City of Bellevue

Transportation Commission Study Session

DATE: October 14, 2021

TO: Chair Marciante and Members of the Transportation Commission

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SUBJECT: Mobility Implementation Plan – Performance Target Gap Assessment and Project Identification and Prioritization

DIRECTION REQUESTED

	Action
X	**Discussion/Direction**
X	**Information**

INTRODUCTION

Through the development of the Mobility Implementation Plan (MIP), the Transportation Commission, Bellevue staff, and the consultant team, have defined the following:

Performance Metrics: Quantitative design and operations metrics for the pedestrian, bicycle, transit, and vehicle networks.

Performance Targets: Specific Performance Metric outcomes that represent conditions of the transportation system that are satisfactory from a user's perspective; Performance Targets are established for pedestrian, bicycle, transit, and vehicle modes.

Performance Management Areas: Geographic areas of Bellevue that are defined by similar land use/urban form characteristics and transportation options; vehicle Performance Targets vary across the different types of Performance Management Areas. The Performance Targets for all modes are summarized across the Performance Management Areas for reporting and analysis purposes.

Using the Performance Metrics, Performance Targets, and Performance Management Areas, the City of Bellevue can, in a transparent way, identify portions of the transportation network

that do not perform at the target level and may warrant investment to address these performance gaps.

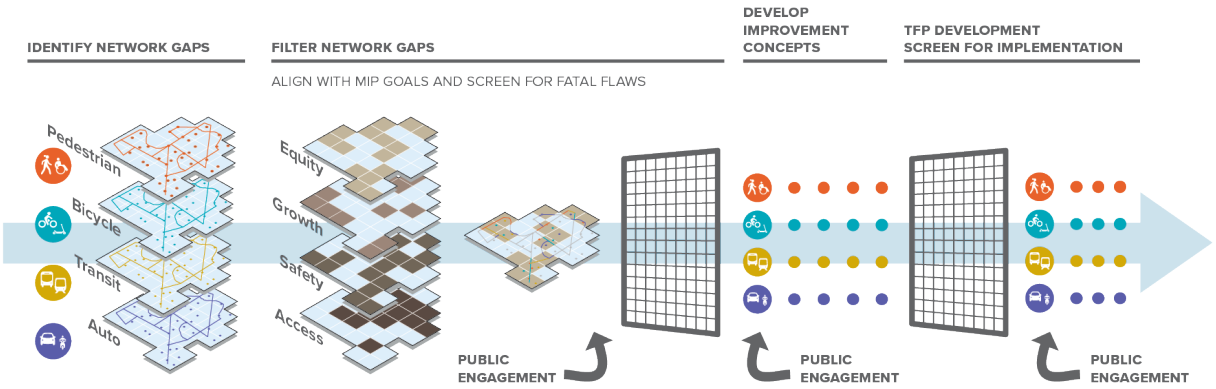
While identifying gaps in the multimodal transportation performance is a critical first step, additional steps are necessary to advance project concepts to project design and later onto funding and implementation. Many agencies have developed evaluation frameworks to aid in transportation decision making and funding prioritization. A framework serves as a powerful tool to align transportation investments with community goals, evaluate tradeoffs, and bring a multimodal approach to long-range planning. Staff and the consultant team reviewed screening, prioritization, and implementation frameworks in a number of communities, including Boulder, CO; Corvallis, OR; Spokane; Seattle; Denver; and Salt Lake City.

In reviewing the project screening/prioritization/implementation frameworks from other communities, our team recognized that a key outcome would be for people to clearly understand how a Performance Target gap could ultimately lead to a project that is prioritized for funding and implementation.

PROJECT IDENTIFICATION AND EVALUATION FRAMEWORK

The evaluation framework process depicted in Figure 1 uses the MIP's goals of designing for safety, advancing equity and access, supporting growth, and aligning transportation investments with the multimodal access environment to define a decision-making approach that will advance Bellevue's mobility objectives. The framework uses a four-step process to 1) identify network gaps, 2) screen network gaps, 3) develop improvement concepts, and 4) screen for funding and implementation. The steps are further described below.

Figure 1: Project Identification and Evaluation Framework



STEP 1: IDENTIFY NETWORK PERFORMANCE GAPS

Purpose: *To identify where the documented performance of the transportation system does not meet the defined Performance Targets.*

The process would begin with an assessment of each modal network (pedestrian, bicycle, transit, vehicle) to identify where the Performance Targets defined in the MIP are not being met. The Transportation Commission has defined Performance Target gaps that include:

- Arterials that are missing a sidewalk, particularly where is sidewalk is missing on both sides of the street; arterial street segments that do not have a designated pedestrian crossing as warranted by a target spacing or specific pedestrian trip generators.
- Segments of the bicycle network in general and the Bicycle Priority Network in particular, that do not meet the Level of Traffic Stress (LTS) Performance Targets.
- Frequent transit routes where riding a bus would take more than 2.0 times longer than driving a car to connect key activity centers; bus stops that do not meet the intended suite of passenger amenities and access.
- System Intersections where the volume-to-capacity (v/c) ratio exceeds the Performance Target; segments of the Primary Vehicle Network where travel is slower than the Performance Target (the specific Performance Targets for v/c and corridor travel speed vary by Performance Management Area).

The segments of the multimodal transportation network that do not meet the Performance Targets will be documented by the City under existing and future conditions as part of the Transportation Facilities Plan (TFP) update and other long-range planning studies. An initial analysis has been prepared as part of the MIP. Through this analysis, people can know where Performance Target gaps exist and how those gaps are expected to change in response to planned land use growth, changing travel patterns, and investments by the City of Bellevue and other agencies.

Outcome: *Map and list of network performance gaps by mode (see Figures 2-6 for maps of network performance gaps under 2019 conditions).*

