



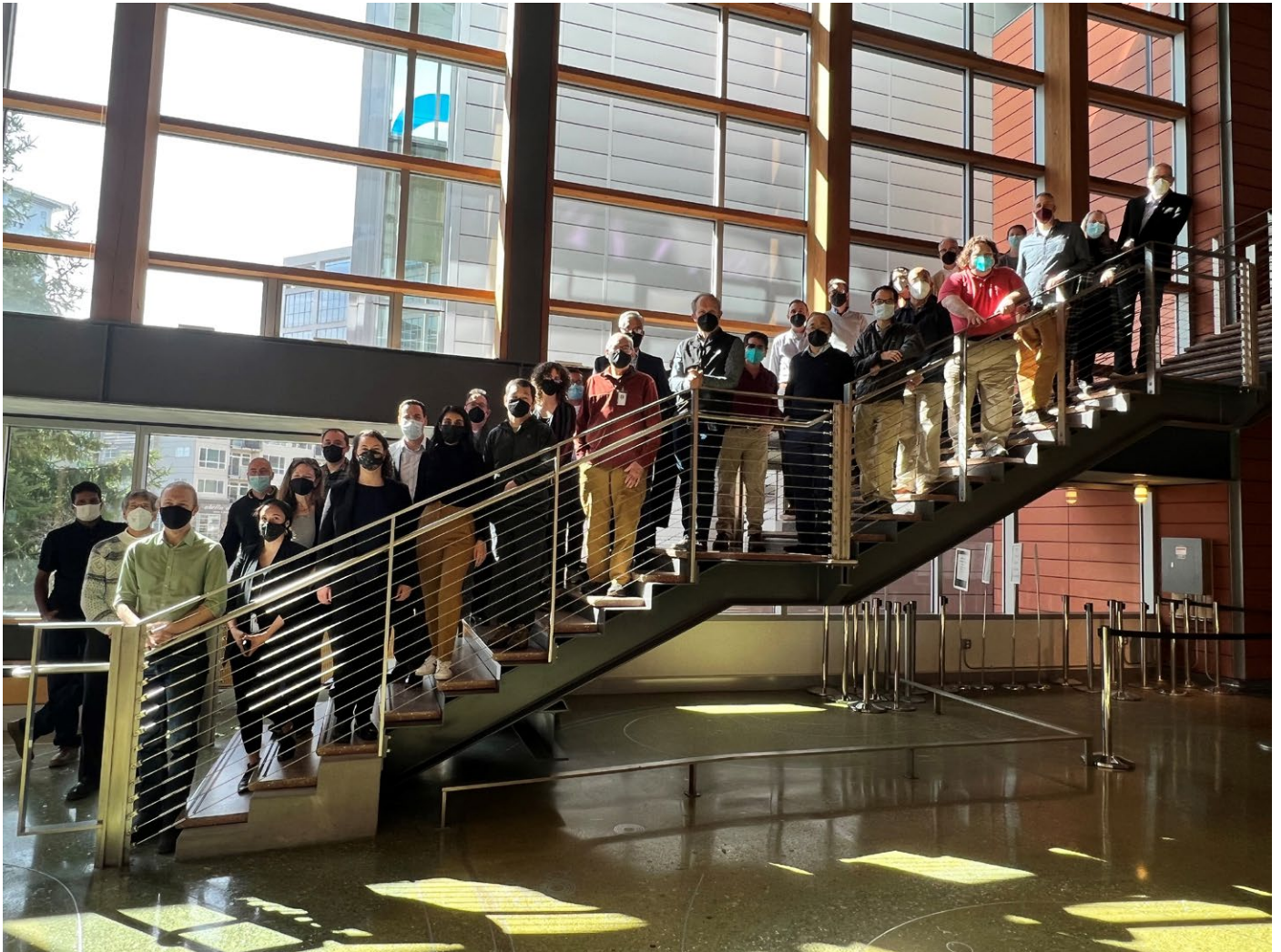
VISION ZERO DESIGN THINKING WORKSHOP REPORT

March 10, 2022

Bellevue City Hall
450 110th Ave NE,
Bellevue, WA 98004



THANK YOU!



- Participants in the City of Bellevue's March 10 Vision Zero Design Thinking Workshop (in alphabetical order):
Aditya Challa (Amazon Web Services); Andrew Singelakis (City of Bellevue); Beth Ebel (Harborview Injury Prevention and Research Center); Bianca Siegl (City of Bellevue); Celeste Gilman (Washington State Department of Transportation); Chris Iverson (City of Bellevue); Chris Long (City of Bellevue); Daniel Lai (City of Bellevue); Darcy Akers (City of Bellevue); Darek Jarzynski (City of Bellevue); Dongho Chang (Washington State Department of Transportation); Franz Loewenherz (City of Bellevue); Gary Simonson (Puget Sound Regional Council); Jason Whittet (Amazon Web Services); Jim Hanson (HDR); Joel Barnett (Federal Highway Administration); John Milton (Washington State Department of Transportation); John Rome (Arizona State University); Jubleen Vilku (Amazon Web Services); Katie Halse (City of Bellevue); Mark Hallenbeck (Washington State Transportation Center); Matthew Crane (King County Metro); Matthew Volz (HDR); Megan Antelo (Amazon Web Services); Norene Pen (Washington State Department of Transportation); Olivia Aikala (City of Bellevue); Rachel Finfer (King County Metro); Randy Iwasaki (Amazon Web Services); Ravi Tellury (Amazon Web Services); Ryan Hendrix (Arizona State University); Shelly Baldwin (Washington Traffic Safety Commission); Steve Mooney (University of Washington); Thomas Nolan (City of Bellevue); Yinhai Wang (PacTrans Region 10 University Transportation Center); Zorba Conlen (City of Bellevue)

Working together through the Vision Zero Design Thinking Workshop, the City of Bellevue is now better able to articulate – who we are going to help, what problem we are going to solve, and how we are going to solve it. Thank you!

This report documents the feedback received and safe systems solutions developed during the Bellevue Vision Zero Design Thinking Workshop held on March 10, 2022, at Bellevue City Hall.

Bellevue Safe Systems Approach

Bellevue leaders are committed to Vision Zero – to eliminating traffic deaths and serious injury collisions on city streets by 2030. To achieve this target, the Bellevue City Council adopted a Safe Systems approach that focuses on safe people, safe streets, safe speeds, and safe vehicles as well as the supporting elements of leadership, culture, partnerships, and data (see Figure 1).



► **Figure 1:** Bellevue’s Safe Systems approach and strategies to eliminate traffic deaths and serious injuries from city streets by 2030 are documented in its [Vision Zero Strategic Plan](#). Among these strategies is a commitment to Leadership; the goal of this strategy is to: Commit all levels of the city to keep learning, refining our skills, and expanding our toolbox with the best available strategies, policies, and actions.

The Safe Systems approach is founded in the belief that death and serious injuries on city streets are preventable; they are not accidents. Crashes result from a set of design, infrastructure, and systemic issues, not just road user behavior. This holistic approach accepts that people will make mistakes and that crashes will continue to occur, but it aims to ensure these do not result in serious injuries or fatalities.

Bellevue Vision Zero Design Thinking Workshop

The Vision Zero Design Thinking Workshop aligns with Bellevue’s Safe Systems approach of bringing together city staff and industry leaders to learn, share, and design-think solutions to pressing road safety challenges so that we – cities throughout the nation – move towards zero together. With this collaboration mind-set, City of Bellevue staff welcomed representatives from the Federal Highway Administration, Washington Traffic Safety Commission, Washington State Department of Transportation, Harborview Injury Prevention and Research Center, PacTrans Region 10 University Transportation Center, Puget Sound Regional Council, King County Metro, University of Washington, Washington State Transportation Center, Arizona State University, and Amazon Web Services to the workshop (Figure 2).

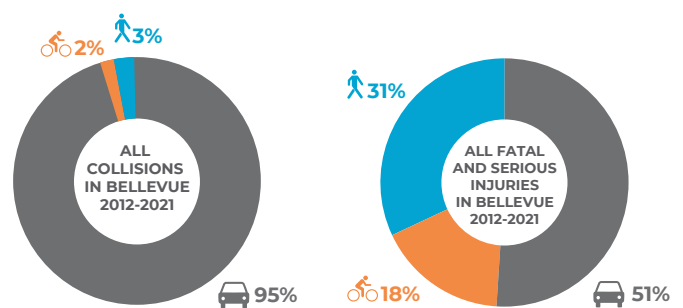


► **Figure 2:** Participants in the City of Bellevue’s March 10 Vision Zero Design Thinking Workshop

The Vision Zero Design Thinking Workshop – an event facilitated by the [Arizona State University – Smart City Cloud Innovation Center \(CIC\)](#) – employed Amazon’s innovation process known as “[working backwards](#)” which puts the customer at the center of the discussion and designs a solution based on their needs. The all-day March 10 Vision Zero Design Thinking Workshop (held at Bellevue City Hall) built-upon initial progress made with public and private sector leaders at the January 11 [Vision Zero and Technology Roundtable](#) (held at ITE Headquarters in Washington, DC) that involved a rapid (90 minute) exploration of the following six problem statements: (i) reactive decision-making; (ii) safety for seniors; (iii) project delivery delays; (iv) distracted driving; (v) safe speeds; and (vi) vulnerable road users.

Prioritizing Pedestrian and Bicycle Safety

Fatal and serious injury collisions occur among all road users, but some groups are at greater risk than others. People walking and bicycling—defined by state law as vulnerable road users—are much more likely to be involved in a fatal or serious injury collision compared to people in cars (*Figure 3*).



