



# Seattle Department of Transportation

## Vision Zero Top to Bottom Review Draft Full Report February 23, 2023

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## A Note to Readers

Mayor Bruce Harrell and Executive General Manager Adiam Emery asked SDOT Director Greg Spotts to prioritize safety in the department's work. To implement this prioritization, Director Spotts commissioned an expedited "top to bottom" review of SDOT's Vision Zero program to help understand why serious injuries and deaths on Seattle streets are on the rise, and to identify opportunities for improvement.

This draft was prepared by staff who do not work within the Vision Zero team and is being shared now in order to engage with City Council, the Transportation Equity Workgroup, several City boards and commissions, and interested members of the community. Feedback from this engagement will help shape the final report, and it will also help inform SDOT's Vision Zero Action Plan update, Seattle Transportation Plan development, and other efforts in 2023.

This review focuses on how SDOT can more effectively deliver safety interventions with demonstrated effectiveness in the locations where they are most needed. It does not evaluate or provide recommendations on specific projects or locations, nor does it attempt to fully assess the potential cost and staffing impacts of recommendations. All recommended strategies and tactics are intended to inform further work to align funding, policies, procedures, and activities within a Safe Systems framework to support Vision Zero.

SDOT wants all readers to engage with the agency on what's presented here and ways to implement Vision Zero in Seattle. The public engagement plan includes hosting events and interviews with traditional and ethnic media; sharing with the City Council; and sending the report directly through email, web, blog, and social media; and making public presentations with Q&A at transportation board and committee meetings. There will be an online feedback form where people can tell SDOT what they think of the content and share any ideas for on-the-ground implementation that the review inspires in them.

## Executive Summary

Vision Zero is Seattle's plan to end traffic deaths and serious and serious injuries on city streets by 2030. It's also an international transportation safety movement, shifting how we approach safety to focus on the most effective ways to reduce harm and move toward a culture of care and dignity for everyone who uses Seattle streets. The Seattle Department of Transportation (SDOT) adopted the goal of ending traffic deaths and serious injuries in 2012 through the Road Safety Summit Action Plan and formally launched its [Vision Zero program](#) in 2015 to organize and strengthen the effort.

SDOT's Vision Zero program is moving toward the United State Department of Transportation's [Safe System](#) approach as a guiding framework. To assess SDOT's alignment with the Safe System approach and the effectiveness of current Vision Zero efforts we reviewed existing documentation and reports, identified challenges and opportunities with existing programs and projects, and interviewed dozens of key SDOT and partner agency staff. We drew on extensive existing research by SDOT's Vision Zero program and peer agencies across the country on the effectiveness of safety interventions and countermeasures. And we reviewed a significant amount of feedback that SDOT has received through many recent efforts to collect thoughts, suggestions, and opinions from the community regarding safety.

Vision Zero is the center of SDOT's work to make our streets safer and aligns with other SDOT core values – to make Seattle more equitable, more sustainable, and climate-friendly. SDOT and community members in the Transportation Equity Workgroup co-created a [Transportation Equity Framework](#) (TEF) to guide efforts to make our work more equitable. Safety and transportation justice are core values of the TEF. This review aims to build on the TEF and work underway to implement it. Concurrently with this review, SDOT is also developing a Climate Emergency Response Framework (CERF) to strengthen SDOT's response to the climate emergency. Many strategies that support a climate-friendly future align closely with Vision Zero.

## What we found

We found that safety interventions and countermeasures used by SDOT to advance Vision Zero make our streets safer. We also identified dozens of potential opportunities to improve SDOT's Vision Zero efforts - by strengthening policies and improving policy implementation, streamlining decision-making, improving project delivery, and moving more quickly toward broader implementation of proven interventions where they are most needed.

## Key Recommendations

- **Incorporate Vision Zero and Safe Systems approaches into every project and program**
- **Adopt clearer and stronger guidance for facility design**
- **Clarify and streamline internal decision pathways**
- **Be willing to reduce vehicle travel speeds and convenience to improve safety**
- **Implement iterative, ongoing improvements to our infrastructure**
- **Accelerate planning for broader or systemwide implementation of proven interventions**
- **Secure funding to incorporate Vision Zero improvements in all projects and for asset maintenance**
- **Complete racial equity analysis of automated enforcement. Address inequities and where appropriate, use automated enforcement as a tool**
- **Shift culture and strengthen support for Vision Zero throughout SDOT**
- **Strengthen and resource SDOT's Vision Zero core and matrix teams**
- **Improve SDOT's customer service response process**
- **Be champions for Vision Zero as we engage with WSDOT, the Port of Seattle, transit partners, the legislature, and other organizations**

## How we recommend SDOT use this report

This report is neither the beginning nor the end of SDOT's Vision Zero work. Our recommendations are intended to spur action to make SDOT more effective in delivering Safe Systems and Vision Zero outcomes, and to provide an important input into SDOT's upcoming update of the Vision Zero Action Plan. The recommendations in this report should also be used to inform future budget processes and organizational planning to improve overall alignment with Vision Zero.

As we publish this draft report for public review, we plan to present the report to and engage with the Seattle City Council, SDOT's Transportation Equity Workgroup, and several City boards and commissions. Feedback from this engagement will be summarized in the final report to provide additional input for SDOT's Vision Zero Action Plan update, Seattle Transportation Plan development, and other efforts in 2023 and beyond.

# 1. Introduction and background

## What is Vision Zero?

Vision Zero is Seattle's plan to end traffic deaths and serious injuries on city streets by 2030. It's also an international transportation safety movement, shifting how we approach safety to focus on the most effective ways to reduce harm and move toward a culture of care and dignity for everyone who uses Seattle streets.

The Seattle Department of Transportation (SDOT) adopted the goal of ending traffic deaths and serious injuries in 2012 through the Road Safety Summit Action Plan and formally launched the Vision Zero program in 2015 to organize and strengthen the effort.

Key principles of Vision Zero include:

- Traffic deaths and injuries are preventable. Crashes or collisions are not “accidents.” They are preventable and often occur as a result of the way our transportation system has been designed – for the fast, uninterrupted movement of motor vehicles.
- Humans make mistakes and are vulnerable and fragile. When we say “most vulnerable,” we mean people who are not protected by a vehicle – people walking, rolling (using a wheelchair or other mobility device), biking, scooting, or riding a motorcycle.
- Success does not hinge on individual behavior, but on the design of a safe system. To reach Vision Zero, we need to re-imagine and change our street designs to encourage slower speeds, reduce conflict points between travelers, and focus on the safety of the most vulnerable.

Vision Zero's bold goal – to eliminate all traffic fatalities and serious injuries on our streets – may seem unachievable to some. We believe that deaths and serious injuries resulting from traffic crashes are unacceptable and hold this vision as our north star and a goal to measure our progress. We continue to push to achieve Vision Zero by 2030.

## Purpose of this Vision Zero top to bottom review

While Seattle's streets are some of the safest in the United States, we still see more than 10,000 crashes a year, resulting in an average of 28 people losing their lives and 180 people seriously injured. These are our friends, neighbors, and family members.

SDOT has implemented many projects and programs to advance Vision Zero, with measurable reductions in the frequency and severity of crashes at project locations. Despite these efforts, deaths and serious injuries on Seattle streets trended upward in 2020, 2021 and 2022. In particular, pedestrian fatalities have been on an upward trend.

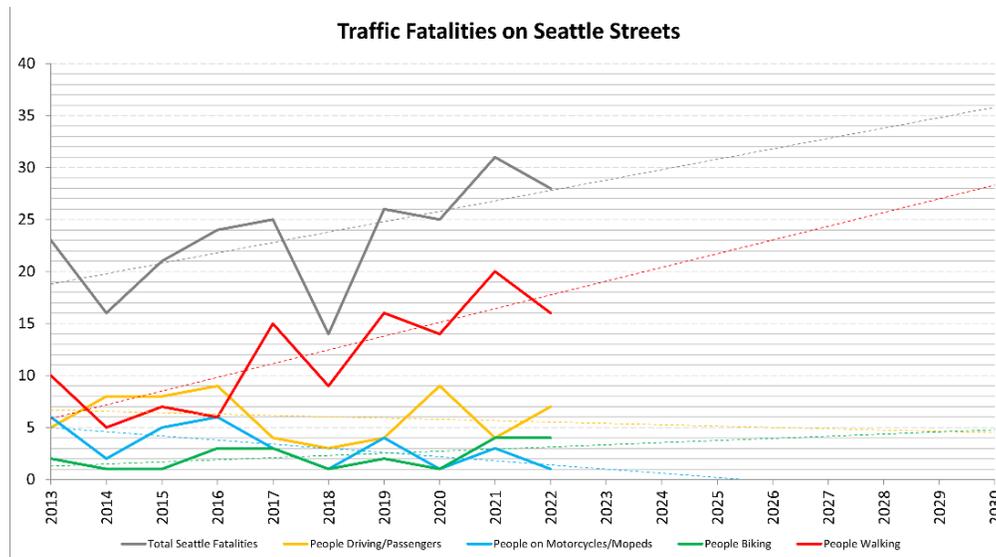


Figure 1: Chart showing traffic fatality trends in Seattle by mode of transportation, 2013-2022. Source: SDOT Vision Zero

When Greg Spotts was appointed SDOT Director in September 2022, he called for a “top to bottom” review of Vision Zero efforts as his first order of business to help understand why serious injuries and deaths on Seattle streets are on the rise, and to identify opportunities for improvement. He asked for the review to be exhaustive in scope and to be done quickly - by early 2023.

### National trends and context

Cities and peer agencies around the country are wrestling with the same questions and concerns as Seattle. Our understanding of the problems – and of effective approaches to address the problems – is rapidly evolving in the transportation safety profession. This review provides a snapshot in time of what’s working and not working in our community. SDOT’s Vision Zero team has strong connections with peer agencies through the National Association of City Transportation Officials (NACTO), the Vision Zero Network, and other organizations, and will continue to review and incorporate best practices.

Part of the challenge is that the United States is an outlier among wealthier nations – one of the few experiencing increases in transportation fatalities over the past few decades, and, notably, since the pandemic began. Nationwide we’ve also seen crash, fatality, and injury rates diverge between people inside vehicles (as personal vehicles became safer for the driver and passengers) and people outside vehicles - especially people walking, biking, and rolling.

These trends confirm the effects of long-standing, national policies and priorities favoring personal driving over active and public transportation modes; the effects of larger and more powerful cars and trucks; and the reality that undoing a century of vehicle-focused city planning and street design toward people-focused design is perhaps our greatest challenge.

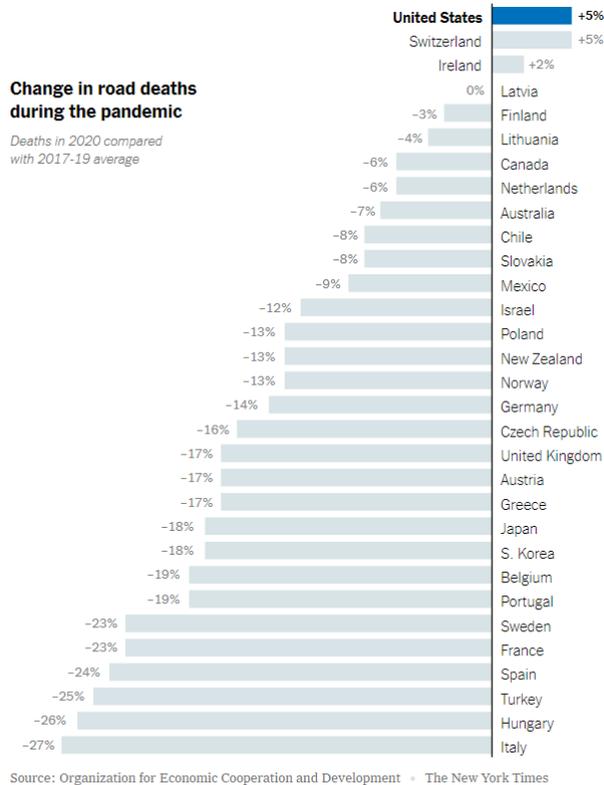


Figure 2: Chart showing traffic fatality trends by country in 2020 compared to prior years.

Traffic deaths in the United States increased during the pandemic, in contrast to decreases in most other wealthy peer countries. This national trend is headed in the wrong direction and gives Seattle an impetus to find local, actionable approaches to reverse the trend. We cannot assume a national shift is or will be happening in the near-term. Source: OECD data visualized by The New York Times

This review also considers changes experienced across the country since the onset of the COVID-19 pandemic. In 2020, although the total number of crashes in Seattle and nationwide went down, the frequency of severe crashes in many jurisdictions increased. While the exact factors that led to this uptick are still being studied, these changes highlighted some of the entrenched challenges we have with the design of our streets. [The pandemic alone did not cause an increase in serious and fatal collisions, but highlighted the work we must do to get to safer streets.](#)

### Grounding this work in other SDOT core values: Equity and sustainability

Vision Zero is the center of SDOT’s work to make our safe streets safer and aligns with other SDOT core values – to make Seattle more equitable and more sustainable and climate-friendly.

