



2023 VISION ZERO PROGRESS REPORT

ONE CITY TOWARDS SAFE STREETS



OUR PLEDGE:

We will lead and implement the Vision Zero Action Plan to strive to achieve zero traffic deaths and serious injuries on Bellevue streets by 2030.



Bellevue's Vision Zero initiative

To achieve its [goal of eliminating traffic deaths and serious injury collisions](#) on city streets by 2030, the Bellevue City Council [adopted the Safe System approach](#) (Figure 1). This holistic-based approach to road safety bundles strategies focused on safe people, safe streets, safe speeds and safe vehicles—as well as the supporting elements of leadership, culture, partnerships and data.

Following Council's adoption of the Safe System approach, staff developed and the City Manager approved the [Vision Zero Strategic Plan](#) that articulates a coordinated approach across city departments, ensuring that transportation engineers, first responders and other key staff work together. To keep Bellevue's program on track and to monitor progress, a cross-departmental team of City staff develops [annual action plans](#) that are approved by the city's Vision Zero Steering Team comprised of department directors and deputy city managers.

This progress report provides updates on road safety trends in the city and Safe System actions it completed in 2023.



Figure 1: The City of Bellevue's Safe System approach has four pillars (safe people, safe streets, safe speeds and safe vehicles) and four supporting elements (leadership, culture, partnerships and data).

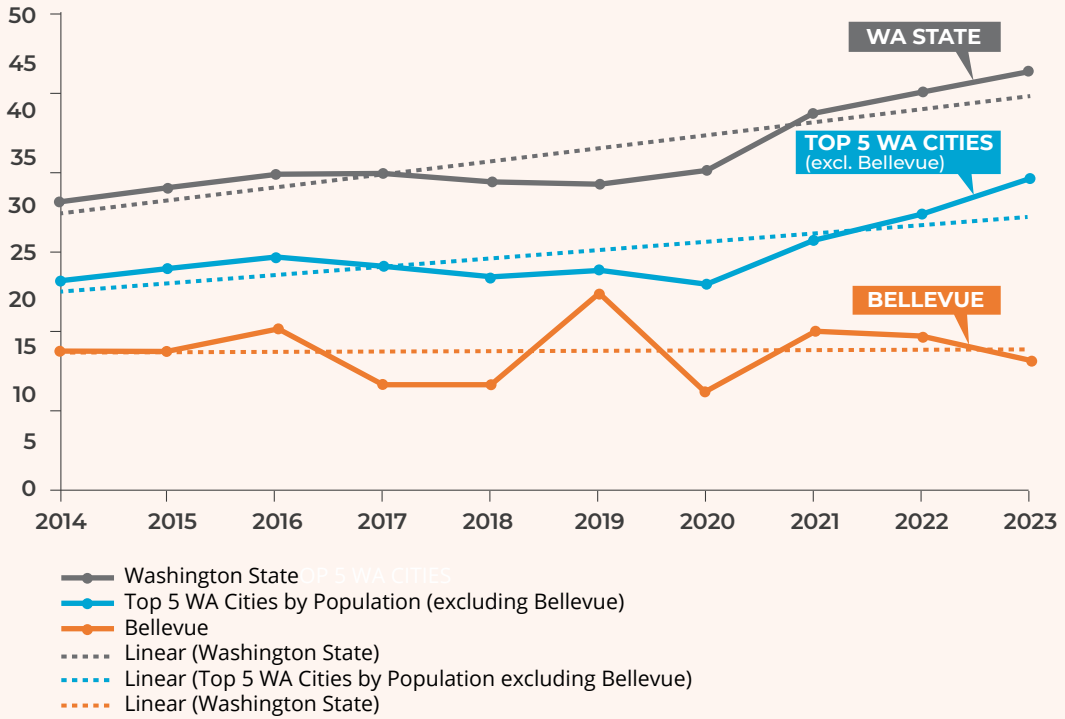
Road safety trends in Bellevue

From 2014-2023, 217 people were seriously injured and 23 people were killed in traffic collisions on Bellevue's streets. To contextualize this past decade of data: every 15 days someone was killed or seriously injured on Bellevue's streets.

The rate of fatal and serious injury collisions (per 100,000 population) has remained steady over the past decade (Figure 2). This data compares favorably to other communities in Washington where there is an upward trend line.