Source: WSDOT Collision Data (2012-2021)

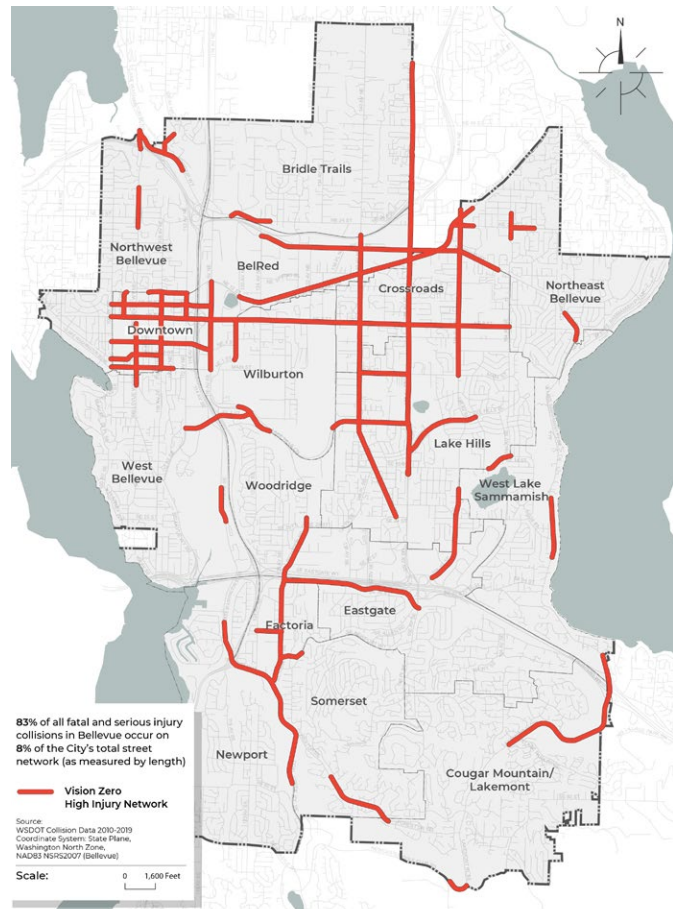
► **Figure 3:** From 2012 to 2021, five percent of all collisions in Bellevue involved people walking and bicycling. In contrast, these vulnerable road users represented 49 percent of all serious injuries and fatalities.

Following a series of presentations (see Appendix A – Workshop Presentations), Bellevue Vision Zero Design Thinking Workshop participants engaged in a focused consideration on the following Vulnerable Road User problem statement:

Today, people walking and bicycling make up approximately 50% of the fatal and serious injury collisions in Bellevue. What combination of proactive actions should the City pursue to rapidly assess, address, and make Bellevue safer and more desirable for people to walk and roll to/from frequent transit network corridors and along high injury network corridors?

As a rapidly urbanizing city with increased pedestrian and bicycle activity, the City of Bellevue recognizes the paramount importance of advancing safety solutions that protect the most vulnerable users on the roadway. Top of mind: six new light rail transit stations open in Bellevue in

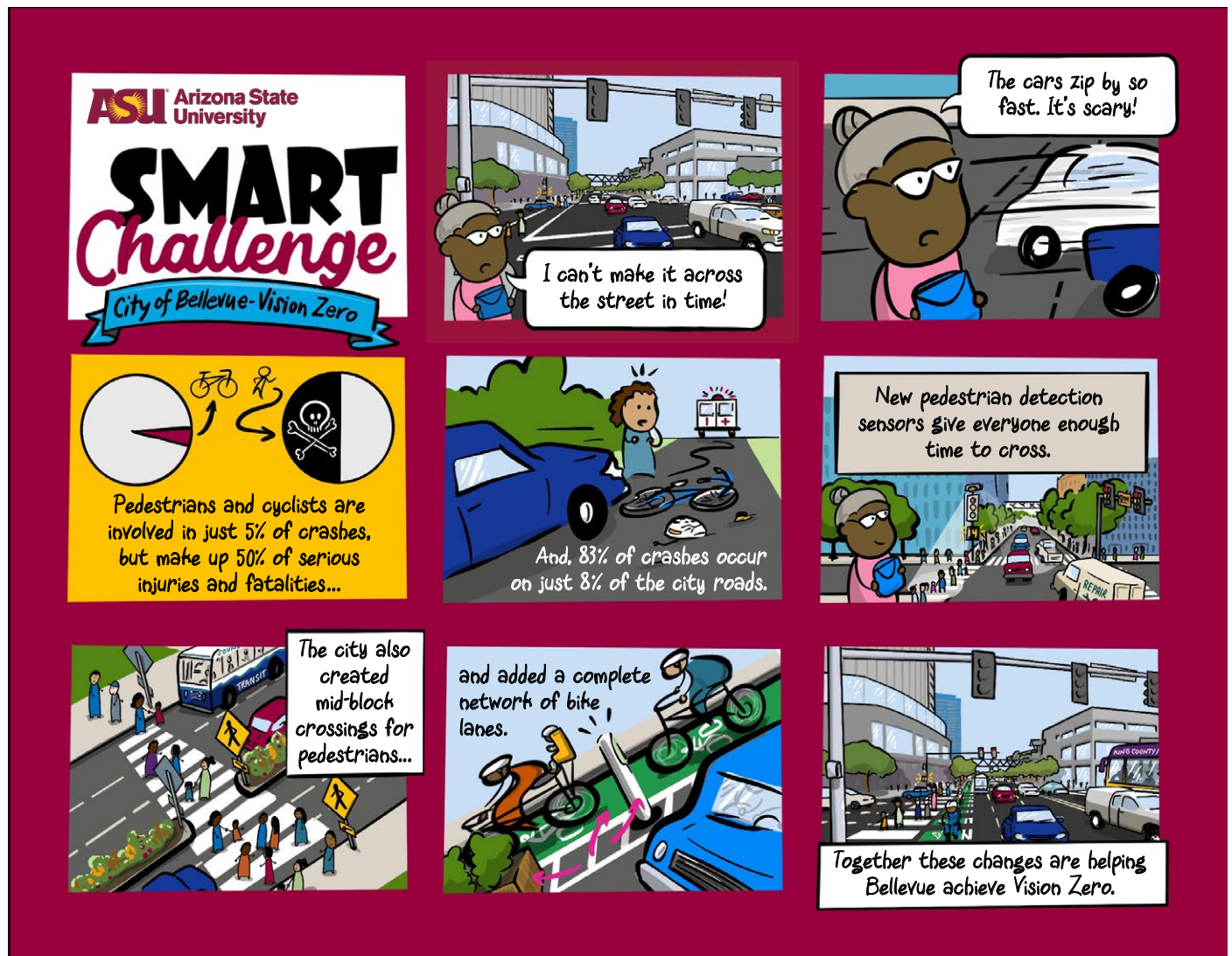
just one year. Ensuring everyone has safe access to light rail means connecting our neighborhoods, businesses, and schools to our stations with protected bike lanes, accessible sidewalks, and enhanced bus transit. Bellevue’s High Injury Network corridors further informs where to prioritize safe systems solutions (Figure 4).



► **Figure 4:** Based on a comprehensive review of citywide collision data (2010-2019), the City of Bellevue identified in its Vision Zero Strategic Plan a High Injury Network (HIN) along which 83 percent of fatal and serious injury collisions occur on just 8 percent of the city's total street network.

Through a series of exercises (see Attachment B – Run of Show) Vision Zero Design Thinking Workshop participants collaborated in producing a visual of a solution customer experience (Figure 5) and a Working Backwards Vision Document (Appendix C – Working Backwards

Vision Document). Together these artifacts represent a starting point from which the City of Bellevue will develop enhanced safe systems actions that align with the United States Department of Transportation’s [National Roadway Safety](#) Strategy priorities.



► **Figure 5:** A visual of a solution customer experience.

▶ APPENDIX A

Innovation Workshop

City of Bellevue - Vision Zero

ASU CIC

March 10, 2022



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Agenda - City of Bellevue - Vision Zero

| MODULE 1 9:00am to 12:00pm | | |
|----------------------------|-------------------------------|--------|
| Module 1 | Welcome and Introductions | 15 MIN |
| | Frame the Problem/Opportunity | 45 MIN |
| | Start with the Customer/User | 45 MIN |
| | Solutioning - Crazy 8 | 60 MIN |
| | Big Idea | 15 MIN |

LUNCH 12:00pm to 1:00pm
(HDR – Presentation)

| MODULE 2 1:00pm to 4:00pm | | |
|---------------------------|-------------------------|--------|
| Module 2 | Create PR/FAQ | 90 MIN |
| | Start FAQ List | 30 MIN |
| | Create Visual Narration | 30 MIN |
| | Wrap Up and Next Steps | 30 MIN |



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1. Introductions and Overview



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Welcome + Introductions

City of Bellevue: Bianca Siegl; Chris Iverson; Chris Long; Daniel Lai; Darcy Akers; Darek Jarzynski; Eric Miller; Franz Loewenherz; Katie Halse; Mia Waters; Olivia Aikala; Paula Stevens; Thomas Nolan; Zorba Conlen

Partners: Aditya Challa (Amazon Web Services); Beth Ebel (Harborview Injury Prevention and Research Center); Celeste Gilman (Washington State Department of Transportation); Dongho Chang (Washington State Department of Transportation); Gary Simonson (Puget Sound Regional Council); Jason Whittet (Amazon Web Services); Jim Hanson (HDR); Joel Barnett (Federal Highway Administration); John Milton (Washington State Department of Transportation); John Rome (Arizona State University); Jubleen Vilku (Amazon Web Services); Mark Hallenbeck (Washington Transportation Research Center); Matthew Crane (King County Metro); Matthew Volz (HDR); Megan Antelo (Amazon Web Services); Rachel Finfer (King County Metro); Randy Iwasaki (Amazon Web Services); Ravi Tellury (Amazon Web Services); Rebecca Hart (University of Washington); Ryan Hendrix (Arizona State University); Shelly Baldwin (Washington Traffic Safety Commission); Steve Mooney (University of Washington); Yin Hai Wang (University of Washington)



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ASU Cloud Innovation Center Workshop



