Wednesday, April 15th, 2020

Kirkland NE 85th St. Station Area Plan

Opportunities and Analysis Report

CITY OF KIRKLAND
WASHINGTON

Land Acknowledgment
The study area of this project is on the traditional land of the first people of Kirkland, the Duwamish People. The Station Area Plan honors with gratitude the land itself and the Duwamish Tribe.

Source: Burke Museum, Adapted from Salishan Languages Map in Barbara Brotherton (ed), S'abadeb: The Gifts, Pacific Coast Salish Art and Artists. Seattle: Seattle Art Museum and University of Washington Press; 2008: xix.

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Executive Summary—

Overview

Sound Transit 3 is bringing a once-in-a-generation transit investment to Kirkland with a new interchange at 85th and I-405 by 2024, which includes a new Bus Rapid Transit (BRT) station which should be operational by 2025. The BRT station, developed by Sound Transit and WSDOT, is designed to connect Kirkland to the Link Light Rail at Bellevue and the Lynnwood Transit Center. The City of Kirkland's Station Area Plan (SAP) considers changes to policies, regulations and zoning to encourage transit-oriented development near the station and leverage this regional investment to create the most value and quality of life for Kirkland. *(See Appendix - Existing Initiatives pg 98)*

This Opportunities and Challenges Report reflects the findings of first phase of the 85th St SAP. This phase included a review of previous plans, analyzed existing conditions, and began stakeholder engagement. These findings form the foundation for the development of alternatives and subsequent creation of a station area plan. These opportunities consist of three main themes:

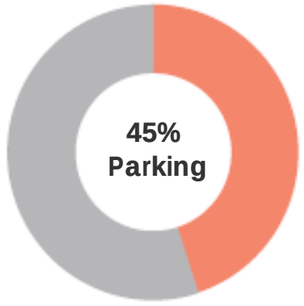
- **DEVELOPMENT AROUND TRANSIT**
- **CONNECTED KIRKLAND**
- **AN INCLUSIVE DISTRICT**

Development around transit

Successful transit stations are located in districts with a mix of uses that put housing, jobs, and destinations within easy access to the station. As Kirkland looks to the future, balancing the existing character of the study area today with new development that encourages a mixed-use, walkable urban district will be important.

Today, development in the study area reflects the different eras of growth for Kirkland. Single family neighborhoods exist directly next to emerging infill neighborhoods, industrial districts, and isolated office parks. Large strip commercial provides important economic activity for the city, but creates challenges for pedestrian activity and more transit-supportive urban development opportunities.

Because 13% of the land within one half mile from the BRT station is comprised of the WSDOT right-of-way, this road infrastructure is itself an important driver of the overall study area. Studying opportunities at the edges and transitions of the ROW to integrate with existing and future development, including potential alternative uses for portions of the ROW in the future, will be key to realizing the City's goal of a vibrant, livable transit-oriented community and enhancing ridership.



OVER 45% OF THE STUDY AREA TODAY IS SURFACE PARKING

District impressions

85th Corridor

85th St is an important east/west connection. Its auto-oriented character often lacks sidewalks on the western side, instead featuring a dense tree canopy, and lots that turn their back on this important corridor

Industry

Industrial areas adjacent to 85th feature large parcels, close proximity to the future station, and potential opportunities for development or new investment. Many are currently important locations for small businesses.

New Infill

Townhouses, small apartments, and other medium density developments are creating transitions from single family neighborhoods to larger developments typically associated with TOD.

Highway Barrier

I-405 acts a major barrier, limiting east/west connections, discouraging adjacent development opportunities, and contributing to noise and air pollution

Empty Interchange

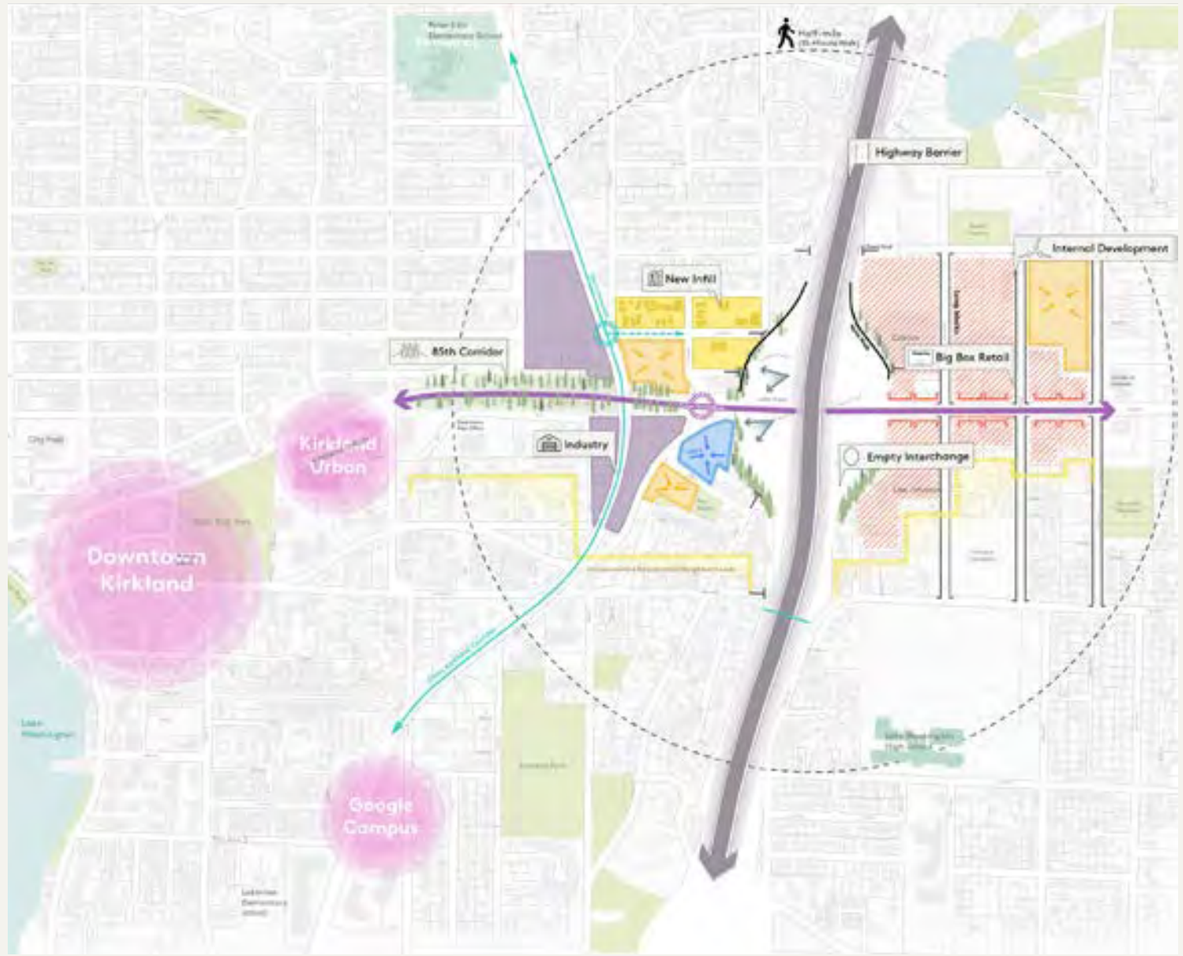
The interchange geometry results in large underutilized open spaces designed to be experienced by vehicles.

Big Box Retail

The Rose Hill business district is an important economic engine and activity center for the city. Characteristics include extensive surface lots, superblocks, and auto-oriented streets and public realm.

Internal Development

In several locations, pockets of office and residential development display an internal orientation, with no relationship to the street, surface parking, and poor pedestrian circulation.

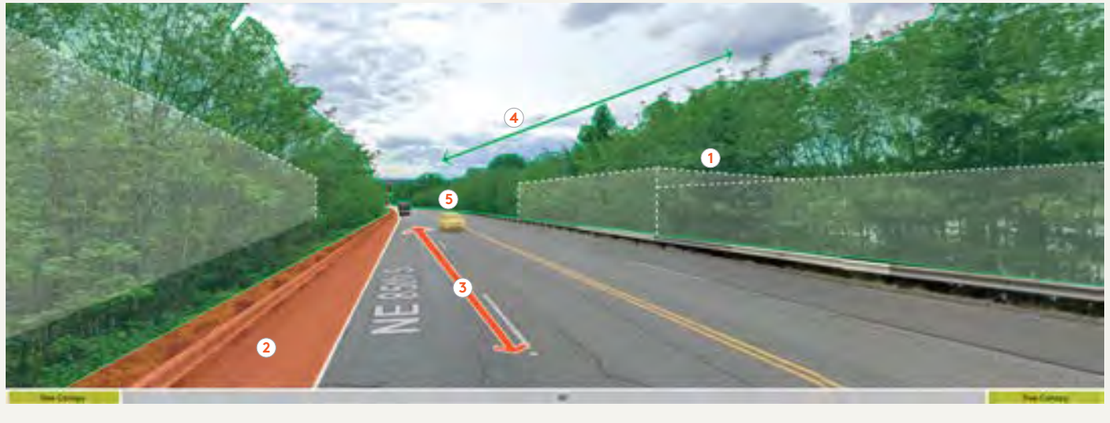


Connected Kirkland

The future BRT station at 85th St won't just serve the immediate locations surrounding it. It will be part of a larger network of mobility options that connects Kirkland to destinations both within the city and across the region.

Major employers, shopping districts, and residential neighborhoods will all serve as both major destinations for BRT riders, and users that need access to the BRT and should be connected to this station. These last mile connections should be addressed with a "portfolio" of transportation options that can meet the diverse range of future users.

A vibrant public realm will be essential to creating successful last mile connections. Today, major corridors like 85th St offer both good starting points for a rich public realm (like a generous tree canopy) as well as key challenges to overcome, including auto-oriented uses, a need to pursue a streetscape design that serves all users effectively.



Public Realm: 85th St Looking West

1. Potential development
2. Multi-use path opportunity
3. Visual and direct connection To Downtown Kirkland
4. Tree canopy emphasizing linear experience
5. High speed traffic

89%

OF KIRKLAND JOBS HELD BY INDIVIDUALS LIVING OUTSIDE KIRKLAND

11%

OF KIRKLAND RESIDENTS WORK WITHIN THE CITY

An Inclusive District

New, high capacity transit can increase access to opportunity. As Kirkland looks to the future, how can this station area plan cultivate an inclusive district for all? The current study area is an important employment center, and almost half of the jobs are below the median household income for King County. Similarly, there is an important need to consider the diverse current and future users of the study area. The station area should be supportive of job and housing opportunities across generations, including the needs of seniors and youth.

An inclusive district must consider equity both through the process of developing this plan as well as the outcomes of the plan. The Kirkland 2035 Comprehensive Plan Vision states, "Civic engagement, innovation and diversity are highly valued. We are respectful, fair, and inclusive." This project will strive to reach all communities affected by the project – those living and working there now, and in the future.

As a regional hub, the Station Area can play a critical role to enhance access to opportunity and community resilience. An inclusive district should look for opportunities to provide Civic Infrastructure including school facilities, civic gathering places, and other community-focused programs that connect existing residents and serve future users.

These elements will not succeed without a safe and inviting public realm network that facilitates social cohesion, including parks and robust pedestrian and bike connections. Innovative districts are achieving multi-benefits by meeting infrastructure needs such as stormwater, as well as providing critical community amenities and needs. As a regional hub, the Station Area can play a critical role to enhance access to opportunity and community resilience. An inclusive district should look for opportunities to provide Civic Infrastructure including school facilities, civic gathering places, and other community-focused programs that connect existing residents and serve future users.

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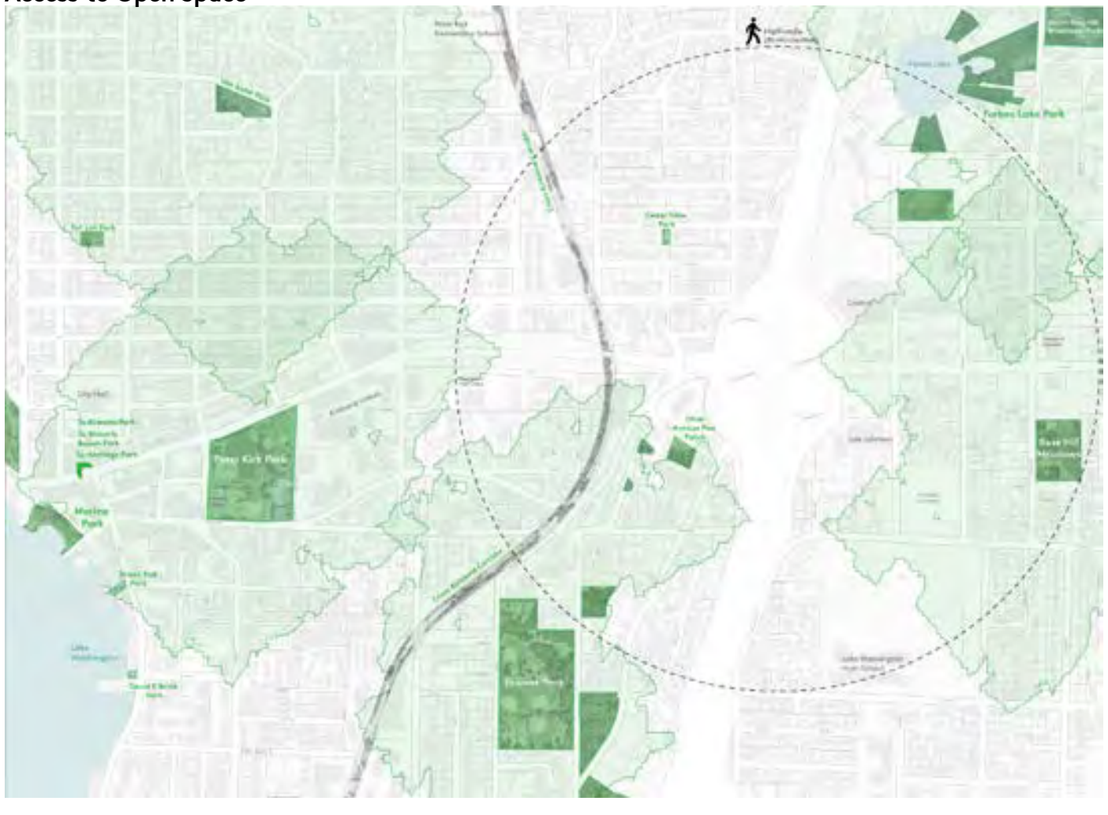
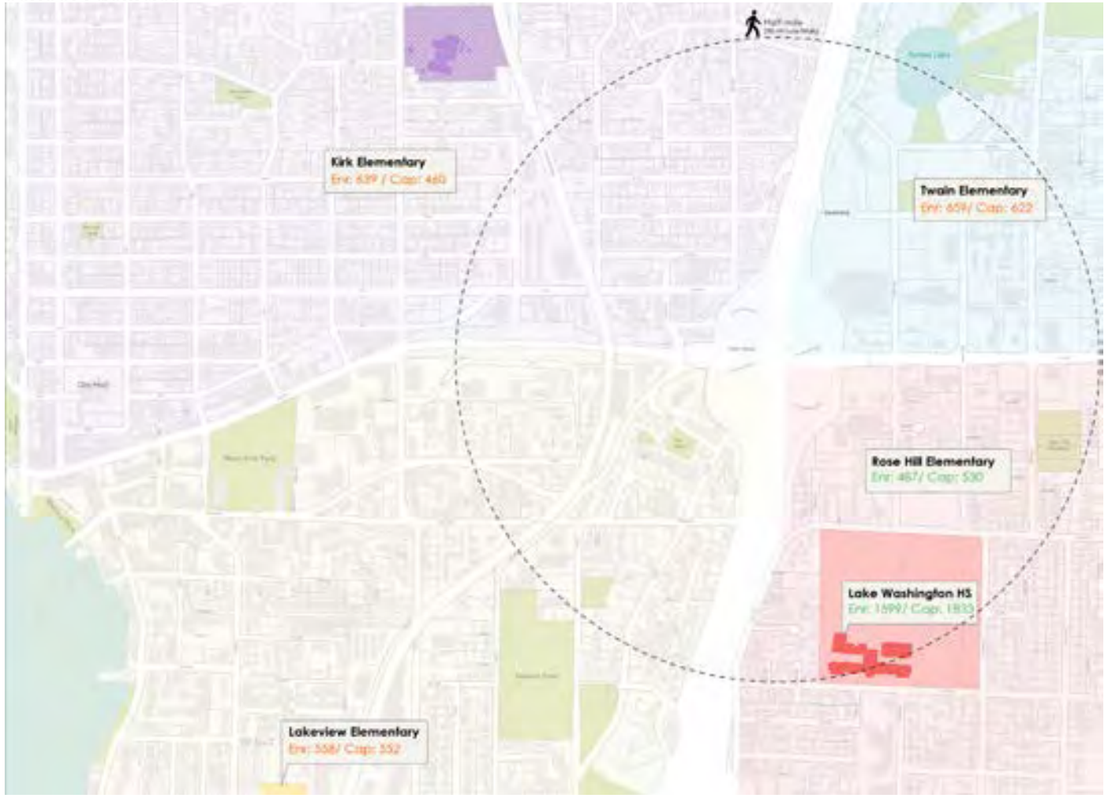
Access to Open Space



School Facilities



Project Overview—

Purpose & Process

ST3 is bringing a once-in-a-generation transit investment to Kirkland with a new interchange at 85th and I-405 by 2024, which includes a new BRT station which should be operational by 2025. The BRT station, developed by Sound Transit, has been designed to connect Kirkland to the Link Light Rail at Bellevue and the Lynnwood Transit Center. The City of Kirkland's Station Area Plan (SAP) considers changes to zoning and other policies and regulations to encourage transit-oriented development near the station and leverage this regional investment to create the most value and quality of life for Kirkland.

The SAP should shape an equitable and sustainable Transit Oriented Community as part of the continued growth expected in Downtown Kirkland and the 85th Corridor. The project evaluates the feasibility of various types of development within approximately ½ mile of the station and consider changes to zoning and other regulations. The project studies opportunities to maximize the public benefit from future development, including affordable housing, open space, desired employment and job types. Using the City's Vision and Goals and the 2035 Comprehensive Plan as a foundation, the SAP is an important opportunity to advance concepts in the greater Downtown Kirkland Urban Center and to support citywide sustainability and housing goals.

This Opportunities and Challenges Report reflects the findings of first phase of the 85th St SAP. This phase included a review of previous plans, analyzed existing conditions, and initial stakeholder engagement. Most of this work was completed prior to the COVID-19 outbreak and was informed by in-person meetings and engagement. As the I-405/NE 85th Street Interchange and Inline Freeway Station has substantial influence over the station area, review of base materials included the WSDOT Conceptual Design 15% Interdisciplinary Review Plans as provided to the City. These findings will form the foundation for the development of alternatives and subsequent creation of a station area plan.

Project Overview

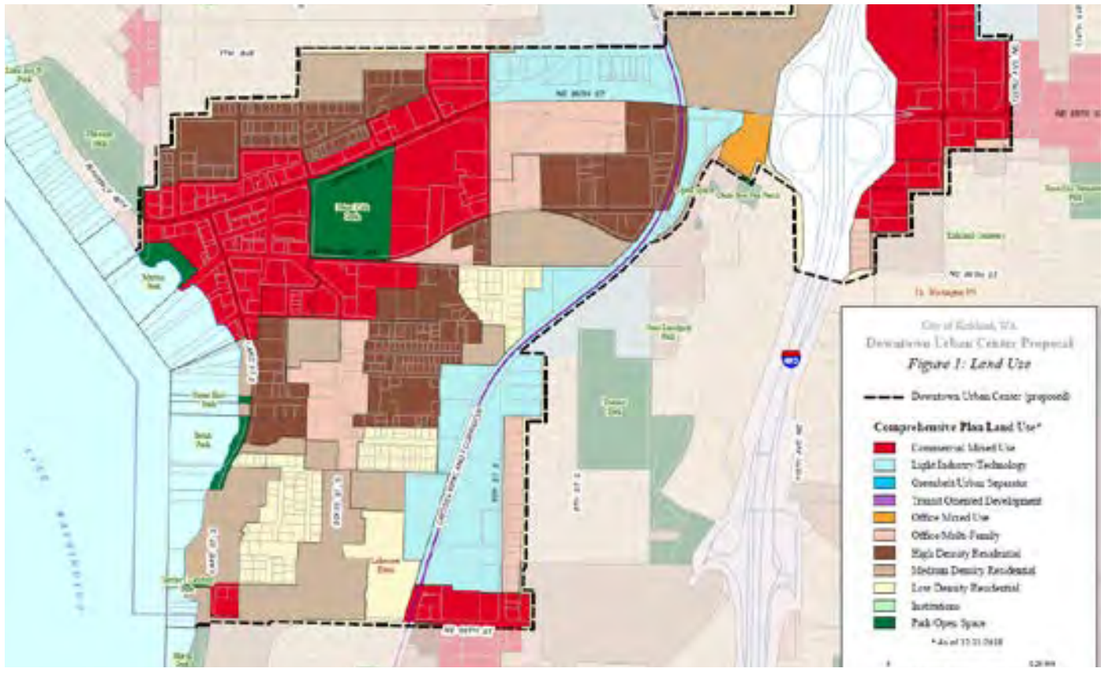
Key Initiatives

The area covered by this Station Area Plan is part of several ongoing and recent initiatives. The creation of the BRT Station prompted the design and construction of a new interchange, led by WSDOT. Sound Transit is leading the design of the BRT Station itself. The Station Area Plan, by contrast, is an effort led by the City of Kirkland to take a comprehensive look at how the surrounding 1/2 mile area may evolve with this new interchange and BRT Station in mind.

In addition to these parallel agencies, the City of Kirkland has also recently completed several key documents, including the Comprehensive Plan (2015) and Rose Hill Neighborhood Plan (2018). Initiatives including the Greater Downtown Kirkland Urban Center Plan, Sustainability Masterplan,Highlands and Norkirk Neighborhood Plans and Missing Middle Housing Code Amendments are in progress. See Appendix: Existing Initiatives on pg 98 for additional information.

Kirkland Comprehensive Plan Vision
See Appendix for additional analysis of the relationship between this plan and previous plans

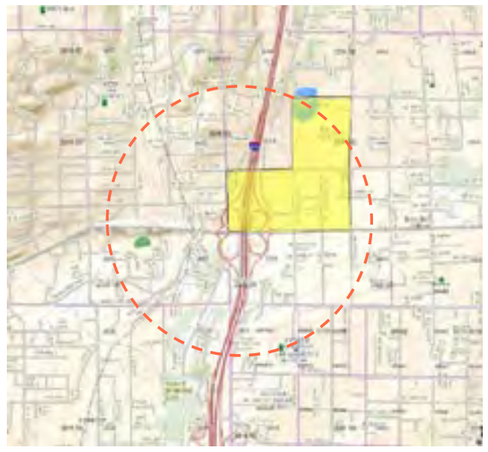
Greater Kirkland Urban Center Proposal



Existing Interchange

Planned Interchange

Site Analysis—



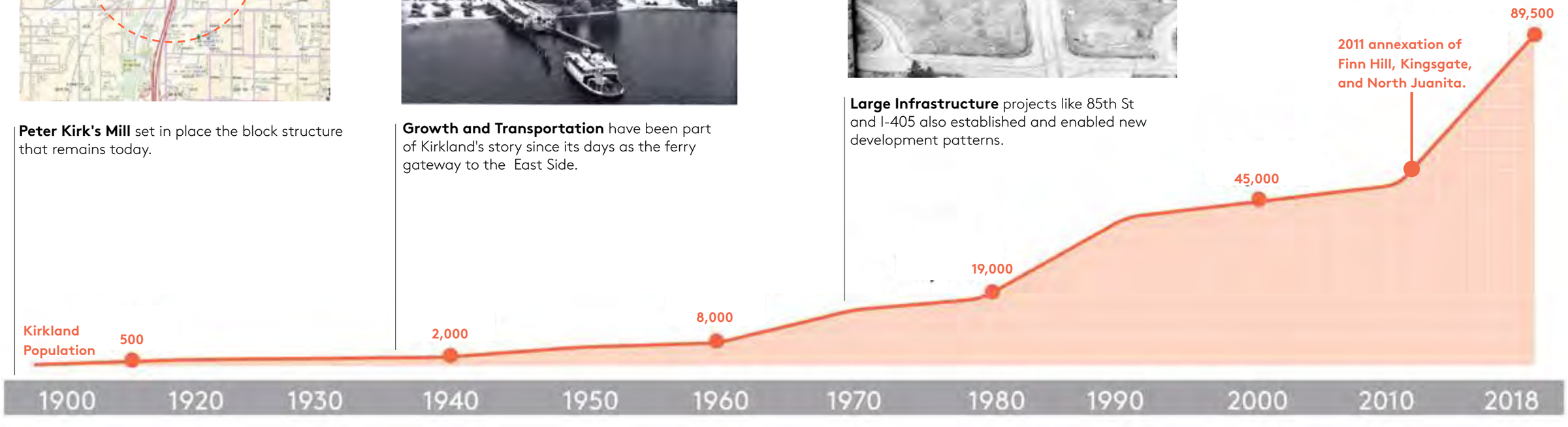
Peter Kirk's Mill set in place the block structure that remains today.

Growth and Transportation have been part of Kirkland's story since its days as the ferry gateway to the East Side.

History

This station area's history echoes many of the same forces that have shaped Kirkland's evolution as a whole. Kirkland's founder, Peter Kirk, sited a mill near the present-day interchange to take advance of the topography and access to Forbes Lake. Although the mill is no longer there, the large land area it required is reflected in block pattern and parcels of that portion of the study area today. Other themes, such as the long relationship between transportation infrastructure and growth, continue to shape the city today.

Large Infrastructure projects like 85th St and I-405 also established and enabled new development patterns.



Station Area Demographics

The station area today includes just over 3,000 residents as well as 3,000 jobs. The demographics demonstrate a higher proportion of White residents and employees than the average in King County. About 22% of residents are immigrants. Age distribution tracks with King County and the station area includes 26% youth and 32% seniors. There are about 1600 students at Lake Washington High School and about 490 students at Rose Hill Elementary School.

The has identified the following preliminary list of affected parties:

— Employees who work within the Study Area (½ mile from the station) for a variety of businesses and public institutions

— Lake Washington High School students

— Rose Hill Elementary School Students

— Employees who work within 1 mile from the station for a variety of businesses and public institutions

— Transit users accessing the BRT to travel to points north and south

— Residents within the Station Area

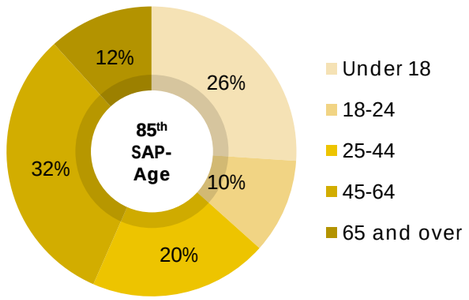
— Future Residents and Employees - Individuals seeking housing or employment within Kirkland

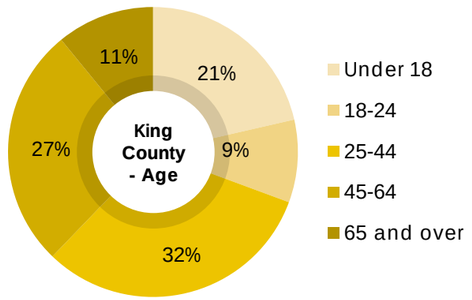
— Kirkland residents, employees, and employers who live and/or work outside of the Station Area but have a stake or interest in city-wide development decisions

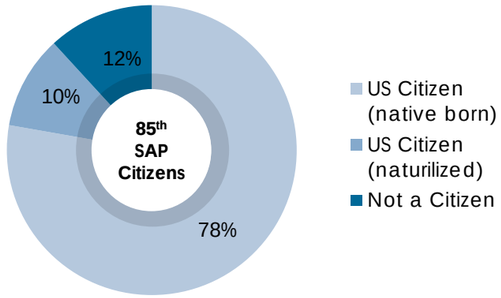
Special efforts will be made to include marginalized populations within the study area. These include: residents of color (18%), limited English speakers (7%) and linguistically isolated populations[1] (EJ Mapper estimates 1.4%), seniors (32%), youth, (26%), renters (36%), and households experiencing poverty (6%), including clients of Kirkland's new adult women and family shelter.

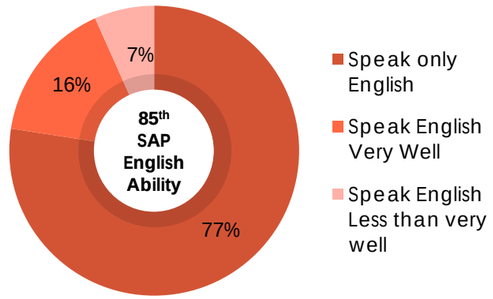
1 A linguistically isolated household is one in which no member 14 years old and over speaks only English or English "very well." In other words, all members 14 years old and over have at least some difficulty with English.

Resident Demographics

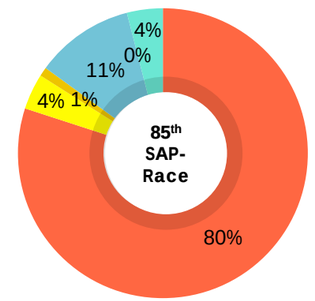


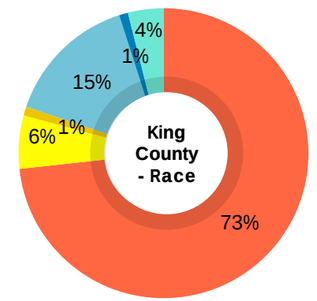






Employee Demographics





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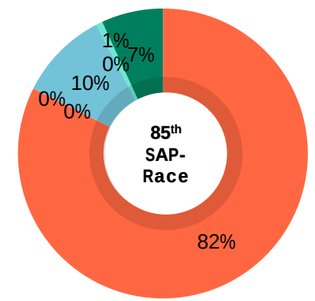
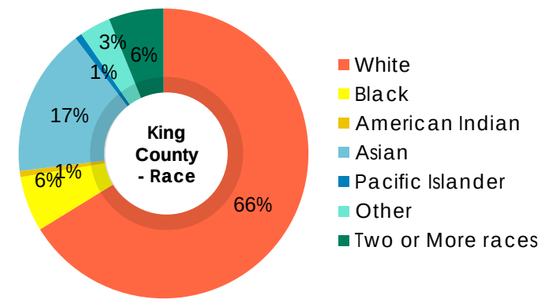




Site Analysis

Natural Context

Kirkland's identity is strongly tied to its natural environment. Within the study area, a number of important elements come into focus.

Watersheds: The study area straddles two primary watersheds roughly divided along I-405: Moss Bay and Forbes Creek. Moss Bay consists of short stretches of open channel separated from Lake Washington by long piped sections. The Forbes Creek watershed includes Forbes Lake and associated wetlands and creeks. The Forbes Creek Watershed provides important aquatic species habitat, and is vulnerable to stream bank erosion and increased sediment loads.

Topography: Like other parts of the Puget Sound Lowlands, Kirkland's topography was shaped during the ice age with elements such as kettle ponds and moraines. Within the study area, the slope generally rises West to East away from Lake Washington. This consistent slope creates excellent views at the I-405 interchange. The bermed and elevated portion of 85th St between 6th St and 114th Ave is a significant man-made topographic feature, which influences several aspects of the study area, from land use and stormwater to transportation access.

Vegetation: Similar to other parts of Kirkland, the study area includes dense areas of vegetation interspersed through existing neighborhoods. Three of these are of particular significance for the study area: a woodland corridor at 85th St between 6th St and 114th Ave, a riparian corridor that includes Everest Park, and the wetlands and associated lands surrounding Forbes Lake.

Site Analysis

Urban context

Kirkland is made up of a number of commercial retail districts, each with their own character. Totem Lake, Rose Hill, and Downtown Kirkland are the three largest economic activity centers for the city. Each represents a different urban form, from Downtown Kirkland's traditional block structure and main street to Rose Hill's arterial-oriented big box stores and strip commercial.

These large commercial districts are complemented by a series of other commercial areas. Along the Cross Kirkland Corridor, the Norkirk and Everest neighborhoods represent different versions of industrial/ commercial clusters. Norkirk is characterized by light industrial uses and small businesses which take advantage of the relatively flat terrain and visual shelter provided by 85th St. Everest, by contrast, is transitioning towards a more office-based character as companies such as Google convert industrial parcels into flexible office space.

The study area is also situated in the middle of the most critical mobility corridors serving these districts. The Cross Kirkland Corridor has particular promise as a connector between these districts, providing an alternative to the current vehicular routes of I-405 and 85th St which define access today.

Surrounding these commercial areas is an array of residential neighborhoods, each with their own character. While many of these neighborhoods are proximate to existing commercial areas, often they feel disconnected with a lack of transitions in scale and use.

Defining the relationship between these residential neighborhoods, existing commercial centers, and the opportunities for transitions in density, scale, and mobility connections is a key opportunity for this Station Area Plan.

The study area is well-positioned at the center of several existing commercial districts, important mobility corridors, and residential neighborhoods.

Scale comparisons

Study area **3100 Pop** | **3097 Jobs**
(Approximately 1/2 mile from planned BRT station)

The study area of approximately one-half mile from the planned BRT station consists of approximately 500 acres, a substantial portion of which is the right of way associated with I-405 (13% of total area). Scale comparisons are a useful way to understand how this 500 acre study area compares to other locations in the region.

The following precedents explore the range of residential and employment densities and urban form characteristics found in relevant case studies throughout the region. It should be noted that unlike the 85th Station Area, most urban center precedents are not bifurcated by a major highway.

