Seamless Seattle

July 2019

Pedestrian Wayfinding Strategy

Seattle Department of Transportation

Seamless Seattle

This document is a part of a wider suite that has been produced as part of the development of Seamless Seattle, a pedestrian wayfinding system for the City of Seattle.

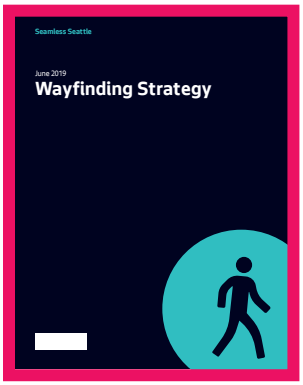
The system is being planned for wider roll-out but is initially being implemented in two downtown pilot areas at Jackson and at Westlake in late 2019.

This suite of documents captures the strategic recommendations, standards and guidance produced in order to guide the pilot implementation and support wider implementation.

Though the documents can be read individually, it is recommended that the suite is read in its entirety to benefit from a thorough understanding of the thinking and process behind the development of the project. The key documents cover the system-wide approach and recommendations while the supporting documents focus on the detailed application within the pilot areas.

The project is being delivered by a specialist wayfinding consultant team led by Applied Wayfinding with Alta Planning + Design providing local planning and design expertise, and 3 Square Blocks who specialize in engaging communities in public planning projects.

Key documents

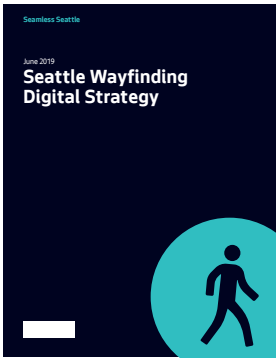


Strategy

Summary of strategic recommendations and planning standards. Includes:

- Principles
- User scenarios
- Asset selection
- Naming
- Routing & placement
- Sign typology

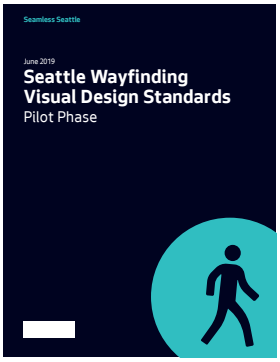
This document



Digital Strategy

Recommendations for the approach to using digital tools to deliver, manage and maintain the system beyond the pilot phase. Includes:

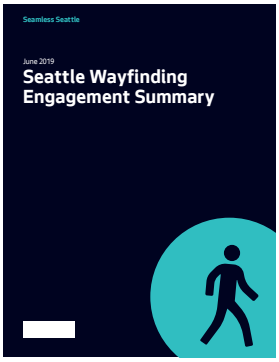
- Open Wayfinding Platform
- Implementation Plan
- Accessibility initiatives



Visual Design Standards

Design specification for the pilot elements. Includes:

- System Identity
- Sign Information Design
- Map Design
- Product Design
- Design Intent Drawings

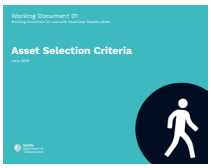


Engagement Summary

Summary of stakeholder and public engagement that shaped the strategy and design of the pilot program, including:

- Engagement methods
- Participants and organizations consulted
- Feedback gathered
- Full record of meetings

Supporting documents



01 Asset Selection Criteria

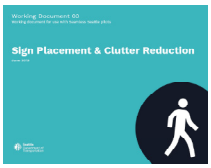
Explains the criteria used to determine the inclusion of assets in mapping and directional content. Includes:

- Categorization of assets
- Illustrated assets
- Master list of assets for inclusion

02 Sign Content Rational

Explains how assets identified in the Asset Selection Criteria should be applied to directional content. Includes:

- Guidance on prioritizing content
- Sign addressing
- Use of icons



03 Sign Placement and Clutter Reduction

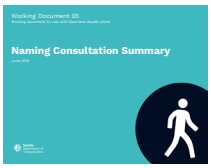
Summary of the steps required to determine sign placement and identify street furniture for removal. Includes:

- Guidance on developing a Priority Route Network
- Overview of sign types
- Sign placement rules

04 Accessibility Summary

Overview of the accessible components of the wayfinding system Includes:

- Map content
- Use of Braille and tactile
- Future opportunities



05 Naming Consultation Summary

Summary of the Westlake and Jackson Pilot naming consultations. Includes:

- Neighborhood naming
- District naming
- Naming maps

06 Pilot Application

Summary of the pilot schemes to be implemented in Jackson Street and Westlake. Includes:

- Sign placement plans & quantities
- Detailed sign locations
- Sign content schedules

Contents

This Wayfinding Strategy builds upon the recommendations in the 2017 Seamless Seattle Scoping Study. It establishes an inclusive approach to delivering wayfinding that will improve accessibility, prioritize and optimize movement networks, reduce congestion and street clutter, support local communities and connect parts of the city within a coherent vision of place.

It also creates the platform for the design and implementation of a pilot at Westlake and Jackson Hubs.

The document formalizes design work previously completed by Applied Wayfinding, Alta Planning + Design and 3 Square Blocks, including development presented as part of Concept and Detailed Design phases.

applied_
wayfinding

alta
PLANNING + DESIGN

3 SQUARE BLOCKS

1 Introduction

1.1 Context

The City of Seattle has embarked on a program to support walking as a viable transportation mode: to increase walking trips throughout the city through a comprehensive program of projects and developments, which will significantly impact how people move about and understand the city.

The Pedestrian Master Plan, published in October 2017, aims to deliver on the strategic transportation target that 35% of all trips should be completed on foot by 2035. It describes developing a coordinated wayfinding system to improve awareness of the opportunities and benefits of walking for access and connection to other transportation services.

In November 2017 the City published the Wayfinding Scoping Study, a high-level study that established the ground rules for a wayfinding project and generated momentum through building stakeholder interest.

In August 2018, the Seamless Seattle project was commissioned to define a unified information system for integrated, universal, sustainable and intelligent guidance, and to plan, design and implement a wayfinding project through two pilots.

This Wayfinding Strategy establishes the need, core principles and approach to wayfinding guiding the future development of the project.

1.2 What is Wayfinding

Wayfinding is a technique that people use to help them navigate places.

People wayfind, and places can either help or hinder them depending on their navigation skills, their tools at hand, and the complexity of their environment.

Legible places, make people feel welcome, safe and help give them a great experience. They are intuitive to navigate, through their geography, topography, layout, architecture, landmarks and names: *the mountains are to the south, the Waterfront is by the water, the city slopes to the bay, the grid is oriented north-south, the tall buildings are Downtown, turn left at the red statue*...are all examples of how intuitive wayfinding helps people make sense of their surroundings.

A wayfinding *system*, such as the one described in this strategy, is introduced as a curated information layer over people's intuitive interpretation of places, to provide the support they need, when they need it, in the form most appropriate for their situation and abilities.

Usually, for a city, the most visible manifestation of a wayfinding system is signage, which can be supported by environmental graphics, printed maps, apps, online tools, people, and public art and other landmarking.

The Wayfinding Scoping Study produced by the City of Seattle in November 2017, defined a key objective from the user's perspective for a wayfinding program for the city:

I am provided with the information I need, when I need it, to inspire me to explore Seattle and to help me choose the best way to travel in the city.

Wayfinding is not just for tourists.

It is for the abundance of people going about their everyday business – a patient on a transit journey to a medical center in First Hill, an intern starting a new job in Denny Triangle, a wheelchair user planning a visit to the Civic Center, a newbie interested in Dungeons & Dragons heading out to a specialist shop in Ballard, a prospective student checking out the Seattle U campus, a new parent with a buggy struggling to find accessible routes for Downtown shopping, visiting a friend who has just moved into their neighborhood in a new part of the city.

It is there for all of us at one time or another in our lives.

It supports people who are most excluded from and by their environment, creating more equitable access to the public realm and local amenities.

Project principles

The Wayfinding Scoping Study, November 2017, established key principles for the project.:

This is Seattle
A system that is recognizable city-wide but embraces the distinctiveness of different neighborhoods

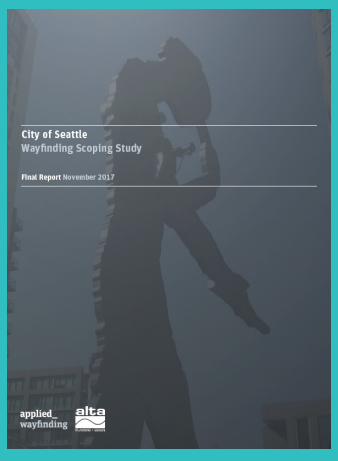
Comfortably lost
Information designed to support exploration beyond the traditional attractions and into the unique neighborhoods of Seattle.

Connected
Integrating walking as a connecting mode to other forms of transportation, raising awareness and empowering people to drive less and walk more.

Coordinated
A systematic approach to information management and modular design that can span different agency needs and media using creative partnerships and agreements across public and private sectors.

Visual clutter
A map-based and graphical system that enables a significant reduction in street furniture through efficient information design.

Universal design
A system that provides access to the information without special adaptations.



1.3 Public and Stakeholder Engagement

Throughout the project, 3 Square Blocks led the Project Team's effort to gather public and stakeholder input using the following methods:

- 1 User Intercept Survey (40 respondents)
- 3 End User Focus Groups
- 3 End User Reference Panel Charrettes
- 1 Chinatown International District Community Conversation
- 2 Pilot Site Working Groups
- Stakeholder Working Groups: 4 Finance, Asset Management & Governance meetings, 4 Product Design, Visual Design & Accessibility meetings, 4 Digital Strategy meetings, 4 Implementation Planning meetings
- 6 Governance Stakeholder Interviews
- Briefings for Boards and Commissions
- 3 Meetings with local Business Improvement Areas and Local Improvement Districts: Alliance for Pioneer Square, Waterfront Seattle, and Downtown Seattle Association.

In total over 200 people were part of this engagement process. A report summarizing what we heard in these conversations is available, titled the Engagement Summary.

Top: Chinatown International District Community Conversation
Above: Focus Group attended by members of the public

1.4 Consultation List

Organizations Consulted Directly

- Alliance for Pioneer Square
- Commission for People with Disabilities
- Creative Inclusion
- Downtown Seattle Association Members
- International Special Review District
- King County Metro
- Pioneer Square Preservation Board
- Stadium Parking Access Review Committee
- Pedestrian Access Advisory Committee
- Seattle Department of Neighborhoods Community Liaisons
- Seattle Center & Monorail
- Seattle Parks and Recreation
- Seattle Waterfront
- Sound Transit
- Taskar Center for Accessible Technology
- Washington State Department of Transportation and Washington State Ferries
- Washington State Public Stadium Authority
- Seattle Design Commission
- Seattle Planning Commission
- Downtown Transportation Alliance
- Seattle Pedestrian Advisory Board
- Seattle Commission for People with DisAbilities

Organizations Represented in Focus Groups, Reference Panel, Pilot Site Working Groups, Interagency Working Groups, and Stakeholder Advisory Committee

- Amazon
- Bellwether Housing
- Chinese Family Association
- Commute Seattle
- Everett Transit
- Fairmont Olympic Hotel Concierge
- Feet First
- Friends of Little Saigon
- Freeway Park Association
- Historic South Downtown
- Set for Success program
- American Hotel
- InterIm CDA
- Jackson Hub Committee
- King County Metro
- LightHouse for the Blind, Inc.
- Macy's
- Market to MOHAI
- Metropolitan Improvement District
- Pike Place Market
- Seattle Chinatown International District PDA
- Seattle Office of Planning & Community Development
- Sound Steps
- SODO Business Improvement Association
- Thompson Seattle Concierge
- Visit Seattle
- Washington State Convention Center
- Westin Seattle
- Wing Luke Museum

2 Why Wayfinding

This section establishes the need for wayfinding: its benefits; how it aligns with the City of Seattle's policies and plans; how it can support the city now and through periods of development; and why the existing systems are not delivering.

2.1 It benefits the city and its people

Wayfinding contributes to residents, businesses and visitors by creating a more accessible city, encouraging more sustainable modes of travel and revealing hidden routes and areas of the city.

It improves the health of people and the city

The city's near-term climate action priorities call for reducing road transportation emissions, the source of two-thirds of the greenhouse gas emissions, with disproportionate impacts on low income communities and communities of color.

Seattle City Council Resolution 31312, in support of the city's Climate Action Plan (CAP), provides a road map for achieving net zero greenhouse gas (GHG) emissions by 2050. Given that transportation accounts for 40% of GHG emissions, this has required the city to take major steps in reducing its transportation carbon footprint.

The 2030 targets (from a 2008 baseline) established for passenger transportation in the resolution are:

- 20% reduction in total vehicular mileage
- 75% reduction in GHG emissions per mile

The population of Seattle's seniors is growing. It is predicted to rise from 17% to 25% by 2040 (2016-2019 Area Plan for Seattle-King County).

Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities recognizes the importance of physical activity for people of all ages and abilities.

The report recommends that adults get at least 150 minutes of moderate-intensity physical activity each week, and that there is strong evidence that physical activity has substantial health benefits.

Wayfinding can reduces the use of cars and greenhouse gas emissions and pollution, and it supports a more active and healthy lifestyle.

It encourages more people to use sustainable modes

The city's strategy is to increase shared and active transportation, both of which can be supported by improving pedestrian wayfinding, and it has put forward plans and policies to increase active mobility.

- The 2014 Bicycle Master Plan establishes a goal of quadrupling the amount of bicycling in the city by 2024.
- The 2017 Pedestrian Master Plan sets a mode shift goal of 35% of all trips are by walking by 2035.
- There have been recent innovations to increase active transportation trips as shared mobility companies have deployed fleets of shared bicycles and electric bicycles.

Good information does affect people's mode choice. In Vancouver, six neighborhoods were given sustainable travel information, which resulted in a 12% increase in transit and 8% decrease in car use. In two areas adjacent to rail stations, transit increased by 35%.

The city has been working closely with transit agencies to create better arrival experiences and connectivity between modes, which is a pain point for people making multi-modal journeys.

For visitors, the potential for wayfinding to influence behavior is vast. 47 million passengers use the airport, which connects to Downtown by Link light rail, bus and taxis. 670,000 people per year arrive at King Street Amtrak station in Jackson, and between May and October over one million people arrive at piers 91 and 66.

Wayfinding plays a critical role in supporting first and last mile journeys, and inter-modal connections. Its significance is why the pilot projects for this initiative are planned for Westlake and Jackson Hubs.

It promotes a more equitable public realm

Equal access to the public realm is a civil right.

King County has a high proportion of people with disabilities - 23% of adults age 18+ live with a disability; 19% of adults age 65+ speak a non-English language at home (2016-2019 Area Plan for Seattle-King County); and people do not use civic facilities proportionally. 68% of people in households with incomes greater than $100,000 visit small neighborhood parks weekly, while for those with income less than $50,000, it is 39% (2014 Parks Legacy Plan).

The city has recently committed to a $300 million program to install 22,500 curb ramps over an 18-year period, making all sidewalks physically accessible.

Wayfinding supports local amenities such as parks, adult services, community centers and provides information critical for people who need to understand the viability of their journey, such as step-free, steep routes, safe routes.

People who are presently disenfranchised, through poor environment or information, can't access the public realm.

Wayfinding can help create a more equitable environment, and improve social cohesion by supporting local amenities and designing information to be accessed by as wide a range of people as possible.

It benefits new visitors to the city

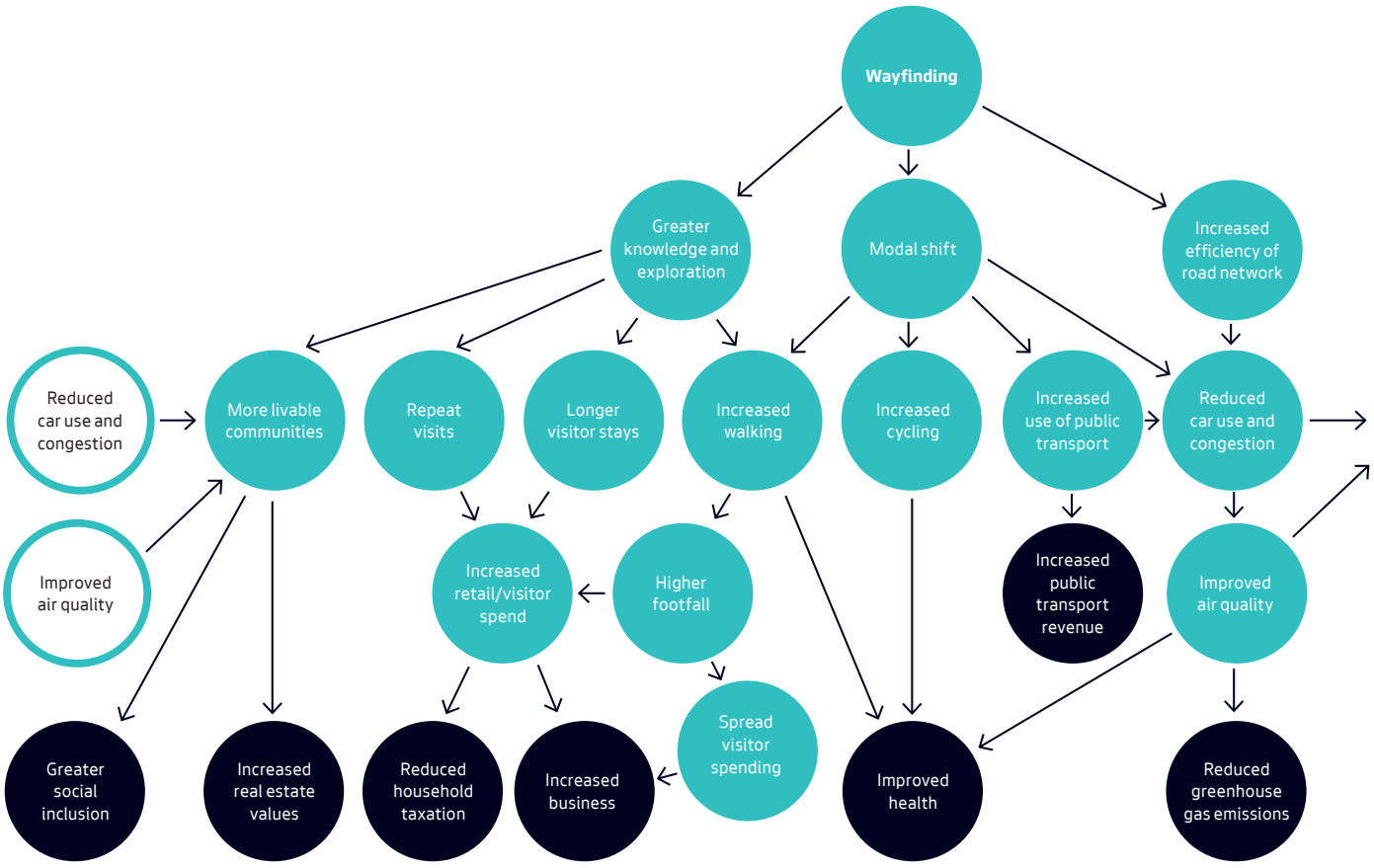
40 million people visit Seattle each year spending $7.4b, with more than 20 million staying overnight in the city. The city's international visitors contribute 17.3% of total visitor spend despite accounting for 7.3% of visitors.

The tourist dollar subsidizes the household tax burden by $916m.

And it is not only tourists who are new to the city. 37% of Seattleites were born in Washington, 43% outside the state and a further 20% born outside the USA.

These are people that require a high level of information to supplement their knowledge of the city.

Wayfinding can influence visitors' and new residents' behavior by helping themto learn the city and to create 'good' navigation habits quickly.



2.2 It supports a rapidly changing city

Seattle is a rapidly changing city.

It is an expanding hub for global businesses, new companies are emerging and relocating to the city, and an expanding technology-based workforce is creating an influx of new residents, increasing housing and travel demands.

Multi-family and office construction is creating new destinations and neighborhoods, and an increasingly high density downtown core is expanding northwards, beyond people's present understanding of its limits

Demographic Context

The U.S. Census Bureau shows that Seattle has been one of the fastest growing big (largest 50) cities in the U.S. since 2010, and its population is predicted to rise to over 820,000 by 2040.

It is a population which will have higher numbers of seniors and people with disabilities, and it will be a more diverse population, from different cultures, with more people speaking non-English language at home.

Wayfinding can support a rapidly changing and diverse demographic. This can be done through multi-lingual formats, clear routing and accessible information for all users, as well as non-verbal, placemaking moments that the user can develop their own language to describe.

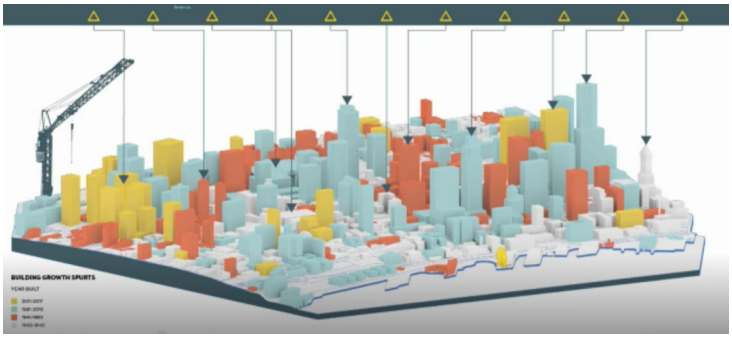
Economic Context

Seattle has grown rapidly over the past decade. The development of the Amazon Headquarters in South Lake Union has changed the fabric of the city architecturally, culturally and geographically.

Amazon Headquarters has effectively shifted the city center northwards creating a significantly larger commercial core and together with development intensification, the legibility and walkability of Downtown is changing.

Further expansion of the Amazon Headquarters as well as several new Google buildings indicate continued growth in the foreseeable future. Simultaneously, key infrastructure projects are reshaping the city.

Wayfinding will play an important role in supporting people's changing understanding of places, how the expanding city is being re-shaped and how places connect.



This image from the recently published book, Seattleness, shows Seattle's growth since 1900

The presence of tech companies is one reason for this growth, Amazon alone occupies almost 20% of all Class A office space in Seattle (2017 data, source: Seattleness).

Development and Public Investment

There have been significant transit investments in the region with the recent passage of MOVE Seattle and Sound Transit's ST 2 and ST 3 levies to fund the expansion of the bus and light rail services within Seattle and the surrounding communities of Bellevue, Redmond, Issaquah, Shoreline and beyond.

There has been substantial demand for light rail as a frequent, reliable transit service. The opening of the Capitol Hill and University of Washington stations alone quadrupled existing light rail ridership. Seattle was also recently recognized as one of few US cities where transit ridership is increasing, fed by local bus and bus rapid transit services in addition to light rail.

Locally, Seattle voters approved MOVE Seattle, a 9-year $930 million levy which will fund roughly 30% of the city transportation budget and support transit and active transportation infrastructure improvements. These transit investments are bringing substantial infrastructure changes to the city. The downtown transit tunnel has become train only in 2019 to accommodate increased light rail frequency. As a result, several bus routes are moving to surface streets increasing roadway demand as well as requiring bus passengers to navigate to new routes and stop locations.

SR99 viaduct has been replaced by a tolled tunnel that bypasses the downtown core. Through the transition period of demolishing the existing roadway and opening the new tunnel, there will be significant traffic impacts necessitating a change in travel patterns – compounding the already burdened capacity of the surface street grid.

Ultimately the regeneration of the Waterfront, and efforts to improve pedestrian connectivity between downtown and the waterfront – namely the redesigned Alaskan Way, adding new public spaces and amenities on the piers, and the extensive renovation of the Washington State Ferry terminal at Colman Dock – are creating a new set of destinations for residents and visitors that will require navigational support for all transportation modes.

Changes to the physical environment create challenges that can be mitigated through wayfinding that supports people's evolving mental maps of the city, while providing safe and accessible routing to areas during construction.

2.3 It supports local distinctiveness

Seattle is described as "a city of neighborhoods," each with its own identity, sense of place, characteristics and community. There are over 100 neighborhoods in the city and many are hidden – places that are uncharted, unexplored or nameless.

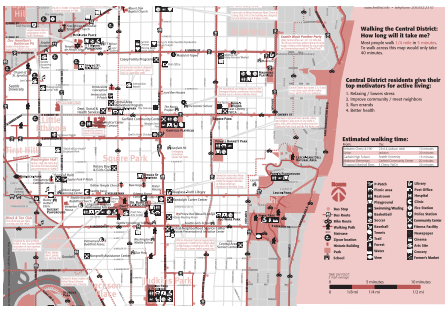
There is often little consensus amongst locals as to where neighborhood boundaries lie – or what they are called, or even if the names are still relevant – but these disputes only illustrate the importance of neighborhoods to the city's identity.

Beyond Downtown, neighborhoods are not well supported by on-street signage, interpretive or contextual information, and maps rarely include enough detail to inform people about a neighborhood. With so many residents born outside the state, their knowledge of their neighborhood is shaped very early in their experience of places, and the current system only serves users who already know where they want to go and the best way to get there.

Through the stakeholder engagement efforts conducted as part of this project, it is clear that neighborhoods want an opportunity to describe their own history, heritage, and culture. Volunteer organizations such as Feet First have provided community-focused mapping in an effort to improve navigation to and through these neighborhoods. Maps of this type are a valuable resource, highlighting local amenities and communicating character and culture.