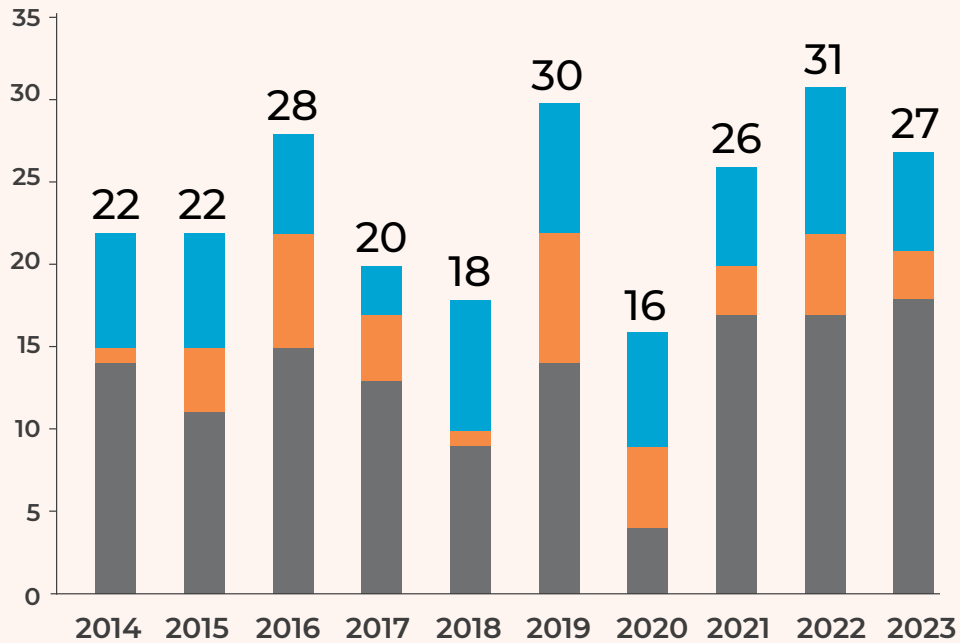
There is a considerable amount of year-to-year fluctuation in fatalities and serious injuries by transportation mode in Bellevue (Figure 3). Total fatalities and serious injuries range from as low as 16 to as high as 31 between 2014 and 2023.

Progress is being made on Safe System activities; 2023 crash statistics indicate that 26 people were seriously injured and one person was killed on Bellevue city streets. This compares to 29 people seriously injured and two people killed in crashes on Bellevue city streets in 2022. Although there may be fluctuation year-to-year as mentioned above, this reduction in fatal and serious injury crashes is in the opposite direction of trends observed in other large cities and statewide.



Source: Preliminary WSDOT Fatal and Serious Injury Collision Data (2014-2023)

Figure 2: The fatal and serious injury collisions per 100,000 population for Bellevue, Washington State and Top 5 Washington Cities (2014 – 2023) show that Bellevue has seen year-to-year decreases from 2021.



Source: Preliminary WSDOT Fatal and Serious Injury Collision Data (2014-2023)

Figure 3: The average number of fatalities and serious injuries by mode for Bellevue from 2014-2023 was 24, with a total of 240 fatal and serious injuries over the past decade.

2023 Annual progress

The following representative actions were completed by the City of Bellevue and key partners in 2023. Council adopted Safe System strategies (see *Appendix A*) that apply are listed for each action. A map of Safe System improvements implemented on city streets in 2023 is provided in *Appendix B*.

Pilots and implementation

► A variety of traffic safety engineering measures were installed across the city. This includes:

- 1.23 miles of sidewalks.
- 0.35 miles of multi-use paths.
- 0.56 miles of separated bike lane facilities.
- Net of eight radar feedback signs (nine added, one removed) (*Figure 4*).
- 12 school zone flashing beacons.
- Five RRFBs (rectangular rapid flashing beacons).
- Two raised intersections.
- Three speed cushions were added along 119th Avenue Southeast (*Figure 5*).

Supports Safe System strategies: SS1, SS2, SS3, SSP1, SSP4



Figure 4: A new combination school zone flashing beacon and radar sign which began operation in 2023.



Figure 5: One of the three speed cushions implemented along 119th Avenue Southeast in 2023.

► With the suggested improvements from the [Final School-Zone Road Safety Assessment report](#), the city completed 29 maintenance and signal related actions, had nine actions in progress, 17 improvements scheduled in future projects and 19 improvements submitted in grant applications for design and implementation funding (*Figure 6 and 7*).

Supports Safe System strategies: SS1, SS2, SSP1



Figure 6: Road safety assessments conducted in 2021-2023 identified a variety of potential safety improvements for staff to consider.

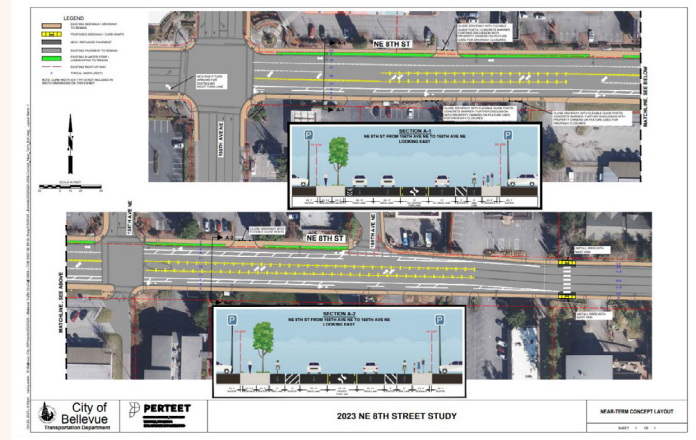


Figure 7: Example of conceptual plans created from safety concerns and suggested improvements from the Road Safety Assessments.