Figure 2: Map of 2019 Sidewalk Gaps

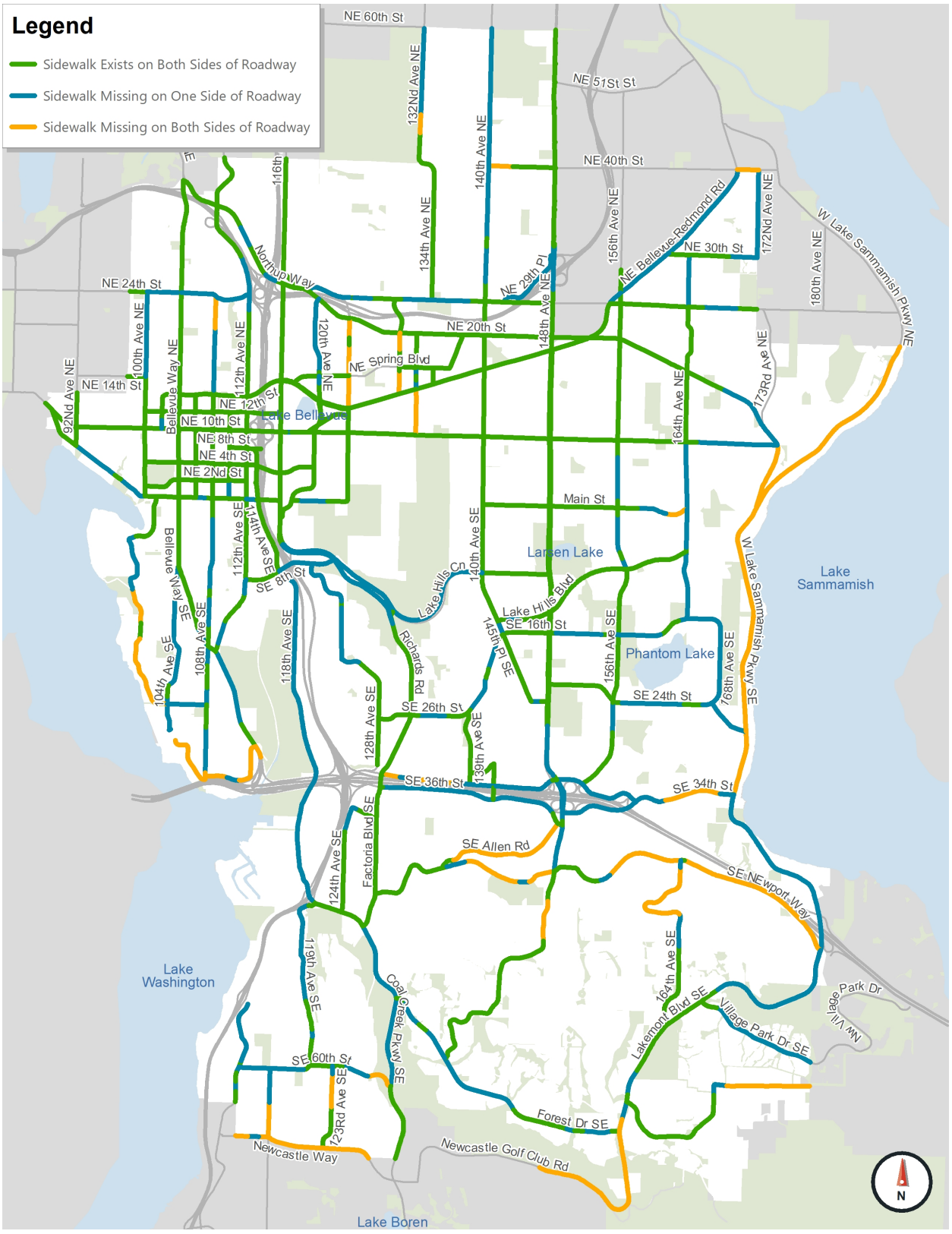


Figure 3: Map of 2019 Bicycle Network Gaps

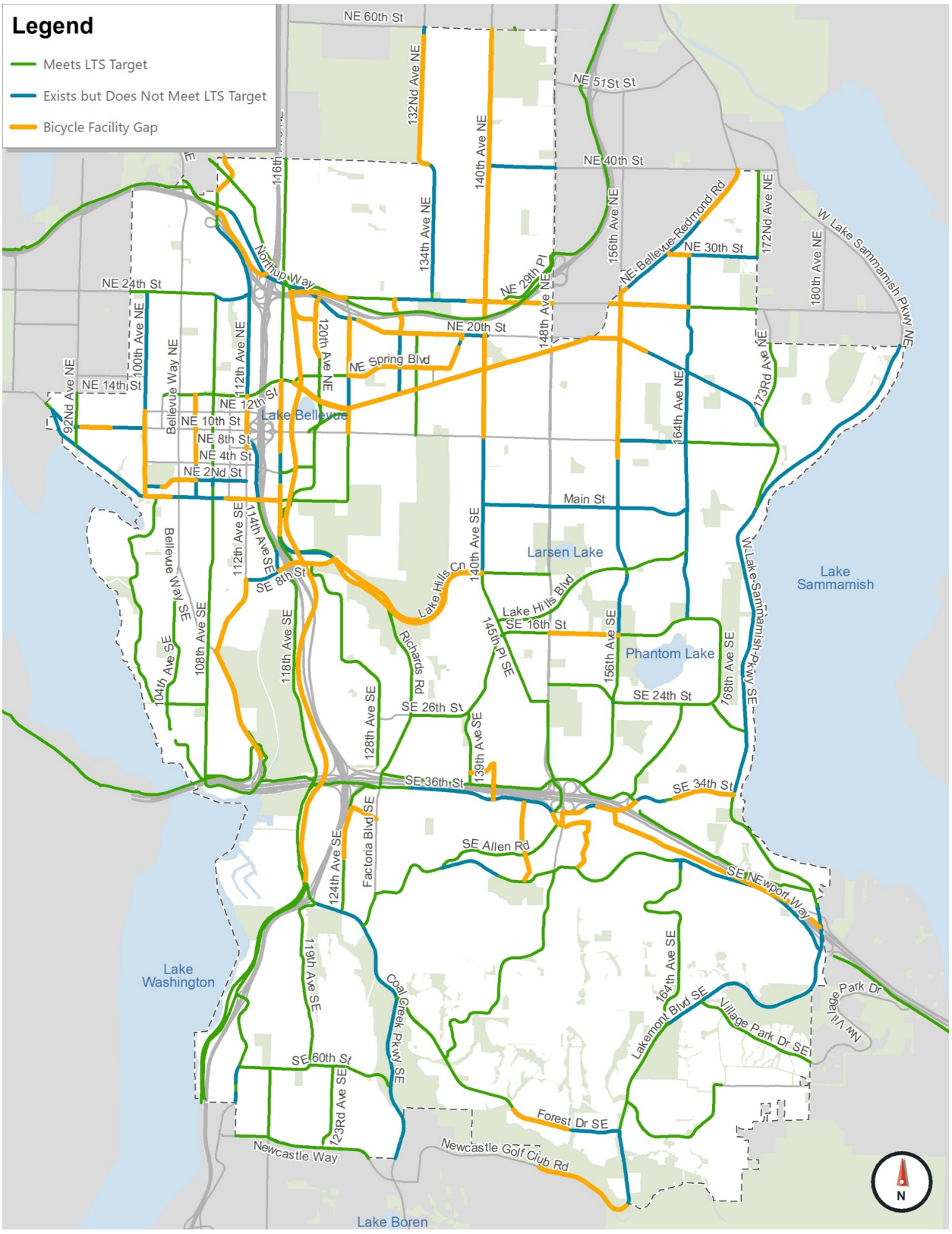


Figure 4: Map of 2019 Transit Travel Time Gaps

