

Addendum

To the: Final Supplemental Environmental Impact Statement (SEIS) for the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action

Addressing: NE 85th St. Station Area Plan-related amendments to the City’s Comprehensive Plan; amendments to the Kirkland Zoning Code (KZC), Zoning Map, and Kirkland Municipal Code (KMC); and a Development Agreement.

Final SEIS issued: December 30, 2021 | **Addendum issued:** June 24, 2022

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Action Sponsor and Lead Agency

City of Kirkland, Planning and Building Department

Proposed Action

Legislative adoption of NE 85th St. Station Area Plan-related amendments to the City's Comprehensive Plan; amendments to the Kirkland Zoning Code (KZC), Zoning Map, and Kirkland Municipal Code (KMC) pursuant to Chapter 160 KZC (Process IV); and a Development Agreement.

Responsible Official



Adam Weinstein, AICP
Planning & Building Director

Contact Person

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City of Kirkland, Planning & Building Department
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Preparers

Review of proposed actions including legislative adoption of NE 85th St. Station Area Plan-related amendments to the City's Comprehensive Plan; amendments to the Kirkland Zoning Code (KZC), Zoning Map, and Kirkland Municipal Code (KMC) pursuant to Chapter 160 KZC (Process IV), and preparation of supplemental technical studies, have been completed under the direction of the Kirkland Planning & Building Department by:

- BERK Consulting, Inc.
- Fehr & Peers
- Mithun

The City of Kirkland has completed review of the above referenced proposed actions, and also provided review of a future Development Agreement in the context of the FSEIS and analysis noted above.

Required Approvals

Adoption by Kirkland City Council

Location of Background Data File: CAM20-00153

City of Kirkland
Planning and Building Department
123 Fifth Avenue
Kirkland, WA 98033

Date of Issuance

June 24, 2022.

Addendum Evaluation

I. Background

The City of Kirkland proposes legislative adoption of NE 85th St. Station Area Plan-related amendments to the City's Comprehensive Plan; amendments to the Kirkland Zoning Code (KZC), Zoning Map, and Kirkland Municipal Code (KMC) pursuant to Chapter 160 KZC (Process IV). Following Planning Commission review, the amendments will be considered for adoption by the City Council. The City also proposes a Development Agreement for a catalyst project within the Station Area.

This Addendum to the Final Supplemental Environmental Impact Statement (SEIS) prepared for the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action, issued December 30, 2021, is intended to fulfill requirements pursuant to the State Environmental Policy Act (SEPA) for the proposed Phase 1 Plan and Code amendments, for which the Zoning Code and Map amendments are limited to the extents shown in the CMU district in Exhibit 1.

II. EIS Addendum

According to SEPA Rules, an EIS addendum provides additional analysis and/or information about a proposal or alternatives where their significant environmental impacts have been disclosed and identified in a previous environmental document (WAC 197-11-600(2)). An addendum is appropriate when the impacts of the new proposal are the same general types as those identified in the prior document, and when the new analysis does not substantially change the analysis of significant impacts and alternatives in the prior environmental document (WAC 197-11-600(4)(c), -625 and -706).

The City published the *Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action, Final SEIS* on December 30, 2021. The Final SEIS is referenced in abbreviated form as *Kirkland NE 85th St Station Area Planned Action Final SEIS*. The document addressed proposals for land use and zoning around the future NE 85th Street Sound Transit bus rapid transit station together with transportation, utility, and sustainability investments. Elements of the environment addressed in the Final EIS included: air quality/greenhouse gas, surface water and stormwater, land use patterns and policies, plans and policies, aesthetics, transportation, public services, and utilities.

This addendum to the *Kirkland NE 85th St Station Area Planned Action Final SEIS* is being issued pursuant to WAC 197-11-625 to meet the City's SEPA responsibilities. The SEIS evaluated plan alternatives and

impacts that encompass the same general policy direction, land use pattern, and environmental impacts that are expected to be associated with the proposed Phase 1 Plan and Code amendments discussed herein. While the specific location, precise magnitude, or timing of some impacts may vary from those estimated in the *Kirkland NE 85th St Station Area Planned Action Final SEIS*, they are still within the range of what was evaluated and disclosed there. No new significant impacts have been identified.

III. Non-Project Action

Decisions on the adoption or amendment of zoning ordinances are referred to in the SEPA rules as “non-project actions” (WAC 197-11-704(2)(b)). The purpose of an EIS in analyzing a non-project action is to help the public and decision-makers identify and evaluate the environmental effects of alternative policies, implementation approaches, and similar choices related to future growth. While plans and regulations do not directly result in alteration of the physical environment, they do provide a framework within which future growth and development – and resulting environmental impacts – will occur. Both the adoption of the Comprehensive Plan evaluated in the *City of Kirkland 2015 Draft and Final Comprehensive Plan 10-year Update EIS*, the amendment proposals evaluated in the *Final SEIS for the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action* and the eventual action on the Phase 1 NE 85th Station Area Plan Amendments evaluated in this addendum are “non-project actions”.

