

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Discussion of the 2021 Annual Traffic Report		
DEPARTMENT:	Public Works Police		
PRESENTED BY:	Kendra Dedinsky, City Traffic Engineer Tim Meyer, Shoreline Police Captain		
ACTION:	<input type="checkbox"/> Ordinance	<input type="checkbox"/> Resolution	<input type="checkbox"/> Motion
	<input checked="" type="checkbox"/> Discussion	<input type="checkbox"/> Public Hearing	

PROBLEM/ISSUE STATEMENT:

Tonight, staff will present highlights from the 2021 Annual Traffic Report (Attachment A). The purpose of this report and presentation is to:

- Share with the City Council the data and methodology that the Public Works and Police Departments use to identify and develop action plans to address collision trends and priority collision locations within the City;
- Discuss specific engineering, education, policy and enforcement recommendations to address collision trends and locations with significant collision history;
- Identify potential future capital projects to address collision trends at specific locations for Council to consider as potential projects within the Transportation Improvement Plan (TIP), Capital Improvement Program (CIP), and related to grant pursuits;
- Update the Council on engineering, education, and enforcement effort progress; and
- Provide an overview of other key traffic data, including volumes, speeds, and transit ridership.

RESOURCE/FINANCIAL IMPACT:

There are no direct additional financial or resource impacts at this time. The Public Works and Police Departments will continue to use existing staff for engineering and enforcement efforts. The 2023-2028 CIP budget for the Traffic Safety Improvement Program includes \$360,000 for the 2023-2024 biennium. High priority location strategies requiring larger-scale projects than can be accommodated within existing budgets are typically included for consideration during the upcoming TIP process for consideration in the CIP, however no new locations were identified in this year’s report.

RECOMMENDATION

No action is required at this time; this item is for discussion only.

Approved By: City Manager **BE** City Attorney **MK**

BACKGROUND

The purpose of the Annual Traffic Report is to provide an update to Council on collision trends and other traffic data, identify recommended collision reduction strategies and priorities for discussion and Council guidance, and report on progress toward injury collision reduction goals. Staff tries to bring the Annual Traffic Report to Council by the end of the year following the year the data was collected. For the 2021 Annual Traffic Report, this presentation is a little delayed due to staffing shortages and other workload priorities over the past 12 months.

The results and recommendations contained in the Annual Traffic Report are utilized in the development of the annual Transportation Improvement Plan (TIP) and Capital Improvement Plan (CIP). This data is also used to identify and develop opportunities for grant funding.

The 2021 Annual Traffic Report (Attachment A) includes information on collisions, traffic speeds, traffic volumes, and transit ridership. Collision data reported is from 2012 through 2021, with analysis focusing on the most recent 3 and 5-year periods. Analysis of this data is used to develop strategies for reducing collisions, especially serious and fatal injury collisions, consistent with Washington State Target Zero collision reduction strategies.

Target Zero is Washington State's Strategic Highway Safety Plan for zero Fatal and Serious Injury collisions. Its purpose is to:

- Set statewide priorities for all traffic safety partners over a three to four year period.
- Provide strategies to address each emphasis area and factor.
- Help guide federal and state project funding toward the highest priorities and most effective strategies.
- Monitor outcomes at a statewide level for each priority area.

DISCUSSION

The Traffic Services Division with the City's Public Works Department and Shoreline Police Department work closely in developing the recommendations of the Annual Traffic Report, with the Police Department focusing on enforcement and education opportunities and Traffic Services focusing on education and engineering strategies.

Highlights from the 2012-2021 analysis shows:

- Total collisions trending down.
- Injury collisions at a 10-year high.
- Pedestrian collisions at an all-time low.

Key changes between the 2020 Report and the 2021 Report include:

- Codes that correspond with the Washington State Target Zero Plan countermeasures are provided at the end of each strategy for easy cross-referencing for all systemic and location-based strategies.
- Updated collision societal cost values from WSDOT.

- A jurisdictional comparison of Serious and Fatal Collision rates per 100,000 versus median household income.

Recommendations included within the 2021 Annual Traffic Report are implemented through the following programs:

- Enforcement by the Police Department through current budget allocations; however with current staffing levels, Shoreline Police is only able to perform limited traffic enforcement at this time.
- The CIP includes an annual program for Traffic Safety Improvements that can be used for implementing engineering solutions. This program provides approximately \$360,000 for the 2023-2024 biennium.
- Larger projects require separate funding. Projects of high priority are presented in the TIP and may ultimately be funded in the CIP as resources become available. These projects are often eligible for and funded by grants.

COUNCIL GOAL(S) ADDRESSED

This item addresses the following City Council Goals:

- Goal 2: Continue to deliver highly-valued public services through management of the City's infrastructure and stewardship of the natural environment
- Goal 4: Expand the City's focus on equity and social justice and work to become an Anti-Racist community

RESOURCE/FINANCIAL IMPACT

There are no direct additional financial or resource impacts at this time. The Public Works and Police Departments will continue to use existing staff for engineering and enforcement efforts. The 2023-2028 CIP budget for the Traffic Safety Improvement Program includes \$360,000 for the 2023-2024 biennium. High priority location strategies requiring larger-scale projects than can be accommodated within existing budgets are typically included for consideration during the upcoming TIP process for consideration in the CIP, however no new locations were identified in this year's report.

RECOMMENDATION

No action is required at this time; this item is for discussion only.

ATTACHMENTS

Attachment A: 2021 Annual Traffic Report



City of Shoreline
Annual Traffic Report
2021

Table of Contents

- Disclaimer..... 3
- Introduction 4
- Executive Summary..... 5
- Data Sources 6
- Definitions..... 6
- Collision Data & Analysis..... 8
 - Collision Summary 8
 - Injury Collisions 10
 - Serious & Fatal Injury Collisions..... 12
 - Pedestrian & Bicyclist Collisions..... 20
 - Collision Locations..... 22
- Collision Reduction Strategies 27
 - Systemic Collision Reduction Strategies 27
 - Location-Based Collision Reduction Strategies..... 28
- Safety Effort Progress 31
 - Engineering & Education Summary 31
 - Enforcement Summary 33
- Traffic Speed Summary 35
- Traffic Volume Summary 36
- Transit Summary 37
- Appendix 38

Disclaimer

Information contained in this report is for planning purposes only. All information and commentary contained within this report is based on preliminary data; additional engineering assessment and analysis is necessary to determine an appropriate course of action for location-specific and systemic safety improvements.

Federal law 23 United States Code Section 409 governs use of the data in this report. Under this law, data maintained for purposes of evaluating potential highway safety enhancements "...shall not be subject to discovery or admitted into evidence in a federal or state court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data."

Introduction

This report provides an annual review and analysis of data collected by City of Shoreline Traffic Services staff and the Shoreline Police Department. It summarizes collision, speed, volume, and transit data, highlighting noteworthy trends. The data in this report guides the City's prioritization of Traffic Safety capital improvement project resources, identifies potential projects for the upcoming year's Transportation Improvement and Capital Improvement plans, guides pursuit of grant opportunities, identifies target enforcement areas for the Shoreline Police Department, and informs minor operational changes

Engineering, enforcement, education, and policy related improvement strategies generated by this report strive to accomplish the goal set by Washington State's Target Zero Plan to achieve zero fatal and serious injury collisions by the year 2030. In addition, this report, which specifically identifies safety improvement strategies, supports many goals set by Shoreline's Comprehensive Plan, as well as City Council Goal 5: To promote and enhance the City's safe community and neighborhood programs and initiatives.

This report strives to provide clear and usable traffic safety and operations information for reference by staff, Council, and the Shoreline community. To request additional information, please contact the Public Works Department, Traffic Services section or visit the Traffic Services webpage at:

shorelinewa.gov/government/departments/public-works/traffic-services.

Executive Summary

Injury collisions in Shoreline remained on a stubbornly high trajectory, with 2021 numbers representing a 10-year high. While serious and fatal injury collisions in Shoreline were down in 2021 compared to the two years prior, the increasing trend provides reason for continued focus. Across all levels of government, there is recognition that fatal and serious injury collision trends are headed in the wrong direction, representing a major setback in decades-long progress. The change is so stark in fact that nationwide traffic fatalities in 2021 resulted in the largest annual percentage increase in the Fatality Analysis Reporting System's history. Preliminary 2022 fatality data shows a continuing trend in Washington, with traffic deaths reaching a 30-year high. In response to these alarming statistics, The USDOT recently issued a call to action imploring all stakeholders, including local governments, to commit to the goal of zero serious injury and fatal collisions. This report illustrates the ways in which the City is working to answer that call – using data to identify holistic, equitable, and proven strategies for reducing injury collisions on Shoreline roads.

One encouraging theme has emerged this year - collisions involving pedestrians in Shoreline hit an all-time low (looking as far back as 2010), and also set a new decreasing trend. To sustain this, continued commitment to designing, building, operating and enforcing roadways through the lens of protecting the most vulnerable roadway users will be necessary. This is especially true as the City experiences significant growth; providing convenient, inviting, and safe roads for walkers, rollers and transit riders will be critical to achieving sustainability goals and creating a livable, vibrant, and resilient community.

Data Sources

This report summarizes collision trends based on data from 2012 through 2021, with emphasis on years 3 and 5-year analysis periods. Only collisions that occurred on City streets and are investigated by police officers are included in this report. Excluded are collisions on private property, locations outside of the City of Shoreline (i.e. N/NE 145th Street), collisions on I-5, non-police investigated incidents, collisions under the threshold of \$1000 in damages, and other non-collision vehicle incident reports.

Collision data and societal costs assumptions are obtained from the Washington State Department of Transportation (WSDOT). Collision data includes those investigated by Shoreline Police Department or other enforcement agencies such as Washington State Patrol. The data contained in this report is based on reportable collisions only, as defined in the following section.

Traffic volume and speed data presented in this report was collected and analyzed by Shoreline Traffic Services staff or its consultants.

Transit data was provided by King County Metro.

Population and income data was obtained from the United States Census Bureau.

Definitions

Reportable Collision	A collision which involves death, injury, or property damage in excess of \$1000 to the property of any one person.
Fatal Collision	Motor vehicle collision that results in fatal injuries to one or more persons.
Suspected Serious Injury Collision	Previously Serious Injury. A motor vehicle collision resulting in an injury assessed by the investigating officer as “any injury which prevents the injured person from walking, driving, or continuing normal activities at the time of the collision.”
Suspected Minor Injury Collision	Previously Evident Injury. A collision resulting in an injury assessed by the investigating officer as “any injury other than fatal or serious at the scene. Includes broken fingers or toes, abrasions, etc. Excludes limping, complaint of pain, nausea, momentary unconsciousness, etc.”
Possible Injury Collision	A collision resulting in an injury assessed by the investigating officer as “any injury reported to the officer or claimed by the individual as momentary unconsciousness, claim of injuries not evident, limping, complaint of pain, nausea, hysteria, etc.”
No Apparent Injury	Previously Property Damage Only. Motor vehicle collision in which there is no injury to any person, but only damage to a motor vehicle, or to other property, including injury to domestic animals.

85th Percentile Speed

The speed at which 85% of traffic is traveling at or below; a common traffic engineering benchmark for measuring and evaluating traffic speeds.

Target Zero

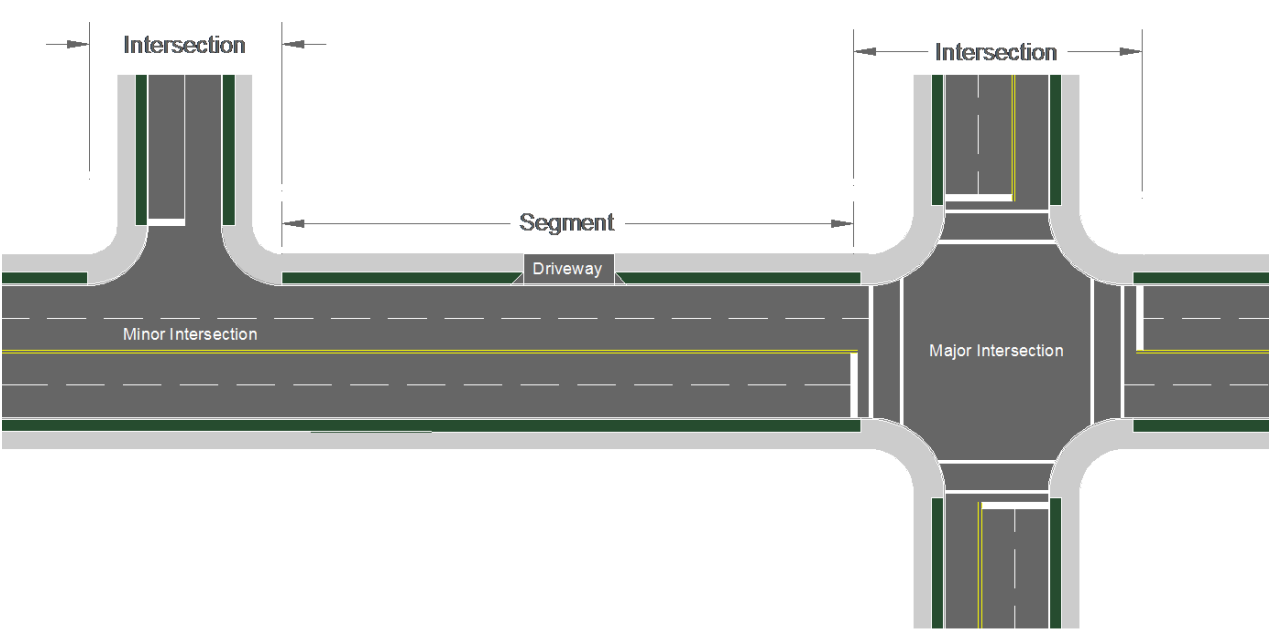
Target zero is Washington State’s Strategic Highway Safety Plan for zero Fatal and Serious Injury collisions by the year 2030. This plan:

- Sets statewide priorities for all traffic safety partners over a 3-4 year period.
- Provides various strategies to address each emphasis area and factor.
- Helps guide federal and state project funding toward the highest priorities and most effective strategies.
- Monitors outcomes at a statewide level for each priority area.

Collision mitigation strategies include education, enforcement, engineering, policy and emergency medical service-based efforts.

<http://www.targetzero.com/>

For collision location analysis, intersections and segments are categorized as shown below.