- ▶ The City of Bellevue launched the [Cellular Vehicle-to-Everything \(C-V2X\) pilot](#) in June 2023 in collaboration with T-Mobile. The pilot includes the deployment of network-based C-V2X and T-Mobile 5G to enable real-time communications to vehicle drivers of upcoming, potentially dangerous interactions between vehicles, infrastructure and vulnerable road users to mitigate crashes through early visual and audible warnings (Figures 8-10). T-Mobile is providing the C-V2X equipment, Internet of Things (IoT) solutions, technical integration and end-to-end testing in support of the pilot.

Supports Safe System strategies: SS1, SS2, SV4, P3



Figure 8: An example safety notification from the C-V2X pilot.



Figure 9: Staff install Cellular Vehicle-to-Everything (C-V2X) equipment in Bellevue



Figure 10: The first C-V2X system at an RRFB, in front of City Hall.

- ▶ A variety of signal operations changes were implemented to improve safety for pedestrians, cyclists and drivers. This included adding leading pedestrian intervals at 22 intersections which improve visibility of pedestrians by giving them the right-of-way before vehicles, thereby increasing safety (see *Figure 11*). In addition, all 220 signals were evaluated for increasing the 'Walk' and 'Flashing Don't Walk' phases in 2023 based on the Pedestrian Signal Operation Guidelines. One bike signal was added in 2023.

Supports Safe System strategies: SS1, SS2



Figure 11: How Leading Pedestrian Intervals (LPIs) improve visibility and thereby safety of pedestrians.

Planning and design

- ▶ Finalized the [Pedestrian Signal Operations Guidelines](#), which promote safer pedestrian mobility at intersections by adjusting existing guidelines to align with the Safe System principles, public feedback and national best practices (*Figure 12 and 13*).

Supports Safe System strategies: SS1, SS2

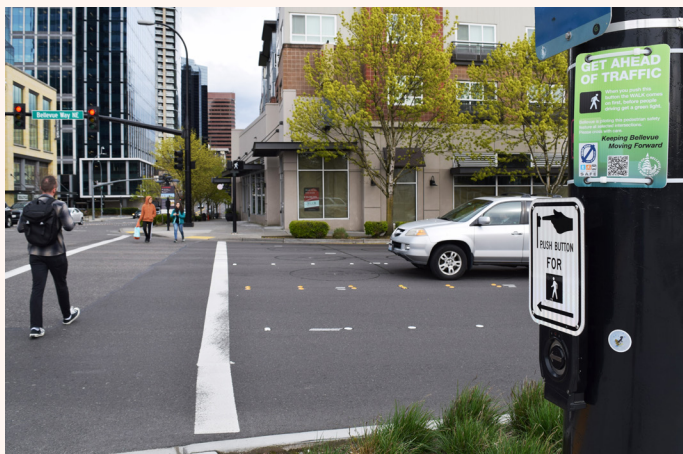


Figure 12: Leading Pedestrian Intervals are being installed throughout the city with guidance from the new guidelines.



Figure 13: The Pedestrian Signal Operations Guidelines are available on the City of Bellevue [Pedestrian Signals](#) webpage.

- Planning and initial design for the [Bike Bellevue](#) project was conducted in 2023, with the draft designs published in the [Draft Design Concepts Guide](#) to build community awareness, enable the public to inform corridor design and to inform corridor prioritization. Community outreach conducted included various presentations, shared materials such as yard signs, posters and flyers with local businesses, libraries and community centers, as well as the publishing of the Konveio online tool for design feedback from the community (Figures 14-16).

Supports Safe System strategies: SS1, SS3



Figure 14: Staff presentation of Bike Bellevue to the Bellevue Network on Aging.



Figure 15: Bike Bellevue materials shared at a Bellevue College Transportation Fair.

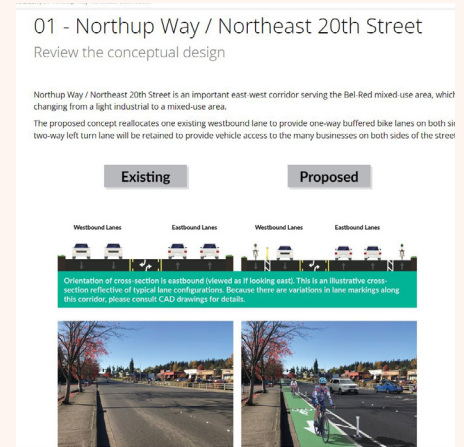


Figure 16: The Konveio interactive online tool let users comment directly on proposed designs for Bike Bellevue corridors.

- The [Speed Management Plan \(SMP\)](#) was completed in 2023, in collaboration with the Federal Highway Administration and published in January 2024 (Figure 18). The SMP analyzes speed-related safety concerns along Bellevue's 30+ mph arterials, outlines potential safety countermeasures and identifies key next steps for speed management in the city. The city presented the plan at the Transportation Research Board (TRB) conference in January 2024 (Figure 17).

Supports Safe System strategies: SS1, SSP2



Figure 17: Presentation of the Speed Management Plan at the TRB conference in January 2024.