IV. Description of the Proposed Non-Project Actions

IV.A Plan Updates and Code Amendments

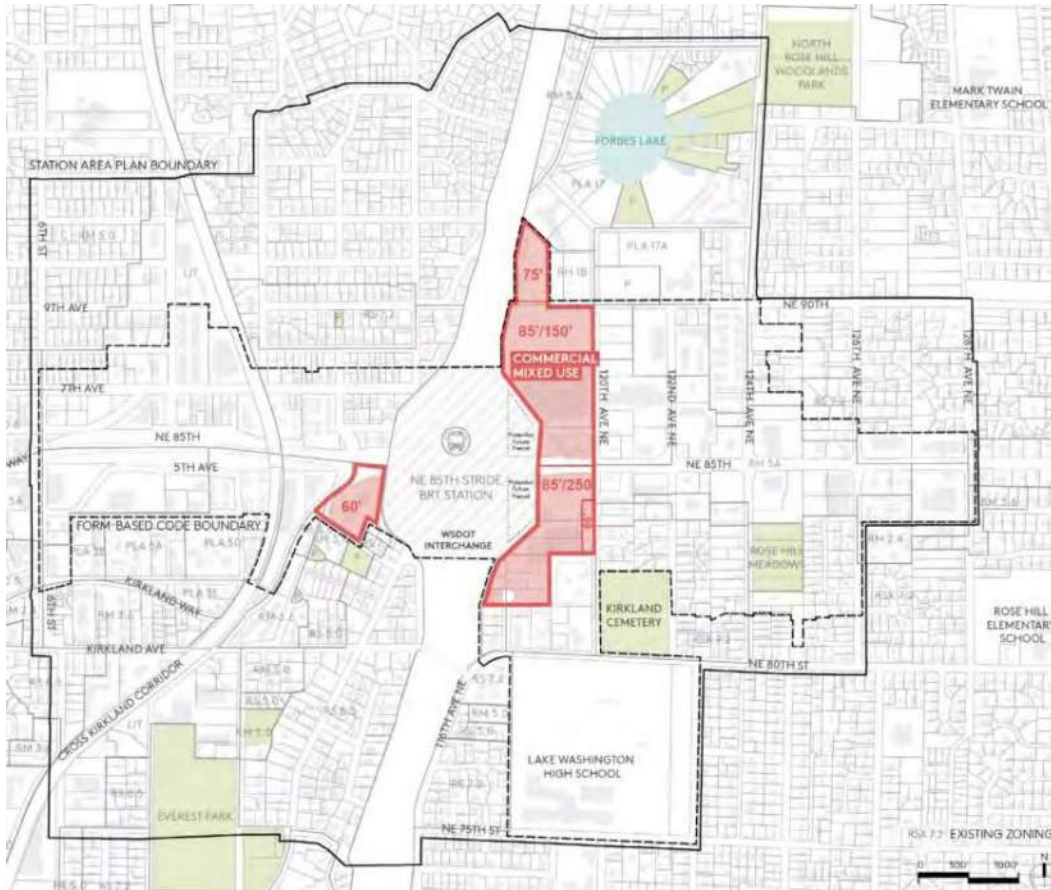
The proposals are similar to the Final SEIS Alternative B and within the range of the studied alternatives. Key components of the proposals include:

- Amend the Comprehensive Plan to adopt a new sub-area chapter for the Station Area. The subarea plan would overlay portions of the Everest, Highlands, Moss Bay, Norkirk, and Rose Hill neighborhood plans with superseding policies.
- Zoning amendments include:
 - Amend KZC 5 to add definitions.
 - Amend KZC 10 to add the Station Area Commercial Mixed-Use (CMU) zone.
 - Amend KZC 53 to repeal Rose Hill Business District Zones RH 1A, RH 2A, and RH 2C that are being replaced with the Station Area Commercial Mixed Use zone.
 - Adopt a new chapter KZC 57 with a Form-based Code for the Station Area Commercial Mixed-use zone.
 - Amend KZC 95 and KZC 142 to reference new Station Area Design Guidelines.

The proposal includes legislative rezones of 15 parcels from North Rose Hill Business District (RH 1A, 2A, and 2C) to Commercial Mixed Use (CMU), one parcel from Professional Office (PO) to CMU and one parcel from Professional Office/Residential 3.6 (PR 3.6) to CMU. The map of the CMU zone is shown below in Exhibit 1.

In addition, additional technical transportation and utilities analysis was conducted to confirm planning assumptions and to verify that infrastructure would be sufficient to allow for the type of development envisioned in the Station Area Plan.

Exhibit 1. Phase 1 Commercial Mixed Use (CMU) Zone Extent



The June 9, 2022 Planning Commission staff report for the public hearing, and Chapter 11 of the Subarea Plan identify key elements of the proposals and implementation strategies. Highlights of the proposals are sorted into the key elements of SEIS Alternatives and related to mitigation measures in the Final SEIS in Exhibit 2.

Exhibit 2. Final Elements of Alternatives and Phase 1 Code Amendments

Element of SEIS Alternatives	Phase 1 Plan and Code Amendments
Land Use Patterns and Building Height	The Subarea Plan sets forth the full vision, land use and zoning concepts, and community benefits strategy similar to alternatives evaluated in the Final EIS. The future growth is included in the Comprehensive Plan amendments consistent with the Final EIS evaluation.
Growth	<p>The Form-Based Code amendments being considered for Phase 1 of Station Area adoption are for the Commercial Mixed-use zone only; the remainder of the Station Area zones will be considered in a future phase.</p> <p>The boundaries and heights are consistent with Alternative B: Transit Connected Growth: Form-Based Regulating Plan.</p> <p>The proposed land uses in the Commercial Mixed-use zone would be consistent in intensity and type as studied in the Final SEIS.</p> <p>The Form-Based Code and design guidelines would fit Final SEIS mitigation measures and address height transitions, landscaping, etc. The City would adopt a Form-based Code and urban design guidelines to accommodate the growth targets based on the capacity analyzed in the Station Area Plan Final SEIS.</p>

Element of SEIS Alternatives	Phase 1 Plan and Code Amendments
Transportation Investments	Street types in the Form-based Code are informed by the specific transportation network improvement concepts developed through the transportation analysis for the district.
Parks, Open Space, and Environment	<p>The subarea plan addresses parks (e.g., Forbes Lake Park), plazas, and trails consistent with Final SEIS alternatives and mitigation options.</p> <p>The form-based code includes code provisions that would:</p> <ul style="list-style-type: none"> ■ Identify and minimize gaps in equitable access to parks and open spaces in order to make more efficient use of existing parks and open spaces in the area. ■ Identify locations for required mid-block green connections that provide opportunities for landscaping, active, and passive recreation. ■ Adopt an incentive zoning program in the Station Area Form-based Code that creates development bonuses for new development to provide onsite public open space (e.g., plazas, pocket parks, etc.), enhanced on-site common spaces, recreation amenities, and linear parks. <p>The form-based code includes sustainability strategies and requirements similar to the Final SEIS concepts. The provisions were tested in a Rushing report, High-Performance Buildings & Sustainability Protocols, April 2022 that evaluated strategies for prescriptive green building protocol compliance.</p>
Affordable Housing	<p>Form-Based Code incentives include:</p> <ul style="list-style-type: none"> ■ An incentive zoning program in the Station Area Form-based Code that creates development bonuses for affordable housing. <p>Other implementation strategies include:</p> <ul style="list-style-type: none"> ■ Direct affordable housing in lieu payments or commercial incentive contributions to support affordable housing within the Station Area boundary.