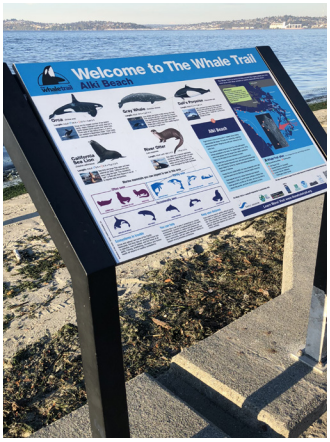
Wayfinding supports local identity through its design and by capturing valuable local assets such as neighborhood names. It supports each local community by describing what there is to do through mapping and story telling that reveals their heritage.

Some neighborhood thresholds are marked, but even when they are, most lack the information needed to support navigation or exploration.



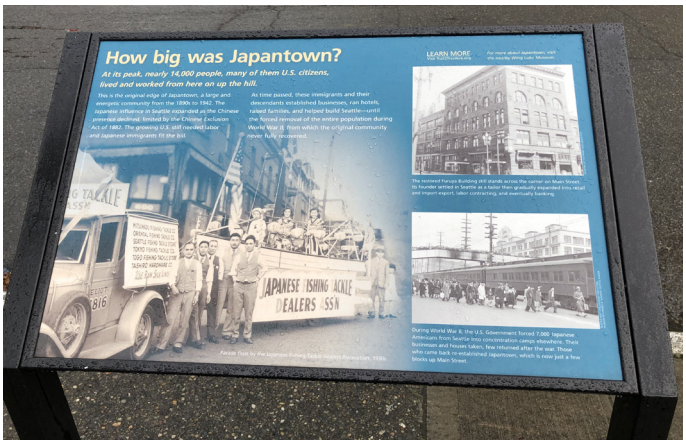
Neighborhood mapping
The map above is one of several produced by Feet First in an effort to provide neighborhood-specific information for both communities and visitors. Neighborhood-focused maps highlighting local amenities and communicating character and culture should be available on-street, online and in print.

Heritage medallion marker in Belltown



Interpretive information at Alki Beach.

Public art and interpretive information in Pioneer Square



Historical information about Japantown

2.4 It creates a more accessible city

Seattle's topography, streescape and urban form have a significant impact on movement in the city. Its steep gradients, stairs, elevators and escalators (often hidden inside buildings), are testament to its demanding terrain, and the unfinished program to build curb cuts and the constant state of 'under-construction', provide imposing obstacles to finding appropriate routing.

The ability to plan or, while on route, re-plan a journey, can dictate whether it will be successful or otherwise, because while these characteristics are challenging for all, they are insurmountable for many with disabilities or limited mobilities.

Advanced information about the quality of a route, such as the location of curb cuts, construction works, step-free access, shallow gradients, seating, and restrooms, improves a person's confidence to undertake a journey that they know is within their capacity.

Seattle has many routes that cut-through buildings, allowing users to avoid slopes and adverse weather. Research with locals and visitors suggests that these routes are not well understood and are under-utilized. Marking them, using a consistent nomenclature and providing additional information about the quality and accessibility of the route, encourages people to use them and improves accessibility for all.

Inclusive wayfinding design will include people-centered information that allows people to plan and execute their journey irrespective of their physical or cognitive ability, gender, age, language, location, ethnicity, wealth or access to online or digital tools.

Hidden Entrances
This photo shows the accessible entrance to a Link station, it is uninviting and not clearly marked. All thresholds to transit and hidden routes should be clearly identified.

Accessible Routes
King County Metro's 'Accessible Map & Transit Guide' is one of few maps that mark accessible routes through buildings. This valuable information could be improved by the inclusion of building hours.

2.5 Existing is not Working

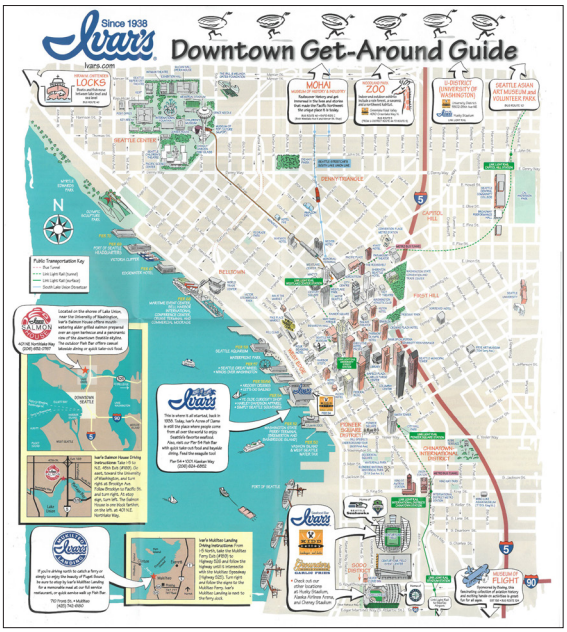
Seattle has several existing wayfinding systems that vary in quality in terms of planning, design, execution and maintenance. Each system had good intentions, but none have succeeded in a way that can be adopted as an integrated, city-wide system.

The main characteristics are that their intended audience is not always clear; sign content and graphics are inconsistently applied; systems are disconnected and do not support each other; a lack of consistency for printed material; and there has been insufficient funding for maintenance, resulting in poorly maintained products, and dated information.

System Maintenance

The fast-changing nature of cities makes it particularly challenging to keep wayfinding information up to date, and while systems that show a high density of content are generally more useful, they require greater maintenance at greater cost. It is a major reason why systems fall into disrepute.

It is imperative that the future wayfinding system is designed with a clear understanding of its maintenance costs and budgets for future years.



Ivar's Map is one of many free printed maps available around the city at tourist hot-spots. Although one of the best examples of an engaging map, it is typical in that it uses its own graphic design style, and has its own priority for information and destinations, which is independent of every other system.

Existing Citywide Red System
Designed by Sea Reach, 2006

This system appears throughout Downtown with fingerboards placed further afield. Mapping focuses on streets and neighborhood areas rather than specific destinations. There is a lack of funding for future updates to content and mapping. The systems tend to be 'visual' only (or mono-sensory), and English only, and so disadvantage people with disabilities and non-English readers.

Downtown Seattle Association Post Attachment System
This system of blue panels attached to light poles includes various map scales. Detailed block maps are included in some locations and destinations illustrated. Directional content is also included with distances given in blocks. Some content is out of date, for example, Qwest Field appears on signs despite the fact that the field was renamed CenturyLink Field in 2011.

ePark Signs
Designed by ParkAssist, 2010

ePark signs help drivers locate available parking using real-time parking lot counters. However, the size and placement of these signs means their directional content can be easily mistaken for pedestrian signage. While some signs direct drivers to the Retail and Financial Districts, for example, direction is vague and districts are not consistently referenced on signs across the system.

The scheme also uses color-coding that is not referenced elsewhere in the city.

Cheshiahud Loop Signs
Designed by Lehrman Cameron Studio, 2010

This system supports the walking and cycling trail around Lake Union. Content focuses on viewpoints and pleasant places for users to stop, rather than on interpretive information. Directions to nearby neighborhoods are included to support journeys beyond the park.

Modal Integration

A critical, missing piece of the wayfinding ecosystem, which is an obstacle to providing seamless journeys, is the lack of integrated transit information.

The three main challenges for wayfinding are the "first and last mile" between transit points and destinations; finding the right transit service; and navigating interchanges.

King County Metro and Sound Transit have made great strides in recent years to improve wayfinding information, including building robust online journey planning tools, creating more consistent onward journey mapping, and installing directional signage. However, a review of the system shows that the wayfinding experience still breaks at key points.

- Information is not consistently present at transit centers and stations, on-street bus hubs, streetcar and bus stops, and terminals.
- These services can be difficult to identify, and for any part of a journey that requires on-street walking there is a lack of information between transit services.
- In the digital realm, online journey planners provide detail that allows people to plan multi-modal journeys, but they often use algorithms to compile journey descriptions in technical language that is difficult to read and interpret.
- Where information is provided, individual operators use different wayfinding language, colors, names, pictograms and placement strategies, creating a barrier to transit use.

These challenges are not uncommon and they are symptomatic of systems designed, delivered and managed by different agencies.

A future wayfinding system requires interagency collaboration to provide consistent, connected information across systems, agencies, operators and media, to create seamless journeys.

Lack of integration across map styles and content
L-R: Link Light Rail downtown metro and area map, Sounder route and area map, Streetcar local area/route map

Fragmented modal integration at Westlake Hub makes it difficult to connect modes.
Clockwise from top left:
- Streetcar stop and shelters
- ST Express and local bus stop
- Link Light Rail Station trilon
- Monorail Station information
- On-street wayfinding

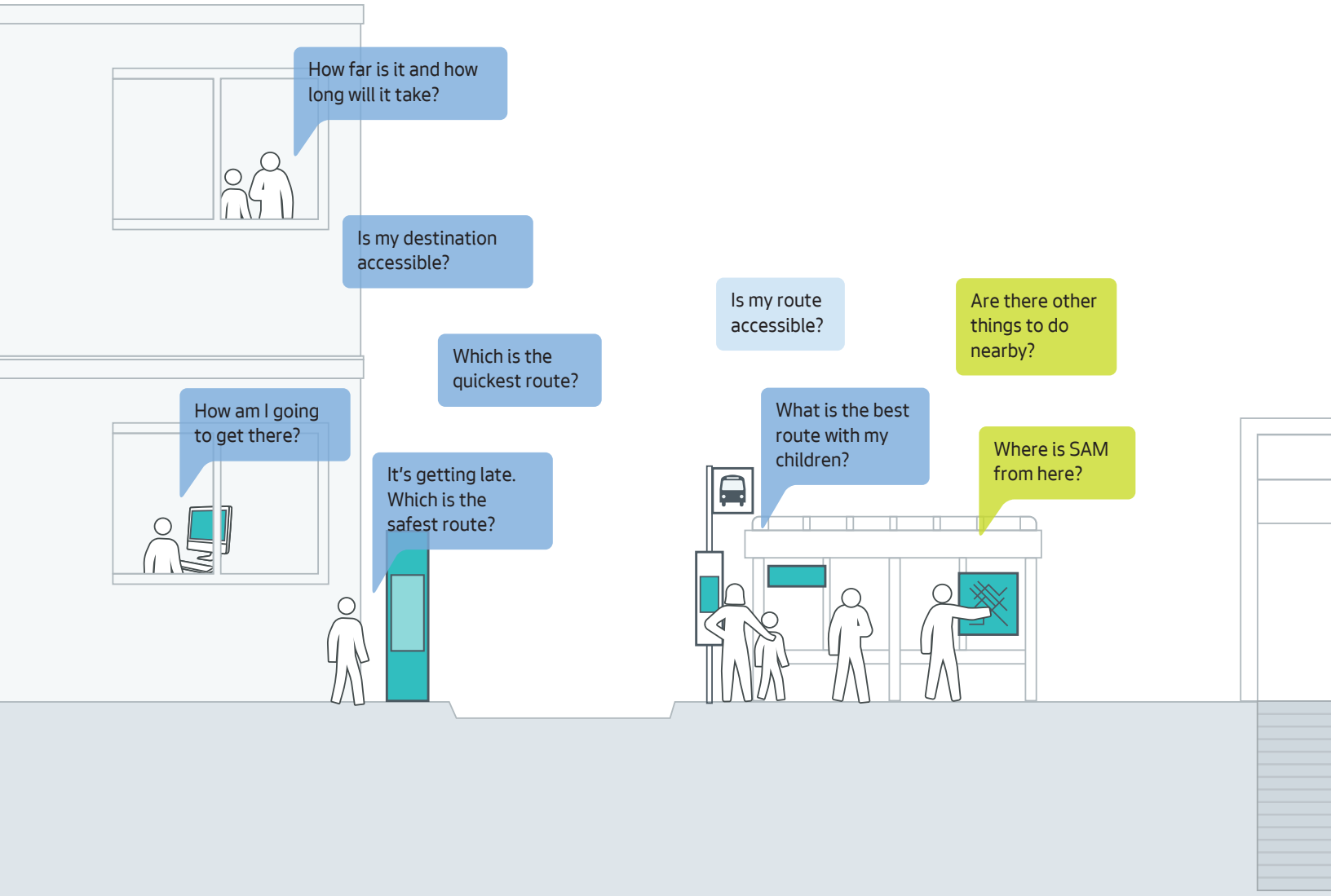
Note: The Streetcar stop has no transit or modal identifier and is officially called Westlake & Olive. However it is also called "Westlake Hub," "McGraw Square" and "Pacific Place" on other official transit information.

Other examples of existing modal integration
From left:
- Ballard Pilot: Reserved cycle parking area with no connecting area information
- RapidRide (provides route-based line diagram only)

3 How Wayfinding Works

This section describes how wayfinding systems are developed in response to human factors and what the key characteristics of successful schemes are.

JOURNEY PLANNING | STARTING OUT | MAKING HEADWAY | FINDING PLACES



Wayfinding must answer the questions that people ask themselves at critical times and places on their journey. Listening to them as they arise, often unplanned, mostly unspoken, provides a structure to inform the detail of what information should be provided along the journey.

Please note that this diagram continues on the next page.

JOURNEY PLANNING

Wayfinding touchpoints that help people plan journeys. They provide details of transportation options and describe journeys in a way that helps people with different abilities plan. They also allow people who have completed one stage of their journey the ability to plan the next phases of their journey.

STARTING OUT

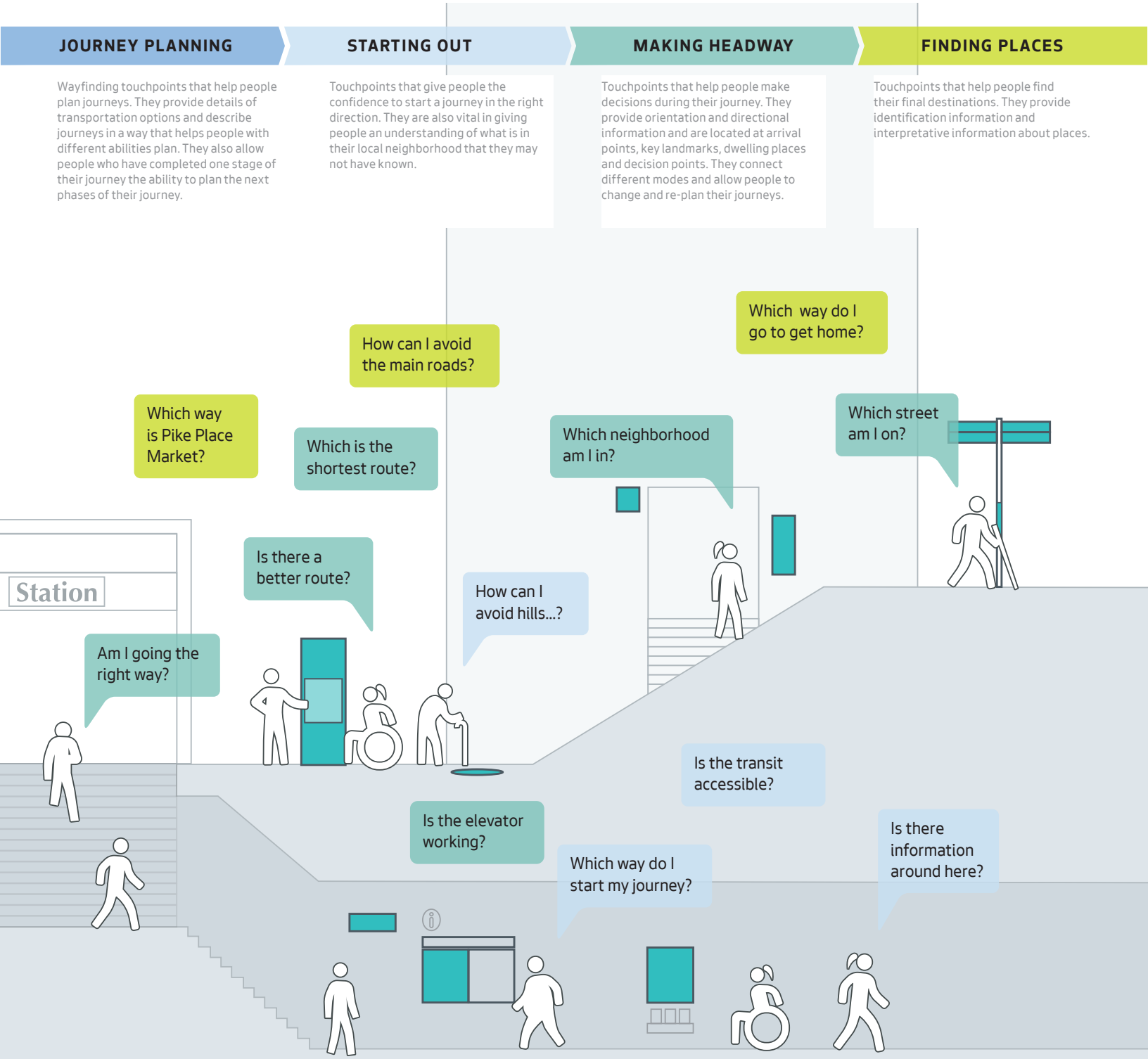
Touchpoints that give people the confidence to start a journey in the right direction. They are also vital in giving people an understanding of what is in their local neighborhood that they may not have known.

MAKING HEADWAY

Touchpoints that help people make decisions during their journey. They provide orientation and directional information and are located at arrival points, key landmarks, dwelling places and decision points. They connect different modes and allow people to change and re-plan their journeys.

FINDING PLACES

Touchpoints that help people find their final destinations. They provide identification information and interpretative information about places.



3.2 Designing for How People Think

Wayfinding works best when it complements how our brains function, how we think and the nature of intuition. It is through understanding these that we can create systems that are empathetic and responsive to people's needs.

People's Mindsets

The 2005 economic study for Transport for London, Valuing Walking: Evaluating Improvements to the Public Realm, by Colin Buchanan and Accent MR (Heuman, Buchanan, Wedderbum, & Sheldon) identified two types of pedestrian mindsets: striders and strollers, to assess the different ways in which users value quality.

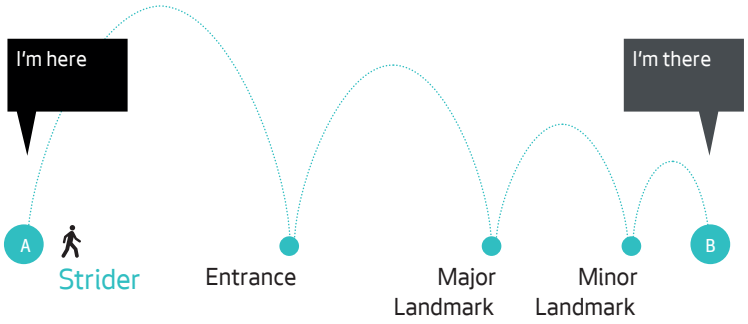
Striders prioritize time savings over the quality of the walk, and value attributes that speed their journey – pedestrian crossings, short-cuts.

Strollers prefer nice environments and are unconcerned with the time it takes to reach a destination (they may not even have a destination). They value attributes that enhance their journey experience such as pedestrianized streets, retail and cultural environments.

People can change between being a strider or a stroller depending on their priorities - their plans for the day, stage of journey or even the weather.

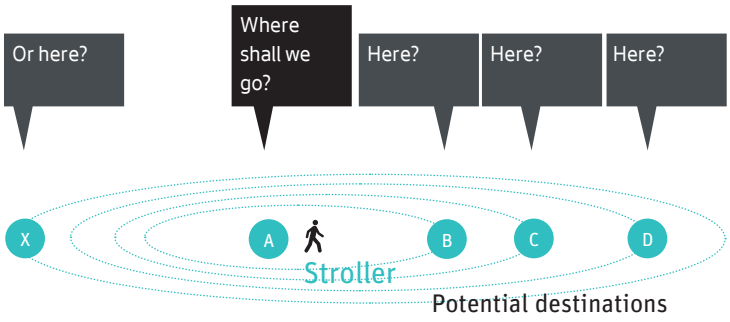
A Strider's journey

A Strider's goal is to travel efficiently. Their strategy is to 'get near, then find it', using different zones and landmarks to guide their way. The conceptual model of their journey is like 'stones skimming across the pond'.



A Stroller's journey

A Stroller's goal is to explore. Strollers need the wayfinding system to work for them opportunistically, allowing them to drift, wander and have the confidence to get lost. The conceptual model of a Stroller is akin to 'ripples in a pond'.

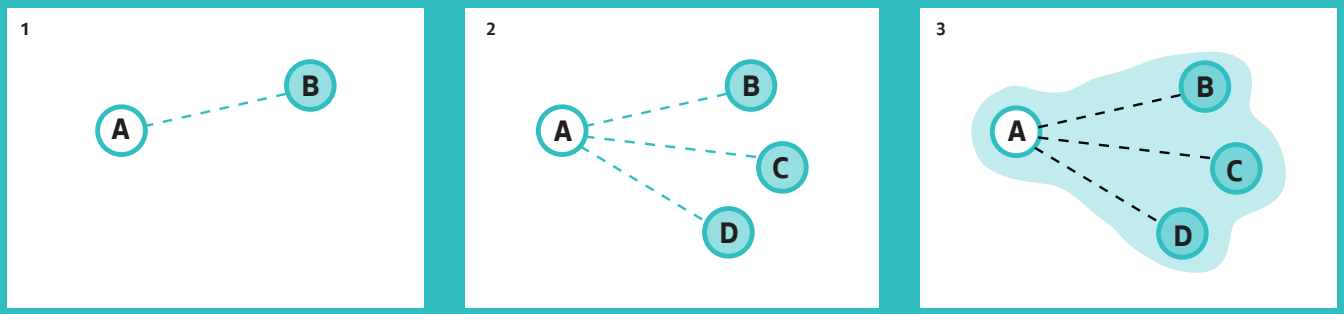


How People Navigate

People learn places firstly as nodes - where we live, where we work (1). We then connect nodes to each other along routes (2). As we learn more of these routes, we then fill the gaps between them and become knowledgeable about areas (3).

Our different cognitive abilities and opportunities to explore, mean we learn these at different rates, but the principles are the same.

Kevin Lynch studied how people navigated cities and codified the physical environment as one of five characteristics - routes, nodes, barriers, landmarks and areas.

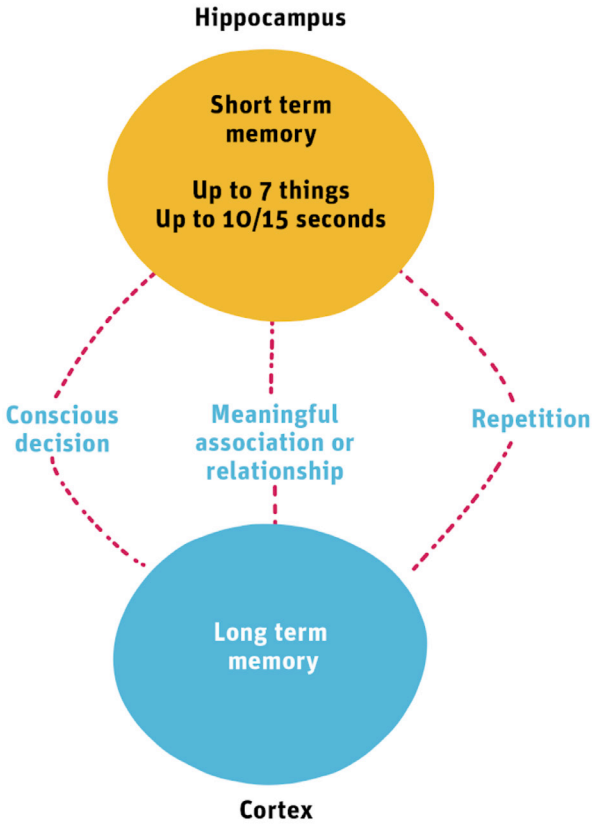


Retaining Information as a Memory

As people receive information, neurons fire up in the hippocampus part of the brain. It's not possible for people to store all this information as memories and most are lost almost as quickly as they are created. To retain information as memories, the brain needs to make sense of and store information in the cortex to be recalled later.

The conditions to convert short term to long term memory, are well known: information must be significant, reinforced and repeated, or a person must make a conscious decision to memorize. It is why wayfinding must be designed with these characteristics:

- Predictable and repeatable
- Create connections to significant places in the environment
- Easy to learn



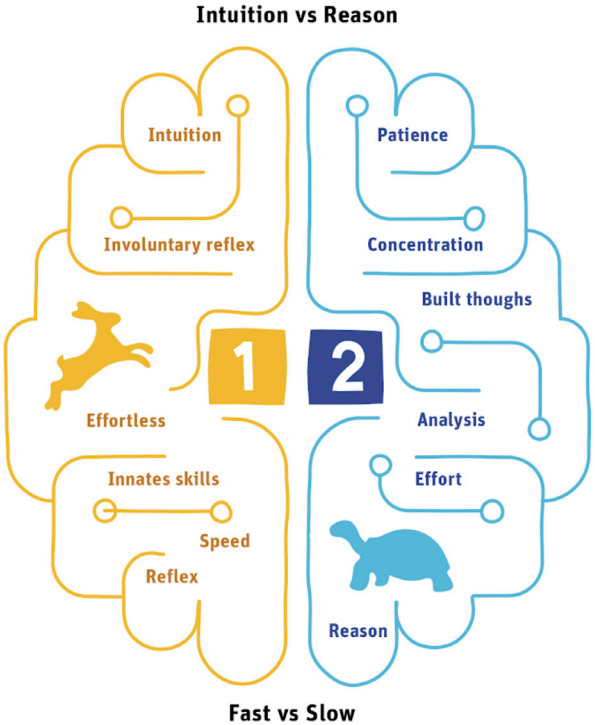
Heuristics and Decision Making

Psychologist and Behavioural Economist, Daniel Kahneman, argues that the mind has two systems of thinking. System 1, or fast thinking, functions intuitively and instinctively, with little or no effort. It is used to allow people to undertake tasks without the need to consider complex decisions.

