review of City, County, and regional plans, policies, and standards identified updates to better align Watauga’s processes with the FHWA Safe System Approach (SSA) and support a coordinated effort to reduce traffic fatalities and serious injuries.

In addition to the Watauga City Code of Ordinances, review areas include:



Existing Safety Performance

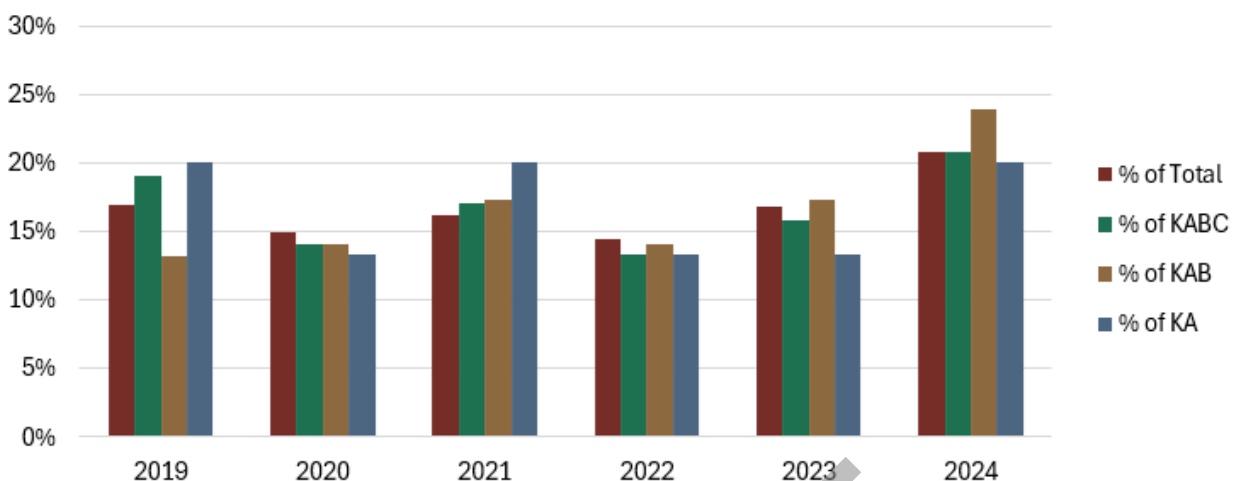
To assess existing safety performance, the project team analyzed crashes in Watauga, developed safety emphasis areas, established a High Injury Network, conducted a systemic risk assessment, and examined safety and equity conditions. These efforts provided insight into the riskiest crash types and helped identify the implementation strategies needed to achieve zero fatalities and serious injuries by 2055.

Crash Analysis

For the Watauga Comprehensive Safety Action Plan, crash data from TxDOT was analyzed from 2019-2024. Fatal (K), Incapacitated (A), Visible Injury (B), Compliant of Pain (C), and no-injury/property damage only crashes (O) were included.

Figure ES2 shows the crashes over time. Crash trends from 2019 to 2024 have been relatively flat overtime with approximately 97 crashes per year and approximately 5 severe crashes per year. Severe crashes include fatal and severe injuries.

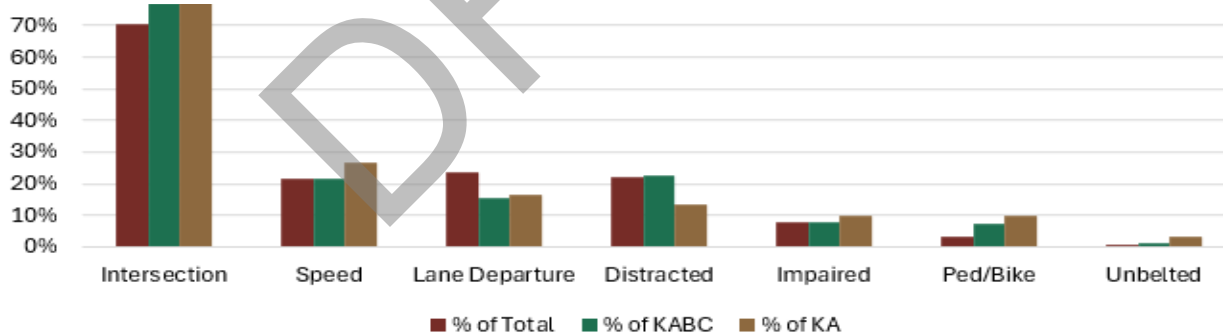
FIGURE ES2: CRASHES OVER TIME



Emphasis Areas

Emphasis areas group crash data by characteristics such as intersections, lane departure, and unbelted occupants to identify where focused action is needed to reduce fatalities and serious injuries. This helps target strategies that prevent deaths and serious injuries on Watauga roadways. Intersection-related crashes account for by far the highest share of KA crashes, significantly exceeding all other emphasis areas. **Figure ES3** provides a summary of the Emphasis Area characteristics.

FIGURE ES3: SUMMARY OF EMPHASIS AREA CHARACTERISTICS



Systemic Analysis

Watauga's systemic analysis included two parts: intersections (512) and segments (80.5 miles). Using GIS, Crash Records Information System (CRIS) data, and local sources, the project team identified historical crash patterns and risk factors to prioritize future safety improvements. Key factors evaluated included functional class, traffic volume, intersection density, and other roadway characteristics.

Figure ES4 summarizes the number of risk factors present at each intersection and their relationship to crash occurrence. Intersections with two or more risk factors account for a disproportionately large share of KAB crashes – approximately 75.6% – despite representing only

12.5% of all intersections. This trend demonstrates how the accumulation of multiple risk factors significantly increases crash likelihood, reinforcing the value of a systemic approach that prioritizes locations with layered risk characteristics rather than focusing solely on individual factors.

FIGURE ES4: INTERSECTION RISK FACTOR SUMMARY

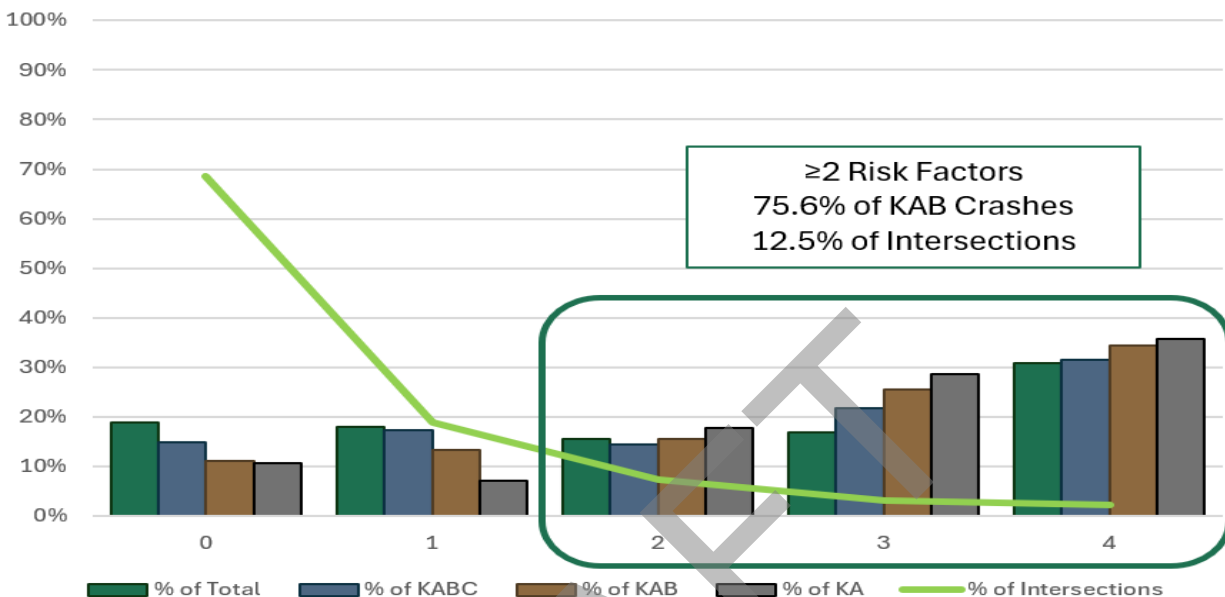
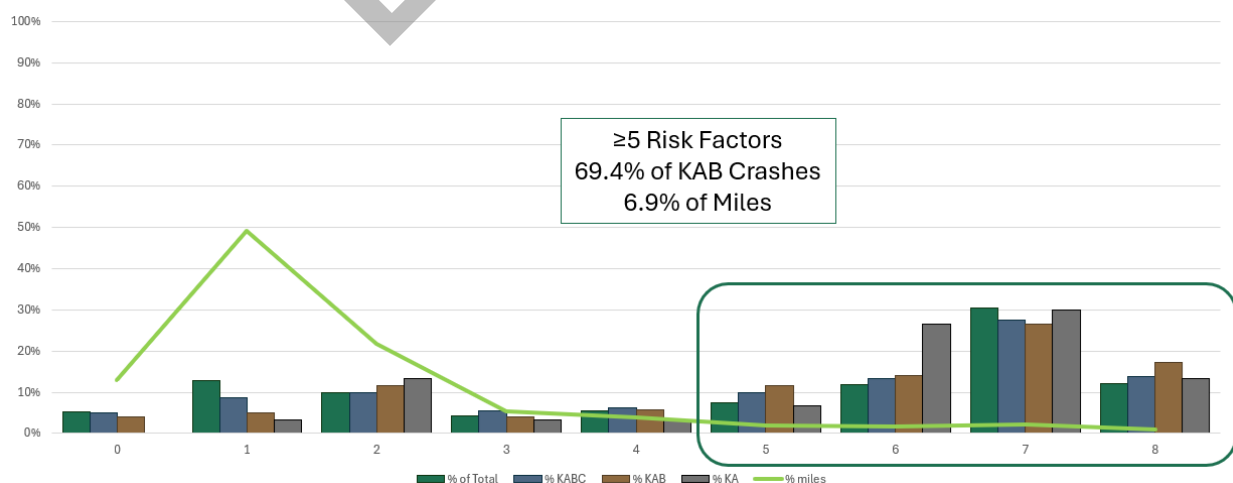


Figure ES5 summarizes the number of risk factors present along each segment and their connection to crash occurrence. Segments with five or more risk factors are overrepresented.

Segments with five or more risk factors account for 69.4% of KAB crashes but represent only 6.9% of miles of the system analyzed. This trend shows how the accumulation of multiple risk factors significantly increases crash likelihood. This proves the importance of the systemic approach that prioritizes locations from risks than after crashes happen.

FIGURE ES5: SEGMENT RISK FACTOR SUMMARY



High Injury Network Assessment

The High Injury Network was developed by dividing the roadway network into segments and assigning each segment an Equivalent Property Damage Only (EPDO) score based on crash frequency and severity. The Equivalent Property Damage Only (EPDO) methodology scores locations based on crash severities and frequencies. A minor fender-bender without injuries counts as one EPDO unit. An injury crash counts as several EPDO units, while a fatal crash counts as many EPDO units. This means segments that have higher severity crashes are worth more EPDO units. Segments were ranked by EPDO score. Then the top 20 segments citywide were identified as the High Injury Network (shown in **Figure ES6**). The top 20 segments make up **7% of the network miles**, but **60% of all crashes**. (US 377 was not included in the High Injury Network assessment because it is not a City owned or maintained roadway.)

FIGURE ES6: HIGH INJURY NETWORK



US 377 Corridor Analysis

Crashes occurring on US 377 were analyzed as part of a separate, corridor-specific study. US 377 is not owned or maintained by the City, and implementation authority for many potential safety countermeasures along that corridor rests outside the City's control. This separate evaluation fulfills the SS4A requirement of evaluating all public roadways regardless of roadway ownership.

Evaluating US 377 separately, the City can coordinate corridor-specific safety strategies with TxDOT while ensuring that the City's comprehensive safety action plan prioritizes implementable countermeasures on City-owned roadways where the City has direct authority to make near- and mid-term safety improvements.

Refer to **Appendix E** for the full Corridor Analysis

Equity Analysis

The equity analysis examined whether crash patterns overlap with underserved communities, helping identify where safety needs may be greatest and where investments can better support underserved communities. To identify underserved communities, the project team utilized the Community Development Block Grant (CDBG) low-or moderate income program data administered by the US Department of Housing and Urban Development and located five block groups in Watauga that have low or moderate income of at least 51% or higher.

When evaluating the frequency of crashes in the equity areas, 46% of crashes occur in the equity areas. Comparing the severity of the KA crashes shows that 55% of severe (KA) crashes occur in the equity areas.

The location-specific roadway segment and intersection countermeasures, have a cumulative cost of approximately **\$909,759** across all low-moderate income areas. Compared with the full set of recommended countermeasures in this plan, estimated at approximately **\$1.33 million**, improvements within low-or moderate income areas represent about **68.6%** of total identified countermeasure costs.

The next 5-year CIP will be developed in FY2027. The low-moderate income safety projects will be considered as part of that process.

Public Engagement

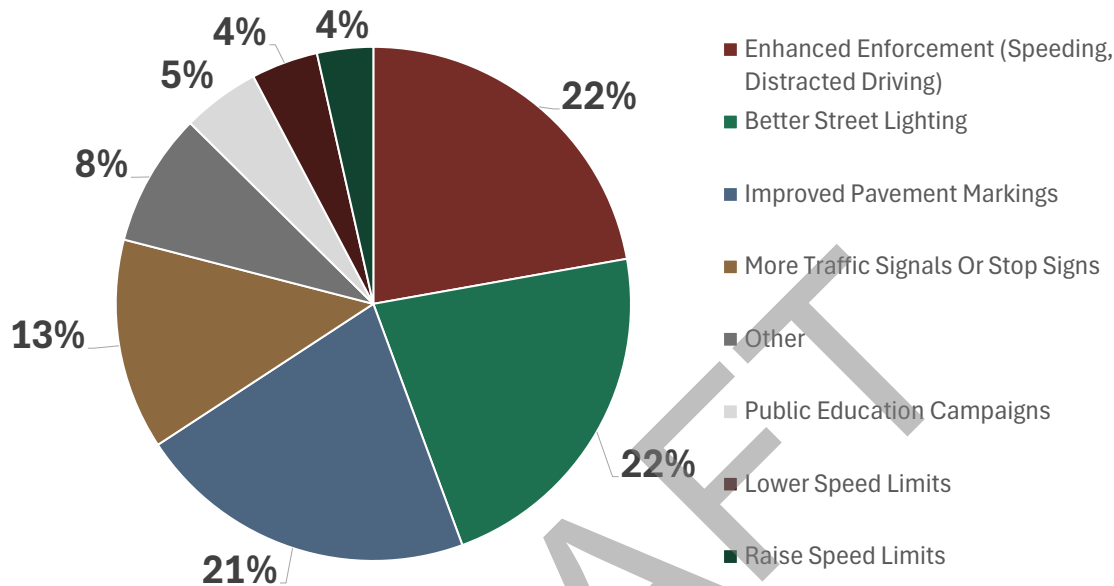
Public Survey

The plan used input from both the public and stakeholders to identify Watauga's key safety concerns, including feedback from 317 survey responses, 62 mapping comments, and guidance from a stakeholder group.

The survey was designed to gather input on key topics, including roadway safety, pedestrian and bicycle infrastructure, traffic operations, and overall community needs. From the survey, the top priorities **Figure ES7** for improving traffic safety in Watauga are largely focused on enforcement and infrastructure enhancements. Increased enforcement targeting speeding and distracted driving ranks highest, followed closely by improvements to street lighting and pavement markings. Overall, the results indicate a strong emphasis on both stricter traffic enforcement and targeted roadway design improvements as the most effective ways to enhance safety.

Refer to **Appendix D** for the full survey results

FIGURE ES7: TOP PRIORITIES TO IMPROVE SAFETY IN WATAUGA



Implementation Strategies

The Implementation Strategies section outlines the findings of the CSAP into actionable projects, policies, and funding approaches that can help Watauga reduce fatal and serious injury crashes over time. The recommendations are based on the crash analysis, High Injury Network, Systemic Risk Assessment, equity analysis, and public and stakeholder input documented throughout the plan.

Projects

Segment Countermeasures

The Systemic Risk Assessment identified 28 locations most in need of safety improvements. Of these, 21 are High Risk Segments (have 5 or more risk factors). To improve safety at these locations, 7 countermeasures were considered. These countermeasure locations are shown in **Figure ES8** and **Figure ES9** and include curve delineation (chevrons), update pavement markings, rectangular rapid flash beacon, crosswalk and visibility enhancements, new sidewalk, street lighting, and dynamic speed feedback signs.

The recommended safety improvements for the roadway segments represent a strategic investment when compared to the substantial economic impacts associated with crashes along these corridors. The total estimated cost to implement the proposed countermeasures is

approximately **\$1.21 million**. In comparison, the total estimated crash cost for the evaluated roadway segments exceeds **\$144.4 million**. The total countermeasure cost represents approximately **0.84%** of the cumulative crash costs, meaning the cost of implementation is less than one cent for every dollar of crash-related losses. This significant disparity highlights the potential value of the proposed improvements, as even a modest reduction in crash frequency or severity could generate safety and economic benefits that far outweigh the initial investment.

FIGURE ES8: NON-MOTORIST COUNTERMEASURES



Legend

- Rectangular Rapid Flashing Beacon
- New Crosswalk
- New Sidewalk
- Crosswalk Visibility Enhancements
- City of Watauga Border



FIGURE ES9: VEHICLE COUNTERMEASURES



Legend

- Dynamic Speed Feedback Signs
- Street Lighting
- Update Pavement Markings
- Chevrons
- City of Watauga Border

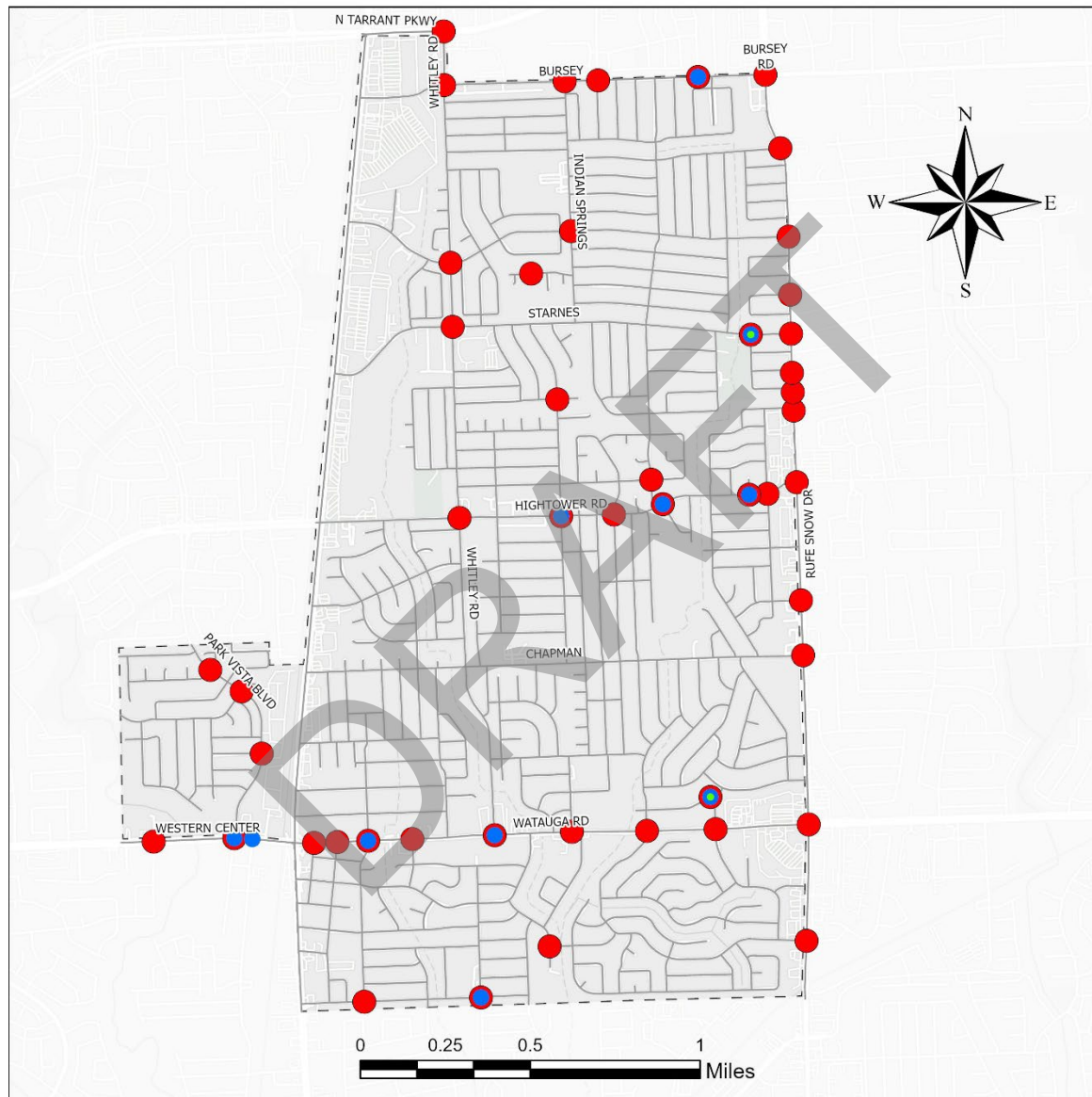


The full plan shows the costs per road

Intersection Countermeasures

The Systemic Risk Assessment identified 50 high-crash intersections. Of these, 31 are high-risk intersections (have 2 or more risk factors). Three countermeasures were considered: crosswalk markings, street signs, and street lighting. **Figure ES10** maps the intersection countermeasures locations.

FIGURE ES10: INTERSECTION COUNTERMEASURES



Legend

- Crosswalk Visibility Enhancements
- New Crosswalk
- Improved Lighting
- City of Watauga Border



The full plan shows the costs per intersection

Policy, Process, and Strategy Recommendations

Improving safety in Watauga will take more than constructing individual countermeasures. Sustained progress will require the City to embed safety into everyday decision-making, including capital project planning, development review, maintenance activities, enforcement coordination, grant pursuits, and routine performance monitoring. The policy, process, and strategy recommendations in **Table ES1** are intended to help institutionalize the Safe System Approach; support implementation of the physical improvements identified in this plan and create a framework for continued accountability over time. Several strategies reflect ongoing practices that should continue, while others are organized into short-, medium-, and long-term time frames to help the City prioritize next steps and align recommendations with available staff capacity and funding opportunities. Together, these recommendations provide a practical roadmap for turning the CSAP from a planning document into an ongoing safety program.

TABLE ES1: RECOMMENDATIONS

Strategy	Lead	Partner	Timeframe
Continue to implement the 25 mph Neighborhood Speed Limit Changes	Public Works		Ongoing until 2030
Continue enforcement activities	Police		Ongoing
Continue police presence during school pick up and drop off	Police		Ongoing
Continue the Sidewalk Repair Program	Public Works		Ongoing
Develop and implement a Complete Streets Policy	Planning & Zoning	Public Works	Short Term
Create a Transportation Safety Task Force to monitor the plan's implementation	Public Works		Short Term+
Screen and prioritize future CIP projects for overlap with the High Injury Network, high-risk intersections, systemic risk locations, low-moderate income areas, and community concerns	Public Works		Short Term+
Add safety treatments to planned resurfacing, reconstruction, maintenance, and utility projects	Public Works		Short Term+
Track CSAP recommendations from funding through design, construction, completion, or deferral	Public Works		Short Term+
Conduct a Citywide On-Street Parking Compliance Study	Public Works		Medium Term
Develop a Neighborhood Traffic Calming Program	Public Works		Medium Term
Implement the ADA Transition Plan	Public Works		Medium Term
Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles	Planning & Zoning	Public Works	Medium Term
Strengthen driveway/access management and curb cut standards	Planning & Zoning	Public Works	Medium Term
Establish a routine safety review process for capital projects and development review	Public Works	Planning & Zoning	Medium Term
Develop a plan for coordinating school zones, signs, Safe Routes to School (SRTS) activities with the school districts	Public Works	Birdville ISD & Keller ISD	Medium Term
Develop a SRTS Plan centered on the 6 E's of SRTS - engagement, equity, education, encouragement, engineering, and evaluation	Public Works	Birdville ISD & Keller ISD	Long Term
Develop an Active Transportation Plan	Planning & Zoning	Public Works	Long Term

Short Term: 1 year, Short Term+: 1 year & ongoing, Medium Term: 2-5 years, Long Term: 5+ years

Integrating CSAP recommendations into the City's CIP and grant strategy will help move the plan from analysis to implementation by ensuring safety projects are programmed, matched with appropriate funding sources, and positioned competitively for state, regional, and federal funding opportunities.

Progress Tracking Framework

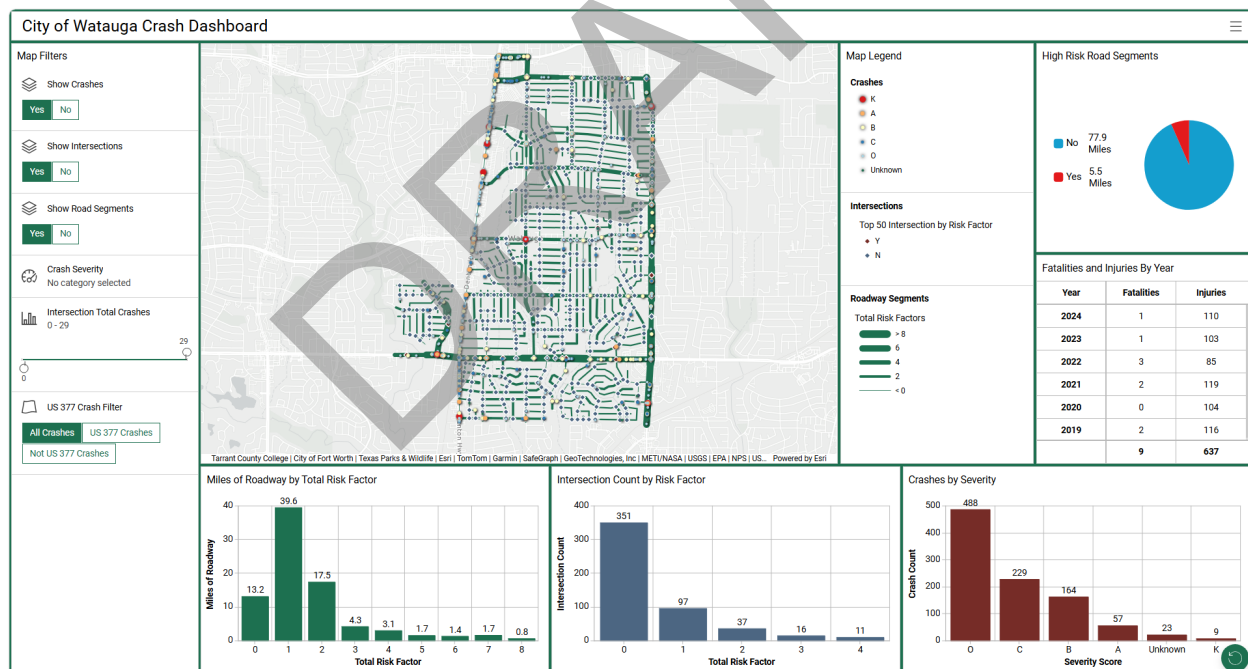
A website (<https://watauga-csap-hubsite-burgessniple.hub.arcgis.com>) with a crash dashboard was developed to track progress. This dashboard (shown in **Figure ES11**) shows crashes, intersections, road segments, crash severity, intersection total crashes, crashes along US 377, the top 50 intersections, miles of roadway by total risk factor, high risk road segments, and the fatalities and injuries per year.

Annual Report

The fatal and serious injury crashes will be updated annually to track progress towards **Zero fatalities and serious injuries by 2055**. *[Will potentially add in other implementation projects to be tracked also like - Like number of projects CSAP projects completed, miles improved, funding secured, equity-area improved.]* The Public Works Department will present the annual implementation report to the City Council every year in September and ensure it is available on the City's website for public review.

This plan will be posted on the City of Watauga's website and will be updated at a minimum of every five years. Amendments can be made in the intervening years as necessary.

FIGURE ES11: CRASH DASHBOARD



Compliance Matrix

SS4A Compliant Action Plans require seven key components. **Table CM1** displays the SS4A action plan component and where it is addressed in the plan.

TABLE CM1: COMPLIANCE MATRIX

SS4A Action Plan Component	Where Addressed
Leadership Commitment and Goal Setting	Leadership Commitment Statement; Vision and Goal
Planning Structure	Stakeholder Engagement; Implementation Oversight
Safety Analysis	Existing Safety Performance; Appendices B, C, E
Engagement and Collaboration	Public and Stakeholder Engagement; Appendix D
Policy and Process Changes	Current Plans, Policies, and Standards; Appendix A; Table 6
Strategy and Project Selections	Implementation Strategies; Tables 3, 5, 6
Progress and Transparency	Progress Tracking Framework

DRAFT

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BURGESS & NIPLE
Engineers ■ Planners

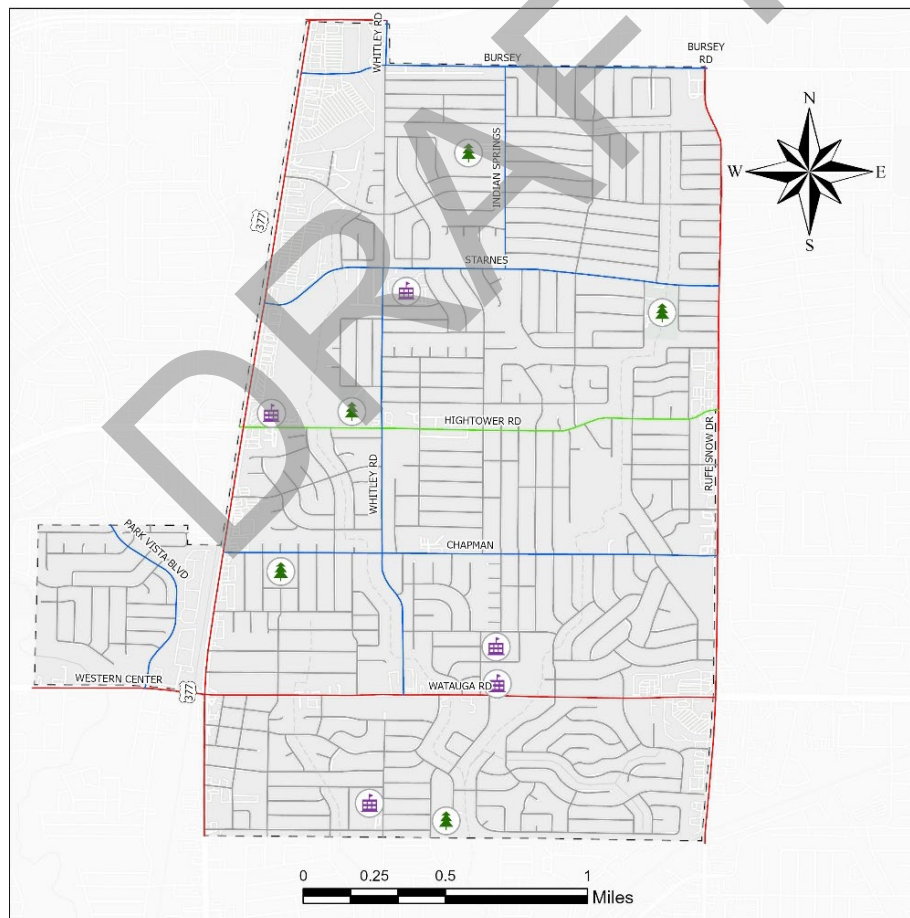
Introduction

From 2019 to 2024, four people tragically lost their lives due to a traffic crash in Watauga and 26 people had their lives forever altered (excluding crashes on US 377). This loss of life is unacceptable. Therefore, the City of Watauga is developing a Comprehensive Safety Action Plan (CSAP) following the Safe System Approach to identify priority locations, countermeasures, and tracking measures to improve roadway safety.

The City of Watauga, Texas, is a compact 4.2 square mile, family-oriented community located in the Dallas-Fort Worth Metroplex. Watauga is home to an estimated population of just under 24,000 residents. US 377 runs along a portion of Watauga's western border. **Figure 1** displays the Watauga City Limits.

BETWEEN DECEMBER 27, 2022, AND JULY 1, 2023, THERE WERE ZERO FATALITIES AND SERIOUS INJURIES, WHICH EQUATES TO 186 FATALITY AND SERIOUS INJURY FREE DAYS.

FIGURE 1: WATAUGA CITY LIMITS



Legend

- Park
- School
- Major Arterial
- Minor Arterial
- Major Collector



Purpose

The purpose of the Watauga Comprehensive Safety Action Plan (CSAP) is to provide a data-driven, proactive framework to eliminate traffic fatalities and serious injuries by identifying high-risk locations and behaviors, prioritizing safety improvements, and guiding investments, policies, and strategies that make the transportation system safer for all users. The plan aligns local efforts with the Safe System Approach to proactively prevent severe crashes and support the City's long-term goal of zero fatalities and serious injuries.

Safe System Approach

The Safe System Approach (SSA, shown in **Figure 2**) is a methodology adopted by the U.S. Department of Transportation (USDOT) intended to build redundancies and protections to prevent crashes and minimize harm when crashes occur. The SSA is a tool that consists of five complementary elements - Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care. It also includes the following principles:

- Death and Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Critical

The Safe System Approach was used as the framework for this plan by shifting the focus from reacting to individual crashes to proactively identifying and addressing the conditions that contribute to fatal and serious-injury risk. This approach guided each major step of the CSAP, including the crash analysis, emphasis area identification, High Injury Network assessment, systemic risk assessment, equity review, public engagement, and selection of recommended countermeasures. By applying Safe System principles, the plan recognizes that people make mistakes and that Watauga's transportation system should be planned, designed, operated, and maintained to reduce the likelihood that those mistakes result in death or serious injury. The recommendations in this plan therefore emphasize layered, redundant safety strategies – such as safer speeds, improved visibility, enhanced crossings, better pedestrian and bicycle infrastructure, and ongoing coordination among City departments and partner agencies – to help Watauga make measurable progress toward eliminating fatal and serious injury crashes.

Figure 2: Safe System Approach



Vision and Goal

The City Council utilized public input to set a safety vision for the City of Watauga.

A Great Place to Live, A Safe Place to Thrive.

Zero fatalities and serious injuries by 2055.

A 35% REDUCTION IN FATALITIES AND SERIOUS INJURIES BY 2035

is an interim target that

will be achieved by focusing on improving safety at intersections (along with other safety countermeasures and strategies).

At least 70% of all crashes in Watauga between 2019 – 2024 were intersection-related. The concentration of crashes at intersections suggests that targeted intersection safety investments are the most critical focus area for reducing severe crashes. The overrepresentation of severe crashes at intersections suggests that conflict points, turning movements, and complex traffic interactions are key contributors to serious injuries and fatalities.

Current Plans, Policies, and Standards

The review considered local plans and ordinances, regional and state transportation plans, and national safety guidance to identify opportunities to better integrate Safe System principles into City policies, procedures, and design practices.

The review found:

- Existing ordinances already address some traffic calming/speed management.
- Current standards could better support walking and bicycling.
- Access management and curb cut standards could be strengthened.
- Complete Streets or Active Transportation Plan guidance is needed.
- Regional/state plans support safety-focused investment.

The full review is in **Appendix A: Plans, Policies, and Standards Review and Recommendations.**

Recommended Revisions to Policies and Standards

Based on the current plans, policies, and standards review, the following are recommended:

- Screen future Capital Improvement Plan (CIP)IP projects for overlap with the High Injury Network, high-risk intersections, systemic risk locations, and Community Development Block Grant (CDBG)-eligible areas.
- Add safety treatments to planned resurfacing, reconstruction, maintenance, and utility projects.

- Prioritize CIP funding where crash history, systemic risk, equity needs, and community concerns overlap.
- Track CSAP recommendations from funding through design, construction, completion, or deferral.
- Develop and implement a Complete Streets Policy.
- Conduct a citywide on-street parking compliance study.
- Develop a Neighborhood Traffic Calming Program.
- Develop a plan for coordinating school zones, signs, Safe Routes to School (SRTS) projects with the school districts.
- Implement the Americans with Disabilities Act (ADA) Transition Plan.
- Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles.
- Strengthen driveway/access management and curb cut standards.
- Establish a routine safety review process for capital projects and development review.
- Develop a SRTS Plan centered on the six E's of SRTS - engagement, equity, education, encouragement, engineering, and evaluation.
- Develop an Active Transportation Plan to provide safe opportunities for people to walk and bike.

The full recommendations are found in **Appendix A: Plans, Policies, and Standards Review and Recommendations**.

Existing Safety Performance

To assess existing safety performance, the City analyzed crashes in Watauga, developed safety emphasis areas, established a High Injury Network, conducted a systemic risk assessment, and examined safety and equity conditions. These efforts provide insight into the most significant crash patterns and identify priority locations and strategies needed to achieve the City's goal of zero fatalities and serious injuries by 2055.

Methodology

This Plan uses TxDOT Crash Records Information System (CRIS) crash data from 2019 through 2024 and classifies crash severity based on the most severe injury reported for any person involved in the crash. This plan uses the following terms: fatal crashes (K), serious-injury crashes (A), minor-injury crashes (B), possible-injury crashes (C), and no-injury/property damage only crashes (O). Fatal and serious-injury crashes are grouped together as severe crashes, also referred to as KA crashes, because they involve people who were killed or seriously injured. These severe crashes are the primary focus of this Comprehensive Safety Action Plan because they represent the greatest risk to life and health on Watauga's transportation system.

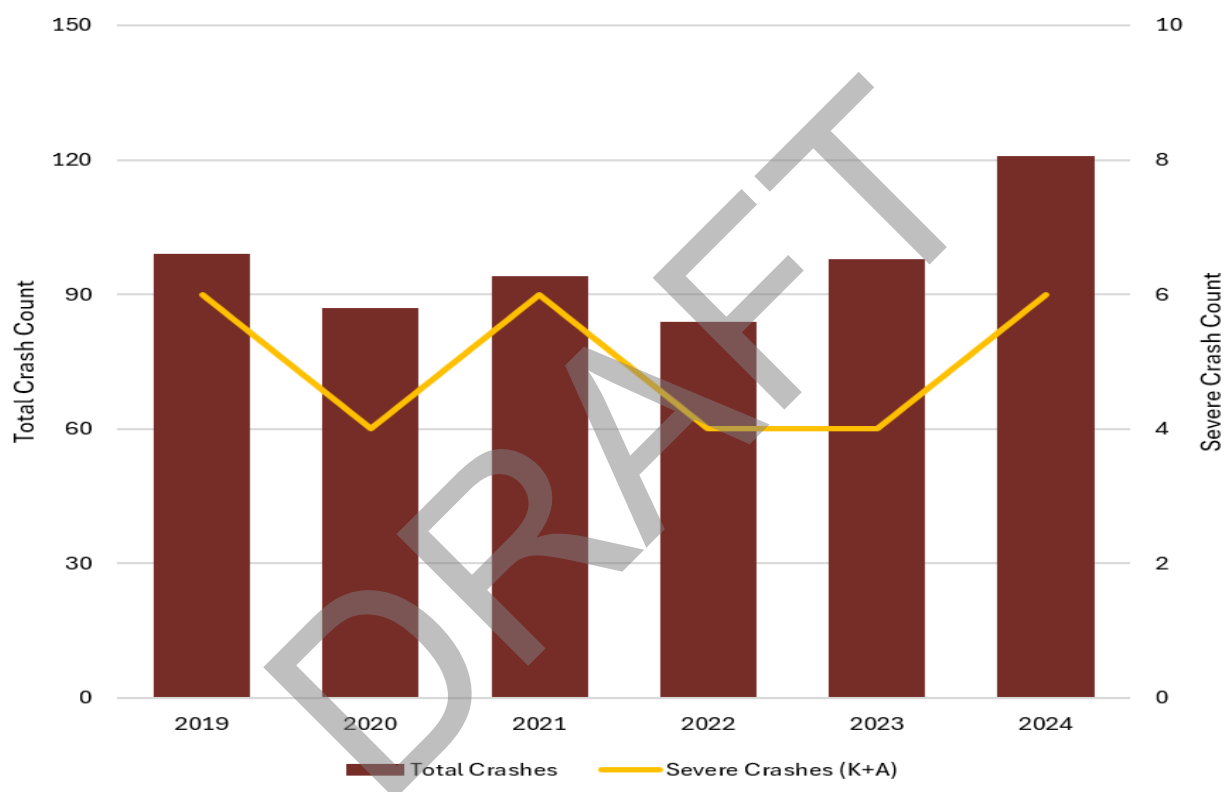
US 377 is not owned or maintained by the City and the corridor was evaluated separately in **Appendix E: US 377 Corridor Analysis**. Unless otherwise noted, US 377 was not included in the crash analysis, emphasis areas, High Injury Network Assessment, or the Systemic Risk Assessments, as including it would disproportionately influence the results. Because Watauga does not have the implementation authority for the roadway. The City will need to coordinate

corridor-specific safety strategies with TxDOT. This approach allows the plan to more effectively reduce severe crashes across the City’s roadway network, while still fulfilling the SS4A requirement of evaluating all public roadways regardless of roadway ownership.

Crash Analysis

Figure 3 shows the crash trends from 2019 to 2024. As shown, there is a slight upward total crash trend and a slight downward severe crash trend. Overall, the crashes have been relatively consistent over time with approximately 97 crashes per year and approximately 5 severe crashes (KA) per year. The yellow line shows fatal and serious-injury crashes (KA).

FIGURE 3: CRASH TRENDS (2019-2024)



Appendix B: Crash Analysis includes more details about the crashes. As 40% of crashes occurred on US 377 (Denton Hwy) between 2019-2024 a separate safety analysis was completed and is in **Appendix E: US 377 Corridor Analysis**.

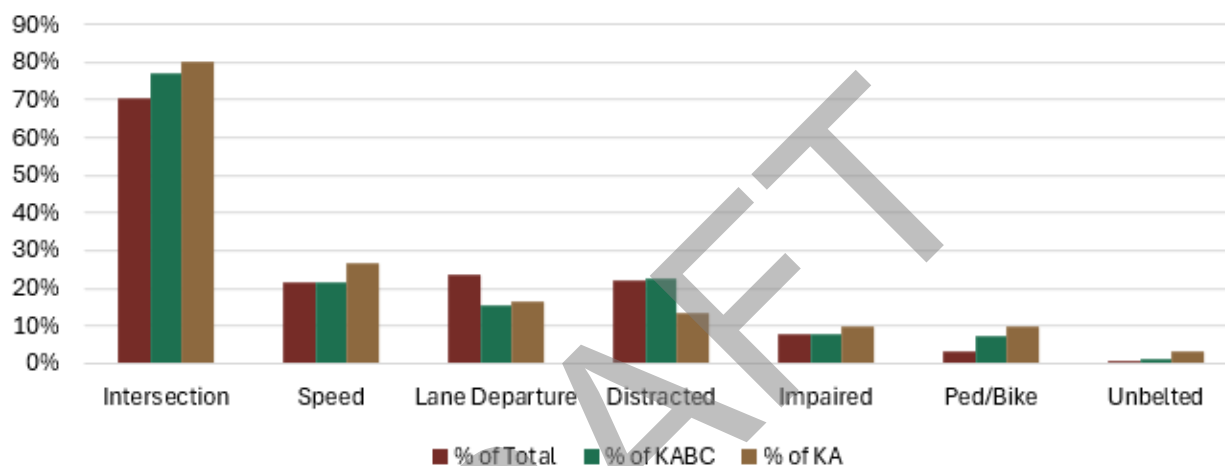
Emphasis Areas

Emphasis areas organize crash data by characteristics such as intersections, lane departure, and unbelted occupants to help identify where focused action is needed to reduce fatalities and serious injuries. By identifying high-priority issues, the City can target strategies

EMPHASIS AREAS HELP DIRECT RESOURCES AND GUIDE SAFETY IMPROVEMENTS WHERE THEY ARE NEEDED THE MOST AND HAVE THE GREATEST POTENTIAL IMPACT.

that help prevent deaths and serious injuries on our roadways. Additionally, the Emphasis Area Analysis did not include US 377 as it is not owned or maintained by the City and including it would disproportionately influence the results. **Figure 4** summarizes the relative importance of each emphasis area by comparing the percentage of fatal and serious-injury (KA) crashes across categories. As shown, intersection-related crashes account for the largest share of KA crashes, significantly exceeding all other emphasis areas. While other factors such as speed, lane departure, and distraction contribute to crash occurrence, their relative impact on the most severe outcomes is notably lower. The concentration of KA crashes at intersections suggests that targeted safety investments in these locations are likely to yield the greatest benefits.

FIGURE 4: EMPHASIS AREAS

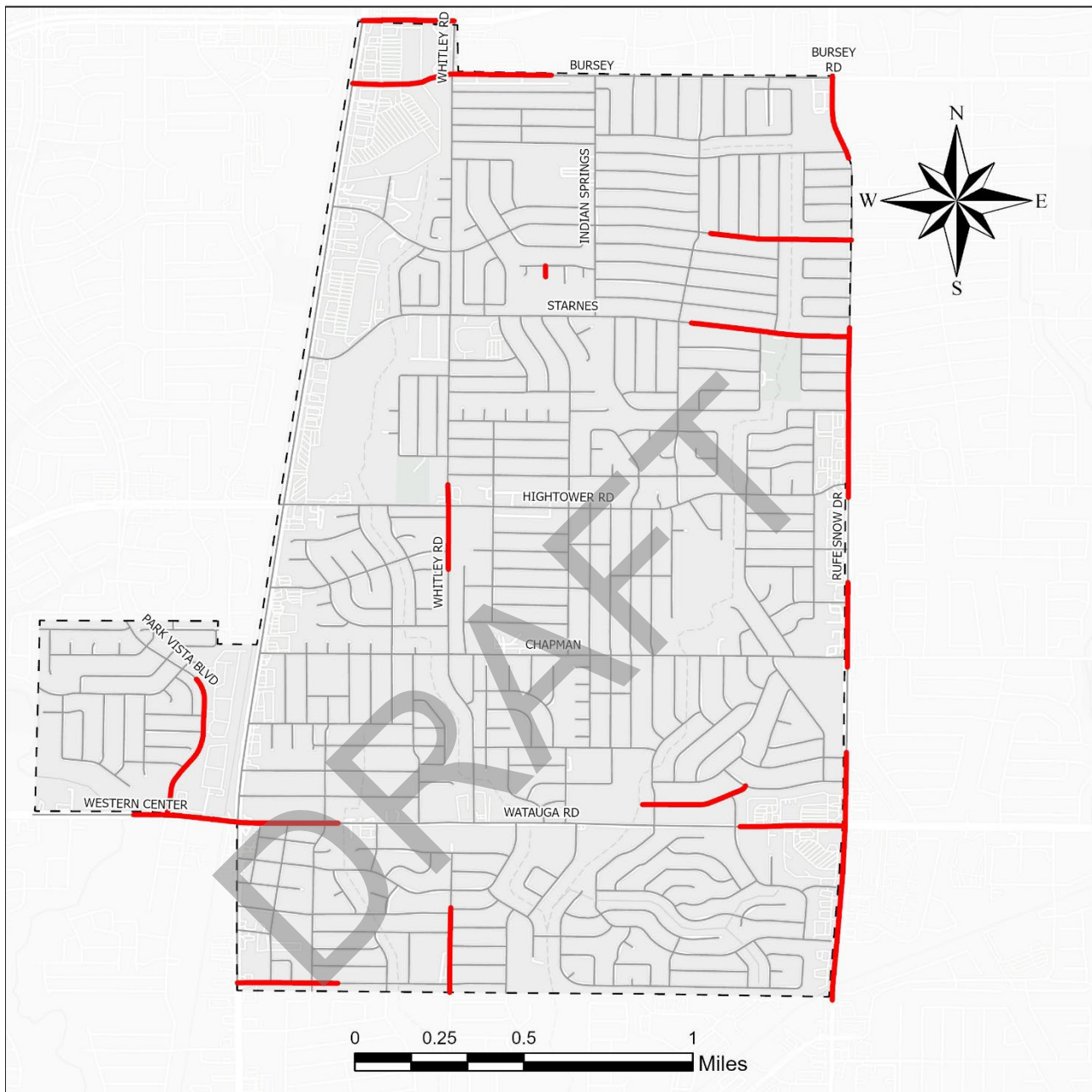


Appendix B: Crash Analysis contains more information about each of the Emphasis Areas.

High Injury Network Assessment

The High Injury Network was developed by dividing the roadway network into segments and assigning each segment an Equivalent Property Damage Only (EPDO) score based on crash frequency and severity. The Equivalent Property Damage Only (EPDO) methodology scores locations based on crash severities and frequencies. A minor fender-bender without injuries counts as one EPDO unit. An injury crash counts as several EPDO units, while a fatal crash counts as many EPDO units. This means segments that have higher severity crashes are worth more EPDO units. Segments were ranked by EPDO score. Then the top 20 segments citywide were identified as the High Injury Network (shown in **Figure 5**). The top 20 segments make up **7% of the network miles**, but **60% of all crashes**. (US 377 was not included in the High Injury Network assessment because it is not a City owned or maintained roadway.)