Welcome & Vision Zero Overview *March 10, 2022*

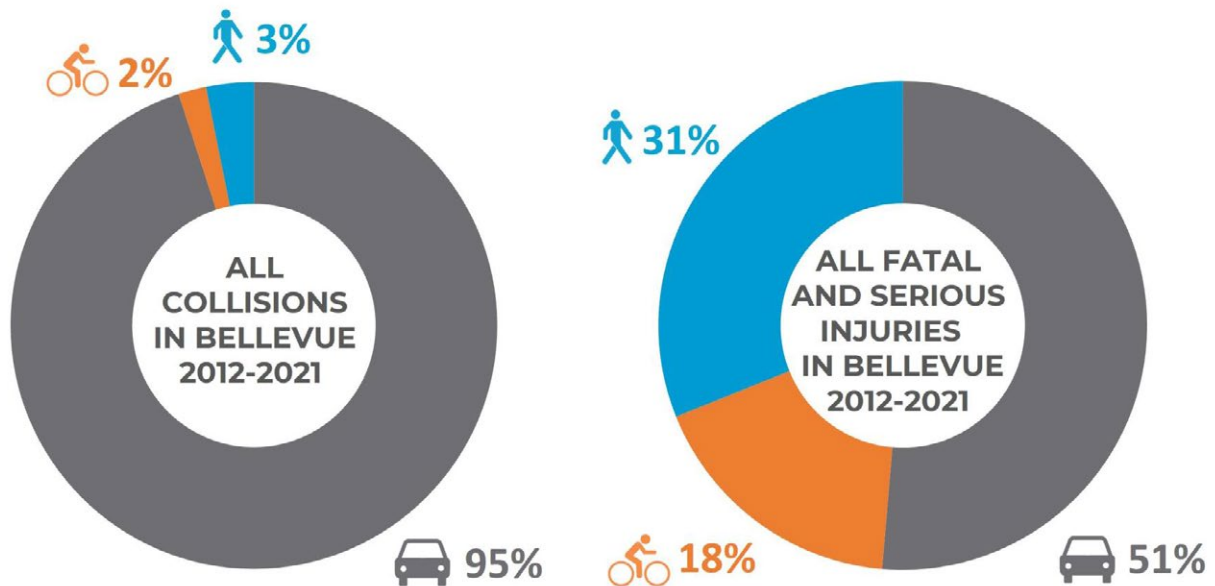
Franz Loewenherz

Mobility Planning and Solutions Manager

Workshop Problem Statement

People walking and bicycling make up approximately 50% of the fatal and serious injury collisions in Bellevue. What combination of actions should the City pursue to rapidly plan, design, and implement new safety measures to protect these vulnerable road users on Bellevue's high injury network corridors?

Bellevue Fatal and Serious Injury Data: Vulnerable Road Users



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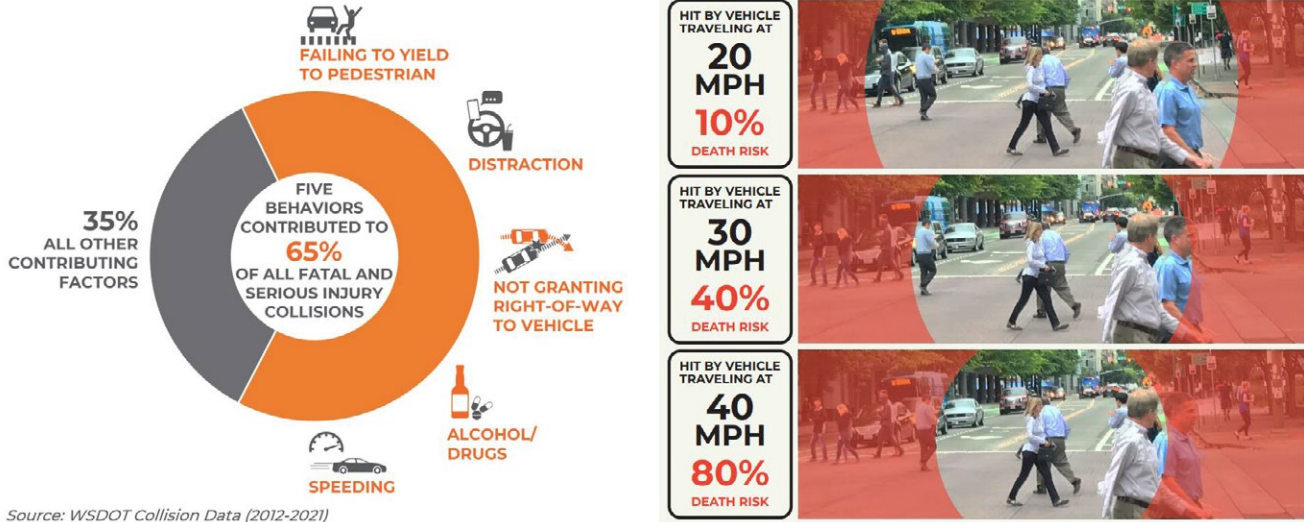
Bellevue's High Injury Network



Based on a comprehensive review of citywide collision data (2010-2019), the City of Bellevue identified in its Vision Zero Strategic Plan a High Injury Network (HIN) along which 83 percent of fatal and serious injury collisions occur on just 8 percent of the city's total street network.

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Behaviors Contributing to Fatal & Serious Injury Collisions in Bellevue



Bellevue Vision Zero Overview: From Planning to Implementation

VISION ZERO STRATEGIC PLAN
ONE CITY TOWARDS SAFE STREETS

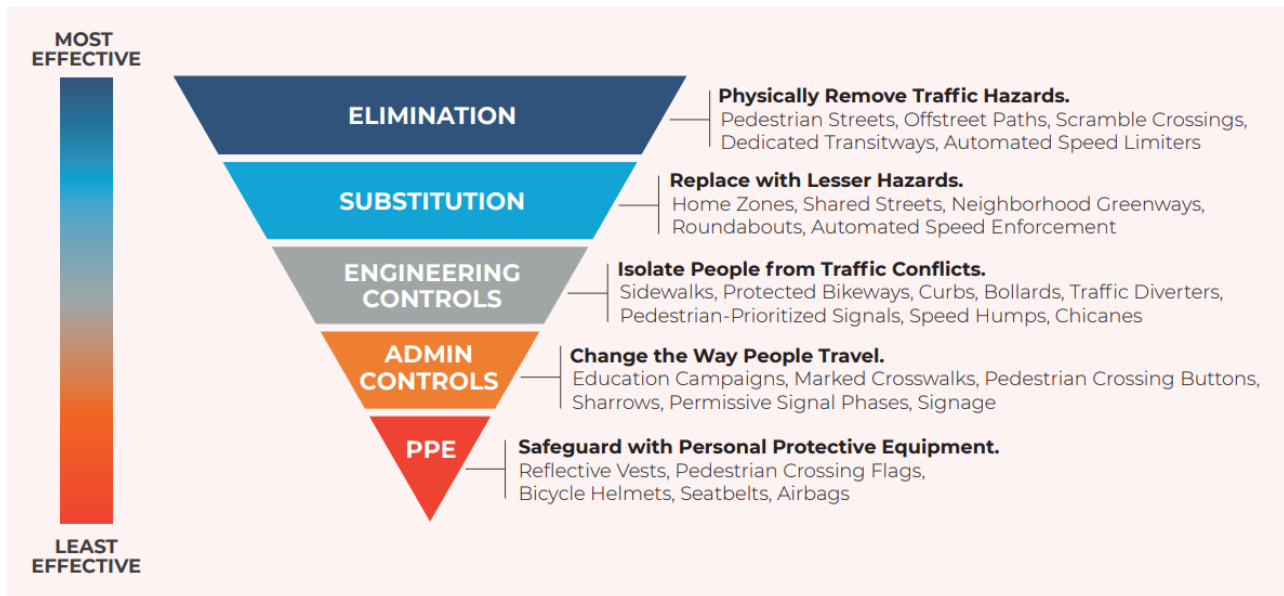
2022 VISION ZERO ACTION PLAN
ONE CITY TOWARDS SAFE STREETS

Bellevue's Safe Systems Actions



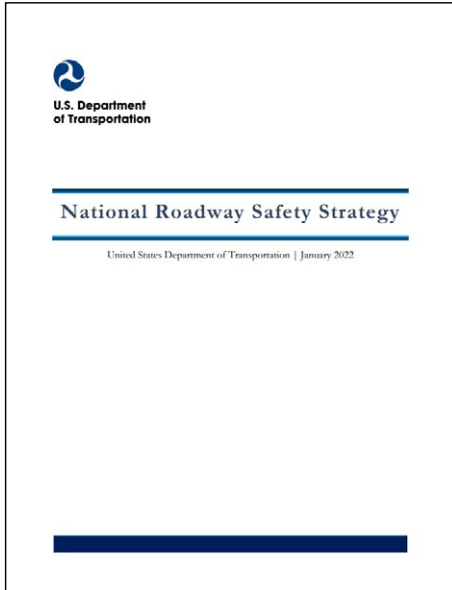
11

Hierarchy of Street Safety Controls



12

Alignment with BIL & NRSS



PRESIDENT JOE BIDEN

BUILDING A BETTER AMERICA

BUILD.GOV

FACT SHEET: Competitive Infrastructure Funding Opportunities for Local Governments

6. **Safe Streets and Roads for All** – This new \$5 billion competitive grant program at the Department of Transportation will provide funding directly to and exclusively for local governments to support their efforts to advance “vision zero” plans and other complete street improvements to reduce crashes and fatalities, especially for cyclists and pedestrians. **Applications are expected to open in May 2022.**

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Vision Zero & Technology Roundtable: January 11, 2022



Jennifer Homendy, Chairperson of the National Transportation Safety Board: **“What you’re doing in Bellevue is phenomenal, and I hope your efforts serve as a model to improve safety in other cities across the U.S.** All too often, we have to talk about what went wrong, but I think it’s just as critical to recognize when safety is heading in the right direction It’s critical that we aren’t just relying on existing crash data to improve safety, that we’re proactively identifying locations that have a high risk of crashes, but that may not yet have resulted in actual crashes”

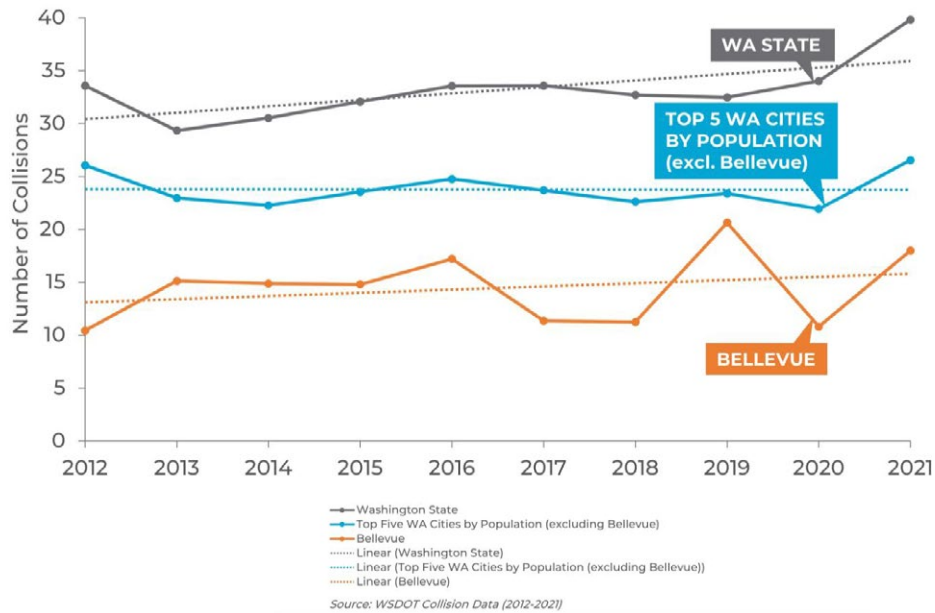


Roundtable attendees collaborated to address six problem statements:

- 1) Reactive Decision-Making
- 2) Safety for Seniors
- 3) Project Delivery Delays
- 4) Distracted Driving
- 5) Safe Speeds
- 6) Vulnerable Road Users

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Fatal and Serious Injury Collisions by 100K Population, 2012-2021



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Information



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 Transportation Department
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 425-452-4077

BellevueWA.gov/vision-zero

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ASU CIC - Program Commitments



| CHALLENGE SPONSOR | ASU CIC |
|---|---|
| <p>Executive business sponsor C-level business leader or LoB head, and senior IT leaders</p> <p>Customer identification & problem/opportunity Identify a specific customer-focused problem or opportunity</p> <p>Willingness to invest in engagement Engagement lasts 3+ months; investment of time and resources</p> <p>Public reference Openness to (possibly) share their story with other CIC customers</p> | <p>Innovation mechanisms & experience Guided introduction to Amazon innovation methods and approach</p> <p>End-to-end engagement facilitation Dedicated AWS resources (e.g. DI BDM, Account team, SA, etc.)</p> <p>Bias for action to build Support in deploying solutions (~4-6 weeks after PRFAQ) with credits, internal resources, or partners.</p> |

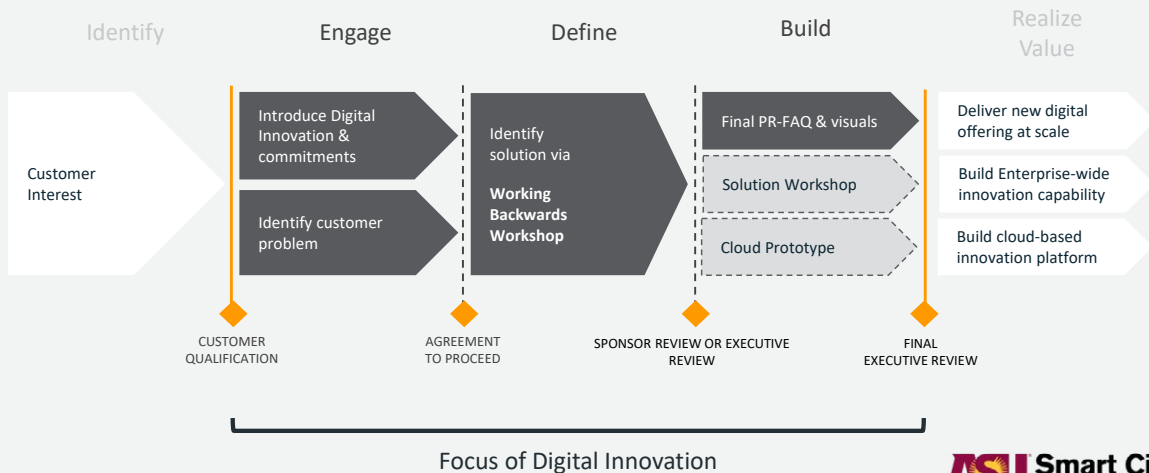


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ASU CIC ENGAGEMENT MODEL

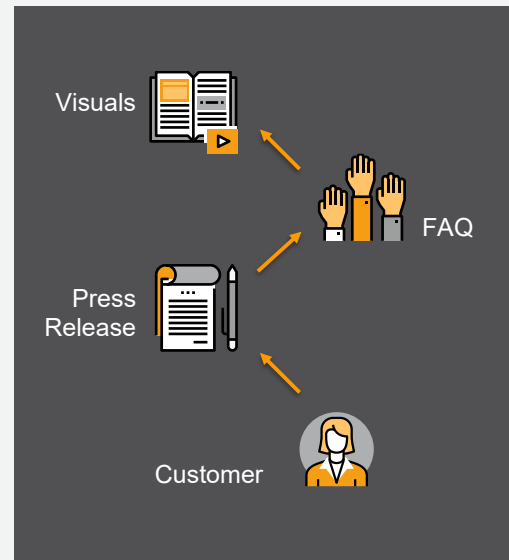


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Workshop Objectives

1. **Define** a new digital offering that will delight the specific customer we identified when we framed the challenge for this engagement
2. **Outline** a Press Release describing the new offering
3. **Commit** to bring the idea to life through a PR/FAQ and plan for a 'lean' prototype



Artifacts from the Working Backwards process

Press Release

Amazon Campus Amazon.com confidential

Amazon Campus Launches First Multi-Channel Student Store at the University of California Berkeley
www.amazon.com/Campus&berkeleyamazon.com

SEATTLE-(BUSINESS WIRE) – August 31st, 2014 – Since returning to school for the Fall semester, Berk experienced a fresh take on the college bookstore as the new Berkeley Student Store opened at an on-campus location.

The Amazon-run online Student Store brings Amazon's broad selection, low prices, and convenient shipping to Berkeley's campus and offers a number of additional student-focused features. With the launch of the Student Store, students can now pay for any purchase on Amazon with their CallCard, buy course materials in any of the Learning Management System or directly on Amazon.com, pick up orders at convenient locations across campus, and enjoy One-Day Shipping on textbooks sent to the campus area. Amazon Student members at Berkeley are eligible for Free Two-Day shipping on millions of additional products plus FREE Two-Day shipping on millions more.

"I've been an Amazon Student member for two years," explained Senior Aubrey Romano. "Getting it was huge. I've been ordering everything from Amazon since I got back to school. I may never have to go to a bookstore again."

Students can access these campus-specific payment methods and shipping benefits, along with the full range of products available through the university's licensed bookstore – by activating the Berk experience when they visit berkeley.amazon.com, sign up for Amazon Student and select "Berkeley" at the top of the page.

In place of a traditional campus bookstore, Amazon has deployed Lockers across campus and built the space that features a package pick up desk, technology showroom, and lounge area for students to study and hang out.

FAQs

Amazon Campus Amazon.com confidential

Q: What do I get when Amazon is on my campus? Students get a number of benefits when Amazon is on campus. On campus, all students will have access to an Amazon Student lounge.

Q: How do I activate the co-branded experience? Students at client universities will have four method options to activate the co-branded experience: 1) visiting the co-branded subdomain directly by typing the URL (berkeley.amazon.com), 2) joining the Amazon Student program and selecting their school, 3) shopping through their school's Learning Management System, 4) clicking on a Student Store merchandising placement of customers have opted in, they will see a persistent co-branded toolbar on the top of the page whenever they visit Amazon.com. Customers can turn the experience off at any time by navigating to the "Account Settings" menu. In "Your Account" settings, there is a "Student Store" section where you can toggle the experience on or off.

Q: What do I get if I sign up for Amazon Student when Amazon is on my campus? Amazon Student members at client universities will receive Free One-Day shipping on millions of additional products plus FREE Two-Day shipping on millions more.

Q: Why aren't there any "grab and go" items available for purchase at the Student Lounge? At launch, we are only offering "on demand" products to customers. In the future, we intend to offer this in the future for a small selection of top-selling items. Customers may order items displayed in the Lounge by using the bar code scan feature in the app.

Q: Why is Free One Day shipping limited to campus addresses? Why don't I get Free One Day shipping on all orders? By working directly with a university, Amazon is able to reduce costs associated with shipping orders to campus. This benefit is available to all students at the school via Free One Day shipping for textbooks, and to our Amazon Student members on millions of other eligible products. However, in order to provide these benefits at no additional cost to the university, we offer this benefit to those zip codes served from our on-campus delivery stations. Members always receive Free Two-Day shipping on Prime eligible items, to campus or most other addresses.

Visuals

1 Josh is at Amazon@ASU, Student Union picking up his textbooks. He opens his email notification and chooses to "Get Pickup Code".

2 The link automatically opens the Amazon app where Josh sees that his order will be ready in 2 minutes and that he can add snacks to his order and pick them up instantly. Anna, the bookstore associate, gets a pick task for Josh's boxed textbooks and scans it into a locker.

3 Josh gets hungry browsing all the great snacks available and decides to add a bag of Cheetos to his order.

4 Josh waits while his textbooks and Cheetos are being prepared for pickup. Anna gets another pick task. She scans the Cheetos, bags them, and places them into the same locker as Josh's books.

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2. Explore and Frame the Problem/Opportunity

45 Minutes



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Confirm customer problem or opportunity

Today, **people walking and bicycling** make up approximately 50% of the fatal and serious injury collisions in Bellevue. What combination of actions should the City pursue to rapidly plan, design, and implement new safety measures to protect these vulnerable road users **on Bellevue's high injury network/frequent travel corridors?**

+ encourage more use for walking/biking

Equity

Locations – where/volumes/



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Confirm customer problem or opportunity

How might we proactively the City of Bellevue safer for people who walk and ride to

How might we make Bellevue safer and more desirable for people to want to walk, roll, and ride bicycles to frequent transit network corridors?

Recognizing and prioritizing the vulnerability and needs of all road users. Different people have different needs.



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Confirm customer problem or opportunity

Today, people walking and bicycling make up approximately 50% of the fatal and serious injury collisions in Bellevue. What combination of proactive actions should the City pursue to rapidly assess, address, and make Bellevue safer and more desirable for people to walk and roll to/from frequent transit network corridors and along high injury network corridors?



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What are the ultimate impacts?