SDOT established a Transportation Equity Workgroup (TEW) in 2019 to seek input from a broad and diverse set of community members representing Black, Indigenous, and People of Color (BIPOC) and vulnerable communities. Working with the TEW, SDOT co-created a [Transportation Equity Framework](#) (TEF) to guide efforts to make our work more equitable. Safety and transportation justice are core values of the TEF. This review aims to build on the TEF and work underway to implement it. The TEF includes strategies and tactics related to safety and Vision Zero, including specific tactics to address historical inequities with traffic enforcement and automated enforcement.

Drawing from SDOT's equity work, our review also aims to build on the framework of [targeted universalism](#), which means setting universally applicable goals, paired with targeted approaches to move toward those goals. In particular, this framework is used to make the case for centering people who are most impacted by past policy choices or those who are most vulnerable in our current system. By centering youth, elders, and people with disabilities in how we think about safety, we can design a system that is safer for everyone. This may require people to accept new paradigms for how streets function – sometimes compromising speed and convenience to make streets safer for everyone.

Concurrently with this review, SDOT is developing a Climate Emergency Response Framework (CERF) to strengthen SDOT's response to the climate emergency. Many strategies that support a climate-friendly future align closely with Vision Zero. Specifically, both seek a stronger, safer active transportation and transit network and the strategies to achieve this outcome are generally the same – reducing personal vehicle trips and providing safe, connected, and reliable active transportation and transit options.

#### [Other guiding frameworks: Safe System Approach and Hierarchy of Controls](#)

Traffic safety and Vision Zero programs have historically relied on “the three E’s” – engineering, education, and enforcement – to guide their actions. SDOT's Vision Zero program is evolving beyond that approach and toward a new approach championed by the United States Department of Transportation (USDOT) called the [Safe System Approach](#). The goal of Safe System Approach is to build multiple layers of protection to reduce crashes and minimize harm.

The Safe System Approach identifies five guiding principles and five objectives. In the graphic below, the guiding principles listed around the outside of the circle and the objectives are shown as slices within the circle. As a local department of transportation, SDOT is largely focused on two of the five objectives: safer roads and safer speeds. These are traditionally areas where we have more direct control as an agency. The [SDOT Response Team](#) contributes to post-crash care. SDOT works in partnership with other agencies and organizations to take a holistic approach to addressing all Safe System Approach objectives. We used this framework in our review, and support SDOT using it to guide future Vision Zero efforts.



Figure 3: Safe System Approach Diagram. Source: US Department of Transportation

To understand the effectiveness of Vision Zero interventions, we also used the Centers for Disease Control and Prevention (CDC) [Hierarchy of Controls](#). We know that traffic deaths and injuries are a public health concern and believe applying this CDC framework can help understand how to make our streets safer. In the context of Vision Zero, we recognize that vehicles pose a hazard to people walking, biking, and rolling, as well as for people in vehicles.

We also recognize that motor vehicles play an important or even essential role for many people, and that freight movement by trucks is a key part of our supply chain and economy. The hierarchy of controls tells us that the most effective options, however, are eliminating the hazard, as well as providing replacements, called substitution. SDOT and partner agencies invest in options that can be substituted for car travel.

The majority of SDOT's work on Vision Zero falls under engineering controls (i.e., street design) and administrative controls (i.e., regulating speed limits and enforcement). CDC's framework also suggests that layering of these types of interventions can improve effectiveness.

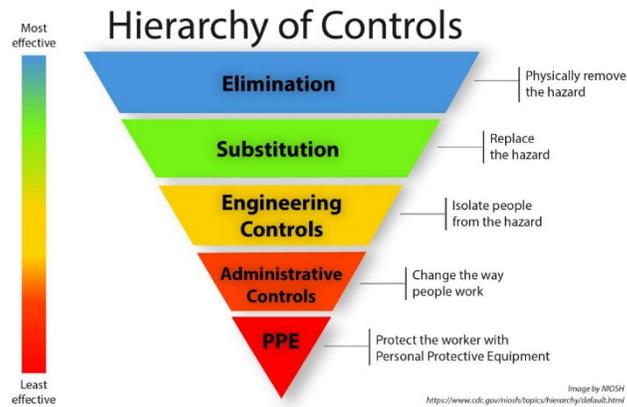


Figure 4: Hierarchy of Controls diagram. Source: Centers for Disease Control and Prevention

## 2. Review of existing programs, conditions, and sources of information

Throughout its history, SDOT (and the Seattle Engineering Department that preceded it) has focused on safety. What safety means to us has evolved as our Vision Zero programs have developed. Meanwhile, engineering standards continue to evolve to prioritize safety rather than focusing on vehicle throughput and travel time.

Over the years, SDOT implemented many projects to make our streets safer and more human-centered. SDOT has received national recognition for its Vision Zero work such as the [US Vision Zero for Youth Leadership Award](#) from the National Center for Safe Routes to School in 2022. We want to acknowledge the years of care and work that have gone into these efforts.

### How SDOT is currently organized to deliver Vision Zero

SDOT currently has a small group of staff in the Project Development Division (PDD) dedicated to leading Vision Zero efforts for the department. SDOT's Transportation Operations Division (TOD) staff, including the City Traffic Engineer, are key resources, working closely with the Vision Zero core team and other SDOT divisions to develop and implement projects and programs supporting Vision Zero. Like many SDOT programs, every division in SDOT contributes to Vision Zero in some way and staff are "matrix" resources to the program, which means they may not directly report to the Vision Zero team, but are committed to advancing Vision Zero.

### Projects and programs contributing to Vision Zero

Vision Zero tools focus on reducing vehicle speeds and reducing or eliminating conflicts between people using the right-of-way. The Safe Systems framework and Hierarchy of Controls provide general guidance regarding effective interventions, and the Federal Highway Administration (FHWA) has also identified [proven countermeasures](#).

Actions SDOT's Vision Zero and other SDOT programs have taken to improve safety include:

- Developing robust data-driven research, analysis, and planning;
- Reducing speed limits citywide;

- Redesigning arterial streets to reduce speeds, including reducing general purpose travel lanes;
- Implementing leading pedestrian intervals, which allow people crossing at signalized intersections to get a “head start” on vehicles;
- Implementing “no turn on red” restrictions and signage;
- Enhancing pedestrian crossings with marked crosswalks, signage, flashing beacons, and refuge islands;
- Implementing signal timing improvements to allow more time for people to cross the street, or to help manage vehicle speeds;
- Increasing visibility at intersections by installing curb bulbs, “no parking” signage, or traffic delineators such as plastic wands and Tuff Post;
- Adding “hardened centerlines,” which are an extruded curb lane delineation, at intersections to direct and slow turning vehicles;
- Building and repairing sidewalks and pedestrian pathways;
- Building protected bicycle lanes;
- Adding speed humps and cushions;
- Implementing program-based interventions, such as the Safe Routes to School, Neighborhood Greenways, and Home Zone programs, which deploy a variety of the measures in priority corridors or areas;
- Providing funding and staffing support for implementation of measures as part of other capital projects, including Arterial Asphalt and Concrete paving and Transit Plus Multimodal Corridor projects; and,
- Collecting data and performing analysis to support prioritization of the above improvements.

#### How SDOT uses data to support Vision Zero

SDOT's Vision Zero and bicycle and pedestrian programs have collected and analyzed a large amount of data to drive safety decisions. Our data show that more crashes – especially serious crashes – occur on arterials than neighborhood streets. SDOT analysis shows 93% of pedestrian fatalities occur on arterials, and 80% of those fatalities were on arterials with more than one lane in each direction. Our data also show that 80% of people killed while biking were biking where no bike facility was available. These charts show data from 2015 through 2022.

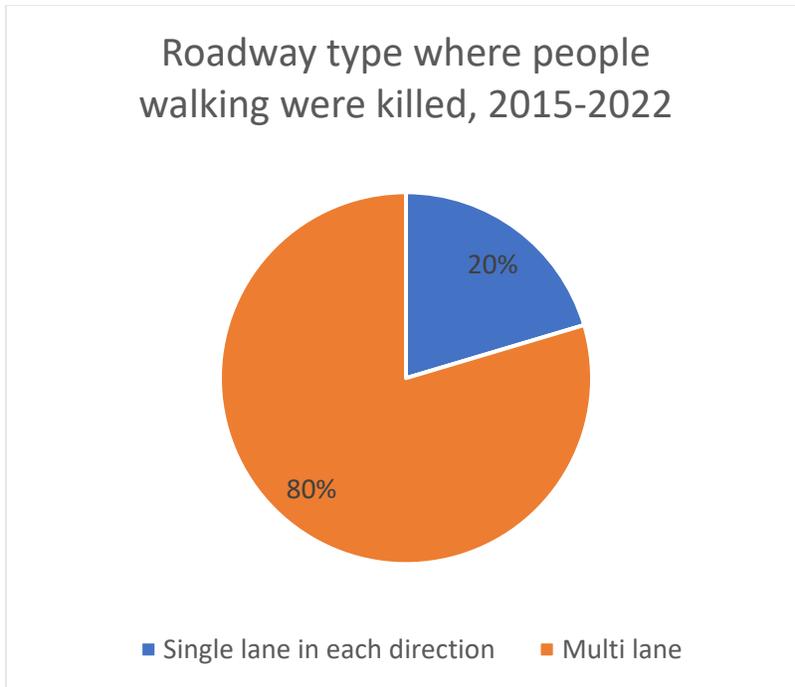


Figure 5: Chart showing roadway types where pedestrian fatalities occurred. Source: SDOT Vision Zero

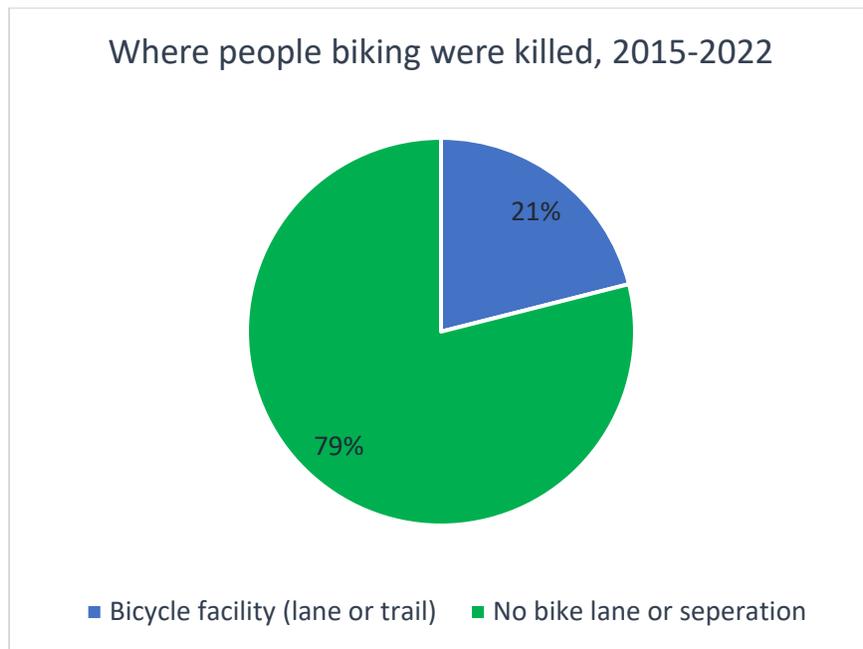


Figure 6: Chart showing bicycle fatality locations by availability of bicycle facility

Key examples illustrating SDOT’s use of data include:

- [Bicycle and Pedestrian Safety Analysis \(BPSA\)](#) – Uses statistical models to estimate the risk of incidents based on multiple land use and transportation input variables. The model predicts risks even where there have not been many documented crashes. The BPSA helps SDOT be more proactive in intersection-level safety work and also helps identify higher risk corridors.

Two phases of this analysis have been completed – most recently in 2020 – and a third phase is underway. Each phase has added data and improved statistical methods to help refine our understanding of higher risk areas for people walking, rolling, and biking. The BPSA also prioritizes locations by Council district for bicycle and pedestrian investments.