Collision Data & Analysis

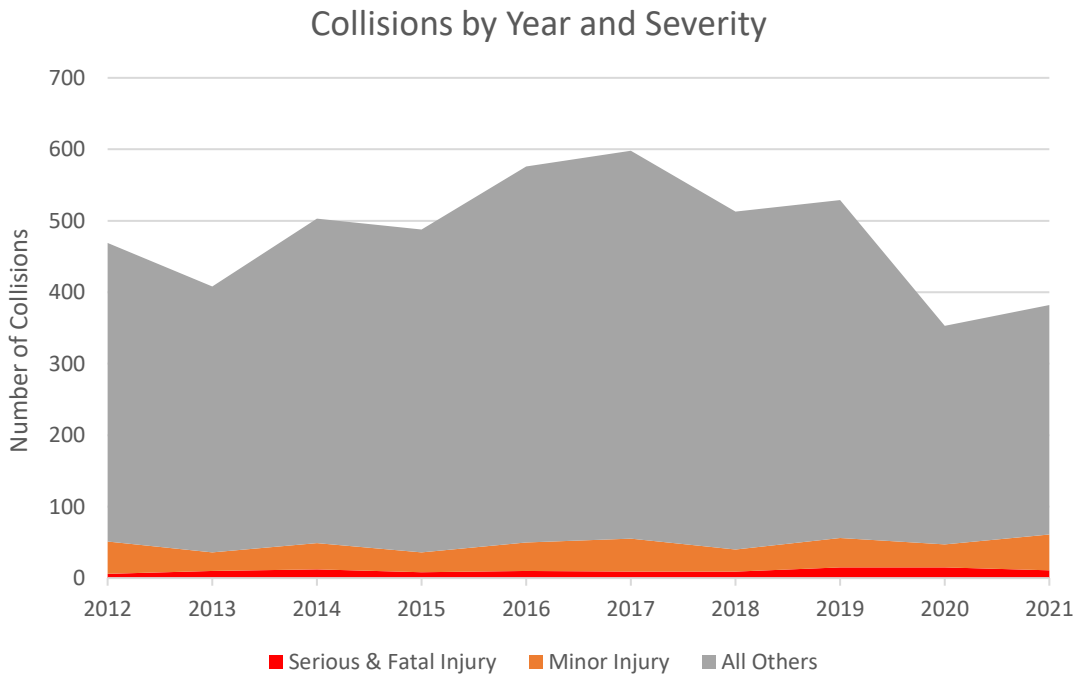
The following sections provide summaries and analysis for collisions reported on public streets within the City of Shoreline from 2012 through 2021, with a focus on 3-year and 5-year analysis windows.

Collision Summary

There were 382 collisions reported on City of Shoreline streets in 2021, significantly lower than the pre-pandemic average but up 8% compared to 2020. The following table summarizes collisions by severity from 2012 through 2021.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fatality	1	1	1	1	1	0	1	1	3	1
Suspected Serious Injury	5	9	11	7	9	9	8	14	12	10
Suspected Minor Injury	45	26	37	28	40	46	31	41	32	50
Possible Injury	108	104	121	126	140	136	104	119	60	45
No Apparent Injury	302	264	318	317	374	398	354	346	240	263
Unknown	8	4	15	9	12	9	15	8	6	13
Total	469	408	503	488	576	598	513	529	353	382

With another year of record low collision totals, the 2012-2021 Total Collision trendline is now decreasing at a rate of -5.7 collisions per year (down from the 2011-2020 Total Collision trendline of +2.4 per year). Unfortunately, while Total Collisions are down, Injury Collisions have risen sharply.



Societal Cost

Traffic collisions have considerable impact not only on the people directly involved in the collision but also on the community. Below is the Washington State Department of Transportation's assessment of motor vehicle collision costs by severity. The economic cost estimates are a measure of the productivity lost and expenses incurred because of the collision; they do not reflect what society is willing to pay to prevent a crash-related fatality or injury.

- Fatality \$3,423,400
- Suspected Serious Injury \$3,423,400
- Suspected Minor Injury \$237,400
- Possible Injury \$142,300
- No Apparent Injury 14,800

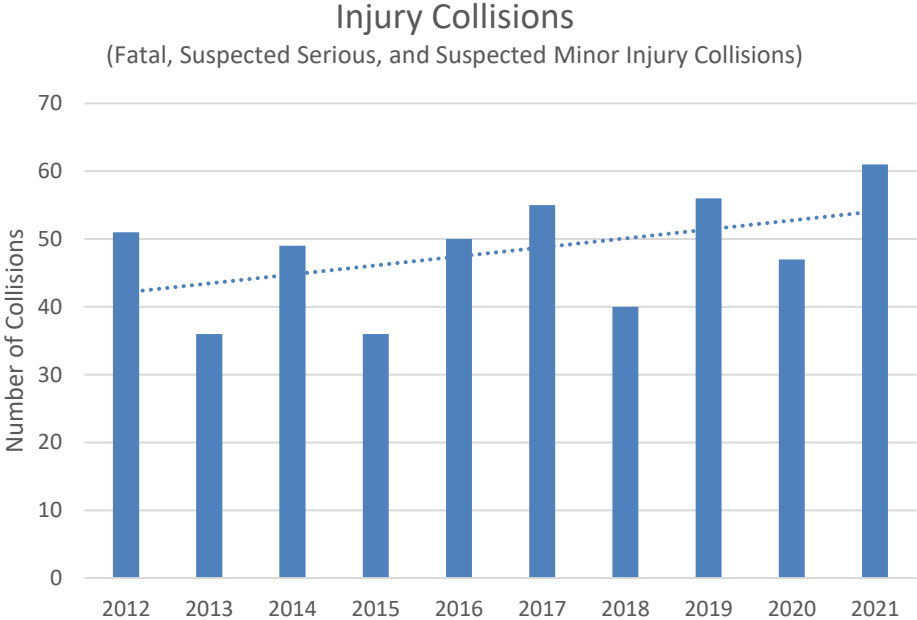
Source: WSDOT Traffic Safety Management Office

The following table is a summary of average societal costs for collisions in Shoreline from 2019 through 2021. Updated assumptions for costs were provided by the WSDOT Traffic Safety Management Office, and represent a significant increase compared to previously assumed values.

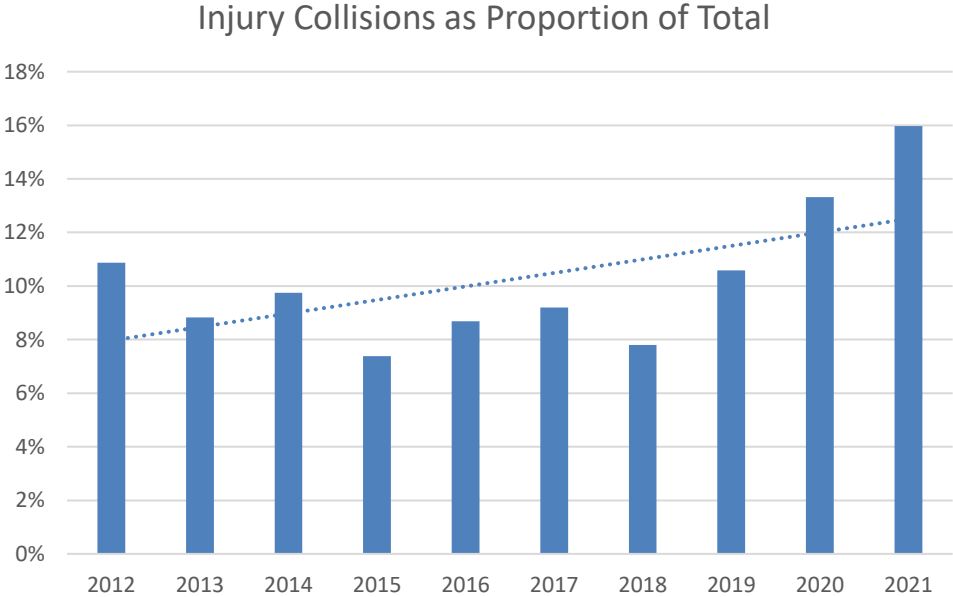
	2019-2021 AVERAGE ANNUAL SOCIETAL COST
FATALITY	\$ 5,705,666
SUSPECTED SERIOUS INJURY	\$ 41,080,800
SUSPECTED MINOR INJURY	\$ 9,733,400
POSSIBLE INJURY	\$ 10,625,066
NO APPARENT INJURY	\$ 4,188,400
TOTAL	\$ 71,333,333

Injury Collisions

In this section Injury Collisions (representing Fatal, Suspected Serious Injury, and Suspected Minor Injury collisions, but excluding Possible Injury collisions) are summarized. As shown below, the trend for injury collisions is up, with the trend increasing at a rate of about 1.3 injury collisions per year.

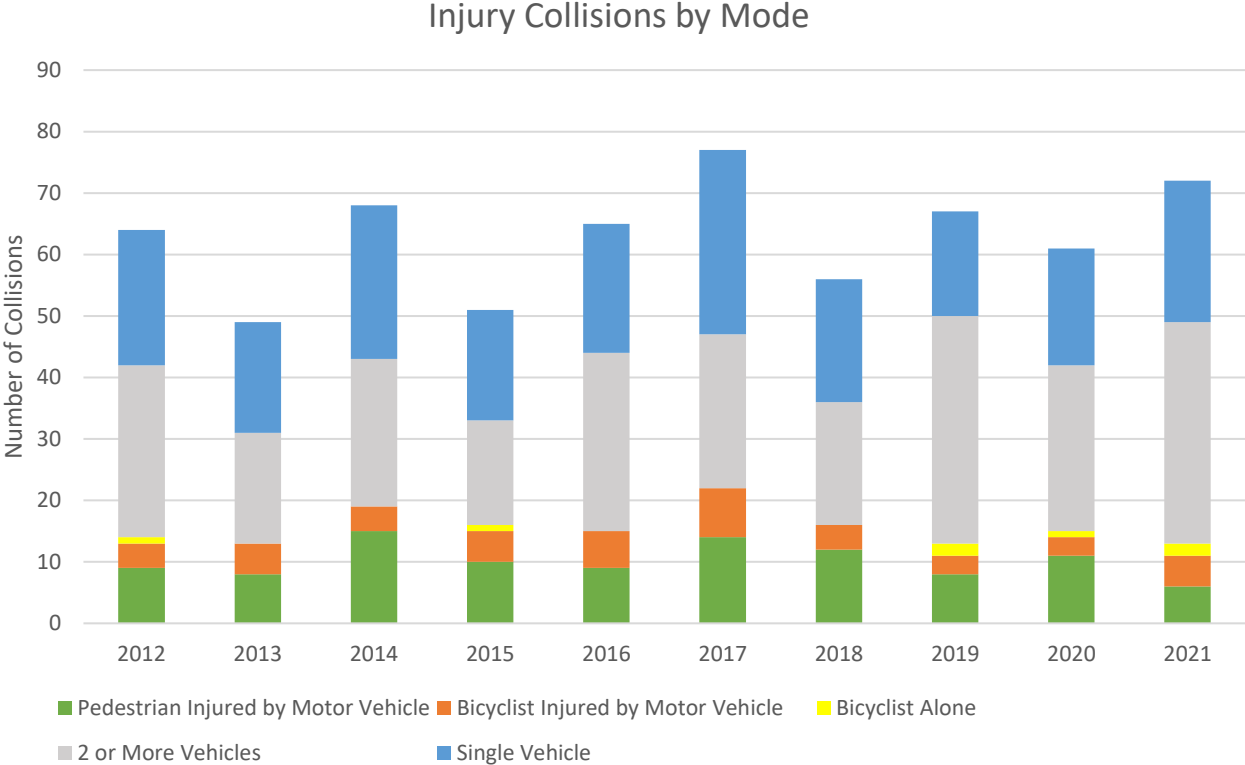


The rate of Injury collisions in comparison to total collisions continues on an increasing trend.



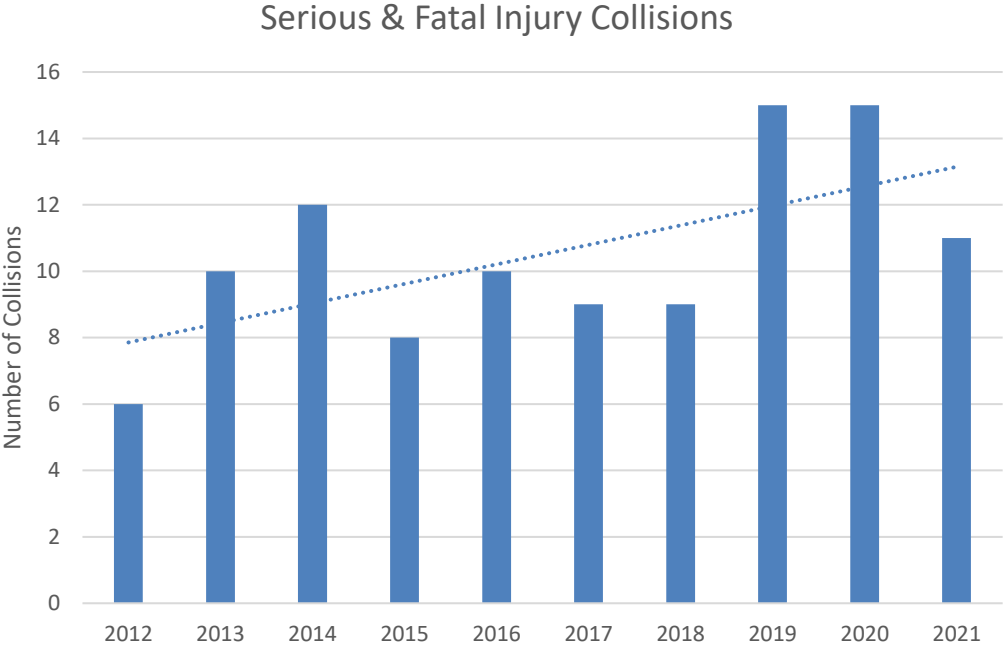
The following chart summarizes injury collisions by those that involve just one driver in a single motor vehicle, pedestrians injured by a motor vehicle, bicyclists injured by a motor vehicle, bicyclists that crash

on their own (with no motor vehicles involved), and collisions involving 2 or more motor vehicles. Injury collisions involving 2 or more vehicles made up the highest proportion in 2021, consistent with the annual trend.

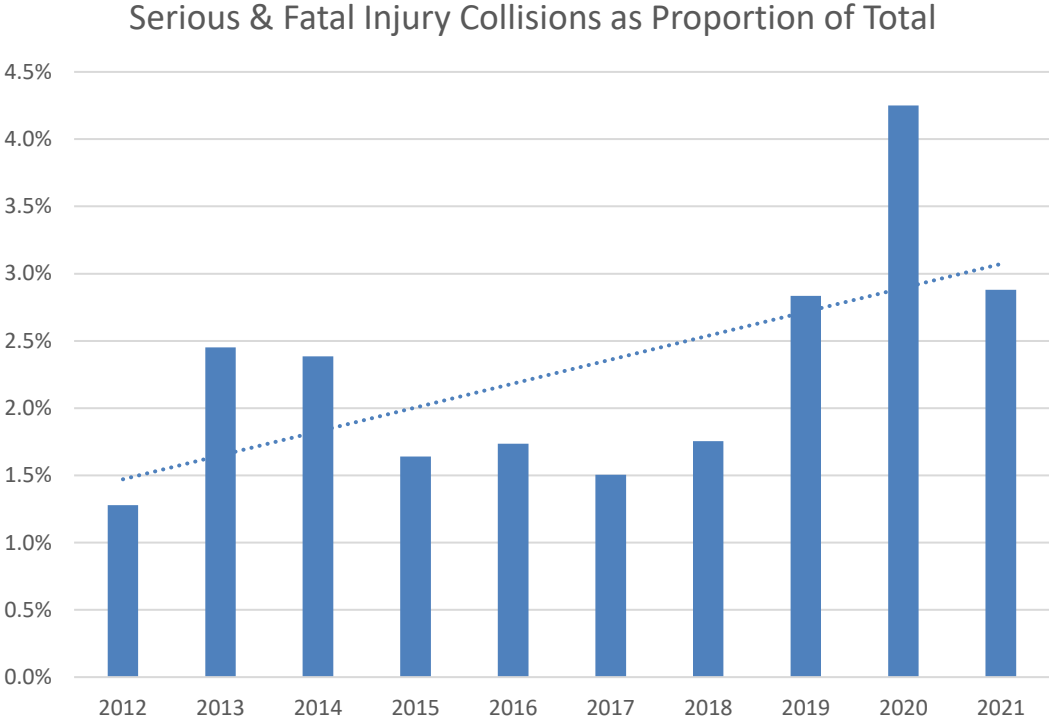


Serious & Fatal Injury Collisions

The following chart shows Fatal and Serious Injury Collisions by year, which decreased significantly in 2021 compared to 2019 and 2020 numbers. Still, the overall trend remains concerning with Fatal and Serious Injury Collisions rising at a rate of about .6 collisions per year. Additional details on contributing factors are provided in later sections.