1. Zero serious injuries or fatalities
2. More people walking, rolling and riding
3. Make Bellevue more equitable



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3. Start with the Customer

Empathy map and customer journey mapping
Contradictions, gaps, inconsistencies

45 Minutes



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Top 3 Insights about Customer

1. Want to be able to travel safely and have fun.
2. Hard to know best route.
3. Weather, light and other conditions impact journey.



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4. Generate Ideas

Capture specific ideas for how we can delight our customers
Discuss, vote, converge on top idea(s)



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5. Identify Most Important Customer Benefit



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The **big idea** is:

Action focused effort to make streets safer and equitable for vulnerable road users with reduced speeds through design + operations and enforced with data, a dedicated focus on understanding the complete impacts and trade-offs of decisions and prioritization and repurposing of roads to develop better spaces and experiences for people walking and rolling.

The most important **customer benefit** is:

1. Safer ability to move around Bellevue w/ less fatalities.
2. Greater equity + access across modes and users.
3. Better understanding of impacts/benefits of decisions.

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6. LUNCH + HDR Presentation

12:00PM to 1:00PM

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Cloud Innovation Center Workshop

March 10, 2022



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National Roadway Safety Strategy (NRSS)

- **Roadway Safety Problem**
 - 95% of transportation deaths
 - Vulnerable Road Users (VRUs)
- **Safe System Approach**
 - Multiple layers with redundancies
 - People make mistakes and are vulnerable
- **Other Priority Areas**
 - Equity
 - Climate Change

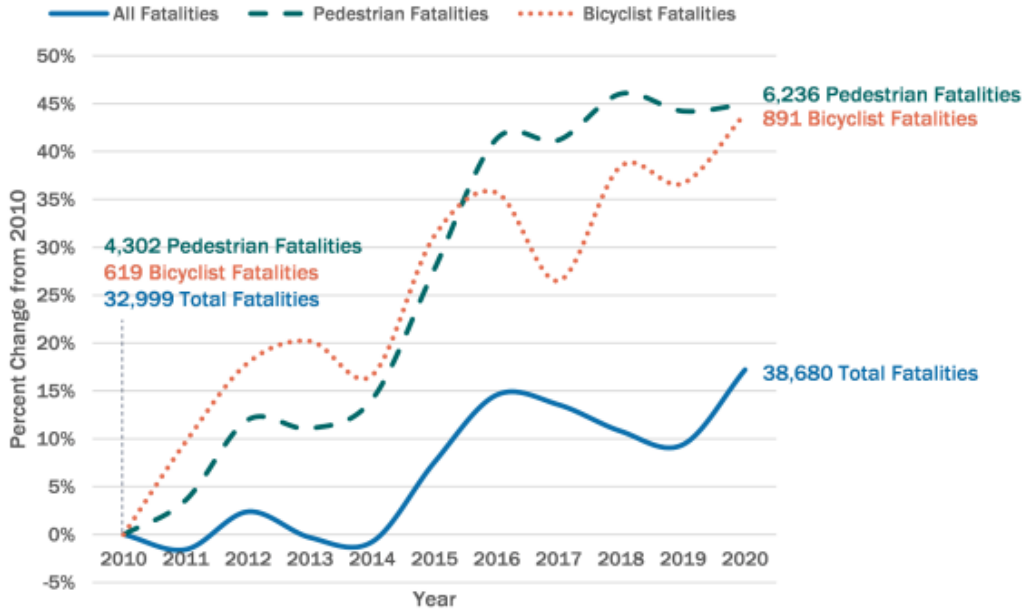
✓ Focus on what Bellevue can affect



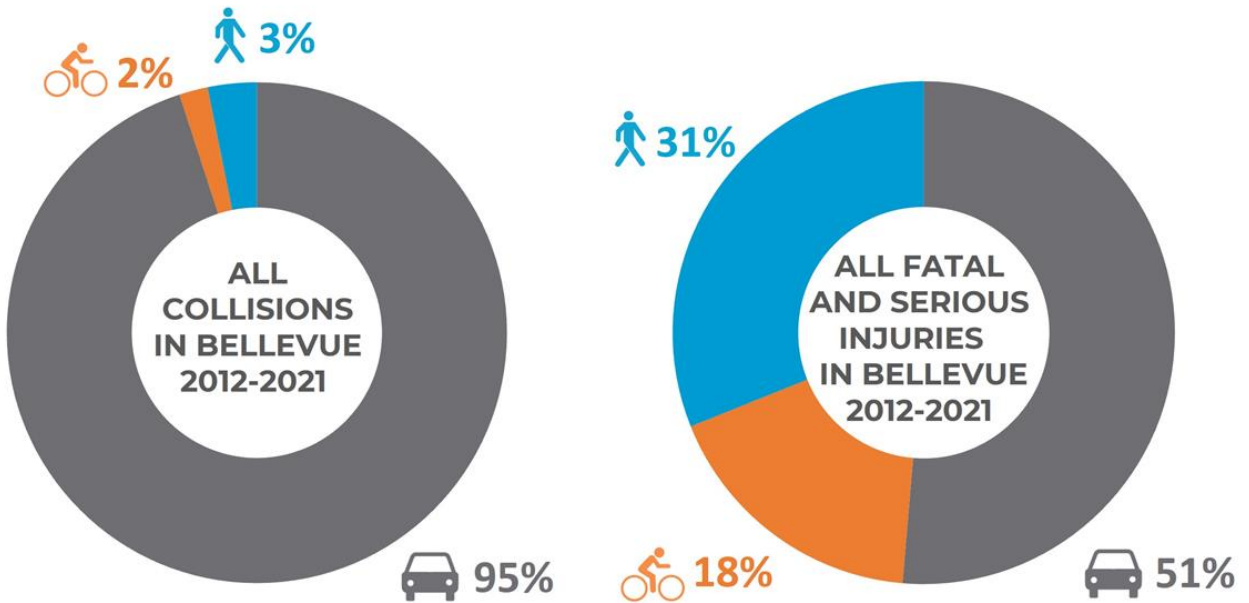
Objectives

- ✓ Safer People
- ✓ Safer Vehicles
- ✓ Post-Crash Care
- ✓ Safer Roads
- ✓ Safer Speeds

Crashes & Fatalities are Going Up Especially among VRUs



VRUs are at Serious Risk in Bellevue



Source: WSDOT Collision Data (2012-2021)

Considerations for Technology & Innovation

- **Apply data insights**
 - Investment
 - Operations
- **Infrastructure**
 - ITS
 - Physical
- **Scalability & Applicability**
- **Eliminate technology barriers**
 - Passive technologies
 - Accessibility
- **Performance measurement**
 - Accountability



Early Deployments instead of Pilots

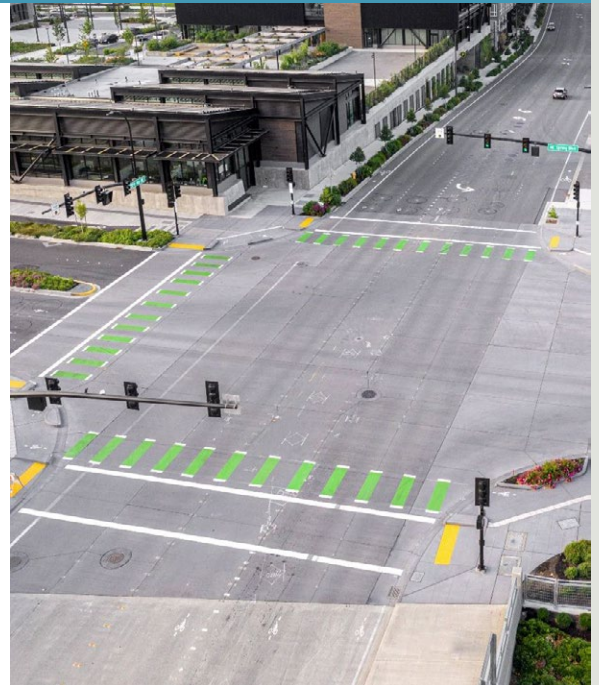
Federal Funding Options & New Grant Programs

Bipartisan Infrastructure Law (BIL) (formerly IIJA)

- Passed November 2021
- \$1 Trillion Total

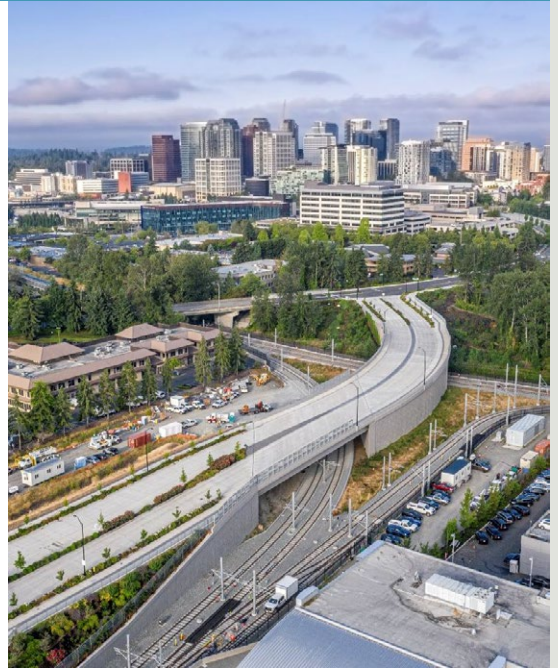
Many New Discretionary Grant Programs

- INFRA and RAISE (Funding Increase - \$3.2B/year total)
- PROTECT - *Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation*
- NIPA/MEGA - *National Infrastructure Project Assistance*
- Bridge Investment Program
- Rural Surface Transportation Program
- Congestion Relief Program
- The Healthy Streets Program
- Active Transp. Infrastructure Investment Program
- Safe Streets and Roads for All Program (SSRA)
- Grants for Charging and Fueling Infrastructure
- Carbon Reduction Programs