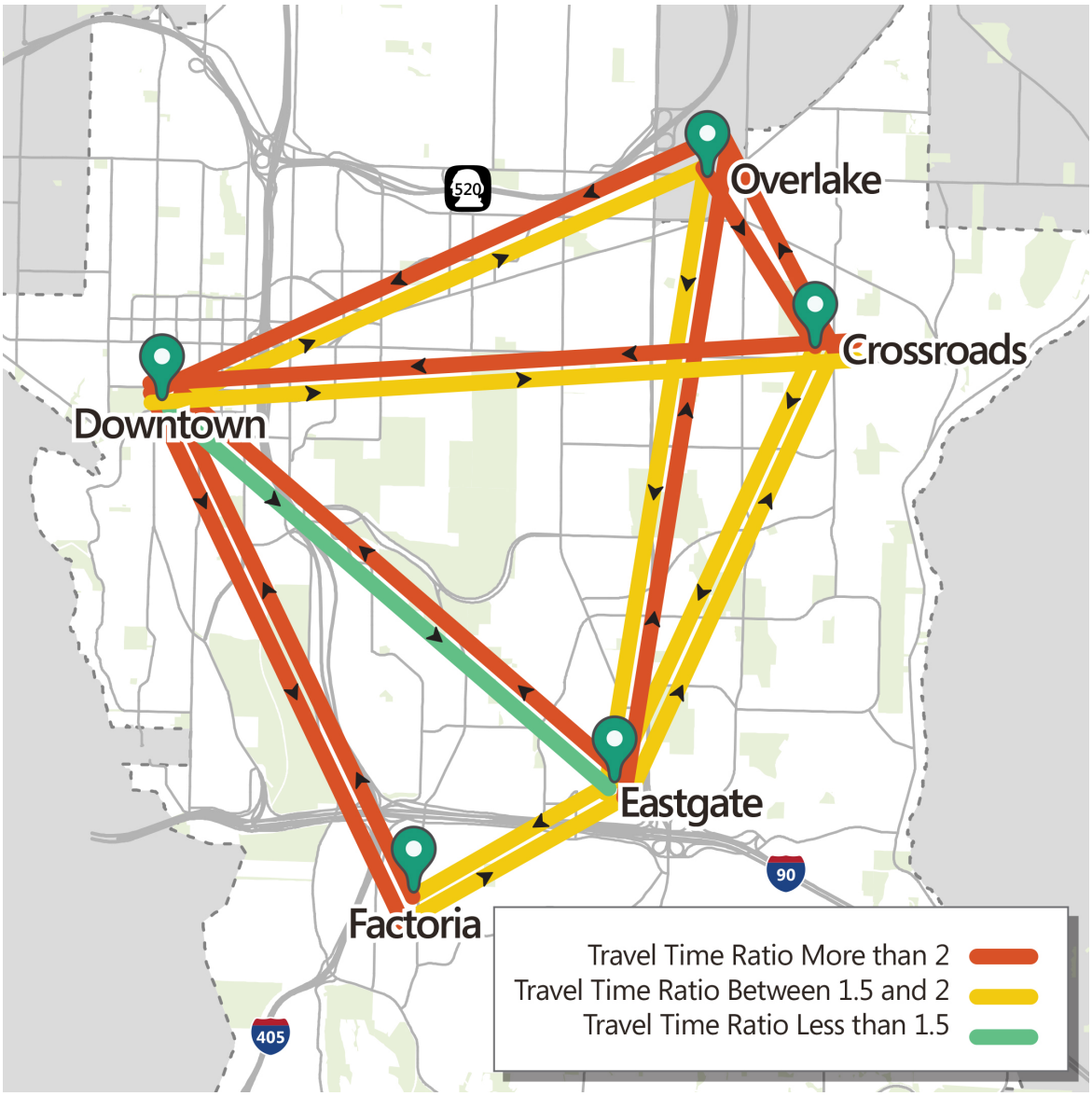


Figure 5: Map of 2019 System Intersection Gaps

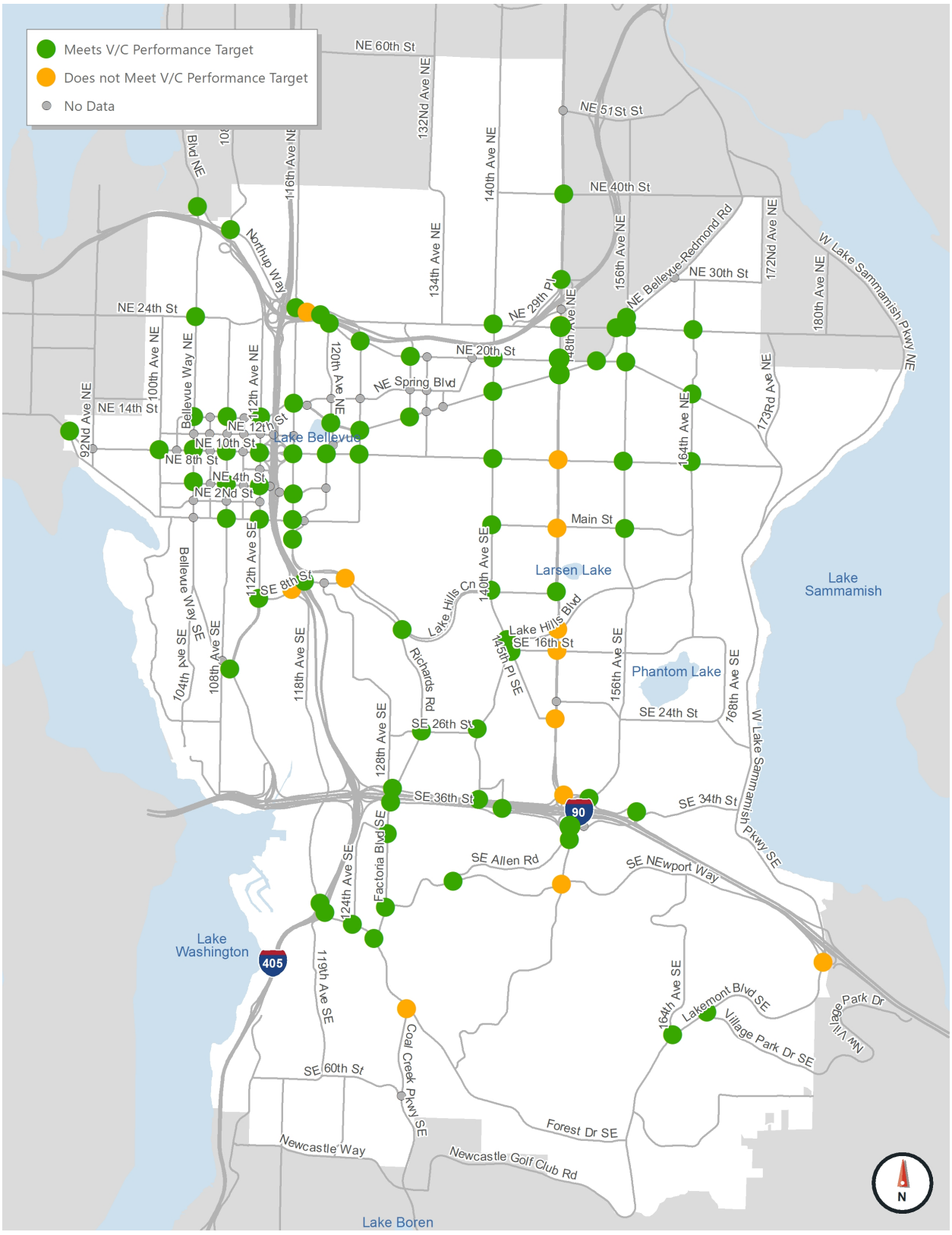
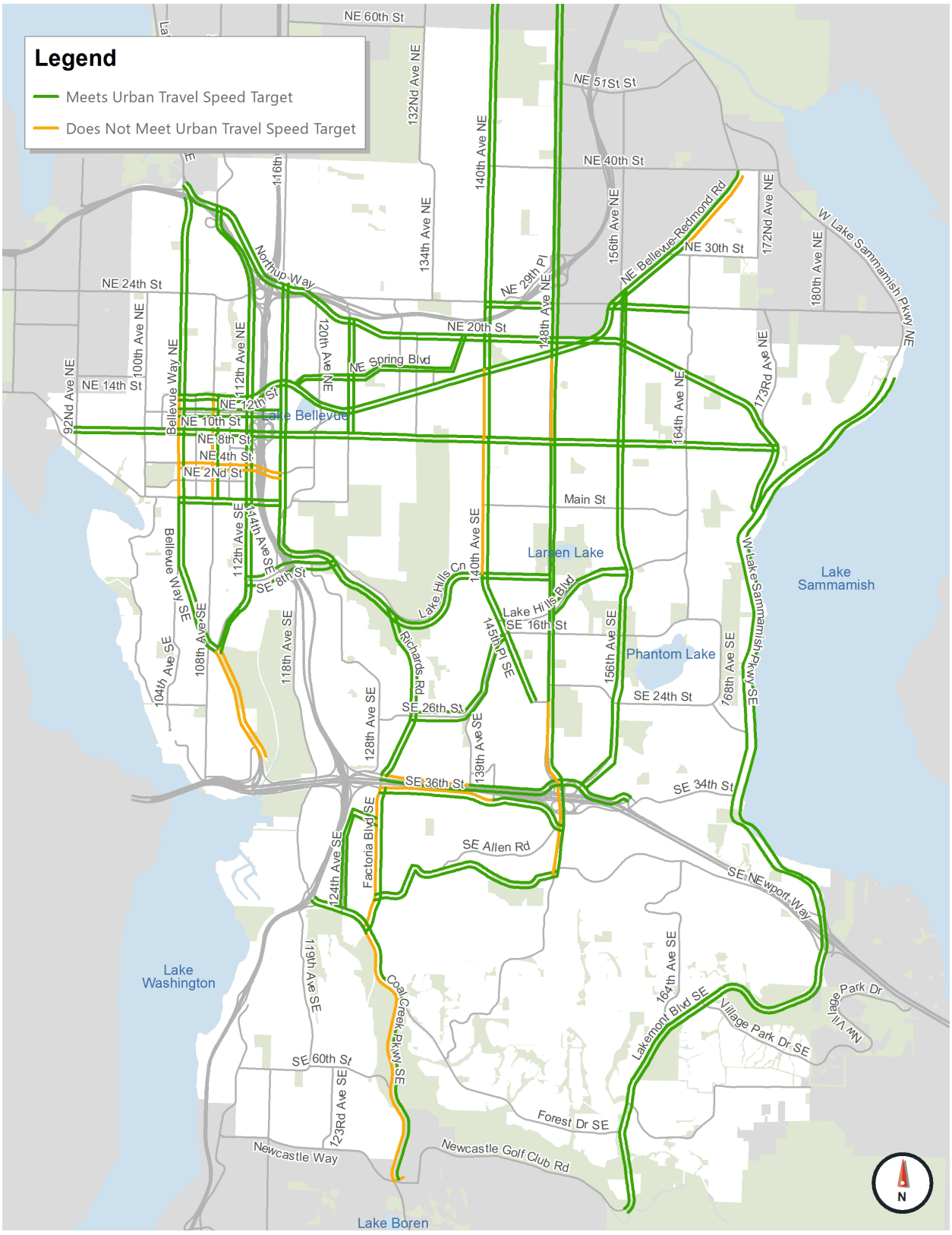