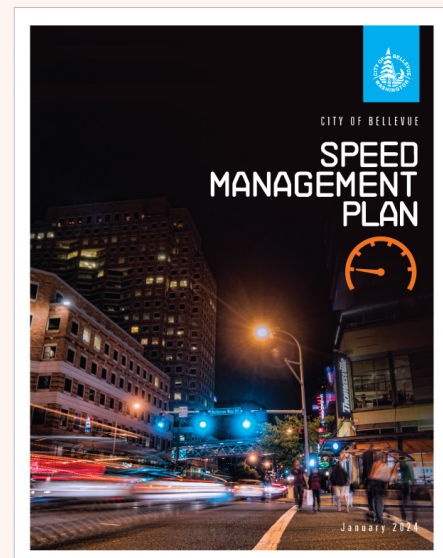
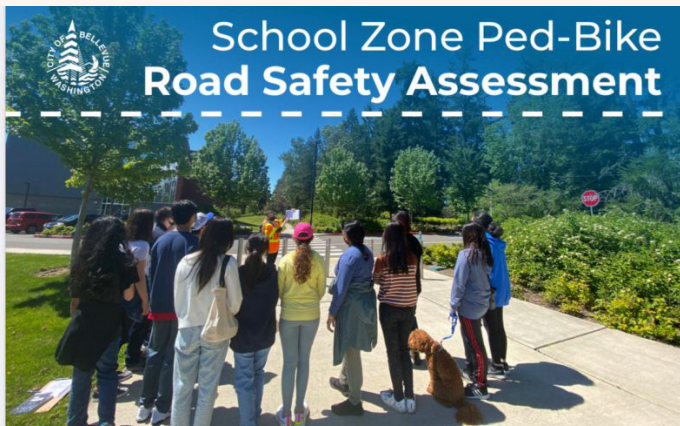


Figure 18: The Speed Management Plan is available on the City of Bellevue [Speed Limits and Speed Management](#) webpage.

- ▶ The city finished the school zone Road Safety Assessments (RSAs) in June 2023 with a \$150,000 grant from the Washington Traffic Safety Commission that ended in August 2023 (*Figure 19*). The RSAs in 2023 involved students, parents and community members from International School, Newport High School and the surrounding neighborhoods. A [final report](#) on the findings of the school zone RSAs from 2021-2023 was published on the city website (*Figure 20*).

Supports Safe System strategies: SS1, SS2, SP3, SP4, C1



- ▶ *Figure 19:* The final report from the School Zone Road Safety Assessments is available on the [City of Bellevue Road Safety Assessments webpage](#).



Figure 20: Status of the Road Safety Assessments conducted along the High Injury Network. 13.5 miles are complete (shown in black) and 27.7 miles of the HIN remain (shown in green).

Monitoring and evaluation

- ▶ The city completed a [before-and-after evaluation](#) on the safety impacts of high visibility crosswalk pavement markings using video analytics (*Figure 21*). The study results revealed a 56 percent reduction in vehicle-pedestrian conflicts, leading the city to include this countermeasure as standard practice in the design manual.

Supports Safe System strategies: SS1, SS2, SV4, D1



Figure 21: The Bellevue Way Northeast and Northeast 8th Street intersection, before (at left) and after (at right) the high visibility crosswalk installation.

Grants and awards

- ▶ Bellevue secured a [Safe Streets for All \(SS4A\) grant](#) award of over \$2.7 million to conduct supplemental planning activities including road safety audits, speed studies, developing a bike lane design guide and creating speed safety camera procedures; as well as demonstration activities to improve pedestrian safety by implementing adaptive pedestrian signal controls, aesthetically-treated crosswalks and advanced safety technologies (*Figure 22*).

Supports Safe System strategies: SS1, SS2, SSP1, SSP2, L4



Figure 22: The City of Bellevue successfully applied to the SS4A grant and was awarded \$2.7 million to complete a variety of planning and demonstration activities.

- ▶ The city was awarded a \$2.125 million Surface Transportation Program grant to fund 100% design phase of the [Bellevue College Connection](#) project (*Figure 23*).

Supports Safe System strategies: SS1, SS3



Figure 23: A rendering of the proposed Bellevue College Connection project, which will reach 100% design with funding through the Surface Transportation Program grant.

- ▶ The City of Bellevue’s application with the University of Washington was selected as a winner for the [Intersection Safety Challenge Stage 1A](#) by the USDOT. The Challenge aims to transform roadway intersection safety by incentivizing new and emerging technologies that identify and address unsafe conditions involving vehicles and vulnerable road users at intersections. The award includes a \$100,000 prize and an invitation to participate in Stage 1B: System Assessment and Virtual Testing.

Supports Safe System strategies: SS1, SS2, SV4, P3

- ▶ The City of Bellevue was awarded first place in [Unconventional Awards, Innovation in Community](#) at the Mobile World Congress. The award is for the innovative use of T-Mobile 5G technology, to provide real-time notifications of upcoming road safety concerns to vehicle drivers to mitigate crashes through early visual and audible warnings.