System 2, or slow thinking, demands effort for mental activities, such as conscious, reasoned choices about what to think. It allows people to make sense of new things or mitigate risk.

Our brain prefers system 1 because it takes less energy, and importantly some system 1 functions begin life as system 2 skills and can be acquired through practice and deliberate learning.

Wayfinding systems must be intuitive, and where complex information is given, easy to learn, thereby moving wayfinding from a system 2 to a system 1 task.



3.3 Wayfinding in Other Cities

Legible London

The planning and implementation of Legible London required cooperation between the 33 London boroughs (which are the local authorities), the Mayor of London, Transport for London and the Greater London Authority.

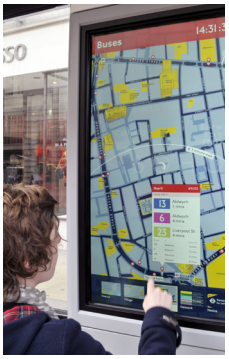
The premise of Legible London was that shifting people to walking for short trips would relieve transit congestion and therefore be valuable in terms of time-savings. Increasing walking could also have other benefits including:

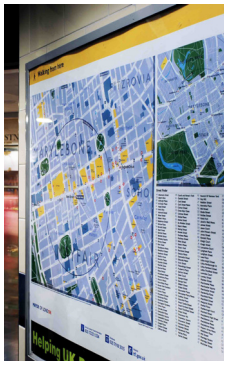
- Journey reliability (efficiency)
- More walkable streets (placemaking)
- An improved welcome (tourism)
- Active health and reduced emissions

The design challenges were to gain agreement on a unique and common graphic identity, to understand how to accommodate local distinctiveness and to define a process for funding and maintaining the system.

The key to facing these challenges was to apply a framework of agreed criteria and guidelines. For the content, a flexible system had to be defined within a general framework. Boroughs could choose the content they wanted as long as certain predefined criteria were met, such as the number of visitors to the attraction elements, the capacity of the hotels and a balanced content of information on each map.

The local distinctiveness in each borough was achieved using local place names, not modifying the design of the system.

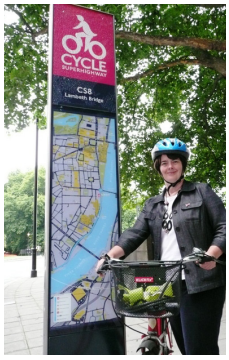




The case for the project was based on the New Approach to Appraisal, conducted by independent economists and provided a partially monetized result for the initial stage of roll-out across Central London. Both the monetized and non-monetized outcomes were considered in the approval of the scheme. In purely monetized terms the assessment indicated a benefit:cost ratio between 1.5:1 to 5.3:1.

Behind the figures was a considerable volume of original research based on the prototype in Central London. Some of the findings from the research directly underpinned the economic assessment and include:

- The percentage of people admitting they felt lost reduced by a third
- Observed journey times reduced by 16%
- Over 60% of interviewees responding that the system encouraged them to walk more often
- Over 90% agreeing that the prototype should be expanded across London



The Legible London project proved that information could reduce some barriers to walking including not knowing where to walk and whether the journey was walkable (in terms of time or effort).

Vancouver

The City of Vancouver installed walking wayfinding signage as part of its preparations for the 2010 Winter Olympic and Paralympic Games.

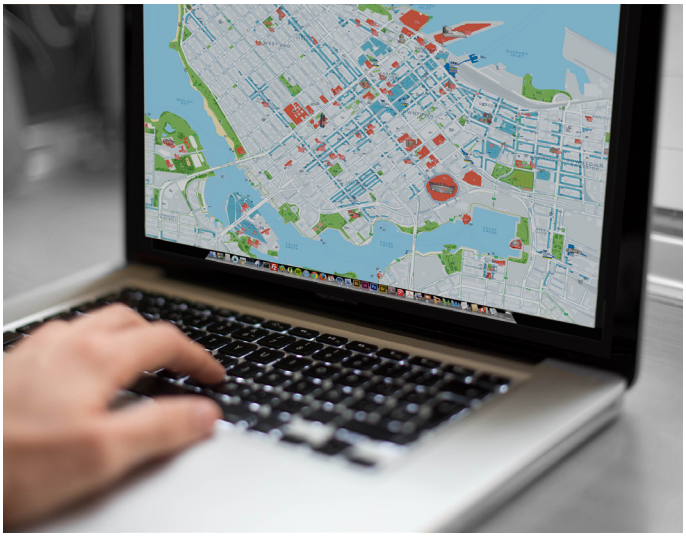
As the useful life of the Olympic system was reached the city decided that an updated system should be investigated that would provide improved updateability, opportunities for digital integration and a greater focus on promoting active transportation. Applied was commissioned at this stage and a prototype installed in the summer of 2012.

The prototype was evaluated by the city and also by the Downtown Vancouver Business Improvement Association over three seasons. The key findings were:

- 80% of the map users were looking for a specific destination (of that 50% were looking for specific streets or districts.)
- 99% found it easy to read landmark information and that the map was easy to read
- 87% found ahead-up maps easy to use
- 82% said they would be more likely to walk between places because of the maps

The system was rolled-out across Vancouver and included the development of a content management system, with mapping mastered for the whole city area. This centralized system was then used to produce the artwork for 190 signs and 30 poster cases, including 750 unique ahead-up mapping artworks. A digital version of the Vancouver map has also been published online, powered from the same centralized mapping system.

Additional third party applications are also being developed, with Tourism Vancouver using the core base mapping within their local digital mapping application.



Toronto 360

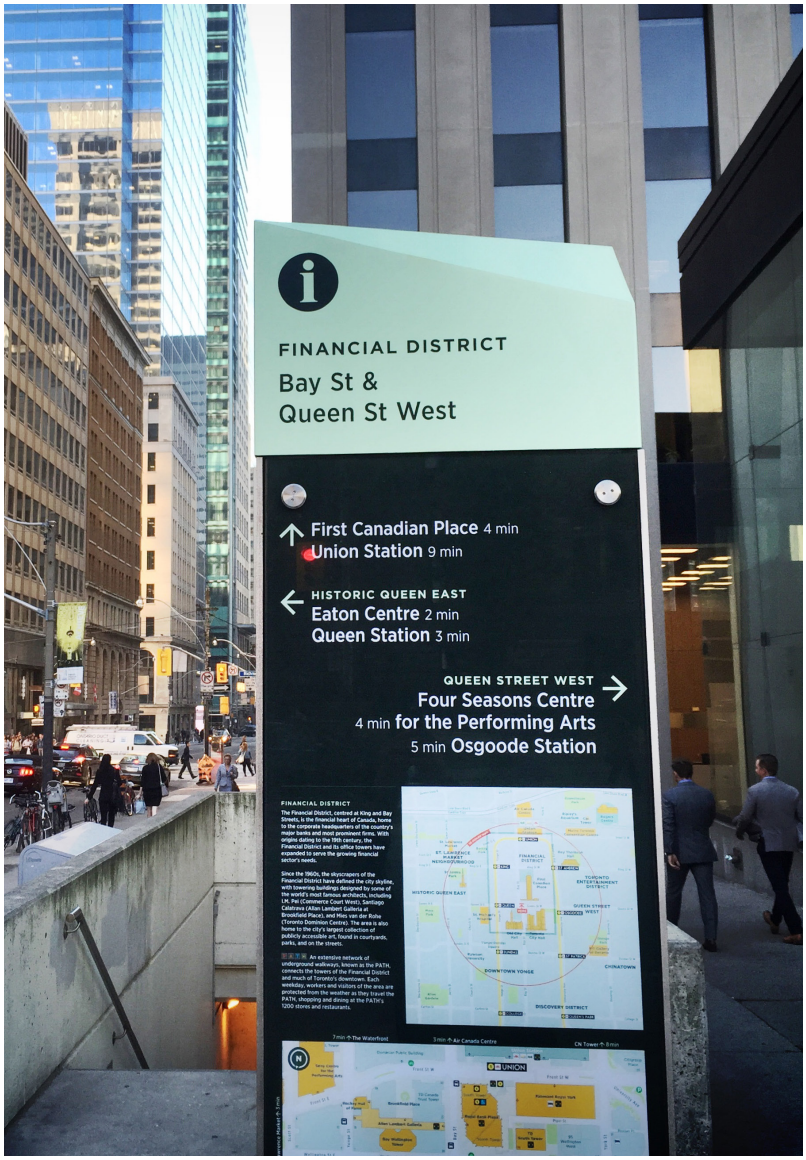
The City of Toronto's Wayfinding 360 Project was conceived out of the vision that was set out of the 2009 Walking Strategy. It has been developed as an integrated multi-modal wayfinding system.

A pilot scheme comprising 12 signs was implemented in 2015, and evaluated with the following results:

- 81% said it was helpful in helping to find their way around the city
- 73% wanted to see more signs throughout the city
- 69% found that the maps made it easier to find their way to/from public transit/the PATH (pedestrian walkway network).
- 83% found the information enabled them to navigate the city
- 13% reduction in walk times for specific journeys
- 33% increase in walking trips
- 27% increase in time spent walking in the local area
- Reduction in auto mode share from 5% to 2% for journeys within the area
- 51% reduction in shoppers feeling lost

Based on life-cycle costs and benefits, the indicative benefit: cost ratio was estimated at 4:1.

The biggest challenge identified was the need to improve awareness of the signs. People were not in the habit of looking for maps in their home city and considered that maps were for tourists.



4 Understanding the City

How people read Seattle is influenced by their physical and cognitive abilities and this perception ultimately impacts on their ability and confidence to move around the city.

4.1 Legibility

Topography and geography

Seattle's growth has been shaped by its surrounding water bodies and hilly topography, which have resulted in transit being funneled through Downtown to avoid waterways and steep terrain.

Transit systems have historically expanded north-south along these topographical lines, although east-west extensions are now being planned and constructed.

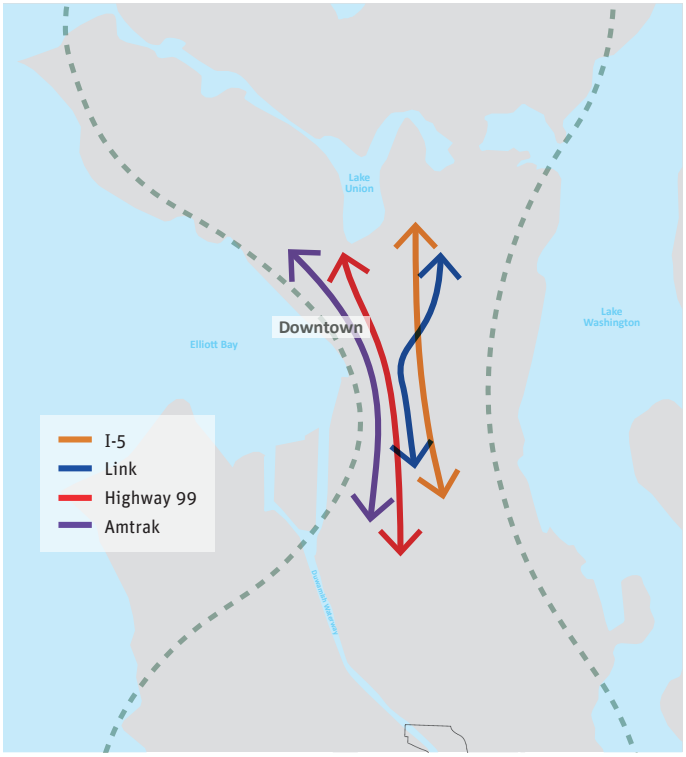
The terrain also impacts bicycle and walking journeys where people follow longer, indirect routes to avoid steep slopes and bodies of water.

These geographic features also contribute to how the city is understood by locals and visitors alike and, communicated well, are useful tools to aid navigation.

At a granular level many factors impact a place's legibility, including; recognizable landmarks, vistas, geography and topography, street structure and effective naming.

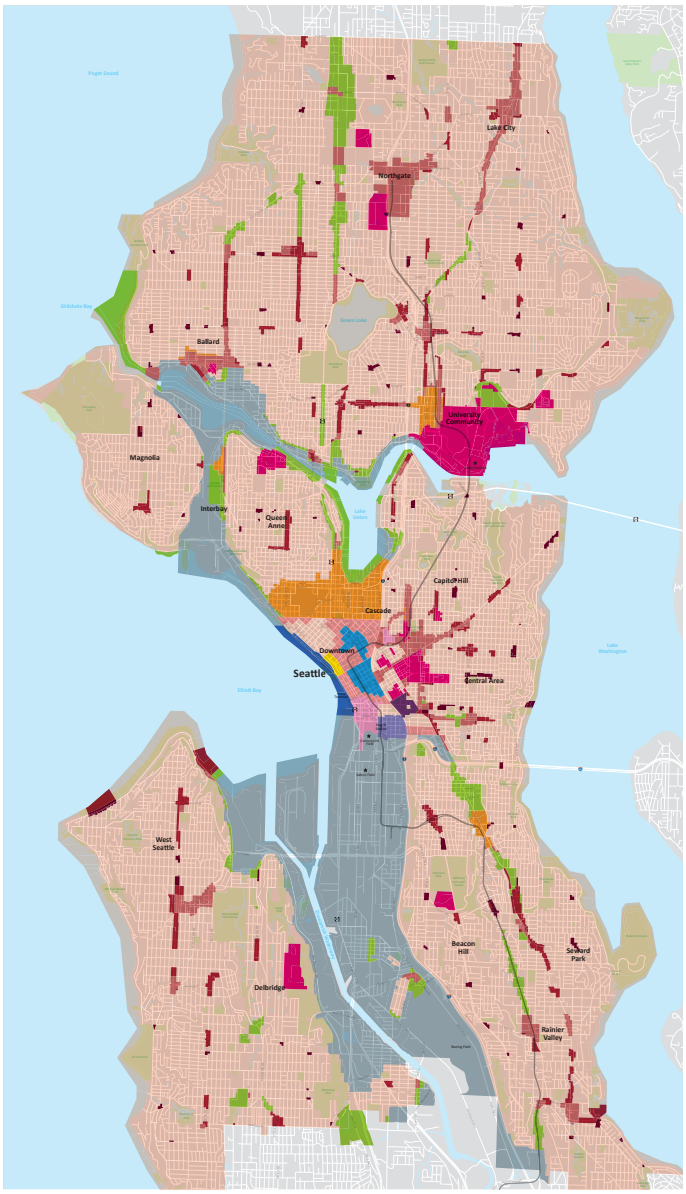
Poor legibility impacts people's ability to understand an environment, which can reduce exploration, due to a lack of confidence and fear of getting lost. Conversely, a legible environment can give people confidence to explore and undertake new journeys.

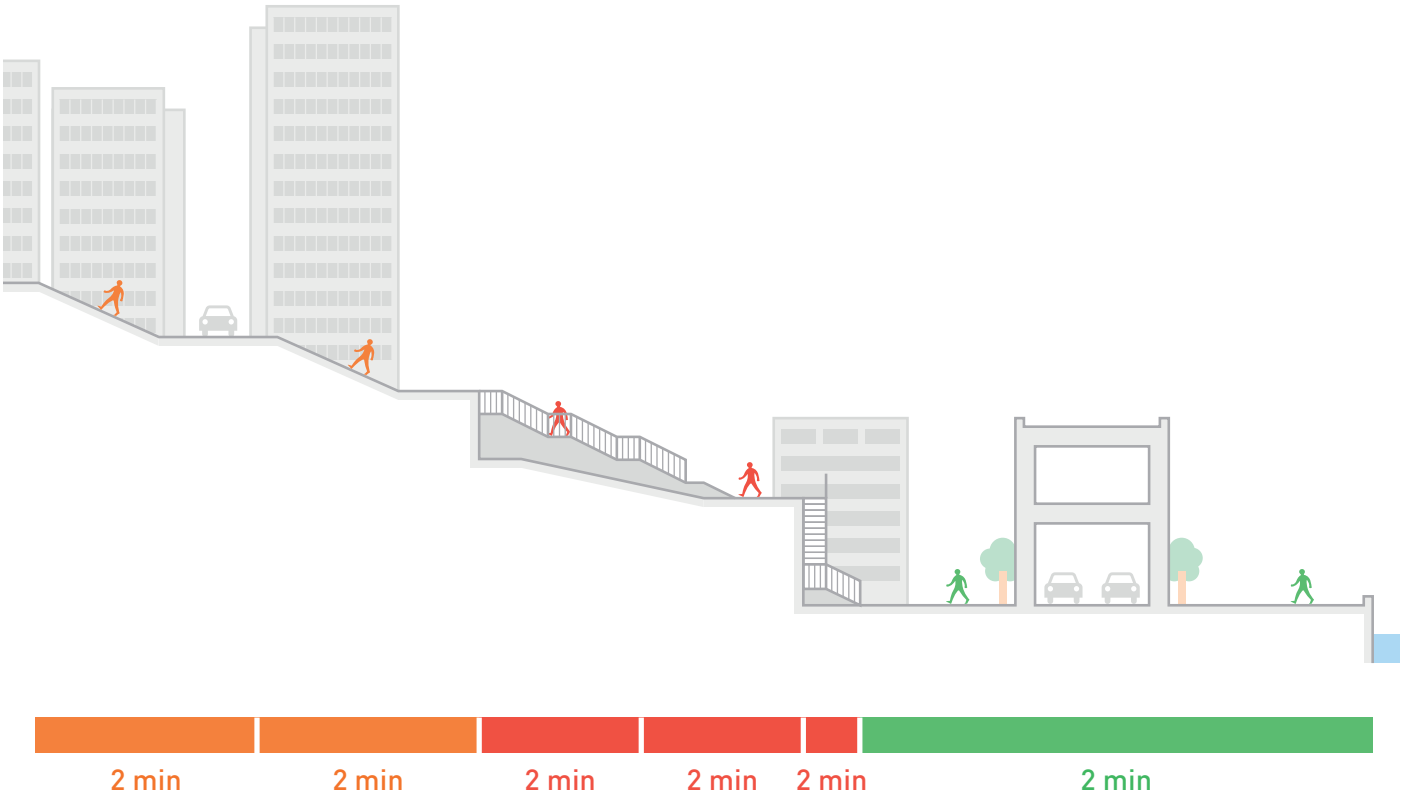
Illustration of funneling effect pushing primary transit routes through Downtown



Land use

- Master Planned Community
- Downtown
- Major Institution Overlay
- Commercial
- Neighborhood Commercial 1
- Neighborhood Commercial 2
- Neighborhood Commercial 3
- Downtown Mixed Commercial
- Pioneer Square Mixed
- International District Mixed
- Residential
- Residential/Commercial
- Industrial
- Downtown Office Core
- Downtown Harborfront
- ★ **Stadium**





Slope
This diagram illustrates the impact of slope of on pedestrian movement. The effort required and time taken to cover a distance uphill is much higher than the same distance on flat ground.

Seattleites may consider Seattle to be a straightforward place to navigate; its streets have a grid structure, there are recognizable landmarks and the water bodies that surround the city are useful points of reference. However, for those unfamiliar with the city, Seattle presents some challenges.

The hills limit vistas and obstruct landmarks. For example, it's possible to be 1-2 blocks from Lake Washington without knowing because changes in level obscure direct line of sight.

Level changes also make it difficult to assess how long or how difficult a routing might be. A 100ft walk on level ground is significantly easier than the equivalent up-hill, and both are made difficult when strollers or mobility impairments are considered. These considerations are required for most journeys in the city and few existing printed maps or journey planning tools communicate steepness of slope to allow appropriate journey planning.

Wayfinding makes environments more legible when it communicates the information that people need, such as gradients, to help them make qualitative judgments about their routes, allowing them to navigate the city their way.

Urban Form

The variability of Seattle's urban form influences and impacts the legibility and accessibility of the city.

Streets in Seattle typically vary in the width and type of movement they support. Some have as many as eight lanes and support up to five types of movement: pedestrian, bus, streetcar, car and bicycle. The distance between the street and building face also varies – in some cases a narrow sidewalk abuts a hard facade, while in others a wide sidewalk meets active building frontage.

These variations influence pedestrian activity, the perception of space and the type of wayfinding needed.

Street Typology

To cross streets safely, pedestrians need to understand not only the width of the roadway but also the type of movement it supports. It is not always easy for people with good vision and awareness to know what type of street they are crossing and for people with visual impairments, the situation is much more difficult. It is important for information to convey direction of traffic, number of bicycle lanes, contraflow bicycle lanes, central median strip, and streetcar tracks.

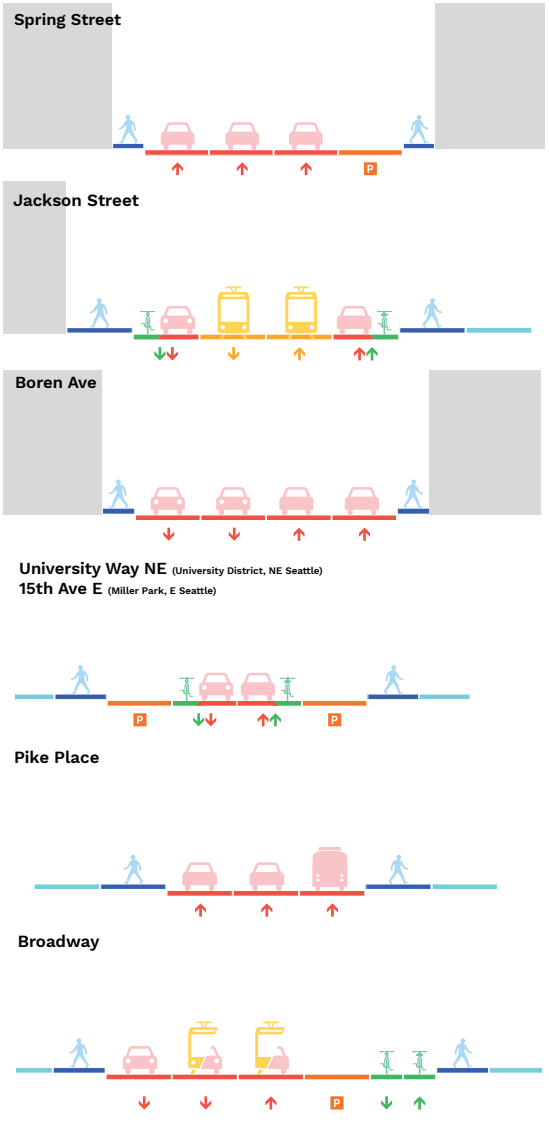
Wayfinding should support all individuals in navigating these complexities by providing in-context information whenever possible in visual, audible and tactile formats.

Density

Figure-ground drawings indicate the density of the built environment – the plans below show variations in building density in Seattle. Relative densities influence legibility – due to limited sight-lines denser high-rise areas are typically more difficult to navigate than less dense low-rise areas.

A flexible wayfinding system is needed to effectively support movement through a wide range of environments.

Street Typology
Various street layouts are found in Seattle. Typical variations include the number of lanes, traffic direction and inclusion of cycle/transit lanes, e.g. streetcar and bus



Density
These plans show the variation in density, size and direction of the grid in Seattle.

Clockwise from top left: Ballard, Downtown, Queen Anne, Central District

Landmarks

Landmarks are important in wayfinding, because while they may have official names and descriptions, as non-verbal elements, they allow people of all abilities and languages to use their own language to name and describe them. Indeed, landmarks such as the more than 400 pieces of public art sited across the city, are rarely identifiable by their real name.

Landmarks useful for wayfinding are not always the first landmarks that come to mind. The Space Needle for example, is a great landmark, but does not act as a 'north star' orientation feature for many areas of the city because it is hidden by the surrounding built environment and is supported by few vistas. Similarly, many natural landmarks such as Elliot Bay, Lake Washington and the Cascade and Olympic Mountains, appear to be great wayfinding landmarks, except when there is cloud cover or when people need to work out which lake or mountain range they can see.

Selective inclusion of landmarks supports navigation, while comprehensive inclusion of landmarks does not. Criteria, such as location, scale and memorability, are important.

Grid and City Structure

Seattle's street grid is often cited as a valuable asset in understanding the structure to the city. However, as with grids in most US cities, it is not completely reliable. The correcting streets, such as Stewart/3rd and 2nd Avenue Extension, and the shorelines mean the grid can be confusing.

An alternative structure to explain the city is the use of cardinal directions on street names which divide the city into 8 areas, e.g. East John Street. The map below shows this structure.

