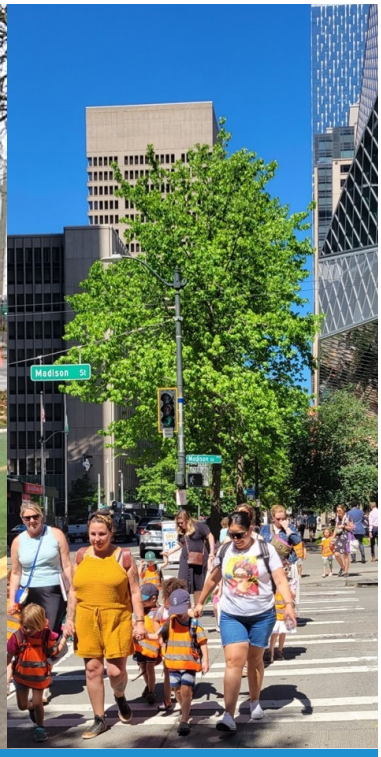


Part II: Technical Report

Network Integration and Functional Elements



Seattle Transportation Plan
May 2024

Seattle Department of Transportation

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

[This page intentionally left blank]

CHAPTER 1

INTRODUCTION

The Seattle Transportation Plan (STP) is a 20-year blueprint to modernize and adapt Seattle's streets to meet our needs of today and tomorrow. It guides how we will provide mobility through the city, enable access to places and opportunities, create places to socialize in our plazas and other spaces within the public right-of-way, and more.

The STP is divided into two parts. Where the Part I document provides the vision and goals with a higher-level overview of how we will achieve them, this Part II document provides more of the details. The two documents are divided up as follows.

SEATTLE TRANSPORTATION PLAN PART I

- Chapter 1: Shares the STP community vision and goals
- Chapter 2: Provides an overview of community engagement and how it shaped the plan
- Chapter 3: Highlights the key moves that will help attain our goals
- Chapter 4: Introduces how the plan supports the growth strategy within the comprehensive plan and how the elements work together to create a holistic transportation system
- Chapter 5: Outlines our implementation strategy for how the plan will inform future program activities and capital investments

SEATTLE TRANSPORTATION PLAN PART II: TECHNICAL REPORT

- Chapter 1: Introduces the Part II document and reiterates our vision and goals
- Chapter 2: Describes how the 8 functional elements work together and the network integration process
- Chapter 3: Contains the 8 functional elements

SEATTLE TRANSPORTATION PLAN APPENDICES

- Appendix A: Assembles one-page summaries for each of the large capital projects identified in the Implementation Strategy contained within Part I, Chapter 5
- Appendix B: Includes reports and recommendations from community-based organizations and summarizes the community co-creation process and results for each phase of community engagement
- Appendix C: Compiles the performance measures and targets from the Implementation Strategy (Part I, Chapter 5) and the 8 elements into a single resource

VISION

The STP vision statement and goals result from a yearlong conversation with people throughout Seattle (see **Figure 1**).

STP VISION

Seattle is an equitable, vibrant, and diverse city where moving around is safe, fair, and sustainable. All people and businesses can access their daily needs and feel connected to the community.

Figure 1: STP Goals for Seattle

PLANNING AN INTEGRATED TRANSPORTATION SYSTEM

Bringing Our Modal Master Plans Together

No one person relies on a single mode of transportation. People who take the bus also walk; people who ride bikes may also receive packages delivered by freight; and people who drive may walk or cycle for recreation. This plan considers a wide range of factors that shape how and when we travel.

The STP is an integrated, citywide transportation plan built on the input of people throughout Seattle and on our 4 foundational "modal master plans"—citywide plans for individual modes. For many years, SDOT has developed transportation plans for neighborhoods and created citywide plans for bicycle, freight, pedestrian, and transit. Although the neighborhood plans are multi-modal in nature, they cover only limited areas of the city. In contrast, the modal plans have citywide coverage but lack a holistic approach to balance the full needs and priorities of all travelers, consider the limitations created by finite street space, and address other uses of streets such as public plazas and street trees. This plan took a more holistic approach to our streets, while building on a robust and equity-centered community engagement process.

Moving Beyond Modal Master Plans

The STP provided the opportunity to think beyond our 4 modal master plans. In addition to chapters for Transit, Bicycle and E-Mobility, Freight and Urban Goods, and Pedestrian elements, we prepared 4 additional elements to focus on other important and emerging right-of-way priorities. Namely these are People Streets and Public Spaces, Curbside, New and Emerging Mobility, and Vehicle elements.

Bringing together 8 elements of our streets, the STP centers mobility, access, and livability in new and cross-cutting ways. And, through our community engagement process, we have focused on how the expanded slate of elements addresses people's needs. The plan considers the types of trips people are likely to take or request and the conditions that may affect traveler behavior and experiences across a variety of travel modes and street uses.

How the STP Will Help Us Going Forward

Cities are complex places. We barely think about our travel experience when all goes well, yet behind the scenes there is a lot happening to make your trip smooth, safe, and enjoyable. An integrated transportation system is the result of careful long-term planning, investment, and day-to-day operations that keep people safe, signals on, systems moving, and goods arriving. The STP was developed to make all travel options safer, reliable, and effective. It is also intended to align the Seattle Department of Transportation's (SDOT's) priorities and the way we allocate our street space with our goals.

To meet our STP goals, we need to prioritize the allocation of street space to provide safe, comfortable, and accessible experiences for people using transit, walking, bicycling and micromobility—and to promote those as the most reliable and convenient modes of travel. As well, we need to create inviting public spaces where people can linger and connect, increase our tree canopy for shade and carbon reduction benefits, and enable freight and urban goods to reliably access their destinations.