Population: American Community Survey 2018 Estimates
Total Primary Jobs: LEHD, 2017 https://lehd.ces.census.gov/

Site Analysis

Downtown Kirkland **3,500 Pop** | **8,100 Jobs**

Totem Lake **1,900 Pop** | **9,900 Jobs**

Downtown Bellevue **7,400 Pop** | **49,800 Jobs**

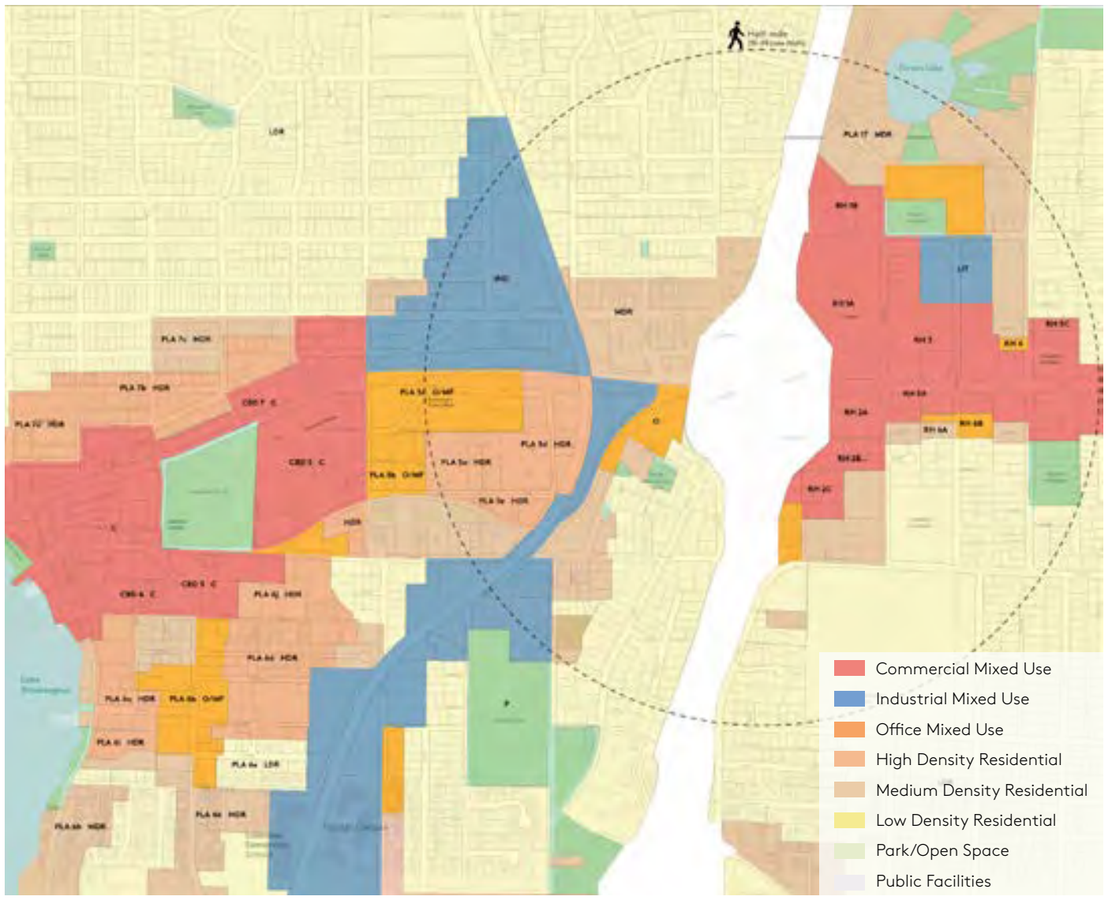
South Lake Union **11,600 Pop** | **39,900 Jobs**

Zoning & Land Use

The study area is marked by a strong congruence between zoned and existing uses. Very few examples of non-conforming uses are found in the study area. At the same time, much of this conformance is due to zoning designations that respond to the specific circumstances of numerous subareas. Examples include the Rose Hill business district and areas in Everest adjacent to 85th St.

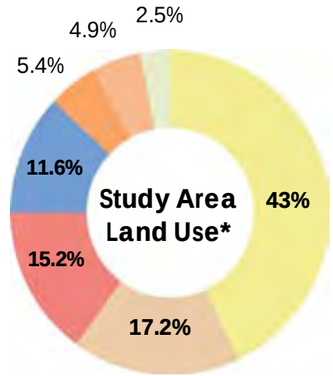
Overall land use for the study area reflects two main trends. First, I-405 serves as a dividing line between a relatively single-use area in Rose Hill and a much more pocketed, patchwork of uses west of I-405. The second is the role of single family residential parcels, which comprise a significant proportion of the study area but a relatively small proportion of the parcels directly bordering the WSDOT ROW.

Both this distribution of land uses and the edge condition of the ROW may be important considerations for creating effective transitions in the Station Area Plan.

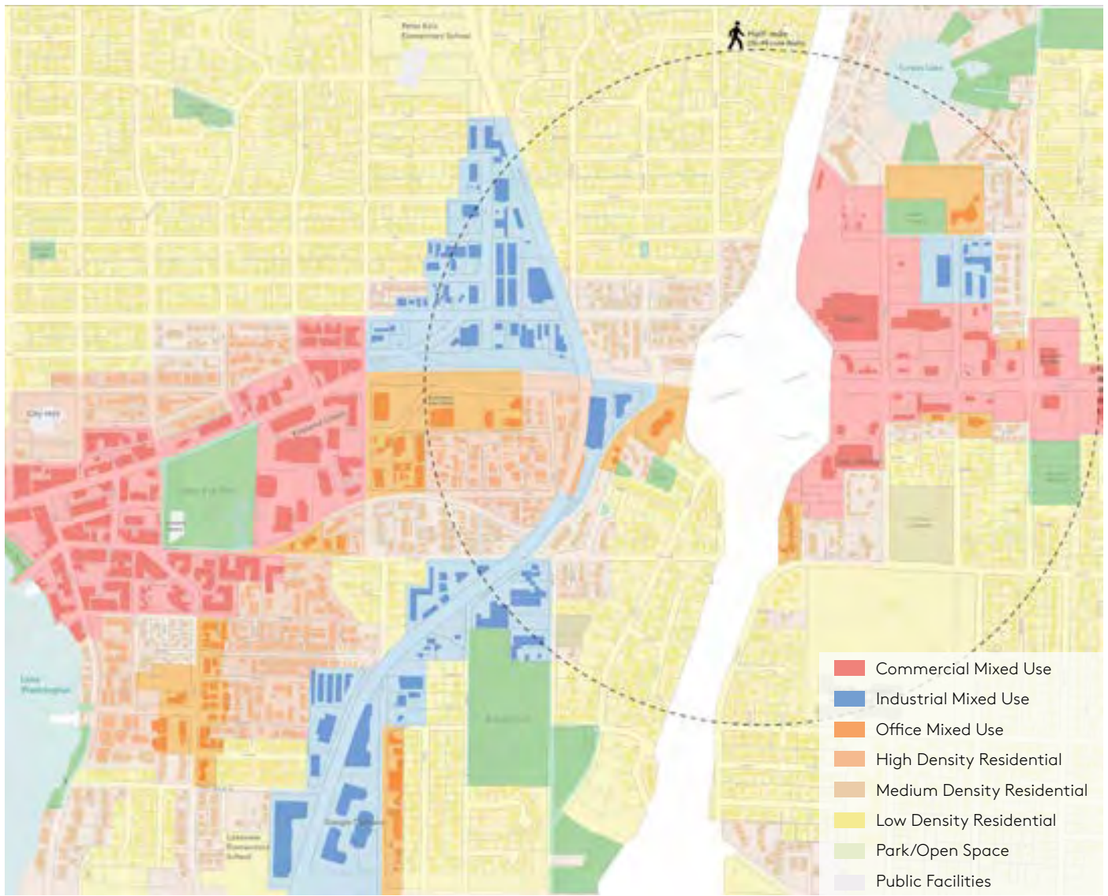


Site Analysis

Kirkland 85th St Station Area Plan



**Net land use as percent of total parcel area, excluding WSDOT ROW*

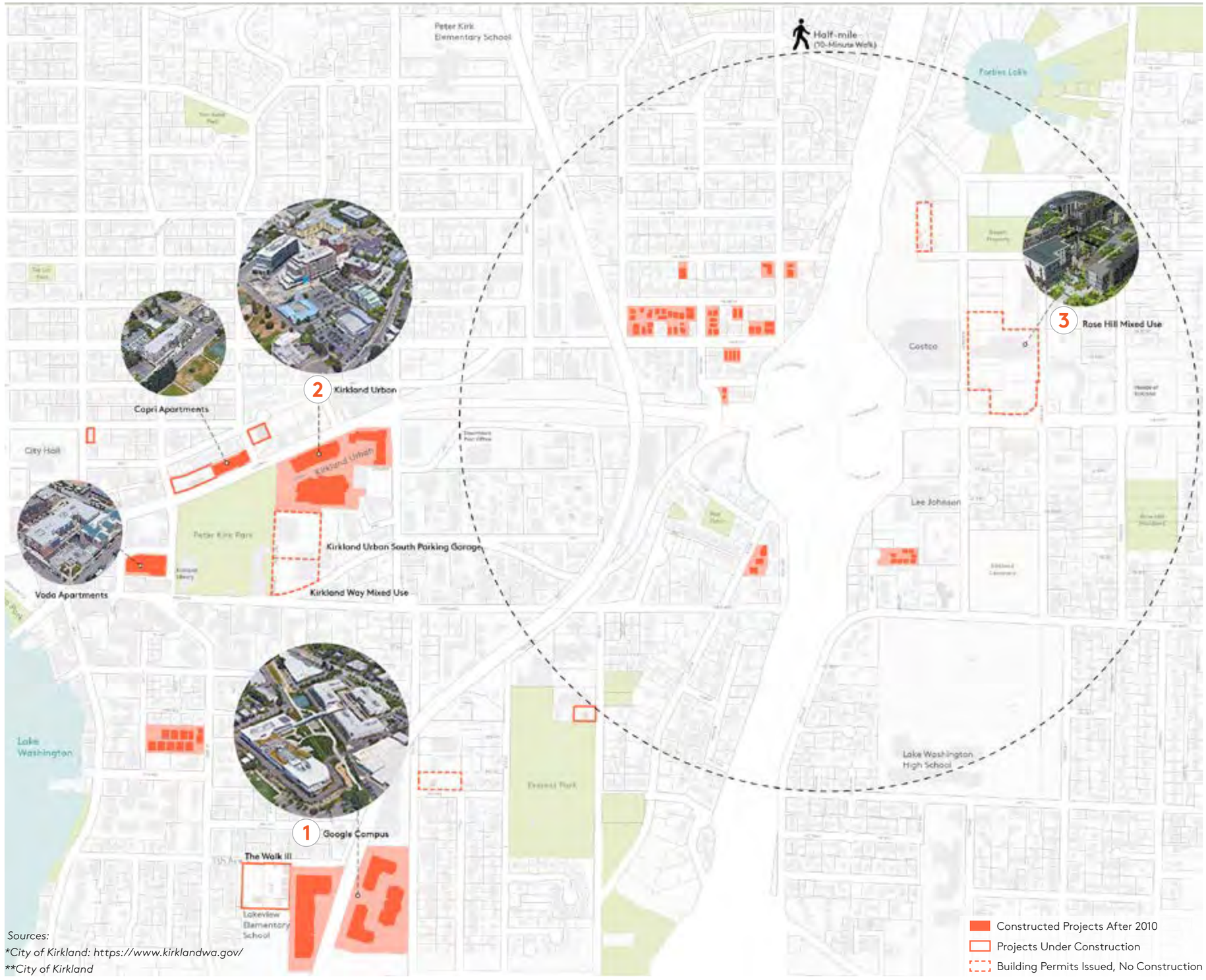


Development trends

Kirkland is in the midst of a period of significant growth. This growth has taken shape in the form of both large scale developments as well as smaller infill projects in existing neighborhoods.

Three major recent projects are relevant for this study. Kirkland Urban, located just outside the current study area on Central Way, is a large mixed use development with a proposed build out of 925k sq ft of office, 50k sf of general retail and a 55k sf grocery store. Together with smaller development across the street, it contributes to a more walkable, urban orientation for Central Way. Google's recent and planned expansion in Everest are another major recent project, which demonstrates the significant opportunity for increased commercial and office development as well as the flexibility of light industrial uses in the study area to adapt to more urban uses.
Another major project is the Rose Hill mixed use development, 1.3M sq ft proposal with 870 housing units and 80,000 sq ft of retail. This project reflects many of the trends seen elsewhere in the region towards redevelopment of large strip-commercial parcels into more walkable, urban development.
Also within the study area are a number of smaller infill developments, particularly on the Northwest side of the interchange. These kinds of smaller scale projects can be an important way of transitioning from larger new development to existing neighborhoods.

Project	Description*
1 Google Campus	Office space :375,000 sf at the campus
2 Kirkland Urban	Total proposed buildout: 1.3 million sf Office : 925,000 sf Commercial space : 218,000 sf Residential space : 172,000 sf, 185 housing units**
3 Rose Hill	Total project size: 1.3 million sf. Residential space: 870 housing units Ground-floor retail :84,200 sf



Parks & open space

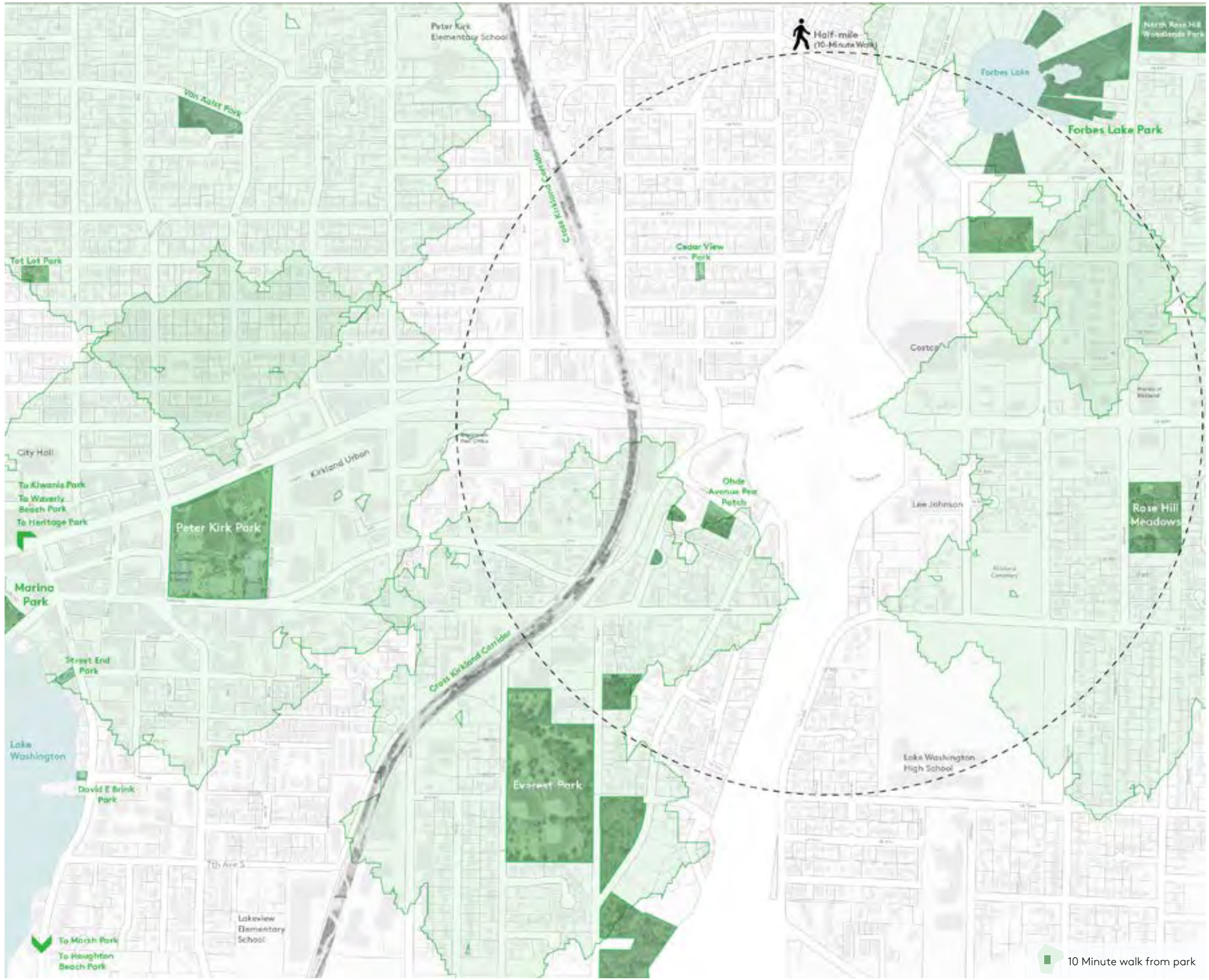
Kirkland as a city is well served by parks and open space. The waterfront, Peter Kirk Park, Everest Park, and the Forbes Lake Park all serve adjacent neighborhoods with a mix of passive natural open space and active recreation facilities.

However, the study area itself is generally lacking in parks and open space across several measures.

Access to Parks: One measure of parks and open space provision is access to nearby parks. Much of the study area today, particularly the Highlands neighborhood and the interchange area itself, are not within a 10 minute walk of a single large park. Moreover, only a small portion of Rose Hill has access to more than one park within a 10 minute walk.

Park Amenities: Most parks that serve the study area include a mix of natural areas as well as active recreation. Everest Park and Rose Hill Meadows both include playground equipment, while Forbes Lake Park provides access to nature trails. Two smaller parks within the study area provide pocket park amenities like small play areas and community gardening. However, only these smaller parks fall within the study area itself.

In addition to these neighborhood parks which are accessible to portions of the study area, there remains significant opportunity to provide parks and open space that directly serves new development near the station itself, serving a critical mental and physical health need and providing the opportunity for gathering and social cohesion.

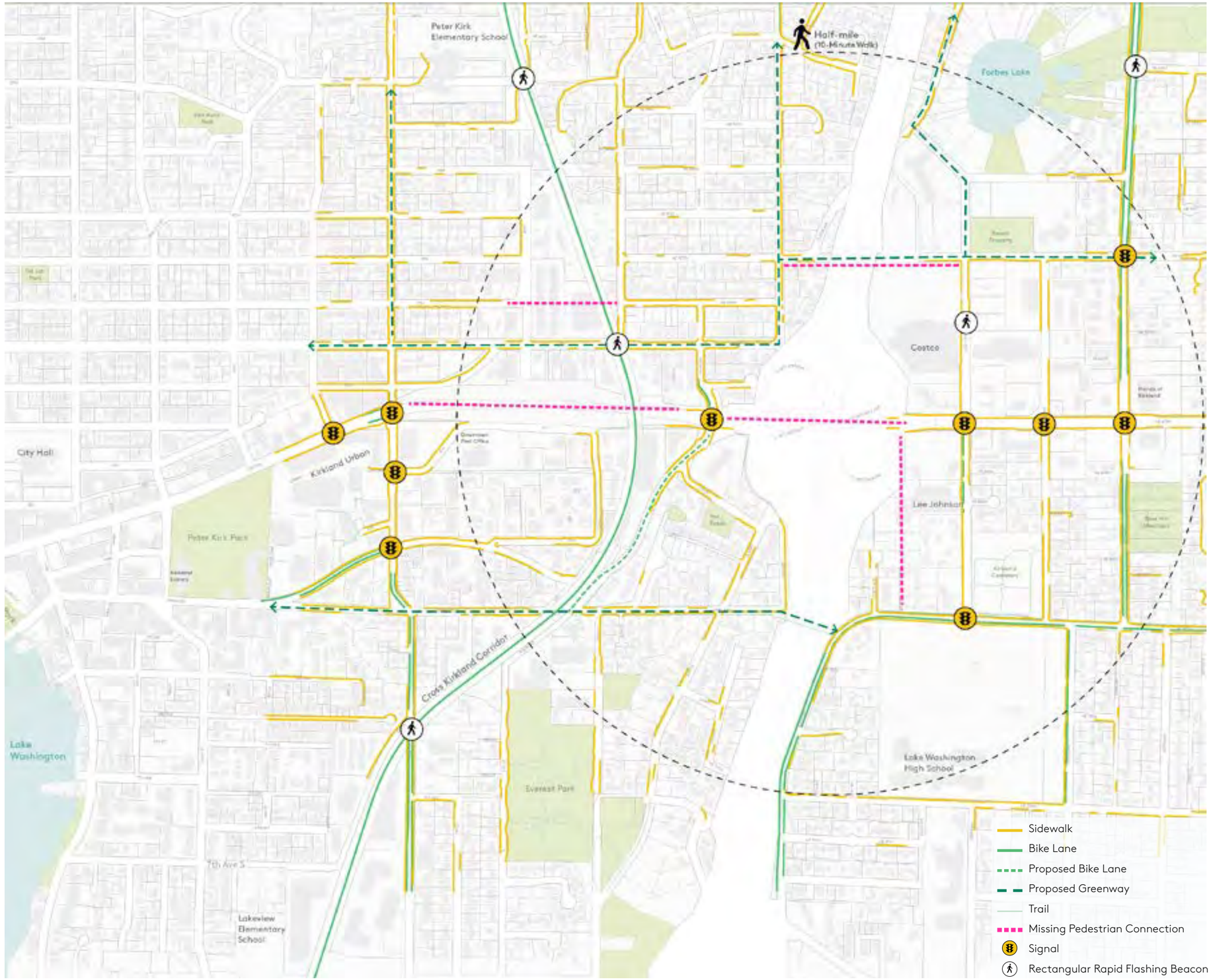


Pedestrian & bike connections

Kirkland was developed over several decades, which is reflected in both the block structure as well as the mix of streets with and without sidewalks. Many major streets have sidewalk coverage, with the prevailing sidewalk width varying between 5-8 feet. 85th St. and Kirkland Way lack sidewalk coverage from the interchange itself west to 6th St, including the key route which connects the study area to downtown sidewalks. Local streets have some sidewalks, however many of the adjacent commercial and industrial areas lack coverage. 120th, 122nd, 90th and 80th lack consistent sidewalks.

There is a lack of continuity in the bicycle facilities provided in the study area. On the western side of the study area, the Cross Kirkland Corridor provides the most significant North/South connectivity, while partially buffered bike lanes on 80th St and 124th Ave act as the primary connections on the Eastern side of the station area.

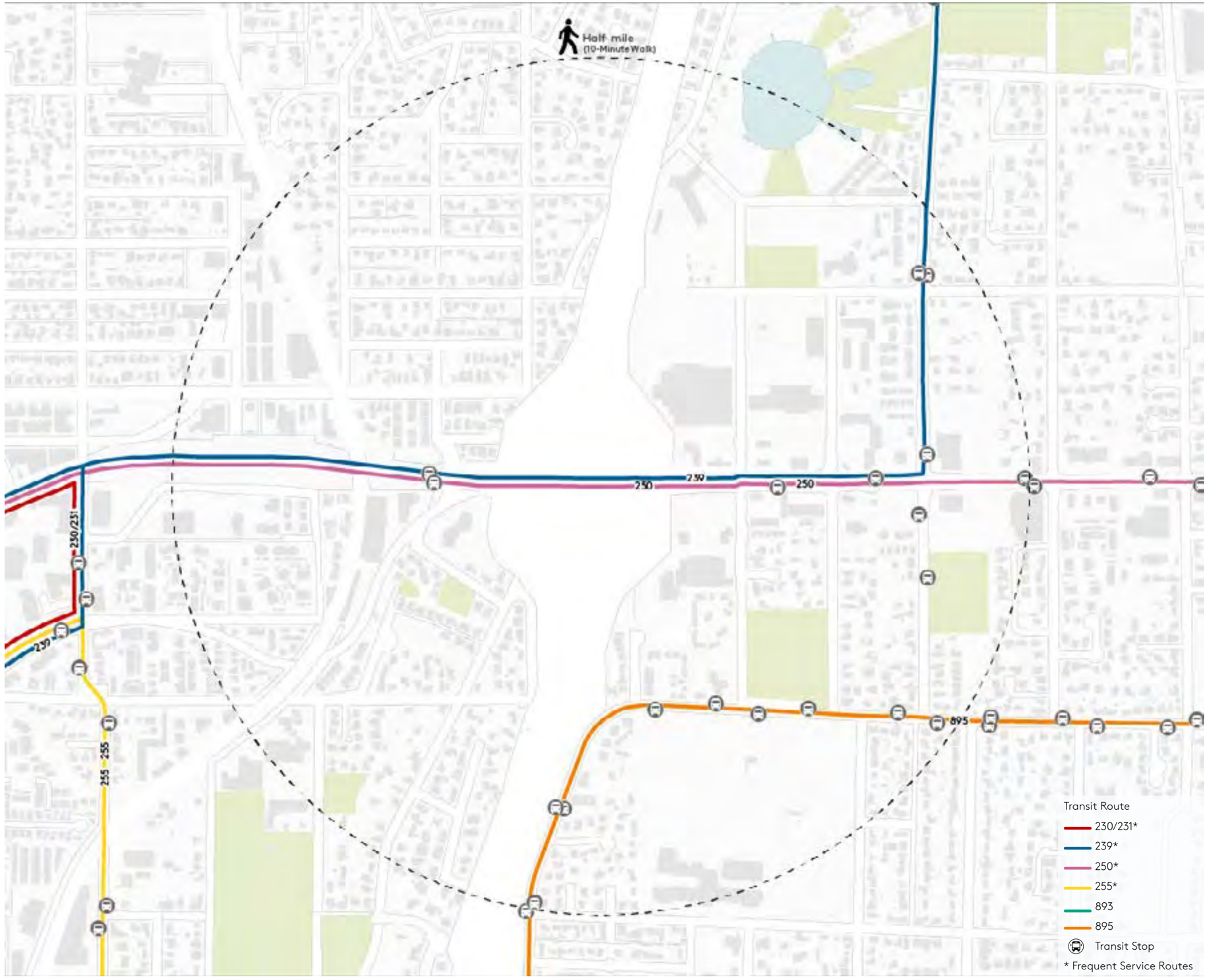
For both people walking and biking, East/West connectivity is a significant challenge. Planned improvements to address this gap include a greenway on 87th St and the WSDOT-designed interchange at I-405 and 85th.



Transit

The new BRT station at I-405 and 85th St may greatly improve transit connectivity for Kirkland. Today, 85th is the primary transit corridor with several connections to the Kirkland Transit Center in Downtown Kirkland as well as commercial centers such as Totem Lake, Redmond, and Downtown Bellevue.

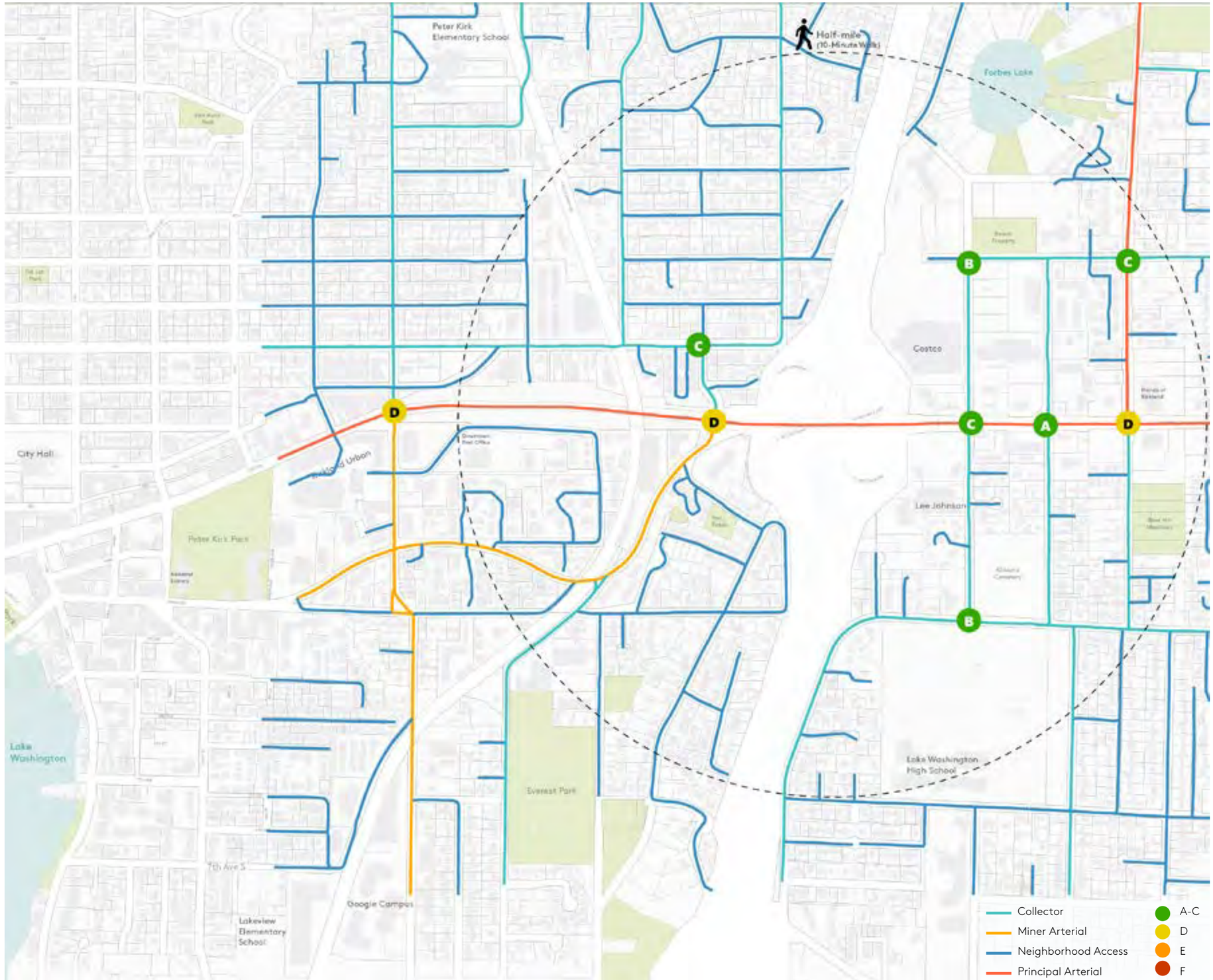
Route 250, which connects to Redmond along 85th St is the only route currently designated as a "frequent all day route" with service every 15 minutes*.



Vehicle traffic

Road infrastructure in the study area is primarily oriented around 85th St serving East/West traffic and 124th Ave and I-405 serving North/South traffic.

Generally, intersections are most challenged where arterials meet, such as at Kirkland Way and 85th. LOS scores are based on driver delay at the intersection due to congestion. WSDOT is planning additional improvements in the study area as part of the I-405 Corridor project, including as roundabout at NE 85th St and Kirkland Way. See Appendix: Transportation Analysis (pg 106) for more detail on vehicular network performance.



Sustainability

Sustainability requires holistic consideration across topic areas. Kirkland is currently developing a Sustainability Master Plan which will build on existing targets and establish a comprehensive understanding of sustainability efforts by the City. These include aiming for a 33% reduction in emissions from by 2030 as part of the Comprehensive Plan target of carbon neutrality by 2050 to greatly reduce the City's contributions to climate change.

Passenger transportation is a major contributor to GHG emissions, often measured as Vehicle Miles of Travel (VMT). Strategies which promote lower VMT for Kirkland, including active transportation, transit, and compact land uses are therefore critical to Kirkland's overall sustainability efforts.

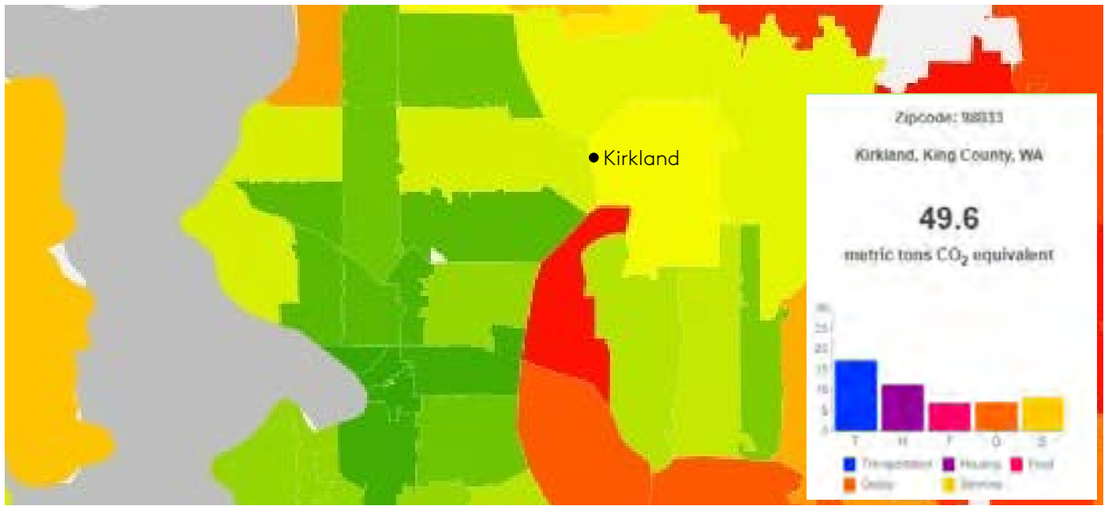
Compact, walkable neighborhoods have been identified as important part of Kirkland's sustainability strategies. The City of Kirkland is considering expanding these "10-minute neighborhoods" and incorporating sustainability principles into long range planning efforts and plans for Transit-Oriented Development around regional transit investments. These measures will help achieve community-wide GHG emission reduction targets.[1.]

The City of Kirkland has a number of employers that fall under the requirements of Washington's Commute Reduction (CTR) Law and has established goals for several measures such as vehicle miles of travel and drive alone trips for these employers. These performance goals include 18% decrease in Non Drive Alone Trips and 18% decrease in Vehicle Miles of Travel and Greenhouse Gas Emissions, approved by the State Department of Transportation.[2] As part of Downtown Kirkland Urban Center and a Growth and Transportation Efficiency Center(GTEC), the station area is also required to have separate goals for performance above and beyond the CTR goals.[2]

The station area, with its robust transit connections and potential for a mix of development, may present an opportunity to be more aggressive than citywide mode split targets. It has the opportunity to use a district approach including the Planned Action EIS and Form Based Code as tools to incentive sustainable development.

The Station Area Plan will help the City of Kirkland meet Community-Wide Emissions Targets, shown above left.
These reductions will continue the significant reductions in the Kirkland Community-Wide GHG Emissions that have been realized since 2005 shown in the graphic above right.
Images:. City of Kirkland Greenhouse Gas Emission Report 2018
1. www.kirklandwa.gov/Assets/City+Council/Council+Packets/011519/8a_SpecialPresentations.pdf
2. City of Kirkland Transportation Master Plan, p 53

Average Annual Household Carbon Footprint



Source: UC Berkeley CoolClimate Network, Average Annual Household Carbon Footprint (2013)

Average Annual Household Vehicle Miles Traveled per Household

Source: Housing and Transportation Index, based on 2015 American Community Survey (ACS) data. https://htaindex.cnt.org/map/

Opportunities & Challenges—

Development around transit

Successful transit stations are located in districts with a mix of uses that put housing, jobs, and destinations within easy access to the station. As Kirkland looks to the future, it will be critical to balance the existing character of the study area today with new development that encourages a mixed-use, walkable urban district.

Today, development in the study area reflects the different eras of growth for Kirkland. Single family neighborhoods anchor the district, ranging from large lot homes to smaller bungalows. The northwestern portion of the study area also includes a mix of townhouses and other infill adjacent to single family neighborhoods, and small apartment complexes. This mix is important for housing diversity.

The western part of the study area is also home to a pocketed, somewhat isolated set of developments. Auto-oriented office buildings, light industrial, and multi-family complexes add diversity to the study area but lack pedestrian access and visual connections to the public realm.

The eastern portion of the study area is dominated by large parcels of strip retail. This type of development is marked by large surface parking, auto-oriented sites with frequent driveways and curb cuts, and a weak relationship to street frontages.

Because 13% of the land within one half mile from the BRT station is comprised of the WSDOT right-of-way, this road infrastructure plays an influential role in the character in the study area. These parts of the study area are prone to significant noise, unused open space, and uneven maintenance and vegetation.