This is useful at a top level scale, although confusingly 'W' denotes the areas of Magnolia and Queen Anne, not West Seattle on the opposite side of Elliott Bay. Also, streets in the central core have no directional designation.

Both the grid and cardinal directions have their place in helping to represent and explain the city and can be used in wayfinding.

Complexities in Seattle's grid
This example shows how 2nd Avenue becomes 2nd Avenue Extension and intersects both 3rd and 4th avenues rather than running parallel to them.

City Structure
Seattle's addressing system splits the city into the 8 areas shown on the map.

Local Landmarks
This quirky car wash sign is a good example of a recognizable landmark, although the size of it means it is useful only at a local scale.

Space Needle as a landmark
The Space Needle is an iconic landmark often cited as a landmark in the city. Despite its size, the landmark is often obscured or hidden from view entirely, limiting its usefulness as landmark for wayfinding. This image shows the view of the tower from only a few blocks away.

Mental Maps

Mental maps give an indication of how people perceive the city; which areas are memorable, what landmarks they use to navigate and the names they use to identify places.

People's mental maps of Seattle were typically drawn at two scales;

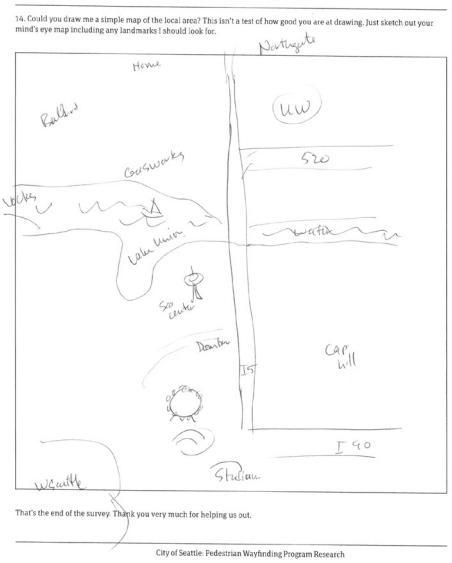
- Large areas of Seattle with little detail, focusing on neighborhoods and the shape of the coastline
- Smaller areas of the city with more detail, showing streets and local landmarks

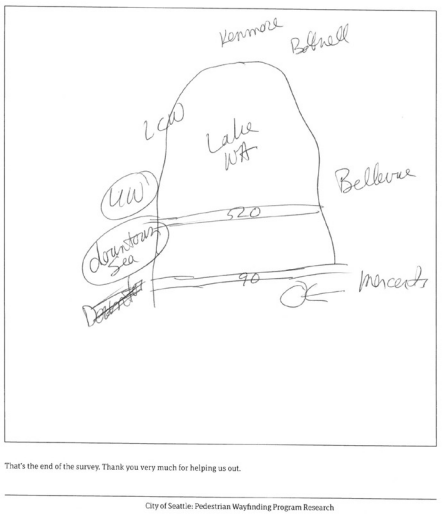
Neighborhoods were commonly depicted in 60% of maps with Downtown being the most commonly named neighborhood. Landmarks were drawn by half of respondents. The Space Needle was most commonly drawn and appeared on almost a quarter of maps. Bridges and stadiums appeared almost as frequently.

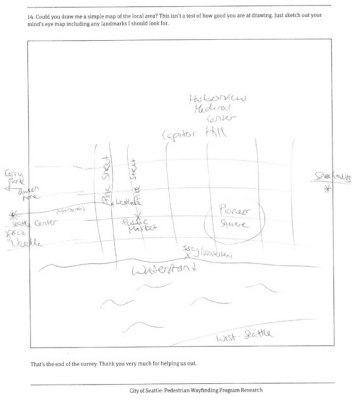
Transit stops and routes were drawn on almost 1/3 of maps and although a quarter of maps included streets, few were named. Four maps included the Downtown grid and two included hills, which demonstrates how people focus on what stands out as different in the environment and their journeys, rather than something that is commonplace.

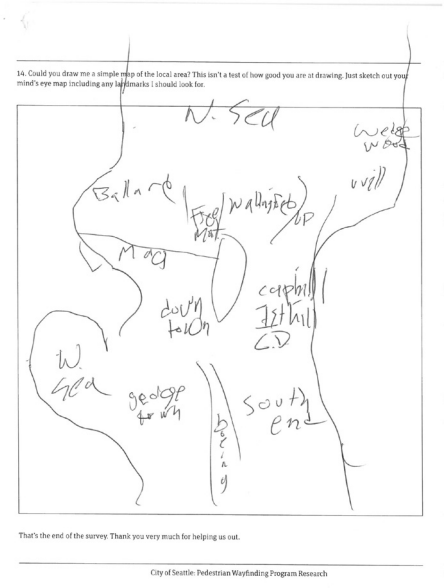
The responses give us an insight into what people value as reference points in the environment – neighborhoods, water, landmarks and arterial vehicular routes.

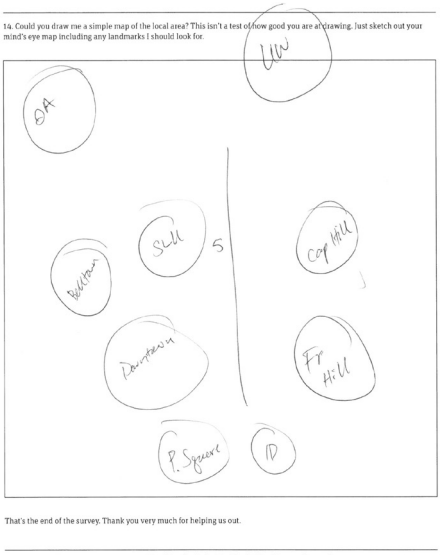
These features are important to include to create a more intuitive wayfinding system that aids people in building their mental map.











Lynch and the Perception of Urban Form

People's mental maps retain the core elements of understanding place described by Kevin Lynch – paths or routes, nodes, landmarks, neighborhoods or areas, and edges or barriers.

How people read the city, however, is different from person to person based on a sliding scale of their individual physical and cognitive abilities. A person with a high cognitive and physical ability would likely see the city as smaller, more legible and is likely to need less wayfinding assistance than a person with low cognitive and physical ability.

For a person with low cognitive and physical ability the Lynchian model of space changes: if they struggle to walk long distances neighborhoods can feel larger and paths more daunting; city landmarks may not be so obvious; and there are many more barriers to overcome from curbs to steps to roads to a lack of seating to complex transport systems.

People need to rely more heavily on sensory markers: a change in flooring texture, a bakery or coffee shop or a water fountain can become significant sensory landmarks within their cognitive map, in a way many people simply do not perceive.

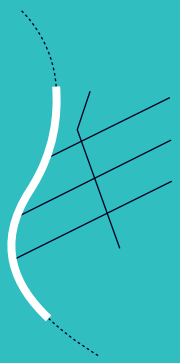
People's journey motivations also affect how they read the city. Residents may have a good structural understanding of the city and its transportation options, but they have had the opportunity to learn places and therefore know parks and other local amenities well.

Tourists quickly become experts in the city around attractions, transportation hubs, retail streets and information points. They often repeatedly return to familiar places not because they may like them, but because of uncertainty about how far to explore, where else to go and whether places are safe or not.

Wayfinding must respond to different people's abilities to read and understand their environment.

Legibility is Personal
Legibility of an environment varies depending on individual ability. What constitutes an accessible, easily understood environment can vary depending on a person's knowledge, their physical ability and other factors. These are explored in more detail later in the document.

Five Elements of Legibility
Kevin Lynch's book 'Image of the City' identifies five elements that support navigation and the building of mental maps. These elements are described below. Central to this approach is understanding what creates a memorable experience. This could be a landmark, a change in level or crossing an edge such as a river or highway, these memorable experiences can be positive and negative, both contribute to the building of a mental map.



Edges
Boundaries and barriers, such as Interstate-5 and shorelines

Nodes
Strategic orientations such as squares and junctions e.g. Occidental Square and Westlake Park

Districts
Areas characterized by common characteristics, Chinatown is an example of this

Paths
Routes of movement through the city, e.g. the Pike-Pine Corridor

Landmarks
Orientation points, usually an identifiable physical object in the landscape, e.g. the Space Needle

4.2 City of Neighborhoods

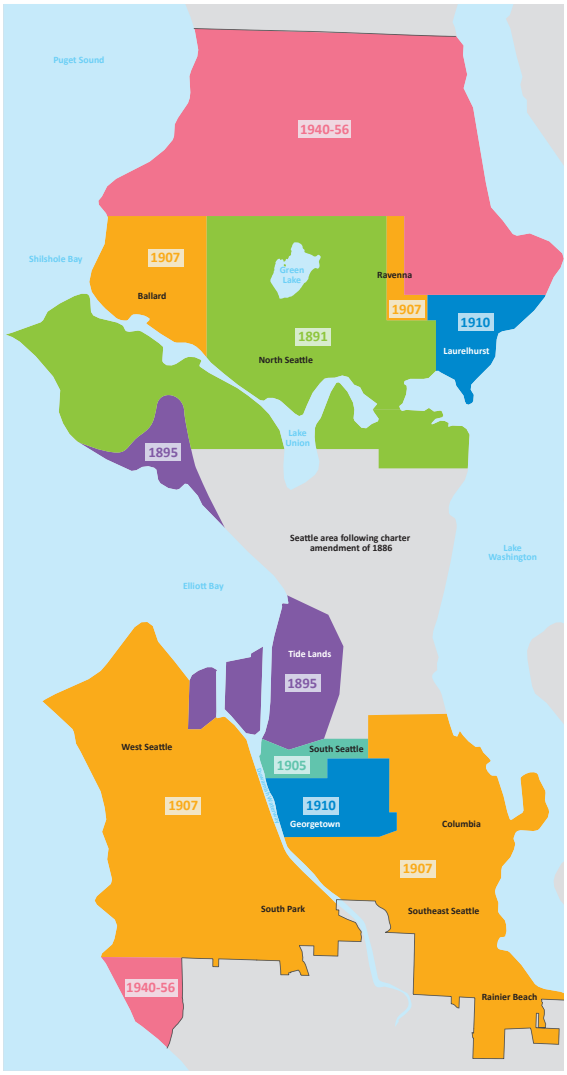
Urban Development and Growth

Historic maps of Seattle show the city's growth - an important tool in understanding how the city's urban form has developed.

The maps show how annexation of towns and cities has contributed to Seattle's expansion, and helps to explain why so many neighborhoods, which were mature places in their own right before annexation, still have a strong sense of identity and distinctiveness today.

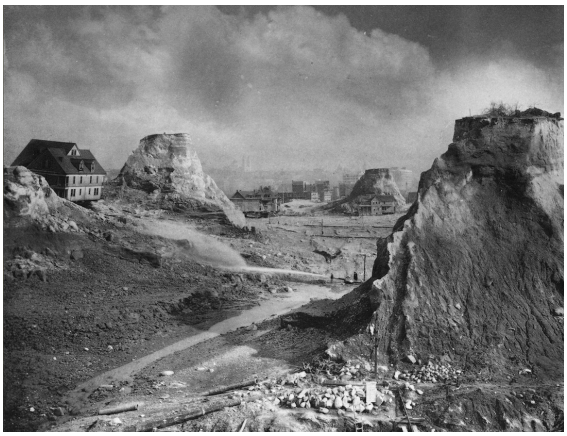
The practice of redlining in parts of the city has also created a lasting legacy, cementing a shared cultural heritage to areas.

The effect contributes to the understanding of Seattle as a "city of neighborhoods", with a unique identities and cultures.



Annexation 1895-1956
Gradual annexation of towns and cities has occurred throughout Seattle's history. In some cases the original character and culture of annexed areas has been retained.

Seattle in 1890
This map shows encroachment of the city into Elliott Bay. When compared to the annexation map on the right, the north-south growth of the city can be better understood.



Denny Regrade occurred between 1898-1930
This ambitious engineering project altered the landscape of Seattle, allowing rapid expansion into what is now Belltown.

Neighborhood Structure

While neighborhoods help people understand the city, the neighborhood structure helps define how to develop wayfinding across the city.

Many factors influence the structure of a neighborhood and how it fits together, including: location, connectivity to adjacent areas, land use and density. Seattle's neighborhoods generally fall into two types; 'dominant' neighborhoods that connect to multiple smaller adjacent neighborhoods and 'equivalent' neighborhoods that are more equal with their neighbors.

Understanding the nature and structure of a neighborhood ensures wayfinding supports movement within it and connecting to adjacent areas. It can also help establish the density of sign placement required.

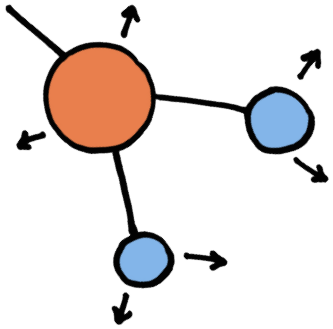
What is a Neighborhood

Seattleites use 'neighborhood' to mean different scales of place.

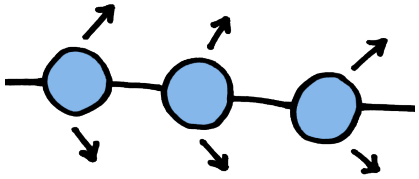
During public consultation, local identity and sense of community were frequently cited as important aspects of a neighborhood. Tangible neighborhood features may include a commercial center or library, parks and green spaces, transit nodes, public art and historic buildings and districts.

For wayfinding to effectively support Seattle's neighborhoods they must be correctly identified on mapping and signage. Signs should also reflect the local community culture and identity where appropriate.

1. Centers act as gateways to other neighborhoods
Dominant neighborhood centers act as stepping stones to adjacent ones. these are often where transit modes meet or commercial activity is concentrated.



2. Neighborhoods are equal in districts
Equivalent neighborhoods that typically are self sustaining, and have similar centers of activity such as transit and commercial activity



Recommended Naming Hierarchy

Hierarchy	Place
Primary	Districts
Secondary	Neighborhoods
Tertiary	Linear Neighborhoods
Quarternary	Landmarks & Local Destinations

Naming

Denny Triangle can be traced back to Seattle's origins and the arrival of the Denny Party at Alki Point in 1851. Conversely, Uptown, Frelard and PhinneyWood are more recent and demonstrate how new names are formed organically. For example, Frelard being a portmanteau of Fremont and Ballard.

People are passionate about place names, and like all cities, there are differences of opinion in which ones should be used, if they matter or not, their boundaries and centers. People may agree on the name of a place, for example Ballard, but not agree on where it starts and ends, or whether it is a neighborhood, district or area. One group may feel a name such as Renton Hill has become redundant or superseded, while others feel it is still relevant.

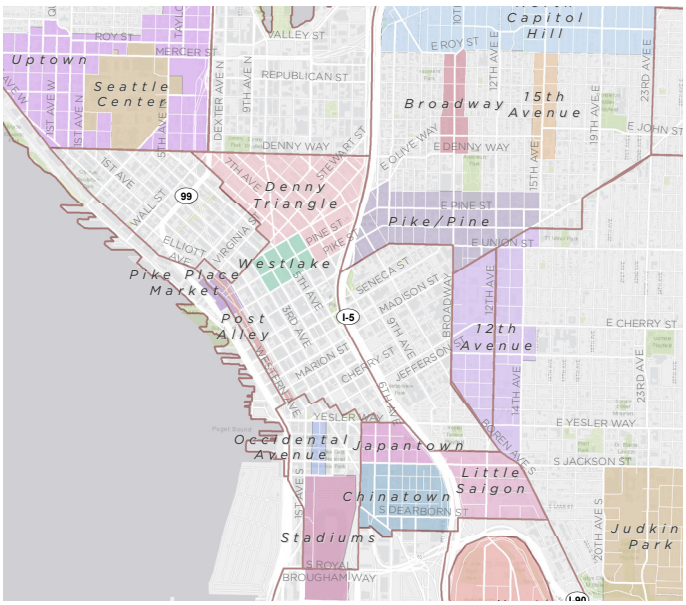
It is essential that the names reflect the folkonomy of the city – the way in which people use and understand those names in everyday language. Names that don't resonate with people, will fade and if used in a wayfinding system, erode people's trust in it.

The most effective way of developing names is through local consultation with stakeholders who have an interest in the area. For the pilot phase, two consultations were undertaken to determine place names: at Westlake and Jackson.

An interesting example of the importance of naming and its cultural and historic significance is Chinatown International District, which includes Japantown and Little Saigon. This example is summed up in the quote below.

"Chinatown or International District is incorrect. It should be referred to as three neighborhoods – Chinatown, Japantown and Little Saigon – because those names describe the communities historically located there and continue to be so."

– Workshop participant



Map above showing the extent of name variation in Seattle. The names come from existing maps, online information and historic sources.

Map to the right showing the results of the consultation for the Westlake and Jackson areas. See the supporting document 'Seamless Seattle Naming Consultation Summary' for more details.

4.3 Movement

Gateways

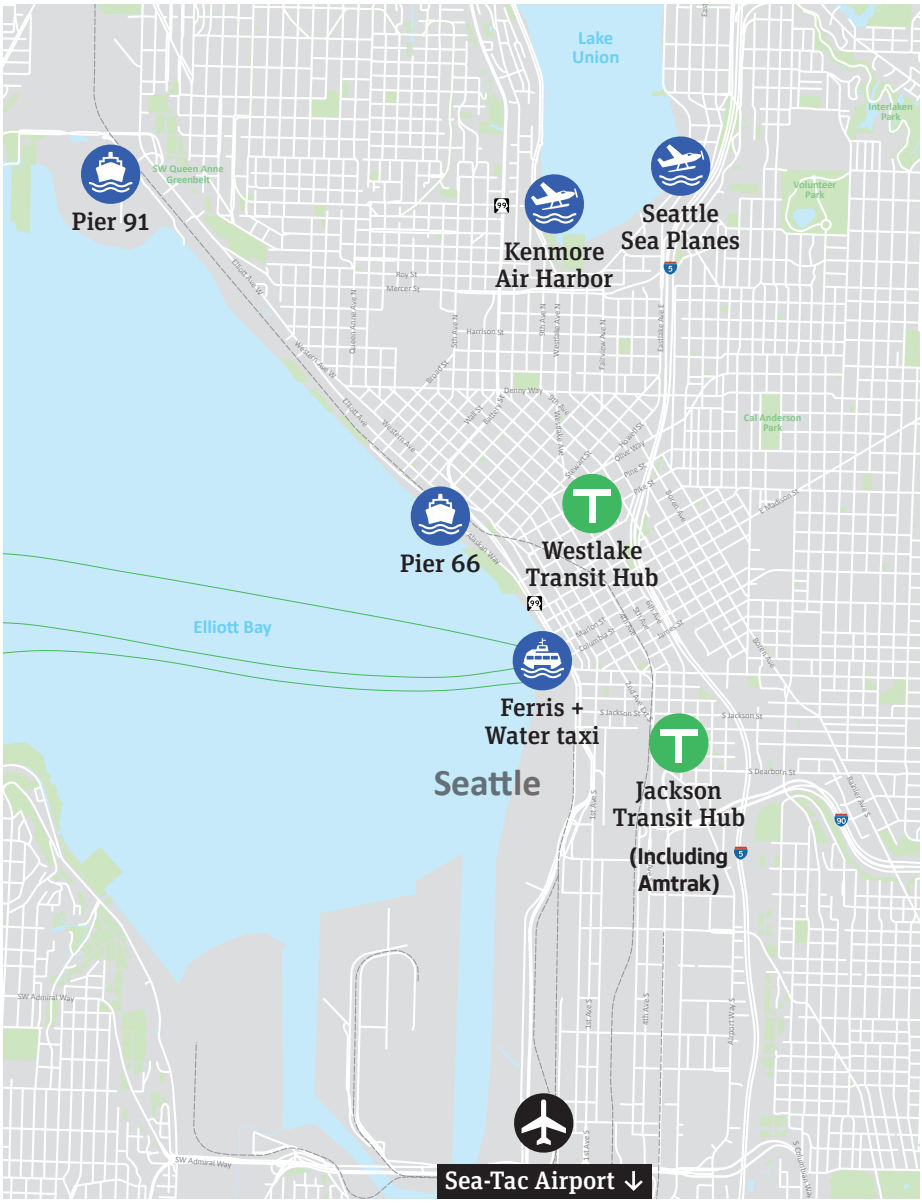
Seattle has three strategic gateways.

- **Sea-Tac Airport.** Each year, 47 million passengers use the airport, which connects to Downtown by Link light rail, bus and taxis.
- **Amtrak.** Approximately 670,000 people per year arrive at King Street station in Downtown.
- **Cruise Ship Terminal.** Between May and October over one million people arrive at piers 91 and 66. Poor onward connectivity to Downtown leads many to walk with luggage along heavily trafficked streets into Downtown.

The onward connections by transit deliver people to two Downtown gateways - Westlake Hub and Jackson Hub at International District/ Chinatown close to Pioneer Square - the historic bookends of the Downtown core.

These hubs, along with the geographical and topographical constraints described earlier, further shape movement in the city.

The strategic gateways are critical to people's first impressions of places, and must be supported by wayfinding that gives people an understanding how the city connects.



First and Last Mile

In 2017, 64% of people in Seattle were within a 10-minute walk of a service with a frequency of 10 minutes or better, and there are 8,150 bus stops in Seattle.

These stops lack information and treating each one as multi-modal connection between bus and walking creates high utility for wayfinding mapping, and supports the first and last mile for journeys, which are easily overlooked.

With expansion plans for both the King County Metro buses and the Link light rail, this means an increase of journeys made and more than likely an increase in multi-modal trips.

Transit Identity

With the closure of the Alaska Way Viaduct, the displacement of buses from the Downtown Seattle Transit Tunnel, and many city regeneration projects, traffic congestion in Downtown is predicted to increase greatly and stay high for a number of years, during which the walking environment and transit networks will be under significant pressure.

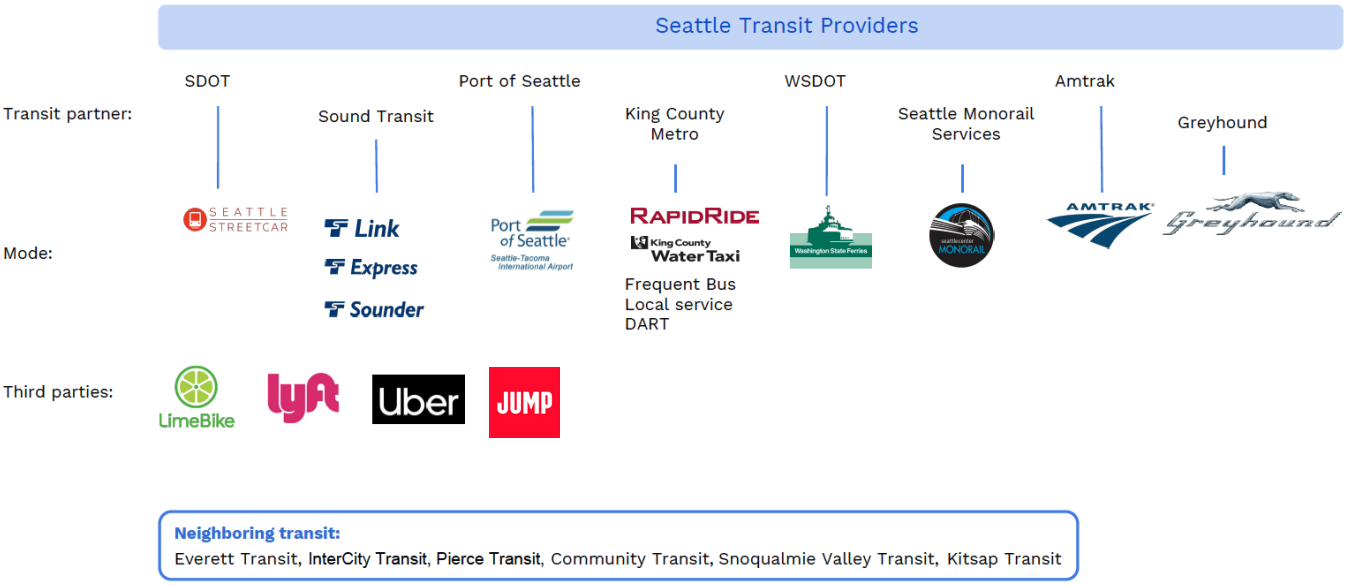
Modal integration is essential for a successful Seamless Seattle initiative, however, the legibility of the transit systems is not clear. Names of services are dominated by brands, and while unique brand identities make operational sense to support pricing, it is not immediately obvious what mode the brand is describing or what type of service to expect.

The main legibility issues are:

- **Link Light Rail.** Frequently abbreviated in information to "Link", which loses its meaning for non-commuters.
- **Metro.** Commonly used throughout the world to identify multi-modal city transit systems, refers to a bus only service.
- **Streetcar.** It has no obvious modal identifiers at shelters and stops.
- **RapidRide vs. ST Express.** Both limited stop bus services, but branded differently.
- **Regional bus services.** Serve different cities, and have different colors, brand identities and route coding.
- **Cycle network.** Variation in levels of support/infrastructure and way network is explained and communicated

Wayfinding has a pivotal role in improving multi-modal transfers. It should provide a consistent information source along a journey so users are able to easily learn and understand the system whichever mode they use.

Exiting a transit mode at any point should also be considered an arrival point for onward journeys and it is important for information to help users not only complete their journey but also to be able to plan new trips or changes.