V. Description of Proposed Project Actions

An additional key component of the proposal is within the range of the studied alternatives and includes:

- Adoption of a Development Agreement for a catalyst project within the Station Area comprising a future commercial office campus proposed by Google, and associated infrastructure improvements and community benefits, in and around the existing Lee Johnson property in the southeast quadrant of I-405 and NE 85th Street. The Development Agreement is a voluntary contract between the City of Kirkland and Google, detailing the obligations of both parties and specifying the standards and conditions that will govern development of the property. A Development Agreement for catalyst transit-oriented development projects on sites greater than 4 acres within the Station Area is explicitly authorized in proposed KZC 57.05.03, Development Agreements – Catalyst Projects and by RCW 36.70B.170-210. A Development Agreement pursuant to KZC 57.05.03 may encompass specific variations or deviations from the Form-based Code if the Council finds and concludes in the Development Agreement that the variations or deviations result in a project that provides overall greater benefit or overall better mitigation than would a project that strictly complies with the regulations. However, a Development Agreement may not authorize additional height beyond that allowed in the development regulations, or allow principal uses that are different than those permitted in the development regulations for the specific zoning district.

The Development Agreement is anticipated to include sections that provide terms around the following items:

project description; entitlement approvals, including Design Review process; public benefits; vesting of development regulations; deviations from zoning standards; process for amending the agreement; phasing; infrastructure improvements; capital facilities charges and impact fees; concurrency; signage; transportation (e.g., vehicle access locations, pick-up/drop-off areas, parking); permit processing fees and timing; and term of agreement. The Development Agreement anticipates future development will be determined to be a Planned Action under a forthcoming Planned Action Ordinance, and does not include specific compliance review with all aspects of the City's Zoning and Building Codes, which will require the applicant to provide additional information such as construction plans and transportation analysis upon submittal for required land use entitlements (e.g., Design Review) and construction permits.

VI. Environmental Analysis

The environmental impacts disclosed in the *Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action Final SEIS* address the same general policy direction, land use pattern, and environmental impacts that are expected to be associated with the proposed actions evaluated in this Addendum and no additional or new significant impacts beyond those identified in the SEIS for the NE 85th St Station Area are anticipated. For each EIS topic a summary of relationship to the Final SEIS is provided.

Air Quality/Greenhouse Gas (GHG)

Plan Updates and Code Amendments

The subarea plan and Form-based Code reinforce the expected mixed use growth in the subarea and the Final SEIS Option B level of growth. Thus, results of the Final SEIS for Air Quality are expected to be similar to the Addendum proposals. Further the plan, and code reinforce green infrastructure as a means to address air quality, and energy conservation incentives would help reduce GHG emissions. The form-based code also limits residential uses near I-405 to focus employment growth and buffer residential uses from air quality effects.

Development Agreement

The Development Agreement will not result in any additional development capacity, building heights, uses, or air quality and GHG impacts beyond those analyzed in the *Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action Final EIS*.

Surface Water and Stormwater

Plan Updates and Code Amendments

The subarea plan and form-based code reinforce green streets and green infrastructure elements, permeable paving, and green walls consistent with the range of mitigation in the Final SEIS.

Development Agreement

The future development under the Development Agreement will be subject to City stormwater regulations, and green factor and high-performing building standards in the Form-based Code, and is consistent with the range of mitigation in the Final SEIS.

Land Use Patterns and Plans and Policies

Plan Updates and Code Amendments

The proposals include both a new subarea plan as an element of the Comprehensive Plan, and associated consistency amendments to Comprehensive Plan text and policies as noted in the Final SEIS. The City has scheduled implementation strategies including a Capital Facility Plan amendment in the near term (Subarea Plan Chapter 11) which will help implement necessary improvements to meet the City's service standards.

Development Agreement

The Development Agreement would support future plan-compliant development. None of the exceptions and variations to development regulations authorized in the Development Agreement would result in land use patterns or land use intensities that are different from those anticipated in the Final SEIS.

Aesthetics

Plan Updates and Code Amendments

The proposed form-based code includes many elements that fulfill Final SEIS mitigation measures to address building size and scale, site planning with sustainability and livability elements, and other components:

- Regulating Districts define primary features of overall building form, including lot parameters, massing, height, and permitted uses. A regulating plan defines the regulating district designation and allowed height for each parcel. These regulating districts would be established on the Kirkland Zoning Map and in the related chapter of the Kirkland Zoning Code.
- Frontage Types establish design regulations for private property frontages, including the required front setback and building base. Eligible frontage types are determined based on the adjacent street type for a subject property.
- Street Types set the design intent for specific segments of public ROW, including functional classification, prioritized transportation modes, sidewalk and bikeway facility dimensions, and expected streetscape amenities like trees, planting, hardscape, and street furnishings.

Districtwide Standards apply across the subarea, and include overall transitions, parking, plazas and public spaces, and landscaping and open space.

Development Agreement

- The Development Agreement would not authorize development that exceeds the maximum height permitted in the Form-based Code, and development would be required to be compliant with the adopted Form-based Code and Design Guidelines for the Station Area, except as specifically modified in the Agreement to account for site-specific and development-specific characteristics. The development envisioned under the Development Agreement will require Design Review and would not result in adverse aesthetic impacts beyond those anticipated in the Final SEIS.