Single Family Neighborhood

Emerging Infill Neighborhood

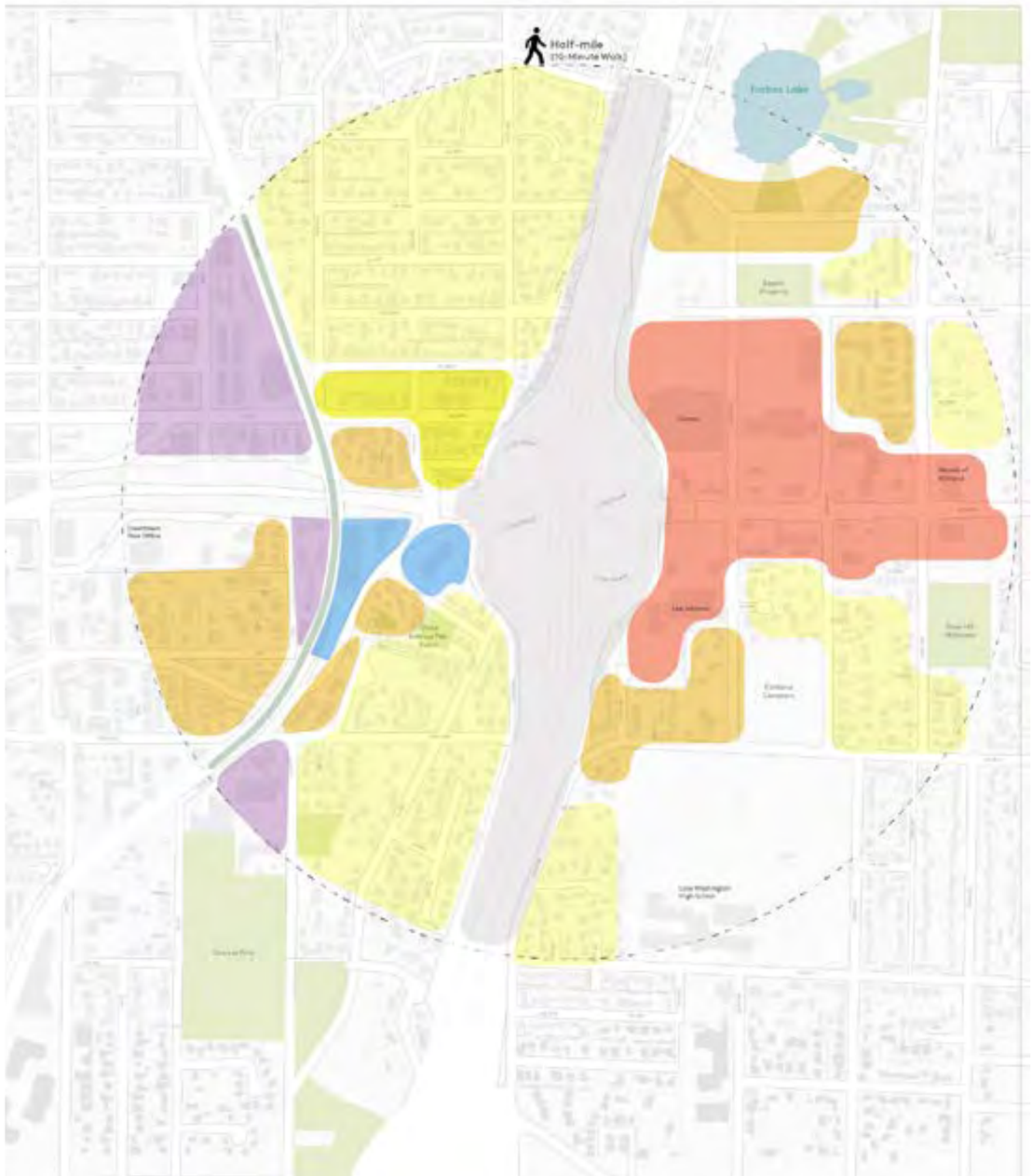
Internally Oriented Multifamily

Infrastructural Open Space

Light Industrial Transition

Office Park

Strip Commercial and Big Box



District impressions

85th Corridor

85th St is an important east/west connection. Its auto-oriented character often lacks sidewalks on the western side, instead featuring a dense tree canopy, and lots that turn their back on this important corridor

Industry

Industrial areas adjacent to 85th feature large parcels, close proximity to the future station, and potential opportunities for development or new investment. Many are currently important locations for small businesses.

New Infill

Townhouses, small apartments, and other medium-density developments are creating transitions from single family neighborhoods to larger developments typically associated with TOD.

Highway Barrier

I-405 acts a major barrier, limiting east/west connections, discouraging adjacent development opportunities, and contributing to noise and air pollution

Empty Interchange

The interchange geometry results in large underutilized open spaces designed to be experienced by vehicle.

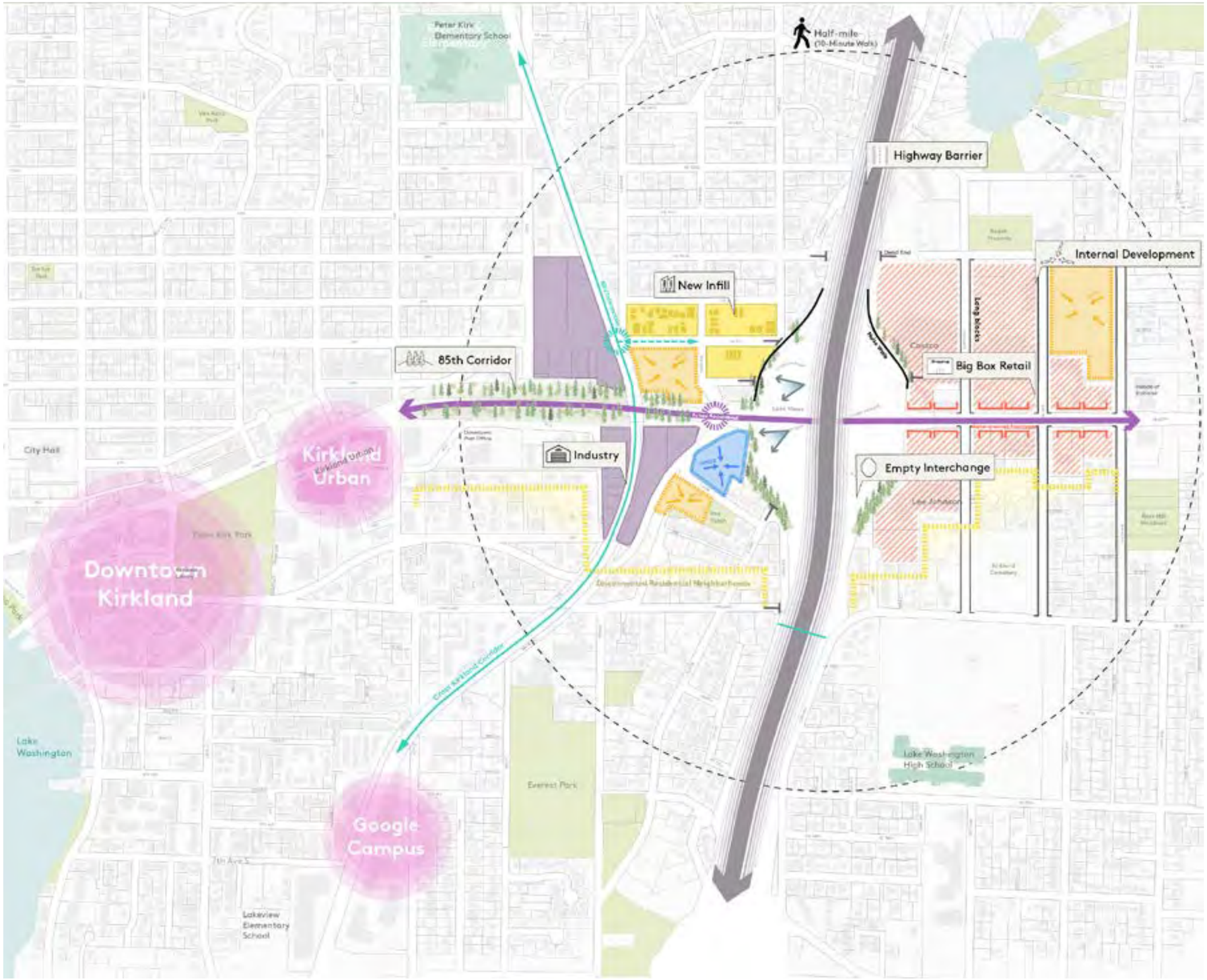
Big Box Retail

The Rose Hill business district is an important economic engine and activity center for the city. Characteristics include extensive surface lots, superblocks, and auto-oriented streets and public realm.

Internal Development

In several locations, pockets of office and residential development display an internal orientation, with no relationship to the street, surface parking, and poor pedestrian circulation.

Opportunities and Challenges

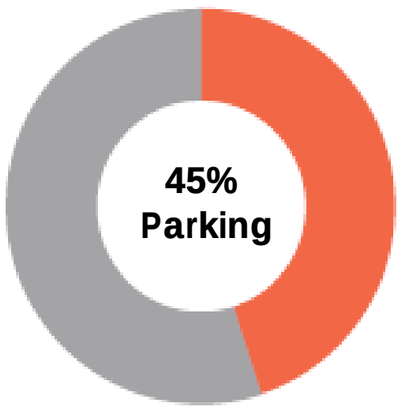


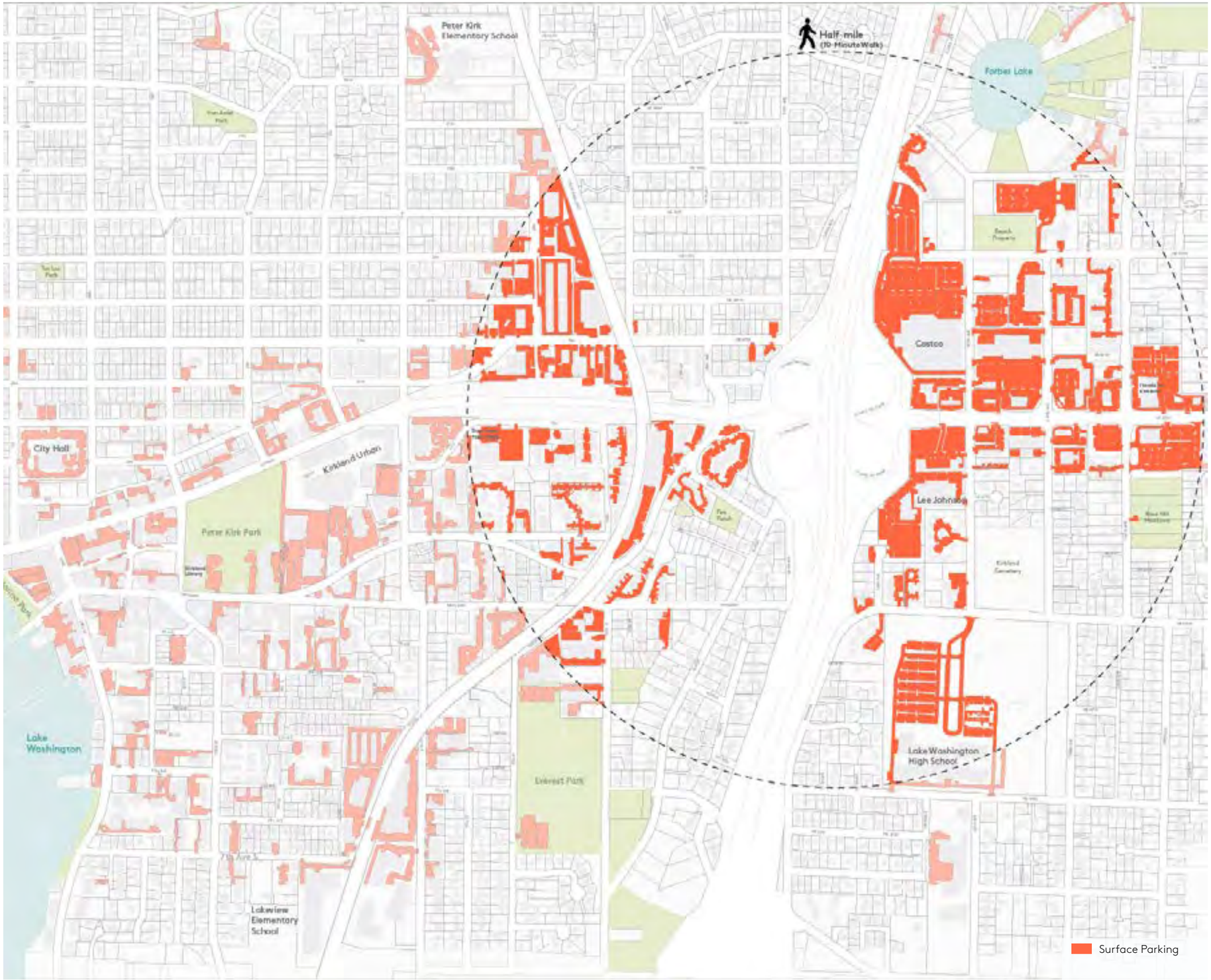
Development Opportunities

A core principle of Transit Oriented Development is to maximize development types that put people, jobs, and destination within walking distance of transit. Surface parking discourages this by both crowding out more active uses and creating more space between development that does exist. These typical outcomes tend to make surface parking suboptimal uses for land close to transit.

Within the study area, a remarkable portion of the total parcel area is dedicated to surface lots. Although the big box retail in Rose Hill is one source of this surface parking, many smaller developments also display an auto-oriented site organization that features a "ring" of surface parking.

These areas of surface parking are good candidates for future development. Future parking needs can be met through a number of strategies, including structured parking, shared parking and district parking. District approaches to infrastructure like parking can reduce inefficiencies by pooling resources, coordinating infrastructure planning, and identifying the most effective overall strategies for delivery.



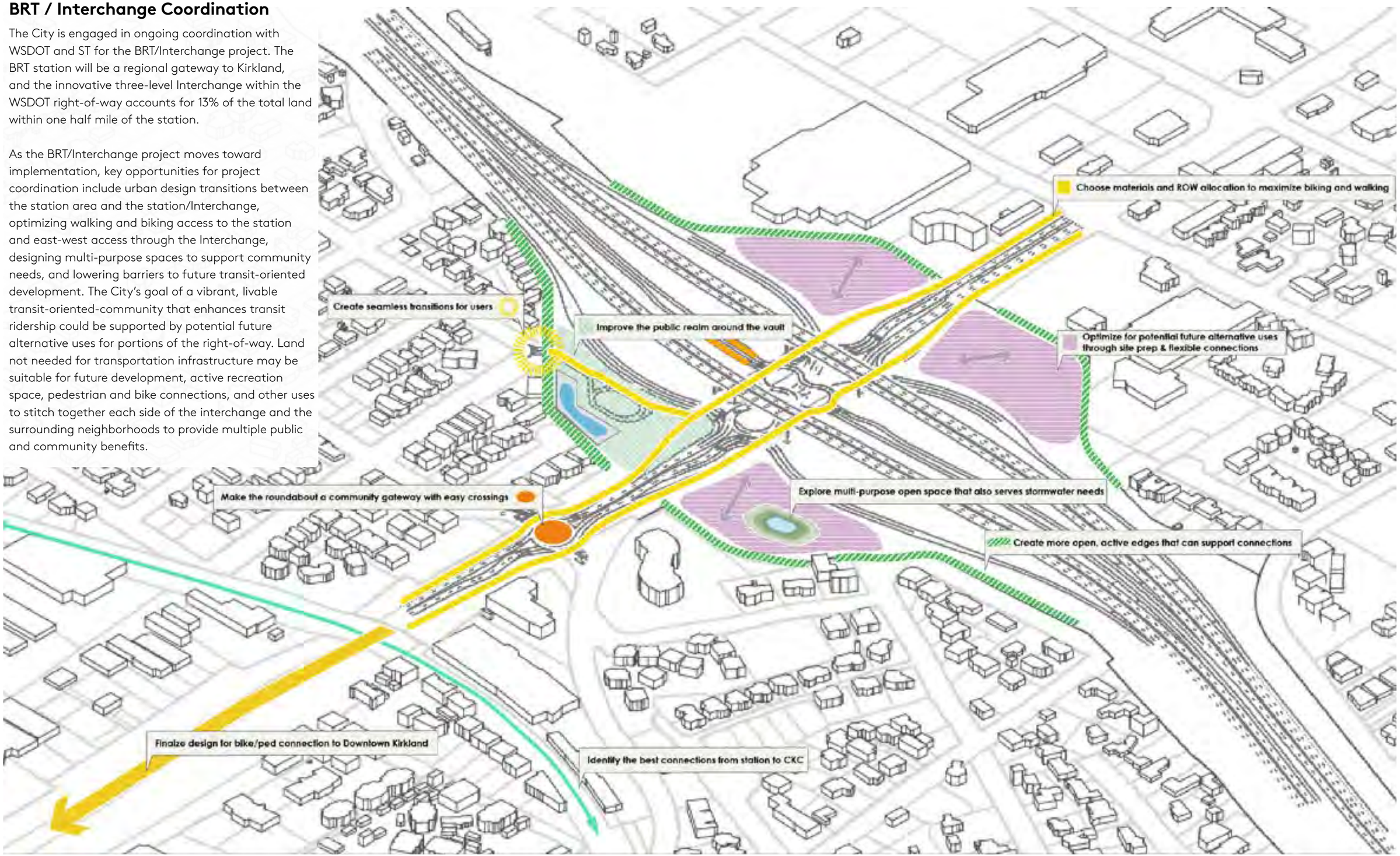


Opportunities and Challenges
Kirkland 85th St Station Area Plan

BRT / Interchange Coordination

The City is engaged in ongoing coordination with WSDOT and ST for the BRT/Interchange project. The BRT station will be a regional gateway to Kirkland, and the innovative three-level Interchange within the WSDOT right-of-way accounts for 13% of the total land within one half mile of the station.

As the BRT/Interchange project moves toward implementation, key opportunities for project coordination include urban design transitions between the station area and the station/Interchange, optimizing walking and biking access to the station and east-west access through the Interchange, designing multi-purpose spaces to support community needs, and lowering barriers to future transit-oriented development. The City's goal of a vibrant, livable transit-oriented-community that enhances transit ridership could be supported by potential future alternative uses for portions of the right-of-way. Land not needed for transportation infrastructure may be suitable for future development, active recreation space, pedestrian and bike connections, and other uses to stitch together each side of the interchange and the surrounding neighborhoods to provide multiple public and community benefits.



Opportunities and Challenges

Connected Kirkland

The future BRT station at 85th St won't just serve the immediate locations surrounding it. It will be part of a larger network of mobility option that connect Kirkland to destinations both within the city and across the region.

Major employers, shopping districts, and residential neighborhoods should be evaluated as major destinations which will need connections to this station. These last mile connections will benefit from a "portfolio" of transportation options that can meet the diverse range of future users.

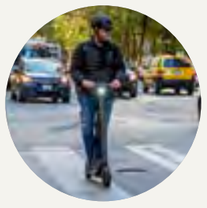
A "Portfolio" of last-mile connections

Walking

Bikes

Shuttles

Increased Bus Service



Shared Mobility

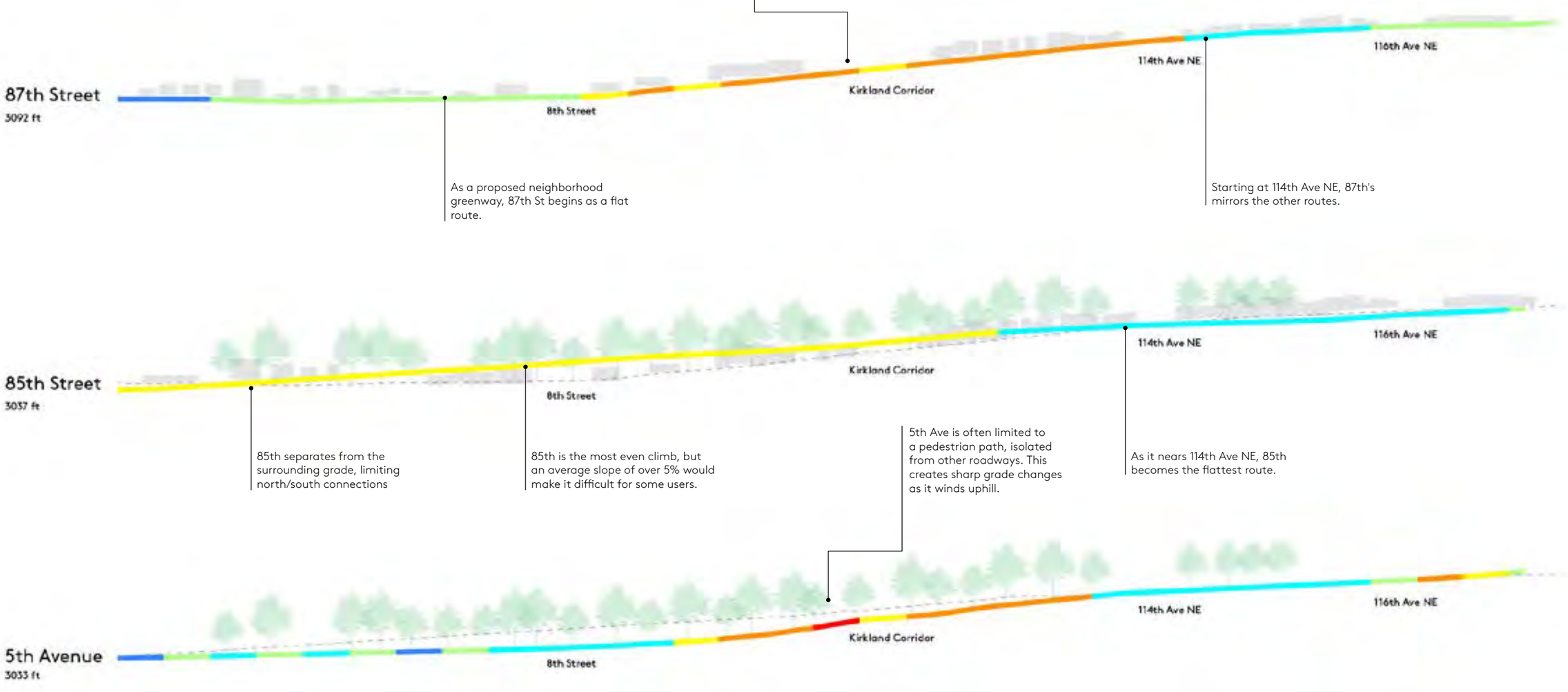
Pick up/Drop Off

Photos by Sergio Ruiz : https://www.flickr.com/photos/urbanists

Opportunities and Challenges

Creating connections to Downtown Kirkland

Downtown Kirkland should be an important last-mile connection for the I-405/ NE 85th St BRT station. The Transportation Master Plan prioritizes modes beginning with pedestrian, followed by bike, transit, and finally vehicles. Today, there are three different routes that could become major connections for pedestrians and cyclists. Each route's topography offers specific opportunities and challenges.



As 87th approaches the Cross-Kirkland Corridor, it begins a steep incline

As a proposed neighborhood greenway, 87th St begins as a flat route.

Starting at 114th Ave NE, 87th's mirrors the other routes.

85th separates from the surrounding grade, limiting north/south connections

85th is the most even climb, but an average slope of over 5% would make it difficult for some users.

5th Ave is often limited to a pedestrian path, isolated from other roadways. This creates sharp grade changes as it winds uphill.

As it nears 114th Ave NE, 85th becomes the flattest route.

Public realm: looking east

Rose Hill's big box retail and strip commercial have a profound effect on the public realm of 85th St. Existing sidewalks tend to be isolated between car-oriented sites and narrow planting strips separating pedestrians from fast-moving traffic.

Good opportunities include a strong tree canopy and growing street tree presence, as well as several sites for future development potential that could establish a more walkable, pedestrian oriented streetscape.

1. Potential development
2. Auto-oriented uses
3. Narrow sidewalk
4. Under-utilized buffer area between traffic and pedestrians
5. Bike lane opportunity
6. No sidewalk
7. Parking frontage
8. Strong tree canopy
9. Poor pedestrian/bike crossing

Opportunities and Challenges

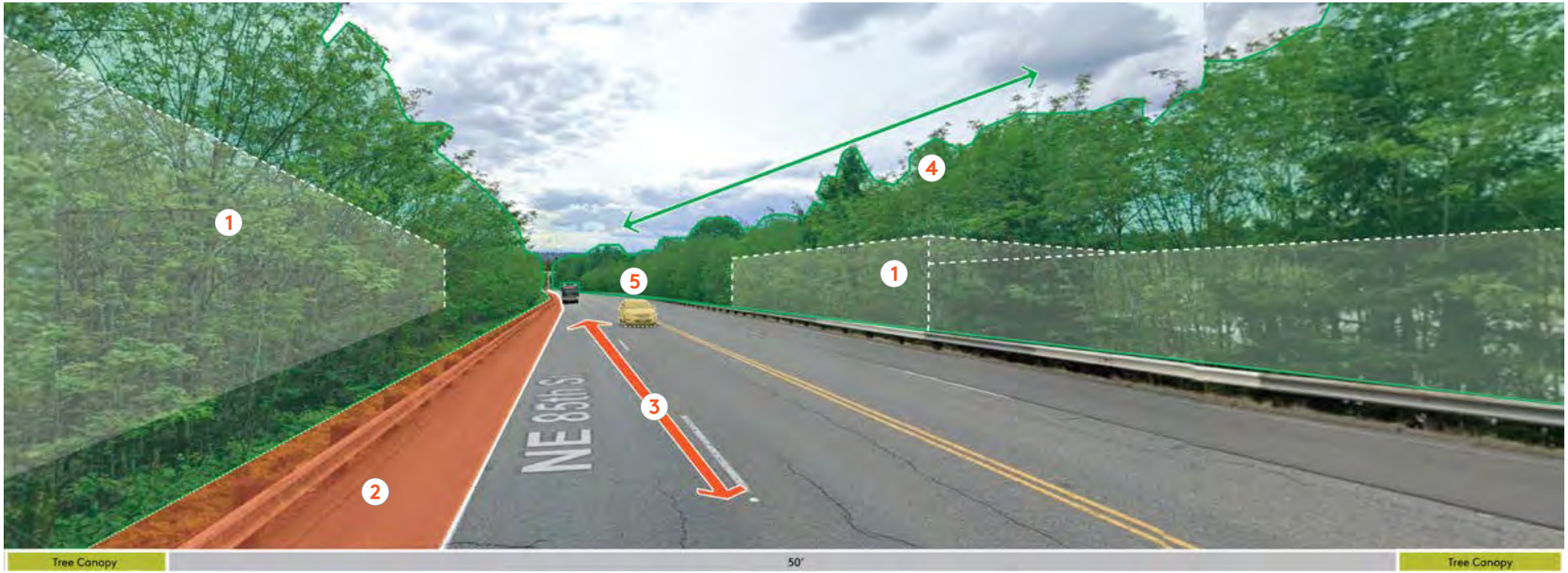
Kirkland 85th St Station Area Plan

Public realm assessment: looking west

As 85th transitions from the I-405 Interchange to Downtown Kirkland, it shifts to a limited access, grade separated road. This shapes the public realm in several ways.

First, the lack of intersections and a generous tree canopy creates a strong linear experience. It also creates the opportunity for a multi-use path that would similarly benefit from this linear connection. Behind this tree canopy are a number of potential development sites, which would help activate the edges of the public realm and create a unique blend of natural and urban frontages.

1. Potential development
2. Multi-use path opportunity
3. Visual and direct connection to Downtown Kirkland
4. Tree canopy emphasizing linear experience
5. High speed traffic



Inclusive District

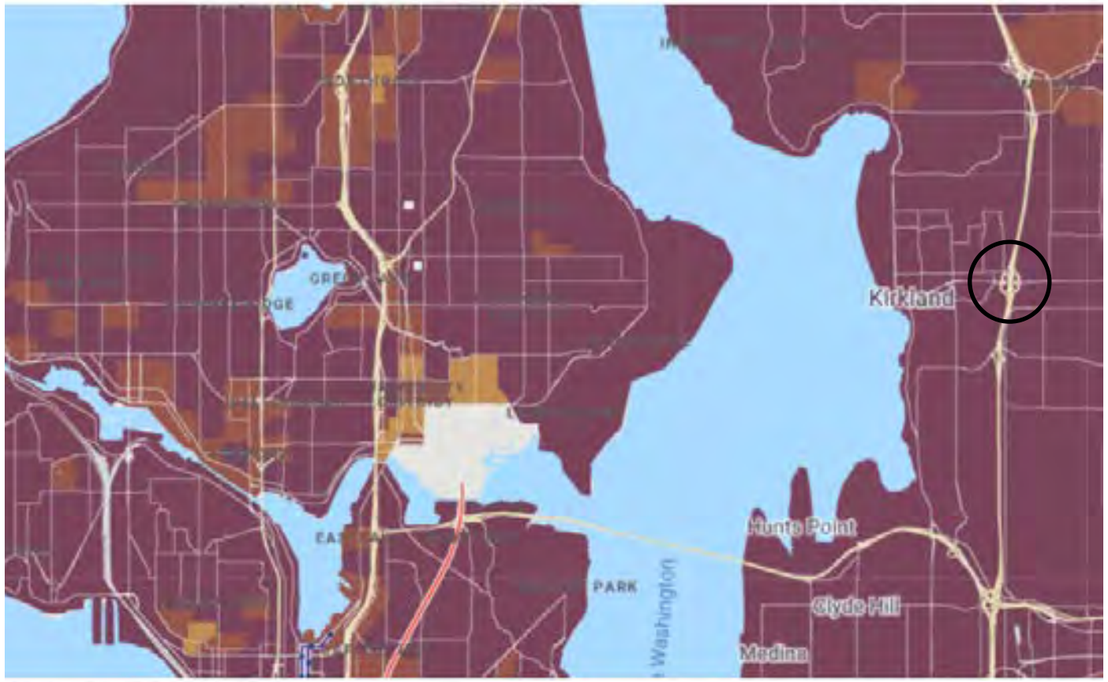
The City of Kirkland as a whole has a high quality of life. In fact, the life expectancy of 84 years is higher than the King County average, schools are high performing, and crime rates are low.

Residents who live in the Station Area also have high access to opportunity, with a home ownership rate of 72% and only 6% of residents making below $40,000 per year. However, there are several unique challenges within the Station Area that may contribute to inequities and reduce community resilience[1].

These priority equity issues include jobs and housing pressures, a significant level of commuting and travel, low access to parks, a poor environment for walking and biking, and lack of community gathering places.

The planned regional Transit Station and Station Area Plan present significant opportunities to improve many of these conditions in the physical environment and, as a result, capacity for community resilience.

1 Community resilience is the sustained ability of a community to respond to, withstand, and recover from adverse situations from economic collapse to global catastrophic risks.

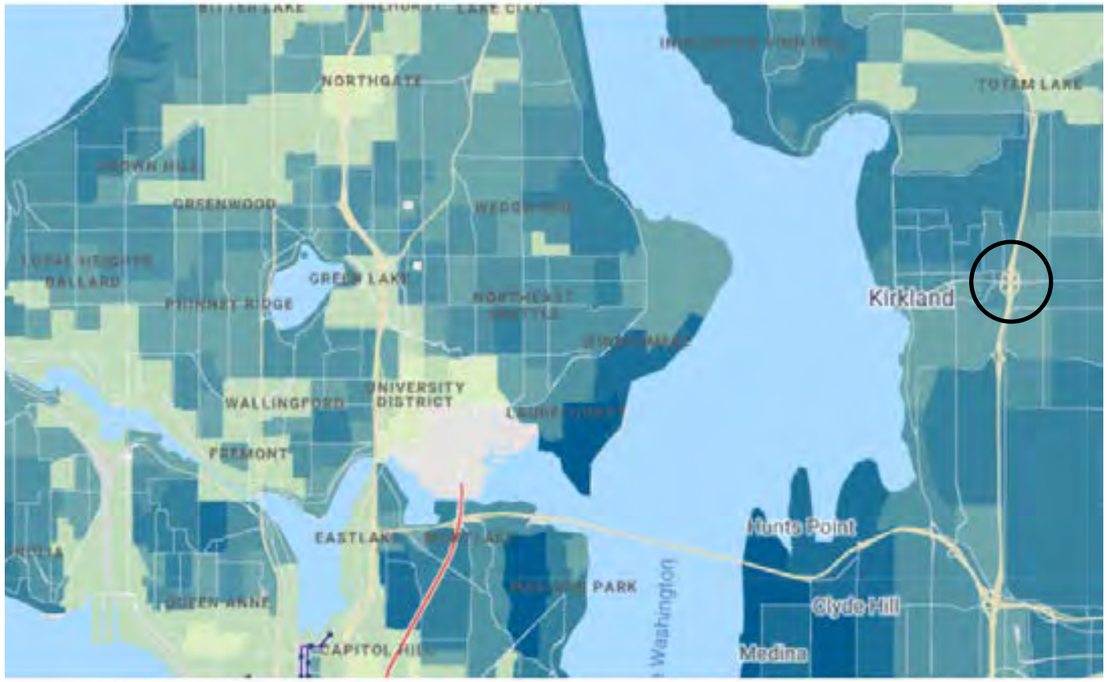


Source: https://htaindex.cnt.org/map/

Jobs & Housing Equity

Housing Costs in the Station Area are 50% higher than the King County average. This could limit the families who are able to attend Kirkland's high-ranking schools and take advantage of the City's premier civic spaces or utilize transit investment. High housing costs may lead to long commute times for working families seeking access to jobs in Downtown Kirkland, Totem Lake and the Everest High Tech/ Industrial Area. This suggests a poor match between housing and job opportunities and types.

There is a significant opportunity for the station area to accommodate a wide range of housing opportunities, many of which are explored in the Housing Strategy Plan. There is also strong interest in additional job opportunities, especially with close transit proximity. Paired with mobility improvements and an increased mix of uses, these measures may reduce communing and consequently Vehicle Miles Traveled (VMT).



Source: https://htaindex.cnt.org/map/

Civic Infrastructure

Community resilience is the sustained ability of a community to respond to, withstand, and recover from adverse situations. Like the Determinants of Equity, both the socioeconomic and physical environment are factors for resilience. The COVID-19 pandemic has brought resilience to the forefront with considerations of how communities and the physical environment contribute to the spread of infectious disease, as well as how they support essential physical and emotional health needs.