5 Strategic Approach

This section sets out the principles, concepts and approach that have been adopted to develop the strategy and recommendations.

At the core of the strategy are people: residents, visitors, businesses and stakeholders who have an interest in the future success of the city.

5.1 Wayfinding Principles

The strategy has adopted a core set of wayfinding principles. These principles provide a fundamentally consistent approach to all parts of the wayfinding system.

The principles identified below are general themes that inform the approach to developing and providing wayfinding information.

1. ### Seamless
Integrating information across modes reflects the real journeys that people make.

2. ### Stepping Stones
Stepping stones will assist people's memory and provide connections for the traveler.

3. ### System Naming
The consistent naming of places and things in the environment allows people to communicate what and where places are.

4. ### System Codes
Codes are used as short-cuts for memory and for simplifying complicated systems. These can include colors, numbers, icons and names.

5. ### Progressive Disclosure
All things cannot be signed from all locations. Progressive disclosure provides a rationale for what information is needed and where.

6. ### Predictable
Information consistency, integrity and most of all availability, are crucial to achieving predictability.

7. ### Don't Make Me Think
Keep it simple. The simpler the information the easier it will be to understand.

8. ### Inclusive
Information should be provided so that it does not exclude any group or individual, regardless of ability.

9. ### Help Me to Learn
Information that is easy to learn is more likely to be used. Teach people how easy route choices are and modal change is more likely.

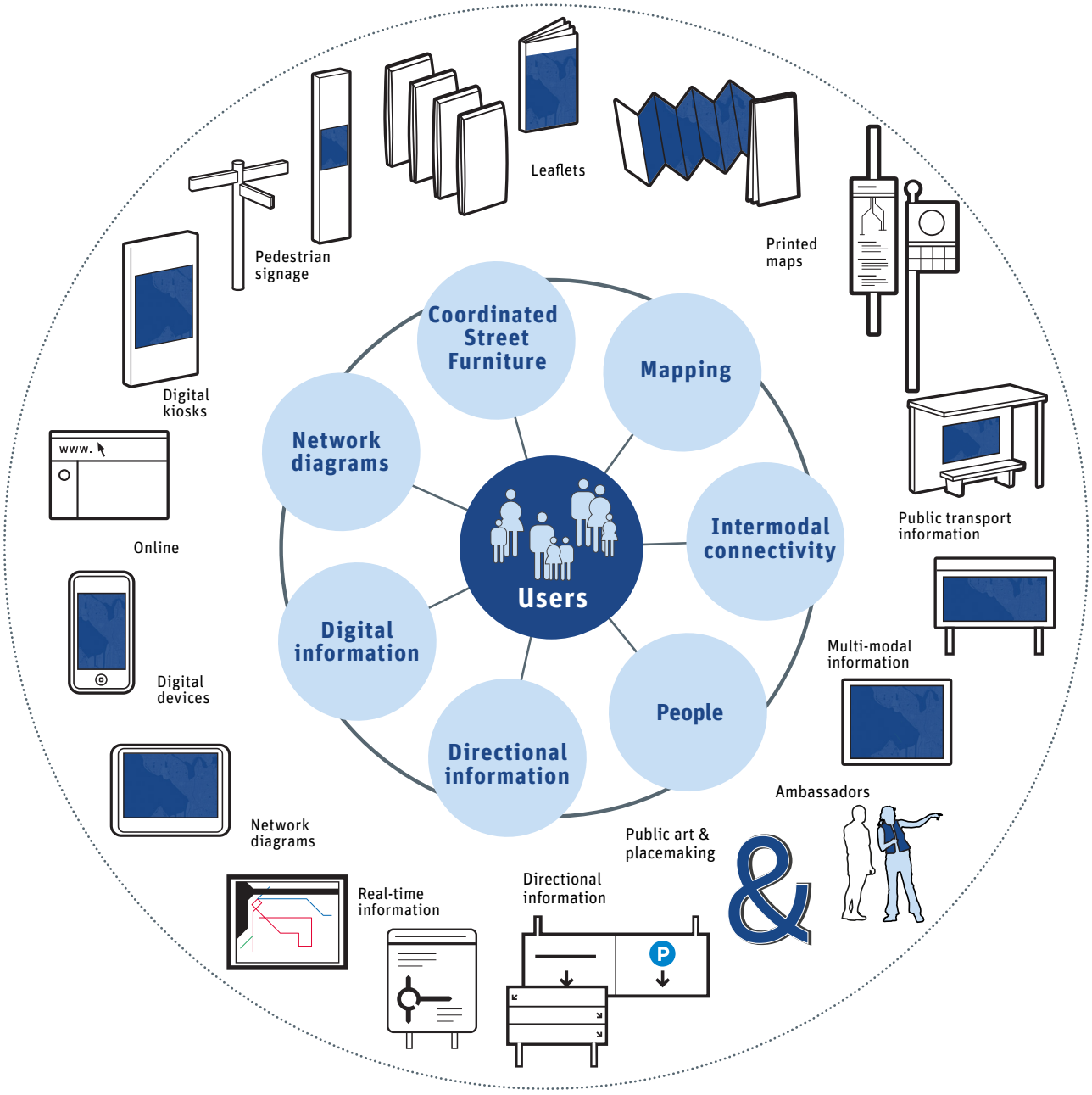
10. ### Tone of Voice
Provide information with the right tone of voice, in the right way and people are more likely to engage with it.

5.2 Seamless Seattle System

Successful wayfinding is provided seamlessly, without friction, across all modes, agencies and publications.

Every change of mode, environment or media is effortless for the user, and information is founded on a consistent system architecture, visual identity and predictability.

This requires an agreement by all wayfinding providers to collaborate and work with a single sets of elements and rules to develop consistency for people at all touch points.



5.3 Concept

The concept for the strategy is to create four pillars that support all aspects of a pedestrian wayfinding system.

The primary goals for wayfinding given in the City's PMP (Strategy 5.2).

- Facilitate pedestrian travel – by providing information that allows a traveler to choose to walk.
- Facilitate modal integration – by clearly depicting a legible multi-modal transportation system.

The approach will:

1. Create high quality walking information that seamlessly integrates with all modes supporting the real journeys people make on-street. It will remove uncertainty from people's walking trips at transit hubs and complex interchanges.
2. Help create equitable access to the public realm by removing barriers or stigma for all users regardless of their physical or cognitive ability, gender, age, language, location, ethnicity, wealth or access to online or digital tools.
3. Creates a single vision for wayfinding that can be managed to ensure the future integrity of the system, through a shared design language and system architecture.
4. Support placemaking, and provide opportunities for local distinctiveness, reflecting Seattle as "a city of neighborhoods".

5.4 Equitable Public Realm

Through design, the wayfinding system should be available to, and accessible for, everyone irrespective of their physical or cognitive ability, gender, age, language, location, ethnicity, wealth or access to online or digital tools.

A fully equitable realm requires a greater effort than can be delivered through a city-sponsored wayfinding system, however there are many opportunities for this project to significantly enhance people's ability to travel and move about the city independently.

Consistency and Predictability

The more predictable the public realm, the easier it is to navigate. A person who learns that every junction has curb cuts, Braille street signs, accessible content, gains confidence that their journey will be supported from end to end.

De-cluttering

Visual and physical clutter make places less legible and harder to navigate. As part of the implementation of a wayfinding system, a robust street clutter reduction program should be adopted. This will ensure signs are not simply added to the streets without removing as many redundant items, poorly located or designed items and temporary items as possible.

Route Suitability

Wayfinding should be provided so that users can choose a route suited to their ability, not just "this is the ADA route". The system must respect that mobility impaired or senior citizens are all different and some will be able to use steeper gradients than others.

Design Simplicity

The system must support people who find mapping busy or difficult to read, and be instantly accessible to those who feel vulnerable in the environment and do not want to stand interrogating information for longer than necessary.

Appropriate Content

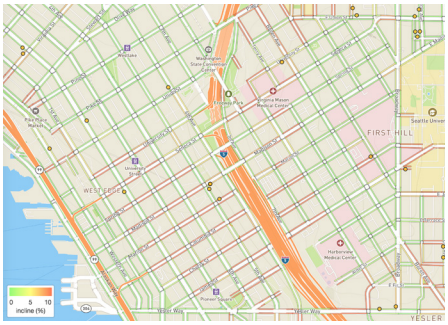
The content must allow people who do not have access to digital tools the ability to plan their journey and highlight civic amenities that support local communities.

Collaboration

The city cannot deliver every part of a fully inclusive system but should collaborate with partners such as the as Taskar Center for Accessible Technology and others, to help create consistencies across applications, where possible.

Curb cuts do not always line up

Street clutter: Badly designed or placed signs cause obstructions for visually impaired



Examples of accessible wayfinding: Accessmap and Braille

5.5 Design for All

Wayfinding will only be successful if it is designed for people of all abilities. Not as a bolt-on, but as a fundamental, integrated part of the approach to planning and design.

Principles for Inclusive Design
Adopt the seven principles of inclusive design:

- Equitable: The design is useful and marketable to people with diverse abilities.
- Flexible: The design accommodates a wide range of individual preferences and abilities.
- Simple and intuitive to use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- Perceptible information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- Tolerance for error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- Low physical effort: The design can be used efficiently and comfortably and with a minimum of fatigue.
- Size and space for approach and use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Diversity Cube
The Diversity Cube is a valuable asset developed to demonstrate that there is no such thing as a normal or typical user – everyone is different and unique. By selecting characteristics at random, the need for a flexible wayfinding system becomes clear.

The cube has been used to develop user scenarios that aim to reflect the diversity of users that a wayfinding system needs to support.

The squares on the cube can be shuffled to create a face that shows the variety of characteristics and needs an individual may display. Someone may have a visual impairment, be dyslexic, use a motorized wheelchair, or have rheumatoid arthritis.

The cube demonstrates that personal abilities are fluid and can change, depending on who they are with, which mode they chose, how much time they have, which country they are in, and how much money they have.

Compensation Circle
The Compensation Circle demonstrates the need to design wayfinding that compensates for people's different abilities, allowing them to experience the city autonomously. It is a simple proposition but one that requires wayfinding to move from a passive experience to one that it is more engaging.

The pink area shows people's personal abilities; the blue area shows the legibility of the environment; the yellow area shows wayfinding.

Therefore, as the legibility of places decreases (a smaller blue area) people's personal abilities and wayfinding has to compensate. Where people's personal abilities can't do that, then wayfinding must compensate even more.

Abilities Spectrum

It is important to recognize that a physical disability is not the only way in which an individual's ability to undertake a journey can be limited.

The Abilities Spectrum considers individual ability in four areas; physical, cognitive, financial and social ability. This spectrum allows exploration of the various ways in which an individual journey may be affected by ability limitations or circumstance.

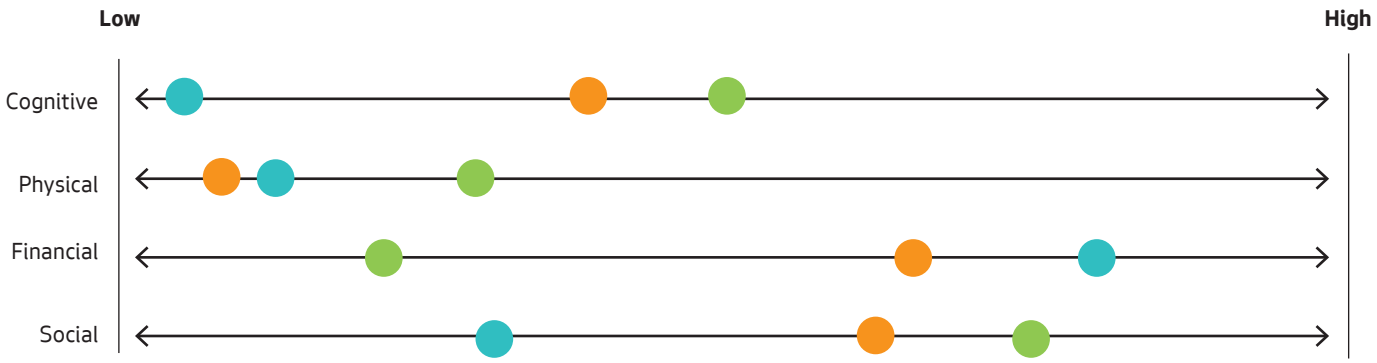
From one day to the next, the same individual could fall at a different place on the spectrum. For example an individual traveling with children and a stroller one day, could be traveling alone and in a hurry the next day or find themselves using temporary crutches after an accident on another occasion. In each case the type of journey undertaken and the needs of the user are different.

The Abilities Spectrum provides a framework to understand this variability, encouraging an inclusive approach to design and to avoid designing for 'typical' examples, which are not representative of real users. It is always a challenge to design a fully inclusive system, and this project will seek to address those challenges through the planning, design and system development stages.

Examples of factors that may impact an individuals ability are given below.

- Cognitive ability: Stress, dyslexia, familiarity, autism
- Physical ability: Fatigue, luggage, mobility aids
- Financial ability: Visit purpose, group size, cost limiting choice
- Social ability: Confidence, gender, age

Abilities Spectrum



International visitors arriving after a long-haul flight

These visitors could be suffering from tiredness, a lack of familiarity or struggling with a language barrier. Luggage could be an additional factor, limiting their ability to experience Seattle.

Local family with a stroller

These residents could be suffering from tiredness associated with having a young child and their cognitive ability may be compromised by distractions or fatigue. Using a stroller may impact their physical ability to experience Seattle and they may have some financial limitations associated with having a young family.

US tourists in Seattle for a cruise, one uses a mobility scooter

These visitors' experience may be impacted by the use of a scooter. They may not be familiar with Seattle and their confidence to explore could be diminished. Being on vacation may mean that they are more likely to spend money while in Seattle.

5.6 Systemization

Overview

The existing wayfinding system in Seattle lacks three core characteristics of good wayfinding; a coherent identity, a common system architecture and a process to maintain the system.

Coherent identity. There is no one single view of the city. As identified in the Scoping Study and in continued observations in this strategy, wayfinding differs between places, modes and media. It means people have to learn different wayfinding languages throughout the journey significantly increasing their frustration.

System architecture. The system lacks any rules about where and how to use content, where to place information or which sign type to use, meaning it lacks predictability and consistency.

A process to maintain the system. Without effective maintenance, wayfinding can date very quickly. Cities are constantly changing places and despite best intentions, soon after information is placed in the public realm it can become out of date. This is particularly the case for systems that are information rich.

Therefore two core principles of wayfinding must be in place in order to avoid repeating existing mistakes.

- Wayfinding implementation must be based on a set of known design and planning rules, using a defined set of tools to ensure it is implemented consistently.
- Wayfinding must be designed knowing how it will be managed and maintained in the future.

Elements Rules & Applications

Disparate sources of information and design inspiration result in ad-hoc wayfinding implementation and significant duplication of effort.

The city suffers from a common management problem that occurs with almost every information-rich environment.

Nearly all current information products have been produced for a specific need, usually in one medium: a map designed for a physical display, a different map and navigation system designed for a touchscreen kiosk, wayfinding information designed to support local areas.

While this is understandable, it does not create a common set of tools for visitors to use, nor a consistent quality standard for dispersing or maintaining critical information.

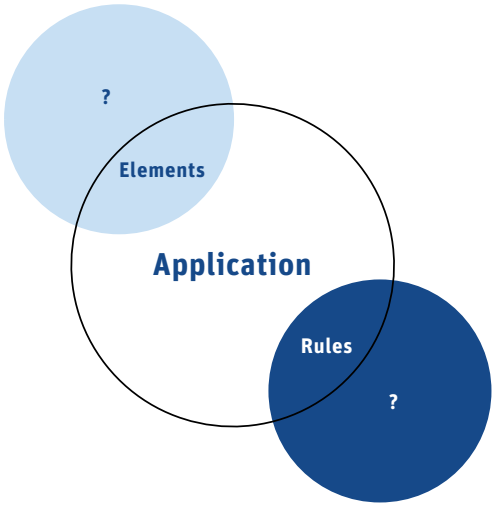
The same information is being re-worked and often restated every time, and terminology, symbols and designs that are adopted at one time, in one place, are not published or referred to when working later in a different medium, even in the same location.

Establishing a collection of tools that work together and that are coherently applied is a central aim of developing Seamless Seattle Wayfinding.

The desire to build and use a common framework, kit of parts and set of procedures is a requirement. The result is a premium wayfinding experience that makes a difference to all visitors.

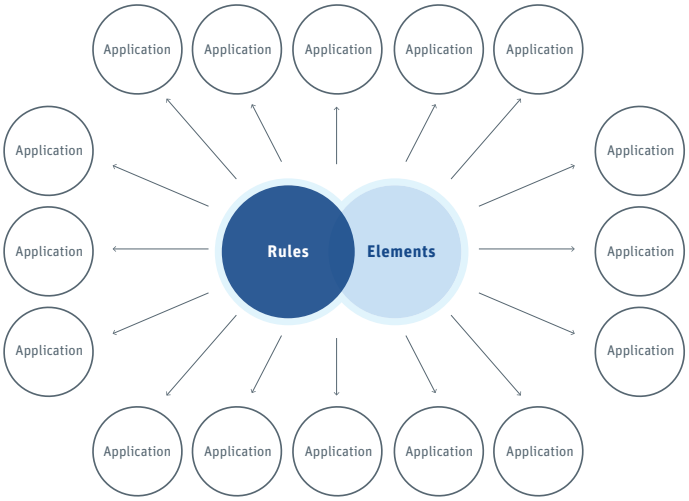
Existing Ad-hoc Development

Most projects are application-driven by a specific need. Elements that are created to support an individual application tend to work only for that application.



Future Connected Development using Elements, Rules & Applications

By separating out the elements and providing agreed-upon rules, many applications run by different departments can benefit from one consistent, high-quality system.



Elements include pictograms, typeface and map design.
Rules determine how these elements are used to create consistent applications. These applications can include a new sign or a web application that uses the wayfinding system's elements in a consistent way.

5.7 Sign Placement Rationale

Overview

There are many factors that influence the placement of signs in the public realm. It is therefore necessary to provide a logical and consistent approach to their placement to provide consistency and predictability as the system is rolled out.

A placement rationale also ensures information is provided when needed using the optimal number of signs, without causing a proliferation of street furniture.

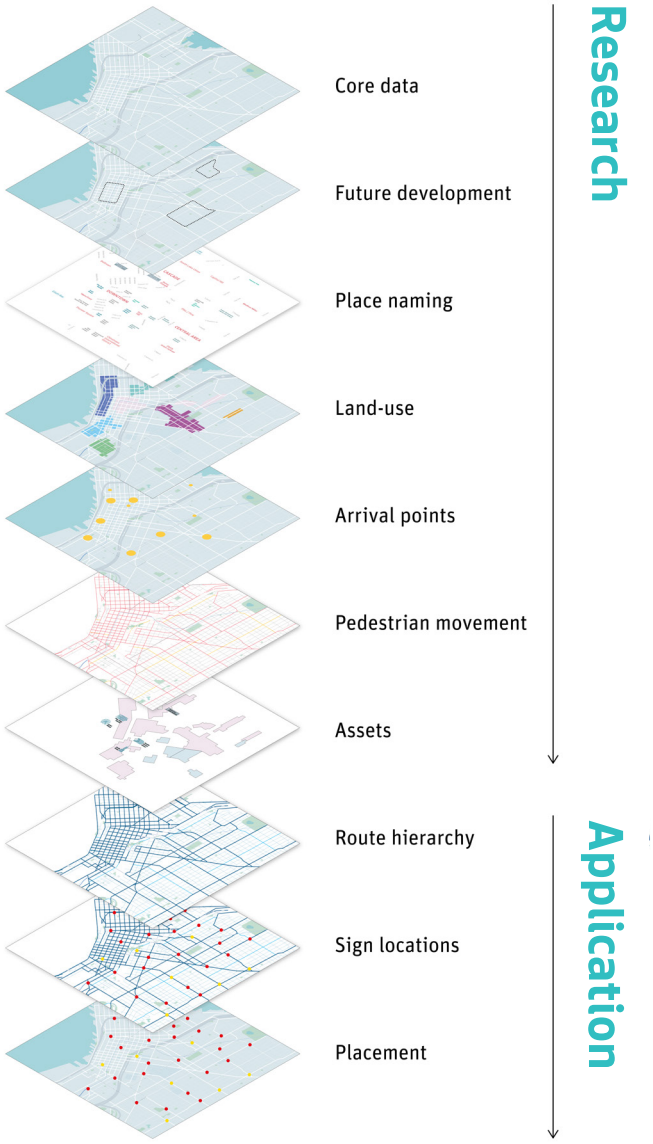
The rationale can be described in two phases: research and application. The research phase comprises the collation, review, evaluation and interpretation of data and public-focused consultation for issues such as naming. The application phase comprises developing a route hierarchy, establishing sign locations and validating data through logic checks.

Hierarchies are common tools for prioritizing the road network. Although they are not commonly developed for pedestrian networks, they are equally necessary in order to prioritize pedestrian routes and inform the placement of on-street information.

The hierarchy can be interpreted as primary, secondary and tertiary pedestrian routes that connect places, attractions, arrival points and transportation. The points at which the routes start, end, cross, merge and diverge are decision points for pedestrians and in these locations information is needed to support journeys.

The route hierarchy is a planning tool. It is used to optimize the placement and orientation of on-street pedestrian signs and does not need to be published or publicized, except for reasons of transparency.

The application of a sign placement rationale and the development of a priority route network, will be undertaken through the pilot phase of the project.

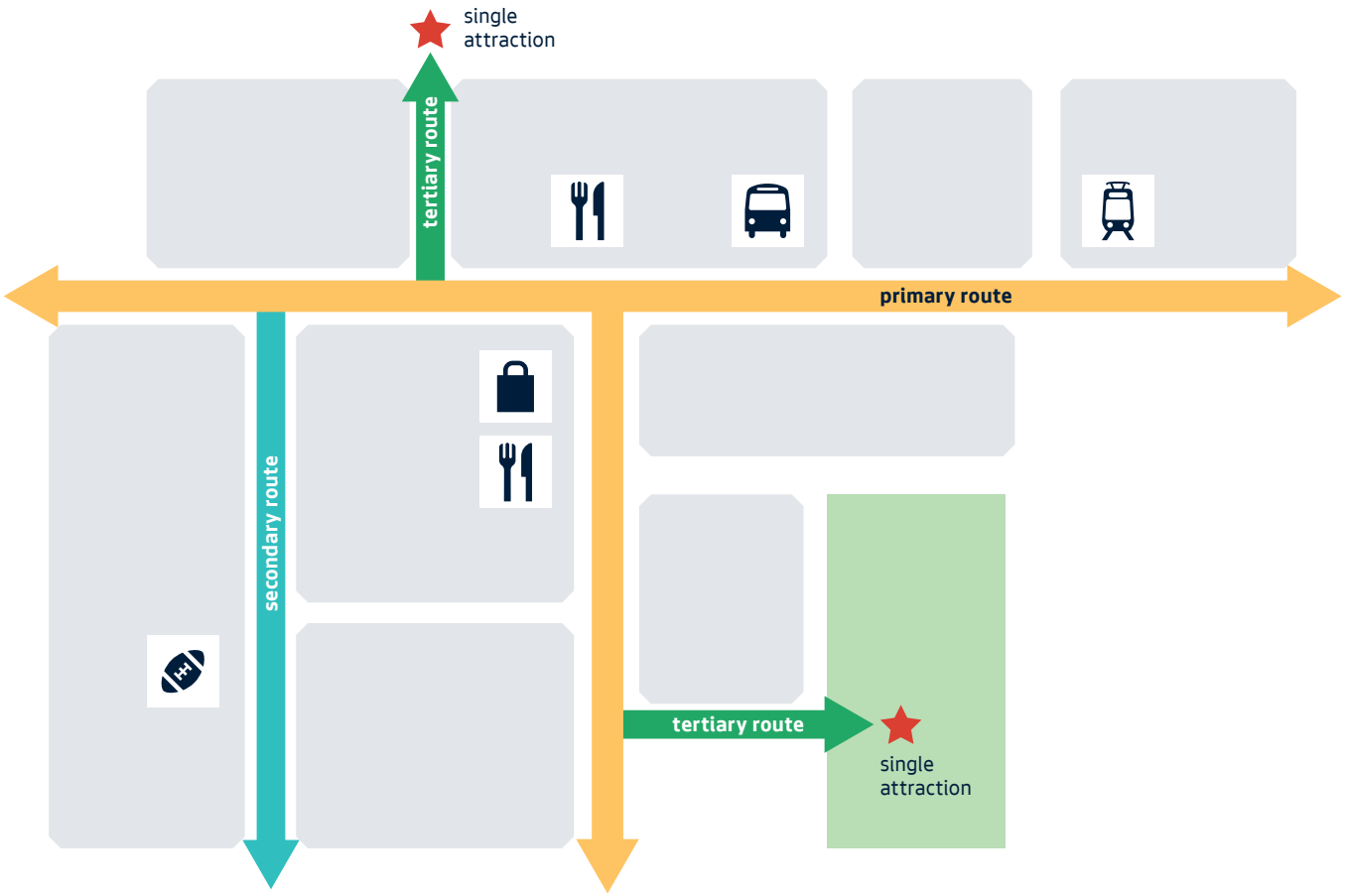


Route Hierarchy

Primary routes are strategic routes that connect places, groups of attractions and arrival points. They should offer good accessibility, clear visibility, high natural surveillance, good lighting, rain cover where possible and access to transportation, which is vital for an integrated multi-modal network. Primary routes are often the well-trodden routes between main centers; routes that originally will have been walking routes, but have become main vehicular roads and popular bus routes over time.

