Mobility Implementation Plan

City of Bellevue, WA
Adopted April 18, 2022
Resolution No. 10085

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CITY OF BELLEVUE, WASHINGTON

RESOLUTION NO. 10085

A RESOLUTION adopting the Mobility Implementation Plan.

WHEREAS, since the 1980s, most of the transportation planning and capital resources in Bellevue have been devoted to vehicle mobility; and

WHEREAS, in 2015 the City Council acknowledged the expressed community interest in embracing a multimodal approach to mobility through updates to the Comprehensive Plan; and

WHEREAS, in 2017 the Transportation Commission advanced these policies with an updated approach toward multimodal mobility in their report: "Multimodal Level-of-Service (MMLOS) Metrics, Standards, and Guidelines" setting the foundation for the Mobility Implementation Plan; and

WHEREAS, in 2021 City Council adopted amendments to the Comprehensive Plan that support a multimodal approach to transportation concurrency Citywide; and

WHEREAS, the 2021 Comprehensive Plan amendments refer to the Mobility Implementation Plan for detail related to implementation of multimodal concurrency, performance metrics, performance targets and performance management areas; and

WHEREAS, the Transportation Commission prepared a recommendation for the Mobility Implementation Plan that was transmitted to the City Council on April 11, 2022; now, therefore.

THE CITY COUNCIL OF THE CITY OF BELLEVUE, WASHINGTON, DOES RESOLVE AS FOLLOWS:

Section 1. The Mobility Implementation Plan is hereby adopted. A copy of which Mobility Implementation Plan has been given Clerk's Receiving No. _____.

Passed by the City Council this 18th day of APRIL, 2022, and signed in authentication of its passage this 18th day of APRIL, 2022.

(SEAL)

CITY OF BELLEVUE CORPORATE SEAL 1953 WASHINGTON

Lynne Robinson, Mayor

Attest:

Charmaine Arredondo, City Clerk

Acknowledgements

TRANSPORTATION COMMISSION (April 2022)

- Loreana Marciante, Chair
- Karen Stash, Vice-Chair
- Christina Beason
- Jonathan Kurz
- Brad Helland
- Nik Rebhuhn
- Albert Ting

CITY COUNCIL (April 2022)

- Lynn Robinson, Mayor
- Jared Nieuwenhuis, Deputy Mayor
- Janice Zahn, Transportation Commission Liaison
- Jennifer Robertson, Former Transportation Commission Liaison
- Jeremy Barksdale, Former Planning Commission Liaison
- Conrad Lee, Former Liaison to the Transportation Commission
- John Stokes

CITY OF BELLEVUE STAFF

- Andrew Singelakis, AICP, Director, Transportation
- Paula Stevens, AICP, Assistant Director, Transportation Planning
- Mark Poch, PE, Assistant Director, Transportation Engineering
- Chris Long, PE, PTOE, Assistant Director, Mobility Operations
- Emil King, AICP, Assistant Director, Community Development
- Kevin McDonald, AICP, MIP Project Manager
- Monica Buck, Assistant City Attorney
- David Grant, Transportation Public Information Officer
- Molly Johnson, PE, Development Review Manager
- Mike Ingram, AICP, Senior Transportation Planner
- Chris Iverson, PE, Senior Transportation Engineer
- Eric Miller, Capital Programming Manager
- Kristi Oosterveen, Management Policy Analyst
- Shuming Yan, PE, Transportation Forecasting Manager

CONSULTANTS

FEHR PEERS

- Chris Breiland, PE, Project Manager
- Don Samdahl, PE, Principal; City of Bellevue Alumnus & Architect of Initial Transportation Concurrency Program

NELSON NYGAARD

- Ian Macek, Equity Analyst

Executive Summary

The Bellevue Mobility Implementation Plan (MIP) is a new performance measurement and prioritization system that aligns transportation investments with the city's land use vision; providing the platform for Bellevue to meet the multimodal future envisioned in the Comprehensive Plan. The MIP builds on more than a decade of work from the Transportation Commission on multimodal transportation network plans, policies, and evaluation metrics.

Why has the Transportation Commission done this work? Bellevue is a very different place than it was in the 1980s and 1990s. The future envisioned in the Comprehensive Plan is playing out before our eyes. As planned, many neighborhoods are undergoing a dramatic transformation with higher densities and a greater mix of housing, employment and shopping. This evolving land use pattern supports travel outcomes in which people make shorter trips and use multiple modes. More people in Bellevue are choosing to walk, ride a bike, or take transit compared to 30 years ago, and the transportation system is expanding to meet this need. However, until recently, the City's primary tool to measure the performance of the transportation system and evaluate potential investments has focused almost exclusively on private vehicle travel. Given Bellevue's evolution, the Transportation Commission has developed this MIP to identify a multimodal suite of metrics and tools to build out the transportation infrastructure of the future.

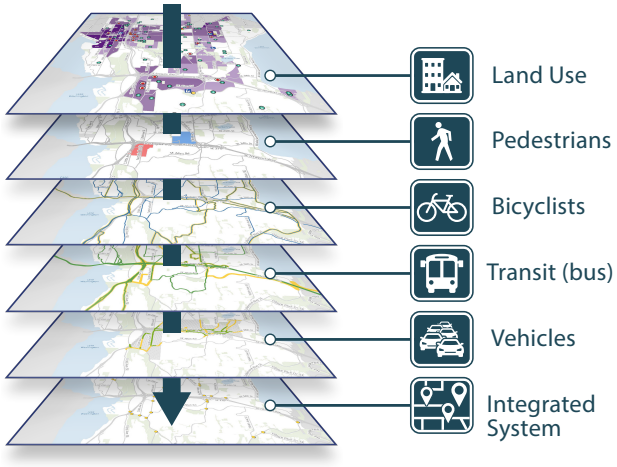
Specifically, the MIP provides tools and information that Bellevue can use to do the following:

- Take advantage of light rail, bus rapid transit and the Frequent Transit Network that form the spine of our transit network to support growth
- Clearly identify where the transportation system and access to transit meets mobility expectations
- Transparently select projects and investments to address gaps in performance
- More accurately consider the transportation demand generated by growth
- Dovetail with new technology policies and initiatives to ehnance system operations and performance evaluation
- Better respond to equity considerations in transportation access/mobility
- More holistically approach concurrency through consideration of multiple modes
- Ultimately implement a sustainable, equitable, and multimodal transportation system that is safe and accessible for everyone

The MIP also establishes:

- **Layered Network (Chapter 2)**: The Mobility Implementation Plan is based on a concept called the "layered network". A layered network considers the land use context and each mode in the multimodal transportation system to be the "layers" that describe Bellevue's interconnected multimodal transportation system. Mobility options for all people are intended to be compatible with the land use that the transportation system supports. The layered network acknowledges that the existing and planned land use influences expectations for transportation system performance. For example, people expect to be able to walk on sidewalks along all arterials in Bellevue, and they understand that the facilities will vary depending on where they are walking based on the adjacent land uses. The layered network acknowledges that there are competing priorities between modes and constraints to providing the planned projects for all modes on all streets.
- **Performance Metrics (Chapter 3)**: These are the measurements that describe the intended design and function of the transportation system, which varies by mode—pedestrian, bicycle, transit, and vehicle. The metrics are largely derived from the Transportation Commission's 2017 report on *MMLOS Metrics, Standards, and Guidelines* (MMLOS is Multimodal Level-of-Service).
  - » **Pedestrian**
    - › Width of sidewalk plus the adjacent landscape strip along arterials
    - › Spacing between designated intersection and mid-block pedestrian crossings of arterials
  - » **Bicycle**
    - › Level of Traffic Stress (LTS) along the bicycle network corridors. LTS describes the bicycle rider experience related to the speed limit and volume of traffic on the adjacent street, and the type of bicycle facility
    - › LTS at intersections on the bicycle network, intended to maintain the bicycle rider comfort level through an intersection
  - » **Transit**
    - › Transit travel time ratio: travel time on a bus or light rail relative to travel time in a car on corridors between activity centers
    - › Bus stop passenger amenities and access to all types of transit stops, including light rail stations
  - » **Vehicle**
    - › Volume-to-capacity ratio (v/c) at system intersections
    - › Vehicle travel speed along Primary Vehicle Corridors

Figure 1: Layered Network

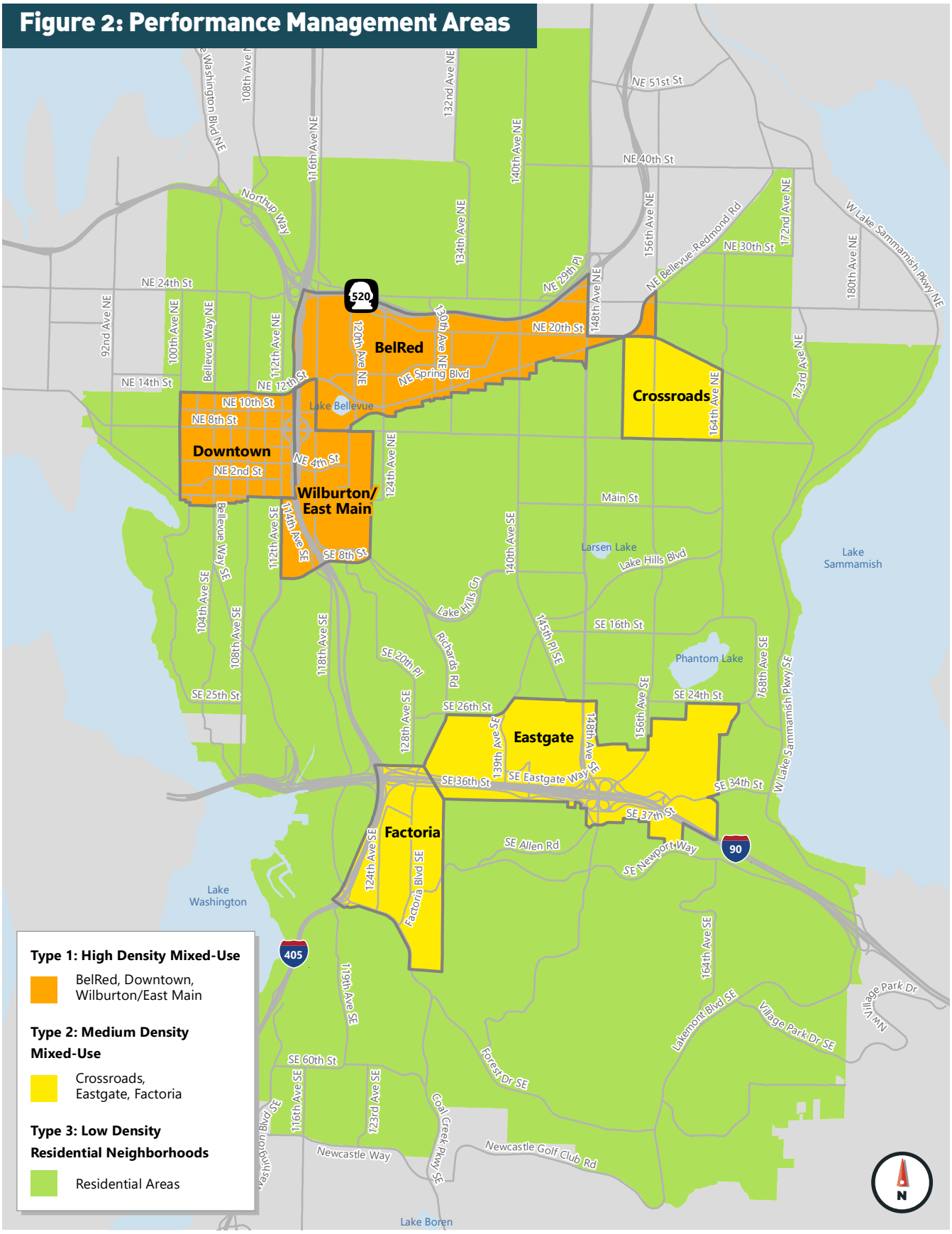


- **Performance Management Areas (Chapter 4)**: The Performance Management Areas (PMA) are contextual, based on the type and intensity of land use and the diversity of the transportation options that are readily accessible. These geographic areas are where Performance Targets for the vehicle mode are set and where progress toward improving mobility for each mode is summarized.
  - » **Type 1 PMA** includes the High Density Mixed-Use areas of Downtown, BelRed and Wilburton/East Main
  - » **Type 2 PMA** includes the Medium Density Mixed-Use areas of Crossroads, Eastgate and Factoria
  - » **Type 3 PMA** includes the Low Density, predominantly residential areas of the city
- **Performance Targets (Chapter 5)**: Expectations for the performance and user experience of the transportation system are expressed as "targets" to be achieved over time. Targets are related to the intended facilities/infrastructure provided (for pedestrian, bicycle, transit access, and transit passenger amenities), and to the operations of the system (for transit travel time, vehicle travel speed, and vehicle intersection v/c). Targets for facilities/infrastructure focus on completing the planned system, while targets for operations relate to capacity and performance. Specific projects to meet the intended Performance Targets may encounter various constraints and, as a result, alternative approaches may be selected.

Today, Bellevue's transportation system is an incomplete system relative to the intended Performance Targets – meaning there are "gaps" to be addressed through the MIP. A gap may be described as infrastructure that is missing or operations of a facility (transit or arterials) that do not meet the target. The Transportation Commission has defined Performance Target gaps that include:

- » **Pedestrian**
  - › Arterial segment that is missing a sidewalk, particularly where a sidewalk is missing on both sides of the street
  - › Arterial segment that does not have a designated pedestrian crossing at an intersection or mid-block crossing location, according to the intended spacing or specific pedestrian trip generators, including access to all types of transit stops
- » **Bicycle**
  - › Components (roadway and trail segments and intersections)of the bicycle network in general, and the Bicycle Priority Network in particular, that do not meet the Level of Traffic Stress (LTS) Performance Target
- » **Transit**
  - › Frequent transit network route where riding a bus would take more than twice as long as driving a car between defined activity centers
  - › Bus stops that do not meet the intended passenger amenities
- » **Vehicle**
  - › System Intersection where the volume-to-capacity (v/c) ratio does not meet the Performance Target (v/c Performance Target varies by Performance Management Area)
  - › Segment of a Primary Vehicle Corridor where travel speed is slower than the Performance Target (corridor travel speed target varies by speed limit and Performance Management Area)

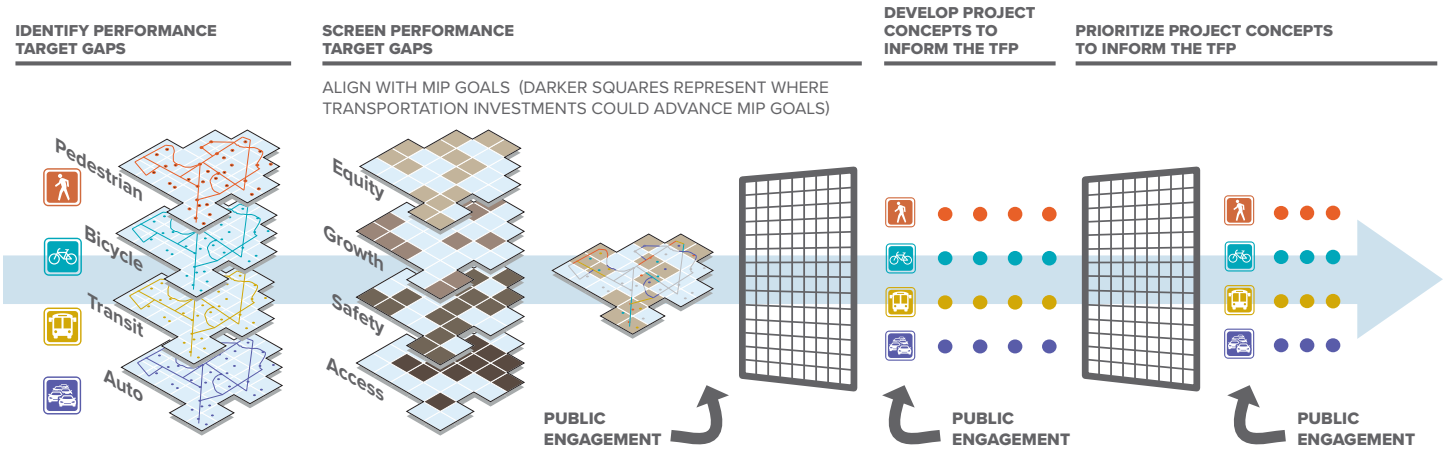
Figure 2: Performance Management Areas



- **Project Identification & Prioritization Framework (Chapter 6)**: The Framework provides guidance for the Transportation Commission and the community to address a gap in the Performance Target for a given mode. While there may be many Performance Target gaps, resources are limited, therefore prioritization is necessary. The process considers the Mobility Implementation Plan goals as a basis to define a decision-making approach that will advance the City's overall mobility objectives. There are four steps, as shown in **Figure 3**. Considerations for project prioritization include financial and environmental constraints, the magnitude of growth and trips generated in an area, the needs of transportation-burdened groups, input received from the community, and other City priorities.
- **Transportation Concurrency (Chapter 7)**: Bellevue's transportation concurrency program is explicitly multimodal and implements a person-trip framework to quantify both the demand for mobility and the supply of transportation projects. Policies in the Comprehensive Plan describe the broad concepts of a multimodal approach to concurrency. The multimodal approach to concurrency is intended to ensure that the "Supply" of transportation equals or exceeds the "Demand" for transportation. The "Supply" is created when projects and programs are funded in the Capital Investment Program. The "Demand" is expressed as the new person-trips generated by growth. Conceptually, transportation concurrency is expressed in the **Figure 4**.

A suite of metrics that the City monitors will inform the Transportation Commission and the community how transportation investments help complete the system, how they are being utilized, and how they advance City priorities and support intended outcomes. Periodic monitoring and reporting will provide data to the community on progress to achieve the Performance Targets as well as the environmental sustainability metrics defined in the Environmental Stewardship Plan such as per capita vehicle miles traveled and commute mode-share.

Figure 3: Project Identification & Prioritization Framework

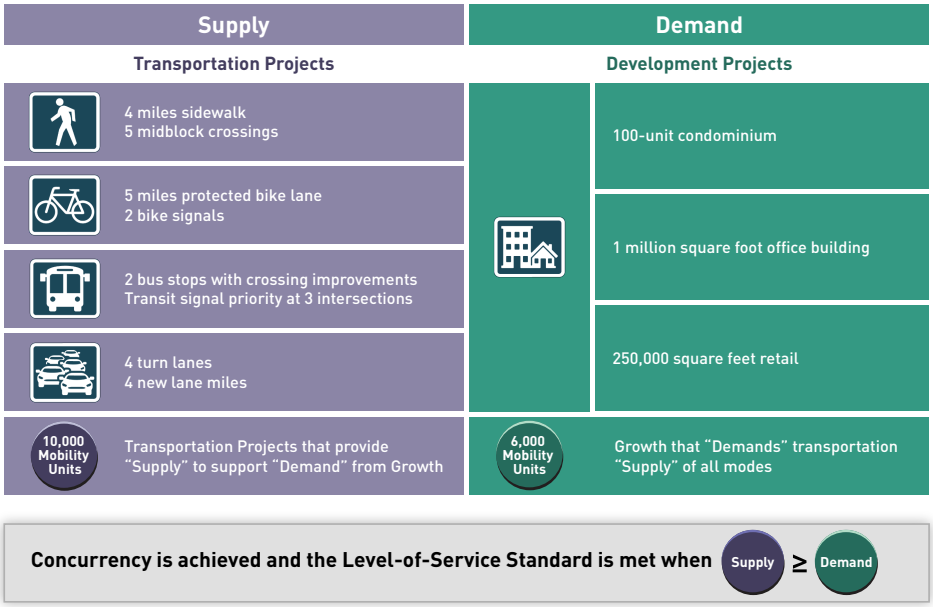


Conclusion

This Mobility Implementation Plan is grounded in the MMLOS Metrics, Standards and Guidelines report from the Transportation Commission in 2017. The MIP focuses on the modes of travel and the mobility infrastructure within Bellevue's control and for which the city is responsible. It establishes broad goals for mobility, Performance Metrics and Performance Targets for each mode, and Performance Management Areas that reflect planned land use and mobility options. Policies and plans related to transit mobility, specifically light rail and bus rapid transit infrastructure and service, are addressed in the Transportation Element of the Comprehensive Plan. Through these policies, Bellevue describes how the city will engage with transit service providers in a coordinated and collaborative manner to influence transit service planning and operations in Bellevue. The MIP describes a process to identify transportation projects that address Performance Target gaps and prioritization for funding. A multimodal approach to transportation concurrency allows the City to provide adequate transportation infrastructure (Supply) to meet the Demand from growth, as shown in **Figure 4**.

The MIP also incorporates and utilizes technology policies in the Comprehensive Plan and goals and initiatives in the Smart Mobility Plan to the benefit of Performance Targets for all modes. For example, technology is embedded in the MIP in the monitoring of transportation system performance, especially for the vehicle mode, and also for transit, bicycles and pedestrians. The MIP vehicle Performance Targets for intersections and corridors are monitored and forecast using the BKR travel demand model. In addition, all of the city's signalized intersections have signal compatibility and soon all of the signals will have cameras, which enhances the accuracy of the data. Further, advanced driver assistance systems (ADAS) and advances in technology that will result in system efficiencies will be picked up by the traffic model, which may mean that capital investments to address Performance Target gaps (such as intersection widenings) can be scheduled later or will not be needed at all. Ultimately, the MIP provides a template for achieving a complete and connected multimodal transportation system in Bellevue that is safe and effective for everyone.

Figure 4: Plan-Based Multimodal Concurrency System



chapter

01

Introduction

Throughout its history and particularly over the past decade, the City of Bellevue has systematically refined its transportation planning, design, and implementation practices to better reflect the changing land use context and the values of the community. These values are articulated in the adopted modal plans for pedestrians, bicycles, and transit, and in the Comprehensive Plan (last major update in 2015).

Emerging policy direction is to achieve a multimodal outcome for the community through the following topics:

- Creating a transportation system that is accessible to all
- Envisioning a complete and connected multimodal network from the foundation of the individual modal plans
- Establishing and utilizing multimodal level-of-service (MMLOS) metrics and targets
- Monitoring MMLOS and adjusting programs and resources to achieve mobility Performance Targets
- Meeting Complete Streets and Vision Zero goals
- Establishing multimodal Concurrency
- Developing a citywide Mobility Implementation Plan

Since the adoption of the major update to Comprehensive Plan (2015), the Transportation Commission has advanced transportation policies by defining MMLOS Metrics, Standards, and Guidelines (2017), identifying a framework for multimodal concurrency (2020), and preparing this Mobility Implementation Plan (2022).

Comprehensive Plan

The Comprehensive Plan provides the vision for the transportation system and the policy direction for the modal plans and for implementation. Transportation policy has evolved with the community. While policy has evolved, the consistent intent is to support planned land use and the need for people to move within the city and to connect to the region. In 2021, the City Council approved policy to fully embed a multimodal approach in support of a complete and connected transportation system for all modes. The Comprehensive Plan acknowledges this Mobility Implementation Plan as the framework to guide investments in transportation projects and programs.

Bellevue's Multimodal Evolution

Bellevue was developed with a land use pattern and a transportation network centered around vehicle travel. Low-density residential areas with dispersed commercial areas connected by multi lane roads was the predominant form of development. Transportation improvements were focused primarily on making traveling by car safe and convenient. This vehicle-centered outlook is reflected in the original transportation concurrency system from the late 1980s that was focused solely on the performance of the vehicle system at arterial intersections. However, even within this vehicle-centric concurrency framework, progressive multimodal policies, plans, and projects supported non-motorized transportation and transit; examples include the first Non-Motorized Transportation Plan (1993) and the Downtown Bellevue Transit Center (1985, 2002).

Bellevue, along with the region, has promoted and experienced substantial change in recent decades. Planned land use has created dense activity centers with a vibrant mixed-use character. More residents and workers generate vehicle traffic and the land use pattern creates the potential for short trips and travel by non-auto modes. Public opinion, while still expressing concern with traffic congestion, also supports providing safe and comfortable access for people walking, bicycling and riding transit. Acting on this changing context, Bellevue recognizes the need for comprehensive multimodal transportation planning to provide equitable access to transportation as well as to promote better environmental and financial sustainability.

Major City efforts to articulate the transportation vision and to advance multimodal transportation planning include the Transit Master Plan (2003, 2014); Pedestrian and Bicycle Transportation Plan (1993, 1999, 2009); the Multimodal Level-of-Service (MMLOS) Metrics, Standards, and Guidelines (2017); and the Multimodal Transportation Concurrency Report (2020). All of these planning efforts—which are discussed in more detail in the **Background and Context Report included in Volume 2** of this document—are aimed at building a complete multimodal network in Bellevue. These plans provide the foundation on which the Mobility Implementation Plan is built.

Why Develop the Mobility Implementation Plan?

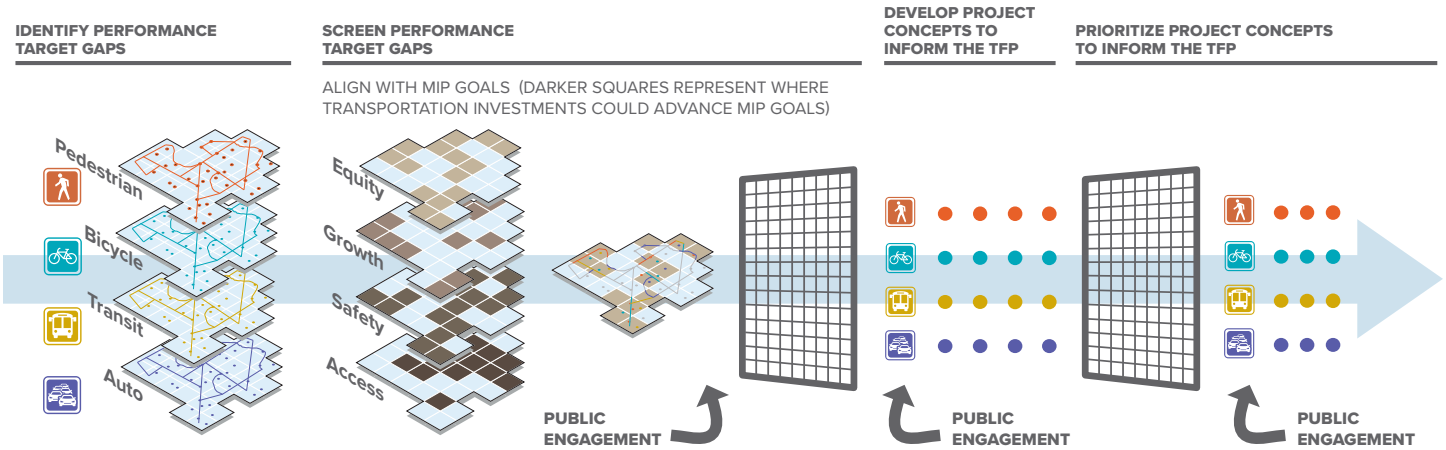
Bellevue has created the building blocks of a multimodal transportation vision including policies in the Comprehensive Plan, a set of modal plans, and subarea plans. The step now taken is to coalesce this work into the Mobility Implementation Plan (MIP) to clearly articulate how to implement the planned multimodal transportation system.

The MIP consolidates the City's prior work on multimodal transportation planning, design, and implementation to do the following:

- Embed the fundamental Council goals for a safe and equitable system, supporting growth, mobility and providing access for all
- Build and operate a complete and connected multimodal transportation system safe and accessible for everyone
- Define Performance Metrics for each mode to measure the components and operations of the transportation system
- Describe Performance Targets for each mode that express the quality of the user experience
- Delineate Performance Management Areas to reflect the land use character and mobility options for Performance Targets, recognizing that the expected user experience may vary
- Clearly define the existing and forecast Performance Target gaps for each mode
- Develop a system to screen Performance Target gaps for further project concept design
- Identify a process to prioritize project concepts for consideration in the Transportation Facilities Plan
- Define how multimodal concurrency will be evaluated and implemented so that the multimodal network will consistently support growth in a manner that is environmentally and fiscally sustainable and satisfy the requirements of the Growth Management Act for Concurrency

The flowchart below summarizes these critical elements of the Project Identification and Prioritization function of the Mobility Implementation Plan:

Figure 5: Project Identification & Prioritization Framework



Mobility Implementation Plan Goals

The MIP consolidates Bellevue's multimodal planning efforts toward the outcome of a complete, connected and accessible transportation system for the benefit of all people. Along with these goals is Bellevue's commitment to develop and invest in an environmentally and fiscally sustainable manner. These goals form the foundation for the MIP and are referred to throughout this document. In establishing the groundwork for the MIP, the City Council included several fundamental goals for a safe and equitable system, supporting growth, mobility and providing access for all:

- **Safety**: Bellevue will provide safe streets for everyone, whether they are driving, walking, biking, or using transit. This is accomplished through interdepartmental efforts to coordinate plans, investments, and City actions to eliminate serious injuries and fatalities that result from crashes on the transportation system. The MIP fully embraces transportation safety and is integrated as part of Bellevue's overall Safe System approach and Vision Zero goal.
- **Equity**: There is a strong recognition that transportation investments in Bellevue should be safe and accessible for all when viewed through a socioeconomic or demographic lens. The MIP introduces a new data and analytical framework to evaluate the transportation needs from transportation-disadvantaged people and to transparently design projects and to prioritize investments that provide equitable access for everyone. When a Performance Target gap is identified for any mode, an "equity lens" will be applied to ensure the project includes considerations for equitable access of utilization for all individuals (including signage and consideration of individual mobility challenges).
- **Support Growth**: A fundamental tenet of transportation planning in Washington state is that transportation investments support planned growth in population and employment. This requirement of the Growth Management Act is incorporated in the MIP and in policy. With an eye toward supporting growth, Bellevue is a vibrant regional center supported by transportation network investments that accommodate new technologies and the travel demands of an increasingly diverse population.

- **Access and Mobility**: As the city grows denser with a greater mix of land uses, simultaneous consideration of access and mobility is warranted. "Access" relates to the infrastructure that creates the "complete system" that supports the land uses - the transportation system provides access to destinations such as workplaces and schools. "Mobility" relates to the experience of people who use the complete transportation system to get where they want to go - the complete transportation system provides mobility for people in a manner that suits their needs. With respect to both access (infrastructure) and mobility (performance), the MIP provides that people in each type of neighborhood can easily walk, bike, drive, or take transit to reach a job, restaurant, or store. The MIP describes access and mobility in a multimodal environment where people have different transportation needs and expectations across Bellevue's diverse neighborhoods.

Relationship to other City Priorities

In addition to the specific MIP goals defined in the prior section, the MIP is also supports other City priorities.

- **Sustainability:** The MIP includes two metrics that are consistent with Bellevue's Environmental Stewardship Plan: per capita vehicle miles traveled and mode share. Since the performance of these metrics is indirectly related to mobility infrastructure, it may not directly respond to an outcome from a specific mobility investment (filling a sidewalk gap may not measurably reduce per capita vehicle miles traveled). Monitoring these metrics will identify trends. If trends are moving away from the target, that trend can be addressed with a full suite of tools in the "Layered Network". These tools may include both land use (mix and intensity of land use) and transportation (projects

that fill gaps so that people of all ages and abilities can get around without a car). The Comprehensive Plan update may provide additional specific policy-level guidance to achieve sustainability in a new required "Climate Change" element.

- **Light Rail Station Access:** Bellevue is committed to providing excellent access to light rail stations. This access ensures that everyone can get to this important regional resource, ultimately increasing light rail utilization. While Sound Transit is responsible for the components of light rail stations, the City may initiate and implement infrastructure improvements to provide complete and connected access routes to transit. Further, the MIP calls for wider sidewalks and well-placed arterial crossings to enhance passenger access to light rail stations and bus stops.

Revising the Mobility Implementation Plan

The MIP may be revised periodically, with each major update of the Comprehensive Plan, or as changing circumstances and technologies warrant, as directed by the City Council. The intent of future revisions is to ensure that the MIP remains aligned with Bellevue's transportation policies, technology advances, and any updates to modal plans, or substantive changes to Performance Metrics, Performance Management Areas, or Performance Targets.

chapter

02

Bellevue's Layered Transportation Network

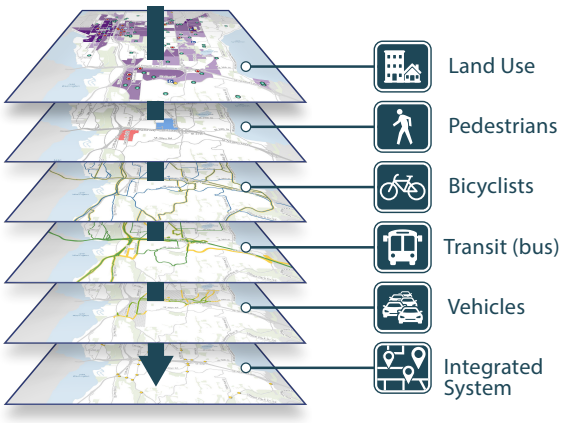
In 2016, Bellevue adopted a Complete Streets ordinance stating that the City will implement streets that "provide appropriate facilities to meet the mobility needs of people of all ages and abilities who are walking, bicycling, riding transit, driving and transporting goods" to the maximum extent practical. The Complete Streets Transportation Design Manual describes the intent and requirements for the design and implementation of transportation facilities within the public rights-of-way. The "Layered Network" concept complements the Complete Streets ordinance and Design Manual by describing the relationships between land use and the various travel modes.

The Complete Streets ordinance requires that all mobility options be considered in the scoping, planning, design, implementation, operation and maintenance of a transportation facility. Bellevue recognizes that there are constraints to the level of accommodation that can be provided for each mode on any one corridor and that a single roadway corridor may not offer the optimal experience for every mode given the inherent constraints and conflicts. However, a pleasant travel experience for every mode can be achieved at the network level. The Layered Network approach builds upon the Complete Streets framework by acknowledging those constraints, conflicts and opportunities, and identifying modal priorities throughout the network. Although not every street can simultaneously provide the highest level of accommodation to all modes, the Layered Network contains a comprehensive and connected network for each mode—pedestrian, bicycle, transit, and vehicle.

To advance the Layered Network, the MIP combines modal plans, subarea plans and prior planning efforts to create an integrated, complete transportation system that is supportive of and compatible with Bellevue's land use vision. The Layered Network reveals potential modal conflicts and incompatibilities in terms of planned land uses, available right-of-way, other known modal needs or projects, and environmental factors to evaluate the feasibility of constructing planned improvements. The layers of Bellevue's multimodal network are shown in **Figure 6** and described in the sections that follow.

In its work to prepare the MMLOS (2017) report on transportation metrics, standards and guidelines, the Transportation Commission recognized that land use may be used to help define the facility type and reconcile competing priorities in the Layered Network approach. The land use vision in the Comprehensive Plan describes the intended mix, intensity, and design of development that is the context

Figure 6: Layered Network



for transportation projects. For example, land use in the High Density/Mixed Use Type 1 Performance Management Area of Downtown, Wilburton/East Main and BelRed creates an environment in which pedestrian mobility is a high priority that informs infrastructure investment decisions. Pedestrian destinations such as schools may also inform the design and priority of specific facilities. Conflicting modal priorities may be resolved in favor of the pedestrian network in these types of locations.

Pedestrian Network

Bellevue's design and development standards ensure that a comfortable and safe pedestrian environment is built as properties redevelop or as the City makes major street improvements. The dimensional requirements for sidewalks and the landscape buffer strips are outlined in Chapter 3 and in the Complete Streets Design Manual. While new private and public projects are required to build sidewalks that meet those dimensional requirements, a focus of the MIP is to address sidewalk gaps along the arterial network so that it is comfortable and safe for people to walk along and to cross the busiest streets in the city. **Figure 7** shows the MIP Pedestrian Network along arterials.*

Bicycle Network

As described in Chapter 3, the MIP builds on the Pedestrian and Bicycle Transportation Plan to define the intended Level of Traffic Stress on the bicycle network. The Level of Traffic Stress (LTS) experienced by a bicyclist is a function of the average daily traffic volume and the speed limit, together with the type of bicycle facility. The bicycle network is comprised of connected corridors and intersections with facilities that range from multipurpose paths separated from arterials, to protected bike lanes along arterials, to shared streets along low-speed, low-volume local roads. The bicycle network for the MIP was originally drawn from the City's 2009 Pedestrian and Bicycle Plan, with a 2021 update to address known constraints/conflicts. The Bicycle Priority Network defines eleven north-south and east-west routes that connect neighborhoods and provide links to the regional system. The network includes intersection treatments that maintain the LTS across arterials. The planned bicycle network including the Priority Bicycle Corridors is shown in **Figure 8**.

** Neighborhood sidewalks along non-arterial streets are not part of the MIP Pedestrian Network.*

Figure 7: Pedestrian Network

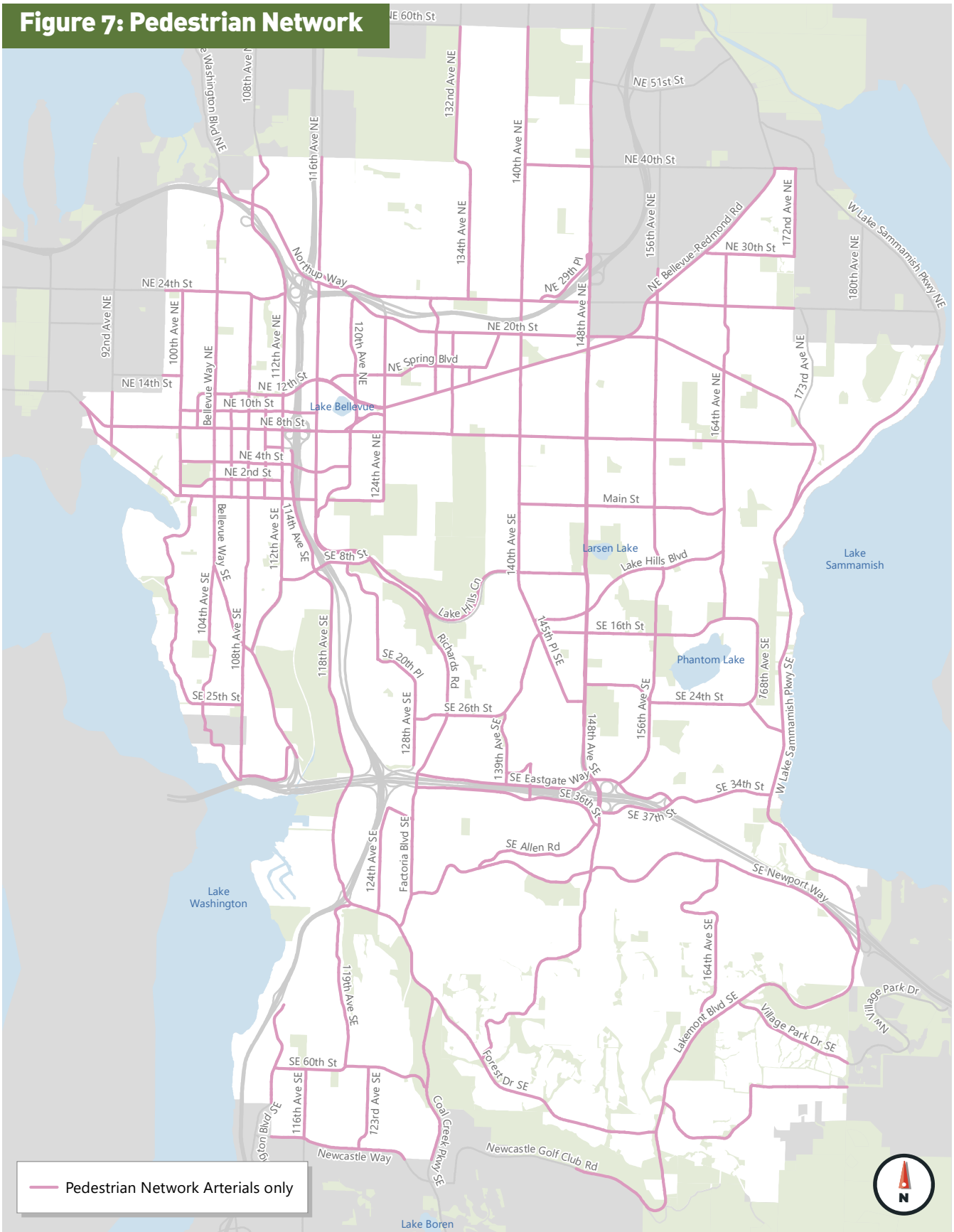
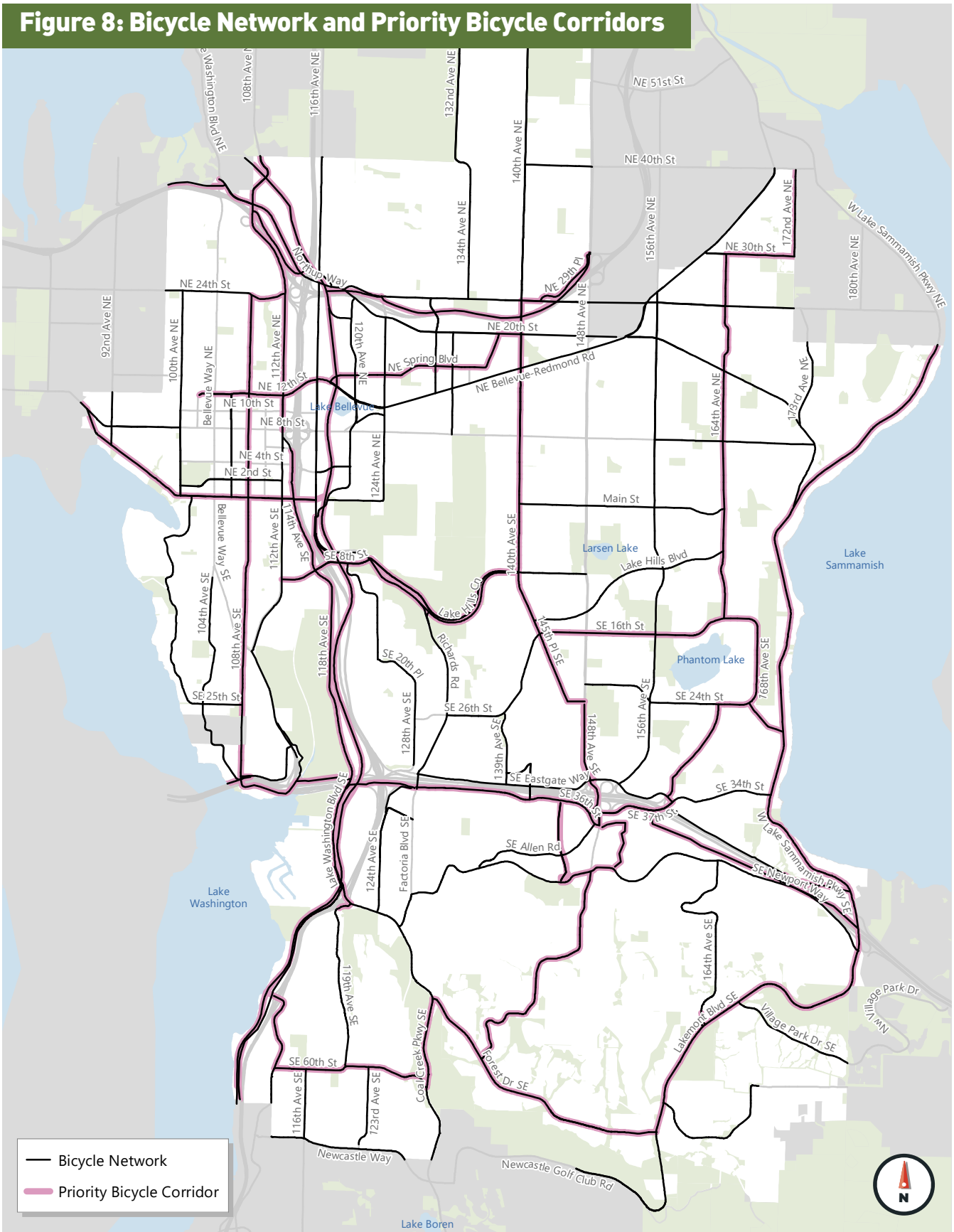


Figure 8: Bicycle Network and Priority Bicycle Corridors



Transit Network

Many Bellevue arterials carry buses operated by transit service providers, primarily King County Metro and Sound Transit. This bus network and the Link light rail corridor are shown in **Figure 9**. Although transit service is not provided by the City, Bellevue supports efficient transit operations so that riding bus and light rail transit is an attractive mode for residents and workers.