The STP network integration approach and functional elements inform decisions about how we use our finite street space to best meet community goals. They also, along with community input, inform future transportation improvements, projects, and programs.

Each element includes performance measures which, when taken in combination with the system-wide measures in the Part I Implementation Strategy, help us evaluate how programs and projects support our shared vision and track our progress.

Importantly, the plan also informs future transportation funding, including local, state, and federal funding opportunities. The STP provides a menu of potential transportation system investments for the next 20+ years. We'll use it to create a long-term funding strategy to build the projects, implement the programs, and maintain the transportation assets Seattle needs.

FUNCTIONAL ELEMENTS OF OUR INTEGRATED TRANSPORTATION SYSTEM

The STP Part II report contains a dedicated chapter, or "element," for 8 discrete mobility options—or "modes"—and essential functions of the street. The STP elements are long-term visions of what we aspire to achieve, and each one provides direction on the investments, programs, and strategies needed to support the plan's overarching goals and key moves. The 8 functional elements address:

- Transit
- Freight and Urban Goods
- Bicycle and E-Mobility
- Pedestrian
- People Streets and Public Spaces
- Vehicle
- Curbside Management
- New and Emerging Mobility

The following provides a very brief description of the 8 elements, highlighting key ingredients of each; identifying existing plans, programs, and guidance the element builds on or supersedes (e.g., a previous citywide plan for an individual mode); and noting what in the element is new or innovative.

Transit Element: guides the development of a transit network that is frequent, accessible, understandable, and secure, and that provides reliable connections between other transit services and travel options, neighborhoods, major job concentrations, and key destinations around the city and region.

Includes	Builds on and supersedes	Enhances
A plan for capital investment in critical bus corridors, a vision for our frequent transit network, and programs to improve customer access and experience	2016 SDOT Transit Master Plan	Reliability, customer experience, and frequent service along with transit integration at new light rail stations and other community and mobility hubs

Freight and Urban Goods Element: guides the development of a full system of streets, waterways, and railroads that provides for the efficient movement of freight and urban goods delivery, supporting the city's economy and quality of life for its residents, workers, and visitors.

Includes	Builds on and supersedes	Enhances
The freight network map, first- and last-mile connectivity needs for major port, industrial, and intermodal facilities, and strategies for efficient movement of goods	2016 SDOT Freight Master Plan	Strategies, programs, and technologies to support freight movement of cargo, urban goods delivery, and expansion of our policy support for dedicated lanes for freight

Bicycle and E-Mobility Element: guides development of a network, programs and facilities that support people who ride bikes because it's a convenient, affordable, fun, safe, healthy choice.

Includes	Builds on and supersedes	Enhances
A 20-year vision for the bicycle network, recommended programs and strategies to improve safety and maintenance	2014 SDOT Bicycle Master Plan	Accommodations for e-bikes and electric small mobility devices

Pedestrian Element: guides development of a connected, age-friendly network of sidewalks, walkways, paths, staircases, and pedestrian crossings for people walking and rolling.

Includes	Builds on and supersedes	Enhances
All aspects of pedestrian mobility, network planning, programs, safety, and maintenance	2017 SDOT Pedestrian Master Plan	Our commitment to Vision Zero and includes a new focus on crossing busy arterials

People Streets and Public Spaces Element: an integrated strategy to recognize streets are more than just places for mobility; they are places for people to connect, enjoy a leisurely stroll, grab a coffee and people-watch, and utilize public space for relaxation or fitness.

Includes	Builds on and supersedes	Enhances
Locations for future people streets and public space investments, investments of varying scales, strategies for maintenance of prized public spaces	Is a **new element** that builds on SDOT urban design and public space management programming	Our streets as places for people and public gathering

Vehicle Element: guides the use of the vehicular system to ensure critical mobility and support a balanced transition to a more goal-driven and equitable use of right-of-way space for our integrated transportation system.

Includes	Builds on and supersedes	Enhances
Key functional classifications for the vehicular network, definition of the high-crash network and strategies for meeting Vision Zero goals, and policies for allocating street space	Is a **new element** that builds on our Vision Zero Strategic Plan and emergency response planning	Definition of critical vehicular mobility, emergency response, and role of managing vehicular travel to meet safety and climate goals

Curbside Management Element: guides how SDOT and its community partners manage limited curb space to provide a place for people to transfer between mobility options, load and unload goods, provide critical building services (such as waste pick-up), and to allow emergency responders to stage their vehicles.

Includes	Builds on and supersedes	Enhances
Strategies for managing curb access needs, pricing the curb, enforcement, use of data, and vehicle electrification	Is a **new element** that builds on SDOT policies and programs for curbside management	Strategies and programmatic recommendations for use of data and technology, urban goods delivery, and management of the role of vehicle electrification

New and Emerging Mobility Element: focuses on how SDOT can leverage new technologies—such as on-demand and shared passenger vehicles, e-bikes, and scooters of all sizes, as well as digital infrastructure and technology—to support passenger movement and goods delivery.

Includes	Builds on and supersedes	Enhances
Strategies for managing automation, urban freight, customer facing technologies, and shared mobility	Is a **new element** that builds on the SDOT 2017 New Mobility Playbook	Position on how to center equity in managing emerging technologies, particularly those operated by private companies

Appendix A: STP Large Capital Project Summary Sheets

The Part I document provides a table of potential large capital projects, compiled within Chapter 5: Implementation Strategy. Appendix A in Part II provides further information on each of these 80+ projects in the form of project-specific summary sheets. They provide information about scopes of work, conceptual cost estimates, and how the projects can help achieve STP goals.