FIGURE 5: HIGH INJURY NETWORK



Legend

— High Injury Roadway Network — Roadways [- -] City of Watauga Border



Systemic Risk Assessment

This analysis uses a proactive safety approach aimed at preventing fatal and serious-injury crashes before they occur. Rather than focusing only on locations with a history of crashes, systemic analysis prioritizes safety improvements at sites where key risk factors are present. The Watauga

Systemic Analysis was divided into two separate systemic analyses, one for intersections (512 intersections) and one for segments (80.5 miles). Both elements of the Systemic Risk Assessment excluded US 377 because it is not owned or maintained by the City, and implementation authority for many potential safety countermeasures along that corridor rests outside the City's control. Including US 377 in the citywide safety analysis would therefore disproportionately influence the results toward a roadway where the City has limited ability to implement recommended improvements. Instead, a separate analysis was conducted of US 377 in **Appendix E: US 377 Corridor Analysis**.

GIS, Crash Records Information System (CRIS) data, and local sources were used to identify historical crash patterns and risk factors, helping prioritize future safety improvements. This data-driven approach evaluated several risk factors, including functional class, traffic volume, intersection density, and other significant roadway characteristics. Risk factors were determined using a 5 percent or more difference between the percentage of KAB crashes and the percentage of intersections or miles. Understanding how these risk factors relate to crash risk leads to proactive, intentional, and effective safety countermeasures aimed at reducing fatalities and serious injuries.

Intersection

To develop the intersection systemic analysis, 512 intersections were analyzed with a total of 397 crashes including 174 KABC crashes, 90 KAB crashes, and 28 KA crashes. Next, risk factors were identified. Risk factors do not cause crashes, but an accumulation of risk factors may indicate a greater prevalence of crash history, not an isolated instance. After examining the data, it was determined to use five risk factors. A complete methodology for this analysis is documented in **Appendix C: Systemic Analysis**.

Figure 6 summarizes the number of risk factors present at each intersection and their relationship to crash occurrence. Intersections with two or more risk factors account for a disproportionately large share of KAB crashes – approximately 75.6% – despite representing only 12.5% of all intersections. This trend demonstrates how the accumulation of multiple risk factors significantly increases crash likelihood, reinforcing the value of a systemic approach that prioritizes locations with layered risk characteristics rather than focusing solely on individual factors.

FIGURE 6: INTERSECTION RISK FACTOR SUMMARY

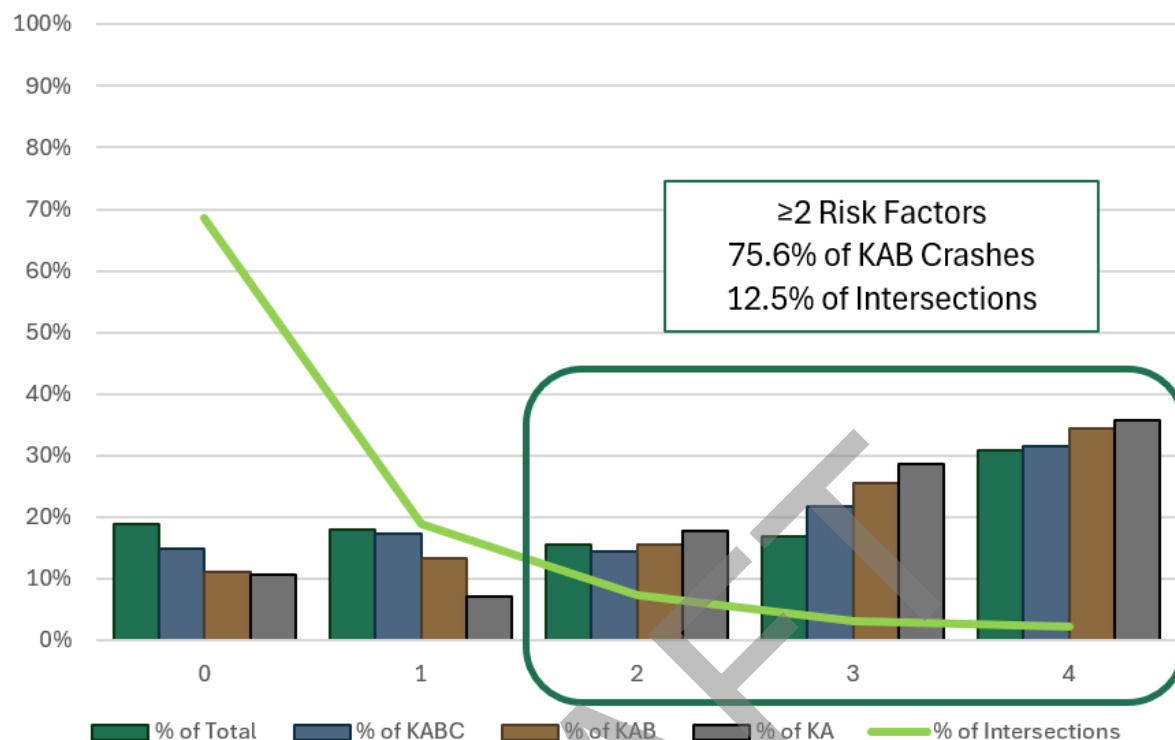
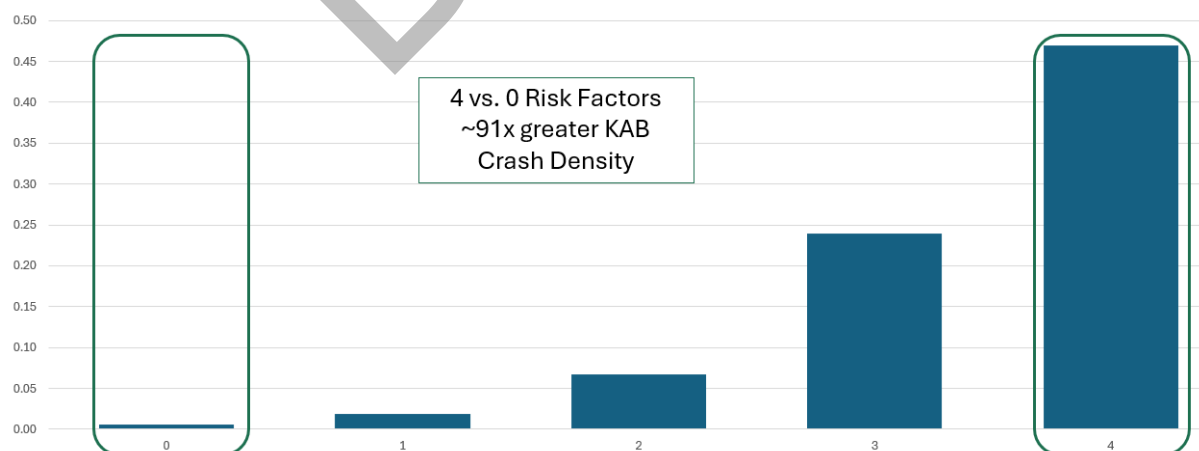


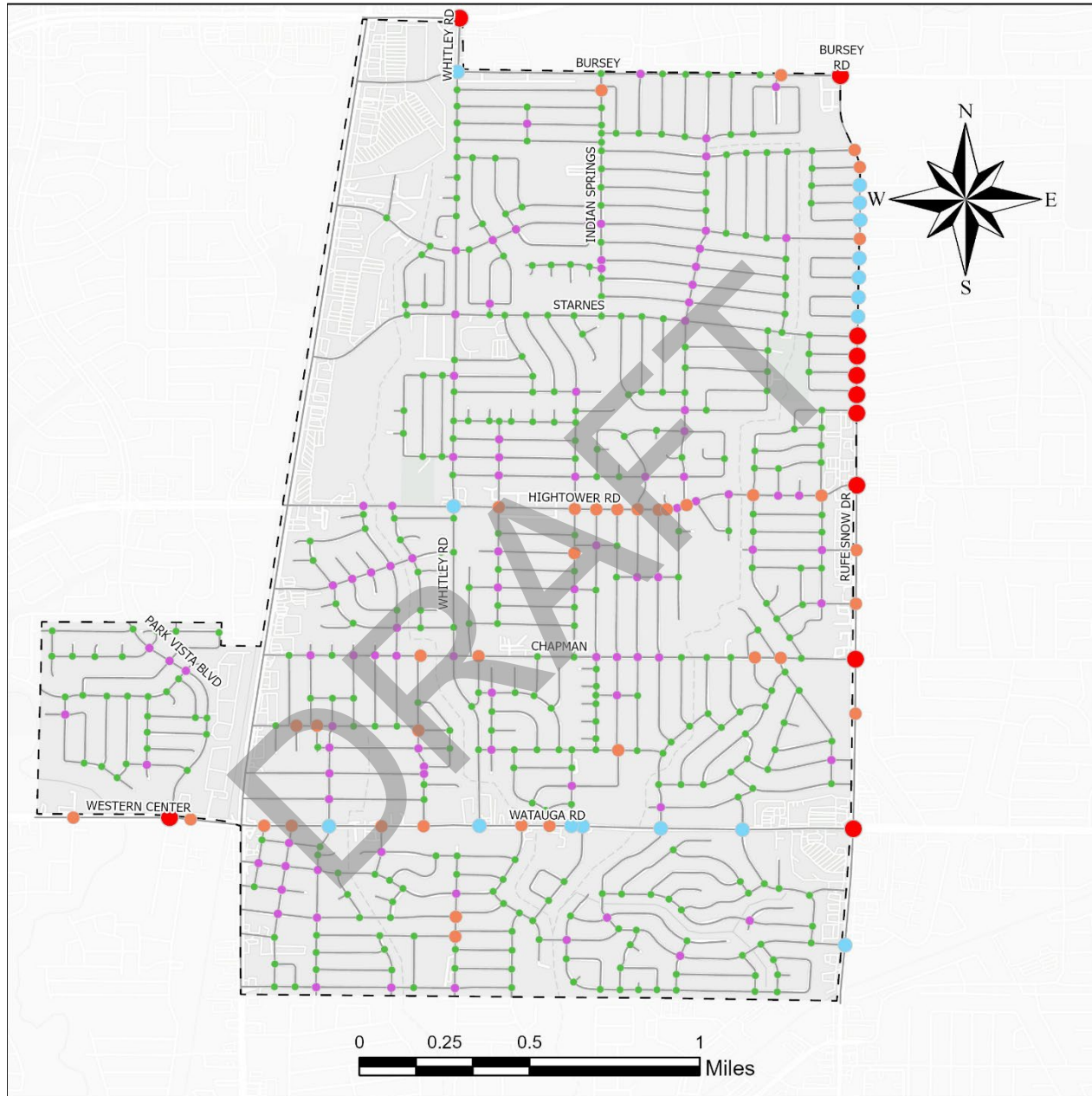
Figure 7 shows the KAB crash density by the number of risk factors present. As the number of risk factors increases, crash density rises substantially. Intersections with four risk factors exhibit approximately 91% greater KAB crash density compared to those with no identified risk factors. This strong correlation further supports the systemic analysis approach, highlighting that locations with multiple overlapping risk characteristics experience markedly higher crash concentrations and should be prioritized for safety improvements.

FIGURE 7: INTERSECTION KAB CRASH DENSITY BY RISK FACTOR



The intersections with at least two or more risk factors are shown in **Figure 8**. As shown, most of the intersections with the highest risk factors are along Rufe Snow Dr, followed by several along Watauga Rd. This analysis helped identify where countermeasures are needed.

FIGURE 8: INTERSECTION SYSTEMIC RISK ASSESSMENT



Legend

- 0 Risk Factors ● 2 Risk Factors ● 4 Risk Factors [- -] City of Watauga Border
- 1 Risk Factor ● 3 Risk Factors — Roadways



Segment

To develop the segment systemic analysis, 80.5 miles were analyzed. This included 240 KABC crashes, 121 KAB crashes, and 30 KA crashes. Next, risk factors were identified. Risk factors do not cause crashes, but an accumulation of risk factors may indicate a greater prevalence of crash history, not an isolated instance. After examining the data, it was determined to use nine risk factors. A complete methodology for this analysis is documented in **Appendix C: Systemic Analysis**.

Figure 9 summarizes the number of risk factors present along each segment and their connection to crash occurrence. Segments with five or more risk factors are overrepresented. Segments with five or more risk factors account for 69.4% of KAB crashes but represent only 6.9% of miles of the system analyzed. This trend shows how the accumulation of multiple risk factors significantly increases crash likelihood. This finding supports the use of a systemic approach, which prioritizes locations with multiple risk factors before severe crashes occur..

FIGURE 9: SEGMENT RISK FACTOR SUMMARY

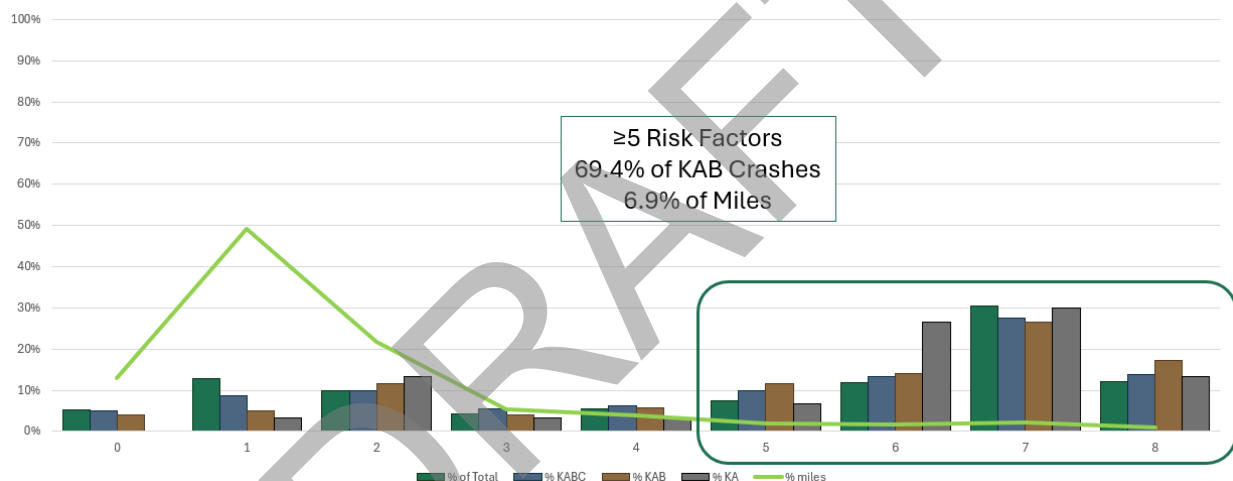
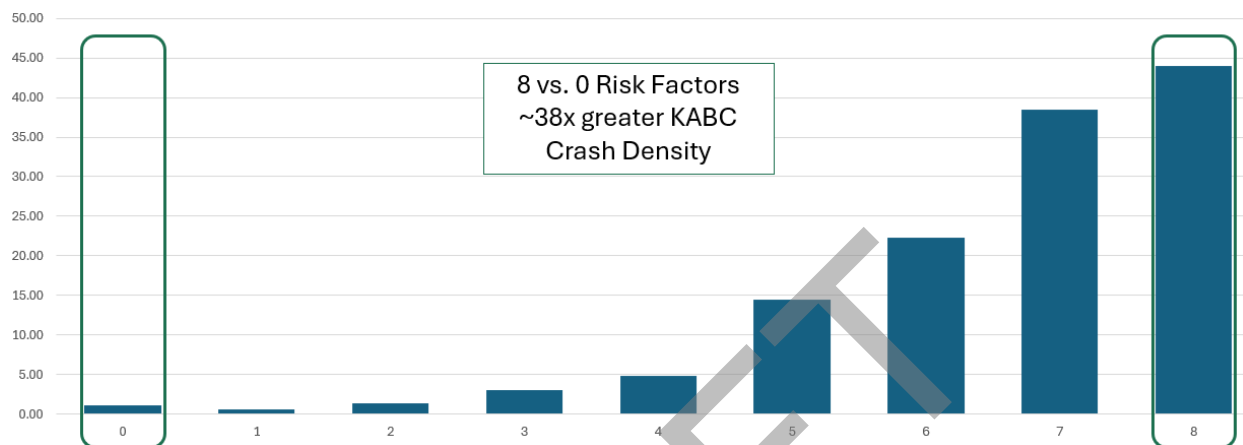


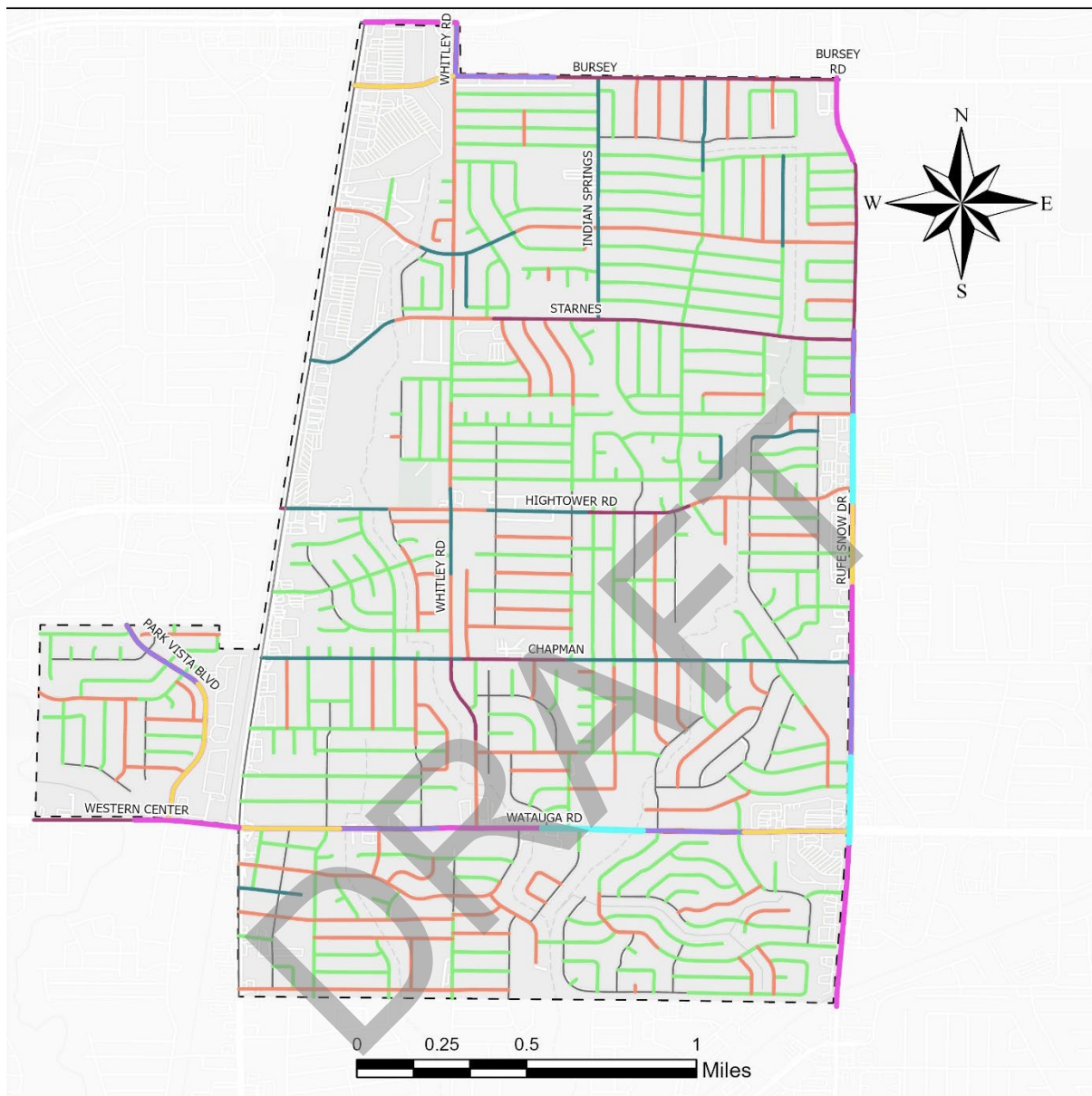
Figure 10 shows KABC crash density by the number of risk factors present. Crash density increases as the number of risk factors rises. Segments with eight risk factors have approximately 38 times the KABC crash density of segments with no identified risk factors. This finding reinforces the value of the systemic approach, which prioritizes locations with multiple risk factors for safety improvements.

FIGURE 10: SEGMENT KABC CRASH DENSITY BY RISK FACTOR



The segments with at least 5 or more risk factors are shown in **Figure 11**. As shown, most of the segments with the highest risk factors are along Rufe Snow Dr (with 2 segments with scores of 8), Watauga Rd, and Park Vista Blvd. Both Rufe Snow Dr and Watauga Rd are Major Arterials, which correlates to more traffic, so their elevated risk levels are expected.. Although Park Vista Boulevard is classified as a Major Collector, its risk score indicates that it should be prioritized for additional review and targeted countermeasures. This analysis helped identify where countermeasures are needed.

FIGURE 11: SEGMENTS SYSTEMIC RISK ASSESSMENT



Legend

- 0 Risk Factors
- 1 Risk Factor
- 2 Risk Factors
- 3 Risk Factors
- 4 Risk Factors
- 5 Risk Factors
- 6 Risk Factors
- 7 Risk Factors
- 8 Risk Factors
- [- -] City of Watauga Border



Summary

Watauga’s existing safety performance shows that crash trends have remained relatively steady, with approximately 97 crashes and five fatal or serious injury crashes occurring each year from 2019 to 2024. The analysis found that safety risk is concentrated in several key areas: US 377 accounted for 40% of all crashes, intersection-related crashes represented the largest share of fatal and serious injury crashes, and the top 20 High Injury Network segments accounted for 60% of

all crashes while making up only 7% of network miles. The systemic risk assessment further showed that locations with multiple overlapping risk factors experience disproportionately high crash concentrations, particularly along Rufe Snow Drive, Watauga Road, and Park Vista Boulevard. Together, these findings indicate that Watauga's greatest opportunities for reducing fatal and serious injury crashes are at high-risk intersections, along priority corridors, and in locations where crash history and systemic risk factors overlap. These findings helped inform the countermeasure project and strategies discussed in the Implementation Strategies section later.

Equity Analysis

To identify underserved communities and understand where safety investments may provide additional community benefit, the City reviewed CDBG Low- and Moderate-Income Summary Data administered by the U.S. Department of Housing and Urban Development. CDBG-eligible areas are block groups where at least 51 percent of residents are considered low- or moderate-income. These areas are important to consider in safety planning because transportation costs, limited travel options, and roadway safety concerns can disproportionately affect households with fewer resources. Five block groups in Watauga meet the CDBG low- and moderate-income threshold and are shown as the dark gray areas in **Figure 12**. These areas may be eligible for certain federally funded improvements when projects provide an area-wide benefit to residents.

The figure also shows the crashes in the equity areas compared to the rest of the city. When evaluating the frequency of crashes in the equity areas, 46% of crashes occur in the equity areas. Comparing the severity of the KA crashes shows that 55% of severe (KA) crashes occur in the equity areas. This means that as implementation advances, the City should consider CDBG eligibility alongside crash history, systemic risk factors, public input, and project readiness to identify safety improvements that both reduce fatal and serious injury risk and support equitable investment.

Figure 13 displays the countermeasures identified in this plan and their relation to the equity areas. **Table 1** summarizes the estimated costs for proposed safety improvements located within the identified CDBG-eligible block groups and census tracts. These improvements include location-specific roadway segment and intersection countermeasures, with subtotals provided by location and a cumulative estimated cost of approximately **\$909,759** across all eligible areas. Compared with the full set of recommended countermeasures in this plan, estimated at approximately **\$1.33 million**, improvements within CDBG-eligible areas represent about **68.6%** of total identified countermeasure costs.

The next 5-year CIP will be developed in FY2027. The Low-Moderate Income safety projects will be considered as part of that process.

FIGURE 12: CRASHES IN EQUITY AREAS



Legend

- K
- A
- B
- C
- Crashes in Low- & Moderate-Income Areas
- Low- & Moderate-Income $\geq 50\%$ Block Group from HUD 2020 ACS 5-Yr Data
- City of Watauga Border



FIGURE 13: LOW-MODERATE INCOME DATA FOR CDBG AREA-BENEFIT ACTIVITIES AND COUNTERMEASURES



Legend

- Improved Lighting (2 Locations)
- New Crosswalk (11 Locations)
- Crosswalk Visibility Enhancements (48 Locations)
- Rectangular Rapid Flashing Beacon (12 locations)
- New Crosswalk (13 locations)
- New Sidewalk (2.02 miles)
- Crosswalk Visibility Enhancements (41 locations)
- Dynamic Speed Feedback Signs (8)
- Street Lighting (1.04 miles)
- Update Pavement Markings (1.82 miles)
- Chevrons (2 segments)
- Low- & Moderate-Income $\geq 50\%$ Block Group from HUD 2020 ACS 5-Yr Data
- City of Watauga Border



TABLE 1: LOW-MODERATE INCOME ELIGIBLE AREA SAFETY IMPROVEMENTS

Name	Location Name	Mile Post To	Mile Post From	Chevrons	Update Pavement Markings	Rectangular Rapid Flashing Beacon	Crosswalk Visibility Enhancements	New Sidewalk	New Crosswalk	Improved Roadway Lighting	Dynamic Speed Feedback Signs	Total	Grand Total
Block Group 1: Census Tract 113810	Mackneal Trl & Barry Dr			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	\$ 108,792
	Skylark Ln & Watauga Rd			\$ -	\$ -	\$ -	\$ 1,568	\$ -	\$ -	\$ -	\$ -	\$ 1,568	
	Stardust Dr & Rufe Snow Dr			\$ -	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ 2,400	
	Stardust Dr & Watauga Rd			\$ -	\$ -	\$ -	\$ 1,568	\$ -	\$ -	\$ -	\$ -	\$ 1,568	
	Watauga Rd	24	23.75	\$ -	\$ -	\$ -	\$ 2,763	\$ -	\$ -	\$ -	\$ -	\$ 2,763	
	Watauga Rd	24.25	24	\$ -	\$ -	\$ -	\$ -	\$ 36,630	\$ -	\$ -	\$ -	\$ 36,630	
	Watauga Rd	24.512	24.25	\$ -	\$ -	\$ -	\$ 1,563	\$ 38,388	\$ 1,563	\$ -	\$ -	\$ 41,515	
	Watauga Rd & Rufe Snow Dr			\$ -	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ 2,400	
	Rufe Snow Dr	6.252	5.772	\$ -	\$ -	\$ 17,000	\$ 2,163	\$ -	\$ -	\$ -	\$ -	\$ 19,163	
Block Group 2: Census Tract 113917	Caribou Ridge Dr & Park Vista Blvd			\$ -	\$ -	\$ -	\$ 3,412	\$ -	\$ -	\$ -	\$ -	\$ 3,412	\$ 379,777
	Fox Run Dr & Park Vista Blvd			\$ -	\$ -	\$ -	\$ 3,320	\$ -	\$ -	\$ -	\$ -	\$ 3,320	
	Huddleston St & Western Center			\$ -	\$ -	\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ 784	
	Park Vista Blvd	2.087	1.837	\$ -	\$ 6,970	\$ -	\$ -	\$ -	\$ 1,927	\$ 50,000	\$ 15,000	\$ 73,896	
	Park Vista Blvd	2.514	2.087	\$ 9,000	\$ 11,904	\$ 34,000	\$ 363	\$ -	\$ -	\$ 85,400	\$ -	\$ 140,667	
	Rusk St & Park Vista Blvd			\$ -	\$ -	\$ -	\$ 876	\$ -	\$ 3,273	\$ -	\$ -	\$ 4,149	
	Timber Ridge Dr & Park Vista Blvd			\$ -	\$ -	\$ -	\$ 3,136	\$ -	\$ -	\$ -	\$ -	\$ 3,136	
	Western Center	23.09	22.83	\$ -	\$ 14,497	\$ -	\$ 2,582	\$ 133,333	\$ -	\$ -	\$ -	\$ 150,412	
Block Group 3: Census Tract 113809	Maurie Dr & Watauga Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	\$ 47,593
	Stardust Dr & Watauga Rd			\$ -	\$ -	\$ -	\$ 1,568	\$ -	\$ -	\$ -	\$ -	\$ 1,568	
	Watauga Rd	23.75	23.5	\$ -	\$ -	\$ -	\$ 1,563	\$ 36,630	\$ -	\$ -	\$ -	\$ 38,193	
	Watauga Rd	24	23.75	\$ -	\$ -	\$ -	\$ 2,763	\$ -	\$ 1,563	\$ -	\$ -	\$ 4,327	
	Watauga Rd & Whitley Rd			\$ -	\$ -	\$ -	\$ 600	\$ -	\$ 2,120	\$ -	\$ -	\$ 2,720	
Block Group 3: Census Tract 113810	Johnnie St & Watauga Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ 784	\$ -	\$ -	\$ 1,568	\$ 362,340
	Morris Blvd & Watauga Rd			\$ -	\$ -	\$ -	\$ 1,384	\$ -	\$ -	\$ -	\$ -	\$ 1,384	
	Pine St & Watauga Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	
	Plum St & Watauga Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	
	Shipp Dr	0.25	0	\$ -	\$ -	\$ -	\$ 2,582	\$ 73,260	\$ -	\$ -	\$ -	\$ 75,842	
	Shipp Dr & Lalagray Ln			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	
	Watauga Rd	23.25	23	\$ -	\$ -	\$ 17,000	\$ 1,563	\$ 128,205	\$ 1,563	\$ -	\$ 15,000	\$ 163,332	
	Watauga Rd & Whitley Rd			\$ -	\$ -	\$ -	\$ 600	\$ -	\$ 2,120	\$ -	\$ -	\$ 2,720	
	Whitley Rd	0.289	0.039	\$ -	\$ -	\$ 34,000	\$ 3,782	\$ 73,260	\$ 1,563	\$ -	\$ -	\$ 112,605	
	Whitley Rd & Shipp Dr			\$ -	\$ -	\$ -	\$ 1,752	\$ -	\$ 784	\$ -	\$ -	\$ 2,536	
Block Group 4: Census Tract 113808	Fall Creek Ct & Hightower Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ 784	\$ -	\$ -	\$ 1,568	\$ 11,257
	Oaklawn Dr & Rufe Snow Dr			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ -	\$ -	\$ -	\$ 784	
	Richardson Dr & Hightower Rd			\$ -	\$ -	\$ -	\$ 3,136	\$ -	\$ -	\$ -	\$ -	\$ 3,136	
	Rufe Snow Dr & Chapman			\$ -	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ 2,400	
	Rufe Snow Dr & Hightower Rd			\$ -	\$ -	\$ -	\$ 1,200	\$ -	\$ -	\$ -	\$ -	\$ 1,200	
	Spring Creek Trl & Hightower Rd			\$ -	\$ -	\$ -	\$ 784	\$ -	\$ 1,384	\$ -	\$ -	\$ 2,168	
Grand Total				\$ 9,000	\$ 33,370	\$ 102,000	\$ 60,068	\$ 519,706	\$ 20,214	\$ 135,400	\$ 30,000	\$ 909,759	

*Roads are split by block group/census tract and are not double counted.

Public and Stakeholder Engagement

Public and stakeholder engagement helped ground the CSAP in the experiences, priorities, and safety concerns of Watauga residents and City staff. Input gathered through the public survey, interactive mapping tool, Watauga Fest outreach, and ongoing coordination with City departments informed the plan's emphasis areas, recommended countermeasures, and implementation strategies.

Public Survey/Mapping

The City of Watauga conducted a community survey and an online interactive mapping comment tool to better understand residents' priorities and perspectives on transportation and safety within the city. The survey was designed to gather input on roadway safety, pedestrian and bicycle infrastructure, traffic operations, and overall community needs. The survey and mapping tool opened on February 5th and closed on May 26th, 2026. 317 respondents completed the survey and 62 mapping comments were received.

An in-person outreach event was held at Watauga Fest on May 16th, 2026 (Figure 15) where residents had the opportunity to learn about the survey, ask questions, and provide feedback directly. This event also helped reach individuals who may not typically participate in online surveys.

As shown in Figure 16, visual engagement activities, including mapping exercises and written comment boards, allowed participants to share location-specific concerns and identify key transportation safety issues throughout the community. Participants were also able to engage by using the online interactive mapping comment tool which allows users to pinpoint precise locations from the map and address any comments. The input collected informed the development of strategies, policies, and countermeasures.

Respondents said speeding vehicles are the most frequently reported traffic safety concern (Figure 16) by a wide margin, followed by distracted driving. Other common issues include aggressive driving, poor lighting at night, and poor intersection visibility, all of which

FIGURE 14: WATAUGA FEST SURVEY EVENT



FIGURE 15: POST-IT NOTE ENGAGEMENT



were reported at relatively similar levels. Overall, the results highlight a strong emphasis on driver behavior as the primary safety concern, with infrastructure-related issues as secondary factors.

The top priorities (**Figure 17**) for improving traffic safety in Watauga are largely focused on enforcement and infrastructure enhancements. Increased enforcement targeting speeding and distracted driving ranks highest, followed closely by improvements to street lighting and pavement markings. Overall, the results indicate a strong emphasis on both stricter traffic enforcement and targeted roadway design improvements as the most effective ways to enhance safety. The full survey responses are found in **Appendix D: Public Survey Results**.

FIGURE 16: TOP 5 TRAFFIC SAFETY CONCERNS EXPERIENCED MOST OFTEN

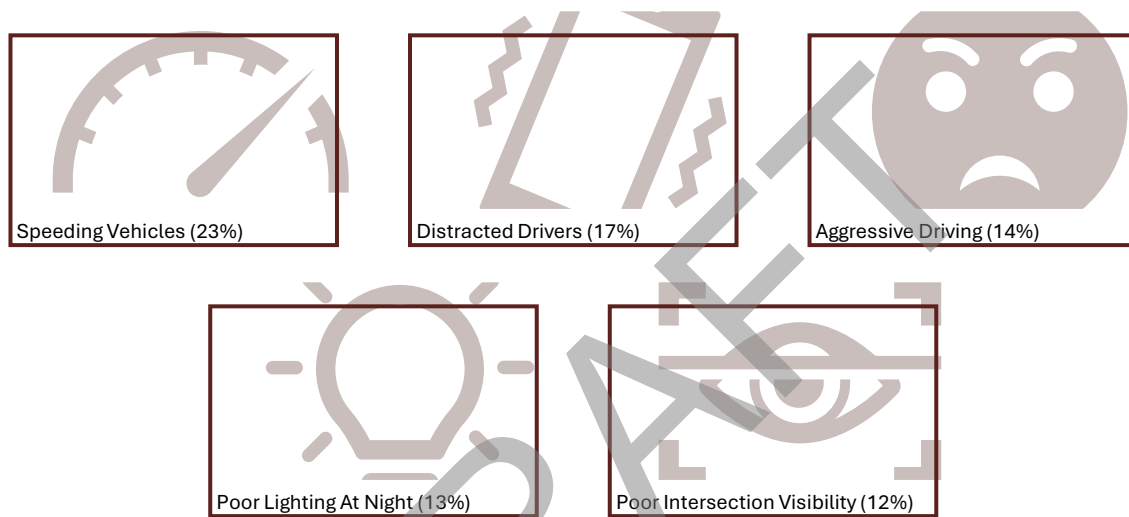
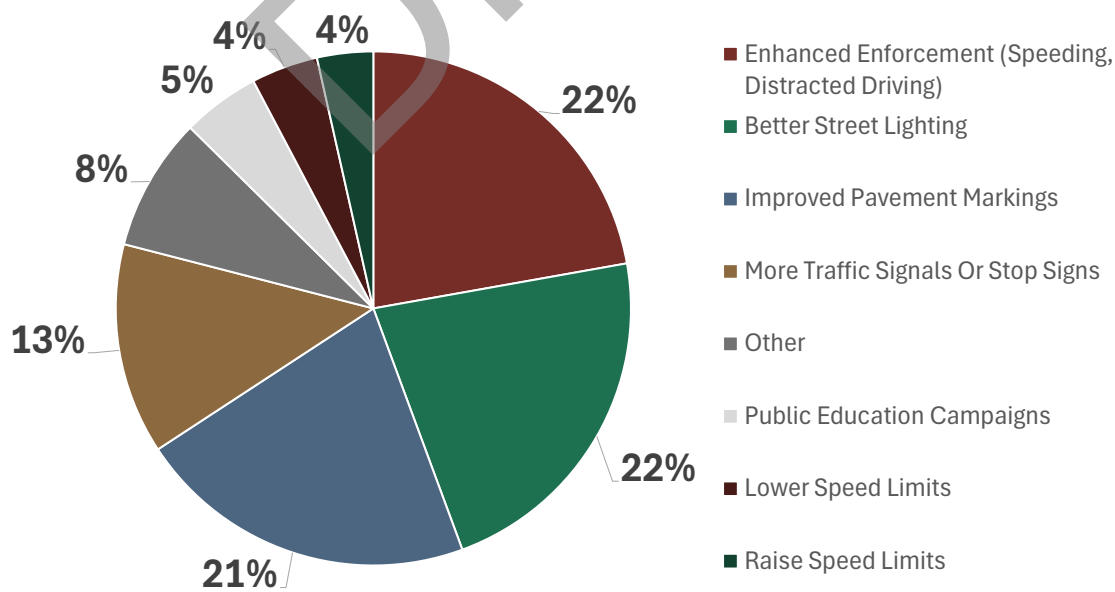


FIGURE 17: TOP PRIORITIES TO IMPROVE SAFETY IN WATAUGA



Engagement findings were reviewed alongside crash history, systemic risk factors, equity considerations, and project feasibility to shape the final recommendations. Locations and themes identified by the public – particularly speeding, lighting, intersection visibility, walking and biking needs, and enforcement – were used to confirm emphasis areas and select countermeasures such as speed feedback signs, lighting, crosswalk visibility enhancements, sidewalks, Rectangular Rapid Flashing Beacon (RRFBs), and traffic enforcement strategies.

Public input directly relates to the countermeasures included in this plan. Speeding concerns are addressed by dynamic speed feedback signs, speed management programs (such as reducing neighborhood speed limits to 25 mph), and various police enforcement of traffic laws. Poor lighting concerns are addressed by street lighting. Poor intersection visibility is improved through crosswalk and visibility enhancements and street lighting. Walking and biking needs are addressed through several countermeasures including new sidewalks, RRFBs, crosswalk and visibility enhancements, the Active Transportation Plan, and Safe Routes to School Planning.

Stakeholder Engagement

A project team met bi-weekly throughout the life of the project to direct the planning process. The team reviewed crash data, potential countermeasures and locations, and coordinated with City Council on incorporating their input. This group was comprised of the Director of Public Works, Assistant Public Works Director, Chief of Police, Assistant Fire Chief, Assistant Chief of Police, and the Fire Marshal.

Implementation Oversight

Following adoption, the City will transition the project team into a Transportation Safety Task Force responsible for coordinating implementation, monitoring progress, and identifying funding opportunities. The group should meet at least annually, and more frequently as funding opportunities or project delivery needs arise, to review crash trends, track implementation status, coordinate grant applications, and prepare annual public progress updates.

Because several safety issues affect roadways or funding processes outside direct City control, Watauga should continue coordination with TxDOT and neighboring jurisdictions to align implementation with regional plans, funding calls, and corridor-level safety efforts. Coordination should be instituted with North Central Texas Council of Governments (NCTCOG) and the school districts as well.

Implementation Strategies

The Implementation Strategies section translates the findings of the CSAP into actionable projects, policies, and funding approaches that can help Watauga reduce fatal and serious injury crashes over time. The recommendations are based on the crash analysis, High Injury Network, Systemic Risk Assessment, equity analysis, and public and stakeholder input documented throughout this plan. Together, these strategies identify where safety investments are most needed, which countermeasures are best suited to address identified risks, and how the City can integrate safety into future planning, capital programming, maintenance, development review, and grant pursuits. This section is intended to provide a practical roadmap for advancing near-term improvements

while building a long-term safety program that supports Watauga's vision of zero fatalities and serious injuries.

Projects

Projects were prioritized based on a combination of crash history, fatal and serious injury risk, systemic risk factors, location on the High Injury Network, equity considerations, public and stakeholder input, implementation feasibility, cost, and funding eligibility. This approach balances locations with documented crash history and locations where risk factors indicate a higher potential for future severe crashes.

The analysis is based on the best available crash, roadway, demographic, and public input data at the time of plan development. Limitations include potential underreporting of non-motorized crashes, incomplete information about near-misses, and limited detail about some behavioral factors. These limitations were mitigated by combining crash data with systemic risk factors, public input, equity data, field-informed countermeasure selection, and stakeholder review.

Segment Countermeasures

The Systemic Risk Assessment identified 28 priority locations where safety improvements are expected to have the greatest potential to reduce fatal and serious injury risk.. Of these locations, 21 are High Risk segments (have 5 or more risk factors). Using the EPDO analysis (which weighs locations based on crash severities and frequencies) these 7.36 centerline miles equate to \$144.4 million in crash costs.

To improve safety at these locations, 7 countermeasures were considered. These countermeasures are shown in **Figure 18** and include curve delineation (chevrons), update pavement markings, rectangular rapid flashing beacons, crosswalk and visibility enhancements, new sidewalk, street lighting, and dynamic speed feedback signs.

FIGURE 18: SEGMENT COUNTERMEASURE EXAMPLES



We developed cost estimates for the improvements based on the costs shown in **Table 2**.

TABLE 2: SEGMENT COUNTERMEASURE COSTS

Countermeasure	Price	Unit
Pavement Markings	\$ 1.76	LF
Crosswalk Markings	\$ 7.57	LF
Sidewalk (assumes 6 feet wide and 4 inches deep)	\$ 9.25	SF
Street Signs	\$ 600.00	EA
Dynamic Speed Feedback Sign	\$ 7,500.00	EA
Rectangular Rapid Flashing Beacon	\$ 17,000.00	EA
Street Lighting	\$ 100,000.00	MI

Figure 19 and

Figure 20 provide visualizations of how the countermeasures would be implemented throughout a corridor to improve safety.

FIGURE 19: SEGMENT COUNTERMEASURE EXAMPLE – WHITLEY RD: SHIPP DR TO HANSON DR



Segment ID 330 Estimated Cost to Implement: \$111,769

FIGURE 20: SEGMENT COUNTERMEASURE EXAMPLE – STARNES RD: PEBBLEBROOK DR TO RUFÉ SNOW DR



Segment ID 388 Estimated Cost to Implement: \$53,599.24

The recommended safety improvements for the roadway segments represent a strategic investment when compared to the substantial economic impacts associated with crashes along these corridors. The total estimated cost to implement the proposed countermeasures is approximately **\$1.21 million** ([Error! Not a valid bookmark self-reference.](#)). In comparison, the total estimated crash cost for the evaluated roadway segments exceeds **\$144.4 million**. The total countermeasure cost represents approximately **0.84%** of the cumulative crash costs, meaning the cost of implementation is less than one cent for every dollar of crash-related losses. This significant disparity highlights the potential value of the proposed improvements, as even a modest reduction in crash frequency or severity could generate safety and economic benefits that far outweigh the initial investment.

TABLE 3: PRELIMINARY COST ESTIMATES BY ROAD NAME

Location Info		Countermeasure Information										
Name	Length [miles]	Chevron	Update Pavement Markings	Rectangular Rapid Flashing Beacon	Crosswalk Visibility Enhancements	New Sidewalk	New Crosswalk	Improved Roadway Lighting	Dynamic Speed Feedback Signs	Total Countermeasure Cost	Crash Cost	Implementation Phase
Rufe Snow Dr	2.23	\$ 3,000		\$ 34,000	\$ 11,070	\$ 18,315	\$ 1,654	\$ -		\$ 68,039	\$ 52,158,200	Long
Watauga Rd	1.772		\$ 14,497	\$ 17,000	\$ 10,107	\$ 428,131	\$ 5,508		\$ 15,000	\$ 490,243	\$ 25,428,400	Long
N Tarrant Pkwy	0.228		\$ 12,713		\$ 7,344				\$ 15,000	\$ 35,056	\$ 10,477,400	Long
Park Vista Blvd	0.677	\$ 9,000	\$ 18,874	\$ 34,000	\$ 273		\$ 545	\$ 110,400	\$ 15,000	\$ 188,091	\$ 17,513,700	Long
Bursey	0.5		\$ 9,293	\$ 17,000	\$ 2,472		\$ 363	\$ 50,000		\$ 79,128	\$ 9,592,400	Long
Whitley Rd	0.654		\$ 12,694	\$ 51,000	\$ 6,253	\$ 73,260		\$ 50,000		\$ 193,207	\$ 8,789,500	Long
Starnes	0.395			\$ 34,000	\$ 1,836		\$ 2,763		\$ 15,000	\$ 53,599	\$ 4,411,500	Medium
N Park Dr	0.352			\$ 17,000	\$ 1,563					\$ 18,563	\$ 4,030,700	Medium
Shipp Dr	0.25				\$ 2,763	\$ 73,260	\$ 1,382			\$ 77,405	\$ 4,006,700	Short
Clearbrook Ct	0.032				\$ 1,382					\$ 1,382	\$ 4,000,000	Short
Dream Ln	0.272				\$ 4,145		\$ 1,382			\$ 5,527	\$ 4,000,000	Short
Total		\$ 12,000	\$ 68,070	\$ 204,000	\$ 49,208	\$ 592,966	\$ 13,597	\$ 210,400	\$ 60,000	\$ 1,210,241	\$ 144,408,500	

As of 6/5/26

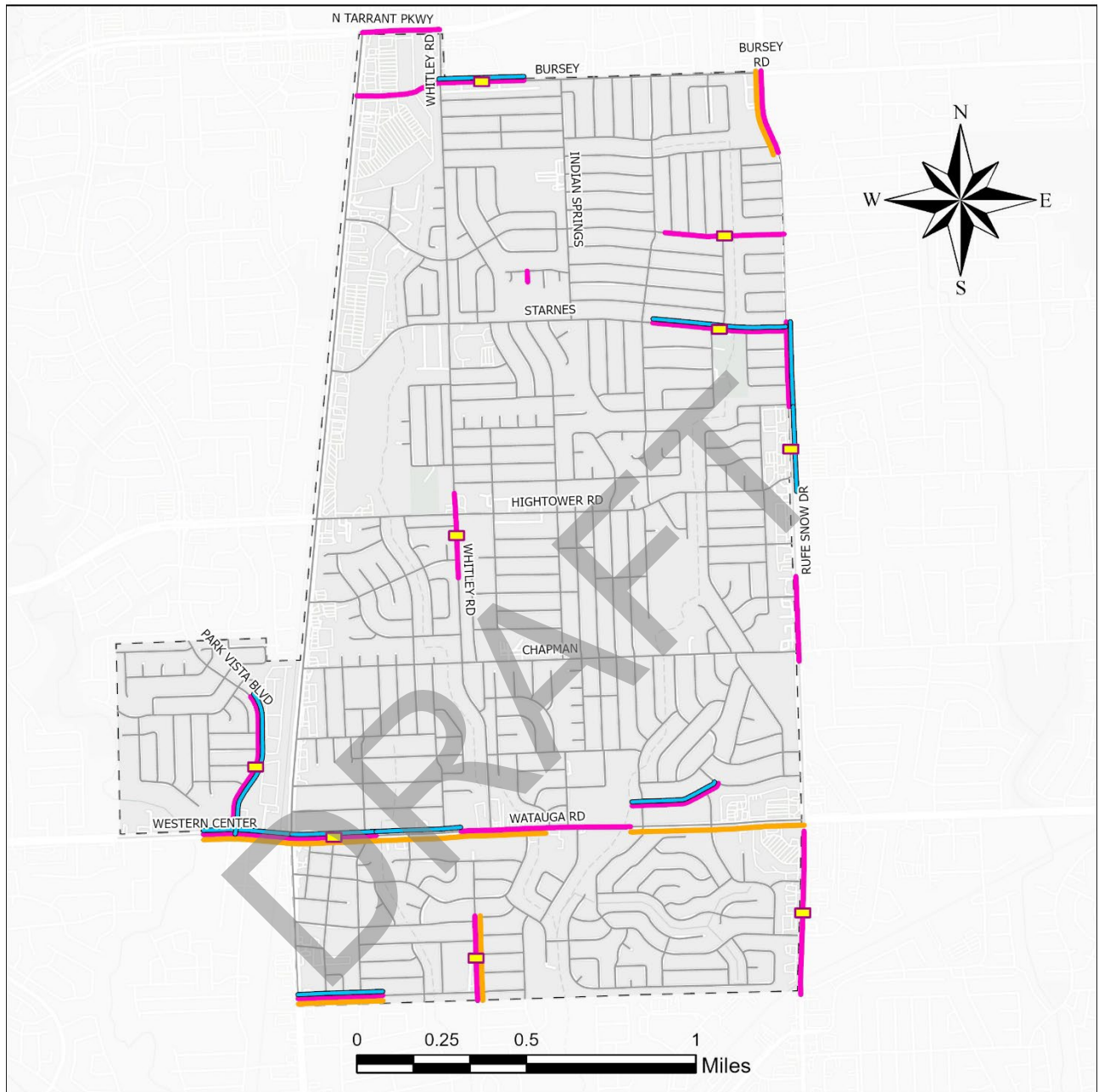
Projects were split into short-, medium-, and long-term implementation phases based on the complexity of the projects and roughly spreading the projects among the three-time frames. **Table 4** shows the project costs and crash costs saved by the projects in each of the implementation phases. The estimated crash-cost exposure at these locations substantially exceeds the proposed implementation costs. Actual benefits will depend on the crash reductions achieved after implementation.