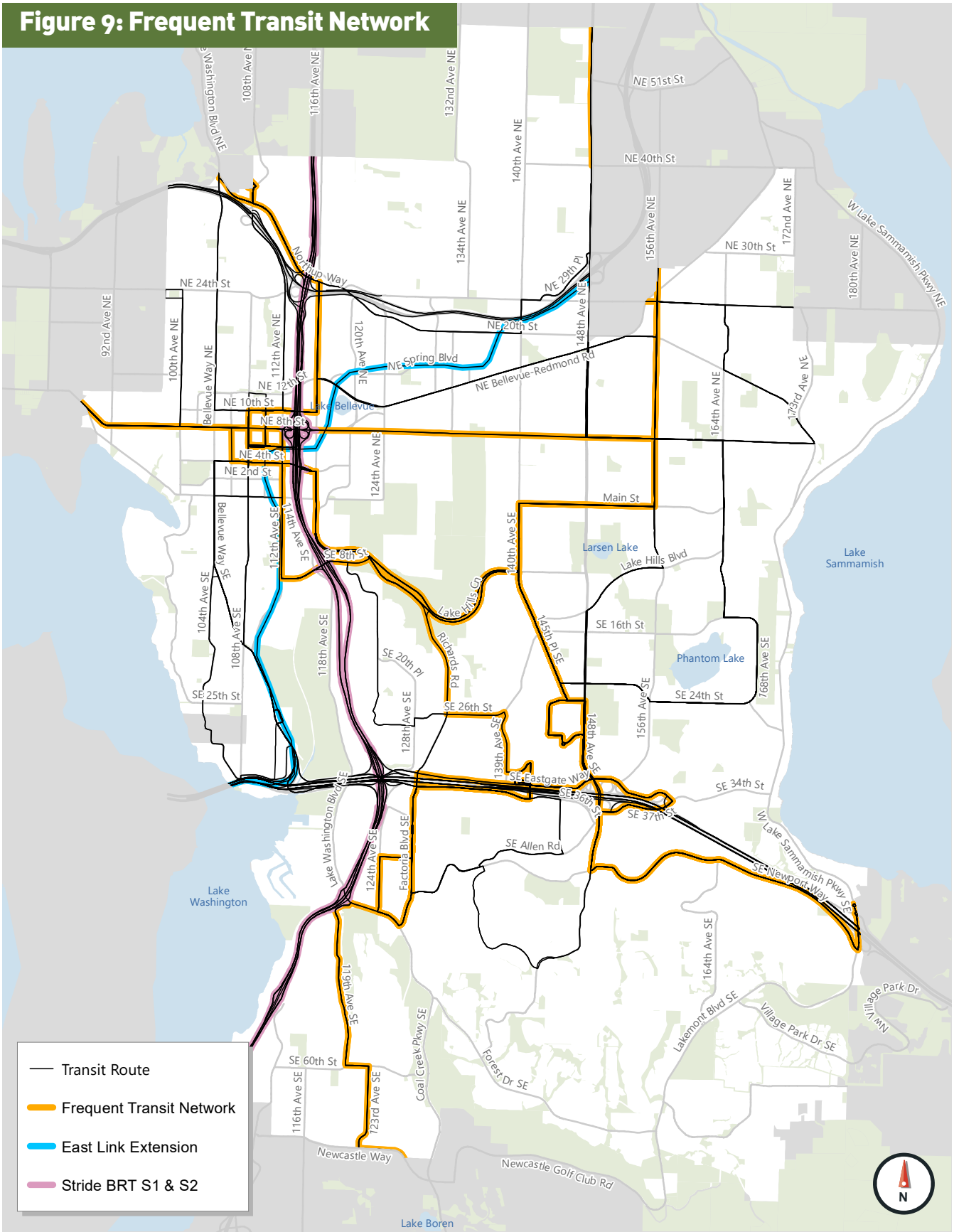
The Frequent Transit Network (FTN) defined in the Bellevue Transit Master Plan includes the frequent transit network routes that connect activity centers in Bellevue with frequent all-day service. Frequent service is defined as a bus that arrives every 15 minutes or less from 6am to 6pm on weekdays. The FTN evolves as new transit connections are made or services improved.

The Frequent Transit Network includes the following routes, also shown in **Figure 9**:

- **Route 245** (Factoria-Eastgate-Crossroads-Overlake)
- **Route 271** (Eastgate-Wilburton-Downtown-U District)
- **Route 250** (Downtown-Kirkland-Redmond)
- **B Line** (Downtown-Wilburton-Crossroads-Overlake)
- **Stride BRT** (Lynnwood-Downtown-Burien; service scheduled to begin in 2026 or 2027)
- **Link 2 Line** (Seattle-Downtown-BelRed-Overlake; service scheduled to begin in 2023)

Expansion of the FTN may include additional RapidRide service between Kirkland, Bellevue, Newcastle, and Renton and Link Light Rail between Bellevue, Kirkland, and Issaquah.

Figure 9: Frequent Transit Network



Vehicle Network

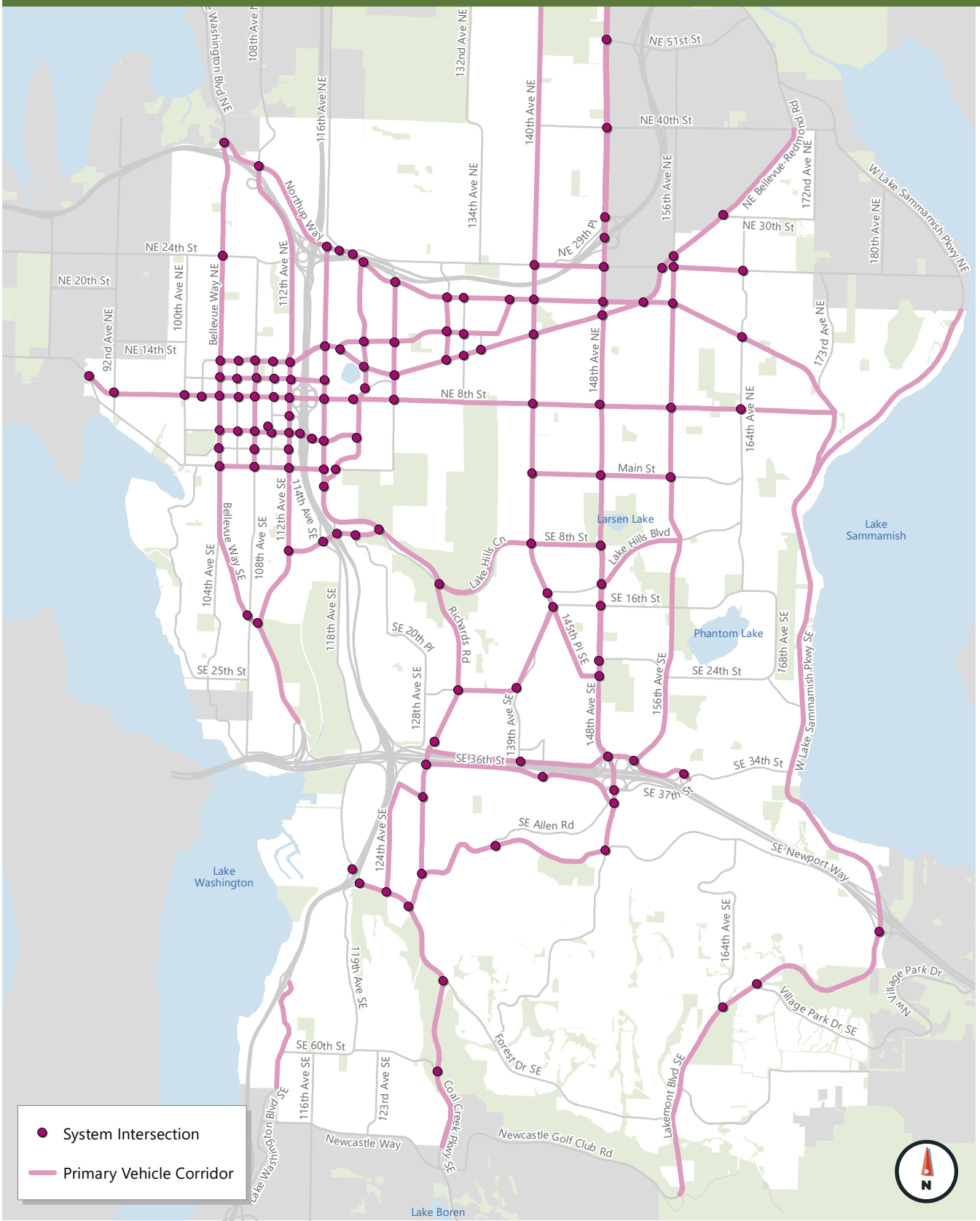
Bellevue has a complete and connected roadway network that accommodates vehicle travel everywhere in the city and to the region. The MIP defines Primary Vehicle Corridors and System Intersections as described below.

- A Primary Vehicle Corridor is a subset of the arterial corridors with the following characteristics:
  - » Classified in the Comprehensive Plan as an arterial (collector, minor, or major);
  - » Carries roughly 10,000 or more vehicles per day; and
  - » At least 0.5 miles in length (shorter segments are typically in areas with greater traffic signal density and more closely-spaced System Intersections).
- A System Intersection meets both of the following criteria:
  - » Signalized or roundabout intersection with two arterials or freeway ramps; and
  - » At least one of the arterials at the System Intersection is a Primary Vehicle Corridor.

The Primary Vehicle Corridor designation does not imply that vehicle mobility is the top priority for the corridor. Considerations like the land use context (see the discussion on Performance Management Areas in Chapter 3), overlap with other modal networks, and community input must be weighed when considering modal priorities on a corridor. However, traffic congestion management will be an important consideration along the Primary Vehicle Corridors and at System Intersections. These arterials and intersections are a priority because they connect neighborhoods to other destinations in Bellevue and to the regional highway network.

Based on these criteria, the existing set of System Intersections along with the Primary Vehicle Corridors are shown in **Figure 10**.

Figure 10: Vehicle Network – Primary Vehicle Corridors and System Intersections



chapter

03 Performance Metrics

Performance Metrics for each mode are based on the MMLOS Metrics, Standards, and Guidelines Final Report with some refinements to streamline performance monitoring and to reflect the Transportation Commission guidance on mobility priorities. This section describes the metrics for each mode in the Layered Network.

Pedestrian Network

The MMLOS Metrics, Standards, and Guidelines Final Report describes specific dimensions for the arterial sidewalk network, which vary depending on the land use context and location of the sidewalk. The City strives to build (or have developers build) sidewalks to the relevant dimensions so that there is a safe and comfortable location to walk. As shown in **Table 1**, the Landscape buffer strip width is currently set as 5 feet throughout the city, while paved sidewalk dimensions vary from 7 feet to 15 feet depending on the location and nearby land use.

Designated arterial crossings at intersections and mid-block locations are critical components of the pedestrian network. Recommended spacing between designated arterial crossings varies from 300 feet to 800 feet depending on the location and nearby land use. **Table 2** shows the desired spacing between arterial pedestrian crossings.

Table 1: Sidewalk and Landscape Buffer Width

Context / Component	Downtown / BelRed	Activity Center	Neighborhood Shopping Center	Pedestrian Destination*	Elsewhere in the City
Sidewalk Width and Landscape Buffer Width	Downtown Land Use Code BelRed Land Use Code	16 ft. total	13 ft. total on frontage adjacent to shopping center	13 ft. total on frontage of pedestrian destination and within 100 ft. of a FTN stop	Bellevue Land Use Code Transportation Design Manual

** A Pedestrian Destination is a facility or location such as a school, park, community center, senior center, library, frequent transit network stop, or a trail crossing*

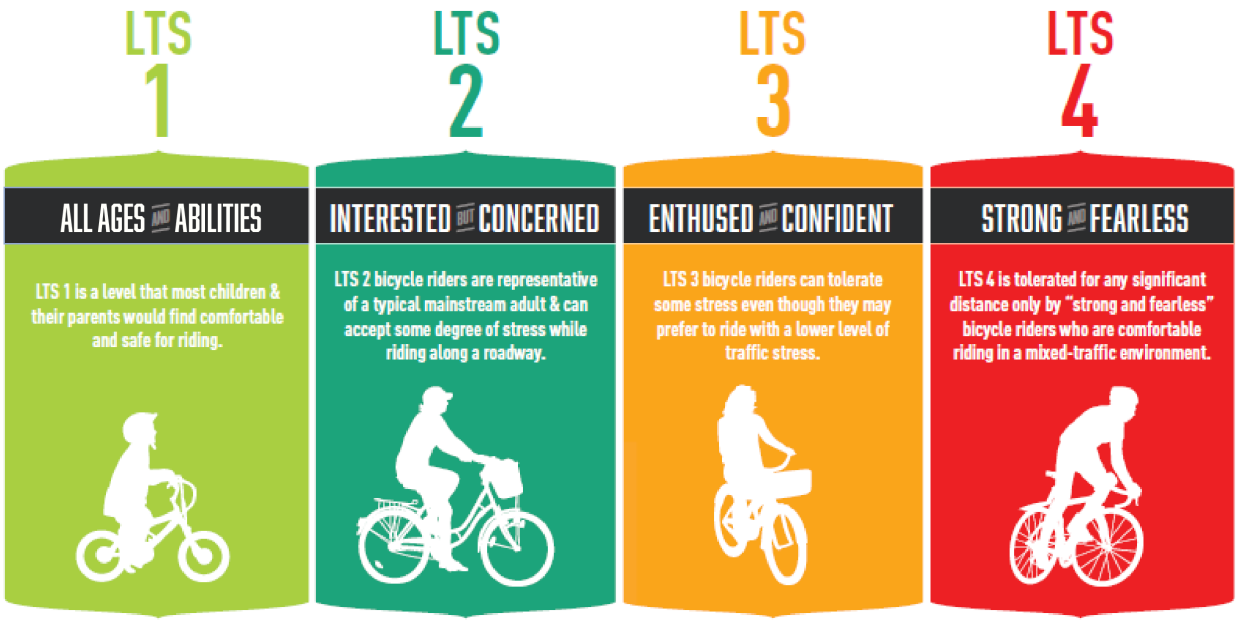
Table 2: Spacing Between Arterial Pedestrian Crossings

Context / Component	Downtown / BelRed	Activity Center	Neighborhood Shopping Center	Pedestrian Destination	Elsewhere in the City
Spacing Between Arterial Pedestrian Crossings	Downtown Transportation Plan (300 ft.)	≤ 800 ft.: Factoria ≤ 600 ft.: Elsewhere	One crossing every 600 ft. or less within shopping center area	Within 600 feet of primary entrance Within 300 ft. of bus stop pair on FTN	Applicable as needed

Bicycle Network

Bellevue establishes Performance Metrics on the bicycle network and Priority Bicycle Corridors as shown in **Figure 8**. The Performance Metric used to describe the user experience on the bicycle network is the level of traffic stress (LTS) as defined in the MMLOS Metrics, Standards, and Guidelines Final Report. The concept of LTS is illustrated in **Figure 11**.

Figure 11: Bellevue Bicycle Level of Traffic Stress (LTS) Categories



The intended LTS for bicycle network corridors is described as follows:

- **LTS 1: Priority Bicycle Corridors within Type 1 and Type 2 Performance Management Areas**. A high level of bicycle mobility for all ages and abilities is expected within areas where the City has the vision, intent and policy direction to promote a medium to high-density, mixed use urban environment. LTS 1 is the default on all multipurpose paths/ physically separated bikeways.
- **LTS 2: Priority Bicycle Corridors within the Type 3 Performance Management Area**. A moderate level of bicycle mobility would allow comfortable bicycling connections between Activity Centers and on recognized regional routes such as the Lake Washington Loop.
- **LTS 3: Other Bicycle Network Corridors.** This intended LTS applies on arterial streets that are part of the bicycle network but not part of a Priority Bicycle Corridor. This network provides connections within neighborhoods, between Activity Centers and to stops along the Frequent Transit Network.

Figure 12 shows the intended bicycle network vision.

For bicycle network corridors, LTS is a function of the posted speed limit, the average daily volume of traffic on the street, and the type of bicycle facility provided. **Table 3** shows this relationship. **Table 4** shows how this concept applies to intersections.

Table 3: Bicycle Level of Service/Level of Traffic Stress

Roadway Characteristics		Bicycle Facility Components: Guideline to Achieve Intended Level of Service/Level of Traffic Stress					
Speed Limit	Arterial Traffic Volume	No Marking	Sharrow Lane Marking	Striped Bike Lane	Buffered Bike Lane (Horizontal)	Protected Bike Lane (Vertical)	Physically Separated Bikeway
</=25	<3k	1	1	1	1	1	1
	3-7k	3	3	2	1	1	1
	>/=7k	3	3	2	2	1	1
30	<10k	3	3	2	2	1	1
	10-25k	4	4	3	3	2	1
	>/=25k	4	4	3	3	3	1
35	<25k	4	4	3	3	3	1
	>/=25k	4	4	4	3	3	1
>35	Any	4	4	4	4	3	1

Figure 12: Bicycle Network LTS Vision

Table 4: Bicycle Facility Components at an Intersection

Bicycle LOS/LTS	Bike Signal	Street Crossing	Approach to Intersection	Approach to Intersection with Right Turn Lane
1	Bike Signal	Green solid or skip-stripe	Green bike box	Curb ramp to wide sidewalk, Dutch Intersection
2	Bike Signal	Skip stribe	Bike box	Green bike lane to left of turn lane
3	Green Cycle Length	Sharrow lane markings	Automatic signal actuation	Bike lane to left
4	No specific design guideline for LTS/LOS 4			
Trail or Mid-Block Crossing	Full signal or HAWK or RRFB	Green solid or skip-stripe	N/A	N/A

Transit Network

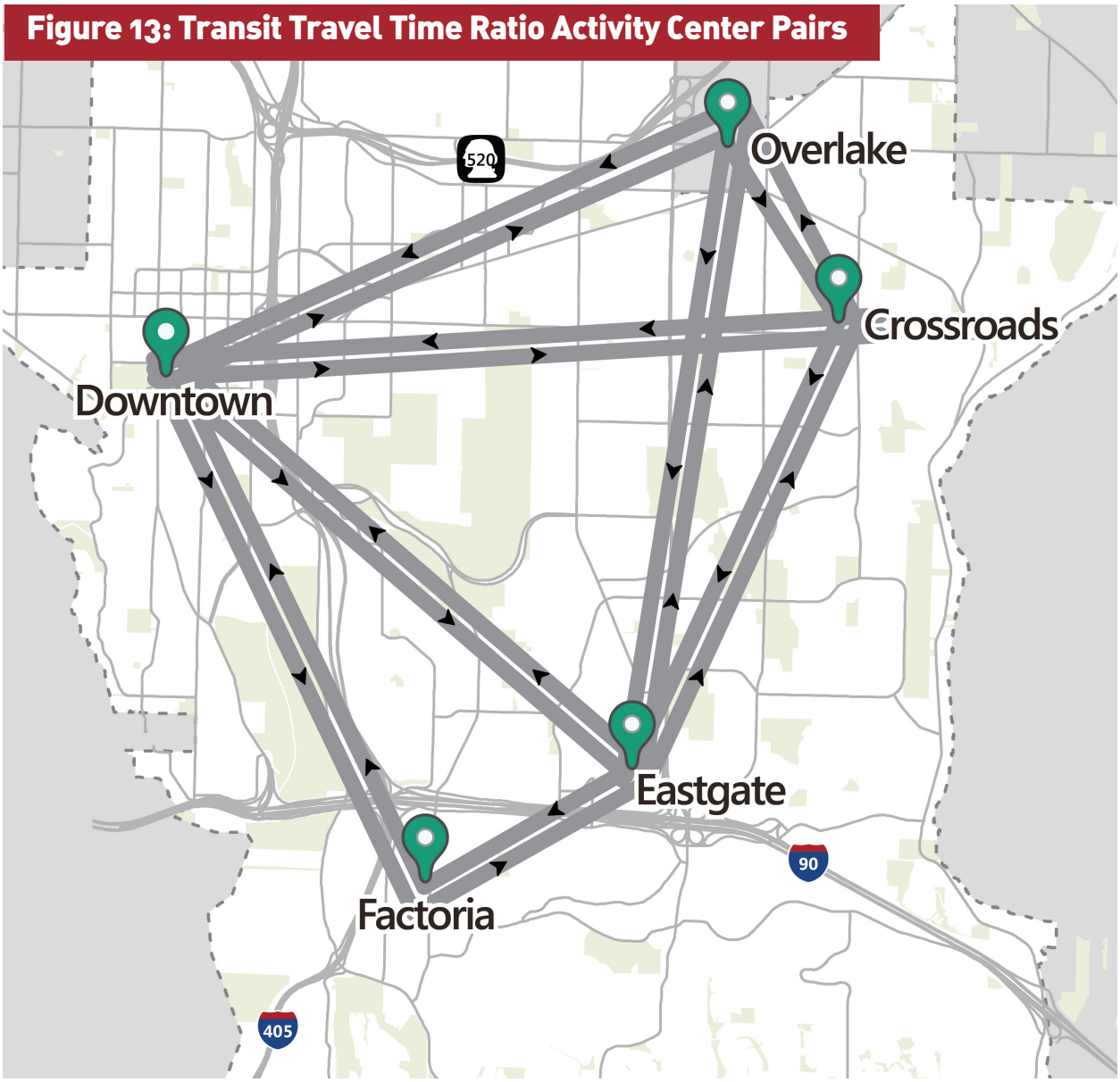
The ratio of travel time on transit versus in a private vehicle in the peak commute hour (known as a Transit Travel Time Ratio) is the Performance Metric used to measure the operations of the frequent transit network (FTN). Specifically, the Transit Travel Time Ratio is measured between the City's five activity centers, where the majority of Bellevue's transit trips originate or end. This travel time metric between the five activity centers is intended to be representative of point-to-point transit trips on frequent transit network routes (bus and light rail) that operate in the city. The Transit Travel Time Ratio speaks to the competitiveness of transit relative to the vehicle mode. Moreover, this Performance Metric can be influenced by City actions that improve the speed and reliability of transit on its streets. The activity center pairs used to assess the FTN are shown in **Figure 13**.

In addition to influencing the speed and reliability of bus transit on the roadway network (light rail operates on an exclusive right-of-way and is generally grade-separated at intersections), Bellevue can improve access to all types of transit stops, including light rail stations, and passenger amenities at the bus transit stops. **Table 5** summarizes the bus transit stop passenger amenity metrics.

Table 5: Transit Stop/Station Amenities

Context / Component	Local Transit Stop	Primary Transit Stop	Frequent Transit Network Stop/ RapidRide Stop
Weather Protection	Yes, Priority locations have 25+ daily boardings	Yes	Yes
Seating	Yes, Priority near Pedestrian Destinations	Yes	Yes
Paved Bus Door Passenger Zone	Yes, Zone length 25-30 ft.	Yes, Zone length 40 ft.	Yes, Zone length 60 ft.
Wayfinding	Optional	Yes	Yes
Bicycle Parking	Optional	Yes	Yes

Figure 13: Transit Travel Time Ratio Activity Center Pairs



Vehicle Network

The MIP defines two Performance Metrics for the vehicle network:

- Vehicle travel speed along segments of a Primary Vehicle Corridor in the PM Peak hour (the single busiest hour of the day).
- Volume-to-capacity ratio (V/C) at System Intersections in the two-hour PM Peak period (4-6 PM).

Vehicle Travel Speed

Vehicle travel speed is adapted for the MIP from the "Typical Urban Travel Speed" metric described in the MMLOS Metrics, Standards, and Guidelines Final Report. The "Typical Urban Travel Speed" is defined as 40% of the posted speed limit; the performance of the arterial is measured against the "typical" speed. This methodology takes intersection delay into account since vehicles rarely travel at a free-flow speed along a corridor within an urban area and better accounts for travel through several intersections. The 40% factor is identified as appropriate for urban corridors by the Highway Capacity Manual (Transportation Research Board, 2016). It should be noted that this measure should be applied to a single peak hour.

Intersection Volume-to-Capacity Ratio

Bellevue has a long-established system of using a two-hour PM Peak period V/C metric to quantify vehicle mobility through System Intersections. This Performance Metric compares the potential maximum number of vehicles that can be accommodated at an intersection relative to the actual number of vehicles that move through the intersection. As that ratio of maximum-to-actual approaches 1.0, meaning the number of vehicles is approaching the capacity of the intersection—operations degrade and drivers may experience delay.

The V/C metric at System Intersections describes intersection performance and is complemented by the vehicle travel speed metric. For example, a driver traveling along NE 8th Street will get more green signal time than a driver approaching from a perpendicular arterial – in this example, intersection V/C might be high because it is the average of all approaches, but vehicle travel speed on NE 8th Street is steady because of the coordinated and adaptive traffic signals. These two vehicle Performance Metrics provide a complete picture of traffic flow and are intended to be used together to identify and prioritize potential traffic congestion reduction projects.

chapter

04

Performance Management Areas

Performance Management Areas are the successors to the City's Mobility Management Areas and are tailored for the Mobility Implementation Plan. The Performance Management Areas are established to acknowledge that the context of the transportation system and surrounding land uses vary, and that travelers using all modes expect a level of performance consistent with the context.

To recognize this variability in the user expectations and experience, three types of Performance Management Areas (PMAs) have been defined based on land use and mobility context, described below:

- **Type 1 - High Density Mixed-Use:** Downtown, BelRed, and Wilburton/East Main are mixed-use activity centers with high density and growing land uses, light rail service, and many mobility options that provide access within the PMA and to other areas; these are shown in orange shading on **Figure 1**.
- **Type 2 - Medium Density Mixed-Use:** Crossroads, Eastgate, and Factoria are mixed commercial/residential activity centers with moderate density land use and frequent bus transit service; these are shown in yellow shading on **Figure 14**.
- **Type 3 - Residential**: The remainder of the city is characterized by primarily lower-density residential areas with supporting retail/service land uses and fewer mobility and accessibility options; these areas are shown in green shading on **Figure 14**.

Within both Type 1 and Type 2 PMAs are three separate geographic areas. Within these areas, the pedestrian and bicycle network Performance Targets can be monitored and summarized at a more granular level of detail. These locations are the activity centers where most of the City's land use growth is planned and they are geographically consistent with the former Mobility Management Areas. The Transportation Commission has expressed to provide pedestrian and bicycle investments in these areas where potential utilization would be the greatest.

The PMAs are used to establish and monitor Performance Targets as summarized in **Table 6** and described in detail in the following chapter. Each PMA has Performance Targets tailored to acknowledge the existing and planned land uses and mobility and accessibility options.

Figure 14: Performance Management Areas

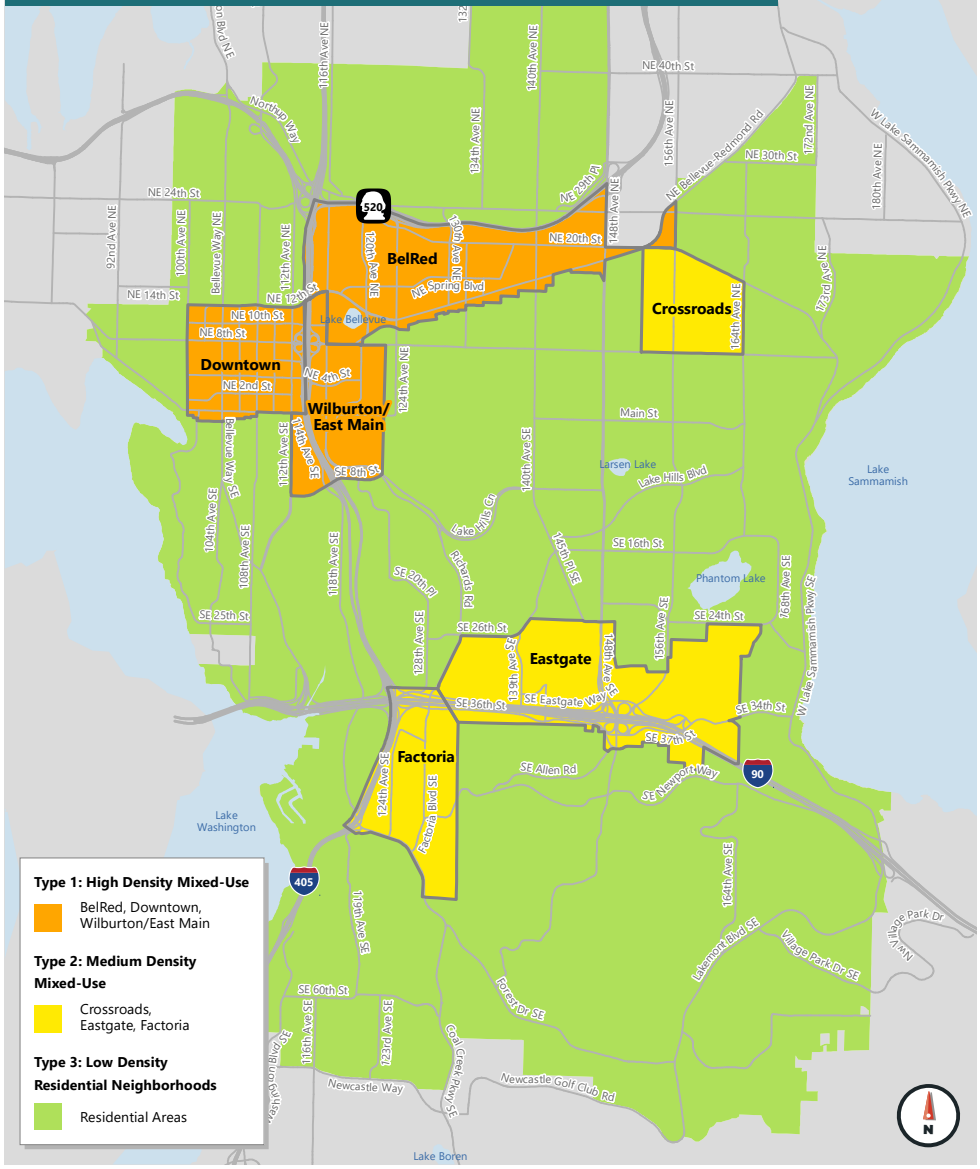


Table 6: PMA Relationship with Performance Target

Mode	PMA Relationship with Performance Target
Pedestrian	Pedestrian network completeness summarized by PMA type
Bicycle	Bicycle network completeness summarized by PMA type
Transit	Activity center pairs within Type 1 and Type 2 PMAs are used to document transit travel time vs. auto travel time Performance Target
Vehicle	Performance Targets for System Intersections and Primary Vehicle Corridors are based on PMA type

chapter

05

Performance Targets

The Performance Metrics for each mode that are described in Chapter 4 define how performance is measured for walking, biking, taking transit, or driving. The Performance Targets describe the intended facility operations or design of each mode of travel—in other words, the intended user experience.

The Transportation Commission has identified addressing fundamental gaps in the system for pedestrians, bicyclists, and amenities for transit riders as a high priority. Therefore, the MIP Performance Targets for pedestrians, bicyclists, and transit riders focus on access and connections, while the Performance Targets for vehicles focus on operations. As the Performance Target gaps are addressed, projects would reflect the Performance Metrics. For the vehicle mode, the specific Performance Targets align with the PMAs. **Table 7** summarizes the Performance Targets for all modes.

Table 7: Performance Targets

Mode	Performance Target		Monitoring and Reporting
Pedestrian	• Sidewalk on both sides of the arterial; sidewalk dimensions vary • Arterial crossings at designated spacing near major trip-generating land uses; the spacing of arterial crossings varies by land use context		Percentage of sidewalk network complete citywide and for locations within each PMA
Bicycle	Bicycle network facilities (corridors and intersections) meet the intended LTS		Percentage of bicycle network complete citywide and for locations by PMA
Transit	• Transit travel time ratio of 2.0 or less • Stops on the Frequent Transit Network have passenger amenities		List and map of activity center pairs that meet the travel time ratio Performance Target; Percent of bus stops on the FTN that include all five passenger amenities
Vehicle	**Type 1 PMA High Density Mixed-Use**	• 1.0 V/C ratio at System Intersections • ≥0.5 Typical Urban Travel Speed for Primary Vehicle Corridors	List and map of Primary Vehicle Corridors and System Intersections that meet the PMA Performance Target
	Type 2 PMA Medium Density Mixed-Use	• 0.90 V/C ratio at System Intersections • ≥0.75 Typical Urban Travel Speed for Primary Vehicle Corridors	
	Type 3 PMA Residential	• 0.85 V/C ratio at System Intersections • ≥0.9 Typical Urban Travel Speed for Primary Vehicle Corridors	

Section 5.1. Performance Evaluation: Existing Conditions

This section summarizes the existing conditions of each mode in the Layered Network relative to the Performance Targets and Performance Management Areas(2021 for pedestrian, bicycle, and transit stop; 2019 for transit travel speed ratio and intersection V/C and Primary Vehicle Corridor travel speeds).

Pedestrian Network Performance

Over time, Bellevue intends to ensure that complete and connected sidewalks exist on both sides of every arterial corridor, to achieve a pedestrian network completeness Performance Target of 100%. Network completeness is summarized by PMA and citywide in **Table 8**. Pedestrian network performance is described in three categories:

- Sidewalk complete on both sides of the arterial;
- Sidewalk complete on one side of the arterial; or
- Sidewalk missing from both sides of the arterial, referred to as a "Performance Target gap"

Table 8: Existing (2021) Pedestrian Network Performance Target Results

Citywide	Sidewalk on Both Sides	Sidewalks on One Side	Sidewalk Gaps
Miles	77	44	17
Proportion of Total	56%	32%	12%

Locations within the PMA		Sidewalk on Both Sides	Sidewalks on One Side	Sidewalk Gaps
Type 1 High Density Mixed-Use	Downtown	95%	5%	0%
	BelRed	86%	8%	6%
	Wilburton/ East Main	75%	25%	0%
Type 2 Medium Density Mixed-Use	Crossroads	100%	0%	0%
	Eastgate	29%	63%	8%
	Factoria	70%	28%	2%
Type 3 Residential		47%	37%	16%

Figure 15 shows sidewalk network completeness today.

Figure 16 displays how well arterials within the mixed-use PMAs meet the City's arterial crossing guidelines.