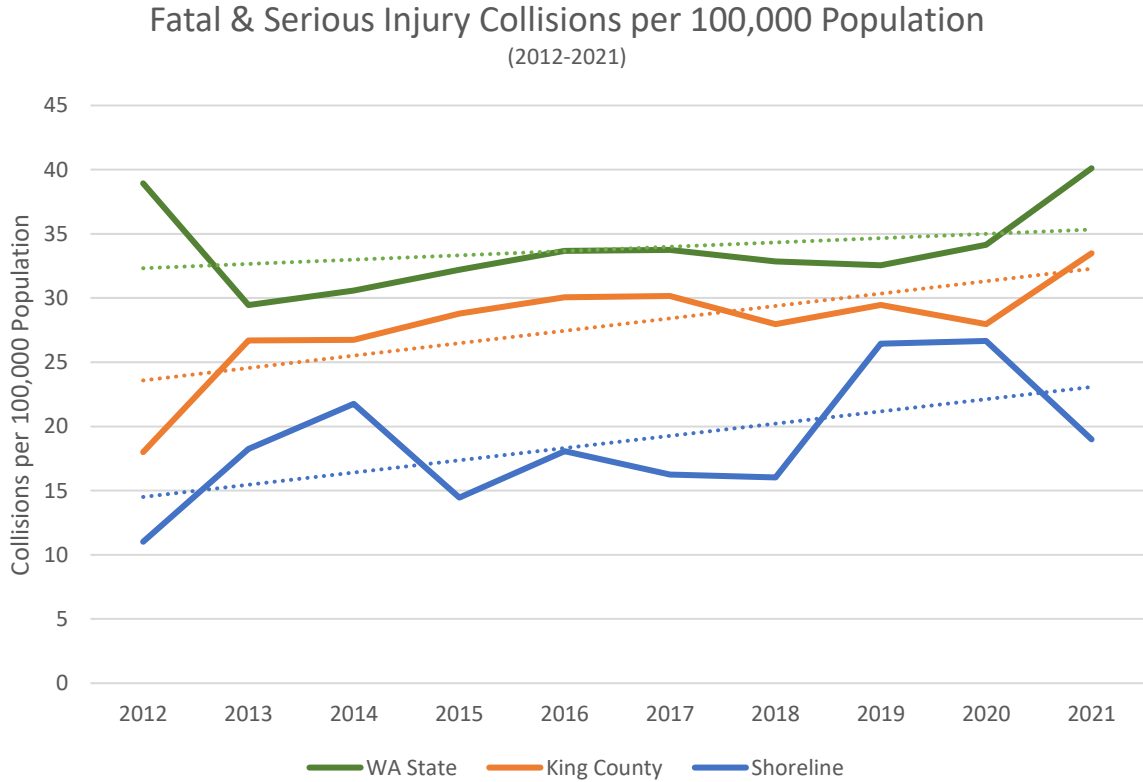


For additional context, the following chart shows Fatal and Serious Injury Collisions as a proportion of total collisions, with an increasing overall trend.



Regional Comparison

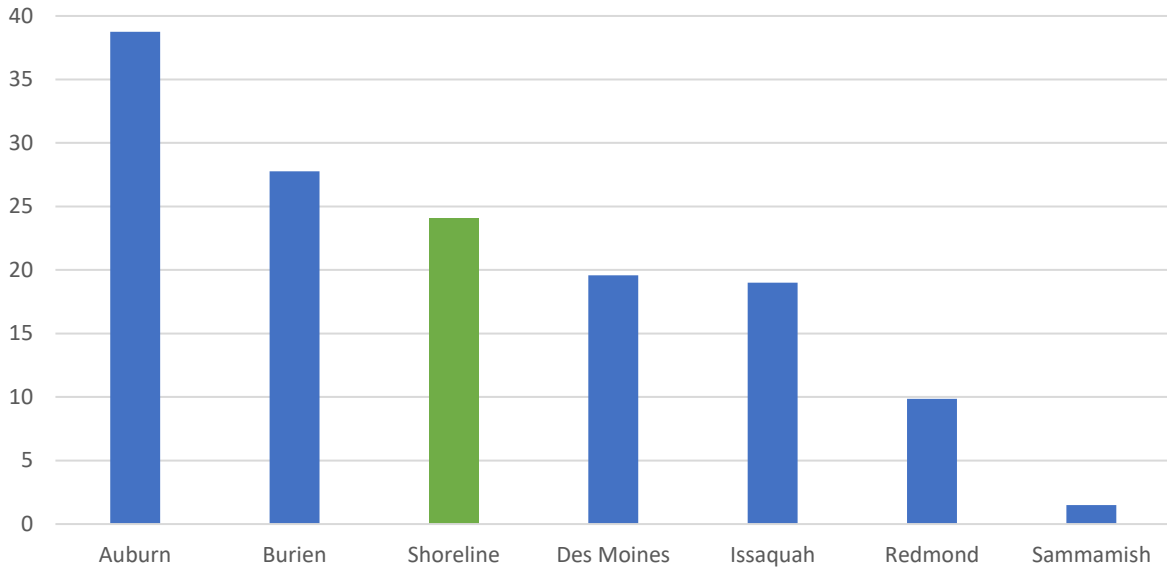
To better understand how collision trends in Shoreline relate to the broader region, a comparison to King County and Washington State collision data was prepared (omitting Shoreline collision and population data from the King County and State numbers). Shoreline consistently experiences lower numbers of Serious and Fatal Injury Collisions per population in comparison to King County and the State, however the trendline is increasing at a rate equal to King County and at a sharper rate compared to the Statewide trend.



Note: Shoreline collision and population data excluded from State and County totals in chart

Data was obtained for cities within a population range of 25,000 +/- of Shoreline within King County. The occurrence of Serious and Fatal Injury Collisions per 100,000 population was compared for the 2019-2021 analysis period. With a high number of Serious and Fatal collisions occurring over the last three years, Shoreline’s rank remains 3rd highest among the six comparable cities.

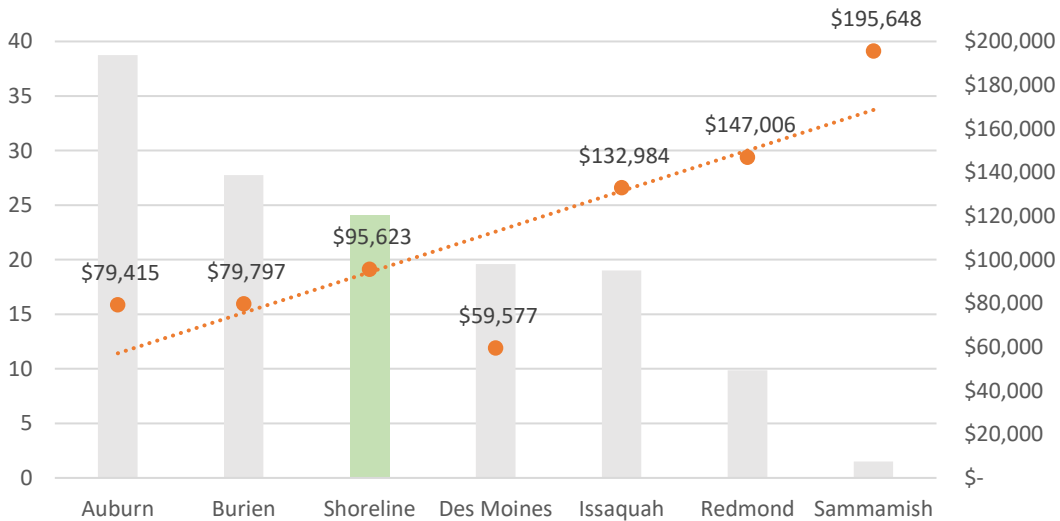
Fatal & Serious Injury Collisions per 100,000 Population
(2019-2021 Average)



Note: Excludes collision data for Limited Access Freeway Facilities

While collision trends associated with each city are multifactorial, one noteworthy relationship exists between Serious and Fatal Injury Collisions and Median Household Income. As shown in the following chart, there is a nearly inverse linear relationship; cities with a higher Median Household Income generally have lower rates of Serious and Fatal Injury Collisions with only one exception.

Fatal & Serious Injury Collisions (2019-2021 Average) per 100,000 Population vs Median Household Income



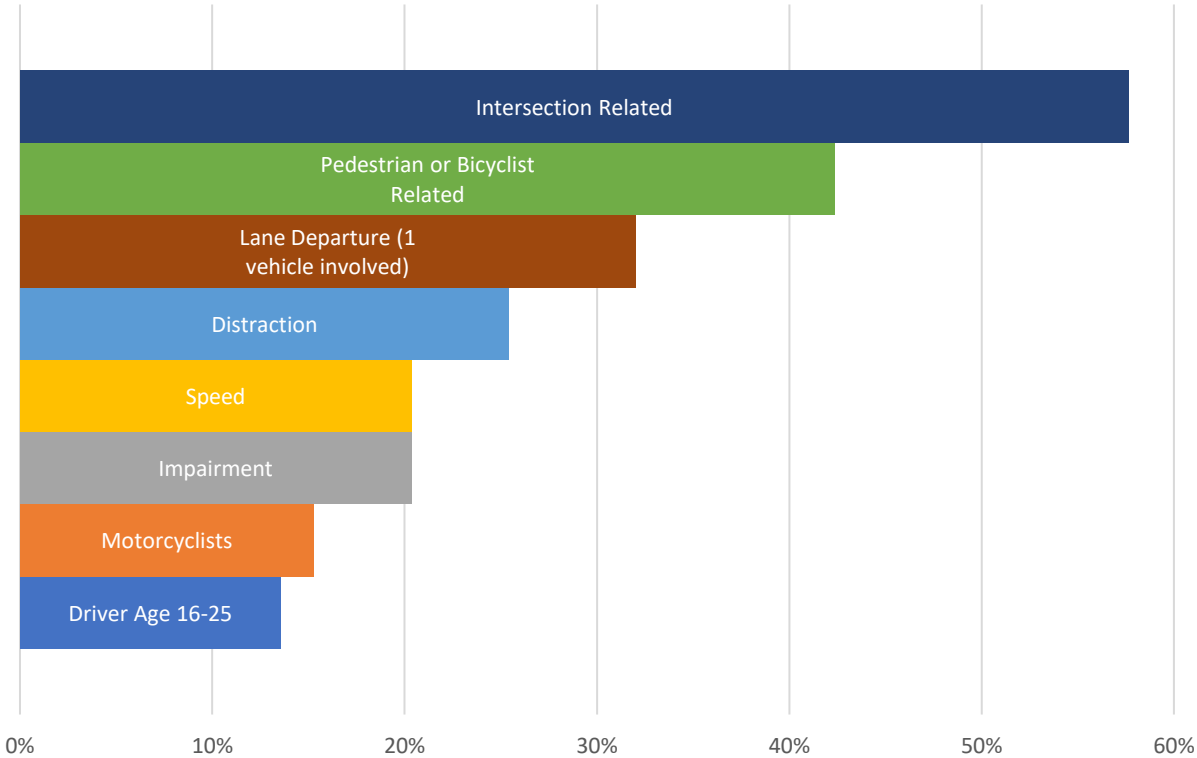
Target Zero Priorities

This section examines factors influencing a collision such as behavior, crash type, and road user focusing on priorities identified by the Washington State Target Zero Plan. Washington State's Target Zero Plan sets statewide traffic safety priorities based upon the most frequently cited contributing factors in statewide Serious and Fatal Injury collisions. The following table represents behavior, crash type and road user priorities consistent with the State Target Zero Plan, with 1 being the highest priority.

Emphasis Areas	Priority
Impairment	1
Distraction	1
Speeding	1
Lane Departure	1
Intersection	1
Young Drivers 16-25	1
Unrestrained Occupants	2
Pedestrians & Bicyclists	2
Motorcyclists	2
Older Drivers 70+	2
Heavy Truck	2

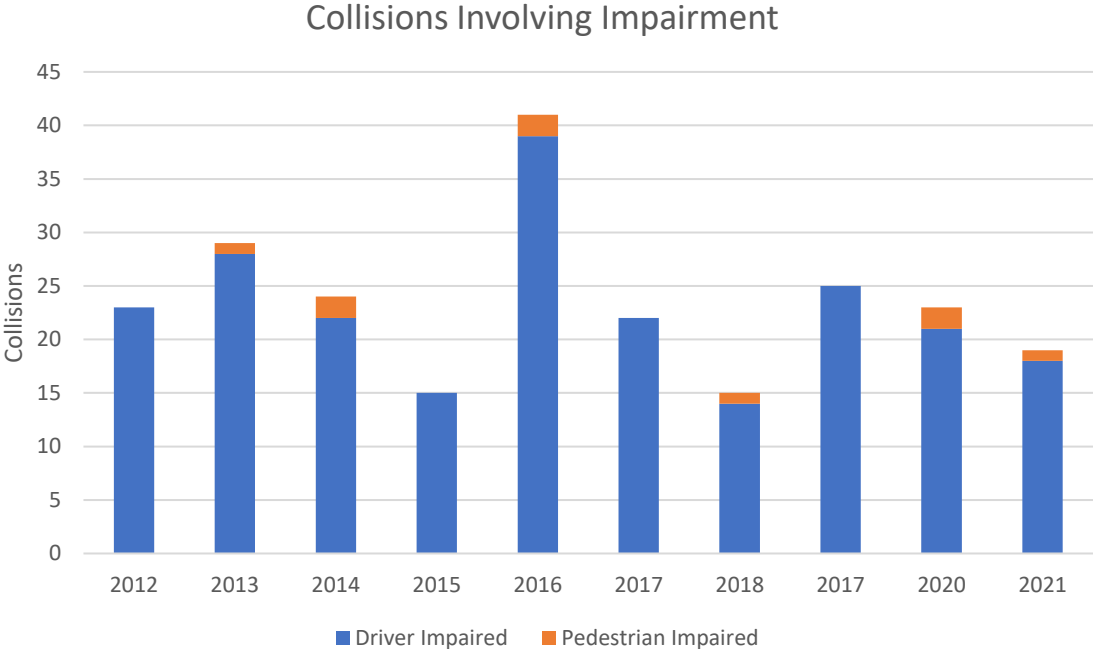
In Shoreline, the Target Zero priorities represented most within Serious and Fatal Injury Collision data continue to be Intersection Related and those involving pedestrians or bicyclists. Collisions involving Heavy Trucks and Older Drivers were insignificant (1 and 0 respectively) in the 3-year data set and are therefore not depicted on the following chart.