FIGURE 14: TOP 20 PRIORITY PEDESTRIAN LOCATIONS PER COUNCIL DISTRICT

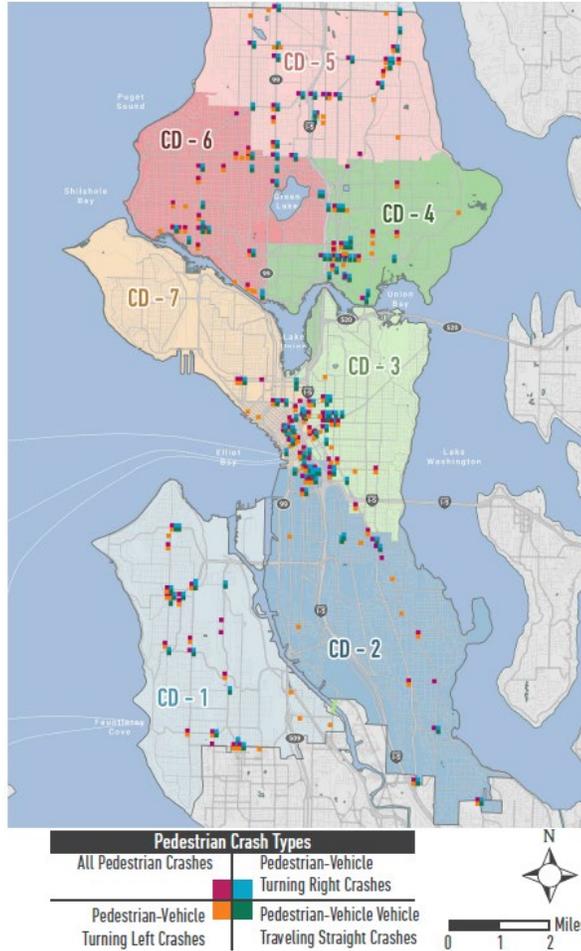


Figure 7: Map showing Top 20 Priority Pedestrian Locations per Council District.  
 Source: SDOT Bicycle and Pedestrian Safety Analysis, Phase 2

- [High Injury Network \(HIN\)](#) (see slide 14) – Uses a simpler model to show where the highest number of serious injury crashes occur based on the density of total collisions and fatal and serious injury collisions. SDOT uses the HIN to prioritize corridor-level work. The national non-profit Vision Zero Network [recommends that all cities adopt HINs](#) to focus limited resources on the corridors where people have been the most harmed. SDOT’s 2022 HIN uses the Office of Planning and Community Development’s [Race and Social Equity Index](#) as the primary prioritization criteria.



Figure 8: 2022 High Injury Network. Source: SDOT Vision Zero

- **High-Collision Location (HCL)** – Reviews map data showing where a high number of collisions have occurred in the preceding year to prioritize locations for improvements. High-collision locations are defined and mapped for collisions occurring at signalized intersections, non-signalized intersections, and mid-block – as reported by the Seattle Police Department (SPD). SDOT also maps high-collision locations for collisions involving pedestrians and bicycle riders. Using this analysis, SDOT evaluates approximately 40 locations per year and monitors or makes recommendations for countermeasures to prevent future collisions.

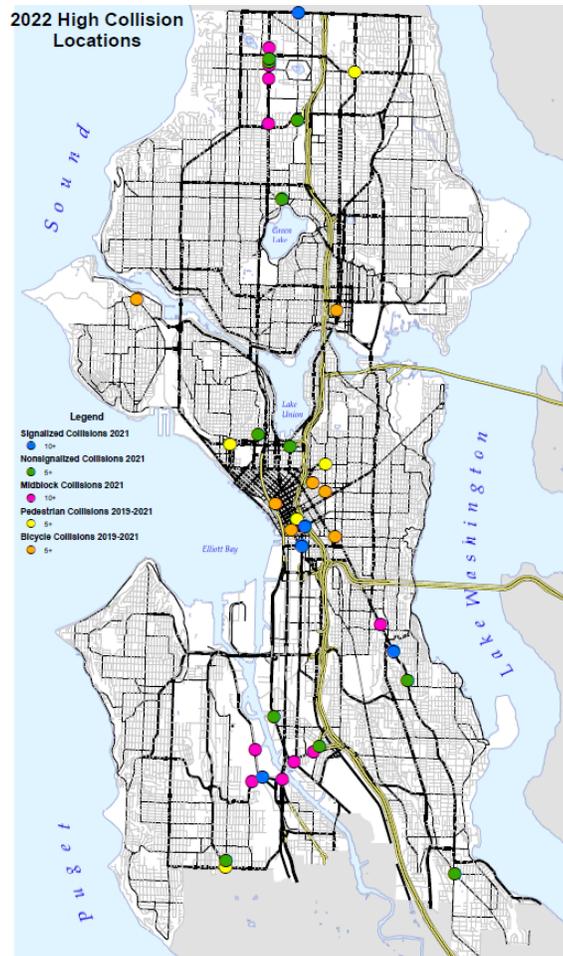


Figure 9: 2022 High Collision Locations. Source: SDOT Vision Zero

- Fatal incident reviews – SDOT reviews all transportation-related fatal incidents in SDOT right-of-way, excluding those caused by intentional, law enforcement, or medical emergency events. The review focuses on ensuring that elements such as signs, lighting, and signals meet current standards. Additional reviews are included for bicycle- and pedestrian-related fatalities, or for unique conditions.
- Citywide non-arterial intersection crash review – SDOT reviews crashes at non-arterial intersections annually to identify potential spot improvements. Typically, the top 20 intersections are identified and improvements such as traffic circles, signage, marking enhancements, and sightline obstruction removal are pursued. Because most serious injury and fatality crashes occur on arterials, the Vision Zero program focuses on arterials. However, the non-arterial network provides important access and lower stress streets for people walking, biking, and rolling.

### Data we're missing

SDOT relies heavily on SPD reports to track serious injuries and fatalities on our streets. This explicitly leaves out incidents not reported to police and likely undercounts incidents and injuries. Police reports are based on information available to responding officers and through witness statements after a

serious incident has occurred. Reports are often detailed but can provide limited actionable information for SDOT. Vision Zero focuses on collisions resulting in fatalities or serious injuries as determined by the responding officer and does not focus on minor collisions. SDOT does not systematically track near-misses, though people sometimes report such incidents to SDOT.

### Current focus corridors and areas

Based on ongoing review and analysis of data, SDOT is currently focusing efforts on the corridors and areas where serious injury and fatality collisions are highest or highest risk (with work underway or starting soon).

The map below shows where serious and fatal collisions occurred over 2019-2021, along with the mode of transportation used by the affected person, overlaid with the City's Race and Social Justice Index. The map shows that 44% of fatal and serious crashes between 2019-2021 happened in District 2 (SODO and Southeast Seattle), which also has the highest proportion of Census tracts rated as "highest disadvantage." District 5 is also disproportionately represented on this map. In 2022, 56% of fatal and serious crashes happened in District 2.

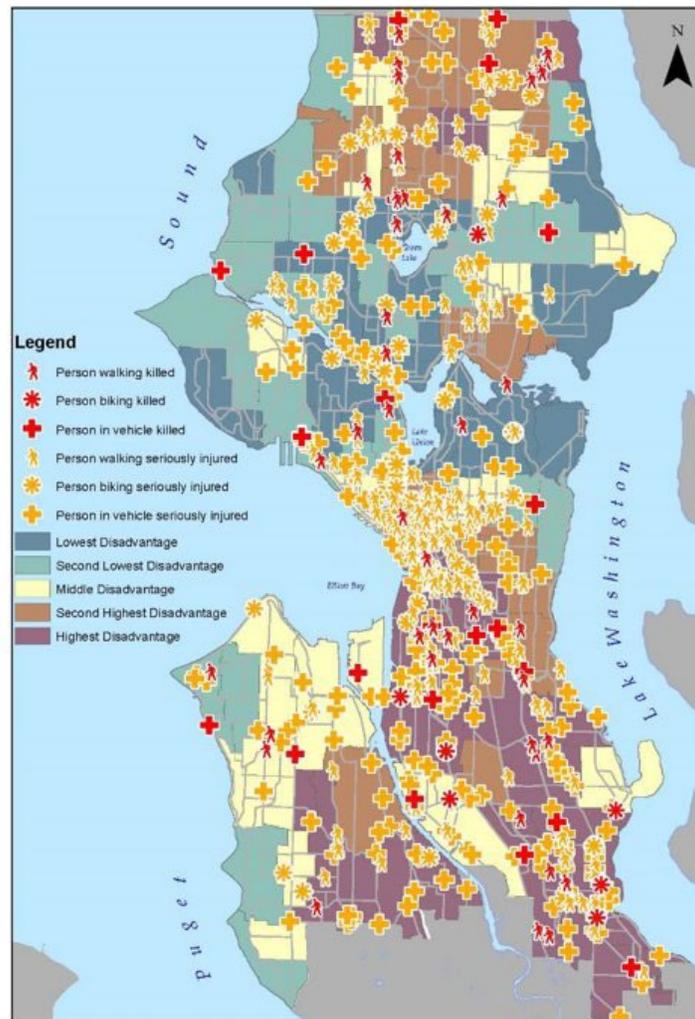


Figure 10: Map showing fatalities and serious injuries by mode, with the City's Race and Social Equity Index.  
Source: SDOT Vision Zero

People walking and biking are also disproportionately likely to be killed in the areas rated highest priority/most disadvantaged.

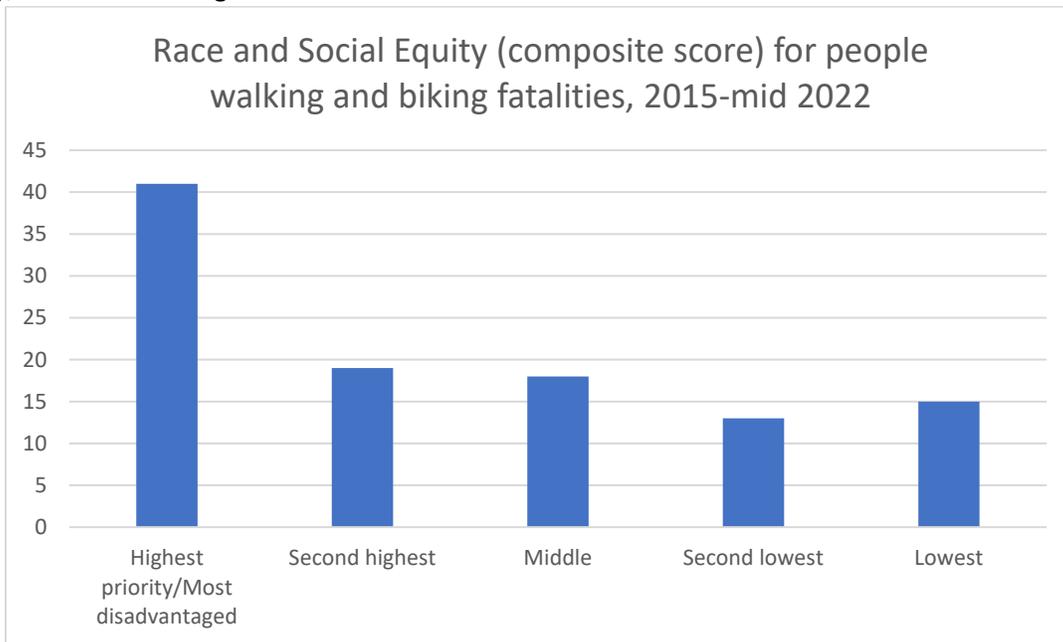


Figure 11: Chart showing where people walking and biking were killed, 2015-June 2022, according to the City's Race and Social Equity Index Composite Score. Source: SDOT Vision Zero

### Focusing on the most vulnerable people on our streets

Identifying who is most vulnerable informs our priorities, street designs, and overall approach. The following groups tend to be most vulnerable when traveling in the right-of-way.

- **Unhoused people:** In 2021, 27% of people who were killed on city streets were unhoused compared with 13% of people killed between 2016 and 2021.
- **People walking, biking, and rolling:** People walking, biking, and rolling are involved in 7% of total collisions but make up 61% of fatalities in Seattle. Anyone who is outside the protection of a vehicle is more vulnerable to more serious harm.
- **Communities of color and low-income communities:** [Seattle's Race and Social Justice Index](#) characterizes neighborhoods by factors such as race, income, education, and English language use and ranks neighborhoods according to "disadvantage." The parts of Seattle that are rated as highest disadvantage have the highest rate of fatalities and serious injuries. In 2021, [56% of fatal crashes](#) (see slide 12) were in City Council District 2, which is the district with the highest "disadvantage" rating in the Race and Social Justice Index. Data of individuals impacted by crashes also shows that Black people are disproportionately affected by fatal crashes.
- **Children:** Youth fatalities on Seattle streets are very rare. However, given their size and brain development, children are particularly vulnerable to being harmed by collisions. The majority of collisions that seriously injure kids happen outside of school travel times and in locations not on routes to school.