Figure 15: Pedestrian Network Performance – 2021

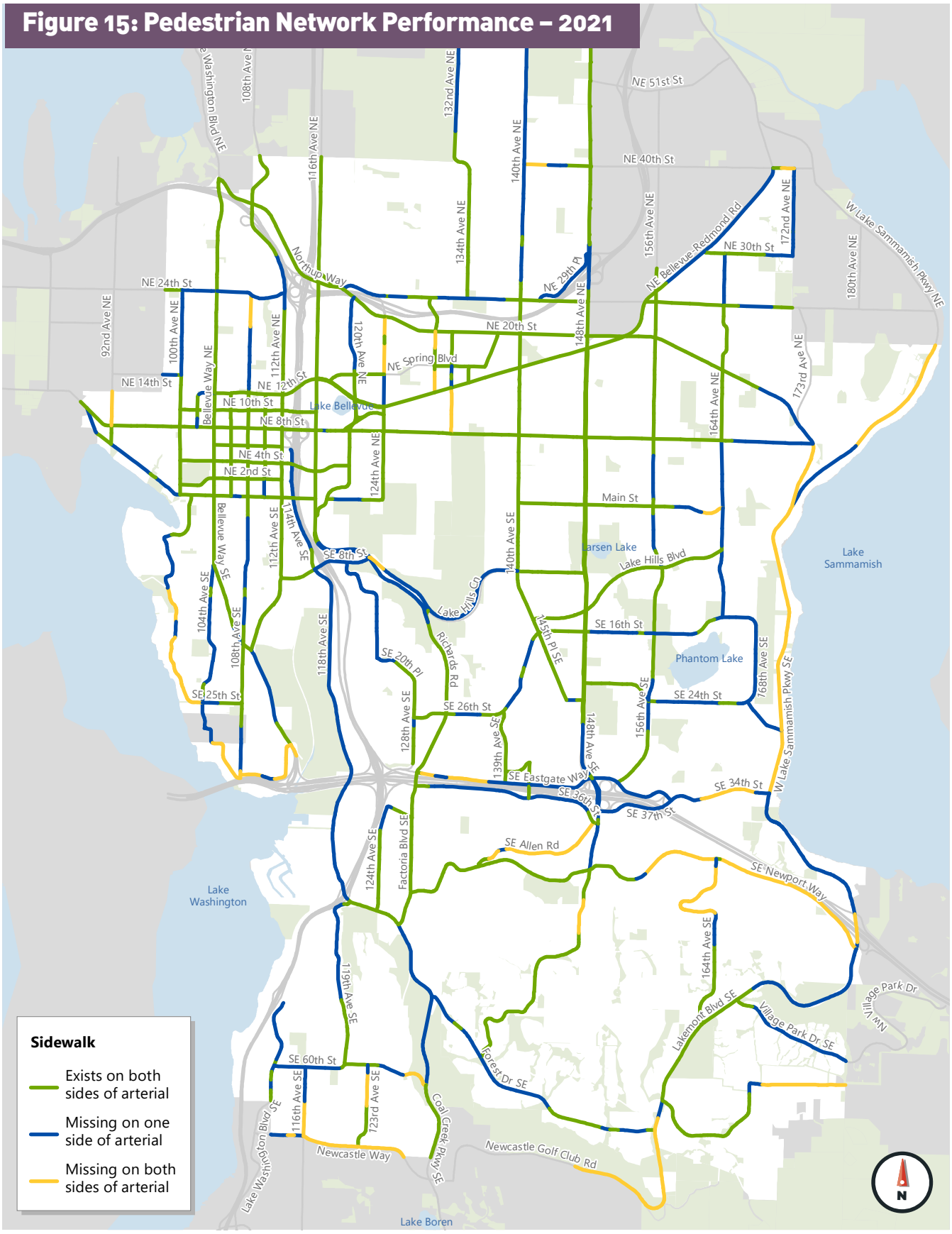
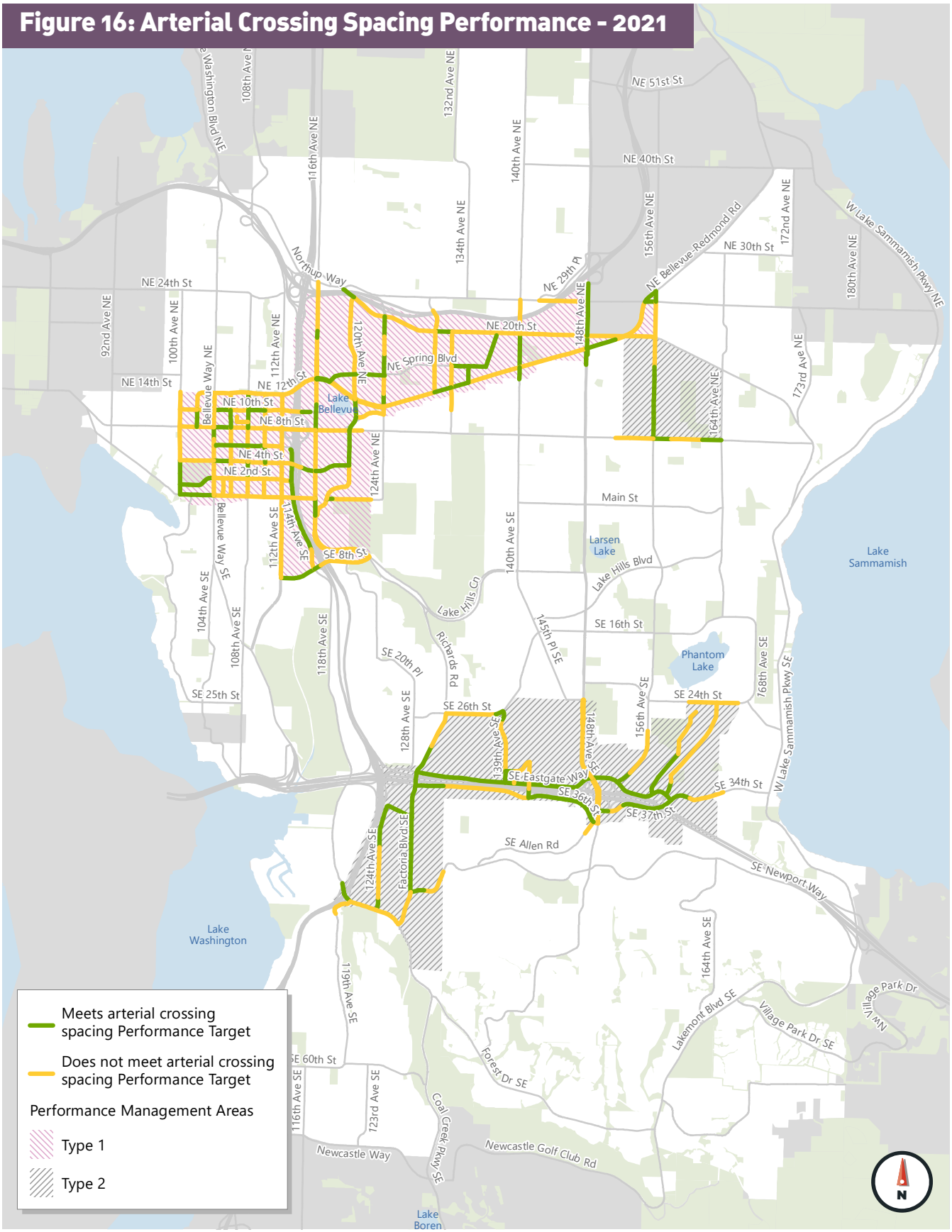


Figure 16: Arterial Crossing Spacing Performance - 2021



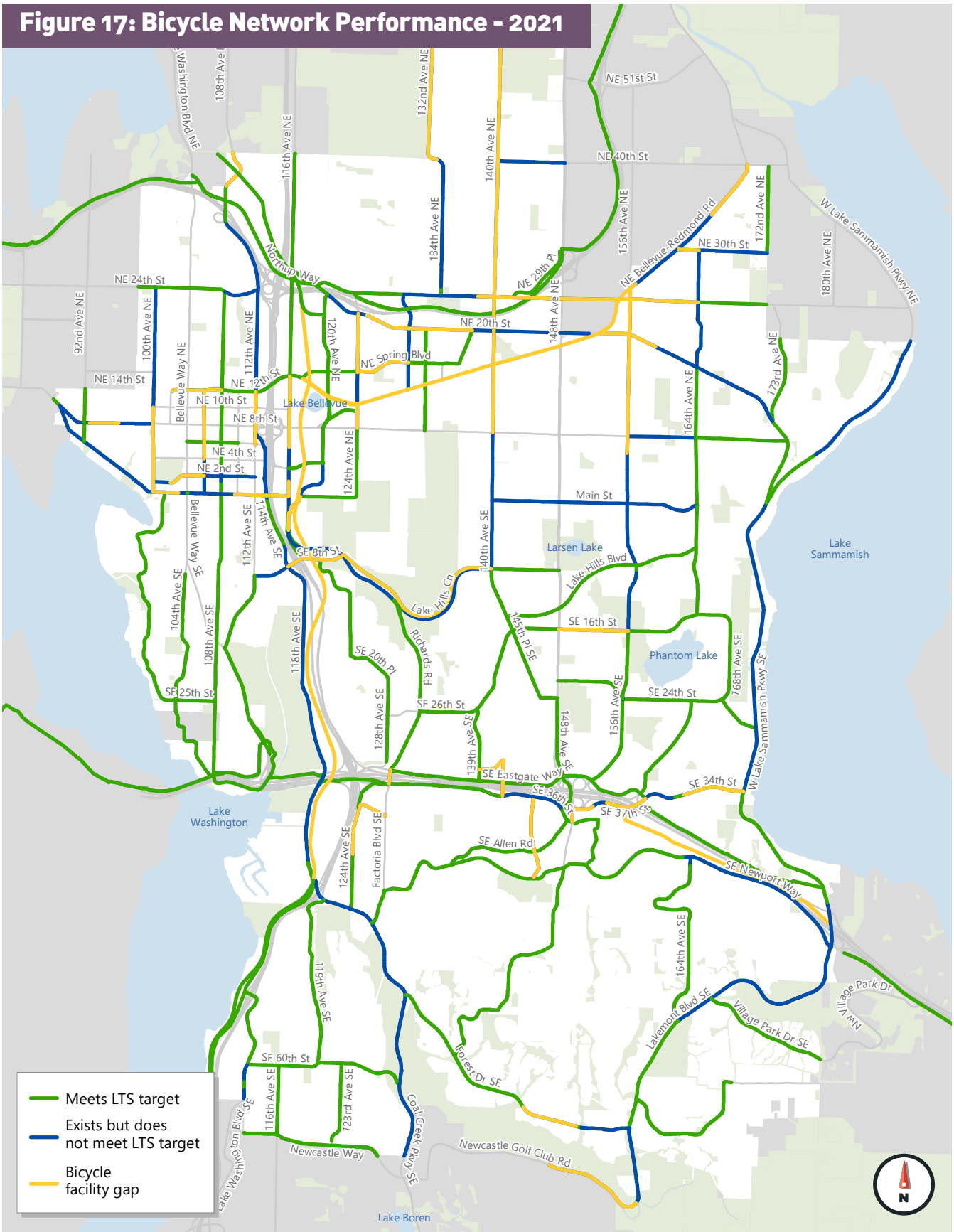
Bicycle Network Performance

Bellevue is targeting completion of bicycle facilities to meet the intended level-of-traffic stress (LTS) along each network corridor as defined in the Pedestrian and Bicycle Transportation Plan. Existing conditions for bicycle LTS is summarized in two ways: the full bicycle network and the Priority Bicycle Corridors. **Figure 17** displays the performance of each bicycle network corridor with respect to the LTS: a bicycle network facility that meets the intended LTS, a bicycle network facility that does not meet the intended LTS, or a gap in bicycle network facilities. The results are summarized in **Table 9** and **Figure 17**.

Table 9: Existing (2021) Bicycle Network Performance Target Results

			Facilities that Meet LTS	Facilities Do Not Meet LTS	Facility Gaps
Citywide	Miles		72	33	33
	Proportion of Total		52%	24%	24%
Performance Management Area	Type 1 High Density Mixed-Use	Downtown	27%	36%	37%
		BelRed	37%	8%	55%
		Wilburton/East Main	47%	14%	38%
	Type 2 Medium Density Mixed-Use	Crossroads	1%	59%	40%
		Eastgate	60%	24%	16%
		Factoria	58%	27%	15%
	Type 3 Residential		57%	25%	18%
Priority Bicycle Corridor	Enatai-Northtowne		93%	7%	0%
	Lake Washington Loop		65%	25%	10%
	Eastrail		23%	0%	77%
	Somerset-Redmond		62%	17%	21%
	Spiritridge-Sammamish		44%	56%	0%
	West Lake Sammamish Pkwy		25%	75%	0%
	SR 520 Trail		77%	23%	0%
	Downtown-Overlake		41%	10%	49%
	Lake-to-Lake Trail		41%	21%	38%
	Mountains to Sound Greenway		32%	26%	42%
	Coal Creek-Cougar Mountain		55%	39%	6%
	Total		50%	28%	22%

Figure 17: Bicycle Network Performance - 2021



Transit Network Performance

Bellevue supports public transit as a time-competitive and accessible mode compared to private vehicle travel between activity centers. Quantitatively, the Performance Target is a transit travel time ratio of 2.0 or less relative to travel time in a private vehicle during the PM peak hour. Transit travel time ratios as of 2019 are displayed in **Figure 18**. The following transit trip pairs between activity centers meet the transit travel time Performance Target:

- Downtown to Eastgate
- Downtown to Overlake
- Downtown to Crossroads
- Factoria to and from Eastgate

All other transit trip pairs currently have a travel time ratio of over 2.0 which indicates transit may be an unattractive option for many riders for travel between activity centers.

In terms of existing transit stop amenities, only a handful of stops on the frequent transit network (FTN) have all five transit amenities described in **Chapter 3**. **Figure 19** shows the existing status of transit stop amenities along the FTN. In general, Bellevue will continue to collaborate with transit agencies and, to a lesser degree, the private sector to improve transit stops. City programs support improving pedestrian access to all types of transit stops, including light rail stations.

Figure 18: Transit Network Performance - 2019

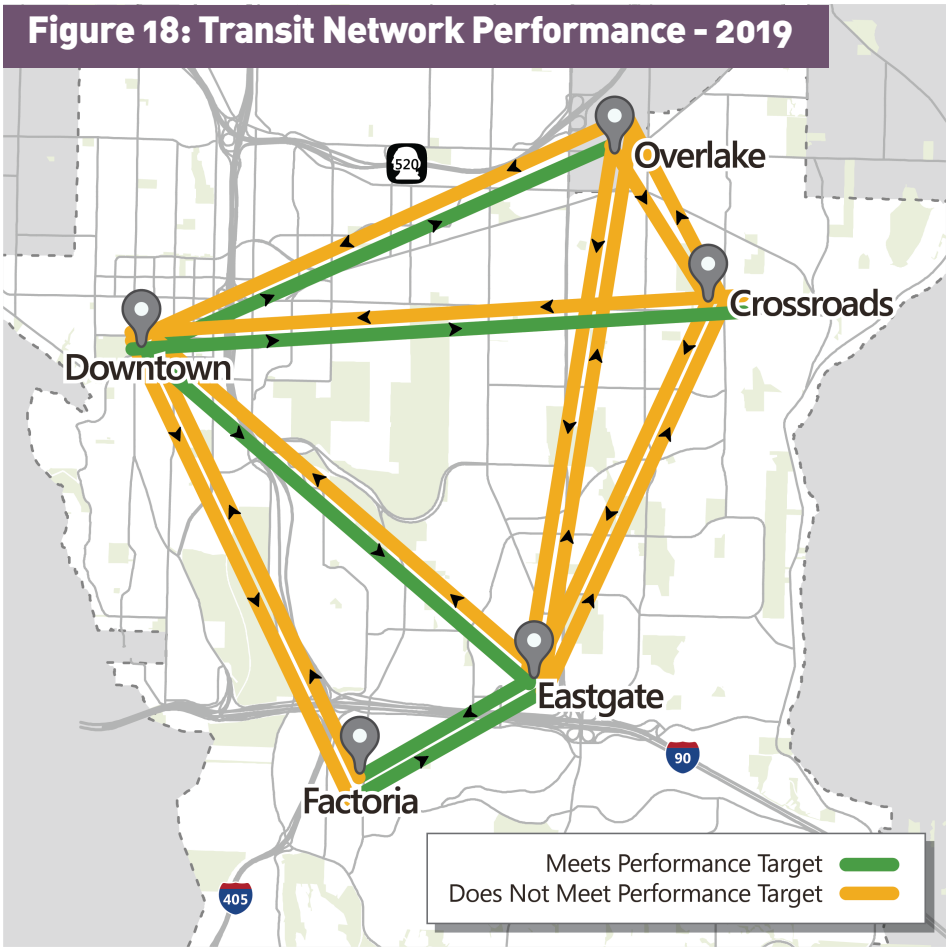
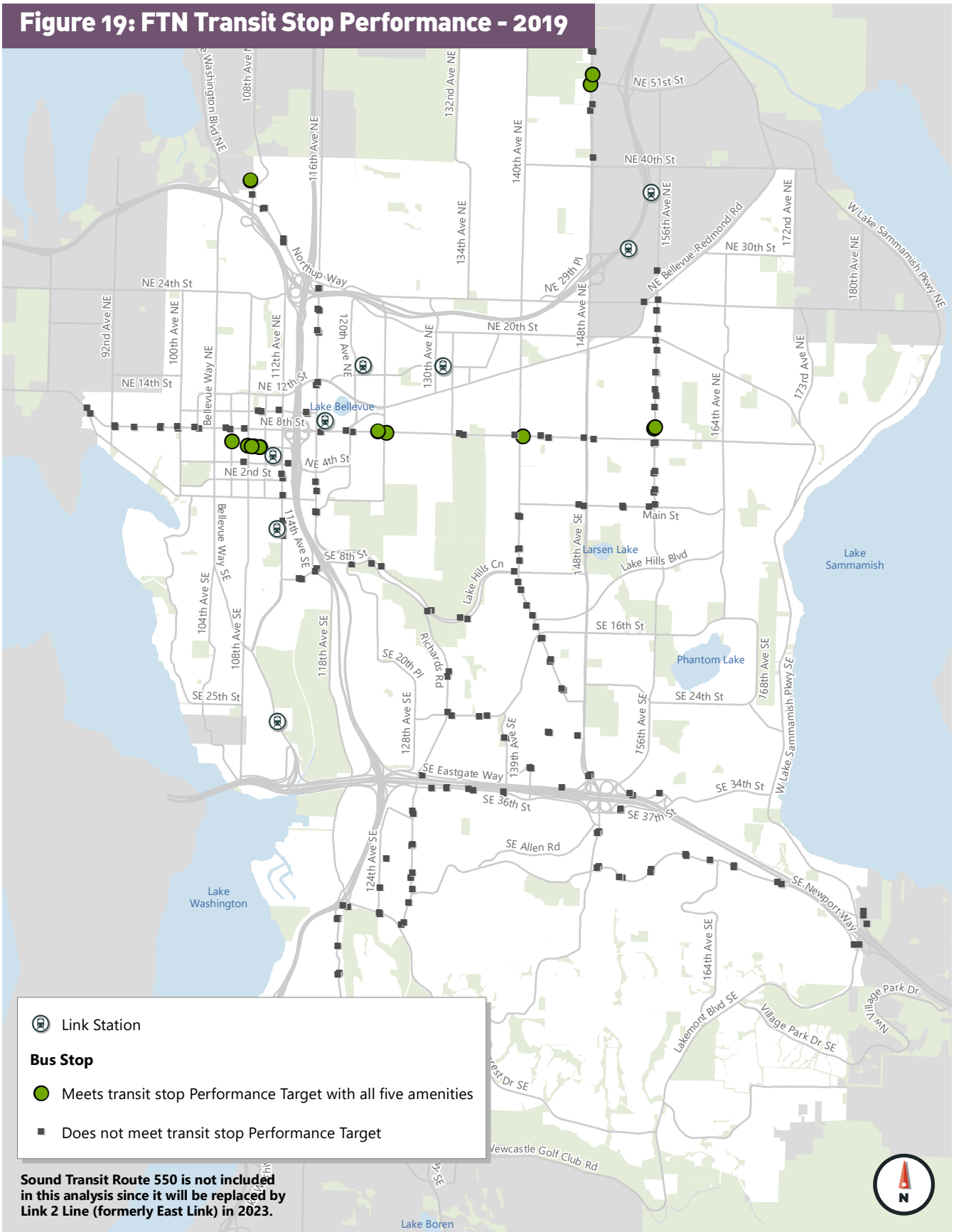


Figure 19: FTN Transit Stop Performance - 2019



Sound Transit Route 550 is not included in this analysis since it will be replaced by Link 2 Line (formerly East Link) in 2023.

Vehicle Network Performance

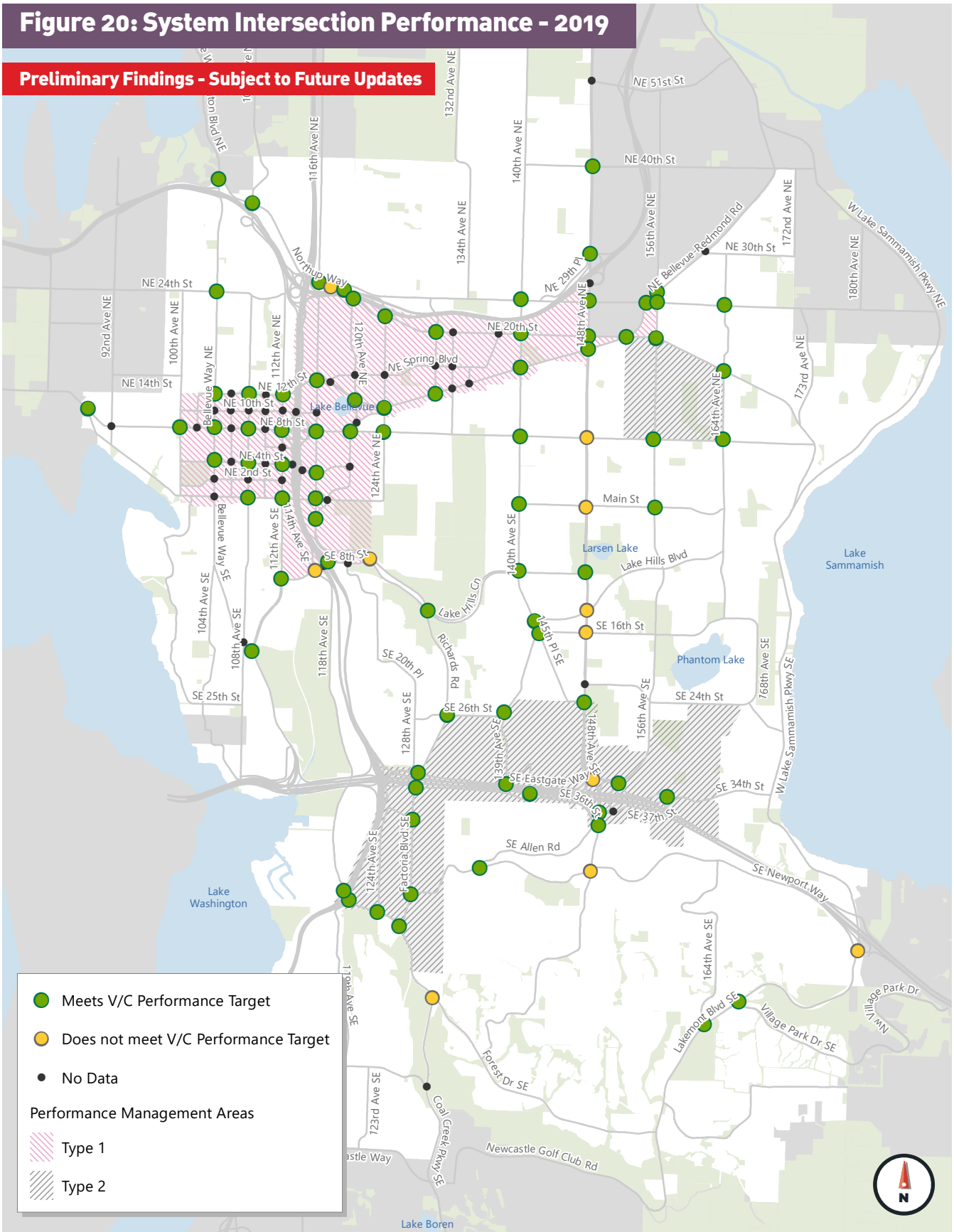
Vehicle network Performance Targets at System Intersections and along Primary Vehicle Corridors are based on the land use context of the Performance Management Area and viability of other modes. Each System Intersection and Primary Vehicle Corridor is assessed relative to the Performance Targets set for each PMA.

Intersection Volume-to-Capacity (V/C) Ratio

Figure 20 displays each System Intersection and denotes whether it currently (as of 2019) meets the MIP Performance Target. For intersections on the border of two Performance Management Areas, the Performance Target for the higher density Performance Management Area applies. For example, the Type 2 Performance Target would apply to the intersection of 156th Ave NE and NE 8th St. The new System Intersections defined in the MIP have not yet been analyzed and are shown in gray. Results will be updated as the City collects data. Results of the V/C analysis are shown in **Appendix B**.

Figure 20: System Intersection Performance - 2019

Preliminary Findings - Subject to Future Updates



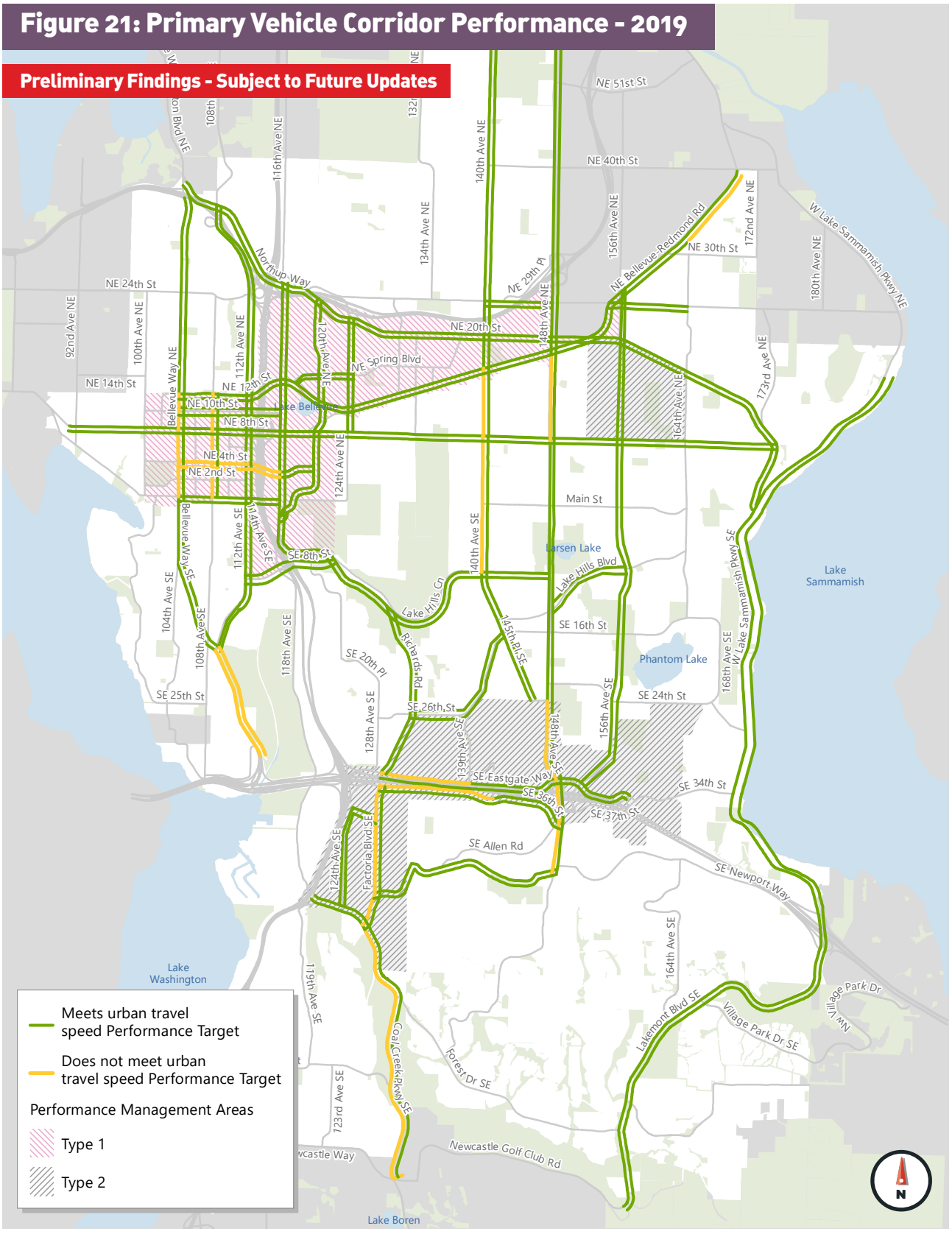
Corridor Travel Speed

The results of the Primary Vehicle Corridor travel speed analysis (using fall 2019 data) are shown in **Figure 21**. Note that these results are considered preliminary as City staff are actively collecting new travel speed data. The corridors that do not meet the corridor travel speed Performance Target are a mix of those within or proximate to the Type 1 and Type 2 Performance Management Areas (Downtown, BelRed, Eastgate, Factoria) and arterial segments that parallel congested freeway corridors (like Coal Creek Parkway).

Appendix A provides the detailed travel speed for each corridor during the PM peak hour.

Figure 21: Primary Vehicle Corridor Performance - 2019

Preliminary Findings - Subject to Future Updates



Section 5.2. Performance Evaluation: Projected Future Conditions

Considering how the transportation system is expected to perform in the future is an important factor in weighing what Performance Target gaps to prioritize for project development and implementation. By evaluating expected future conditions, City staff, the Transportation Commission, and the community can better understand the implications of the following:

- How land use growth will impact travel patterns at the neighborhood, city, and regional level; the mode choice of new trips; and the overall quantity of new trips.
- Changes to travel patterns and mode choice related to planned transportation investments by the City of Bellevue, neighboring jurisdictions, other agencies, and the private sector.

Over time, travel patterns, the use of the various transportation modes, and the quantity of overall travel will change. Understanding these future conditions while considering current transportation needs is crucial to identifying and prioritizing transportation investments. This section describes the forecast conditions in 2044 assuming the Puget Sound Regional Council growth forecast, currently approved zoning, and the planned transportation investments from the Preliminary 2022-2033 Transportation Facilities Plan (TFP).

This analysis reflects the expected performance of the transportation system in 2033 given the land use forecast for 2044 and could be viewed as a "very high growth" scenario. In general, normal economic cycles will likely result in a slowdown from today's very rapid growth and result in fewer new residents and jobs than is forecast in this scenario. Thus, the results in this section could be viewed as a "stress test" of what Bellevue could look like with continued rapid growth.

Since Bellevue has not previously used the MIP Performance Targets to identify gaps and project concepts, the alignment between the Performance Target gaps, project concepts, and investment priorities would likely be different in the future.

Pedestrian Network Performance

The preliminary 2022-2033 TFP project list includes new pedestrian network facilities—some projects would improve existing facilities and others would fill network gaps, as shown in **Figure 22**. Roughly 10 miles of new pedestrian network facilities are expected to be constructed along arterials as part of specific 2022-2033 TFP projects. As shown in **Table 8**, roughly 56% of arterials currently have a sidewalk on both sides, 32% have a sidewalk on one side, and 12% have a sidewalk gap. With the TFP projects in place, **Table 10** documents a forecast that 59% of arterials would have a sidewalk on both sides, 33% would have a sidewalk on one side, and 8% would have a sidewalk gap. There is no specific information about how new arterial designated pedestrian crossings (intersections and mid-block locations) would be addressed in the TFP as these are typically programmatic investments, so no new maps or analyses are prepared.

Figure 22: Future Pedestrian Network Performance – 2033 TFP

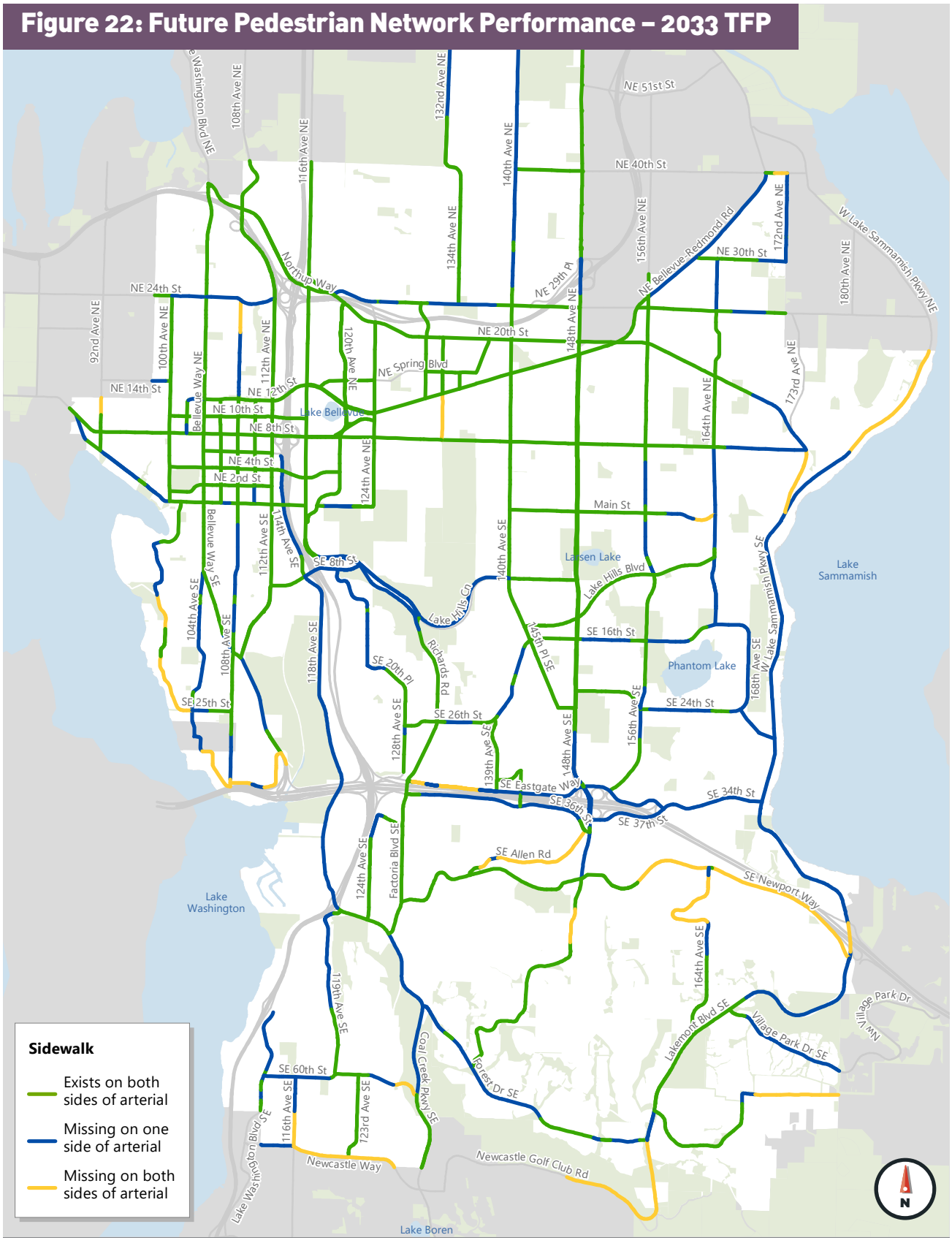


Table 10: 2033 Pedestrian Network Performance Target Results

Citywide	Sidewalk on Both Sides	Sidewalks on One Side	Sidewalk Gaps
Miles	82	45	12
Proportion of Total	59%	33%	8%

Locations within the PMA		Sidewalk on Both Sides	Sidewalks on One Side	Sidewalk Gaps
Type 1 High Density Mixed-Use	**Downtown**	95%	5%	0%
	BelRed	98%	1%	1%
	Wilburton/East Main	75%	25%	0%
Type 2 Medium Density Mixed-Use	**Crossroads**	100%	0%	0%
	Eastgate	29%	65%	6%
	Factoria	70%	28%	2%
Type 3 Residential		50%	38%	12%

The TFP also includes a funding reserve for the implementation of priority pedestrian and bicycle projects to be determined by the City's Pedestrian & Bicycle Implementation Initiative and other programs. This funding reserve has potential projects listed within the TFP, but specific projects have not been identified and the specific impact on addressing the pedestrian network Performance Target gaps is not known. However, given the $21 million reserve funding identified in the TFP and other citywide programs to build sidewalks, substantial progress can be expected to fill in Performance Target gaps on the arterial network. It is worth noting that Bellevue has implemented about three miles of pedestrian facilities per year over the past decade through large-scale multimodal corridor improvement projects and stand-alone sidewalk and pathway projects.*

** Neighborhood sidewalks, while important for access and mobility, are not considered part of the arterial sidewalk network. City programs support building neighborhood sidewalks as well as the arterial sidewalk network.*

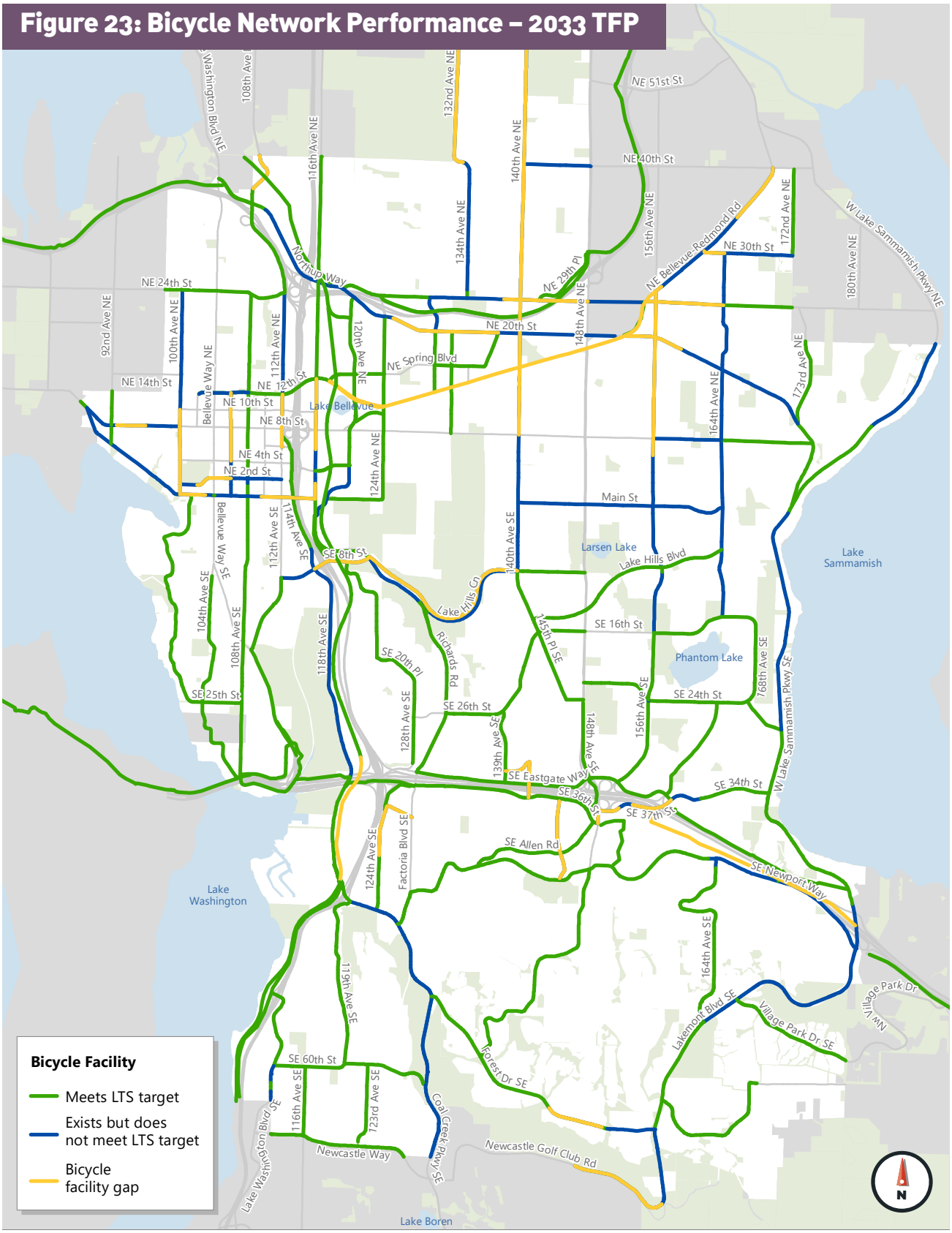
Bicycle Network Performance

As shown in **Table 9**, roughly 52% of the citywide bicycle network currently meets the intended LTS Performance Target, 24% of the network has a facility that does not meet the does not meet the intended LTS Performance Target, and 24% of the network has a Performance Target gap. The 2022-2033 TFP includes projects that would construct new bicycle network facilities assumed to meet the intended LTS. With those projects in place by 2033, it is expected that roughly 63% of the citywide bicycle network would meet the intended LTS, 19% of the network would not meet the intended LTS, and 18% of the network would have a Performance Target gap. The results are shown in **Table 11** and **Figure 23**.

Table 11: 2033 Bicycle Network Performance Target Results

			Bicycle Facility Meets LTS Target	Bicycle Facility Does Not Meet LTS Target	Bicycle Facility Gaps
Citywide Network	Miles		87	26	25
	Proportion of Total		63%	19%	18%
Performance Management Area	Type 1 High Density Mixed-Use	Downtown	33%	29%	37%
		BelRed	57%	5%	38%
		Wilburton/ East Main	72%	7%	21%
	Type 2 Medium Density Mixed-Use	Crossroads	1%	59%	40%
		Eastgate	74%	11%	15%
		Factoria	58%	27%	15%
	Type 3 Residential		66%	20%	14%
Priority Bicycle Corridor	Enatai-Northtowne		98%	2%	0%
	Lake Washington Loop		79%	11%	10%
	Eastrail		83%	0%	17%
	Somerset-Redmond		62%	17%	21%
	Spiritridge-Sammamish		44%	56%	0%
	West Lake Sammamish Pkwy		49%	51%	0%
	SR 520 Trail		77%	23%	0%
	Downtown-Overlake		86%	14%	0%
	Lake-to-Lake Trail		48%	21%	32%
	Mountains to Sound Greenway		48%	11%	42%
	Coal Creek-Cougar Mountain		55%	39%	6%
	Total		64%	23%	13%

Figure 23: Bicycle Network Performance – 2033 TFP



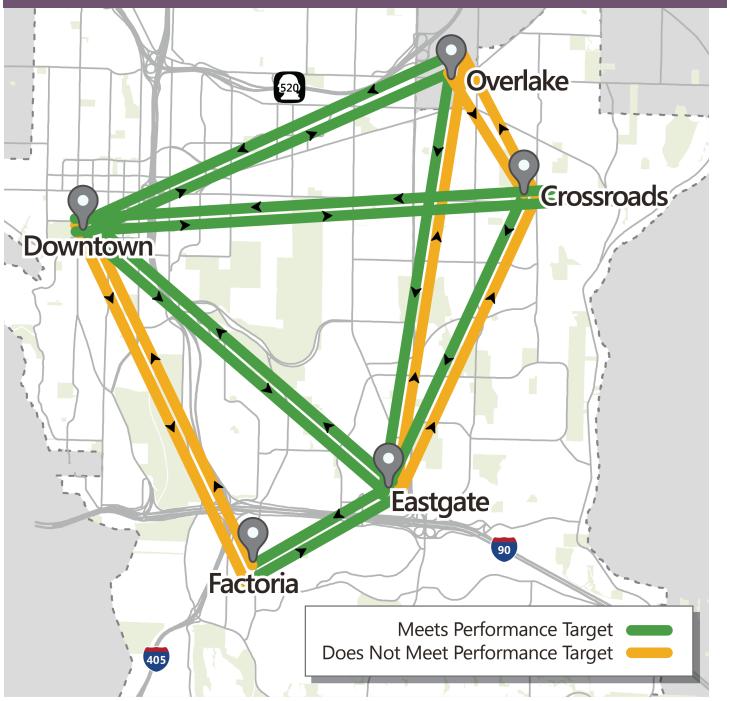
Transit Network Performance

Transit travel time vs. auto travel time was evaluated for future (2033) conditions based on forecasted corridor travel times and new operating characteristics for transit between the activity center pairs. Preliminary results are shown in **Figure 24**. Specifically, the Link 2 Line (East Link) light rail extension will shorten transit travel time between Downtown and Overlake and the RapidRide K Line bus rapid transit service will shorten transit travel time between Downtown and Eastgate. The TFP also includes the NE 6th Street extension, currently planned between I-405 and 120th Avenue NE (the eastern terminus of the NE 6th Street extension may change as a result of the Wilburton Subarea Planning process), the Bellevue College Connection, and southbound HOV lanes on a segment of Bellevue Way. These projects would improve transit travel time by providing speed and reliability improvements on existing routes or allowing more efficient routing. These reduced transit travel times were compared to the forecasted auto travel times, with the following findings:

- **Downtown – Overlake:** Transit travel time vs. auto travel time ratio for both directions of travel between Downtown and Overlake would decrease to less than 1.0 indicating that a transit trip travel time is expected to be shorter than an auto trip during the PM peak period. This is a direct benefit of Link light rail investments.
- **Downtown – Crossroads:** The NE 6th Street extension across I-405 would allow buses to access the Bellevue Transit Center more efficiently by avoiding congestion along NE 8th Street.
- **Eastgate – Downtown, Overlake and Crossroads:** Transit travel time vs. auto travel time ratio between Eastgate and Downtown, Overlake, and Crossroads would decrease with the more direct Bellevue College Connection, bringing the travel time ratio below the 2.0 Performance Target on some activity center pairs.

All other activity center pairs would maintain existing transit service characteristics and both buses and autos would experience the same relative change in travel time. Therefore, the transit travel ratio between those activity centers is expected to stay roughly the same as existing conditions. To improve the travel time ratios to meet the performance target, the City and the transit agency may initiate a project to improve transit performance, such as transit signal priority or new infrastructure like queue jump or transit lanes.

Figure 24: Transit Network Performance – 2033 TFP with 2044 Land Use



It is worth noting that at the time of publication, the 2044 land use forecasts were still in draft form and may be updated, which would affect the transit travel time results. The City's transportation modeling and forecasting group is also refining how it analyzes vehicle travel speed to improve forecasts, which could also influence results.

Vehicle Network Performance

The effects of the projected land use growth and continued investment in the transportation system were modeled using the City's travel demand forecasting tool, BKRCast. For this analysis, a 2044 land use growth projection is assumed along with the preliminary 2022-2033 TFP investments and other regional transit and roadway projects. As noted earlier, since both the 2044 land use growth forecast and the TFP project list are not finalized, the vehicle network Performance Targets results should be considered preliminary and subject to change. For this analysis, the BKRCast tool was used to forecast the future intersection V/C ratio for each System Intersection and the travel speed for the Primary Vehicle Corridors.

For the vehicle corridor travel speed specifically, the 2019 PM Peak hour speed data was scaled by the BKRCast tool's forecasted change in PM Peak period travel speeds. The City transportation modeling team is actively working on new tools and data to more accurately forecast this Performance Target- this is another reason the results shown in this section should be viewed as preliminary and subject to refinement.