Figure 6: Map of 2019 Primary Vehicle Network Gaps



Step 2: Screen Network Performance Gaps

Purpose: *Screen Performance Target gaps for alignment with MIP goals and determine appropriateness to move forward to develop improvement concepts for gaps that pass the filter.*

In an ideal world, Bellevue would regularly assess Performance Target gaps and identify a comprehensive set of options to address all the gaps. The options could include capital investments to add capacity, investments in a parallel facility to provide another route option, investments in another mode to provide another modal option, etc. However, the list of gaps generated by the MIP Performance Target assessment is substantial and for the City, being mindful of financial and staff resources, it is essential to clearly identify a subset of gaps that warrant further advancement toward improvement concept development.

Gaps that do not pass this screening step are acknowledged and a reason for not advancing the gap to concept development is documented. A Performance Target gap that is not addressed will be reassessed prior to any major capital planning process, such as the TFP, a corridor study, or subarea plan. Specific details of this new screening process will be finalized as the program is established. The Performance Target gap assessment could be a new stand-alone process, or it could be integrated into an existing transportation process like updates to the MIP or Comprehensive Plan.

The proposed filtering process includes three steps: 1) assess if the gap aligns with the goals outlined in the MIP, 2) engage the public on the gap to ensure that MIP goals not reflected in the data are accurately identified, and 3) screen the gap for further concept development if it passes through the first two parts of this process. See **Attachment B** for two examples of filtering a network gap. The steps are further described below.

<u>Step 2.1: Assess Network Performance Gaps against MIP Goals</u>

GIS-based mapping is used to assess how well network performance gaps align with MIP goals. Each goal has a corresponding map (see description in **Table 1** and **Attachment A** for maps) that highlights areas that may need investment to advance the MIP goal. The maps can be used alone or in combination to focus on gaps that advance multiple MIP goals. Each gap is evaluated and given a high, medium, or low assessment based on how it aligns with the criteria described in **Table 1**.

The high, medium, low assessment of need is intentionally qualitative because the gaps must be assessed relative to each other, and the location of gaps relative to areas of needed investment to meet MIP goals will change over time. For example, existing gaps in the multimodal network are scattered across Bellevue, but over time, the City could prioritize investments in areas with the highest growth, access and equity needs. That does not mean that the remaining gaps do not warrant investment, but that they need to be assessed relative to each other. Examples of how the City may define high, medium, and low need are provided,

but to ensure a flexible framework, the specific thresholds will need to change over time as conditions warrant.

Table 1: Area of Needed Investment to Advance MIP Goals Assessment Scoring

MIP Goal	Area of Needed Investment Description	Assessment Criteria for Gaps	
Safety	Safety uses the City's High Injury Network (HIN) to determine if a gap is along the network and ensure alignment with Vision Zero goals.	High	On the HIN
		Medium	Near the HIN
		Low	Not on the HIN
Equity	Equity uses the transportation equity index to understand if the gap is located in an area with populations that have been historically disadvantaged from transportation access. For some gaps, it may be important to look at the individual elements of the equity index to assess the need from historically disadvantaged populations.	High	In an area of greater equity disadvantage (e.g., top two categories of the equity index)
		Medium	In an area with average equity disadvantage (e.g., middle category in the equity index)
		Low	In an area of lesser equity disadvantage (e.g., lowest category in the equity index)
Growth	Growth relies on projected growth in population and employment to determine if the gap is located where growth is planned and more people would be experiencing the gap over time. Growth would be evaluated differently for non-motorized gaps (based on the growth in the traffic analysis zones near the gap) versus transit travel time and vehicle gaps (growth in transit ridership of vehicle traffic through an intersection or road).	High	In an area/on segment of high growth
		Medium	In an area/on segment with average growth
		Low	In an area/on segment with low/no growth
Mobility/ Access	Mobility/Access uses a combination of key destinations, land use mix, and density to determine if the gap is in an area that generates mobility needs. Destinations vary by mode, but include land uses like schools, parks, libraries, bus stops. The Access category also has a specific use for evaluating vehicle	High	In an area of high density and land use mix with several destinations within ½ mile
		Medium	In an area of medium density and land use mix with some destinations within ½ mile; or in an area with low density but several destinations within ½ mile

	Performance Targets. Areas with high access scores are also places where pedestrian, bicycle and transit modes can best substitute for a short vehicle trip; therefore addressing a vehicle Performance Target in a high access area may be a lower priority than addressing a similar vehicle Performance Target gap in a low access area where a vehicle is more practical for more trips.	Low	In an area of low density and land use mix with few destinations within ½ mile

Step 2.2 Engage the Public

Public engagement is critical in this stage to confirm Performance Target gaps and to understand local transportation needs related to those gaps. Questions to consider during engagement include the following:

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

Step 2.3 Filter Performance Target Gaps

After public engagement, staff reviews the data on where investments could advance MIP goals and public feedback to determine whether the Performance Target gap should advance to improvement concept development. Mindful of available resources to evaluate improvement concepts, only the top tier gaps would be moved forward, but all Performance Target gaps would be documented to note whether they were advanced to the next step, or the reasons why they are not being addressed at this time. Questions to consider during screening include the following:

- Does the Performance Target gap overlap with areas of needed investment to advance multiple MIP goals?
- Does the Performance Target gap impede a major mobility priority for Bellevue?
- If the Performance Target gap is not being advanced to the next step, why?
- Are there impacts outside of transportation if the Performance Target gap is not addressed at this time?