TABLE 4: IMPLEMENTATION PHASE BY COST AND CRASH COST SUMMARY

Implementation Phase	Project Cost	Crash Cost
Short Term	\$ 84,313	\$ 12,006,700
Medium Term	\$ 562,405	\$ 33,870,600
Long Term	\$ 563,522	\$ 98,531,200

Short Term: 1 year, Medium Term: 2-5 years, Long Term: 5+ years

FIGURE 21: NON-MOTORIST COUNTERMEASURES



Legend

- Rectangular Rapid Flashing Beacon
- New Crosswalk
- New Sidewalk
- Crosswalk Visibility Enhancements
- City of Watauga Border



FIGURE 22: VEHICLE COUNTERMEASURES



Legend

- Dynamic Speed Feedback Signs
- Street Lighting
- Update Pavement Markings
- Chevrons
- City of Watauga Border



Intersection Countermeasures

Through the Systemic Risk Assessment, 50 high crash intersections were identified where safety improvements could have the greatest impact. Of these locations, 31 of them are considered High Risk intersections (have 2 or more risk factors). Using the EPDO analysis (which weighs locations based on crash severities and frequencies) this equates to \$132 million in crash costs.

To mitigate these crash costs, countermeasures were considered as shown in **Figure 23**.

FIGURE 23: INTERSECTIONS COUNTERMEASURES EXAMPLES



The costs associated with each of them are shown in **Table 5**.

TABLE 5: INTERSECTION COUNTERMEASURES COSTS

Countermeasure	Price	Unit
Crosswalk Markings	\$ 7.57	LF
Street Signs	\$ 600.00	EA
Street Lighting (Poles)	\$10,000.00	EA

Based on the Intersection Systemic Analysis and the High Crash Rank, countermeasures were identified for the intersections that ranked the highest. **Table 6** displays the costs, while **Figure 24** shows the locations of the intersection countermeasures.

The proposed pedestrian safety countermeasures represent a relatively small investment when compared to the economic impact of crashes at the identified locations. The total estimated cost to implement the recommended improvements is approximately **\$115,805**. In contrast, the cumulative crash cost associated with these locations is estimated at **\$132.0 million**. As a result, the cost of implementing the countermeasures represents **less than 0.1%** of the total crash costs. This comparison demonstrates the potential value of the proposed improvements, as even a modest reduction in future crashes could generate safety benefits and economic savings that far exceed the implementation cost.

TABLE 6: INTERSECTION PRELIMINARY COST ESTIMATES

Location Information		Countermeasure Information				Risk Factor and Crash Information			
ID	Name	Crosswalk Visibility Enhancements	New Crosswalk	Improved Lighting	Total Countermeasure Cost	Risk Factor Count	High Crash Rank	Crash Cost	Implementation Phase
453317	Bent Creek Dr	\$ 784	\$ -	\$ -	\$ 784	2	40	\$ 336,700	Medium
426333	Bursey	\$ 2,400	\$ -	\$ -	\$ 2,400	4	47	\$ 30,700	Medium
457236	Bursey	\$ 600	\$ -	\$ -	\$ 600	0	32	\$ 360,700	Medium
409332	Caribou Ridge Dr	\$ 3,412	\$ -	\$ -	\$ 3,412	0	47	\$ 30,700	Medium
407097	Courtside Dr	\$ 784	\$ -	\$ -	\$ 784	0	24	\$ 4,000,000	Short
431199	Dream Ln	\$ 784	\$ 1,384	\$ 10,000	\$ 12,168	0	24	\$ 4,000,000	Long
405135	Echo Hill Dr	\$ 2,352	\$ 784	\$ -	\$ 3,136	2	36	\$ 37,400	Long
427042	Echo Hill Dr	\$ 3,136	\$ -	\$ -	\$ 3,136	1	40	\$ 336,700	Long
448832	Fall Creek Ct	\$ 784	\$ 784	\$ -	\$ 1,568	1	34	\$ 54,700	Medium
433716	Fox Run Dr	\$ 3,320	\$ -	\$ -	\$ 3,320	1	28	\$ 367,400	Long
443504	High Lawn Ter	\$ 1,568	\$ -	\$ -	\$ 1,568	2	13	\$ 4,404,800	Medium
409883	Hightower Rd	\$ 2,400	\$ -	\$ -	\$ 2,400	3	9	\$ 5,088,800	Long
438426	Huddleston St	\$ -	\$ 784	\$ -	\$ 784	2	11	\$ 8,367,400	Medium
435865	Inwood Dr	\$ 1,384	\$ -	\$ -	\$ 1,384	3	28	\$ 367,400	Long
436942	Johnnie St	\$ 784	\$ 784	\$ -	\$ 1,568	3	12	\$ 8,026,800	Short
416698	Mackneal Trl	\$ 784	\$ -	\$ -	\$ 784	0	31	\$ 666,700	Medium
410211	Maurie Dr	\$ -	\$ -	\$ -	\$ -	3	30	\$ 61,400	Short
429519	Maurie Dr	\$ 784	\$ -	\$ -	\$ 784	3	38	\$ 660,000	Short
450543	Meadowbrook Dr	\$ 3,136	\$ -	\$ -	\$ 3,136	1	47	\$ 30,700	Long
415054	Morris Blvd	\$ 1,384	\$ -	\$ -	\$ 1,384	2	36	\$ 37,400	Medium
454258	N Park Dr	\$ 1,384	\$ -	\$ -	\$ 1,384	2	24	\$ 4,000,000	Short
407462	N Park Dr	\$ 3,136	\$ -	\$ -	\$ 3,136	1	40	\$ 336,700	Short
433075	N Tarrant Pkwy	\$ 1,800	\$ -	\$ -	\$ 1,800	4	3	\$ 8,843,100	Medium
408874	Oaklawn Dr	\$ 784	\$ -	\$ -	\$ 784	2	10	\$ 4,118,900	Medium
437328	Pine St	\$ 784	\$ -	\$ -	\$ 784	2	21	\$ 391,400	Medium
444016	Plum St	\$ 784	\$ -	\$ -	\$ 784	2	32	\$ 360,700	Medium
416168	Richardson Dr	\$ 3,136	\$ -	\$ -	\$ 3,136	2	23	\$ 356,800	Medium
445589	Rim Rock Dr	\$ 600	\$ 1,936	\$ -	\$ 2,536	0	47	\$ 30,700	Short
450669	Rufe Snow Dr	\$ 2,400	\$ -	\$ -	\$ 2,400	4	2	\$ 5,532,700	Short
455766	Rufe Snow Dr	\$ 1,200	\$ -	\$ -	\$ 1,200	4	5	\$ 5,438,900	Short
411107	Rufe Snow Dr	\$ 600	\$ -	\$ -	\$ 600	4	7	\$ 5,724,800	Short
455699	Rufe Snow Dr	\$ 2,400	\$ -	\$ -	\$ 2,400	4	14	\$ 448,900	Short
421140	Rufe Snow Dr	\$ 1,200	\$ -	\$ -	\$ 1,200	4	19	\$ 714,700	Short
410403	Rufe Snow Dr	\$ 2,400	\$ -	\$ -	\$ 2,400	4	21	\$ 391,400	Short
456314	Rufe Snow Dr	\$ 1,384	\$ -	\$ -	\$ 1,384	4	24	\$ 4,000,000	Short
430316	Rufe Snow Dr	\$ 2,400	\$ -	\$ -	\$ 2,400	3	6	\$ 8,094,900	Short
433471	Rusk St	\$ 876	\$ 3,273	\$ -	\$ 4,149	4	1	\$ 16,823,000	Short
425694	Shipp Dr	\$ 784	\$ -	\$ -	\$ 784	1	17	\$ 4,336,700	Medium
425134	Skyark Ln	\$ 1,568	\$ -	\$ -	\$ 1,568	3	16	\$ 4,354,000	Medium
425853	Spring Creek Trl	\$ 784	\$ 1,384	\$ -	\$ 2,168	1	40	\$ 336,700	Short
405735	Stardust Dr	\$ 1,568	\$ -	\$ -	\$ 1,568	3	15	\$ 1,082,100	Medium
432031	Timber Ridge Ct	\$ 3,136	\$ -	\$ -	\$ 3,136	1	8	\$ 499,700	Medium
410288	Village Park Dr	\$ 600	\$ 784	\$ 10,000	\$ 11,384	0	18	\$ 4,013,400	Long
457753	Watauga Rd	\$ 600	\$ 2,120	\$ -	\$ 2,720	3	38	\$ 660,000	Short
447218	Whitley Rd	\$ 1,473	\$ -	\$ -	\$ 1,473	3	4	\$ 9,071,500	Short
451295	Whitley Rd	\$ 1,752	\$ 784	\$ -	\$ 2,536	1	20	\$ 4,024,000	Short
432637	Whitley Rd	\$ 3,412	\$ -	\$ -	\$ 3,412	1	40	\$ 336,700	Short
412102	Whitley Rd	\$ 1,800	\$ -	\$ -	\$ 1,800	1	46	\$ 48,000	Short
413577	Willis Ln	\$ 2,536	\$ -	\$ -	\$ 2,536	1	34	\$ 54,700	Medium
416167	Wooddale Dr	\$ 3,136	\$ -	\$ -	\$ 3,136	2	40	\$ 336,700	Medium
Total		\$ 81,003	\$ 14,802	\$ 20,000	\$ 115,805			\$ 132,028,200	

As of 2/6/26

Projects were split into short-, medium-, and long-term implementation phases based on the complexity of the projects and roughly spreading the projects among the three-time frames. **Table 7** shows the project costs and crash costs saved by the projects in each of the

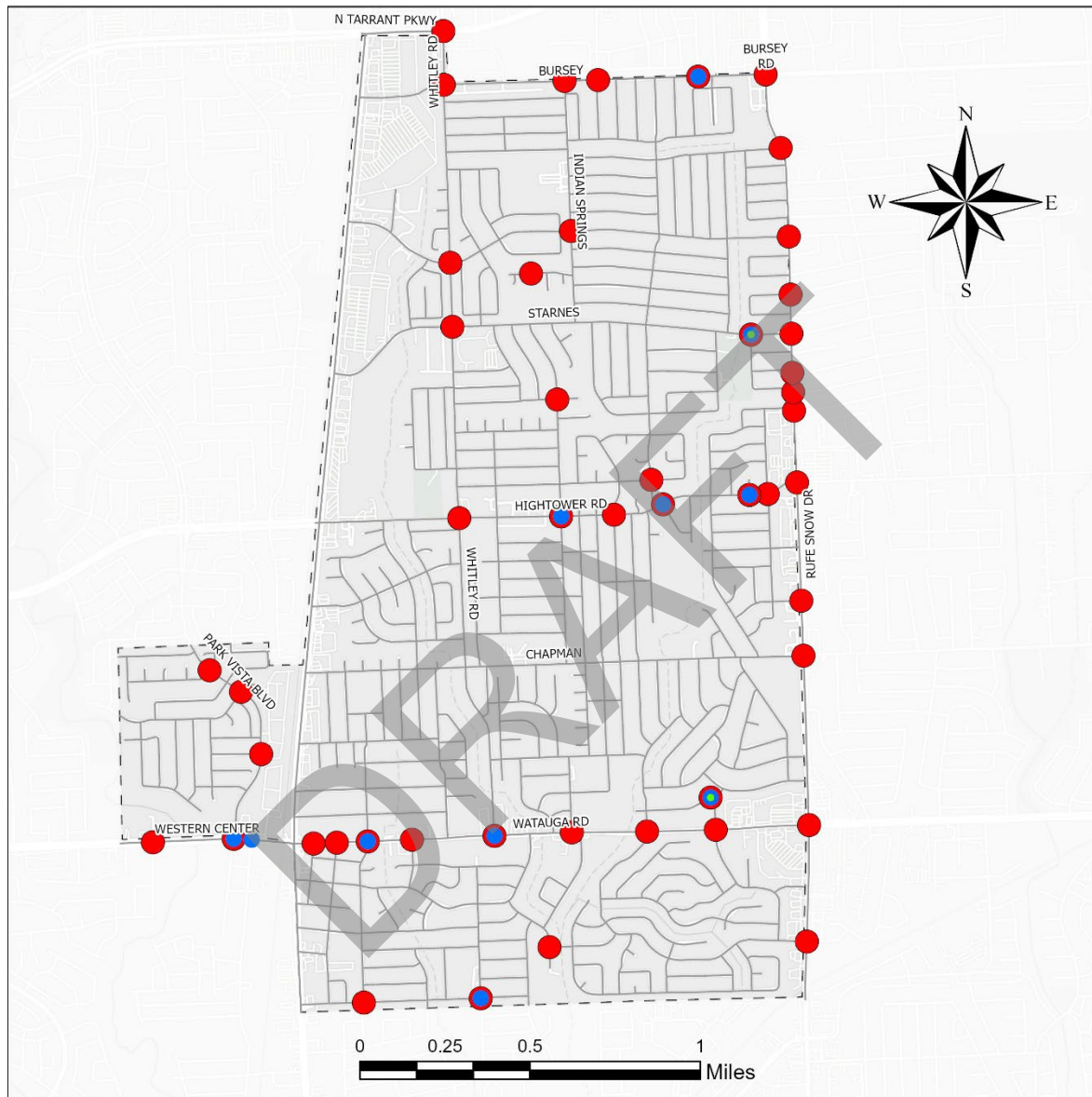
TABLE 7: IMPLEMENTATION PHASE BY COST AND CRASH COST SUMMARY

Implementation Phase	Project Cost	Crash Cost
Short Term	\$ 42,436	\$ 78,761,800
Medium Term	\$ 33,303	\$ 39,024,600
Long Term	\$ 40,066	\$ 14,241,800

Short Term: 1 year, Medium Term: 2-5 years, Long Term: 5+ years

implementation phases. The estimated crash-cost exposure at these locations substantially exceeds the proposed implementation costs. Actual benefits will depend on the crash reductions achieved after implementation.

FIGURE 24: INTERSECTION COUNTERMEASURES



Legend

- Crosswalk Visibility Enhancements
- New Crosswalk
- Improved Lighting
- City of Watauga Border



Policy, Process, and Strategy Recommendations

Improving safety in Watauga will take more than constructing individual countermeasures.

Sustained progress will require the City to embed safety into everyday decision-making, including

capital project planning, development review, maintenance activities, enforcement coordination, grant pursuits, and routine performance monitoring. The policy, process, and strategy recommendations in **Table 8** are intended to help institutionalize the Safe System Approach, support implementation of the physical improvements identified in this plan and create a framework for continued accountability over time. Several strategies reflect ongoing practices that should continue, while others are organized into short-, medium-, and long-term time frames to help the City prioritize next steps and align recommendations with available staff capacity and funding opportunities. Together, these recommendations provide a practical roadmap for turning the CSAP from a planning document into an ongoing safety program.

TABLE 8: RECOMMENDATIONS

Strategy	Lead	Partner	Timeframe
Continue to implement the 25 mph Neighborhood Speed Limit Changes	Public Works		Ongoing until 2030
Continue enforcement activities	Police		Ongoing
Continue police presence during school pick up and drop off	Police		Ongoing
Continue the Sidewalk Repair Program	Public Works		Ongoing
Develop and implement a Complete Streets Policy	Planning & Zoning	Public Works	Medium Term
Create a Transportation Safety Task Force to monitor the plan's implementation	Public Works	Police	Short Term+
Screen and prioritize future CIP projects for overlap with the High Injury Network, high-risk intersections, systemic risk locations, low-moderate income areas, and community concerns	Public Works	Burgess & Niple	Short Term+
Add safety treatments to planned resurfacing, reconstruction, maintenance, and utility projects	Public Works		Short Term+
Track CSAP recommendations from funding through design, construction, completion, or deferral	Finance Dept	Public Works	Short Term+
Conduct a Citywide On-Street Parking Compliance Study	Public Works	Burgess & Niple	Long Term
Develop a Neighborhood Traffic Calming Program	Public Works	Burgess & Niple	Long Term
Implement the ADA Transition Plan	Human Resources	Public Works	Medium Term
Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles	Planning & Zoning / Public Works	Burgess & Niple	Medium Term
Strengthen driveway/access management and curb cut standards	Planning & Zoning	Public Works	Medium Term
Establish a routine safety review process for capital projects and development review	Public Works	Planning & Zoning	Medium Term
Develop a plan for coordinating school zones, signs, Safe Routes to School (SRTS) activities with the school districts	Benjamin Davis / Police	Public Works	Medium Term
Develop a SRTS Plan centered on the 6 E's of SRTS - engagement, equity, education, encouragement, engineering, and evaluation	Benjamin Davis / Police	Public Works	Long Term
Develop an Active Transportation Plan	Parks / Public Works		Long Term

Short Term: 1 year, Short Term+: 1 year & ongoing, Medium Term: 2-5 years, Long Term: 5+ years

Integrating CSAP recommendations into the City's CIP and grant strategy will help move the plan from analysis to implementation by ensuring safety projects are programmed, matched with appropriate funding sources, and positioned competitively for state, regional, and federal funding opportunities.

Funding

The City will approach implementation through a layered funding strategy that combines local dollars with competitive state, regional, and federal opportunities. The General Transportation

funded projects. To make projects more competitive and easier to deliver, the City will consider bundling related improvements by corridor, school area, crash pattern, or funding eligibility.

For example, lower-cost improvements such as pavement markings, signage, speed feedback signs, and lighting may be well suited for local funds or regional calls for projects, while larger corridor, intersection, sidewalk, and crossing improvements may be stronger candidates for federal and state programs. The City should also consider CDBG eligibility where projects provide area-wide benefits in low- and moderate-income areas. By aligning each countermeasure with the most appropriate funding source and identifying local match needs early, Watauga can leverage available resources, accelerate implementation, and advance safety improvements strategically and equitably.

While the current federal transportation authorization expires on September 30, 2026, this plan positions Watauga to pursue future implementation funding, including potential SS4A or similar discretionary grant opportunities. City staff should also coordinate with TxDOT and the North Central Texas Council of Governments (NCTCOG) to identify state and regional funding opportunities, including those summarized in **Table 9**.

Watauga is ready to compete for future SS4A implementation funding (if the program is reauthorized).

TABLE 9: SAMPLING OF POTENTIAL TxDOT AND NCTCOG FUNDING OPPORTUNITIES

TxDOT	NCTCOG
Selective Traffic Enforcement Program (STEP)	Surface Transportation Block Grant (STBG)
General Traffic Safety Grants	Transportation Alternative Set-Aside (TA)
Driver Education Grants Initiatives	
Highway Safety Improvement Program (HSIP)	

Table 10 is intended to help the City move from planning to implementation by linking each recommended project type with responsible departments, potential funding sources, and the safety need it addresses. This matrix can be used as a working tool during CIP development, grant screening, and annual progress reporting to help prioritize projects, identify local match needs, and coordinate implementation across departments and partner agencies.

TABLE 10: PROJECT-TO-FUNDING MATRIX

Project / Strategy	# of Locations/ Miles	Estimated Cost	Lead Department	Potential Funding Source	Reason
RRFB Installations	7	\$ 204,000	Public Works	TA, HSIP, SS4A, CDBG, STBG, local funds	Proven safety countermeasure for pedestrian crossings
Crosswalk Visibility Enhancements	59	\$ 130,211	Public Works	TA, HSIP, SS4A, CDBG, STBG, local funds	Proven safety countermeasure for pedestrian crossings
Chevrons	2	\$ 12,000	Public Works	HSIP, SS4A, CDBG, STBG, local funds	Proven safety countermeasure for curves
Updated Pavement Markings	5	\$ 68,070	Public Works	HSIP, SS4A, CDBG, STBG, local funds	Improving visibility and safety
New Crosswalk	21	\$ 28,399	Public Works	TA, HSIP, SS4A, CDBG, STBG, local funds	Pedestrian safety and ADA improvements
Sidewalk Gaps	4.9 miles	\$ 592,966	Public Works	TA, HSIP, SS4A, CDBG, STBG, local funds	Pedestrian safety and ADA improvements
Dynamic Speed Feedback Signs	6	\$ 60,000	Public Works / Police	HSIP, STEP, SS4A, STBG, CDBG, local funds	Speed management countermeasure
Street Lighting Improvements	2	\$ 250,400	Public Works	TA, HSIP, SS4A, STBG, CDBG, local funds	Public concern and nighttime crash reduction
Transportation Safety Task Force	NA	Staff time	Public Works	Local funds	CSAP implementation
Add safety treatments to planned projects	NA	Staff time	Public Works	Local funds	Incorporate safety into existing projects
Prioritize future CIP projects for safety, low-moderate income areas, and community concerns	NA	Staff time	Public Works	Local funds	CSAP implementation
Track CSAP infrastructure recommendations	NA	Staff time	Public Works	Local funds	CSAP implementation
Complete Streets Policy	NA	Staff time	Planning & Zoning	Local funds	Policy initiative rather than capital project
Citywide On-Street Parking Compliance Study	NA	Staff / Consultant	Public Works	Local funds	Improving safety
Neighborhood Traffic Calming Program	NA	Staff / Consultant	Public Works	Local funds, SS4A, CDBG	Create a holistic program to address neighborhood speeding concerns
Implement the ADA Transition Plan	NA	Staff time	Public Works	Local funds, SS4A, CDBG	Ensure compliance and pedestrian access
Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles	NA	Staff time	Public Works / Planning & Zoning	Local funds	Incorporate the Safe System Approach into the City's practices to improve safety
Strengthen driveway/access management and curb cut standards	NA	Staff time	Public Works / Planning & Zoning	Local funds	Incorporate the Safe System Approach into the City's practices to improve safety
Routine safety review process for capital projects and development review	NA	Staff time	Public Works / Planning & Zoning	Local funds	Incorporate safety into projects
Safe Routes to School Plan	NA	Staff / Consultant	Public Works + ISDs	SRTS grants, SS4A	School-area safety planning
Work with school districts on school zones, signs, Safe Routes to School activities	NA	Staff time	Public Works	Local funds, SRTS grants, SS4A	School-area safety planning
Active Transportation Plan	NA	Staff / Consultant	Public Works / Planning & Zoning	Local funds, TA	Ensuring pedestrian and biking facilities and safety

*CDBG funds must be spent in low-moderate income areas

Progress Tracking Framework

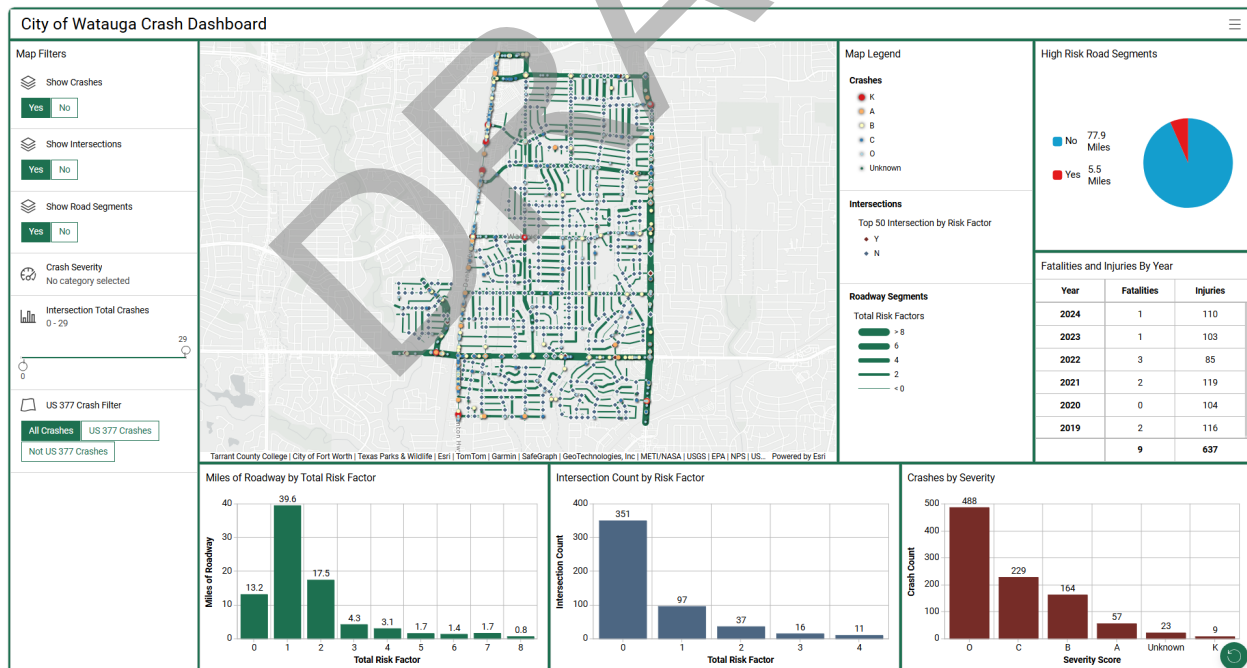
A website (<https://watauga-csap-hubsite-burgessniple.hub.arcgis.com>) with a crash dashboard was developed to track progress. This dashboard (shown in **Figure 25**) shows crashes, intersections, road segments, crash severity, intersection total crashes, crashes along US 377, the top 50 intersections, miles of roadway by total risk factor, high risk road segments, and the fatalities and injuries per year. The city will use the dashboard to monitor whether implemented countermeasures are associated with reductions in fatal and serious injury crashes over time and to adjust priorities as new crash trends emerge.

Annual Report

The fatal and serious injury crashes will be updated annually to track progress towards **Zero fatalities and serious injuries by 2055**. *[Will potentially add in other implementation projects to be tracked also like - Like number of projects CSAP projects completed, miles improved, funding secured, equity-area improved.]* The Public Works Department will present the annual implementation report to the City Council every year in September and ensure it is available on the City's website for public review.

This plan will be posted on the City of Watauga's website and will be updated at a minimum of every five years. Amendments can be made in the intervening years as necessary.

FIGURE 25: CRASH DASHBOARD



Appendix A: Plans, Policies, and Standards Review and Recommendations

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Introduction

The City of Watauga's dedication to safety has led to the development of the Comprehensive Safety Action Plan (CSAP) through the Safe Streets and Roads for All (SS4A) Grant. The purpose of this review is to assess existing City, County, and regional policies, plans, and standards to identify opportunities to better integrate transportation safety into decision-making. Applying the U.S. Department of Transportation Safe System Approach (SSA), the review will consider human vulnerability, land-use, mobility options, and behavior factors.

This review will help the City of Watauga make decisions by understanding current plans, policies, and standards in place. Assessment of current policies, plans, and guidelines/standards opportunities to improve how processes prioritize transportation safety and suggest adoption of revised or new policies, guidelines, and/or standards, as appropriate.

Review Areas



Existing Watauga, TX Plans, Policies, and Guidelines/Standards

The following existing City, County, and regional plans, and standards were thoughtfully examined to provide modifications to policies and process that align with the FHWA Safe System Approach (SSA). This review aims to bring consistency across the region, resulting in a shared effort to reduce fatalities and serious injuries from vehicle-related accidents.

Existing Standards

Watauga City Code of Ordinances

The City of Watauga Code of Ordinances is essential for establishing themes of safety into law. Looking at the Code of Ordinances helps pinpoint current safety laws already in place and identify gaps where new safety laws are missing. Chapters 30, 34, and 40 in the City of Watauga Code of Ordinance cover public safety measures.

Chapter 30: Parks and Recreation Facilities

- **Sec. 30-52. Key Takeaways:** The City of Watauga Code of Ordinances covers the regulations pertaining to motor vehicles. Chapter 30 highlights park safety.
- “All applicable state and local vehicle and traffic laws and ordinances shall continue in full force and effect in all parks.”
- “No person shall operate a vehicle on other than a paved vehicular road designated for that purpose.”
- “All law enforcement officers have the authority to limit traffic in a park in accordance with the provisions of this section or any other applicable laws and ordinances to control pedestrian and vehicular movement and park capacity.” Special traffic limitations should be necessary, from time to time, due to special events.
- “It shall be unlawful to operate any motor vehicle of any kind or nature whatsoever or any bicycle or motor bike at a speed more than 20 miles per hour within the municipal parks.”

Chapter 34: Streets, Sidewalks, and Other Public Places

- **Sec. 34-2. Key Takeaways:** Interference with use of streets and sidewalks and bans any structure, people, or waste container from blocking sidewalks.
- **Sec. 34-28. Key Takeaways:** Section 28 of Chapter 34 sets protective measures and routing of traffic during excavation.
- “*Barricades required.* It shall be the duty of every person cutting or making an excavation in or upon any public place to place and maintain barricades and warning devices necessary for safety of the public.”
- “*Minimum interference with traffic.* The permittee shall take appropriate measures to ensure that, during the performance of the excavation work, traffic conditions as near

normal as possible shall be always maintained to minimize inconvenience to the occupants of the adjoining property and to the public.”

- **Sec. 34-96. Key Takeaways:** Section 30 of Chapter 34 general Maintenance of Traffic (MOT) requirements during projects.
- **Sec. 34-124. Key Takeaways:** Section 124 of Chapter 34 establishes eligibility criteria for road humps and covers conditions to allow construction of a road hump. Has provisions a-q, see document for more details.
- **Sec. 34-127. Key Takeaways:** Section 127 of Chapter 34 states procedure for installation application for a road hump must come from a property owner on the street, not just any resident of the city.
- **Sec. 34-128. Key Takeaways:** Section 128 of Chapter 34 states procedure for removal or alteration of road hump. 80% of property owners of all residential dwellings on the street must sign in favor of the removal.

Chapter 40: Traffic and Vehicles

- **Sec. 40-4. Key Takeaways:** Section 4 of Chapter 40 covers visibility triangles.
- “The term "intersection visibility triangle" means a triangle sight area, at all intersections, which shall include that portion of public right-of-way and any corner lot within a triangle formed by a diagonal line extending through points on the two property lines 25 feet from the street corner intersection of the property lines (or that point of intersection of the property lines extended) and intersection of the curblines, see diagrams "A" and "B.”
- To ensure an unobstructed view, “Nothing shall be erected, placed, parked, planted, or allowed to grow in a manner as materially to impede vision between a height of two and one-half and ten feet above the centerline grades of the intersecting streets or driveways within the visibility triangle for intersections or driveways.”
- **Sec. 40-27. Key Takeaways:** Section 27 of Chapter 40 mandates that all traffic control devices, including signs, signals, and markings upon pavements and/or curbs, installed or used for the purpose of direction and controlling traffic within the city shall conform with the Texas Manual of Uniform Traffic Control Devices for Streets and Highways (TMUTCD).
- **Sec. 40-32. Key Takeaways:** Section 32 of Chapter 40 grants the director of public works authorization to post the following traffic-control signals and signs at the following locations on dates when there is expected to be increased vehicular traffic resulting from events held at Texas Motor Speedway. There are 13, see the document for full details.
- **Sec. 40-119. Key Takeaways:** Section 119 of Chapter 40 grants exemptions to 1) an authorized emergency vehicle responding to a call, 2) a police patrol; or 3) a physician or ambulance responding to an emergency call.

- **Sec. 40-122. Key Takeaways:** Section 122 of Chapter 40 establishes speed limits in the school zones. The City of Watauga has 19 different school zones listed, see document for full details.
- **Sec. 40-123. Key Takeaways:** Section 123 of Chapter 40 establishes the perimeters of the park zones and authorizes the director of public works to post traffic control signs reflecting the permissible speed and designated hours for park zones. The City of Watauga has 12 different park zones throughout the city, see document for full details.
- **Sec. 40-145 and 40-146. Key Takeaways:** Section 145 and 146 of Chapter 40 prohibits through truck routes for the use of commercial trucks in city limits and establishes route exceptions as provided: 1) U.S. Highway 377, also known as Denton Highway; 2) Rufe Snow Drive; and 3) Watauga Road. 40-146 provides smaller routes for small sections of businesses.
- **Sec. 40-289. Key Takeaways:** Section 289 of Chapter 40 prohibits any child from operating or riding a motor-assisted scooter on any path, trail, alley, street or highway within the city, except on paths and trails set aside for the exclusive operation of bicycles.
- **Sec. 40-290. Key Takeaways:** Section 290 requires any child operating or riding a motor-assisted scooter to wear a helmet.

City of Watauga Zoning Code

Expanding from the Code of Ordinances, the City of Watauga Zoning Code is also essential for promoting safety. Looking at the Zoning Code helps pinpoint current safe land-use laws already in place and identify gaps where safe land-use laws are missing. Chapter 115 in the City of Watauga Zoning Code covers safe land-use measures.

Chapter 115: Zoning Districts Established

- **Sec. 115-62. Key Takeaways:** The Zoning Code spells out requirements of a Planned Development (PD). During the review and evaluation process for Planned Development, the safety criteria shall be considered, the adequacy of the design location, and arrangement of all driveways and parking spaces to provide for the safe and convenient movement of vehicle and pedestrian traffic.

Watauga ADA Transition Plan

In October 2025, the City of Watauga adopted an ADA Transition Plan to ensure that all individuals, including those with disabilities, have equal access to programs, services, facilities, and public spaces.

Plan Focus Areas: The ADA Transition Plan prioritizes improvements that strengthen accessibility and continuity throughout the pedestrian network, including upgraded pedestrian infrastructure, improved crossing zones, and safer, continuous routes for residents with disabilities.

Key Takeaways: Pedestrian signals should be included in all signal projects in areas where pedestrians are expected. Restriction of turning movements or prohibiting right turns on red during

hours when pedestrian traffic is most prevalent may improve pedestrian safety at signalized intersections, as well as installing signing such as “Turning Vehicles Yield to Pedestrians” (R10-15).

Key Takeaways: Installation of curb ramps at all crossing corners.

Key Takeaways: The ADA Transition Plan establishes a legally required, systematic process for identifying and addressing physical accessibility barriers. For the City of Watauga, this framework supports ongoing evaluation and improvement across city buildings, parks, trails, streets, and sidewalks. It also helps the City prioritize barrier removal, schedule improvements, and track progress over time.

Existing NCTCOG MPO Plans

Mobility 2050: The Metropolitan Transportation Plan (MTP)

The North Central Texas Council of Governments (NCTCOG) serves as the Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth region encompassing 16 counties.

Since 1960, the federal government has mandated any urbanized area of populations over 50,000 to form an MPO. MPO’s are also federally required to develop a 20+ year metropolitan transportation plan (MTP) that guides transportation infrastructure investments and initiatives. Mobility 2050: The Metropolitan Transportation Plan consists of policies and programs that address regional transportation demands and public needs. While there is no safety projects outlined in Mobility 2050 that directly affect the City of Watauga, there are safety policies. The key safety policies that will guide decision-making outlined in Mobility 2050 are

Congestion Management and Operational Efficiency Policies

- **MO3-001:** This policy ensures the efficient operation of the existing multimodal transportation system by evaluating and/or implementing maintenance, rehabilitation, enhancement, and/or operational type projects.

Transportation System Safety Policies

- **TSSF3-001:** This policy implements safety strategies in work zones that are consistent with industry’s best practices.
- **TSSF3-002:** This policy develops safety information projects and partners with the Texas Department of Transportation (TxDOT), local governments, local police departments, and other organizations to encourage the sharing of regional safety data.
- **TSSF3-003:** This policy implements programs, policies, and projects that assist in reducing roadway crashes under a general umbrella and eliminating fatalities and serious injuries across all modes of travel towards zero deaths (Vision Zero).
- **TSSF3-004:** This policy implements roadway improvement strategies that assist in reducing wrong-way driving incidents that are consistent with regional/industry best practices.
- **TSSF3-005:** This policy implements low-cost, systemic safety countermeasures and improvements that assist in reducing fatalities and serious injury crashes consistent with strategies outlined in the *Intersection safety Implementation Plan for North Texas*, the *Regional Roadway Safety Plan*, the *Regional Strategic Plans for Pedestrian Safety and Bicycle Safety*.

- **TSSF3-006:** This policy implements a multiagency Traffic Incident Management Program that establishes a common and coordinated response to traffic incidents consistent with Regional Transportation Council Resolution R08-10.

Connected/Automated Vehicles and Technologies

- **TT3-005:** This policy states that new transportation technologies must be deployed in a manner consistent with Mobility 2050 goals, of providing the public with a transportation system that is equitable and protects the safety of all users.
- **TT3-008:** This policy establishes that the region will prioritize the safety of all transportation system users in and through the deployment of emerging modes of transportation such as e-scooters, e-bikes, automated vehicles, and delivery robots.

The Mobility Assistance Patrol Program (MAPP) adopted by the Regional Transportation Council (RTC) is an essential element to the region's incident management operations. MAPP helps alleviate congestion and improves safety on highways in Dallas, Tarrant, and portions of Collin, and Denton counties. MAPP's mission is to get stranded vehicles operating or off the roadway completely. MAPP also assists first responders by providing traffic control at the scene of crashes on patrolled railways.

Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) is a federally required planning document that identifies transportation projects with committed funding scheduled for implementation over a four-year period.

A key safety project that will improve safety in the City of Watauga is the improvement of traffic signals.

Traffic Signal Improvements Starnes Road at Rufe Snow Drive

Key Takeaways: The intersection at Starnes and Rufe Snow Drive is currently undergoing safety upgrades that include reconstruction of traffic signals, updated pavement markings and striping, new pedestrian signals, ADA compliant ramps, and improved sidewalk connections.

This project is funded through federal grants from the Highway Safety Improvement Program (HSIP) managed by TxDOT. The City of North Richland Hills applied for the competitive grant and will contribute matching funds to complete the improvement to the intersection.

Existing Regional Plans

Tarrant County, TX Consolidated Plan

Key Takeaways: The first guideline of Basic Infrastructure and Handicapped Accessibility Improvement for Public Facilities states that all public parks, senior centers, sidewalks leading to public facilities are prioritized for accessible accommodations including ramps, handicapped parking, and safe, level sidewalks.

The Tarrant County Consolidated Plan prioritizes the community development needs analysis that includes alternative modes of transportation.

Statewide Plans and Guidance

TxDOT Strategic Highway Safety Plan (SHSP) 2022-2027

Key Takeaways: In 2024, 4150 fatalities have happened on Texas roadways. A major goal of the statewide SHSP is to prevent crashes by aligning principals of the Road-to-Zero (RTZ) framework. Projecting to reduce fatalities to 1,800 by 2035 and zero fatalities by 2050.

2025 Texas Manual on Uniform Traffic Control Devices (TMUTCD)

Key Takeaways: The TMUTCD establishes uniform state and national standards for the use of traffic control devices that meet the needs and expectations of road users on all streets, highways, pedestrian and bicycle facilities, and roadways open to public travel.

- **Signs (Part 2):** Outlines sign standards for size, color, units of information, and placement.
- **Markings (Part 3):** Outlines pavement geometry markings, object markers, warning/hazard markers, and miscellaneous markings.
- **Signals (Part 4):** Outlines meanings of traffic signals, meanings of bicycle signals, and meanings of pedestrian signals.
- **Special Zones (Part 7, 8, and 9):** Outlines standard for special zones such as, school areas, bicycle facilities, and railroad crossings.
- **Temporary Traffic Controls, TTC (Part 6):** Outlines the standards when the normal function of the roadway is suspended.

National Level Guidance

A Policy on Geometric Design of Highways and Streets, 7th Edition

Key Takeaways: Referred to as the Green Book, is a design guideline for highway and street geometric design and establishes comprehensive safety guidelines.

A Guide for Maintaining Pedestrian Facilities for Enhanced Safety

Key Takeaways: This guide provides comprehensive maintenance-oriented guidance to agencies and organizations responsible for constructing or maintaining pedestrian facilities, such as sidewalks, curb ramps, crosswalks, pedestrian signals, pedestrian signing, and pedestrian paths.

Guidance to Improve Pedestrian and Bicycle Safety at Intersections

Key Takeaways: This guide focuses on intersection countermeasure options as intersections have a greater potential countermeasure to consider for pedestrians and bicyclists than mid-segment locations. It focuses on countermeasures in the top five crash types for pedestrians and the top seven crash types for bicyclists.

Watauga Policy Changes

25 MPH Neighborhood Speed Limit Changes

Key Takeaways: The City of Watauga is reducing speed limits from 30 mph to 25 mph on many neighborhood streets. This effort is funded through the 2025–2026 budget and will be implemented over the next five years. As of May 12, 2026, speed limit changes had already been completed on several streets.

For the full list of updated streets, see the City of Watauga NewsFlash page. May 12, 2026 Traffic Safety Update: 25 MPH Neighborhood Speed Limit Changes.

Recommendations

After careful review of existing plans, policies, guidelines, and standards holistic recommendations can be made to update City-mandated documents or suggest new guidance to be adopted by Watauga. These recommendations align with local and regional goals and advance the City of Watauga's vision of zero fatalities.

City of Watauga Active Transportation Plan (ATP)

Development of an Active Transportation Plan. The development of an ATP will complement the Comprehensive Safety Action Plan by aligning the same goals and objectives of the commitment to safety.

Active Transportation focuses on modes of transportation that do not involve cars. Active Transportation plays an important role in safety because it provides alternative modes of travel and supports users that cannot sustain a car-centric lifestyle. This will address the needs of stakeholders in the townhall interactive survey from *One Watauga* conducted in 2016.

- More sidewalks were identified by 58% of the attendees as their number one pedestrian circulation need.
- Mixed-use developments were identified as the development type missing the most.

Recommended Components

- Integrated Vision Zero Policy.
- Development of bike lanes protected and non-protected.
- Leading Pedestrian Interval (LPI) coupled with Accessible Pedestrian Signals (APS).
- Complete Streets Policy / Traffic Calming.

Develop a Safe Routes to School (SRTS) Plan

The development of an SRTS Plan is designed to improve accessibility and safety for students walking and biking to school and is centered around the 6 E's of Safe Routes to School: engagement, equity, education, encouragement, engineering, and evaluation.

City of Watauga Zoning Code Update

The City of Watauga can incorporate the Safe System Approach (SSA) into their Zoning Code. Components of the Safe System Approach that can be incorporated are:

- **Safe Roads:** Complete Streets Requirements.
- **Safe Speeds:** Design for Target Speeds.
- **Safe Road Users:** Curb Cut Requirements.
- **Safety Review Requirements:** Establish a routine safety review process for capital projects and development review.

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Appendix B: Crash Analysis

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Introduction

This Plan uses TxDOT Crash Records Information System (CRIS) crash data from 2019 through 2024 and classifies crash severity based on the most severe injury reported for any person involved in the crash. This plan uses the following terms: fatal crashes (K), serious-injury crashes (A), minor-injury crashes (B), possible-injury crashes (C), and no-injury/property damage only crashes (O). Fatal and serious-injury crashes are grouped together as severe crashes, also referred to as KA crashes, because they involve people who were killed or seriously injured. These severe crashes are the primary focus of this Comprehensive Safety Action Plan because they represent the greatest risk to life and health on Watauga's transportation system. The crash analysis evaluated the number of severe crashes (KA), severe and minor injury crashes (KAB), and severe, minor and possible-injury crashes (KABC) over time, by the day of the week, and by month. It also looked at the KA and KAB crashes for the 7 emphasis areas identified: intersection, speed, lane departure, distracted, impaired, bike/ped, unbelted.

Crash Analysis

Background

Crashes occurring on US 377 were analyzed as part of a separate, corridor-specific study found in **Appendix E: US 377 Corridor Analysis**. US 377 is not owned or maintained by the City, and implementation authority for many potential safety countermeasures along that corridor rests outside the City's control. Including US 377 in the citywide safety analysis would therefore disproportionately influence the results toward a roadway where the City has limited ability to implement recommended improvements. By evaluating US 377 separately, the City can coordinate corridor-specific safety strategies with TxDOT while ensuring that the City's comprehensive safety action plan prioritizes implementable countermeasures on City-owned roadways where the City has direct authority to make near- and mid-term safety improvements. This approach allows the plan to more effectively reduce severe crashes across the City's roadway network.

Crash Analysis

Figure B1 shows the crash trends from 2019 to 2024. As shown, there is a slight upward total crash trend and a slight downward severe crash trend. Overall, the crashes have been relatively flat over time with approximately 97 crashes per year and approximately 5 severe crashes per year. The yellow line includes fatal and severe crashes.

FIGURE B1: CRASH TRENDS (2019-2024)

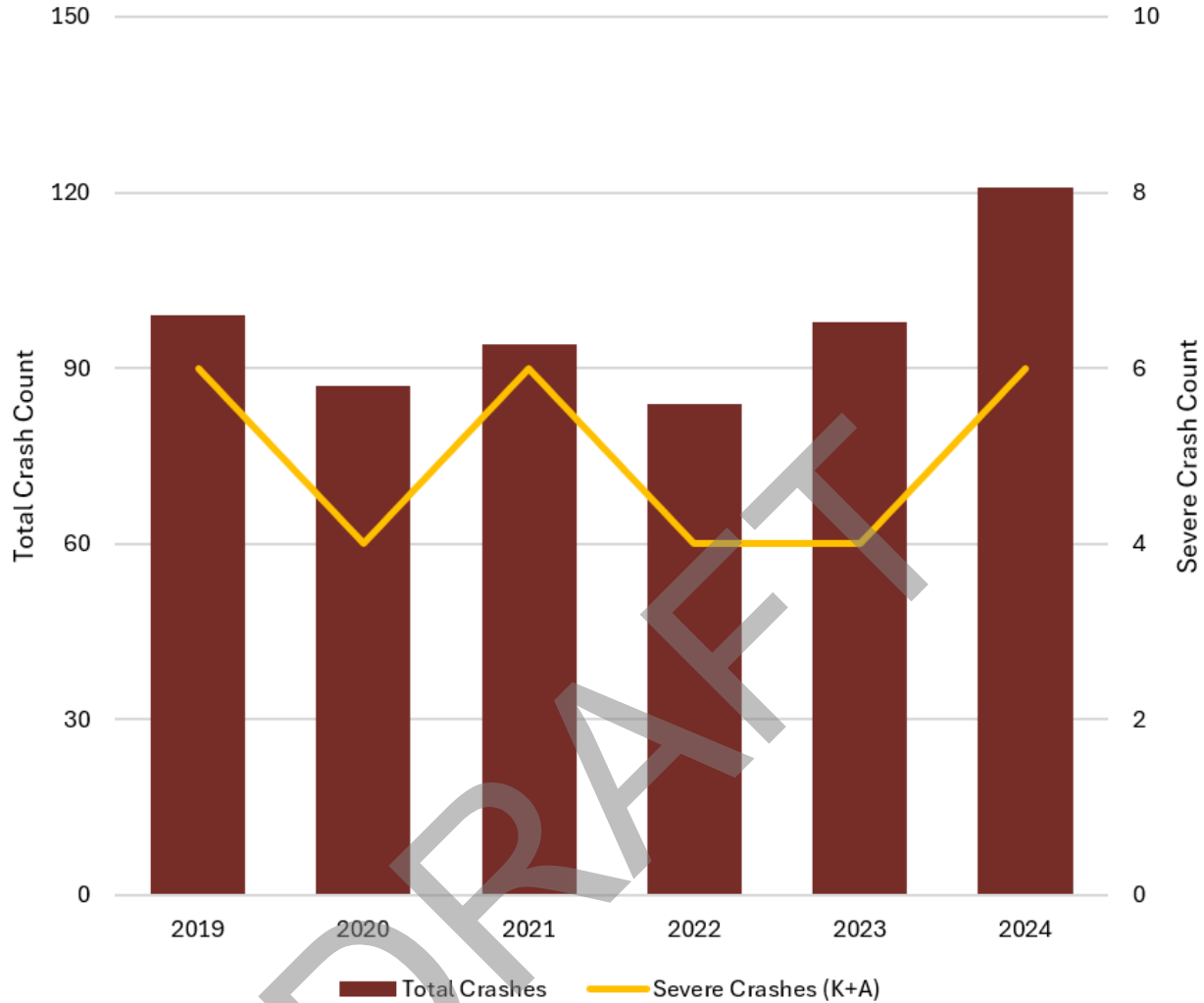


Figure B2 shows the crashes over time as a percentage of all six years of data. For example, the red bars show the total crashes for each year, as a percentage of all six years of data. The blue bars indicate the total severe crashes (KA) for that year as a percentage of KA crashes for all six years. In 2019, 2021, and 2024, the KA crashes were 20% of all KA crashes for the six years of data. Of the six years of data, 2024 saw the highest percentage of total crashes as well as the highest percentage of KABC crashes.