Transportation

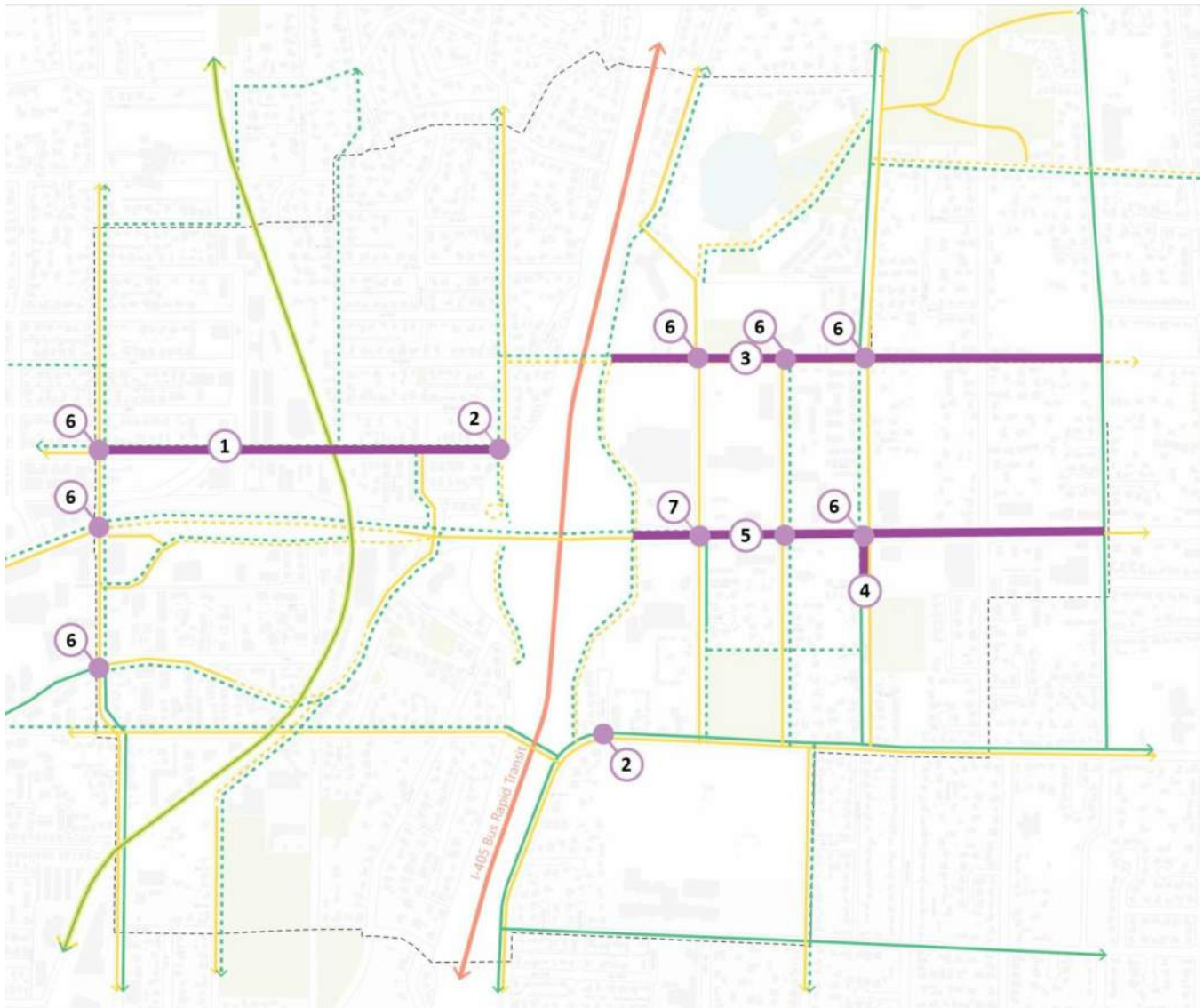
Plan Updates and Code Amendments

Since publication of the Final SEIS, the City has considered some refinements to transportation improvements intended to promote multimodal mobility while meeting City policies and the range of transportation results in the Final SEIS (see Attachment - Refined Recommended Transportation Improvement Projects):

- Mobility and Active Transportation Analysis – see refined investments below
- Corridor Transit Analysis: no additional changes are recommended to specifically accommodate transit beyond what is in the Subarea Plan and Final EIS
- Project Concept Refinement (See Attachment - Refined Recommended Transportation Improvement Projects)
 - Where the Final SEIS transportation evaluation recommended intersection signals or roundabouts, additional review showed potential preferences for compact roundabouts.
 - Enhanced pedestrian and bicycle facilities to meet non-motorized connectivity objectives promoted in the Final SEIS Alternatives. This includes protected bike lanes and protected intersections.
 - Some project concepts would be modified to reflect a closer look at feasibility and accomplishing complete streets and landscaping that provides for walkability. For example, the intersection of NE 85th Street and 120th Avenue NE would have alternative lane configurations and enhanced bicycle lanes and sidewalks. An evaluation shows similar levels of service as anticipated in the Final SEIS with the refined configuration and application of other mitigation, e.g., transportation demand management. (Fehr & Peers, March 24, 2022)

The refined transportation investments will be implemented in the future and included in the Capital Facility Plan and impact fee. The project refinements do not result in new significant impacts, as they primarily occur within existing City right-of-way or along street frontages, and are aligned with Final SEIS mitigation options to address vehicular and active transportation networks in the Station Area Plan. The City has identified person trip information that is equivalent to the Final SEIS PM peak hour trips, and that will be used as the basis for collection of impact fees and to administer the future Planned Action Ordinance thresholds. See Attachment- NE 85th St SAP - Transit Travel Time Person Trip Analysis Memorandum, April 26, 2022.

Exhibit 3. Refined Transportation Investments



- 1. 7th Ave/NE 87th St corridor
- 2. Compact roundabouts at NE 87th St/116th Ave NE and NE 80th St/118th Ave NE
- 3. NE 90th St corridor
- 4. 124th Ave NE protected bike lanes extension to NE 84th Ln
- 5. NE 85th St protected bike lanes
- 6. Protected intersections on arterials and key collectors
- 7. NE 85th/120th Ave NE intersection

Development Agreement

The Development Agreement would authorize development of an intensity consistent with development evaluated in the Final SEIS, and this development would be paired with a robust Transportation Demand Management Program. The Development Agreement also identifies transportation projects that would be implemented concurrently with the development envisioned therein that are consistent with the Final SEIS and this Addendum. As a result, the Development

Agreement would not generate trip volumes or patterns that would result in new transportation system impacts beyond those identified in the Final SEIS.

Public Services

Plan Updates and Code Amendments

The subarea plan and Form-based Code include elements to mitigate for demands on schools and parks. Parks elements are addressed in Exhibit 2.