Appendix B: Community Engagement Summaries

The Part I document includes highlights from our community engagement process to develop the STP. Appendix B includes our full community engagement reports from each phase of our engagement process, providing much more detail on what we heard from you.

The first phase of engagement occurred from May to August 2022. Community input during that period helped shape our vision, goals, and key moves. We also asked about your transportation challenges.

The second phase of engagement occurred from September 2022 to February 2023. During the second phase, we gathered feedback on the draft vision statement, goals, and key moves. We identified the actions that best help us achieve our goals, and we gathered feedback on the draft transportation network maps.

The third phase of engagement occurred from August 2023 to November 2023. We received community feedback on a draft version of the STP, which was considered and incorporated as we finalized the plan. We also presented the community with a range of large capital projects and supportive programs and activities for feedback, which will help inform implementation actions.

Appendix B also contains 5 additional documents that capture a range of community input on the STP provided by different community organizations and groups: the Asian Pacific American Labor Alliance; the Duwamish Valley Sustainability Association; Estelita's Library; the Khmer Community of Seattle King County; and members of Seattle's Indigenous and Native community.

Appendix C: Performance Measures

The STP includes overarching performance measures in the Implementation Strategy (Part I, Chapter 5), as well as element-specific measures in each of the elements. For ease of use, we have compiled all of the performance measures located throughout the plan into Appendix C.


STARBUCKS COFFEE
824
STARBUCKS
405

CHAPTER 2

NETWORK INTEGRATION: HOW THE 8 STP ELEMENTS WORK TOGETHER

This chapter serves as a primer for how the 8 STP elements were shaped to inform an integrated, multimodal transportation system. The first section describes Seattle's "complete streets" process and introduces key guidance and policy that inform that process. The second section describes the STP network integration process and the emergent guidance the STP team used to update and create the network maps and programmatic activities in each STP element. The final section highlights a few of the new complete streets guidelines and cross-cutting strategies that emerged from the planning process.

To realize the STP vision, all essential street functions and travel modes must work together—and do so in a manner that is safe, equitable, and climate-friendly. The STP network integration process considered the various needs of our streets to prioritize finite street space and focused on updating our networks, programmatic actions, and strategies. This work builds on the City's existing Complete Streets policy and design guidance, previous plans and studies, and community engagement input and feedback.

The strategies and guidance developed as part of this process helped shape all aspects of the plan including:

- *Shaping the Key Moves* and actions presented in Chapter 3 of the Part I document
- Informing updates to the priority investment network maps within the elements
- Developing recommendations and program activities for the 8 STP elements
- Conceptualizing the STP large capital projects compiled within the appendix

After completion of the STP, SDOT will build on the network integration process and the STP by updating Streets Illustrated (SDOT's Right-of-Way Improvements Manual); finalizing policy within the One Seattle Comprehensive Plan update; and advancing our complete streets process.

EXISTING POLICY FRAMEWORK RELATED TO NETWORK INTEGRATION

This section provides an overview of existing policy and guidance related to complete streets and network integration processes at the City of Seattle. The STP utilized this guidance to review, modernize, update, and, for the People Streets and Public Spaces Element, create the priority investment networks. This section provides a high-level overview of the relevant policies and guidance related to:

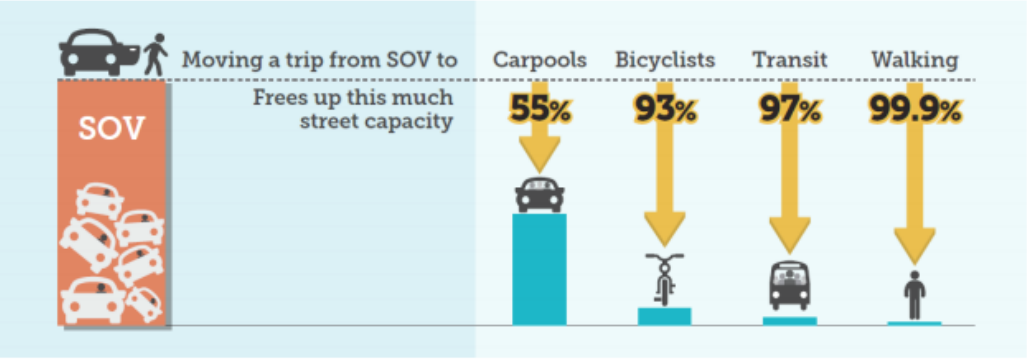
- The Comprehensive Plan
- Complete Streets Ordinance
- Our complete streets process and how we prioritize modes and uses
    - Essential functions of the right-of-way
    - Right-of-way zones
    - Land uses and development patterns
    - Intersections and Community and Mobility Hubs
- Streets Illustrated (Seattle Right-of-Way Improvements Manual)

The Comprehensive Plan

The Comprehensive Plan is Seattle's 20-year vision and roadmap to guide growth. The current Comprehensive Plan, Seattle 2035, was adopted in 2016. The City is actively working on a major update, the One Seattle Comprehensive Plan. Both Comprehensive Plan documents advance the goal of fostering a healthy and vibrant city for years to come.

To plan for future population and employment growth, the Comprehensive Plan establishes policies that prioritize space-efficient modes of transportation, which translate to discouraging our historical reliance on drive-alone vehicle use and focusing growth within designated commercial/mixed use areas (see **Figure 2**). As the City's long-range growth management plan, the Comprehensive Plan contains foundational policies related to complete streets and modal integration.