FIGURE B2: CRASHES OVER TIME

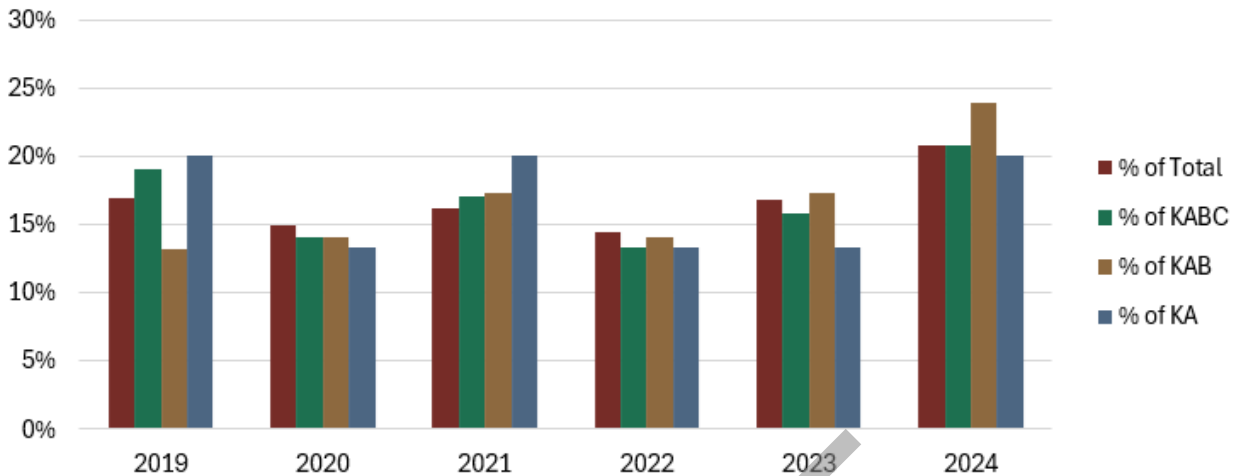


Figure B3 displays the crashes by the day of the week. The largest percentage (27%) of KA crashes occurred on Mondays with a total of eight KA crashes. The next highest percentage (20%) of KA crashes was Tuesday and Friday both with six KA crashes. Interestingly, no KAs occurred on Saturday during the data years of 2019-2024.

FIGURE B3: CRASHES BY DAY OF WEEK

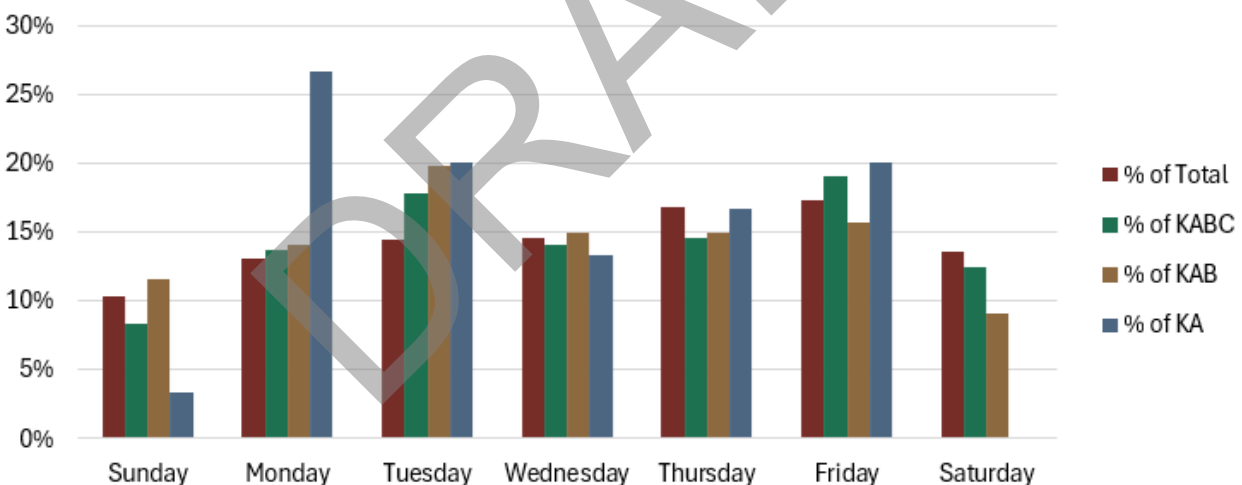
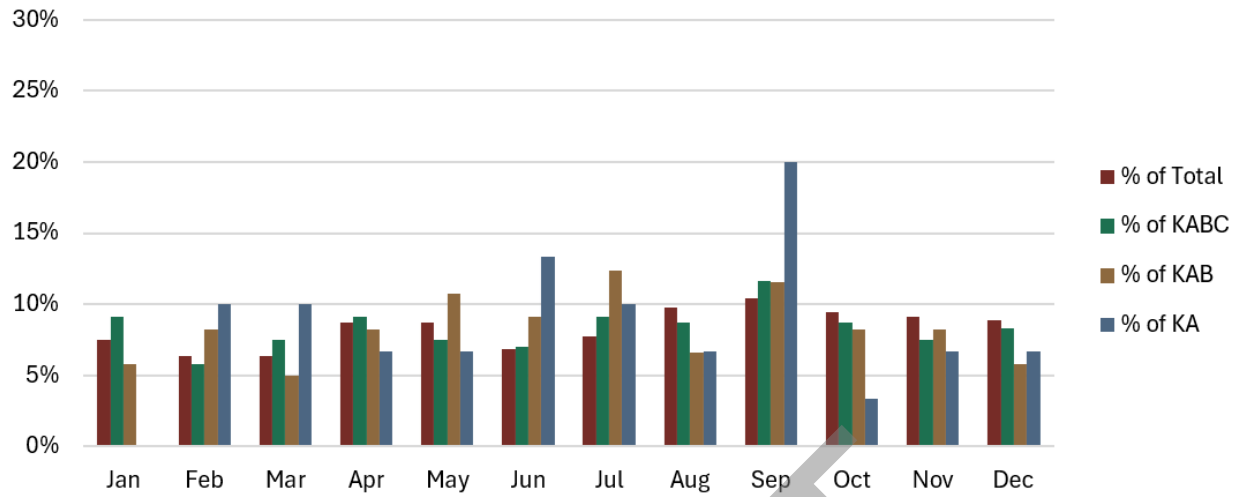


Figure B4 shows the crashes by month. The highest percentage (20%) of KA crashes occurred in September shown in the blue bar with a total of six KA crashes. The next highest percentage (13%) of KA crashes was in June with four KA crashes. The highest percentage (12%) of KABs occurred in both July and September and is shown in the brown bar, with fifteen and fourteen KAB crashes respectively. The total number of crashes hovered around 8% each month, except it popped up to 10% in both August and September (shown in red).

FIGURE B4: CRASHES BY MONTH



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The KABC crashes are shown in **Figure B5**. All but one of the fatal crashes (shown as red dots) occurred on a Major Arterial road. Also, a majority of the crashes occurred at intersections.

FIGURE B5: KABC CRASHES



Legend

- | | | |
|---|---|---|
| ● K | — Major Arterial | City of Watauga Border |
| ● A | — Minor Arterial | |
| ● B | — Major Collector | |



Emphasis Areas

Background

Emphasis areas organize crash data by characteristics such as intersections, lane departure, and unbelted occupants to help identify where focused action is needed to reduce fatalities and serious injuries. By identifying high-priority issues, we can target strategies that help prevent deaths and serious injuries on our roadways.

Like the crash analysis above, the Emphasis Area Analysis evaluated fatal crashes (K), serious-injury crashes (A), minor-injury crashes (B), possible-injury crashes (C), and no-injury/property-damage-only crashes (O). Additionally, this Emphasis Area Analysis did not include US 377 as it not owned or maintained by the City and including it would disproportionately influence the results.

Emphasis Area Analysis

Figure B6 shows all the crash types studied in this planning process. At least 70% were intersection-related. The percentage of KAs (shown in brown) is 80%. This means that severe crashes (KA) are occurring 80% of the time at intersections (which was reflected in **Figure B5**).

This strong concentration indicates that intersections are the most critical locations for improving safety outcomes. The overrepresentation of severe crashes at intersections suggests that conflict points, turning movements, and complex traffic interactions are key contributors to serious injuries and fatalities. These findings highlight the importance of prioritizing intersection-focused countermeasures, such as improved signal timing, visibility enhancements, and design modifications that reduce conflict points.

FIGURE B6: INTERSECTION

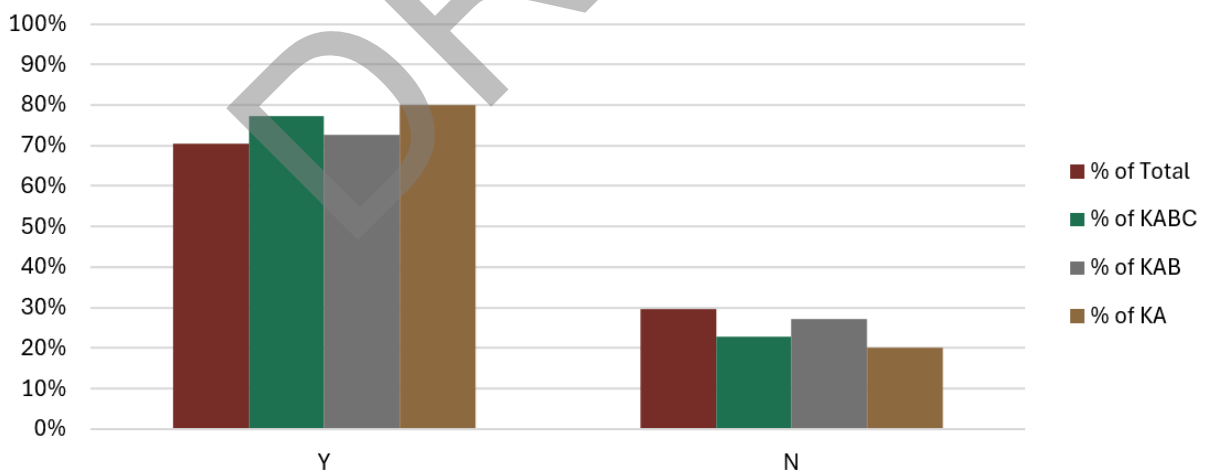


Figure B7 indicates that speeding is a contributing factor in a notable share of crashes, particularly among more severe crash types. Approximately 27% of KA crashes (in brown) and 25% of KAB crashes (in gray) involved speeding, compared to 20% of total crashes (in red).

This trend shows that while speeding is not present in the majority of crashes, it is disproportionately associated with higher-severity outcomes. The elevated presence of speed-related factors in severe crashes underscores the role of speed in increasing both crash likelihood and injury severity. Addressing speeding – through enforcement, roadway design, and speed management strategies – should be a key component of efforts to reduce fatalities and serious injuries.

FIGURE B7: SPEED

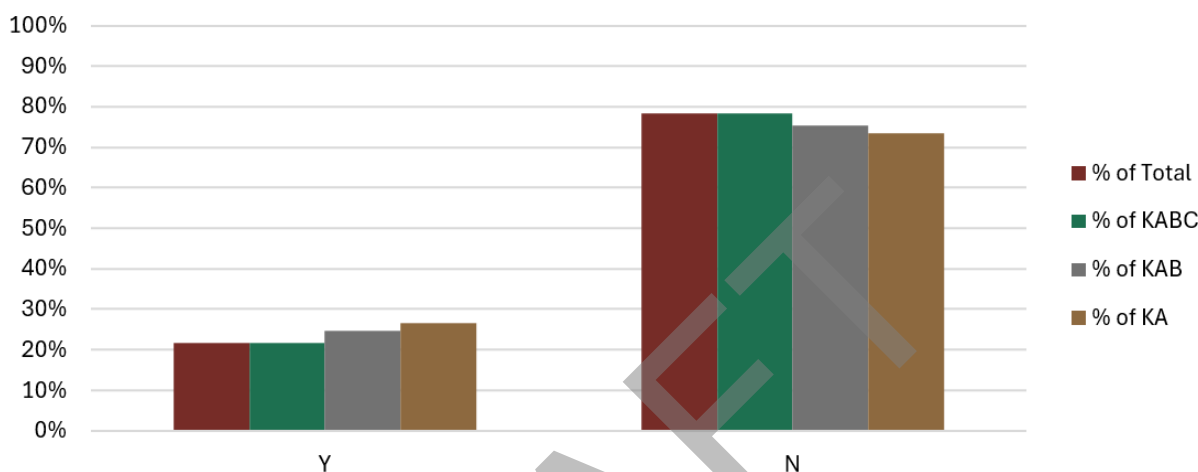


Figure B8 displays the crashes involving lane departure. Of the total crashes, 24% involved lane departure (shown in red). Additionally, 17% of KA (shown in brown) crashes involved lane departure. While lane departure is less prevalent than intersection-related crashes, it still represents a significant source of crash risk, particularly on roadway segments. The lower share among the most severe crashes suggests it may be somewhat less associated with the highest injury outcomes compared to other factors. However, the overall frequency indicates a continued need to address roadway characteristics that contribute to lane departure, such as inadequate lane delineation, lack of shoulders, or roadside conditions.

FIGURE B8: LANE DEPARTURE

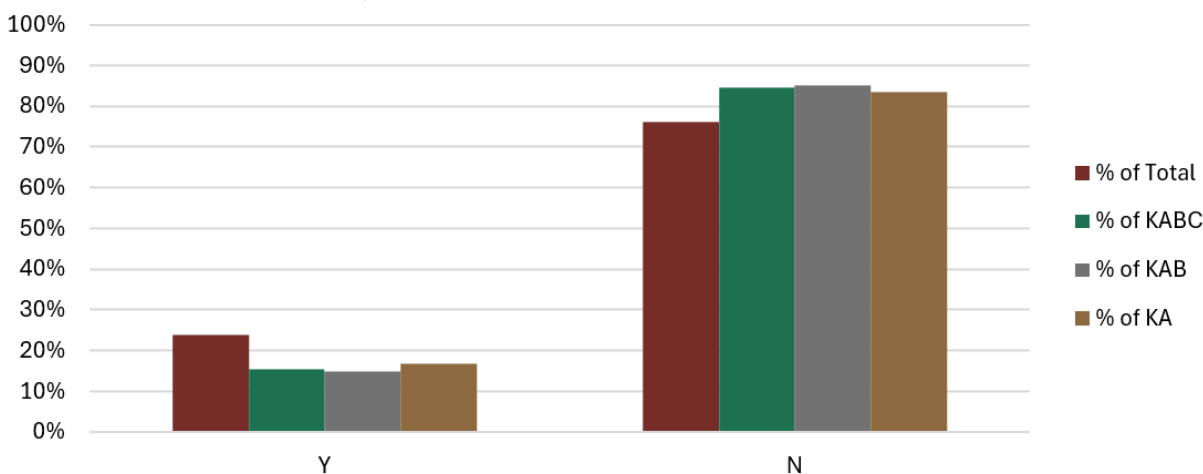


Figure B9 shows if the crashes were a result of distracted participants (drivers, pedestrians, or bicycle riders). As displayed, 87% of KA crashes (shown in brown) did not involve distraction. Interestingly, the highest percentage of crashes that do include distraction are the KAB crashes at 26% (shown in gray). This pattern suggests that distraction may contribute more frequently to crash occurrence but is less strongly associated with the most severe crash outcomes. It may also reflect challenges in accurately identifying distraction in crash reporting. Even so, the relatively high share among KAB crashes indicates that distraction remains an important safety concern.

FIGURE B9: DISTRACTED

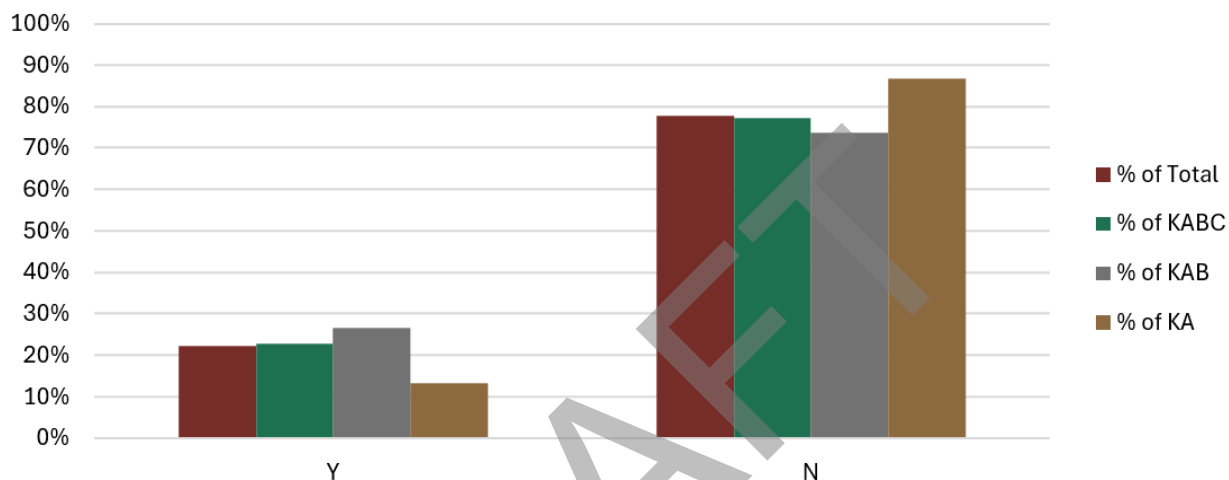


Figure B10 shows that impairment is not a common factor in the dataset, with only a small percentage of crashes involving impaired participants. Only one crash involved a potentially impaired pedestrian or bicyclist. Although impairment appears infrequent, it is widely recognized as a high-risk behavior that can lead to severe outcomes. The low number of reported cases may reflect underreporting or the limitations of available data. Even at low levels, impairment remains an important emphasis area due to its strong association with serious injury and fatal crashes.

FIGURE B10: IMPAIRED

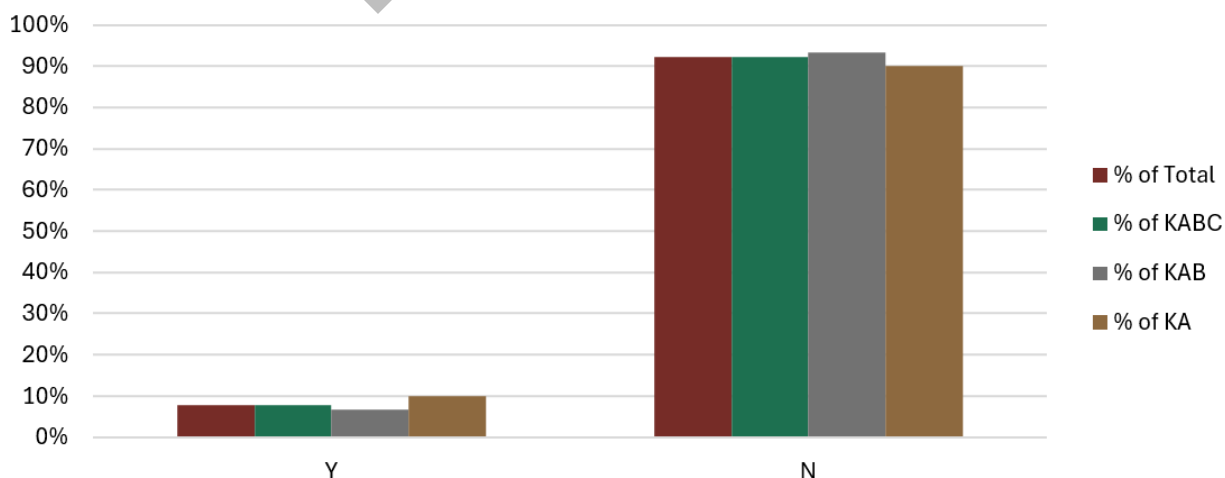


Figure B11 shows that pedestrians and bicyclists are involved in 10% or fewer crashes overall. However, when these users are involved, the crashes tend to be more severe, with the highest share occurring in KA crashes. This indicates that although pedestrian and bicycle crashes are relatively infrequent, they result in disproportionately severe outcomes. Vulnerable road users lack the physical protection of motor vehicles, making them more susceptible to serious injury or death when crashes occur.

FIGURE B11: PEDESTRIAN/BIKE

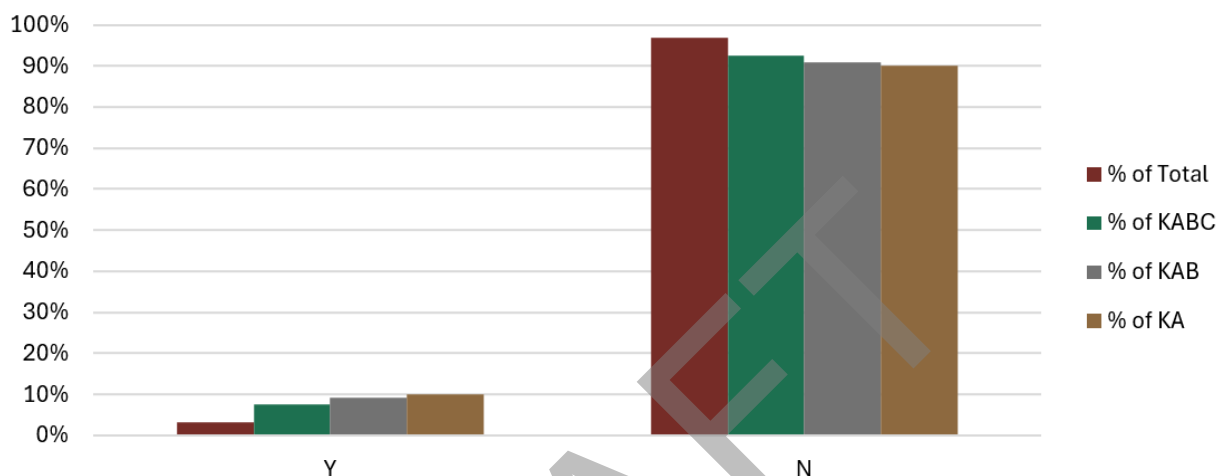


Figure B12 shows that a very small percentage of crash participants were unbelted, generally ranging from 1% to 3%. This low percentage suggests strong seatbelt compliance within the City, which is a positive safety outcome. However, even a small proportion of unbelted occupants can contribute disproportionately to severe injuries and fatalities.

FIGURE B12: UNBELTED

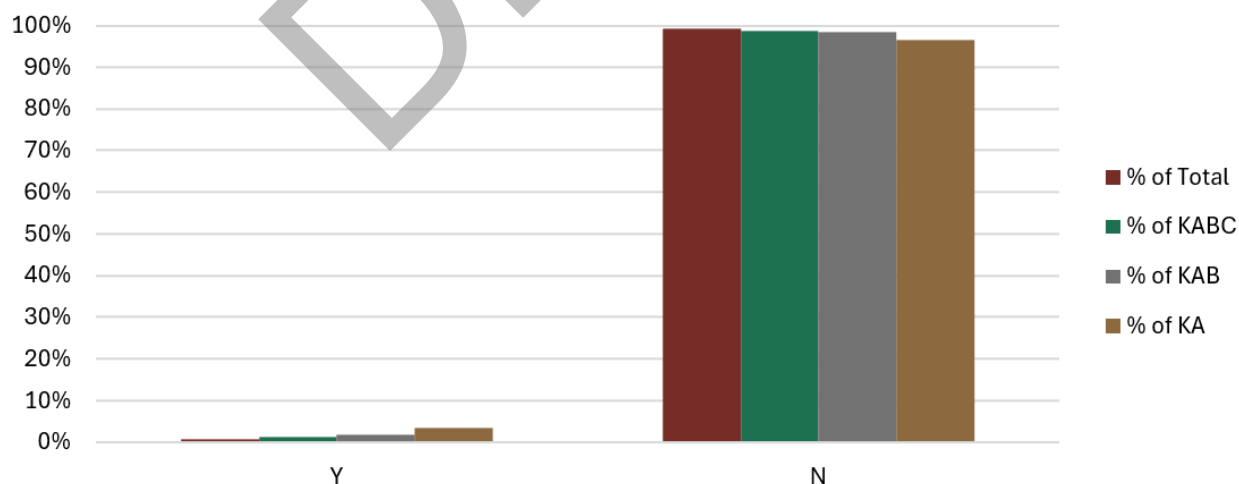
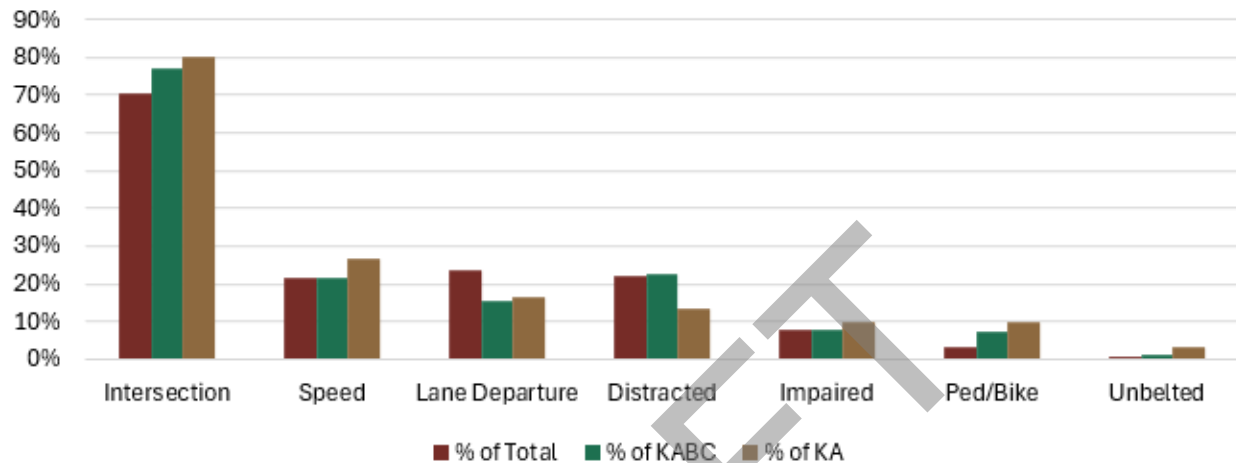


Figure B13 summarizes the relative importance of each emphasis area by comparing the percentage of severe (KA) crashes across categories. As shown, intersection-related crashes account for by far the highest share of KA crashes, significantly exceeding all other emphasis areas.

This finding reinforces the results presented in previous figures and confirms that intersections are the most critical focus area for reducing severe crashes. While other factors such as speed, lane departure, and distraction contribute to crash occurrence, their relative impact on the most severe outcomes is notably lower. The concentration of KA crashes at intersections suggests that targeted safety investments in these locations are likely to yield the greatest benefits.

FIGURE B13: EMPHASIS AREA SUMMARY



Appendix C: Systemic Analysis

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Introduction

This analysis uses a proactive safety approach aimed at preventing fatal and serious injury crashes before they occur. Rather than focusing only on locations with a history of crashes, systemic analysis prioritizes safety improvements at sites where key risk factors are present. The Watauga Systemic Analysis was divided into two separate systemic analyses, one for intersections (512 intersections) and one for segments (80.5 miles).

GIS, Crash Records Information System (CRIS) data, and local sources were used to identify historical crash patterns and risk factors, helping prioritize future safety improvements. This data-driven approach evaluated several risk factors, including functional class, traffic volume, intersection density, and other significant roadway characteristics. Risk factors were determined using a threshold of 5 percent or more between the percentage of KAB crashes and the percentage of intersections or miles. Understanding how these risk factors relate to crash risk leads to proactive, intentional, and effective safety countermeasures aimed at reducing fatalities and serious injuries.

Intersection Systemic Analysis

Background

To develop the intersection systemic analysis, 512 intersections were analyzed. This excluded the intersections on US 377 as they were part of their own corridor analysis in [Appendix E](#). Each intersection had a 300-foot buffer applied to it. Crashes within that 300-foot buffer were attributed to that intersection. TxDOT crashes were evaluated from 2019 to 2024. Based on the 300-foot buffer, 397 total crashes were assigned across the 512 intersections with four fatal crashes (K), 24 serious-injury crashes (A), 62 minor-injury crashes (B), 84 possible-injury crashes (C) and 223 property damage only (PDO) or unknown severity crashes.

Risk Factors

Risk factors were then identified. Risk factors do not cause crashes, but an accumulation of risk factors may indicate a greater prevalence of crash history, not an isolated instance. Risk factors were determined using a 5% difference between the percentage of KAB crashes and the percentage of intersections.

Fourteen (14) potential risk factors were screened as shown in [Table C1](#). These intersection attributes were selected for screening based on data readily available from the TxDOT and Watauga databases. Each attribute was screened independently to determine whether the proportion of KAB crashes at intersections with that attribute exceeded the proportion of intersections exhibiting it by more than 5 percent, indicating overrepresentation. A correlation analysis was then performed on all preliminary attributes meeting the risk factor criteria to identify redundancy among them. Five independent risk factors were retained, and nine were discarded due to duplication or insufficient data.

They are shown in [Figure C1](#) through [Figure C5](#).

TABLE C1: LIST OF SCREENED ATTRIBUTES FOR INTERSECTIONS

Identified Risk Factors	Discarded Screened Attributes
Traffic Control	Lane Count – by approach
Offset Configuration	Total Entering AADT
Functional Class – by approach	Approach Length
Average Entering AADT	K Factor – by approach
Number of Legs – by approach	K Factor – average
	D Factor – by approach
	D Factor – average
	Average Entering Truck AADT
	Total Entering Truck AADT

Figure C1 shows the percentage of crashes occurring at different traffic control devices. A higher percentage of crashes occurred on Two-Way Stop-Controlled (TWSC) intersections and signalized intersections compared to All-Way Stop-Controlled (AWSC) intersections. However, signalized intersections are overrepresented in the percentage of crashes relative to the percentage of intersections that exist in Watauga (as shown by the green line). Signalized intersections account for 41% of KAB crashes on 3% of intersections. Additionally, more KA crashes occur at AWSC intersections than are expected based on the percentage of intersections in Watauga's system.

*Traffic Control Risk Factor
= Signalized Intersections*

FIGURE C1: TRAFFIC CONTROL

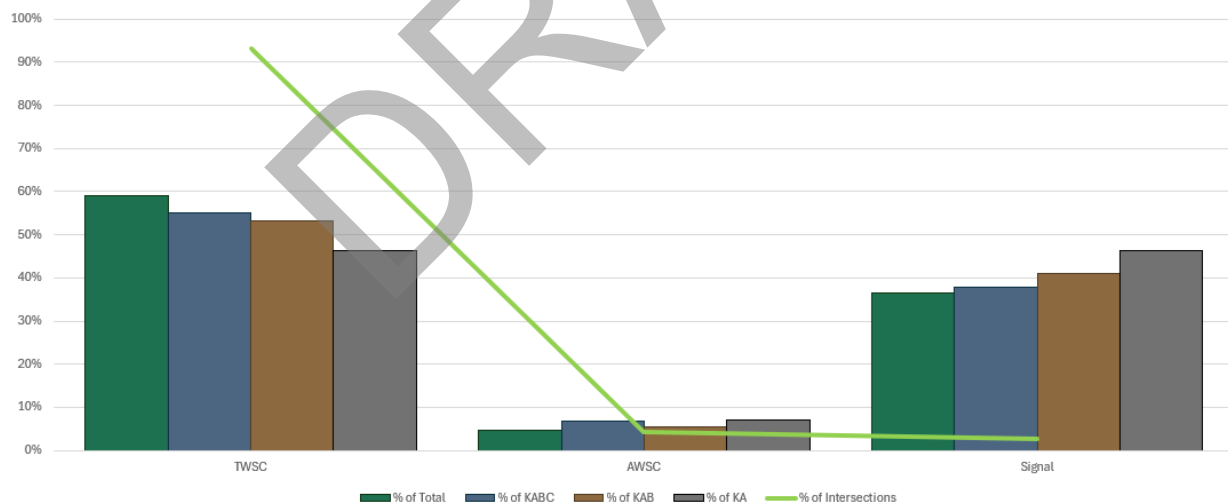


Figure C2 shows the percentage of crashes occurring at intersections with and without offset approaches. Intersections without an offset make up the vast majority of both the system and crash occurrences. However, intersections with an offset approach are slightly overrepresented in all crashes relative to their share of intersections, indicating that offset configurations may contribute to increased crash severity or complexity. While these locations are relatively few, their

*Offset Risk Factor
= Offset*

disproportionate crash representation suggests they may warrant targeted consideration in safety improvements. An offset configuration accounts for 13% of KAB crashes on 5% of intersections.

FIGURE C2: OFFSET

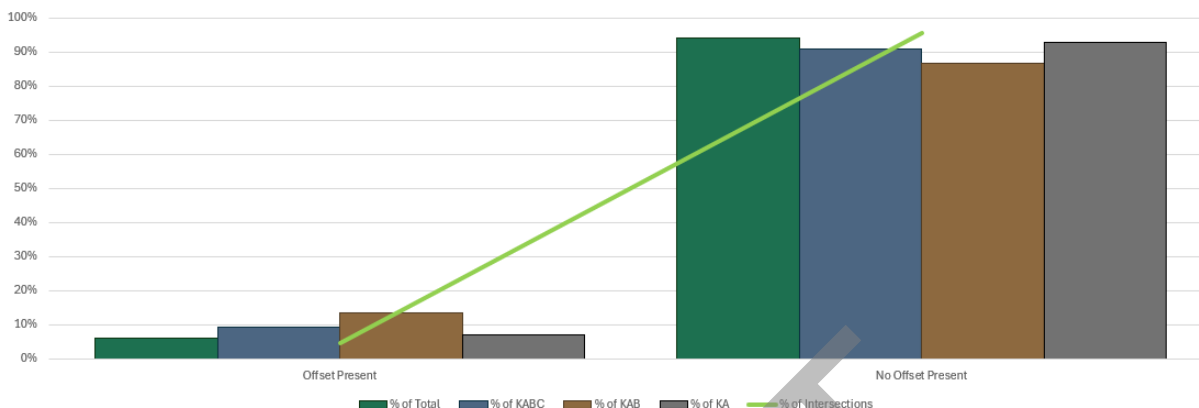


Figure C3 shows the distribution of crashes by functional class of the intersecting approaches. Arterial-to-local, arterial-to-collector, and arterial-to-arterial are the risk factors for Functional Class by approach which accounts for 69% of KAB crashes on 11% of intersections.

Specifically arterial-to-local and arterial-to-collector have higher KA and KABC crashes suggesting elevated crash risk. In contrast, local-to-local and collector-to-local intersections are underrepresented in crash percentages relative to their frequency, indicating comparatively lower risk. This trend highlights the importance of focusing systemic safety strategies on intersections involving arterial roadways.

Functional Class by Approach Risk Factor = Arterial-to-local, arterial-to-collector, and arterial-to-arterial

FIGURE C3: FUNCTIONAL CLASS BY APPROACH

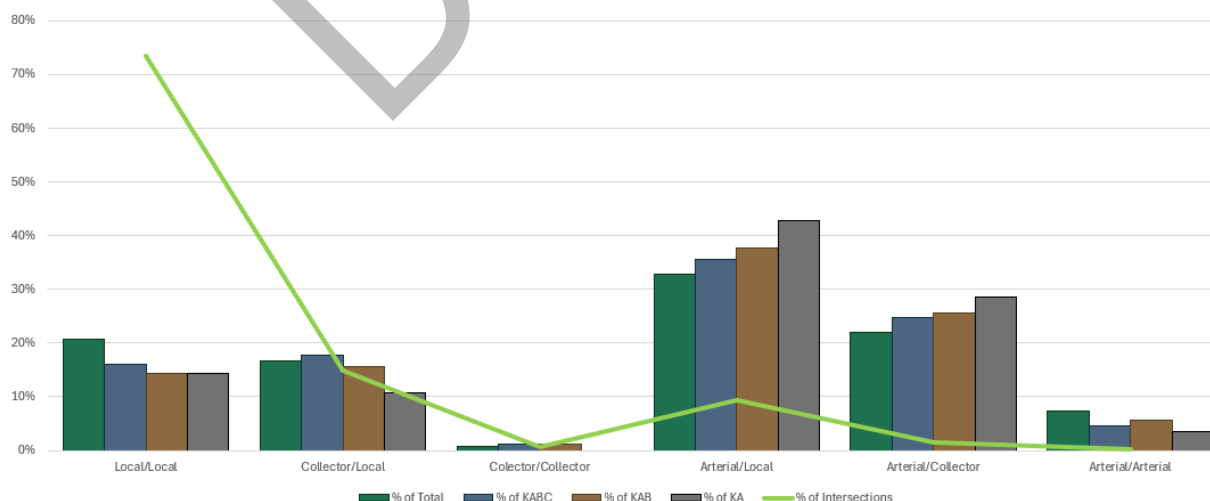


Figure C4 shows the relationship between crash occurrence and average entering AADT. 6,001-7,000 and >8,000 AADT accounts for 69% of KAB crashes on 8% of intersections. Lower-volume intersections, especially those below 3,000 AADT, are underrepresented. This pattern indicates that higher traffic volumes are associated with increased crash frequency and severity, emphasizing the need for targeted safety countermeasures at busier intersections.

*Average Entering AADT
Risk Factor
= 6,001-7,000 & >8,000 AADT*

FIGURE C4: AVERAGE ENTERING AADT

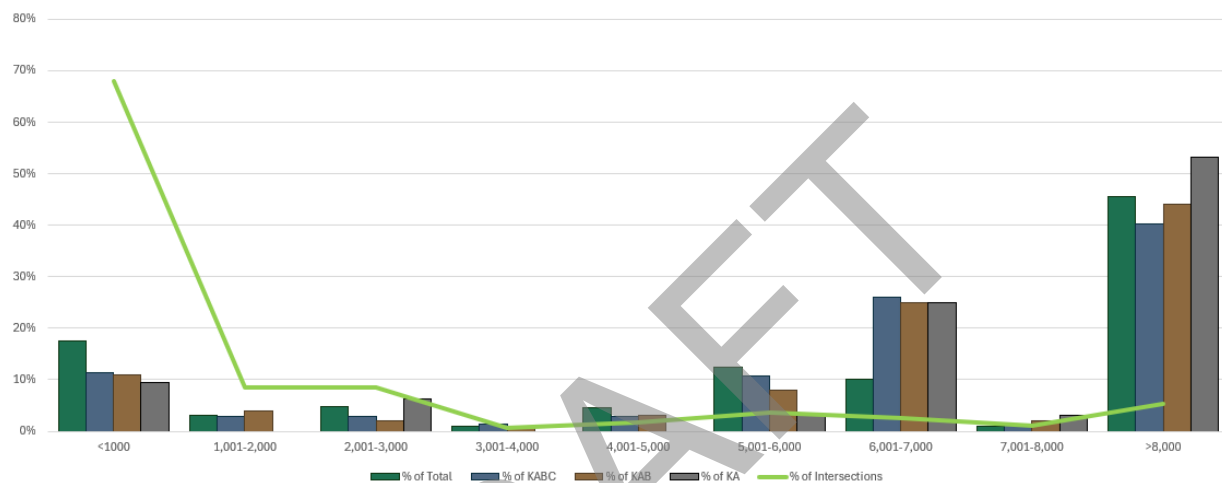


Figure C5 shows the percentage of crashes by the number of intersection legs. Four-leg intersections represent a greater proportion of all crash types relative to their share of intersections – 70% of KAB crashes on 25% of intersections. Conversely, three-leg intersections account for a smaller share of crashes compared to their system presence, suggesting lower relative risk. The increased conflict points and turning movements at four-leg intersections contribute to this trend.

*Number of Legs Risk Factor
= Four-Leg*

FIGURE C5: NUMBER OF LEGS

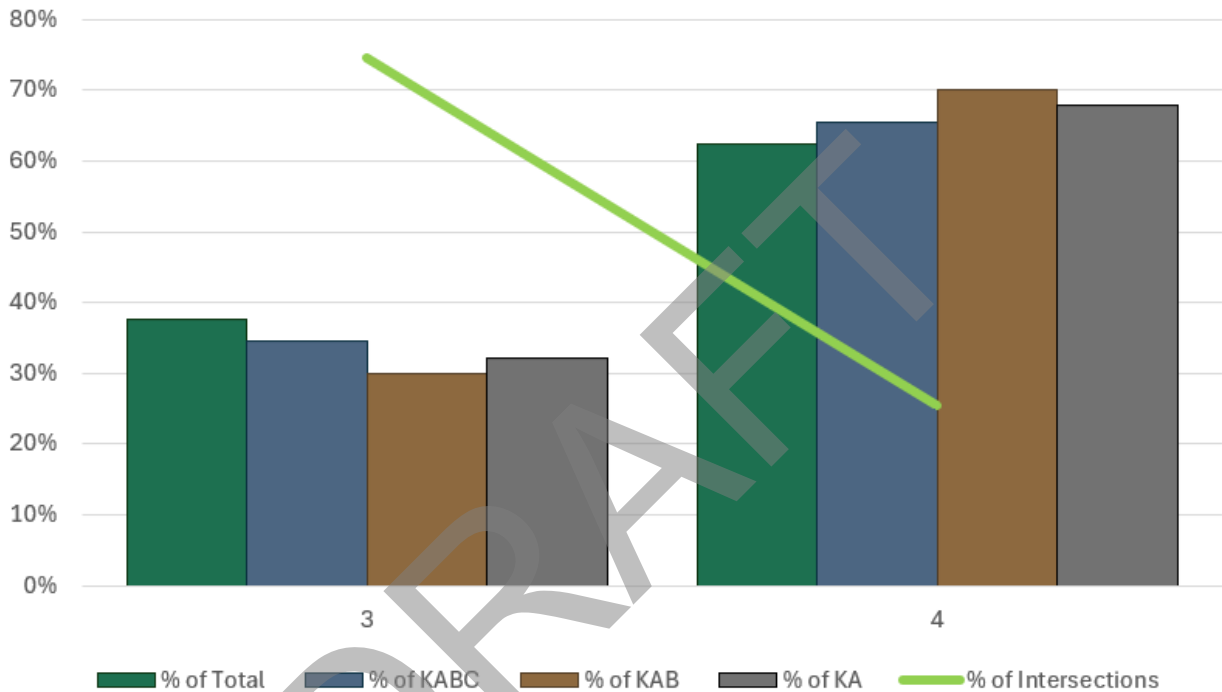


Figure C6 summarizes the number of risk factors present at each intersection and their relationship to crash occurrence. Intersections with two or more risk factors account for a disproportionately large share of KAB crashes – approximately 75.6% – despite representing only 12.5% of all intersections. This trend demonstrates how the accumulation of multiple risk factors significantly increases crash likelihood, reinforcing the value of a systemic approach that prioritizes locations with layered risk characteristics rather than focusing solely on individual factors.

Intersections with 2 or more risk factors are considered High Risk intersections.

FIGURE C6: INTERSECTION RISK FACTOR SUMMARY

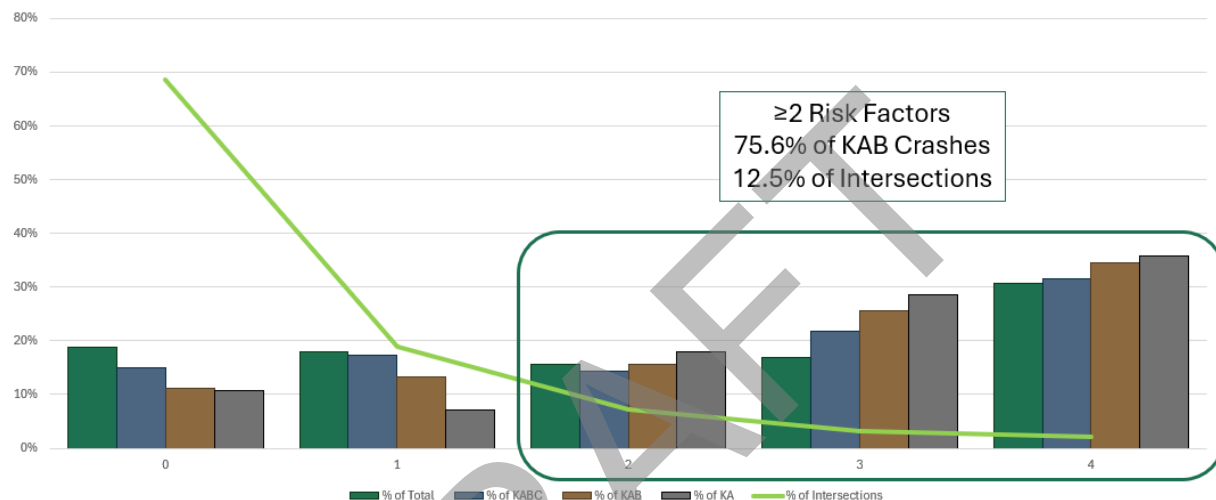
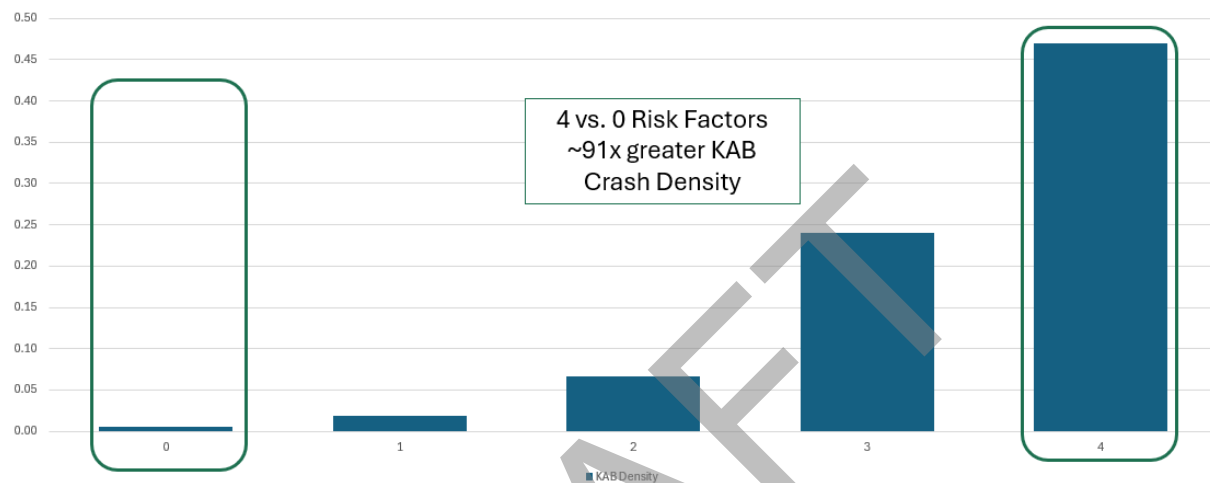


Figure C7 shows the KAB crash density by the number of risk factors present. As the number of risk factors increases, crash density rises substantially. Intersections with four risk factors exhibit approximately 91% greater KAB crash density compared to those with no identified risk factors. This strong correlation further supports the systemic analysis approach, highlighting that locations with multiple overlapping risk characteristics experience markedly higher crash concentrations and should be prioritized for safety improvements.

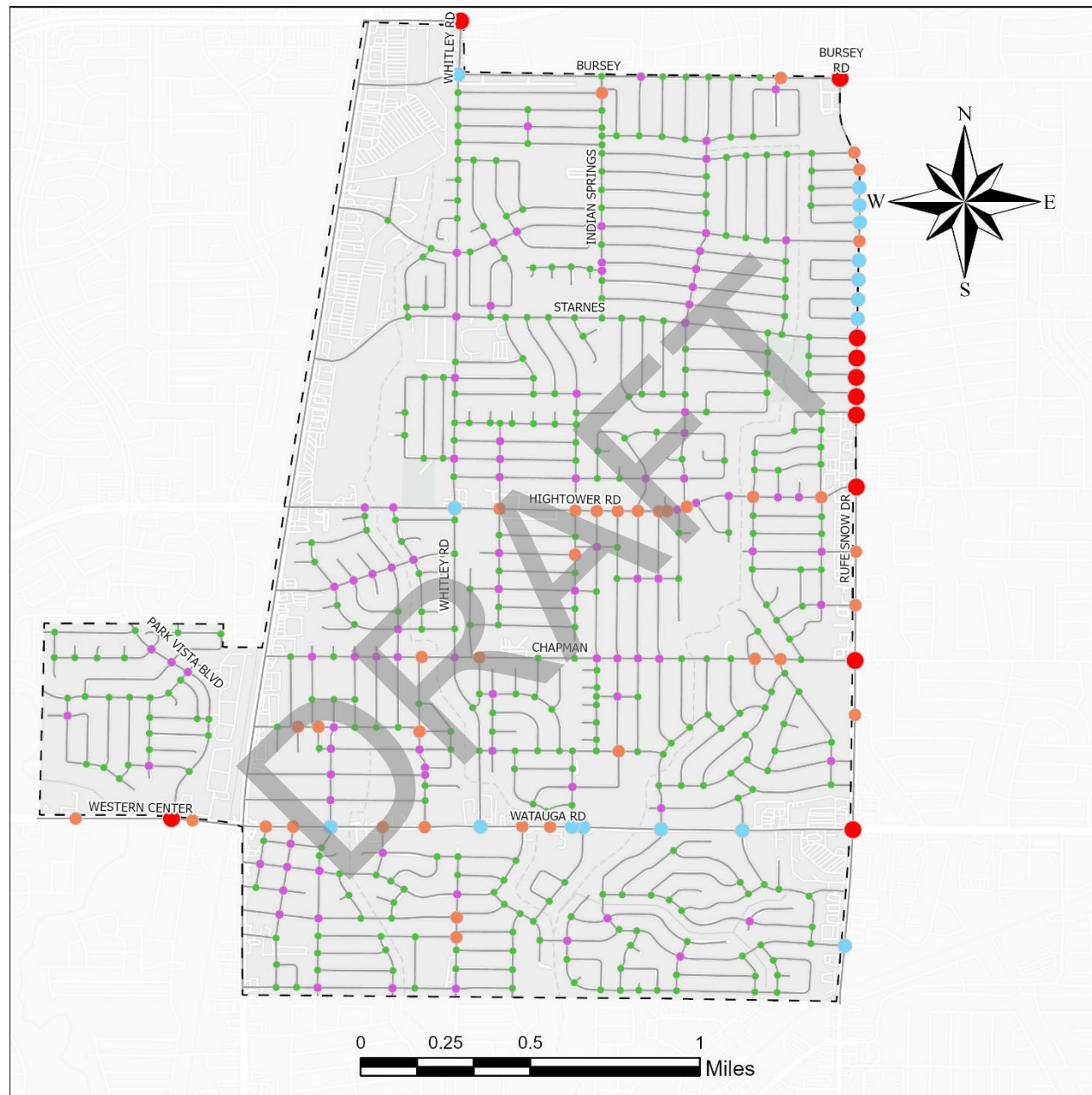
FIGURE C7: KAB CRASH DENSITY BY RISK FACTOR



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The intersections with at least 2 or more risk factors are shown in **Figure C8**. As shown, most of the intersections with the highest risk factors are along Rufe Snow Dr, followed by several along Watauga Rd. This analysis helped identify where countermeasures are needed.