The form-based code includes incentives and standards to promote school capacity such as:

- Adopt an incentive zoning program in the Station Area Form-based Code that creates development bonuses for new development to provide school space.
- Adopt development standards that can provide Lake Washington School District with more development capacity to build additional school space on current district-owned sites.
- Remove potential development barriers in current regulations that might preclude siting of school facilities on private properties as part of mixed use developments.

Development Agreement

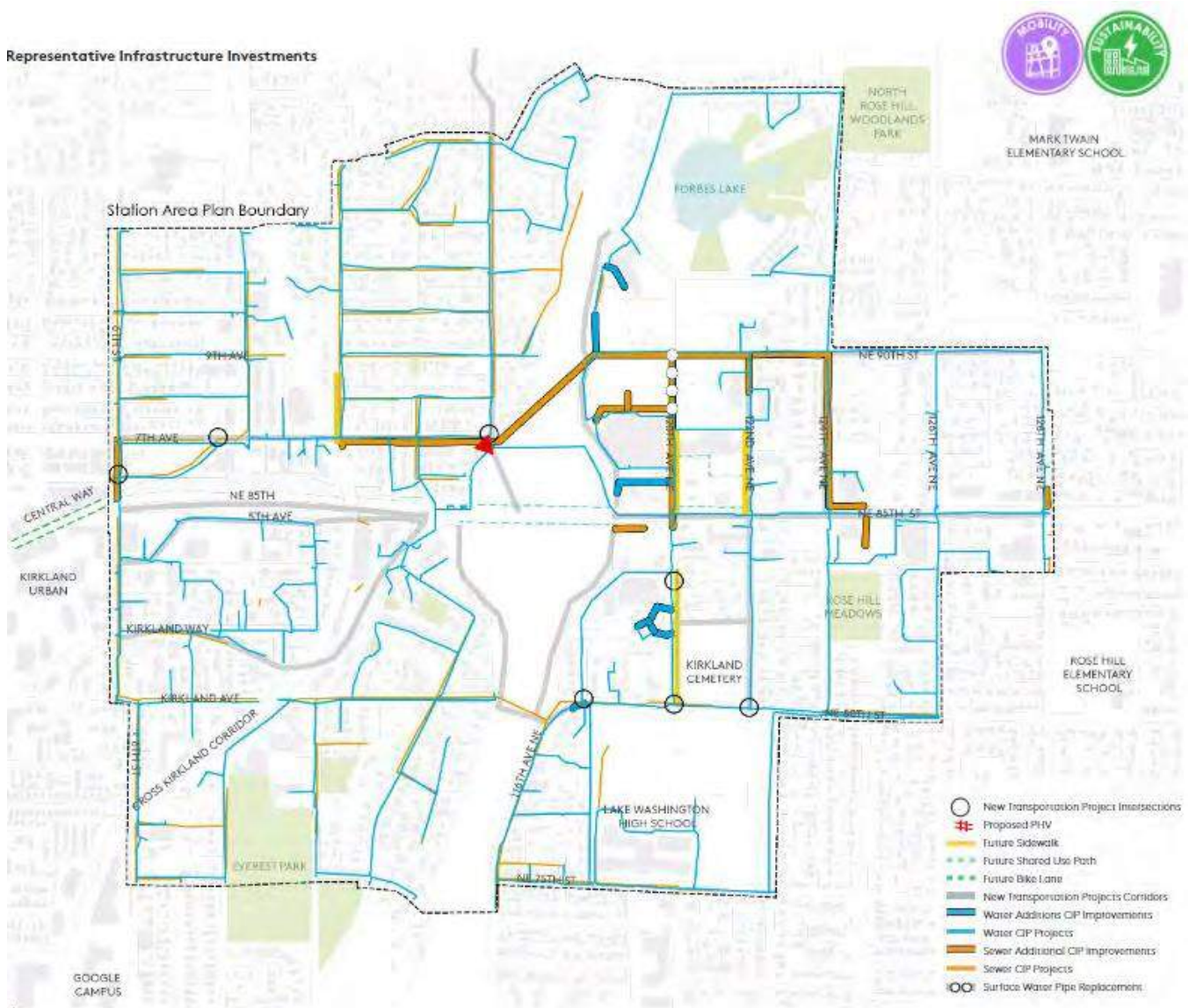
The Development Agreement will not result in any additional impacts to public services beyond those analyzed in the *Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action Final EIS*. The Development Agreement identifies open space improvements that would be built concurrently with development to increase the amount of publicly-accessible space in the Station Area.

Utilities

Plan Updates and Code Amendments

Subarea plan Chapter 11 summarizes key investments in utilities as well as transportation. Highlighted projects are shown in Exhibit 4. The City has continued analysis of the recommended Utilities projects in Exhibit 4 as they relate to forthcoming implementation actions (see Station Area Plan, Appendix 11.1) and calibrating cost allocation responsibilities. The utility mitigation/improvement recommendations have not changed as a result of this analysis.

Exhibit 4. Example Infrastructure Investments



Development Agreement

The development agreement will not result in any additional demand on utilities beyond those analyzed in the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action Final EIS. The Development Agreement identifies utility projects that would be implemented concurrently with the development envisioned therein that are consistent with the Final SEIS.

VII. Public Involvement

Plan Updates and Code Amendments

The City conducted extensive public engagement to develop the draft subarea plan and form-based code. The June 9, 2022 Planning Commission staff report for the Phase 1 code amendments public hearing details the public involvement and responses to comments. The Planning Commission held a

public hearing to receive public testimony on June 9, and continued the meeting to complete their deliberations on June 14, 2022. A public meeting to consider adoption of Phase 1 documents and code amendments is scheduled on June 28, 2022 with the City Council.

Development Agreement

The Development Agreement has been discussed at several public meetings of the City Council and Planning Commission in 2022. The draft Form-based Code published in the meeting materials for the June 9 Planning Commission public hearing on Phase 1 of Station Area Plan adoption includes proposed KZC 57.05.03, Development Agreements – Catalyst Projects which encourages catalyst transit-oriented development projects to be paired with development agreements on sites greater than 4 acres within the Station Area. The Planning Commission has recommended City Council adopt the draft Form-based Code section as drafted for the June 9 public hearing. Additionally, any development agreement requires a public hearing on the full text of the agreement prior to adoption by the City Council.