Percent Fatal & Serious Injury Collisions Citing Target Zero Priority Contributing Factors (2017-2021)

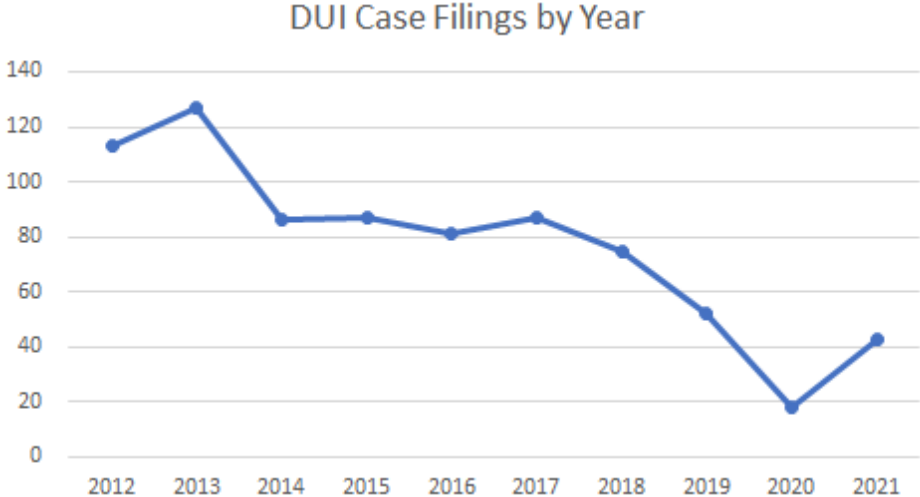


Impairment

In 2021, there were 19 collisions in Shoreline indicated as involving impairment; down slightly from 2020. It is important to note that impairment related crashes are thought to be underreported; according to the State Target Zero Plan, some collisions are not interpreted as rising to the level of vehicular assault - a designation which allows for a blood draw.



Impairment related case filings dropped relatively significantly in 2020, likely due to a number of factors including fewer contacts to limit COVID-19 transmission, significantly fewer drivers being on the road, and enforcement staff shortages. In 2021, filings rose, but are still relatively low compared to prior years with staff shortages persisting.



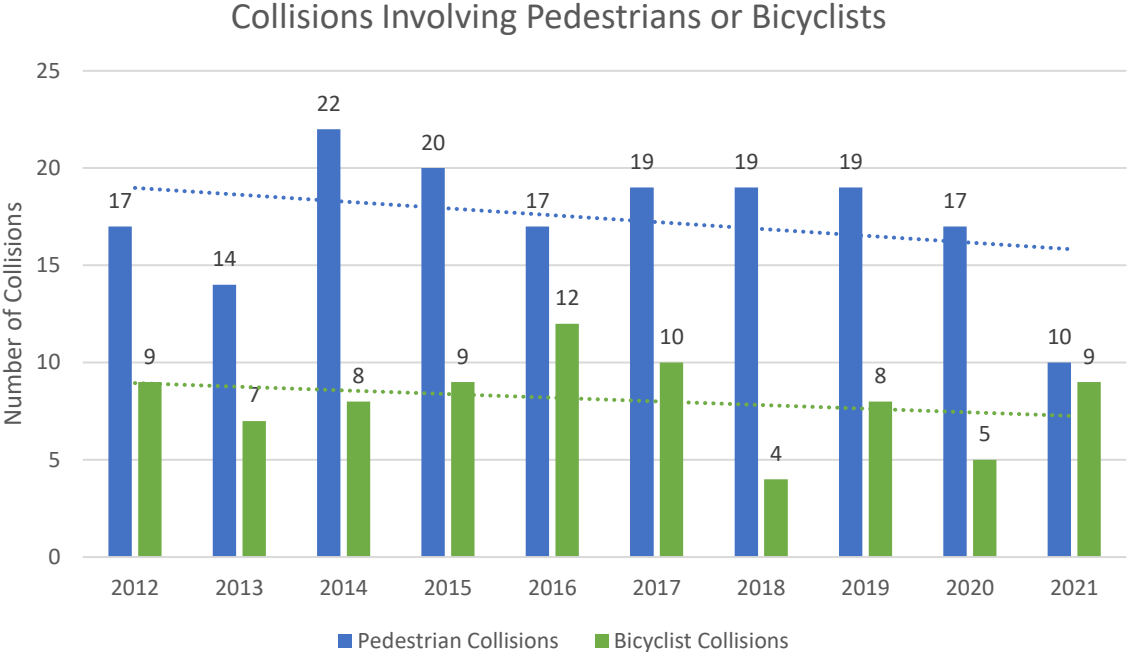
Light

Most collisions occur during daylight hours as shown in the following table however there is notably a higher representation of Serious and Fatal Injury Collisions occurring during dark or dusk lighting conditions in the 2019-2021 analysis period.

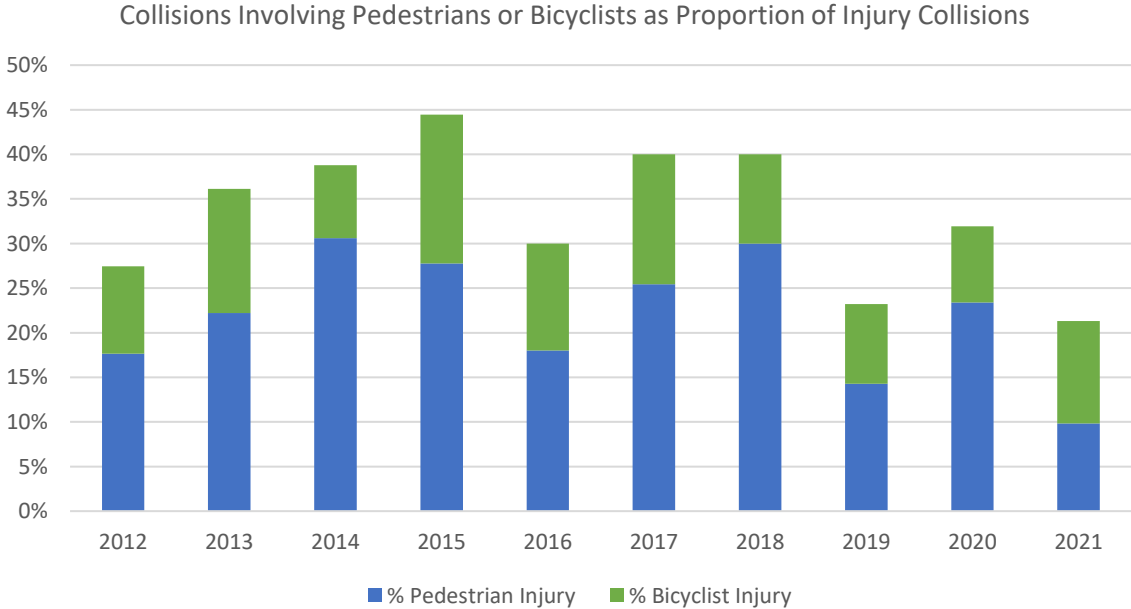
	2017-2021 All Collisions	2017-2021 Serious & Fatal Collisions	2017-2021 Pedestrian & Bicycle Collisions
Dark/Dusk	31%	46%	32%
Daylight/Dawn	67%	53%	68%
Unknown	1%	2%	0%

Pedestrian & Bicyclist Collisions

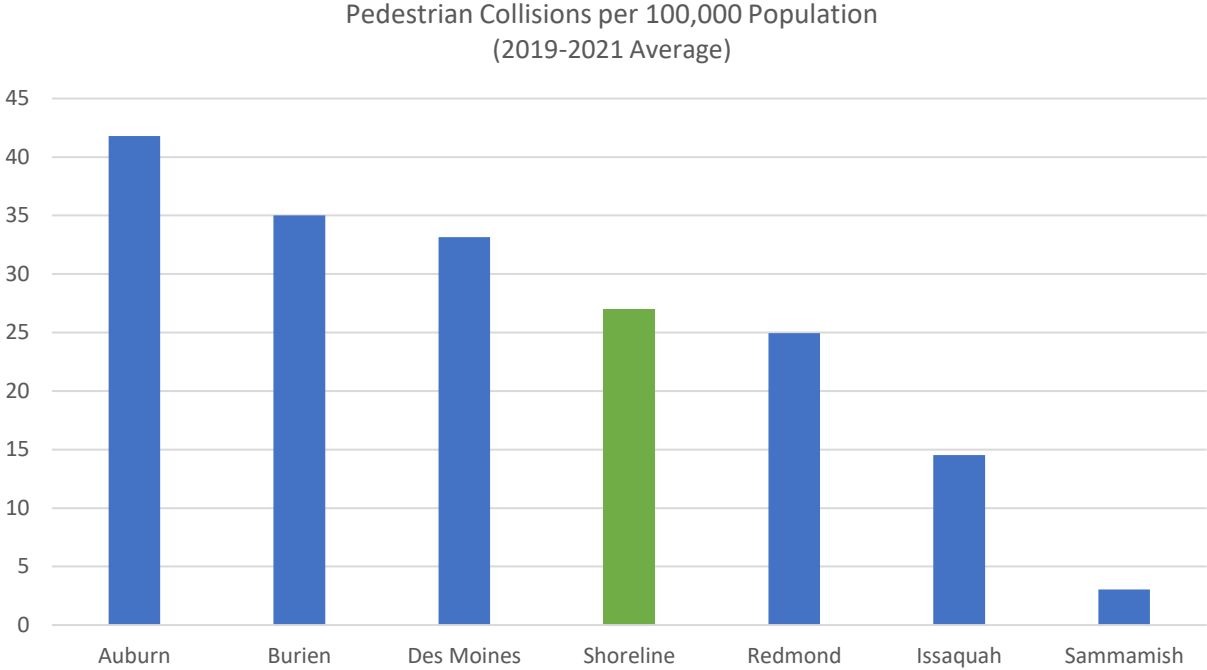
Encouragingly, Pedestrian Collisions in 2021 were at their lowest level within the 10-year analysis window and struck a new decreasing trend. Additional information regarding pedestrian and bicycle collision locations is provided in the *Collision Locations* section of the report, and in Appendices C & D.



Also notably, Pedestrian and Bicyclist injury collisions accounted for the lowest proportion of injury collisions in the 10-year analysis period.






To better understand Shoreline’s Pedestrian Collision trends from a broader regional context, the following chart compares Shoreline’s Pedestrian Collision rate per 100,000 Population with other similarly sized cities in King County. The 2019-2021 rate puts Shoreline in the middle of the distribution.



Collision Locations

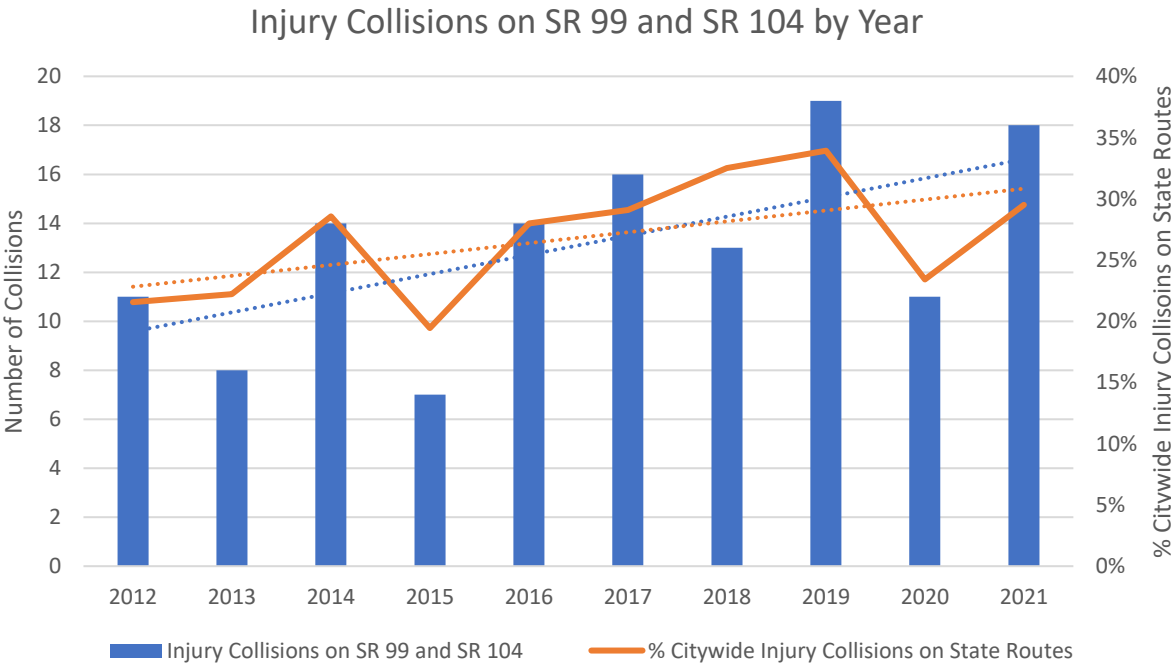
This section provides location-based analysis of collisions. There is no specific industry standard setting a threshold for what number of collisions or collision rate is considered “high” for a location. Engineering guidelines and standards do provide some thresholds for potential traffic control device revisions in some cases, such as stop sign installation or signal phase changes based on the occurrence of 3 correctable collisions in 12-month period or 5 correctable collisions in a 24-month period. To best inform collision reduction strategies, intersections with an average of 3 or more collisions per year (9 total in the 3-year period) have been highlighted for additional analysis. Highest Injury Collision locations correlate to locations with highest total collisions; no more than 3 injury collisions for the 3-year period occurred at any one intersection location. Non-intersection collisions were evaluated based on approximately half mile segment lengths to normalize data for the sake of equitable comparison. Collision trend indicators at locations are provided with each associated category as shown below:

-  Indicates a reduction in collisions compared to the prior analysis period.
-  Indicates no change in collisions compared to the prior analysis period.
-  Indicates an increase in collisions compared to the prior analysis period.

In addition to the following tables, collisions are displayed on maps in Appendices A-E.

State Route Collisions

For the last several years, collisions along the state routes of Aurora Ave N and Ballinger Way NE have accounted for a growing proportion of injury collisions Citywide. This number dropped considerably in 2020, however rose sharply again in 2021.



The following table shows intersections along Aurora Ave N or Ballinger Way NE with 9 or more collisions in the 3-year period, as well as a summary of collisions at non-intersection locations along these State Routes.

Location	Total Collisions 2019-2021	Injury Collisions 2019-2021	Total Collisions Change from 2018-2020	Injury Collisions Change from 2018-2020
AURORA AVE N & N 155TH ST	16	2		
AURORA AVE N & N 175TH ST	13	0		
AURORA AVE N & N 185TH ST	12	3		
AURORA AVE N & N 198TH ST	12	4		
AURORA AVE N & N 200TH ST	11	3		
AURORA AVE N & N 160TH ST	10	1		
AURORA SEGMENTS (145TH-205TH)	166	16		
BALLINGER WAY NE & 19TH AVE NE	10	2		
BALLINGER WAY NE & 15TH AVE NE	27	2		
BALLINGER SEGMENTS (15TH-25TH)	29	4		

Intersection Collision Locations (2019-2021)

The following table shows non-State Route locations with 9 or more collisions in the 3-year period.