FIGURE C8: INTERSECTION SYSTEMIC RISK ASSESSMENT



Legend

- 0 Risk Factors ● 2 Risk Factors ● 4 Risk Factors [- -] City of Watauga Border
- 1 Risk Factor ● 3 Risk Factors — Roadways



Segment Systemic Analysis

Background

To develop the segment network for the systemic analysis, the TxDOT Roadways layer was isolated for the City of Watauga. The US 377 corridor was excluded because its crash profile was not comparable to the rest of the City's roadways and an independent corridor analysis was performed separately. The remaining 80.5 miles were restructured into approximately 0.25-mile-long segments to create a uniform dataset for analysis.

Using the linear referencing system (LRS), crashes were joined to the resegmented roadway network. A total of 579 crashes were assigned to the segment network including four fatal crashes (K), 26 serious-injury crashes (A), 91 minor-injury crashes (B), 119 possible-injury crashes (C) and 339 property damage only (PDO) or unknown severity crashes.

Risk Factors

Risk factors were then identified. Risk factors do not cause crashes, but an accumulation of risk factors may indicate a greater prevalence of crash history, not an isolated instance. Risk factors were determined using a 5% difference between the percentage of KAB crashes and the percentage of miles.

Fourteen potential risk factors were screened as shown in **Table C2**. These segment attributes were selected for screening based on data readily available from the TxDOT and Watauga databases. Each attribute was screened independently to determine whether the proportion of KAB crashes along segments with that attribute exceeded the proportion of segment miles exhibiting it by more than 5 percent, indicating overrepresentation. A correlation analysis was then performed on all preliminary attributes meeting the risk factor criteria to identify redundancy among them. Nine independent risk factors were retained, and five were discarded due to duplication or insufficient data. They are shown in **Figure C9** through **Figure C17**.

Highway Design was removed due to low network coverage of less than 0.5% of miles, D Factor was removed due to low network coverage of less than 3% of miles, and Truck Volume was removed due to high correlation with K Factor. Sidewalk Presence and All-Way Stop-Controlled (AWSC) Presence did not exhibit any crash overrepresentation.

TABLE C2: LIST OF SCREENED ATTRIBUTES FOR SEGMENTS

Identified Risk Factors	Discarded Screened Attributes
Functional Class	Highway Design
Lane Count	D Factor
K Factor	Truck Volume
Traffic Volume	AWSC Presence
Intersection Count	Sidewalk Presence
Intersection Density	
TWSC Presence	
Signal Presence	
Sidewalk Length	

Figure C9 shows the distribution of crashes by functional class. Major Arterial and Major Collector together account for 79% of the KAB crashes and 15% of the miles. Major arterials account for 59.5% of KAB crashes in Watauga with only 6% of miles. In contrast, local roads are underrepresented in crash percentages relative to their frequency of percentage miles. Local roads account for 18% of KAB crashes but make up 83% of total miles.

*Functional Class Risk Factor
= Major Arterial & Major
Collector*

FIGURE C9: FUNCTIONAL CLASS

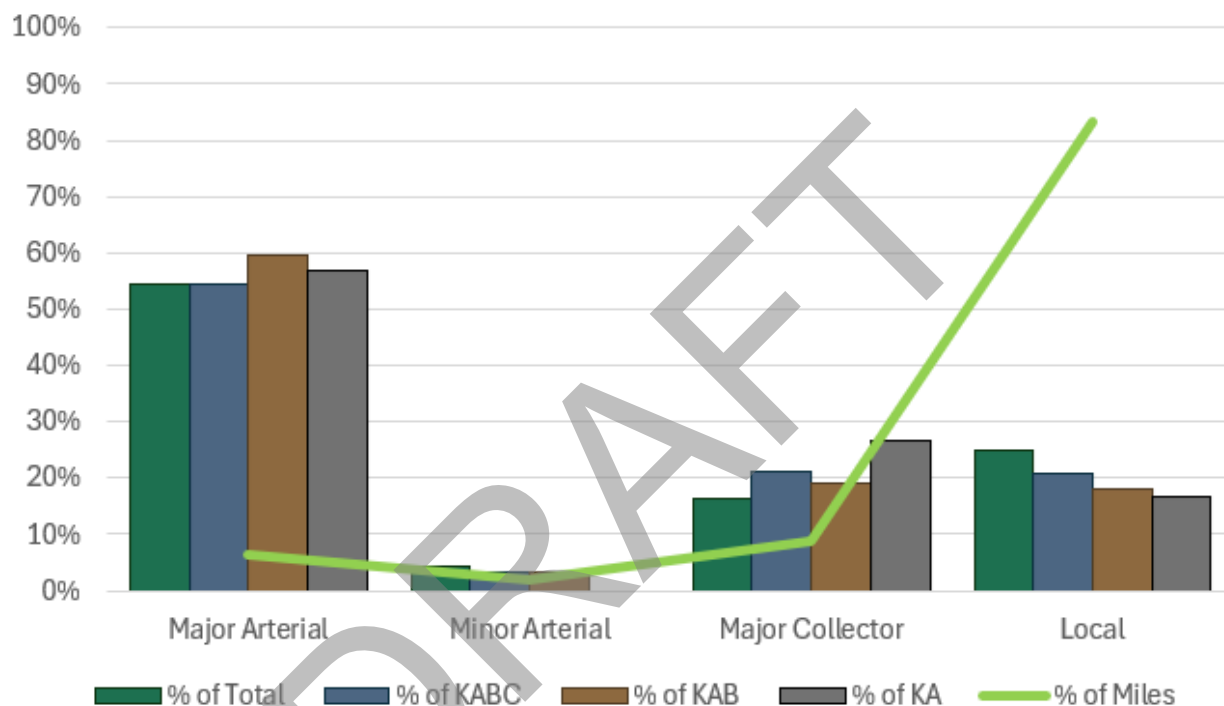


Figure C10 shows the relationship between the number of lanes on the road and crashes. Four-lane roads are responsible for 49% of crashes between two-, four- and six-lane roads and account for 57% of KAB crashes across all lane counts. Conversely, two-lane roads are responsible for 41% of crashes, make up 36% of KAB crashes, but account for 93% of miles in the system. Four- or six-lane roads account for 64% of the KAB crashes on 7% of the miles.

*Lane Count Risk Factor
= 4 or 6 Lanes*

FIGURE C10: LANE COUNT

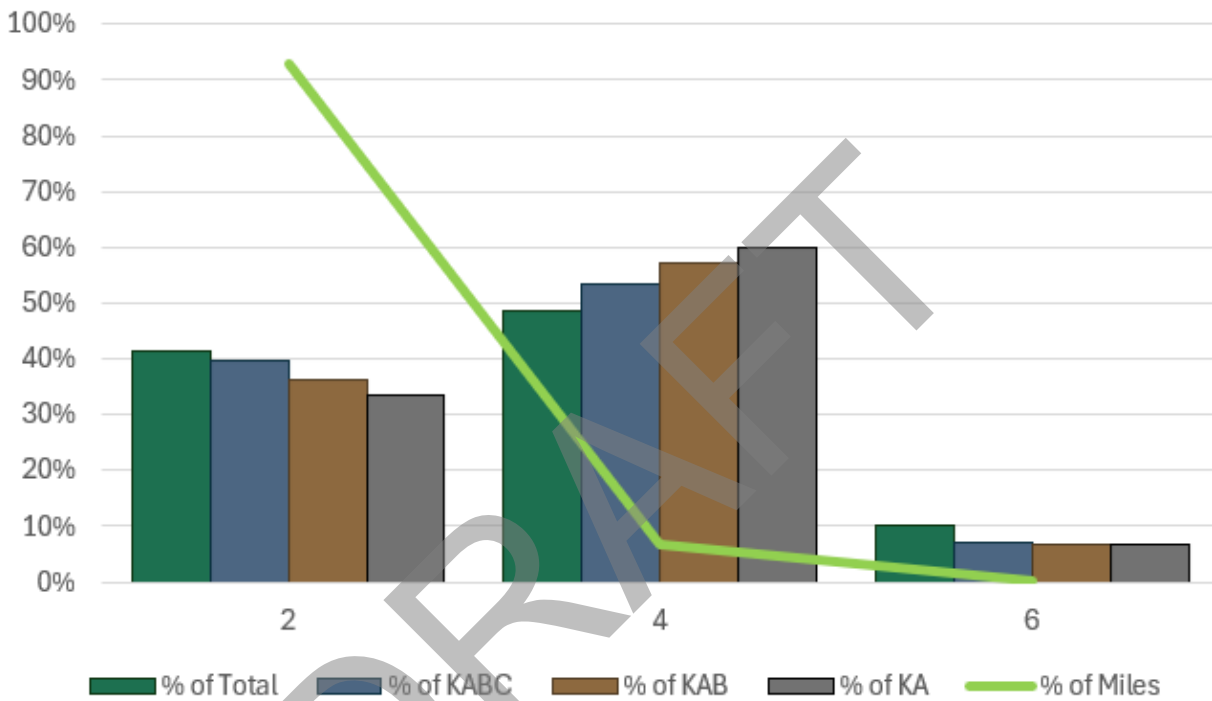


Figure C11 shows the distribution of crashes by average K factor (the proportion of traffic volumes that occur during the peak hour), with values ranging from less than 9% to greater than or equal to 11%. A higher K factor means traffic is more concentrated during the busiest hour, while a lower K factor means traffic is more evenly spread throughout the day. Segments with K factors of less than 10 and ≥ 11 accounts for 79% of the KAB crashes on 19% of the miles.

K Factor Risk Factor
 $= < 10 \text{ and } \geq 11$

FIGURE C11: K FACTOR

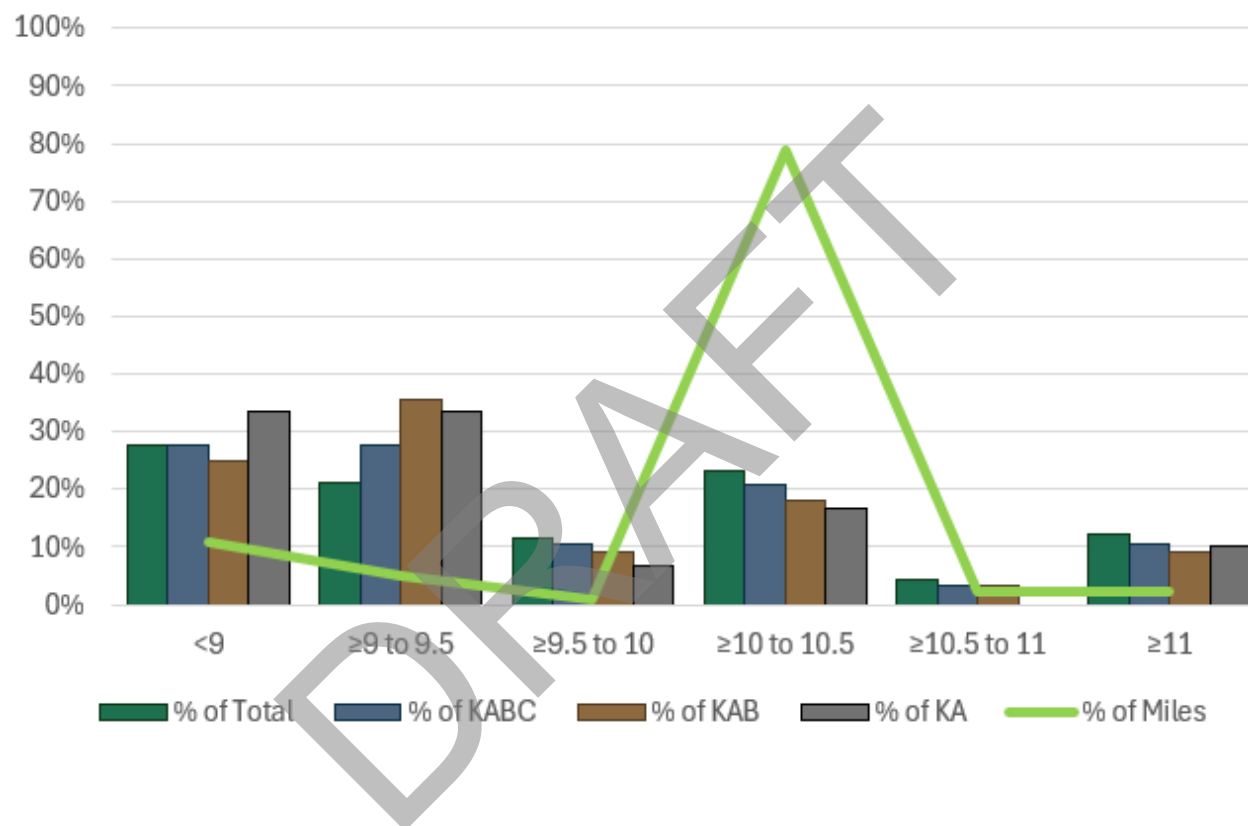


Figure C12 shows the distribution of traffic volumes from less than 300 vehicles per day (vpd) to greater than 20,000 vpd. For lower volume roads, 14% of KAB crashes happen on roads with less than 300 vpd, making up 78% of miles.

Roads with 5,000 or more vehicles per day account for 76% of the KAB crashes on 10% of the miles. Although roads with 15,000 vpd to 20,000 vpd account for 3% of miles in the system, it is responsible for 29% of KAB crashes. While overrepresented, higher traffic volumes produce more crashes compared to lower volume roads highlighting a need to make heavily traveled roads safer.

Traffic Volume Risk Factor
= 5,000+

FIGURE C12: TRAFFIC VOLUME

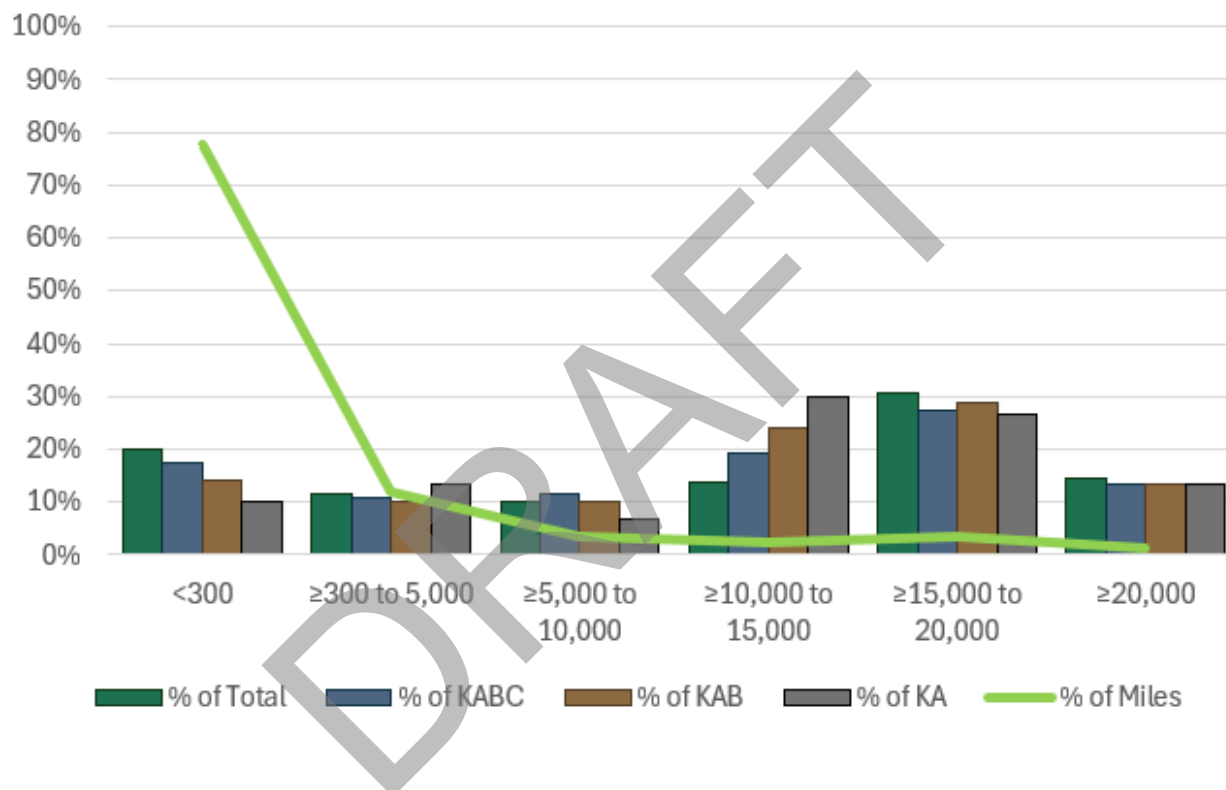


Figure C13 shows the distribution of segments by number of intersections. The percentage of crashes are shown for each type, with 0,1, and 2 intersections within the segment accounting for most of the data for crashes, miles. Segments with 1 or 2 intersections present represent 56% of KAB crashes on 39% of miles.

FIGURE C13: INTERSECTION COUNT

Intersection Count
Risk Factor
 = 1 or 2

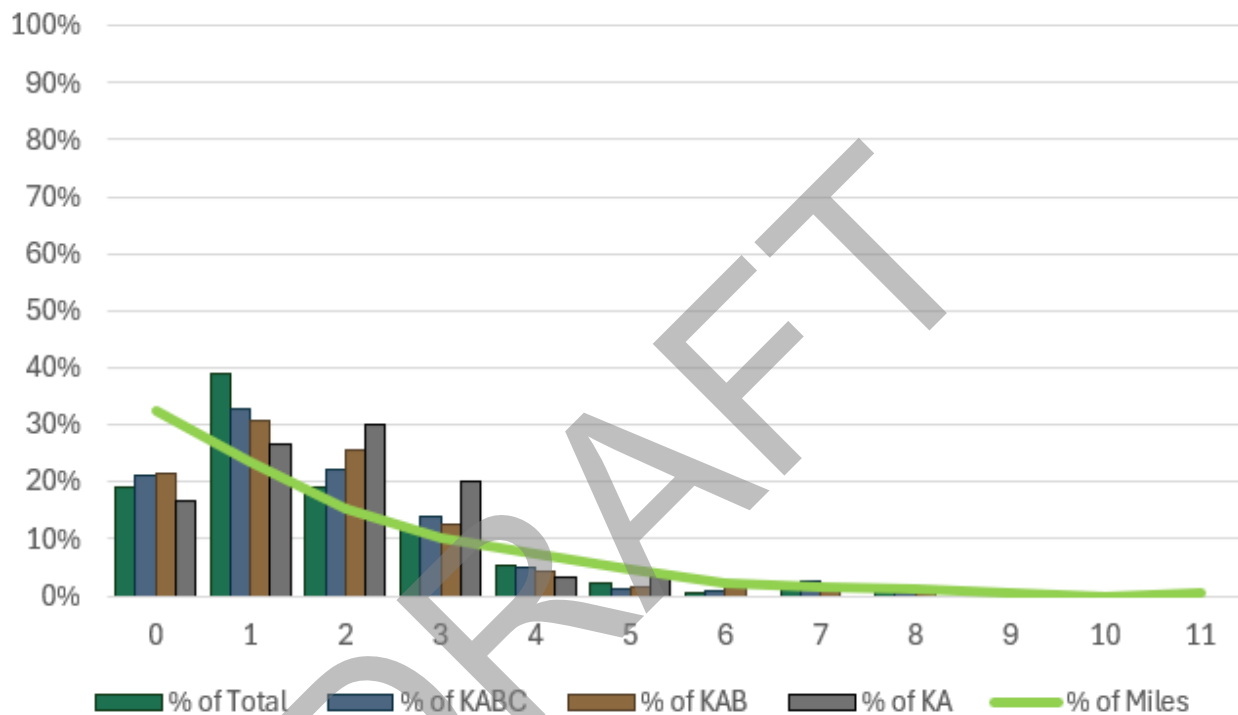


Figure C14 breaks how KAB crashes vary by intersection density (defined as intersections per mile), ranging from fewer than three intersections to 15 or more intersections. Segments with 6 to 9 intersections account for the largest share of KAB crashes (35%). Segments with fewer than 3 intersections also account for a substantial share (33%). . Segments with ≥ 6 or < 9 accounts for 35% of KAB crashes on 16% of miles. This indicates that crash risk is present across both moderate- and low-density segment categories.

*Intersection Density
Risk Factor
= ≥ 6 to < 9*

FIGURE C14: INTERSECTION DENSITY

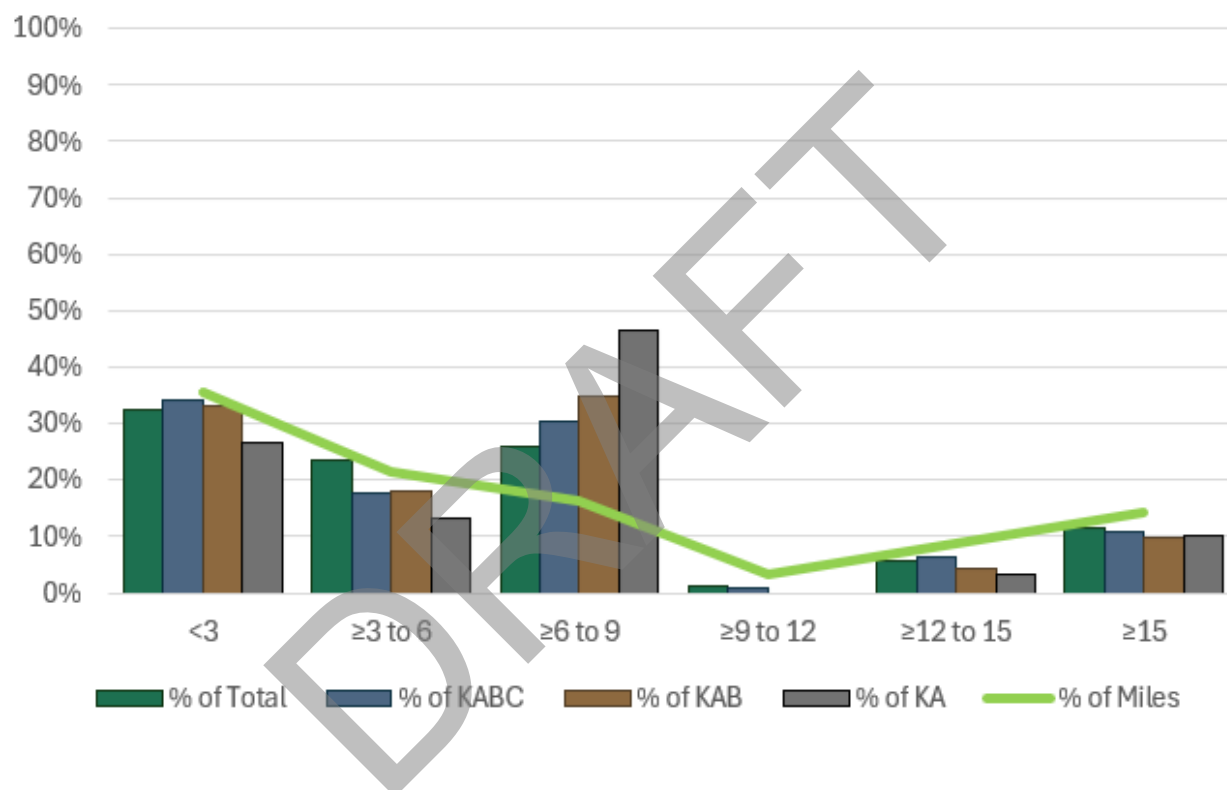


Figure C15 compares intersections where two-way stop control is present and not present. The figure shows KAB crashes are overrepresented on segments where there is an absence of specifically Two-Way Stop-Controlled intersections. In other words, when there is no traffic control along the segment (free flowing traffic) crashes are overrepresented. There are only a dozen (or so) of AWSC and Signalized intersections across the entire city. It might seem counterintuitive when you consider the Intersection Related emphasis area dominates, however, this is specifically in the segment analysis.

*Two-Way Stop Control
(TWSC) Presence
Risk Factor
= Not Present*

This particular risk factor accounts for 46% of KAB crashes on 36% of miles. In real numbers, there are approximately 29 centerline miles of city-owned streets that don't have a TWSC intersection present, and that condition was identified as a risk factor.

Additionally, the correlation results indicate that this risk factor is strongly negatively correlated to the Intersection Count risk factor, which is expected.

FIGURE C15: TWO-WAY STOP CONTROL (TWSC) PRESENCE

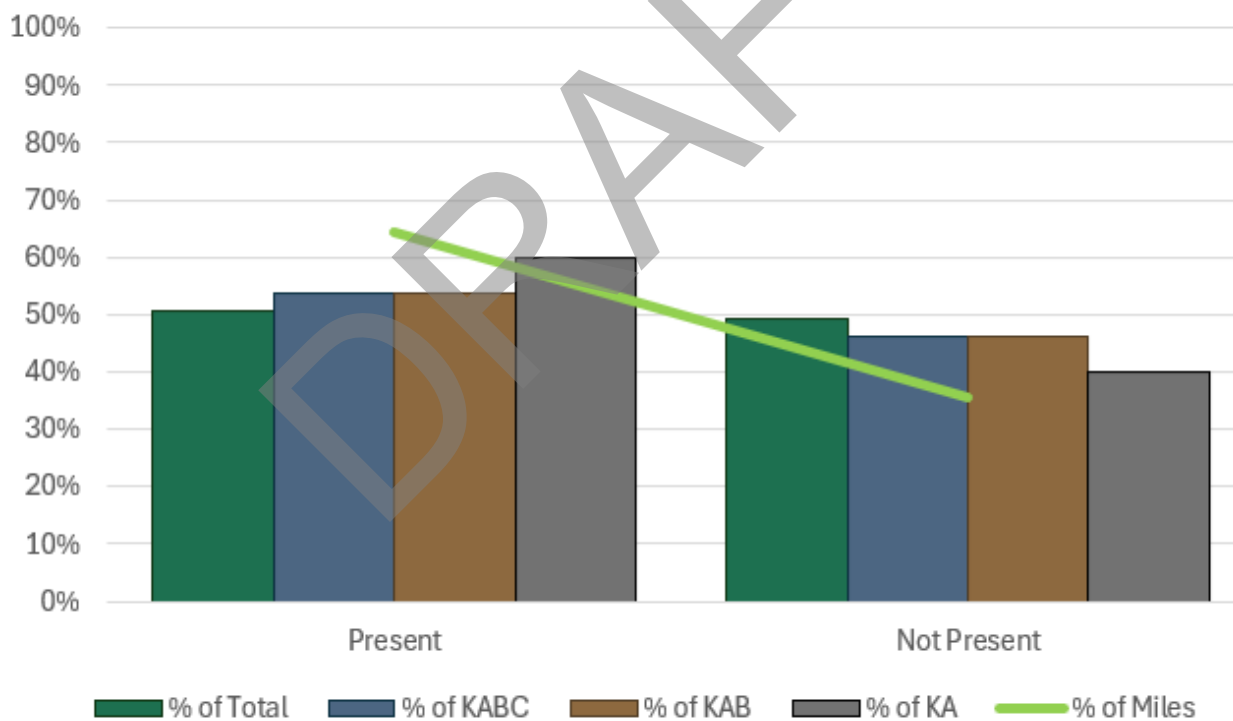


Figure C16 compares road segments with and without at least one signal (shown as presence in the figure). Segments with signals account for fewer KAB crashes overall than segments without signals. However, because signalized segments represent only 5% of total roadway miles, their crash share is still relative to their limited presence in the system. This suggests that signalized locations may warrant continued attention in the systemic analysis. And actually, 49% of KAB crashes occurred at signals on 5% of miles.

Signal Presence Risk Factor
= Present

FIGURE C16: SIGNAL PRESENCE

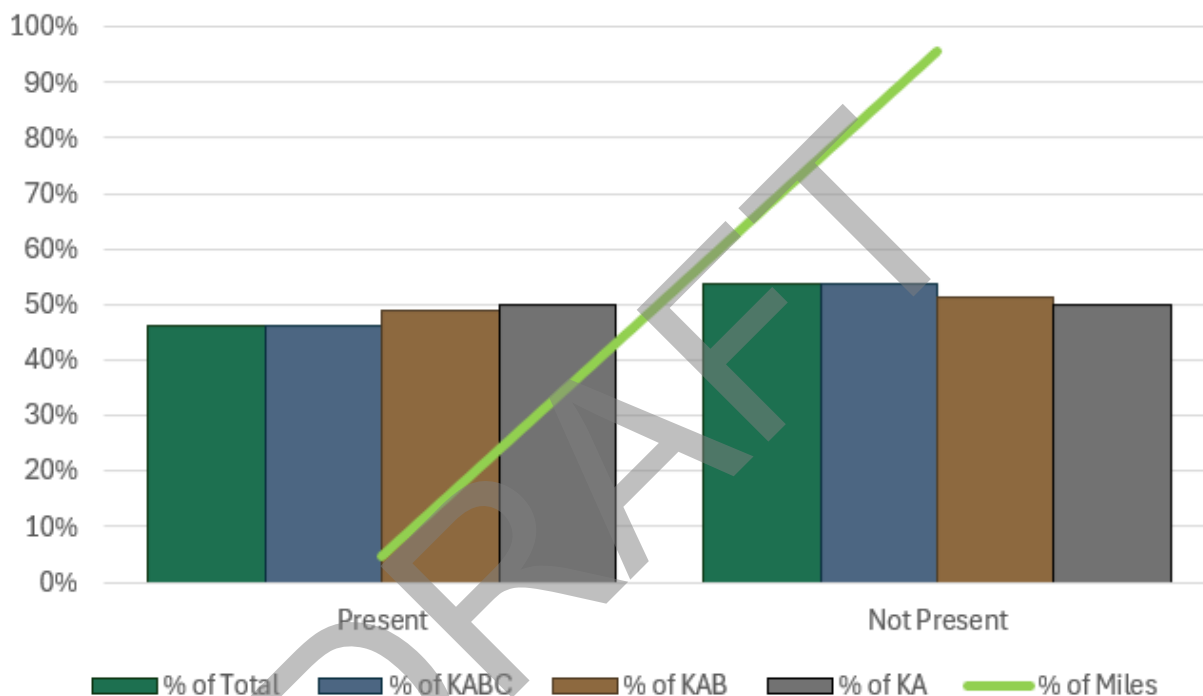


Figure C17 shows the relationship of sidewalk length to crashes. The 1,584ft to 2,112ft range accounts for 23% of KAB crashes. The greater or equal to 2,640ft range is underrepresented as it accounts for 33% of miles and only contributes 6% of KAB crashes. Sidewalks that are >0 up to <528 feet or >=1584 to 2112 feet account for 47% of KAB crashes on 21% of the miles. This pattern emphasizes the need for sidewalk corridors along roads.

Sidewalk Length Risk Factor
 = >0 up to <528 feet &
 >=1584 to 2112 feet

FIGURE C17: SIDEWALK LENGTH

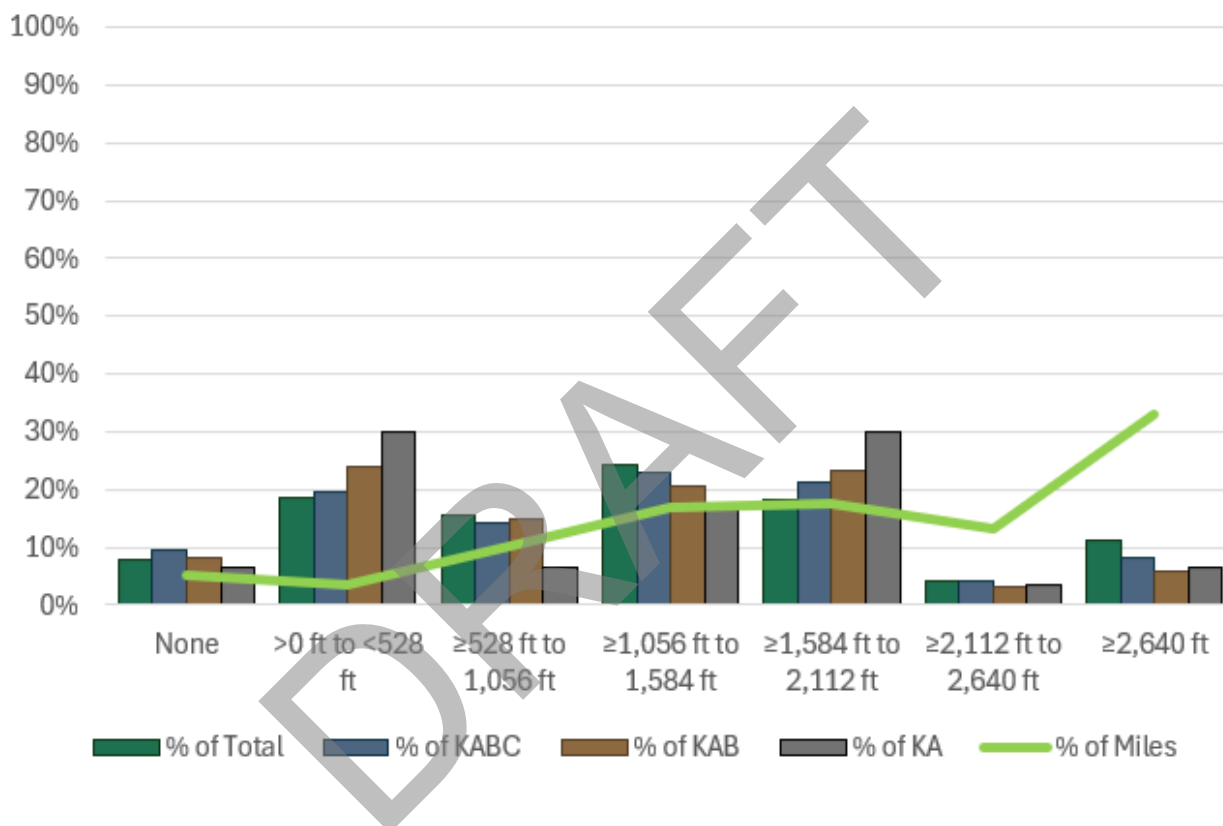


Figure C18 summarizes the number of risk factors present along each segment and their connection to crash occurrence. Segments with five or more risk factors are overrepresented. Segments with five or more risk factors account for 69.4% of KAB crashes but represent only 6.9% of miles of the system analyzed. This trend shows how the accumulation of multiple risk factors significantly increases crash likelihood. This proves the importance of the systemic approach that prioritizes locations from risks than after crashes happen.

Segments with 5 or more risk factors are considered High Risk intersections.

FIGURE C18: SEGMENT RISK FACTOR SUMMARY

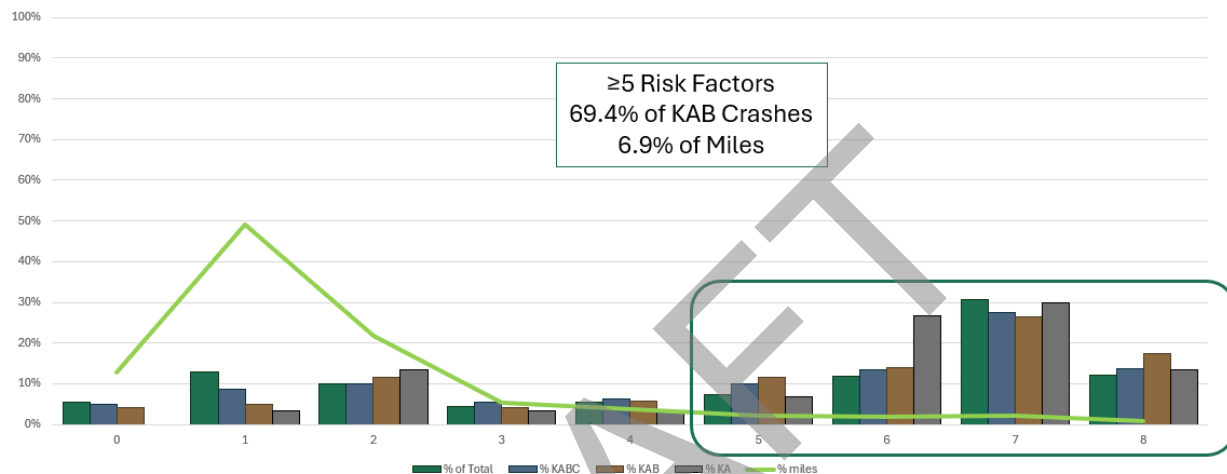
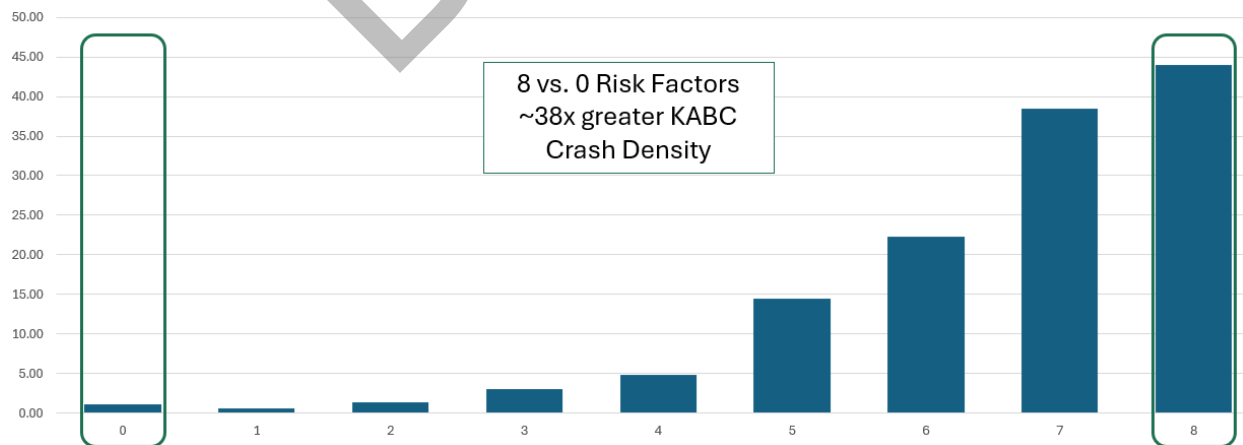


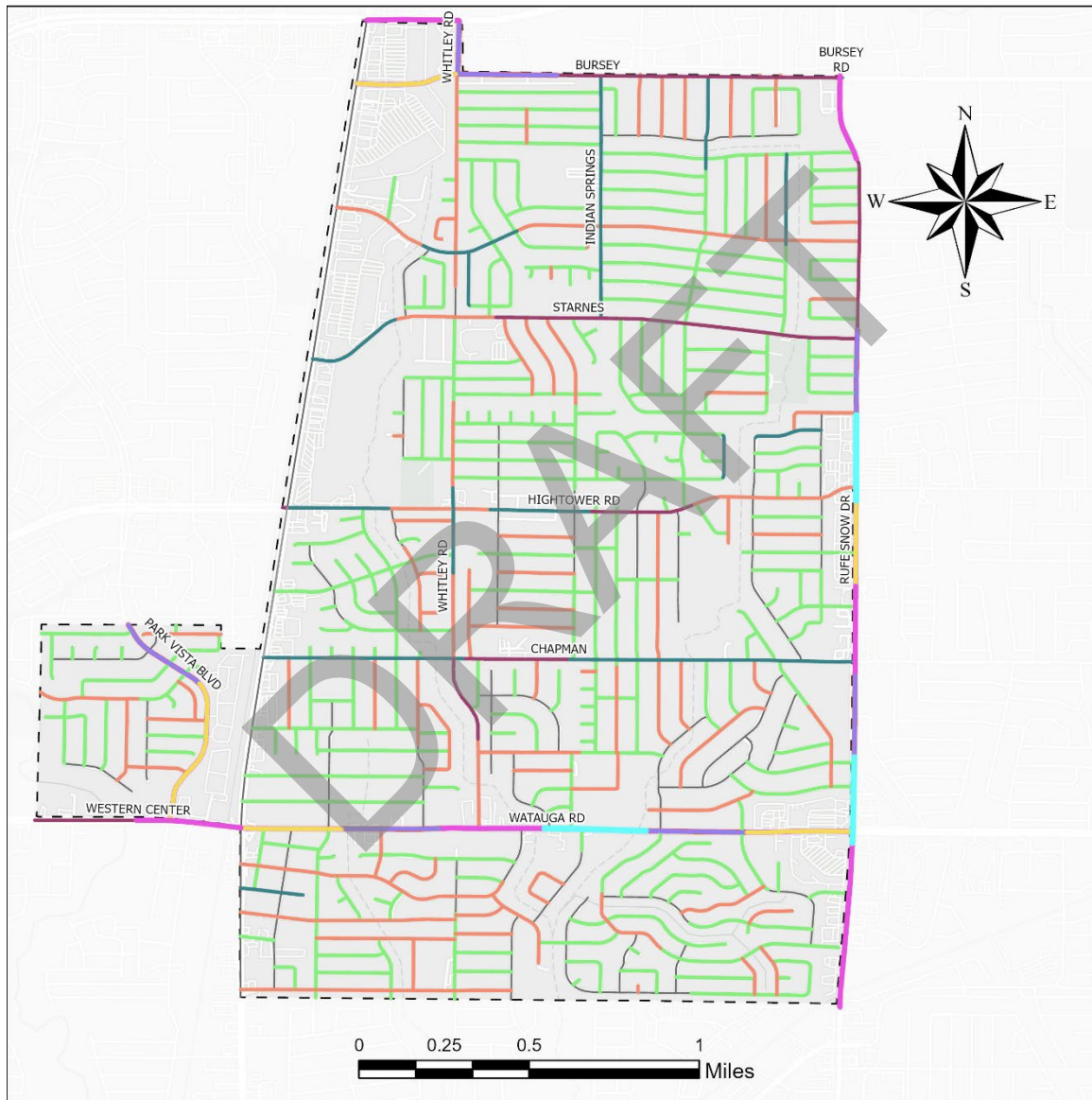
Figure C19 shows KABC crash density by the number of risk factors present. Crash density increases as the number of risk factors rises. Segments with eight risk factors have approximately 38 times the KABC crash density of segments with no identified risk factors. This finding reinforces the value of the systemic approach, which prioritizes locations with multiple risk factors for safety improvements.

FIGURE C19: KABC CRASH DENSITY BY RISK FACTOR



The segments with at least 5 or more risk factors are shown in **Figure C20**. As shown, most of the segments with the highest risk factors are along Rufe Snow Dr (with 2 segments with scores of 8), Watauga Rd, and Park Vista Blvd. Both Rufe Snow Dr and Watauga Rd are Major Arterials, which carry more traffic, so their higher scores are consistent with their roadway classification. However, Park Vista Blvd is a Major Collector which is a lower roadway classification, so it's higher score is noteworthy. This analysis helped identify where countermeasures are needed.

FIGURE C20: SEGMENTS SYSTEMIC RISK ASSESSMENT



Legend

- | | | | |
|------------------|------------------|------------------|------------------------------|
| — 0 Risk Factors | — 3 Risk Factors | — 6 Risk Factors | [-] City of Watauga Border |
| — 1 Risk Factor | — 4 Risk Factors | — 7 Risk Factors | |
| — 2 Risk Factors | — 5 Risk Factors | — 8 Risk Factors | |



Appendix D: Public Survey Results

DRAFT

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DRAFT

Introduction

The City of Watauga conducted a community survey and an online interactive mapping comment tool to better understand residents' priorities and perspectives on transportation and safety within the city. The survey was designed to gather input on key topics, including roadway safety, pedestrian and bicycle infrastructure, traffic operations, and overall community needs. The survey and mapping tool opened on February 5th and closed on May 26th, providing residents with a defined opportunity to share their feedback. During this period, 317 respondents completed the survey, offering valuable insight into local concerns, preferences, and priorities.

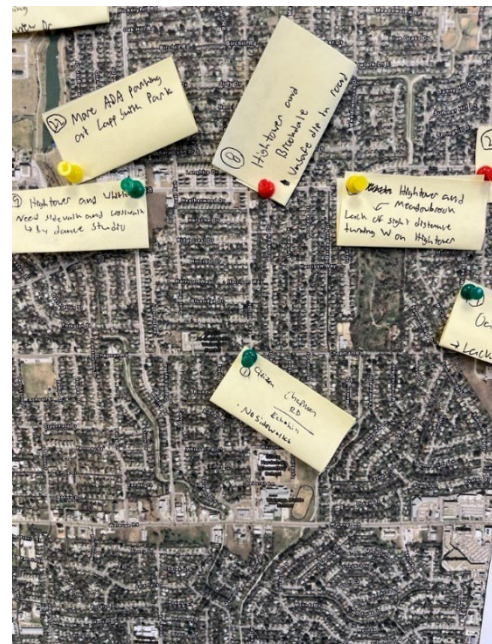
To encourage participation and ensure broad community input, the city used both online and in-person outreach strategies. The survey was made available on the City's Facebook and Watauga Police Department's Facebook, allowing residents to conveniently access and complete it at any time during the survey period. **The City emailed the link and QR code to the survey and interactive mapping comment tool directly to each resident. [verify]** In addition, Burgess and Niple (consultant partner) represented the City during in-person outreach at Watauga Fest on May 16th (**Figure D1**) where residents had the opportunity to learn about the survey, ask questions, and provide feedback directly. This event also helped reach individuals who may not typically participate in online surveys.

As shown in **Figure D2**, visual engagement activities, including mapping exercises and written comment boards, allowed participants to share location-specific concerns and identify key transportation safety issues throughout the community. Participants were also able to engage by using the online interactive mapping comment tool which allows users to pinpoint precise locations from the map and address any comments. The input collected through this effort will help inform the development of strategies, policies, and recommendations aimed at improving safety and overall quality of life for Watauga residents.

FIGURE D1: WATAUGA FEST SURVEY EVENT



FIGURE D2: POST-IT NOTE ENGAGEMENT



Question 1

Which modes of transportation do you use to travel to / through Watauga?

Total answers: 556; Respondents could select multiple options, resulting in a total number of responses that exceeded the number of individuals who completed the survey.

FIGURE D3: MODE OF TRANSPORTATION TO TRAVEL TO / FROM WATAUGA

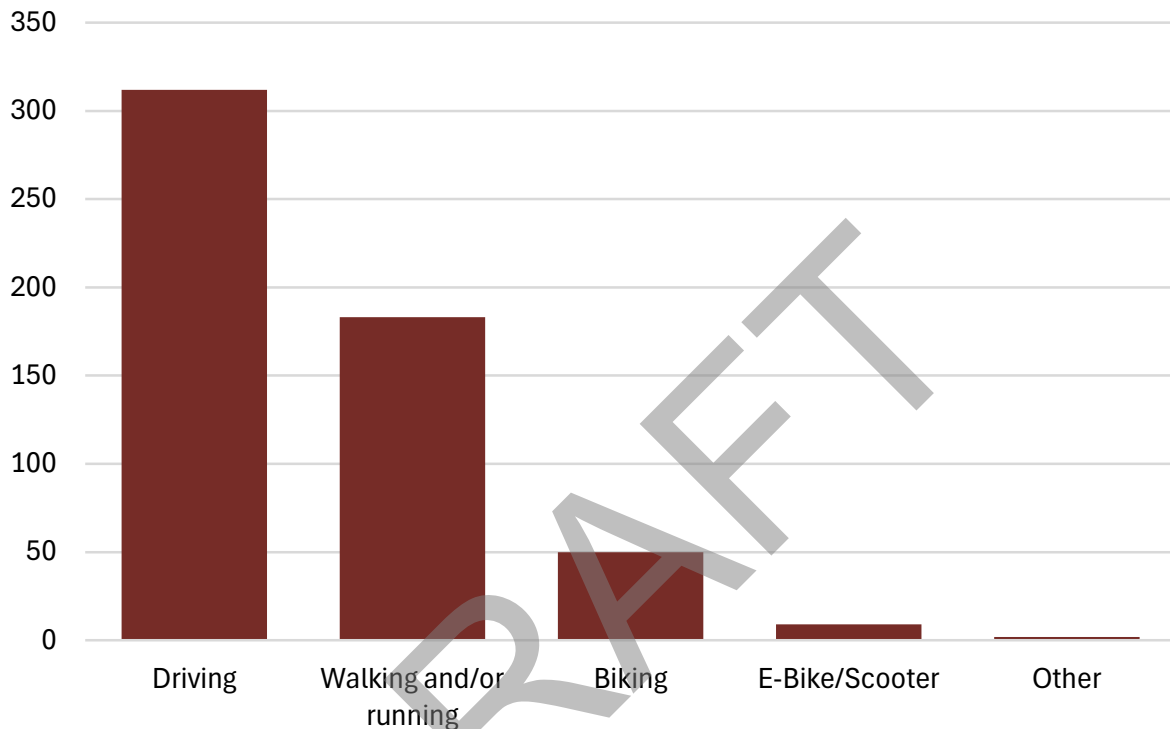


Figure D3 shows that driving is the primary mode of travel in Watauga, with 312 respondents identifying it as their main form of transportation. Walking and/or running is the second most common mode at 183 responses, reflecting some level of active transportation use, but still significantly lower than driving. Biking accounts for 50 responses, indicating relatively limited use, while E-bike or scooter travel is minimal at just 9 responses. The “Other” category includes only 2 responses. Overall, the data highlights a strong dependence on driving, with comparatively low usage of alternative and active transportation modes.