Figure 2: Street Capacity Gains with Trips Converted from Single-Occupancy Vehicles (SOVs) to Space-Efficient Modes



Source: Fehr & Peers, 2016

The Transportation section of the Comprehensive Plan lists several goals and associated policies that apply to modal plan integration, and in fact specifically recommends a policy framework for evaluating right-of-way allocation trade-offs. The second goal within the adopted plan states: "Allocate space on

Seattle's streets to safely and efficiently connect and move people and goods to their destinations while creating inviting spaces within the rights-of-way."

Goal 2 includes two critically important policies:

- First, this goal establishes safety and modal plan implementation as our two top priorities. This aligns with the City's Vision Zero goal of eliminating traffic deaths and serious injuries on city streets by 2030. Efficient movement is important, but not at the cost of safety (T2.5). While this goal underscores priority investment networks in right-of-way (ROW) allocation and design decisions, it does not suggest we ignore or discount how other functions of the ROW should also be accommodated in these decisions.
- Secondly, Goal 2 provides high-level policy guidance on how to resolve conflicts and weigh trade-offs. Policy T2.8 establishes Seattle's "Compete Corridor" approach—if all functions cannot fit in a single street, we should allocate needed functions across a corridor composed of several streets or alleys. We tend to use the term "complete streets" interchangeably with "complete corridors," although the latter is the intended outcome.

The following Comprehensive Plan transportation policies stem from the transportation goal related to safe and efficient movement on our streets. These policies played a key role in shaping our STP network integration process and will inform future project development decision making.

Where these policies reference modal master plans, they will be updated to reflect the Seattle Transportation Plan when the Comprehensive Plan is updated. Several policies reference the pedestrian realm, flex zone, and travelway. These are zones within the ROW and are described later in this chapter.

- T 2.1 Devote space in the street right-of-way to accommodate multiple functions of mobility, access for commerce and people, activation, landscaping, and storage of vehicles.
- T 2.2 Ensure that the street network accommodates multiple travel modes, including transit, freight movement, pedestrians, people with disabilities, bicycles, general purpose traffic, and shared transportation options.
- T 2.3 Consider safety concerns, modal master plans, and adjacent land uses when prioritizing functions in the pedestrian, travelway, and flex zones of the right-of-way.
- T 2.4 Use pedestrian design guidance in the Right-of-Way Improvements Manual and policy guidance from the modal master plans to determine adequacy of the pedestrian realm, before allocating space to the flex zone or travelway. Within the pedestrian realm, prioritize space to address safety concerns, network connectivity, and activation.
- T 2.5 Prioritize mobility needs in the street travelway based on safety concerns and then on the recommended networks and facilities identified in the respective modal plans.
- T 2.6 Allocate space in the flex zone to accommodate access, activation, and greening functions, except when use of the flex zone for mobility is critical to address safety or to meet connectivity needs identified in modal master plans. When mobility is needed only part of the day, design the space to accommodate other functions at other times.

- T 2.7 Assign space in the flex zone to support nearby land uses, provide support for modal plan priorities, and accommodate multiple functions.

- T 2.8 Employ the following tactics to resolve potential conflicts for space in the right-of-way:

    - Implement transportation and parking-demand management strategies to encourage more efficient use of the existing right of way
    - Allocate needed functions across a corridor composed of several streets or alleys, if all functions cannot fit in a single street
    - Share space between travel modes and uses where safe and where possible over the course of the day
    - Prioritize assignment of space to shared and shorter duration uses
    - Encourage off-street accommodation for non-mobility uses, including parking and transit layover

- T 2.11 Design sidewalks in urban centers, urban villages, and areas designated as pedestrian zones … to foster vibrant pedestrian environments in these areas.

- T 2.14 Maintain, preserve, and enhance the City's alleys as a valuable network for public spaces and access, loading and unloading for freight, and utility operations.

- T 2.15 Create vibrant public spaces in and near the right-of-way that foster social interaction, promote access to walking, bicycling, and transit options, and enhance the public realm.

Complete Streets Ordinance

Adopted in 2007, the City's Complete Street Ordinance (122386) directs SDOT to "design, operate, and maintain Seattle's streets to promote safe and convenient access and travel for all users." Users encompass people walking, riding bicycles, taking transit, and people of all abilities, as well as people driving freight and motor vehicles. Complete Streets is among our foundational policies: it is incorporated in our Comprehensive Plan and guided preparation the STP and the preceding 4 modal master plans.

Prioritizing Modes and Uses on Streets and at Intersections

Seattle streets vary greatly in dimension, design, and adjacent land use, and they play different roles in the city and regional transportation network. Building an integrated system requires us to look at the many components and roles of our streets and balance street design and operations to meet STP goals and individual user needs.

Within our complete streets process to evaluate the scope of work for capital projects, 4 key components of how we plan, design, and operate our streets are:

- **Essential functions of the right-of-way** frame the range of ways our streets are used.
- **Right-of-way zones** dictate appropriate uses and relationship to immediately adjacent uses, ensuring that our streets balance mobility, access, and other critical functions.
- **Land uses and development patterns** (e.g., industrial, residential, and commercial/mixed-use areas) influence the primary street users, the operating and design needs, and the street's role in the broader system (i.e., what types of places it connects, what travel modes it carries, and its roles in the regional network).
- **Intersections and Community and Mobility Hubs** are the places where our streets, paths and transit lines come together. How these points of connections are designed and managed has an outsized influence on the transportation system.

These 4 components are described in greater detail in **Table 1**.