VIII. Conclusion

A. Plan Updates and Code Amendments

This Final SEIS Addendum fulfills the environmental review requirements for the proposed NE 85th St. Station Area Plan Amendments including the Subarea Plan and Phase 1 Form-Based Code and associated Comprehensive Plan Amendments and design guidelines. The impacts of the proposal are within the range of impacts disclosed and evaluated in the *City of Kirkland Final SEIS for the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action* no new significant impacts have been identified. Therefore, issuance of this Final SEIS Addendum is the appropriate course of action.

Attachments and Links:

- Subarea Plan [Chapter 11](#)
- Refined Recommended Transportation Improvement Projects
- NE 85th St SAP - Transit Travel Time Person Trip Analysis Memorandum, April 26, 2022
- June 9, 2022 Planning Commission [staff report](#)

B. Development Agreement

This Final SEIS Addendum fulfills the environmental review requirements for City Council approval of a Development Agreement authorized in proposed KZC 57.05.03, Development Agreements – Catalyst Projects. The impacts of the approval of a Development Agreement are within the range of impacts disclosed and evaluated in the *City of Kirkland Final SEIS for the Kirkland NE 85th St Station Area Plan, Form-Based Code, and Planned Action*. No new significant impacts have been identified as a result of approval of the proposed Development Agreement. Therefore, issuance of this Final SEIS Addendum is the appropriate course of action.