Outcome: *Narrowed list of network performance gaps to be used to develop improvement concepts.*

Step 3: Develop Improvement Concepts

Purpose: *Develop improvement concepts for Performance Target gaps that most align with MIP goals.*

Following the Performance Target gap filtering in Step 2, the gaps in the top tier (e.g., those in that most align with MIP goals) are evaluated to identify improvement concepts to address the gap. Bellevue has a process to develop improvement concepts, so this step does not represent a new transportation planning/design initiative. The MIP will enhance the improvement concept development process by bringing forward new data sources for consideration. Specifically, the identification of Performance Target gaps for all modes and the community transportation needs data described in Step 2 can be valuable for concept design. Neither of these data sources were readily available on a citywide basis prior to the MIP. Two examples of how improvement concept development can be enhanced through the new data in the MIP are highlighted in **Attachment C**.

A second round of public engagement is also critical to this stage. Questions to consider during engagement include the following:

- Does the improvement address the Performance Target gap well?
- Is the improvement consistent with the MIP goals of safety, equity, supporting growth, and improving access/mobility?
- Can the improvement be incorporated as part of other investments (e.g., implement a bicycle facility improvement with a utility project, or build a crossing when a new school is constructed)?
- Are there secondary positive benefits or negative impacts of the improvement concept on other modes?
- Is there a better or alternative way to address the Performance Target gap by providing an alternative mode or route to travel? Are there programmatic improvement concepts that could address the gap at a lower cost or with better effectiveness than a capital project?
- Is the improvement concept in alignment with input and feedback from the community?
- What other community considerations could influence the concept?

Outcome: *Vetted project improvement concepts that address Performance Target gaps, achieve MIP goals, meet public needs, are environmentally sustainable, are implementable, and can be incorporated into future funding decisions and planning projects.*

Step 4: TFP Development: Screen Projects for Implementation

Purpose: *Develop a financially constrained prioritized project list that addresses Performance Target gaps and supports planned growth.*

Improvement concepts developed in Step 3 can next be considered for funding and implementation. The TFP is the primary process for identifying funding for implementation, although other programs implement projects that address Performance Target gaps. The City would continue to work with private developers to implement mobility improvements along their project frontages and to address off-site impacts as appropriate. Like with Step 3, advancing from an improvement concept to a funded project or program does not require a new process. Bellevue has established processes to allocate funding for projects and programs.

The data in the MIP can enhance the TFP prioritization process by providing more contextual information to select the improvement concepts to advance to funding and implementation. For example, equity data could elevate the priority of a bicycle network gap project that connects to Crossroads, given the area's lower income, high proportion of zero-car households, and high proportion of low-English proficiency households – all of which are correlated with less driving and more bicycle usage. As another example, providing partnership funding to WSDOT to implement the South Downtown I-405 access improvements could be a priority given the concentration of intersection v/c Performance Target gaps around the existing I-405 interchanges in Downtown.

Outcome: *Prioritized list of projects for future planning documents.*

SUMMARY

The Transportation Commission has defined the Performance Metrics that Bellevue will use to evaluate the design and operations of the multimodal system and the Performance Targets that will define when a portion of the network does not meet performance expectations. In this memo, staff proposes a transparent, data-driven framework for the MIP to identify the Performance Target gaps that should be prioritized for further improvement concept development. The filtering of Performance Target gaps is centered around the MIP goals of improving mobility in a way that is safe, equitable, meets the needs of planned growth, and considers the access needs of different land uses and neighborhoods.

The same data used to filter Performance Target gaps can also refine and add context for the existing City processes to develop mobility improvement concepts and to prioritize those concepts for funding. These additional contextual data layers will help Bellevue transition toward implementing a complete multimodal system that supports current and future travel in the City.

NEXT STEPS

At the Transportation Commission meeting on October 14, 2021, the consultant team will walk through the framework process with the examples highlighted in this memo. Based on the feedback received at the October 14 meeting, staff and the consultant team will prepare a draft Mobility Implementation Plan document that will refine this project identification and prioritization framework. We anticipate sharing the draft of the Mobility Implementation Plan with the Transportation Commission at the October 28 meeting so that the Commissioners have the month of November (no meetings scheduled due to holidays) to review the draft MIP document in preparation for discussion at the December 9, 2021 meeting.

ATTACHMENTS

A. Areas That May need Investment to Meet MIP Goals

B. Screen Performance Target Gap Examples

C. Identify Improvement Concepts

ATTACHMENT A: AREAS THAT MAY NEED INVESTMENT TO MEET MIP GOALS

The following maps highlight areas that may need additional investment to advance MIP goals. These "areas of need" may be used to filter Performance Target gaps, identify potential improvement concepts, and prioritize investments. These maps are referenced in the examples in Attachments B and C.