Location	Total Collisions 2019-2021	Injury Collisions 2019-2021	Total Collisions Change from 2018-2020	Injury Collisions Change from 2018-2020
MERIDIAN AVE N & N 175TH ST	14	0		
MIDVALE AVE N & N 175TH ST	12	0		
MERIDIAN AVE N & N 185TH ST	11	2		
10TH AVE NE & NE 175TH ST	10	3		
15TH AVE NE & NE 175TH ST	10	2		
3RD AVE NW & NW RCHMND BCH RD	10	2		
DAYTON AVE N & N 160TH ST	10	1		
8TH AVE NE & NE 175TH ST	9	1		
ASHWORTH AVE N & N 185TH ST	9	2		

Segment Collision Locations (2019-2021)

Non-State Route corridors experiencing the most collisions along segments are shown in the following table. Intersection collisions along these corridors are also provided for context, and for considering mitigation strategies associated with the overall corridor trend.

Location	Non-Intersection Collisions 2019-2021	Intersection Collisions 2019-2021	Corridor Collisions 2019-2021	Corridor Change from 2018-2020
15TH AVE NE: NE 196TH ST-BALLINGER WAY NE	18	27	45	

Pedestrian Collision Locations (2017-2021)

The following table shows locations with 3 or more pedestrian collisions in the 5-year period. The number of locations with 3 or more pedestrian collisions in the 5-year period has dropped from 6 in the previous analysis period to 3. Also notably, more than 25% of the City's pedestrian collisions occurred along the Aurora Ave N corridor in the 2017-2021 period.

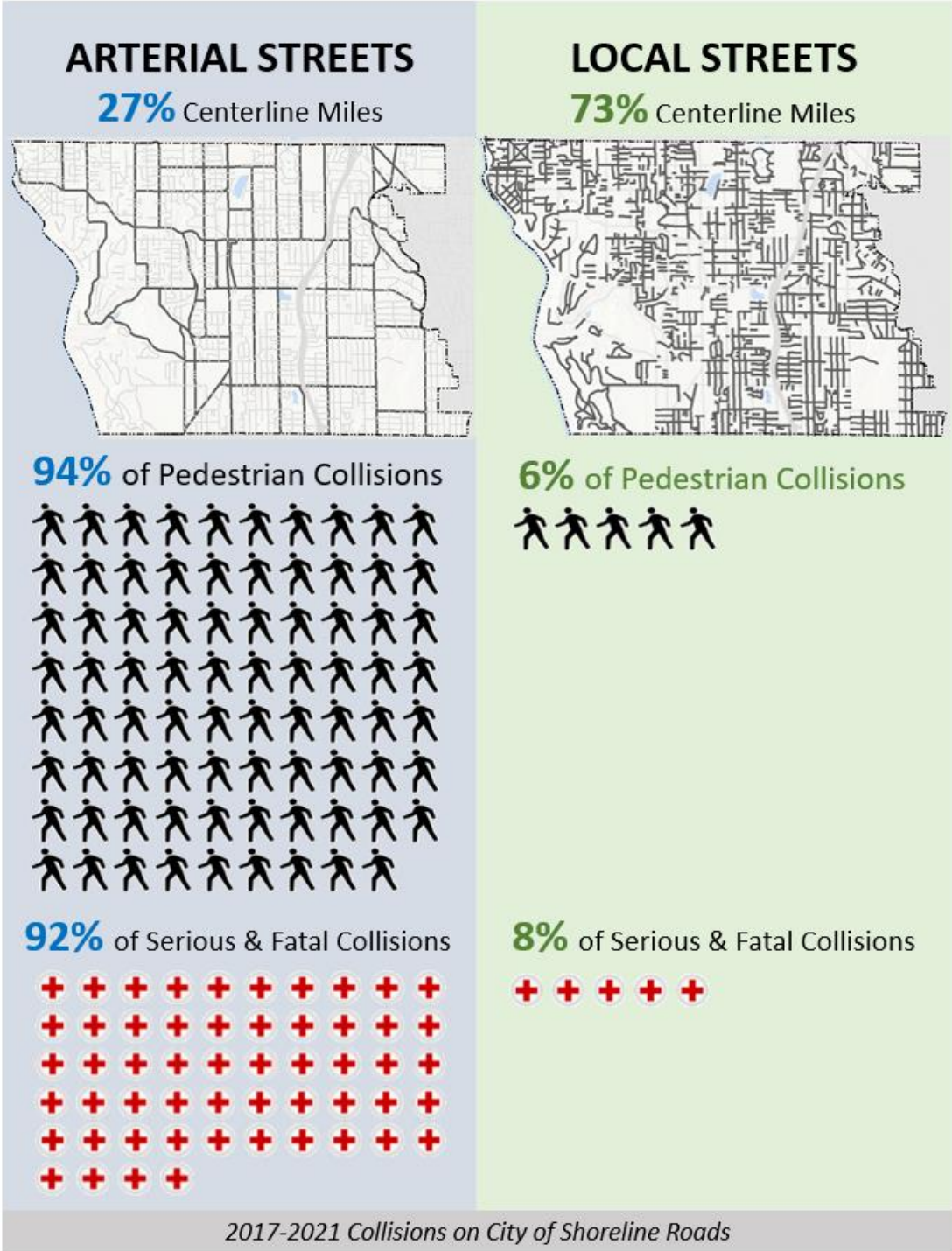
Location	Pedestrian Collisions 2017-2021	Change from 2016-2020
AURORA AVE N & N 185TH ST	3	●
MIDVALE AVE N & N 185TH ST	3	●
20TH AVE NW & NW 196TH ST	3	●

Bicyclist Collision Locations (2017-2021)

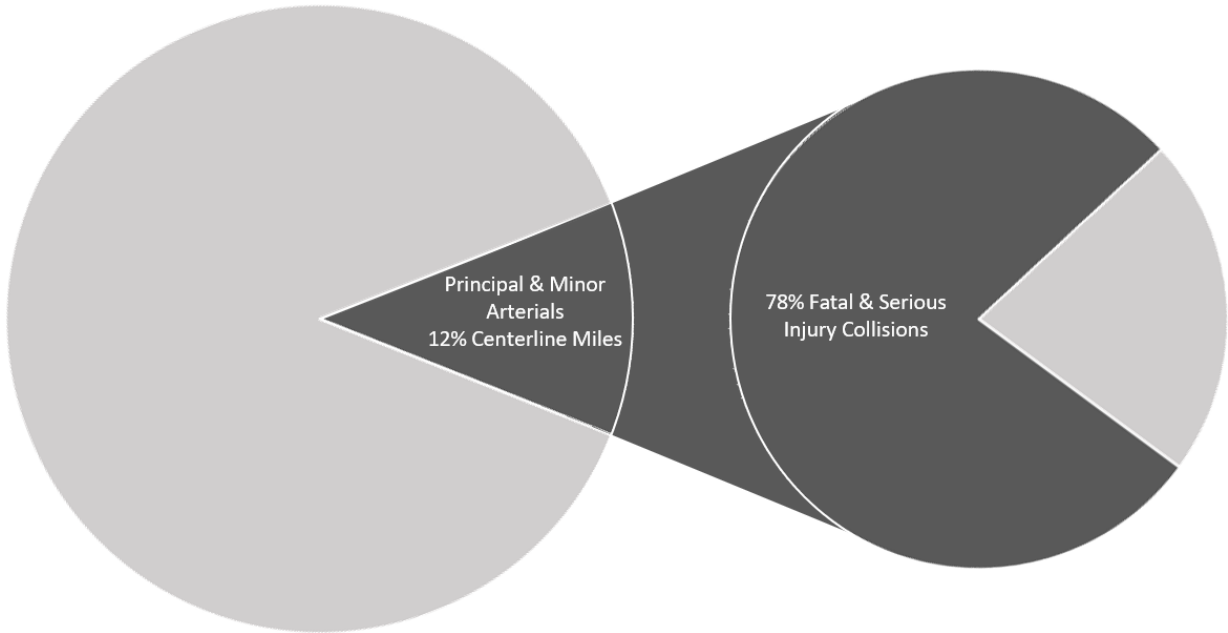
There were no locations with more than 2 bicycle collisions in the 5-year period. See Appendix D for additional details.

Collisions by Street Classification (2017-2021)

In Shoreline all local streets (which make up 73% of centerline miles Citywide) have a posted speed limit of 25 mph and carry significantly less traffic volume than arterial streets, representing less opportunity for collisions to occur and generally less severe outcomes when they do. The following graphic shows the how the vast majority of Serious and Fatal Injury Collisions and Pedestrian Collisions occur on a relatively small portion of City streets.



Narrowing the analysis to an even smaller subset of streets shows that Principal and Minor Arterials (12% of centerline miles) account for 78% of Serious and Fatal Injury Collisions.



**2017-2021 Collision Data*

In 2019 the City paused the Neighborhood Traffic Safety Program (NTSP) – a traffic calming program exclusively for and responsive to resident concerns about speeding on their local streets. Prior to this, significant staff and budget resource were allocated to upholding the commitments of the NTSP program, and little resource remained for making improvements at locations frequently experiencing collisions. Since pausing the program, the distribution of Fatal and Serious Injury collisions on local streets has only decreased compared to years where the NTSP was active; reassuring data considering the backddrop of increasing injury collisions City and Region-wide.

	2016-2018	2019-2021
% FATAL AND SERIOUS INJURY COLLISIONS ON LOCAL STREETS	22%	2%
% INJURY COLLISIONS LOCAL STREETS	9%	4%
% PEDESTRIAN COLLISIONS ON LOCAL STREETS	8%	6%

While the City continues to receive hundreds of resident requests each year for traffic calming measures such as speed humps on local streets, it remains clear that continuing to use data to guide decisions and investments will be the most effective and equitable way to reduce crash related injuries.

For additional details about the discontinuation of the NTSP program, see the February 24, 2020 staff report at:

<http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/council/Packets/2020/Packet022420.pdf>

Collision Reduction Strategies

The preceding *Collision Data & Analysis* section summarized trends, highlighted significant contributing factors, and provided location-based analysis for collisions occurring on Shoreline streets. Based on this context, the following section identifies ongoing and future strategies to address collision patterns, consistent with proven safety countermeasures identified within the State’s Target Zero Plan. This data-driven approach to collision and injury reduction facilitates strategic, systematic, and equitable prioritization of limited resources. Codes that correspond with the Washington State Target Zero Plan countermeasures are provided at the end of each strategy for reference. For example *[INT.1.10]* corresponds with the recommended Target Zero countermeasure to “Install Lighting”.

Systemic Collision Reduction Strategies

Some of the important measures the City is taking toward improving road safety systemically are highlighted in the following table.

<i>Designing streets for injury reduction</i>	Multiple revisions were made to City engineering standards in recent years which will ensure streets are built to reinforce lower speeds. Additional updates were made in 2022 to strengthen and clarify streetlight and pedestrian lighting requirements for redevelopment project improvements. <i>[PAB.1.2, PAB.1.3]</i>
<i>Setting appropriate speed limits</i>	Speed limits on 6 corridors were reduced based on the latest research and associated speed limit setting tool from the National Cooperative Highway Research Program. Staff plans to study the remaining 35 and 40 MPH corridors in 2023 and 2024. <i>[SPE.2.1]</i>
<i>Increased street and pedestrian lighting</i>	In addition to the significant number of new lights being installed by developer or capital projects, the City continues to install approximately 10 new streetlights per year as budgeted. <i>[INT.1.10]</i>
<i>Driver education</i>	The City continues to support driver education efforts including radar speed feedback signs, yard signs, and intersection flags. Staff will create new Shoreline-specific educational yard signs in 2023. <i>[SPE.2.5, DIS.1.3]</i> For regional examples, see: <ul style="list-style-type: none"> • seattle.gov/visionzero/resources/yard-signs • bellevuewa.gov/city-government/departments/transportation/safety-and-maintenance/traffic-safety/traffic-safety-request-forms/traffic-safety-yard-signs
<i>Enforcement</i>	Shoreline Police will continue enforcement and driver education efforts related to speeding, impairment, distraction, seat belt use and school safety. Additionally, Council is exploring the potential benefits and tradeoffs of automated enforcement cameras. <i>[INT.2.1, INT.2.2, INT.2.3]</i>

Grants Staff will pursue City Safety Program grant funding in 2024, aligned with the Annual Traffic Report contributing factor priorities and location-specific strategies. *[INT.1.1]*

Growth impact mitigation Staff is currently evaluating how predictive safety analysis tools could be used to determine thresholds for proactive developer mitigation requirements. Industry standards have historically lacked quantitative triggers for safety mitigation, however more readily available traffic data is opening up new possibilities for identifying proactive safety measures. *[EAD.1.1]*

Location-Based Collision Reduction Strategies

Locations were prioritized based on number of collisions. The goal of prioritizing locations with significant collision history is to maximize the benefit of safety improvements to decrease the likelihood of injury collisions. In some cases, greater resource than currently available is needed to address a location's need. These locations are considered for inclusion in the Transportation Improvement Plan (TIP) to identify potential project funding sources and to position the City for grant opportunities.