Intersection Volume-to-Capacity (V/C) Ratio

Figure 25 displays each System Intersection and denotes whether it is projected to meet the Performance Target in 2033. A full table of results is provided in **Appendix B**. Increases in the V/C ratio at System Intersections across the city match the pattern of land use growth, but the ratio increases the most in the fastest growing Type 1 Performance Management Area (Downtown, Wilburton/East Main, and BelRed). Some intersections in the Eastgate portion of the Type 2 PMA have a slightly lower V/C ratio because of TFP projects that add vehicle capacity that would not yet be fully consumed by growth.

Corridor Travel Speed

As shown in **Figure 26**, the results of the travel speed analysis generally mirror that of the intersection V/C analysis; however, several corridors show degraded travel speed as a result of expected growth in vehicle trips. Corridors that are expected to have degraded travel speed include Bellevue Way near I-90, Richards Road and Eastgate Way near I-90, 148th Avenue SE near I-90, and West Lake Sammamish Parkway.

Figure 25: System Intersection Performance – 2033 TFP with 2044 Land Use

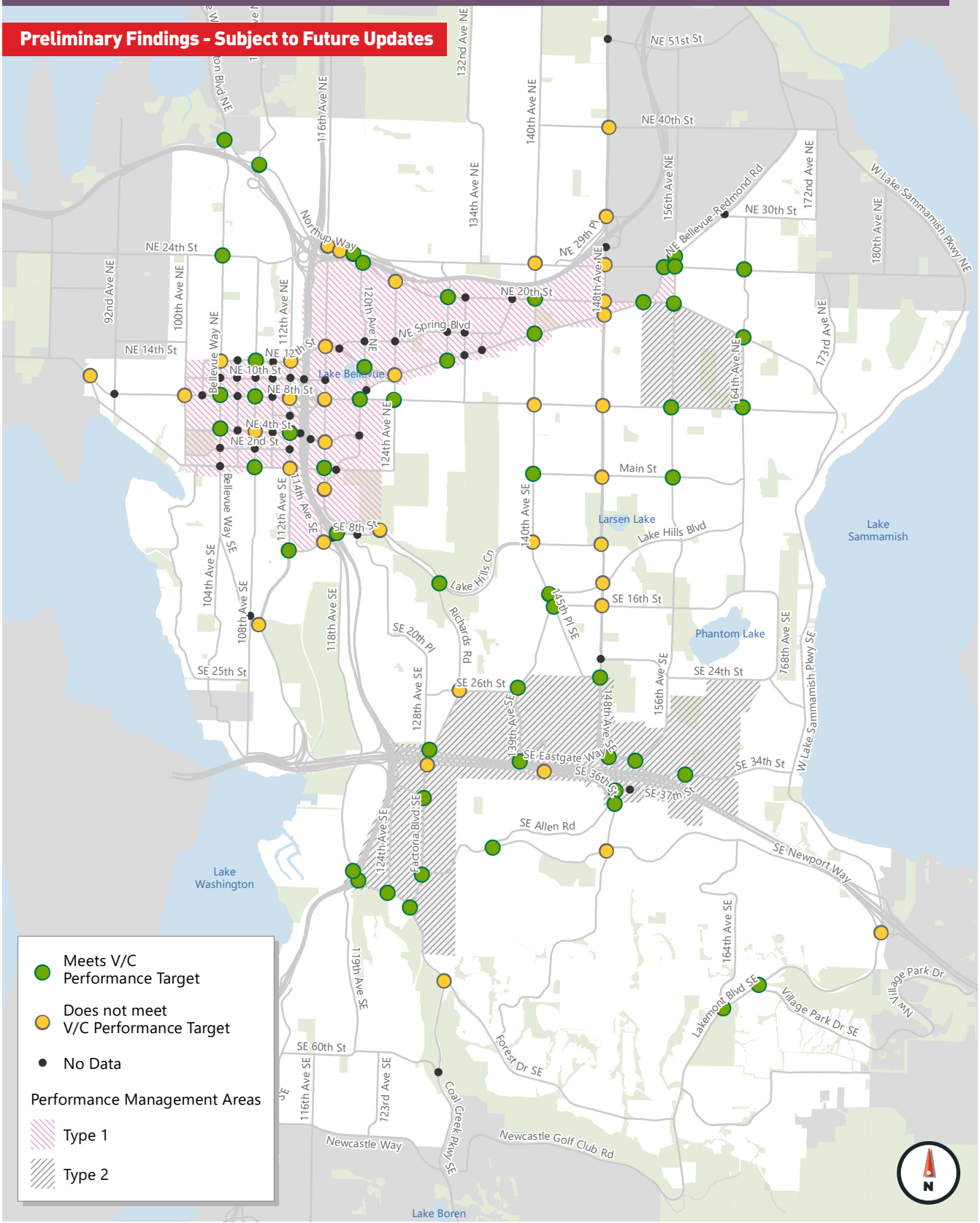
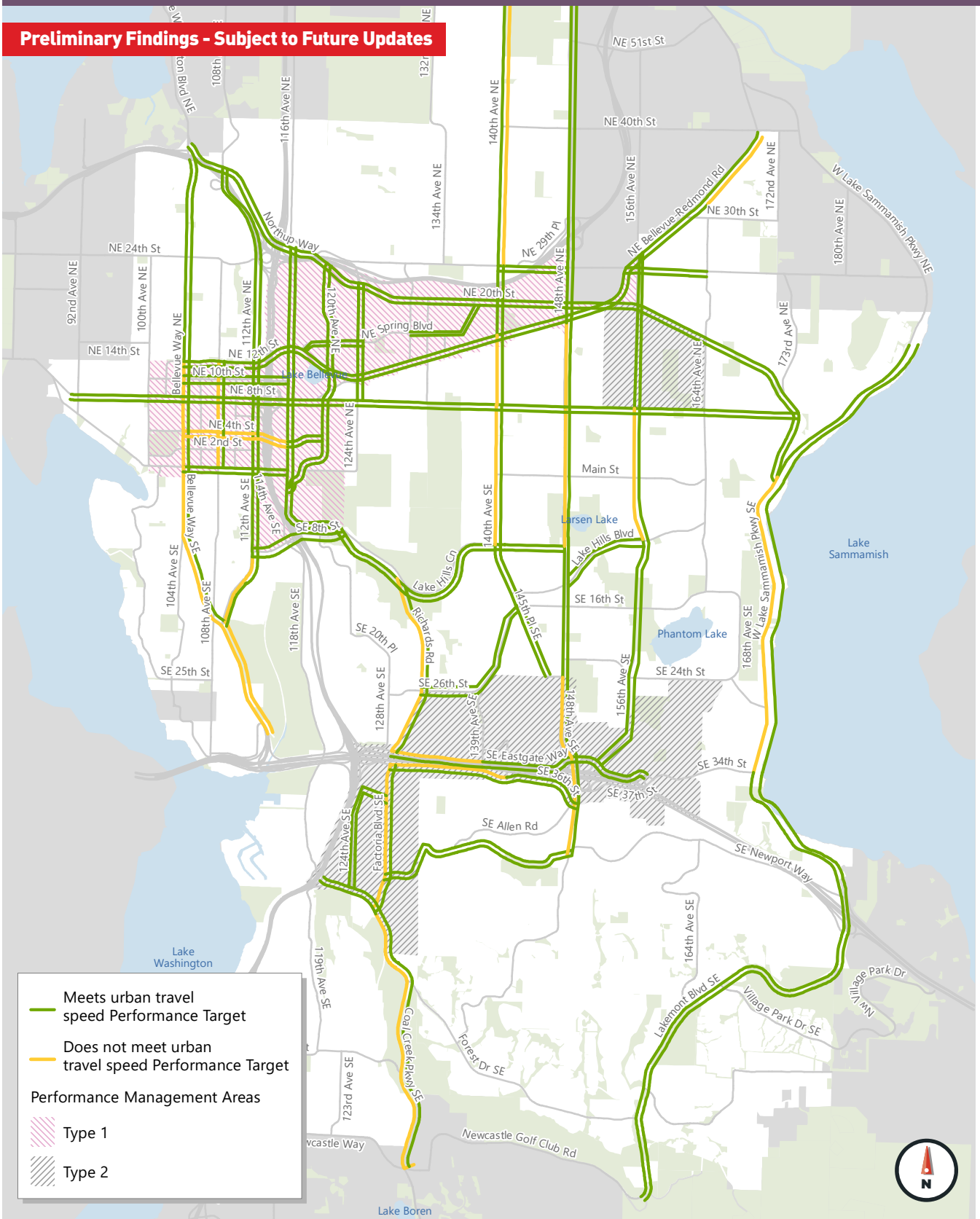


Figure 26: Primary Vehicle Corridor Speed Performance – 2033 TFP with 2044 Land Use



Section 5.3. Monitoring Performance Targets Over Time

As a commitment to provide the community with transparent reporting on how MIP Performance Target analysis results change as the City grows, Bellevue will periodically analyze and report on MIP Performance Targets and related transportation metrics identified in the Environmental Stewardship Plan. Specific targets may include:

- **Pedestrian**
  - » Percent of arterials with sidewalks on both sides
  - » Percent of arterials with sidewalk on one side
  - » Percent of arterials with a gap in the sidewalk network
  - » Percent of arterials with designated crossings that meet MIP crossing spacing targets
- **Bicycle**
  - » Percent of bicycle network and Priority Bicycle Corridors that meets intended LTS
  - » Percent of bicycle network and Priority Bicycle Corridors that have bicycle facilities that do not meet intended LTS
  - » Bicycle network facility gaps – overall network, Priority Bicycle Corridors
- **Transit**
  - » Percent of activity center pairs that meet transit travel time ratio Performance Targets (both directions)
  - » Percent of transit stops that meet passenger facility Performance Targets
- **Vehicle**
  - » Percent of Primary Vehicle Corridor network that meets corridor travel speed Performance Target
  - » Percent of System Intersections that meet V/C Performance Target
- **Environmental Stewardship Plan Sustainability Metrics**
  - » Commute mode share for people who live in Bellevue to track whether the share of single-occupancy vehicles is decreasing
  - » Commute mode share for people who work in Bellevue to track whether the share of single-occupancy vehicles is decreasing
  - » Per capita VMT to see whether the City is tracking to reduce the total amount of driving per person as land uses become more proximate to each other and other modes become more viable
  - » Pedestrian and bike counts to monitor utilization of new active mode investments

In addition to providing general information on the performance of the transportation system, the analysis of Performance Targets will inform updates to the Transportation Facilities Plan, as described in **Chapter 6**.

chapter

06

Project Identification & Prioritization

The Mobility Implementation Plan identifies how Bellevue measures the performance of the transportation system, the geographic areas where performance is summarized, the Performance Targets for each mode that define when the system may need an investment to accommodate growth, and a snapshot of existing and future conditions when viewed through the lens of the Performance Targets.

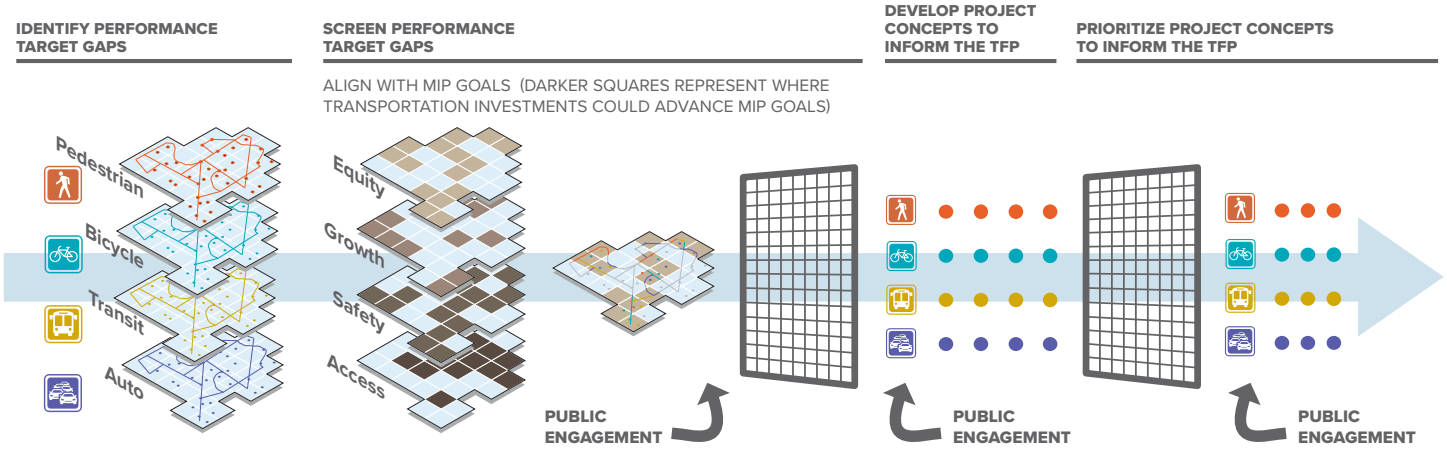
Based on this analytical approach, this chapter identifies how the City will address Performance Target gaps. If resources were available, Bellevue would quickly address all the Performance Target gaps so that all travelers could easily and safely get around the city in the mode of their choice in a manner that meets their expectations. However, financial, land use, and environmental constraints, and potential conflicts between modes and with other city goals limit the types of investments the City may choose to pursue. Additionally, factors such as livability, urban form, and right-of-way must be taken into consideration as the City makes choices to invest its limited transportation funding.

While identifying Performance Target gaps is a critical first step, advancing a project concept into project design, funding, and implementation requires additional analysis and outreach. This chapter describes a Project Identification & Prioritization framework that City staff, the Transportation Commission, and the community will use to narrow the identified Performance Target gaps to those that are most urgent, identify when to seek public input, and align transportation investments with community goals. The framework creates a consistent and transparent process to identify, evaluate, develop/design, and advance transportation projects that address the Performance Target gaps. Objectives of this framework are to provide:

- Consistency to ensure the process uses readily available data and can be repeated,
- Transparency to ensure clear and understandable decision making, and
- Evaluation tools to assist the City to select projects that may be implemented within available funding while balancing environmental sustainability targets and other community considerations.

The framework depicted graphically in **Figure 27** uses the MIP goals of designing for safety, advancing equity, supporting growth, and aligning transportation investments with access and mobility needs. It defines a decision-making approach that will advance Bellevue's mobility objectives.

Figure 27: Project Identification and Prioritization Framework



The framework outlines a transparent, data-driven, four-step process. Each step is introduced in the chart below and further described in this chapter.

Step 1	Step 2	Step 3	Step 4
Identify Performance Target Gaps	**Screen Performance Target Gaps**	**Develop Project Concepts**	**Screen for Funding and Implementation**
Identify where the documented performance of the transportation system does not meet the defined Performance Targets.	Screen Performance Target gaps for alignment with MIP goals (equity, supporting growth, safety, and access/mobility) and determine appropriateness to move forward to develop project concepts that address Performance Target gaps.	Develop project concepts to address Performance Target gaps that align with MIP goals. Factors such as environmental sustainability, equity, and livability are considered.	Inform the development of the TFP by considering the outcomes of the prior steps: clearly identifying Performance Target gaps, screening the Performance Target gaps based on MIP goals, and developing a set of potential projects that can be incorporated into the TFP.

Step 1: Identify Performance Target Gaps

Purpose

Identify where the documented performance of the transportation system does not meet the Performance Targets. Performance Targets reflect the quality of the user's experience for each mode.

Step 1 begins with an assessment of each modal network (pedestrian, bicycle, transit, vehicle) to identify where the Performance Targets are not met. The MIP defines Performance Target gaps for each mode as follows:

- **Pedestrian**: Arterial segments that are missing a sidewalk, particularly where sidewalks are missing on both sides of the street; arterial segments that do not have a designated pedestrian crossing as warranted by spacing metrics and pedestrian destinations.
- **Bicycle**: Segments and intersections on the bicycle network that do not meet the Level of Traffic Stress (LTS) Performance Target, focusing particularly on segments and intersections that are completely missing infrastructure to achieve LTS Performance Target.
- **Transit**: Frequent transit network routes between activity center pairs where riding a bus would take more than 2.0 times longer than driving a car; frequent transit network bus stops that do not provide the intended passenger amenities at stops or stations.
- **Vehicle**: System Intersections where the volume-to-capacity (V/C) ratio exceeds the Performance Target; segments of Primary Vehicle Corridors where travel is slower than the Performance Target.

The segments of the multimodal transportation network that do not meet the Performance Targets will be documented by the City under existing and future (2033) conditions to inform Transportation Facilities Plan (TFP) update. See **Appendix C** for the list of existing and future Performance Target gaps.

Outcome

The outcome of Step 1 is a map and list of network Performance Target gaps by mode.

Step 2: Screen Performance Target Gaps

Purpose

Screen Performance Target gaps for alignment with MIP goals and determine appropriateness to move forward to develop project concepts that address Performance Target gaps.

A list and map of Performance Target gaps are generated by the MIP Performance Target assessment. Step 2 identifies a subset of gaps that warrant project concept development.

The screening process includes two sub-steps: **1)** Engage the Transportation Commission and the public to ensure the data accurately reflects Performance Target gaps, and **2)** Screen the Performance Target gap for further project concept development if it passes through the first sub-step. The steps are further described below.

Performance Target gaps that do not pass this screening step are acknowledged and a reason for not advancing the gap to project concept development is documented. A Performance Target gap that is not addressed may be reconsidered when Performance Targets are reevaluated, which is anticipated to occur in advance of TFP updates. Specific administrative and procedural details of this screening process will be finalized as the program implementation guide is established.

Step 2.1: Assess Performance Target Gaps against MIP

Spatial representation, through GIS-based mapping, is used to assess how well network Performance Target gaps align with MIP goals of Safety, Equity, Supporting Growth, and Enhancing Access/Mobility. Each MIP goal has data that can be reviewed to identify where transportation investments could best advance the desired outcome. These "areas of need" may be used to screen Performance Target gaps, identify and design project concepts, and prioritize investments. They can be used alone or in combination to focus on addressing Performance Target gaps that advance multiple MIP goals.

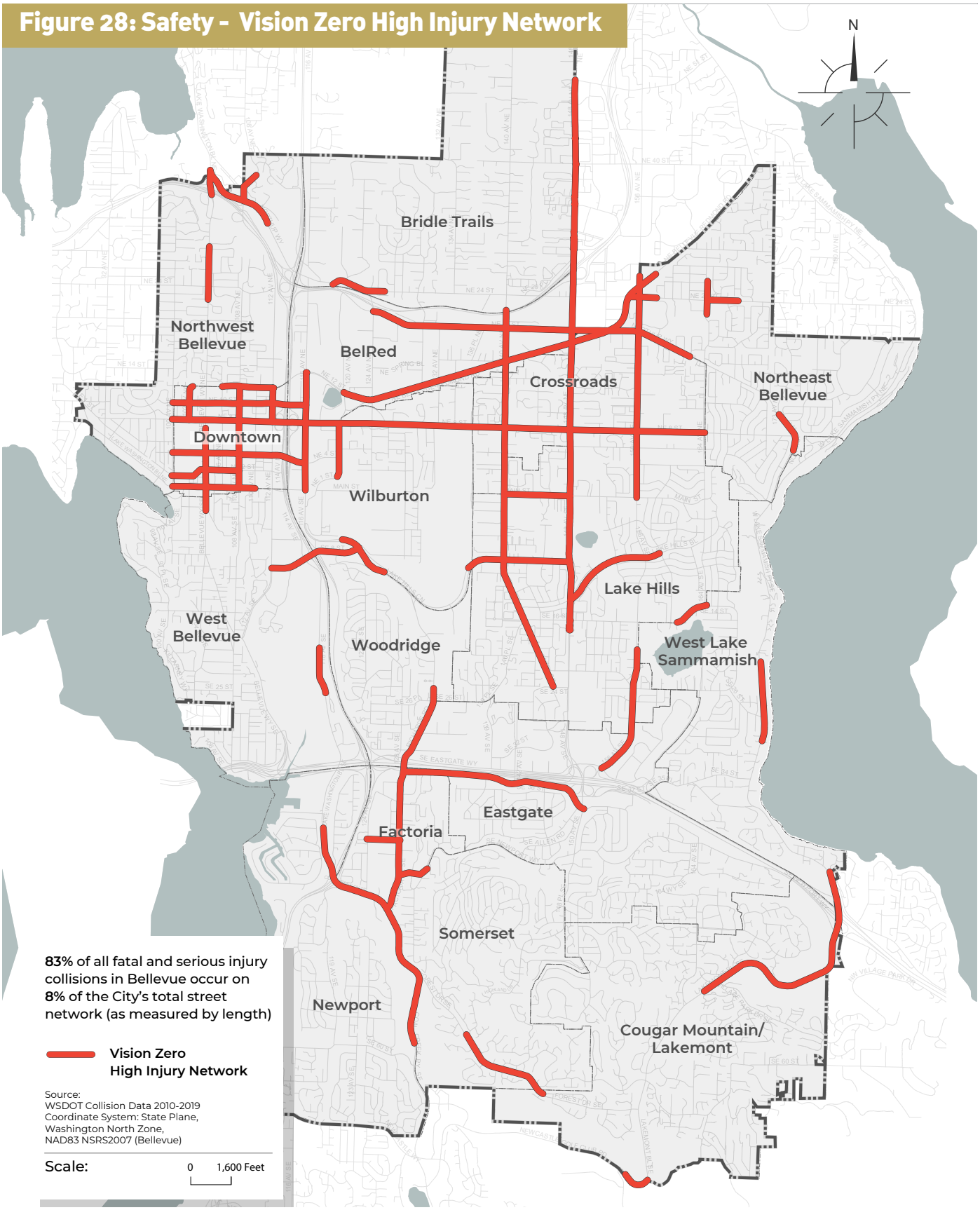
In this step, it may be determined that some projects may address a performance target gap, but may be inconsistent MIP goals. In there cases, some projects may not be advanced.

MIP Goal: Safety

Focusing on safety as a screening tool ensures alignment with Bellevue's Vision Zero goals. The City continuously analyzes traffic collision data to identify the portions of Bellevue's arterial network that have the highest proportion of fatal and serious injury crashes.

These high-crash locations are known as the High Injury Network for the 2010-2019 period and are shown on **Figure 28**. Proximity to the High Injury Network may be considered when prioritizing Performance Target gaps since a single investment may be able to add travel capacity and address a transportation safety issue.

Figure 28: Safety - Vision Zero High Injury Network



MIP Goal: Equity

The MIP integrates an equity lens into Bellevue's transportation planning and prioritization of projects. A transportation equity evaluation documents where people who may have transportation and mobility challenges live and work and where there may be an opportunity to build projects that enhance mobility and address specific access needs. The transportation equity evaluation includes traditionally underserved or transportation-disadvantaged population groups. **Table 12** summarizes the components, which are presented in alphabetical order and are not in order of priority.

Each of these factors do not necessarily equate to a transportation disadvantage. Similar to a Performance Target gap, the presence of an Equity Index Component does not necessarily prescribe a specific type of project.

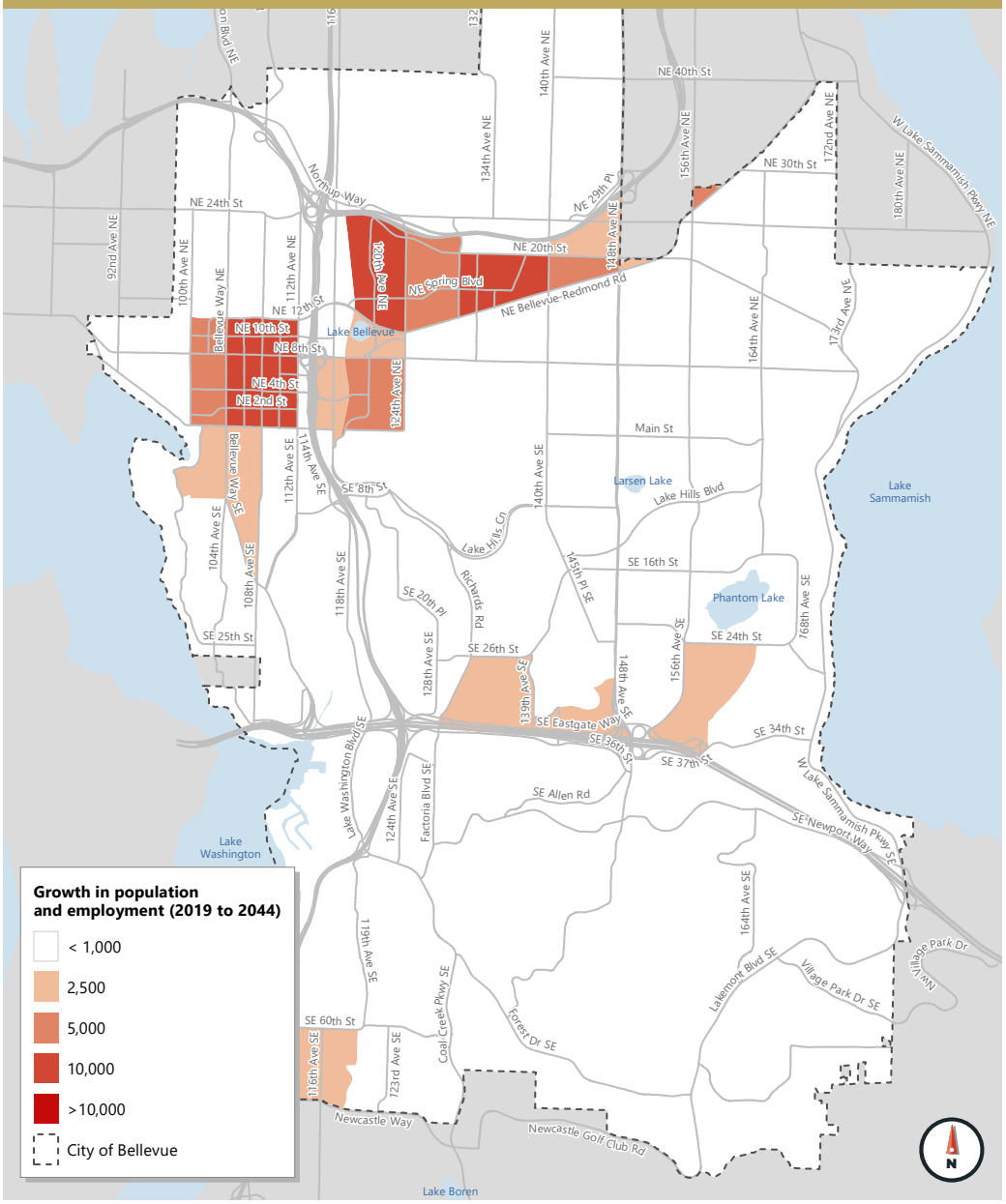
Table 12: Equity Evaluation Components

Equity Index Component	General Relationship to Transportation
Housing costs as percentage of income (renter-occupied)	People who are "housing cost burdened" tend to have less income to spend on transportation (even if they are not classified as low-income) and therefore tend to drive less and rely more on other modes.
Limited English proficiency households	Limited English proficiency households (even when controlling for income) tend to travel more by walking, biking and transit.
Low-income households	Lower income households tend to drive less as the cost of operating a vehicle presents a substantial burden; this group tends to walk, bicycle, and use transit more than higher-income households.
Low-wage jobs (based on job location)	The location of low-wage jobs tends to indicate that employees may rely more on walking, biking, and transit to reach their job since the cost of driving and parking can consume a substantial proportion of their wages.
People of color	Across the country, people of color (even when controlling for income), tend to travel more by walking, biking, and transit.
People over age 64	Older people may require additional accommodations (e.g., longer pedestrian phases at intersections) and tend to drive less than younger populations.
People under age 18	16-18 year-olds tend to drive at a lower rate than other age groups and use other modes more often.
People with a disability	People with a disability may require additional or specific accommodations (e.g., audible pedestrian signals or curb ramps) and tend to drive less than other populations.
Single-parent households	Single-parent households tend to have less income to spend on transportation and also tend to be more schedule constrained. These households may still own a car, but drive less to save money.
Zero-vehicle households	These households may not have regular access to a private vehicle either by choice or other factors and tend to drive less and use other modes more.

MIP Goal: Support Growth

A focus of the MIP is to identify and prioritize transportation investments that support growing travel demands from new development. When evaluating Performance Target gaps for the vehicle mode in the PM peak period, growth is summarized as the projected growth in vehicle trips and the impact of those trips added to the System Intersections and along Priority Vehicle Corridors. Greater expected demand from planned land use is particularly important when evaluating Performance Target gaps for pedestrian, bicycle, and transit modes to help determine where project concepts will address the greatest need and result in the greatest utilization. **Figure 29** shows the areas of the city that are expected to grow the most by 2044.

Figure 29: Growth - Forecast Growth in Population and Employment 2019 to 2044

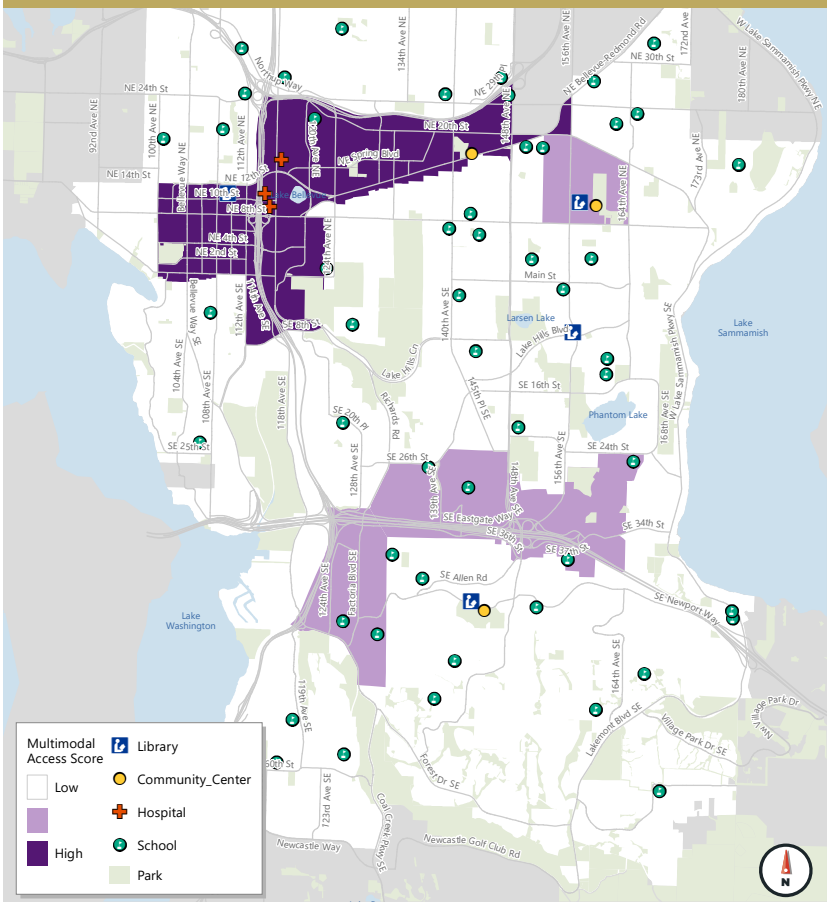


MIP Goal: Access and Mobility

The Access and Mobility goal combines the evaluation of land use destinations and overall land use mix and intensity to help inform the mobility needs. Areas with high access include dense, mixed-use locations where pedestrian, bicycle and transit modes may substitute for a short vehicle trip. Specific land uses that may be included in the access and mobility evaluation include schools, active recreation parks, libraries, community centers, hospitals, and grocery stores.

Figure 30 shows the PMAs stratified by future land use density and mixed-uses. Existing destinations that nearly all people access and have important mobility considerations are also shown in the figure. The access and mobility data are most relevant for screening pedestrian, bicycle, and transit Performance Target gaps as all land uses in Bellevue are accessible by private vehicles. The City's travel model is a more appropriate tool to use for screening vehicle Performance Target gaps.. Areas with high concentrations of access and mobility land uses could be used to screen for the highest-priority and potentially high-use pedestrian, bicycle, and transit Performance Target gaps to advance to project concept development. Areas with high concentrations of access and mobility land uses may also be areas where multimodal alternatives are better at addressing vehicle congestion Performance Target gaps because of constrained right-of-way or to balance multimodal performance, as is described in **Step 3**.

Figure 30: Access and Mobility Score - Performance Management Areas and Certain Pedestrian Destinations



Step 2.2 Engage the Public

Public engagement, including the discussions and deliberations of the Transportation Commission, is critical in this stage to confirm Performance Target gaps and to understand local transportation needs. Questions the community may consider include the following:

- Relative to other Performance Target gaps, what are the Performance Target gaps you are most interested having the City invest in?
- Relative to the goals of the MIP, are there other transportation needs that are not being considered when Performance Target gaps are being screened?

Step 2.3 Screen Performance Target Gaps

To screen Performance Target gaps, staff will review the data to indicate where investments could advance MIP goals and also review public feedback to determine whether the Performance Target gap warrants further investigation to be considered for project development. The Performance Target gaps that will not have a project concept developed will be documented so that they may be considered in the future as projects are completed and priorities are reconsidered.

Questions to consider during screening include the following:

- Does the Performance Target gap overlap with an area of need to advance one or more MIP goals?
- Why is a certain Performance Target gap not being evaluated to develop a project concept? Will it likely be evaluated in the future?
- Are there impacts outside of transportation if a project concept is not being developed at this time?
- Which Performance Target Gaps affect the most users of the transportation system?

Outcome

The outcome of **Step 2** is a narrowed-down list of network Performance Target gaps for which project concepts would be developed.

Any Performance Target gaps that are not advanced to project concept development would be documented and could be reconsidered by City staff at a later date.

Step 3: Develop Project Concepts

Purpose

Develop project concepts to address Performance Target gaps that most align with MIP goals, community input, environmental sustainability targets, and other City goals.

Following the Performance Target gap screening in Step 2, the Performance Target gaps in the top tier (i.e., those that most align with MIP goals) are evaluated to identify project concepts. The project concept development step is consistent with existing City programs that consider design standards, existing and future travel needs, environmental constraints, the number of potential users, and overall costs. The MIP enhances the project concept development process by bringing forward new data sources for consideration, specifically the identification of Performance Target gaps for all modes and reviewing those gaps in the context of the MIP goals.

Project concept development is often an iterative process; therefore, a second round of public engagement is also critical to this stage. Questions to consider during engagement include the following:

- Does the project concept effectively address the Performance Target gap?
- Is the project concept consistent with Bellevue's environmental sustainability and land use goals?
- Is the project concept consistent with the MIP goals of Safety, Equity, Supporting Growth, and Improving Access/Mobility?
- Can the project concept be incorporated as part of other investments (e.g., implement a bicycle facility with a utility project, or build an arterial crossing when a new school is constructed)?
- Are there secondary positive benefits or adverse impacts of the project concept on other modes (e.g., a wider intersection that would increase vehicle capacity but make it harder or less safe to walk across the street, or a transit travel time project that would also reduce vehicle delay)?
- Is there a better or alternative way to address the Performance Target gap by providing a project for an alternative mode or travel route? Are there programmatic or operational interventions that could address the gap at a lower cost or with better effectiveness than a capital project?
- Is the project concept in alignment with input and feedback from the community?
- What other community considerations could influence the project concept?
- When considering potential utilization, would an interim improvement be better suited, or is a more extensive permanent improvement a better fit?

Outcome

The outcome of Step 3 is a list of project concepts that address Performance Target gaps, achieve MIP goals, are consistent with community feedback, are environmentally sustainable, are implementable, and can be incorporated into future funding decisions and planning projects.

Project concepts that advance through **Step 3** are candidates for the TIP.

Step 4: Screen Project Concepts for Implementation

Purpose

Inform the development of the Transportation Facilities Plan (TFP) by considering the outcomes of the prior steps: clearly identifying Performance Target gaps, screening the Performance Target gaps based on MIP goals, and developing a set of potential projects that can be incorporated into the TFP.

Bellevue has an established process to allocate funding for transportation projects and programs. This process is the periodic update of the City's 12-year Transportation Facilities Plan (TFP).

The data in the MIP enhances the TFP update process by providing more contextual information to select the project concepts to advance to funding. For example, equity screening could elevate the priority of a bicycle network Performance Target gap project that connects to Crossroads. The MIP data demonstrate the area's lower income, high proportion of zero-car households, and high proportion of low-English proficiency households.

Public engagement, including engagement with the Transportation Commission, is embedded in the TFP update process to confirm that project concepts align with community feedback.

In addition to using MIP data to inform the update of the TFP, Bellevue would continue to work with private developers to implement mobility improvements and to address off-site impacts, as appropriate. The Performance Metrics and Performance Targets will help to ensure these private contributions to Bellevue's transportation network are also in alignment with the public investments identified in the TFP.

Outcome

The outcome of Step 4 is a project list for consideration in the TFP update process that has been informed by Performance Target gaps, MIP goals, and additional public feedback.

Summary

The transparent, data-driven Project Identification and Prioritization framework in the Mobility Implementation Plan will help Bellevue identify the Performance Target gaps that should be prioritized for project concept development and funding. The screening of Performance Target gaps is centered around the MIP goals of improving the transportation system in a way that is safe, equitable, supports planned growth, and considers the access and mobility context of adjacent land uses. Public engagement is included at key steps of the framework to understand community sentiment, ensure project concepts support City goals, and confirm that project concepts align with community feedback.

chapter

07

Transportation Concurrency

Transportation Concurrency is a fundamental concept embedded in the Washington State Growth Management Act (GMA). The State Legislature passed the GMA in 1990 to address a misalignment between rapid land use growth and the lack of transportation investments needed to support the new growth. Concurrency requires that cities and counties define a specific level of transportation investment or performance at a given level of growth and to ensure that the transportation improvements are funded and built concurrently with new development.

To implement the multimodal transportation system envisioned in the Mobility Implementation Plan, Bellevue uses a "plan-based" transportation concurrency system to ensure that the implementation of the multimodal transportation system proceeds at a pace that equals or exceeds the pace of growth.

Multimodal Concurrency & Level of Service Standard

A modern transportation concurrency approach for Bellevue incorporates all the elements of the MIP to identify and implement a multimodal transportation network that supports growth. Transportation projects and programs are intended to serve all modes of travel and to support the land use vision articulated in the Comprehensive Plan. Informed by Transportation Commission study sessions from 2014 through 2021 and based on the policy direction in the Comprehensive Plan, Bellevue has adopted a plan-based "system completeness" approach to multimodal concurrency that requires the "supply" of transportation to equal or exceed the "demand" for transportation. In this system, the level-of-service standard is defined as the supply of mobility units equals or exceeds the demand for mobility units generated by new development.

Multimodal Concurrency Policy

The 2021 policy amendments to the Bellevue Comprehensive Plan and the development of the Mobility Implementation Plan establish the framework for this multimodal concurrency system. Specifically, Transportation Element policy TR- 28 directs the City to "Employ a citywide multimodal level-of-service concurrency standard that provides facilities that meet the demand from new development."

Concurrency Evolution in Bellevue

This multimodal plan-based approach succeeds the decades-old concurrency system in Bellevue that relied on measuring and addressing only vehicle-related congestion issues. A volume-to-capacity ratio at "system intersections" was the metric used, and the level-of-service standard to which the city was held typically required expansion of the capacity of a system intersection to accommodate an increasing volume of traffic, often without regard to the consequences to other modes, to urban livability or to the environment. The City Council determined that this approach was not sustainable, not aligned with the City's transportation vision, and did not meet the mobility needs of the increasingly diverse community.

Multimodal concurrency in Bellevue now relies on a plan-based "system completeness" strategy to develop a transportation system that is complete and connected for all modes, using person trips* rather than vehicle trips, and on a citywide concurrency standard based on "supply" and "demand" to ensure that the planned and funded transportation system (supply) accommodates planned land use (demand).

System Completeness

Many communities in Washington employ transportation "system completeness" to determine whether their community is implementing transportation infrastructure concurrent with new development. In Washington state, the cities of Redmond, Kirkland, Kenmore and Olympia have adopted system completeness as their transportation concurrency standard. System completeness is not complicated. It requires that a community define a set of transportation capacity projects that aligns with a given amount of growth and then build those projects at a rate that keeps pace with or ahead of development. Concurrency is achieved and maintained when the supply of transportation created by implementing projects for all modes is greater than the demand for mobility created by the person trips from new development.

In system completeness, the transportation system projects being implemented are known to the community and consist of projects previously identified, vetted, and documented through long-range city planning including the process identified in the previous chapter (this is why these types of concurrency programs are called "plan-based"). The ability to meet concurrency is entirely within the City's control and it is straightforward to calculate and to track concurrency. Performance Targets for each mode may be tracked and used to help refine the multimodal plans and identify/prioritize projects for implementation, but the Performance Targets are not the concurrency standard.

Mobility Units: Supply & Demand

In this multimodal approach to concurrency in Bellevue, the plan-based concurrency system relies on a mode-neutral measure known as the "mobility unit". Mobility units are measured in terms of person trips rather than the traditional method in Bellevue of measuring only vehicle trips.

Both the "supply" provided by transportation system projects and the "demand" upon that system created by land use are expressed in terms of mobility units. The specific definitions of supply and demand follow.

- **Mobility Units of Supply**: The supply of mobility units is considered in two timeframes – the total pool of planned supply over the long-term, and what

** A person trip travel made by any mode, for example, walking, biking, taking transit or driving.*

is available to be "consumed" by new demand.

» **Planned:** The initial supply of mobility units is planned for based on the City's long-term (~20-year forecast) transportation funding and land use growth forecast. This planned supply must be made "available" before it can be applied to meet demand.