Figure 7: SAFETY: Vision Zero High Injury Network

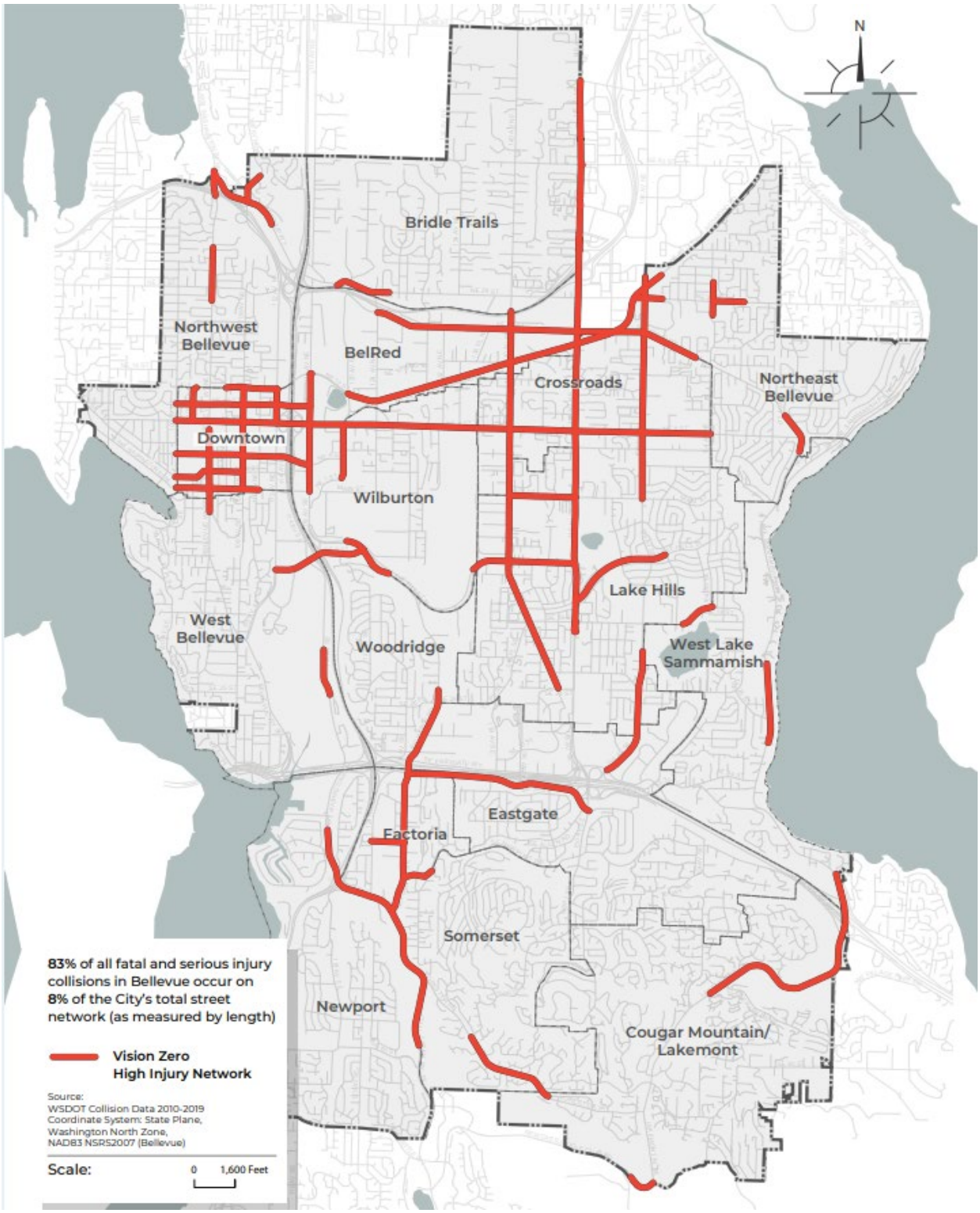
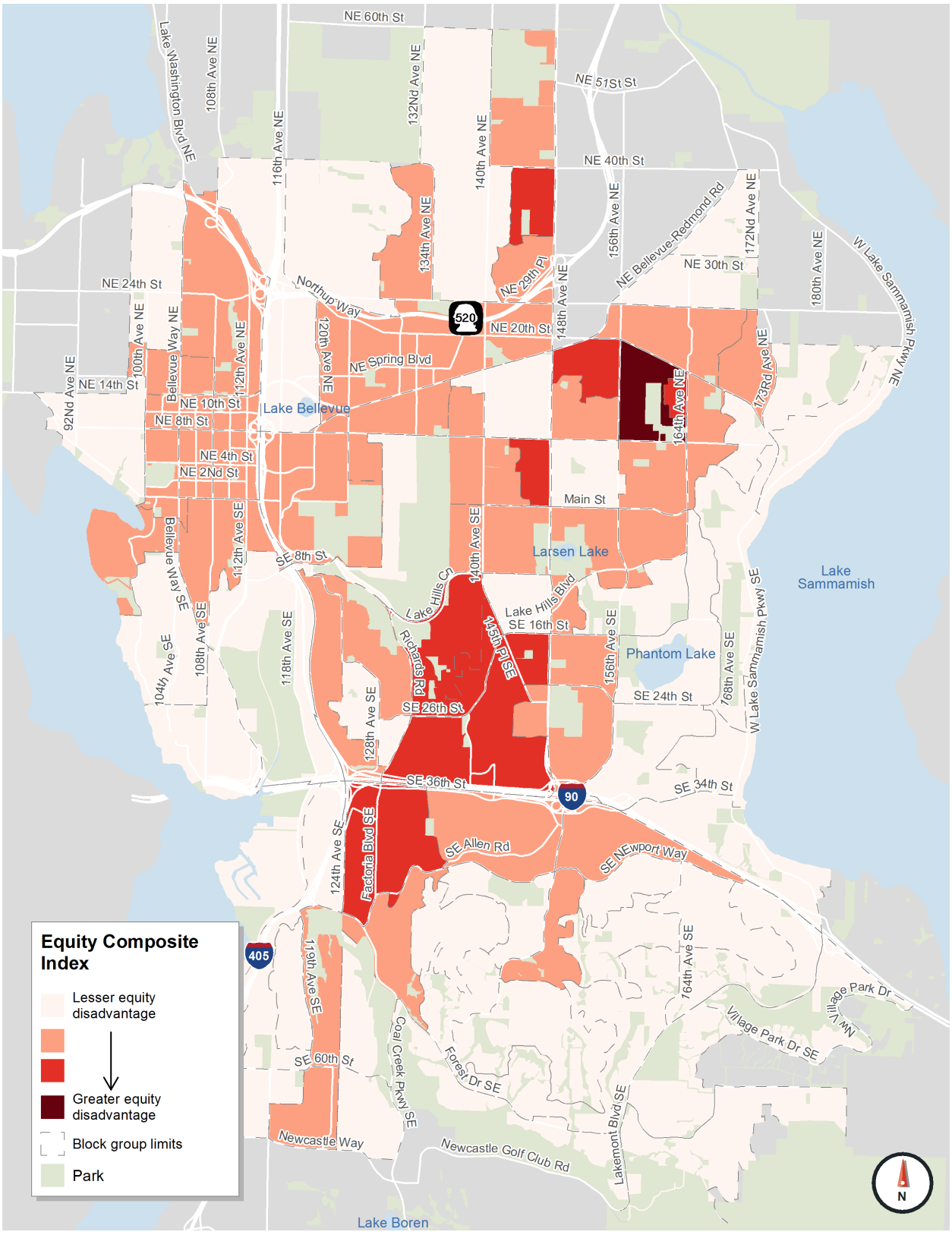
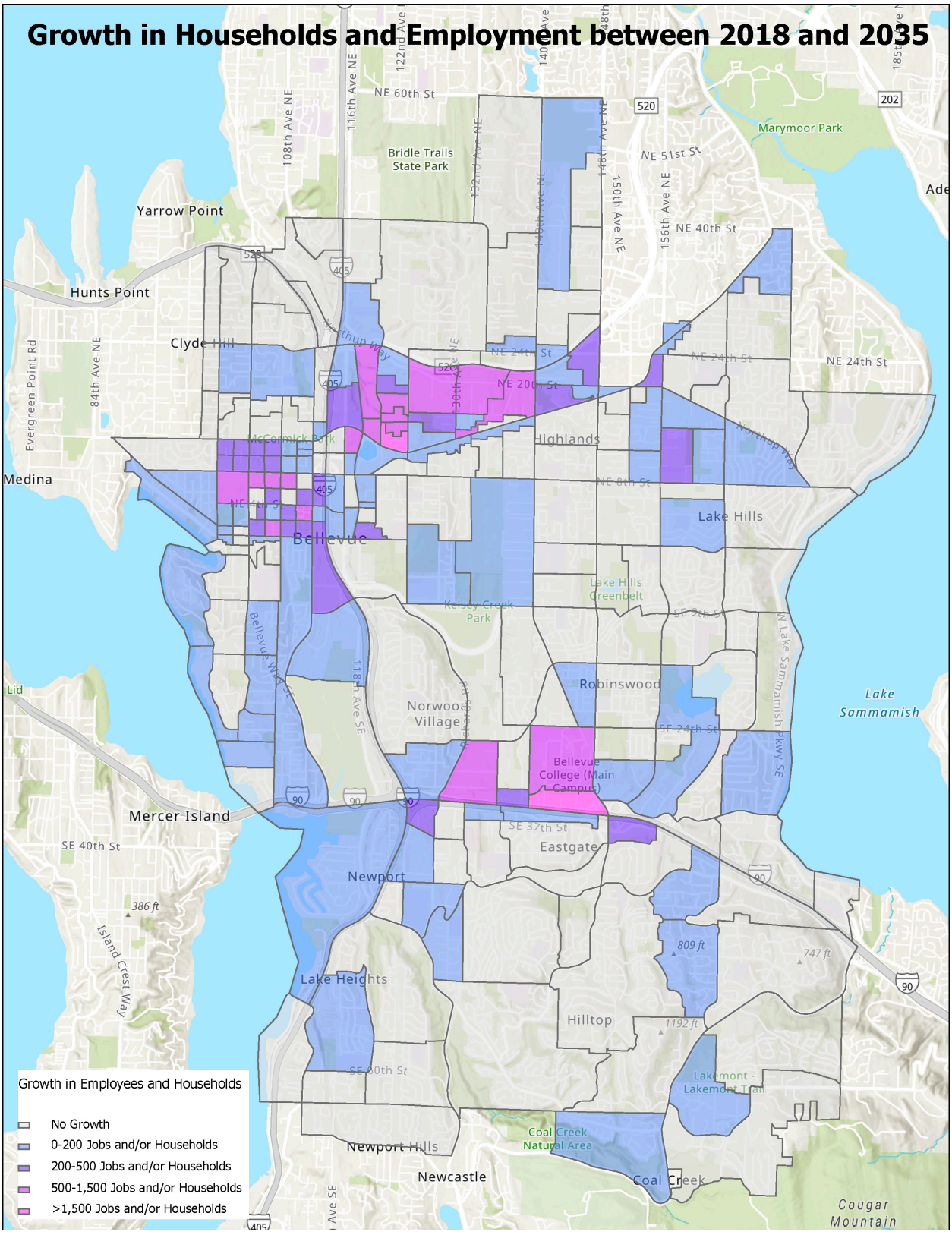