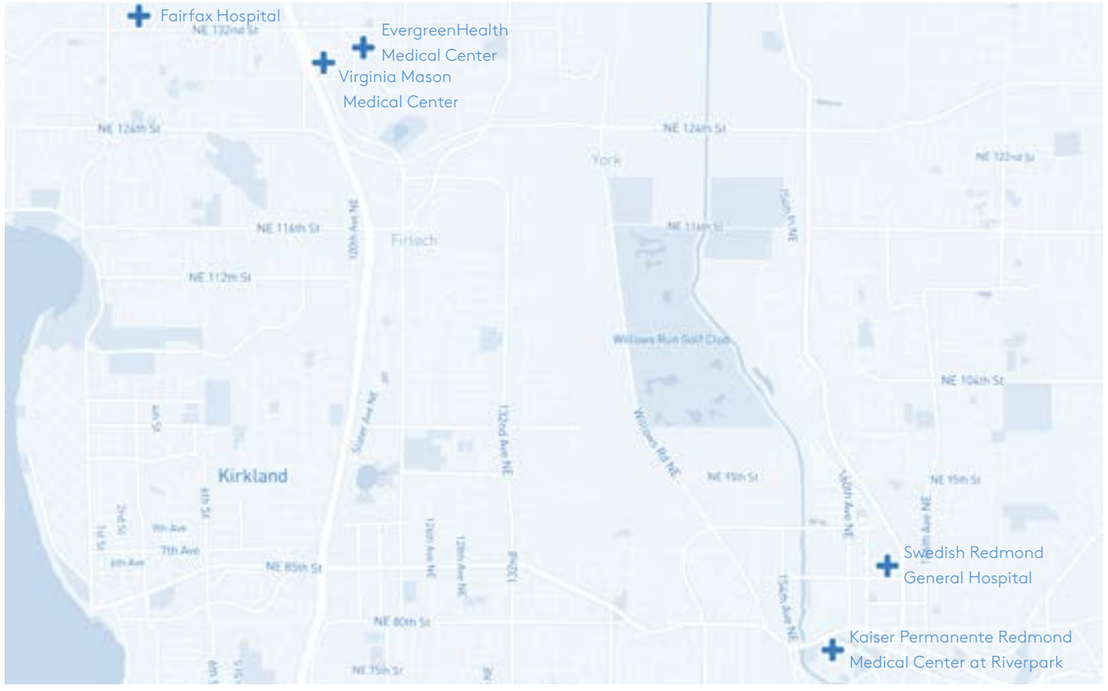
While the socioeconomics and demographics of the residents in the Station Area result in a low vulnerability score, the current built environment has several key challenges that may reduce community resilience. The predominant suburban development pattern and lack of community gathering places results in extremely limited daily opportunities for people to interact. This limited availability of social interaction and public life can present significant risks in case of emergency, because neighbors often become the de facto 'first responders' in crisis.

The Station Area has low access to parks, especially compared to the rest of the city. When combined with the poor environment for walking and biking and significant physical barriers, both residents and employees have very limited opportunities for safe physical activity and exercise or easy access to grocery and health facilities.

There is a tremendous opportunity for civic infrastructure in the station area through inclusion of community-serving facilities and programs including education, gathering, food access, and social support spaces. As a regional hub, the Station Area can uniquely serve these needs without compounding additional demand for driving.

Study area schools

Kirkland hospital locations



Opportunities and Challenges

Kirkland 85th St Station Area Plan

Multi-Benefit Solutions

An inclusive district relies on a safe and inviting public realm network including parks with robust pedestrian and bike connections. Innovative districts are achieving multi-benefits by leveraging funding to best meet infrastructure needs, while supporting an equitable transit-oriented development that provides critical amenities, meeting the community's needs.

Kirkland is known for its innovation around stormwater practices and its open spaces. There are opportunities to provide the community benefits of new open space within the station area that can also achieve additional co-benefits of stormwater management, mitigating noise and air quality, and enhancing urban habitat connectivity. The deliberate addition of vegetation and tree canopy can improve air quality, reduce heat island effect, and capture stormwater, in addition to improving habitat and human health.

Layering these functions and benefits within a facility or capital investment often is accomplished through partnerships. The station area planning process has the potential to uncover opportunities that leverage or align resources and ultimately result in higher performance providing great quality of life for residents, employees, and visitors while reducing the costs to the community.

(Above) The Renton Sunset Area Initiative is a partnership between City Departments, the Housing Authority, School District, and Library System. This neighborhood park serves an important stormwater function while providing gathering space along with a new library.

(Above, right) The City of Kirkland installed a stormwater system under the 132nd Square Park Soccer Field that consolidates and treats storm water run-off from the surrounding 48.5 acres. The project is designed to expand both park access and improve stormwater infrastructure.

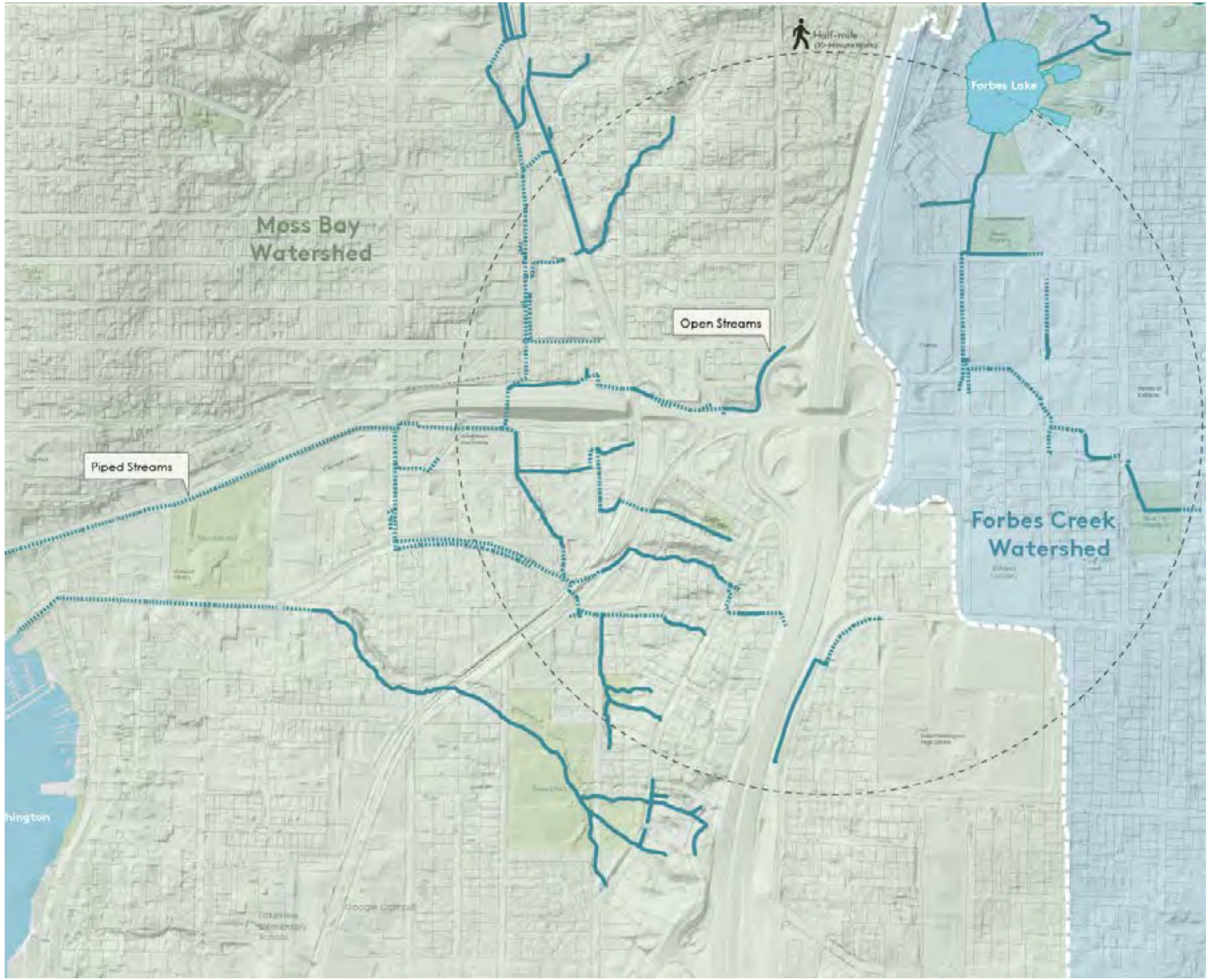
Stormwater

The City of Kirkland has a track record of innovative stormwater management and aquatic resource protection. The opportunities to further promote innovative stormwater strategies for future development look at possibilities to reduce the stormwater management burden (e.g. facility cost, space required) for redevelopment projects within the subarea, while protecting the natural environment and the City's stormwater infrastructure. The opportunities are strongly influenced by the environmental conditions and regulatory requirements within the two primary stream basins of the subarea, the Moss Bay Basin and the Forbes Creek Basin.

Moss Bay Stormwater Opportunities:
Development and redevelopment projects within these stream-discharge areas are required to comply with stringent flow control requirements, which necessitate large detention facilities to protect the stream channels from the damaging effects of high flow; however, there is no viable fish habitat mapped in this area. Downstream of these open stream channels, the City may allow smaller detention facilities if it can be demonstrated that the downstream stormwater conveyance infrastructure is adequate to handle the existing flows.

Forbes Creek Stormwater Opportunities:
Forbes Creek is a salmon-bearing stream and is identified as priority habitat. This basin also includes a large area that discharges to Forbes Lake, which requires that projects in the basin to utilize water quality practices that provide phosphorus treatment. The primary opportunity in the Forbes Creek basin to reduce the stormwater management burden for redevelopment projects is to meet those stormwater requirements at a different site, such as through regional stormwater facilities constructed by the City prior to redevelopment.

Opportunities and Challenges



Kirkland Identity

As the primary transit connection to the region, this study area is positioned to become an important gateway for Kirkland as a whole. Looking ahead, there are several ways the study area can take elements from Kirkland's identity today: a strong connection to nature, a tight-knit community, and a strong sense of heritage, and make those elements visible to visitors.

Elements which can support this identity may include wayfinding/signage, signature uses and program, architecture, landscape and public realm design, as well as policies and other programs.

These design details, along with maintenance and care for public space, can significantly change people's perception of their community and trust in government. The Kirkland City Hall includes many of these small details to promote a welcoming and inclusive environment through use of signage, art, and ample seating. These are also opportunities for the station area at large to build identity and cohesion.

Fruitvale BART Station in Oakland reflects the community's Latin culture with an internal paseo, community art, and landscape/wayfinding.

Boxpark in London's Shoreditch Station integrates small scale retail with industrial containers that recall the area's dual history as main street and manufacturing

Conclusion & Next Steps—

Station Area Plan Boundary

This initial analysis utilized a 1/2 mile buffer from the future BRT station as preliminary study area boundary. As part of this analysis phase, a proposed Station Area boundary has been identified (shown at right). The proposed boundary will establish the extents of the SAP, the Environmental Impact Statement (EIS) and the Planned Action Ordinance.

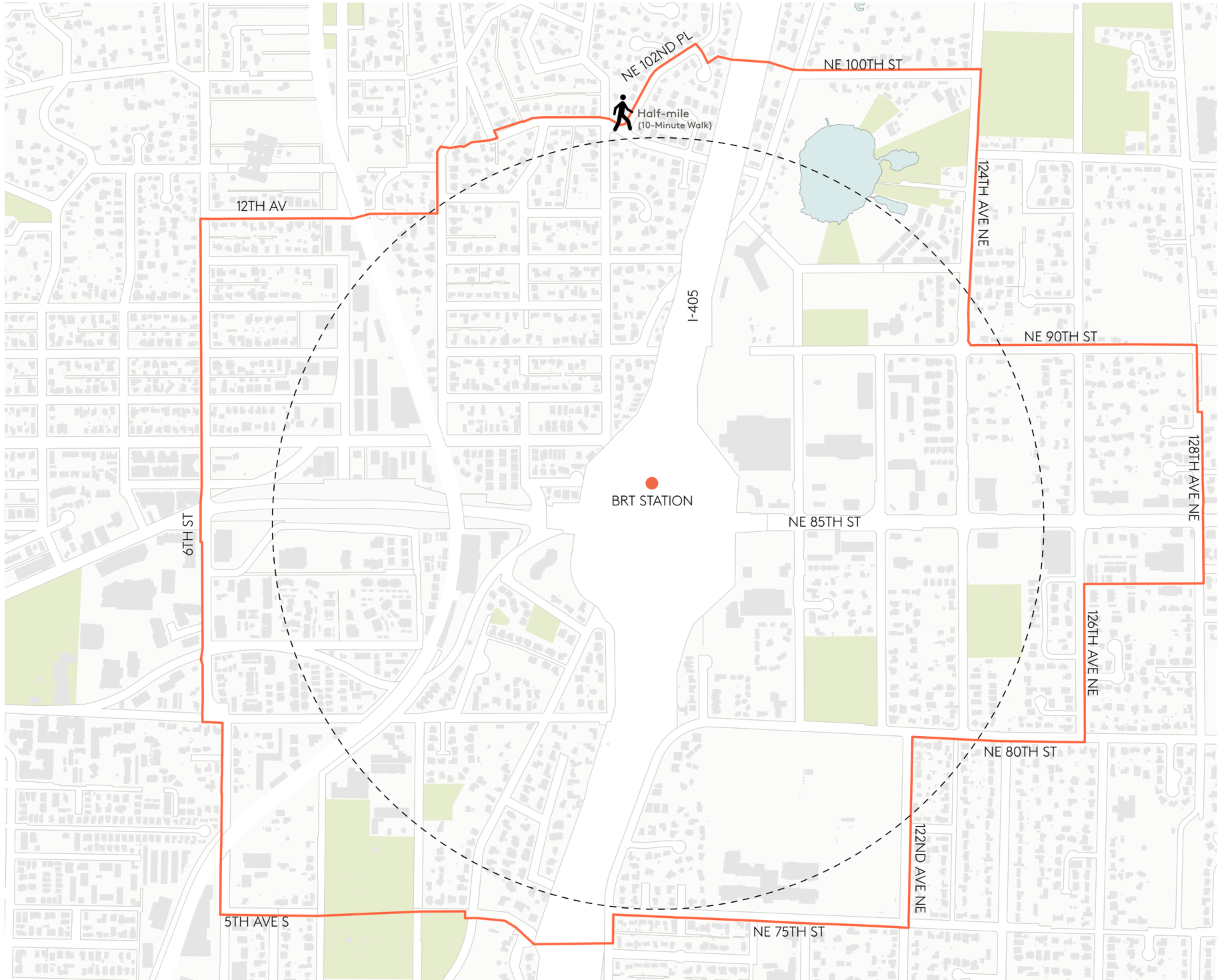
It was established based on the following rationale:

— The SAP Boundary should approximate the 1/2 mile, 10 minute walk radius that was used for initial Opportunities and Challenges Analysis.

— The area should follow parcel boundaries, and incorporate whole parcels and the full street ROW where possible.

— The SAP Boundary should include important features that will directly influence or be influenced by the station itself, including Forbes Lake, Lake Washington High School, and the 85th St connection to 6th St.

— Given the importance of transitions from areas of future change to areas unlikely to change significantly, areas next to zones such as Rose Hill Business District and the Norkirk industrial area were included.



STATION AREA BOUNDARY
1/2 MILE BUFFER FROM BRT STATION

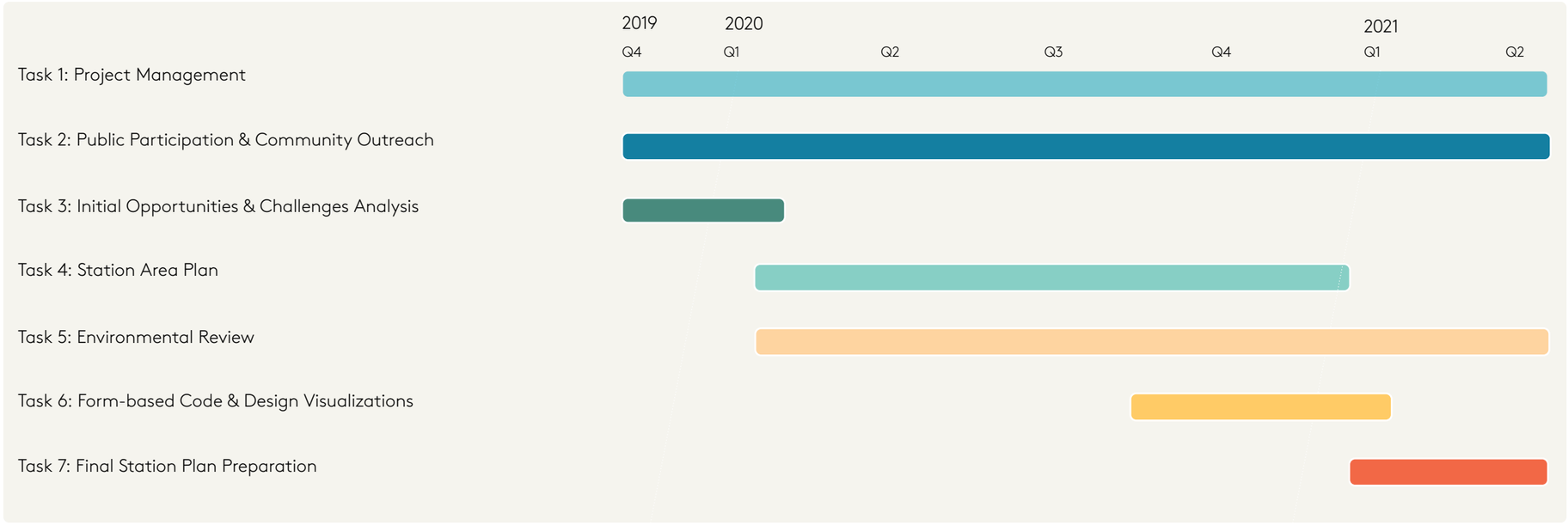
Conclusion & Next Steps

Next Steps

This report summarizes key opportunities and challenges facing the study area today. Next steps for this project include the development of a set of alternatives that explore trade offs associated with different future land use, mobility, and infrastructure options.

As the Station Plan moves forward, it should coordinate with parallel projects. These include the BRT Station and Interchange, and the Urban Center designation efforts amongst other City initiatives. There is an opportunity to explore a range of co-planning and partnership models with other agencies and departments to advance the broader project and city goals.

Civic engagement and participation, aligned with the project equity framework, are integrated into the project schedule. The COVID-19 pandemic and related health orders are affecting the entire Kirkland community. The City is actively assessing the schedule and methods to support a transparent and equitable engagement approach during this unpredictable and challenging time. More details on engagement activities are available on the project website.



Appendix—

Equity Impact Assessment

A primary objective of the Station Area Plan is to engage stakeholders and the larger community in a planning process that achieves broad consensus and public support. Per the Kirkland 2035 Vision Statement, ***"Civic engagement, innovation and diversity are highly valued. We are respectful, fair, and inclusive."*** To support an equitable project process and outcomes, the SAP will strive to reach all communities affected by the project – those living and working there now, and in the future. The public participation plan will include multiple opportunities, venues, and ways to participate throughout the planning process to reach stakeholders from all walks of life.

The Equity Impact Review (EIR) and other King County tools complement the City of Kirkland's focus on equity through the Neighborhood Services Program. These tools provide a framework to identify, evaluate, and communicate the potential influences - both positive and negative – of the Station Area Planning efforts. This process merges empirical data and community engagement findings to evaluate how planning efforts will influence environmental justice, equitable access, and the stewardship of public investments that serve residents, visitors, commuters, businesses, and employees. In each of the five stages of the EIR process, summarized below, established King County equity tools will help promote equity.

Distributional — Fair and just distribution of benefits and burdens to all affected parties and communities across the community and organizational landscape.

Procedural — Inclusive, open and fair access by all stakeholders to decision processes that influence community and operational outcomes. Process equity relies on all affected parties having access to and meaningful experience with civic and employee engagement, public participation, and jurisdictional listening.

Cross-generational— Effects of current actions on the fair and just distribution of benefits and burdens to future generations of communities and employees. For example; income and wealth, health outcomes, white privilege, resource depletion, climate change/pollution, real estate redlining practices, and species extinction.

Phase 1: Scope. Identify who will be affected.
Throughout the public outreach process, the project will consider who is affected by the project, and how to incorporate them into the decision-making process. Particular attention is given to providing meaningful participation opportunities for marginalized populations which often include low-income populations, communities of color, and limited-English speaking residents. The Public Participation Plan will be reviewed to assess whether alternate engagement methods, venues, and supports are desired to reach affected populations.

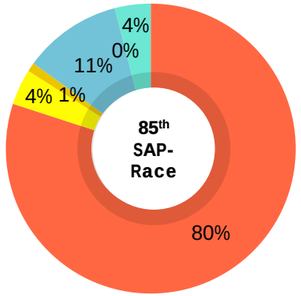
Phase 2: Assess equity and community context.
The project will assess Determinants of Equity, or root causes in the physical and socioeconomic environment that influence outcomes, and explore how they are influenced by various alternatives throughout the planning process. The project will use quantitative and qualitative data to identify priority equity related issues. Workshops and Design Charrettes will be used as an opportunity to engage affected communities, employees, and/or stakeholders and learn about their priorities and concerns.

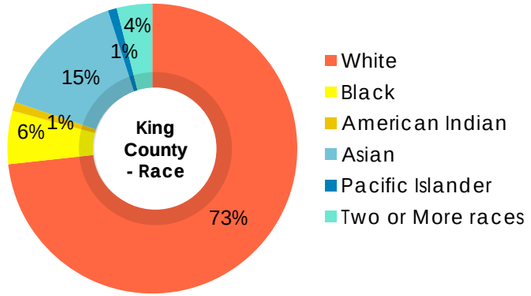
Phase 3: Analysis and decision process.
As preliminary concepts and alternatives for the SAP are developed, the project will consider how variations in development, mobility, transit integration and access, and other urban design considerations will affect community and employee priorities and concerns. The City should explore how decision-making processes can provide more representation and leadership opportunities for affected communities.
During Alternatives Analysis, the project will conduct a benefits and burdens analysis to evaluate if marginalized populations may be disproportionately burdened. Projecting and mapping potential equitable outcomes will help prioritize alternatives.

Phase 4: Implement. Staying connected with communities and employees.
The Project will include materials and graphics to help the City of Kirkland communicate with communities, stakeholders and employees about the implementation and potential influences of the SAP. The SAP will incorporate "pro-equity" opportunities when possible, for example selecting Minority/ Women-owned Business Enterprises for contracting and materials sourcing and opportunities for affected communities to actively participate in leadership and implementation. The SAP will create an equity measurement and evaluation system for the Station Area Plan in collaboration with affected communities and include a mechanism to identify unintended consequences.

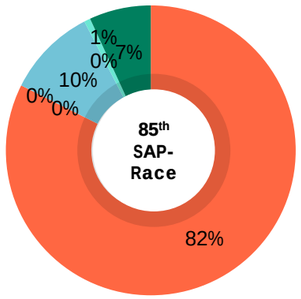
Phase 5: Ongoing Learning. Listen, adjust, and co-learn with communities and employees.
The Equity Impact Assessment will be used to develop the project approach to equity, including the public participation plan. The City of Kirkland is encouraged to continue conversations with the community regarding the Station Area. Ongoing communication will allow the city to adjust planning efforts as the community's priorities and concerns shift. Quantitative data will be used to identify potential disparities regarding the Station Area. Ongoing communication will allow the city to adjust planning efforts as the community's priorities and concerns shift.

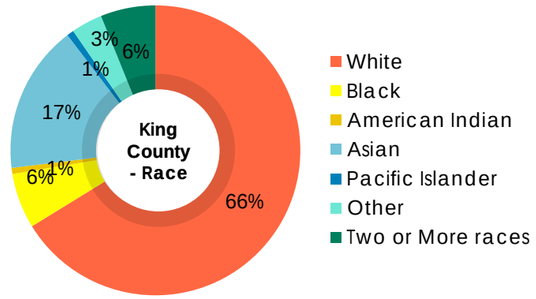
Employee Demographics

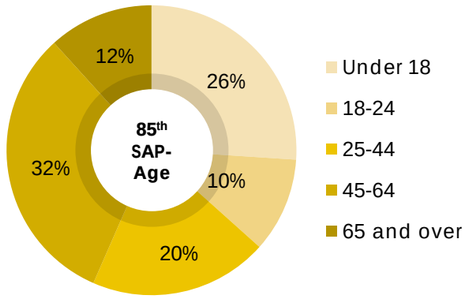


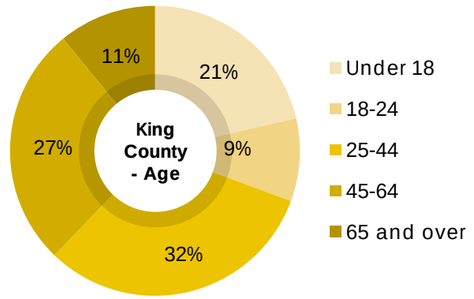


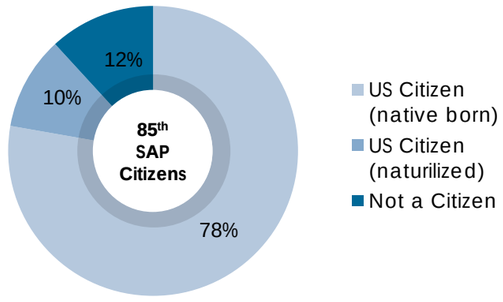
Resident Demographics

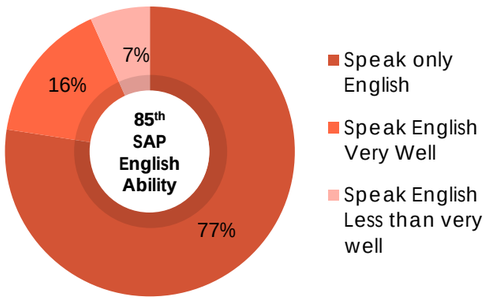












Who Will Be Affected?

A preliminary list of affected parties includes:

— Lake Washington High School students

— Rose Hill Elementary School Students

— Employees who work within 1 mile from the station for a variety of businesses and public institutions

— Transit users accessing the BRT to travel to points north and south

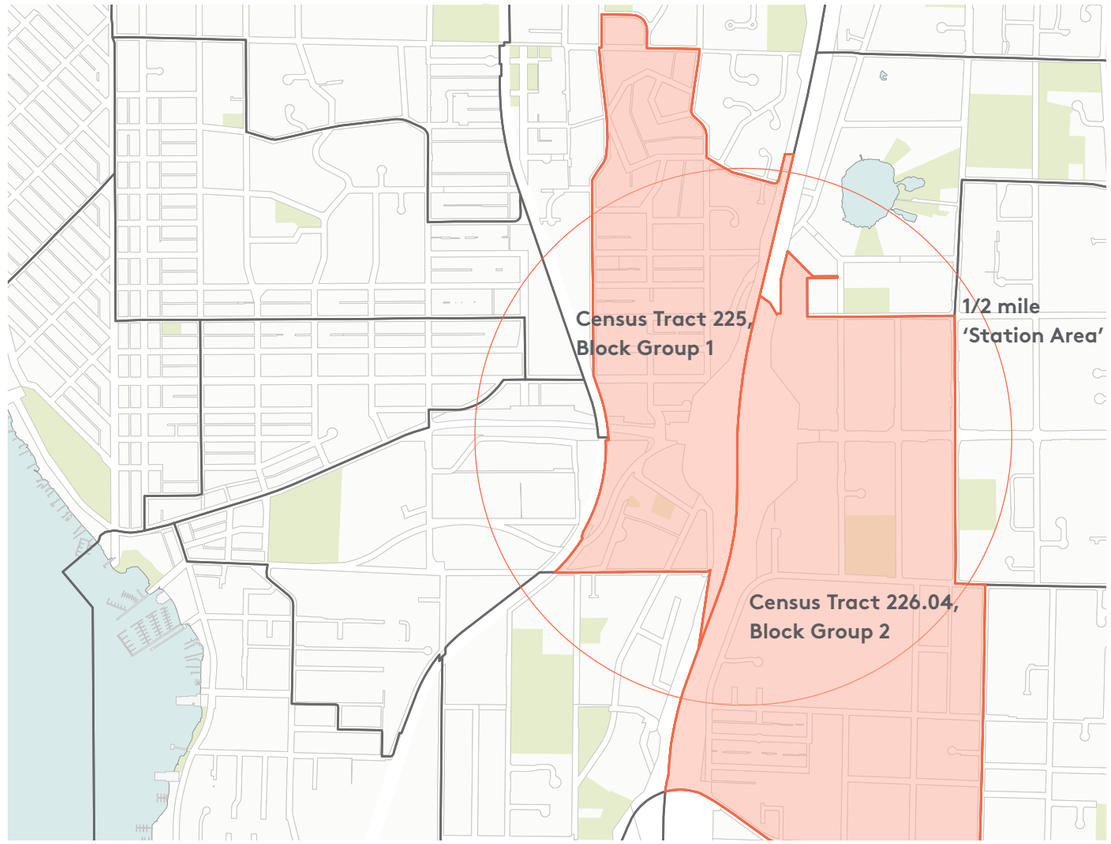
— Residents within the Station Area

— Future Residents and Employees - Individuals seeking housing or employment within Kirkland

— Kirkland residents, employees, and employers who live and/or work outside of the Station Area but have a stake or interest in city-wide development decisions

Special efforts will be made to include marginalized populations within the study area.

Based on analysis, marginalized populations include: residents of color (18%), limited English speakers (7%) and linguistically isolated populations (EJ Mapper estimates 1.4%), seniors (32%), youth, (26%), renters (36%), and households experiencing poverty (6%), including clients of Kirkland's new adult women and family shelter.



All Census and American Community Survey Data for the Station Area references Census Tract 225, Block Group 1, and Census Tract 226.04, Block Group 2 (shown right) unless otherwise noted.

Equity Context Assessment

The baseline equity assessment framework includes determinant or root causes based on the Social Determinants model in the King County EIR. These include Housing, Early Childhood Development, Schools, Jobs, Health and Human Services, Food Systems, Parks and Natural Resources, Built and Natural Environment, Transportation, Community and Economic Development, Neighborhoods, and Community and Public Safety. The purpose of this baseline scan of the Station Area is to assess any disparities and key issues for the project area, consider which factors the SAP can influence, and establish priority equity issues for action.

The Determinants of Equity indicator data and lived experience data from Phase One engagement show that the City of Kirkland as a whole has a high quality of life. In fact, the life expectancy of 84 years is higher than the King County average, schools are high performing, crime rates are low, and there is excellent access to high quality parks citywide.

Residents who live in the Station Area also have high access to opportunity, with a home ownership rate of 72% and only 6% of residents making below $40,000 per year. However, there are several unique challenges within the Station Area that may contribute to inequities, many which are related to infrastructure and determinants in the auto-dominated built environment.