6 ESSENTIAL FUNCTIONS OF THE RIGHT-OF-WAY

In the development of the 8 elements, we considered their role in providing essential street functions. Previously, Seattle's Comprehensive Plan (Seattle 2035) defined 6 essential functions of the right-of-way as part of a 20-year growth strategy. These essential street functions continue to be defined in the One Seattle Comprehensive Plan update (2024) and are shown in **Table 1**. Through the STP, we aim to comprehensively consider all essential street functions when making decisions about transportation system investments and street uses.

Table 1: Essential Functions of the Right-of-Way

FUNCTION	DEFINITION	EXAMPLES
MOBILITY	Moves people and goods	• Sidewalks • Bus or streetcar lanes • Bike lanes • General purpose travel lanes (includes freight)
ACCESS FOR PEOPLE	People arrive at their destination, or transfer between different ways of getting around	• Bus or rail stops • Bike parking • Curb bulbs • Passenger load zones • Short-term parking
ACCESS FOR COMMERCE	Goods and services reach their customers and markets	• Commercial vehicle load zone • Truck load zone
ACTIVATION	Offers vibrant social spaces	• Food trucks • Parklets and outdoor dining • Public art • Street festivals
GREENING	Enhances aesthetics and environment health	• Plantings - Boulevards - Street trees - Planter boxes • Rain gardens and bio-swales
STORAGE	Provides storage for vehicles or equipment	• Bus layover • Long-term parking; overnight parking • Reserved spaces (e.g., for police) • Construction

STREET RIGHT-OF-WAY ZONES

Seattle's Complete Streets ordinance and project evaluation process help planners and project developers—in collaboration with the community—to identify a preferred allocation of street space in support of context-specific functions (e.g., mobility, access for people, loading and access for goods and commerce, activation).

As shown in **Figure 3**,certain functions are appropriate in specific right-of-way zones based on land use context and a street's overall role in the transportation system. Streets Illustrated describes these zones as:

- **Pedestrian Realm**: this is the space that serves people walking, rolling, or delivering goods. It includes the pedestrian clear zone, the frontage zone, and the landscape/furniture zone. The pedestrian realm houses fixed infrastructure such as street furniture, public seating, street trees, bus platforms and shelters, bike racks, scooter and new mobility parking, public art, and café seating or dining.
- **Flex Zone:** The space along the curb that is essential for people and goods to transition between the pedestrian realm to mobility functions in the travelway. This highly constrained and valuable space has the most competing uses since it can be used for all essential functions, including access, mobility, and public space uses. It's often the critical interface between how people travel and the places they are traveling to and from.
- **Travelway:** The space "in" the street that is dedicated for mobility that can include moving goods, or traveling by bus, bike, e-mobility device, or private vehicle.

Figure 3: Street Right-of-Way Zones

LAND USE CONTEXT

Seattle's growth strategy is a high-level framework, detailed within the Comprehensive Plan, for guiding how the city grows. Seattle's growth strategy directs most of our population and employment growth into urban centers and other commercial/mixed use areas. In general, these are the denser, more pedestrian-friendly, and transit-supported districts within the city. The Comprehensive Plan also identifies 2 manufacturing/industrial centers (the Duwamish MIC and Ballard-Interbay-Northend MIC)—job centers in their own right that are critically important centers for freight and urban goods movement.

The STP network integration process focuses on Seattle's arterial street network, where most local trips and many regional trips are made. Clear guidance for how we allocate street space in these corridors is critical. That guidance is influenced by the street's role in the network and its land use context. For example, destination rich streets in urban centers and urban villages must provide access and serve as great places for people on foot, rolling and cycling, while streets connecting urban centers, urban villages, and manufacturing and industrial centers play a crucial role as the connective fabric between bustling growth hubs and their associated activities, including employment and logistics.

Streets Illustrated identifies many potential street types based on the degree of movement through them and the sense of place they are intended to provide. The 3 categories listed below are a distillation to help center a street's role in the transportation system and land use context in right-of-way allocation decision guidance.

- **Connector** streets connect commercial/mixed use areas; often have lower density land uses; and play a key role in serving longer trips for people and goods moving between commercial/mixed use areas, manufacturing and industrial centers (MICs) and regional highways.
- **Main** streets are destination streets that serve retail and commercial uses in commercial/mixed use areas. These are destination rich streets where pedestrian quality and public realm is a high priority, as well as provide curb use functions that ensure access for people and goods.
- **Industrial Access** streets are adjacent to manufacturing and industrial land uses and make critical connections to regional and interstate highways. They are designed to accommodate significant volumes of large vehicles such as single unit trucks, tractor trailers, and other delivery vehicles.

INTERSECTIONS, CROSSINGS, AND COMMUNITY AND MOBILITY HUBS

Intersections are where people meet, connect between different modes of travel, socialize, and pause to exchange ideas. Cities more broadly are about stopping traffic. That is why businesses, merchants, hotels, warehouses, cultural institutions, and people live and grow there. Our intersections and community and mobility hubs are microcosms of the city, meant to stop traffic and provide access and exchange.