- **Older adults:** The average age of people killed on streets in Seattle is 52. [Nationally](#), pedestrian fatality rates rise significantly at age 45; a 75-year-old is more than twice as likely as a 16–20-year-old to be hit by a car. Similar to children, older adults may move more slowly and their bodies are more fragile. Seattle does not currently dedicate resources to transportation safety programming for older adults.
- **People with disabilities:** While [SDOT is making progress](#) toward our city being more accessible, streets can still be [uncomfortable or perceived as unsafe](#). People with disabilities have a wide range of different needs, but may move more slowly, be less visible to people driving, or not be able to see or hear hazards. Things that can seem like a minor hazard to someone without disabilities can create a serious safety concern for a person with a disability. Designing streets that are safe and comfortable for people with disabilities makes streets safer and more comfortable for all.

### Looking ahead

SDOT applied for a federal [Safe Streets and Roads for All grant](#) for a set of projects totaling \$37.5 million to make relatively low-cost, effective improvements at a much larger scale – with 90% or more of spending focused on underserved communities. Proposed improvements include upgrades to more than 100 signalized intersections with accessible pedestrian signals, ADA curb ramps, and leading pedestrian intervals; upgrades to six unsignalized crossings with marked crosswalks, refuge islands, and rapid flashing beacons; 1.5 miles of new sidewalks; 4 miles of new protected bike lanes; and 4.5 miles of arterial traffic calming with lane reductions, speed humps, and medians. Announcements about grant awards are expected in January 2023. SDOT has many other initiatives underway to advance Vision Zero, several of which are called out in the recommendations below.

## 3. Findings and recommendations

Based on our review of background information, existing programs, conditions, and other available sources of information, we have summarized our findings and recommendations in six categories:

- Policies, guidelines, and implementing procedures;
- Program and project delivery;
- Allocating resources and budget;
- Automated enforcement;
- Organization, staffing, and analysis; and
- Partnerships.

Within each of these categories, we identified both strategic and tactical recommendations. A Summary Table of recommended strategies and tactics is included in Appendix A. Below we list the recommended strategies by category and highlights notable examples from the Summary Table of recommended tactics.

This review does not attempt to fully assess the potential cost and staffing impacts of recommendations. All recommended strategies and tactics are intended to inform further work to align funding, policies, procedures, and activities within a Safe Systems framework to support Vision Zero.

## Policies, guidelines, and implementing procedures

Key Recommendations:

- **Incorporate Vision Zero and Safe Systems approaches into every project and program**
- **Adopt clearer and stronger guidance for facility design**
- **Clarify and streamline internal decision pathways**

Seattle has several key policy documents that inform priorities for projects and programs, including the Complete Streets Ordinance, Streets Illustrated, and multiple plans for keeping people and goods moving safely and efficiently ([modal plans](#)). Even with these guiding documents, decision-making on issues that affect multiple SDOT divisions can be inefficient and inconsistent.

The Complete Streets Checklist is the primary tool SDOT uses to implement the Complete Streets Ordinance. The checklist helps project managers identify elements of a “complete” project from guiding policy documents and other sources as they begin projects. Staff are currently working on an updated checklist and aim to release it in 2023. SDOT staff are working on an ongoing basis to improve Complete Streets decision-making to right-size and **clarify the internal decision pathways** for specific types of issues. SDOT is also currently developing the Seattle Transportation Plan, which could provide stronger policy guidance on program priorities and help inform changes to complete streets policies and procedures to make implementation of the ordinance more effective.

SDOT must navigate adopted federal, state, and local rules and guidelines, and justify and document deviations. Establishing clearer guidelines can streamline project-by-project decision-making and support greater innovation and context-sensitive design. SDOT is currently developing new or updated guidance documents for an Enhanced Crossing Policy for marked crosswalks with additional improvements, Pedestrian Crossing Guide, and Bicycle Facility Design Guidelines.

Autonomous vehicles (AVs), electric vehicles (EVs), bike and scooter share programs, and other emerging technologies and modes could greatly alter how we manage safety on Seattle streets. SDOT also regularly receives requests from private companies looking to operate new and innovative transportation in the right-of-way, such as delivery robots and shared mopeds.

Advocates for AVs hope to remove human error from driving behavior, though autonomous vehicles are not yet error-free. Companies have already begun testing AVs on city streets and SDOT is currently reviewing the first permit application for testing in Seattle.

Policy documents on climate such as the [Transportation Electrification Blueprint](#) and [Executive Order 2022-07: One Seattle Climate Justice Actions to Reduce Emissions from the Transportation Sector](#) promote the use of EVs across sectors. While EVs are promising for climate progress, they are not always aligned with Vision Zero goals. In some cases, EVs are heavier and therefore pose a greater risk of harm to people outside of them. Additionally, the quietness of EVs may pose a greater risk to people walking, biking, and rolling who cannot hear the vehicles approaching.

SDOT permits the use of bike share and scooter share, operated in a free-floating format since 2017. Generally, these devices contribute to climate-friendly transportation options and provide an alternative

to travel by car. SDOT reviews collision reports related to these modes and conducted a user survey in 2021 that gleaned a large amount of data from self-reported injuries. SDOT also receives complaints about these devices obstructing sidewalks and complaints of users riding faster than pedestrian speed on sidewalks and making others uncomfortable. Overall, we find that users of these modes are similarly vulnerable to crashes as others who are walking, rolling, and biking. While SDOT conducted a survey on which users did report injuries to themselves, we did not find evidence in Seattle of scooter and bike share users causing death or serious injury to others.

#### **Recommended strategies and priority tactics:**

- Update guiding policies and procedures to reflect best practices
  - Adopt clearer and stronger guidance for facility design, such as for bicycle facilities and pedestrian crossings, to reduce the complexity of decisions for site-specific applications.
- Incorporate Vision Zero and Safe Systems approaches into every project and program
  - Incorporate Vision Zero and the Safe Systems framework as projects are developed, including when prioritizing which projects get built and when, and when designing capital projects (public works contracts) and crew-built projects.
- Anticipate and prepare for future transportation innovation and mitigate future risks
  - Continue current efforts to permit and regulate new and emerging transportation technologies. Regularly collect safety data on these new modes and be ready and willing to strengthen regulations.

#### [Program and project delivery](#)

Key Recommendations:

- **Be willing to reduce vehicle travel speeds and convenience to improve safety**
- **Implement iterative, ongoing improvements to our infrastructure**
- **Accelerate planning for broader or systemwide implementation of proven interventions**

SDOT has two major mechanisms to implement improvement projects: capital projects, which are larger in scale and entail contracting with an outside firm to construct, and crew-built projects, which are smaller and designed and implemented by SDOT staff. State law restricts the dollar value of projects that SDOT can deliver with its own crews.

Both mechanisms have challenges with timelines and expectations for project review and decision-making that currently slow down our progress toward Vision Zero. As noted earlier, applying existing standards on a project-by-project basis and justifying deviations can be cumbersome; updated design guidance documents could help streamline decision-making and documentation requirements in many cases. The process and authority for decision-making is also not always clear. Decision-making around improvements that improve safety and slow vehicular traffic can be especially difficult—due to competing priorities, a lack of clear direction from leadership, and other concerns—even though safer speeds are a key component of Safe Systems.

Labor costs for project development, design, and construction management are a significant portion of total project cost, particularly for smaller-scale or scattered-site improvements, and projects with lower material costs. For these “lower cost” improvements, the efficiency of decision-making and project delivery is critical to controlling costs.

Larger capital projects represent a key opportunity to implement best practices, and SDOT also needs to be able to respond to evolving conditions. When adequate funding is not identified to implement best Vision Zero practices as part of a capital project, SDOT does not have a consistent mechanism to plan for future improvements in that corridor or location. In some cases, SDOT has phased improvements by implementing lower-cost improvements first and planning for upgrades over time. However, more often, improvements are not included in the capital project initially, or no plans are made for future additional improvements after lower-cost improvements are installed.

In 2022, City Council passed a proviso to the City budget to direct \$1 million in bicycle master plan implementation funds to upgrade lower-cost plastic traffic delimiters with concrete barriers in District 2. This work provides an opportunity to pilot planning for broader or systemwide upgrades to shorter life assets, though in the short term may pull funding from other planned projects.

SDOT has successfully rolled out some operational changes that are proven interventions for safety improvement. For example, leading pedestrian intervals (LPIs) have been added at many signalized intersections throughout the city to give pedestrians a “head start” when signals change. SDOT is also working to implement “no turn on red” regulations at many intersections downtown. In many cases SDOT does not have plans for rolling out these types of smaller scale changes more broadly. For example, SDOT has piloted hardened center lines, and has developed a list of potential places to implement, but this plan has not yet been finalized.

Recommended strategies and priority tactics:

- Improve project delivery efficiency for Vision Zero improvements
  - Be willing to reduce vehicle travel speeds and convenience to improve safety. Be clear about benefits and transparent about potential impacts to general purpose vehicle travel.
- Implement iterative, ongoing improvements to our infrastructure
  - Respond to the Council Proviso for upgrades to District 2 bicycle infrastructure, and apply lessons learned from this effort to develop clearer plans to maintain, replace, and/or upgrade facilities on an ongoing basis citywide. Upgrades should be strategic and may use a variety of durable materials.
- Accelerate planning for broader or systemwide implementation of proven interventions
  - Evaluate multi-lane arterials where most pedestrian fatalities occur. Identify and plan for opportunities for lane reductions while maintaining transit and freight networks and emergency response capabilities and being transparent about expected impacts to general purpose vehicle travel.

### Allocation of resources and budgeting

Key Recommendation:

- **Secure funding to incorporate Vision Zero improvements in all projects and for asset maintenance**

SDOT is currently developing a Transportation Asset Management Plan. Some existing assets are not currently maintained at a high or consistent level of service. For some assets (especially shorter-life assets like traffic posts), SDOT does not yet have a clear maintenance level of service or asset

management plan. Concern about SDOT's ability to maintain safety improvements can be an obstacle to building new improvements that we know will make a difference.

SDOT generally does not estimate operating and maintenance costs of planned improvements to support budgeting for future operations and maintenance. Projects replace existing assets, which may reduce near-term maintenance costs, and add new or enhanced assets, which may increase near-term maintenance costs, particularly for shorter-life assets. Projects may also change the type of maintenance required. Many of the most effective Vision Zero improvements lower some maintenance costs while increasing others. For example, paint-and-post protected bike lanes add a cost to maintain the paint and posts, but lower pavement maintenance costs because bikes damage pavement much less than vehicles. Conversely, replacing flexible traffic posts with more durable assets, like concrete curb or barriers, costs more up-front, but lowers maintenance costs over time.

Capital projects provide a unique opportunity to incorporate major, corridor-wide improvements. However, many SDOT programs are funded only to implement specific deliverables, with a narrow scope definition to maximize those deliverables. Program scopes do not always include Vision Zero improvements. For example, the Arterial Asphalt and Concrete paving program is focused on pavement asset preservation and project scopes and budgets include drainage and ADA elements to meet legal requirements, but do not typically include specific Vision Zero improvements or implementation of modal plans.

As a result, many SDOT capital projects are initiated without sufficient resources to deliver Vision Zero best practices. Projects often seek financial support and staff expertise from the Vision Zero team or other sources to incorporate Vision Zero improvements during project development. In many cases, desired improvements are not implemented due to inadequate funding, funding that is constrained to specific uses, or project delivery timelines. Safety improvements are sometimes viewed as "nice to haves" instead of "must haves."

Recommended strategies and priority tactics:

- Improve planning and budgeting for maintenance and replacement of Vision Zero improvements
  - Develop or update maintenance level of service standards and asset management or replacement plans for shorter-life assets critical to achieving Vision Zero.
- Secure funding to incorporate Vision Zero improvements in all projects
  - Ensure that the base budgets for capital programs and projects include sufficient budget to incorporate Vision Zero best practices in early project scoping phases, or explicitly budget for Vision Zero "partnering" with other capital projects.

### Automated enforcement

Key Recommendations:

- **Complete racial equity analysis of automated enforcement. Address inequities and where appropriate, use automated enforcement as a tool.**

SDOT staff and community members continue to have meaningful conversations about the role of enforcement, including automated enforcement, in our transportation safety strategy. For this reason,

we gave automated enforcement its own section in this report and it has also been the subject of ongoing analysis by Vision Zero staff and community members.

Seattle currently has 31 red light cameras and 26 school zone speed cameras. SDOT has also installed cameras for enforcement of bus lanes and used automated enforcement on the Spokane St Swing Bridge while the West Seattle High-rise Bridge was closed for 2.5 years of repairs.