Secondary routes are supplementary routes between places, i.e. they offer alternative routes or connect groups of attractions to the primary route network. Secondary routes should also offer good accessibility, good visibility and good lighting, but will generally be quieter than primary routes.

Tertiary routes link single attractions or destinations to the primary or secondary route network. They should be included only if they have good accessibility and are well lit.



Decision Points

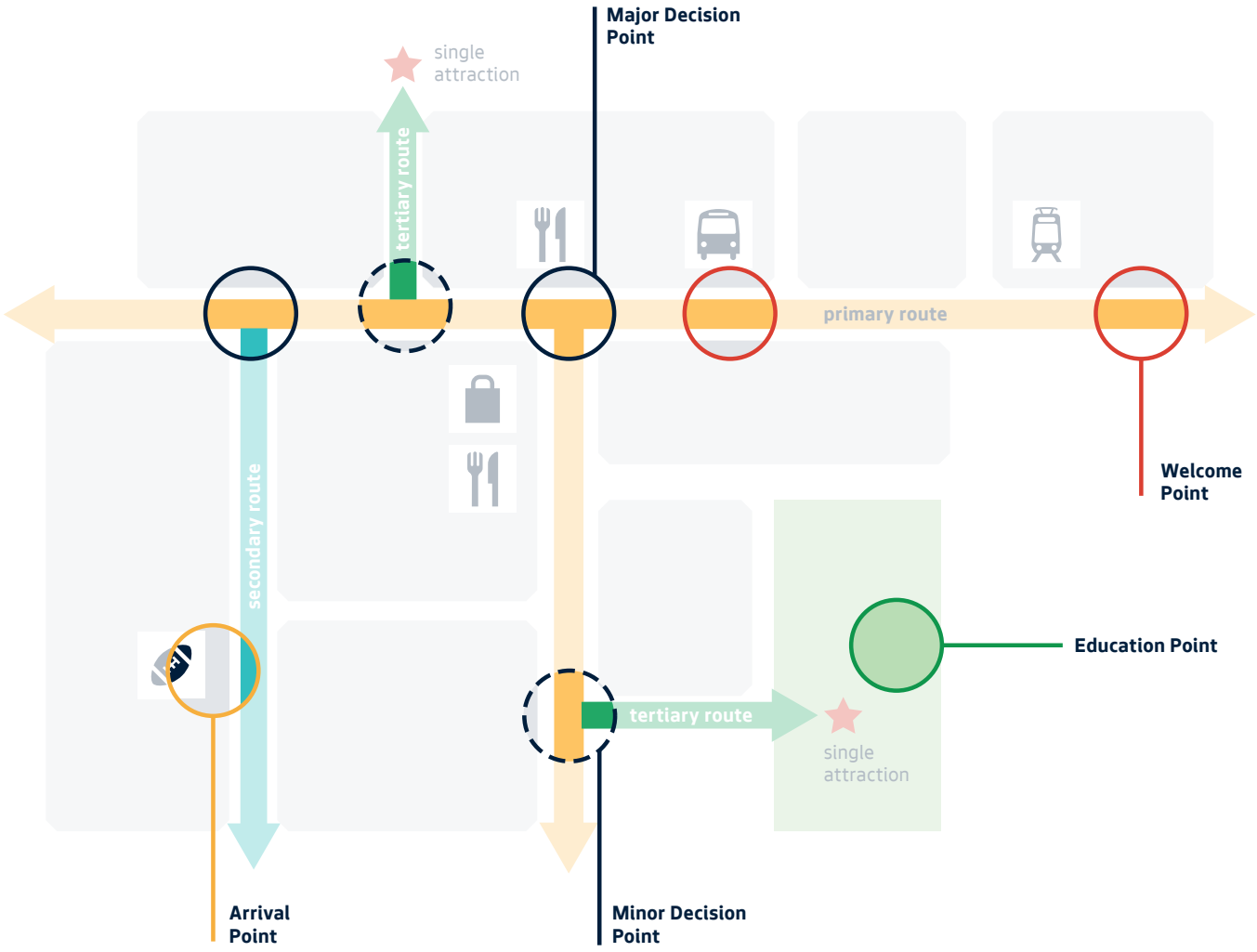
Locations where routes start, end, cross, merge and diverge are decision points for pedestrians and are locations where information should be provided to support journeys. These decision points can be categorized into:

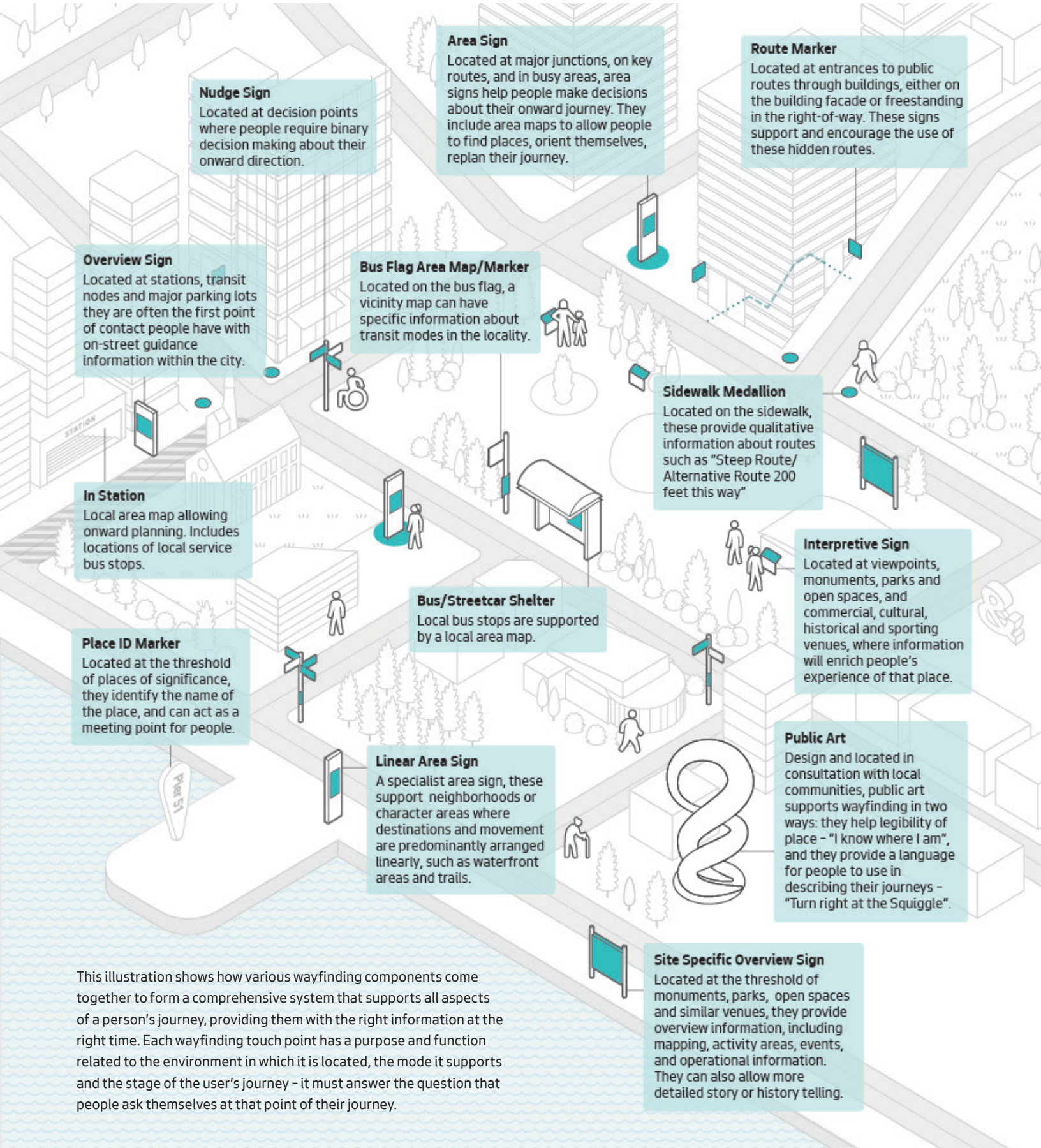
- Welcome points. These are points of entry to an area and should be supported by a map-based sign giving a strategic overview of the wider area. This would allow people to plan their onward journeys by different modes, develop their mental map and understand local connectivity.
- Major decision points. These are points where primary and secondary routes intersect. They are areas which have a high density of destinations and should be supported by map-based, local area signs. This would allow people to both plan their next steps and find local places.
- Minor decision points. These are points where secondary and tertiary routes intersect. They are on routes that connect single or small clusters of destinations, and should be supported by signs that nudge people between destinations and the primary route.
- Arrival points. These are points of arrival to destinations. They should be supported by a sign at the threshold identifying the name of the destination.
- Education points. These are at locations where additional educational/descriptive material would benefit users.

At each of these points users require information to plan a journey, help orient themselves or locate a destination.

It is important to recognize that most decision points are multi-functional points. For example the same place could be a welcome point, major decision point and arrival point. It is why signs have different elements - e.g. map, directional information, address, index - co-located as a single sign.

More information about the development of the route hierarchy and how it informs sign placement can be found in working document **03 Sign Placement and Clutter Reduction**.





This illustration shows how various wayfinding components come together to form a comprehensive system that supports all aspects of a person's journey, providing them with the right information at the right time. Each wayfinding touch point has a purpose and function related to the environment in which it is located, the mode it supports and the stage of the user's journey – it must answer the question that people ask themselves at that point of their journey.

5.8 User Journeys

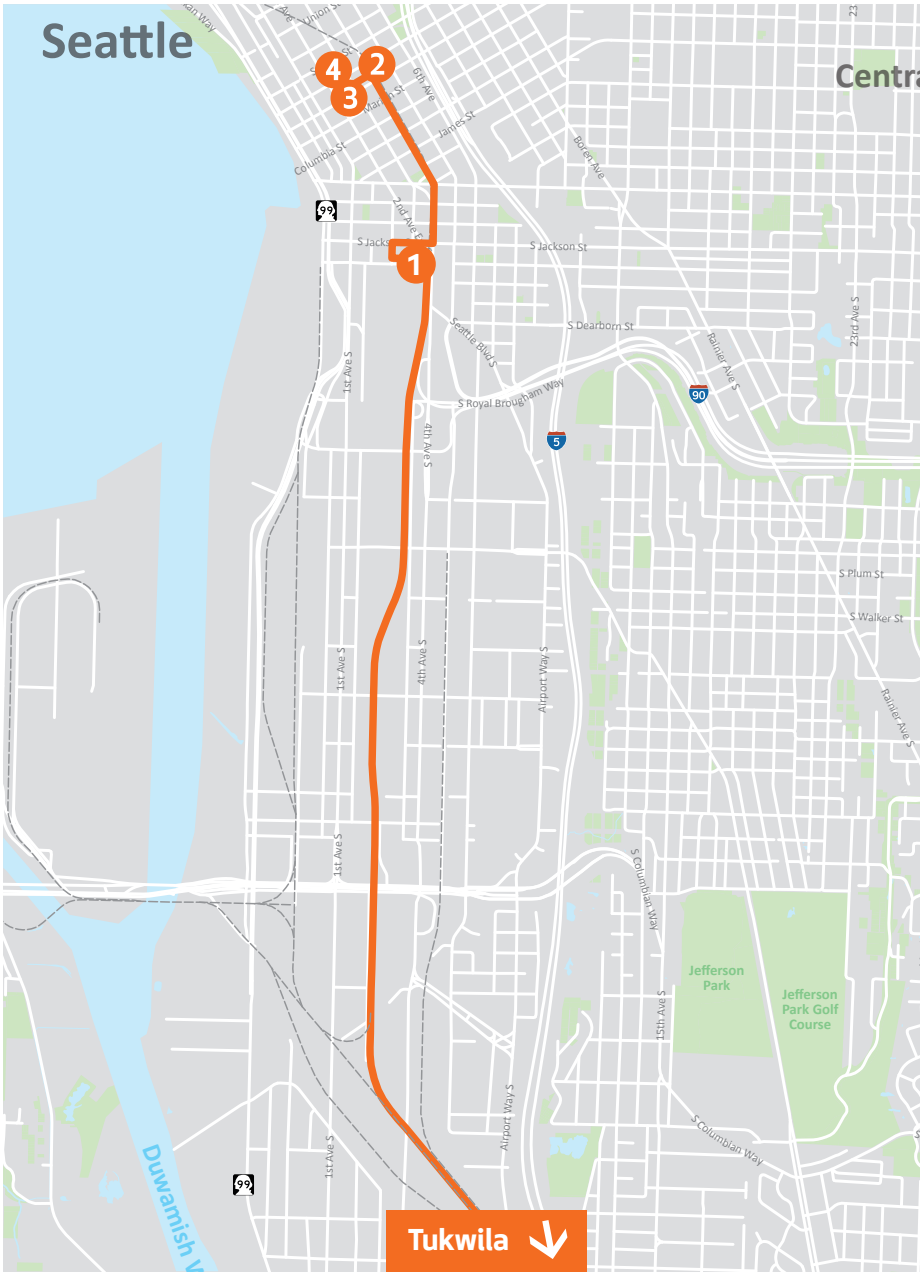
Journey scenarios are developed to understand how people make hypothetical journeys in the city.

Vivian

Vivian lives in Tukwila and is coming to Seattle to visit the Central Library. She prefers to use this library because they have a great selection of Chinese language books.

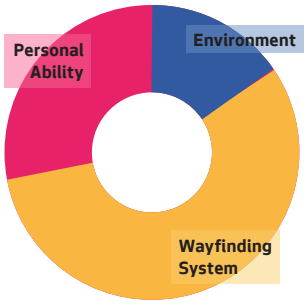
She has been to the city many times and enjoys visiting, but Seattle can be difficult for her to get around using her manual wheelchair. Sometimes she takes a taxi but she enjoys traveling short distances by herself. Vivian also has a hearing impairment which makes it difficult for her to hear announcements and communicate on the phone.

Vivian plans to catch the Sounder and then take a taxi to the Central Library. After visiting the library she plans to eat lunch and return home.



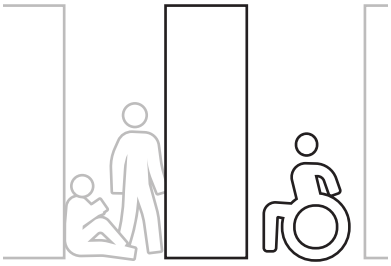
Diversity Cube

Compensation Circle

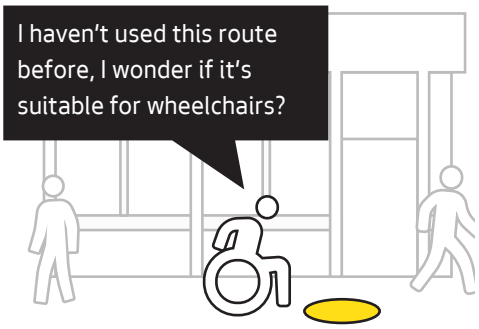


1 As Vivian arrives in Seattle she uses an app to order a taxi from the station.

She is helped to depart the train and follows signs to the Ride App Pickup Area. The signs also point out the nearby elevator, which she uses to reach the street level.

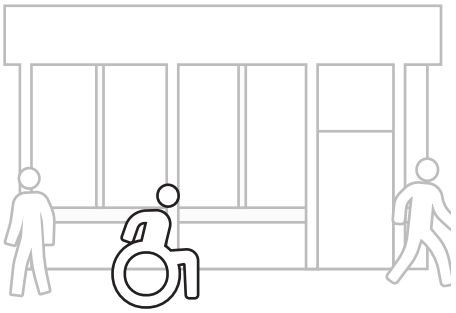


2 The taxi drops her off at the library and she spends a couple of hours browsing and reading. She's ready to get lunch and decides to go to Mel's Market, one of her favorite places nearby.



3 Vivian leaves the library and passes a marker in the sidewalk pointing to an accessible route through the Fourth & Madison Building. This should allow her to avoid the slope on Madison St. She hasn't taken the route before but decides to try it.

At the threshold to the building there's a sign explaining the route and its opening times. There's an elevator Vivian can use to take her to 3rd Ave.



4 After exiting the Fourth & Madison Building she crosses the street to Mel's Market to pick up lunch.

While in the cafe she uses her app to order a taxi to the station. She's pleased to have found the new route and wonders what other areas of the city might be more accessible to her.

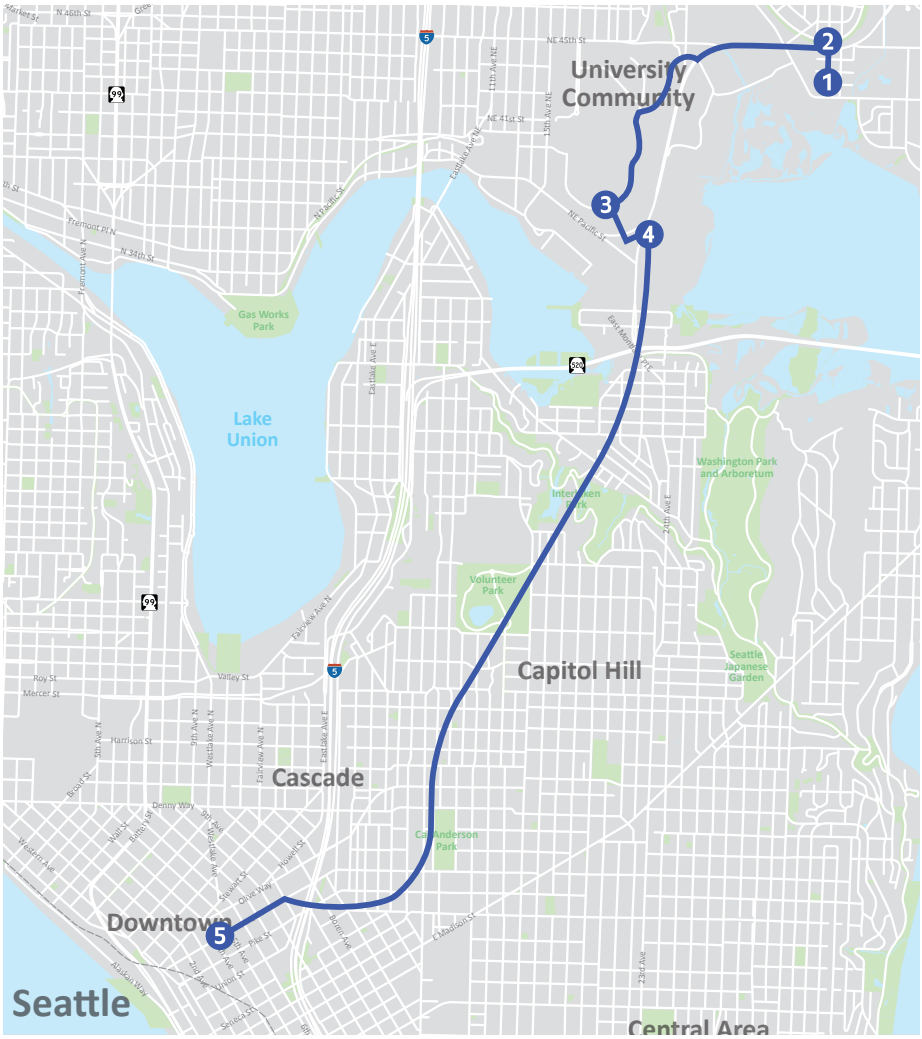
5.8 User Journeys

Robertson Family

Robert Robertson is visiting Seattle with his extended family. They have rented a large AirBnB in a quiet area near the University District.

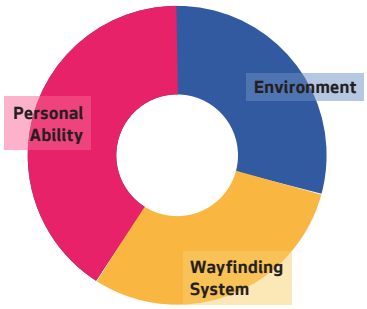
The family decides to go shopping for souvenirs. Robert's mom is elderly and tires easily, and they want to take a stroller for the children, so they look for somewhere accessible with elevators and public restrooms. They also look for somewhere transit-friendly because they do not have a car.

They decide to go to Westlake Center, next to Westlake Station. Robert knows they will have to take more than one mode of transit but after looking at the route online it sounds straightforward



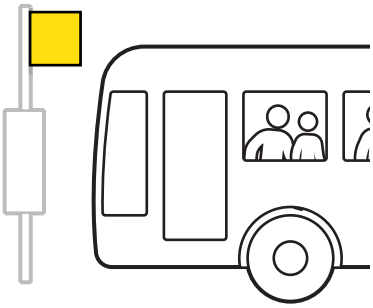
Diversity Cube

Compensation Circle



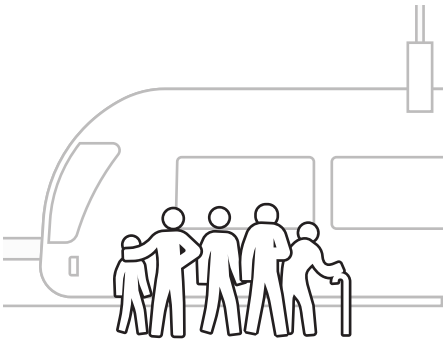
1 Robert plans their journey using the Sound Transit website. They need to take a bus to the University of Washington and then take the Link. It sounds straightforward and he makes a note of the bus number they need.

They're all ready to go to Westlake Center. They take some maps and information from the AirBnB with them that might be useful.

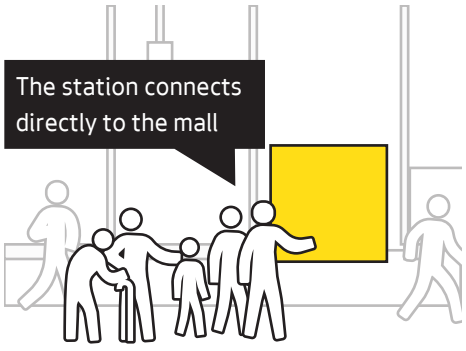


2 The bus stop is a short walk from the house. It is clearly marked and they only have to wait a few minutes for the next bus.

3 They get off the bus at the University of Washington and need to walk to the Link. The bus stop has useful information about trip connections and they easily figure out how to get to the Link.



4 After a short walk they arrive at the Link station and take the elevator to the platform. A train heading towards Westlake Center arrives soon.



5 Upon arrival at Westlake Station they see a map of the local area on the platform. Westlake Center is marked, and it tells them which exit they need.

They follow signs to the correct exit and enter Westlake Center.

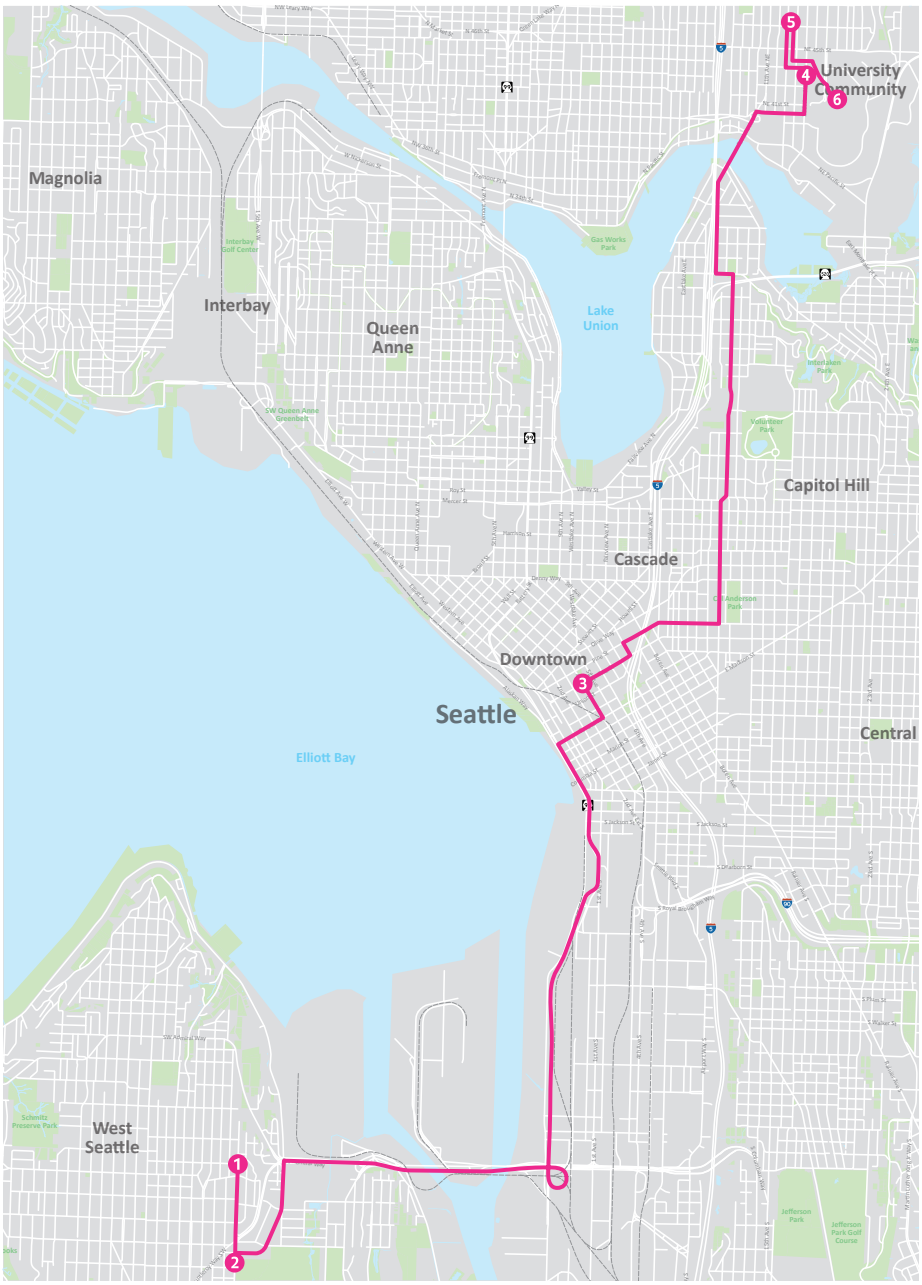
5.8 User Journeys

Naomi

Naomi lives and works in West Seattle and has decided to attend an evening lecture at the University of Washington.