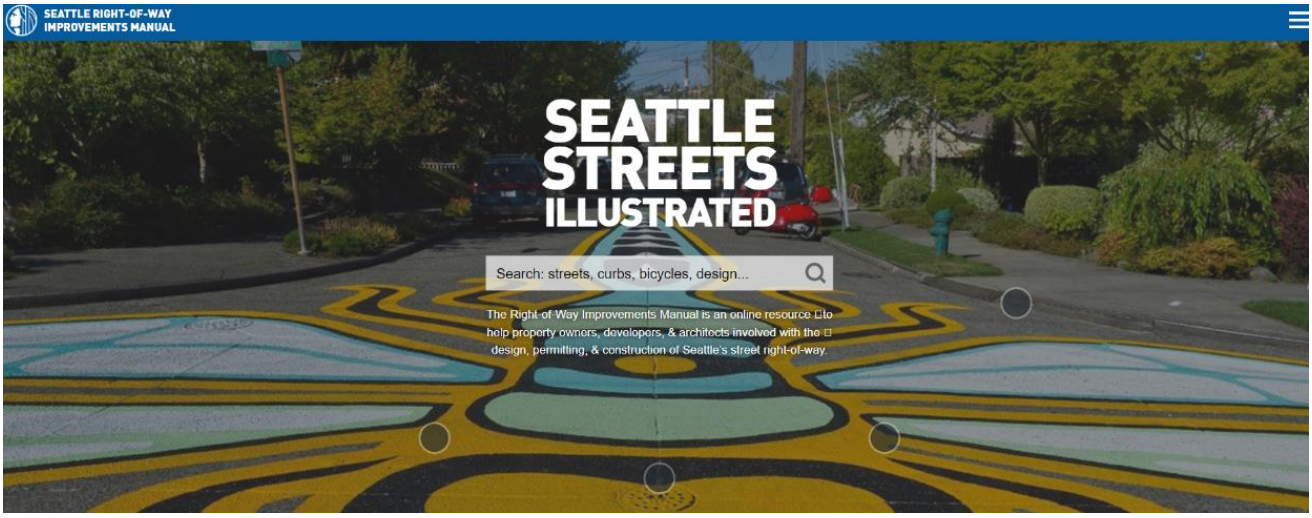
The STP network integration process considered several unique contexts where intersections of major arterials, crossings of highways, pinch points created by water crossings or other "exchange" conditions presented opportunity to:

- Improve safety for vulnerable street travelers
- Increase non-drive alone mode share by improving the safety and reliability of other travel options
- Enhance the quality of public spaces where people come together
- Develop community and mobility hubs that connect people using transit, walking, cycling, etc., to the next leg of their trip or their destination.

Streets Illustrated – *The City of Seattle Right-of-Way Improvements Manual*

Streets Illustrated, Seattle's Right-of-Way Improvements Manual, provides design guidance, standards, and processes on how to design, build, and manage projects within the right-of-way.

Streets Illustrated attempts to balance the access, mobility, and placemaking needs of everyone who uses and travels in the right-of-way: people walking, biking, driving, riding transit, moving goods/freight, or seeking to enjoy the social and green spaces. Procedures and design standards were developed to prioritize safety and balance the preservation and maintenance of roadway infrastructure and utility services, provide for context sensitive design, and enhancement of our environment.



ELEMENT PRIORITY FUNCTIONS

Each of the 8 elements has a crucial role to play in meeting the needs of those who use city streets. Integrated transportation network guidance helps ensure all our priority networks function in balance, while advancing the network design and operational needs of each individual function of the transportation system.

As an integrated whole, each element in **Table 2** does its part to ensure all people and businesses can access their daily needs and feel connected to their community.

Table 2: Each Element Contributes to an Integrated Whole

Transit	Freight & Urban Goods	Bicycle & E-mobility	Pedestrian
Reliable, affordable mobility for all Capacity for mode shift to meet our climate and safety goals	Reliable access to industrial land uses and regional freeways Operational space and efficient delivery of goods	Safe, connected system providing access to destinations for people of all ages and abilities	Safe, comfortable access and mobility for everyone walking and rolling in all Seattle neighborhoods
People Streets & Public Spaces	**Vehicle**	**Curbside Management**	**New & Emerging Mobility**
Great places for walking and community life	Vehicular access provided for necessary trips with a focus on improving safety and reducing impacts of vehicular travel	Efficient access for passenger loading, goods, and services, building services Flexible functions to provide greening, activation, and electrification	Data-enabled, digital mobility and new vehicle types are managed to help meet our goals

NETWORK INTEGRATION PROCESS

The Seattle Transportation Plan is different than previous Seattle transportation plans in that it considers all functions of the right-of-way and the finite street space available to program them on a citywide scale. STP network integration used a data- and engagement-driven process to develop a multimodal network plan that tackles the hard decisions at a high level for how we program city right-of-way. Specific corridor design will continue to be conducted at the project level. **Table 3** illustrates the key steps in the network integration process.

Table 3 Network Integration Process

INPUTS	PROCESS	OUTPUTS
Step 1. Define Needs		
Technical Studies Community Engagement	• Shape roles and priorities for 8 elements to achieve • Identify new network connections needed	Key Moves
Step 2. Identify Critical Networks & Functions		
Community Engagement STP vision, goals, and key moves Comprehensive Plan alternatives Neighborhood and modal transportation plans Transportation Equity Framework Climate action plans Curbside Management policies	• Draft network integration principles • Develop potential new integration guidance and strategies • Update maps to reflect current network completion	7 network integration principles
Step 3. Overlay Networks		
Streets Illustrated design guidance and standards Street dimensions, conditions, and functions	• Update maps to reflect current network completion	
Step 4. Refine Network Maps, Strategies, and Actions		
Community engagement Potential new program activities	• Craft set of recommended networks, strategies, and program activities	Priority network investment maps and guidance Actions to support key moves and element strategies Program activities Large capital project list
Step 5. Identify Next Steps		
	• Inform transportation funding plan • Finalize One Seattle Comprehensive Plan policies • Create STP Implementation Plan • Update Streets Illustrated • Update Complete Streets project evaluation process • Advance projects and programs	

The network integration process was informed by thousands of Seattleites who engaged in the STP development process by helping shape the vision and goals (summer 2022), reviewing preliminary draft network maps (winter 2022-2023), and reviewing recommended draft maps and elements (fall 2023). The process was also informed by Seattle's modal advisory boards (Transit, Bicycle, Pedestrian, and Freight Advisory Boards) the Transportation Equity Workgroup, the Seattle Planning Commission, and the School Traffic Safety Committee through 3 joint workshops conducted in 2022 and an open house in early 2023.