Supports Safe System strategies: P3

- ▶ The city applied for the [USDOT Strengthening Mobility and Revolutionizing Transportation \(SMART\) grant](#); which was successfully awarded in 2024 for \$1.43 million. This will support the Real-time Traffic Signal Safety Intervention (RTSSI) project which aims to protect vulnerable pedestrians, especially elderly pedestrians, at intersections through sensors and smart traffic signals that enable real-time safety improvements such as elongated crossing times.

Supports Safe System strategies: SS1, SV4, C2, L4

- ▶ The Bellevue Safe System approach was highlighted in [Institute of Transportation Engineers](#) (ITE) and [Federal Highway Administration](#) (FHWA) publications as a national best practice (*Figure 24 and 25*). In particular, the city was featured for the use of video technology and data to conduct a proactive, network-wide speeding analysis to prevent traffic crashes.

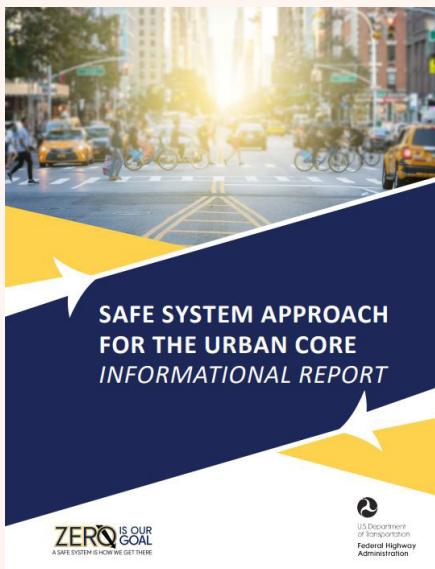


Figure 24: The ITE and FHWA publication, *Safe System Approach for the Urban Core*, highlights Bellevue’s Vision Zero and proactive network screening approach.

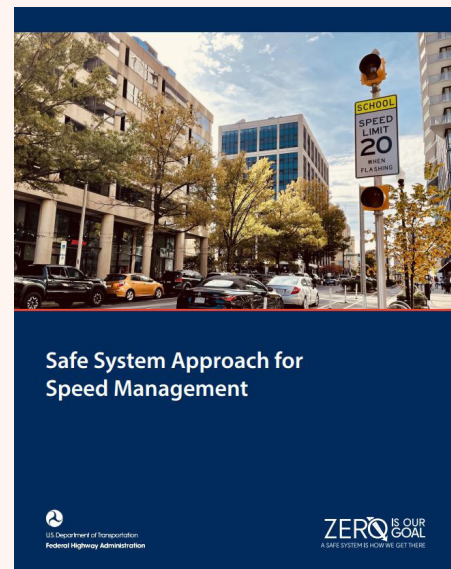


Figure 25: The FHWA report, *Safe System Approach for Speed Management*, features the Video-Based Network-Wide Speed and Speeding Analysis project from Bellevue as a case study.

Culture and communications

- City Council proclaimed November 19, 2023, as World Day of Remembrance for Road Traffic Victims in Bellevue (Figure 26). The [World Day of Remembrance for Road Traffic Victims](#) is a high-profile global event to remember the many millions who have been killed and seriously injured on the world's roads and to acknowledge the suffering of all affected victims, families and communities.

Supports Safe System strategies: L1, L4, C4



Figure 26: City Council, community members and staff hold up “World Day of Remembrance: Bellevue” posters after Council proclaimed November 19, 2023 as the World Day of Remembrance for Road Traffic Victims in Bellevue.

- Bellevue’s annual Bike, Roll & Ride to School week was May 1-5, 2023 and the [Walk & Roll to School Day/Week](#) was October 2-6, 2023. 16 schools participated in the Bike, Roll & Ride to School week and 20 schools participated in Walk & Roll to School Day in 2023 (Figures 27 and 28).

Supports Safe System strategies: SP1, SP4, C4



Figure 27: Students at 16 schools walked, biked, rode and rolled to school in May 2023 for the annual Bike, Roll & Ride to School week.



Figure 28: The city’s pedestrian safety mascot, Pedbee and a student pose to celebrate Bike, Roll & Ride to School week.

- ▶ [Vision Zero email subscription](#) list increased by 30% and achieved the 2023 goal of surpassing 1,000 subscribers.

Supports Safe System strategies: SP3, SP5, C4

- ▶ Staff updated the City of Bellevue Branding Standards and Guidelines to align with the Vision Zero commitment (*Figure 29*). Most importantly, the new guidelines replace the term “accident” with crash or collision, as motor vehicle collisions are usually avoidable if users safely drive, roll or walk.

Supports Safe System strategies: C1

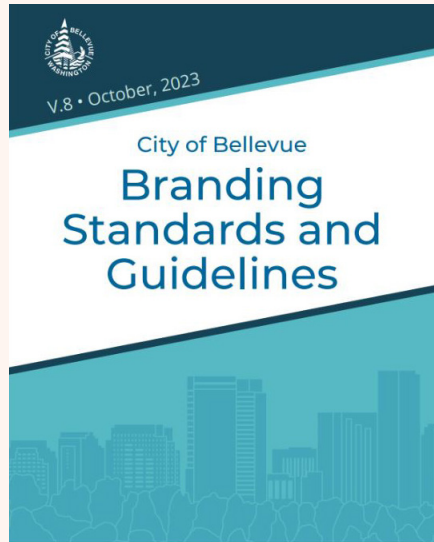


Figure 29: The City of Bellevue Branding Standards and Guidelines were updated in 2023 to include Vision Zero language.