Determinants Of Equity	Indicator
Housing	Average Housing and Transportation Costs as a Percentage of Income
	Average Monthly Housing Cost
Early Childhood Development	Test Scores By Race
Education	On-Time High School Graduation Rates
	Student to Teacher Ratios
Job Training and Jobs	Living Wage Gap - % Residents making below $40,000 a year %Employees making below $40,000 a year
	Daytime pop. Density

1 All Data are the average of Block Group 1 Census tract 225 and Block Group 2 Census Tract 226.04 unless otherwise noted
2 H+T Index uses 2015 ACS for Housing Costs. Transportation Costs developed by CNT using 2014 Longitudinal Employer-Household Dynamics data. htaindex.cnt.org/map/
3 2018 American Community Survey
4 2018 American Community Survey
5 The Test Score Rating examines how students at this school performed on standardized tests compared with other schools in the state. The Test Rating was created using 2017 MSP data from Washington Office of Superintendent of Public Instruction, using 2017 WA EOC data from Washington Office of Superintendent of Public Instruction, and using 2017 WA SBAC data from Washington Office of Superintendent of Public Instruction.www.greatschools.org/washington/kirkland/902-Rose-Hill-Elementary-School/#Race_ethnicity*Test_scores*Overview

SAP Rate[1]	King County Rate	Rationale
54%[1]	50%[2]	Anything above 50% is considered cost burdened. The more money that goes to Housing & Transportation, the less that is available for healthy food & health care.
$2,804[3]	$1,834[4]	High housing costs can be a barrier to fostering socioeconomic diversity in a community.
RHES: White (42% of Students): 72% Asian (26%): 79% Hispanic (21%): 50%[5] **LWHS** White (68%): 97% Asian (11%): 94% Hispanic (11%):85% 2+ races (8%): 100%[6]	**State Avg, Elementary:** White: 65% Asian: 75% Hispanic: 44%[7] **State Avg, H.S.:** White: 70% Asian: 80% Hispanic: 51% 2+ races: 71%	An achievement gap means that some groups of students achieve at a significantly higher level than other groups, especially on standardized tests. Racial disparities are not uncommon, and may be a result of institutional marginalization or lack of access. Because standardized tests can serve as gatekeepers to a child's opportunity, and education significantly shapes employment, closing these gaps facilitates equity.
92%[8]	93%[9]	Most living-wage jobs require a min. high school diploma or equivalent. High school completion prepares students to go on to college, into the job market or to apprenticeship training programs.[10]
LWHS: 21:1 RHES: 14:1[11]	19:1[12]	Researchers have found that gains in achievement generally occur when class size is < 20 students.
Residents: 6%[13] Employees: 48%[14]	Residents: 45% Employees: 46%[15]	The living wage is defined as the minimum income necessary to purchase basic necessities and save 10% of earnings without assistance from public programs. Tracking the living wage is a means to understand gaps between the minimum wage and self-sufficiency. The living wage provides insight into self-sufficiency in a way that the Federal Poverty Threshold does not.
5821 people/ sq mile[16]	912.9 people/ sq mile	Population density during a typical weekday. anything over 1,600 persons/ sq mi is considered “Urban”

6 Percent Proficient on yearly Administered Science Tests. Accessed 3/23/2020 form https://www.greatschools.org/washington/kirkland/894-Lake-Washington-High-School/#Race_ethnicity*Test_scores
7 This shows results across different races/ethnicities on Science test given to students once a year. Uses 2017 MSP data from Washington Office of Superintendent of Public Instruction. Accessed on3/23/20 from https://www.greatschools.org/washington/kirkland/902-Rose-Hill-Elementary-School/#Race_ethnicity*Test_scores*Overview
8 Lake Washington High School rates. Source: NCES, 2018 Accessed 3/20/2020 from https://www.greatschools.org/washington/kirkland/894-Lake-Washington-High-School/
9 2018 American Community Survey
10 King County Determinants of Equity Baseline Project. https://www.kingcounty.gov/elected/executive/~/media/4FF27039534048F9BC15B2A0FFDDE881.ashx?la=en
11 The average number of students per full-time teacher at this school; please note that this is not a reflection of average class size. Source: Civil Rights Data Collection, 2016.
12 https://www.publicschoolreview.com/washington/king-county
13 Based on 2018 American Community Survey Estimates for households making below $34,999 annually
14 Longitudinal Employer-Household Dynamics, 2017 https://lehd.ces.census.gov/
15 Longitudinal Employer-Household Dynamics, 2017 https://lehd.ces.census.gov/
16 2018 American Community Survey Estimates. Accessed 03/23/2020 from https://www.arcgis.com/home/webmap/viewer.html?webmap=88f17b4580e846609f92c9f75a9d9eee

	Employee Demographics	White: 80% Black: 4% Am. Indian: 1% Asian: 11% Pac. Islander: 0% 2+ Races: 4%[17]	White: 74% Black: 6% Am. Indian: 1% Asian: 15% Pac. Islander: 1% 2+ Races: 4%[18]	Employees will be some of the most frequent visitors, and their opinions are often not included in planning efforts. An equitable assessment of stakeholders influenced by the 85th SAP requires a consideration of the needs of employees and marginalized groups therein.
Health and Human Services	% Uninsured	1.7%	5.3%[19]	
	% Seniors	12%	11%[20]	
	Obesity	22% (Kirkland)[21]	22.2%[22]	Leads to higher morbidity & reduced quality of life due to cardiovascular disease, type-2 diabetes, cancers & psychological disturbance. ***Dixon J. 2010.***
	CDC Social Vulnerability Index	0.13 (low)[23]	0.09 (low)[24]	Possible scores range from 0 (lowest vulnerability) to 1 (highest). Incorporates Income and Education metrics.
	Life expectancy	84.26	81.37[25]	
Food Systems	Percent of Students with Free or Reduced Lunch	16%[26]	35%[27]	Access to healthy food choices is directly correlated to obesity and diabetes rates, which occur in higher rates among people living in low-income communities with worse food environments. ***California Center for Public Health Advocacy. 2008.***
Parks and Natural Resources	Park Accessibility - Percent of Residents who live within a ten minute walk of a Park	69%	92% (Kirkland)[28]	Parks and natural open space areas promote physical activity and social interaction. Areas with natural vegetation also have direct effects on physical and mental health. ***Vries S, de Verheij RA, Groenewegen PP, Spreeuwenberg P. 2003.***
Healthy Built and Natural Environment	Air Pollution: Levels of PM 2.5 compared to National Rates. EPA Standard of is µg/m3 daily max.	6.16 µg/m3 8th %ile Nationwide	6.2 µg/m 9th %tile Nationwide [29]	Increased exposure to PM 2.5 is associated with detrimental cardiovascular outcomes, including higher blood pressure and heart disease. Traffic related noise and air pollution is associated with cardiovascular and respiratory diseases, including asthma. ***Lourens PF, Vissers JA, Jessurun M. 1999.***
	Noise levels	35 dB - 65 dB[30]		Environmental noise damages human health, particularly at night when it can interrupt sleep. The WHO suggests reducing average noise levels of road traffic below 53 dB. At night, 45 dB of road traffic noise was recommended. [31]

17 All Primary Jobs within 1/2 mile of the I-405/85th St. BRT Station. Source: Longitudinal Employer-Household Dynamics, 2017. Accessed 3/11/2020 from lehd.ces.census.gov/
18 All Primary Jobs within King County. Source: Longitudinal Employer-Household Dynamics, 2017. Accessed 3/20/2020 from lehd.ces.census.gov/
19 ACS 2018 Estimates
20 ACS 2017 Estimates
21 2016 Data from the Washington State Department of Health. https://www.kingcounty.gov/depts/health/data/~/media/depts/health/data/documents/city-health-profiles/City-Health-Profile-Kirkland-2016.ashx
22 2015 Data Collected by the Robert Woods Foundation. Accessed 3/20/2020 from https://www.opendatanetwork.com/entity/0500000US53033/King_County_WA/health.health_behaviors.adult_obesity_value?year=2015
23 https://svi.cdc.gov/prepared-county-maps.html
24 2018 CDC Social Vulnerability Index
25 Life Expectancy at Birth, Both Sexes, 2014. Accessed on 3/23/2020 from https://vizhub.healthdata.org/subnational/usa/wa/king-county
26 Average of Lake Washington High School and Rose Hill Elementary School rates for free and reduced lunch students. Source: NCES, 2018 Accessed 3/20/2020 from https://www.greatschools.org/washington/kirkland
27 The 2017 County Health Rankings used data from 2014-2015 for this measure. Accessed 3/20/2020 from https://www.countyhealthrankings.org/app/washington/2017/measure/factors/65/data
28 The Trust For Public Land. 2018 Park Serve Report. https://parkserve.tpl.org/mapping/index.html?CityID=5335940
29 Source: https://ejscreen.epa.gov/mapper/
30 National Transportation Noise Map. http://maps.bts.dot.gov/arcgis/apps/webappviewer/index.html
31 World Health Organization. Environmental Noise Guidelines for The European Region. http://www.euro.who.int/__data/assets/pdf_file/0008/383921/noise-guidelines-eng.pdf?ua=1

Transportation	Walk Score	Norkirk - 55 Everest - 50 North Rose Hill - 43 Highlands - 30	48[32] (Kirkland)	Walk rates vary from 77 along 85th Ave in Downtown Kirkland and Rose Hill to 30 in Highlands. The lack of pedestrian and bike infrastructure disproportionately affects low income communities who are more likely to depend on walking and biking for transportation and exercise.
	Bike Score	Norkirk - 48 Everest - 50 North Rose Hill - 51 Highlands - 30	50[33] (Kirkland)	Enhancing active transportation infrastructure can lead to an increase in regular physical activity, which in the long term can lead to a decrease in childhood obesity, hypertension and diabetes .
	Commute via Transit	7.6%	13.4%[34]	
	Peds. involved in fatal car accidents per 100k '17-'12	1[35] (Kirkland)	4.37[36]	
Community Economic Development	% Rent versus Own	Rent: 28% Own: 72%[37]	Rent: 39% Own: 61%[38]	Purchasing a home is often the largest financial investment a household will make. Home ownership is a measure of personal and area wealth. Home ownership is the best indicator of accumulated wealth.
Neighborhoods	Median Years Since Householder Moved in to unit	Total 9.4 Own 13.4 Rent 1.7	Total 5 Own 11 Rent 1[39]	Neighborhoods that have higher rates of turnover may experience decreased social cohesion and trust among neighbors. Residential instability may also indicate displacement, which can occur for a variety of reasons including cost of living and Job relocation.
Community and Public Safety	Crime Incident Rate per 100,000 people	112.47[40] (Kirkland)	361[41]	

32 Walk Score Rates for Kirkland. Accessed on 3/23/2020 from https://www.walkscore.com/WA/Kirkland

33 Walk Score Rates for Kirkland. Accessed on 3/23/2020 from https://www.walkscore.com/WA/Kirkland

34 2018 American Community Survey

35 http://www.city-data.com/accidents/acc-Kirkland-Washington.html

36 Road Services Division 2017 Collision Data Report. Accessed 3/24/2020 from https://www.kingcounty.gov/~/media/depts/transportation/roads/traffic/2017KingCountyCollisionDataReport.ashx?la=en

37 2018 American Community Survey

38 2018 American Community Survey

39 2018 American Community Survey

40 2018 Data from the FBI Uniform Crime Reporting Program, Accessed on 3/23/2020 from https://www.macrotrends.net/cities/us/wa/kirkland/crime-rate-statistics

41 2014 Data from the FBI Uniform Crime Reporting Program, Accessed on 3/23/2020 from https://www.opendatanetwork.com/entity/0500000US53033/King_County_WA/crime.fbi_ucr.rate?crime_type=All%20Crimes&year=2018

Priority Equity Issues

Based on the assessment, several priority equity issues were identified for consideration in the SAP. The baseline equity assessment includes a scan of indicators across determinant categories. Many are not factors that can be significantly influenced by the SAP project in the short or mid-term, however, an expansive scan is important to identify key areas of disparity or concern when compared to the surrounding community.

Research shows that between 50-70% of what determines each person's length and quality of life relate to the physical, social, and economic environment and behaviors.

The priority issues are intended to focus around equity and health determinants in the built environment and areas that the SAP can influence, that have been proven to increase equity and health opportunities.

Priority health equity issues for the SAP include Community Resilience, Jobs & Housing Equity, Park Accessibility and Mobility, Air Quality and Noise. These issues should be prioritized during preliminary concept and alternatives development, especially with priority marginalized populations in mind.

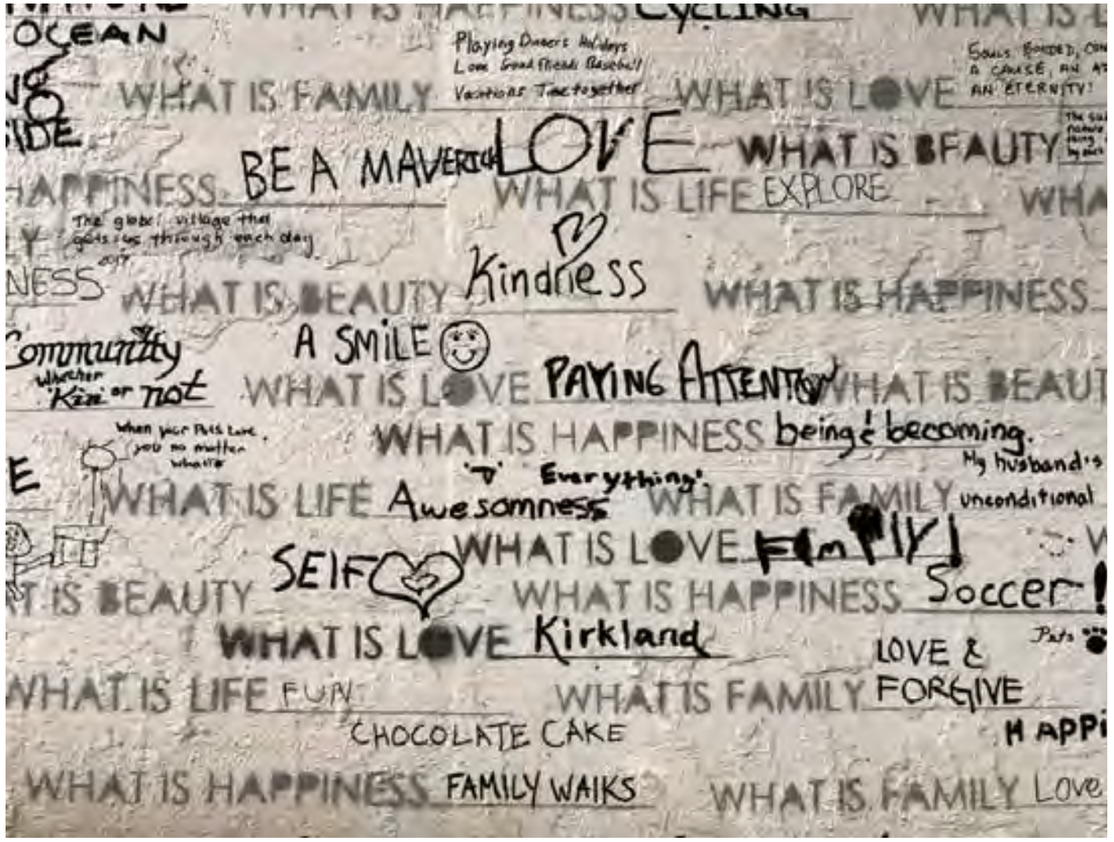
As strategies develop around the priority equity issues, a corresponding set of action indicators will be developed to set goals and track progress through evaluation.

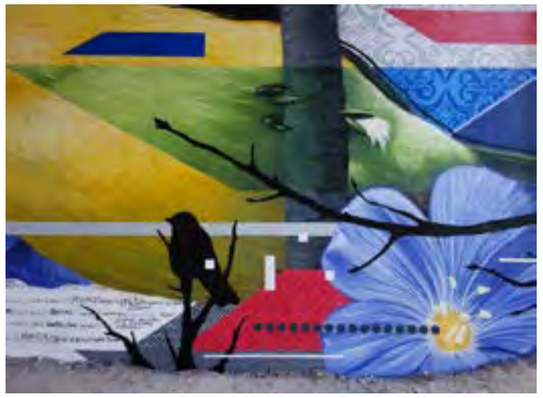
COMMUNITY RESILIENCE

JOBS & HOUSING EQUITY

PARKS & MOBILITY

AIR QUALITY & NOISE





Cross Kirkland Corridor Art Installations

Community Resilience

Community resilience is the sustained ability of a community to respond to, withstand, and recover from adverse situations. Like the Determinants of Equity, both the socioeconomic and physical environment are factors for resilience. The COVID-19 pandemic has brought resilience to the forefront as we consider how communities and the physical environment contribute to the spread of infectious disease, as well as how they support essential health needs.

The Center for Disease Control's social vulnerability index gauges how communities might fare in the face of natural or man-made disasters or emergencies, including infectious disease outbreaks. Socioeconomic factors that may increase the risk of infectious disease transmission and the severity of outcomes include a high uninsured population, a large senior population, and a high incidence of respiratory disease. The Station Area has an extremely low uninsured population, with only 1.7% of residents lacking insurance compared to the County wide average of 5.3%. In addition, it is only 10 minutes by car from Evergreen Health Center, an essential first line in assisting the community in containing and combating infectious disease. The socioeconomics and demographics of the residents in the Station Area result in a low vulnerability score.

In addition, King County's COVID-19 Vulnerable Communities Data Tool[1] highlights areas with high concentrations of individuals at higher risk for COVID-19, including older adults, people with conditions like heart disease, diabetes, and lung disease, and pregnant women. In addition, they describe potential proxy measures to describe having insufficient resources to prepare for or be resilient to the spread of infectious diseases including lack of health insurance, low income, and caregivers without assistance in day to day support raising a child. Both the CDC and King County identified low rates of vulnerable populations in Kirkland. However, the current built environment has several key challenges that may reduce community resilience. These include a significant level of commuting and travel, low access to parks, a poor environment for walking and biking, and lack of community gathering places. The relatively high daytime population density of 5821 people per square mile, and the large amount of commuting, with 89% of residents leaving, and 34,250 employees commuting into Kirkland to work every day may increase risk of transmission between Kirkland and the surrounding area. Residents of the Station Area are 95% more likely to spend money on travel than the average US citizen, which could increase the of exposure for Kirkland residents to national or international infectious disease outbreaks[2].

The predominant suburban development pattern and lack of community gathering places results in extremely limited daily opportunities for people to interact. This lack of social interaction and cohesion can present significant risks in case of emergency, because neighbors often become the de facto 'first responders' in crisis. During the Chicago 1995 heatwave, a community with an intact public realm and cohesion had one-tenth the death rate than a neighboring, auto-oriented community with nearly identical demographics. The Station Area has low access to parks, especially compared to the rest of the city. When combined with the poor environment for walking and biking and significant physical barriers, both residents and employees have very limited opportunities for safe physical activity and exercise or easy access to grocery and health facilities.

The planned regional Transit Station and Station Area Plan present significant opportunities to improve many of these conditions in the physical environment and, as a result, capacity for community resilience.

1 https://www.communitiescount.org/covid19vulnerable

2 https://www.fastcompany.com/90479231/9-maps-that-show-which-areas-could-be-more-vulnerable-to-the-covid-19-pandemic

Kirkland hospital locations

CDC Social Vulnerability Index.
Source: https://svi.cdc.gov/Documents/CountyMaps/2016/Washington/Washington2016_King.pdf

Jobs & Housing Equity

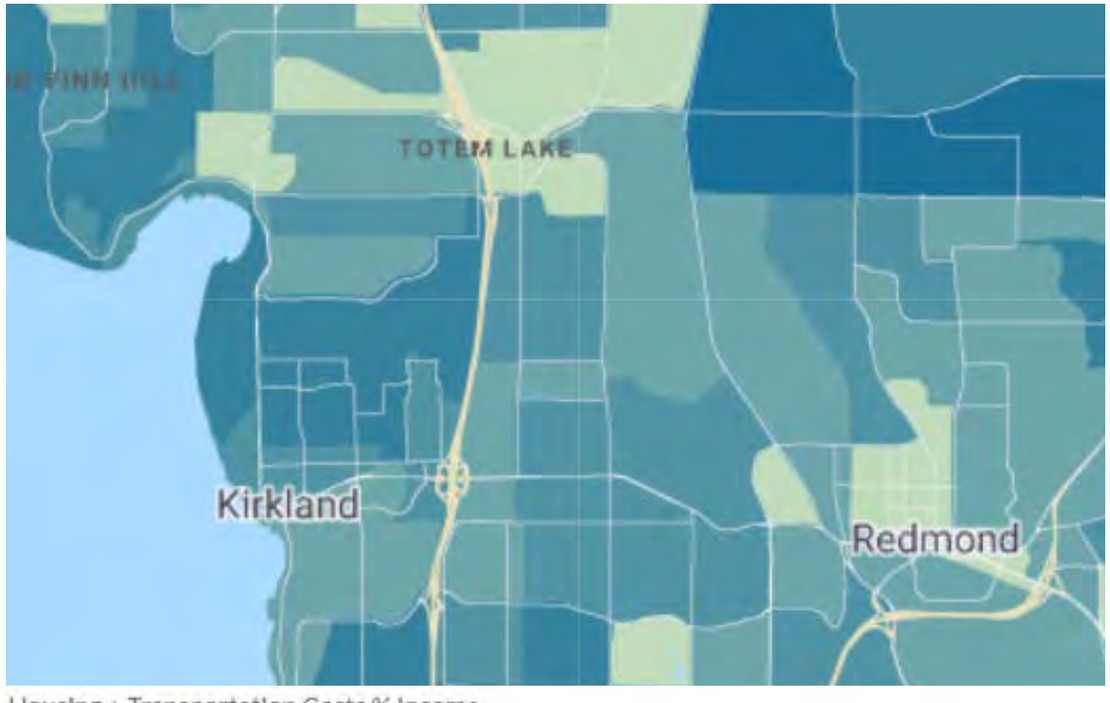
Why is Housing an Equity Determinant? Housing cost is the largest expenditure for most households. High housing cost can restrict access for all to neighborhoods with high performing schools, convenient jobs, accessible civic spaces, and active transportation infrastructure. This can reduce the socioeconomic diversity of a neighborhood, limit the educational opportunities accessible to youth from low income households, and influence the health of working families who are forced to live further from parks or in areas without sufficient bike and pedestrian infrastructure. Households that pay a high percentage of their income for housing have less money for essentials such as food, and health care costs. Unaffordable housing can put individuals and families at risk for homelessness. Decreasing the number of households that are cost burdened can increase the personal capital necessary to thrive.

Initial analysis shows that Housing Costs in the Station Area are 50% higher than the King County average. This could limit the families who are able to attend Kirkland's high-ranking schools and take advantage of the City's premier civic spaces. High housing costs

Residential Area In Highlands Neighborhood

may lead to long commute times for working families seeking access to jobs in Downtown Kirkland, Totem Lake and the Everest High Tech/ Industrial Area. The American Community Survey reveals that 48% of Station Area employees make under $40,000, while only 6% of Station Area residents make under $40,000. This finding suggests a poor match between housing and job opportunities.

A household is defined as cost burdened if they spend more than 30% of their income on housing costs, or more than 50% of their income on housing and transportation costs combined. Analyzing the combined expenditures on housing and transportation also acknowledges the increased cost burdens on households who are priced out of convenient locations. Analysis of the Housing and Transportation Index, which is built on 2015 ACS data, demonstrates that households in the Station Area spend an average of 54% of their income on Housing and Transportation, compared to 50% County wide. This demonstrates a slight cost burden and implies significant commutes in addition to high housing costs for residents.



Source: https://htaindex.cnt.org/map/

Park Accessibility and Mobility

Why is Park Accessibility a Determinant of Equity? Open space and natural areas have direct effects on physical and mental health. Access to places for physical activity combined with outreach and education can produce a 48% increase in the frequency of physical activity. Evidence also shows that contact or views of the natural environment can improve cognitive function and reduce stress.

Kirkland provides world class parks and public spaces, which contribute to an extremely high park accessibility rating: 92% of Kirkland residents citywide live within a 10-minute walk of the park. However, within the Station Area only 69% of residents are within walking distance from the parks, which is a significant disparity and can be an additional burden for households without a car. Although not measured with park accessibility scores, there are also many employees within the Station Area who may lack access to open space or trails during breaks.

The Kirkland park system currently provides a variety of different services and amenities at its various locations. Many Kirkland residents and visitors opt to drive to the City's premier facilities on Lake Washington or Peter Kirk Park. In Council Interviews, it was suggested that a Parks Shuttle connecting the I-405 / NE 85th St BRT to Kirkland's parks could be an opportunity to ensure equitable access to outdoor recreation and exercise facilities for residents and visitors alike.

Source: https://www.tpl.org/parkscore

Mobility and Active Transportation
Why is Mobility a Determinant of Equity? Environments that support walking, biking and transit trips as an alternative to driving have multiple potential health benefits. In addition, motor vehicle emissions contribute to predominant sources of fine particulate air pollution (PM2.5), which is associated with detrimental cardiovascular outcomes, including increased risk of death from ischemic heart disease, higher blood pressure, and coronary artery calcification. Mobility affords access to services, education, jobs, and opportunities to support positive outcomes.

The auto-dominated and poor pedestrian and bicycle environment can be seen in WalkScores that range from 30 in Highlands to 55 in Norkirk. Significant east-west barriers exist, and the blocks immediately adjacent to the I-405 and NE 85th St interchange are poorly lit and lack natural surveillance, leading to a concentration of property crimes in this area. In the past six months, there have been eight counts of vandalism and four counts of motor vehicle theft in this area in addition to other crimes. Safe and convenient pedestrian and bicycle routes provide access to essential health needs including parks, groceries, and health care. They also provide access to opportunities including jobs and education, and can reduce household cost burdens of commuting. Improving pedestrian and bicycle connections and safe infrastructure is fundamental to equity for the Station Area. Implementing basic Crime Prevention Through Environmental Design (CPTED) principals could reduce the likelihood of future crimes. Principles include improved lighting, increased public activity to provide 'eyes on the street', and providing consistent maintenance of the underpass and adjacent pedestrian approaches.

Air Quality and Noise

Why is Air Quality an Equity Determinant? Increased exposure to PM2.5 is associated with respiratory cancers, higher blood pressure and heart disease. Traffic related noise and air pollution is associated with cardiovascular and respiratory diseases, including asthma. The Federal Government recognizes the harmful effects of diesel emissions, known as diesel PM 2.5, but it does not cap them.

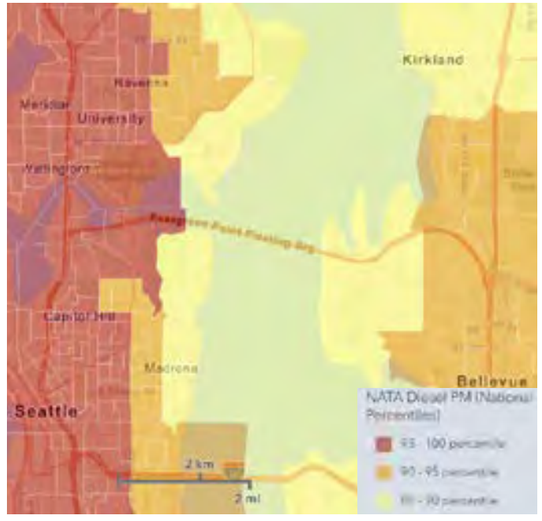
Research shows air pollution can be an aggravating factor for respiratory pathologies including asthma and COPD. Preliminary research from the University of Bologna and the University of Bari is finding a potential correlation between levels of PM 2.5 and PM 10 air pollution and transport of viruses. They hypothesize that certain particles very present in polluted areas of Wuhan, Lombardy and Emilia-Romagna could function as a vector for COVID-19. These initial findings are based on scientific literature that shows that PM 2.5 can transport many chemical and biological containments, including viruses, and allow them to propagate over long distances.

Residents of the Station Area are exposed to the health risks of exposure to PM 2.5 due to the study area's location along a freight route and interstate. Modeling of particulate matter present due to diesel emissions conducted by the EPA places Kirkland in the 8th percentile nationwide. However, these pollutants are present in much higher quantities adjacent to freeways, leading to increased exposure along the I-405 Corridor. However, urban design interventions have the potential to affect change in the cancer risk of the community through:

- Constructing roadside vegetation barriers, which filter air pollutants and act as a 'Green Lung'
- Installing noise barriers to disperse particulate matter
- Locating public parks and green spaces in areas buffered from the freeway by natural or man made barriers
- Placing building ventilation air intakes in protected areas

Why is Noise an Equity Determinant? Studies referenced by the WHO indicate that the risk for noise induced hearing impairments increase when noise is over 70dB . Environmental noise can damage human health below these levels through disturbing concentration or interrupting sleep and has been shown to affect school performance, stress levels, and cardiovascular health.

The study area's adjacency to a freeway increases the noise levels of adjacent sites. The WHO suggests reducing average noise levels of road traffic below 53 dB and 45 dB at night. Appropriate usage of noise barriers and vegetated buffers, as recommended in the WSDOT I-405 Urban Design Criteria, can reduce the noise levels in the parcels surrounding the station significantly. Given that the existing noise levels along I-405 can reach up to 85 dB, and noise levels along NE 85th St can reach 70 dB, it is important to consider noise mitigation methods along major thoroughfares throughout the corridor.



Source: https://ejscreen.epa.gov/mapper/

	Themes	Relevance to SAP	Extents
WSDOT I-405/SR 167 Corridor Program	Long term vision to address Interstate 405's congestion problems. Major features include two new lanes in each direction, a managed lanes system, local street improvements, transit improvements (including Bus Rapid Transit system), and bicycle and pedestrian improvements. Includes urban design guidelines for the corridor.	Masterplan includes an innovative triple decker interchange that will replace the I-405/NE 85th Cloverleaf. Improvements will maintain an at-grade under crossing of I-405 at NE 85th and create a new second level for HOV lanes, bike and pedestrian traffic, and bus traffic.	Within the I-405 WSDOT ROW
Sound Transit I-405 Bus Rapid Transit	This project establishes Bus Rapid Transit (BRT) from the Lynnwood Transit Center to the Burien Transit Center via I-405 and SR 518. The project relies on the I-405 express toll system where available, including through Kirkland Approved by voters as part of the ST3 package.	Includes design and construction of the BRT station with the new I-405/NE 85th St Interchange, which will support frequent transit service connecting Kirkland to Bellevue and Tukwilla, and from there to the Link Light rail to Seattle, SeaTac Airport, and eventually Tacoma and Everett.	I-405 from Lynnwood Transit Center to Burien Transit Center
Kirkland 2035 Comprehensive Plan	Community Character, Environment, Land use, Housing, Economic Development, Transportation, Parks and Recreation, Public Utilities, Public Services, Human Services, Capital Facilities, Implementation Strategies, Neighborhood Plans		All of Kirkland, Inc. 2011 annexation
Vision Statement	We are a vibrant, attractive, green and welcoming place to live, work and play. Civic engagement, innovation and diversity are highly valued. We are respectful, fair, and inclusive. We honor our rich heritage while embracing the future. Safe, walkable, bikeable and friendly neighborhoods are connected to each other and to thriving mixed use activity centers, schools, parks and our scenic waterfront. Convenient transit service provides a viable alternative to driving. Diverse and affordable housing is available throughout the city. Kirkland strives to be a model, sustainable city that values preserving and enhancing our natural environment for our enjoyment and future generations.		
Goals	Livable: High Quality of Life, Diverse and Affordable, High quality Community Design. Sustainable: Ecologically, Economically and Socially. Connected: Sense of Community , Accessible, Technology		
Future Trends	Aging population and Workforce, increasing ethnic and cultural diversity, increase demand for MF housing due to increasing housing costs, changing technology, climate change resulting in increasing use of alt energy sources, demand for more transportation options, maintaining aging infrastructure	The SAP endeavors to address these predicted trends and help Kirkland grow in a smart and inclusive fashion.	
Community Character	Public Policy should help to build a strong community through: Providing open spaces, trails, and recreation; supporting formal and informal community organizations; encouraging citizen participation. Plans should accommodate change in a way the maintains and strengthens Kirkland's livability, natural environment, and neighborhood identities.	The SAP will explore opportunities for new open spaces and create connections to existing facilities. Engagement and participation has been integrated into every phase of the SAP planning process.	
Environment	Development regulations to protect critical areas and maintain their ecological function and value are required by The Growth Management Act. Tree Code aims to increase citywide tree canopy to 40%. Green Building Program encourages new homes to be built to LEED for Homes and Built Green standards. The Climate Protection Action Plan provides goals for reductions in green house gas emissions.	Protection of Critical Areas and opportunities to preserve and expand Kirkland's Tree Canopy are further explored in this report and will be addressed in the SAP. Additional methods to encourage green building techniques will be explored. Alternatives will be analyzed to evaluate which path forward provides the greatest reduction in GHG emissions, among other considerations.	
Land use	Preserving existing community character while accommodating the predicted +8,361 housing units and +22,435 jobs (between '13-'35) will be a major challenge. The city is primarily residential; a greater mix of uses is desired to provide employment and diminish congestion and emissions. The growing elderly population has special housing and transportation needs, transit and shops close to home will support this group.	The plan should consider the unique identity of adjacent neighborhoods, and create effective transitions between different land uses. The Comprehensive Plan identifies the area east of the BRT station and along the NE 85th St Corridor for increased commercial development. The SAP will seek to facilitate a greater mix of uses and increased density near transit.	
Housing	Critical housing needs include: adding housing to meet the needs of the growing employment base; Affordable rental units for those earning 0-50% AMI; ownership housing for 80-120% AMI; Provision of housing for residents with special needs (Inc. victims of domestic violence, homeless families, adults with developmental disabilities, and the elderly); increased diversity in housing types including small lot SFD and mid to high housing densities infilled into mixed use areas, and more ADUs.	The SAP will address policies to support additional housing units, including affordable housing. As a transit-oriented neighborhood, provision of affordable housing can increase access to opportunity. A women and family shelter is currently under construction in the station area; the SAP should consider their needs as well.	

Economic Development	Seeks to provide: A sustainable and resilient economy, diverse tax base, access to job opportunities and goods and services for the community. Promotes living wage jobs, exports goods and services and encourages small, start up, locally owned companies to achieve this. Economic growth should be focused in downtown and commercial areas. King County-wide Planning Policies have assigned +22,435 jobs to Kirkland for 2035, for a total of 61,147.
Transportation	Principles: Safely Move People w/ all viable forms of transportation. Link to land use. Be sustainable over the next 50 years. Actively build and maintain partnerships locally, regionally and nationally. Adopts a 'Vision Zero' plan to create a safe, accessible environment for walking and biking.
Parks and Recreation	Parks are key to the character neighborhoods. The 588 ac park system greatly contributes to the quality of life. As the City responds to growth, new investments will be necessary to meet the needs of the community, support youth development, provide options for residents to lead healthy active lives and foster greater social and community connections. To ensure that each person receives access to a constant amount of parks and recreational facilities as the community grows, use the formula Investment per Person= Replacement Value Capital Of Parks & Recreation Inventory / Population
Public Utilities	Utility planning has contributed to a high quality of life for Kirkland residents and businesses by ensuring efficient utility delivery. Kirkland's existing utility infrastructure is generally adequate to meet the growth needs of the City for many years. The City's objective is to meet the needs of the present without compromising the ability of future generations to meet their own needs.
Public Services	Fire, emergency management and police services face the challenge of maintaining an appropriate level of service as growth increases demand. Solid waste garbage and recycling endeavors to encourage recycling and reduce solid waste disposal to lessen the capacity problems of at the regional transfer stations and landfills and to increase recycling diversion. The Lake Washington School District is seeking ways to be flexible and responsive to fluctuating demand for services. Libraries face the challenge of remaining relevant in the face of technological changes and filling the gaps in access for under served communities.
Human Services	Demographic, economic and social changes have dramatically increased the need for health and human services. Diversity and social equity are two important overarching foundations for youth services, senior services and human services. Human Services are essential to supporting other goals and elements of the comp plan.
Capital Facilities	A funded six-year financing plan to pay for transportation, parks, and fire and building capital projects that support existing and future development on the Land Use Map. Contains level of service standards for each type of capital facilities and a 20-year list of transportation projects, many not funded. Establishes that roads, water and sewer facilities must be available concurrent with new development or redevelopment. Establishes policies for implementing sustainable development principles with the design and construction of public facilities.
Rose Hill Neighborhood Plan	A survey shows that proximity to amenities and greenspace are Rose Hill's most treasured characteristics. Residents would like to see future development maintain neighborhood built form, traffic flow and calming improvements, and pedestrian improvements.
Everest Neighborhood Plan	The emphasis is on encouraging a range of residential uses and permitting limited economic activities. Recognizes the trend away from industrial and office uses adjacent to the Cross Kirkland Corridor, and encourages connections to the trail and innovative uses that may benefit from pedestrian and bicycle trail users redevelopment opportunities adjoining the Corridor arise.

As a transit-oriented and well connected neighborhood, the station area is well suited to accommodate a significant portion of Kirkland's housing and employment targets. The SAP will explore economic development potential of the area.		
Safe, intuitive, accessible and appealing walking and biking connections to transit will be a major consideration of the Station Area Plan. The plan will support robust non-motorized access to the Sound Transit BRT transit facility as recommended in the Comprehensive Plan.		
The SAP will highlight opportunities to expand Kirkland's Parks system within its boundaries. Initial analysis suggests that this area is under served by existing facilities and additional investment would help meet Kirkland's goals of providing equitable access to parks. The concept of Investment per person in parks will be valuable in evaluating open space alternatives. The SAP will connect with and build upon Kirkland's trail network. Programming considerations should seek to meet the needs of diverse users, including marginalized communities or those with special needs.		
The SAP will evaluate how to support efficient and sustainable utilities required for potential future development. The SAP will consider how adjustment to the public utilities network can be used as a lever to incentive new development.		
The SAP will assess overcrowding in the Lake Washington School District and explore recommendations to improve conditions. The SAP should also consider how potential future development may affect demand on other public services, and how to support a high level of service for current and future residents.		
The SAP will assess progress towards promoting diversity and social equity using the King County Equity Impact Review tool.		
The concurrency requirements described in this section will be important to consider when designing levers to encourage the desired development types.		
Respondents have shown that their top priorities relate to community greenspaces. The respondents would like to be more informed about transportation infrastructure plans and proposals.	Between Interstate 405 and 132nd Avenue NE bordering Redmond	
Planning participants generally value the low density SFD development in their neighborhood, and identify the east Everest area, which is part of the SAP, as appropriate for slightly higher residential densities. The stormwater aspect of the SAP will consider how to preserve and improve natural streams for drainage and as a neighborhood amenity.	Between the Cross Kirkland Corridor and I-405, and between NE 68th Street and NE 85th Street	

Highlands Neighborhood Plan	Residents value limited vehicle access, convenient walking access to downtown and the neighborhoods many parks, and preserving the tree canopy. Goals include preserving the predominately SFD character, but allow innovative residential development styles when specific public benefits are demonstrated.
Norkirk Neighborhood Plan	Resident priorities include: Maintaining LIT businesses to provide services and job growth and not allowing residential and retail. Improving transitions from industrial to single family with uses like office or multi-family Preserving the Cannery building.
Sustainability Master Plan	Will identify community priorities for environmental, economic, and social sustainability; Explore specific actions that to support the identified priorities; and prioritize action items in an implementation plan.
Transportation Masterplan	Encourages a multi-modal approach to congestion. Transportation decisions should reflect the hierarchy of modes: 1. Walking 2. Biking 3. Transit 4. Motor vehicles
Cross Kirkland Corridor Masterplan	Re-imagines the Corridor as a as a central spine and destination that unites Kirkland's neighborhoods. The corridor will serve a broad range of users providing a wide range of uses including recreation, transportation, the preservation and creation of wildlife habitat, and activating business development and investment.
Missing Middle Housing Code Amendments	Amendments include: parking space reductions for units within 1/2 mile of frequent transit service; design guidelines specific to two and three unit homes,which would replace guidelines which state that they should be consistent with single family homes in bulk, height and scale; allowing lots to be subdivided with no minimum size.