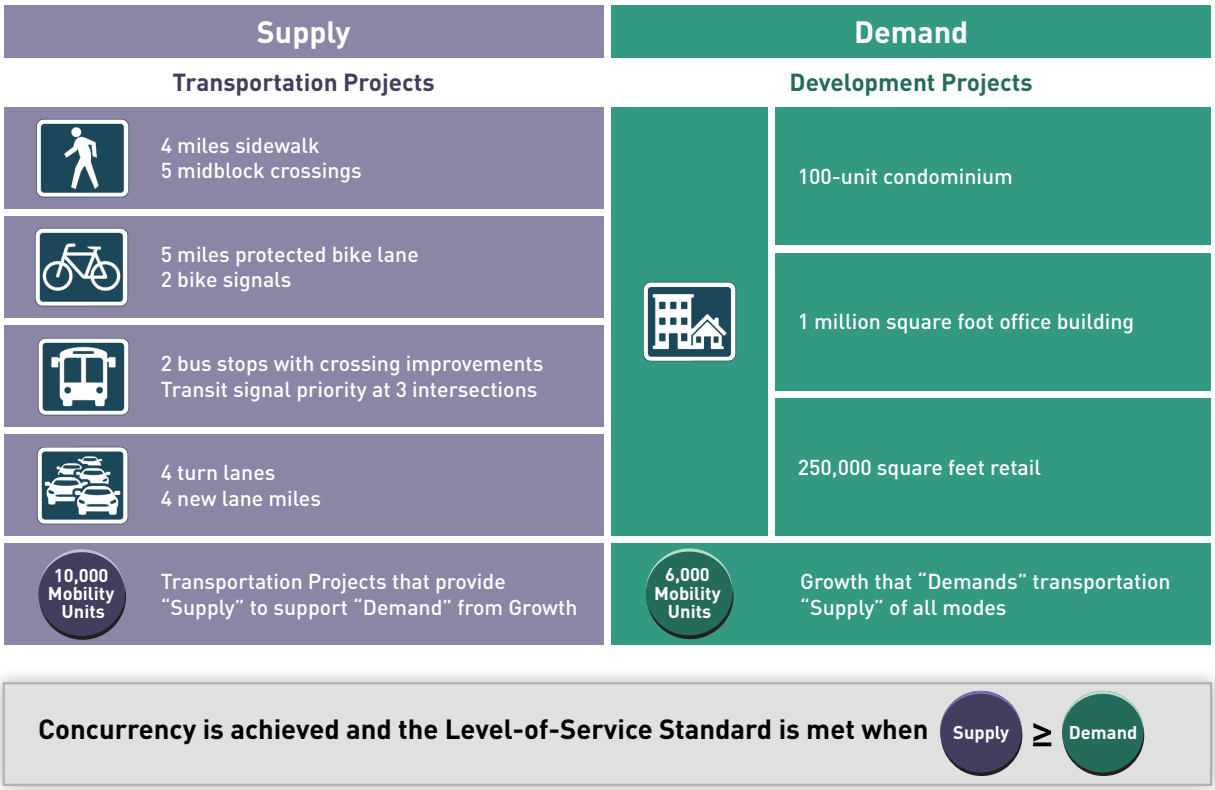
» **Available:** Supply becomes available when the City obligates funds through the Capital Investment Program (CIP) to build new transportation facilities that support growth. Supply is also available from "running start" projects that the City has already built and that can still accommodate new person trips. Supply can be created by investments in any mode that serves to address Performance Target gaps.

- **Mobility Units of Demand**: Demand is the number of PM peak hour person trips anticipated to be generated by new development. Mobility units of demand are generated when a development project seeks a permit. Through development review, a Transportation Impact Analysis defines how to calculate person trips for a given development proposal.

Measuring Concurrency: Calculating Supply & Demand

In order to ensure concurrency, Bellevue must implement new mobility units of supply at a rate that keeps up with the new person trips generated development. To equate supply and demand, the total 20-year planned transportation funding forecast is divided by the total 20-year planned growth forecast, as measured in person trips. This calculation provides an estimate of the anticipated investment per person trip of growth. By defining each new person trip as one mobility unit of demand, the mobility units of supply can be calculated using the ratio above. By tracking

Figure 31: Multimodal Concurrency System



mobility units of supply and demand, they can be kept in balance; an example is shown in **Figure 31.** A simple way of thinking about this balance is that if 30% of all the planned growth was built or permitted in Bellevue, the city must have at least 30% of the planned transportation system investment built or identified in the CIP for implementation. The concurrency level-of-service standard is met when the supply of mobility units exceeds the demand for mobility units.

Concurrency Management and Development Review

As part of the development review process, each proposed land use project is analyzed to determine the number of mobility units of demand expected to be generated. This demand for mobility units is then compared to the available mobility units of supply within the six-year CIP. An available mobility unit is one that is not consumed by development proposals that are already in the City's review pipeline. If sufficient mobility units are available, then the development is considered to be concurrent and the mobility units of supply are assigned to the development and removed from the available supply for future development. If the development is deemed to be not concurrent, then the applicant has options: wait until additional mobility units of supply become available (through the City continuing to invest in the multimodal system or construction of an identified project), redesign the project to reduce the mobility units of demand, or pay the City to implement an adequate quantity of mobility units.

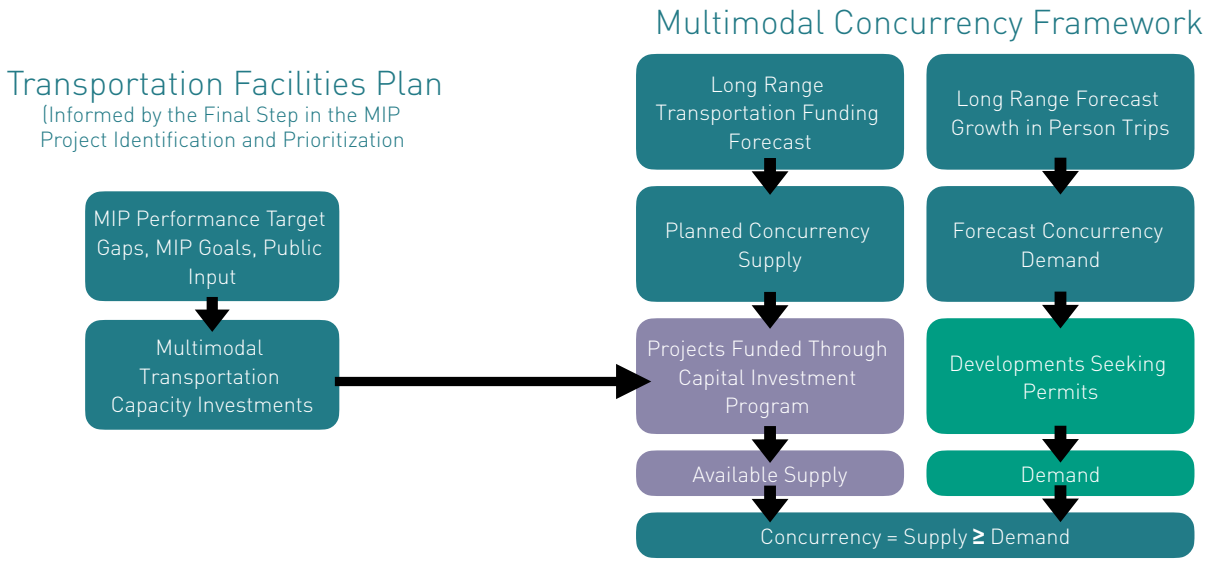
When concurrency is achieved by any available method, the proposed development would be required to comply with SEPA and Bellevue regulatory requirements, and to pay transportation impact fees as determined by the City Council as required by BCC 22.16.

Multimodal Concurrency and Transportation Project implementation

Multimodal concurrency requires that transportation projects be funded for implementation in the CIP to generate mobility units of supply. Multimodal concurrency intentionally does not provide any guidance about the type or location of new transportation facilities. The only requirement is that Bellevue ensures that the supply of available mobility units equals or exceeds the demand for mobility units. This structure is a direct outcome of the Transportation Commission's recommendation that multimodal concurrency be transparent to the community and be simple to implement and administer. Therefore, it is the role of the community (facilitated by city staff and the Transportation Commission) to identify and prioritize projects to advance from concept to implementation.

The MIP describes how the City measures transportation system performance, identifies Performance Target gaps, aligns potential projects to address Performance Target gaps with growth (and other City goals), and ultimately promotes projects to be considered for the Transportation Facilities Plan (TFP). From the TFP, the City can implement a project through the Capital Investment Program (CIP) and thereby generate mobility units of supply. This linkage between the TFP and the CIP describes the relationship between the MIP and Bellevue's multimodal concurrency approach and is depicted in **Figure 32**.

Figure 32: Relationship between Multimodal Concurrency and the Transportation Facilities Plan



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Mobility Implementation Plan

Appendix

City of Bellevue, WA
Adopted April 18, 2022
Resolution No. 10085

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appendix

A

Primary Vehicle Corridor Speed

Appendix A - Primary Vehicle Corridor Speed - Preliminary Results

ID	Corridor	From	To	Travel Time (Min)				Speed Ratio (2044)	
				2019		2044			
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	Bellevue Way	SR 520	NE 12th St	2.81	2.73	2.99	2.77	0.94	0.99
2	Bellevue Way	NE 12th St	Main St	1.5	1.53	1.50	1.56	1.00	0.98
3	Bellevue Way	Main St	112th Ave SE	2.53	2.63	2.54	3.38	1.00	0.78
4	Bellevue Way	112th Ave SE	I-90	1.82	2.38	2.07	3.88	0.88	0.61
5	108th Ave NE	NE 12th St	Main St	1.56	1.53	1.58	1.58	0.99	0.97
6	112th Ave NE	Northup Way	NE 12th St	2.98	2.88	3.27	2.95	0.91	0.98
7	112th Ave NE	NE 12th St	Main St	1.52	1.53	1.55	1.58	0.98	0.97
8	112th Ave SE	Main St	Bellevue Way	2.02	2.17	2.04	2.90	0.99	0.75
9	116th Ave NE	Northup Way	NE 12th St	1.42	1.44	1.43	1.44	0.99	1.00
10	116th Ave NE	NE 12th St	Main St	1.79	1.78	1.88	1.88	0.95	0.95
11	116th Ave NE/Lake Hills Connector	Main St	Richards Road	2.45	3.09	2.55	5.41	0.96	0.57
12	124th Ave NE	SR 520	NE 8th St	1.6	1.6	1.71	1.61	0.94	0.99
13	124th Ave SE/SE 38th St	Factoria Blvd	Coal Creek Pkwy	1.73	2.35	1.77	2.37	0.98	0.99
14	Richards Road	Lake Hills Connector	I-90	2.35	2.66	2.49	3.35	0.94	0.79
15	Factoria Blvd	I-90	Coal Creek Pkwy	1.99	2.66	1.99	2.77	1.00	0.96
16	Coal Creek Pkwy	I-405	Forest Drive SE	1.87	3.14	1.98	3.31	0.95	0.95
17	Coal Creek Pkwy	Forest Drive SE	Newcastle	2.23	3.44	2.39	3.65	0.93	0.94
18	Lake Washington Blvd	I-405	Renton	4.77	6	4.78	5.99	1.00	1.00
19	140th Ave NE	Redmond	NE 24th St	5.19	4.14	6.92	4.53	0.75	0.91
20	140th Ave NE	NE 24th St	Bel-Red Rd	1.03	1.05	1.02	1.05	1.01	1.00
21	140th Ave NE	Bel-Red Rd	NE 8th St	1.17	1.52	1.13	1.71	1.04	0.89
22	140th Ave	NE 8th St	SE 8th St	2.37	3.1	2.52	4.44	0.94	0.70
23	140th Ave NE/145th Pl SE	SE 8th St	SE 24th St	2.66	2.83	2.77	3.48	0.96	0.81
24	148th Ave NE	Redmond	SR 520	3.76	2.97	4.79	3.23	0.78	0.92
25	148th Ave	SR 520	NE 8th St	2.94	3.02	2.99	3.37	0.98	0.90
26	148th Ave	NE 8th St	SE 8th St	2.45	2.97	2.65	4.59	0.93	0.65
27	148th Ave SE	SE 8th St	SE 24th St	2.07	2.44	2.09	2.84	0.99	0.86
28	148th Ave SE	SE 24th St	SE 37th St	1.69	2.26	1.76	2.39	0.96	0.95
29	150th Ave SE	SE 37th St	Newport Way	0.85	1.06	0.85	1.18	1.00	0.90
30	156th Ave NE	Bel-Red Rd	NE 8th St	2.2	2.33	2.20	2.72	1.00	0.86
31	156th Ave	NE 8th St	Lake Hills Blvd	2.59	3.12	2.77	4.63	0.93	0.67
32	156th Ave SE	Lake Hills Blvd	Eastgate Way	3.74	3.63	3.89	3.94	0.96	0.92
33	West Lake Sammamish Pkwy	Redmond	Northup Way	3.18	3.18	3.17	3.18	1.00	1.00
34	West Lake Sammamish Pkwy	Northup Way	SE 34th St	4.21	4.94	4.50	6.44	0.94	0.77
35	West Lake Sammamish Pkwy	SE 34th St	I-90 (SE Newport Way)	3.56	5.69	4.36	6.93	0.82	0.82
36	Lakemont Blvd	I-90	164th Ave SE	2.62	2.72	2.61	2.98	1.00	0.91
37	Lakemont Blvd	164th Ave SE	Newcastle	2.69	2.74	2.89	2.80	0.93	0.98
38	Northup Way	Bellevue Way	124th Ave NE	3.44	3.67	4.60	3.95	0.75	0.93
39	NE 20th St	124th Ave NE	140th Ave NE	1.85	1.76	1.85	1.74	1.00	1.01
40	NE 20th St	140th Ave NE	156th Ave NE	1.91	1.83	2.14	1.91	0.89	0.96
41	Northup Way	156th Ave NE	West Lake Sammamish Pkwy	4.17	3.38	4.51	3.48	0.92	0.97
42	NE 24th St	140th Ave NE	148th Ave NE	0.96	0.85	0.97	0.87	0.99	0.98
43	NE 24th St	Bel-Red Rd	164th Ave NE	1.33	1.17	1.48	1.17	0.90	1.00
44	NE Spring Boulevard	NE 12th St	NE 20th St	-	-	3.67	3.32	-	-
45	NE 12th St	Bellevue Way	116th Ave NE	1.44	1.45	1.74	1.68	0.83	0.86
46	NE 12th St	116th Ave NE	124th Ave NE	1.15	1.14	1.76	1.38	0.65	0.83
47	Bel-Red Rd	124th Ave NE	148th Ave NE	2.93	2.83	3.32	2.79	0.88	1.01
48	Bel-Red Rd	148th Ave NE	164th Ave NE	2.29	2.28	2.47	2.39	0.93	0.95
49	Bel-Red Rd	164th Ave NE	Redmond	3.59	3.45	4.15	3.70	0.87	0.93
50	NE 10th St	Bellevue Way	116th Ave NE	1.4	1.37	1.52	1.42	0.92	0.96
51	NE 8th St	Medina	100th Ave NE	0.99	1.02	1.02	1.11	0.97	0.92
52	NE 8th St	100th Ave NE	I-405	1.85	1.83	1.94	1.84	0.95	1.00
53	NE 8th St	I-405	124th Ave NE	1.3	1.19	1.76	1.34	0.74	0.89
54	NE 8th St	124th Ave NE	148th Ave NE	2.77	2.61	3.50	2.74	0.79	0.95
55	NE 8th St	148th Ave NE	164th Ave NE	1.43	1.41	1.92	1.87	0.75	0.75
56	NE 8th St	164 Ave NE	Northup Way	1.63	1.61	1.63	1.62	1.00	0.99
57	NE 4th St	Bellevue Way	116th Ave NE	1.54	1.54	1.59	1.54	0.97	1.00
58	Main St	Bellevue Way	116th Ave NE	1.57	1.51	1.60	1.52	0.98	1.00
59	SE 8th St	112th Ave SE	Lake Hills Connector	1.19	1.18	1.21	1.20	0.98	0.99
60	Lake Hills Connector/SE 8th St	Richards Road	148th Ave SE	2.57	2.54	2.69	2.54	0.95	1.00
61	Lake Hills Blvd	148th Ave SE	156th Ave SE	1.65	1.54	1.77	1.70	0.93	0.90
62	SE 26th St/Kamber Rd	Richards Road	140th Ave SE	2.33	2.39	2.58	2.57	0.90	0.93
63	Eastgate Way	Richards Road	139th Ave SE	1.63	1.37	1.65	1.33	0.99	1.03

ID	Corridor	From	To	Travel Time (Min)				Speed Ratio (2044)	
				2019		2044			
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
64	**Eastgate Way**	**139th Ave SE**	**150th Ave SE**	1.14	1.61	1.14	1.70	1.00	0.95
65	**Eastgate Way**	**150th Ave SE**	**161st Ave SE**	1.17	1.27	1.18	1.26	0.99	1.01
66	**SE 36th St**	**Factoria Blvd**	**142nd Ave SE**	1.23	1.03	1.19	1.03	1.03	1.00
67	**SE 36th St**	**142nd Ave SE**	**150th Ave SE**	1.99	1.79	1.99	1.80	1.00	0.99
68	**Newport Way**	**Factoria Blvd**	**SE Allen Rd**	1.71	1.71	1.72	1.71	0.99	1.00
69	**Newport Way**	**SE Allen Rd**	**150th Ave SE**	1.4	1.36	1.40	1.37	1.00	0.99

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appendix

B

System Intersection Volume/Capacity Ratios

Appendix B - Volume / Capacity Ratio Results by PMA - Preliminary Results

Method: DHSS HCM CoB **TOD:** 2 Hr Average PM Peak

Area 1a (Downtown)

			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
3	100th Ave NE	NE 8th St	1122	1403	0.8	2019	1561	1396	1.118
5	Bellevue Wy NE	NE 12th St	992	1397	0.71	2019	1519	1396	1.088
7	Bellevue Wy NE	NE 8th St	854	1294	0.66	2019	1002	1296	0.773
8	Bellevue Wy NE	NE 4th St	759	1286	0.59	2019	846	1298	0.652
9	Bellevue Wy	Main St	1254	1348	0.93	2019	1258	1354	0.929
20	108th Ave NE	NE 12th St	742	1455	0.51	2018	1075	1455	0.739
21	108th Ave NE	NE 8th St	869	1317	0.66	2018	1142	1325	0.862
22	108th Ave NE	NE 4th St	1027	1300	0.79	2018	1366	1297	1.053
24	108th Ave	Main St	529	1469	0.36	2018	769	1490	0.516
25	112th Ave NE	NE 12th St	1053	1404	0.75	2019	1552	1396	1.112
26	112th Ave NE	NE 8th St	1260	1260	1	2018	1661	1264	1.314
36	112th Ave	Main St	1370	1398	0.98	2017	1835	1396	1.314
72	112th Ave NE	NE 4th St	928	1385	0.67	2017	1206	1381	0.873

Area 1b (BelRed)

			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
29	116th Ave NE	NE 12th St	1111	1389	0.8	2018	2032	1396	1.456
32	120th Ave NE	NE 12th St	803	1409	0.57	2018	1139	1403	0.812
34	124th Ave NE	Bel-Red Rd	1145	1396	0.82	2018	1453	1403	1.036
37	130th Ave NE	Bel-Red Rd	829	1454	0.57	2017	684	1462	0.468
39	140th Ave NE	NE 20th St	990	1394	0.71	2019	1006	1403	0.717
40	140th Ave NE	Bel-Red Rd	1105	1399	0.79	2019	1181	1396	0.846
47	148th Ave NE	NE 20th St	1294	1391	0.93	2019	1540	1396	1.103
48	148th Ave NE	Bel-Red Rd	1375	1403	0.98	2018	1591	1403	1.134
59	Bel-Red Rd	NE 24th St	932	1456	0.64	2019	1160	1455	0.797
60	156th Ave NE	Bel-Red Rd	1049	1399	0.75	2019	1275	1396	0.913
61	156th Ave NE	NE 24th St	1153	1389	0.83	2018	1351	1381	0.978
68	130th Ave NE	Northup Wy	848	1413	0.6	2017	1244	1402	0.887
81	148th Ave NE	NE 24th St	1291	1403	0.92	2019	1365	1396	0.978
88	124th Ave NE	Northup Wy	933	1393	0.67	2018	1545	1403	1.101
117	120th Ave NE	Northup Wy	448	1445	0.31	2017	681	1465	0.465

Area 1c (Wilburton/East Main)									
			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
30	116th Ave NE	NE 8th St	1024	1403	0.73	2018	1440	1395	1.032
73	116th Ave	Main St	908	1397	0.65	2018	1193	1404	0.85
89	112th Ave SE	SE 8th St	936	1463	0.64	2017	943	1462	0.645
102	118th Ave SE	SE 8th St	1436	1408	1.02	2018	1607	1403	1.145
131	116th Ave SE	SE 1st St	1186	1395	0.85	2018	1503	1403	1.071
139	116th Ave NE	NE 4th St	1287	1399	0.92	2018	1746	1396	1.251
219	I-405 NB Off and On Ramps	SE 8th St	1046	1473	0.71	2018	1106	1463	0.756
226	I-405 SB Ramps	SE 8th St	960	1455	0.66	2018	1249	1463	0.854
233	120th Ave NE	NE 8th St	869	1402	0.62	2017	1289	1410	0.914

Area 2a (Crossroads)									
			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
58	Bel-Red Rd	NE 20th St	780	1444	0.54	2018	1021	1454	0.702
62	156th Ave NE	Northup Wy	1188	1398	0.85	2018	1274	1403	0.908
63	156th Ave NE	NE 8th St	1041	1388	0.75	2018	1221	1381	0.884

Area 2b (Eastgate)									
			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
56	148th Ave SE	Landerholm Circle	971	1517	0.64	2018	1023	1511	0.677
86	156th Ave SE	SE Eastgate Wy	820	1414	0.58	2018	882	1402	0.629
92	161st Ave SE	SE Eastgate Wy	822	1468	0.56	2019	814	1464	0.556
101	150th Ave SE	SE Eastgate Wy	1411	1397	1.01	2019	1207	1403	0.86
171	142nd Ave SE	SE 36th St	1309	1471	0.89	2019	1395	1462	0.954
227	150th Ave SE	I-90 EB Off-Ramp/37th St	1280	1471	0.87	2019	843	1464	0.576
272	139th Ave SE	SE Eastgate Wy	754	1450	0.52	2019	748	1464	0.511

Area 2c (Factoria)									
			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
98	Coal Creek Pkwy	Forest Dr	1252	1456	0.86	2017	1287	1463	0.88
105	Richards rd	SE Eastgate Wy	1147	1452	0.79	2019	1082	1454	0.744
202	Factoria Blvd SE	SE Newport Wy	1087	1412	0.77	2019	1082	1403	0.771
203	Factoria Blvd SE	Coal Creek Pkwy	1072	1468	0.73	2019	1161	1462	0.794
204	Factoria Blvd SE	SE 36th St (I-90 EB Off-ramp)	1224	1391	0.88	2019	1265	1396	0.906
220	I-405 NB Ramps	Coal Creek Pkwy	1042	1468	0.71	2019	1165	1464	0.796
221	I-405 SB Ramps	Coal Creek Pkwy	1192	1472	0.81	2019	1197	1463	0.818
222	Factoria Blvd SE	SE 38th St	1188	1398	0.85	2019	1201	1397	0.86
284	124th Ave SE	Coal Creek Pkwy	1085	1466	0.74	2019	1150	1463	0.786

			Area 3 (Residential)						
			2019 Base Year Observed				2044 LU Test in 2033 TFP Network		
Int	NS Address	EW Address	Crit Vol	Capacity	v/c	Base Yr. count	Crit Vol	Capacity	v/c
69	Bellevue Wy NE	NE 24th St	947	1413	0.67	2018	1091	1402	0.778
74	Bellevue Wy NE	Northup Wy	848	1413	0.6	2018	920	1402	0.656
78	108th Ave NE	Northup Wy	920	1394	0.66	2018	1186	1404	0.845
93	Lk Wash Blvd NE	NE10th & NE 1st St (5-Way)	943	1473	0.64	2019	1387	1463	0.948
64	140th Ave NE	NE 24th St	1172	1395	0.84	2019	1379	1403	0.983
79	148th Ave NE	NE 40th St	901	1386	0.65	2019	1269	1382	0.918
114	116th Ave NE	Northup Wy	1068	1463	0.73	2018	1357	1462	0.928
116	115th Pl NE	Northup Wy	1384	1457	0.95	2019	1662	1463	1.136
118	Northup Wy	NE 24th St	722	1473	0.49	2019	900	1463	0.615
123	140th Ave NE	NE 40th St	-	-	-	2019	-	-	-
188	148th Ave NE	NE 29th Pl	1195	1440	0.83	2019	1342	1441	0.931
189	NE 29th Pl	NE 24th St	516	1474	0.35	2019	565	1464	0.386
75	164th Ave NE	NE 24th St	974	1412	0.69	2018	1185	1402	0.845
76	164th Ave NE	Northup Wy	1033	1396	0.74	2018	1197	1403	0.853
87	164th Ave NE	NE 8th St	1022	1503	0.68	2018	1293	1512	0.855
111	Northup Wy	NE 8th St	-	-	-	2019	-	-	-
14	112th Ave SE	Bellevue Wy SE	1125	1461	0.77	2017	1467	1463	1.003
35	124th Ave NE	NE 8th St	778	1468	0.53	2018	1216	1463	0.831
43	140th Ave SE	SE 8th St	1144	1395	0.82	2018	1277	1396	0.915
44	145th Pl SE	Lk Hills Blvd	869	1448	0.6	2018	1001	1455	0.688
45	145th Pl SE	SE 16th St	933	1393	0.67	2018	1086	1403	0.774
71	Lk Hills Connector	SE 7th Pl	1443	1401	1.03	2018	1729	1403	1.232
82	Richards Rd	SE 26th St (Kamber Rd)	1191	1470	0.81	2018	1311	1463	0.896
85	Richards Rd	SE 32nd St	893	1464	0.61	2018	1074	1463	0.734
134	Richards Rd	Lk Hills Con	972	1473	0.66	2018	1236	1463	0.845
280	139th Ave SE	Kamber Rd	875	1411	0.62	2019	989	1403	0.705
41	140th Ave NE	NE 8th St	1093	1384	0.79	2018	1229	1382	0.889
42	140th Ave	Main St	881	1468	0.6	2018	964	1463	0.659
49	148th Ave NE	NE 8th St	1387	1401	0.99	2018	1485	1404	1.058
50	148th Ave	Main St	1322	1392	0.95	2018	1452	1396	1.04
51	148th Ave SE	Lk Hills Blvd	1360	1402	0.97	2018	1198	1403	0.854
52	148th Ave SE	SE 16th St	1281	1456	0.88	2018	1417	1462	0.969
55	148th Ave SE	SE 24th St	1270	1460	0.87	2018	1301	1463	0.889
65	148th Ave SE	SE 8th St	1154	1461	0.79	2018	1271	1463	0.869
83	156th Ave	Main St	1040	1507	0.69	2018	1137	1512	0.752
99	SE Allen Rd/Somerset Blvd (#313)	SE Newport Wy	882	1400	0.63	0	935	1410	0.663
133	150th Ave SE	SE Newport Wy	1249	1403	0.89	2019	1280	1404	0.912
174	150th Ave SE	SE 38th St	1116	1395	0.8	2019	1170	1403	0.834
218	Lakemont Blvd SE	SE 63rd St (Cougar Mt Way)	959	1453	0.66	2017	1014	1463	0.693
228	Lakemont Blvd SE	SE Newport Wy	1251	1406	0.89	2018	1726	1403	1.23
242	164th Ave SE	Lakemont Blvd	907	1463	0.62	2017	1013	1464	0.692
257	164th Ave SE	SE Newport Wy	-	-	-	2017	-	-	-
274	Village Park Dr SE	Lakemont Blvd SE	763	1467	0.52	2017	925	1464	0.632

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appendix

C

Existing Conditions
Multimodal Network Gaps

Appendix C - Network Gaps

Bellevue MIP - Pedestrian Network Gaps

Street	From	To	Gap
SE 26th St	100ft east of Richards Rd	70ft west of 137th Ave SE	Missing sidewalk on southside
92nd Ave NE	120ft south of NE 13th St	NE 8th St	Missing sidewalk on both sides
Northup Way	NE 8th St	W Lake Sammamish Pkwy NE	Missing sidewalk on both sides
124th Ave NE	Bell-Red Rd	NE Spring Blvd	Missing sidewalk on both sides
130th Ave NE	Bell-Red Rd	Station	Missing sidewalk on both sides
140th Ave SE	NE 25th St	125ft south of NE 30th Pl	Missing sidewalk on west side
140th Ave SE	245ft north of NE 31st Pl	Bridle Crest Trail	Missing sidewalk on eastside
121st Ave SE	SE 13th St	SE 8th St	Missing sidewalk on eastside
156th Ave SE	SE 5th Ct	SE 1st St	Missing sidewalk on eastside
Main St	162nd Ave SE	164th Ave SE	Missing sidewalk on both sides
SE 24th St	apartment driveway	145th Pl SE	Missing sidewalk on north side
Bel-Red Rd	156th Ave SE	NE 40th St	Missing sidewalk on southside
156th Ave NE	NE 1st St	NE 6th St	Missing sidewalk on eastside
108th Ave NE	NE 24th St	NE 20th St	Missing sidewalk on both sides
104th Ave SE	115ft north of SE 13th St	SE 16th St	Missing sidewalk on eastside
104th Ave SE	SE 24th Pl	SE 28th Pl	Missing sidewalk on west side
Bellevue Way SE	S Bellevue Station	I90	Missing sidewalk on both sides
116th Ave SE	SE 64th St	SE 60th St	Missing sidewalk on west side
164th Ave SE	SE 46th St	SE 44th Pl	Missing sidewalk on eastside
SE 34th St	88ft west of 111th Ave SE	112th Ave SE	Missing sidewalk on southside
Forest Dr SE	153rd Ave SE	156th Ave SE	Missing sidewalk on north side
NE 24th St	108th Ave NE	112th Ave NE	Missing sidewalk on north side
168th Pl SE/ SE 60th St	SE 62nd St	170th Ave SE	Missing sidewalk on west/north side
Newcastle Way	115th Ct SE	116th Ave SE	Missing sidewalk on north side
W Lake Sammamish Pkwy SE/NE	SE 34th St	City Limits	Missing sidewalk on both sides
Lake Hills Connector	700ft east of SE 5th St	Richards Rd	Missing sidewalk on southside
Lake Hills Connector	SE 5th St	SE 7th Pl	Missing sidewalk on southside
Lake Hills Connector	SE 5th St	SE 8th St	Missing sidewalk on southside
148th Ave SE	SR520	NE 29th Pl	Missing sidewalk on eastside
NE 30th St	168th Pl NE	172nd Ave NE	Missing sidewalk on southside
156th Ave SE	SE 27th St	SE 24th St	Missing sidewalk on west side
SE 24th St	164th Ave SE	156th Ave SE	Missing sidewalk on north side
SE 26th St	SE 24th St	W Lake Sammamish Pkwy SE	Missing sidewalk on north side
Main St	188ft East of 156th Ave SE	162nd Ave SE	Missing sidewalk on north side
108th Ave SE	SE 30th St	SE 34th St	Missing sidewalk on west side
SE 34th St/113th Ave SE/ SE 30th St	112th Ave SE	Bellevue Way SE	Missing sidewalk on both sides
100th Ave SE/98th Ave SE	SE 16th St	SE 11th St	Missing sidewalk on both sides
SE Eastgate Way	Office park driveway	SE 37th St	Missing sidewalk on southside
150th Ave SE	640ft north of SE Newport Way	385ft south of SE 38th St	Missing sidewalk on west side
SE Allen Rd	138th Ave SE	300ft south of SE 38th St	Missing sidewalk on both sides
124th Ave SE/ SE 38th St	mall driveway	steakhouse driveway	Missing sidewalk on west side
148th Ave SE	SE 46th Pl	SE 44th St	Missing sidewalk on both sides
Lake washington Blvd NE	NE 10th St	92nd Ave NE	Missing sidewalk on southside
NE 29th Pl	NE 24th St	148th Ave NE	Missing sidewalk on southside
120th Ave NE	Northup Way	Station	Missing sidewalk on eastside
Village Park Dr SE	apartment driveway	179th Ave SE	Missing sidewalk on north side
Main St	118th Ave SE	school driveway	Missing sidewalk on north side
SE 16th St	175ft east of 148th Ave SE	154th Ave SE	Missing sidewalk on southside
128th Ave SE	SE 30th St	340ft soth of SE 22nd Pl	Missing sidewalk on eastside
Kamber Rd	SE 20th St	SE 17th Pl	Missing sidewalk on eastside
SE 22nd Pl	156th Ave SE	65ft north of SE 23rd St	Missing sidewalk on southside
Northup Way	168th Ave NE	NE 8th St	Missing sidewalk on north side
SE 30th St	SE 29th St	Enatai Dr	Missing sidewalk on west side
Bellevue Way SE	112th Ave SE	S Bellevue Station	Missing sidewalk on west side
Lake washington Blvd NE	92nd Ave NE	bridge	Missing sidewalk on southside
98th Ave SE/ 99th Ave SE	SE 11th St	SE 5th St	Missing sidewalk on eastside
SE 37th St	150th Ave SE	SE Eastgate Way	Missing sidewalk on north side
SE 36th St	Honda Auto Center Driveway	Pedestrian Bridge	Missing sidewalk on north side
SE Newport Way	apartment driveway	164th Ave SE	Missing sidewalk on both sides
119th Ave SE	SE 52nd St	350ft south of Coal Creek Pkwy SE	Missing sidewalk on west side
164th Ave SE/NE	SE 14th St	NE 8th St	Missing sidewalk on eastside
SE 20th Pl/ 123rd Ave SE	126th Ave SE	SE 14th St	Missing sidewalk on eastside
SE 22nd St	90ft west of 153rd Ln SE	148th Ave SE	Missing sidewalk on southside

Street	From	To	Gap
SE 35th Pl/SE 34th St	162nd Pl SE	168th Pl SE	Missing sidewalk on both sides
SE 34th St	108th Ave SE	88ft west of 111th Ave SE	Missing sidewalk on both sides
Forest Dr SE	Somerset Dr SE	SE 63rd St	Missing sidewalk on north side
Coal Creek Pkwy SE	Forest Dr SE	Factoria Blvd SE	Missing sidewalk on southside
NE 14th St	98th Ave NE	100th Ave NE	Missing sidewalk on southside
NE 24th St	Northup Way	520 bike trail	Missing sidewalk on southside
NE 24th St	NE 23rd Pl	127th Ave NE	Missing sidewalk on southside
NE 24th St	100ft east of 167th Ave NE	169th Ave NE	Missing sidewalk on north side
SE 34th St	168th Pl SE	W Lake Sammamish Pkwy SE	Missing sidewalk on southside
110th Ave NE	NE 2nd St	Main St	Missing sidewalk on west side
108th Ave SE	SE 34th St	106th Ave SE	Missing sidewalk on both sides
104th Ave SE	SE 16th St	SE 23rd St	Missing sidewalk on west side
SE 60th St	Coal Creek Pkwy SE	129th Ave SE	Missing sidewalk on both sides
108th Ave SE	SE Newport Way	W Lake Sammamish Pkwy SE	Missing sidewalk on both sides
150th Ave SE	SE 38th St	SE 37th St	Missing sidewalk on west side
SE Allen Rd	apartment driveway	138th Ave SE	Missing sidewalk on southside
SE 60th St	129th Ave SE	125th Ave SE	Missing sidewalk on on south side
Newcastle Way	112th Ave SE	165ft west of 113th Pl SE	Missing sidewalk on north side
Forest Dr SE	Coal Creek Pkwy SE	255ft west of Somerset Dr SE	Missing sidewalk on north side
Lake Hills Connector	SE 7th Pl	700ft east of SE 5th St	Missing sidewalk on north side
SE 35th Pl	SE Eastgate Way	162nd Pl SE	Missing sidewalk on southside
SE 30th St/ 106th Ave SE	Enatai Dr	130ft west of 108th Ave SE	Missing sidewalk on both sides
NE 12th St	102nd Ave NE	bellevue Way NE	Missing sidewalk on southside
Main St	106th Ave NE	107th Ave NE	Missing sidewalk on north side
Forest Dr SE	152nd Ave SE	153rd Ave SE	Missing sidewalk on north side
16th Ave SE/ SE 44th Way	SE 44th Pl	300ft south of roundabout	Missing sidewalk on both sides
SE 60th St	120th Ave SE	Lake Washington Blvd SE	Missing sidewalk on north side
123rd Ave SE	SE 60th Pl	SE 60th St	Missing sidewalk on west side
100th Ave Ne	NE 24th St	NE 14th St	Missing sidewalk on eastside
164th Ave NE	NE 24th St	NE 30th St	Missing sidewalk on eastside
156th Ave SE	SE 24th St	SE 11th St	Missing sidewalk on west side
108th Ave SE	SE 3rd St	SE 11th St	Missing sidewalk on eastside
108th Ave SE	SE 12th St	SE 16th St	Missing sidewalk on eastside
104th Ave SE	SE 8th St	SE 11th St	Missing sidewalk on eastside
116th Ave SE	Newcastle Way	SE 64th St	Missing sidewalk on both sides
SE Eastgate Way	Seattle Humane	Office park driveway	Missing sidewalk on both sides
SE 16th St	156th Ave SE	SE Phantom Way	Missing sidewalk on southside
130th Ave NE	600ft south of Northup Way	Northup Way	Missing sidewalk on both sides
SE 60th St	170th Ave SE	178th Ct SE	Missing sidewalk on both sides
Lake Washington Blvd SE	125ft north of SE 59th St	113th Pl SE	Missing sidewalk on west side
Lake Washington Blvd SE	195ft north of SE 61st Pl	SE 60th St	Missing sidewalk on west side
SE 25th St	335ft west of 108th Ave SE	104th Ave SE	Missing sidewalk on north side
SE Newport Way	200ft east of 164th Ave SE	Lakemont Blvd SE	Missing sidewalk on both sides
Lakemont Blvd SE	171st Ave SE	SE Newport Way	Missing sidewalk on southside
Lake Washington Blvd SE	SE 62nd Pl	SE 61st Ter	Missing sidewalk on west side
108th Ave NE	NE 20th St	NE 12th St	Missing sidewalk on west side
Kamber Rd	100ft east of 139th Ave SE	SE 21st Ct	Missing sidewalk on eastside
SE 25th St/Killarney Way	104th Ave SE	600ft south of SE 16th St	Missing sidewalk on both sides
NE 6th St	112th Ave NE	Ramp	Missing sidewalk on both sides
102nd Ave NE	NE 8th St	midblock	Missing sidewalk on eastside
SE 16th St	Private driveway	156th Ave SE	Missing sidewalk on southside
112th Ave NE	NE 24th St	Office park driveway	Missing sidewalk on eastside
Lake washington Blvd NE	99th Ave NE	100th Ave NE	Missing sidewalk on southside
SE Newport Way	152nd Ave SE	apartment driveway	Missing sidewalk on southside
SE Eastgate Way	300ft east of Richards Rd	Seattle Humane	Missing sidewalk on both sides
SE Eastgate Way	Seattle Humane	Seattle Humane	Missing sidewalk on southside
164th Ave SE	300ft south of roundabout	SE Newport Way	Missing sidewalk on west side
NE 8th St	165th Ave NE	Northup Way	Missing sidewalk on north side

Bellevue MIP - Bicycle Network Gaps

Street	From	To	Gap
100th Avenue NE	Main Street	NE 10th Street	No facility exists
100th Avenue NE	NE 10th Street	NE 24th Street	Insufficient existing facility
106th Avenue NE	NE 4th Street	NE 12th Street	No facility exists
106th Avenue NE	Main Street	NE 4th Street	Insufficient existing facility
108th Avenue NE	NE 38th Place	North City Limit	No facility exists
112th Avenue NE	NE 5th Street	NE 12th Street	No facility exists
112th Avenue NE	NE 12th Street	108th Avenue NE	Insufficient existing facility
112th Avenue SE	Bellevue Way SE	SE 8th Street	No facility exists
114th Avenue NE	Main Street	112th Avenue NE	Insufficient existing facility
114th Avenue SE	SE 8th Street	SE 6th Street	Insufficient existing facility
116th Avenue SE	SE 5th Street	NE 2nd Place	No facility exists
116th Avenue SE	600 feet south of NE 8th Street	NE 12th Street	No facility exists
116th Avenue SE	NE 2nd Place	600 feet south of NE 8th Street	Insufficient existing facility
120th Avenue NE	700 feet north of NE Spring Boluevard	Northup Way	No facility exists
124th Avenue NE	NE 8th Street	Bel-Red Road	No facility exists
124th Avenue NE	NE Spring Boulevard	Northup Way	No facility exists
124th Avenue SE/SE 38th Street	SE 41st Place	Factoria Boulevard SE	No facility exists
124th Avenue NE	NE 12th Street	NE Spring Boulevard	Insufficient existing facility
130th Avenue NE	Northup Way	NE 24 Street	No facility exists
130th Avenue NE	Bel-Red Road	Northup Way	Insufficient existing facility
132nd Avenue NE	NE 40th Street	North City Limit	No facility exists
134th Avenue NE	NE 24th Street	NE 40th Street	Insufficient existing facility
140th Avenue NE	NE 8th Street	North City Limit	No facility exists
140th Avenue NE	Lake Hills Connector	NE 8th Street	Insufficient existing facility
142nd Place SE/SE 32nd Street	SE 36th Street	139th Avenue SE	No facility exists
145th Avenue SE/145th Avenue SE	SE Newport Way	SE 36th Street	No facility exists
150th Avenue SE	SE Allen Road	SE 37th Street	No facility exists
153rd Avenue SE/SE 38th Street	SE Newport Way	150th Avenue SE	No facility exists
156th Avenue NE	NE 6th Street	Bel-Red Road	No facility exists
156th Avenue NE	Lake Hills Boulevard	NE 6th Street	Insufficient existing facility
164th Avenue NE	SE 16th Street	NE 30th Street	Insufficient existing facility
8th Street	92nd Avenue NE	96th Avenue NE	No facility exists
Bellevue Way SE	I-90	112th Avenue SE	No facility exists
Bel-Red Road	124th Avenue NE	NE 20th Street	No facility exists
Bel-Red Road	156th Avenue NE	165th Place NE	Insufficient existing facility
Coal Creek Parkway	119th Avenue SE	South City Limit	Insufficient existing facility
East Rail	I-405 & Coal Creek Parway SE	North City Limit	No facility exists
Forest Drive SE	SE 63rd Street	152nd Avenue SE	No facility exists
Forest Drive SE	152nd Avenue SE	Lakemont Boulevard SE	Insufficient existing facility
Lake Hills Connector	SE 8th Street	140th Avenue SE	No facility exists
Lake Hills Connector	SE 8th Street	SE 5th Street	Insufficient existing facility
Lake Washington Boulevard NE	NE 151st Street	100th Avenue NE	Insufficient existing facility
Lakemont Boulevard SE	164th Avenue SE	181st Avenue SE	Insufficient existing facility
Lakemont Boulevard SE	Forest Drive SE	South City Limit	Insufficient existing facility
Main Street	100th Avenue NE	103rd Avenue NE	No facility exists
Main Street	110th Avenue NE	116th Avenue NE	No facility exists
Main Street	103rd Avenue NE	110th Avenue NE	Insufficient existing facility
Main Street	140th Avenue SE	164th Avenue SE	Insufficient existing facility
MTSG	SE 37th Street	180th Avenue SE	No facility exists
NE 12th Street	108th Avenue NE	112th Avenue NE	No facility exists
NE 12th Street	NE Spring Boulevard	124th Avenue NE	No facility exists
NE 151st Street	Lake Washington Boulevard NE	92nd Avenue NE	Insufficient existing facility
NE 1st Street	102nd Avenue NE	106th Avenue NE	No facility exists
NE 1st Street	100th Avenue NE	102nd Avenue NE	Insufficient existing facility
NE 20th Street	136th Place NE	140th Avenue NE	Insufficient existing facility
NE 20th Street/Northup Way	Bel-Red Road	800 feet east of 156th Avenue NE	No facility exists
NE 24th Street	300 feet west of 140th Avenue NE	164th Avenue NE	No facility exists
NE 24th Street	108th Avenue NE	112th Avenue NE	Insufficient existing facility
NE 24th Street	130th Avenue NE	300 feet west of 140th Avenue NE	Insufficient existing facility
NE 2nd Street	106th Avenue NE	112th Avenue NE	Insufficient existing facility
NE 30th Street	Bel-Red Road	164th Avenue NE	No facility exists
NE 30th Street	164th Avenue NE	172nd Avenue NE	Insufficient existing facility
NE 40th Street	140th Avenue NE	148th Avenue NE	Insufficient existing facility
NE 8th Street	96th Avenue NE	100th Avenue NE	Insufficient existing facility