- ▶ The city expanded upon the [Vision Zero Story Map](#) and Collision Dashboard to include all safety improvements across the city by year, location and type (*Figure 30*). Prior to 2023, the dashboard only included data on collisions. The city will continue to enhance the dashboard to provide clear and complete data for public use in 2024.

Supports Safe System strategies: D1, D2

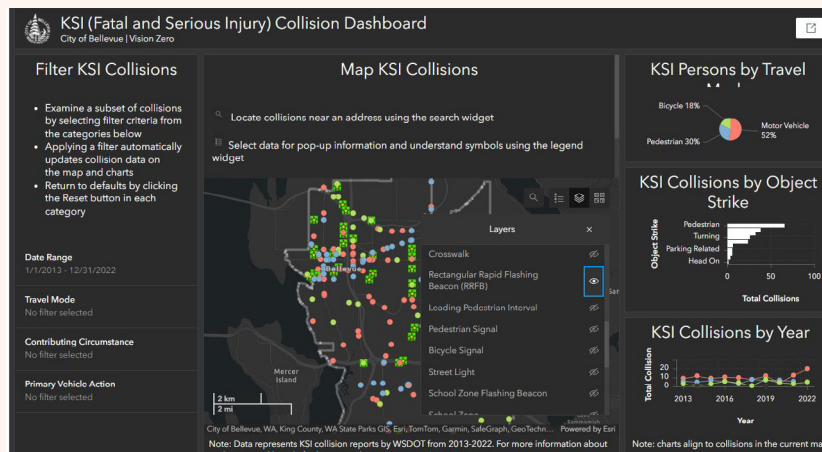


Figure 30: The Vision Zero Collision Dashboard allows people to look at traffic safety data alongside the engineering improvements the city has completed by type, location and year implemented.

Partnerships

- The City of Bellevue launched the [Cellular Vehicle-to-Everything \(C-V2X\) pilot](#) in June 2023 in collaboration with T-Mobile. City staff spoke at the panel for the Future of Transportation Safety event in November 2023 regarding the CV2X pilot program (*Figure 31*).

Supports Safe System strategies: P3



Figure 31: Two Bellevue staff members present at the Future of Transportation Safety event in November 2023.

- The City of Bellevue exchanged best practices with City of Houston through the [FHWA Vision Zero Community Pairing Program](#) (*Figure 32*). Bellevue staff visited Houston in June 2023 and hosted Houston staff in September 2023. The partnership has continued into 2024.

Supports Safe System strategies: P3

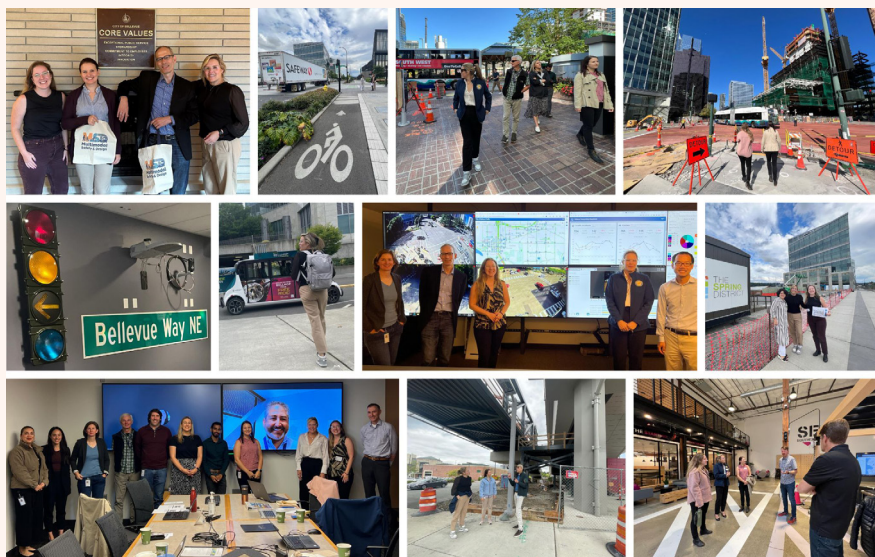


Figure 32: Images of the Bellevue and Houston staff during the Bellevue site visit in September 2023.

- City staff presented progress on passive pedestrian detection real-time safety pilot (*Figure 33*) with Amazon Web Services, Ouster, Outsight, SCATS and Blue-Band at the Transportation Research Board Annual Meeting in January 2023.