Refined Transportation Concepts April 2022

Refined Recommended Transportation Improvement Projects



MITHÜN

BERK

ECONorthwest
ECONOMICS • FINANCE • PLANNING

FEHR & PEERS

HERRERA

NE 85th Station Area Plan

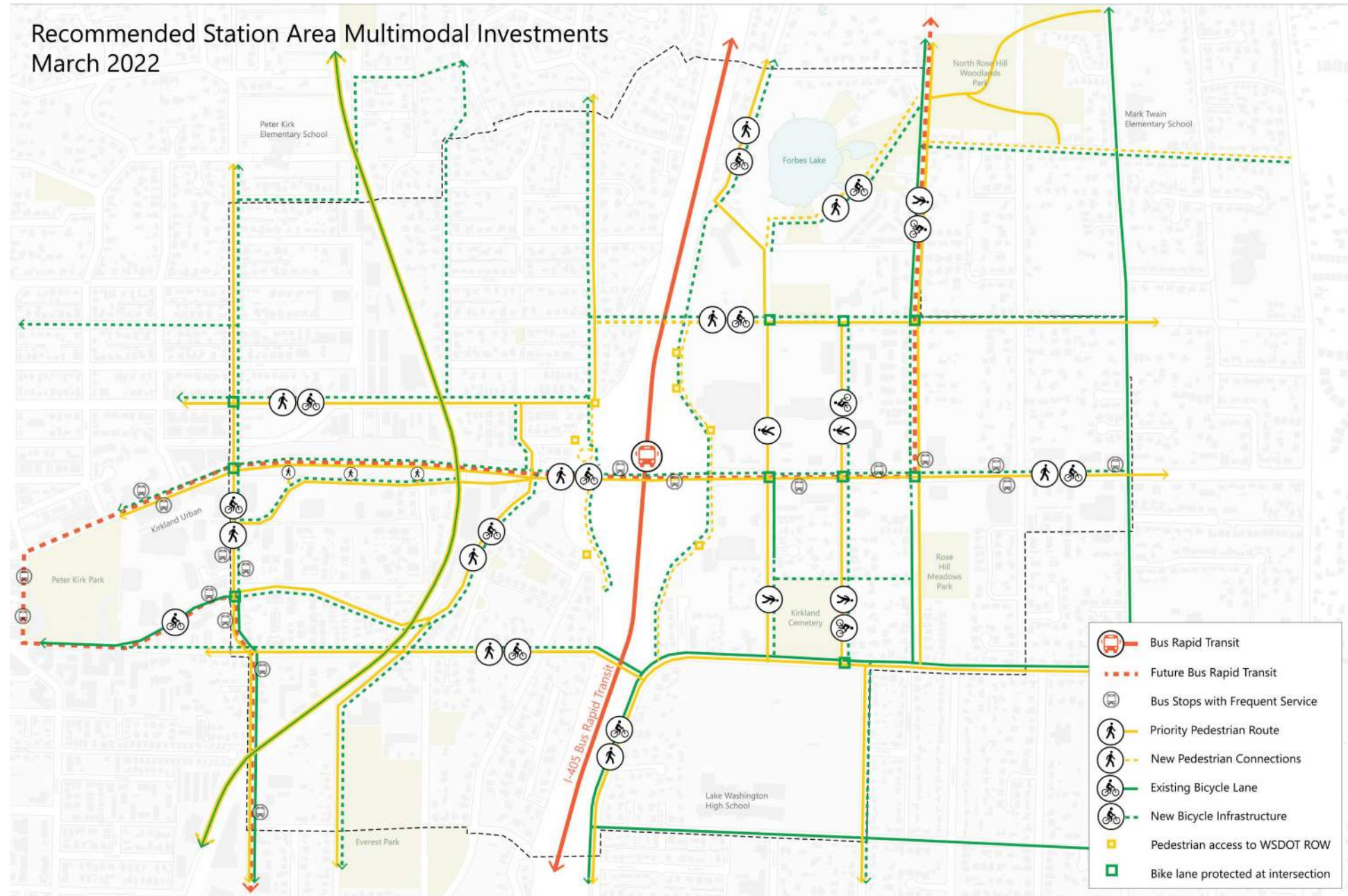
City of Kirkland

April 2022



Transportation Supplemental Analysis

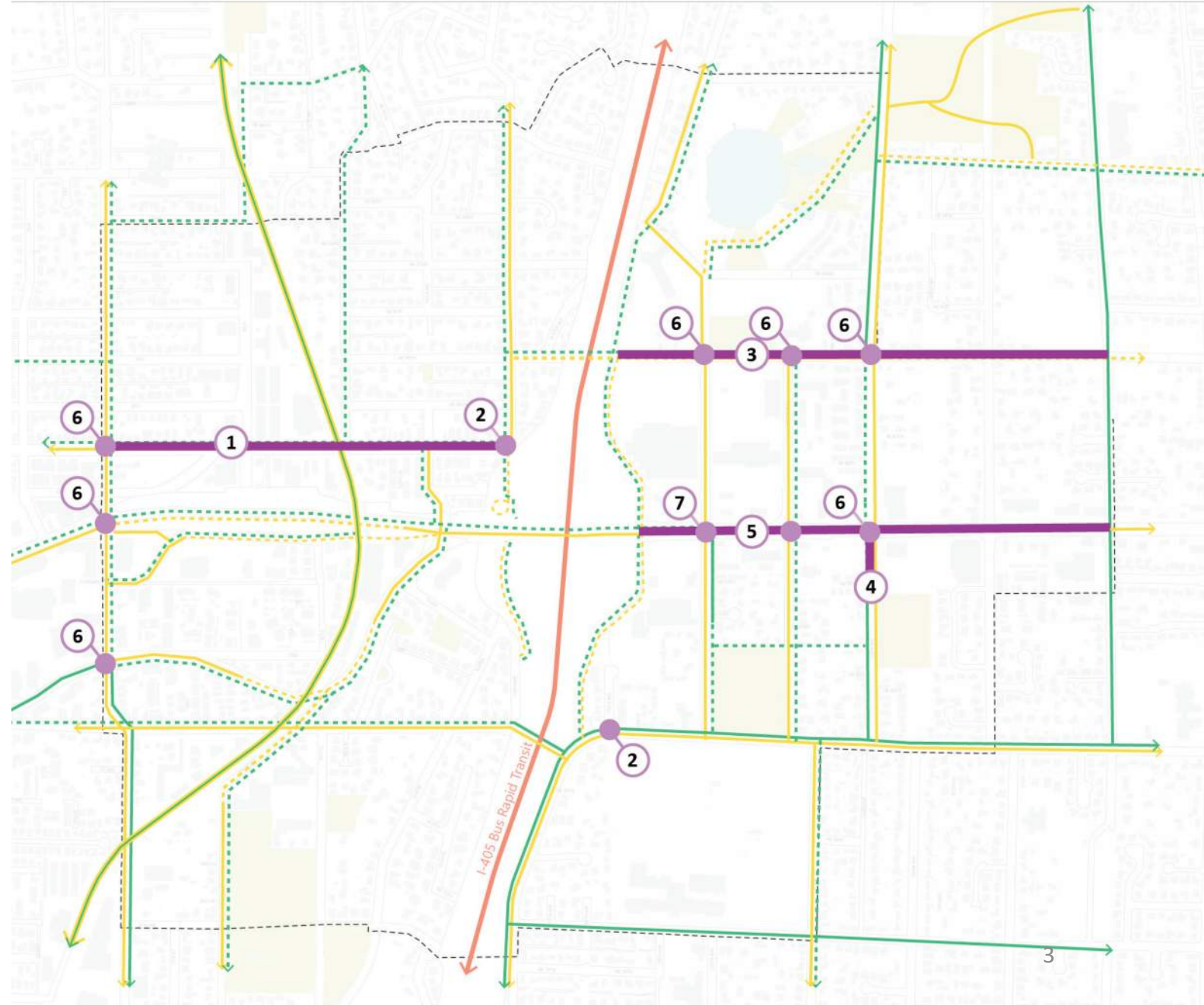
Refined Recommended Transportation Improvement Projects



Transportation Project Refinements

Refined Recommended Transportation Improvement Projects

1. 7th Ave/NE 87th St corridor
2. Compact roundabouts at NE 87th St/116th Ave NE and NE 80th St/118th Ave NE
3. NE 90th St corridor
4. 124th Ave NE protected bike lanes extension to NE 84th Ln
5. NE 85th St protected bike lanes
6. Protected intersections on arterials and key collectors
7. NE 85th/120th Ave NE intersection



7th Ave - NE 87th St Corridor

Refined Recommended Transportation Improvement Projects

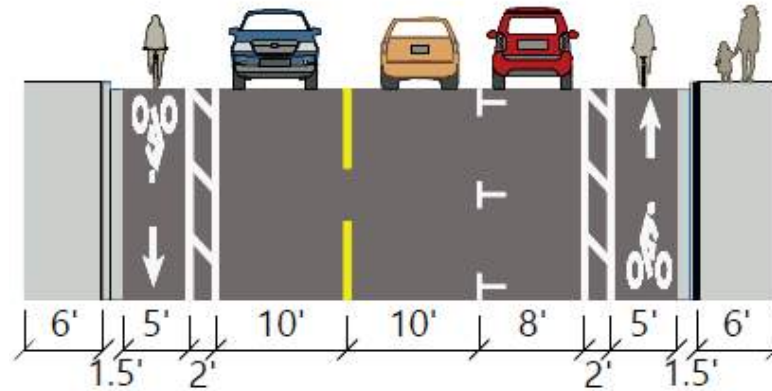
Uphill parking protected bike lane and downhill buffered bike lane from 6th St to the CKC

- Considers existing ROW

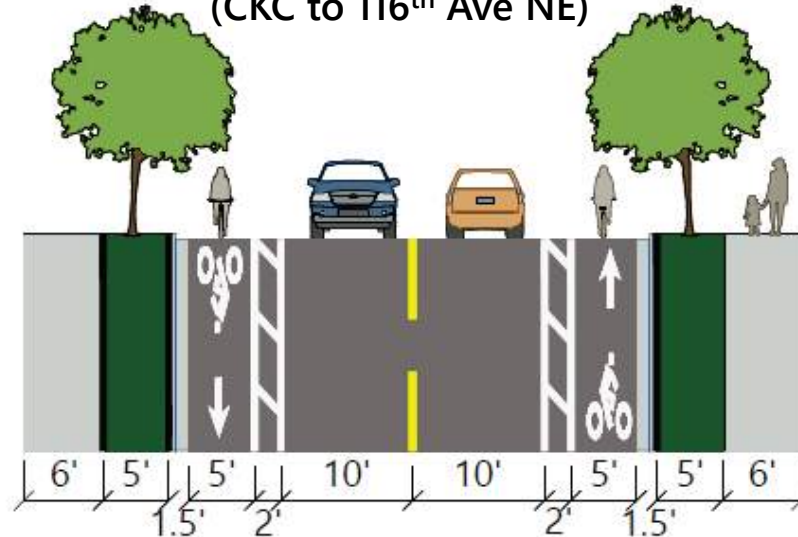
Buffered bike lanes from the CKC to 116th Ave NE