State Route Collision Strategies

Location	Collision Reduction Strategy
AURORA AVE N & N 155TH ST	Total and Injury Collisions are down compared to 2018-2020; continue to monitor.
AURORA AVE N & N 175 th ST	Total and Injury Collisions are down compared to 2018-2020; continue to monitor.
AURORA AVE N & N 185TH ST	Total Collisions down, Injury Collisions level compared to 2018-2020. Leading Pedestrian Interval signal phasing planned. <i>[INT.1.9]</i>
AURORA AVE N & N 198TH ST	New warning signs were installed relatively recently. Consider BAT Lane emphasis patrols. <i>[INT.2.3]</i>
AURORA AVE N & N 200 th ST	Total Collisions down, Injury Collisions level compared to 2018-2020. Continue to monitor.
AURORA AVE N & N 160 th ST	Total Collisions down, Injury Collisions level compared to 2018-2020. Continue to monitor. Leading Pedestrian Interval signal phasing planned. <i>[INT.1.9]</i>
AURORA SEGMENTS (145TH-205TH)	Study speed limit in 2023 or 2024. <i>[SPE.2.1]</i>
BALLINGER WAY NE & 19TH AVE NE	A larger-scale project for the corridor is described within the Transportation Improvement Plan. Minor improvements to this intersection will be required as part of the sidewalk project (tentatively slated for 2024).
BALLINGER WAY NE & 15TH AVE NE	Explore potential signal timing and/or spot safety improvements with WSDOT. A larger-scale project for the corridor is described within the Transportation Improvement Plan.
BALLINGER SEGMENTS (15TH-25TH)	A larger-scale project for the corridor is described within the Transportation Improvement Plan. Study speed limit in 2023 or 2024. <i>[SPE.2.1]</i>

Intersection Strategies

Location	Collision Reduction Strategy
MERIDIAN AVE N & N 175TH ST	Total Collisions up, Injury Collisions down. Design for intersection improvements underway - See shorelinewa.gov/175corridor . <i>[Multiple countermeasures will be employed with this project]</i>
MIDVALE AVE N & N 175TH ST	Total Collisions down, Injury Collisions level compared to 2018-2020. Leading Pedestrian Interval signal phasing planned. <i>[INT.1.9]</i>
MERIDIAN AVE N & N 185TH ST	Review for potential signal timing adjustments. City Safety Grant project will improve bike facilities and delineation through the intersection, scheduled for implementation by 2026. <i>[INT.1.16]</i>
10TH AVE NE & NE 175TH ST	Pursue WSDOT local road safety grant to reconfigure roadway to 3 lanes (from 5 th Ave NE to 15 th Ave NE) to create dedicated left turn lane space, reduce conflict points, and calm speeds. A project for this segment of roadway is identified in the Transportation Improvement Plan. Intersection was reviewed for but does not meet turn protection warrants. <i>[INT.1.3]</i>
15TH AVE NE & NE 175TH ST	Install centerline curb to restrict left turns to and from the northernmost driveway on the south leg of the intersection to eliminate some conflicts in this area. Completion anticipated by Spring 2023. <i>[INT.1.14]</i>
3RD AVE NW & RCHMND BCH RD	Collisions level compared to 2018-2020. Continue to monitor.
DAYTON AVE N & N 160TH ST	Intersection was reviewed for but does not meet turn protection warrants. Continue to monitor.
8 TH AVE NE & NE 175 TH ST	Pursue WSDOT local road safety grant to reconfigure roadway to 3 lanes (from 5 th Ave NE to 15 th Ave NE) to create dedicated left turn lane space, reduce conflict points, and calm speeds. A project for this segment of roadway is identified in Transportation Improvement Plan. <i>[INT.1.3]</i>
ASHWORTH AVE N & N 185 TH ST	Pedestrian activated Rectangular Rapid Flashing Beacons will be implemented by 2024 as part of a traffic safety grant project. <i>[PAB.2.2, INT.1.16]</i>

Segment Collision Strategies

15TH AVE NE (NE 196TH-BALLINGER WAY NE)	A significant portion of non-intersection collisions are related to drivers hitting parked cars – install white edge lines for better delineation of traveled way in 2023 or 2024, depending on staff and budget resource. <i>[LDX.3.7]</i>
---	---

Pedestrian Collision Strategies

Location	Collision Reduction Strategy
AURORA AVE N & N 185 TH ST	Leading Pedestrian Interval signal phasing planned. <i>[INT.1.9]</i>
MIDVALE & N 185 TH ST	Consider Flashing Yellow Arrow operations if trend continues. <i>[INT.1.12]</i>
20TH AVE NW & NW 195TH ST	Street lighting improvement request submitted to Seattle City Light; waiting for installation. Sidewalk project will implement corner radii, ADA, and alignment improvements at this intersection in 2023. <i>[INT.1.10, PAB.2.1]</i>

Safety Effort Progress


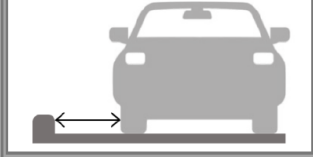



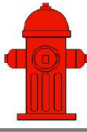


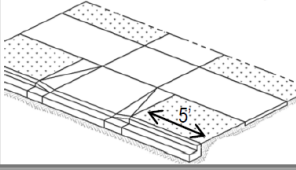
In addition to the ongoing efforts described in the *Systemic Collision Reduction Strategies* section, the following sections describe recent progress on transportation safety efforts.

Engineering & Education Summary

Some notable and recent Traffic Safety Program improvements are highlighted in the following table.

<i>Speed limits</i>	An ordinance to reduce speeds on 6 arterials in Shoreline was passed in December and went into effect on June 1, 2022. A summary of preliminary results will be provided in the 2022 Annual Traffic Report.
<i>Safety grants – design phase</i>	<p>The City received a grant award of more than \$2.5M specifically targeting safety improvements related to injury collision history at various locations citywide. The funds are split between two projects (listed and linked below) which are nearing final design and will begin construction in 2023.</p> <ul style="list-style-type: none"> • <i>Meridian Ave N Safety Improvements</i> shorelinewa.gov/MeridianAve • <i>Richmond Beach Road Midblock Crossing and Citywide Safety Project</i> shorelinewa.gov/government/projects-initiatives/richmond-beach-road-midblock-crossing-and-citywide-safety-project
<i>Safety grant award</i>	The City was successful in obtaining a \$625,000 grant for a safety project on Meridian Ave N (N 175 th St – N 200 th St) which will install bike lanes, improve delineation, and better organize much of the unused roadway space.
<i>Roadway improvements</i>	<p>Various developer and capital improvement projects also implemented multiple street, sidewalk and bike facility improvements throughout the City. Completed Capital Improvement Plan efforts are summarized online at:</p> <p>https://www.shorelinewa.gov/government/projects-initiatives/completed-projects</p>
<i>Driver Education</i>	Public Works and Police Department Staff worked together to create a parking violation warning postcard in the interest of increasing driver awareness and understanding of parking laws.

To avoid a ticket, do not park:

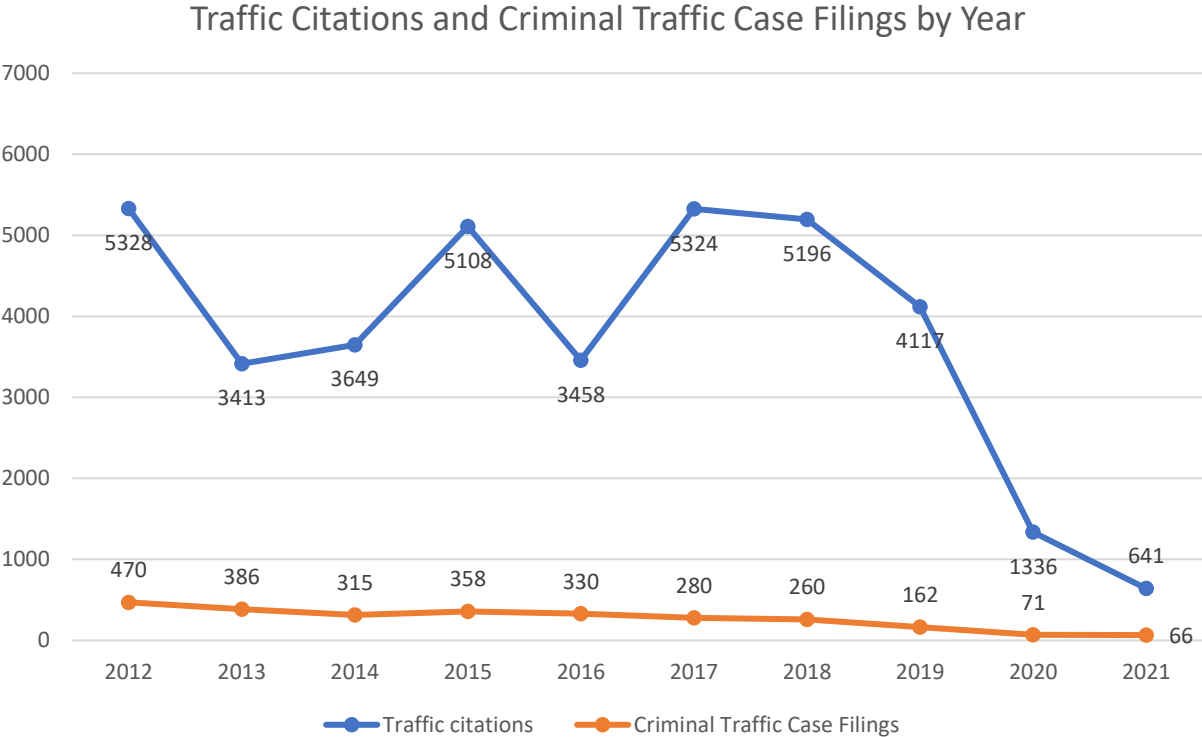
<p>Closer than 20' from an intersection or crosswalk, including the top of the T</p> 	<p>More than 12 inches from curb</p> 	<p>Within a bike lane</p> 	
<p>Closer than 30' from a stop sign, yield sign, or traffic signal</p> 	<p>Where any official sign prohibits it, or longer than signed time limits</p> 	<p>Closer than 15' from a fire hydrant</p> 	<p>Blocking mail delivery to mailboxes</p> 
<p>Within a bus zone or bus lane</p> 	<p>Closer than 5' from a driveway</p> 	<p>Or as prohibited by other municipal code regulation, available for review at: shorelinewa.gov/parking</p> <p>Officer comments: _____</p> <p>_____</p>	

Enforcement Summary

The following section summarizes Shoreline Police Department traffic enforcement activities.

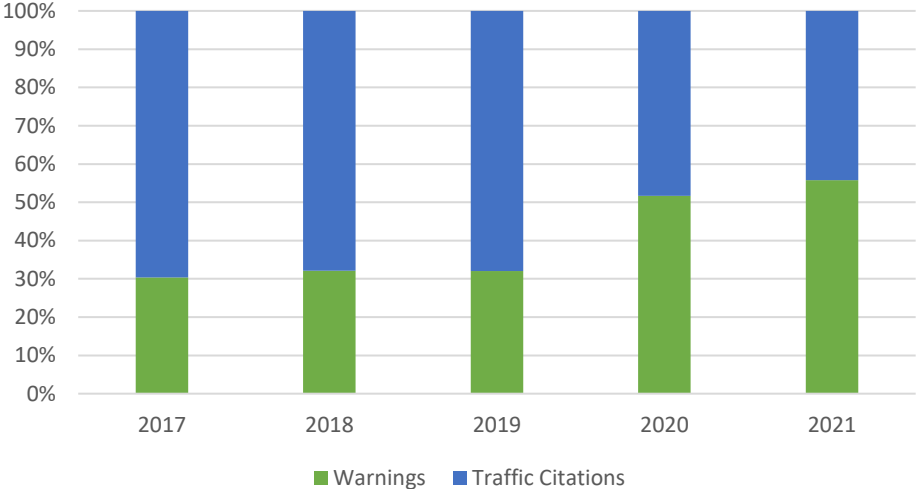
Traffic Citations

Traffic Citation numbers include general moving violations, DUI, criminal traffic offenses, and parking violations. Traffic citations and criminal case filings were low in 2021 relative to prior years, primarily due to staff shortages.



The proportion of warnings versus citations in 2021 was 56%, higher than the average of the 4 years prior as shown in the following chart.

Proportion of Warnings vs. Citations (2017-2021)



Parking Enforcement & Abandoned Vehicles

The following table provides statistics on abandon vehicle incidents, impounds, and parking citations for the last 5 years.

Year	Abandoned Vehicle / Impounds	Parking Citations
2021	866/57	221
2020	649/55	555
2019	456/52	1,110
2018	211/25	985
2017	335 / 34	528
2016	322 / 54	182

Traffic Speed Summary

The City of Shoreline Traffic Services and Police departments work together to identify speed enforcement priorities, using measured speed data and feedback from the community. Speed data is collected throughout the year and compared to the posted speed limit to identify streets where education - using tools like radar speed feedback signs as shown below - or enforcement emphasis may be warranted.



Appendix F provides the Traffic Speed Differential Map and shows the difference between the measured 85th percentile speed and the posted speed limit. The number of streets with measured speeds 8 mph or more over the posted speed has increased from 13 in 2019 to 16 in 2022. The street segments shown in the table below represent the locations with the highest difference between posted and measured travel speeds.

Streets with Differential Speed 8 mph or More Over Posted Limit

N 200 th Street from Aurora Ave N to Meridian Ave N
Midvale Ave N from N 175 th St to N 185 th St
Forest Park Dr NE from 15 th Ave NE to 19 th Ave NE
NE Perkins Way from 10 th Ave NE to 15 th Ave NE
NW 175 th Street from 10 th Ave NW to 14 th Ave NW
6 th Ave NW from NW 175 th Street to NW 180 th St
Carlyle Hall Rd from Dayton Ave N to N 175 th St
15 th Ave NE from NE 175 th St to Ballinger Way NE
NE 165 th St from 5 th Ave NE to 15 th Ave NE
N 165 th St from Dayton Ave N to Aurora Ave N
1 st Ave NE from NE 185 th St to NE 195 th St
5 th Ave NE from NE 185 th St to NE 205 th St
NE 175 th St from I-5 to 5 th Ave NE
N 175 th St from Aurora Ave N to Meridian Ave N
N/NW 175 th St from Dayton Ave N to 3 rd Ave NW
Westminster Way N from Greenwood Ave N to N 155 th St

Traffic Volume Summary

Traffic volume data is regularly collected at eight (8) locations in the City. These locations are:

- Aurora Ave N south of N 175th St
- Meridian Ave N south of N 175th St
- NW Richmond Beach Rd east of 3rd Ave NW
- 5th Ave NE south of NE 175th St
- 15th Ave NE south of NE 172nd St
- 25th Ave NE south of NE 171st St
- NE 175th St west of 5th Ave NE
- NW 175th St west of 3rd Ave NW

Below is a summary of data collected at these 8 locations. As shown in the table, average weekday daily traffic volumes are down 3.3% and are approximately even in the PM Peak period, compared to the 2015-2019 average. Volumes in the AM Peak period are down significantly; likely a reflection of transformed commute patterns which have continued to impact traffic volumes City and Region-wide. The 2022 Shoreline Resident Satisfaction Survey indicated that 26% of residents plan to work remotely full time into the future, and that 53% plan to work hybrid schedules. It is not surprising then to see significantly lower AM Peak volumes while PM Peak volumes have returned to pre-pandemic levels given changes to commutes but the return of post-work and school activities.