The SAP should consider how development in the station area can support character goals of surrounding areas and provide public benefits. Managing potential traffic will be important to Highlands residents. Additional bike and pedestrian connections in the neighborhood are desired.	North of NE 85th Street, bounded by Interstate 405 to the east and the Cross Kirkland Corridor to the north and west.
Improving transitions from the SAP to adjacent areas is a goal of the SAP. The Cannery is within the proposed SAP boundary, and the Norkirk Plan identifies the Cannery preservation as important to the residents.	Between the Cross Kirkland Corridor on the east, Market Street on the west, downtown on the south, and 20th Avenue, on the north
The SAP will coordinate with ongoing development of the Sustainability Masterplan, and incorporate the priorities that have already been developed into alternatives analysis.	City wide
The plan will consider different options for last mile connectivity to the BRT station, and will incorporate the hierarchy of modes as described in the Comprehensive Plan into alternatives analysis.	City wide
SAP recognizes the Cross Kirkland Corridor as a key asset to the area. Development adjacent to the CKC will seek to enrich masterplan goals of connecting Kirkland, shaping a place unique to Kirkland, fostering a greener Kirkland, and evolving with time.	The Cross Kirkland Corridor and adjacent development, form Woodinville to Bellevue
The Missing Middle Housing Code will be important in informing the approach to encouraging the development of affordable and workforce housing within the Station Area.	City wide

Transportation Analysis

Kirkland 85th Street Station Area Plan Opportunities and Challenges

Prepared for:

City of Kirkland

March 19, 2020

FEHR & PEERS

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Transportation and Greenhouse Gas Emissions

Kirkland is a vibrant, waterfront suburban city in King County. It is approximately 10 miles east of Downtown Seattle, or roughly a 25 to 60-minute drive during peak travel times, and approximately five miles north of Downtown Bellevue, or roughly a 15 to 30-minute drive during peak travel times. Many people commute between Kirkland, Seattle, and Bellevue.

In November 2016, Washington voters approved the Sound Transit 3 initiative, which will provide Bus Rapid Transit (BRT) bus service on Interstate 405 (I-405). This fast, frequent, and reliable service will connect communities from Lynnwood to Burien, including the NE 85th Street Station in Kirkland at the intersection of NE 85th Street & I-405. The infrastructure portion of this project will be delivered in 2024, and BRT will be operational in 2025. The proposed BRT service will arrive every 10 minutes at peak times, connecting riders to future Link light rail stops in Lynnwood, Bellevue, and Tukwila and to other transit service routes in the region. The I-405 BRT builds upon the Washington State Department of Transportation's I-405 Master Plan with roadway improvements for faster travel.

The study area for this Station Area Plan is located east of Downtown Kirkland and a half-mile radius from the planned BRT station. Regional connections to the study area are provided by I-405 and King County Metro transit service. The roadway network includes facilities for pedestrians, bicycles, vehicles, and transit. This report describes the existing types and locations of those transportation facilities. In addition, 10 intersections were analyzed to evaluate existing traffic operations. Results of a traffic safety analysis are also included in this report. **Figure 1** shows boundaries of the study area as well as the study intersections.

Figure 1. Study Area

Source: Fehr & Peers, 2020

Active Transportation Connectivity

Pedestrian Network

The roadway network east of I-405 generally provide better connected sidewalks than those west of I-405. Most roadway segments east of I-405 have sidewalks on at least one side of the street within the study area, but some segments have no pedestrian facilities, as shown in **Exhibit 3.4-2**. West of I-405, there are many gaps in the sidewalk network. In general, areas that are more likely to have higher volumes of pedestrian activity, such as the commercial land uses off NE 85th Street and the area adjacent to Lake Washington High School, have more complete sidewalks. Sidewalk gaps and sidewalks on one side of the street tend to be in more residential settings. The study area also includes a multi-use trail – the Cross Kirkland Corridor (CKC) – which is a 10-foot wide, 5.75-mile crushed gravel trail that extends north-south, connecting the South Kirkland Park & Ride to the Totem Lake Business District. The CKC is part of the Eastrail multi-use corridor, which when completed by adjacent jurisdictions, will be an uninterrupted 42-mile trail network connecting Renton, Bellevue, Kirkland, Woodinville, Snohomish, and Redmond.

Existing sidewalks are on average five-feet wide in the study area, and while most are directly adjacent to vehicle traffic, some have landscape buffers such as along NE 85th Street east of I-405. Wider sidewalks exist near marked crosswalks and along NE 85th Street when sidewalks are present. Kirkland's existing code calls for sidewalks on both sides of almost all streets, indicating that the City intends to provide pedestrian infrastructure along those corridors in the long term. New sidewalks are prioritized based on safety, land use, connection to the Cross Kirkland Corridor trail, other sidewalks and transit, community input, cost, and grant eligibility. [1]

Figure 2 also shows locations that have signalized crossings, Rectangular Rapid Flashing Beacon (RRFB) crossings, and conventional painted crosswalks. Every intersection on NE 85th Street within the study area has a signalized crossing. There are also two RRFBs in the study area – one on 120th Avenue NE between NE 85th Street and NE 90th Street and one on 7th Avenue at the Cross Kirkland Corridor crossing. There are some opportunities to enhance marked crosswalks, such as at NE 87th Street & 114th Avenue NE.

Because the I-405 freeway bisects the study area, a key challenge is a lack of east/west connectivity for pedestrians, exacerbated by the sidewalk gaps and need to cross freeway ramp termini along NE 85th Street. However, there is a non-motorized bridge crossing over I-405 south of NE 85th Street at NE 80th Street. Another challenge for pedestrian travel is topography. While the study area is on a plateau, people walking to the study area from other parts of the City need to navigate hills.

[1] City of Kirkland Transportation Master Plan, 2015

Figure 2. Existing Pedestrian Facilities

Source: City of Kirkland, Fehr & Peers, 2020.

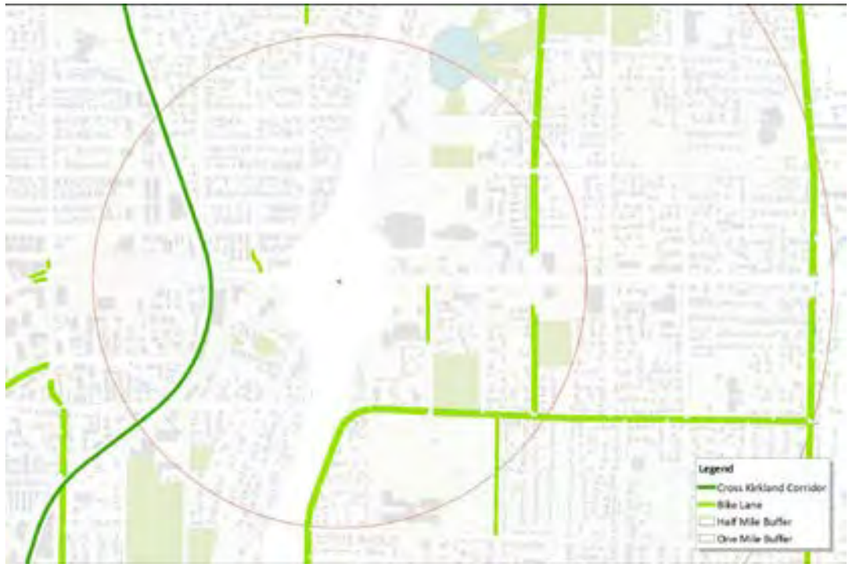
Bicycle Network

Bicycle infrastructure is limited within the study area, as shown in Figure 3. There are currently bicycle lanes on 116th Avenue NE/NE 80th Street, 124th Avenue NE except at the NE 85th Street intersection, and short segments of bicycle lanes on 114th Avenue NE, 120th Avenue NE, and 122nd Avenue NE. The Cross Kirkland Corridor also provides a north-south bicycle connection on the west side of the study area.

The City of Kirkland's 2015 Transportation Master Plan recommends installing a neighborhood greenway along NE 87th Street, NE 80th Street, 116th Avenue NE, and Kirkland Avenue and a bike lane along Kirkland Way. The City of Kirkland is currently updating its 2009 Active Transportation Plan to further address cycling in the area.

Kirkland's challenging terrain means that special treatments for bicycles like runnels should be considered at stairways and steep grades to help cyclists get up and down elevation changes. In addition, connecting the bicycle network gaps with improvements that are comfortable for all ages and cycling abilities would improve the comfort and connectivity of cycling in the study area.

Figure 3. Existing Bicycle Facilities



Source: City of Kirkland, Fehr & Peers, 2020.

Transit Network

King County Metro provides eight public transit routes in the vicinity of the study area (See

Table 1 and Figure 4). Other routes travel along I-405, but do not currently stop in the study area. Most of the transit routes in the study area use NE 85th Street, connecting the east and west sides of the I-405/NE 85th Street interchange, as well as 124th Avenue NE and 6th Street.

Bus stops along NE 85th Street generally have sidewalks in the immediate vicinity, but do not typically have pedestrian scale lighting. About half of the stops along NE 85th Street have bus shelters. There are no bus shelters for routes that travel on 124th Avenue NE, NE 80th Street/116th Avenue NE, 122nd Avenue NE, and NE 87th Street. It currently takes roughly 30 minutes to reach Redmond and 60 minutes to reach Bellevue by transit during the PM peak hour from the center of the study area. Lack of pedestrian or bicycle connections to transit stops and transit frequency in the study area are general challenges for increasing the attractiveness of transit as a transportation mode.

Table 1. Existing Bus Routes

Route	Destinations	Peak Headway (min)	Off-Peak Headway (min)	Corridors Served
KCM 225	Kenmore – Totem Lake – Redmond Technology Station	30 minutes	60 minutes	132nd Ave NE
KCM 230/231	North Creek – Juanita - Kirkland	30 minutes	60 minutes	Central Way, Kirkland Way, 3rd St, Market St. 100th Ave NE
KCM 239	Kirkland – UW Bothell	30 minutes	30 minutes	Central Way, NE 85th St, 124th Ave NE
KCM 245	Kirkland TC – Crossroads - Factoria	12 minutes	30 minutes	NE 70th St, 6th St, Kirkland Way, Central Way, 3rd St
KCM 250	Avondale – Redmond – Kirkland – Bellevue	15 minutes	30 minutes	State St, 3rd St, Central Way, NE 85th St
KCM 255	Totem Lake – Kirkland – U District	6 minutes	15 minutes	6th St, Kirkland Way, Central Way, Market St

Source: King County Metro, March 2020.

Figure 4. Existing Transit Service

Source: King County Metro and Fehr & Peers, March 2020.

Street Network

Functional Classification of Streets

Within the study area, the main north-south roadways are I-405, 114th Avenue NE, 120th Avenue NE, 122nd Avenue NE, 124th Avenue NE, 132nd Avenue NE, and 6th Street. East-west connectivity is provided by NE 85th Street, NE 87th Street, NE 90th Street, and NE 80th Street. Speed limits along the roadways range from 25 miles per hour (mph) to 35 mph with the exception of I-405, which has a speed limit of 60 mph within the study boundary.

NORTH-SOUTH CORRIDORS

- **Interstate 405** is a state highway providing regional access to communities throughout the Eastside. It has five lanes in each direction and is one of two major north-south highways through the Puget Sound.
- **6th Street** is a collector north of NE 85th Street and a minor arterial south of NE 85th Street. It has one travel lane in each direction with turn lanes. The land uses along the corridor are predominantly residential.
- **114th Avenue NE/Kirkland Way** is a collector north of NE 85th Street and a minor arterial south of NE 85th Street. It has one travel lane in each direction with two dedicated southbound left turn lanes that connect to NE 85th Street. The land uses along the corridor are predominantly residential.
- **120th Avenue NE** is a collector that has one travel lane in each direction with turn lanes. The land uses along the corridor are predominantly commercial, including Costco and the Lee Johnson auto dealership.
- **122nd Avenue NE** is a collector that has one travel lane in each direction with turn lanes. The land uses along the corridor are split between residential and commercial, with commercial uses generally found north of NE 85th Street.
- **124th Avenue NE** is a principal arterial north of NE 85th Street and a collector south of NE 85th Street. It has one travel lane in each direction with turn lanes and bike lanes in both direction north of NE 85th Street. The land uses along the corridor are predominantly residential, though there is a shopping center near the NE 85th Street & 124th Avenue NE intersection.
- **132nd Avenue NE** is a minor arterial that has one travel lane in each direction with bicycle lanes on either side of the roadway and dedicated turn lanes. The land uses along the corridor are predominantly residential.

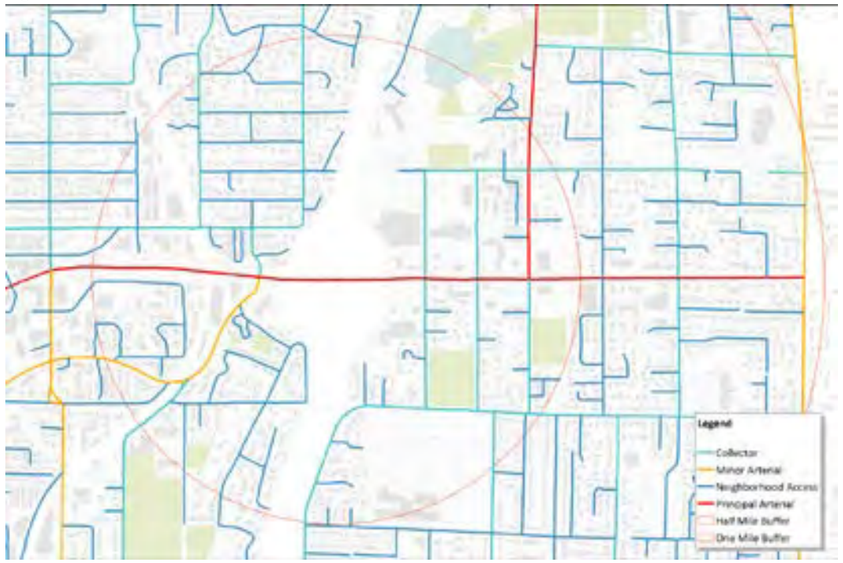
EAST-WEST CORRIDORS

- **NE 85th Street** is a principal arterial that connects the east and west side of the future bus rapid transit (BRT) station. It is generally characterized by two travel lanes in each direction and an additional two-way left-turn lane east of I-405.
- **NE 90th Street** is a collector east of I-405 that has one travel lane in each direction with turn lanes. The land uses along the corridor are predominantly residential, though the western terminus is commercial.
- **NE 87th Street** is a collector west of I-405 that has one travel lane in each direction with turn lanes. The land uses along the corridor are predominantly residential.

- NE 80th Street is a collector that has one travel lane in each direction with bike lanes on both sides of the roadway. The land uses along the corridor are a mix of residential and civic uses, including Lake Washington High School.

Figure 5 shows the street functional classification map for the study area.

Figure 5. Functional Classification



Source: City of Kirkland, Fehr & Peers, 2020.

Study Intersections

Traffic operations could be affected by land use changes in the station area. The intersections most likely to be affected were selected for analysis, as shown in Figure 1. These locations were analyzed during the weekday PM peak hour, which typically represents the most congested traffic conditions. All study intersections are signalized except for NE 87th Street & 114th Avenue NE and NE 90th Street & 120th Avenue NE.

The study intersections are:

1. NE 85th St & 6th St
2. NE 87th St & 114th Ave NE
3. NE 85th St & Kirkland Way/114th Ave NE

4. NE 90th St & 120th Ave NE
5. NE 85th St & 120th Ave NE
6. NE 80th St & 120th Ave NE
7. NE 85th St & 122nd Ave NE
8. NE 90th St & 124th Ave NE
9. NE 85th St & 124th Ave NE
10. NE 85th St & 132nd Ave NE

Intersection level of service (LOS) is a concept used to describe traffic operations from the driver's perspective. LOS is defined by intersection delay in seconds and ranges from LOS A with no congestion and little delay to LOS F with substantial congestion and delay. This study uses PM peak hour average vehicle delay to evaluate LOS at each study intersection.

The City sets a LOS standard for specific corridors of interest in the 2015 Transportation Master Plan. In the study area, NE 85th Street has a standard of LOS E west of I-405 and LOS D east of I-405; 124th Avenue NE has a standard of LOS D north of NE 85th Street. These standards are based on a volume weighted average of all intersections along the corridor. Some study intersections are not located along one of these corridors, so a LOS standard does not apply.

Traffic operations were analyzed using the Synchro 10 software package and Highway Capacity Manual (HCM) 6th Edition methodology. The Synchro network reflects the existing roadway network including segment and intersection geometry, and signal timings. The network also includes existing traffic volumes, including passenger vehicles, heavy vehicles, and pedestrian and bicycle counts which were collected in 2019 and 2020. For signalized and all-way stop controlled intersections, LOS is based on the average delay of all movements. For side street stop-controlled intersections, LOS is based on the movement with the highest delay. Table 2 summarizes the LOS and delay thresholds specified in the Highway Capacity Manual, which is a standard methodology for measuring intersection performance.

Table 2. LOS and Delay Thresholds for Signalized and Unsignalized Intersections

LOS	Signalized Intersections (Delay in Seconds)	Unsignalized Intersections (Delay in Seconds)
A	≤ 10	≤ 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50

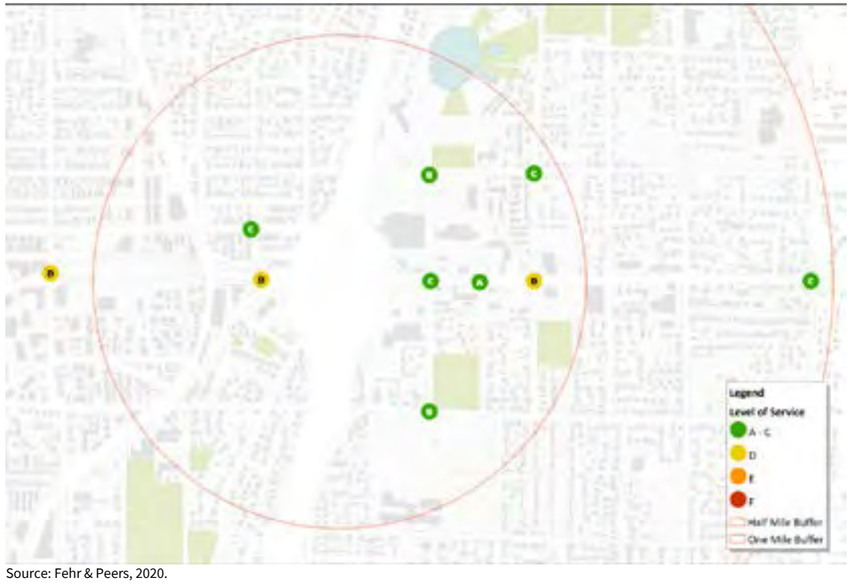
Source: Highway Capacity Manual (Transportation Research Board), 2016.

Table 3. Existing PM Peak Hour Intersection Level of Service and Delay

ID	Intersection	Traffic Control	LOS Standard	LOS/Delay in seconds (Side street approach with highest delay)
1	NE 85th St & 6th St	Signal	E	D / 48.5
2	NE 87th St & 114th Ave NE	Side-street stop	N/A	C / 20.8
3	NE 85th St & Kirkland Way/114th Ave NE	Signal	E	D / 45.2
4	NE 90th St & 120th Ave NE	All-way stop	N/A	B / 10.5
5	NE 85th St & 120th Ave NE	Signal	D	C / 21.9
6	NE 80th St & 120th Ave NE	Signal	N/A	B / 10.7
7	NE 85th St & 122nd Ave NE	Signal	D	A / 6.9
8	NE 90th St & 124th Ave NE	Signal	D	C / 20.5
9	NE 85th St & 124th Ave NE	Signal	D	D / 35.4
10	NE 85th St & 132nd Ave NE	Signal	D	C / 28.3

Source: Fehr & Peers, 2020.

Figure 6. Existing PM Peak Hour Intersection Level of Service



Source: Fehr & Peers, 2020.

and **Figure 6** summarize the existing intersection LOS at the study intersections. None of the study intersections currently fail to meet the LOS Standard.

Table 3. Existing PM Peak Hour Intersection Level of Service and Delay

ID	Intersection	Traffic Control	LOS Standard	LOS/Delay in seconds (Side street approach with highest delay)
1	NE 85th St & 6th St	Signal	E	D / 48.5
2	NE 87th St & 114th Ave NE	Side-street stop	N/A	C / 20.8
3	NE 85th St & Kirkland Way/114th Ave NE	Signal	E	D / 45.2
4	NE 90th St & 120th Ave NE	All-way stop	N/A	B / 10.5
5	NE 85th St & 120th Ave NE	Signal	D	C / 21.9
6	NE 80th St & 120th Ave NE	Signal	N/A	B / 10.7
7	NE 85th St & 122nd Ave NE	Signal	D	A / 6.9
8	NE 90th St & 124th Ave NE	Signal	D	C / 20.5
9	NE 85th St & 124th Ave NE	Signal	D	D / 35.4
10	NE 85th St & 132nd Ave NE	Signal	D	C / 28.3

Source: Fehr & Peers, 2020.

Figure 6. Existing PM Peak Hour Intersection Level of Service

Source: Fehr & Peers, 2020.

Parking

Most of the parking spaces in the study area are located in private, off-street surface parking lots for the associated businesses or residences. These are predominantly located east of I-405. This land use pattern results in large areas of parking separating adjacent land uses. Locations with on-street parking use are not currently subject to parking fees or time limitations. On-street parking in Downtown Kirkland, west of the study area, is free with some locations restricting time limits.

The City's parking requirements for development are established in the Kirkland Zoning Code (KZC) Chapter 105, Chapter 15.40, Chapter 20, Chapter 25, Chapter 30, Chapter 35 and Chapter 40. The required parking spaces in Kirkland include:

- 2 spaces per dwelling unit for attached and detached dwelling units. In most zones, multi-family dwelling units have a variable parking rate based on bedroom-count;
- 1 space per 300 square feet of retail;
- 1 space per 300 square feet of office;
- 1 space per 100 square feet of restaurant;
- 1 space per 200 square feet of medical offices and
- 1 space per each bed in a nursing home.
- Bicycle parking spaces shall be provided in all new development required to provide six (6) or more motor vehicle parking spaces. Exception: single-family and duplex development are exempt from this section.
- Bicycle parking spaces shall be provided at a ratio of one (1) bicycle space for each 12 required motor vehicle parking spaces.

If the code does not specify a parking space requirement for a particular use in a particular zone, the Planning Official shall establish a parking requirement on a case-by-case basis based on demand.

Safety

Crash data for the past five years (January 2015 through December 2019) were evaluated for the study area. WSDOT provided all data for collisions reported to police, including details of the location and any injuries that occurred. The collisions were first associated either with one of the study intersections or one of the major corridors in the study area.

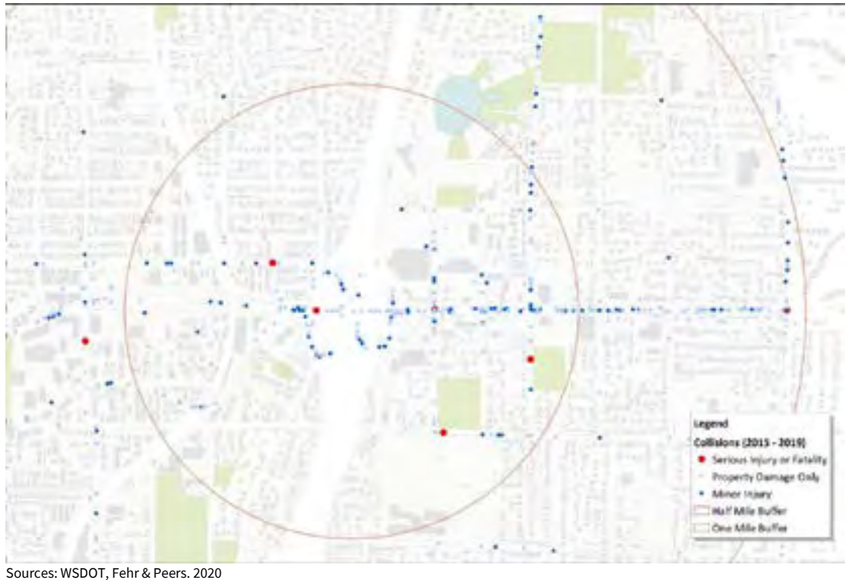
Collisions in the study area, excluding the I-405 mainline, are shown by level of severity (fatal, severe injury, injury and property damage only) in **Figure 7**. There were four serious injury collisions in the study area during the analysis period. One serious injury collision involved a vehicle hitting a cyclist on 124th Avenue NE between NE 85th Street and NE 80th Street. Three serious injury collisions involved vehicles hitting a pedestrian:

- One occurred on NE 80th Street midblock between 120th Avenue NE and 122nd Avenue NE due to pedestrian inattention when crossing the street;

- One occurred at the intersection of NE 85th Street & 120th Avenue NE due to vehicle inattention when turning right; and
- One occurred at the intersection of NE 87th Street & 114th Avenue NE due to vehicle inattention when turning left.

Collisions on I-405 were not considered as part of this analysis because the freeway mainline is not affected by the study area, though collisions on the ramps were analyzed because they could have been influenced by traffic in the study area.

Figure 7. Collision History (January 2015 – December 2019)



Sources: WSDOT, Fehr & Peers. 2020

Existing Policies and Regulations

The state Growth Management Act (GMA), enacted in 1990, requires that all cities and counties of a minimum size prepare comprehensive plans and update those plans at certain intervals. GMA's goals include reducing sprawl and directing growth to areas that already have urban services. Comprehensive plans must show that each city has enough land in appropriate zoning categories to absorb the expected level of growth for 20 years into the future, along with transportation facilities to serve that growth.

WASHINGTON STATE GREENHOUSE GAS EMISSIONS LIMITS

In 2008, the Washington State legislature passed a law requiring that statewide emissions of greenhouse gases be reduced to 1990 levels by 2020 and to 25% below 1990 levels by 2035 (RCW 70.235.020). The State prepares an inventory every two years tracking statewide emissions against the 1990 baseline.

PSRC VISION 2040 AND VISION 2050

The Puget Sound Regional Council (PSRC) is the regional metropolitan planning organization covering King, Snohomish, Pierce, and Kitsap counties. It is governed by elected officials from across the region, and together they have adopted a regional growth strategy called Vision 2040. PSRC is extending the region's growth strategy to 2050, and the updated Vision 2050 is scheduled to be acted on in May 2020. It calls for concentrating population and job growth in designated centers and for using multimodal transit options to connect these centers. Vision 2040 and Vision 2050 also assumes a distribution of growth across the Puget Sound region, with especially large shares of growth going to the cities of Seattle, Bellevue, Everett, Tacoma, and Bremerton. Kirkland is one of 13 cities with regionally designated growth centers that are intended to accommodate a substantial share of future growth. These cities are called Core Cities and contain key hubs for the region's long-range multimodal transportation system, and are major civic, cultural, and employment centers within their counties.

CITY OF KIRKLAND 2019 COMPREHENSIVE PLAN – TRANSPORTATION ELEMENT

The City of Kirkland's Comprehensive Plan Transportation Element was last amended in 2019 and outlines the policies, projects, and programs necessary to implement the City's vision of future mobility over the next 20 years. The Transportation Element references Kirkland's Transportation Master Plan, which develops a vision for the transportation network and land use based on realistic transportation expectations. To achieve a multimodal community where all residents can travel easily, the Transportation Element is guided by nine goals, which are consistent with the regional and countywide goals and policies:

1. By 2035 eliminate all transportation related fatal and serious injury crashes in Kirkland.
2. Complete a safe network of sidewalks, trails, and crosswalks where walking is comfortable and the first choice for many trips.
3. Interconnect bicycle facilities that are safe, nearby, easy to use, and popular with people of all ages and abilities.
4. Support and promote a transit system that is recognized as a high value option for many trips.
5. Provide for efficient and safe vehicular circulation recognizing congestion is present during parts of most days.
6. Create a transportation system that supports Kirkland's land use plan.
7. As the transportation system is planned, designed, built, maintained and operated, provide mobility for all using reasonably assured revenue sources while minimizing environmental impacts.
8. Coordinate with a broad range of groups, public and private, to help meet Kirkland's transportation goals.
9. Measure and report on progress toward achieving goals and completing actions.

CITY OF KIRKLAND 2015 COMPREHENSIVE PLAN – ENVIRONMENT ELEMENT

Developing a green, sustainable and livable community were aspirations expressed during Kirkland's Comprehensive Plan vision process. The City's policies are guided by six environmental goals, two of which are relevant to greenhouse gas emissions:

1. Manage the built environment to reduce waste, prevent pollution, conserve resources, and increase energy efficiency.
2. Target carbon neutrality by 2050 to greatly reduce the impacts of climate change.

The City of Kirkland is currently developing a Sustainability Master Plan, to coordinate all the City's efforts in environmental, economic, and social responsibility.

CITY OF KIRKLAND 2015 TRANSPORTATION MASTER PLAN

This multi-modal plan set forth a new 20-year transportation policy for the City of Kirkland, with its goals and policies serving as the basis for the City's Transportation Element of the Comprehensive Plan. The Transportation Master Plan (TMP) gives context, detail and background to these goals and policies (see the Transportation Element section above for the complete list of goals). The project list in the TMP contains multimodal transportation projects that are added to the City's Capital Improvement Program (CIP) annually. With the expressed purpose of moving people, goods, and services, the City's transportation decisions will reflect the following hierarchy of modes:

1. Walking
2. Biking
3. Transit
4. Motor vehicles

CROSS KIRKLAND CORRIDOR MASTER PLAN

The 2014 Cross Kirkland Corridor Master Plan outlines the community's vision for the trail and is actively being used to guide the development of the trail. The master plan has four goals:

1. Connect Kirkland
2. Foster a greener Kirkland
3. Shape a place unique to Kirkland
4. Activate Kirkland and evolve over time

CITY OF KIRKLAND 2019 TRANSIT IMPLEMENTATION PLAN

In response to increased population and employment growth, the City of Kirkland developed the Kirkland Transit Implementation Plan to improve transit service, speed, and reliability within the City. The transit plan builds upon the goals in the Transportation Master Plan and recommends transit projects based on existing conditions, transit travel demand, and community outreach feedback. The only project recommendation within the study area is a queue jump and signal priority investments on NE 85th Street at 6th Street. The ST3 funding package originally

planned for bus only lanes on NE 85th Street between I-405 and 6th Street, but has evolved into more focused transit priority investments like the queue jump at 6th Street, which will achieve similar transit benefits.

CITY OF KIRKLAND 2009 ACTIVE TRANSPORTATION PLAN

Kirkland's 2009 Active Transportation Plan's goals and policies were incorporated into the City's Transportation Element and Transportation Master Plan. The 2009 plan was focused around eight goals, including:

1. Develop the Cross Kirkland Trail.
2. Reduce crash rates.
3. Add facilities for pedestrians.
4. Increase the number of children who use active transportation to travel to and from school.
5. Improve safety for people crossing streets.
6. Remove physical barriers to walking.
7. Improve on-street bicycle facilities.
8. Make bicycle more convenient.

The City is currently updating its Active Transportation based on the goals and policies from previous plans:

- T-0 Safety: By 2035 eliminate all transportation related fatal and serious injury crashes in Kirkland.
- T-1 Walking: Complete a safe network of sidewalks, trails, and crosswalks where walking is comfortable and the first choice for many trips.
- T-2 Biking: Interconnect bicycle facilities that are safe, nearby, easy to use, and popular with people of all ages and abilities.

KIRKLAND CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) is a multiyear plan with a comprehensive list of capital projects that the City intends to implement over the next six years, including transportation projects. The CIP helps the City fulfill its GMA requirements by implementing the transportation projects needed to support growth. Four projects on the 2019-2024 CIP fall within the study area including:

1. **Neighborhood Safety Improvements**: This project provides intersection improvements on NE 87th Street at 114th Avenue NE including pedestrian refuge, stop signs, new channelization, and parking restrictions. Construction is anticipated to be complete at the end of June 2020.
2. **NE 85th Street/Central Way Street Preservation**: This project provides a grind, patch, modification of wheelchair ramps, and overlay on Central Way/NE 85th Street from Market Street to 114th Avenue NE. Construction is anticipated to be complete in November 2020.
3. **Cross Kirkland Corridor Picnic Pavilion**: This project erects a 576-square-foot pavilion adjacent to the CKC at the site where a Northern Pacific Railway train depot once stood, near Kirkland Way & NE Fir Street. Construction is anticipated to be complete at the end of May 2020.
4. **NE 75th / NE 128th Street Greenway**: This project designs and constructs a greenway network in the area of NE 75th Street, including Kirkland Avenue from Lake Street to NE 80th Street east of I-405, 116th Avenue NE

ECOLOGICAL AND UTILITIES OPPORTUNITIES AND CHALLENGES

Technical Memo prepared by Herrera

This memo was prepared to inform Ecological and Utilities opportunities and challenges for the 85th Station Area Plan. As the I-405/NE 85th Street Interchange and Inline Freeway Station has substantial influence over the station area, review of base materials included the Conceptual Design 15% Interdisciplinary Review Plans as provided to the City of Kirkland by the Washington State Department of Transportation in November 2019.

ECOLOGICAL CONTEXT

Critical Areas

The City of Kirkland (City) regulates activities in critical areas in order to protect human life and property while assuring preservation and protection of the natural environment by ensuring no net loss of ecological functions and restricting incompatible land uses. Critical areas regulations comply with the Washington State Growth Management Act (GMA) and implement the goals and policies of the City's Comprehensive Plan. The City regulates critical areas in accordance with Kirkland Zoning Code (KZC) Chapters 85 and 90 and Chapter 36.70A of the Revised Code of Washington (RCW). KZC defines five types of critical areas: wetlands; critical aquifer recharge areas; fish and wildlife conservation areas, including streams; frequently flooded areas; and geologically hazardous areas. Four critical areas are present within the 1-mile area of influence: wetlands, streams, frequently flooded areas, and geologically hazardous areas. Three critical areas are present within the ½-mile study area: wetlands, streams, and geologically hazardous areas. Development activities in the will adhere to the critical areas regulations described in this report and detailed in KCZ Chapters 85 and 90.