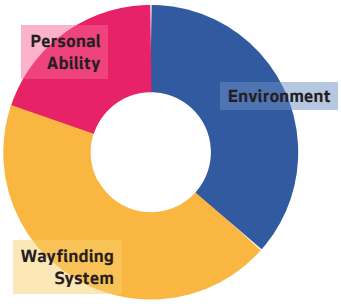
She plans to take the bus instead of the Link because she feels anxious in large crowds and busy environments.

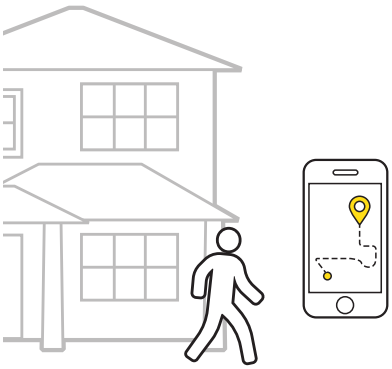
Naomi uses the Puget Sound Trip Planner to plan her trip. The trip is going to take just over an hour, and she allows extra time to find something quick to eat for dinner. She heard The Ave near the university campus has some good places to eat but she is worried about diverting her route too much as she has limited time.

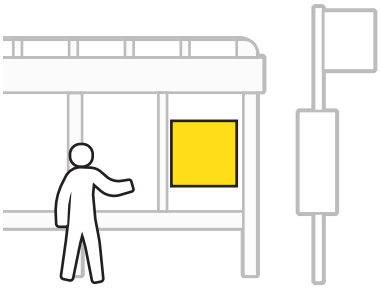


Diversity Cube

Compensation Circle







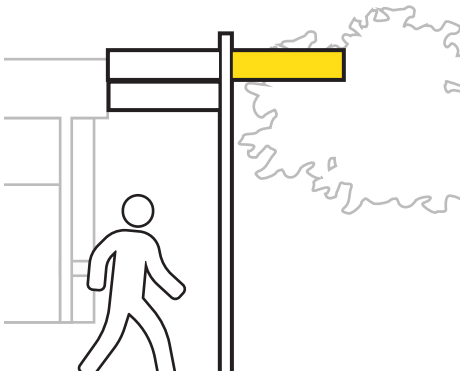
1 Naomi leaves home using the Puget Sound Trip Planner on her phone. She's familiar with the route to Downtown but will need the app for the rest of the journey.

2 She waits at the bus stop and notices a map of the local area. The app says her bus is four minutes away.

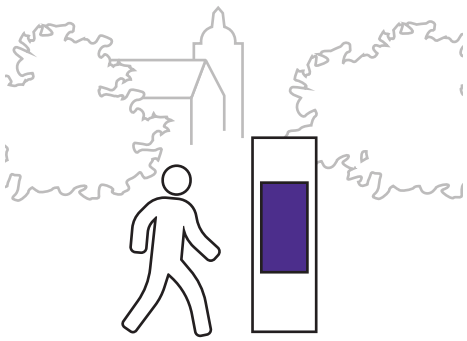
3 Naomi gets off the bus at 3rd Ave, it's a busy place with lots of people and she wants to find her next bus quickly. A map at the stop shows the nearby bus stops and the routes they serve. She is able to transfer to the next bus.

4 Using the app she gets off at the correct bus stop. It is around here she is hoping to find somewhere to eat. At first it isn't clear where the nearby restaurants are, but then she notices a sign showing the way.

5 After having something quick to eat she leaves for her lecture. As she exits the restaurant she sees a sign with a map. The map is clear and easy to understand, it tells her where she is and where the university campus is. The campus is so near she decides she doesn't need to use the app.



She sets off in the right direction. At the next intersection she sees a sign with directional content showing the way to the University of Washington. She's happy to know she's on the right route.



6 Naomi arrives at the campus, she sees a sign similar to the one she used previously. It has the same information and style of map; she uses it to plan the rest of her journey.

5.8 User Journeys

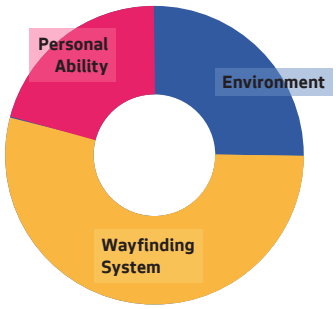
Miguel

Miguel is visiting Seattle for the first time and is staying with friends. He wants to explore the city and check out the local seafood. His friends recommend visiting Pike Place Market and some other attractions.

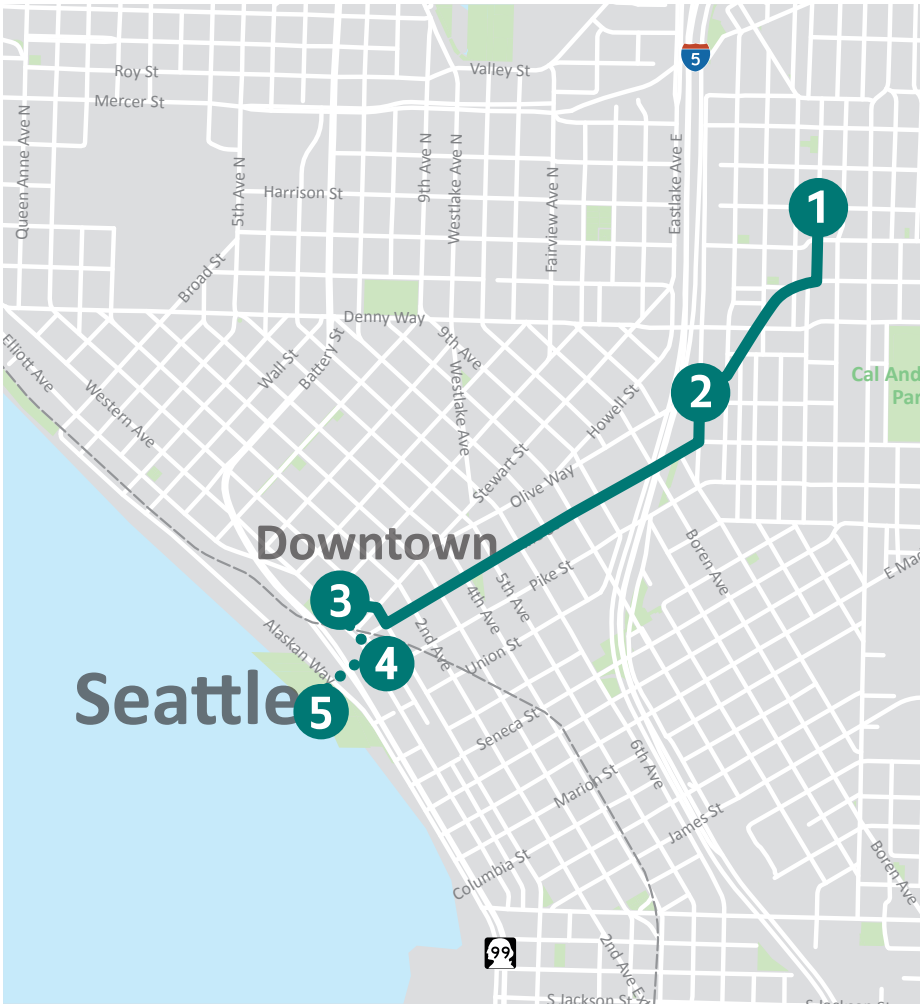
Miguel is nervous because he has low vision and it is difficult for him to read street signs and information at long distances. He uses the BlindSquare app to help him navigate but doesn't like to rely on this as his internet connection isn't always great.

Diversity Cube

Compensation Circle

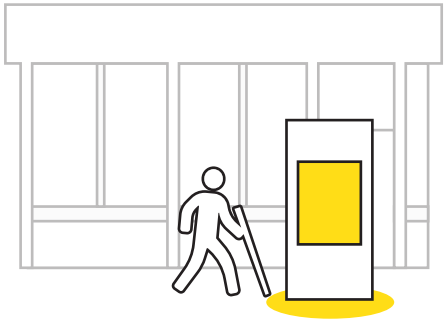


* in this scenario a key part of wayfinding support is delivered by an app, BlindSquare



1 Miguel's friends recommend some places for him to visit and give him instructions on how to get there.

He uses BlindSquare to ensure he is on the right route. It alerts him to cross roads and reassures him he's going the right way.

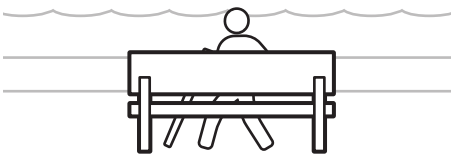


2 Miguel passes an on-street sign. He's able to read most of the content and notices there's Braille too. He is happy there is signage to help people with visual impairments.

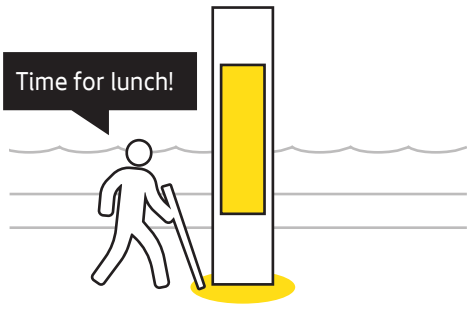
3 Upon reaching Pike Place Market he sees a large, brightly lit sign – it's clear he's arrived at his destination.

With some time to spare before lunchtime Miguel decides to explore the nearby area. He sees another sign with a map, the sidewalk around the base is colored which makes it easy to spot from a distance.

4 Miguel passes a large piece of art in the street, he makes a mental note to look out for it on his return journey.



5 With the help of BlindSquare he navigates to the waterfront and spends some time enjoying his surroundings.



Miguel sets off back to Pike Place Market. On his way he sees a sign that shows the whole waterfront area. He hadn't realized how big it was, and decides to come back later to visit Olympic Sculpture Park.

6 Recommendations

This section sets out the recommendations to deliver a pedestrian system for the city that connects all modes.

Overview

This section provides a series of recommendations to develop the wayfinding system through the planning and design of the two pilot projects. It is divided into six themes:

6.1 Wayfinding Touch Points

Core Sign Family

Development of a core sign family established to provide people with the appropriate information at each decision point. The components of each sign type have been determined based on user needs at each decision point.

Area Sign

Components & Function

This sign type includes two scales of map; finder and planner scale. The Finder Map allows users to locate local destinations and explore their immediate vicinity, while the Planner Map allows longer journeys to be planned and transit connections to be understood. In addition, a panel on the edge of the sign will provide the sign address in Braille and tactile.

Directional content provides quick reading information for users en-route to a destination and the address information confirms a users' location.

Placement

Area Signs are located at major decision points in busy environments such as outside transit stations, and in hubs and dwelling places. These are locations with high density of destinations, routes or journey choices. In future phases, this sign type provides the potential for integration with Sound Transit Station Identifier Signs for seamless information at Link station thresholds

Overview Sign

Components & Function

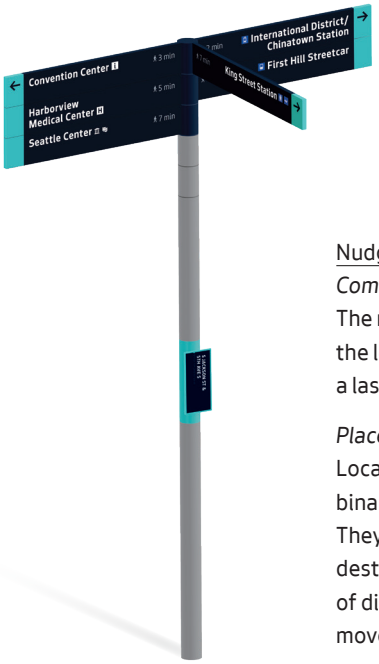
The Overview Map on this sign type provides a wider view of Seattle, giving useful context and allowing users to get an overview of the city and plan longer journeys.

Like the Planner Map on Area Signs, it also allows transit connections to be understood.

This sign also includes fast reading directional content and a location address. A panel on the edge of the sign will provide the sign address in Braille and tactile.

Placement

Located at welcome points, dwelling spaces and neighborhood centers, these are often the first point of contact people have with on-street guidance information within the city.



Nudge Sign

Components & Function

The nudge sign gives directional information to navigate the local area, providing route confirmation and acting as a last mile homing beacon to find places.

Placement

Located at minor decision points where people require binary decision making about their onward direction. They are common in areas which have a low density of destinations, on long route sections where confirmation of direction is helpful, and in areas which have a complex movement infrastructure to navigate.

Extended Sign Family

In addition to the core sign family a further four sign types are being implemented in the pilot that will support users at particular points on their journey. These sign types, their components, function and placement are explained below.

Route Marker & Description

Components & Function

These sign types describe a 'hidden' accessible route through a building, to support and encourage the use of these routes. A map will provide a visual description of the route alongside information about the route opening times and ownership.

Placement

These signs are placed at entrances to public routes through buildings, either on the building facade or freestanding in the right-of-way.

Transit Local Area Map

Components & Function

A local area map provides an overview of the vicinity including transit connections to support multi-modal journeys.

Placement

These sign types are placed at transit nodes including, bus stops, transit stations and ferry terminals.

Tactile Pole Panel

Components & Function

These panels provide Braille and tactile address information to allow visually impaired users to orient and locate themselves.

Placement

Panels are placed at intersections and also feature on the pole of nudge signs.

Sidewalk Medallion

Components & Function

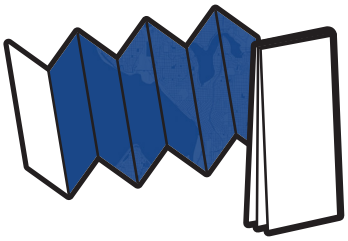
Sidewalk medallions provide users with information about an alternative accessible route, to avoid a steep slope or set of stairs. The alternative route is described and distances are provided.

Placement

Medallions are placed at the start of an inaccessible route, such as a steep slope or set of stairs

Printed media and Ambassadors

In addition to the sign family, printed maps and trained ambassadors would supplement the core system as part of the pilots or a subsequent phase of delivery.



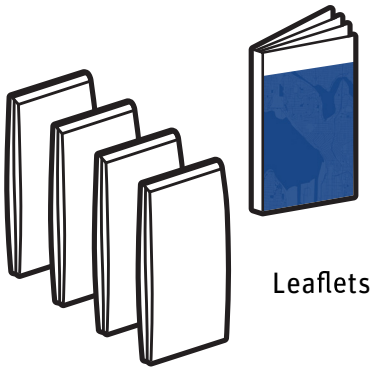
Printed maps

A suite of printed pedestrian maps tailored for specific uses such as retail and tourism.

Events maps such as for Pride festival.

Tear off maps for hotels to be able to use the same base map.

Available free throughout the city



Leaflets

A suite of information including mapping to accompany interpretive information published by the city and its partners.

Ambassadors

Ambassadors are the human face of wayfinding. It is important that they use the same language and descriptions deployed by the static system.

They could be BIA personnel, or the city's tourist information staff.

6.2 Modal Integration

This strategy proposes five steps to support modal integration:

1. Collaboration with transit operators

King County Metro and Sound Transit recognize the need for integrated information. They are and will continue to be key partners in this wayfinding project.

2. Develop modal integration modal approach at Jackson and Westlake pilots

The two pilots will be used to develop and test integrated modal information. This is described in Section 7.

3. Placement opportunities and Touch Points

Creating quality connecting and onward journey information will require transit operators to make additional space available within stations, transit centers, terminals, stops and shelters. Wayfinding should be located optimally rather than opportunistically.

Every transit stop, station, hub, center and terminal, should have information connecting transit to the area and its key destinations using safe, accessible routes.

Integrated modal information should reflect the function of the transit service, its connections and its location. For example, people need information prioritized to support their journey in the following way:

- On-street Bus Hub: Bus stop and bus service identification and routing between stops.
- Streetcar, Bus, Link Station Hub: Bus and streetcar stop and service identification, station entrances and routing between all three modes.
- Neighborhood Bus Stop: Onward journey mapping prioritized for walking in the area.

4. Harmonize wayfinding

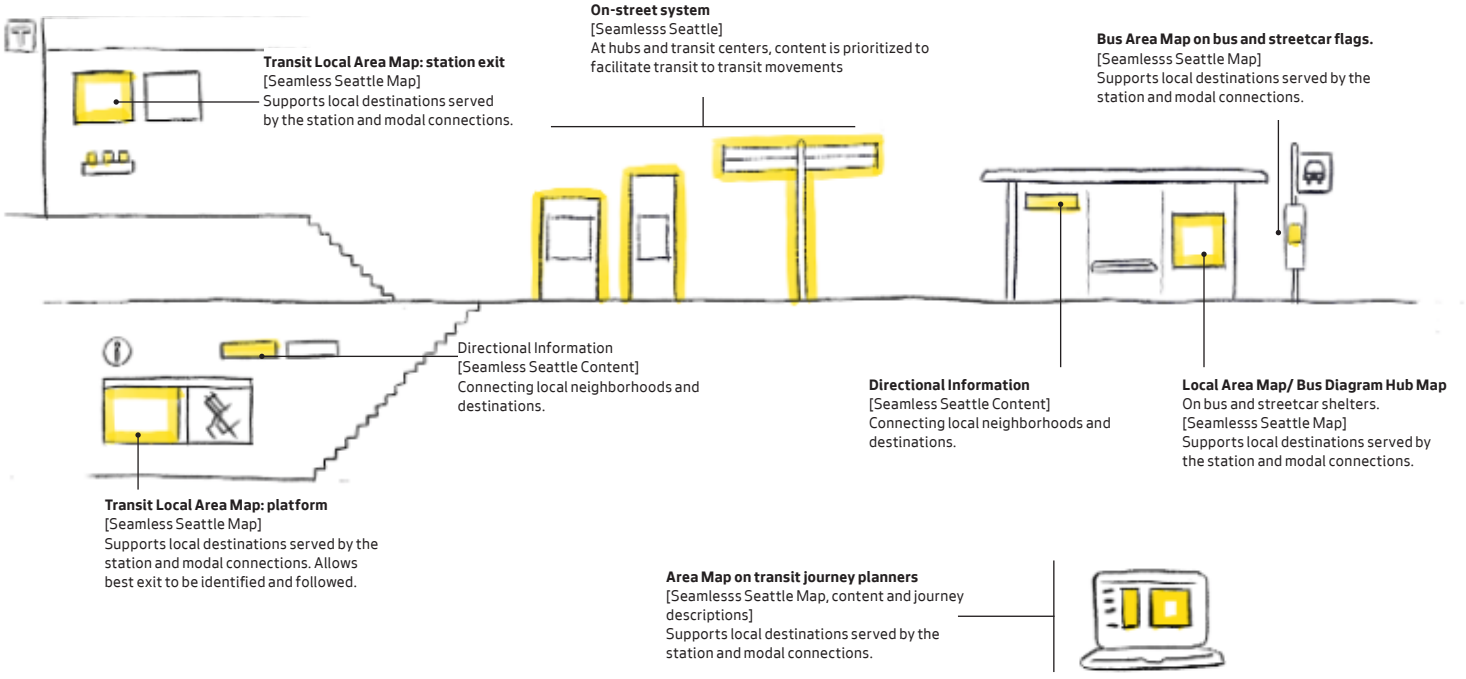
While the complete standardization of wayfinding across all modes is the ideal for any city, harmonization across modes would be a step in the right direction.

The degree of harmonization would be determined by stakeholders, but the following opportunities could serve as a starting point for that discussion:

- Mapping. Use the same mapping base throughout the city. This could be styled differently as needed to match brand elements.
- Naming. A consistent set of names for places, services, modes and routes.
- Pictograms. A consistent set of pictograms to represent modes, amenities, and stations as needed.
- Station entrance identification. Marking station entrances clearly and visibly from a distance.
- Bus stop identification. Marking bus stops clearly and visibly from a distance.
- Streetcar identification. Marking streetcar stops clearly and visibly from a distance.
- Frequent Transit Network diagram. A single network diagram for frequent services.

5. Explore common digital journey planning system architecture

Online journey planning should be consistent in its mapping, naming, pictograms and language.



6.3 Local Distinctiveness

This strategy proposes five steps to support local distinctiveness.

1. Define boundaries of local distinctiveness

Local distinctiveness is embedded in the following two elements:

Naming. Names evoke a sense of place – they are inherently locally distinctive. For example, when someone uses the name "Ballard" to refer to the place, it immediately describes a local context.

Local Assets. Local assets are destinations and elements included as mapping or directional content. Distinctiveness is created by prioritizing destinations such as retail areas, civic amenities, significant buildings, local parks, and public art.

Place naming and local assets should be defined in collaboration with local communities.

In specific locations other aspects of the system could be adapted to better reflect neighborhoods. These changes should be within the established design parameters and could include:

- Graphic design – colors, patterns or other graphic devices
- Product design – materials, textures or form
- New sign types – interpretive signs, place markers, and site-specific signage
- Neighborhood content – walking routes, images, and historic mapping
- Language – a second language could be used in areas where a majority of residents speak a language other than English or where a language has strong ties to a community

2. Identify neighborhoods for local distinctiveness

While many neighborhoods will be content with the local distinction already built into the existing system, there my be areas, such as landmark districts, where additional local distinctiveness is included.

Neighborhoods that want an opportunity to share their stories and describe their cultures must be identified alongside any opportunity to potentially fund a more premium product, or contribute to content creation and maintenance.

3. Wayfinding Community Framework

The community framework identifies possible opportunities for the inclusion of local distinctiveness. Inclusion of these elements will both represent community and reinforce a sense of place.

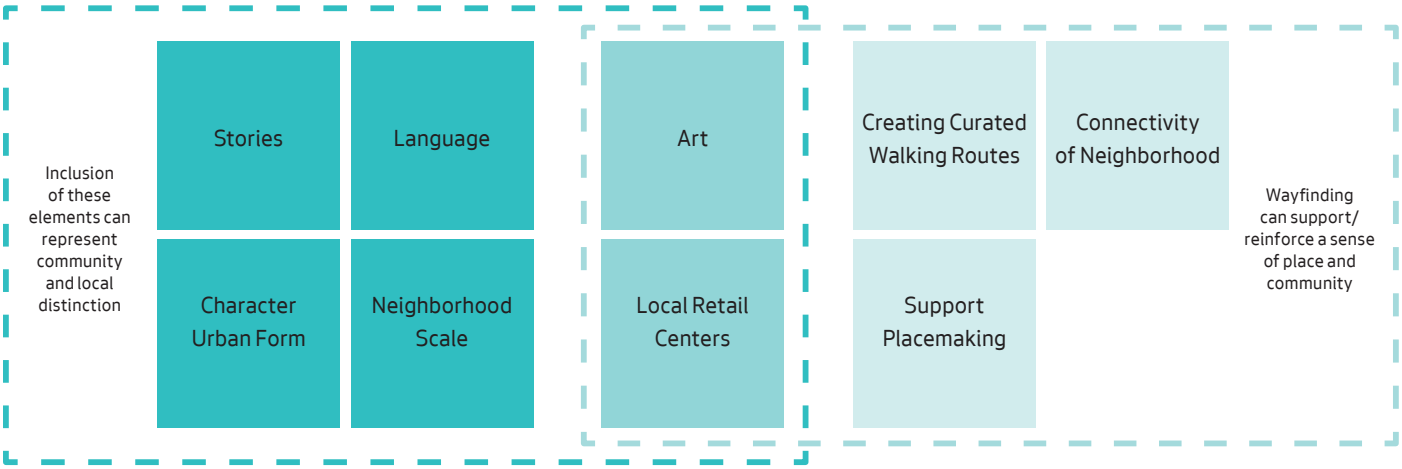
4. Jackson and Westlake Hub Pilots

Both pilots are within the Metropolitan Improvement District, and the Jackson Hub Pilot is on the boundary of both historic districts: Chinatown-International District and Pioneer Square. The pilots should establish the opportunity for premium products, second languages, and inclusion of historical and cultural information.