The results of our engagement process are introduced in Part I, Chapter 2—Shaped by Community. The appendix to this document provides a more detailed accounting of the thousands of points of input collected at over 150 meetings and engagement events and through the project's on-line engagement hub.

In the **Needs Definition** phase of the network integration process, we identified the role and priorities for what became the 8 functional elements. This step drew on early community engagement feedback, where we solicited input on current challenges with getting around Seattle. We also worked closely with technical experts across SDOT to identify opportunities and challenges.

Additionally, as part of the Needs Definition phase, we identified and analyzed available technical studies and filled several technical gaps with our own analysis. This work included a review of the Puget Sound Regional Council travel demand model output (which projects future travel patterns), an analysis using the private data tool Replica (which estimates current travel patterns), SDOT's preparation of the Climate Change Response Framework , and an analysis of transit demand and needs.

With the draft STP vision, goals, and preliminary Comprehensive Plan growth scenarios in hand, the team began the **Critical Networks & Functions** phase of the process. The project team prepared goals and outcomes for the networks and began developing each of the 8 functional elements and modernizing the priority network maps. This process is built upon the existing citywide mode-specific plans for pedestrian, bicycling, transit, and freight and other recent value-centered work around safety, equity, and climate action.

Upon this foundation, and drawing on recent community input and the Needs Definition work, the STP team developed the following 7 network integration principles:

- Put safety first on every street and at every intersection
- Prioritize space-efficient travel options for moving people (transit, bicycling, rolling, and walking) and moving goods (freight and urban goods)
- Support the critical access and community health functions streets provide, such as delivery of goods and services, curb access, people streets, and public spaces
- Accelerate implementation of critical network connections, especially for people walking and biking, and protect critical network connections for trucks to access port terminals and highways, as well as other related areas of the region
- Manage the transportation system's capacity and reliability to meet climate targets, encouraging more people to ride transit, walk, and bike
- Consider the unique needs of local communities when making decisions about streets

- Allocate needed functions across a corridor composed of several streets or alleys ("complete corridors")

Building off the 7 network integration principles, existing policy framework, engagement feedback, and prior steps in the process, the STP Team modernized the network maps, including:

- Updated the maps based on investments and decisions made since their original preparation and adoption as part of each modal plan
- Introduced new route and mapped priorities based on community input through the engagement processes and our internal subject matter experts
- Developed a new typology and maps for the People Streets and Public Spaces Element

Subsequently, within the **Network Overlay** phase, the networks and functions from the previous steps were overlayed and compared to actual street dimensions and constraints. The team identified synergies and tensions across the networks and utilized existing policy and guidance from the Comprehensive Plan and Streets Illustrated to update networks. This work led to updates and edits to our priority investment networks, guided the formation of the PSPS network, yielded several corridors and locations that need further study, as well as a more robust set of catalyst projects. This work also flagged opportunities for new guidance, strategies, and programmatic activities needed to create a fully integrated and holistic transportation system. In many locations, large capital projects were identified to address transformational change needs.

In the final phase, **Refined Network Maps, Strategies and Actions**, the team advanced the overall set of recommendations aimed at creating an exceptional transportation system, where the various components work together to meet daily needs, support a growing city, and make more vigorous progress towards our most pressing goals for a safer, more equitable, and sustainable transportation system. This work is reflected at a high level within the STP key moves and in detail within the 8 elements strategies and program actions. The team continued to critique and refine the priority investment network maps and supplemental guidance to advance our complete streets process.

ADVANCING OUR COMPLETE STREETS PROCESS

An array of new network integration considerations and guidance were factored into the network integration process and advanced within the key moves and the 8 elements. These came from priorities and themes from our community engagement process, our technical analysis, and engagement across SDOT. These emerging considerations include the following:

(Further discussion and contextualization may be found in the element(s) noted by parenthetical reference.)