Wetlands

City of Kirkland GIS data (2020) indicates that there are several wetlands present in the study area and area of influence (Figure 1). Per KZC 90.75, the majority, if not the entirety, of the perimeters of Forbes Lake meet the definition of wetlands. The wetlands associated with Forbes Lake are mapped as priority habitats by Washington Department of Fish and Wildlife (WDFW 2020). Priority habitats are those "habitat types or elements with unique or significant value to a diverse assemblage of species"

The City regulates wetlands and requires buffers in accordance with Kirkland Zoning Code (KZC) 90.55.1. Wetland buffer width standards are listed in Table 90.55.1 of the KZC and are based on the wetland category and overall habitat score. Per KCZ 90.55.1, an official wetland determination and critical area report is needed to evaluate the wetland's category and buffer width. The wetland categories and buffers shown on the exhibits in the memorandum are based on a review of available background information. Buffer widths within the study area vary based on wetland category and habitat points. Wetlands associated with Forbes Lake are rated as Category I wetlands which require a minimum 75-foot and maximum 225-foot buffer, depending on habitat score. Category 2 wetlands require at a minimum, a 75-foot buffer and a maximum 225-foot buffer, depending on habitat score. Category 3 wetlands require a 60-foot to 225-foot buffer and Category 4 wetlands require a buffer of 40-feet. In general, the maximum buffer width for wetlands in the study area is 225 feet and the minimum buffer width is 40 feet. See Figure 1 for wetland classes and approximate buffer widths within the study area.

Streams

The City of Kirkland stream rating system (KCZ 90.65) rates streams as Type F (Fish bearing), Np (Perennial non-fish bearing), and Ns (Seasonal non-fish bearing). The City requires buffers from the ordinary high water mark of streams. Buffer width standards are listed in KCZ Table 90.65.1 and assigned according to stream type. The City of Kirkland GIS (2020) flags streams with a Y for the presence of salmon or an N for no salmon present and indicates salmon presence in Forbes Creek where it flows through the area of influence. This portion of the creek is also designated by WDFW as priority habitat for resident Coastal Cutthroat trout

(Oncorhynchus clarki) (WDFW 2020). Per KCZ 90.65.1, Type F streams require a 100-foot buffer. City GIS indicated an unnamed fish bearing stream flowing into the study area west of the Cross Kirkland Corridor Trail between 15th Avenue and 17th Avenue, which also requires a 100-foot buffer. All other streams in the project areas are Type Np or Ns which require a 50-foot buffer. The stream locations and buffers (based on available GIS data on stream type) are shown in Figure 1.

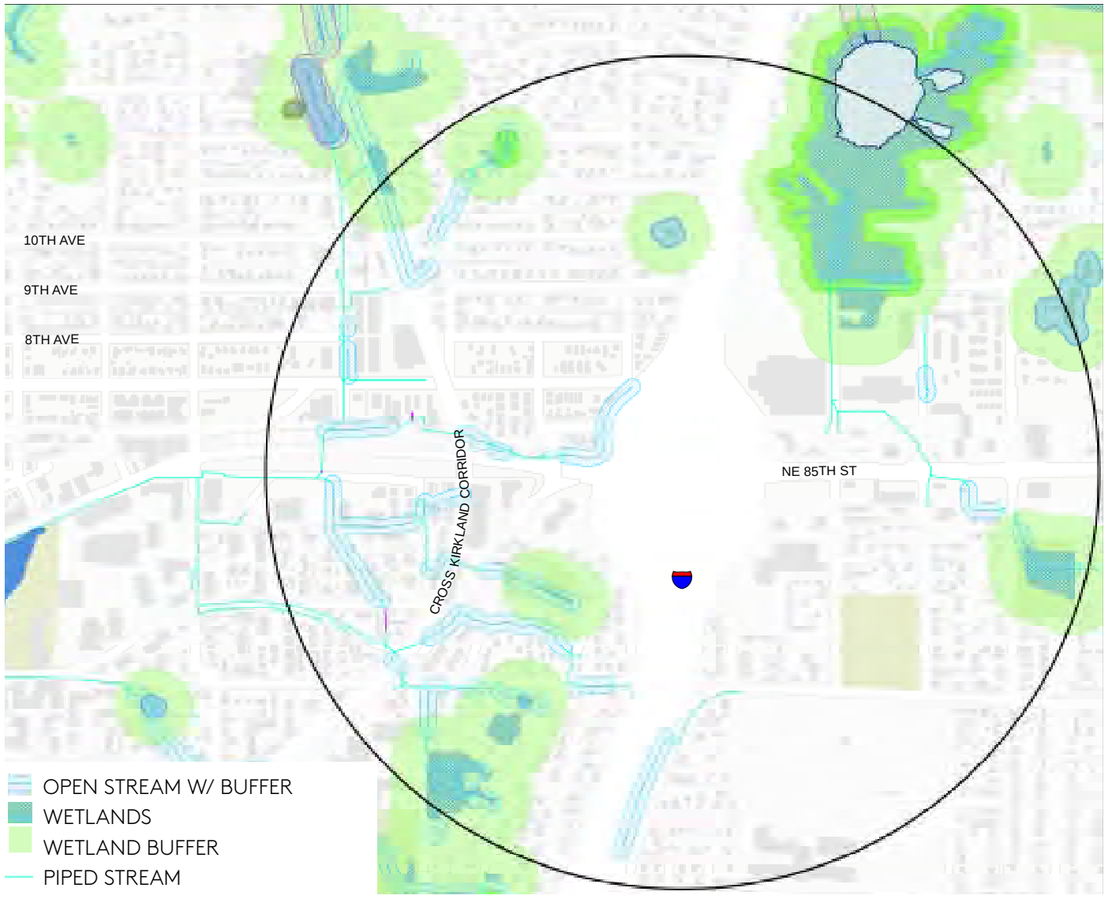
Frequently Flooded Areas

City GIS data (2020) maps a frequently flooded area within the 1-mile radius within the boundaries of Peter Kirk Park, south of Central Way. The City regulates frequently flooded areas in accordance with KCZ 90.100 which states, no disturbance or land surface modification may take place and no improvements or activities may be located in frequently flooded areas that are areas of special flood hazard, except as specifically provided in Chapter 21.56 KMC, Flood Damage Protection.

Shorelines

GIS environmental data downloaded from the City of Kirkland indicates Forbes Lake is within Shoreline Jurisdiction as shown in Figure 1. However, per KCZ 83.510.1c, shoreline provisions do not apply to Forbes Lake. Furthermore, the Final Shoreline Analysis Report for the City of Kirkland's Lake Washington Shoreline states, because Forbes Lake is smaller than 20 acres, it is not subject to regulation under the Shoreline Management Act (The Watershed Company 2006). Per KCZ 83, the study area is not within shoreline jurisdiction.

Figure 1: Critical Areas



Stream Basins and Stormwater Requirements

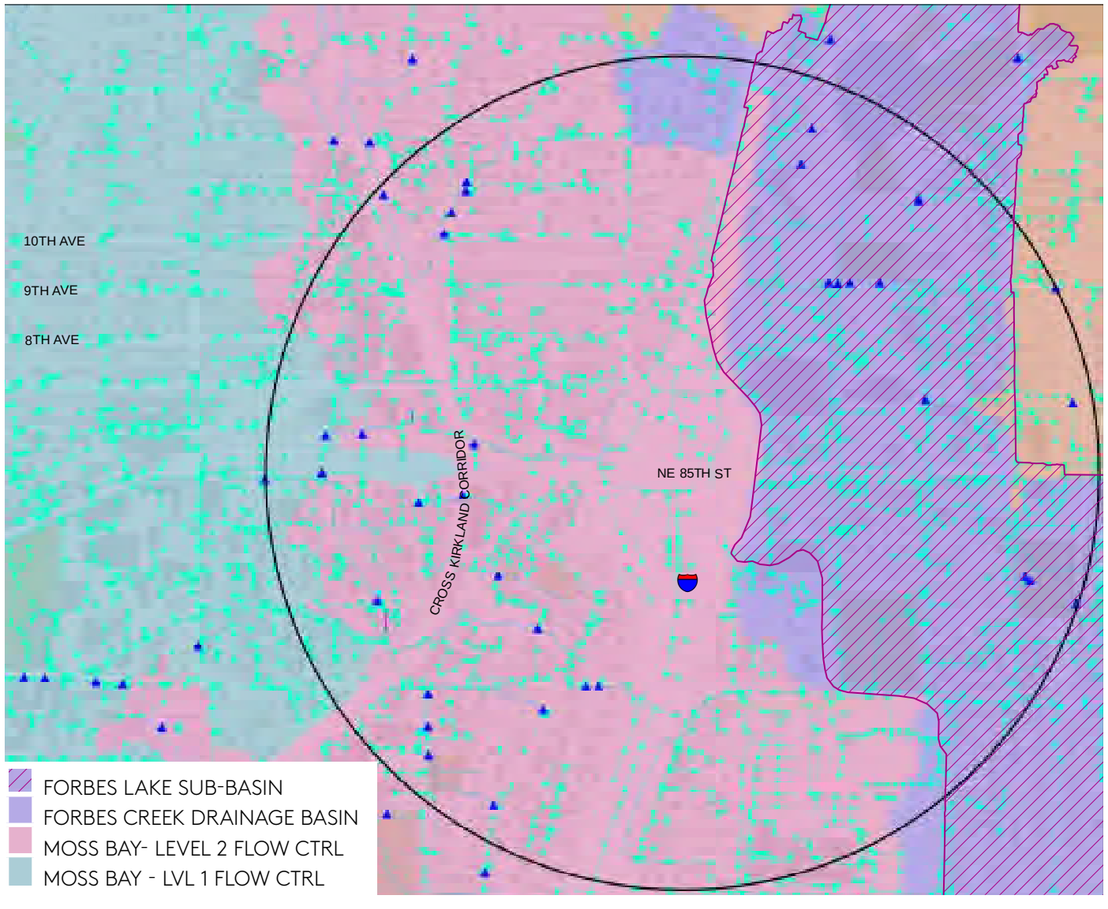
Most of the area of influence can be divided into two drainage basins: the western basin tributary to Moss Bay and the eastern basin tributary to Forbes Creek. These basins are shown in Figure 2.

Moss Bay

The Moss Bay basin is a 1,487-acre basin with over 46% impervious coverage and estimated build-out at over 48% impervious coverage, which is more developed than any other Kirkland basin. The Moss Bay basin occupies 57% of the area of influence and 63% of the study area. Most of the development occurred prior to current stormwater regulations; due to limited space, redevelopment and retrofit opportunities will provide the main opportunity to reduce stormwater runoff in this basin. Soils are primarily fine with poor infiltration potential (Figure 3).

There are 9.3 miles of stream in this basin, including 4.5 miles of piped channel. The open channel segments of streams are primarily manipulated or straightened. There is no viable fish habitat mapped in this basin. As of 2014, two projects had been completed in Moss Bay to stabilize a stream channel and upsize the piping

Figure 2: Stormwater Basins



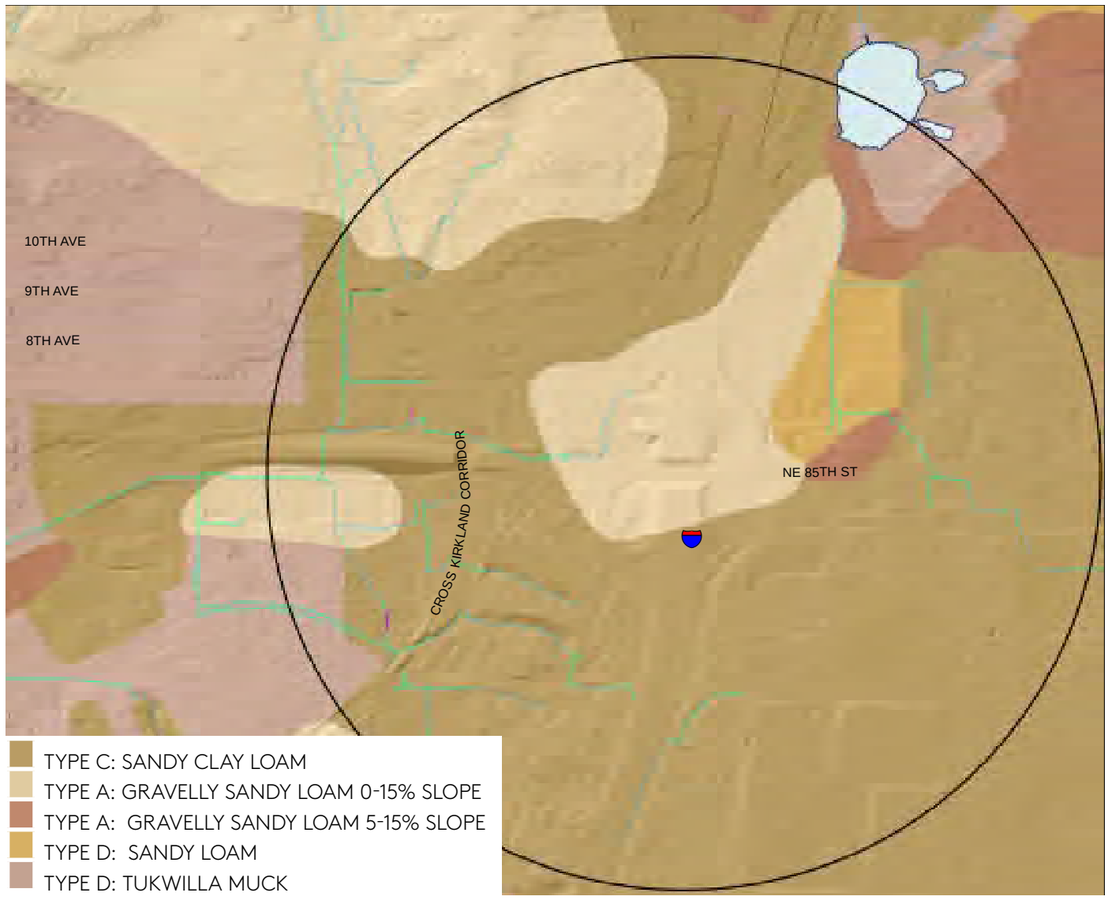
system along Central Way downstream of the study area. Three additional projects are planned, including stabilizing Everest Creek and upgrading old, undersized pipes on Market Street.

Forbes Creek

The Forbes Creek basin is an 1,837-acre basin that is over 60% developed for single family residential use. The Forbes Creek basin occupies 41% of the area of influence and 37% of the study area. Compared to other drainage basins in the City of Kirkland, the Forbes Creek basin has one of the lowest levels of impervious surface coverage, with more wetland coverage than any other basin and 40% forested land use. However, impervious coverage has increased over the past 20 years due to development. As shown in Figure 3, soils are typically classified as Type C (sandy clay loam), which indicates relatively limited potential for infiltration as a stormwater management strategy in this basin. However, soil conditions can vary site to site and any infiltration potential in the basin should be utilized if available.

There are 14.2 miles of stream channel in the basin, including 2.9 miles of piped stream channel as per City of Kirkland GIS mapping. Forbes Creek flows out of Forbes Lake, is crossed by I-405, and then flows west toward Juanita Bay in Lake Washington. Forbes Creek is on the EPA 303(d) list for temperature, dissolved oxygen, pH, ammonia nitrogen, mercury and bacteria. In the past, two water quality projects have been completed to add treatment and address

Figure 3: Soils



sedimentation issues in the basin. Six additional projects are planned to reduce flooding, improve habitat, and remove fish barriers, including a low impact development (LID) pilot project (Kirkland 2015).

Regulatory framework

NPDES Phase II Municipal Stormwater Permit

The Western Washington NPDES Phase II Municipal Stormwater Permit (Phase II Permit) (Ecology 2019) addresses a variety of issues associated with stormwater runoff and requires the City to develop and implement a stormwater management program (SWMP). The Phase II Permit requires the City to integrate LID principles and practices into all enforceable documents, which includes the proposed Subarea Plan, and all development in the area of influence will be subject to the City's Addendum to the 2016 King County Surface Water Design Manual.

City of Kirkland Municipal Code (KMC) and Development Requirements for Stormwater Management

Several sections of the KMC govern aspects of stormwater management on new development, redevelopment, and existing private stormwater facilities and adopts the City's addendum to the 2016 King County Surface Water Design Manual (KCSWDM). The KCSWDM applies to development and redevelopment in the City of Kirkland, including the area of influence, and addresses requirements of the Clean Water Act, the Endangered Species Act, and the Growth Management Act. City's addendum to the KCSWDM includes modifications to organization and processes of the KCSWDM to improve integration with City processes. New development and redevelopment projects within the area of influence will need to meet flow control and treatment requirements of the manual if they exceed certain size thresholds.

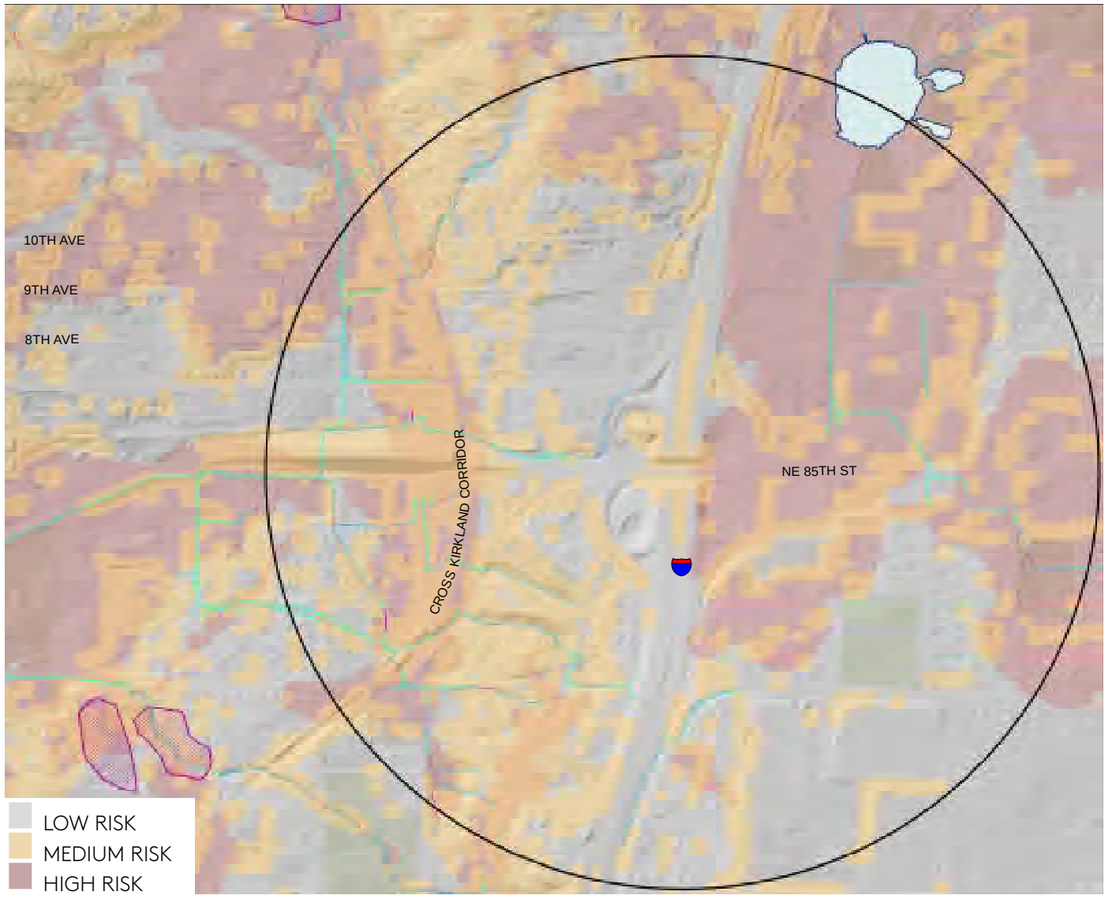
Stormwater requirements differ between basins. Forbes Lake is listed as a Category 5 water body for phosphorus; therefore, projects in the basin need to utilize water quality practices that provide phosphorus treatment. Research conducted by Herrera for the City of Redmond have shown that compost-based water quality facilities such as bio-retention/rain gardens with underdrains can be a source of phosphorus and therefore would not be allowed to be used in the Forbes Lake basin. Most of the study area in the Moss Bay basin and most of that portion of the basin in the study area (94%) drains discharges to mapped streams, and therefore requires Level 2 flow control. The remaining portion of the Moss Bay basin in the study (6%) that drains directly to Moss Bay via pipes is subject to Level 1 flow control requirements. The Level 1 flow control standard requires matching the existing site conditions for the 2- and 10-year peak flows while the Level 2 flow control standard requires matching historic (i.e. forested) flow durations for 50% of 2-yr through 50-year peaks AND matches historic (i.e. forested) 2-and 10-year peaks.

The Federal Endangered Species Act (ESA)

The ESA is intended to protect threatened or endangered species from extinction. The ESA prohibits the "take" of all listed species, including a take that could result from the City's stormwater facility operations or private development stormwater management activities that are permitted by the City. The entire area of influence drains to waters with ESA listed species: Forbes Creek is listed for Chinook and Steelhead Trout, while in Lake Washington and Lake Sammamish are listed for Chinook, Steelhead Trout, and Bull Trout.

Geologically Hazardous Areas
Geologically hazardous areas mapped by the City include landslide areas and areas of liquefaction potential, as shown in Figure 4 Landslide areas are mapped throughout the area of influence, with the majority mapped within the Moss Bay drainage basin, where approximately 15% of the basin is mapped as a slide area. Liquefaction is a phenomenon where saturated or partially saturated soil rapidly loses strength as a result of applied stress, such as an earthquake. Within the study area, a 30-acre area just east of the I-405 interchange is mapped with high liquefaction potential. Development in geologically hazardous areas are subject to additional requirements described in the KZC.

Figure 4: Landslide Areas



UTILITIES
Stormwater

Existing Conditions
The Storm and Surface Water Division of Kirkland Public Works is responsible for managing the City of Kirkland's stormwater system. Within the NE 85th SAP study area, a large portion of the stormwater conveyance is the responsibility of WSDOT along I-405. WSDOT has its own stormwater manual, the Highway Runoff Manual (HRM).
Basins and Infrastructure
The stormwater infrastructure within the 1-mile zone of influence is shown in Figure 2 and Table 1.

Table 1. Stormwater Infrastructure

Infrastructure type	w/i 1/2 mi	w/i 1 mi
NPDES Outfall	37	114
Stream	100	260
Ditch	0	2
Tank/Vault	4	8
Catch Basin	1921	6869
Stormwater Pipe	2426	8377

Known System Deficiencies
Deficiencies in the Forbes Creek basin are related to water quality and fish habitat. Forbes Creek is on the EPA 303(d) list for temperature, dissolved oxygen, pH, ammonia nitrogen, mercury and bacteria, and high levels of phosphorus are a concern in Forbes lake. Additional concerns in the basin include sedimentation, flooding, and fish passage barriers and a regional detention facility has been proposed for the basin. Deficiencies in the Moss Bay basin are related to local flooding and lack of conveyance capacity. Due to the significant amount of impervious area in the basin developed prior to current stormwater regulations, downstream flooding occurs during large storm events. The 72-inch diameter storm main along Central Way lacks capacity (Gray and Osborne, 2004). Peter Kirk Park is used as a detention storage area for stormwater during peak events and is mapped as a floodplain.

Interchange Design Plans and Conceptual Hydraulic Design Summary
The Conceptual Design 15% Interdisciplinary Review Plans (WSDOT Plans) and Conceptual Hydraulic Design Summary (WSDOT hydraulic report) for I-405/NE 85th Street Interchange and Inline Freeway Station (WSDOT 2019) the discuss the hydraulic design of the stormwater flow control and water quality treatment for the I-405/ NE 85th Street Interchange and Inline Freeway Station. The study area is divided into six threshold discharge areas (TDAs) that drain either to Lake Washington or Forbes Creek and require treatment or flow control facilities to address increases in impervious area.

Water

Existing Conditions
Potable water is purchased by the City of Kirkland from Seattle Public Utilities (SPU) through the Cascade Water Alliance (Cascade). Cascade is an association of five cities and two water and sewer districts in Puget Sound that have partnered to supply water to over 380,000 residences. The Kirkland Water Division operates and maintains the City's water infrastructure. In 2013, average water usage for the entire Kirkland system was 5.3 million gallons per day.

SPU performs monitoring, treatment, and enforces a watershed protection plan for Kirkland's surface water sources, which include the South Fork Tolt River Watershed and the Cedar River Watershed. The Tolt River Watershed is the primary supply but is occasionally supplemented with water from the Cedar River Watershed. SPU supplies Kirkland through three metered supply stations located near the eastern edge of the Kirkland service area at:

- NE 69th Street and 140th Avenue NE
- NE 85th Street and 132nd Avenue NE
- NE 116th Street and 231nd Avenue NE

SPU serves all three stations from the Tolt Eastside Supply Line, which is an older large-diameter pipeline that is above grade or suspended in many places and noted as seismically vulnerable in the City's Seismic Vulnerability Analysis and Earthquake Response Plan. The study area is included in pressure zones 285, 315, 450, 510, 545, and 650. Kirkland has a manually operated intertie at Northrup Way between the 285 zone and Bellevue's 400 zone, which would benefit the 285 zone in a seismic emergency.

Within the 510 pressure zone located within the study area, the only transmission of water to this pressure zone is an 8-inch distribution main. A portion was constructed in 1970 of asbestos cement, and the remainder was constructed in 1943 of cast iron. This main was recommended as a capital improvement in the Seismic Vulnerability Analysis and Earthquake Response Plan. There are two reservoirs, three pump stations, and 36 pressure control stations in the City of Kirkland's system. One pump station is located at the eastern edge of the 1-mile Area of Interest, and multiple pressure control stations are located within the study area.

The mapped water mains in the study area include a 24" diameter ductile iron distribution main that runs along NE 85th Street across the intersection of I-405; it is the only main within the study area that crosses I-405. This main was originally constructed in 1960 as a 16-inch concrete pipe and was flagged in the Seismic Vulnerability Analysis and Earthquake Response Plan as a critical vulnerable main. It appears that a portion of the main was replaced, but 16-inch concrete distribution main is still mapped for a small portion of the study area west of I-405.

The City's CIP project list indicates that there are two water system capital improvement projects planned within the area of influence:
126th Avenue NE Water main Improvement (126th Ave NE from NE 70th Street to NE 80th Street; replace approximately 2,600 feet of 8-inch asbestos concrete pipe with 2,600 feet of 8-inch ductile iron water main)
5th Avenue S/8th Street S Water main Replacement (5th Ave from 6th Street S to 8th Street S/8th St from 5th Avenue S to Kirkland Avenue; replacement of approximately 2,170 feet of 6-inch asbestos concrete with new 16-inch ductile iron pipe along 5th Avenue S, between 6th Street S and 8th Street S and on 8th Street S, between 5th Avenue S and Kirkland Avenue)

Infrastructure
The water infrastructure within the area of influence are shown in Figure 5 and Table 1.

Table 2. Water Infrastructure

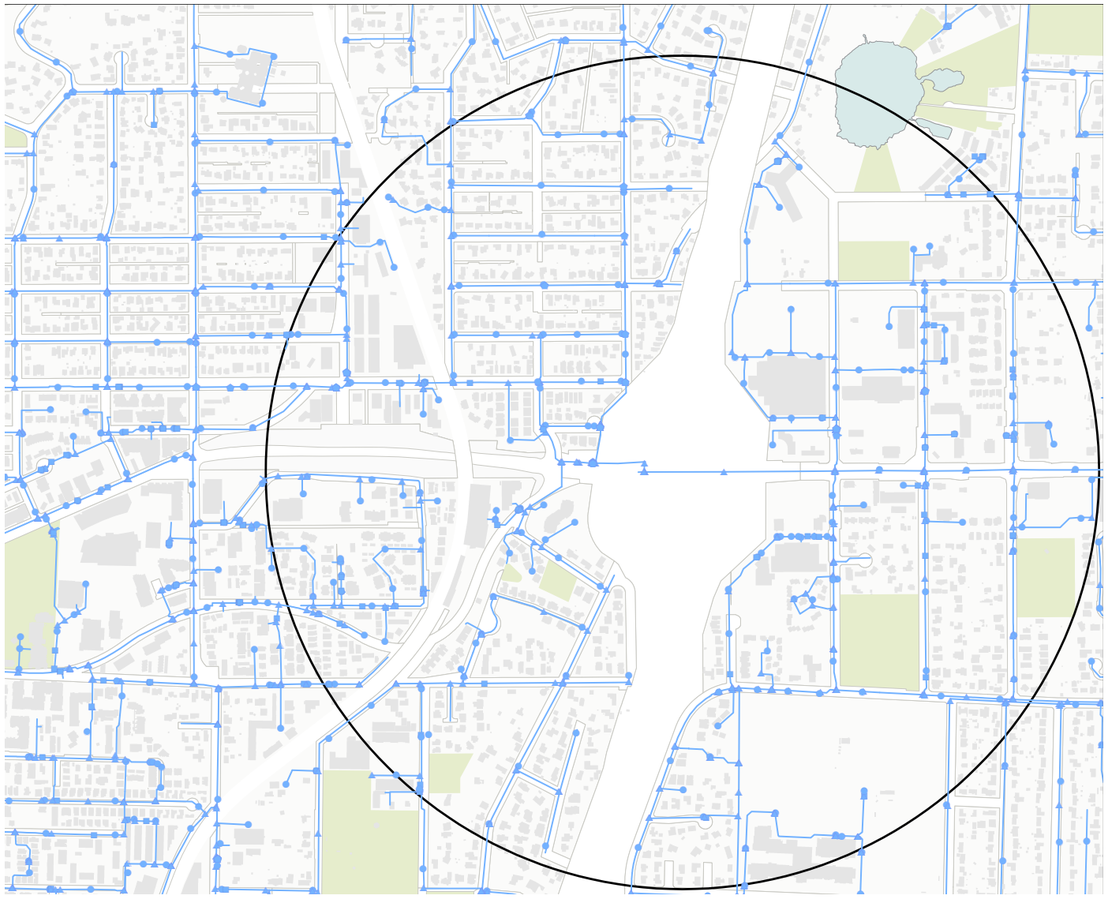
Infrastructure type	w/i 1/2 mi	w/i 1 mi
Main Line Valve	314	1281
Other Valves	205	771
Service Valves	54	189
Zone	20	50
Water tank	0	0
Water pump	0	2
Water main	736	2851

Known System Deficiencies
Within the study area, the 510 pressure zone experiences high water velocities due to the undersized water main and represents a vulnerability due to decreased available fire flow. Operating the system at high velocities is more likely to damage the system with high pressure surges. The replacement of the undersized main serving the 510 pressure zone has been identified by the City as a recommended capital improvement project
.
Some areas of the City's system are over 40 years old, and water mains are expected to have a life expectancy of only 50 years (RH2 2015). Portions of the system, particularly in the older parts of the city, may need to be replaced within the next ten years.

Regulatory framework
Safe Drinking Water Act (SDWA)
The federal regulatory framework directing water quality is the SDWA of 1974 with amendments in 1986 and 1996. The SDWA and amendments, as administered by the United States Environmental Protection Agency (EPA), significantly influence the operation and monitoring of the Kirkland water systems.

Washington Administrative Code
Chapter 246-290 of the Washington Administrative Code (WAC 246-290) is the State law that incorporates the SDWA and its amendments. The Department of Health (DOH) is the primacy agency responsible for ensuring state drinking water laws are implemented and enforced.

Figure 5: Water



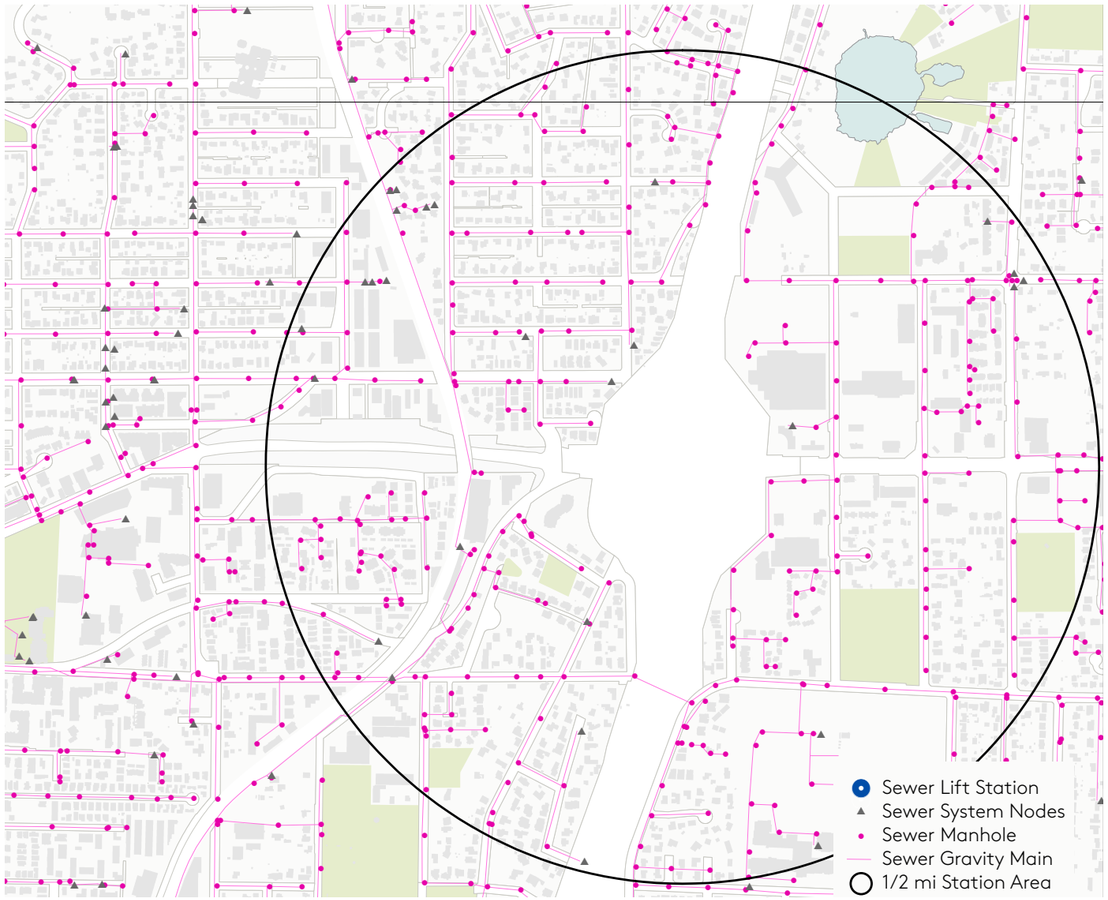
Kirkland Municipal Code
KMC Chapters 15.08, 15.14, and 15.16 include provisions for the installation of water service mains and meters prior to connection during development and redevelopment. Water service pipes running from the water main to the meter must be installed by a licensed contractor with a right-of-way use permit.

Interchange Design Plans
The WSDOT Interchange Design Plans identify an existing water main that runs along NE 85th St across I-405. This main may be influenced by the project, but WSDOT Interchange Design Plans do not yet include the replacement main.

Wastewater

Existing Conditions
The Wastewater Division of the City of Kirkland Department of Public Works maintains the City's sewer system, which serves the southern portion of the city. The portion of the city North of NE 116th St of the city is served by Northshore Utility District (Northshore) (RH2 2018). The City's sewer system is made up of 13 major drainage basins, six pump stations, approximately 122 linear miles of gravity sewer piping, and approximately 6,230 LF of force main. The wastewater system conveys water to King County's Eastside Interceptor and to the South Wastewater Treatment Plant (South WWTP) located in Renton, WA.