For this analysis, we focused on the red light and school zone cameras. Automated enforcement has been demonstrated to be an effective tool for reducing speed of drivers, reducing red-light running, and reducing overall collisions at intersections – where cameras are installed. Red light cameras are placed at intersections with a high number of right-angle collisions, with a focus on serious injury and fatality collisions. School zone camera locations are chosen by evaluating speeds in all school zones annually and placing cameras at the locations with the highest speeds when youth are traveling to and from school.

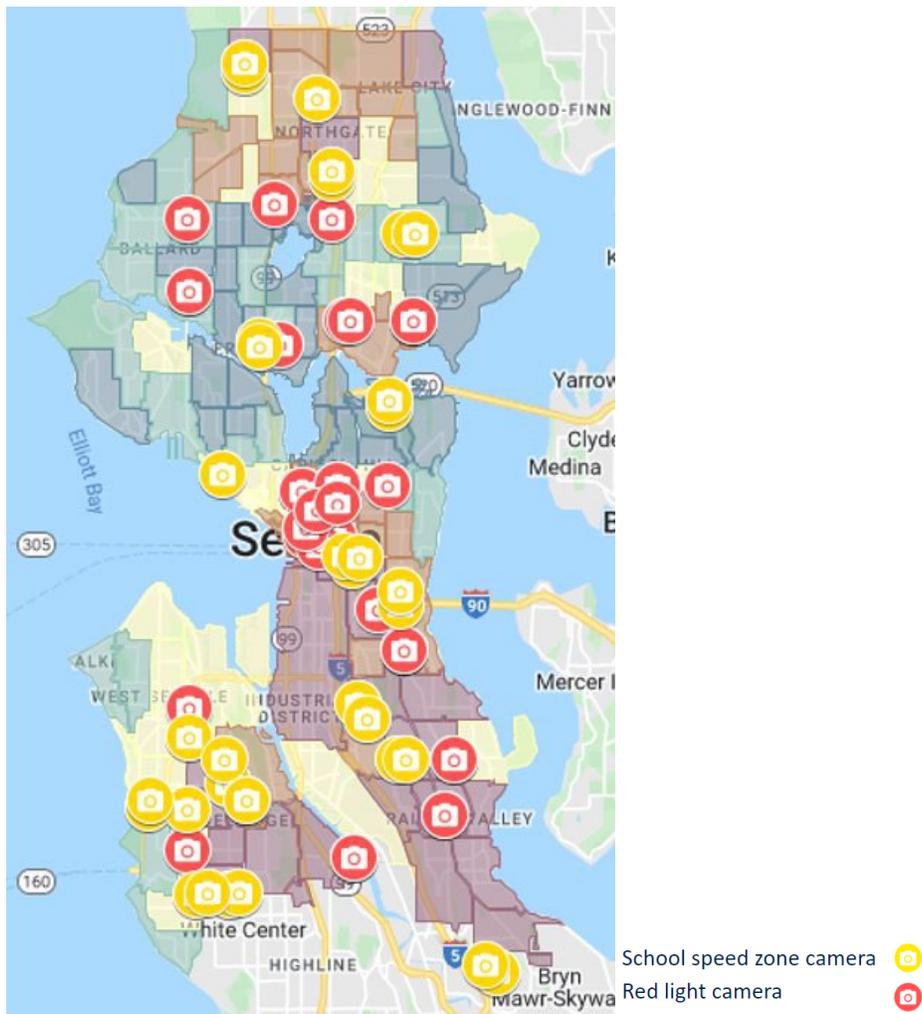


Figure 12: Map showing school zone speed cameras and red light cameras, overlaid on the City's Race and Social Equity Index.  
Source: SDOT Vision Zero

People rarely receive a second automated enforcement ticket: 95% of those who receive a ticket at a specific location never receive a second ticket at the same location and 80% of those who receive a ticket never receive another ticket at any other camera within the system. About half of the revenue generated by the fines collected from automated citations goes to SDOT safety projects, and the other half goes to the City general fund to administer the program.

SDOT's Transportation Equity Workgroup highlighted equity concerns regarding automated enforcement in the TEF, and similar issues were highlighted in nationwide studies. This research found that cameras are placed on streets with known speeding and red-light-running concerns, which are disproportionately in lower-income neighborhoods with more people of color. The financial consequences can be harmful to people with limited income, and non-financial response options are limited. The TEF directs SDOT to pursue less punitive ways to address these unintended consequences and to create safer streets and curb unsafe driver behaviors. SDOT is in the process of working with the community to better understand these issues and strategize more equitable program approaches.

Vision Zero staff contracted with the community-based organization Whose Streets? Our Streets! to engage directly with community members about improving safety, including the role of enforcement in safety. This work is happening at the same time as this review and will be shared more broadly in early 2023, as well as informing the forthcoming Vision Zero Action Plan.

City Council adopted a [Statement of Legislative Intent](#) (SLI) in the 2023 budget process directing SDOT to report on a plan to double the number of school safety enforcement cameras, and further develop "an evaluation of the costs and benefits for expanding other automated traffic safety camera programs, including red light cameras, block-the-box/transit-lane enforcement cameras, speed zone cameras, and other traffic camera authority provided under state law."

Recommended strategies and priority tactics:

- Implement changes to automated enforcement to address inequity
  - Complete the racial equity analysis underway and continue partnering with the Transportation Equity Workgroup's Transportation Justice subcommittee to implement TEF tactics, including co-defining safety and identifying non-financial penalties and alternatives to enforcement.
- Develop a response to SLI-SDOT-[304-A-001-2023](#) to address potential expansion of school zone cameras and other types of automated enforcement.
  - Reflect the range of equity considerations and alternatives to camera-based enforcement in the response to the SLI, in addition to equitably siting any new cameras.
- Plan for permanent street design changes to replace automated enforcement in the future
  - Continue to use revenues from citations for local safety improvements to reduce or eliminate the need for enforcement. Be clear that enforcement is intended to reduce dangerous behavior, not in place solely for revenue generation purposes.

## Organization, staffing, and analysis

Key Recommendations:

- **Shift culture and strengthen support for Vision Zero throughout SDOT**

- **Strengthen and resource SDOT’s Vision Zero core and matrix teams**
- **Improve SDOT’s customer service response process**

Strong and vocal support from elected leaders for rapid, bold, and broad-scale implementation of Vision Zero interventions is common in the cities that have achieved reductions in serious injuries and fatalities – even though these interventions may reduce vehicle speeds. The voice from leadership at SDOT about the priority of Vision Zero to internal and external audiences is also important.

Implementation of Vision Zero projects and the program relies on a dedicated “core” staff and resources, and “matrix” staff and resources from other SDOT divisions, other City departments, and other public agency and private partners. Some staff in the matrix have strong buy-in and understand their clear connection to Vision Zero, while other staff do not have as clear a connection – or understanding of how they contribute – to Vision Zero objectives. The Vision Zero team recently convened an Intradepartmental Team (IDT) to better connect staff from SDOT matrix divisions with the core program.

The City Traffic Engineer has critical authority designated in the Seattle Municipal Code. This position currently reports to the Transportation Operations Division (TOD) Director and works closely with the Vision Zero team in the Project Development Division (PDD). Several staff within TOD are essential to implementation of projects to improve safety outcomes. Currently, TOD staff frequently act as reviewers and approvers for projects proposed by staff in PDD and other divisions, rather than as collaborators. Concerns about potential claims and litigation can cause caution and hesitancy in making bold, innovative decisions.

Staff throughout the project development and implementation process encounter bottlenecks due to staffing and capacity challenges. Many projects can be delivered by SDOT crews, but at times there are not enough designers or crew staff to implement projects as fast as funding allows.

The Vision Zero team and other teams collect and analyze robust sets of data. Police reports make up the bulk of data used to support the Vision Zero program. As a result, some causes of injuries and near misses are not captured in our data if not reported to the police. It may take time to accurately capture the effectiveness of certain improvements, and outside factors that influence safety at specific locations may change over time. SDOT staff also review incidents for which claims are submitted to SDOT and identify potential safety improvements at many locations as a result of these reviews. Some programs, such as bike and scooter share programs, have also used surveys and studies to better understand injury rates to supplement data from police reports. There are new and emerging data sources SDOT could use to monitor and evaluate safety and the effectiveness of improvements. Examples include monitoring near-misses, citywide real-time speed analysis, turning speeds, and more.

SDOT and peer agencies have typically not measured effectiveness of Vision Zero education campaigns than engineering interventions. Staff observed clear progress from one campaign, “Seattle’s Safest Driver,” in which 2,100 participants voluntarily opted into an app to track their driving behavior. The program found a 25% reduction in overall risky behavior, a 45% reduction in speeding, and a 9% reduction in phone distraction. This may provide a model for establishing and measuring clearer outcomes for future educational programs.

There is limited analysis of constituent feedback and complaints received over time. SDOT staff generally respond quickly to questions and complaints, but often do not have capacity to fully investigate or analyze complaint themes. Constituents have expressed frustration about whether their comments, concerns, and complaints are thoroughly analyzed. The [Portland Bureau of Transportation](#) has a system for community members to request safety improvements that SDOT could look to as a model. Being responsive to concerns about safety can help build community trust in future progress.

Recommended strategies and priority tactics:

- Shift culture and strengthen support for Vision Zero throughout SDOT and among City leadership
  - Build SDOT Senior Team (division directors, deputy directors) capacity as champions for Vision Zero. Use training time and Senior Team meetings to focus on Vision Zero. Senior Team members should all be fluent in Vision Zero and Safe Systems principles and how it is prioritized within SDOT.
- Strengthen SDOT's Vision Zero core and matrix teams
  - Support all levels of Vision Zero work by assessing resource needs and, as necessary, hiring more project developers, designers, engineers, and crew staff who are critical for delivering projects expediently.
- Continue improving data collection, analysis, and reporting
  - Expand the scope and/or increase frequency of high-collision location and non-arterial reviews to be more responsive to emerging issues. Explore the use of emerging data sources and incorporate into before and after studies and data storytelling.
- Improve SDOT's customer service response process
  - Enhance existing systems for people to report safety concerns, with clear timelines for evaluation, and a clearer process for adding customer-generated requests to plans for improvements.

## Partnerships

Key Recommendations:

- **Be champions for Vision Zero as we engage with WSDOT, the Port of Seattle, transit partners, the legislature, and other organizations**

Many factors outside of SDOT's direct control contribute to Seattle's continued challenges achieving Vision Zero. While SDOT manages the street network in the City of Seattle, our work intersects with a variety of other partners with varied perspectives and roles regarding Vision Zero. This highlights the need for SDOT to partner with other City departments, public agencies, non-profit organizations, and community groups to address the challenges holistically. Much of this work is already underway and SDOT plans to continue strengthening these partnerships to broaden understanding and shared ownership of Vision Zero.

In the past, the Vision Zero movement used enforcement as a leading strategy. Peer agencies are moving away from enforcement as a leading strategy, pointing instead to a safe systems model and designing roads to be "self-enforcing." Seattle Police Department (SPD) has been a key City department partner for Vision Zero, providing enforcement resources including processing of automated enforcement tickets. SPD is also an important partner in post-crash collision reviews to help SDOT

understand circumstances of crashes. Data from SPD is a major input into how SDOT counts crashes. SDOT recognizes that SPD's primary responsibility in crash investigation and response is to determine fault for potential civil claims or criminal charges, while SDOT is seeking information that could help us make our streets safer.

Several challenges and opportunities to getting to Vision Zero are constrained or enabled by state or federal laws, largely outside of SDOT's direct control. The Office of Intergovernmental Relations (OIR) collaborates with SDOT in the development of the City's state and federal legislative agendas. SDOT should continue to identify and seek OIR support to advocate for state and federal legislation supporting Vision Zero.

SDOT has been recognized as a leader among Vision Zero implementing organizations nationwide. SDOT works with peer cities and other organizations implementing Vision Zero to leverage work and analysis by agency partners to refine and update strategies, and to identify opportunities for further collaboration. SDOT has also collaborated with University of Washington (UW) in the development of the Bicycle and Pedestrian Safety Analysis and with the UW Urban Freight Lab to identify ways to make goods delivery safer and more sustainable.