Supports Safe System strategies: P3

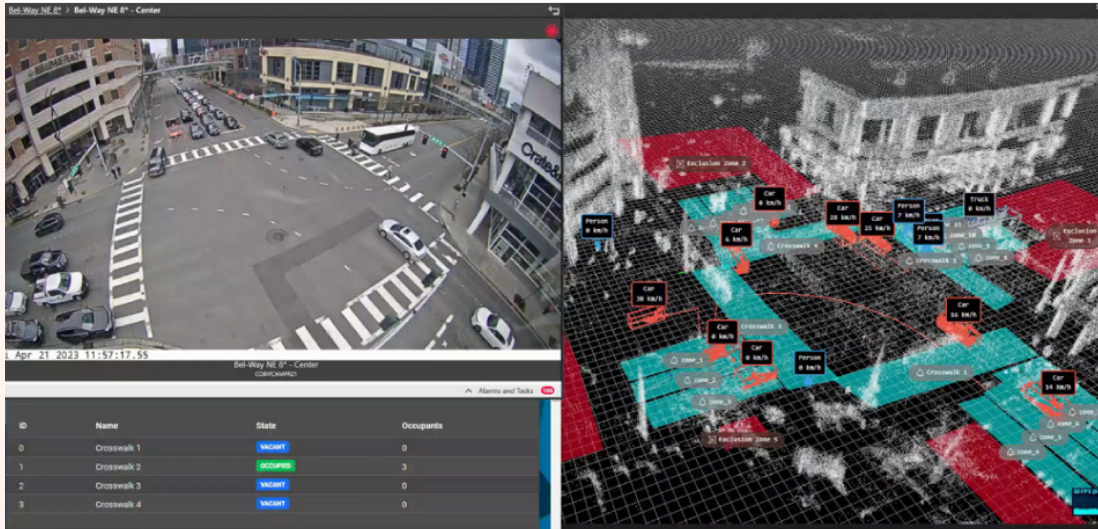


Figure 33: Snapshot of LiDAR system outputs that shows object tracking and zones of detection for the passive pedestrian detection real-time safety pilot.

Reflections for the new year

Over the past ten years, 240 people were fatally or seriously injured on the road in Bellevue. Reaching Vision Zero by 2030 requires that the city take concerted efforts to make streets safer citywide.

The actions detailed in this report are steps toward this goal. More action each year is needed to reach zero fatalities and serious injuries on Bellevue streets. The Vision Zero Action Plan for 2024 will include actions to continue key partnerships, plan and design safety projects, implement safe engineering strategies, collect and monitor data, leverage technologies and build a culture of Vision Zero in the city.

The City of Bellevue looks forward to partnerships and continuing progress toward the 2030 goal in 2024.

Appendix A

Safe System strategies adopted by the Bellevue City Council.

Safe People

Strategy SP1 - Launch citywide campaigns to build awareness around safety and Vision Zero.

Strategy SP2 - Improve motorist training on safety and rules of the road.

Strategy SP3 - Educate pedestrians, bicyclists and scooter riders on safety and rules of the road.

Strategy SP4 - Educate children and students on safety and rules of the road.

Strategy SP5 - Foster and promote safety champions in the community.

Strategy SP6 - Use data to inform coordinated actions across city departments to influence public commitment to Vision Zero.

Safe Streets

Strategy SS1 - Implement projects citywide that make it safer to walk, bicycle and take transit (and where relevant to make it more comfortable and accessible).

Strategy SS2 - Implement projects citywide to make it safer to drive.

Strategy SS3 - Create public spaces that are safe and attractive for people walking and bicycling

Strategy SS4 - Establish clear priorities for curb usage.

Safe Speeds

Strategy SSP1 - Design or redesign roads and intersections to manage speeds as appropriate for the intended use.

Strategy SSP2 - Access and evaluate speed limits citywide and create a speed management program to address speeding concerns based on applicable data.

Strategy SSP3 - Educate people on the link between speed and safety and in the process, change drivers' risk perceptions of enforcement actions or causing a crash.

Strategy SSP4 - Create and promote neighborhood-based programs that aim to lower traffic speed.

Strategy SSP5 - Use and expand automated speed enforcement (ASE).

Strategy SSP6 - Employ High Visibility Enforcement actions to increase compliance of safe speeds.

Safe Vehicles

Strategy SV1 - Improve safety of private vehicles operated on our roads.

Strategy SV2 - Improve safety of public vehicles on our roads.

Strategy SV3 - Improve safety of shared mobility.

Strategy SV4 - Leverage new technologies for safety data collection.

Strategy SV5 - Create a safe environment for autonomous vehicle (AV) testing and implementation.

Strategy SV6 - Implement safety enforcement technologies on public vehicles.

Leadership

Strategy L1 - The Mayor, elected officials and department leaders commit to collaborating to strive for zero traffic fatalities and serious injuries within a specific timeframe.

Strategy L2 - Employ meaningful and accessible community engagement toward Vision Zero with a focus on equity.

Strategy L3 - The Vision Zero Action Plan guides work and includes clear goals, measurable strategies, comprehensive data collection, timelines and responsible stakeholders.

Strategy L4 - Decision-makers and system designers advance projects and policies that keep safety as a key priority.

Partnerships

Strategy P1 - Work with partner safety agencies to develop a more complete crash database.

Strategy P2 - Revise/standardize crash reporting data for consistent results across all modes.

Strategy P3 - Continually identify new transportation safety partners.