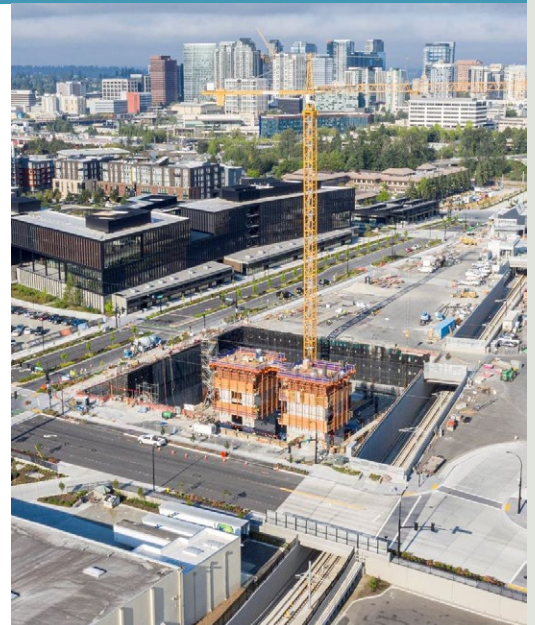
Upcoming Grant Opportunities

- RAISE – NOFO January 14, due April 14
- Port Infrastructure Development – NOFO Feb 14, due May 16
- INFRA, Rural Surface Transportation – NOFO mid-March, due in 60 days
- April and May:
- Culvert Removal/Replacement NOFO - \$200M
- Reconnecting Communities NOFO - \$200M
- Rural Surface Transportation NOFO - \$400M
- **SSRA NOFO – Expected by 5-14-22**
 - \$1 billion in 2022
- Expecting over 800 awards in just these programs



Understanding and Aligning to Federal Priorities

- **Why is today's effort relevant?**
 - Data can tell a story
 - Data sells the project need
 - Highlight the positives
 - Partnerships
 - Actions/Capital Projects



Understanding and Aligning to Federal Priorities

• Consider Grant Criteria

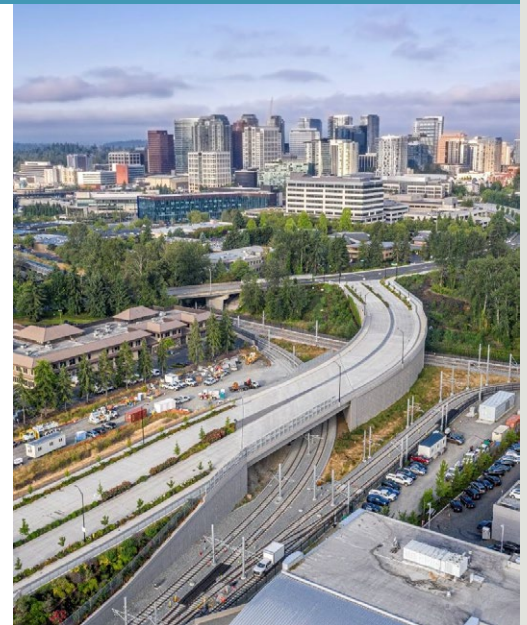
- Safety
- Economic Competitiveness
- Equity
- Climate/Sustainability
- Innovation
- Partnerships
- Freight Movement
- Multi-Modal/Mobility
- Quality of Life
- Job Creation



Understanding and Aligning to Federal Priorities

• Safe Streets and Roads for All

- \$5 Billion (\$1B/year) – 60/40 to Implementation/Planning Projects
- Vision Zero Adoption; Safety Action Plans; Safety Strategies and Projects; Planning, Design, and Supporting Activities for Reducing Injuries and Fatalities for All Modes
- National Roadway Safety Strategy is a Priority
- Complete Streets Policy
- Expect NOFO May 2022



7. Outline the Press Release

Press Release

With the press release, we **leap into the future** and imagine how we want a customer to feel and what we want them to say when they experience the product, feature or service we want to build. When we write a press release, we imagine that our customer is going to read it. It's a one-page narrative explaining our vision using customer-centric language.

► APPENDIX B - RUN OF SHOW

Welcome and Introductions

The meeting began with a welcome by Franz Loewenherz and a round of introductions by everyone present. Franz noted the City of Bellevue has a lot of great partners to work with right now and this is the time for the City to act. Franz noted he has spoken with the City of Tempe and City of Scottsdale in Arizona who have engaged in this same exercise with ASU and AWS and both give the program high marks.

Jason Whittet of AWS, meeting facilitator, reviewed the agenda for today. The goals are to:

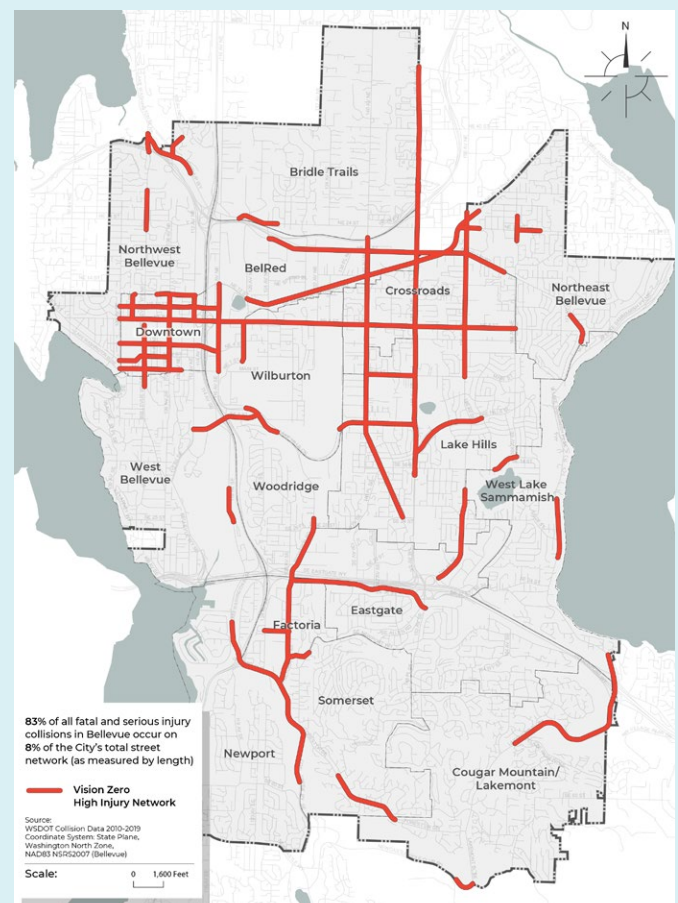
- Bring together stakeholders to create a vision by the end of the day
- Describe a plan for the City to undertake
- Explore outcomes
- Define the problem(s) clearly and agree
- Develop a “press release” for the vision of what the City wants to accomplish

Vision Zero Introduction

Franz began the conversation by presenting the problem statement the City developed prior to the workshop. “We know this problem is not isolated to the City of Bellevue - If we can solve this issue here, this will translate nationally.” The original problem statement is:

Pedestrians and cyclists make up approximately 50% of the serious and fatal collisions in Bellevue. What combination of actions should the city pursue to rapidly plan, design, and implement new safety measures to protect these vulnerable road users on Bellevue’s high injury network corridors?

As shown in the graphics presented, Vulnerable Road Users (VRU) are one of the highest priorities of the City – bicyclists and pedestrians are involved in 5% of all crashes, but 50% of fatalities come from this group. The City has a High Injury Network where fatalities are regularly occurring. 83% of fatal and serious injuries are occurring on 8% (40 miles) of the City’s roadways.



The City has been engaging in Road Safety Assessments (RSA) to mitigate the issue. This past year the City performed two RSA covering 2.5 miles of City streets. This year, the City will engage in six RSA covering 11 miles of City streets. This work is funded by Washington Traffic Safety Commission.

The five major contributing factors identified by the RSA are:

1. Failing to yield to pedestrians
2. Alcohol/drug impairment
3. Speeding
4. Distractions
5. Not granting ROW to vehicle

These factors are similar in other urban areas. Speeding has the biggest impact on survivability.

The City of Bellevue is committed to Vision Zero. The City Council adopted the Vision Zero plan in 2015 and adopted a Safe Systems approach with 36 strategies in 2020. To keep Bellevue's Vision Zero program efforts on track and to monitor progress, a cross-departmental staff team develops annual action plans. The City works with partners, industry, various agencies, and the state to plan and implement safety solutions and is committed to advancing the use of data and technology to create a safer transportation system. But we are not going to get to zero if we expect people to take action – it is going to take engineering too. Humans make mistakes. We want a system that provides a safety cushion to prevent fatalities. We need to develop safety solutions.

The National Roadway Safety Strategy (NRSS), published by the USDOT in January 2021, is going to guide strategy development and direct funding. (<https://www.transportation.gov/NRSS>) The Bipartisan Infrastructure Law (BIL) (<https://www.transportation.gov/bipartisan-infrastructure-law>) has over 60 grant programs coming out. NRSS is tied to many of them as part of the criteria. Today's discussion aligns with that national safety agenda. Ultimately, if more people feel safe walking and biking, this leads to less emissions and a healthier community.

Note: Fatal and Serious Injury Collisions by 100K population, 2012-2021 - Bellevue is well below Washington State and other comparable cities in Washington. But we believe we can get to zero (like Oslo, Norway).

Vision Zero Questions & Answers:

› What did Oslo do that was effective?

- » *Focused on the top of safety triangle*
- » *Prioritized moving people over cars*
- » *Reduced speeds*
- » *Cordoned off communities*
- » *Made tough political decisions*
- » *Oil crisis was a driver to shift from cars – created a super highway of bikes*
- » *It didn't happen overnight*

› The City needs to take advantage of land use changes (e.g. light rail stops changing land use) and determine how to make incremental changes/be committed to make changes. Oslo started in 70s – we need to start in Bellevue now.

› Are injury rates low in some areas because there is no walking or biking?

- » *Philosophical question – Do we want more walking, more biking?*
- » *There may be areas where there is no walking because it is not convenient/accessible. We can increase those who walk and bike, but that may increase exposure to crashes.*
- » *Do people use modes because they are safe and comfortable and avoid those that they feel are not?*

› Yes

› **Is it more effective to invest in engineering/ planning versus behavioral changes?**

- » *Education is worthwhile, but we need to do design improvements too. Need to think holistically/systemically. Need to right-size our streets. Need to change thinking of people to direct it toward mode shift and mode choices.*
- » *Transportation planning was focused on vehicles, now it needs to be focused on all modes.*

› **Do we need to change Bellevue to be more like cities like Oslo, and less car oriented?**

- » *Opportunity with redevelopment to make changes as new areas like Spring District are redeveloping*
- » *Middle Creek area – no ability to access right now unless you are in a car*
- » *Build a network for people to do “utility transportation” without a car*
 - › *A lot has been done in Bellevue with expanding the bike network*
- » *Good planning equals good projects*
 - › *We have tools to effectively model the future*
 - › *Digital Twins – Develop digital twins and play around with that to see where you want to be tomorrow. See what impact your choices make. The outcome is a better city*

The Cloud Innovation Center Program

Jason Whittet (AWS) and Ryan Hendrix (ASU) presented on the Cloud Innovation Center (CIC) program. CIC is a collaboration between AWS and ASU to address the challenges urban areas face today. It began in Phoenix which had more pedestrian fatalities per capita than any other

major city in the US. The program grew with a goal to address other challenges and jump start city-changing initiatives. The solutions produced are meant to be open-sourced and shared with all and a typical engagement with a city lasts from 3 to 6 months. The CIC program is committed to be vendor and technology agnostic, share a vision and culture of innovation, and ultimately act.