5. Collaboration with Waterfront

The Waterfront redevelopment has a wayfinding team delivering a range of wayfinding touch points that support local distinctiveness. The project should be aligned with Seamless Seattle to ensure commonality of system architecture and products where possible.

Community Framework



6.4 Design for All

The strategy proposes the following three steps to include design for all.

1. Implementation at Jackson and Westlake pilots

While it will not be possible to implement every aspect of the design within the pilots due to time and funding limits, the design will follow global best practice in delivering design for all wayfinding.

This includes:

- High contrast graphics and large type
- Ease of access to signs and content
- Emphasis on gradients, seating areas, steps, and restrooms
- Use of 3D landmarks simplified mapping
- Prioritization of safe, surveilled routes
- Strong connections to local and civic amenities, including contact details
- Tactile signage including raised letters, symbols and braille or as a separate product.
- Use of clear typeface
- Appropriate use of lighting and designing for low light
- High contrast and tactile profile ground surfaces
- Ground surface signs

The pilot design will be tested and reviewed with access groups throughout and where needed recommendations for improvements to the public realm will be made to align policy with on-street implementation.

2. Collaborate with access/inclusivity groups

Collaborate with groups such as Taskar Center for Accessible Technology, (TCAT), to establish if AccessMap and other digital and printed information could be integrated into the development of future wayfinding.

This could be particularly significant for developing tools and processes to identify locations of obstructions and diversions caused by construction, and relaying these through journey planning information.

3. Clutter Reduction Strategy

The objective of a clutter reduction strategy is to remove unnecessary and poorly designed items from the public realm. The installation of wayfinding signs is an appropriate catalyst to implement a clutter reduction program, in order to minimize the impact of additional objects in the public realm.

6.5 Systemization

Adopt a consistent set of names and codes

Names should be agreed with local stakeholders, including residents, city officers, transportation operators, major land owners and business sectors. A place naming consultation establishes:

- District and neighborhood names and areas
- Linear neighborhoods
- Key destinations and their long and short form names
- Local destinations

This approach should be taken for every roll-out of the project.

Codes are used by people in their everyday language in the form of numbers, letters, colors, and pictograms. Transit systems are an obvious example. When used correctly they are an essential short-cut in helping people simplify places and systems, by helping them remember complex information or instructions.

A single set of codes should be established, through the pilot development, that can be rolled-out to other areas of the system.

Naming Rights and Sponsorship

Names need to reflect the language which people use and understand to describe and find places.

In commercialized environments, such as sports and events, naming rights and sponsorships are common, while for public amenities such as transit stations commercial agreements for naming are less common.

Naming rights, sponsorships, and wayfinding have an uneasy alliance. Including commercial names in a content hierarchy gives unpaid publicity to private organizations, creates a sense of privatizing the public realm, and from a practical point of view, a change to the sponsor requires a change to wayfinding.

If wayfinding is designed well, it should last around 20 years. That's about the life-cycle of most naming rights for major league sports stadiums. Therefore, it is recommended that names for the stadiums – T-Mobile Park and CentryLink Field – be included because they will not have a high detrimental impact on wayfinding operations or costs, but will have significant benefit in increasing system legibility.

Shorter duration naming rights are more difficult to incorporate, and should be judged on a case by case basis, with regard to the likely duration of the name. Sponsored events or temporary naming should only be included on digital or short-life span printed materials.

The important principle from a wayfinding perspective is that the name used in the system should be what people call the place. It is not necessarily the officially designated name, which may be something that is not well understood. Anything else would create confusion and actively work against the principles of wayfinding.

Design standards

To achieve system coherence for Seamless Seattle, it is essential to establish design and planning standards for all modes and media.

For this it will be necessary to define a set of planning and design rules. These are finalized after completing the pilot projects in order to integrate the processes of planning, design, manufacturing, administration and all lessons learned in the development of the pilot projects.

This definition of system standards would include:

- An overview of the key applications, a description of their function and how each sign is used
- Sign placement rationale
- Sign content rationale
- Planning guidelines for developing route networks
- System and graphic identity (color, typeface, icons, brand, etc.)
- Use of graphic and planning devices
- Map design
- Assignment of asset selection criteria
- Accessibility and inclusiveness processes
- Product design standards (materials, dimensions, etc.)
- Documentation drawings

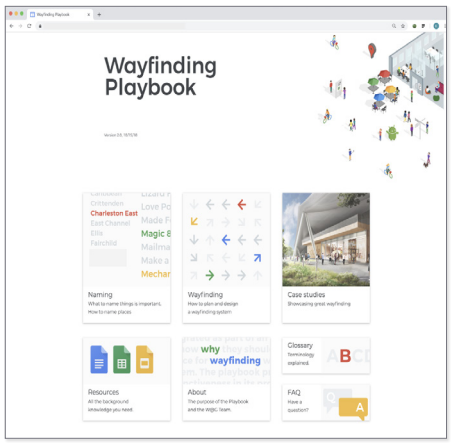
These standards will allow the city to provide clear instructions and guidance to any design team in the future, when continuing the project and roll-out through the city; to monitor new system expansions in different media and modes; and to guide the maintenance of the system, ensuring that the new signs or replacements of the elements damaged fit the system standards.

The standards will be a living document. As the system expands to new areas beyond those selected by the pilot projects, incorporates new technologies, new methods, and information systems or new networks, it must adapt to capture and document the updates.

Therefore, although standards are edited and traditionally updated in printed form, they could also occur on a web-based platform.

The city standards should advocate that the design standards should be adopted for all pedestrian wayfinding elements delivered by partner agencies. These include the modal integration touchpoints identified previously in this section.

Standards
In print or web form, standards are critical to control the quality and application of wayfinding



6.6 Digital Strategy

These recommendations are taken from the Seamless Seattle Digital Strategy. See the document for further reading.

The Digital Strategy presents opportunities for digital as a tool to help achieve the city's wayfinding goals. The document makes two core recommendations for consideration to align with the city's goals of creating better, more accessible, wayfinding information for Seattle.

Digital is a fast changing industry. Cutting edge technologies can become obsolete in a short period of time.

When discussing digital innovation opportunities, it is common to jump to the end-user applications. For wayfinding, this may mean applications for personal digital devices such as smartphones, on-street information delivery systems, or the support of personal technology for specific use cases such as accessibility.

Image taken from Digital Strategy, please refer to this for more information

Recommendation One - Open Wayfinding Platform

The first core recommendation is a focus on creating robust digital infrastructure for the management of wayfinding data and the production of wayfinding applications. Not only will applications built by the city and its partners benefit from such infrastructure, but it will also be readily available for use by third parties. We're calling it the Open Wayfinding Platform.

The Open Wayfinding Platform ensures consistency of both data and core visual design, creating a coherent image of the city regardless of the end-user touchpoint or who it is developed by – a common wayfinding-language for everyone to speak. This ensures accuracy of Seattle's Wayfinding information, and allows third parties to focus on their own innovations.

The Open Wayfinding Platform is an open data project very much in the spirit of Seattle's technological roots and reputation, and it will benefit Seattle's residents and visitors alike. The conceptual model of the Open Wayfinding Platform is explained in the Digital Strategy.

Recommendation Two - Accessibility Initiatives

Digital wayfinding services have vastly improved in the last decade, mostly driven by tech companies in the private sector. However, these tech companies are often limited on two aspects: city-wide access to the built environment, and the pursuit of public-minded projects that are valuable such as accessibility initiatives.

As a public organization, the City of Seattle can assume responsibilities for city wayfinding to be inclusive and accessible. In this context, selective investments aligned with the Seamless Seattle wayfinding strategy could aim to fill the market-failure gap on accessibility initiatives.

Based on this rationale, the second core recommendation in the Digital Strategy outlines potential Accessibility Initiatives.

7 Pilot Delivery

This section summarizes the development of the wayfinding pilot projects at Westlake and Jackson. For more details, refer to **06 Pilot Application** document.

7.1 Pilot Purpose

Pilot projects are used as a 'proof of concept' to advance the planning and design of a wayfinding system based on the principles and approaches established in this strategy.

The objective is to develop site specific solutions to solve site specific problems, to test the system's efficacy, governance, partnering arrangements, financing, community and stakeholder participation, and use the lessons learned.

The lessons learned are used to calibrate the approach, establish budgets and an implementation plan, and create planning and design standards to guide the future roll-out and maintenance of the system.

The pilot is due for implementation late 2019-2020.

Pilot areas

Two pilot areas have been identified: Westlake Hub and Jackson Hub.

The development of pilot projects in different areas of the city allows a wide evaluation of the system's elements and can be used to communicate the project as a solution across the city.

The pilots will test the system at two of the busiest and most complex transit hubs in the city.

The pilot projects will evaluate the following:

- System efficacy
- Core pedestrian sign typology
- Transit integration
- Regional, national and international arrivals to the city
- Accessible and hidden routes
- Braille signs
- System identity
- Visual appearance of the system
- Local distinctiveness – heritage, character areas
- Use of a second language
- Sign design templates
- Mapping scales
- Sign placement rationale
- Naming consultation
- Asset selection criteria and information hierarchy
- Project communications
- City and partner collaboration
- Stakeholder consultation
- Councillor and leadership support
- Community integration
- Operational requirements
- Clutter reduction strategy
- Printed applications
- Data / content management

Sign Typology

Overview Sign | **Area Sign** | **Nudge Sign** | **Route Marker/Description** | **Transit Local Area Map** | **Sidewalk Medallion** | **Tactile Pole Panel**

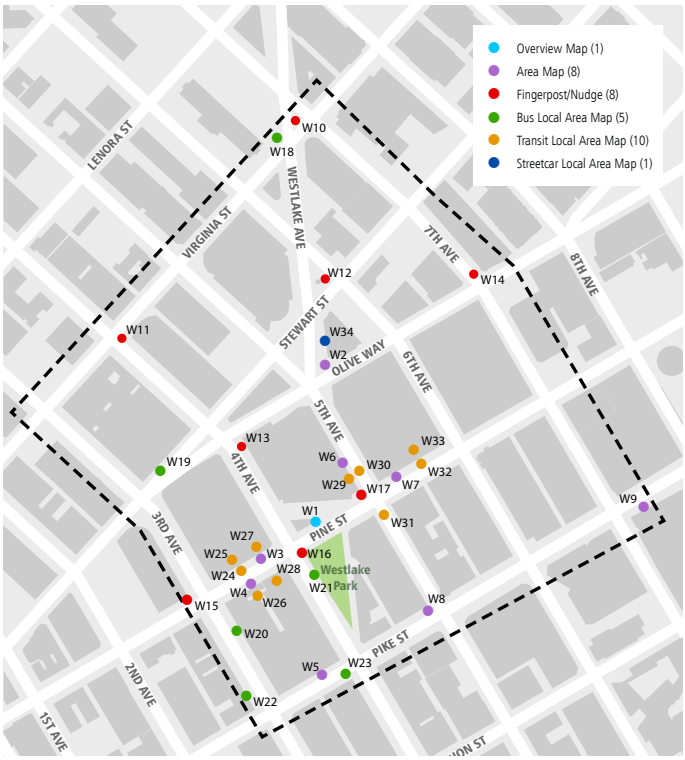
7.2 Westlake Pilot

Westlake Hub pilot encompasses a dense area of Downtown with significant retail, transit and pedestrian activity.

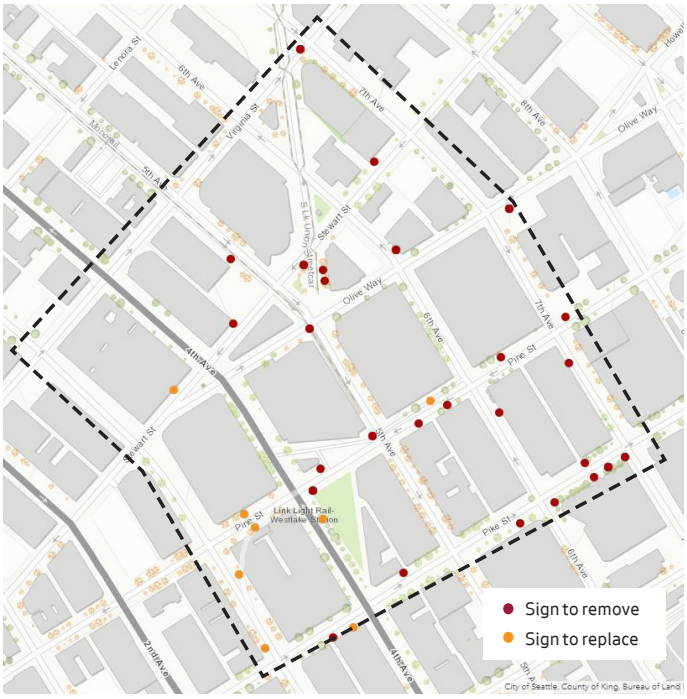
Central to the pilot area is the change in orientation of the street grid, a quirk of Seattle's grid system that can cause confusion.

To the north-east of the pilot area is the Pike-Pine neighborhood, a character area that appeals to both locals and tourists.

The pilot area also has some examples of rights-of-way through buildings that allow users to avoid slopes and stairs.



Sign Placement Plan
33 sign locations identified



Clutter reduction plan
27 signs identified to be removed; 8 signs identified to be replaced

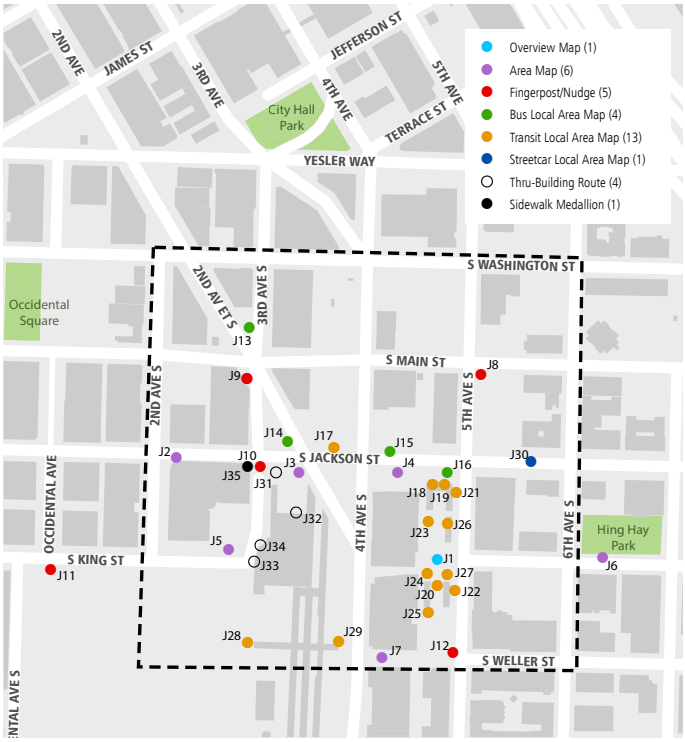
Sign Typology

7.3 Jackson Pilot

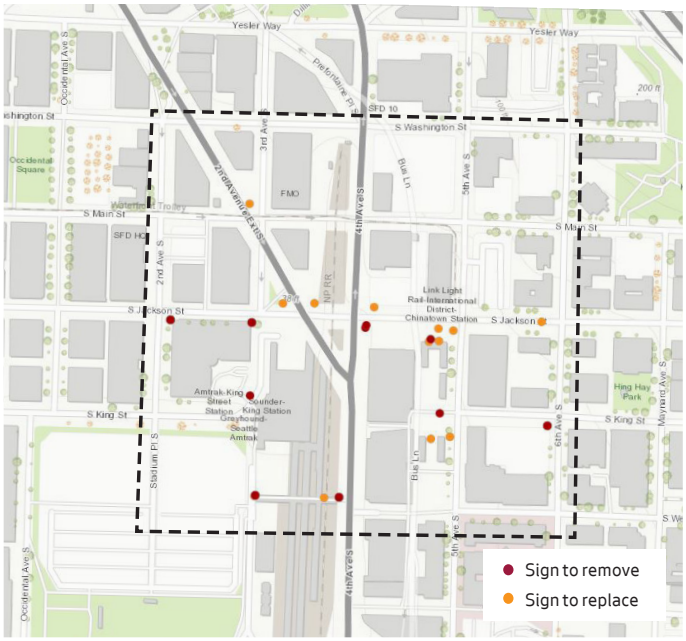
Jackson Hub pilot encompasses a 16 block area where several modes of local, regional and international transit meet; Amtrak, Sounder, Link, Buses and Streetcar.

These modes are run by various operators and terminate at several stops/stations within a short walk of each other.

The journey between modes requires users to navigate changes in level and busy roads. In addition to the transit interchange, Jackson Hub is where two historic districts overlap; Pioneer Square Preservation District and International Special Review District.



Sign Placement Plan
35 sign locations identified



Clutter reduction plan
10 signs identified to be removed; 13 signs identified to be replaced

Sign Typology

8 Implementation Plan

This section sets out a phased implementation plan for wayfinding.

8.1 Implementation Strategy

Various approaches to implementation were considered during consultation including a geographic expansion from the downtown core, focusing on walk-sheds around key transit routes and integrating with major capital projects. Stakeholder feedback acknowledged strengths and weaknesses in all three approaches and determined a list of principles that should define the implementation strategy for wayfinding. These were:

- Demonstrate value of the concept in the initial phase by meeting known deficiencies in Center City.
- Collaborate with transit agency partners to implement wayfinding as part of improving first-last mile connectivity.
- Prioritize downtown connections to address development expansion, improve connections to Pioneer Square and to encourage wider exploration of the Waterfront in cooperation with BIAs and communities.
- Offer the system as an add-on to transportation resiliency, for instance during major construction disruptions.
- Integrate wayfinding into the development of transportation demand management (TDM) plans and hence expand its value beyond providing visitor information.

These principles were developed into an implementation proposal that would build a core project of consistent wayfinding in the downtown and for major transit-oriented development nodes. The objectives of implementation are to meet agreed needs and prove the value of a coherent approach by funding partners and other stakeholders.

Alongside this core project, the wayfinding standards, master-map and planning guidelines would be shared under license-based agreements with business and community-led groups, developers and larger construction projects. This would enable more opportunistic expansion by leveraging private investment in street signs and increasing public exposure to the new standard by coordinating publications.

Core project

It is not expected that the wayfinding system will be implemented on every street in the City. Many areas are purely residential or industrial where wayfinding is not necessary.

This selective approach to wayfinding requires determining which activity centers should be included and then, in what order and how quickly wayfinding could be implemented.

The map on the following page indicates the approximate extent of areas considered for Seamless Seattle. This area includes Seattle's 30 urban villages identified in the City Comprehensive Plan for increased housing and employment density.

Process

While not covering the entire city street network, the scale of Seamless Seattle has practical implications for implementation which will extend over several years.

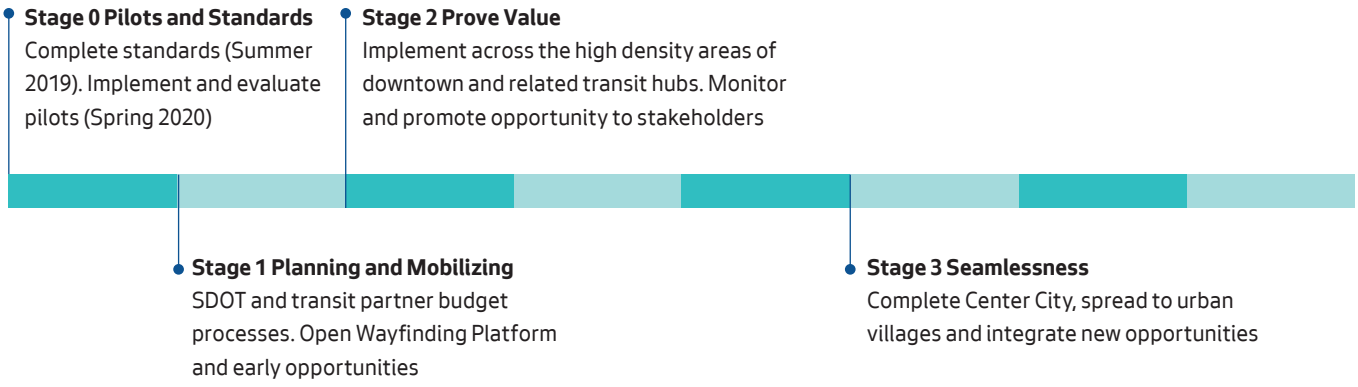
A broad timeline, shown below, combines the implementation strategy and a number of known constraints and conditions arising from stakeholder feedback into three stages of implementation - Planning and Mobilization, Prove Value, .and Seamlessness.

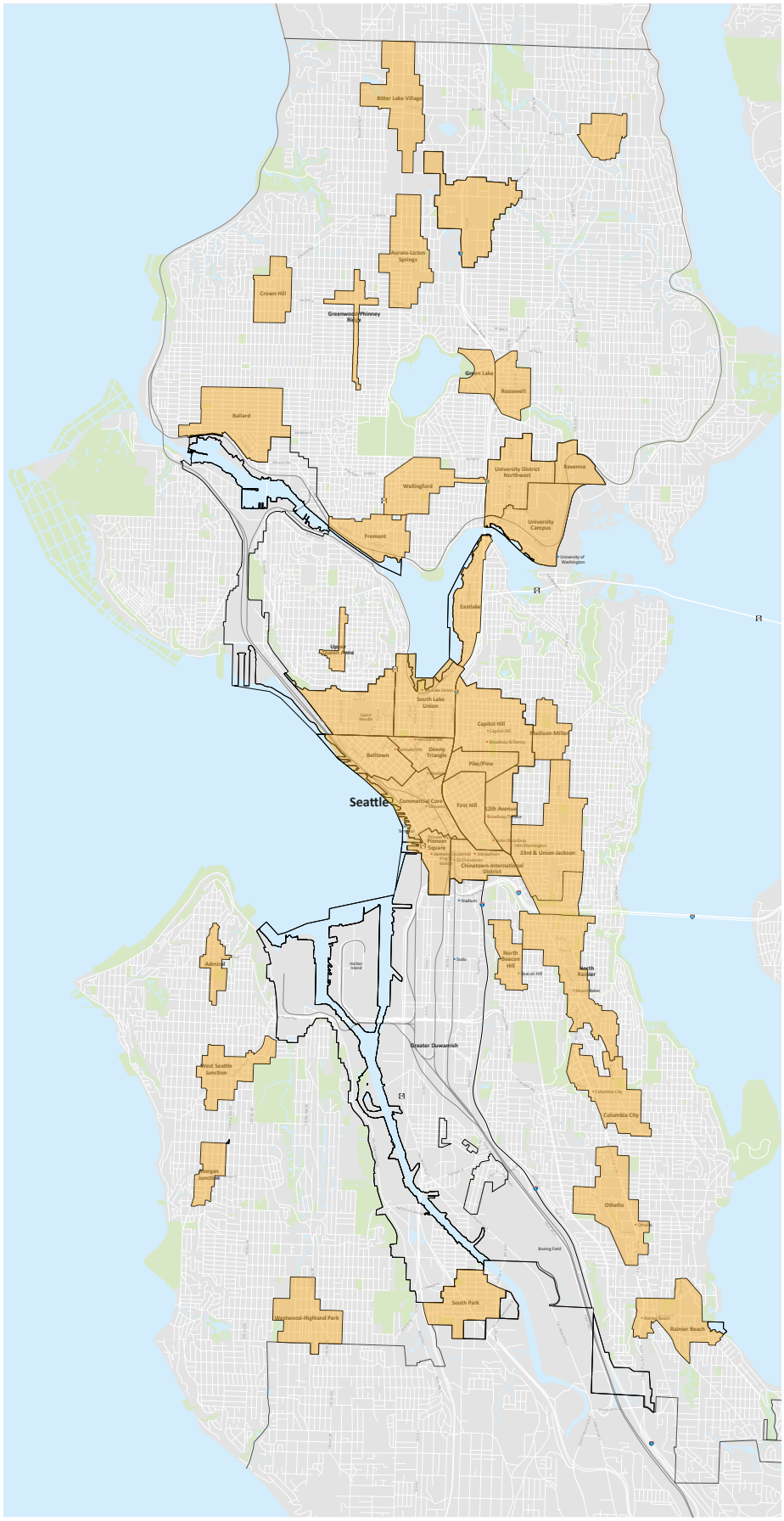
Key feedback from stakeholders which informed this timeline includes:

- SDOT will require a year post-pilot for planning and budget processes;
- To maintain momentum while planning proceeds, emphasis in 2020 may be directed to non-signage implementation such as the digital map systems;
- Opportunities may arise in 2020 to include wayfinding in SDOT mobility hub projects at Pioneer Square, 3rd Ave and Union, and 1st and Madison;
- SDOT is also designing Transit-Plus Multimodal Corridors projects on the RapidRide G, H and Roosevelt lines that may allow wayfinding delivery before 2024; and
- Sound Transit has suggested that the Eastlink connection to Chinatown Station, and Roosevelt and Northgate Link stations slated to open between 2021 and 2023 may be early candidates.

Strategy in process

The timing of stages 2 and 3 are dependent on funding decisions and capacity discussed in the following sections.





Implementation strategy
Seattle urban villages identified for wayfinding over the course of an implementation project.

Seattle
Department of
Transportation