Street	From	To	Gap
NE 8th Street	156th Avenue NE	164th Avenue NE	Insufficient existing facility
NE Spring Boulevard/136th Place NE	124th Avenue NE	NE 20th Street	No facility exists
Newcastle Golf Club Road	South City Limit	Lakemont Boulevard SE	No facility exists
Northup Way	124th Avenue NE	NE Spring Boulevard/136th Place NE	No facility exists
Northup Way	108th Avenue NE	124th Avenue NE	Insufficient existing facility
Northup Way	800 feet east of 156th Avenue NE	173rd Avenue NE	Insufficient existing facility
SE 16th Street	148th Avenue SE	156th Avenue SE	No facility exists
SE 34th Street	164th Place SE	W Lake Sammamish Parkway	No facility exists
SE 34th Street/SE 35th Place	SE Eastgate Way	164th Place SE	Insufficient existing facility
SE 36th Street	500 feet west of 150th Avenue SE	150th Avenue SE	No facility exists
SE 36th Street	132nd Avenue SE	500 feet west of 150th Avenue SE	Insufficient existing facility
SE 37th Street	150th Avenue SE	200 feet east of I-90 On Ramp	No facility exists
SE 37th Street	700 feet west of 156th Avenue	156th Avenue SE	No facility exists
SE 37th Street	200 feet east of I-90 On Ramp	700 feet west of 156th Avenue	Insufficient existing facility
SE 8th Street	114th Avenue SE	Lake Hills Connector	No facility exists
SE 8th Street	112th Avenue SE	114th Avenue SE	Insufficient existing facility
SE Newport Way	SE Allen Road	145th Avenue SE	Insufficient existing facility
SE Newport Way	164th Avenue SE	Lakemont Boulevard SE	Insufficient existing facility
W Lake Sammamish Parkway	SE 34th Street	North City Limit	Insufficient existing facility

Bellevue MIP - Transit Network Gaps

Origin	Destination	Gap
Downtown	Factoria	TTR exceeds target
Overlake	Crossroads	TTR exceeds target
Overlake	Eastgate	TTR exceeds target
Crossroads	Overlake	TTR exceeds target
Eastgate	Downtown	TTR exceeds target
Eastgate	Overlake	TTR exceeds target
Eastgate	Crossroads	TTR exceeds target
Eastgate	Factoria	TTR exceeds target
Factoria	Downtown	TTR exceeds target
Factoria	Eastgate	TTR exceeds target

Bellevue MIP - Vehicle Network Gaps, System Intersections

N/S Street	E/W Street	Gap
148th Avenue NE	NE 8th Street	Exceeds V/C target
148th Avenue NE	Main Street	Exceeds V/C target
148th Avenue NE	Lake Hills Boulevard	Exceeds V/C target
148th Avenue NE	SE 16th Street	Exceeds V/C target
Coal Creek Parkway SE	Forest Drive SE	Exceeds V/C target
Lakemont Boulevard SE	SE Newport Way	Exceeds V/C target
150th Avenue SE	SE Newport Way	Exceeds V/C target
150th Avenue SE	SE Eastgate Way	Exceeds V/C target
Lake Hills Connector	SE 7th Place	Exceeds V/C target
118th Avenue SE	SE 8th Street	Exceeds V/C target
115th Place NE	Northup Way	Exceeds V/C target

Bellevue MIP - Vehicle Network Gaps, System Corridors

Direction	Street	From	To	Gap
EB	NE 4th Street	Bellevue Way NE	116th Avenue NE	Exceeds Urban Travel Speed Target
NE	Bel-Red Road	164th Avenue NE	North City Limit	Exceeds Urban Travel Speed Target
NB	Bellevue Way SE	I-90	112th Avenue SE	Exceeds Urban Travel Speed Target
SB	Bellevue Way NE	NE 12th Street	Main Street	Exceeds Urban Travel Speed Target
SB	108th Avenue NE	NE 12th Street	Main Street	Exceeds Urban Travel Speed Target
SB	148th Avenue NE	Bel-Red Road	NE 8th Street	Exceeds Urban Travel Speed Target
SB	140th Avenue NE	Bel-Red Road	NE 8th Street	Exceeds Urban Travel Speed Target
SB	140th Avenue NE	NE 8th Street	SE 8th Street	Exceeds Urban Travel Speed Target
WB	NE 4th Street	116th Avenue NE	Bellevue Way NE	Exceeds Urban Travel Speed Target
WB	SE Eastgate Way	139th Avenue SE	Richards Road	Exceeds Urban Travel Speed Target
WB	SE 36th Street	142nd Place SE	Factoria Boulevard	Exceeds Urban Travel Speed Target
SB	Bellevue Way SE	112th Avenue SE	I-90	Exceeds Urban Travel Speed Target
SB	Factoria Boulevard SE	I-90	Coal Creek Parkway	Exceeds Urban Travel Speed Target
SB	Coal Creek Parkway	SE Newport Way	Forest Drive SE	Exceeds Urban Travel Speed Target
SB	Coal Creek Parkway	Forest Drive SE	Newcastle	Exceeds Urban Travel Speed Target
SB	150th Ave SE	SE 37th Street	SE Newport Way	Exceeds Urban Travel Speed Target
SB	148th Ave SE	SE 24th St	SE 37th St	Exceeds Urban Travel Speed Target

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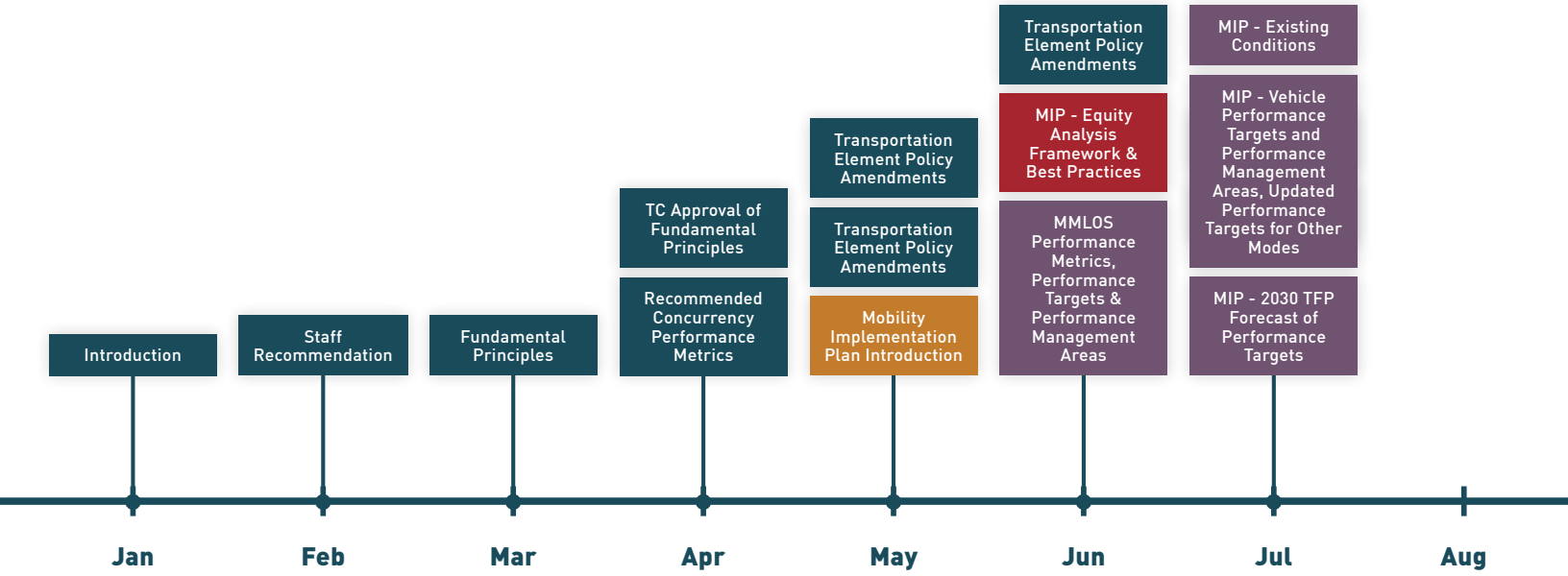
appendix

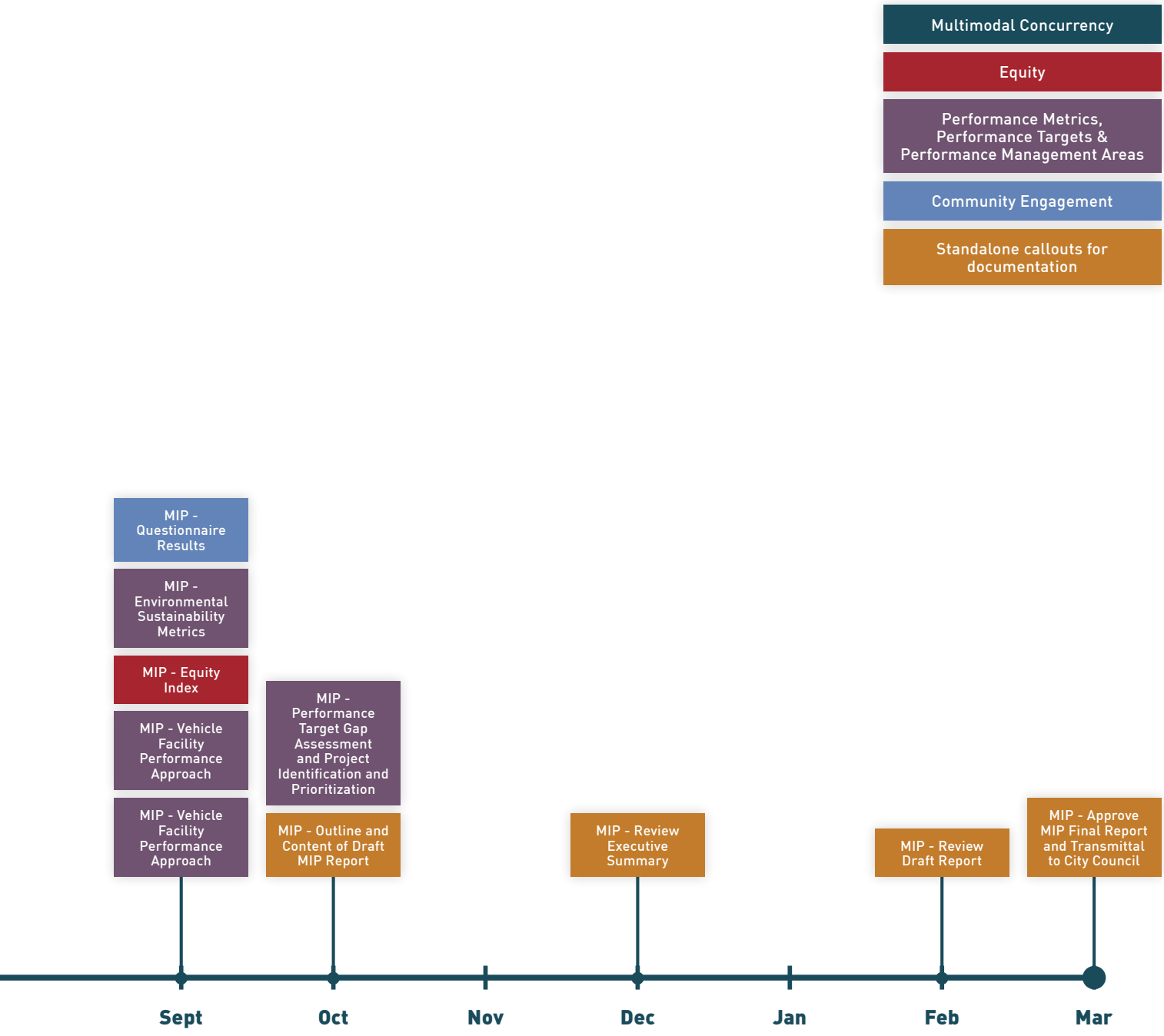
D

Transportation Commission Agenda Memo Timeline

Transportation Commission MIP Meeting Timeline

- Multimodal Concurrency
- Equity
- Performance Metrics, Performance Targets & Performance Management Areas
- Community Engagement
- Standalone callouts for documentation




Multimodal Concurrency
Equity
Performance Metrics, Performance Targets & Performance Management Areas
Community Engagement
Standalone callouts for documentation
MIP - Questionnaire Results
MIP - Environmental Sustainability Metrics
MIP - Equity Index
MIP - Vehicle Facility Performance Approach
MIP - Vehicle Facility Performance Approach
MIP - Performance Target Gap Assessment and Project Identification and Prioritization
MIP - Outline and Content of Draft MIP Report
MIP - Review Executive Summary
MIP - Review Draft Report
MIP - Approve MIP Final Report and Transmittal to City Council
Sept
Oct
Nov
Dec
Jan
Feb
Mar

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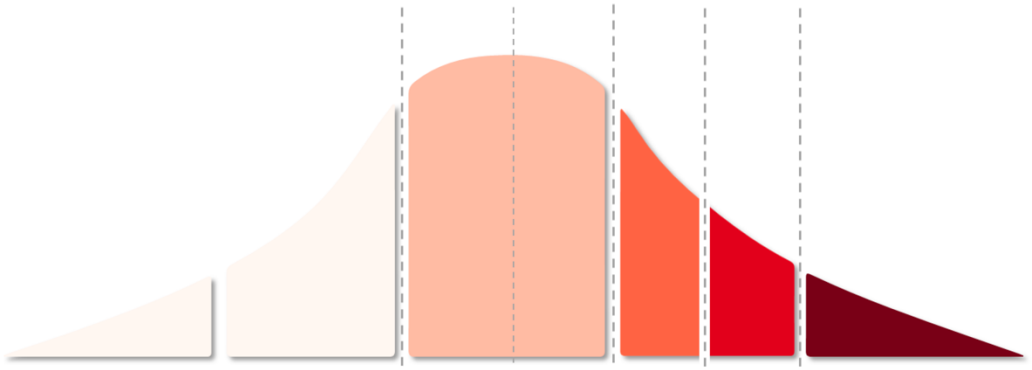
appendix

E

Equity Maps and Data

The following pages include maps of equity data that were used to develop the MIP Equity Index. These equity maps are intended to help identify areas of Bellevue that have higher concentrations of populations that have historically relied more on modes other than the private car to get around. These equity data are helpful in structuring outreach as identified in the MIP and are also valuable when considering project design concepts and project prioritization to address Performance Target gaps.

Each equity map is arranged in a gradient of five colors. The scaling is based on the concentration of the population within each geography as determined using standard deviation around the average of a normal distribution. The relationship between the average and standard deviations for a normal distribution are shown below. The color gradient on the figure match those on the maps (e.g., the darkest color represents a concentration of an equity population that is more than 1.5 standard deviations above the average).

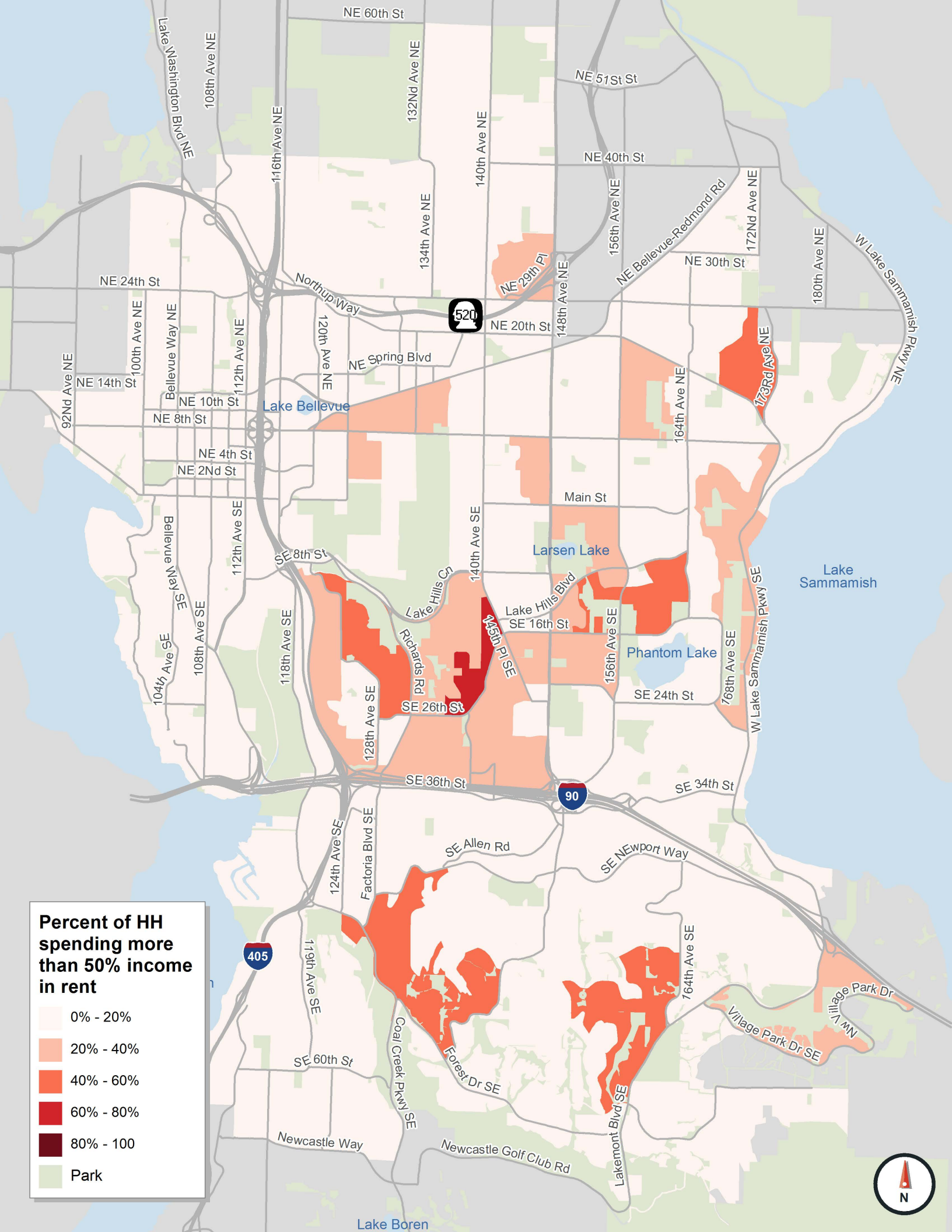


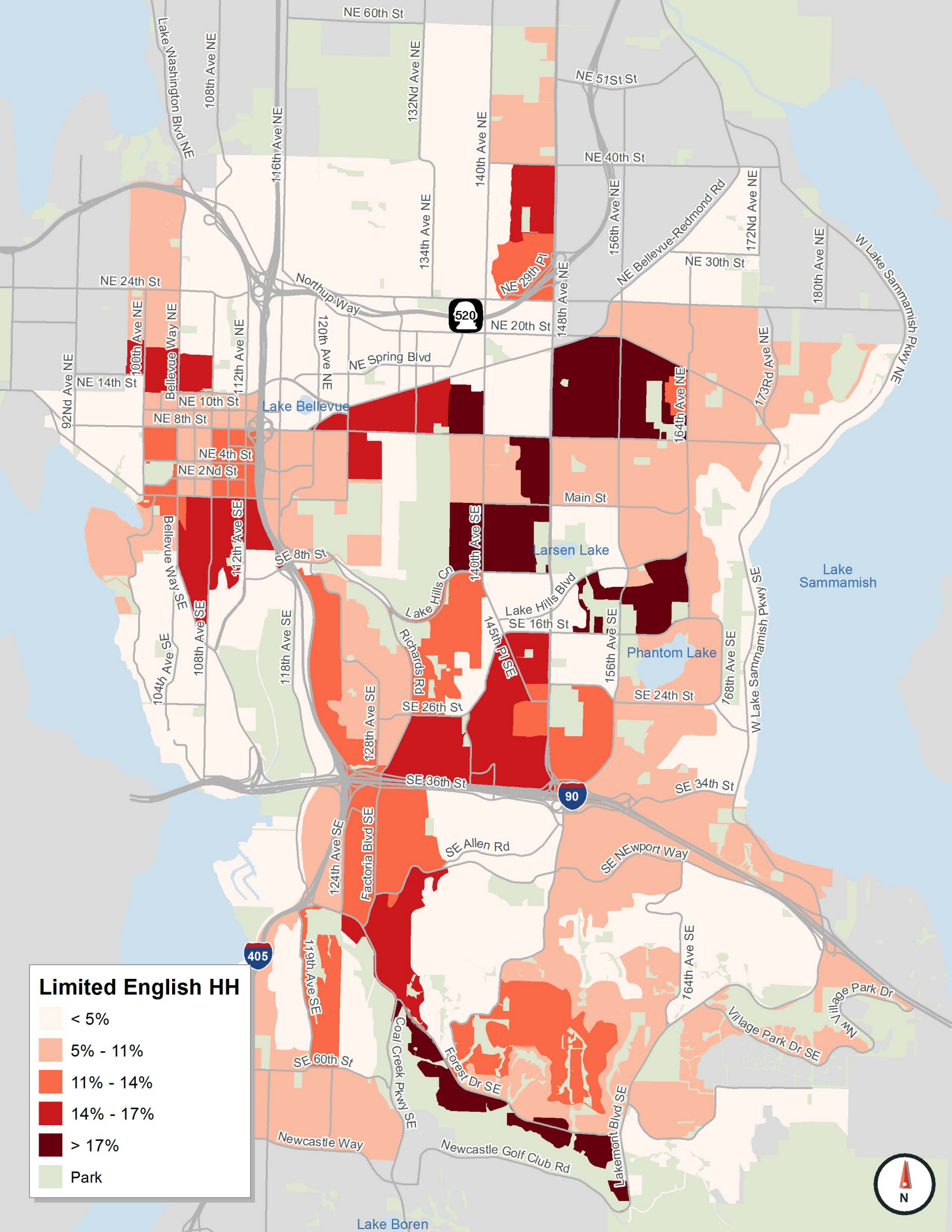
Standard deviation break
Indicator percent threshold

The data presented in this appendix is a snapshot in time using the US Census Bureau's 2019 5-year average from the American Community Survey. The Census Bureau continually updates the data and Bellevue will consider the latest data when evaluating Performance Target gaps and prioritizing projects.

The maps presented in the appendix include:

Equity Index Component	General Relationship to Transportation
Housing costs as percentage of income (renter-occupied)	People who are “housing cost burdened” tend to have less income to spend on transportation (even if they are not classified as low-income) and therefore tend to drive less and rely more on other modes.
Limited English proficiencyhouseholds	Limited English proficiency households (even when controlling for income) tend to travel more by walking, biking, and transit.
Low-income households	Lower income households tend to drive less as the cost of operating a vehicle presents a substantial burden; this group tends to walk, bicycle, and use transit more than higher-income households.
Low-wage jobs (based on job location)	The location of low-wage jobs tends to indicate that employees rely more on walking, biking, and transit to reach their job since the cost of drivingand parking can consume a substantial proportion of their wages.
People of color	Across the country, people of color (even when controlling for income), tend to travel more by walking, biking, and transit.
People over age 64	Older people may require additional accommodations (e.g.,longer pedestrian phases at intersections) and tend to drive less than other populations.
People under age 18	16-18 year-olds tend to drive at a lower rate than other groups and use other modes more often.
People with a disability	People with a disability may require additional or specific accommodations (e.g., audible pedestrian signals or curbramps) and tend to drive less than other populations.
Single-parent households	Single-parent households tend to have less income to spend on transportation and also tend to be more schedule constrained. These households may still own a car, but drive less to save money.
Zero-vehicle households	These households may not have regular access to a privatevehicle and either by choice or other factors tend to drive less and use other modes more.


Percent of HH spending more than 50% income in rent
0% - 20%
20% - 40%
40% - 60%
60% - 80%
80% - 100
Park
NE 60th St
NE 51St St
NE 40th St
NE 30th St
NE 24th St
NE 20th St
NE 14th St
NE 10th St
NE 8th St
NE 4th St
NE 2Nd St
NE 29th Pl
NE Spring Blvd
Northup Way
Main St
SE 8th St
SE 16th St
SE 24th St
SE 26th St
SE 36th St
SE 34th St
SE Allen Rd
SE NEwport Way
SE 60th St
Newcastle Way
Newcastle Golf Club Rd
Village Park Dr SE
Forest Dr SE
Coal Creek Pkwy SE
Lakemont Blvd SE
Lake Hills Blvd
Lake Hills Cn
Richards Rd
Lake Washington Blvd NE
108th Ave NE
116th Ave NE
132Nd Ave NE
134th Ave NE
140th Ave NE
148th Ave NE
156th Ave NE
164th Ave NE
172Nd Ave NE
173Rd Ave NE
180th Ave NE
NE Bellevue-Redmond Rd
W Lake Sammamish Pkwy NE
92Nd Ave NE
100th Ave NE
Bellevue Way NE
112th Ave NE
120th Ave NE
104th Ave SE
108th Ave SE
112th Ave SE
118th Ave SE
124th Ave SE
128th Ave SE
140th Ave SE
145th Pl SE
156th Ave SE
164th Ave SE
168th Ave SE
Bellevue Way SE
W Lake Sammamish Pkwy SE
119th Ave SE
Factoria Blvd SE
520
90
405
Lake Bellevue
Larsen Lake
Phantom Lake
Lake Sammamish
Lake Boren
N