Figure 6: Wastewater



The area of influence falls south of NE 116th St, so the City of Kirkland provides sewer service within the zone of influence. The two significant sewer basins within the area of influence are the Eastside Interceptor basin to the east and the Kirkland basin to the west.
Infrastructure

The wastewater infrastructure within the area of influence are shown in Figure 6 and Table 2.

Table 3. Sewer Infrastructure

Infrastructure type	wi 1/2 mi	wi 1 mi
System Nodes	27	129
Manhole	300	1322
Lift Stations	0	1
Gravity Main	344	1475

Known System Deficiencies
The majority of the proposed sanitary pipeline replacement projects listed in the City's 2018 General Sewer Plan (RH2 2018) are located within the Kirkland basin (the basin to the west of the I-405 Interchange). The project list is based on the City's assessment of existing deficiencies, safety concerns, maintenance requirements, and capacity requirements.

Regulatory framework
Clean Water Act (CWA)
The 1977 CWA gave the EPA the authority to implement pollution control programs such as setting wastewater standards. The EPA has the authority to delegate enforcement to the states, when state regulations are at least as strict as federal regulations. The EPA has established minimum requirements for states to use in enacting regulations for wastewater reuse and reclamation. In the State of Washington, the Washington Department of Ecology (Ecology) administers and enforces the CWA.

NPDES Permit No. WA-0029581 King County's South Wastewater Treatment Plant
The NPDES permit for the South WWTP establishes effluent limits for the following parameters: carbonaceous biological oxygen demand (CBOD5), Total Suspended Solids (TSS), pH, Fecal Coliform Bacteria, and chlorine. These effluent limits to receiving waters protect human and environmental health.

Permit conditions include:
— Monitoring requirements
— Reporting and record keeping
— Prevention of facility overloading
— Operation and maintenance
— Pretreatment
— Solid waste management
— Spill Plan

Kirkland Municipal Code
KMC Chapter 15.12 includes provisions for wastewater service connections and extensions when existing connections are inadequate due to development or redevelopment projects.

Opportunities and Challenges

The goal of identifying opportunities and challenges for stormwater management is to reduce the stormwater management burden (e.g. facility cost, space required) for redevelopment projects within the subarea, while still protecting the natural environment and the City's stormwater infrastructure. The City of Kirkland has a track record of innovative stormwater management and aquatic resource protection, as evidenced recently by Totem Lake / Juanita Creek Basin Stormwater retrofit planning and the Forbes Creek – North Rose Hill Stormwater Project Plan. The opportunities listed below include innovative options for reducing the stormwater management burden in the subarea. The opportunities are strongly influenced by the environmental conditions and regulatory requirements in the two primary stream basins of the subarea (Moss Bay Basin and Forbes Creek Basin), so opportunities and challenges are organized below by basin.

Moss Bay Basin
The western portion of the subarea resides in the Moss Bay basin, which makes up 57% of the area of influence and 63% of the study area. Nearly 360 acres of the area of influence and 300 acres in the study area, including over 20 acres of impervious surface in the I-405/NE 85th Street Interchange and Inline Freeway Station (WSDOT 2019), are tributary to open stream channels. Development and redevelopment projects

within these stream-discharge areas are required to comply with stringent flow control requirements, which necessitate large detention facilities to protect the stream channels from the damaging effects of high flow; however, there is no viable fish habitat mapped in this area. Downstream of these open stream channels, the City may allow smaller detention facilities if it can be demonstrated that the downstream stormwater conveyance infrastructure is adequate to handle the existing flows.

Opportunity:
Justify an alternate (reduced) stormwater flow control standard in the subarea to reduce the cost and size of required flow control facilities.
Process:

1. Evaluate feasibility of an alternate (reduced) flow control standard
   - » a. Define existing stream conditions and beneficial uses.
   - » b. Analyze technical feasibility and cost of installing a bypass pipe or modifying the existing stream channel to accommodate the existing stormwater flow , while supporting the designated beneficial uses.
   - » c. Define environmental permitting requirements, feasibility, and the cost of any expected environmental mitigation requirements.
   - » d. Analyze downstream conveyance capacity of the piped stormwater infrastructure.
   - » e. Define anticipated benefits of reduced stormwater facility cost and increased value of other beneficial uses in the subarea
2. Make a policy decision on whether to pursue a. a Moss Bay Basin Plan (and associated channel modifications) OR b. a Bypass Pipe
   - » a. Complete the Basin Plan:
     - » i. Define and analyze (model) the necessary capital projects and alternate flow control standard to confirm that the designated beneficial uses can be met in stream channels without creating flooding problems in the downstream piped conveyance system
     - » ii. Develop an ordinance that defines the alternate flow control standards for redevelop projects
     - » iii. Define an implementation schedule and funding strategy for the capital projects, which could include a fee-in-lieu system where developers would pay a fee to reimburse the capital project costs
     - » iv. Obtain approval from Ecology
     - » v. Implement code and projects required by the basin plan
     - » vi. Apply the alternate flow control standards during redevelopment

   OR
   - » b. Install Bypass Pipe(s)
     - » i. Define and analyze (model) the necessary capital projects and alternate flow control standard to confirm bypass pipe is feasible and costs and benefits are understood
     - » ii. Develop an ordinance that defines any alternate flow control standards for redevelop projects
     - » iii. Define an implementation schedule and funding strategy for the capital projects, which could include a fee-in-lieu system where developers would pay a fee to reimburse the capital project costs
     - » iv. Implement code and capital projects
     - » v. Apply the alternate flow control standards during redevelopment

Challenges:
- — Complexity: Numerous stream channels / flow pathways (1.6 miles in the study area and 2.2 miles in the area of influence) would need to be considered to maximize benefits, which creates high technical and regulatory complexity
- — Cost: Cost of associated analysis and required capital projects
- — Uncertainty: Feasibility and cost /benefit are not know without further analysis
- — Timing: Resulting capital projects may not be in place in time to realize benefits on the I-405/NE 85th Street Interchange and Inline Freeway Station project

Potential Benefits:
- — Cost: Reduced cost for meeting flow control requirements for over 180 acres of redeveloped impervious surface within the study area and over 180 acres of redeveloped impervious surface in the area of influence. Assuming redevelopment has similar impervious surface coverage and that the full flow control volume can be avoided, this could reduce flow control volume by over 90 acre-feet in the subarea and 90 acre-feet in area of influence)
- — More space available for other beneficial uses: Less space required for stormwater management makes more of the subarea available for other beneficial uses
- — Environmental benefits: More immediate environmental benefit by implementing flow bypass or stream enhancement projects prior to redevelopment

Table 5. Permits Related to Streams in the Moss Bay Basin

Regulatory Agency	Permit	Compliance Approvals
US Army Corps of Engineers (USACE)	Clean Water Act Section 404 and Rivers and Harbors Act Section 10 – Nationwide Permit An individual permit is not anticipated as a component of the project.	· Endangered Species Act Compliance · National Historic Preservation Act Section 106 Compliance · For each Nationwide Permit, the USACE headquarters issues a decision document, which includes a NEPA environmental assessment, a public interest review, and if applicable, a 404(b)(1) Guidelines analysis. The City will not be responsible for separate NEPA compliance documentation.
Washington State Department of Ecology (Ecology)	Construction Stormwater General Permit	An Individual 401 Water Quality Certification may be required if the area of impact is large enough.
Washington Department of Fish and Wildlife (WDFW)	Hydraulic Project Approval (HPA)	· State Environmental Policy Act (SEPA) Threshold Determination
City of Kirkland (City)	· Pre-submittal Conference · Environmental Checklist/SEPA Threshold Determination	· City Permits

Forbes Creek Basin
The setting in the Forbes Creek Basin is much different from the Moss Bay Basin. The City of Kirkland GIS (2020) indicates salmon presence in Forbes Creek where it flows through the area of influence. This portion of the creek is also designated by WDFW as priority habitat for resident Coastal Cutthroat trout (Oncorhynchus clarki) (WDFW 2020). Compared to other drainage basins in the City of Kirkland, the Forbes Creek basin has one of the lowest levels of impervious surface coverage, with more wetland coverage than any other basin and 40% forested land use. Forbes Creek is on the EPA 303(d) list for temperature, dissolved oxygen, pH, ammonia nitrogen, mercury and bacteria. This basin also includes a large area that discharges to Forbes Lake, which is listed as a Category 5 water body for phosphorus by Ecology; therefore, projects in the basin need to utilize water quality practices that provide phosphorus treatment.

The main stream channel of Forbes Creek is approximately three miles in length between the I-405/NE 85th Street Interchange and Inline Freeway Station and Lake Washington, which makes a bypass pipe or extensive stream channel modification / stabilization less likely to be a viable opportunity in this basin;

however, opportunities exist to reduce the stormwater management burden on redevelopment within the basin. The primary opportunity in the Forbes Creek basin to reduce the stormwater management burden for redevelopment projects is to meet those stormwater requirements at a different site, such as through regional stormwater facilities constructed by the City prior to redevelopment.

Opportunity:
Reduce the stormwater management requirements for individual redevelopment projects in the subarea by building regional flow control facilities prior to redevelopment. The City is currently evaluating the feasibility of a regional stormwater facility at Spinney Homestead Park. If the feasibility assessment determines that adequate space is available in the park to provide stormwater management for the upstream single family residential development in the Spinney neighborhood and also a portion of the Station Area, then it might be possible for the City to establish a fee-in-lieu system where developers in the Station Area would pay a fee to reimburse the City for construction of a portion of this regional stormwater facility.

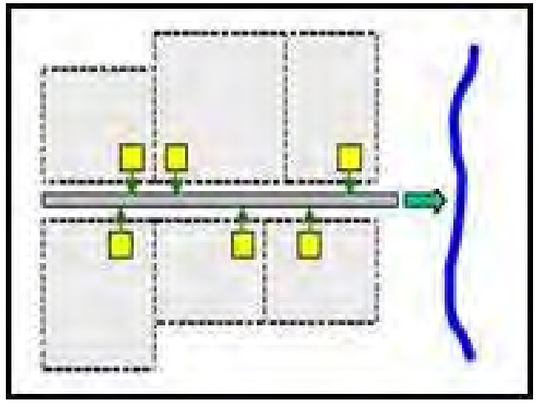
Process:

1. Identify feasible options for regional stormwater facilities
   - » a. Complete a desktop analysis.
   - » b. Assess potential sites in the field.
   - » c. Engineering evaluation of feasibility.
   - » d. Prioritize feasible sites.
   - » e. Develop conceptual plans, costs, and benefits for priority sites.
2. Make a policy decision on whether to further pursue regional stormwater facility(s) in the Forbes Creek basin of the subarea.
3. Develop and implement a regional stormwater facility plan:
   - » a. Define and analyze (model) the project benefits
   - » b. Design and construct the regional facility
   - » c. Develop an ordinance that defines the stormwater requirements in areas that are part of the regional facility plan (varies depending on benefits provided by the regional facility)
   - » d. Define an implementation schedule and funding strategy for the capital projects (could include a fee-in-lieu system)
4. Implement code and projects required by the regional stormwater facilities plan
5. Apply the alternate stormwater standards during redevelopment (and collect fees if part of the plan)

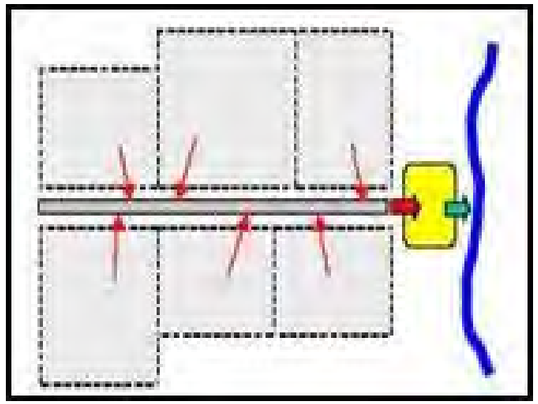
Challenges:
- — Feasibility: Additional analysis is needed to assess the feasibility of a regional stormwater facility in the Forbes Creek basin, including feasibility of the Spinney Homestead Park regional stormwater facility and partnership between development within the area of influence and that facility.
- — Timing: Regional facilities must be operational before redevelopment occurs.
- — Financial Risk: The City would need to fund and construct the facility before the securing reimbursement from planned development through a fee-in-lieu system.
- — Geographic Constraints: Stormwater regulations limit the area where regional stormwater facility mitigation credits can be applied. Credits are only available to development that discharges to streams within 0.25 mile upstream of the regional facility and anywhere downstream of the facility.

Potential Benefits:
- — Cost: Reduced construction cost for per unit of area managed for a single large facility due to economies of scale
- — Financial Risk: Greater certainty of stormwater costs for redevelopment
- — Maintenance: Reduced operation and maintenance cost and higher assurance of maintenance by centralizing maintenance effort from many smaller facilities to one larger facility
- — More Developable Land: More developable land on redevelopment sites (though space is required elsewhere for the regional facility)
- — Environmental Benefit: More immediate environmental benefits, which start accruing immediately after construction, rather than waiting for redevelopment to trigger stormwater improvements site-by-site over time

Regional facilities plan illustration
(source: City of Redmond website)



Above: Traditional onsite stormwater management (developer finances design and construction of stormwater facilities for each project/site)



Above: Regional facility approach to stormwater management (City sponsored program to construct facilities that manage runoff from multiple properties; can be reimbursed through fee-in-lieu program)

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Summary of Phase 1 Engagement: Opportunities and Challenges

Kirkland NE 85th Station Area Plan – February and March 2020

Overview

Purpose and goals. The purpose of engagement in the Opportunities and Challenges phase was to collect information about existing conditions, community development opportunities, and concerns to better understand project boundaries. There were two goals:

1. Ensure that those most affected by the plan are aware and engaged.
2. Identify areas of opportunity and concern.

Key stakeholders. This phase of engagement aimed to reach the following major stakeholder groups.

1. Nearby residents, via neighborhood associations.
2. Major property owners within a half-mile of the station area.
3. Businesses within half a mile of the station area.
4. State and regional Agencies. (Ongoing coordination led by Mithun and City Staff)
5. Boards and Commissions. (Ongoing coordination led by Mithun and City Staff)

Approach

Because this phase of engagement aimed to reach a specific subset of the community, we implemented targeted engagement strategies to directly reach representatives of key stakeholder groups.

Interviews. Interviews are one-on-one discussions with project stakeholders around a set of established questions. We conducted interviews by phone with representatives of nearby **major property owners** and **businesses**.

Focus Groups. Focus groups are facilitated, small group discussions around a set of established questions. We conducted one in-person focus group on February 19, 2020 at Kirkland's City Hall to reach representatives of local **neighborhood associations**.

Standing Meetings. City staff attended standing meetings with Boards and Commissions and agency partners to gather information about opportunities and challenges.

Participation

INTERVIEWS AND FOCUS GROUP

Entity	Stakeholder Category
All Wheel Drive	Business community / Major property owners
AvioSupport Building	Major property owners
Costco Wholesale	Business community / Major property owners
Everest Neighborhood Association	Nearby residents
First Western Properties	Major property owners
Lee Johnson Chevrolet	Business community / Major property owners
Madison Rose Hill Mixed Use Development	Business community / Major property owners
Moss Bay Neighborhood Association	Nearby residents
Norkirk Neighborhood Association	Nearby residents
North Rose Hill Neighborhood Association	Nearby residents
South Rose Hill/Bridle Trails Neighborhood Association	Nearby residents

The outbreak of Covid-19 during this phase impacted some opportunities for engagement. Notably, the Lake Washington School District was unable to participate in a phone interview due to crisis management during the pandemic. We also planned to conduct a business canvas to talk with more businesses in the study area, but due to social distancing needs, we instead promoted the business survey on social media. This successfully resulted in additional responses.

SURVEY

The survey was only open to participants who self-identified as owning a business in Kirkland, managing or operating a business in Kirkland, or working in Kirkland. In total, 35 individuals within these categories responded to the survey. About 40% of respondents indicated that their business or workplace is within the study area (identified as the area within a ½-mile radius of the BRT station), 50% indicated it's outside the study area, and 10% skipped this question. Respondents represented a diverse range of industries, and mostly represented businesses and workplaces with under 25 employees.

Key Takeaways

Key takeaways from local neighborhood leaders

- Overall, response was positive, but neighborhood leaders had many of questions about logistical details. It's important to have good information available to answer people's questions about the station.
- People want to understand how this plan (and planning area) fits with other City plans like Kirkland Urban, missing middle housing, or the ADA masterplan.
- It's important to define the different user groups for the station and then identify their specific opportunities and challenges – is this for workers, commuters, residents, students, elderly, bicyclists?
- Making the station area work efficiently for multiple modes is important to neighborhoods. Accommodating last mile transit solutions is an important part of subarea planning.
- Parking is a top concern. Will there be enough parking for people to use the station? How will impacts to neighborhoods be managed?
- People care about character, design, and feel of the area.
- A variety of methods are important for outreach, including videos and print materials.

Key takeaways from major property owners and businesses (interviews only)

- Businesses and property owners are interested and invested in the change coming to Kirkland.
- Businesses and property owners are concerned about how increased density and increased usage of the area will contribute to congestion, decrease customer access, and limit available parking. There is substantial concern about the lack of a parking facility in conjunction with the BRT station.
- Businesses and property owners would like to see the increased density thoughtfully managed in order to maximize positive impacts to businesses. Because the current customer base accesses businesses by car, there is concern that the change will mostly bring negative impacts.

Key takeaways from the business community (survey only)

- The business community sees more potential issues than advantages to the addition of the BRT station. Top concerns include increased traffic and congestion, both temporary (due to construction) and permanent.
- Businesses within the study area are more likely than those outside to see the BRT station as a good transportation option for customers, clients, or people who come to do business in Kirkland. Businesses outside the study area are more interested in adding connections from the station to nearby neighborhoods.
- Businesses and workers indicated that they are most interested in the City of Kirkland providing transportation-related support to help local businesses. Top types of support included a shuttle to help people get from the station to nearby businesses, attractive walking routes between the station and nearby business areas, and additional parking areas near the station.

Kirkland NE 85th Station Area Plan

Stakeholder Interview Summary – March 2020

Participants

Participant	Representing
Justin Stobb	All Wheel Drive
Ken Kirkland	AvioSupport Building
Chris DeLong; Chris Ferko; Rick Jerabek; Kim Katz	Costco Wholesale
Kyle Powder	First Western Properties
Jack McCullough	Lee Johnson Chevrolet
Jim Gallaugher	Madison Rose Hill Mixed Use Development

Key Takeaways

Key takeaways from these conversations with local major property owners and businesses:

- Businesses and property owners are interested and invested in the change coming to Kirkland.
- Businesses and property owners are concerned about how increased density and increased usage of the area will contribute to congestion, decrease customer access, and limit available parking. There is substantial concern about the lack of a parking facility in conjunction with the BRT station.
- Businesses and property owners would like to see the increased density thoughtfully managed in order to maximize positive impacts to businesses. Because the current customer base accesses businesses by car, there is concern that the change will mostly bring negative impacts.

Summary Notes

Introduction

Interviewer opened the call and explained that the purpose of the interview was to collect general feedback from business owners/operators or property owners near the station area at the beginning of the process. The station area plan will take over a year to develop and there will be many opportunities for broader engagement. Interviewer then led participants through four topics. Their responses are summarized below.

Topic 1 – Using the Station Area

- **Could you please tell us about your ties to Kirkland and the area around the BRT station?**
  - Have been property developers, business owners, and/or residents in Kirkland for decades.
  - Not all customers reside in Kirkland. Some come from Seattle and surrounding communities. Kirkland, Redmond, Bellevue, Woodinville. People who commute through Kirkland up north.
- **How do you currently interact with the area around the BRT station?**
  - **What's working well?**
    - The area is valuable because of its proximity to downtown Kirkland and I-405, not because of incoming rapid transit.
    - The City of Kirkland is proactive and doing the best they can, giving the recent influx of people. Orderly and civil, especially compared to Capitol Hill or University District.
    - Police are doing a good job. However, 3-4 years ago, police harassed people by giving out traffic tickets for minor infractions (e.g., slight roll of a stop sign). Now they're more busy and that's a plus.
    - Freeway visibility for business is fabulous. Highly visible.
  - **What could be improved?**
    - The recent influx of people and vehicles is a challenge.
    - Zoning requirements are challenging and don't always get grandfathered into new requirements.
    - Safety is an issue. No sidewalks for pedestrian after 120th – lack of connectivity. Area from downtown to Rose Hill isn't walkable due to steep grade.
    - Poor flow in some roadways. E.g., exiting driveways onto 85th.
- **How do you think you will use the BRT station and/or station area once the improvements are constructed? What would you make you more likely to visit this area?**
  - Past efforts to accommodate the future haven't been accurate.
  - There will be a significant loss of opportunity for exploiting the BRT infrastructure.

  - As a business owner/operator, already spend a lot of time there. Likely wouldn't use more.
  - Doesn't anticipate much use of the bus station from the public in this area.

Topic 2 – Visualizing the Future

- **Picture the area around the BRT station in 20 years: How has it changed to make the most of the state and regional investment in the station?**
  - Kirkland will need to explore alternate ways to conduct business like going vertical, which is necessary to be close to customers in a dense area.
  - Kirkland needs to be significantly denser and to be developed at a density that allows the city to capitalize on the BRT opportunity. Kirkland won't get light rail, and this BRT opportunity is one of a limited range of opportunities to participate in transit-oriented development.
  - Between Lee Johnson and Costco, Lee Johnson is a better near-term opportunity for development.
  - There should be impactful, well thought-out development, either mixed-use or office. The area is not currently a walking community and NE 85th is a high-volume road. Will need some other large-scale development to make the area what everyone in Kirkland would like to see it someday. Walkable, pedestrian-scale, a place to hang out.
  - The area is changing in the right direction and doing a great job getting the tech sector in there. Interested in having autonomous vehicles in the area and adding mixed-use areas. Would like to see fewer people taking cars, more user-friendly routes for bicycles, and an easy drop-off point for pedestrians coming from vehicles.
  - Aim to get cars off the road.
  - Would like to see the area used. Whatever is done, it should be done it in a way that residents will use it.
  - If the area isn't well-connected, people from downtown Kirkland won't use it. People aren't going to walk that grade - especially in the rain. Ideally, there could be escalators under cover from downtown to the station.
  - Trucks, delivery vehicles need good access. Businesses in area help the economy.
  - Kirkland should accommodates parking needs.
- **How does it reflect the unique character of Kirkland?**
  - The station area should feel like the other side of I-405. Need large-scale development to help coax people across the freeway. Currently, there isn't enough of a draw for people to go east of I-405.
  - That's for the planning process to determine. Potential significant vertical development could be unlike anything in Kirkland. The question should be less about what's the current character, and more about what the future holds. The station area has the potential to be different and create more urban diversity.

- What can you do in close proximity to a giant interchange?

- **What has it done to improve the community?**
  - Walking communities with more retail and pedestrians are more vibrant, fun places to be.
  - There is a lack of other available expansion sites. This area on 85th is important for job and housing growth. Downtown is built out already - no huge sites left.
  - There could be a park area or an overflow parking area developed. Could elevate a parking area and add a park or garden terrace.
  - Could there be a lid added over the interchange to increase usable space?
- **How is the station area used by Kirkland residents?**
  - Walk to retail or walking home.
  - Some would be living on 85th in new housing developments, some would work there.
  - BRT cuts commute times on I-405 corridor due to dedicated lanes and higher level of predictability and scheduling.
  - Opportunities on the west side aren't as good as those on the east side.
- **How is the station area used by those who work in Kirkland?**
  - We'll see some housing and employment in 85th corridor once the re-zone is done.
  - Google has a massive presence in town - will likely run last-mile shuttles.

Topic 3 – Advantages and Disadvantages

- **What are the advantages of the BRT station at NE 85th Street for residents, businesses, and property owners? What excites you about the project?**
  - BRT can light up an area. Eventually will bring more people into that neighborhood, which promotes more development.
  - Connections to other modes of transit may help future or existing employees commute.
  - Might have improved traffic flow. At this point, traffic flow is not clearly defined. For past 5-6 years, congestion has been unmanageable. Need to hear from community about specific intersections for improvement.
  - 85th is a wide, high-volume and high-speed street, big enough to accommodate density.
  - Want an efficient transportation infrastructure to work. Seattle area wasn't designed for this growth, and we need to catch up.
  - Transit is energy-efficient.
  - Most important feature of transit is to serve underprivileged members of community. People should be able to get around regardless of whether they're down on their luck. Doesn't see benefits for business.
- **What are the disadvantages of the BRT station at NE 85th Street for residents, businesses, and property owners? What concerns you about the project?**
  - **Impact of construction.** Can people get into and out of the project area during construction? How will construction be phased and how will the community be notified? Hope city will put mobile boards with detour information to help people get to different areas during construction phase. Hoping that will be prominent and available as construction happens.
  - **Lack of parking.** Kirkland needs to identify parking opportunities for people that need to use it. Will people park on neighborhood streets and walk in? Lack of planned parking will force a lot of small businesses to move. People who live rural need to access the area by car.
    - The planned pedestrian path connects to back of the Costco warehouse -- don't want commuters using the Costco parking lot for commuting on the bus.
  - **Traffic flow and ease of access to businesses.** Streets can't handle increased density plans, and people that currently shop at businesses in area use cars because they have children and need to access workplaces. But people won't shop where they can't access.
    - Extra pedestrians as a result of BRT station aren't good for people who drive cars and have to make turns. If there isn't a bus-only lane added as part of the station, there will be terrible impact to business. For example, there's a crosswalk on 120th that blocks traffic onto 85th and during the holiday season, cars can't manage because of crosswalk.
    - Can the system improve flow on/off I-405?
    - There will be additional congestion. New station is going to make the congestion and safety worse.
    - How do you deal with the last mile? Kiss and ride will still cause congestion.
  - **Safety.** Having people use buses and mass transit is good, but pedestrian safety is a concern. Current traffic is confusing and adding additional congestion, pedestrians, and density will worsen that.
    - Concern about shootings downtown and loitering, drug use, and homelessness at the bus line.
  - **Impacts to business.** Concern that this won't contribute to commerce. Property taxes will increase.
  - **Planning for the future.** Will bus infrastructure become obsolete as technology advances (e.g., flying cars)?

Topic 4 – Following Up

- **Who else should we talk to? How do we best reach them?**
  - Architect David Hewitt at MG2 was involved with development on top of Broadway transit system.
  - Google might have ideas of what their employees want.
  - Sound transit.

- WSDOT to discuss potential issues they've seen elsewhere.

- **Is there anything else you'd like to share?**
  - Cross Kirkland Corridor is an important part of the area and will be impacted by the station.
  - Businesses need open communication about the project so they can support customers and maintain key points of access.
  - Carpool type of transit typically involves a parking lot.

- **Questions**
  - Are there zoning changes or changes to allowed uses being contemplated?
  - Will there be a park and ride or other parking facilities?
  - What is the first date of significant traffic disruption due to construction?
  - Will there be a lane added to I-405 for buses?
  - Will there be changes in flow to prepare for the traffic disruption associated with additional buses? E.g., Will Good2Go lanes change to general when construction?
  - How will the community be notified about construction closures, e.g., on/off ramps to I-405?
  - How can Costco stay aware and participate in the process?
  - What are the City's next steps?
  - What will happen to the swath of land behind Costco? In plans, it appears to no longer be used.
  - Will the cottonwood trees come down between Costco and I-405?
  - Who is responsible for constructing the third eastbound lane of traffic between 120th and 122nd? (See page 24 of this plan.)
  - Will Slater Avenue or 120th Avenue be connected to NE 90th? How will this work with the Costco gas station and residential homes in the area?
  - Are there any other proposals on 85th street at any of the following intersections?
    - 114th
    - 120th
    - 122nd

Kirkland NE 85th Station Area Plan

Neighborhood Leader Summary – February 19, 2020

Participants

Participant	Representing
Dave Aubry	Everest Neighborhood Association
Brad Haverstein	Moss Bay Neighborhood Association
Heather Hendrix-McAdams	Norkirk Neighborhood Association
Robert Iracheta	North Rose Hill Neighborhood Association
Chris Kagen	South Rose Hill/Bridle Trails Neighborhood Association
Martin Morgan	South Rose Hill/Bridle Trails Neighborhood Association

Key Takeaways

Key takeaways from this conversation with local neighborhood leaders:

- Overall, response was positive, but there are lots of questions about the details of how things will work.
- People want to understand how this plan (and planning area) fits with other City plans like Kirkland Urban, missing middle housing, or the ADA masterplan.
- It's important to define the different user groups for the station and then identify their specific opportunities and challenges – is this for workers, commuters, residents, students, elderly, bicyclists?
- Making the station area work efficiently for multiple modes is important to neighborhoods.
- Accommodating last mile transit solutions is an important part of subarea planning.
- Parking is a top concern- will there be enough for people to use it? How will impacts to neighborhoods be managed?

- People care about character, design, and feel of the area.
- A variety of methods are important for outreach, including videos and print materials.
- It's important to have good information available to answer people's questions about the station.

Summary Notes

Introduction

Erika Rhett opened the meeting and explained that the purpose of the evening was to talk with neighborhood leaders at the beginning of the process. The station area plan will take over a year to develop and there will be many opportunities for broader engagement.

Allison Zike introduced herself and gave a brief introduction the station area planning process. Participants contributed the following:

- Is the station area plan going to be a target area for increasing missing middle housing? Will there be upzones?
- The idea of no parking at the station is unpopular. People won't use the station without a park and ride. Two participants dissented on this point.
- Last mile connections to the station will be important to its success.
- Is the study area a 10-minute walkshed?
- How will the station area connect to Kirkland urban? Do the planning areas overlap?
- Are there resources already committed to the development of connections to the station?
- Planning for this area should consider the ADA masterplan.
- Is this for people who live in Kirkland? For commuters? For major employers?

Erika Rhett then led participants through four topics. Their responses are summarized below.

Topic 1 – Using the Station Area

- How do you currently interact with the area around the BRT station?
- How do you think you will use the BRT station and/or station area once the improvements are constructed? What would you make you more likely to visit this area?

- Costco- what is point of walk route to Costco? Nobody walks to Costco. However, it might be an area people could walk through, it could also be an area where there might be shared commuter parking. Also, Costco employees may use a walking route.
- Biking through this area currently is dangerous. 85th is tough even for experienced riders. Most riders avoid this area today.
- People travel through station area to reach the high school.

- There is a new women and children's shelter in this area- people need to be able to reach that by foot.
- Those who take the cross Kirkland corridor are not currently interacting with this area, but there could be a connection.
- Direct path to Google and Kirkland Urban- perhaps a shuttle connection. The "Kiss & Ride" lot will be good for shuttle pick up and drop off.
- Be sure the pick-up/drop-off area accommodates space where there is enough time for wheelchair loading and unloading.
- This is currently a choke point for the Highlands neighborhood, so ensuring access at key points to the Highlands neighborhood is important.
- Kiss & Ride lot may be good location for electric or self-driving vehicles.
- NE 80th has nice, big bike lane and is the best route between Kirkland-Redmond.
- Houghton Park and Ride is underused- can there be a connection there by shuttle?
- Who will use the station? People coming to Kirkland to work, or people leaving Kirkland to go to Seattle or Bellevue. Maybe people coming from Redmond to use the BRT.
- Can we create "turnpike" near the station with services, businesses, roadside amenities just off the freeway? This could create revenue for Kirkland.
- How can this station be more useful for students at the High School?

Topic 2 – Visualizing the Future

- Picture the area around the BRT station in 20 years: How has it changed?
- How does it reflect the unique character of Kirkland?
- What has it done to improve the community?
- How is the station area used by Kirkland residents?
- How is the station area used by those who work in Kirkland?
- What does success look like in 20 years?

- Having a lot of people living close to the station and using it.
- Density may be more intense around the station to preserve single-family character away from station.
- Success is a seamless transition area where people make connections between buses and/or other transit easily.
- The station area is easy, affordable, and convenient. There is an electronic trolley to downtown for workers or visitors, bus to Redmond, tech employees arrive through the station and are shuttled to their destination, teachers can commute through the station to places more affordable to live.

- Its easy to get people out of their cars because commuting is easy.
- There is an efficient flush of people at peak times.
- There are amenities that make it convenient to wait or linger including weather protection, wifi, coffee shops.
- The station are preserves and enhances Kirkland's character:
  - View corridor westbound down Central Way.
  - Livable- a pleasant place to be.
  - Convenient – nothing feels far away.
  - Social cohesion – not a lot of political rancor.
  - Walkable- people like to walk for recreation and to get places.
- Neighborhoods all have unique character which is highlighted in the areas around the station.

Topic 3 – Advantages and Disadvantages

- What are the advantages of the BRT station at NE 85th Street for residents and property owners? What excites you about the project?
- What are the disadvantages of the BRT station at NE 85th Street for residents and property owners? What concerns you about the project?

Advantages

- Levels the playing field for low-income transit riders. Make affordable, effective transit available. This can help City achieve equity.
- More, and safer, bicycle and pedestrian options along 85th.
- Shorter trip times for commuters.
- Can expand mixed-use, retail, offices to the east and south from NE 85th (ex: Lee Johnson site and towards high school).
- May be a place for people to stop and spend time, it's a destination.
- More density and more services/amenities available in this area.
- No parking structures means that people will take transit (or other modes) into station and that means less traffic than if there was a park and ride.
- Shuttles in/out of kiss & ride could expand the reach for commuters- make arrangements with big employers.
- Arrange for bike parking.
- Increased walkability.
- Last mile transportation is solved.

Disadvantages

- Accommodating impacts during construction of the station.
- More people in the area and coming through means a possible increase in crime.
- More density – how will it be applied and how will services and amenities be affected? Will they also be increased?
- Parking, where will people park? Plan for parking impacts to neighborhoods and businesses. Maybe parking zones.
- Challenge: the last mile and getting connections ride.
- Challenge: making the station and the kiss and ride work efficiently.
- Challenge: making a place that people want to go to, walk to, walk around. Find uses that people want to interact with.
- How do you ensure the quality of mixed use and/or retail in this area?

Topic 4 – Following Up

- Who else should we talk to? How do we best reach them?

- 5-minute videos from City are very popular, especially when paired with a short survey.
- Nextdoor or "Be Neighborly 2.0."
- Postcards.
- City can print materials for neigborhoods to distribute at events like picnics or the neighborhood garage sale.
- Neighborhood meetings, but maybe target specific neighborhood events beyond just regular meetings.
- Go to where people are. Ideas for pop-up locations: Peter Kirk Park, front of library, front of QFC in Kirkland Urban, Wednesday market, Park Lane on Sundays, PTA meetings at schools (Peter Kirk, Mark Twain), South Rose Hill Safeway.
- Figure out how to reach young people living in multi-family housing in downtown. Maybe work through apt./condo management?
- Maybe Costco to talk to management or employees.