Culture

Strategy C1 - Encourage city staff to fully embrace the goal of striving for zero fatalities and serious injuries by 2030.

Strategy C2 - Prioritize safety improvements on roadways for all people in historically underserved communities.

Strategy C3 - Ensure enforcement, outreach and education are equitable across the city's diverse populations.

Strategy C4 - Systematically reach out to the community to build a culture of safety.

Data

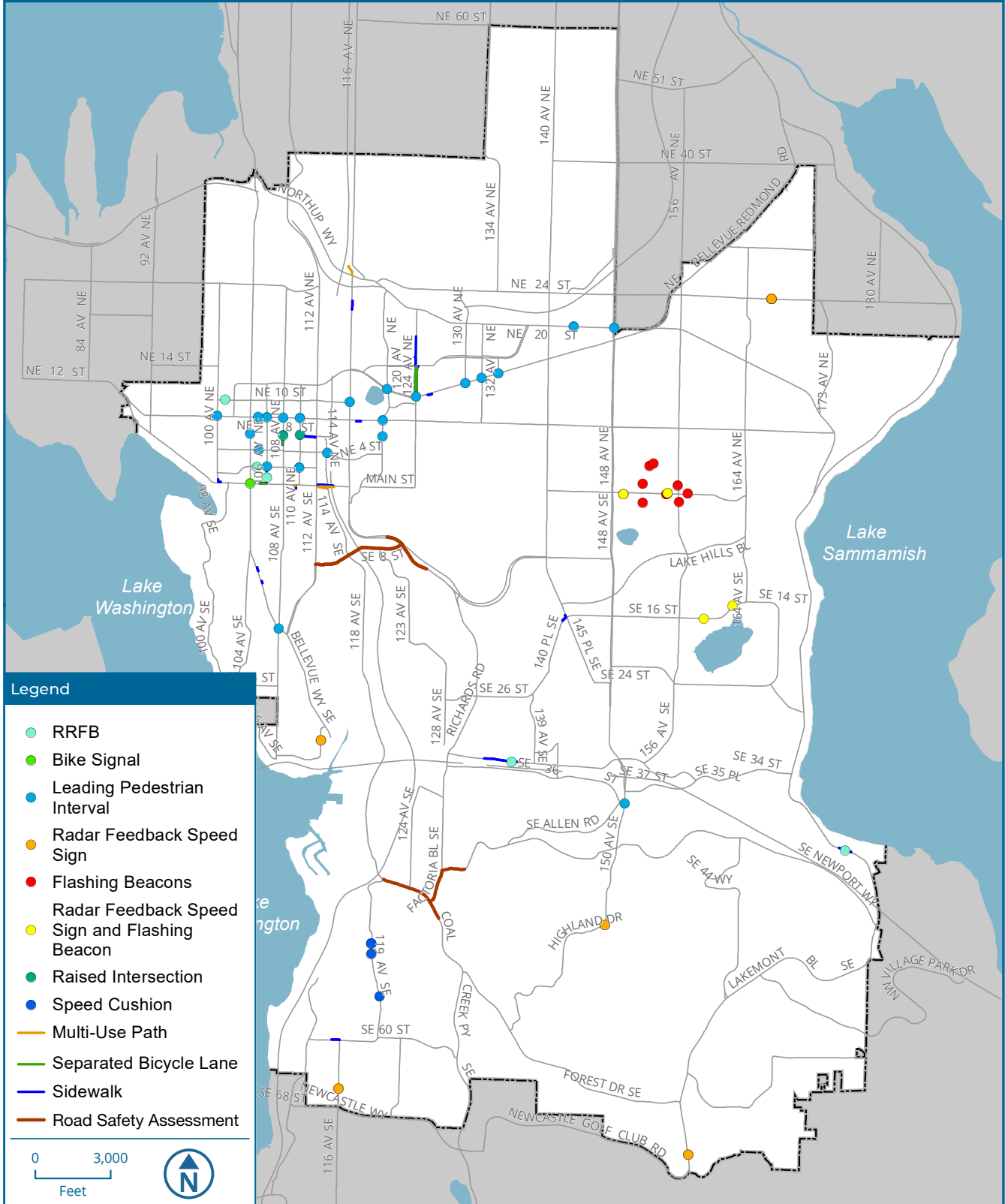
Strategy D1 - The performance and implementation of all safety actions are routinely evaluated, made public and shared with decision-makers to inform priorities, budgets and updates to the Vision Zero Action Plan.

Strategy D2 - Collect and analyze crash data to inform evidence-based strategies and interventions.

Strategy D3 - Apply a proactive, system-based approach to identify and address top crash factors and mitigate potential crashes and crash severity.

Appendix B

Safe System improvements Implemented on city streets in 2023





The City of Bellevue assures that no person shall on the grounds of race, color, national origin, or sex as provided by Title VI of the Civil Rights Act of 1964, and related statutes, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any City of Bellevue program or activity. Any person who believes his/her Title VI protection has been violated may file a complaint with the ADA/Title VI Administrator. For Title VI complaint forms and advice, please contact the ADA/Title VI Administrator at 425-452-6168.

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Questions 질문
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