Limited English HH
< 5%
5% - 11%
11% - 14%
14% - 17%
> 17%
Park
NE 60th St
NE 51St St
NE 40th St
NE 30th St
NE 24th St
NE 20th St
NE 14th St
NE 10th St
NE 8th St
NE 4th St
NE 2Nd St
SE 8th St
SE 16th St
SE 24th St
SE 26th St
SE 34th St
SE 36th St
Main St
NE Spring Blvd
Northup Way
NE 29th Pl
NE Bellevue-Redmond Rd
Lake Hills Blvd
Lake Hills Cn
Richards Rd
SE Allen Rd
SE Newport Way
Village Park Dr SE
Forest Dr SE
Coal Creek Pkwy SE
Newcastle Way
Newcastle Golf Club Rd
Lakemont Blvd SE
Lake Bellevue
Larsen Lake
Phantom Lake
Lake Sammamish
Lake Boren
W Lake Sammamish Pkwy NE
W Lake Sammamish Pkwy SE
Lake Washington Blvd NE
92Nd Ave NE
100th Ave NE
Bellevue Way NE
Bellevue Way SE
104th Ave SE
108th Ave NE
108th Ave SE
112th Ave NE
112th Ave SE
116th Ave NE
118th Ave SE
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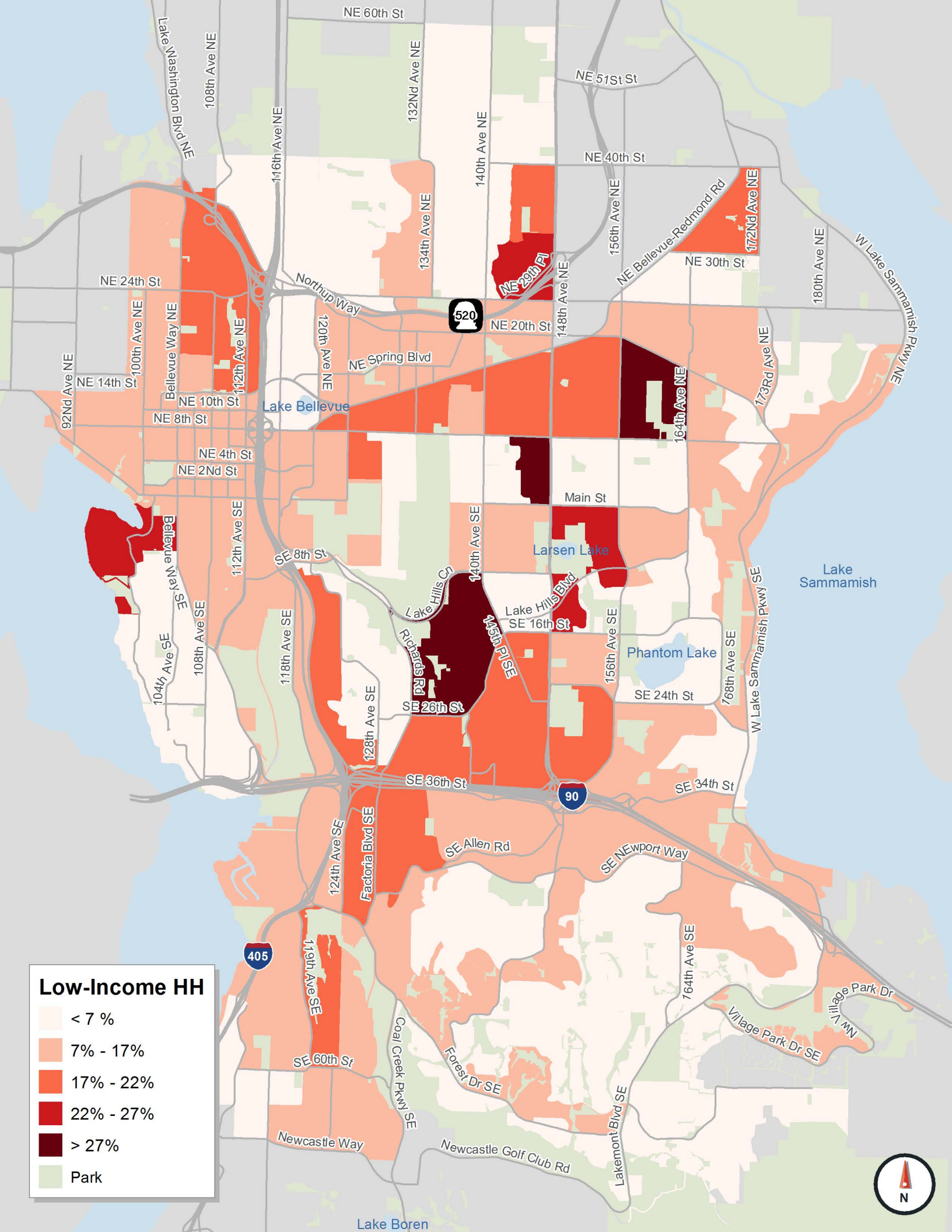
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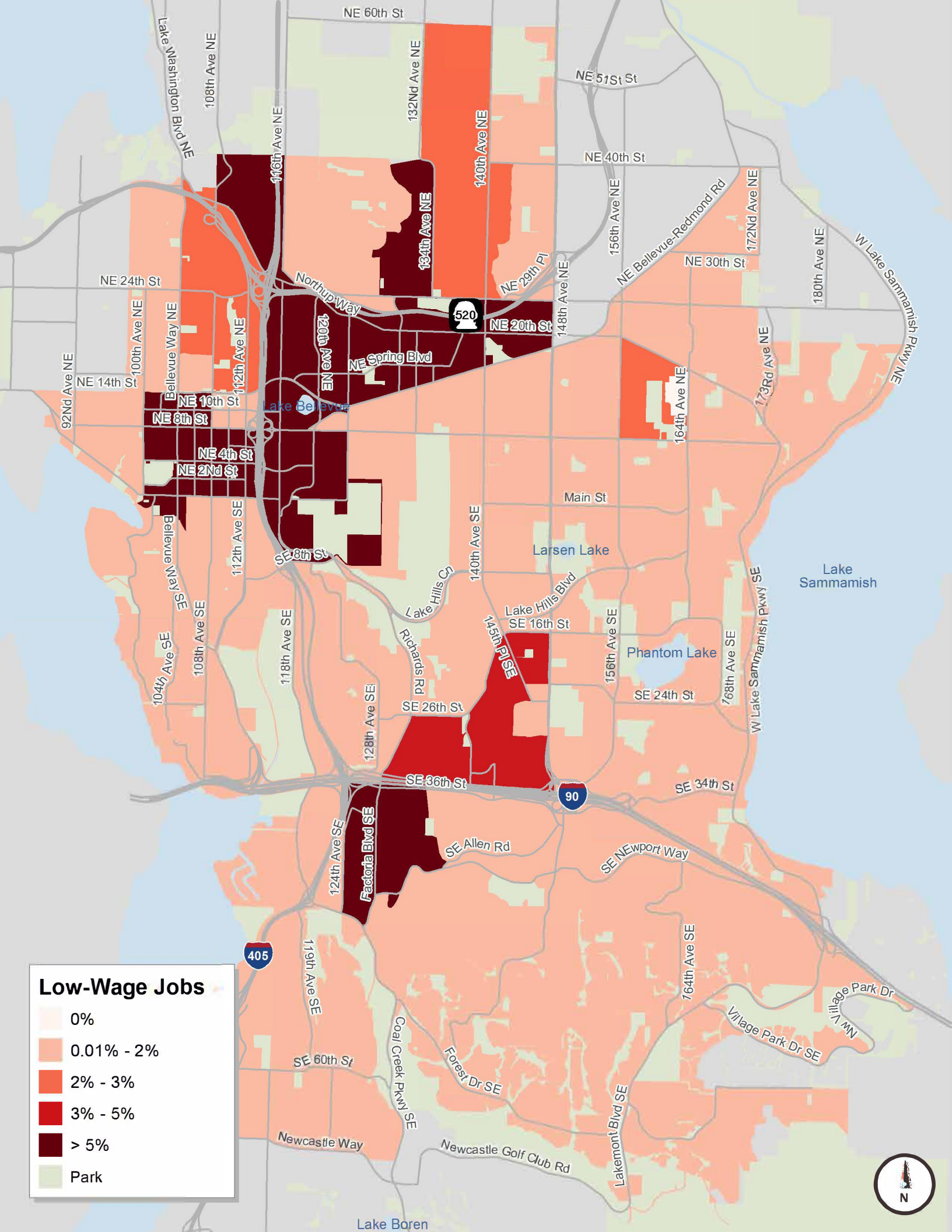
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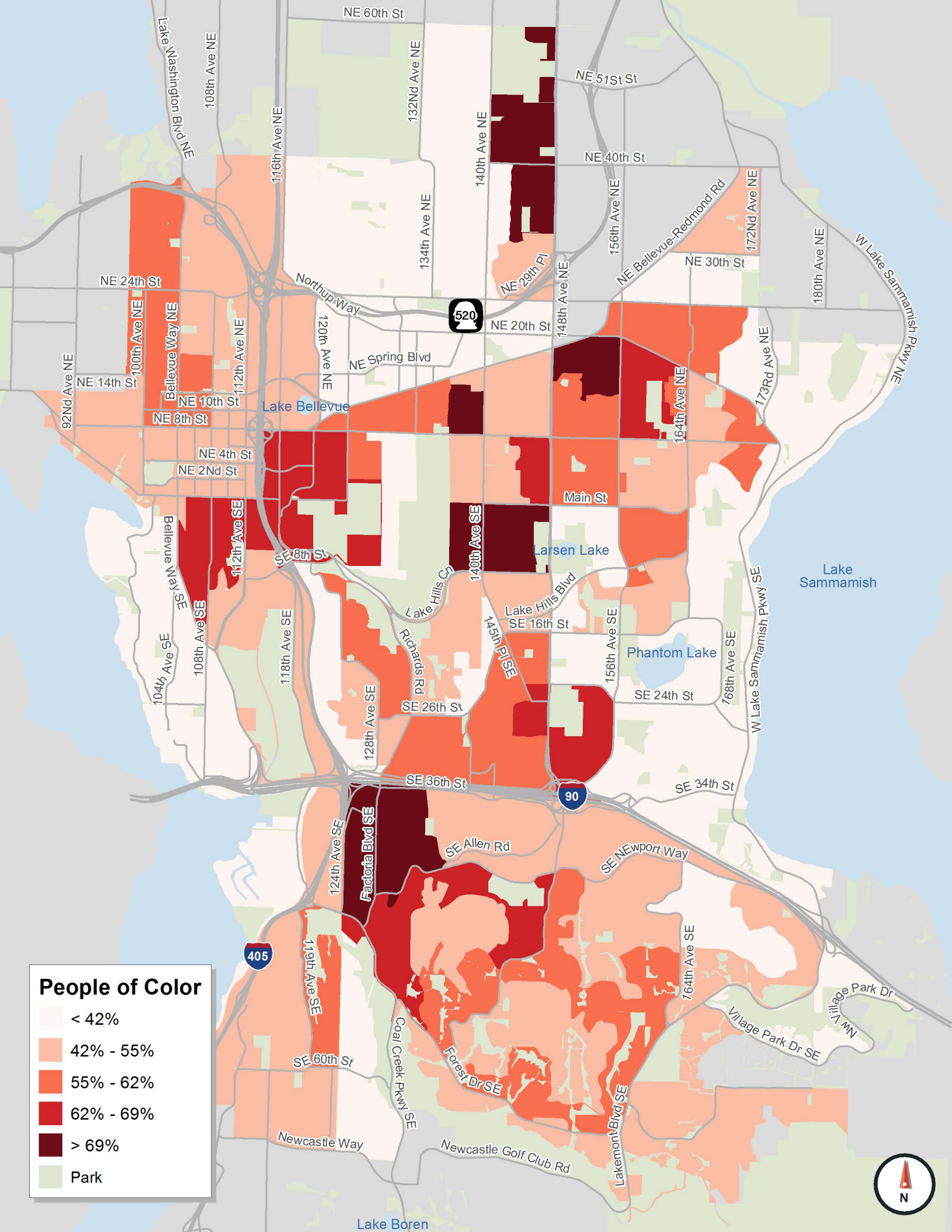
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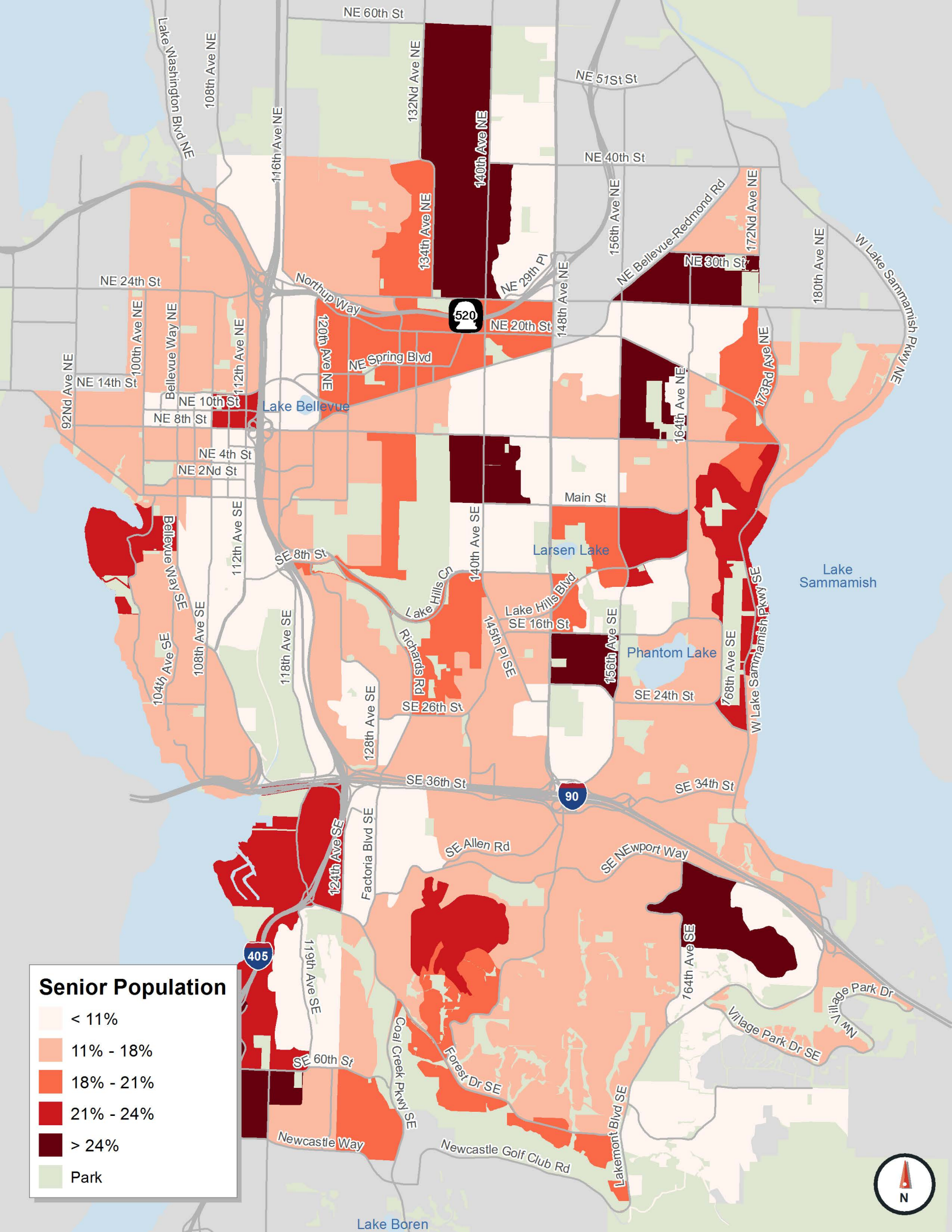
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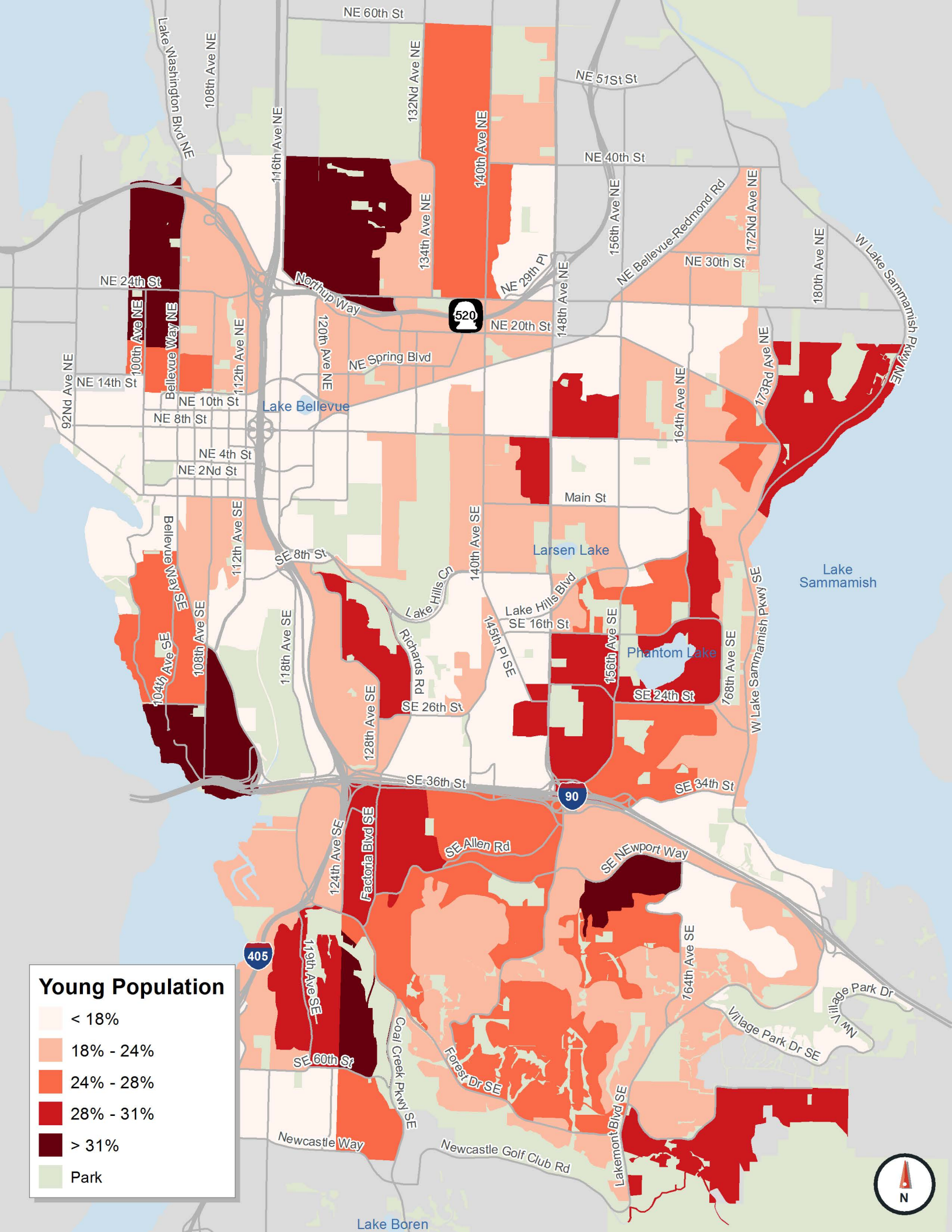
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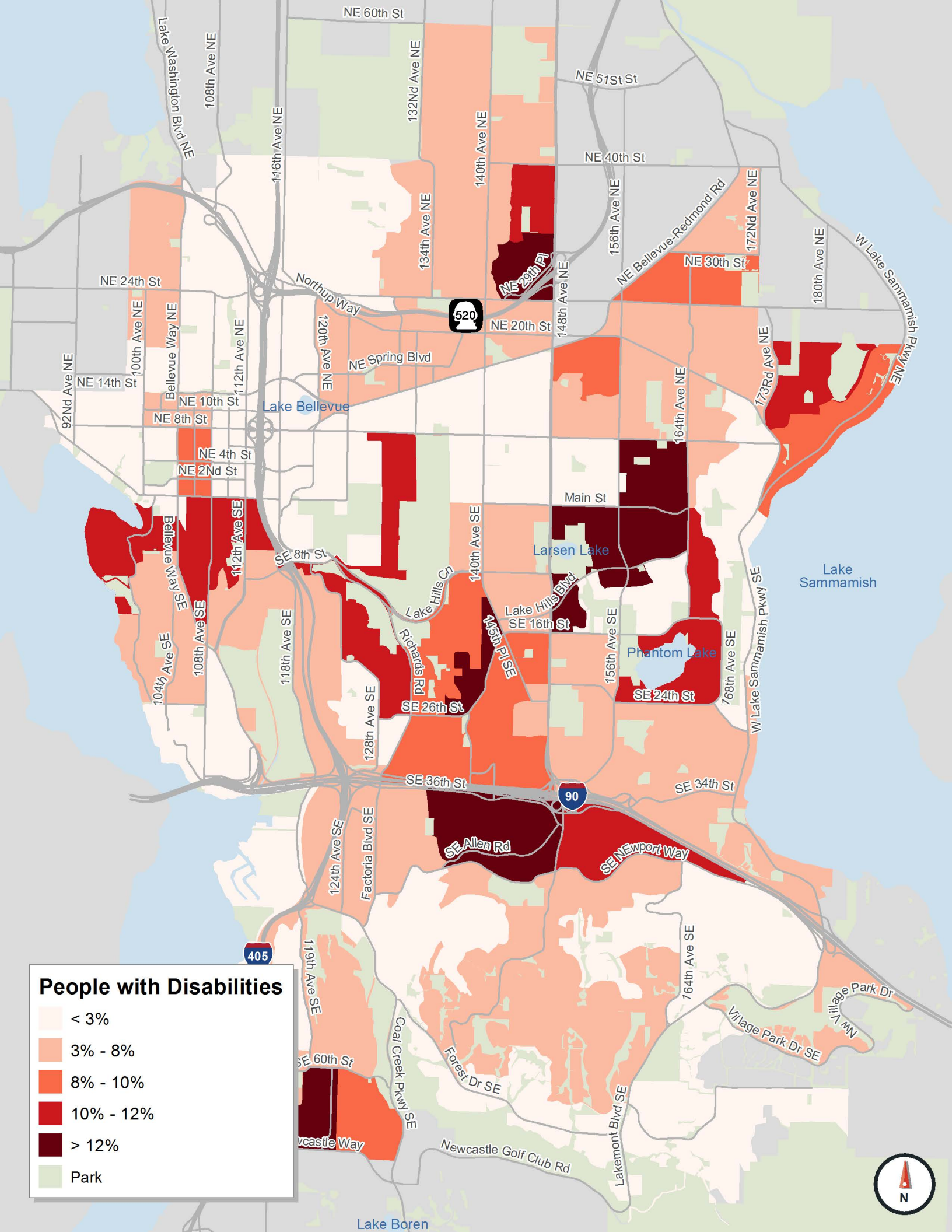
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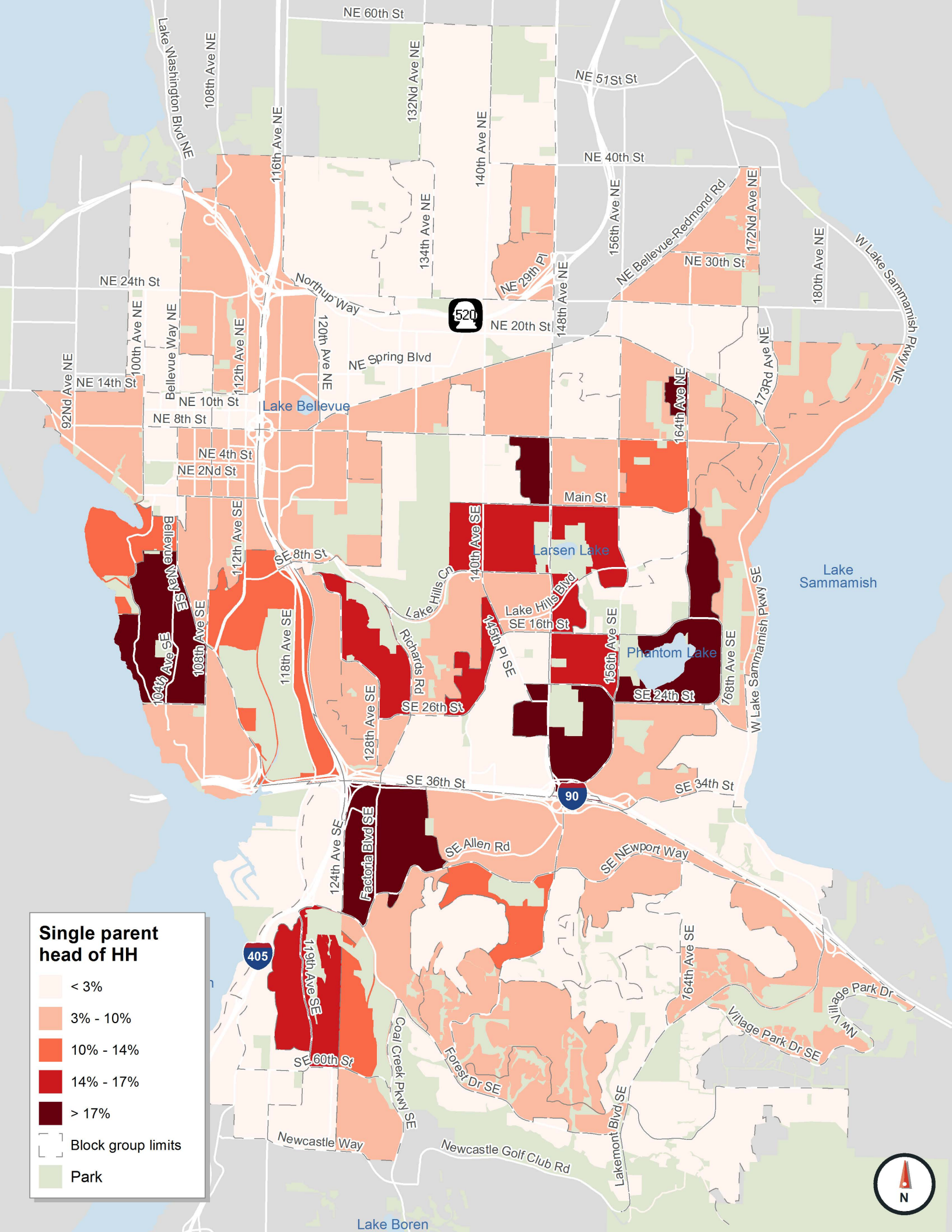
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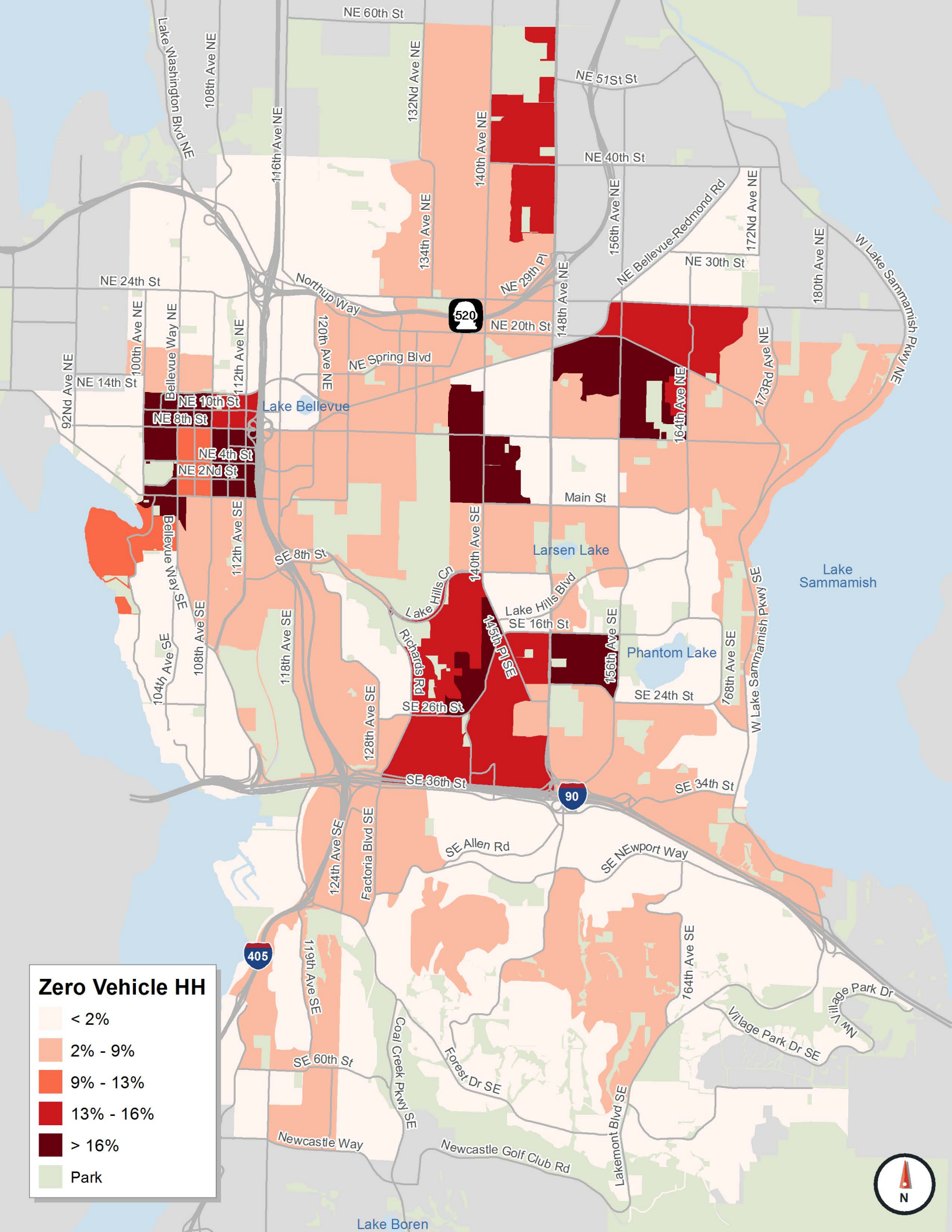
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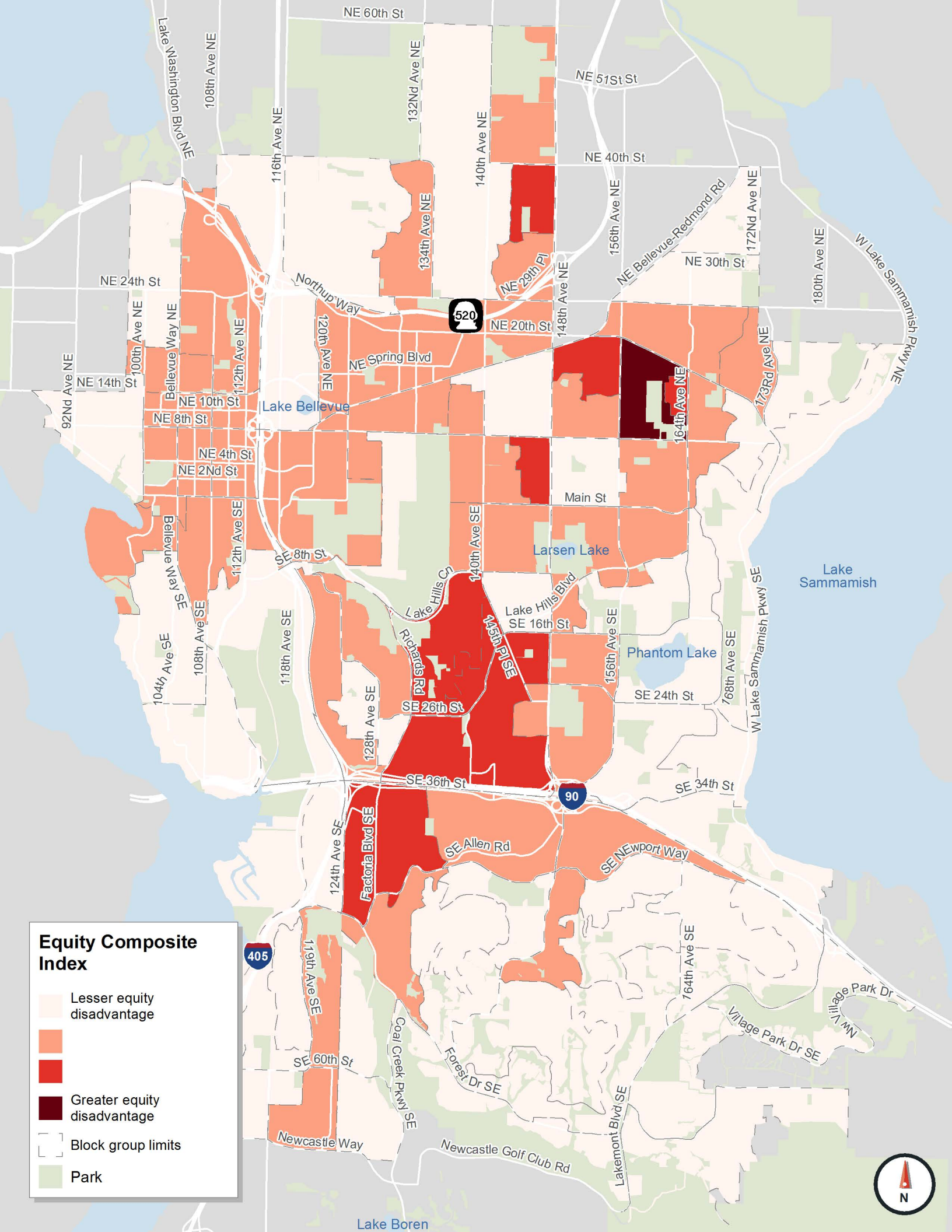
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Background, Context, Existing Conditions, and Best Practices Report

Bellevue Mobility Implementation Plan:

Background, Context, Existing Conditions, and Best Practices

Report

City of Bellevue, WA

June 2021

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Introduction

Over the past decade, the City of Bellevue has been taking steps to update its transportation planning, design, and implementation practices to better reflect the changing land-use context and the values of the community. These values are largely articulated in the adopted modal plans and Comprehensive Plan (last major update in 2015) and include policies such as: creating a transportation system for all, backed by a multimodal network vision from the modal plans; establishing and utilizing multimodal level-of-service (MMLOS) standards; monitoring MMLOS and adjusting programs and resources to achieve mobility targets; meeting MMLOS standards and complete streets goals; establishing multimodal concurrency; and finally, developing a citywide Mobility Implementation Plan. Since the adoption of the Comprehensive Plan, the City has been acting to advance these policies by defining MMLOS Metrics, Standards, and Guidelines, identifying a framework for multimodal concurrency, and initiating the Mobility Implementation Plan.

The Mobility Implementation Plan will unify the City's prior work on multimodal transportation planning, design, and implementation to:

- Clearly define the current and future gaps in multimodal system performance using updated MMLOS guidelines,
- Develop a system to prioritize new transportation investments, and
- Clearly define how multimodal concurrency will be evaluated and implemented so that new growth supports the development of the multimodal network.

The flowchart below summarizes these critical elements of the Mobility Implementation Plan:

This background document focuses on the latter two elements of the Mobility Implementation Plan, as the MMLOS Analysis is documented in the 2017 *MMLOS Metrics, Standards, and Guidelines Report*. Section 1 of this report provides the overarching background related to project prioritization and multimodal concurrency and Sections 2 and 3 delve into the details of project prioritization and multimodal concurrency, respectively.

Section 1: Background and Context

The City of Bellevue's approach to transportation planning has evolved over the past several decades as the city has grown. As outlined in the Comprehensive Plan, the overarching transportation vision is that "moving into, around and through Bellevue is reliable and predictable." To achieve that the City strives for a multimodal transportation network that provides safe and efficient travel options for residents, employees, and visitors. To attain this vision, and to support continued population and employment growth, Bellevue plans and policies have increasingly emphasized transit, walking, and biking, particularly in denser areas of the city.

A critical policy element of achieving this outcome is to achieve the State-mandated concept of transportation "concurrency," which requires jurisdictions to determine the ability of the transportation system to support the transportation demands of new development; to identify necessary increases in capacity; and to deny such development if the new demand cannot be accommodated. This memorandum provides the background and context within which the City applies concurrency, as well as the existing concurrency framework, best practices used by other jurisdictions, and best practices related to multimodal project identification and prioritization.

State, Regional, and Local Policies

Figure 1 displays the land use and transportation planning framework in Washington state. The overarching regulatory act is the Growth Management Act (GMA), with planning policies that flow from the statewide level to the multicounty and county level, and finally to local jurisdictions.

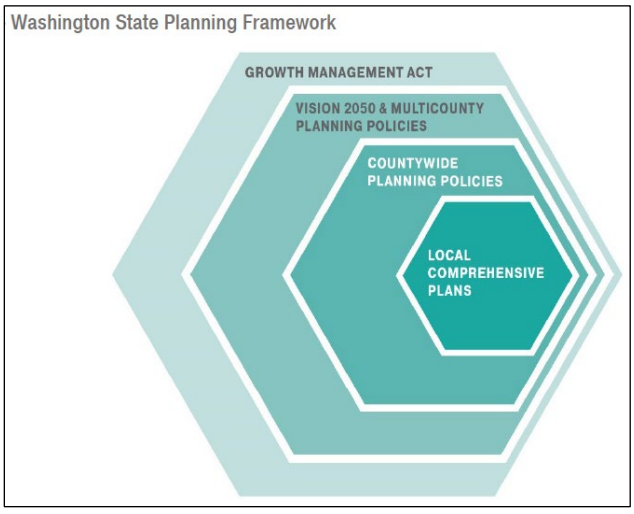


Figure 1. Washington State Planning Framework, PSRC.

Growth Management Act

The Washington legislature enacted the Growth Management Act in 1990, to regulate the way in which cities and counties in the state plan for population and employment growth.[1] In particular, the GMA requires jurisdictions to ensure that the transportation system adequately accommodates planned land use. This concept is called transportation concurrency. The GMA requires local jurisdictions to establish a performance (also known as a level of service)

[1] Growth Management – Planning by Selected Counties and Cities, RCW, Title 36, Chapter 36.70A. Available at: https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A&full=true. Accessed January 13, 2021.

standard[2] and to adopt ordinances to enforce the standard—notably that the jurisdiction deny a building permit when the concurrency performance standard is not met. While the GMA is clear that a concurrency standard must be defined and that a development application must be denied if the standard is not met, the law allows broad flexibility to a community to define concurrency. Each jurisdiction may develop a methodology that is best suited to its unique context. In fact, the GMA emphasizes the following goal, that is based in part on Bellevue's 2009 efforts[3] to reshape transportation concurrency practices in Washington state:

Transportation concurrency should *"encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans."*[4]

The state legislature recognizes that a prescriptive one-size-fits-all definition of level-of-service and concurrency will not meet the diverse needs of communities across the state. Given the local autonomy to address concurrency under the GMA framework, several jurisdictions have taken an explicitly multimodal approach to define a level-of-service/concurrency standard that meets the GMA requirements and reflects local priorities:

- Since the 1990s, the City of Renton has used a person-weighted sum of travel distances, averaged in all directions from the City Center, for SOV, HOV, and transit modes to emphasize the benefits of transit and carpool travel.
- In 2009, the City of Redmond developed a novel "plan-based" concurrency level-of-service standard. Under this approach, Redmond commits to build out its multimodal transportation plan (which includes roadway, transit, pedestrian, and bicycle improvements) at a pace that is ahead of the planned growth in the community.
- Between 2012 and 2020, the cities of Kirkland, Kenmore, and Olympia adopted similar plan-based concurrency level-of-service standards.
- The City of Seattle is transitioning to a mode-share based concurrency level-of-service standard. This standard reflects the conditions in Seattle where there is little space to expand capacity for private vehicles and that each new development is expected to manage or mitigate its trip generation to ensure an outcome of fewer single-occupancy vehicle trips.

[2] The GMA specifically identifies that jurisdictions identify a concurrency standard for locally-owned arterials and transit routes; this definition excludes state highways.

[3] https://www.psrc.org/sites/default/files/multimodal-concurrency-pilot.pdf. Accessed June 1, 2021.

[4] RCW 36.70A.020(3)

VISION 2050

The Puget Sound Regional Council (PSRC) is the federally designated Metropolitan Planning Organization and plans for the areas within King, Pierce, Snohomish, and Kitsap counties. In 2020, the PSRC adopted VISION 2050[5], the regional plan aimed at achieving a more sustainable and equitable future. Transportation is a key element of this shared regional vision as it affects not only mobility and accessibility, but outcomes related to housing choices and affordability, equity, economic vitality, climate change, and public health among others.

VISION 2050—which also includes the Multicounty Planning Policies, Regional Growth Strategy, and Regional Transportation Plan—calls for focusing growth in regional growth centers and high-capacity transit station areas (both of which apply to Downtown Bellevue). Cities within the PSRC geography must adopt local comprehensive plans and subarea plans consistent with VISION 2050 and the GMA and must plan to accommodate the forecasted growth.

VISION 2050 explicitly addresses the need to shift trips from single-occupant vehicles to walking, biking, and transit, particularly within centers, including through concurrency policies: "*As the region's centers and compact communities continue to grow and evolve, future mobility solutions will require integrating multimodal forms of transportation into communities, including transit improvements and more complete bicycle and pedestrian facilities. VISION 2050 calls for addressing multimodal transportation options in concurrency programs and tailoring requirements in centers and subareas to support transit.*"

There are multiple transportation policies in VISION 2050 that call for jurisdictions to direct investments into a multimodal system that supports a shift to modes other than driving, as shown in **Figure 2**. In addition, there are three policies related to development patterns aimed at supporting growth through concurrency.

[5] Puget Sound Regional Council, VISION 2050, October 2020. Available at: https://www.psrc.org/sites/default/files/vision-2050-plan.pdf. Accessed January 13, 2021.

The Regional Transportation Plan

MPP-T-7

Fund, complete, and operate the highly efficient, multimodal system in the Regional Transportation Plan to support the Regional Growth Strategy. Coordinate WSDOT, regional, and local transportation agencies, in collaboration with the state legislature, to build the multimodal system.

MPP-T-8

Strategically expand capacity and increase efficiency of the transportation system to move goods, services, and people consistent with the Regional Growth Strategy. Focus on investments that produce the greatest net benefits to people and minimize the environmental impacts of transportation.

MPP-T-12

Emphasize transportation investments that provide and encourage alternatives to single-occupancy vehicle travel and increase travel options, especially to and within centers and along corridors connecting centers.

MPP-T-13

Increase the proportion of trips made by transportation modes that are alternatives to driving alone, especially to and within centers and along corridors connecting centers, by ensuring availability of reliable and competitive transit options.

Supporting Growth Through Concurrency

MPP-DP-52

Develop, implement, and evaluate concurrency programs and methods that fully consider growth targets, service needs, and level-of-service standards. Focus level-of-service standards for transportation on the movement of people and goods instead of only on the movement of vehicles.

MPP-DP-53

Address nonmotorized, pedestrian, and other multimodal types of transportation options in concurrency programs – both in assessment and mitigation.

MPP-DP-54

Tailor concurrency programs for centers and other subareas to encourage development that can be supported by transit.

Figure 2. VISION 2050 Regional Transportation Plan and Concurrency Policies, PSRC.

Bellevue Comprehensive Plan

As required by the GMA and Multicounty Planning Policies, Bellevue maintains a Comprehensive Plan which is updated regularly to reflect changing circumstances. The most recently adopted Comprehensive Plan[6] includes amendments through May 2019 with the most recent major update completed in 2015. The Comprehensive Plan sets the course on a variety of topics including growth and development and includes specific elements for Transportation, Land Use, Neighborhoods, Capital Facilities, Economic Development, and the Environment.

The Comprehensive Plan includes direction on concurrency to align with the vision for thriving neighborhoods that provide safe and reliable mobility options for all modes of travel. In particular, *Policy TR-30* states that the City should "establish multimodal level-of-service and concurrency standards and other mobility measures and targets for transportation corridors and in each area of the city in consideration of planned development patterns and mobility options." There are also several funding and implementation policies that underscore the long-term commitment to a multimodal network in Bellevue:

- **TR-22.** Implement and prioritize transportation system improvements to meet the multimodal level-of-service standards, Complete Streets goals, and other mobility targets for all transportation modes, recognizing the range of mobility needs of each corridor and Mobility Management Area.
- **TR-61.** Allow for repurposing of travel lanes for other uses such as parking, transit or pedestrian and bicycle facilities where excess vehicular capacity exists and/or to optimize person throughput along a corridor.
- **TR-132.** Balance funding to achieve scheduled progress on mobility targets/level-of-service standards for all modes within the Mobility Management Areas, by using results from monitoring the targets/level of service to prioritize transportation facility and service investments.

Note that in 2021, amendments to the Comprehensive Plan will change policy language and policy numbering.

In addition to a vision, goals, and policies, the Comprehensive Plan identifies specific transportation projects in the Comprehensive Transportation Project List. This list will be moved out of the Comprehensive Plan and into the 2022 update of the Local Transportation Improvement Program. The projects are developed through long-range planning and touch on facilities for all modes of travel.

[6] City of Bellevue, Comprehensive Plan, 2019. Available at: https://bellevuewa.gov/city-government/departments/community-development/planning-initiatives/comprehensive-plan Accessed January 13, 2021.

Regional Transportation Investments

Regional transportation investments contribute a substantial amount of the capacity to support mobility and growth in Bellevue. Interstate 405 runs as a north-south spine through the city. The Washington State Department of Transportation (WSDOT) developed the I-405 Master Plan to address the long-term vehicle mobility needs of the corridor with a series of improvements to accommodate the growth in demand. Beyond the typical highway improvements, such as adding new lanes, an express toll lane system, and local arterial improvements, the I-405 Master Plan calls for a multimodal approach including transit-supportive projects such as park & ride and transit center expansions, Bus Rapid Transit stations, additional transit service, and pedestrian and bicycle improvements.

The transit landscape in Bellevue has evolved substantially over the past several decades as the city has grown, particularly with Downtown Bellevue becoming a transit hub for its dense residential and employment uses. The most fundamental change will occur in 2023 with the opening of Sound Transit's East Link light rail (which will be known as Line 2) that will connect six new Bellevue stations to Seattle and the Central Link line to the west as well as to Redmond to the east. In addition to this regional investment in high-capacity transit, Bellevue has a robust fixed-route bus system. King County Metro and Sound Transit both provide bus services in Bellevue. Sound Transit plans on opening its I-405 STRIDE Bus Rapid Transit line linking Bellevue to Lynnwood, Renton, and Burien (using the I-405 Express Toll Lanes described above) in 2024. King County Metro's future plans are guided by the METRO CONNECTS[7] long-range vision adopted in 2017. Among other improvements, METRO CONNECTS calls for three Bus Rapid Transit lines, one of which is already in operation: the RapidRide B Line connecting the Bellevue Transit Center to the Redmond Transit Center. The RapidRide K Line, which would connect Eastgate to Kirkland via Downtown Bellevue is in the early planning phases.

Bellevue Planning Documents

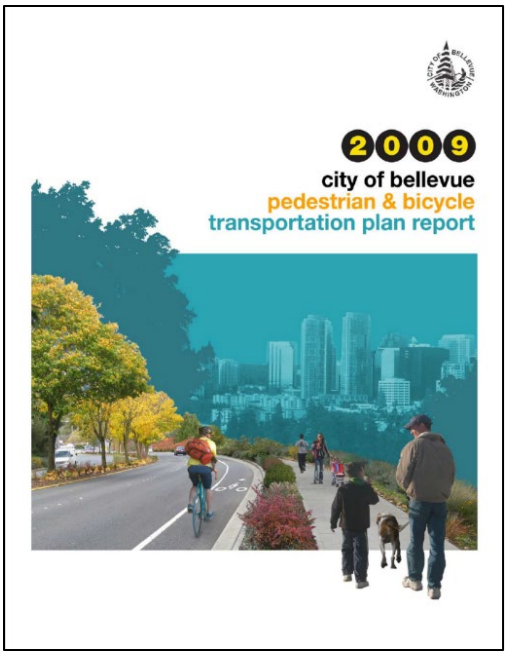
Bellevue develops a variety of planning documents to implement the vision outlined in the Comprehensive Plan. These include plans focused on specific modes of travel—the Pedestrian and Bicycle Transportation Plan and the Transit Master Plan—as well as subarea plans that focus on specific geographies such as the Downtown Transportation Plan. The City also adopts a Transportation Improvement Program, a Transportation Facilities Plan and Capital Investment Program Plan.

[7] King County Metro, 2017. METRO CONNECTS. Available at: https://drive.google.com/file/d/0B44RYEx3kgpoZUJqbXVScnR4cjg/view. Accessed February 5, 2021.

Transit Master Plan

The Bellevue Transit Master Plan[8], (TMP) adopted in 2014, established strategies and projects to support Bellevue's transit service and capital needs through 2030. The vision statement is framed around the concept of "abundant access," specifically to "support planned growth and development with a bold transit vision that provides efficient, useful, attractive service for most people, to most destinations, most of the time, serving maximum ridership." In other words, the vision is not simply to accommodate growth as required by state and regional planning policies, but to foster that growth with a robust transit system that is an asset to the community. The TMP identifies a Frequent Transit Network (FTN) that leverages and complements the regional investment in East Link light rail and upon which local transit service and capital investments are focused.

Pedestrian and Bicycle Transportation Plan



The City of Bellevue published its Pedestrian & Bicycle Transportation Plan Report[9] in 2009; it outlines the vision for Bellevue to become an increasingly walkable and bikeable city. Although not a regulatory document itself, the plan compiles all of the pedestrian and bicycle policies, projects, and maps into a single document to serve as the main resource for the planning, design, construction, and maintenance of active transportation facilities in Bellevue. The plan includes a vision, assessment of the existing facilities and travel, planned network, and action plan.

[8] City of Bellevue, Bellevue Transit Master Plan, July 2014. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/TMP-Bellevue-Transit-Master-Plan-2014.pdf. Accessed January 13, 2021.

[9] City of Bellevue, Pedestrian & Bicycle Transportation Plan Report, 2009. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/ped-bike-plan-2009.pdf. Accessed January 13, 2021.

MMLOS Metrics, Standards & Guidelines

In 2017, the Bellevue Transportation Commission approved a set of recommendations related to multimodal level-of-service (MMLOS), setting the foundation for the Mobility Implementation Plan. The MMLOS Metrics, Standards & Guidelines[10] are rooted in the commitment to provide a transportation system that accommodates all people using all modes of travel. Such a multimodal transportation system can be considered a "layered network" in which each mode has its own complete network which may overlap with other modes on some facilities.

The Transportation Commission set forth a new approach to mobility by expanding the concept of LOS to apply to all modes rather than only vehicles. The Transportation Commission process included a review of best practices related to MMLOS and consideration of the policy context locally and regionally. Based on this study of the varying approaches, the Transportation Commission recommended specific metrics for vehicles, pedestrians, bicycles, and transit as well as a standard or guideline associated with each metric. These metrics were subsequently incorporated into the Bellevue Complete Streets Transportation Design Manual for implementation purposes. As each modal network evolves to meet these standards and guidelines—increasing system completeness—the vision for an integrated, layered network of all modes will be realized.

This document is of particular importance to the Mobility Implementation Plan and transportation concurrency as it provides key metrics by which to assess the performance of the transportation system and also includes standards/guidelines for what might be considered to be acceptable performance. Moving forward, it is likely that the Mobility Implementation Plan will incorporate this document with updates to the standards/guidelines to reflect the latest planning work in the City.

Traffic Standards Code

The Traffic Standards Code sets forth specific standards that provide for city compliance with the concurrency requirements of the state Growth Management Act (GMA) and for consistency between city and countywide planning policies under the GMA. GMA requires that transportation improvements or strategies to accommodate the traffic impacts of development be provided concurrently with development to handle the increased traffic projected to result from growth and development in the city and region.

[10] City of Bellevue, 2017. MMLOS Metrics, Standards & Guidelines Final Report. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/Bellevue_MMLOS%20FINAL.pdf Accessed January 13, 2021.

Transportation Development Code

The Transportation Development Code provides a regulatory framework for transportation impact mitigation requirements relating to redevelopment and new development. The code requires that a traffic impact analysis report be prepared for any proposed development project that is likely to cause significant impacts to existing or planned transportation facilities or may require mitigation. Based upon the findings of the report, the City may require mitigation measures in the form of construction of capital improvements (e.g. traffic signal, intersection modifications); a funding contribution to a future project that will mitigate the project's traffic impacts; and/or developing a transportation management program (TMP) aimed at reducing the peak hour trips generated by the development.

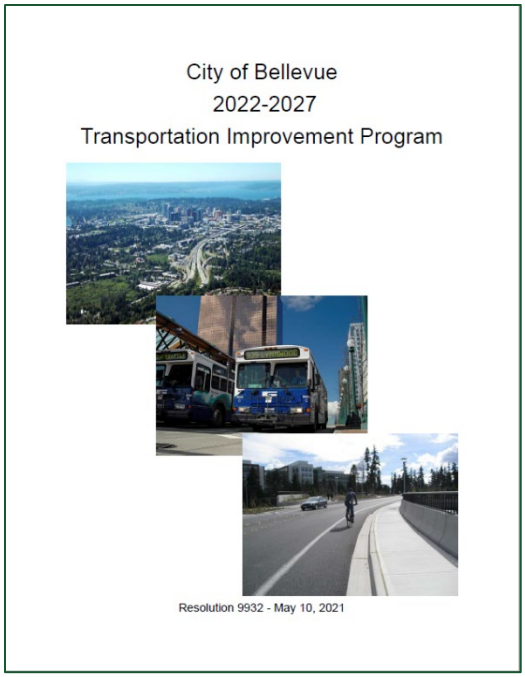
The transportation development code includes a complete streets policy stating that the City will implement complete streets—streets that provide appropriate facilities to meet the mobility needs of people of all ages and abilities who are walking, bicycling, riding transit, driving, and transporting goods—to the maximum extent practical. More detailed design requirements are incorporated into the Transportation Design Manual.

Complete Streets Transportation Design Manual

In 2020, Bellevue developed a draft Complete Streets Transportation Design Manual[11] (Manual) that describes the intent and requirements for the design and implementation of transportation facilities within the public rights-of-way. This Manual provides guidance and context for design elements and facilities that are mandated as part of the Complete Street ordinance enacted in 2016. In addition to identifying the transportation policies that support complete street development, the Manual provides design guidance on pedestrian, bicycle, transit facilities as well as along the roadway, curb space and at intersections. The Manual is intended for use and reference by City staff, private development teams, and other agencies doing work in Bellevue.

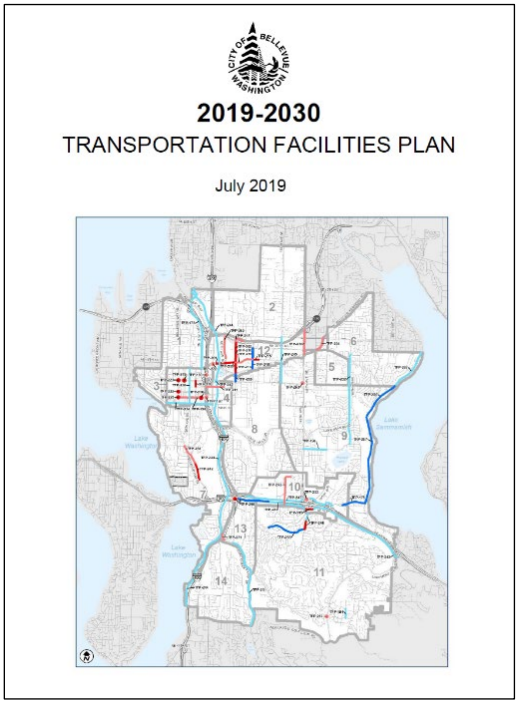
[11] City of Bellevue, 2020. Transportation Design Manual. Available at: https://bellevuewa.gov/city-government/departments/transportation/permits-and-standards/transportation-design-manual. Accessed April 30, 2021.

Transportation Improvement Program



The Local TIP serves as a six-year work plan for the development of local transportation systems and is an important planning component, updated annually, under the Growth Management Act. The Washington State Department of Transportation (WSDOT) and Puget Sound Regional Council (PSRC) use Local TIPs to coordinate the transportation programs of local jurisdictions with those of regional agencies. PSRC monitors Local TIPs for projects of regional significance (to be modeled for Air Quality conformity) and projects supported by federal funds. These projects are incorporated into the Regional TIP, which is then included in the State TIP. For Bellevue, the primary importance of the Local TIP is to create eligibility for funding from state and federal grant programs. Because the Local TIP is not revenue constrained, projects and programs that the City would implement within the 6-year timeframe are included. Local TIPs then, by definition, represent a comprehensive list of projects and programs deemed necessary to ensure a balanced investment in the City's multimodal transportation system.