Many of the streets in Seattle with the most serious injuries and fatalities are current state routes – including Aurora Ave N (SR 99), Lake City Way NE (SR 522), and Sand Point Way NE (SR 513). Improving conditions on these corridors requires close coordination with WSDOT. Rapid implementation in 2022 converting a vehicle lane to a protected bike lane on Aurora Ave N adjacent to Green Lake is a good example of successful partnership with WSDOT. In 2022, the State legislature budgeted \$50 million for SR 99 Aurora Avenue N improvements – a large first step toward improvements on this critical corridor. SDOT also coordinates with WSDOT on safety at the interface between state highway on- and off-ramps and City streets. The next major phase of WSDOT's "Revive I-5" program will substantially reconstruct 22 on- and off-ramps between downtown and Northgate along I-5 in 2024-26. This provides a potential opportunity to improve safety on these connections and to pilot or model improvements that could be more broadly applied in the future. WSDOT has also secured funding to advance plans for safety improvements at the I-90 on- and off-ramps to Rainier Ave S – a critical location with the anticipated opening of a Link light rail station in 2024 or 2025.

As the region's Metropolitan Planning Organization, PSRC provides a crucial connection to region-wide planning and for prioritization of federal transportation funding to the region. Currently SDOT must get approval from PSRC for projects that change arterial capacity. This is important for PSRC to ensure that the region continues to meet federal requirements based on modeling of the transportation system and may be particularly important for arterial capacity expansion.

The Port of Seattle and Northwest Seaport Alliance (NWSA) are important partners for SDOT engagement with the freight community. SDOT has collaborated with the Port and NWSA in the past to host a bicycle/truck safety event ("road-eo"), and planned a similar event for 2021 which has been delayed due primarily to the COVID pandemic. This event is intended to bring together members of the freight and bicycle boards, advocacy organizations, and communities with activities and information to

broaden awareness of safety issues associated with large trucks and bicycles operating together on City streets.

Recommended strategies and priority tactics:

- Strengthen partnerships with other City departments
  - Collaborate with the Office of Intergovernmental Relations (OIR) to advocate for legislation supporting Vision Zero, including legislation related to:
    - Regulation of Automated Vehicles and other emerging technologies and modes;
    - TEF Transportation Justice strategies;
    - Driver education and licensing requirements;
    - Regulations (or fees) based on vehicle size and weight;
    - Vehicle safety requirements for people outside of vehicles, such as truck side guards;
    - Increasing dollar limits for work that can be constructed by SDOT crews; and
    - Grant funding programs for Vision Zero improvements.
- Strengthen partnerships with state and regional transportation partners
  - Collaborate with the Washington State Department of Transportation (WSDOT) to:
    - Define a new vision for the SR 99 Aurora Avenue N corridor and identify near term improvements; secure support for key decisions in the corridor visioning process, and for additional funding in the future to fully implement the vision.
    - Address safety problems at freeway on-and off-ramps connecting to City streets.
    - Implementing the State's new Complete Streets statute for projects in Seattle.
    - Collaborate with the City of Lake Forest Park to extend speed limit reductions on SR 522 (Lake City Way) to the northern limits of Seattle and into Lake Forest Park.
- Strengthen partnerships with other agencies, organizations, and institutions
  - Collaborate with transportation and safety advocacy organizations to:
    - Build and maintain a relationship of accountability with advocates, including regular check-ins to demonstrate progress, challenges and opportunities.
    - Support organizations led by those most impacted by traffic violence, particularly BIPOC-led organizations.

#### 4. How we recommend SDOT use this report

This report is neither the beginning nor the end of SDOT's Vision Zero work. Our recommendations are intended to spur action to make SDOT more effective in delivering Safe Systems and Vision Zero outcomes. Our recommendations place renewed focus on efforts to advance Vision Zero and are intended to provide an important input into SDOT's upcoming update of the Vision Zero Action Plan. The recommendations in this report should also be used to inform future budget processes and organizational planning to improve overall alignment with Vision Zero. This report, and our work with SDOT staff to develop the report, are also intended to provide a call to action throughout our organization to better identify how all projects and programs can more meaningfully contribute to Vision Zero.

When this draft report is published, we plan to present to and engage with City Council, the Transportation Equity Workgroup, and several City boards and commissions. Feedback from this

engagement will be summarized in the final report and provide additional input for SDOT's Vision Zero Action Plan update, Seattle Transportation Plan development, and other efforts in 2023.

Recommendations summarized in Section 3 and listed in Appendix A: Summary table of recommendations are wide-ranging. The summary table begins to distinguish among recommendations that can be accomplished in the near term, including work currently underway, medium term, and longer term, including ongoing efforts. Many medium-term and longer-term recommendations require further analysis to determine how, when, and where to implement them, and what additional staffing and financial resources may be needed for implementation. The summary table is intended to provide a starting point and foundation for SDOT work planning and reporting to implement recommendations. We recommend that reporting include frequent check-ins with the SDOT director on progress, and that these updates transition to regular updates on the Vision Zero Action Plan development and future implementation.

During our review, we also identified several additional areas where SDOT divisions work to make Seattle's streets and SDOT operations safer. SDOT's Vision Zero core team is involved in or aware of many of these efforts but does not manage or report on them. Some examples of these efforts are included in the summary table of recommendations. We encourage SDOT divisions to use these recommendations to spur further discussion about division-specific priorities and work programs to support Vision Zero. Milestones and accomplishments in these related efforts should contribute to an ongoing "drumbeat" of internal and external communication reinforcing the importance of safety and Vision Zero in SDOT's work.

## 5. Scope and methodology of review

This review was conducted and primarily authored by two SDOT staff, both of whom have prior knowledge of Vision Zero but do not directly work on the program. This offered an objective and semi-independent look at the program more quickly than a full external audit. Both SDOT staffers have worked at SDOT for over a decade and have master's degrees in Public Administration from the University of Washington's Evans School, and both live, work, and play in Seattle, and are daily users of Seattle's transportation system.

Our review focused on how SDOT can more effectively deliver safety interventions with demonstrated effectiveness in the locations where they are most needed. Our review did not evaluate or provide recommendations on specific projects or locations.

We used the following framing questions for the review:

- What do we already know about what works?
- What is going well?
- What barriers are we facing to doing more of what works?
- How can we adjust to make more rapid progress toward Vision Zero?
- What are additional next steps for collaboration, analysis, evaluation, or study?

Our review was based primarily on the sources described below.

## Existing data

The Vision Zero program and other safety programs in SDOT have completed a large amount of data collection and analysis, issue identification, and strategizing for improvements. Our review recognizes the existing work and makes recommendations for areas where data collection could be expanded, and processes could be improved to better utilize available data.

## Information on best practices

We reviewed information from Vision Zero Network, NACTO, FHWA, and other organizations reflecting local, national and worldwide experience and “best practices” implementing Vision Zero.

## Issue papers

We commissioned SDOT staff to draft issue papers on programmatic areas of their expertise related to safety improvements and used this input to inform the review.

## Staff interviews

Review staff conducted in-depth interviews with SDOT staff related to Vision Zero. This included every member of SDOT’s Senior Team, which includes Deputy Directors, Division Directors, and other executive staff. The review team also had follow-up interviews with issue paper authors to delve deeper into the opportunities and challenges they identified.

## FHWA Safe System Approach and CDC Hierarchy of Controls frameworks

We found that most SDOT’s current Vision Zero strategies and tactics are strongly connected to Safe Systems outcomes and have demonstrated effectiveness. Many SDOT engineering interventions have before-and-after studies by SDOT or other implementing agencies that demonstrate measurable changes in vehicle speeds, the frequency or severity of crashes, or other outcomes that contribute directly to reducing fatal or serious injury collisions. For measures that do not have studies that evaluate effectiveness, we used the CDC Hierarchy of Controls to gauge effectiveness.

## Suggestion box

We created a venue for any interested SDOT staff to provide their ideas to improve the effectiveness of our Vision Zero efforts. This provided an opportunity for SDOT employees not directly involved in Vision Zero, but actively involved in building, maintaining, and operating Seattle’s transportation system, to weigh in. Some of these ideas are reflected in the recommendations.

## Community input

Given the rapid timeframe for development of this review, we did not include a dedicated community engagement effort. Instead, we called upon the significant amount of feedback that SDOT has received through many recent efforts to collect thoughts, suggestions, and opinions from the community regarding safety. Examples of community feedback we reviewed include:

- Seattle Transportation Plan (STP): The STP is SDOT’s commitment to building a transportation system that provides everyone in Seattle with access to safe, efficient, and affordable options to reach places and opportunities. For this review, we looked at the [Phase 1 Engagement Summary](#)

[Report](#) which collected 36,000+ data points through various tools during outreach. This provides high-level information about community priorities.

- [Capital Project outreach](#): We interviewed public engagement leads at SDOT who work on capital project delivery to understand common themes they have heard during project design and implementation.
- [Transportation Equity Framework \(TEF\)](#): Many of the values, strategies, and tactics identified in the TEF have a direct link to Vision Zero and are reflected in our findings and recommendations. SDOT's Vision Zero team is already working to implement some of these recommendations.
- [BIPOC-Led Solutions for Community Safety](#): This is a report written and created by [Whose Streets? Our Streets!](#) with funding from SDOT and in response to tactics named in the TEF around defining safety, compensating community for conducting engagement, and finding non-punitive pathways to transportation safety and well-being. This report describes a community outreach process which centers the experiences of Black, Indigenous, and People of Color when using our transportation system, including highlighting multi-faceted safety needs. Whose Streets? Our Streets! is a majority BIPOC working group supported by Seattle Neighborhood Greenways, from whom we also received a letter with suggestions to inform the Vision Zero review. Both documents informed our review.
- [Listening tours](#): During the course of our review, SDOT Director Greg Spotts has been conducting a series of mobile "listening tours" with community members, some of which highlighted safety concerns throughout the city.
- [Social media](#): SDOT regularly receives feedback and comments through social media channels, and we have taken concerns and questions relayed on social media into account in this review.
- [Customer service requests](#): SDOT receives approximately 100,000 customer service requests per year through the Find it, Fix it app, 684-ROAD hotline, the City's Customer Service Bureau, and other sources. We interviewed SDOT's Customer Care Manager to better understand trends in feedback received as well as to better understand how customer service requests are addressed. One of our recommendations is to develop more productive avenues for community members to report safety concerns to SDOT for evaluation and potential improvements.