Figure 8: EQUITY: Transportation Equity Index Composite Map



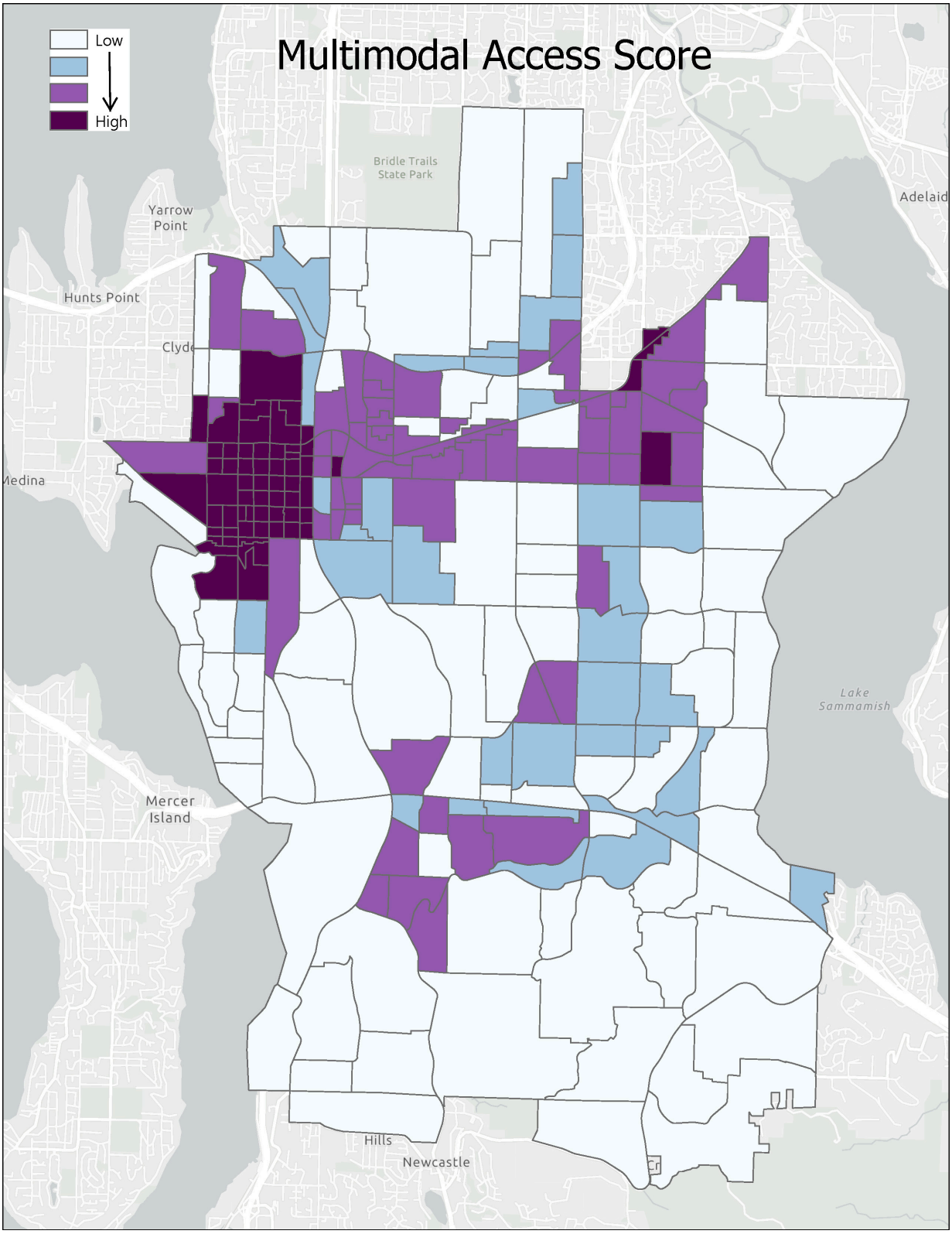
Source: American Community Survey 2019 5-Year Data; Nelson\Nygaard, 2021

Figure 9: GROWTH: City of Bellevue Growth Areas



Source: City of Bellevue, 2021

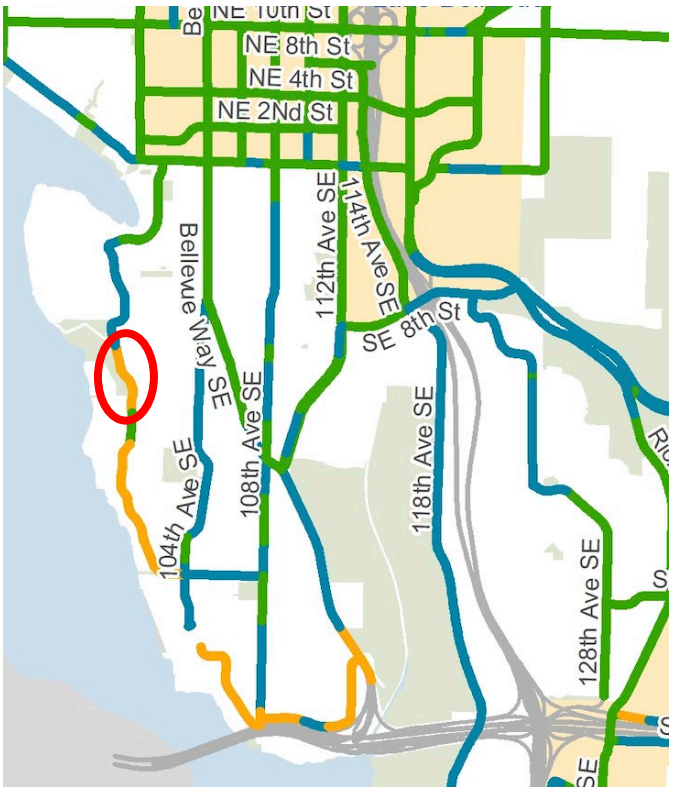
Figure 10: ACCESS: Areas with Dense Mixed Land Uses that Benefit Most from Multimodal Investments