Transportation Facilities Plan



The Transportation Facilities Plan[12] (TFP) is a comprehensive citywide implementation plan that compiles the priority projects from the various long-range plans discussed above, along with other emerging needs that may not have been previously identified. The TFP covers a 12-year period and, unlike the Transportation Improvement Program, is constrained by revenue projections.

In addition to functioning as an intermediate-range planning tool between the Comprehensive Plan (and other longer-range functional plans) and Capital Investment Program Plan horizons, the TFP sets the basis for the Transportation Impact Fee Program. Through that program, developers pay a share of projects costs that will provide capacity for the users of their developments. The City also conducts a programmatic environmental review of the

[12] City of Bellevue, 2019. Transportation Facilities Plan. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/TFP%202019-2030%20final%20071919%20TFP.pdf. Accessed January 13, 2021.

projects included in the TFP to demonstrate how those network enhancements will accommodate the 12 years of land use growth forecast over the Plan period. These determinations are used by Bellevue development review staff to inform decisions to approve or deny development applications.

An important element of the TFP is how the City prioritizes the larger list of projects in the Comprehensive Transportation Project List and other modal plans into a funding constrained list. The TFP begins by including the projects from the most recent CIP Plan adopted by the City Council (discussed below) and the remaining projects are determined using a prioritization process of the projects included in the Comprehensive Transportation Project List, Pedestrian and Bicycle Transportation Plan, Transit Master Plan and other plans like the Downtown Transportation Plan and Eastgate/I-90 Study. Any projects that have arisen from the public involvement process for the TFP or through City staff recommendations are also considered. The prioritization process uses the scoring criteria shown in **Table 1** for roadway and intersection projects. Projects that support transit service and facilities, and projects for non-motorized transportation are typically not listed and are evaluated separately.

Table 1: Transportation Facilities Plan Evaluation Criteria (2021)

Evaluation Criteria	Weight
Safety (vehicular, pedestrian, bicycle)	30%
Level of Service (congestion management)	20%
Transit (improving service, facilities and/or access)	20%
Non-Motorized (serving key locations/populations, providing connected facilities)	20%
Plan Consistency & Outside Funding (integration with local/regional plans, likelihood of attracting non-local funds)	10%

Source: City of Bellevue.

Capital Investment Program Plan

The Capital Investment Program (CIP) Plan considers a period of seven years and focuses on implementation of the highest priority capital projects. The City Council adopts the CIP every two years as part of the biennial budget update. The CIP typically includes a subset of high-priority projects from the TFP that are needed to support growth in the near term as well as other projects identified by City staff, the public, or other sources that do not appear in the TFP. The CIP includes projects that touch on a variety of areas, with transportation accounting for the largest portion of the budget at roughly 40 percent.

2016 Neighborhood Safety, Connectivity and Congestion Levy

In 2016, Bellevue voters passed the 20-year Neighborhood Safety, Connectivity and Congestion Levy to supplement other transportation funding sources.[13] Projects eligible for funding are categorized as follows: neighborhood safety; bicycle facilities; sidewalks, trails, and paths; neighborhood congestion; and technology for safety and traffic management; and system maintenance. The candidate levy projects are compiled from existing plans and programs' lists of candidate project locations; many projects originate from the public.

As there was not an existing framework to prioritize Neighborhood Congestion Reduction Levy projects, City staff worked with the Transportation Commission to develop a three-tier project prioritization process. Tier 0 is a pass/fail criteria: only projects that are not dependent on development or a future outside agency project pass. Tier 1 includes an evaluation of existing vehicle LOS and safety using AASHTO Highway Safety Manual predictive methods. Tier 2 is used prior to final design and has seven components: proposed vehicle LOS (and urban travel time for corridor projects) which is weighted most heavily, potential for grant funding, complexity of implementation, multimodal LOS for pedestrians, multimodal LOS for bicycles, transit impact, and safety.

Conclusion

In summary, state, regional, and local policies are well-aligned in their commitment to developing a robust multimodal transportation network that supports population and employment growth. Moreover, the implementation of these policies is taking form in the massive investments in multimodal options throughout the region and in Bellevue locally. The City has developed a strong foundation of modal plans and funding mechanisms to implement a multimodal system; however, the existing transportation concurrency program and a lack of specific guidance on how to advance projects from the modal plans and Comprehensive Transportation Project List limits a faster transition to a multimodal system in Bellevue. The following chapter provide more context on best practices related to multimodal project prioritization from other communities and Bellevue's concurrency policy.

[13] City of Bellevue, 2021. Available at: https://bellevuewa.gov/city-government/departments/transportation/projects/transportation-levy-projects. Accessed March 12, 2021.

Section 2: Long-Range Transportation Project Prioritization

The Comprehensive Plan's vision for a multimodal transportation system will take time to implement. The Transportation Commission's MMLOS Metrics, Standards, and Guidelines document sets a clear target for the performance of the transportation system, but in a resource-constrained environment, the City will need to make choices about which specific projects move forward in any given year to build out each layer of the modal network. This incremental approach to building a complete transportation system requires a project prioritization process that can be applied across multiple modes. While Bellevue has applied project prioritization frameworks within individual modal plans and the TFP, there is no common citywide framework. Moreover, there is a desire to directly incorporate values such as sustainability and equity into project prioritization, as determined through the Mobility Implementation Plan Performance Metrics. This section describes and summarizes best practices related to project prioritization, a critical component of a successful Mobility Implementation Plan.

Best Practices

Ballard-Interbay Regional Transportation System (BIRT) Study – City of Seattle

The City of Seattle completed the Ballard-Interbay Regional Transportation System (BIRT) Study in 2020 to improve travel in the Ballard-Interbay area including considerations related to bridge replacement, corridor investments, and multimodal transportation improvement projects. As part of the project, a set of project evaluation criteria were developed that applied to a variety of multimodal projects. The criteria were developed to relate directly to the project's goals and each criterion had a low, medium, and high score definition (i.e. 0, 1, or 2 points). A high level summary is listed in **Table 2** and the full table is included in the SDOT BIRT Report Appendices. Each project was assigned a composite score that weighted the score for each goal equally.

Table 2: Ballard-Interbay Regional Transportation System Study Evaluation Criteria

Goal	Evaluation Criteria
Improve mobility for people and freight	Throughput: Project increases person trips and person throughput.
	Transit Mobility: Project improves transit mobility.
	Access: Project increases the geographic reach of who can walk/bike to a key destination (light rail station, existing RapidRide Stop, or major jobs center (Terminal 91, Expedia, Armory)) under low-stress conditions.
	Connectivity: Project improves the number of high-quality travel choices through improved connectivity.
	Travel Time & Reliability: Project reduces or maintains freight travel times on key corridors.
	Route Resiliency: Project adds to available freight paths at key locations in the study area.
Provide a system that safely accommodates all travelers	Safe and Comfortable Options: Project makes biking safer and more comfortable for people of all ages and abilities.
	Safe and Comfortable Options: Project makes walking and rolling safer and more comfortable.
	Safe and Comfortable Options: Project makes using transit safer and more comfortable.
	Crossing Safety: Project makes crossing roadways safer and more comfortable for those walking, rolling, biking, and accessing transit.
	Collision Histories and Factors: Project addresses safety at a location where many collisions have occurred or are identified in the City's Bicycle and Pedestrian Safety Analysis.
	Roadway Geometrics: Project improves mobility for trucks and deliveries.
	Modal Separation: Project limits conflicts with other modes.
Equity	Social Impacts - Residents: Project minimizes impacts on low-income households and people of color that live in the BIRT study area.
	Social Impacts - Employees: Project minimizes impacts on low-wage workers and people of color that work in the BIRT study area.
	ADA Access: Project makes it easier for people with disabilities to travel in the study area.
Support timely and coordinated implementation	Funding Viability: Project is likely to be funded through local, regional, state, or federal funding.
	Timely Implementation: Project is implementable within a reasonable timeframe given technical and right-of-way considerations.
	Constructability, Risk, and Complexity: Project limits construction impacts.
	Environmental Impacts: Project minimizes impacts on the ecological environment.
	Economic Impacts: Project supports the Manufacturing and Industrial Center (BINMIC) and maritime industries.
	Responds to Urgent Needs: Project addresses an identified seismic or structural deficiency.

Source: City of Seattle.

Transportation Master Plan – City of Sammamish

The City of Sammamish used a similar approach to prioritize projects at the citywide level as part of their Transportation Master Plan. **Figure 3** shows an interim potential evaluation process that was considered. Again, metrics were developed to tie in each transportation goal with points weighted and awarded depending on the metric.

Figure 3. Potential Project Prioritization Framework, City of Sammamish.

Transportation Master Plan – City of Olympia

Olympia's Transportation Master Plan used a set of transportation performance thresholds to identify gaps in the system and therefore projects that must be built. These thresholds included:

- Volume/capacity ratio of 0.85 on roadway segments
- Pedestrian crossings of arterial streets within 300 feet of major pedestrian destinations
- Sidewalks on one side of arterials as a basic network, ultimately on both sides of arterials
- A low stress bikeway within a quarter-mile (ultimately a half-mile grid) of all the parcels in the city; basic five foot bike lanes on all arterials

Applying these performance thresholds resulted in a large set of transportation projects that are well outside the ability to fund over the next 20 years. Within each mode, a separate project prioritization was prepared to identify the projects that were most important to meet City transportation, safety, and equity goals (for example, sidewalk prioritization as shown in **Figure 4** with gaps and their relative priority shown in **Figure 5**). This modal prioritization varied somewhat by project type, but generally included elements of:

Prioritization

Points are awarded to missing sidewalk segment as follows:

If the segment is within:	
½ mile of a school	20 points
½ mile of a park	10 points
¼ mile of a public building or grocery store	10 points
¼ mile of a Neighborhood Center	5 points
Either: On an Urban Corridor In an area of dense housing In an area of dense employment	15 points

If the segment is on a street that is:	
A transit route	20 points
An arterial, major collector, or neighborhood collector	20/15/5 points
Missing a bike lane	10 points
Missing a sidewalk on both sides	Double the subtotal of score

Figure 4. Sidewalk Prioritization Criteria, City of Olympia.

- Safety/risk exposure
- Proximity to historically marginalized populations
- Proximity to essential community services
- Potential usage (as evaluated by the jobs/housing density near the project or forecasted use in the case of transit and roadway projects)
- Ability to fill major gaps in the system (e.g., not adjacent to an existing facility)

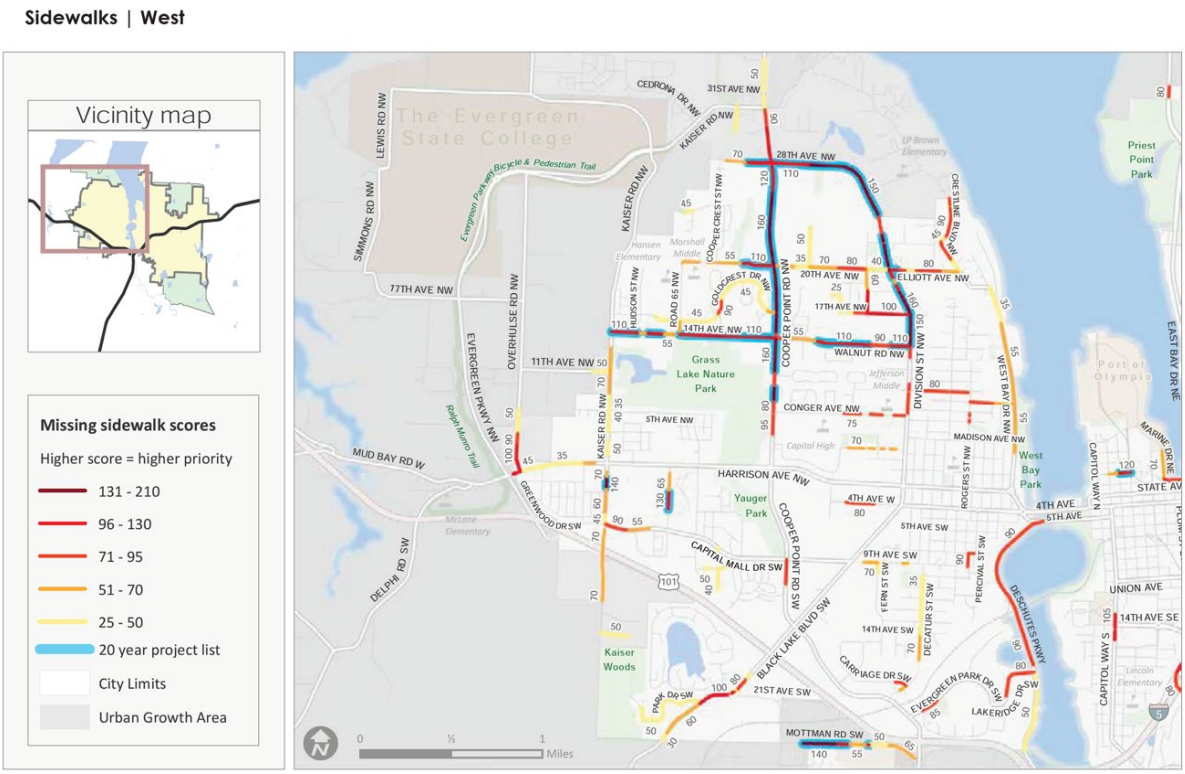


Figure 5. Sidewalk Priorities, City of Olympia.

Once all the modal projects and priorities were identified, the City blended the highest priority projects to develop a realistic list of multimodal projects that align with available funding. A number of algorithm-based processes were discussed that would attempt to quantify the benefits of different modal projects compared to others. However, this numerically-driven approach was ultimately not used because it could perpetuate current unsustainable travel choices (most people in Olympia drive most places and metrics like utilization tend to reinforce these patterns) while also risking inaction on key projects that have strong community or political support (focusing more exclusively on low-carbon modes might not address spot congestion at a particular intersection that is at the top of the public's mind). In summary, any automated/numerical approach was viewed as not being context sensitive or flexible enough to balance all the needs and voices in Olympia.

Ultimately, the City went through a staff and community led process that identified resident/employee/employer expectations about investments in the most important transportation issues. This effort was centered around a robust outreach process through two online open houses, surveys, a storymap, and presentations at boards, commissions, and City Council. The multimodal prioritization approach also reviewed existing and likely funding since some sources are restricted to the types of improvement they can build (e.g., Olympia has a voter-approved utility tax that per City Code must be spent on sidewalks). Using this information, the staff developed, the public weighed in on, and the City Council ultimately approved a 20-year project list that also forms the foundation for Olympia's concurrency system and a new multimodal transportation impact fee.

Type of facility	System target	Existing inventory	Full network list	20 year project list
Sidewalks	There will be sidewalks on both sides of our largest streets: arterials, major collectors and neighborhood collectors. The first priority is to have a sidewalk on at least one side of every major street, then both sides.	137 miles	65 miles	8 miles
Pathways	Existing informal pathways will be improved, followed by building pathways in locations where they are needed.	62	81	15
Enhanced crosswalks	There will be an enhanced crosswalk within 300 feet of major destinations on arterials and major collectors.	188	350	16
Curb ramps	Add or upgrade curb ramps on all sidewalks to comply with current federal standards	1,586 curb ramps are compliant with the current standards	4,014 curb ramps are missing or need to be upgraded	Typically, curb ramps are added or upgraded as part of other projects
Accessible signals	Add accessible devices to all traffic signals	18 audible signals	79 signals need accessible devices	Typically, accessible signals are added when signals are upgraded
Bike corridors	The low-stress bike network provides a route on a ½ mile spacing, so no one is more than ¼ mile from one.	1.5 miles of bike corridors	34 miles of bike corridors	10 miles of bike corridors
Enhanced bike lanes	The low-stress bike network provides a route on a ½ mile spacing, so no one is more than ¼ mile from one.	0 miles of enhanced bike lanes	52 miles of enhanced bike lanes	4.5 miles of enhanced bike lanes through resurfacing, and 2.5 miles as part of major street reconstruction
Intersections	Intersection improvements are built as needed for safety and function at major intersections.	12 roundabouts 97 signals	52 roundabouts	12 roundabouts
Safety projects	Improve the safety of our streets based on a routine analysis of collisions.	NA	56 current projects; ongoing need	23 projects
Resurfacing	Streets surfaces will be in good condition, with an average system rating of 75. (A rating of 100 is excellent.)	Our current system rating is 67	Not yet identified; ongoing need	69 miles in 6 years (20-year project list not defined)

Figure 6. Citywide System Targets, City of Olympia.

SMART SCALE – Virginia Department of Transportation

The Virginia Department of Transportation developed a project prioritization process called SMART SCALE which is used to compare a wide variety of project types from throughout the state. Individual jurisdictions submit project applications that address six evaluation areas: safety, congestion mitigation, accessibility, environmental quality, economic development, and land use coordination. Within each of these areas, there are two to three measures that are weighted to make up the entire score. Each project application includes a benefit-to-cost comparison.

Evaluations are compiled into a staff-recommended funding scenario which is then reviewed by the Commonwealth Transportation Board (CTB). While the CTB is not required to fund projects in the order of their scores and has final decision-making authority, the process does provide transparency. This type of prioritization process is very comprehensive, and requires a substantial amount of data collection and preparation to score each project.

NCHRP Cross Mode Project Prioritization

In 2014, a report on cross mode project prioritization was prepared as part of National Cooperative Highway Research Program (NCHRP) Project 08-36, Task 112[14]. The Cross Mode Project Prioritization

[14] Parsons Brinckerhoff for the American Association of State Highway and Transportation Officials (AASHTO), 2014. Available at: http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(112)_FR.pdf. Accessed March 17, 2021.

report's authors conducted a survey of Metropolitan Planning Organizations and state DOTs to understand how agencies were approaching project prioritization across modes. The authors found that most agencies prioritize within modal "silos" to determine the top-performing projects within each category and then use a more nuanced method to prioritize among those projects, for example gathering feedback from public officials and stakeholders. A variety of evaluation frameworks are summarized in the report, generally consisting of evaluation criteria tied to specific metrics that are weighted to reflect the agency's values and goals. The report categorizes these approaches in four ways: benefit cost analysis, cost effectiveness analysis, process-based approach (e.g. a political approach), and a goal based approach which is most akin to what the City of Bellevue is striving for: establishing goals and levels of performance within each mode and identifying the projects needed to achieve them so decision makers and the public can understand investment needs in order to reach their desired outcomes.

Among the more integrated approaches is a system developed by the Hampton Roads Transportation Planning Organization which organizes its metrics into three categories that apply to all modes: project utility, economic vitality, and project viability. As shown in **Figure 7,** though the specific metrics within each category vary depending on the type of project, the number of available points is equal across all modes which can provide for comparisons. The composite scores are then considered along with other input from a technical advisory committee, elected officials and other stakeholders.

Highways	Interchanges	Bridge / Tunnel	Intermodal	Transit
Project Utility Congestion Level (30) System Connectivity (25) Safety and Security (15) Cost Effectiveness (15) Land Use (10) Modal Enhancements (5) Total Points (100)	Project Utility Congestion Level (30) System Connectivity (25) Safety and Security (15) Cost Effectiveness (15) Land Use (10) Modal Enhancements (5) Total Points (100)	Project Utility Congestion Level (30) Condition (20) System Connectivity (10) Safety and Security (10) Cost Effectiveness (15) Land Use (10) Modal Enhancements (5) Total Points (100)	Project Utility Enhance Intermodal(30) Improve Access (30) Safety and Security (15) Cost Effectiveness (25) Other Mode Access (15) Total Points (100)	Project Utility Existing Ridership (20) System Connectivity (20) Land Use (15) User Benefits (15) Air/Emissions (10) Cost Effectiveness (15) Modal Enhancements (5) Total Points (100)
Economic Vitality Travel Time (30) Labor Market Access (20) Meet Industry Needs (30) Increase Opportunity (20) Total Points (100)	Economic Vitality Travel Time (30) Labor Market Access (20) Meet Industry Needs (30) Increase Opportunity (20) Total Points (100)	Economic Vitality Travel Time (30) Labor Market Access (20) Meet Industry Needs (30) Increase Opportunity (20) Total Points (100)	Economic Vitality Travel Time (30) Labor Market Access (20) Modal Interaction (30) Increase Opportunity (20) Total Points (100)	Economic Vitality Labor Market Access (45) Meet Industry Needs (20) Increase Opportunity (20) Economic Distress (15) Total Points (100)
Project Viability Funding (50) Project Readiness (50) Total (100)	Project Viability Funding (50) Project Readiness (50) Total (100)	Project Viability Funding (50) Project Readiness (50) Total (100)	Project Viability Funding (50) Project Readiness (50) Total (100)	Project Viability Funding (50) Project Readiness (50) Total (100)

Figure 7. Evaluation Metrics, Hampton Roads Transportation Planning Organization.

The report ends with a recommended concept for cross modal project prioritization, as shown in **Figure 8**. It suggests developing a score based on two evaluation categories: one set of metrics that apply to all modes (for example benefit cost ratio or level of financial matching available) and one set of metrics that are mode-specific, but allow for the same amount of points to be contributed to the overall score.

As shown in **Figure 9**, the benefits considered may vary by project type, but would all be translated to their financial benefit. In other words, the dollar is the common unit among all types of benefits.

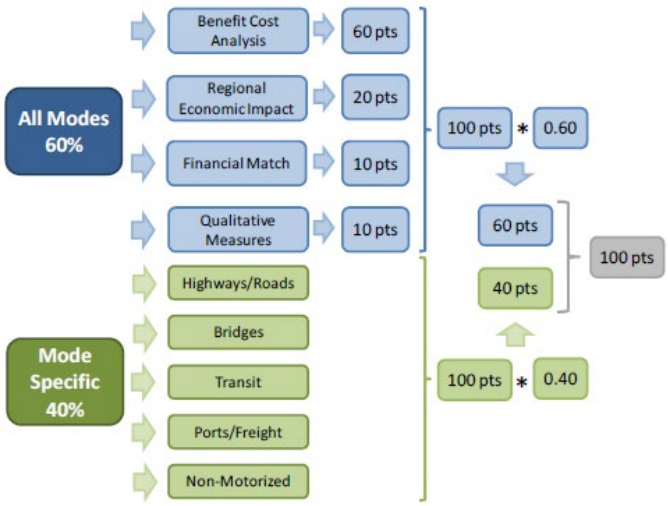


Figure 8. Proposed Cross Modal Project Prioritization Concept, Parsons Brinckerhoff.

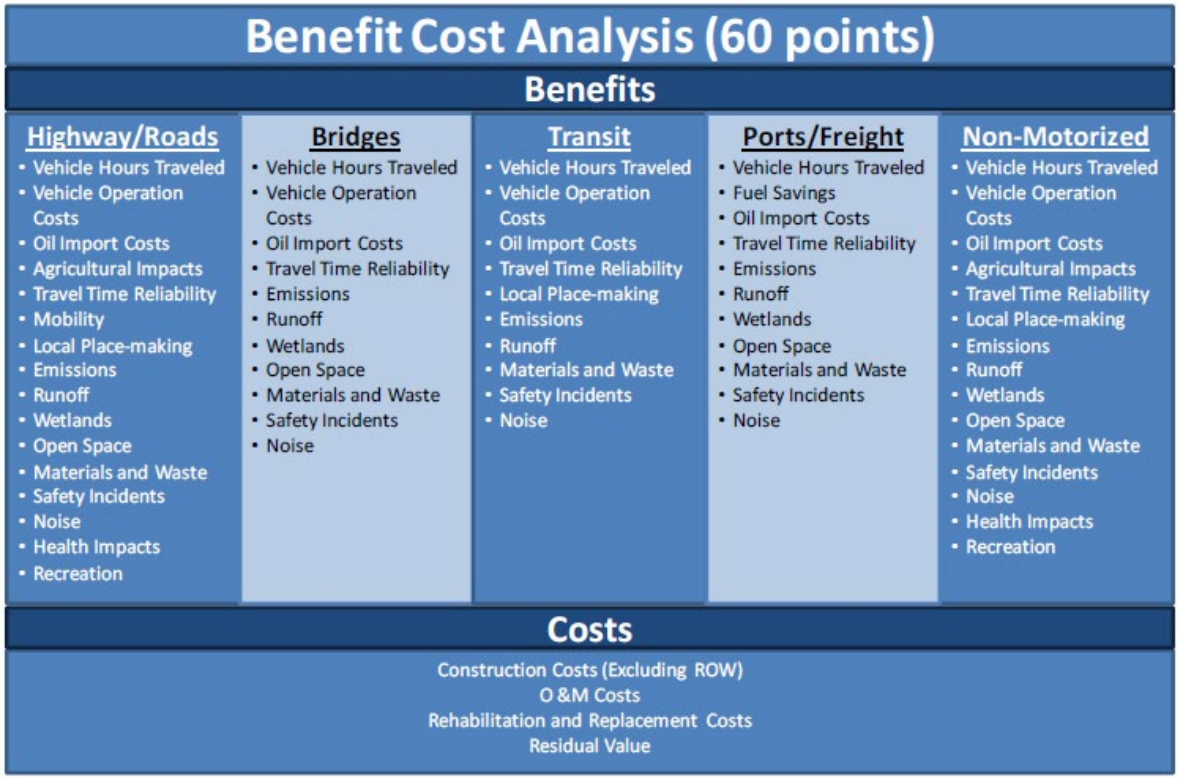


Figure 9. Proposed Benefit Cost Analysis Concept, Parsons Brinckerhoff.

Multiple Account Evaluation Framework

A Multiple Account Evaluation (MAE) framework provides an overarching guide to multimodal evaluation and prioritization. In an MAE, evaluation measures are aligned with community values. Quantitative and qualitative metrics are established for each plan goal to elevate investments that deliver the highest value in advancing the plan vision. This approach allows jurisdictions the opportunity to articulate how factors like the environment, equity, safety, and health and livability factor into transportation decision making.

The evaluation framework process depicted below and described in **Table 3** uses a community's goals and objectives to shape a decision-making approach that elevates investments that are most closely aligned with their desired mobility future. A typical framework uses a four-step process to screen, score, and prioritize projects (and programs and policies, if evaluated) for funding and implementation. MAEs have been used to evaluate tradeoffs and eliminating modally focused long-range planning in cities like Boulder, Corvallis, Spokane, Seattle, Denver, Salt Lake City, and others. The MAE approach is also similar to what was applied in Olympia, as described in detail above.

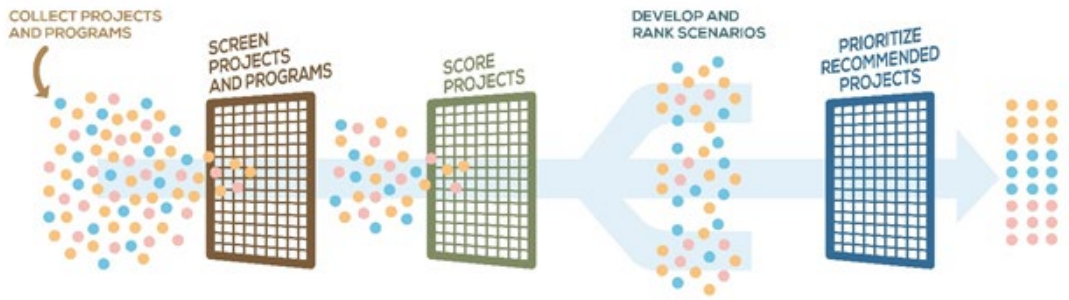


Table 3: Multiple Account Evaluation Framework Steps

Step	Purpose	Outcome
Step 1. Screening	Filter potential projects, programs, and policies for alignment and appropriateness	"Clean" set of projects, programs, and policies
Step 2. Scoring	Rank potential projects and programs to elevate those most aligned with plan goals	Scored list of projects and programs—presented in tiers—to be used for scenario development
Step 3. Developing Scenarios	Envision a mobility future through different combinations of modal investments and programmatic and policy changes	Transportation network scenarios that illustrate how varying combinations of projects and programs achieve plan goals and objectives for public input to inform a recommended scenario
Step 4. Prioritization	Prioritize projects within the recommended scenario and develop a prioritized project list	Prioritized list of final projects and programs based on the recommended scenario

Source: Nelson\Nygaard.

Conclusion

Developing a project prioritization approach that applies to multiple modes is a complex endeavor. Ranking of projects within a single mode can be a straightforward process, but comparing the benefit of projects across modes that create different types of value for different users does not lend itself to a universal approach that can be equally applied across all communities. While many agencies include quantitative metrics for at least part of the process, input from agency staff, elected officials, and the public is often used to develop a final list of priorities. Moving forward, the Consultant team will be working with City staff to identify the most appropriate prioritization framework for long range transportation planning in Bellevue.

Section 3: Transportation Concurrency

The City of Bellevue published a Multimodal Transportation Concurrency Final Report[15] in January 2021 that documented the existing concurrency system in Bellevue, challenges stemming from the system, best practices, and outlined a recommendation for a new multimodal concurrency framework. This section summarizes the key findings.

Existing Concurrency Methodology

Bellevue's existing concurrency system is a vehicle-focused approach to mobility that was developed in the 1980s and has remained largely intact. The concurrency program uses the concept of a volume to capacity (V/C) ratio that measures the capacity of a roadway intersection to accommodate the vehicles that would travel through it, averaged for all approaches. As currently defined, the V/C metric considers only level-of-service for motorized vehicles and is silent with respect to other modes. Therefore, to ensure the concurrency standard is met, vehicle capacity must be added at intersections that fall below the v/c standard or building permit applications must be denied. This approach is not in complete alignment with Comprehensive Plan policies and the Complete Streets Ordinance that maintain the vehicle approach to concurrency while also envisioning a multimodal transportation system that is planned and designed in consideration of all users.

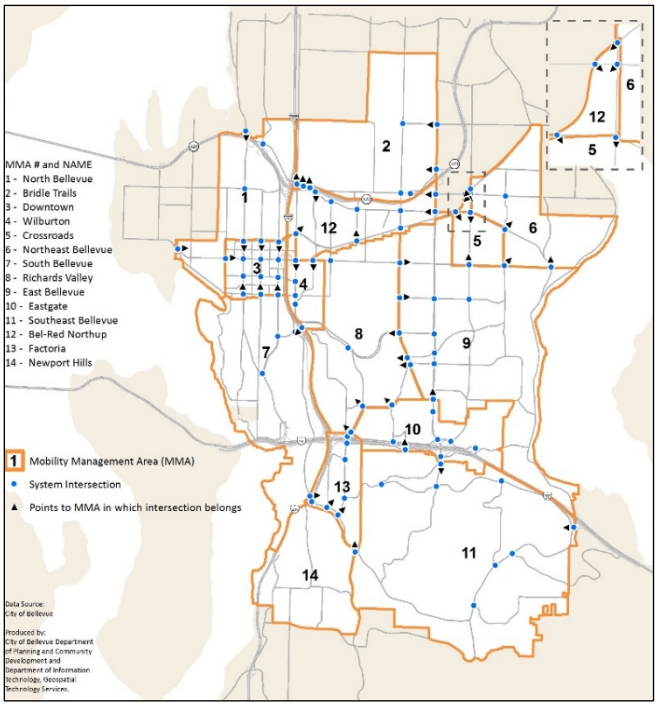


Figure 10. Mobility Management Areas, City of Bellevue.

Bellevue's transportation concurrency policies, are established in the Comprehensive Plan and the standards, and methodologies are adopted in the Traffic Standards Code (Bellevue City Code Chapter 14.10). The Traffic Standards Code defines 14 Mobility Management Areas (MMA) in the city. Within each MMA, there are designated intersections called "system

[15] City of Bellevue, 2021. Available at: https://bellevuewa.gov/sites/default/files/media/pdf_document/2021/Multimodal-Concurrency-Staff-Recommendation-final-report-011421.pdf. Accessed January 27, 2021

intersections" where vehicular performance measures are calculated and reported for the PM peak period. **Figure 10**, the Comprehensive Plan shows the MMAs and system intersections.

The Traffic Standards Code provides two standards for each MMA: the maximum average volume-to-capacity (V/C) ratio at a system intersection; and the maximum number of system intersections allowed to exceed the V/C ratio standard defined for each MMA (congestion allowance). The level-of-service standard varies by MMA in consideration of the land use vision for the area, the availability and level-of-service of each mode of travel, and community input.

Findings Related to Existing Concurrency System

With its sole focus on vehicle level-of-service, the existing concurrency system is out of synch with the envisioned multimodal approach articulated in the Comprehensive Plan and the planning and design direction embedded in the Complete Streets Ordinance. Bellevue has reported in the annual Concurrency Report that some intersections in some Mobility Management Areas approach or exceed the V/C Performance Metrics, yet the concurrency standard is met due to the congestion allowances embedded in the Traffic Standards Code. The existing approach to address volume/capacity performance by expanding intersection capacity is not sustainable fiscally and environmentally in the long-term, and is not consistent with recent policy direction to pursue a multimodal approach. In the event of a concurrency challenge under the existing system, there are alternative choices available: to continue the approach of adding vehicle capacity, to amend the existing concurrency standard, or to deny building permit applications.

Bellevue's evolution to a major regional employment center supported by an increasingly multimodal transportation system is straining the value of the vehicle-focused level-of-service standard. While the city will continue to monitor intersection LOS and will continue to include vehicular capacity projects in the TFP, the V/C-based performance metric at system intersections is no longer the best single indicator to represent the performance of Bellevue's multimodal transportation system. Furthermore, the vehicle-focused level-of-service standard does not identify gaps in the Performance Targets of other modes, which are increasingly key to livability, sustainability and equitable mobility across the City.

Multimodal Concurrency

A modern transportation concurrency approach for Bellevue will incorporate best practices to embed metrics and targets for all modes. This multimodal approach is intended to accommodate the travel demand of a growing community and to equitably allocate resources to create a supply of mobility among a wide range of transportation investments. A multimodal approach to concurrency is sustainable from the perspectives of the environment and the budget because the City may select a wide range of projects and programs that correspond to budget constraints and environmental objectives to meet growing travel demand. Personal and community health also benefits when people have meaningful choices for active transportation.

Ultimately, multimodal concurrency for Bellevue advances the Comprehensive Plan transportation policies and priorities, and implements modal plans for pedestrian, bicycle and transit facilities as it provides

methods and metrics to identify, prioritize and build projects that create a complete transportation system for all modes.

Best Practices

During the spring and summer of 2020, Bellevue staff evaluated several transportation concurrency frameworks that would transition from the automobile-focused V/C ratio-based concurrency system to a multimodal approach. This section describes the best practices studied by the staff through that process.

Mode Share

The City of Seattle uses mode share to determine transportation concurrency. Under this system, Seattle requires a transportation impact analysis of a proposed development to determine whether the mode share of the occupied building would meet single-occupancy vehicle (SOV) mode share standards established for different areas in the City in the Seattle Comprehensive Plan. If analysis shows that a development would generate SOV trips at a mode share at or below the threshold, the project would meet concurrency requirements. If the analysis shows that the development would generate a SOV mode share above the concurrency threshold, mitigation or development project modification would be required. For the most part, a development along a frequent transit corridor, in an urban village, or in an urban center will meet SOV mode share requirements based on the nature of the transportation services and mix/density of land uses in the area. Any development outside of these areas would likely require mitigation (except for land uses exempt from transportation impact analysis requirements). This concurrency policy encourages development in areas of the city where policy seeks to focus new development (i.e., higher-density areas with good transit service) and imposes additional requirements on development outside of transit corridors and urban villages/centers.

Vehicle Miles Traveled

While not employed as a transportation concurrency standard anywhere in Washington state, vehicle-miles traveled (VMT) may serve as a concurrency standard, similar to mode share. Many California jurisdictions use VMT as the primary transportation metric to analyze impacts, apply mitigation and monitor project performance. This methodology applied to a development proposal is similar to how transportation concurrency is applied in Washington.

In California, the state establishes regional per-capita VMT standards that must be met for a new development proposal to proceed. The per-capita component to the VMT standard is important because it recognizes that most communities are expected to grow. Setting a gross or total VMT standard could be unrealistic in a growing community and could stifle new growth that meets the community's land use vision. Focusing on per-capita VMT acknowledges the fact that some communities will add jobs/housing (and thus total VMT might increase), but each new resident or employee is expected to generate less VMT than the status quo – helping to achieve overall environmental and traffic congestion goals.

In some areas, the inherent land use density, travel pattern, mode share, etc. allow proposed land use projects to proceed without any further transportation approvals (i.e., they are in low per-capita VMT-

generating urban areas). However, in other areas, a proposed development must incorporate mitigations to reduce per-capita VMT to be considered for approval. Development mitigations have included such actions as employing a private shuttle program, rebalancing the mix of uses in a development, and charging a fee for residents/employees to enter/leave the development in a car.

Transportation System Completeness

System completeness requires that a community define a set of transportation investments/projects that aligns with a given amount of growth and then build those projects at a rate that keeps pace with or ahead of development. Specific investments and projects are determined by the available resources and the desired performance of the transportation system, as measured using a variety of performance metrics. Typically, the performance metrics and targets for how the transportation system operates are based on the goals and policies of the community's Comprehensive Plan.

The system completeness concurrency standard is met when the community implements the transportation system projects at a rate concurrent with proposed development. In other words, concurrency is achieved and maintained when the supply of transportation capacity created by projects for all modes is greater than the demand for mobility created by the person-trips from new development.

System completeness has also been called "plan-based" concurrency. There are several reasons for this definition:

- The transportation system improvements are identified to meet Comprehensive Plan transportation goals when the planned growth takes place.
- Implementation of the transportation plan is what is being tracked with concurrency; system completeness explicitly implements the planned system rather than identifying projects in reaction to an undesirable transportation outcome, which might not be consistent with the planned transportation system.

In Washington state, the cities of Redmond, Kirkland, Kenmore and Olympia have adopted multimodal system completeness as their transportation concurrency standard. Bellingham and Spokane also have a system completeness element to concurrency, but it is blended with traditional vehicle level-of-service concurrency standards.

Conclusion

Based on the guidance in the Comprehensive Plan and Transportation Commission study sessions from 2014 and 2016, the city staff identified that a multimodal transportation concurrency approach based on "system completeness" would best meet the long-term needs of the community. In the case of Bellevue, the Multimodal Level of Service (MMLOS) Metrics, Standards, and Guidelines document, authored in 2017 by the Transportation Commission would serve as a foundational document that defines the performance expectations of the transportation system. With multimodal performance targets defined, the City can identify transportation investments/projects that can achieve the performance targets, even as the City grows. Therefore, to achieve concurrency, the City would implement the identified system at a rate that is

on pace with the growth that is anticipated and periodically confirm that the performance targets are being met. The key elements of the system completeness transportation concurrency framework and the relationship to performance targets defined by the MMLOS Metrics, Standards, and Guidelines document are shown in **Figure 11**.

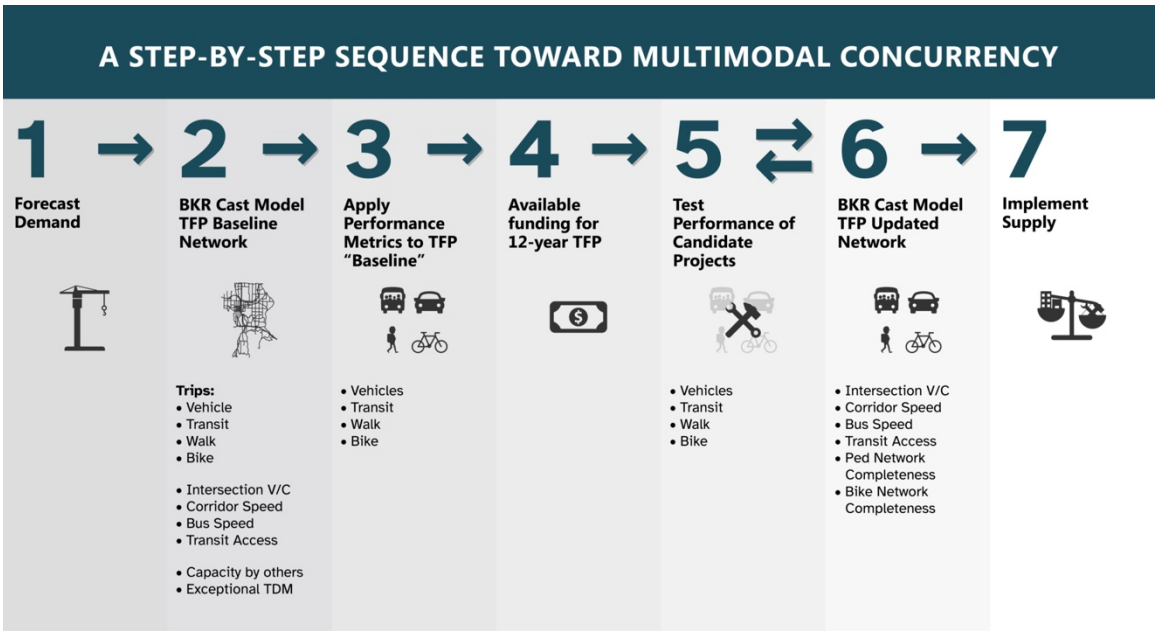


Figure 11. Sequence Toward Multimodal Concurrency, City of Bellevue.

In addition to ensuring a more sustainable approach to implementing Bellevue's transportation vision, the system completeness framework for multimodal concurrency is compatible with the concurrency method adopted by Bellevue's largest neighboring cities, Redmond and Kirkland. By aligning the concurrency frameworks for all three cities, a regional approach to building a multimodal transportation system can be pursued. Under the existing system, a V/C issue in Bellevue could require the expansion of an intersection which could be incompatible with Redmond's system completeness-based concurrency system. So long as all three cities coordinate their transportation plans along their respective borders, regional growth can implement the regional transportation vision.

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City of Bellevue
Transportation Department
450 110th Ave NE
PO Box 90012
Bellevue, WA 98009
(425) 452-6856

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