Question 2

What is your primary purpose for traveling in Watauga?

Total answers: 941; Respondents could select multiple options, resulting in a total number of responses that exceeded the number of individuals who completed the survey.

FIGURE D4: PRIMARY PURPOSE FOR TRAVELING IN WATAUGA

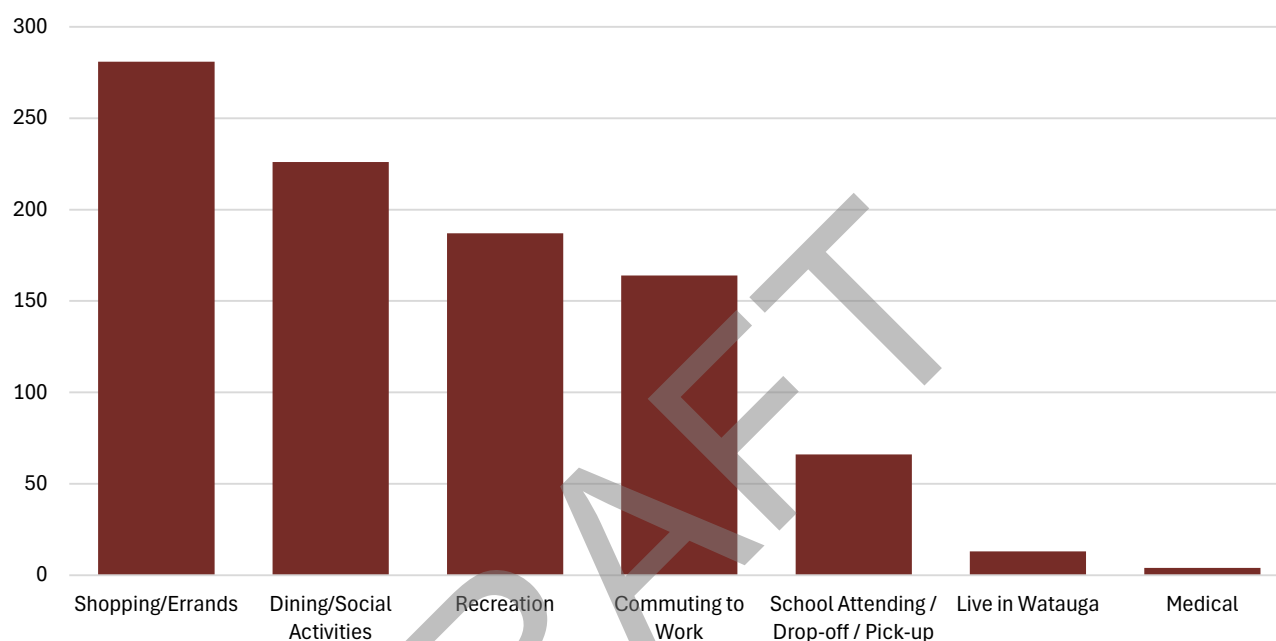


Figure D4 shows that shopping and errands are the most common primary purpose for traveling in Watauga, with 281 responses, followed by dining and social activities at 226 responses. Recreation is also a significant travel purpose with 187 responses, while commuting to work accounts for 164 responses. School-related travel, including attending, drop-off, and pick-up, is less frequent at 66 responses, and only 13 respondents identified “live within Watauga” as their primary purpose. Medical-related travel is the least common, with just 4 responses.

Overall, the data indicates that most trips are driven by daily activities and lifestyle needs, such as shopping and socializing, rather than work or essential services. These types of discretionary trips are likely concentrated along major commercial corridors and thoroughfares in Watauga, where retail, dining, and recreational destinations are located, highlighting the importance of these routes in supporting local travel demand.

Question 3

When traveling in Watauga, which best describes your typical route?

Total answers: 317

FIGURE D5: TYPICAL ROUTE WHEN TRAVELING IN WATAUGA

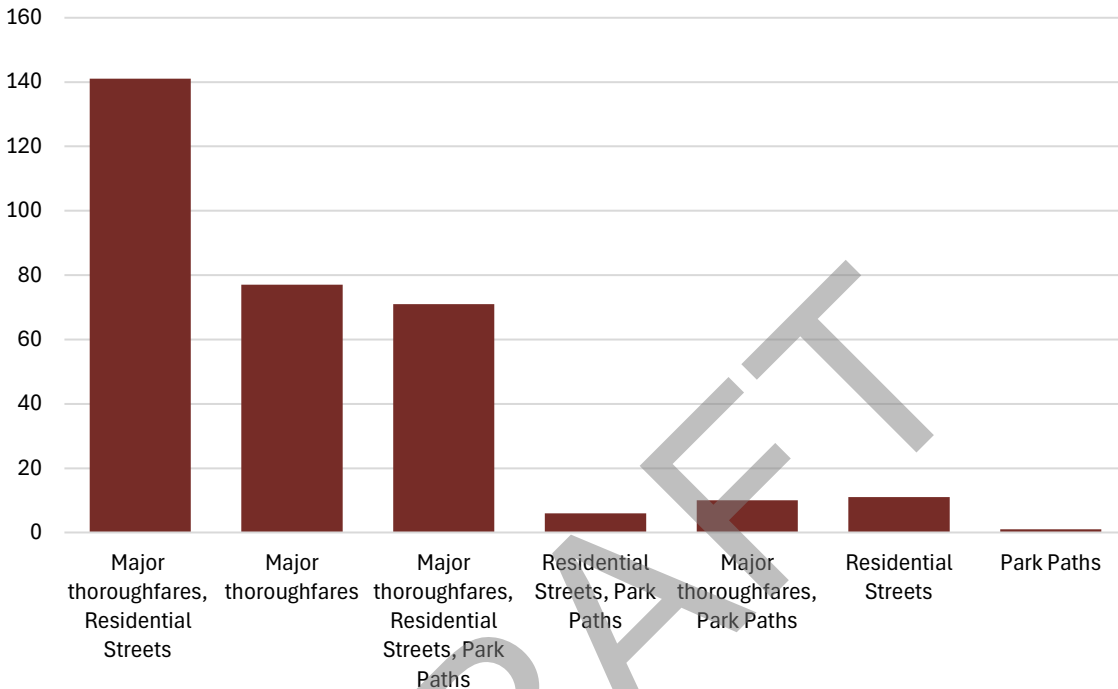


Figure D5 indicates that respondents most frequently reported traveling on a combination of major thoroughfares and residential streets, with 141 responses identifying this pairing. A smaller but still notable number of respondents indicated using only major thoroughfares (77 responses) or a combination of major thoroughfares, residential streets, and park paths (71 responses). Far fewer respondents reported using only residential streets (11 responses) or combinations involving park paths, such as major thoroughfares and park paths (10 responses), residential streets and park paths (6 responses), or park paths alone (1 response). Overall, the findings suggest that most travel occurs on the primary street network, particularly major thoroughfares and residential streets, while park paths are used less frequently and typically in combination with other facility types.

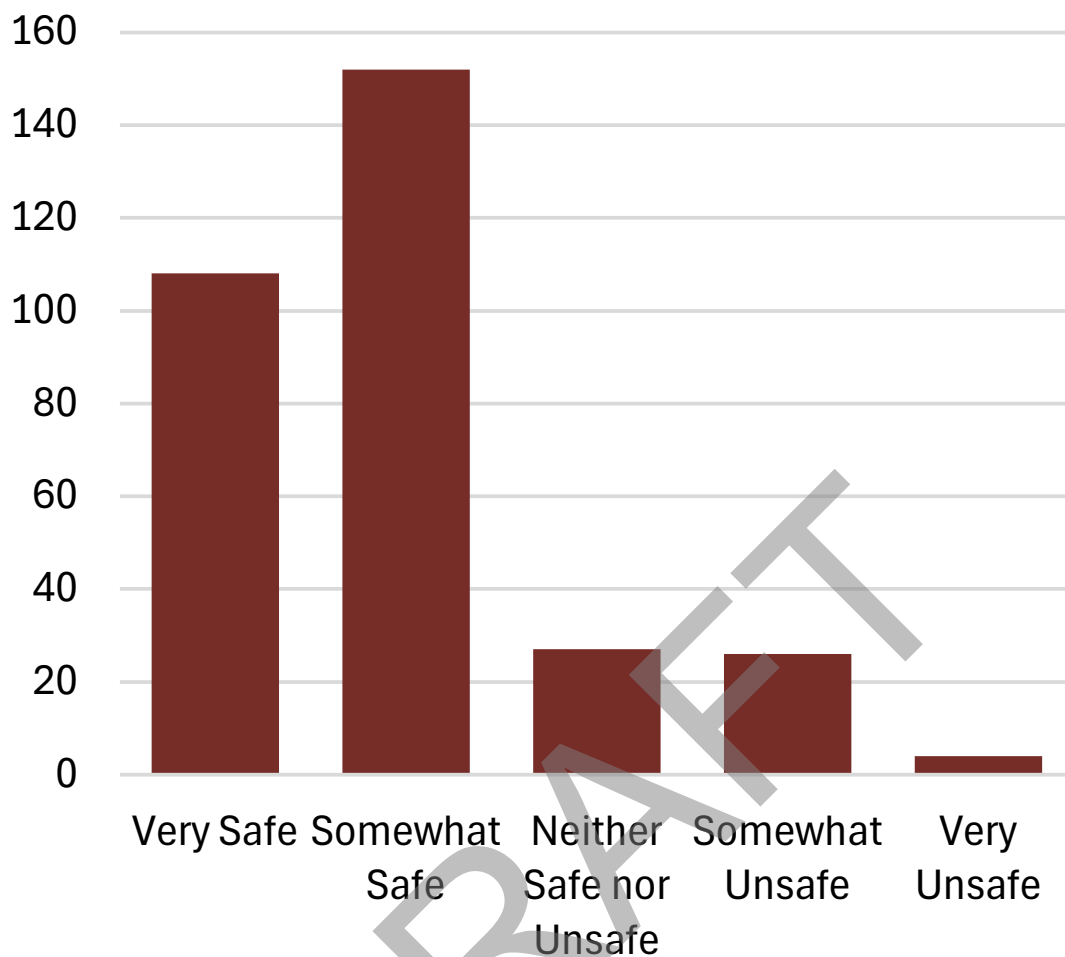
Question 4

How safe do you feel traveling around the City of Watauga?

Total answers: 939; Respondents could select multiple options, resulting in a total number of responses that exceeded the number of individuals who completed the survey.

FIGURE D6 : PERSONAL VEHICLE

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As shown in **Figure D6**, responses regarding safety while traveling by personal vehicle are generally positive. The largest share of respondents indicated they feel *somewhat safe*, followed by a substantial number who reported feeling *very safe*. A smaller portion of respondents selected *neither safe nor unsafe* or *somewhat unsafe*, with very few indicating they feel *very unsafe*. Overall, the data suggests that most respondents perceive personal vehicle travel as relatively safe compared to other modes.

FIGURE D7: WALKING

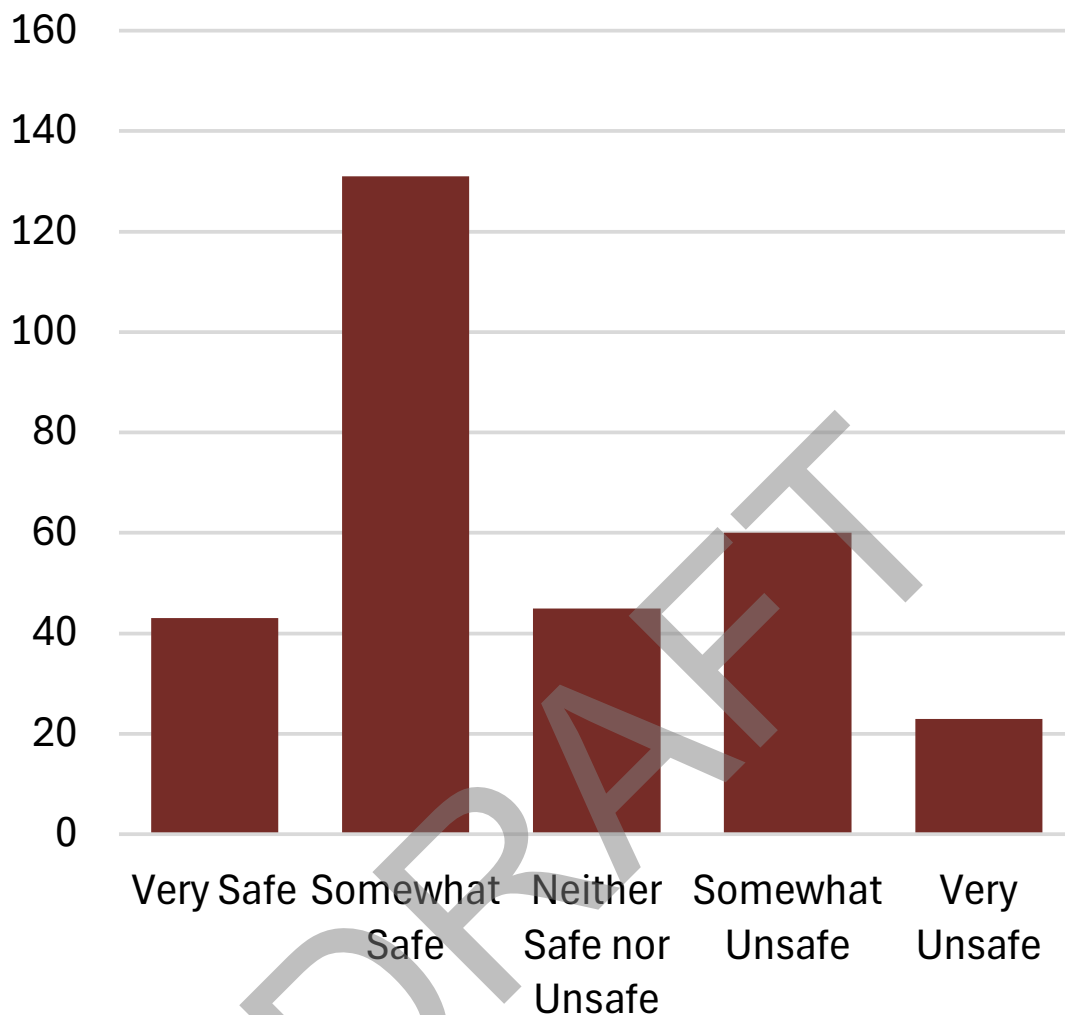


Figure D7 illustrates perceptions of safety for walking trips, which are more mixed than those for personal vehicles. The highest number of respondents reported feeling *somewhat safe*; however, there is also a noticeable number who feel *neither safe nor unsafe* and *somewhat unsafe*. A smaller group indicated they feel *very safe*, while relatively few reported feeling *very unsafe*. These results indicate that while many respondents feel moderately comfortable walking, there are still notable safety concerns.

FIGURE D8: BIKING

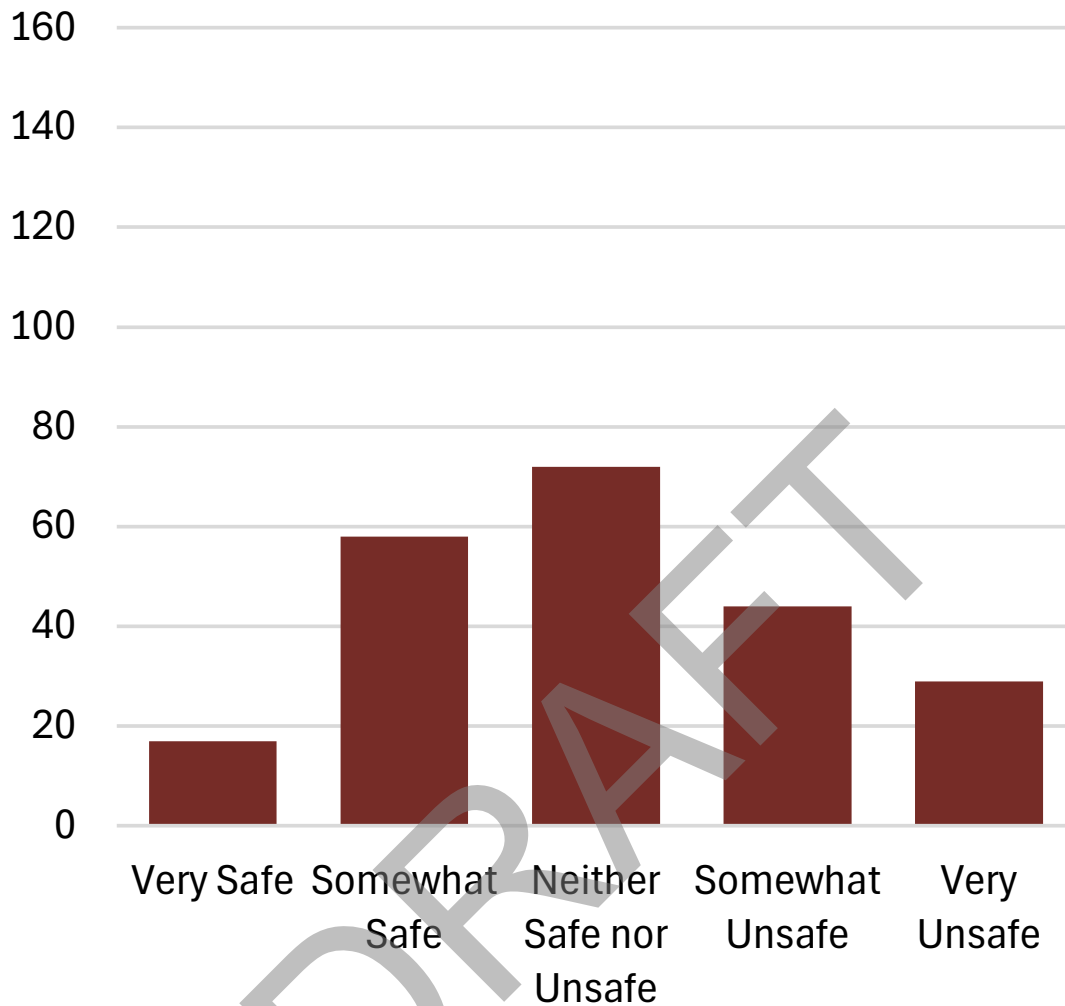


Figure D8 shows that biking safety perceptions lean more toward neutral and negative responses. The largest group of respondents selected *neither safe nor unsafe*, followed by *somewhat safe* and *somewhat unsafe*. Fewer respondents reported feeling *very safe*, and a moderate number indicated they feel *very unsafe*. This distribution suggests that biking is perceived as less consistently safe, with considerable variation in respondent experiences.

FIGURE D9: OTHER

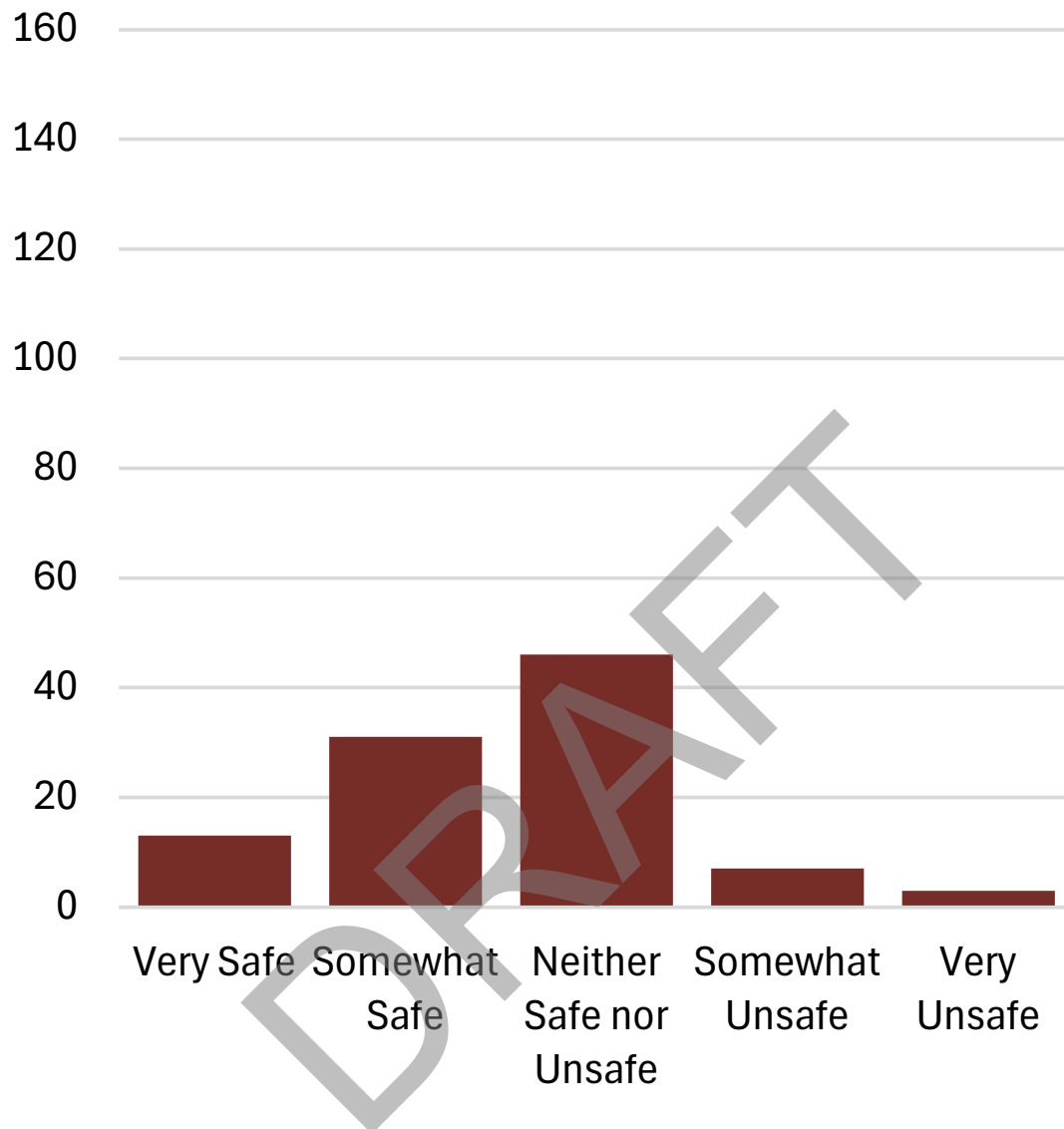


Figure D9 represents safety perceptions for other travel modes, which show a concentration of responses around *neither safe nor unsafe* and *somewhat safe*. Fewer respondents selected *very safe*, and only a small number indicated *somewhat unsafe* or *very unsafe*. These results suggest that alternative modes generally fall in the middle range of perceived safety, with fewer strong positive or negative opinions.

Question 5

What traffic safety concerns do you experience most often?

Total answers: 1,146; Respondents could select multiple options, resulting in a total number of responses that exceeded the number of individuals who completed the survey.

FIGURE D10: TRAFFIC SAFETY CONCERNS EXPERIENCED MOST OFTEN:

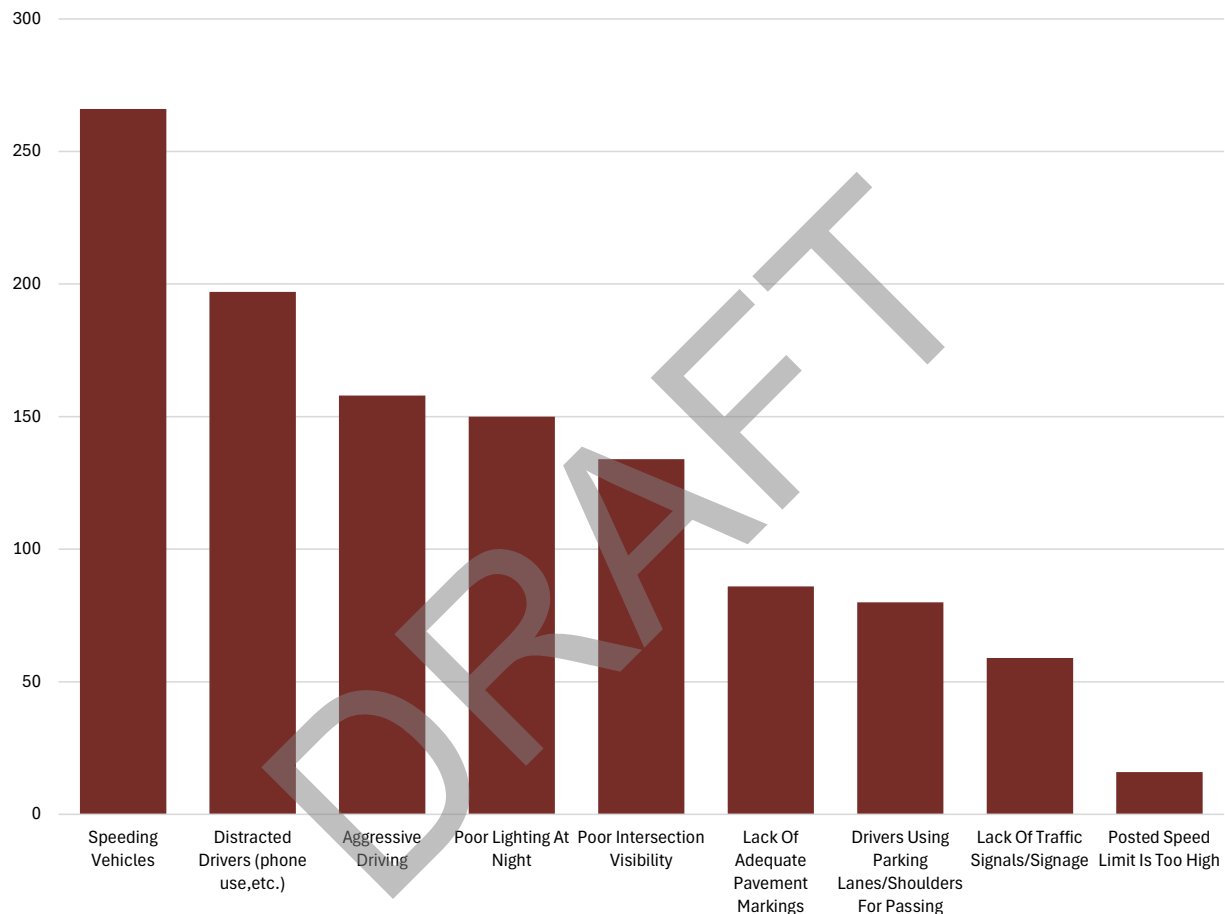


Figure D10 shows that speeding vehicles are the most frequently reported traffic safety concern by a wide margin, followed by distracted driving. Other common issues include aggressive driving, poor lighting at night, and poor intersection visibility, all of which were reported at relatively similar levels. Concerns related to roadway conditions and design such as lack of adequate pavement markings, drivers using parking lanes or shoulders to bypass traffic, lack of traffic signals or signage, and other infrastructure limitations were also frequently noted. Posting speed limits that are perceived as too high was the least commonly cited issue. Overall, the results highlight a strong emphasis on driver behavior as the primary safety concern, with infrastructure-related issues as secondary factors.

Question 6

What should be the top priorities to improve safety in Watauga?

Total answers: 739; Respondents could select multiple options, resulting in a total number of responses that exceeded the number of individuals who completed the survey.

FIGURE D11: TOP PRIORITIES TO IMPROVE SAFETY IN WATAUGA

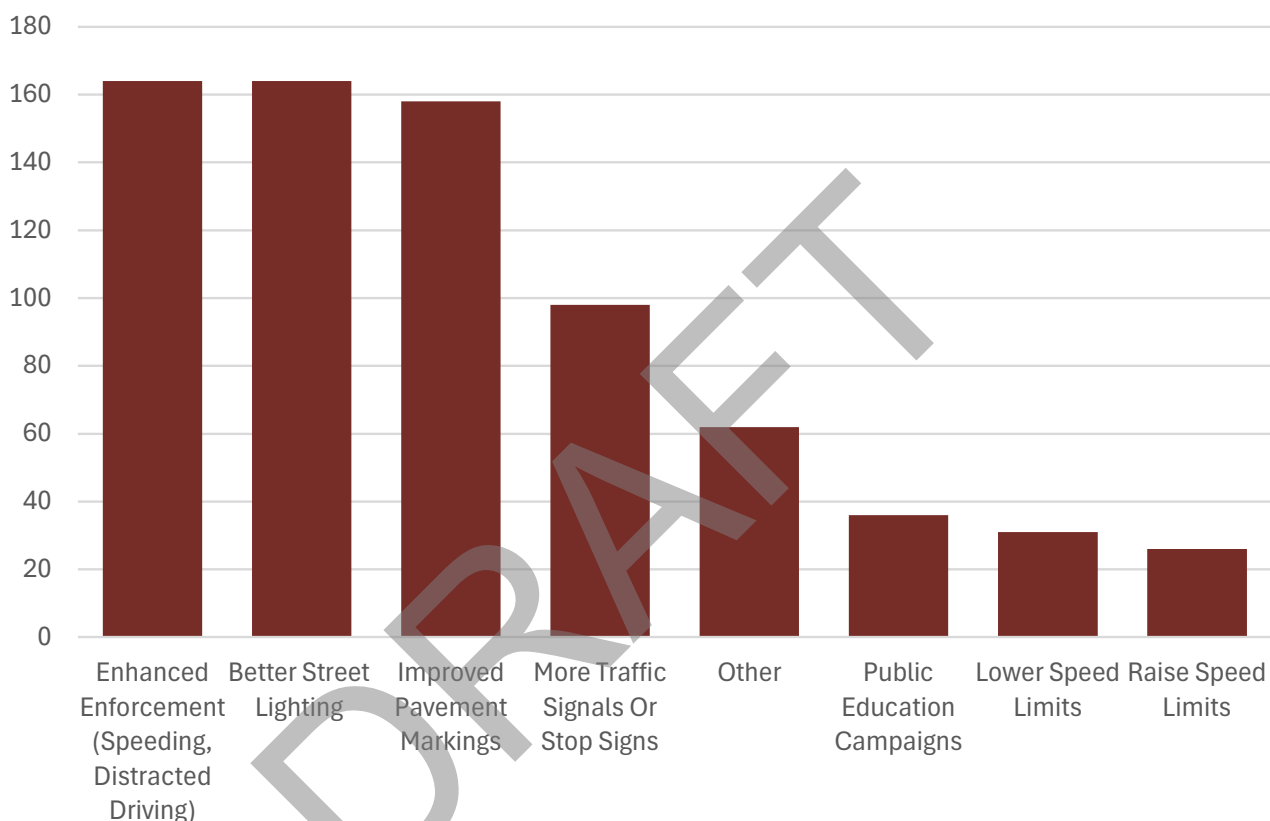


Figure D11 highlights that the top priorities for improving traffic safety in Watauga are largely focused on enforcement and infrastructure enhancements. Increased enforcement targeting speeding and distracted driving ranks highest, followed closely by improvements to street lighting and pavement markings. Adding more traffic signals and stop signs is also a key priority, though at a moderately lower level. Other strategies such as general safety improvements, public education campaigns, and adjustments to speed limits are considered less critical by comparison. Overall, the results indicate a strong emphasis on both stricter traffic enforcement and targeted roadway design improvements as the most effective ways to enhance safety.

Question 7

Do you have any other suggestions or concerns about traffic safety in Watauga?

Total answers: 110

Traffic Enforcement / Police Presence (26 responses)

- The cops need to stop lurking by schools and focus on where the speeding drivers are which is usually Davis and Rufe Snow
- More police presence on 377 because of unsafe drivers (speeding, motorcycles, reckless riding)
- More traffic enforcement is needed, even though people who get tickets will complain
- Residents report rarely seeing police patrolling for speeders
- Calls for stronger enforcement of speeding, distracted driving, and traffic violations
- Requests for more officers in neighborhoods and school zones
- Concerns that enforcement is inconsistent or focused only during school hours
- Requests for speed traps and targeted enforcement in problem areas
- Comments noting lack of patrols in areas south of Watauga Road
- Strong sentiment that improved enforcement is necessary to improve safety

Sidewalks and Pedestrian Infrastructure (20 responses)

- Sidewalks need to be extended, widened, and installed where missing
- Requests for improved crosswalk visibility, including painted and signalized crossings
- Many sidewalks are in poor condition and need repair
- Concerns about sidewalks being blocked by vehicles or obstacles
- Requests for continuous sidewalks (both sides of streets)
- Need for improved pedestrian access near schools, parks, and along major roads
- Comments noting lack of safe crossing opportunities in key corridors

Speeding and Speed Control (17 responses)

- Requests for speed bumps on neighborhood streets (multiple locations cited)
- Concerns about speeding in residential areas and school zones
- Mixed opinions on speed limits—some want lower limits, others want higher or more consistent limits
- Reports of aggressive driving and racing behavior, especially at night
- Requests for better speed limit signage and visibility
- General concern that current speed limits are not being followed

Traffic Signals and Intersections (16 responses)

- Requests for new traffic signals at key intersections (e.g., Indian Springs & Bursey)
- Need for flashing beacons and improved crosswalk signals
- Concerns about signal timing (short green lights, skipped cycles)
- Requests to upgrade 4-way stops to signals or roundabouts
- Reports of difficulty turning at intersections due to visibility or congestion

- Concerns about unsafe intersections near major retail areas and schools

Lighting and Visibility (13 responses)

- Many residential streets are described as too dark at night
- Requests for additional and brighter street lighting
- Concerns about spacing and effectiveness of existing lights
- Lighting improvements requested near parks, schools, and walking paths
- Some comments linked poor lighting to safety concerns and crime deterrence

Driver Behavior and Education (11 responses)

- Concerns about drivers running red lights and stop signs
- Issues with distracted driving and aggressive behavior
- Need for better public education on traffic laws and signage
- Misuse of turn lanes and lack of understanding of road markings
- Concerns about drivers traveling significantly under the speed limit
- Requests for education targeting both adults and youth

Bike Lanes and Micromobility (10 responses)

- Requests for more bike lanes and improved connectivity
- Concerns about safety of bike lanes due to traffic conditions
- Reports that some bike lanes are underutilized
- Issues with e-bike and scooter use (speed, helmets, rules compliance)
- Requests for clearer regulations and public education on micromobility

Road Conditions and Maintenance (8 responses)

- Reports of potholes, rough pavement, and deteriorating streets
- Concerns about sinking road sections in certain areas
- Requests for proper and long-lasting repairs
- Faded pavement markings impacting safety
- General sentiment that road maintenance needs improvement

Parking Issues (8 responses)

- Excessive on-street parking limiting visibility and mobility
- Concerns about parked vehicles blocking driveways and sidewalks
- Unsafe conditions near schools and parks due to parking congestion
- Requests for parking restrictions or enforcement
- Issues with vehicles parked in the wrong direction

Traffic Flow and Congestion (8 responses)

- Congestion on major corridors such as 377 and Denton Highway
- Difficulty entering/exiting neighborhoods due to traffic volumes
- Concerns about cut-through traffic on residential streets
- Impacts from construction and long project timelines
- Increased congestion tied to population growth and development

Other / General Comments (5 responses)

- Requests to complete ongoing construction projects (e.g., Whitley Road)
- Concerns that areas south of Watauga Road are underserved
- Comments on noise issues (ATVs, loud vehicles)
- General feedback on prioritizing funding and improvements
- Overall expressions of safety concerns and frustration

Question 8

What would you like the CSAP Vision Statement to be?

Total answers: 272

FIGURE D12: CSAP VISION STATEMENT SLOGAN

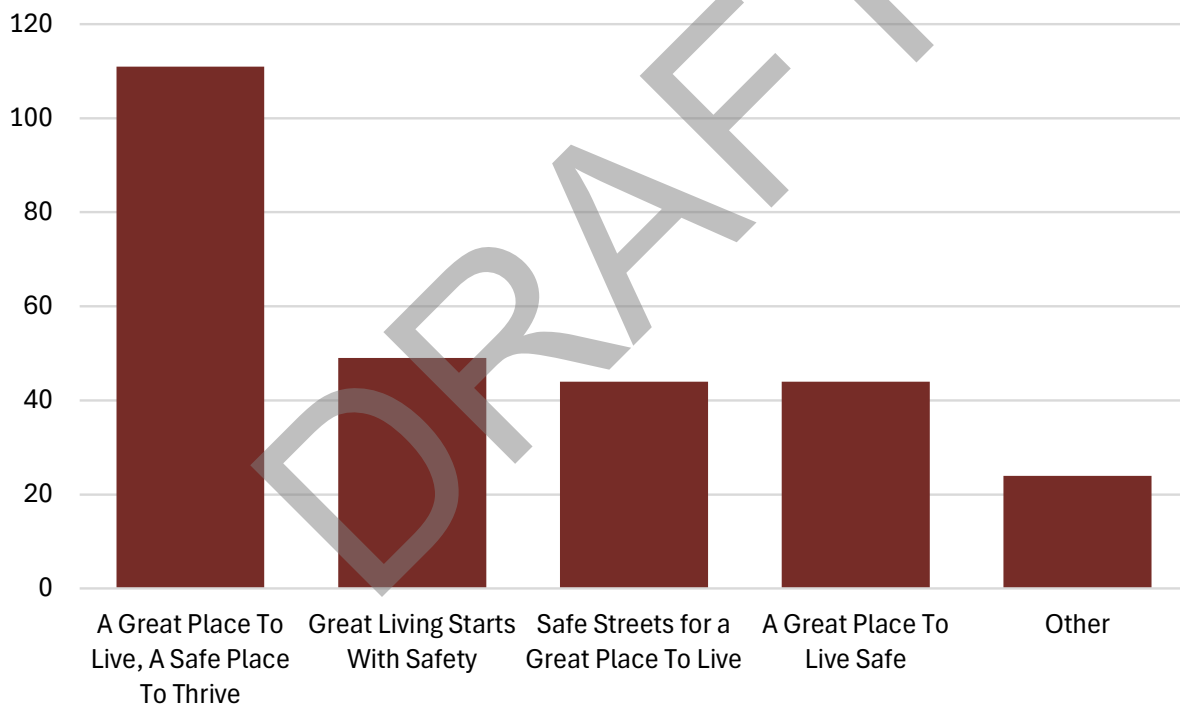


Figure D12 shows a clear preference for a vision statement emphasizing community livability and quality of life. The most selected option by a significant margin is “A Great Place to Live, A Safe Place to Thrive,” indicating strong support for a vision that combines safety with overall community well-being. The next most supported responses include “To Great Living Starts with Safety,” as well as “Safe Streets for a Great Place to Live” and “A Great Place to Live Safe,” which received relatively similar levels of support. The “Other” category received the fewest responses, suggesting limited interest in alternative phrasing. Overall, the results highlight a strong community priority on safety as a foundational element of a desirable and livable place.

Other Comments:

- This city needs a face-lift, the streets are in horrible shape and so are most of the sidewalks, of which there are not nearly enough. We spend so much of our tax money and see no infrastructure improvements. Do better Watauga!
- Great place to keep an eye on your kids and property. Great place for transients! Great place to rent 5 bedroom to 5 different families with 8 cars. Great place for bad streets. Great place if you don't like single family neighbors.
- Be aware of surroundings
- Safety is the foundation of great living.
- We care about our residents.
- We repair roads
- Drive Safe. Live Safe. Respect Your Community.
- A Great Place to Live
- none of those apply.
- Aww come on!!
- How about do your job instead of thinking of slogans that don't matter.
- Haltom City North
- None of those.
- I'd recommend picking a slogan AFTER you've fixed the problems so you're not lying.
- Those are stupid statements.
- Safe Streets, Sweet Life: That's the Watauga way
- Please Don't Move Here, We Already Have Growth Problems.
- How about, Watauga is a fair city for its residents?
- How about streets are for autos and pedestrians and bicycle riders must know and follow the safety rules also.

Online Interactive Mapping Comment Tool

The online interactive mapping comment tool provided respondents with the opportunity to provide specific location-based feedback for driving, biking, walking, and other concerns. The following tables summarize specific feedback, while the accompanying maps illustrate the spatial distribution of these concerns across the study area, helping to identify recurring problem locations and patterns. Overall, the input highlights key themes such as speeding and intersection safety, gaps in pedestrian and bicycle infrastructure, and maintenance-related issues, while also capturing broader quality-of-life concerns.

Table D1 summarizes mapping comments provided by community members regarding safety, traffic operations, and roadway conditions along corridors such as Hightower Drive, McCoy Drive, 377 (Denton Highway), and surrounding residential streets. The comments highlight a range of recurring issues, including difficulty turning at intersections due to parked cars and poor visibility, excessive vehicle speeds and frequent red-light running, and unsafe driver behaviors such as illegal turns into driveways and failure to stop at stop signs. Respondents also reported infrastructure concerns, including potholes, damaged curbs, poor drainage, worn pavement markings, and insufficient street lighting. Several comments emphasize pedestrian and

neighborhood safety challenges, such as unsafe walking conditions, traffic cutting through residential areas, and limited access or visibility when exiting neighborhoods. Overall, the table reflects strong community concern about speeding, intersection safety, roadway maintenance, and the need for traffic calming measures such as speed humps, improved signage, and enhanced enforcement.

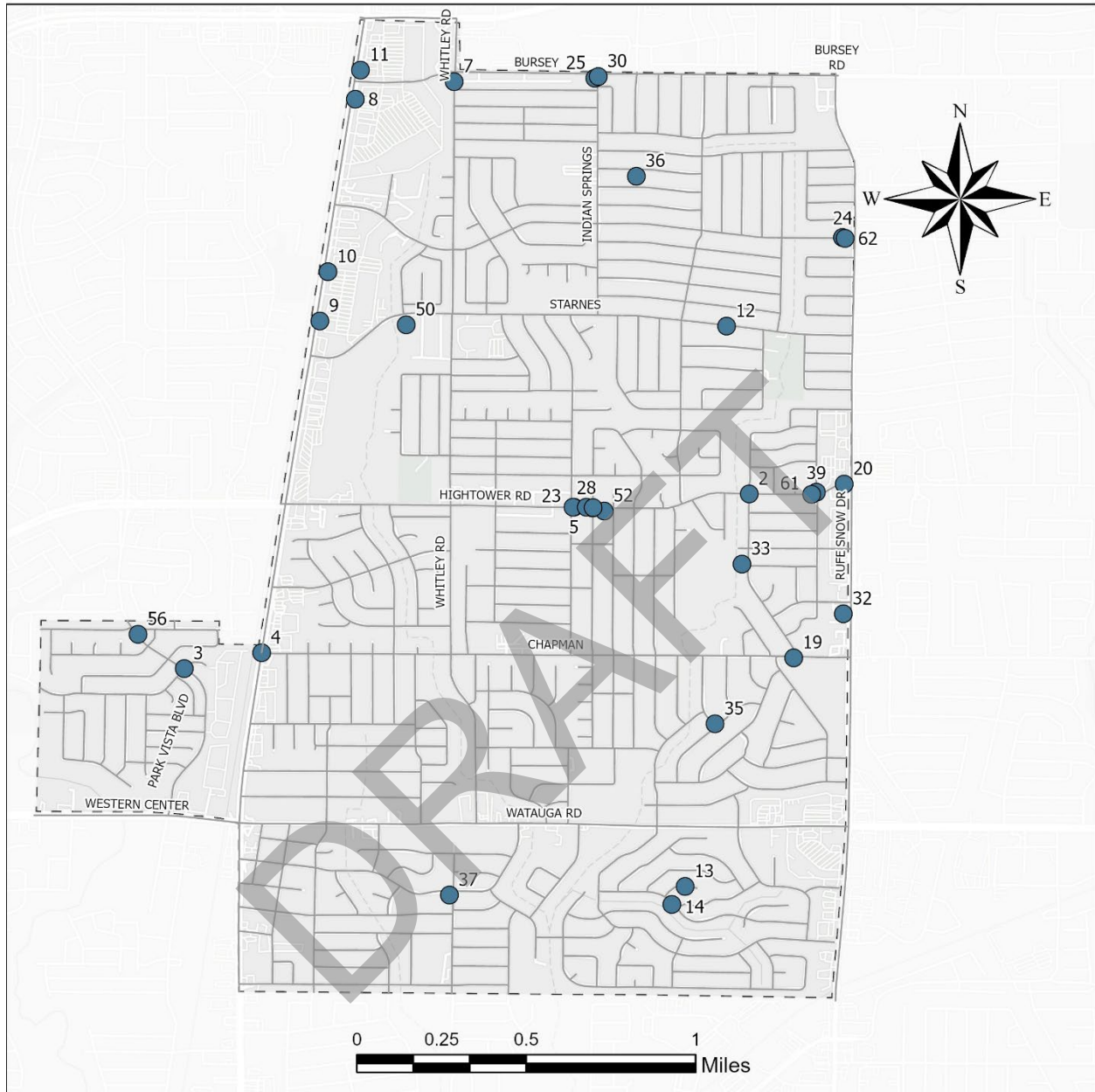
TABLE D1: MAPPING COMMENT – DRIVING RELATED

Comment #	Comment
2	Intersection of Hightower Dr/McCoy Dr, facing north at the stop sign, difficulty making left or right turn from McCoy onto Hightower due to cars parked on southside of Hightower. Cars are often speeding too. It's even worse in evening.
3	Vehicles often speed on Park Vista Blvd making it difficult/dangerous to exit the neighborhood at times.
4	Too many red-light runners on 377 Denton Hwy at the different East/West intersections like Chapman Dr.
5	Cars driving/passing on the right shoulder along Hightower Dr. between Whitley Rd and Meadowbrook Dr.
7	Do away with the 20 MPH PARK ZONE on Whitley between Bursey and Hillview Dr. The park is fenced, and there are no homes on the west side of Whitley until you get to Caden Ct. If need be, add a partial fence on the Hillview Dr side of the park.
8	Do something to prevent southbound 377 traffic from making a left turn into this driveway. Cars fly across the northbound lane and then brake to make that illegal turn into the driveway. It's dangerous!
9	Do something to prevent southbound 377 traffic from making a left turn into this driveway. Cars fly across the northbound lane and then brake to make that illegal turn into the driveway. It's dangerous!
10	Do something to prevent southbound 377 traffic from making a left turn into this driveway. Cars fly across the northbound lane and then brake to make that illegal turn into the driveway. It's dangerous!
11	Do something to prevent southbound 377 traffic from making a left turn into this driveway. Cars fly across the northbound lane and then brake to make that illegal turn into the driveway. It's dangerous!
12	Ask homeowner with commercial Ideal Air van to park in his driveway so that eastbound drivers can see the 20 MPH PARK ZONE sign without obstruction. Or, move the 20 MPH sign by two parcels of land further east.
13	Potholes in road, sunken asphalt, broken curbs, gaps between asphalt and concrete allowing weeds to grow.
14	Sinking asphalt by manholes all over street.
18	I've lived here for over 20+ years. Can we ever fix the dip on Hightower passing Brookdale? Many cars try to drive around it on the shoulder trying to avoid the discomfort of passing over it but I would imagine that might dangerous to do
19	Please fix the pothole on Chapman around McCoy Dr when heading to Rufe Snow. No way to really avoid that and will only get worse.
20	Repaint street lines as this intersection is busy and has narrow lanes

Comment #	Comment
23	Huge increase in traffic on Hightower and difficult to leave neighborhood. I would love to see a stop light or 4 way stop here.
24	dangerous intersection...Rufe Snow and North Park. Numerous accidents have occurred here due to speeding.
25	Turning left from Indian Springs onto New Bursey. Low visibility, hard to see oncoming traffic.
26	Fix that drainage/intersection! It's terrible.
28	Hightower needs to be repaved and better lane reflectors. Maybe install speed bumps on either side of the dips to slow down traffic. Too many loud and fast vehicles don't care about bottoming out on the dips, this may encourage a safer speed.
30	You can't see past the new townhomes' fence line to see traffic coming east on Bursey. Very dangerous
32	Cars and motorcycles racing down rufe snow late at night/early mornings. They are SO LOUD!
33	Cars drive way too fast down McCoy with all of the vehicles parked on both sides.
35	The street on Charmaine is so bad and desperately needs repaving.
36	people on Indian Springs run the stop sign at north park frequently. A speed bump would be nice
37	RARELY does anyone stop at this four-way stop and we have very little police patrols on this side of Watauga Rd.
39	Cars parking to close to the stop sign making turning out of or onto this street dangerous. Also because they park there it pretty much makes it a one way street if some try's turning onto the street while you are trying to leave you'll get hit.
50	Please redo the parking lanes. Paint has faded, not easy to see.
52	Please make the streets easier to drive on and enforce the existing rules without adding more.
56	Park Vista Dr Speeding through area
58	Hightower and Brookdale unsafe dip in road
61	Hightower and Richardson Dr. Massive dip in the road.
62	Rufe Snow and North Park Accident at intersection

Figure D13 illustrates the community comments summarized in **Table D1**, showing where each issue is occurring across the study area. The numbered points correspond directly to the comments in the table, revealing clear clusters of concern along key corridors such as Hightower Drive, McCoy Drive, Denton Highway (377), and near neighborhood intersections like North Park and Chapman Drive. These clusters reinforce the trends identified in the table, particularly the concentration of speeding, unsafe turning movements, and intersection visibility issues along major roadways, as well as recurring maintenance and safety concerns within residential streets. Overall, the map helps visualize how widespread and location-specific these issues are, confirming that many concerns are not isolated but concentrated in high-traffic and transition areas between neighborhoods and arterial routes.