## Appendix

### Appendix A: Summary table of recommendations

Index ID	Recommendation Categories	Recommended Strategy	Recommended Tactic	Near/Medium/Long Term	Lead SDOT Division(s)/workgroup(s)	Key Supporting Division(s)/workgroup(s)
1.1.1	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Update the Complete Streets Checklist to include key priorities identified by the Vision Zero program.	Near term/underway	P&P	
1.1.2	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Improve the Complete Streets review process to streamline decision-making and to place a stronger emphasis on people who are most vulnerable when traveling and on safety outcomes.	Near term/underway	P&P	
1.1.3	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Adopt clearer and stronger guidance for facility design to reduce the complexity of decisions for site-specific applications.	Near term/underway	TOD	PDD, CP
1.1.4	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Finalize guidance documents and use them to streamline decision-making and project delivery, especially for smaller-scale improvements.	Near term/underway	TOD	PDD, CP
1.1.5	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Establish a modal integration framework through the Seattle Transportation Plan to prioritize safety and equity in project development decision-making.	Near term/underway	P&P	
1.1.6	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Provide policy guidance in the STP that puts the most vulnerable people first to ensure that safety for the most vulnerable users is consistently prioritized in projects.	Near term/underway	P&P	
1.1.7	01 - Policies, guidelines and implementing procedures	01- Update guiding policies and procedures	Review implementation of SDOT Director's Rule for maintenance of pedestrian and bicycle access in construction zones and develop recommended changes to the Rule itself or to procedures for administration/enforcement; develop recommendations for implementation of the Director's Rule (or guiding principles) for SDOT capital projects.	Medium term	SU	
1.2.1	01 - Policies, guidelines and implementing procedures	02-Incorporate Vision Zero and Safe Systems approaches into every project and program	Incorporate Vision Zero and the Safe Systems framework as projects are developed, including when prioritizing which projects get built and when, and when designing capital projects (public works contracts) and crew-built projects.	Long term/ongoing	PDD	CP, PSMC, T&M
1.2.2	01 - Policies, guidelines and implementing procedures	02-Incorporate Vision Zero and Safe Systems approaches into every project and program	Require that projects are reviewed to include safety improvements focused for people walking and rolling, and people biking. This should apply to projects citywide, but especially in areas identified by the HIN and BPSA, and should not be limited to improvements identified in previous modal plans. If a project does not include these types of improvements, a clear reason should be identified as to why, and plans for future safety improvements should be made.	Long term/ongoing	All	
1.3.1	01 - Policies, guidelines and implementing procedures	14-Anticipate and prepare for future transportation innovation and mitigate future risks	Advocate at the state level to maintain local control and permitting authority for new forms of transportation as they arise (e.g., autonomous vehicles).	Long term/ongoing	T&M	
1.3.2	01 - Policies, guidelines and implementing procedures	14-Anticipate and prepare for future transportation innovation and mitigate future risks	Invest in evaluation of new forms of transportation and enforcement of standards. Prioritize modes that provide an alternative to driving trips where possible.	Long term/ongoing	T&M	
1.3.3	01 - Policies, guidelines and implementing procedures	14-Anticipate and prepare for future transportation innovation and mitigate future risks	Continue current efforts to permit and regulate AV testing requiring drivers to be present in the vehicle during any testing activities. Regularly collect safety data on AVs and be ready and willing to strengthen regulations.	Medium term	T&M	
2.1.1	02 - Program and project delivery	05-Improve project delivery efficiency	Continue to develop and expand use of internal resources that guide project developers through the project delivery process.	Near term/underway	PDD	T&M
2.1.2	02 - Program and project delivery	05-Improve project delivery efficiency	Continue to clarify and streamline decision-making processes.	Long term/ongoing	All	
2.1.3	02 - Program and project delivery	05-Improve project delivery efficiency	Be willing to reduce vehicle travel speeds and convenience to improve safety. Be clear about benefits and transparent about potential impacts to general purpose vehicle travel.	Long term/ongoing	TOD	DO
2.1.4	02 - Program and project delivery	05-Improve project delivery efficiency	Clarify roles and expectations for individual engineers and planners to work together to make decisions based on clearly established policies, and clarify roles in the decision-making process. Empower engineers and subject matter experts to make key decisions, consulting with others when necessary for support.	Medium term	TOD/PDD	
2.1.5	02 - Program and project delivery	05-Improve project delivery efficiency	In future SDOT review of how projects can be delivered more efficiently, include a focus on Vision Zero improvements.	Medium term	PDD/CP/TOD	
2.1.6	02 - Program and project delivery	05-Improve project delivery efficiency	Continue to align curbspace management with new facilities such as bike lanes, ensure feasibility of safe goods delivery around new facilities	Near term/underway	T&M	
2.2.1	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Consider phasing larger capital projects to allow for early implementation of the most critical project components with a plan for future phases when sufficient funding cannot be secured for all desired improvements.	Long term/ongoing	CP/PDD	
2.2.2	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Create a mechanism to more quickly implement lower-cost pilot projects and make plans to prioritize upgrading to more permanent solutions. For example, SDOT currently uses paint and flexpost delineators to install bike lanes, refuge islands, curb bulbs, and more. Create a plan to evaluate where improvements are most needed – e.g., where posts fail most often – and prioritize upgrading those facilities earlier.	Medium term	PDD	
2.2.3	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Use guidance such as bicycle facility and pedestrian design guidelines to help streamline decision-making.	Medium term	PDD/TOD	

2.2.4	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Implement a clearer and more consistent process for post-project evaluation, and budget and plan for small-scale upgrades or adjustments after projects have been evaluated.	Medium term	PDD	
2.2.5	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Respond to the Council Proviso for upgrades to District 2 bicycle infrastructure, and apply lessons learned from this effort to develop clearer plans to maintain, replace or upgrade facilities on an ongoing basis citywide.	Near term/underway	PDD	
2.2.6	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Continue to develop strategies for maintaining trees and landscaping, and using where appropriate to enhance safety (such as protective elements for bicycle facilities). Ensure maintenance funds are programmed to support these.	Medium term	RMUF	
2.2.7	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Develop an updated plan to improve safety of bridge expansion joints and railings for people biking, rolling, and walking.	Medium term	RS	
2.2.8	02 - Program and project delivery	06-Implement iterative, ongoing improvements to our infrastructure	Continue to look for ways to prioritize clearing snow and ice from key bicycle and pedestrian corridors, as well as transit corridors.	Near term/underway	RMUF	DO (EM)
2.3.1	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Evaluate multi-lane arterials where most pedestrian fatalities occur. Identify and plan for opportunities for lane reductions while maintaining transit and freight networks and emergency response capabilities and being transparent about expected impacts to general purpose vehicle travel.	Medium term	PDD	TOD
2.3.2	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan to implement intersection improvements in a systematic way more broadly or citywide.	Medium term	PDD	TOD
2.3.3	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan to implement No Turn on Red more broadly or citywide.	Near term/underway	PDD	TOD
2.3.4	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan for increased implementation of marked crosswalks, signage and crossing enhancements (e.g., curb bulbs, flashing beacons).	Medium term	PDD	TOD
2.3.5	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan for expanded intersection daylighting (eliminating parked cars close to intersections to improve visibility). Initial implementation can include low-cost interventions such as "No Parking" signs; if signage alone is ineffective, plan to upgrade over time to paint and post, concrete or other materials.	Medium term	PDD	TOD
2.3.6	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan for expanded use of hardened centerlines (raised medians at intersections to control vehicle turning movements).	Near term/underway	PDD	TOD
2.3.7	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Develop a plan for citywide application of Urban Village signal timing to prioritize safe pedestrian movement.	Near term/underway	TOD	
2.3.8	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	If funded, plan for efficient delivery of the Safe Streets for All Grant and use as a starting point for the rollout of improvements across the city.	Near term/underway	PDD	CP, PSMC, TOD
2.3.9	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Continue to systemically build out a connected, protected bicycle facility network.	Long term/ongoing	PDD	
2.3.10	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Continue to explore strategies for cost-effective enhanced crossing and sidewalk improvements.	Medium term	PSMC	
2.3.11	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Continue to lead streetcar safety efforts, and work with the Vision Zero team to apply lessons learned from streetcar safety work to broader SDOT safety efforts.	Near term/underway	T&M	
2.3.12	02 - Program and project delivery	07-Plan for broader or systemwide implementation of proven interventions	Ensure that safety-related assets are made of durable materials, so that concerns about damage from snow plows does not prevent the installation of these types of assets.	Medium term	PDD/TOD	PSMC, RMUF
3.1.1	03 - Allocation of resources and budgeting	03-Secure funding to incorporate Vision Zero improvements in all projects	Use anticipated increases in the Vision Zero budget to fund improvements in "partnership" with other capital projects, focused specifically on the highest injury areas. Develop a prioritization framework in 2023 to support spending in 2024 and beyond.	Medium term	PDD	T&M, CP
3.1.2	03 - Allocation of resources and budgeting	03-Secure funding to incorporate Vision Zero improvements in all projects	Ensure that the base budget for capital programs and projects include sufficient budget to incorporate Vision Zero best practices in early project scoping phases, or explicitly budget for Vision Zero "partnering" with other capital projects.	Long term/ongoing	FAD/CP	PDD
3.2.1	03 - Allocation of resources and budgeting	04-Improve planning and budgeting for maintenance and replacement of Vision Zero improvements	Develop or update maintenance level of service standards and asset management or replacement plans for shorter life assets critical to achieving Vision Zero.	Medium term	FAD	PSMC, TOD
3.2.2	03 - Allocation of resources and budgeting	04-Improve planning and budgeting for maintenance and replacement of Vision Zero improvements	Develop plans for upgrading shorter life-cycle assets to longer life-cycle assets.	Medium term	FAD	PSMC, TOD
3.2.3	03 - Allocation of resources and budgeting	04-Improve planning and budgeting for maintenance and replacement of Vision Zero improvements	Support improved budgeting for future operations and maintenance of Vision Zero-related assets.	Long term/ongoing	FAD	PDD, PSMC
5.1.1	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Build SDOT Senior Team (division directors, deputy directors) capacity as ambassadors for Vision Zero. Use training time and Senior Team meetings to focus on Vision Zero. Senior Team members should all be fluent in Vision Zero and Safe Systems principles and how it is prioritized within SDOT.	Medium term	All	

5.1.2	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Work with division IDT members and Senior Team members to develop division-specific Vision Zero goals and work programs. Use this as input for the new Vision Zero Action Plan.	Medium term	All	
5.1.3	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Engage with crew staff – who implement work orders and physically maintain our infrastructure – to identify ways for them to be connect to Vision Zero work. Encourage idea sharing from crew staff and encourage participation in the Vision Zero IDT and other opportunities for crew staff.	Long term/ongoing	RMUF/PSMC/RS	
5.1.4	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Incorporate Vision Zero as part of the hiring process. State as a priority in job postings and consider asking about commitment to, and understanding of, Vision Zero, as part of hiring processes throughout SDOT. Train hiring managers and HR business partners in how to incorporate this in their hiring processes.	Medium term	PCL/All	
5.1.5	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Ensure all engineers are on board with Vision Zero and up to date on training and best practices. Support and promote continuing education for engineers and participate in national conversations to learn best practices as well as share knowledge with other cities to push standards forward.	Medium term	TOD/CP/PDD/PCL	
5.1.6	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Develop and provide ongoing, annual training for all staff on Vision Zero and safe systems principles. This can be modeled after SDOT's RSJI training program, which requires two hours of training for all staff annually.	Medium term	PCL/PDD	
5.1.7	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Strengthen senior SDOT leadership and elected official support for decisions that promote safety. Understand that safety projects may – and often will intentionally – slow vehicle movement.	Long term/ongoing	All	
5.1.8	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Commit to using terms such as crash, and avoiding using the term accident, in all internal and external communications. Hold each other accountable to this standard.	Near term/underway	Comms/All	
5.1.9	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Explore opportunities to expand use of truck side-guards on City fleet vehicles (i.e., beyond SDOT's fleet), and opportunities to expand use beyond City fleet (e.g., by City contractors).	Near term/underway	PCL	
5.1.10	05 - Organization and staffing	12-Shift culture and develop buy-in to Vision Zero throughout SDOT and among City leadership	Continue to ensure that environmental regulations are not a barrier to implementing safety improvements.	Near term/underway	CP	
5.2.1	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Continue to work with multi-divisional teams involved in Vision Zero to identify ways to work in a more collaborative way, rather than a proposer-reviewer model.	Long term/ongoing	PDD/TOD/T&M	
5.2.2	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Designate a person or people to have an elevated, lead role in Vision Zero and safe systems. Ensure this position has some distance from concerns about operations and litigation in order to focus on using the best safety strategies. This person should have ongoing access to the SDOT Director and regularly scheduled reporting to elevate key issues. Designate an additional person as an audit or check step on the lead.	Medium term	TOD/PDD	
5.2.3	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Hire for a dedicated position to focus on Vision Zero communications, including data visualization and storytelling. This person could also help direct focused public education efforts.	Medium term	DO (Comms)	PDD
5.2.4	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Consider allocating a dedicated funding pool for the City Traffic Engineer to use to respond to emerging problems.	Medium term	TOD	
5.2.5	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Consider hiring a Deputy City Traffic Engineer who is empowered to make key decisions and perform some of the functions of the City Traffic Engineer	Medium term	TOD	
5.2.6	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Consider elevating the City Traffic Engineer position to report directly to the SDOT Director on key safety matters.	Medium term	TOD	
5.2.7	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Consider dedicating specific engineers in the Transportation Operations Division to Vision Zero efforts.	Medium term	TOD	
5.2.8	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Develop a more clearly defined matrix staffing structure to clarify key roles in project and program delivery in support of Vision Zero and safe systems goals. Identify who is involved in what types of decision making, who provides input, who needs to be informed (e.g. a "RACI") analysis.	Medium term	PDD	All
5.2.9	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Support all levels of Vision Zero work by assessing resource needs and, as necessary, hiring more project developers, designers, engineers, and crew staff who are critical for delivering projects expediently.	Long term/ongoing	PDD/TOD/CP/RMUF/PSMD	
5.2.10	05 - Organization and staffing	10-Strengthen SDOT's Vision Zero core and adjacent (matrix) teams	Continue to build SDOT's Vision Zero Intradepartmental Team (IDT) as a foundation for staff to build skills as advocates and subject matter experts within their respective divisions.	Near term/underway	PDD	All
5.3.1	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Expand the scope and/or increase frequency of high-collision location and non-arterial reviews to be more responsive to emerging issues.	Near term/underway	TOD/PDD	