Source: City of Bellevue; Fehr & Peers, 2021

ATTACHMENT B: SCREEN PERFORMANCE TARGET GAP EXAMPLES

1. Sidewalk gap on 98th Ave SE identified in the map to the right, it would receive the following assessment with applying the areas of need:

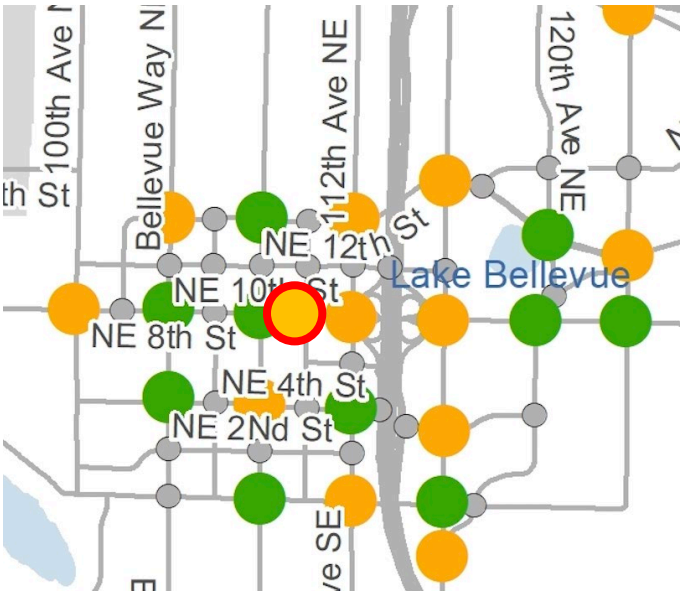


   - **Safety:** Low; Not on the HIN
   - **Equity:** Low; Not in an area of disproportionate need
   - **Growth:** Low; Stable area/little growth
   - **Access:** Low; Adjacent to Chism Beach Park and one mile from elementary school, but relatively low multimodal accessibility score

Conclusion: Gap is not located within MIP areas of need indicating it is not aligned with MIP goals, therefore it is not a high priority to address at this time.

2. Intersection v/c gap at NE 4th St/108th Ave NE

   - **Safety:** High; Located on the HIN
   - **Equity:** High; Concentrations of equity populations including persons with a disability, limited English proficiency, and low wage jobs
   - **Growth:** High; In a planned high growth area
   - **Access:** High; High multimodal accessibility score; several destinations nearby



Conclusion: Gap is located within several MIP areas of need indicating it is aligned with MIP goals, therefore move forward to public engagement to understand local needs and the development or improvement

concept. This same filtering would likely apply to all the Performance Target gaps shown on the map in the Downtown, Wilburton, and BelRed areas.

ATTACHMENT C: IDENTIFY IMPROVEMENT CONCEPTS

1. Intersection v/c gap at NE 4th Street/108th Ave NE

   Using the same example from the prior step, there are several considerations that could be taken into account when addressing this Performance Target gap:

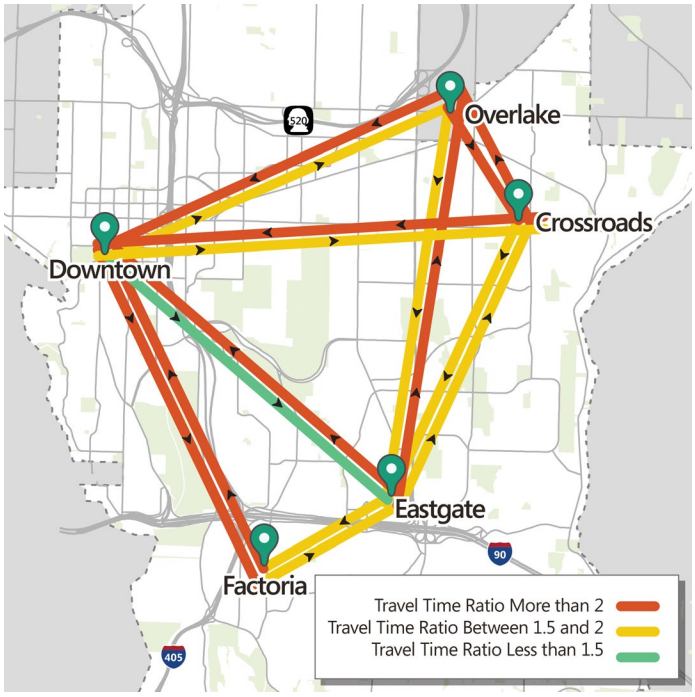
   - Adding travel lanes at this intersection could improve v/c, but may not substantially improve corridor travel speed (which is also a gap)
   - Adding travel lanes would worsen the pedestrian environment by lengthening the crossing distance and potentially increasing the intersection signal cycle length; given the very high Access need at this location, maintaining strong pedestrian, bicycle, and transit performance is a priority
   - Adding travel lanes would be very expensive given the lack of right-of-way at the intersection
   - Adding vehicle capacity to other corridors in Downtown is challenging due to lack of right-of-way and adverse impacts to other modes
   - There are gaps in the bicycle network in the area that could provide an additional modal option for people in the area
   - Given other intersection v/c and vehicle corridor travel speed gaps Downtown, a more systematic approach to increasing the utilization of non-vehicle modes may be warranted

Potential Outcome: Adding vehicle capacity at this intersection is not a viable approach to addressing the intersection v/c gap. Instead, look to reduce vehicle demand by improving capacity for other modes. This could include advancing the design of projects to build out the Downtown bicycle network, improvements to pedestrian routes, and/or improvements to transit access.

2. Multiple transit travel time Performance Targets not being met

   As shown on the map to the left, multiple transit travel time Performance Targets are not being met. A project in the Transit Master Plan, the Bellevue College Connector could improve the transit travel time between Eastgate-Downtown, Eastgate-Crossroads, and Eastgate-Overlake. Therefore, this single investment could help improve transit travel time for several of the major transit connections in Bellevue. Other considerations include:

   - The transit improvements would improve mobility between areas with medium to high Access scores



- The area around the Eastgate Transit Center has relatively high planned growth compared to other areas in that part of the City
- The Bellevue College area has a high equity need and the data indicates lower incomes and higher proportions of zero-car households; groups that would benefit from better transit travel time
- Providing an alternative pathway for transit could reduce some vehicle delay at Eastgate Way/150th Ave SE, which has an intersection v/c performance gap
- Additional bus traffic through the Bellevue College campus could impact the pedestrian environment unless adequate crossings and sidewalks are provided in conjunction with the transit project

Potential Outcome: Advance design of the Bellevue College Connection project with pedestrian enhancements to improve transit access and pedestrian safety.