FIGURE D13: MAPPING COMMENTS – DRIVING RELATED



Legend

- Driving Related
- [- -] City of Watauga Border



Table D2 summarizes community feedback related to biking conditions in the study area, highlighting key barriers to safe and convenient bicycle use. Many comments focus on the lack of adequate infrastructure, including missing or incomplete sidewalks, limited bike lanes, and poor roadway design that makes cycling uncomfortable or dangerous. Respondents also emphasized the need for more supportive amenities, such as additional bike racks near businesses to reduce theft and encourage biking as a travel option. Overall, the comments reflect a strong demand for safer, more connected, and better-equipped facilities to support biking in the community.

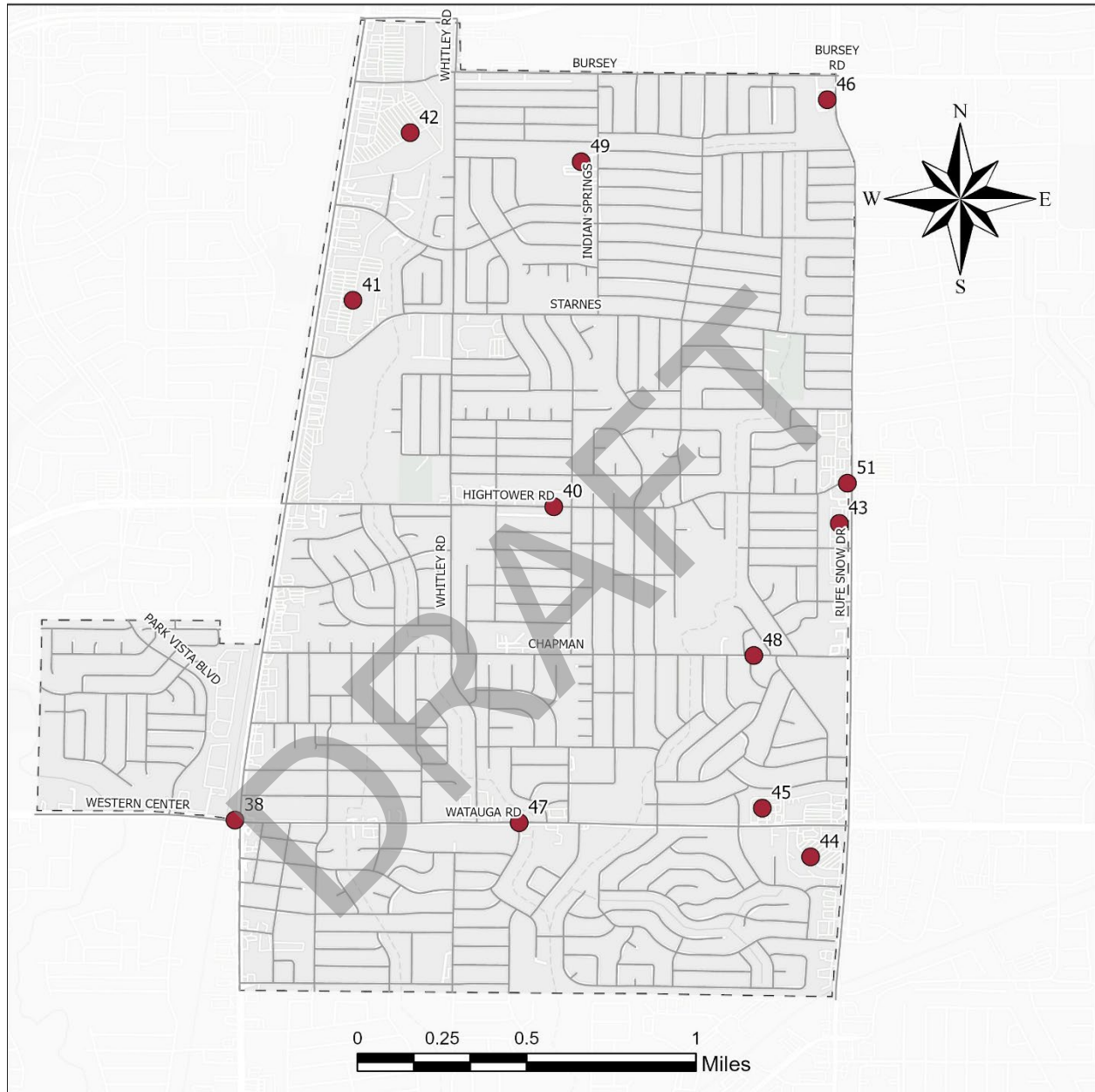
TABLE D2: MAPPING COMMENTS – BIKING RELATED

Comment #	Comment
38	please make 377 safer for pedestrians to cross, the best solution would be a sky bridge Here or at N. Tarrent. This would benefit watauga and Fort Worth allowing people to walk or bike to shopping centers reducing over all traffic in the area.
40	Please add a bike lane onto hightower itd be a great way to get to Cap smith park and the City facility's, It could also connect to Whitley's bike lane.
41	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
42	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
43	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
44	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
45	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
46	add more bike racks next to businesses the closer the bike rack is to the store i'm going too the safer my bike is from theft.
47	Please finish connecting sidewalks on this hell scape, both sides have sidewalks that just stop making both biking and walking difficult down this road.
48	need sidewalks on both sides of this street
49	needs a bike rack
51	Very difficult to traverse sidewalk. crosswalks are blocked by walls or require right angle turns to go around. Much too dangerous to ride on the street at Rufe Snow and Hightower. Problem mainly in the 7-11 lot.

Figure D14 visually represents the locations of bike-related concerns summarized in **Table D2**, with each numbered point corresponding to a specific comment. The map shows that issues are dispersed across the study area but tend to cluster along key corridors such as Hightower Road and Rufe Snow Drive, where respondents identified safety challenges, limited bike infrastructure, and conflicts with traffic. These locations reinforce themes from the table, including gaps in sidewalk connectivity, the need for bike lanes, and safety concerns at crossings and intersections. Overall, the map highlights that biking issues are both widespread and concentrated along higher-

traffic routes, underscoring the need for safer, more connected bicycle facilities throughout the community.

FIGURE D14: MAPPING COMMENTS – BIKING RELATED



Legend

- Biking Related
- [- -] City of Watauga Border



Table D3 summarizes community concerns related to pedestrian conditions, with many comments highlighting significant gaps in sidewalk infrastructure and unsafe crossing conditions. Respondents frequently noted missing or incomplete sidewalks along key corridors such as Watauga Road, Whitley Road, and Chapman Drive, forcing pedestrians to walk in the street or along drainage ditches. Difficulty crossing major roadways due to limited visibility, long distances between safe crossings, and non-compliant ADA facilities were also common concerns. Overall, the comments emphasize the need for improved sidewalk connectivity, safer crossings, and upgraded pedestrian infrastructure to better support walkability and safety throughout the area.

TABLE D3: MAPPING COMMENTS – WALKING RELATED

Comment #	Comment
1	Trying to cross here from the outside of Watauga road to Whitley is sometimes impossible. The lack of sidewalks along Watauga road and the extreme out of the way crosswalks makes trying to walk or run toward city center so difficult
6	Please ensure sidewalks are clear of debris for the safety of walkers.
16	There are no sidewalks from Chapman to Whitley. People have to either walk along the street or near the ditch which is not safe since there's no street shoulder. Not sure if we can make sidewalks but it would be safer for both parties
17	Correcting from previous comment ** From Whitley to Rufe Snow on Chapman**
22	failing to comply with ADA sidewalk requirements To ensure compliance with the Americans with Disabilities Act (ADA), sidewalks must meet specific requirements regarding width, slope, surface materials, and accessibility features.
27	Crossing from the south side of Watauga RD to the Northside is nearly impossible, depending on the time of day. No sidewalks on the south side. Have to walk all the way down to Whitley or to 377 to find a safer crossing.
29	Walking/Running/Biking is scary around this area because so many people cut through the neighborhood to bypass watauga road/377 light traffic. This results in people flying down the street, which is bad enough considering we don't have sidewalks there.
31	No sidewalk on east side of Whitley.
34	Street light is still out after month of submitting to city/oncor.
55	Hightower and Quail Run @ Dance Studios needs sidewalk and crosswalk.
57	Chapman Road: unsafe for pedestrians and bikes. needs lights.
60	Oaklawn Dr. Lack of sidewalk

Figure D15 illustrates the geographic distribution of pedestrian-related concerns identified in **Table D3**, with each numbered point corresponding to a specific comment location. The map shows that issues are spread throughout the study area but are particularly concentrated along key corridors such as Watauga Road, Whitley Road, and Chapman Drive. These locations align with the themes identified in the table, including missing sidewalks, unsafe crossings, and gaps in ADA-compliant infrastructure. Overall, the figure highlights that pedestrian challenges are both widespread and corridor-focused, reinforcing the need for improved sidewalk connectivity, safer crossings, and enhanced pedestrian facilities across the community.

FIGURE D15: MAPPING COMMENTS – WALKING RELATED



Legend

- Walking Related
- City of Watauga Border



Table D4 captures additional community concerns that do not fit within the primary drive, bike, or walk categories, but still impact overall safety and livability. Several comments focus on visibility and safety issues, such as inadequate street lighting, restricted sight distance at intersections, and blockage of driveways due to on-street parking. Others highlight quality-of-life improvements, including requests for ADA-accessible parking and community amenities like playgrounds or green spaces. Overall, the feedback reflects a mix of safety, accessibility, and neighborhood enhancement needs that contribute to the broader transportation and community environment.

TABLE D4: MAPPING COMMENTS – OTHER RELATED

Comment #	Comment
15	Give the kids a playground back here, instead of that whatever it is there. Turn the large field of grass that needs constant mowing into either a pollinator haven, or community gardens.
21	Beetle Drive is so dark and needs additional street lighting.
53	Lack of road width due to street parking Parkview Dr.
54	More ADA parking at Capp Smith Park
59	Hightower and Meadowbrook lack of sight distance turning west on Hightower

Figure D16 illustrates the spatial distribution of the “other” category comments summarized in **Table D4**, with each point corresponding to a specific concern. The locations are more limited compared to the other maps, but they highlight targeted issues across the study area, including areas with poor lighting, visibility constraints at intersections, and parking-related conflicts. A few points also reflect community desires for amenities and accessibility improvements, such as playground space and ADA parking. Overall, the map shows that while these concerns are less frequent, they are geographically specific and still important to address as part of broader safety and quality-of-life improvements.

FIGURE D16: MAPPING COMMENTS – OTHER RELATED



Legend

- Other Related
- City of Watauga Border



Appendix E: US 377 Corridor Analysis

DRAFT

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DRAFT

Introduction

Crashes occurring on US 377 were analyzed as part of a separate, corridor-specific study. US 377 is not owned or maintained by the City, and implementation authority for many potential safety countermeasures along that corridor rests outside the City's control. Including US 377 in the citywide safety analysis would therefore disproportionately influence the results toward a roadway where the City has limited ability to implement recommended improvements. By evaluating US 377 separately, the City can coordinate corridor-specific safety strategies with TxDOT while ensuring that the City's comprehensive safety action plan prioritizes implementable countermeasures on City-owned roadways where the City has direct authority to make near- and mid-term safety improvements. This approach allows the plan to more effectively reduce severe crashes across the City's roadway network.

US 377 is a 2.8 mile seven-lane major arterial with three lanes in each direction and a center two-way left-turn lane that becomes dedicated left-turn lanes at several signalized intersections. The AADT ranges from 41,430 to 32,720.

Data Analysis

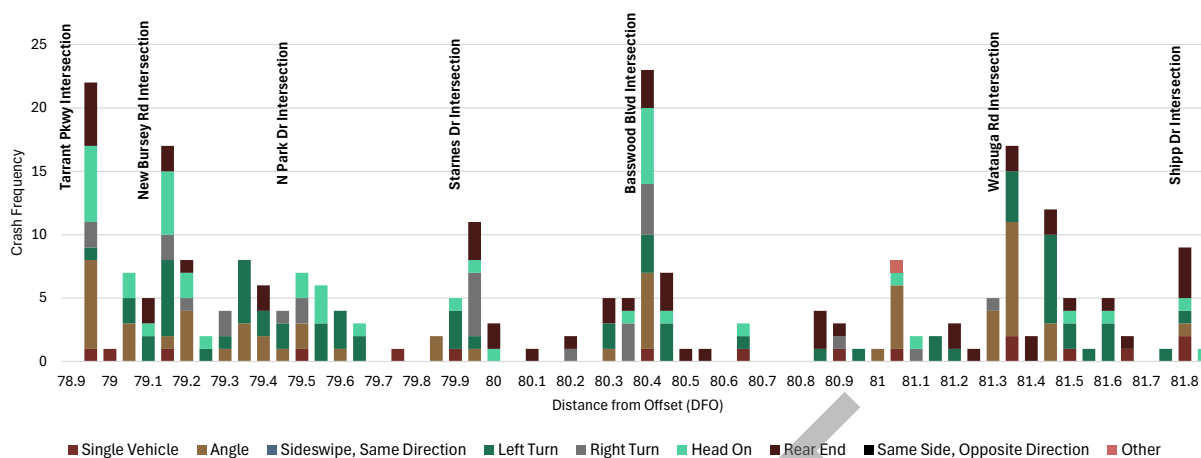
Approximately 40 percent of all reported crashes within Watauga city limits occurred along the 2.8-mile segment of US 377 with a total of 374 crashes from 2019 through 2024. The data analysis reviewed crash types, crash severity, crash locations, and lighting conditions along US 377.

Crash Types

As shown in **Figure E1**, the top 5 crash types by frequency are as follows:

1. Sideswipe, Same Direction (SSSD), 32%
2. Left-Turn, 17%
3. Angle, 15%
4. Read-End, 13%
5. Head-On, 11%

FIGURE E1: SIMPLIFIED CRASH TYPES BY FREQUENCY ALONG US377



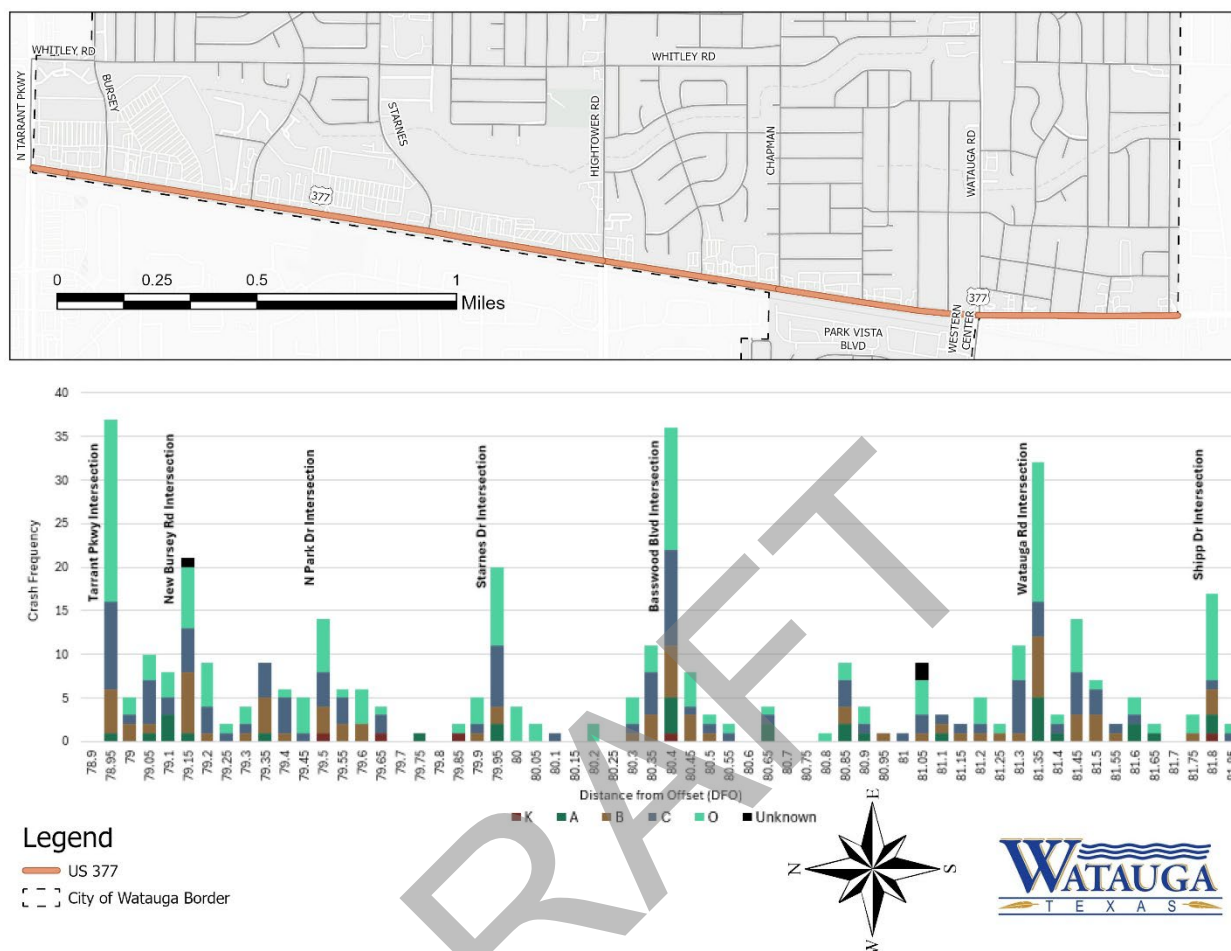
Crash Severity

As shown in **Figure E2**, the following distribution by crash severity is shown in **Table E1**.

TABLE E1: CRASH SEVERITY

Severity	Number	Percentage
K	5	1.3%
A	30	8.0%
B	71	19.0%
C	105	28.1%
O	160	42.8%
Unknown	3	0.8%
Total	374	100%

FIGURE E2: CRASHES BY SEVERITY AND FREQUENCY ALONG US 377



Crash Locations

As shown in **Figure E2**, there are several hot spots of high crash frequency and high severity. These are all intersections with higher volume intersections in Watauga. In the following list DFO means Distance from Origin which is similar to a milepost.

- Tarrant Parkway (DFO 78.95)
 - Overrepresentation of SSSD and Head-On crashes
- New Bursey Road (DFO 79.15)
 - Overrepresentation of Left-Turn and Head-On crashes
- N Park Drive (DFO 79.50)
 - Overrepresentation of SSSD crashes
- Starnes Drive (DFO 79.95)
 - Overrepresentation of SSSD and Right-Turn crashes
- Basswood Road (DFO 80.40)
 - Overrepresentation of Head-On crashes
- Watauga Road (DFO 81.35)

- Overrepresentation of SSSD crashes
- Shipp Drive (DFO 81.80)
 - Overrepresentation of SSSD crashes and Rear-End crashes

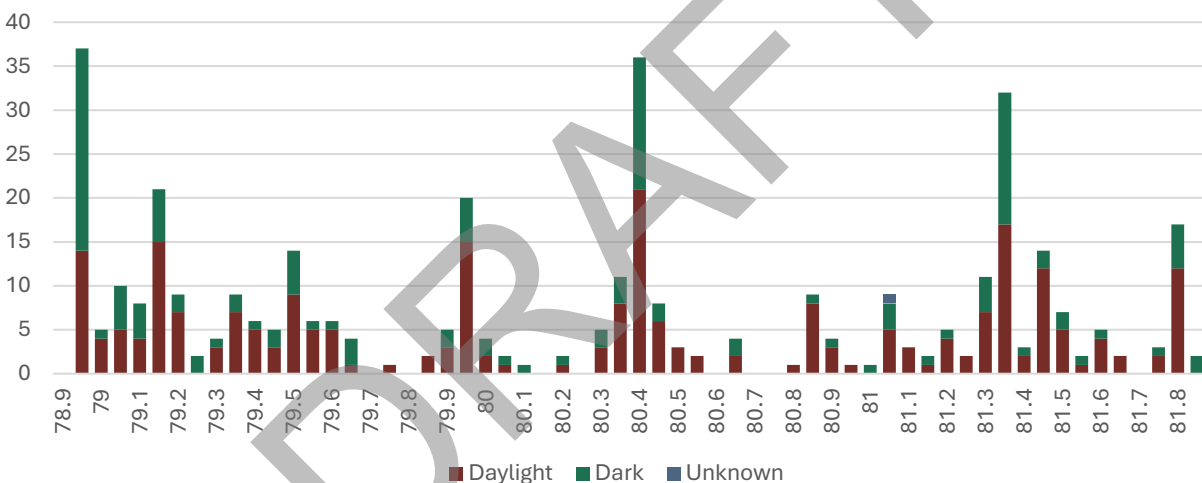
Lighting Conditions

As shown in **Figure E3**, 64% of crashes occurred during light conditions, 35% during dark conditions, and 1% during “other” type conditions. Of all locations, 3 areas had a dark crash percentage more than the average. These areas include:

- Tarrant Parkway at DFO 78.95 (65% with dark conditions)
- Watauga Road at DFO 81.35 (47% with dark conditions)
- Basswood Boulevard at DFO 80.40 (42% with dark conditions)

In addition, these locations had an overrepresented number of Head-On and KA crashes, potentially showing a link with dark lighting for such crashes.

FIGURE E3: SIMPLIFIED CRASH LIGHTING CONDITIONS BY FREQUENCY ALONG US 377

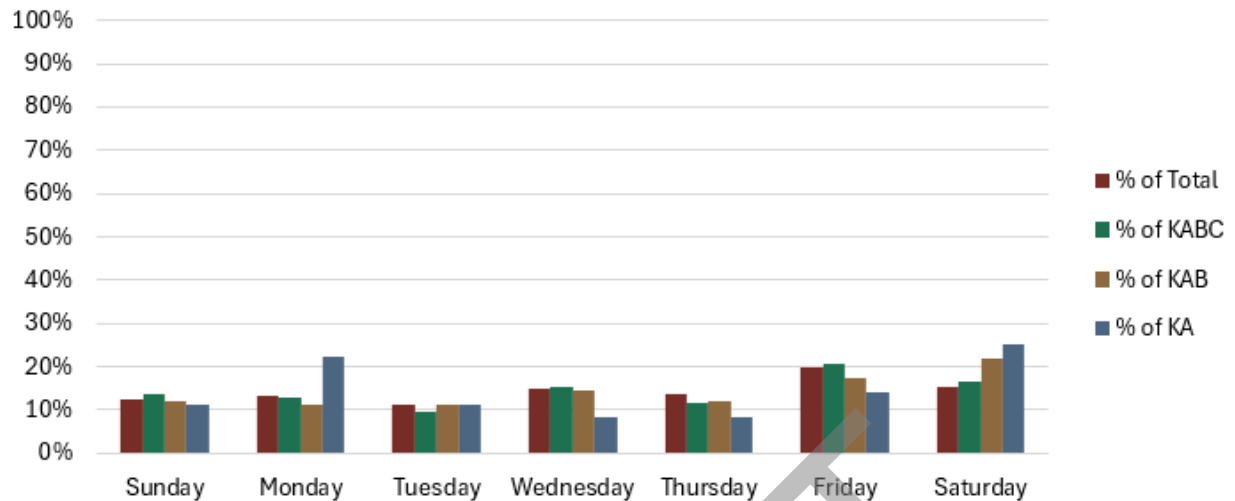


Crashes Over Time

Figure E5, **Figure E6**, and **Figure E7** show crashes on US 377 by day of week, month, and year, respectively. Reviewing crashes over time helps identify recurring patterns that may be associated with travel behavior, seasonal conditions, or changes in traffic activity. These patterns can support more targeted safety improvements by indicating when crashes are most likely to occur along the corridor.

Figure E4 shows the crashes that take place on days of the week. Saturdays account for the most KA percent of crashes at 25% and KAB crashes at 22%. Fridays also recorded a high percentage, with 14% of KA and 17% of KAB. Notably, Mondays recorded a higher percent of KA crashes of 22% compared to Tuesday, Wednesday, Thursday, and Friday.

FIGURE E4: CRASHES BY DAY OF WEEK



shows the crashes by month. The highest percentage (17%) of KA crashes occurred in December (shown in the blue) with a total of six KA crashes in December. The next highest percentage (17%) of KA crashes was in June with eleven KA crashes. The highest percentage (12%) of KABs also occurred in December (shown in brown), with sixteen crashes.

FIGURE E5: CRASHES BY MONTH

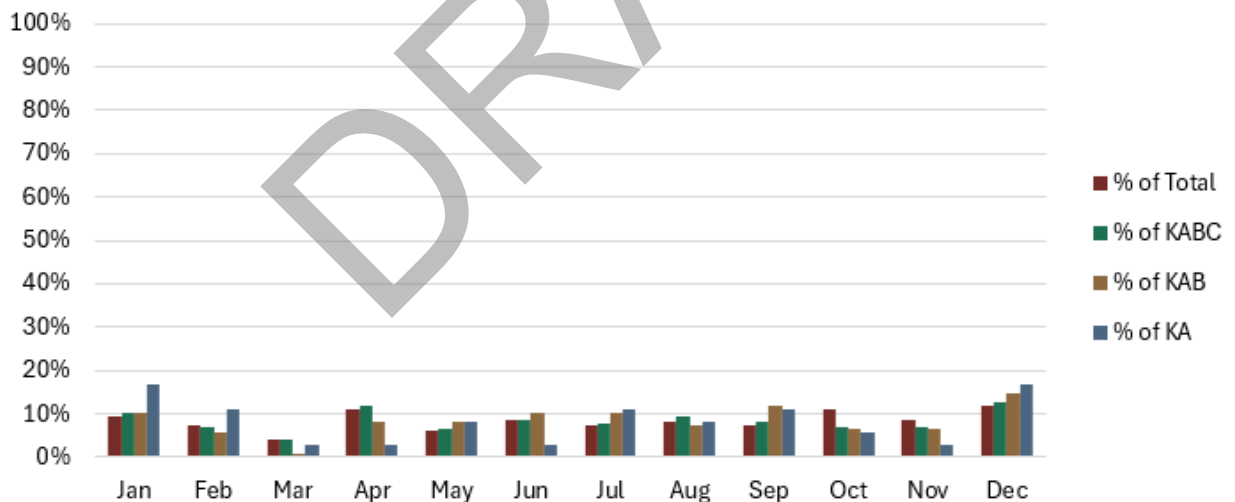
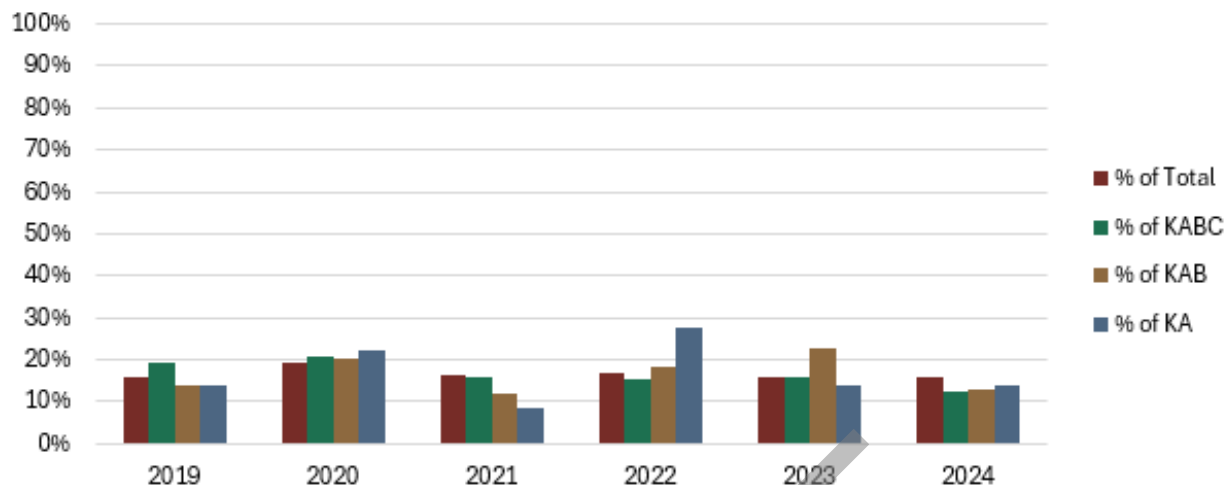


Figure E6 shows crashes by year. Throughout the years, crashes fluctuated between 16 and 19 percent approximately 65 crashes per year and approximately 5 severe crashes per year. The year 2020 saw the most amount of KABC crashes (19%). 2022 was the year that recorded the highest percentage of KA crashes (22%) out of the six years.

FIGURE E6: CRASHES BY YEAR



Emphasis Area Analysis

Background

Emphasis areas organize crash data by characteristics such as intersections, lane departure, and unbelted occupants to help identify where focused action is needed to reduce fatalities and serious injuries. By identifying high-priority issues, we can target strategies that help prevent deaths and serious injuries on our roadways.

Like the crash analysis above, the Emphasis Area Analysis evaluated fatal crashes (K), serious-injury crashes (A), minor-injury crashes (B), possible-injury crashes (C), and no-injury/property-damage-only crashes (O).

Figure E7 shows the percentage of crashes on US 377 that are intersection related. More than 50% of crashes across all (K), serious-injury crashes (A), minor-injury crashes (B), possible-injury crashes (C) were intersection-related compared to not intersection-related. This strong concentration indicates that intersections are the most critical locations for improving safety outcomes. These findings highlight the importance of prioritizing intersection-focused countermeasures that reduce conflict points on US 377.

FIGURE E7: INTERSECTION RELATED

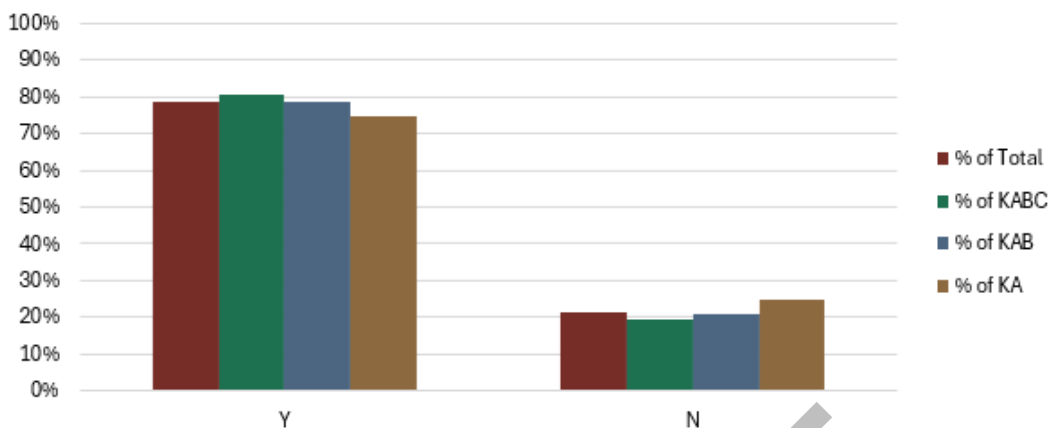


Figure E8 shows that a very small percentage of pedestrians and bicyclists are involved in crashes on US 377, generally ranging from 1% to 3%. However, pedestrian and bicyclist activity on US 377 is limited due to an absence of sidewalk and bike lane presence, and nature of US 377. Although pedestrian and bicycle crashes are infrequent on US 377, the lack of physical protection puts potential pedestrians at a higher risk of serious injury or death if traveling on US 377.

FIGURE E8: PEDESTRIAN/BIKE

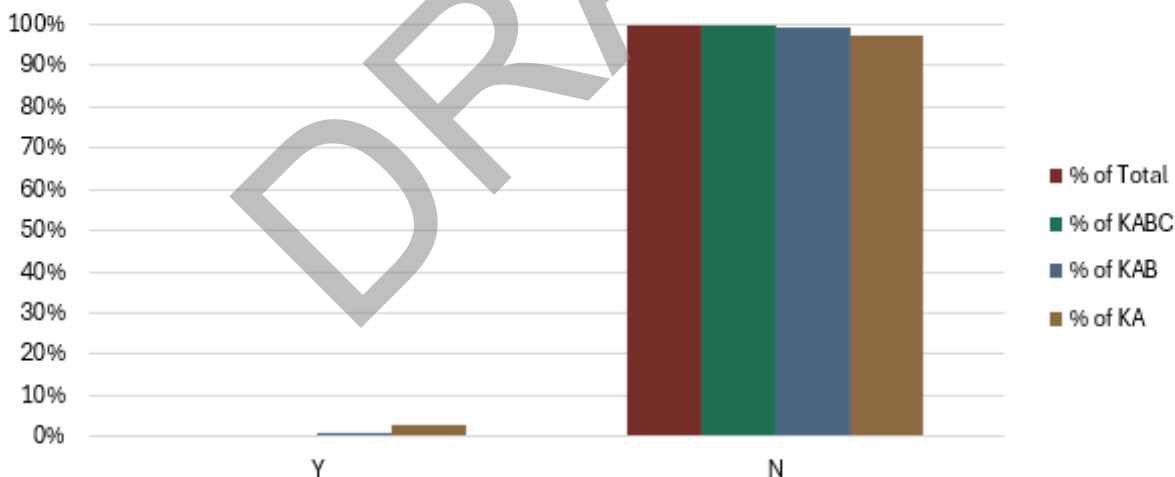


Figure E9 shows that impairment was not a common factor among KABC crashes on US 377. Only a small share of crashes involved impaired drivers; however, impairment-related crashes were more likely to result in fatal (K) or incapacitating-injury (A) outcomes when they did occur. Even at low levels, impairment remains an important emphasis area due to its strong association with serious injury and fatal crashes.

FIGURE E9: IMPAIRED

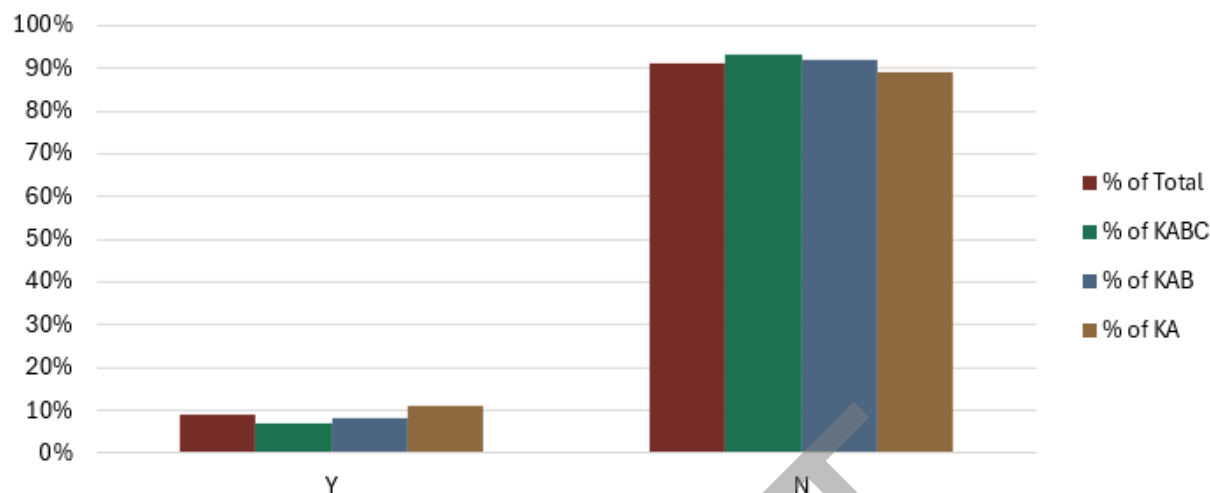


Figure E10 shows that speeding is a contributing factor in a notable share of severe crashes on US 377. Speeding accounted for 28% of fatal and serious-injury (KA) crashes, indicating that while it was not present in most crashes, it was disproportionately associated with higher-severity outcomes. Addressing speeding – through strict enforcement and speed management strategies – should be a key component of efforts to reduce fatalities and serious injuries on US 377.

FIGURE E10: SPEED RELATED

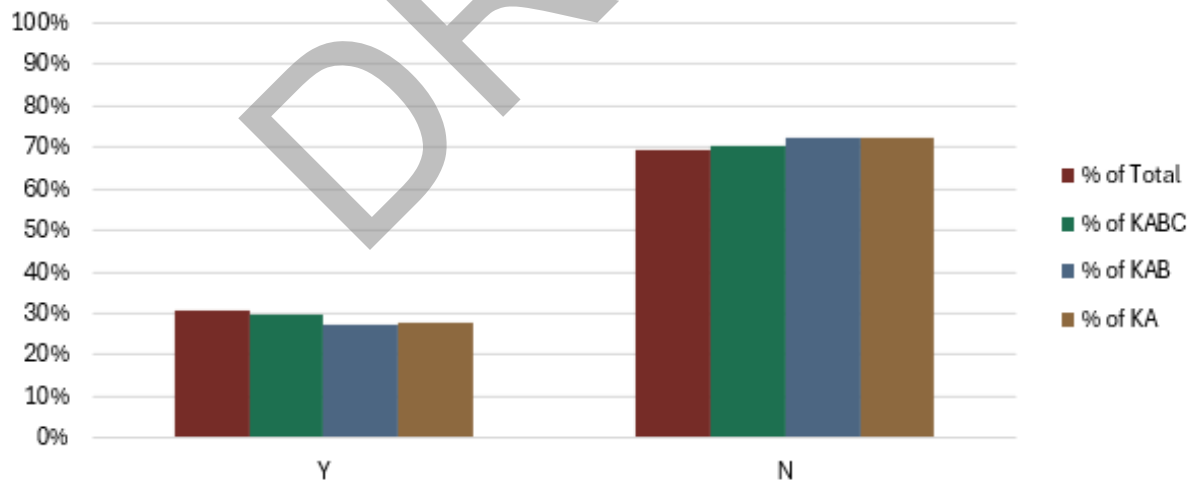


Figure E11 shows the share of crashes along US 377 involving distracted users, including drivers, pedestrians, and bicyclists. Distraction was most common among KAB crashes, accounting for 39% of those crashes. This pattern suggests that distraction may contribute more frequently to injury crashes, although it appears less strongly associated with the most severe fatal and serious-injury outcomes. It may also reflect the difficulty of accurately identifying distractions in crash reporting. The relatively high share among KAB crashes indicates that distraction remains an important safety concern because it can reduce attention, slow reaction times, and impair decision-making.

FIGURE E11: DISTRACTED

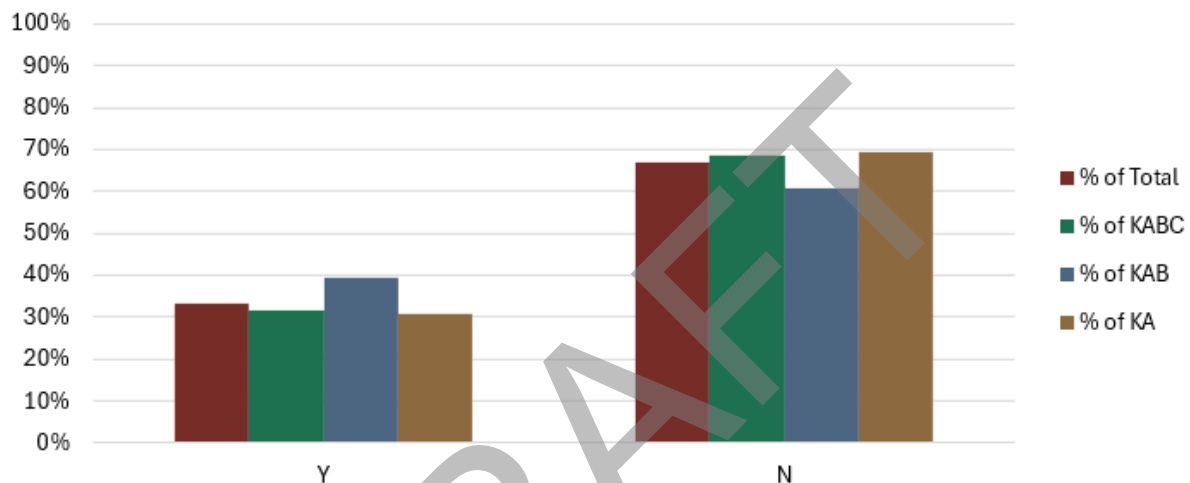


Figure E12 shows that only a small share of crash participants on US 377 were unbelted, generally ranging from 1% to 3%. This low percentage suggests relatively strong seatbelt compliance along the corridor. However, all unbelted crashes occurred within the KA and KAB severity categories, indicating that failure to wear a seatbelt is closely associated with serious injury and fatal crash outcomes even when the overall number of unbelted occupants is low.

FIGURE E12: UNBELTED

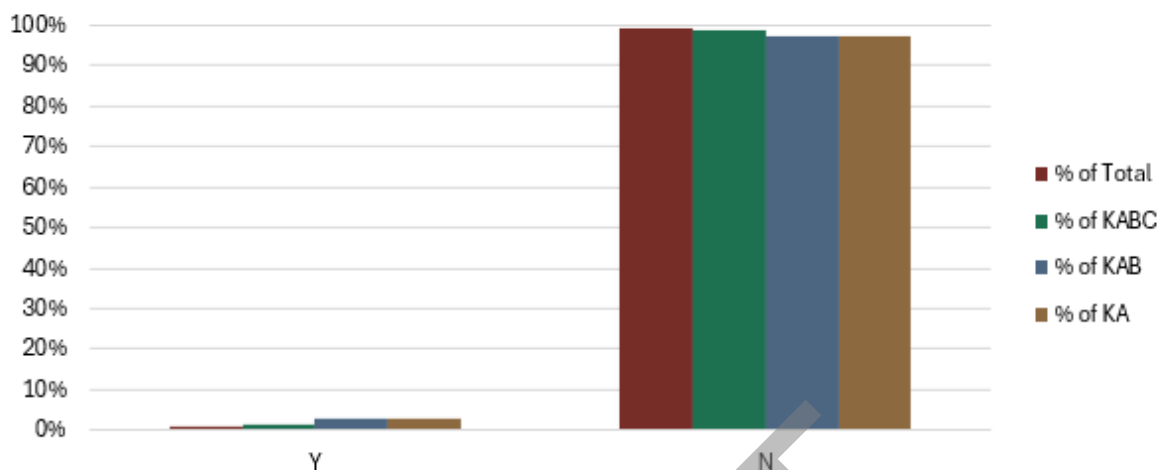


Figure E13 shows the share of crashes on US 377 involving lane departure. Lane-departure crashes accounted for 5% of total crashes, indicating that this crash type was relatively infrequent along the corridor. However, lane-departure crashes represented 8% of fatal and serious-injury (KA) crashes, suggesting that these events are more likely to result in severe outcomes when they occur. Although lane departure is less prevalent than intersection-related crashes, it remains an important safety concern, particularly along roadway segments where vehicles may leave their lane or cross into opposing traffic.

FIGURE E13: LANE DEPARTURE

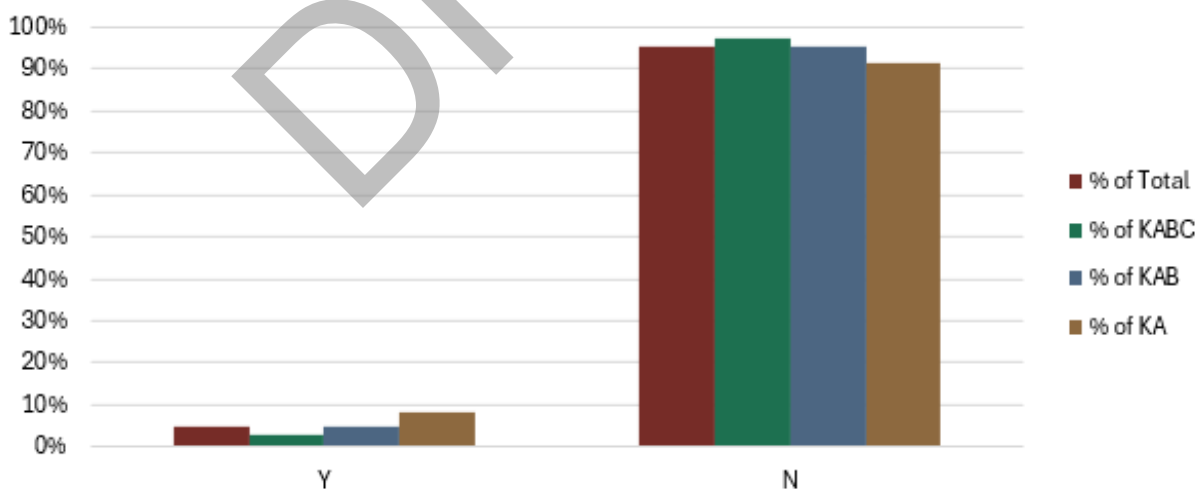


Figure E14 summarizes the percentage of KABC crashes on US 377 associated with each emphasis area. Intersection-related crashes account for the largest share by a wide margin, significantly exceeding all other categories. Evaluating the full KABC crash set provides a larger and more actionable sample size, helping identify the emphasis areas most relevant to reducing injury

crashes along the corridor. Knowing intersections account for most of the severe and non-incapacitating, possible injury, pinpoints where the most crashes take place on US 377.

FIGURE E14: EMPHASIS AREAS - RANKED BY % OF KABC

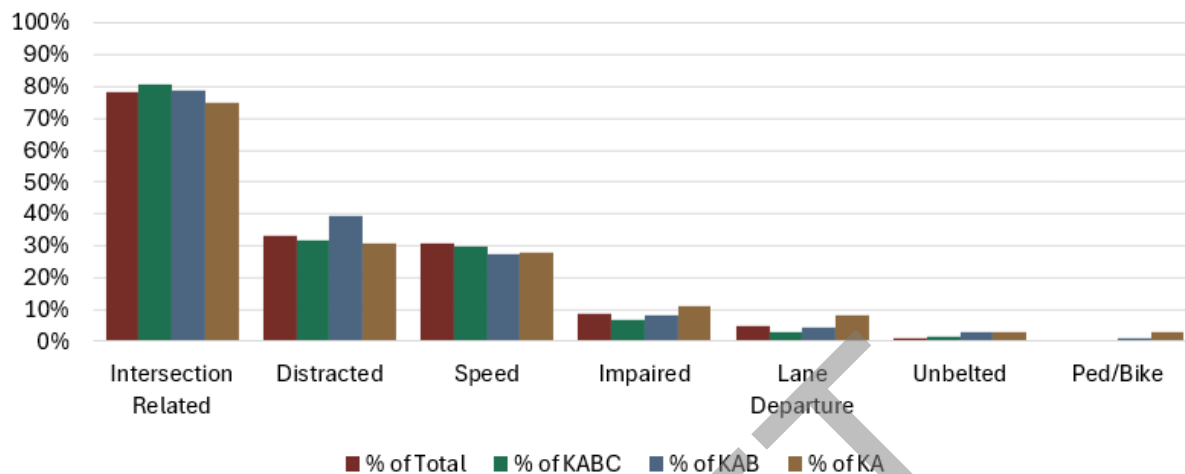
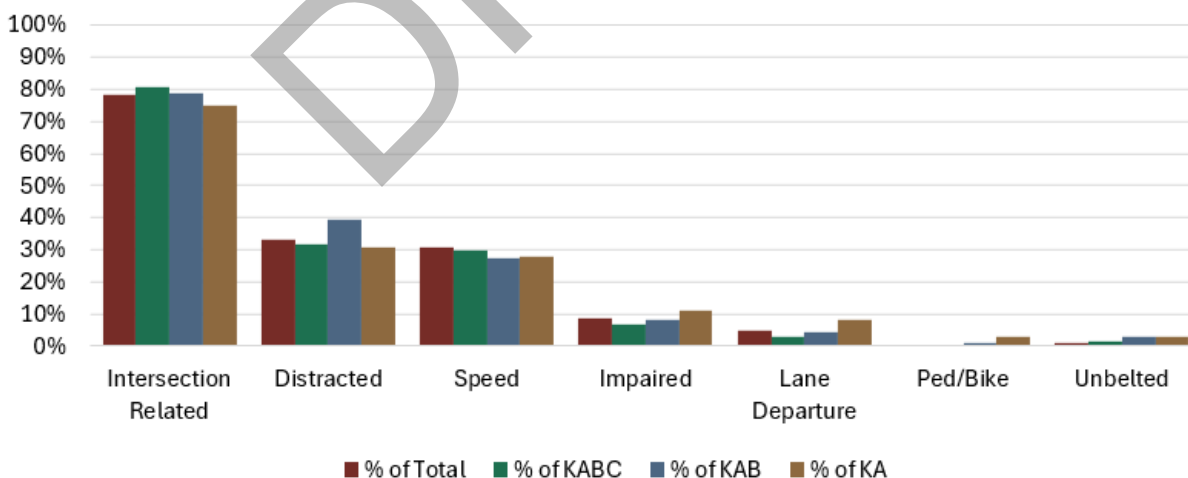


Figure E15 summarizes the emphasis areas percentage KA crashes on US 377. Intersection related crashes account for by far the highest share of KA crashes, significantly exceeding all other emphasis areas. The data reinforces the results presented in previous figures and confirms that intersections are the most critical focus area for reducing severe crashes. Other factors such as speed and distraction contribute to crash occurrence, their relative impact on the most severe outcomes is notably lower. The concentration of KA crashes at intersections suggests that targeted safety investments in these locations are likely to yield the greatest benefits.