5.3.2	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Use citywide, newer “big data” sources as a proactive way to monitor conditions.	Medium term	TOD	
5.3.3	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Use existing data sources such as the BPSA and the HIN more systematically to prioritize capital/corridor projects and in early project scoping phases.	Medium term	PDD	
5.3.4	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Conduct analysis of existing customer service response data to identify key patterns, intersections with known injury locations, and use these data as an additional input for project selection and scoping.	Medium term	PSMC/TOD/PDD	
5.3.5	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Consider using survey tools as a way to track injury experiences. Repeat with comparable instruments over time to better understand progress.	Long term/ongoing	PDD/DO (Comms)/T&M	
5.3.6	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Recognizing that we are already aware of many of the improvements we need to make streets safer, do not slow implementation for new and improved data where existing data are sufficient.	Long term/ongoing	PDD/TOD	
5.3.7	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Continue to clarify and measure desired outcomes of educational programs.	Long term/ongoing	PDD/DO (Comms)	
5.3.8	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Continue to evaluate injury and safety-related claims and litigation data to identify opportunities for improvements to reduce future risks.	Near term/underway	FAD	TOD, PDD
5.3.9	05 - Organization and staffing	08-Improve on our robust data collection and analysis practices	Continue to actively assess, address, and manage micromobility safety issues (e.g., bike share and scooter share programs).	Near term/underway	T&M	
5.4.1	05 - Organization and staffing	13-Improve SDOT's customer response process	Analyze customer service requests over time , and layer with other sources such as collision and speed data. Recognize that complaints are a source of information that may or may not align with the most dangerous areas. Continue to prioritize investments in areas with the greatest number of serious injuries and fatalities.	Medium term	PSMC/TOD/PDD	
5.4.2	05 - Organization and staffing	13-Improve SDOT's customer response process	Enhance existing systems for people to report safety concerns, with clear timelines for evaluation, and a clearer process for adding customer generated requests to plans for improvements. Portland Bureau of Transportation has a model for community members to request safety improvements that SDOT could use for guidance.	Medium term	PSMC/TOD/PDD	
5.4.3	05 - Organization and staffing	13-Improve SDOT's customer response process	Continue to build out proactive practices that reduce the need for complaint-based requests.	Long term/ongoing	All	
4.1.1	04 - Automated Enforcement	09A-Implement changes to automated enforcement to address inequity	Anchor Vision Zero efforts to the Transportation Equity Framework; involve Vision Zero staff closely in TEF implementation. SDOT's Vision Zero work should focus on designing safer streets that do not rely on enforcement to cause safer behavior.	Long term/ongoing	DO (OEEI)/PDD	
4.1.2	04 - Automated Enforcement	09A-Implement changes to automated enforcement to address inequity	Complete the racial equity analysis underway and continue partnering with the Transportation Equity Workgroup's Transportation Justice subcommittee to implement TEF tactics, including co-defining safety and identifying non-financial penalties and alternatives to enforcement.	Near term/underway	PDD	
4.1.3	04 - Automated Enforcement	09A-Implement changes to automated enforcement to address inequity	Partner with the Seattle Municipal Court and continue to identify and promote payment options and non-financial penalties to avoid sending citations to collections.	Near term/underway	PDD	
4.1.4	04 - Automated Enforcement	09A-Implement changes to automated enforcement to address inequity	Consider issuing warnings that do not carry a financial penalty to help change behavior.	Near term/underway	DO (OEEI)/PDD	
4.1.5	04 - Automated Enforcement	09A-Implement changes to automated enforcement to address inequity	Ensure that there are accessible alternative options to respond to tickets for those who cannot pay them.	Near term/underway	DO (OEEI)/PDD	
4.1.6	04 - Automated Enforcement	09B-Develop a plan for expansion of automated enforcement in response to Council SLI	Prioritize using automated enforcement as a layer of redundancy at locations where non-punitive interventions are not sufficiently effective.	Near term/underway	PDD	

4.2.1	04 - Automated Enforcement	09B-Develop a plan for expansion of automated enforcement in response to Council SLI	Continue to engage with communities, especially those in the neighborhoods with the highest rates of injury collisions and those most impacted by financial penalties to develop a plan for the future of automated enforcement or alternatives to enforcement. Continue partnering with organizations such as Whose Streets, Our Streets!, a community-based organization about the future traffic camera enforcement in Seattle.	Near term/underway	PDD	
4.2.2	04 - Automated Enforcement	09B-Develop a plan for expansion of automated enforcement in response to Council SLI	Reflect the range of equity considerations and alternatives to camera-based enforcement in the response to the Council SLI, in addition to equitably siting any new camera locations.	Near term/underway	PDD	
4.3.1	04 - Automated Enforcement	09C-Plan for permanent street design changes to replace automated enforcement in the future.	Continue to use existing automated enforcement in the near term while working to redesign our streets.	Long term/ongoing	PDD/TOD	
4.3.2	04 - Automated Enforcement	09C-Plan for permanent street design changes to replace automated enforcement in the future.	Continue to use revenues from citations for local safety improvements to reduce or eliminate the need for enforcement. Be clear that enforcement is not in place for revenue generation purposes. Ultimately, the goal of an enforcement program should be to have fewer tickets.	Long term/ongoing	PDD	
6.1.1	06 - Partnerships	15 - Strengthen partnerships with other City departments	Collaborate with the Seattle Police Department (SPD) to: <ul style="list-style-type: none"> <li>•Use the results of crash investigations, in aggregate, to better understand root causes and identify street design and operations solutions to make all streets safer.</li> <li>•Enhance communications and public affairs coordination.</li> <li>•Respond to Council Statement of Legislative Intent (SLI) SDOT-304-A-001-2023, which requests a plan for the expansion of the School Zone Camera program.</li> </ul> Collaborate with the Seattle Fire Department (SFD) to:	Long term/ongoing	PDD	
6.1.2	06 - Partnerships	15 - Strengthen partnerships with other City departments	<ul style="list-style-type: none"> <li>•Continue to clarify fire response route priorities by identifying routes that are likely to have the greatest effect on response times, and by developing clearer standards for safety interventions on routes likely to have a lesser effect on response times.</li> <li>•Collect and evaluate the use of data from SFD response to transportation-related collisions and emergencies, which may or may not overlap with SPD response.</li> <li>•Explore opportunities for SFD to move toward smaller, tighter turning fire engines (currently being introduced in San Francisco).</li> </ul>	Long term/ongoing	TOD	
6.1.3	06 - Partnerships	15 - Strengthen partnerships with other City departments	Collaborate with Seattle Public Utilities to: <ul style="list-style-type: none"> <li>•Develop clearer guidelines for garbage truck access requirements. Waste disposal is an essential City service that SDOT needs to accommodate, but as with SFD, accommodating large vehicles can be a significant barrier to safer street designs.</li> </ul> Collaborate with Seattle City Light (SCL) to:	Long term/ongoing	TOD	
6.1.4	06 - Partnerships	15 - Strengthen partnerships with other City departments	<ul style="list-style-type: none"> <li>•Improve coordination of SCL service requests for energization of SDOT improvements to signals and street lighting to support streamlined SDOT project delivery.</li> <li>•Work with the City Budget Office (CBO) to identify a predictable funding source for pedestrian scale street lighting. CBO, through SCL, pays for SDOT improvements to arterial street lighting, but not for pedestrian-scale lighting improvements. Pedestrian-scale lighting improvements are frequently identified through the Complete Streets review process but are often not implemented due to lack of a dedicated funding source.</li> </ul>	Long term/ongoing	CP/PDD/TOD	
6.1.5	06 - Partnerships	15 - Strengthen partnerships with other City departments	Collaborate with the Seattle Municipal Court to: <ul style="list-style-type: none"> <li>•Implement recommendations from SDOT's equity analysis of automated enforcement.</li> </ul> Collaborate with the Office of Intergovernmental Relations (OIR) to advocate for legislation supporting	Long term/ongoing	PDD	
6.1.6	06 - Partnerships	15 - Strengthen partnerships with other City departments	Vision Zero, including legislation related to: <ul style="list-style-type: none"> <li>•Regulation of Automated Vehicles and other emerging technologies and modes;</li> <li>•TEF Transportation Justice strategies;</li> <li>•Driver education and licensing requirements;</li> <li>•Regulations (or fees) based on vehicle size and weight;</li> <li>•Vehicle safety requirements for people outside of vehicles, such as truck side guards;</li> <li>•Increasing dollar limits for work that can be constructed by SDOT crews; and</li> <li>•Grant funding programs for Vision Zero improvements.</li> </ul> Collaborate with the Washington State Department of Transportation (WSDOT) to:	Long term/ongoing	T&M/DO	
6.2.1	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<ul style="list-style-type: none"> <li>•Define a new vision for the SR 99 Aurora Avenue N corridor and identify near term improvements; secure support for key decisions in the corridor visioning process, and for additional funding in the future to fully implement the vision.</li> <li>•Address safety problems at freeway on-and off-ramps connecting to City streets.</li> <li>•Implementing the State's new Complete Streets statute for projects in Seattle.</li> <li>•Collaborate with the City of Lake Forest Park to extend speed limit reductions on SR 522 (Lake City Way) to the northern limits of Seattle and into Lake Forest Park.</li> </ul> Collaborate with the Puget Sound Regional Council (PSRC) to:	Long term/ongoing	TOD	
6.2.2	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<ul style="list-style-type: none"> <li>•Support a 2023 Vision Zero event to bring together experts from around the region to share information on current best practices.</li> <li>•Move to a model where SDOT informs PSRC (vs. seeks approval from PSRC) for reductions to arterial capacity to ensure regional transportation plans and models remain accurate.</li> </ul>	Long term/ongoing	P&P	

6.2.3	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<p>Collaborate with Sound Transit to:</p> <ul style="list-style-type: none"> <li>•Improve safety along Martin Luther King, Jr Way S.</li> <li>•Develop plans for the West Seattle Ballard Link Extension to provide multiple entrances on arterials.</li> </ul>	Long term/ongoing	ST	
6.2.4	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<p>Collaborate with King County Metro to:</p> <ul style="list-style-type: none"> <li>•Continue to identify ways to enhance safety for King County Metro riders within Seattle, including partnership on implementing transit stop safety enhancements.</li> <li>•Review Metro's post-incident reporting to determine if these reports provide actionable information for SDOT's Vision Zero efforts.</li> <li>•Ensure drivers are trained on operating buses around new and changing right-of-way designs.</li> </ul> <p>Collaborate with Public Health—Seattle &amp; King County to:</p> <ul style="list-style-type: none"> <li>•Advance injury prevention initiatives</li> <li>•Share resources through the King County Target Zero task force.</li> <li>•Collaborate on outreach opportunities like distributing bike helmets.</li> </ul>	Long term/ongoing	T&M	
6.2.5	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<p>Collaborate with the University of Washington (UW) and other research organizations to:</p> <ul style="list-style-type: none"> <li>•Complete BPSA Phase 3.</li> <li>•Identify strategies to make goods delivery safer and more sustainable (UW Freight Lab).</li> <li>•Continue and consider expanding research efforts with the Harborview Injury Prevention Research Center, building on lessons learned from research conducted to date on shared mobility.</li> <li>•Explore opportunities to improve our understanding of the effectiveness of educational projects and programs.</li> </ul>	Long term/ongoing	PDD	
6.2.6	06 - Partnerships	16 - Strengthen partnerships with state and regional transportation partners	<p>SDOT should collaborate with the Port/NWSA to:</p> <ul style="list-style-type: none"> <li>•Implement a bicycle/truck safety event ("road-eo") in mid-2023.</li> <li>•Review NWSA recommended guidelines for bike access and safety near NWSA terminals and incorporate into SDOT bike facility guidelines as appropriate.</li> <li>•Encourage use of safety features on trucks, such as side guards and larger mirrors.</li> <li>•Continue to look for opportunities to move freight in smaller vehicles where possible.</li> </ul>	Long term/ongoing	TOD	
6.3.1	06 - Partnerships	17 - Strengthen partnerships with other state and regional agencies, organizations and institutions	<p>Collaborate with affordable housing partners and service organizations to:</p> <ul style="list-style-type: none"> <li>•Support efforts to site shelters and transitional housing in areas with safe access to basic services.</li> <li>•Provide information on using Seattle's transportation system.</li> </ul>	Long term/ongoing	PDD/TOD/T&M	
6.3.2	06 - Partnerships	17 - Strengthen partnerships with other state and regional agencies, organizations and institutions	<p>Collaborate with transportation and safety advocacy organizations to:</p> <ul style="list-style-type: none"> <li>•Build and maintain a relationship of accountability with advocates, including regular check-ins to demonstrate progress, challenges and opportunities.</li> <li>•Support organizations led by those most impacted by traffic violence, particularly BIPOC-led organizations.</li> </ul>	Long term/ongoing	FAD/PDD	
6.3.3	06 - Partnerships	17 - Strengthen partnerships with other state and regional agencies, organizations and institutions	<p>Collaborate with transportation and safety advocacy organizations to:</p> <ul style="list-style-type: none"> <li>•Build and maintain a relationship of accountability with advocates, including regular check-ins to demonstrate progress, challenges and opportunities.</li> <li>•Support organizations led by those most impacted by traffic violence, particularly BIPOC-led organizations.</li> </ul>	Long term/ongoing	PDD/DO (Comms)	