- On streets prioritized for transit and trucks, consider strategies to prioritize freight and transit travel time and reliability, such as freight and bus (FAB) lanes, transit-only lanes, and other right-of-way and operational strategies. (Transit; Freight and Urban Goods)
- On streets prioritized for trucks and bicycles, facilities for trucks and bicycles, aim to clearly separate and comply with width and materials standards, consistent with Streets Illustrated. (Bicycle and E-Mobility; Freight and Urban Goods)
- Update our level-of-service measures and standards to reflect our complete streets approach, performance measures, and goals. (Bicycle and E-Mobility; Freight and Urban Goods; Pedestrian; Transit)
- Within manufacturing and industrial centers (MICs), considering opportunities to prioritize truck movement, especially at freight bottlenecks, including operational strategies and truck-only lanes. (Freight and Urban Goods)
- Align the operations of our streets and traffic signals with our complete streets approach, performance measures, and goals. (Pedestrian; Freight and Urban Goods; Transit)
- Prioritize the needs of people walking, rolling, and biking within commercial/mixed use areas and near light rail stations. (Pedestrian; PSPS)
- Advance a network of Shared Streets, such as Healthy Streets, School Streets, and Event Streets, to prioritize active trips and the role of streets as part of our public realm, while also accommodating emergency vehicle access, utility access, and access consistent with the Americans with Disabilities Act. (PSPS; Vehicle)
- Advance low-emission/low-pollution neighborhood concepts as directed by Executive Order 2022-07 to improve air quality and livability by transitioning areas of the city away from fossil-fuel vehicles in favor of electric and human powered transportation modes. (PSPS)
- Elevate priority for critical access functions (e.g., load zones and waste pickup), working to meet those functions on side streets, off-street, using alleys, and along arterials, as needed. (Curbside)
- Employ the principle of the “physics of mobility” when determining where a new or emerging form of mobility belongs within the right-of-way. (NEM)
- Limit impacts to emergency response vehicles along Tier 1 (high volume response) routes as other modal priorities are implemented. (Vehicle)
- Assume a baseline of one general-purpose through travel lane per direction of travel on most arterials, where vehicular mobility will be maintained. (Vehicle)
- When conducting future year traffic analysis, the analysis should include an examination of travel volumes consistent with our vehicle-miles traveled target. (Vehicle)

Cross-cutting and Complete Streets Strategies within the STP Functional Elements

In addition to advancing and creating the priority investment network maps, we also explored cross-cutting strategies and actions to advance our element networks. These strategies are anchored to our goals and introduced within our discussion of goals and key moves, Part I, Chapter 3. Within the 8 elements, we provide greater detail and discussion on the strategies and programmatic activities needed to create a more holistic transportation system. The examples below illustrate a sample of the cross-cutting strategies advanced within the elements.

Table 4 Examples of Crosscutting Strategies and Actions to Advance Element Networks

Crosscutting Strategies and Actions	Primary References	Secondary References
Freight and bus lanes aim to improve travel time reliability by designating street space for transit and freight vehicles.	Transit	Freight and Urban Goods
The Bike+ Network is comprised of a range of All Ages and Abilities (AAA) bikeways. The updated network allows greater flexibility to create AAA bikeways that respond to street or context-specific situations, including where we have multiple priority modes. The updated network also focuses on meeting the needs of the myriad ways our bikeways are used, including bicycle types as well as new and emerging mobility devices.	Bicycle	NEM
Railroad crossing safety and maintenance activities, in collaboration with freight and transit rail operators, impact all roadway users and are discussed in three of the elements.	Freight and Urban Goods	Bicycle and E-Mobility, Vehicle
The plan expands our policy framework for new and more frequent **enhanced crossings of arterials** including treatments such as a marked crosswalk, all-way stop, flashing beacon, or traffic signal.	Pedestrian	Bicycle and E-Mobility, Transit
Safe Routes to Transit and **Safe Routes to Parks** programmatic activities would follow the Safe Routes to Schools model by combining engagement, encouragement, and education with multi-modal capital investments.	Pedestrian	Bicycle and E-Mobility, People Streets and Public Spaces (PSPS), Transit
The STP elevates the importance of our **street trees, tree canopy, and greening** within the right-of-way. Greening our streets provides multiple benefits to Seattle; they shade pavement, lower temperatures, intercept rainfall, absorb stormwater runoff, clean the air, provide habitat, and beautify neighborhoods. Landscape and tree planting strips adjacent to sidewalks calm traffic, soak up stormwater, and green neighborhoods.	Pedestrian	Freight and Urban Goods, PSPS
Shared Streets, a new street type within the People Streets and Public Spaces Element, create “people first” spaces either permanently or during certain times of the day or week. Shared Streets create great spaces for people walking, biking, and	PSPS	Bicycle and E-Mobility, Pedestrian

Crosscutting Strategies and Actions	Primary References	Secondary References
enjoying public space. Shared Streets include Healthy Streets, Café Streets, School Streets, Event Streets, and Special Alleys.		
Community and mobility hubs combine transportation options, community spaces, and travel information into a seamless, understandable, and on-demand travel experience. These hubs cut across almost every dimension of the transportation system and are referenced in 6 of the 8 elements.	Transit	Bicycle and E-Mobility, Curbside, New and Emerging Mobility (NEM), PSPS, Pedestrian
Destination Streets, a new street type within the People Streets and Public Spaces Element, are typically located in the heart of a neighborhood with a high density of destinations—shops, restaurants, cultural centers, and more. Recommendations and strategies for Destination Streets serve people walking and bicycling, as well as optimize curb side uses.	PSPS	Bicycle and E-Mobility, Curbside, Pedestrian
Low-emission neighborhoods encourage sustainable travel options by prohibiting or restricting the types of or timing of vehicles allowed within the neighborhood while fostering other, zero- to low-emission travel choices**.**	PSPS	Bicycle and E-Mobility, Curbside, Pedestrian
A building's critical access needs can be defined as access to services needed to perform its core operating functions safely and successfully, including loading, deliveries, and passenger drop-off. This plan elevates the role of these important activities, which often happen at the curbside, and interact with priorities for urban goods, as well as bicycle and public space.	Curbside	Freight and Urban Goods, Vehicle
The STP highlights the need for **low- and no-emission delivery vehicle** programmatic actions related to loading, parking, and cargo bikes support other programs from across the City of Seattle, Port of Seattle, and our partners.	Curbside, Freight and Urban Goods	Bicycle and E-Mobility, NEM
The **STP Large Capital Projects** exemplify our integrated and complete streets approach to our streets by combining goal-centered priorities, such as safety and climate action, with multi-modal needs from across all of the element priority investment networks.	Appendix A	