FIGURE E15: EMPHASIS AREAS - RANKED BY % KA



Fatal Crashes

There were five fatal crashes along US 377 in Watauga between 2019 and 2023. The following crash summaries provide details on the circumstances, contributing factors, and outcomes associated with each fatal crash based on police reports.

Speeding was involved in three of the five crashes, while impaired driving contributed to two incidents. Two crashes were associated with driveway access points, and two resulted from head-on collisions. All crashes occurred during normal weather conditions on dry pavement, indicating that driver behavior and roadway interactions were more significant factors than environmental conditions. The crashes resulted in five fatalities, with one incident also causing severe injuries to additional occupants.

Crash ID #17168635

- DFO 79.522 on 7/6/19 (Saturday) at 5:15 AM
- Normal weather, dark lighting, dry surface
- Speeding, impaired, roadway departure
- Single-vehicle crash, 1 fatality

A driver was travelling southbound significantly over the speed limit, when the driver lost control of the vehicle and swerved across the center lane, then all three northbound lanes of traffic, then finally the pedestrian push button pole. The driver was pronounced dead at the scene with no other people involved. Beer and liquor bottles were found in the vehicle, so it was suspected the driver was under the influence.

The incident occurred on 7/6/2019 at 5:15 AM on a Saturday morning at DFO 79.522. Weather conditions were normal, lighting conditions were dark, and surface conditions were dry. The crash was classified as a single-vehicle type collision, which made up only 4% of all collisions and 11% of fatal or serious injuries.

Crash ID #19176793

- DFO 79.658 on 10/12/2022 (Wednesday) at 3:52 PM
- Normal weather, light lighting, dry surface
- Speeding, driveway-related
- Left-turn crash, 1 fatality

A driver was travelling northbound in the innermost lane when it struck a car turning left out of a private driveway (Chili's) attempting to travel southbound. Witnesses said that the northbound car was moving faster than the speed of traffic and the turning car would not have been able to see it before turning. The driver of the northbound car died later in the day while the driver of the turning car sustained no injuries.

The collision occurred on 10/12/2022 at 3:52 PM on a Wednesday afternoon at DFO 79.658. Weather conditions were normal, lighting conditions were light, and surface conditions were dry. The crash was classified as a left-turn collision, which made up 17% of collisions overall and 22% of fatal or serious injuries.

Crash ID #19332538

- DFO 79.884 on 12/27/2022 (Tuesday) at 11:46 AM
- Normal weather, light lighting, dry surface
- Motorcycle, speeding, driveway related
- Angle crash, 1 fatality

A vehicle was facing west, and the driver attempted to turn left in the southbound direction out of a private driveway when it was struck by a motorcyclist travelling northbound who was moving faster than the speed limit. The left turning car was struck in the front left fender and the driver of the motorcycle was thrown off the vehicle. The driver of the motorcycle was pronounced dead less than 2 hours after the collision.

The collision occurred on 12/27/2022 at 11:46 AM on a Tuesday morning at DFO 79.884. Weather conditions were normal, lighting conditions were light, and surface conditions were dry. The crash was classified as an angle collision, which made up 15% of collisions overall and 11% of fatal or serious injuries.

Crash ID #17475250

- DFO 80.408 on 12/22/2019 (Sunday) at 8:35 PM
- Normal weather, dark lighting, dry surface
- Impaired, intersection-related
- Head-on crash, 1 fatality, 1 severely injured, 1 seriously injured

A driver travelling in the northbound direction had a green arrow to turn westbound onto Basswood Boulevard, when a southbound driver ran the red light and struck the turning car, knocking them back into a third car still waiting for the northbound light to turn green. Of the three people in the turning car, one passed away a day after the collision, one sustained severe injuries, and the other had suspected serious injuries. The driver of the southbound vehicle registered a blood alcohol level of 0.086 and was charged with intoxication manslaughter.

The incident occurred on 12/22/2019 at 8:35 PM on a Sunday evening at DFO 80.408. Weather conditions were normal, lighting conditions were dark, and surface conditions were dry. The crash was classified as a head-on type collision, which made up 11% of all collisions and 22% of fatal or serious injuries.

Crash ID #19724285

- DFO 81.812 on 8/26/2023 (Saturday) at 9:44 AM
- Normal weather, light conditions, dry surface
- Driveway-related
- Head-on crash, 1 fatality

A driver was travelling northbound in the middle lane when it was struck by a southbound driver attempting to turn left out of the center lane into a business parking lot. The left-turning driver was found to have failed to yield right of way to the northbound driver. The northbound driver died

shortly after being taken to the hospital while the left-turning driver and passenger sustained no injuries.

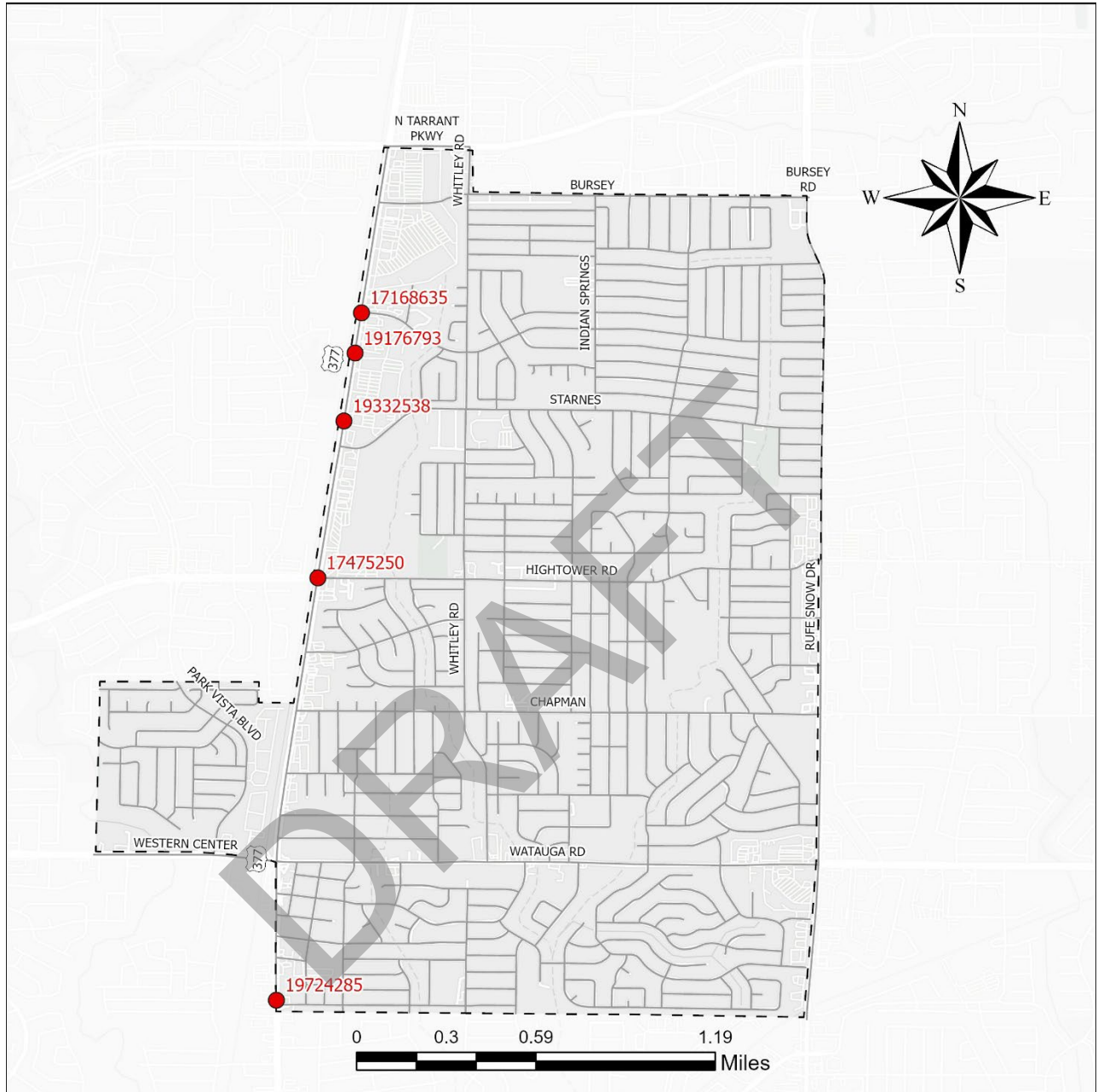
The collision occurred on 8/26/2023 at 9:44 AM on a Saturday morning at DFO 81.812. Weather conditions were normal, lighting conditions were light, and surface conditions were dry. The crash was classified as a head-on collision, which made up 11% of collisions overall and 22% of fatal or serious injuries

Map

Figure E16 highlights the locations of five fatal crashes that occurred along the US 377 corridor within the City of Watauga between 2019 and 2023. Each crash is shown at its approximate location and labeled with the corresponding Texas Department of Transportation (TxDOT) Crash ID.

DRAFT

FIGURE E16: US 377 FATAL CRASHES



Legend

- Fatal Crash



Conclusion

This corridor-level crash analysis shows that crash risk along the study area is not uniformly distributed; it varies meaningfully by location, crash type, severity, and operating conditions. At the same time, the findings indicate corridor-wide systemic safety issues that extend beyond any single hotspot. While total crash frequency provides a useful baseline, the locations of greatest concern are better identified by examining where crash characteristics deviate from corridor-wide patterns and where multiple risk factors overlap.

Several locations emerge as recurring points of concern due to the presence of multiple risk indicators. In particular, the Basswood Boulevard and Watauga Road intersections consistently appear across crash type, severity, and lighting analyses. At these locations, crashes are not only frequent but disproportionately severe, with higher proportions of head-on, left turn-based, and angle collisions, with the former two being crash types that are meaningfully shown to result in more serious outcomes than the corridor average. These patterns suggest that when crashes occur at these intersections, they are more likely to involve complex crossing movements, extended exposure to opposing traffic, and higher consequence conflicts rather than minor operational interactions.

In contrast, other locations such as the Tarrant Parkway intersection experience high overall crash volumes but comparatively lower proportions of severe or fatal outcomes. This distinction highlights the importance of evaluating crash composition in addition to frequency, as locations with fewer crashes may still present a greater safety concern if those crashes are more severe. The analysis further shows that head-on and left turn-based collisions, though less common overall, account for a disproportionate share of fatal and severe injuries, reinforcing the need to prioritize areas where these crash types concentrate.

Crash type patterns across the corridor also indicate that some safety issues are driven by broader operational or land use influences rather than isolated geometric traits. The overrepresentation of sideswipe, same direction crashes at multiple intersections suggests recurring lane-changing and weaving behavior influenced by access density, turn lane configuration, and traffic operations along the corridor as a whole. Similarly, elevated head-on crash rates across continuous roadway segments (rather than only at intersections) point to corridor specific conditions such as frequent access points, multi-lane crossings, and driver path misalignment contributing to increased opposing direction conflicts.

Angle crashes, particularly at locations with commercial access and wide cross-sections, appear to reflect the functional role of certain segments operating as informal conflict points despite not being signalized intersections. These locations exhibit crash behavior consistent with high volumes of crossing and turning movements, reinforcing the relationship between access activity, roadway complexity, and crash type distribution.

Lighting conditions can further amplify these trends. Locations that already exhibit atypical crash behavior during daylight hours tend to experience disproportionately worse outcomes at night. This suggests that inadequate lighting does not independently generate new crash patterns, but rather exacerbates existing operational and geometric challenges by reducing visibility, reaction time, and driver decision making capacity. The overlap of elevated nighttime crashes with higher proportions

of severe and head-on collisions at key intersections indicates that darkness functions as a risk multiplier along the corridor.

Taken together, the findings illustrate that crash risk along the corridor is driven by a combination of traffic operations, access characteristics, roadway cross section, and environmental conditions. The most critical locations are those where multiple adverse factors align, resulting in both elevated crash frequency and increased severity. While this analysis does not establish definitive causation, it provides a focused, data-supported framework for identifying locations and crash behaviors that warrant closer engineering review and prioritization in future safety or operational studies.

The next step is to coordinate with TxDOT to address the safety concerns identified in the analysis

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Appendix F: Self Certification

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Introduction

The following pages are the Self Certification Eligibility Worksheet showing the City of Watauga has a SS4A-compliant Action Plan.

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All applicants should follow the instructions in the NOFO to correctly apply for a grant. See the [SS4A website](#) for more information.

Table 1 of the [SS4A NOFO](#) describes [seven components of an Action Plan](#), which correspond to the questions in this worksheet. Applicants should use this worksheet to determine whether their existing plan(s) contains the required components to be considered an eligible Action Plan for SS4A.

This worksheet is required for all SS4A **Implementation Grant** applications and any **Planning and Demonstration Grant applications to conduct Supplemental Planning/Demonstration Activities only**. Please complete the form in its entirety, do not adjust the formatting or headings of the worksheet, and upload the completed PDF with your application.

Eligibility

An Action Plan is considered eligible for an SS4A application for an Implementation Grant or a Planning and Demonstration Grant to conduct Supplemental Planning/Demonstration Activities if the following two conditions are met:

- You can answer "YES" to Questions **3, 6, and 8** in this worksheet; *and*
- You can answer "YES" to **at least three of the five remaining** Questions, **1, 2, 4, 5, and 7**.

If both conditions are not met, an applicant is still eligible to apply for a Planning and Demonstration Grant to fund the creation of a new Action Plan or updates to an existing Action Plan to meet SS4A requirements.

Applicant Information

Lead Applicant:

UEI:

Action Plan Documents

In the table below, list the relevant Action Plan and any additional plans or documents that you reference in this form. **Up to three plans or documents may be included**. Please provide a hyperlink to any documents available online or indicate that the Action Plan or other documents will be uploaded in Valid Eval as part of your application. Note that, to be considered an eligible Action Plan for SS4A, the plan(s) coverage must be broader than just a corridor, neighborhood, or specific location.

Document Title	Link	Date of Most Recent Update

Action Plan Components

For each question below, answer "YES" or "NO." If "YES," list the relevant plan(s) or supporting documentation that address the condition and the specific page number(s) in each document that corroborates your response. This form provides space to reference multiple plans, but please list only the most relevant document(s).

1. Leadership Commitment and Goal Setting

Are **BOTH** of the following true?

- A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and
- The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve a reduction in roadway fatalities and serious injuries by a specific date.

YES

NO

Note: This may include a resolution, policy, ordinance, executive order, or other official announcement from a high-ranking official and the official adoption of a plan that includes the commitment by a legislative body.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

2. Planning Structure

To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?

YES

NO

Note: This should include a description of the membership of the group and what role they play in the development, implementation, and monitoring of the Action Plan.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)



3. Safety Analysis

Does the Action Plan include **ALL** of the following?

- Analysis of existing conditions and historical trends to provide a baseline level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region;
- Analysis of the location(s) of crashes, the severity, contributing factors, and crash types;
- Analysis of systemic and specific safety needs, as needed (e.g., high-risk road features, specific safety needs of relevant road users, or post-crash care and emergency response); and,
- A geospatial identification (geographic or locational data using maps) of higher risk locations.

YES

NO

Note: Availability and level of detail of safety data may vary greatly by location. The [Fatality and Injury Reporting System Tool \(FIRST\)](#) provides county- and city-level data. When available, local data should be used to supplement nationally available data sets.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

4. Engagement and Collaboration

Did development of the Action Plan include **ALL** of the following activities?

- Engagement with the public and relevant stakeholders, including the private sector and community groups;
- Incorporation of information received from the engagement and collaboration into the plan; and
- Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.

YES

NO

Note: This should include a description of public meetings, participation in public and private events, and proactive meetings with stakeholders.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)



5. Policy and Process Changes

Are **BOTH** of the following true?

- The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and
- The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.

YES

NO

Note: This may include existing and/or recommended Complete Streets policy, guidelines for community engagement and collaboration, policy for prioritizing areas of greatest need, local laws (e.g., speed limit), design guidelines, and other policies and processes that prioritize safety.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

6. Strategy and Project Selections

Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, with information about time ranges when projects and strategies will be deployed, and an explanation of project prioritization criteria?

YES

NO

Note: This should include one or more lists of community-wide multi-modal and multi-disciplinary projects that respond to safety problems and reflect community input, indication of expected time ranges to complete each project, and a description of how your community will prioritize projects in the future.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)



7. Progress and Transparency

Does the plan include **BOTH** of the following?

- A description of how progress will be measured over time that includes, at a minimum, outcome data.
- The plan is posted publicly online.

YES

NO

Note: This should include a progress reporting structure and list of proposed metrics.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

8. Action Plan Date

Was at least one of your plans finalized and/or last updated between 2021 and May 26, 2026?

YES

NO

Note: Updates may include major revisions, updates to the data used for analysis, status updates, or the addition of supplemental planning documents, including but not limited to an ADA Transition Plan, one or more Road Safety Audits conducted in high-crash locations, or a Vulnerable Road User Plan.

If "YES," please list your most recent document, date of finalization, and page number(s) that corroborate your response.

Document Title	Date of Most Recent Update	Page Number(s)



WATAUGA COMPREHENSIVE SAFETY ACTION PLAN (CSAP)

Executive Summary

Plan Highlights

Vision/Goal/Objective

- A Great Place to Live, A Safe Place to Thrive.
- Zero fatalities and serious injuries by 2055.
- A 35% reduction in fatalities and serious injuries by 2035 (interim target).

Key Findings

- 4 fatalities and 26 serious injuries occurred between 2019–2024.
- 70%+ of severe crashes are intersection-related.
- The top 20 roadway segments account for 60% of crashes while representing only 7% of network miles.
- 55% of severe crashes occur in low- and moderate-income areas.
- US 377 accounts for approximately 40% of crashes. Since it isn't a City owned or maintained road, it wasn't included in the various citywide safety analysis, has a separate analysis, and requires coordination with TxDOT to address safety concerns.

Investments

- \$1.33 million in prioritized safety improvements.
- More than \$276 million in estimated crash costs addressed.
- Transportation Safety Task Force established for implementation oversight.
- Annual public reporting and dashboard updates.

Background

From 2019 to 2024, four people tragically lost their lives due to a traffic crash in Watauga and 26 people had their lives forever altered (excluding crashes on US 377). This loss of life is unacceptable. Therefore, the City of Watauga developed a Comprehensive Safety Action Plan (CSAP) following the Safe Systems Approach to identify priority locations, countermeasures, and tracking measures to improve roadway safety.

Purpose

The purpose of the Watauga Comprehensive Safety Action Plan (CSAP) is to provide a data-driven, proactive framework to eliminate traffic fatalities and serious injuries by identifying high-risk locations and behaviors, prioritizing safety improvements, and guiding investments, policies, and strategies that make the transportation system safer for all users. The Plan aligns local efforts with the Safe System Approach to proactively prevent severe crashes and support the City's long-term goal of zero fatalities and serious injuries.

Safe System Approach

The Safe System Approach (SSA, shown in **Figure ES1**) is a methodology adopted by the US Department of Transportation (USDOT) intended to build redundancies and protections to prevent crashes and minimize harm when crashes occur. The SSA is a tool that consists of five complementary elements - Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care. It also includes the following principles:

- Death and Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Critical

The Safe System Approach was used as the framework for this plan by shifting the focus from reacting to individual crashes to proactively identifying and addressing the conditions that contribute to fatal and serious injury risk.

FIGURE ES1: SAFE SYSTEM APPROACH



Vision and Goal

The City Council utilized public input to set a safety vision for the City of Watauga.

A Great Place to Live, A Safe Place to Thrive.

Zero fatalities and serious injuries by 2055.

A 35% REDUCTION IN FATALITIES AND SERIOUS INJURIES BY 2035

is an interim target that

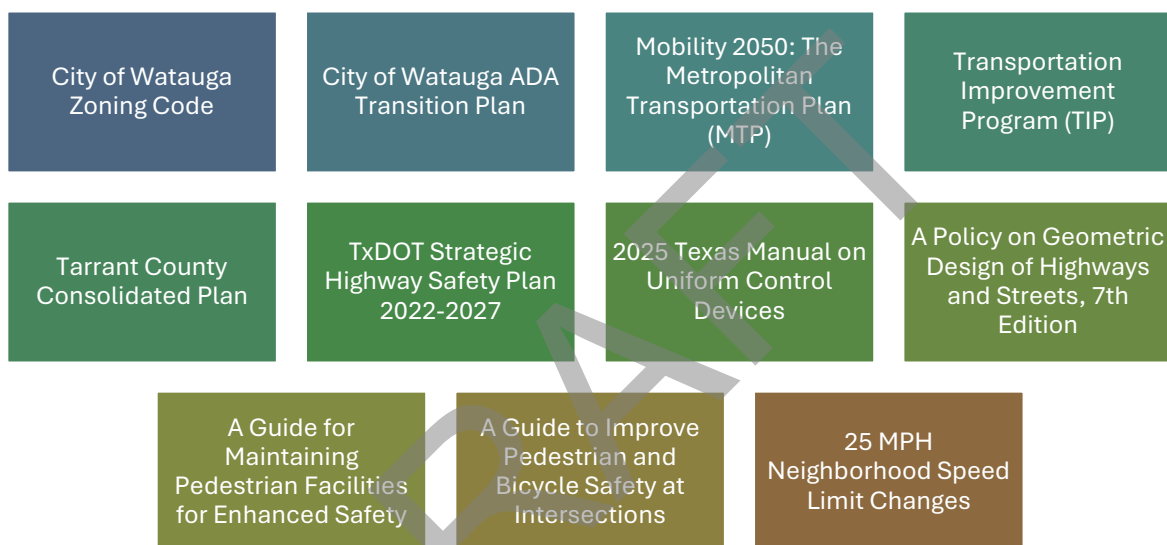
will be achieved by focusing on improving safety at intersections (along with other safety countermeasures and strategies).

At least 70% of all crashes in Watauga between 2019 – 2024 were intersection-related. The concentration of crashes at intersections suggests that targeted intersection safety investments are the most critical focus area for reducing severe crashes.

Current Plans, Policies, and Standards

The review of City, County, and regional plans, policies, and standards identified updates to better align Watauga’s processes with the FHWA Safe System Approach (SSA) and support a coordinated effort to reduce traffic fatalities and serious injuries.

In addition to the Watauga City Code of Ordinances, review areas include:



Existing Safety Performance

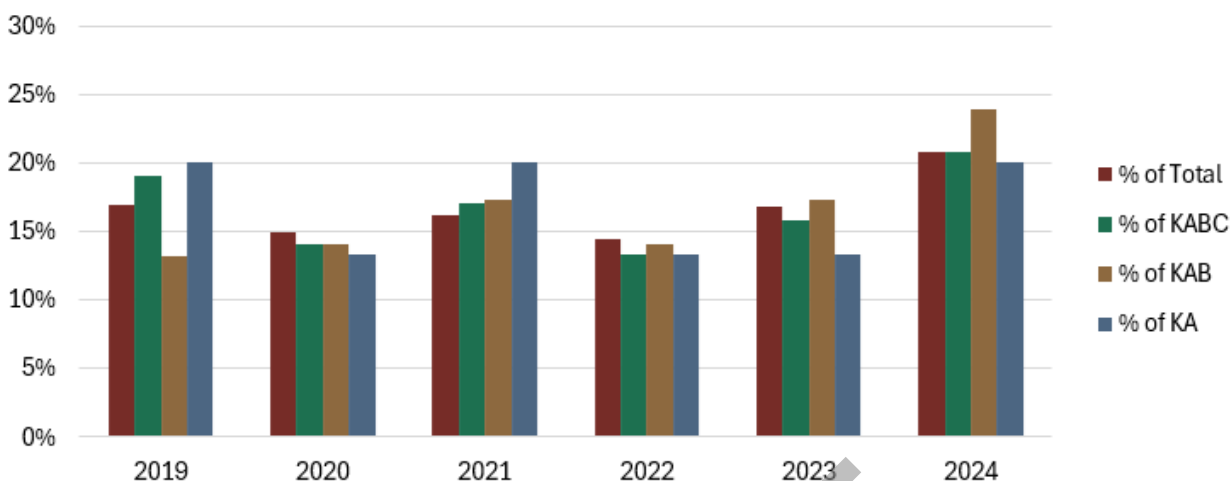
To assess existing safety performance, the project team analyzed crashes in Watauga, developed safety emphasis areas, established a High Injury Network, conducted a systemic risk assessment, and examined safety and equity conditions. These efforts provided insight into the riskiest crash types and helped identify the implementation strategies needed to achieve zero fatalities and serious injuries by 2055.

Crash Analysis

For the Watauga Comprehensive Safety Action Plan, crash data from TxDOT was analyzed from 2019-2024. Fatal (K), Incapacitated (A), Visible Injury (B), Compliant of Pain (C), and no-injury/property damage only crashes (O) were included.

Figure ES2 shows the crashes over time. Crash trends from 2019 to 2024 have been relatively flat overtime with approximately 97 crashes per year and approximately 5 severe crashes per year. Severe crashes include fatal and severe injuries.

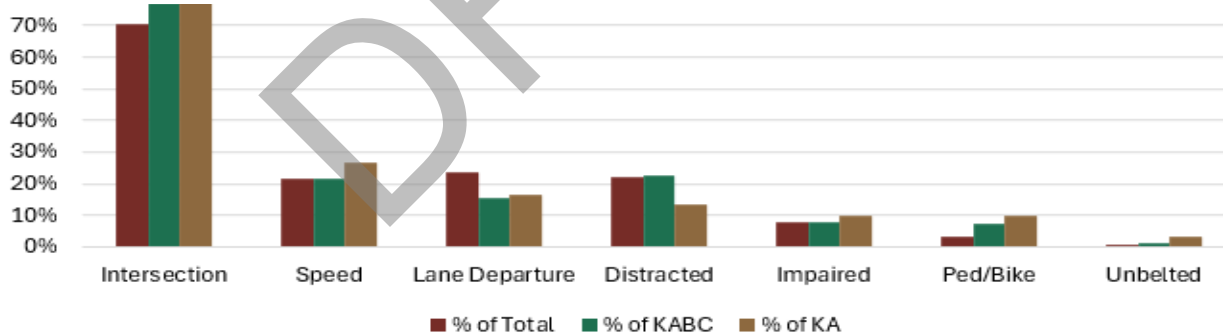
FIGURE ES2: CRASHES OVER TIME



Emphasis Areas

Emphasis areas group crash data by characteristics such as intersections, lane departure, and unbelted occupants to identify where focused action is needed to reduce fatalities and serious injuries. This helps target strategies that prevent deaths and serious injuries on Watauga roadways. Intersection-related crashes account for by far the highest share of KA crashes, significantly exceeding all other emphasis areas. **Figure ES3** provides a summary of the Emphasis Area characteristics.

FIGURE ES3: SUMMARY OF EMPHASIS AREA CHARACTERISTICS



Systemic Analysis

Watauga's systemic analysis included two parts: intersections (512) and segments (80.5 miles). Using GIS, Crash Records Information System (CRIS) data, and local sources, the project team identified historical crash patterns and risk factors to prioritize future safety improvements. Key factors evaluated included functional class, traffic volume, intersection density, and other roadway characteristics.

Figure ES4 summarizes the number of risk factors present at each intersection and their relationship to crash occurrence. Intersections with two or more risk factors account for a disproportionately large share of KAB crashes – approximately 75.6% – despite representing only

12.5% of all intersections. This trend demonstrates how the accumulation of multiple risk factors significantly increases crash likelihood, reinforcing the value of a systemic approach that prioritizes locations with layered risk characteristics rather than focusing solely on individual factors.

FIGURE ES4: INTERSECTION RISK FACTOR SUMMARY

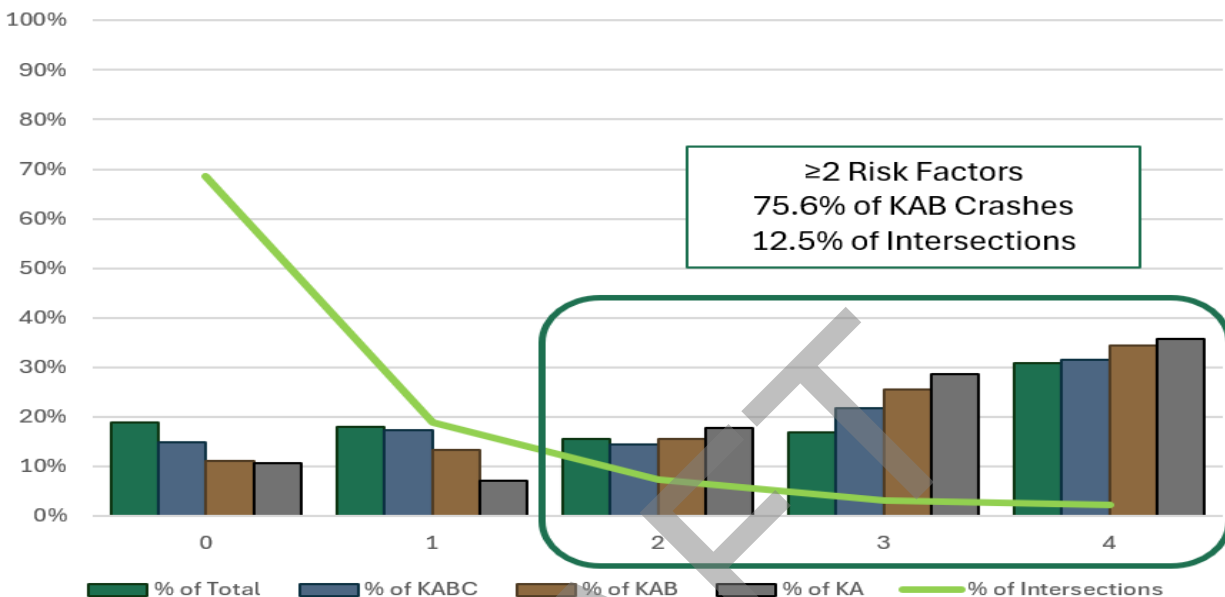
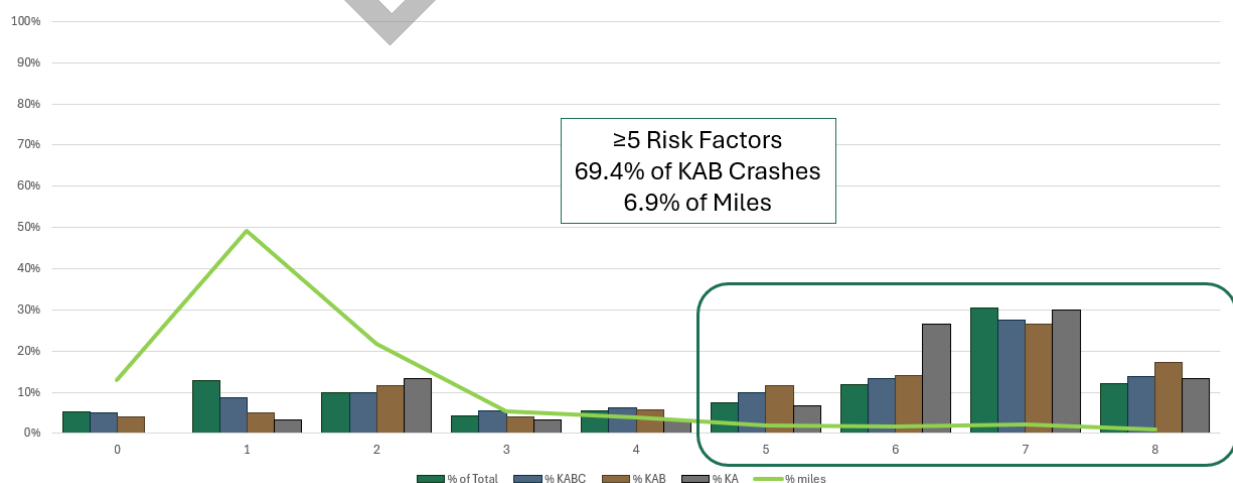


Figure ES5 summarizes the number of risk factors present along each segment and their connection to crash occurrence. Segments with five or more risk factors are overrepresented.

Segments with five or more risk factors account for 69.4% of KAB crashes but represent only 6.9% of miles of the system analyzed. This trend shows how the accumulation of multiple risk factors significantly increases crash likelihood. This proves the importance of the systemic approach that prioritizes locations from risks than after crashes happen.

FIGURE ES5: SEGMENT RISK FACTOR SUMMARY



High Injury Network Assessment

The High Injury Network was developed by dividing the roadway network into segments and assigning each segment an Equivalent Property Damage Only (EPDO) score based on crash frequency and severity. The Equivalent Property Damage Only (EPDO) methodology scores locations based on crash severities and frequencies. A minor fender-bender without injuries counts as one EPDO unit. An injury crash counts as several EPDO units, while a fatal crash counts as many EPDO units. This means segments that have higher severity crashes are worth more EPDO units. Segments were ranked by EPDO score. Then the top 20 segments citywide were identified as the High Injury Network (shown in **Figure ES6**). The top 20 segments make up **7% of the network miles**, but **60% of all crashes**. (US 377 was not included in the High Injury Network assessment because it is not a City owned or maintained roadway.)

FIGURE ES6: HIGH INJURY NETWORK



US 377 Corridor Analysis

Crashes occurring on US 377 were analyzed as part of a separate, corridor-specific study. US 377 is not owned or maintained by the City, and implementation authority for many potential safety countermeasures along that corridor rests outside the City's control. This separate evaluation fulfills the SS4A requirement of evaluating all public roadways regardless of roadway ownership.

Evaluating US 377 separately, the City can coordinate corridor-specific safety strategies with TxDOT while ensuring that the City's comprehensive safety action plan prioritizes implementable countermeasures on City-owned roadways where the City has direct authority to make near- and mid-term safety improvements.

Refer to **Appendix E** for the full Corridor Analysis

Equity Analysis

The equity analysis examined whether crash patterns overlap with underserved communities, helping identify where safety needs may be greatest and where investments can better support underserved communities. To identify underserved communities, the project team utilized the Community Development Block Grant (CDBG) low-or moderate income program data administered by the US Department of Housing and Urban Development and located five block groups in Watauga that have low or moderate income of at least 51% or higher.

When evaluating the frequency of crashes in the equity areas, 46% of crashes occur in the equity areas. Comparing the severity of the KA crashes shows that 55% of severe (KA) crashes occur in the equity areas.

The location-specific roadway segment and intersection countermeasures, have a cumulative cost of approximately **\$909,759** across all low-moderate income areas. Compared with the full set of recommended countermeasures in this plan, estimated at approximately **\$1.33 million**, improvements within low-or moderate income areas represent about **68.6%** of total identified countermeasure costs.

The next 5-year CIP will be developed in FY2027. The low-moderate income safety projects will be considered as part of that process.

Public Engagement

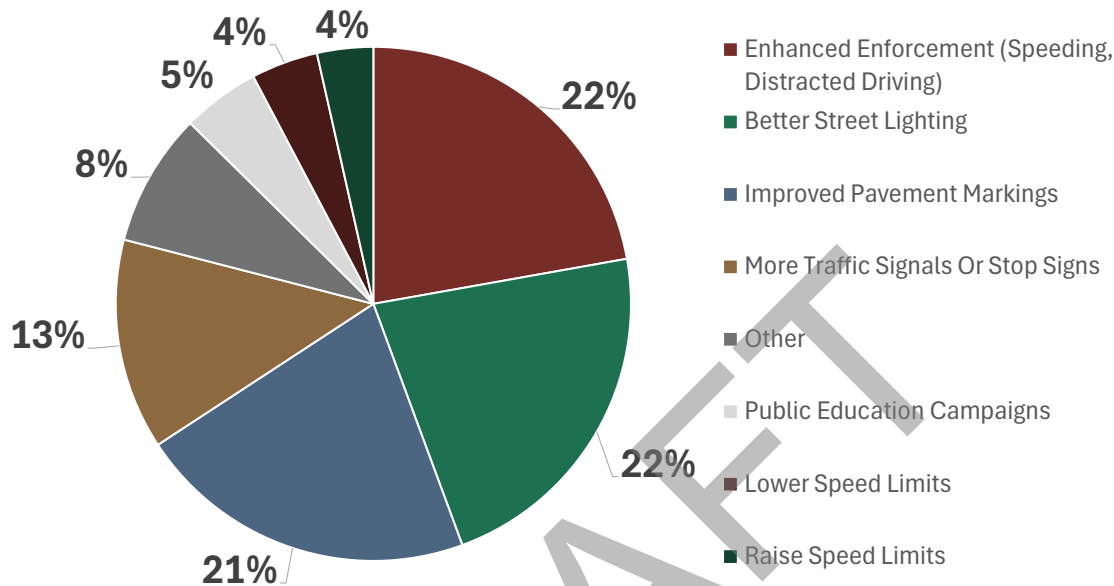
Public Survey

The plan used input from both the public and stakeholders to identify Watauga's key safety concerns, including feedback from 317 survey responses, 62 mapping comments, and guidance from a stakeholder group.

The survey was designed to gather input on key topics, including roadway safety, pedestrian and bicycle infrastructure, traffic operations, and overall community needs. From the survey, the top priorities **Figure ES7** for improving traffic safety in Watauga are largely focused on enforcement and infrastructure enhancements. Increased enforcement targeting speeding and distracted driving ranks highest, followed closely by improvements to street lighting and pavement markings. Overall, the results indicate a strong emphasis on both stricter traffic enforcement and targeted roadway design improvements as the most effective ways to enhance safety.

Refer to **Appendix D** for the full survey results

FIGURE ES7: TOP PRIORITIES TO IMPROVE SAFETY IN WATAUGA



Implementation Strategies

The Implementation Strategies section outlines the findings of the CSAP into actionable projects, policies, and funding approaches that can help Watauga reduce fatal and serious injury crashes over time. The recommendations are based on the crash analysis, High Injury Network, Systemic Risk Assessment, equity analysis, and public and stakeholder input documented throughout the plan.

Projects

Segment Countermeasures

The Systemic Risk Assessment identified 28 locations most in need of safety improvements. Of these, 21 are High Risk Segments (have 5 or more risk factors). To improve safety at these locations, 7 countermeasures were considered. These countermeasure locations are shown in **Figure ES8** and **Figure ES9** and include curve delineation (chevrons), update pavement markings, rectangular rapid flash beacon, crosswalk and visibility enhancements, new sidewalk, street lighting, and dynamic speed feedback signs.

The recommended safety improvements for the roadway segments represent a strategic investment when compared to the substantial economic impacts associated with crashes along these corridors. The total estimated cost to implement the proposed countermeasures is

approximately **\$1.21 million**. In comparison, the total estimated crash cost for the evaluated roadway segments exceeds **\$144.4 million**. The total countermeasure cost represents approximately **0.84%** of the cumulative crash costs, meaning the cost of implementation is less than one cent for every dollar of crash-related losses. This significant disparity highlights the potential value of the proposed improvements, as even a modest reduction in crash frequency or severity could generate safety and economic benefits that far outweigh the initial investment.

FIGURE ES8: NON-MOTORIST COUNTERMEASURES



Legend

- Rectangular Rapid Flashing Beacon
- New Crosswalk
- New Sidewalk
- Crosswalk Visibility Enhancements
- City of Watauga Border



FIGURE ES9: VEHICLE COUNTERMEASURES



Legend

- Dynamic Speed Feedback Signs
- Street Lighting
- Update Pavement Markings
- Chevrons
- City of Watauga Border

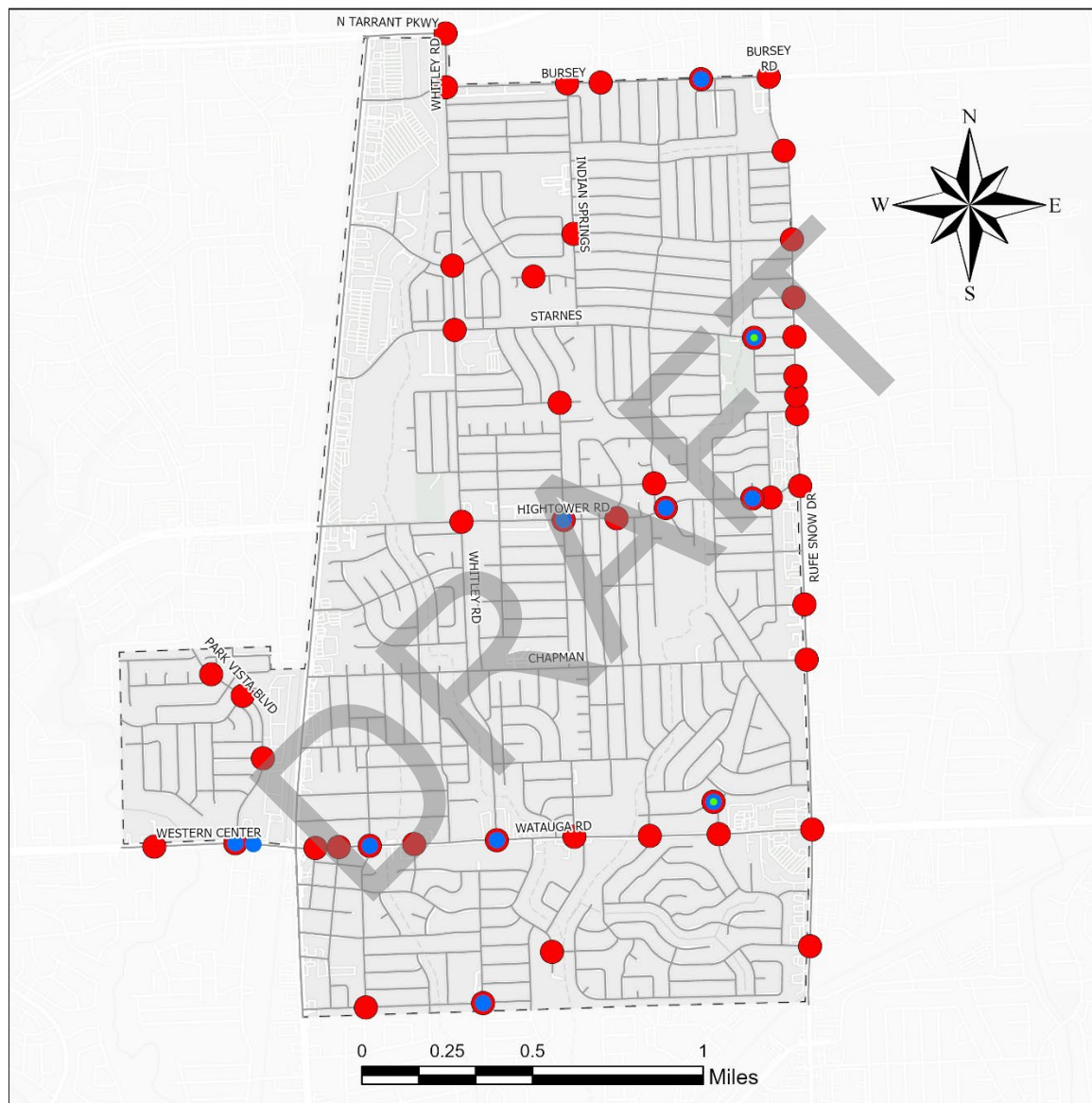


The full plan shows the costs per road

Intersection Countermeasures

The Systemic Risk Assessment identified 50 high-crash intersections. Of these, 31 are high-risk intersections (have 2 or more risk factors). Three countermeasures were considered: crosswalk markings, street signs, and street lighting. **Figure ES10** maps the intersection countermeasures locations.

FIGURE ES10: INTERSECTION COUNTERMEASURES



Legend

- Crosswalk Visibility Enhancements
- New Crosswalk
- Improved Lighting
- City of Watauga Border



The full plan shows the costs per intersection

Policy, Process, and Strategy Recommendations

Improving safety in Watauga will take more than constructing individual countermeasures. Sustained progress will require the City to embed safety into everyday decision-making, including capital project planning, development review, maintenance activities, enforcement coordination, grant pursuits, and routine performance monitoring. The policy, process, and strategy recommendations in **Table ES1** Table ES1: Recommendations are intended to help institutionalize the Safe System Approach; support implementation of the physical improvements identified in this plan and create a framework for continued accountability over time. Several strategies reflect ongoing practices that should continue, while others are organized into short-, medium-, and long-term time frames to help the City prioritize next steps and align recommendations with available staff capacity and funding opportunities. Together, these recommendations provide a practical roadmap for turning the CSAP from a planning document into an ongoing safety program.

TABLE ES1: RECOMMENDATIONS

Strategy	Lead	Partner	Timeframe
Continue to implement the 25 mph Neighborhood Speed Limit Changes	Public Works		Ongoing until 2030
Continue enforcement activities	Police		Ongoing
Continue police presence during school pick up and drop off	Police		Ongoing
Continue the Sidewalk Repair Program	Public Works		Ongoing
Develop and implement a Complete Streets Policy	Planning & Zoning	Public Works	Medium Term
Create a Transportation Safety Task Force to monitor the plan's implementation	Public Works	Police	Short Term+
Screen and prioritize future CIP projects for overlap with the High Injury Network, high-risk intersections, systemic risk locations, low-moderate income areas, and community concerns	Public Works	Burgess & Niple	Short Term+
Add safety treatments to planned resurfacing, reconstruction, maintenance, and utility projects	Public Works		Short Term+
Track CSAP recommendations from funding through design, construction, completion, or deferral	Finance Dept	Public Works	Short Term+
Conduct a Citywide On-Street Parking Compliance Study	Public Works	Burgess & Niple	Long Term
Develop a Neighborhood Traffic Calming Program	Public Works	Burgess & Niple	Long Term
Implement the ADA Transition Plan	Human Resources	Public Works	Medium Term
Update Zoning/Subdivision standards to incorporate Complete Streets and Safe System principles	Planning & Zoning / Public Works	Burgess & Niple	Medium Term
Strengthen driveway/access management and curb cut standards	Planning & Zoning	Public Works	Medium Term
Establish a routine safety review process for capital projects and development review	Public Works	Planning & Zoning	Medium Term
Develop a plan for coordinating school zones, signs, Safe Routes to School (SRTS) activities with the school districts	Benjamin Davis / Police	Public Works	Medium Term
Develop a SRTS Plan centered on the 6 E's of SRTS - engagement, equity, education, encouragement, engineering, and evaluation	Benjamin Davis / Police	Public Works	Long Term
Develop an Active Transportation Plan	Parks / Public Works		Long Term

Short Term: 1 year, Short Term+: 1 year & ongoing, Medium Term: 2-5 years, Long Term: 5+ years

Integrating CSAP recommendations into the City's CIP and grant strategy will help move the plan from analysis to implementation by ensuring safety projects are programmed, matched with appropriate funding sources, and positioned competitively for state, regional, and federal funding opportunities.

Progress Tracking Framework

A website (<https://watauga-csap-hubsite-burgessniple.hub.arcgis.com>) with a crash dashboard was developed to track progress. This dashboard (shown in **Figure ES11**) shows crashes, intersections, road segments, crash severity, intersection total crashes, crashes along US 377, the top 50 intersections, miles of roadway by total risk factor, high risk road segments, and the fatalities and injuries per year.

Annual Report

The fatal and serious injury crashes will be updated annually to track progress towards **Zero fatalities and serious injuries by 2055**. *[Will potentially add in other implementation projects to be tracked also like - Like number of projects CSAP projects completed, miles improved, funding secured, equity-area improved.]* The Public Works Department will present the annual implementation report to the City Council every year in September and ensure it is available on the City's website for public review.

This plan will be posted on the City of Watauga's website and will be updated at a minimum of every five years. Amendments can be made in the intervening years as necessary.

FIGURE ES11: CRASH DASHBOARD