	2022	% CHANGE FROM 2015-2019 AVERAGE
WEEKDAY AM PEAK HOUR TRAFFIC AGGREGATE (VEHICLES/HOUR)	5469	-17.2%
WEEKDAY PM PEAK HOUR TRAFFIC AGGREGATE (VEHICLES/HOUR)	8235	0.4%
AVERAGE WEEKDAY DAILY TRAFFIC AGGREGATE (VEHICLES/DAY)	98,711	-3.3%

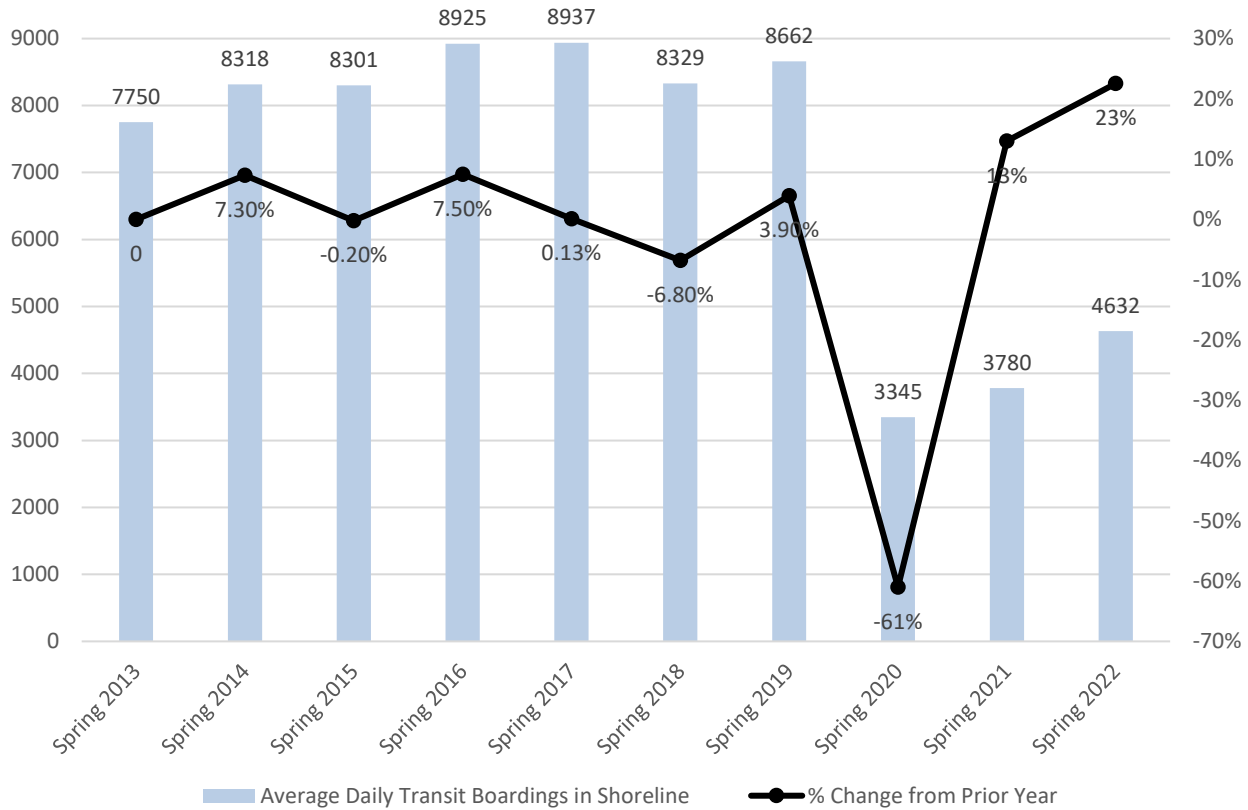
It is worth noting that these changing patterns pose new and unique challenges in terms of how practitioners measure and report on volumes. Historically, standard practice has been to use an average of 3-5 weekdays of data collected in a year or quarter to represent the traffic volume for a given corridor, but flex schedules could result in certain days of the week that are much higher or lower than the average. Next cycle, more granular volume data will be reported to determine daily variability and its significance.

See Appendix G for the Traffic Volume Map which shows average daily weekday traffic volumes on arterial corridors citywide.

Transit Summary

King County Metro ridership fell drastically in 2020 as a result of the pandemic as shown in the following chart. Ridership began rising again in 2021, however Spring 2022 ridership is still much lower at just over half of the reported 2019 pre-pandemic level.

Average Daily Transit Boardings in Shoreline



*King County Metro data only

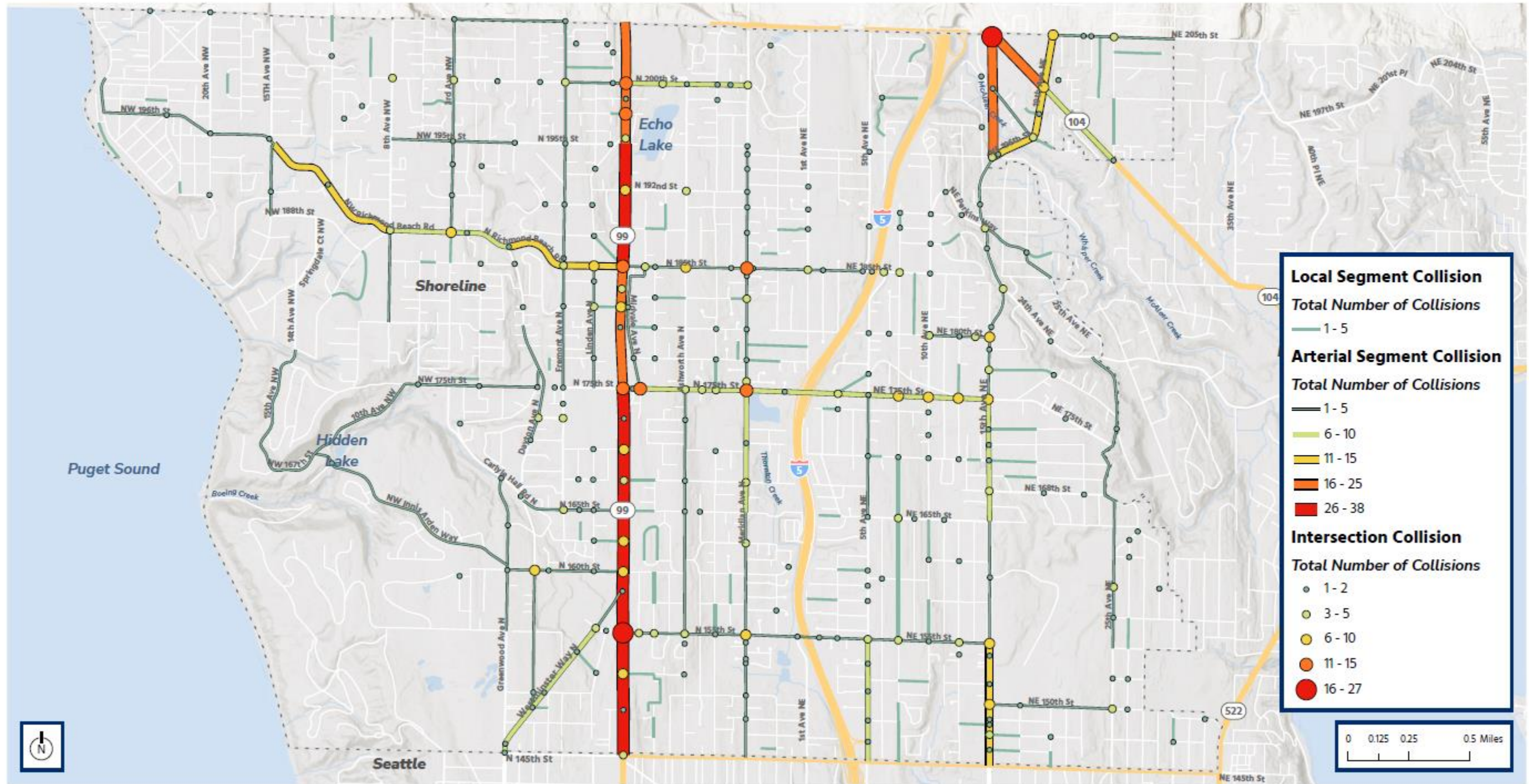
Appendix

- Appendix A – 2019-2021 Total Collisions Map
- Appendix B – 2019-2021 Injury Collisions Map
- Appendix C – 2017-2021 Pedestrian Collisions Map
- Appendix D – 2017-2021 Bicyclist Collisions Map
- Appendix E – 2017-2021 Fatal & Serious Injury Collisions Map
- Appendix F – 2022 Speed Differential Map
- Appendix G – 2022 Traffic Volume Map

Appendix A - 2019-2021 Total Collisions Map

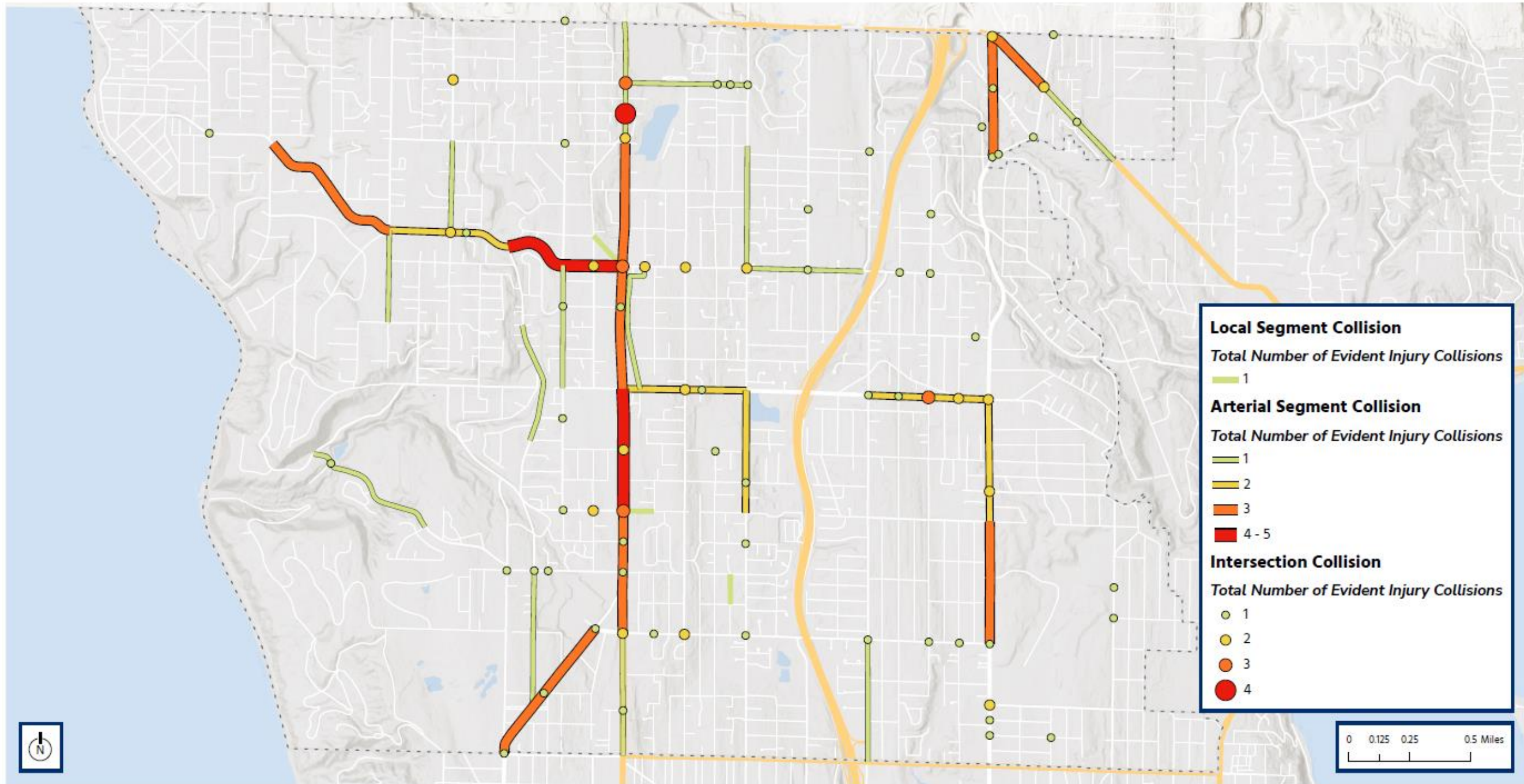


COLLISIONS 2019-2021



Appendix B - 2019-2021 Injury Collisions Map

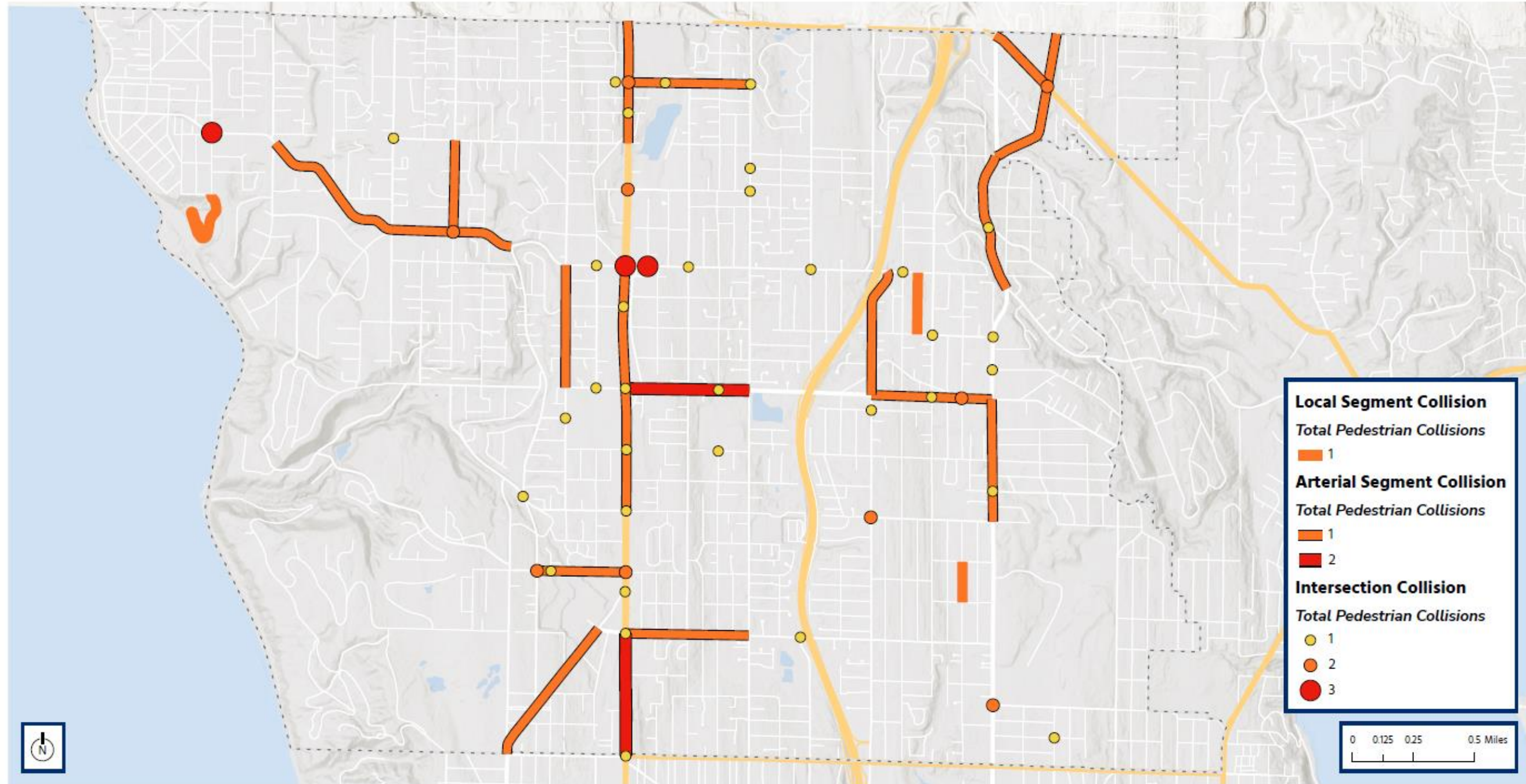
 **EVIDENT INJURY COLLISIONS** 2019-2021



Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap

Appendix C - 2017-2021 Pedestrian Collisions Map

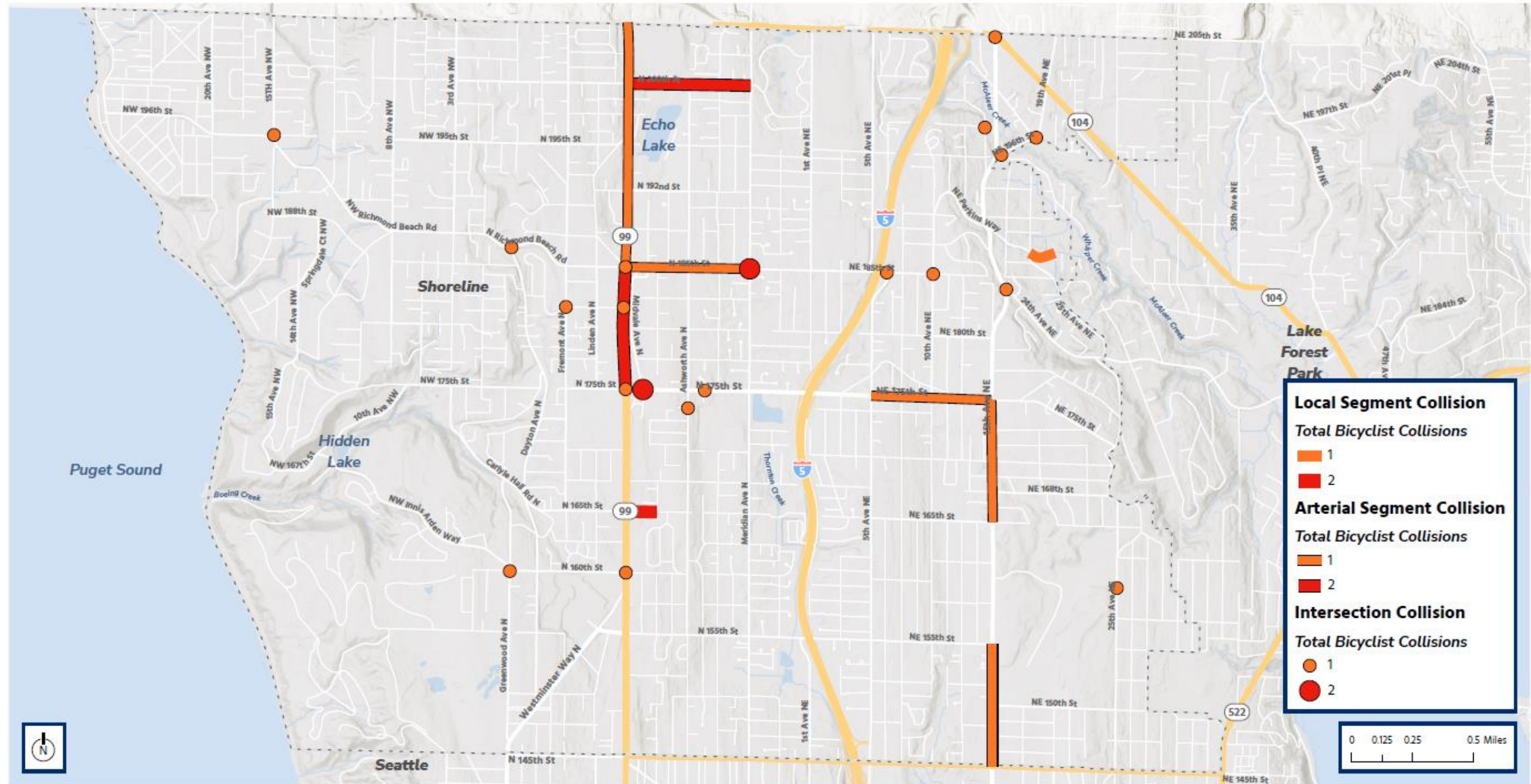
 **PEDESTRIAN COLLISIONS** 2017-2021



Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap

Appendix D - 2017-2021 Bicyclist Collisions Map

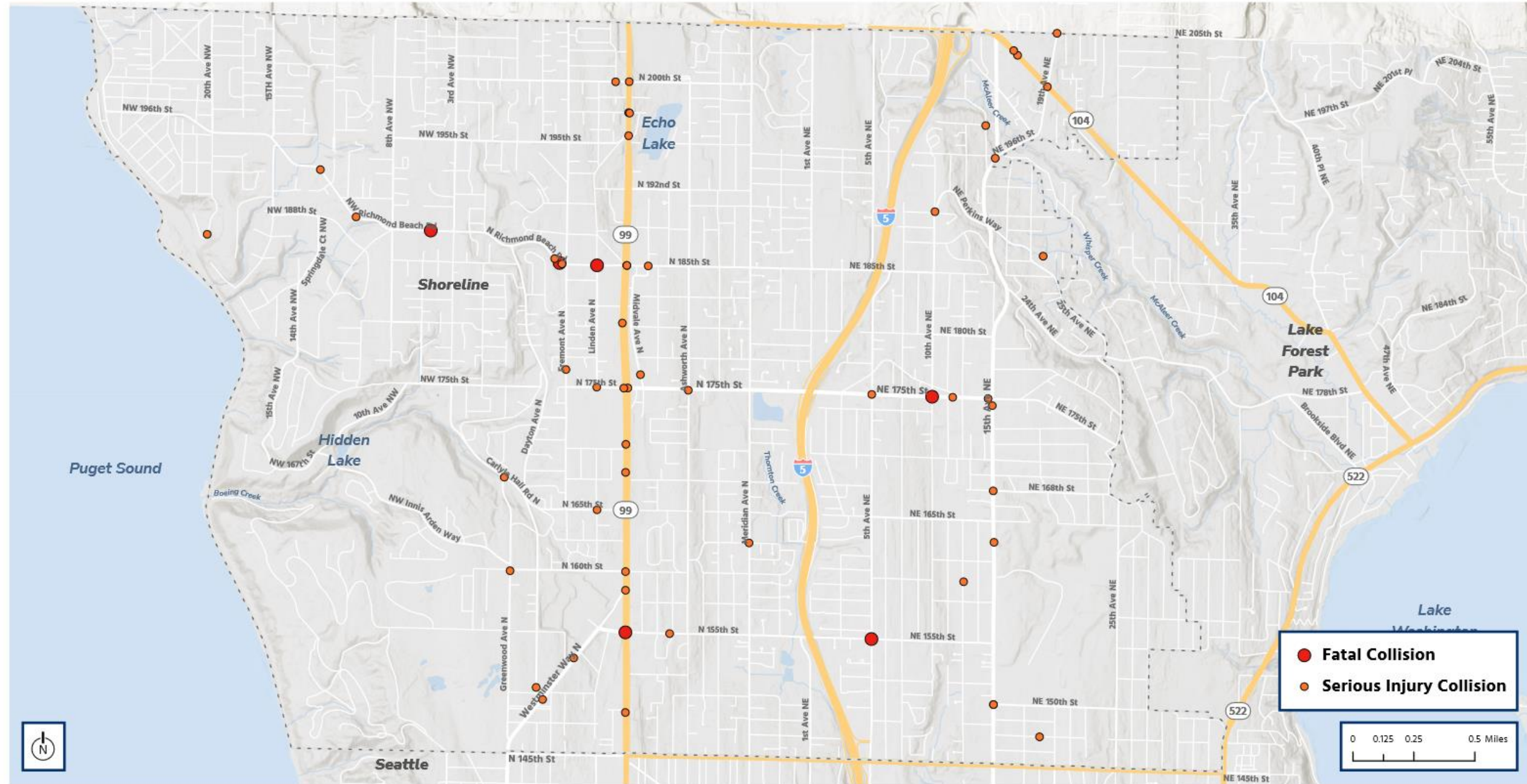
CITY OF SHORELINE BICYCLIST COLLISIONS 2017-2021



Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap

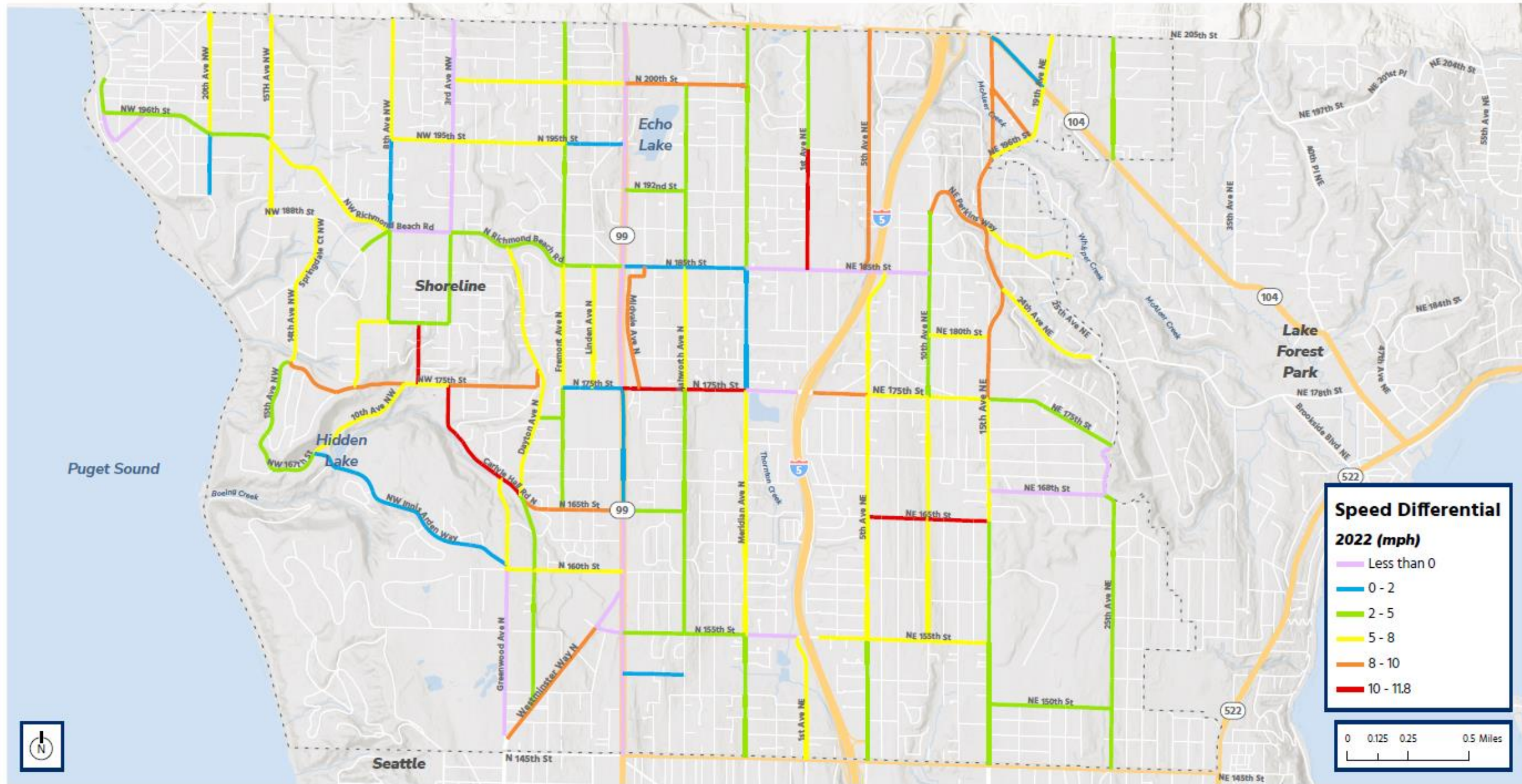
Appendix E - 2017-2021 Fatal and Serious Injury Collisions Map

 **FATAL AND SERIOUS INJURY COLLISIONS** 2017-2021



Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap

Appendix F - 2022 Speed Differential Map



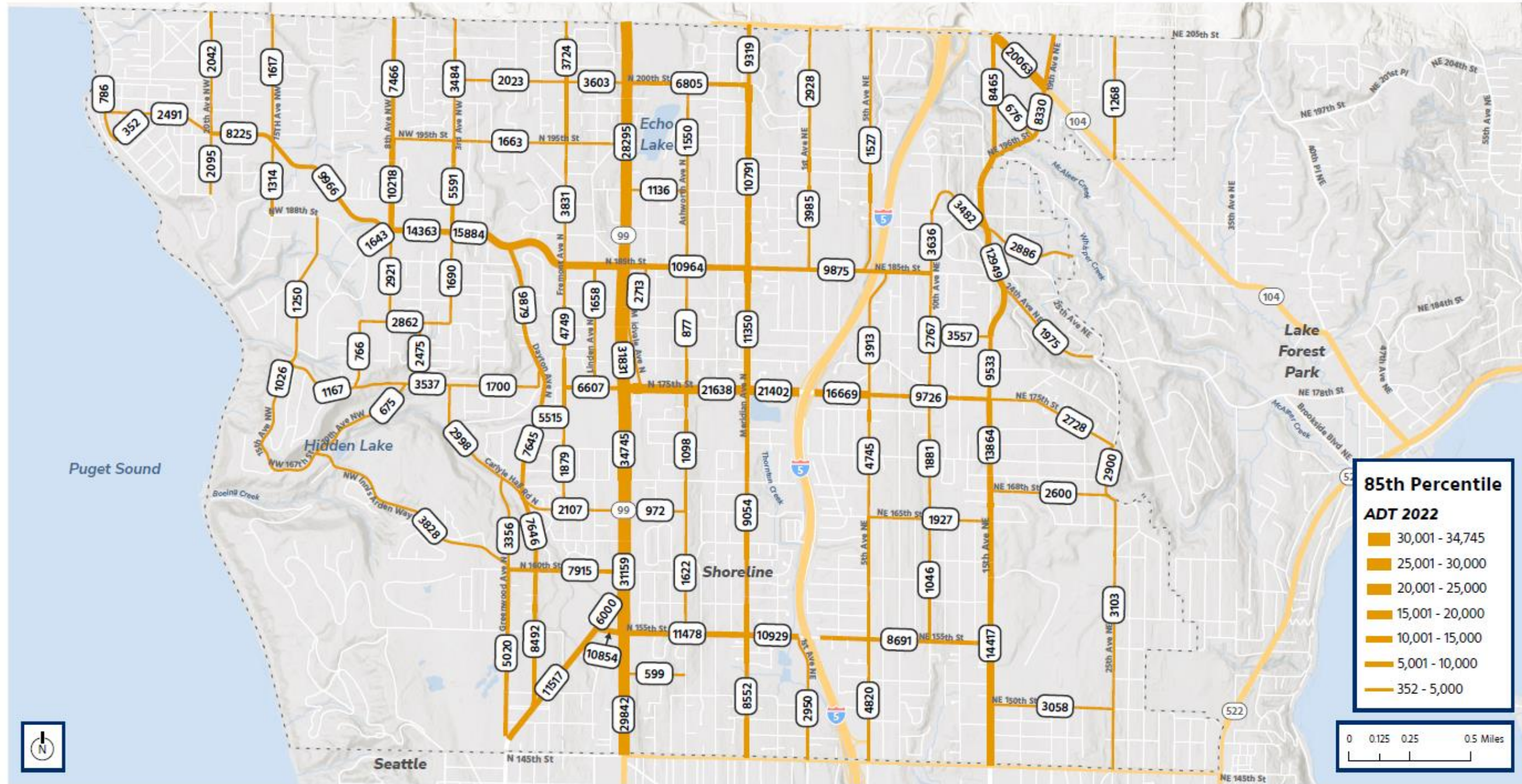
Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap

Appendix G - 2022 Traffic Volume Map



TRAFFIC VOLUME 2022

24-Hour Average Weekday Traffic
(Combined Two-Directional Totals)



Source: WSDOT, King County, City of Shoreline, Mapbox, OpenStreetMap