Workshop Objectives

The goal of the workshop, as presented by Jason Whittet, is to bring a small, agile group of people together who have the breadth of experience and knowledge to solve a problem. That group is to take the problem statement and work backwards to ultimately get to Vision Zero solutions. Explore who the customer is, what their experiences are, and work backwards from there to achieve your goals. Start with the customer because technology is not always about people first, but that is who the customer is in a city.

Start by defining a new offering, outlining a press release, and commit to bringing the idea to life. The press release will be written to be easily read, digested and accessible so that anyone, especially our customers, can understand what is being proposed. The result is a clear vision of the solution that will be supported by a storyboard to be created. In order to do this, five questions need to be answered clearly:

- Who is the customer?
- What is the customer problem or opportunity?
- Is the most important customer benefit clear?
- How do you know what customers need or want?
- What does the customer experience look like?

Workshop Exercise: Confirm the Customer Problem or Opportunity

The workshop audience was asked to identify issues facing pedestrians and cyclists today in Bellevue:

- They can be distracted
- They need to navigate a city not built for them, but rather built for vehicles
- People want to walk or bike, but don't know how to do it safely
- Even if they are very aware of their surroundings, it is the stuff that comes from behind that will get you
- Lack of sidewalks or bike lanes is especially a problem in areas with higher speeds
- We know where people are getting hurt, but we don't know circumstances of people (homeless, disability, etc.)
 - *Are there other factors that contribute?*
- We design for average able-body person, but not everyone fits this model
 - *What fail-safes are in place?*
- The system is designed to move vehicles
- Pedestrians have to cross large intersections
- Communication barriers exist between pedestrians/bikes and cars
- The weather can impact visibility of drivers and of pedestrians/bicyclists and impact road surface conditions (major factor here)
- VRU is only 5% of crashes, but 50% of fatal crashes – our infrastructure isn't providing safety to VRU
- Neighborhoods are built differently these days. Are we being equitable? Are neighborhoods built for walking and biking?

The audience was asked to confirm the customer problem statement developed prior to the workshop:

Pedestrians and cyclists make up approximately 50% of the serious and fatal collisions in Bellevue. What combination of actions should the city pursue to rapidly plan, design, and implement new safety measures to protect these vulnerable road users on Bellevue's high injury network corridors?

Comments from the audience:

- How might we proactively make the City of Bellevue safer for people who walk and ride today and for residents of tomorrow?
- How might we make Bellevue safer and more desirable to people to want to walk and ride bicycles to access transit network corridors?
- Consider the affordability of Bellevue (jobs/housing) – people have to commute to work here
- Consider the trip purpose – utilitarian versus recreational
- Recognize and prioritize the vulnerability and needs of all road users - Different people have different needs.
- How do we add more people biking and walking?
 - *This can lead to more supporting infrastructure*
 - *How do we operate & maintain (O&M)?*
- We want more people biking and walking, want ability everywhere
- Does it make sense to tie it to transit initially?
- Proactively address where we want people to walk/bike and where they are walking and biking now
- How do we make Bellevue safer so that people choose to walk and ride bicycles?
 - *Necessary versus Desirable – make it the option of choice*
 - *Will that require a modification of culture? How do you do that?*

- Bellevue is expensive so people commute, can this be changed so it is more of an inclusive community economically?
- Need to address micro-mobility, wheel chairs, etc.
 - *Walk, roll, bike*

Based on the comments, the original problem statement was modified to read as follows:

Today, people walking and bicycling make up approximately 50% of the fatal and serious injury collisions in Bellevue. What combination of proactive actions should the City pursue to rapidly assess, address, and make Bellevue safer and more desirable for people to walk and roll to/from frequent transit network corridors and along high injury network corridors?

The audience was asked to explore the customer's personas. They were asked to get in the mind of the walker or bike rider as an empathy map exercise.

Questions to ask:

- What are tasks they do?
- What are their influencers?
- What are their pain points?
- What are their feelings?
- Other elements?

Audience input:

- Is there enough time to get across that street?
- What do I need when I get to my destination?
Shower, clothes, storage facility
- Ownership of bikes can be a barrier to entry to many residents
- They have to make a self-assessment of risk
 - *Are things too risky?*
 - *Requires pre-trip planning*
 - *Need to make this less of a hurdle*

- It can be scary when a truck goes by me when I am on a bike
- There is a human sadness experience when using public transit – people isolate, avoid empathizing, don't want to deal with mental health issues of some transit users – a car lets you avoid all of those thoughts.
- Time of day and weather can be barriers to me walking or biking
- Topography can be a pain point – hills are a factor for me
- Broken glass, potholes, etc. in bike lanes is bad
 - *Poor infrastructure conditions make walking and biking difficult*
 - *Continuous infrastructure is key - gaps in the network are impactful to walkers and bicyclists*
- Visibility is a challenge
- Lack of a buffer between the sidewalk and road can be a barrier, especially for parents with small kids
- Need to consider who are the customers?
 - *Unhoused*
 - *Kids*
 - *Impaired*
 - *Elderly*
 - *Need to make the system work for the "lowest" denominator*
- Pain point is time, walking and transit is not as efficient and can be a barrier
- As a walker, I have to deal with bad sidewalks/ cracks
- Bus stops are not where I need it or are not accessible for the disabled
- Construction zones cut off side walk access
- If it is fun to walk and bike, people will walk and bike

Workshop Exercise: Solutions

The audience was challenged to come up with solutions. In one exercise called Crazy 8s, they were asked to brainstorm at their tables and come up with one idea per minute for 8 minutes. Barriers like costs or politics were not to be considered. The only restriction was that had to be a solution that could be implemented within the next three years. Those ideas were then discussed amongst each table and the top three from each table were posted to be voted upon by the group as a whole. The top solutions were:

- Develop a Vision Zero package: reduce speeds, utilize automated enforcement, repurpose roads
- Develop greater equitable access across modes and users
- Have a better understanding of the impacts of decisions made for other modes have on all
- Design streets so people feel they should drive slower
- Have consistent definition of equity across modes, demographics, and access

As summarized at the end of the exercise:

Action focused effort to make streets safer and equitable for VRU with reduced speeds through design and operations and enforced with data, a dedicated focus on understanding the complete impacts and tradeoffs of decisions and prioritization and repurposing of roads to develop better spaces and experiences for people walking and rolling. The most important customer benefit is:

- Safer ability to move around Bellevue with less fatalities
- Greater equity and access across modes and usage
- Better understanding of impacts/benefits of decisions

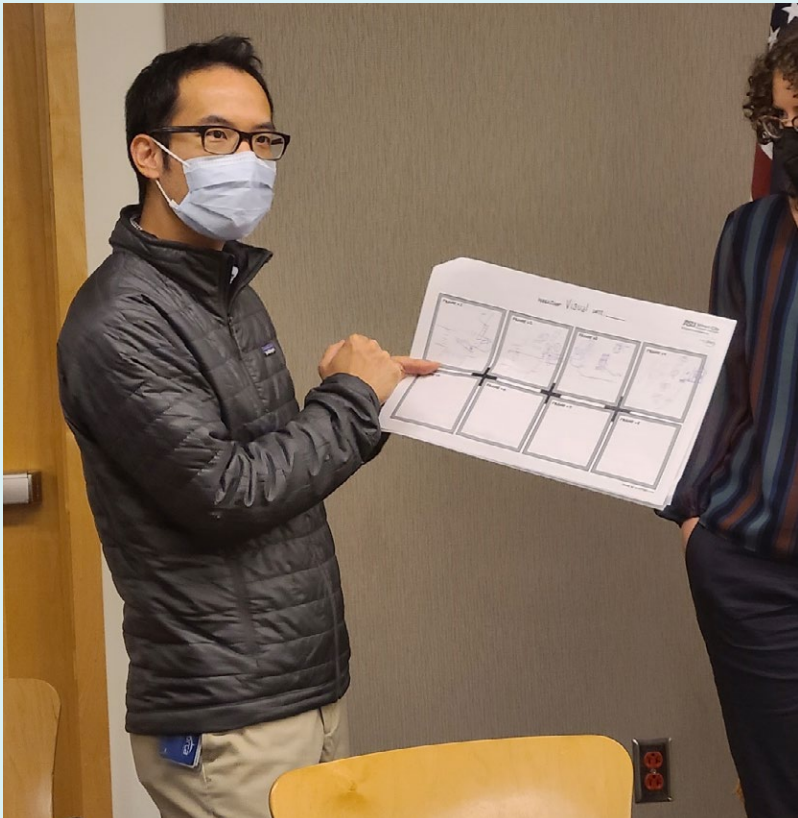
Workshop Exercise: Develop a Working Backwards Document

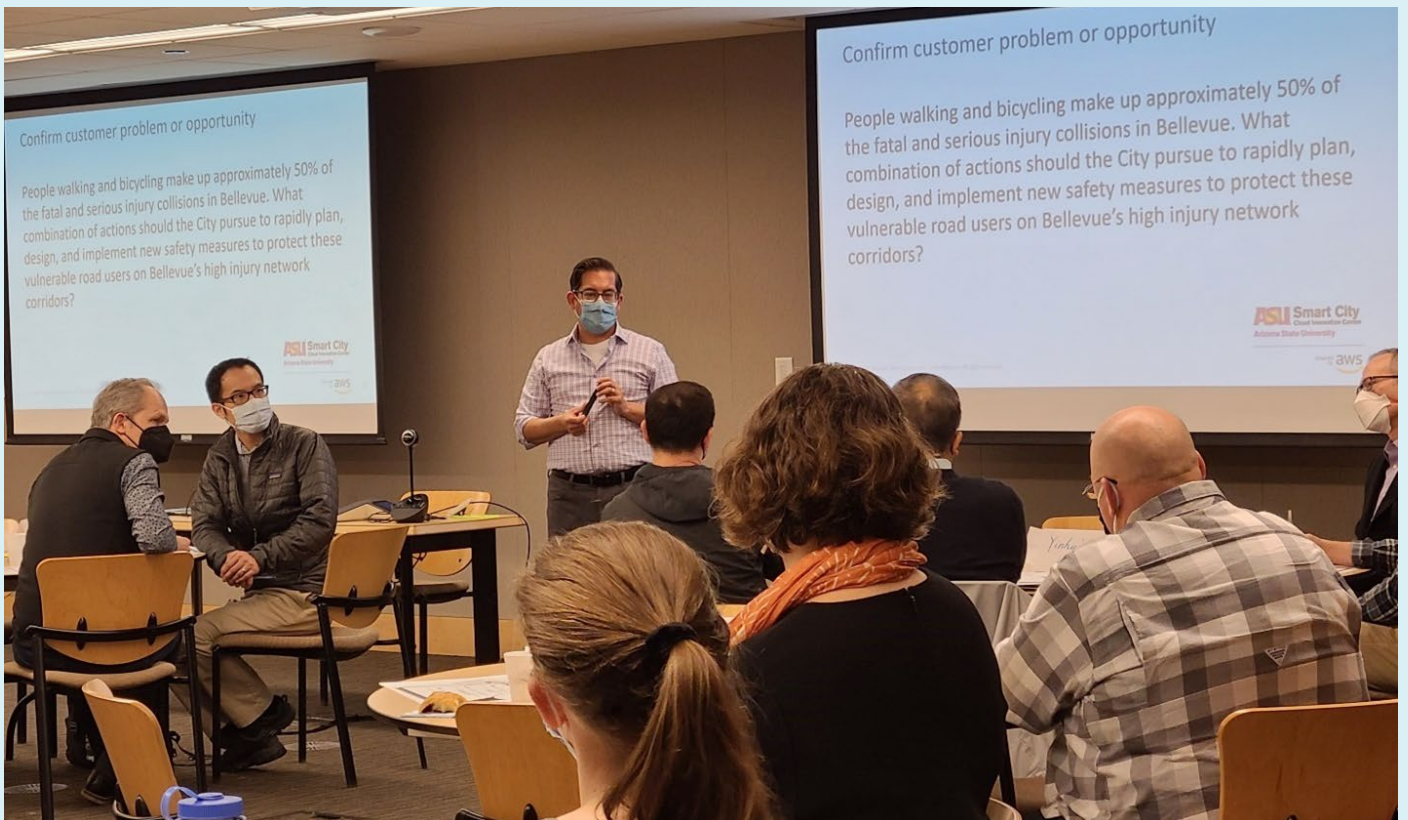
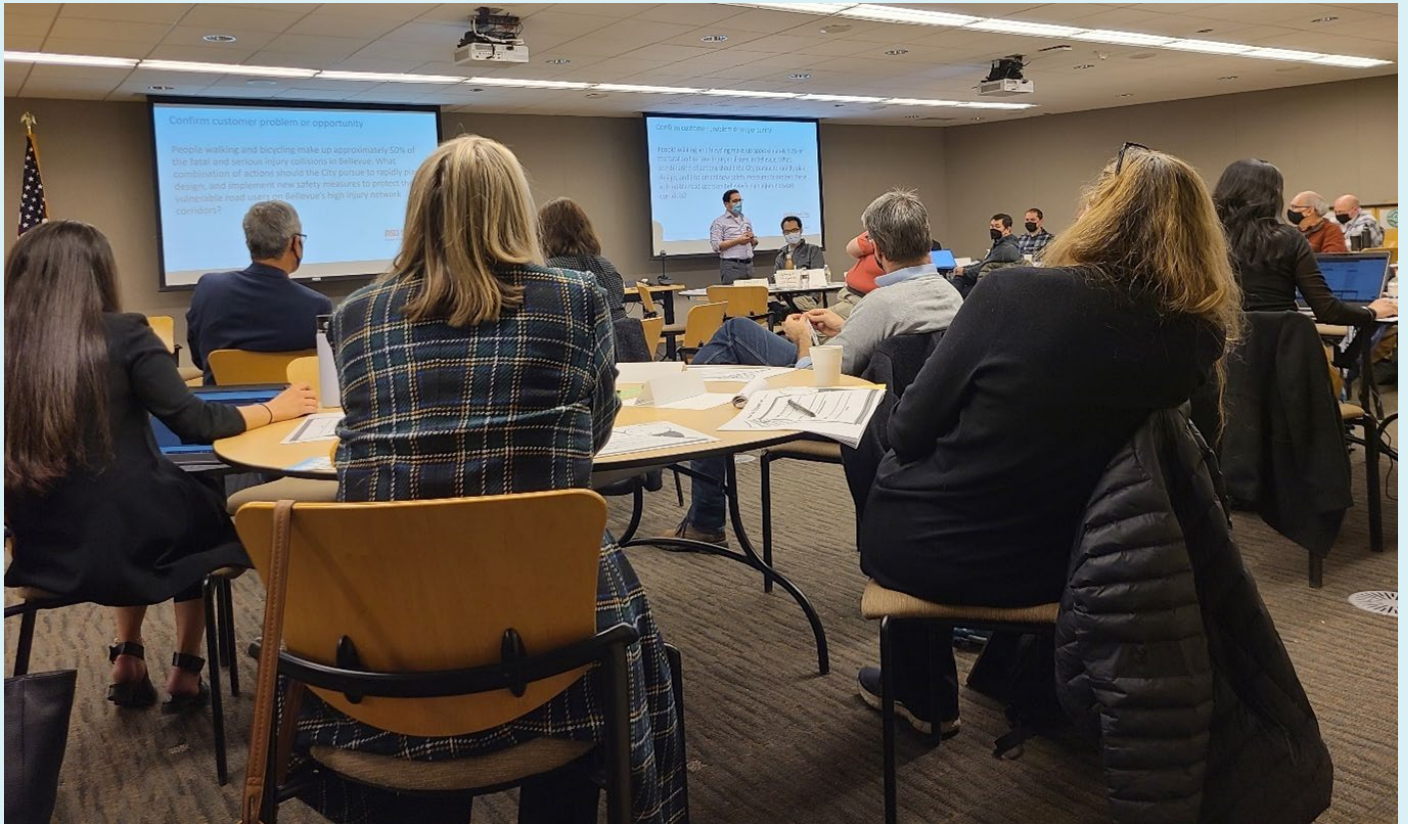
The audience was asked to develop a “Working Backwards Document” to describe what they are launching in Bellevue. As explained, it needs to describe the opportunity or the problem, describe the approach or solution, describe the customer experience, include a leadership quote and a customer testimonial, and have a call to action. Each table was assigned a part to develop (see Appendix C – Working Backwards Vision Document).

Workshop Exercise: Storyboarding/Visual Page

As a final exercise, the audience was asked to form a mental image in their heads of what this effort should look like, then take that image and draw as best they could on a storyboard sheet to be shared with will all to conclude the workshop. The story boards were shared and will be used by the CIC hosts to create a professional storyboard as a product of the workshop.

3:00 p.m. - Meeting Adjourned













► APPENDIX C - WORKING BACKWARDS VISION DOCUMENT

BELLEVUE UNVEILS LATEST VISION ZERO UPGRADES DOWNTOWN **New technology, other tools to protect people who walk, ride**

BELLEVUE, Wash. -- Bellevue today announced new measures to ensure vulnerable road users in the urban core have safe access to light rail stations that will open in 2023. The changes to transportation system elements such as crosswalks and bicycle lanes are designed to improve safety and are based on research.

The data shows that people, especially those over 70 years of age, are among the most vulnerable to being injured or killed in a transportation system that favors people who drive over people who walk. Downtown crosswalks can be particularly challenging for people who are unable to make it across wide intersections in the allotted time.

“Nothing used to scare me like crossing Main Street. The walk lights changed so fast and drivers sometimes ran right through the traffic signal,” said Julie Jones, an older adult who lives downtown. “But now I feel safe getting to the new light rail stations.”

Bellevue collected and analyzed data to understand the specific safety needs and identify solutions that would have the greatest impact. The data, based on an analysis of police incident reports shows:

- In 2021, 26 people were seriously injured and one person was killed on Bellevue streets.
- While only 5% of crashes in the city involved pedestrians and cyclists, those road users accounted for 49% of all serious injuries and fatalities.

- Bellevue’s urban core -- the downtown, Wilburton and BelRed neighborhoods -- makes up only 7 percent of the land in Bellevue, but 30 percent of all serious-injury and fatal collisions took place there.
- Failing to yield to pedestrians has contributed to 41% of all pedestrian fatalities and serious injuries in Bellevue over the past 10 years, according to an analysis of police incident reports.

In response to the data, Bellevue has undertaken several projects to improve safety. The city has:

- Built five new mid-block crossings with flashing beacons, providing more and safer options for people walking downtown.
- Implemented High Visibility Crosswalk pavement markings throughout downtown to increase awareness of pedestrian crossings at intersections.
- Installed lidar (pulsed laser imaging technology), at intersections to detect vehicles, pedestrians, and bicyclists. It can interface with the city’s adaptive traffic signals, making it possible to identify road users struggling to clear the crosswalk within the allotted time, then extend the walk signal to give the pedestrian more time to cross.
- Implemented signal head backplates with retroreflective borders to enhance visibility of traffic signal indications to aid drivers’ advance perception of the upcoming signalized intersection.
- Added new protected bike lanes to create a connected network, improving access to light rail stations and regional trail systems.

-
- Added enhanced bicycle detection systems to reduce delay for cyclist at signalized intersections.
 - Conducted road safety assessments with residents on high-injury corridors downtown to identify candidate locations for low-cost, rapid-build safety improvements.

“Bellevue is demonstrating its clear commitment to Vision Zero through action,” said Mayor Tim Thomas. “We’re starting downtown to see how it works before we scale up citywide.”

More information Bellevue’s Vision Zero efforts is available at www.bellevuewa.gov/vision-zero



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