- Considers existing ROW
- Considers driveway access

7th Ave - NE 87th St
(6th St to CKC)



7th Ave - NE 87th St
(CKC to 116th Ave NE)



Compact Roundabouts

NE 87th St and 116th Ave NE

- Slows vehicle speeds on turning roadway with grades
- Considers added vehicle volumes as third intersection leg for access to pick-up/drop-off

NE 80th St and 118th Ave NE

- Slows vehicle speeds on turning roadway with grade
- Considers added vehicle volumes as third intersection leg for access to Lee Johnson Site



Refined Recommended Transportation Improvement Projects

N
N.T.S.

Figure 1

KIRKLAND 85TH STATION AREA PLAN
NE 87TH STREET / 116TH AVENUE NE
CONCEPTUAL DESIGN



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

NE 90th St Corridor

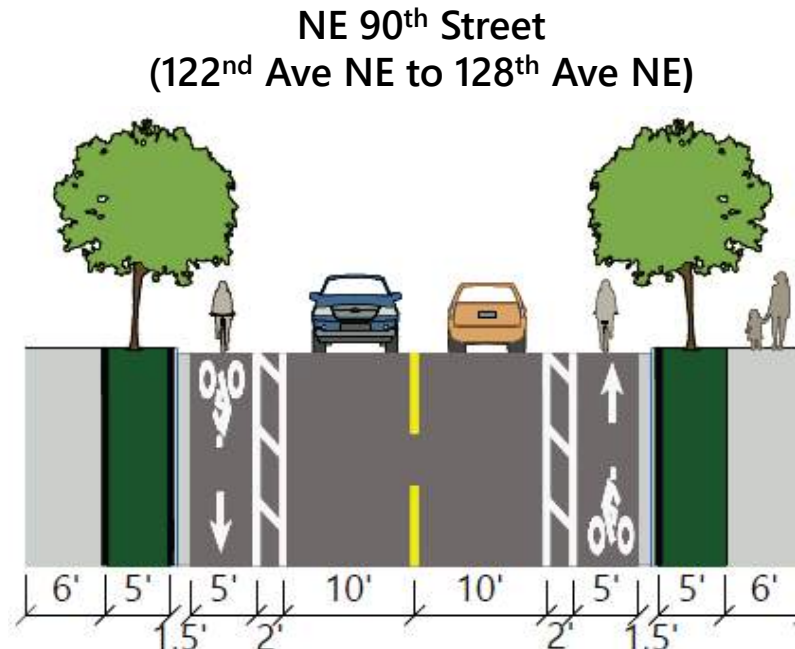
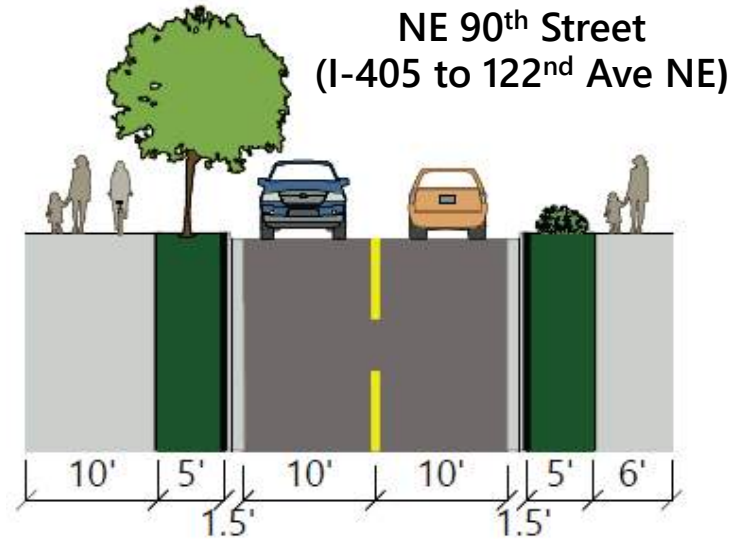
North side shared-use path, possible boardwalk from I-405 to 122nd Ave NE

- Considers transition to existing shared use path that connects north to Slater, or future shared use paths and 90th bridge
- Limits amount pavement in wetland area around Forbes Lake

Buffered bike lanes from 122nd Ave NE to 124th Ave NE

- Considers recent developments and newly completed curb

Greenway from 124th Ave NE to 128th Ave NE



124th Ave NE Corridor

Refined Recommended Transportation Improvement Projects

Extension of protected bike lanes on 124th Ave NE south through 85th intersection to NE 84th Ln

- Transportation Commission recommendation for safe crossing of NE 85th St and to connect to existing bike lanes

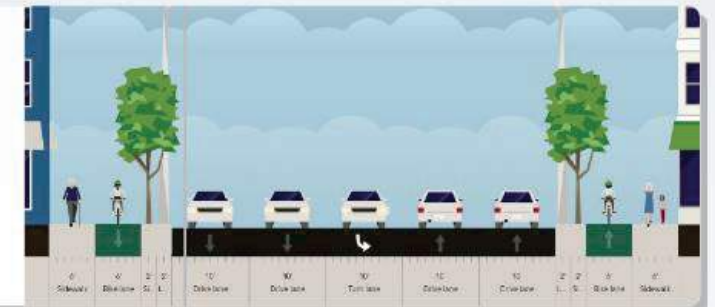


Project #4

124TH AVENUE NE IMPROVEMENTS

PROJECT DESCRIPTION

Widen 124th Avenue NE to five lanes plus physically-separated bike lanes from NE 85th Street through the NE 90th Street intersection. This project also includes continuation of protected bike lanes south through the NE 85th St intersection to NE 84th Lane.



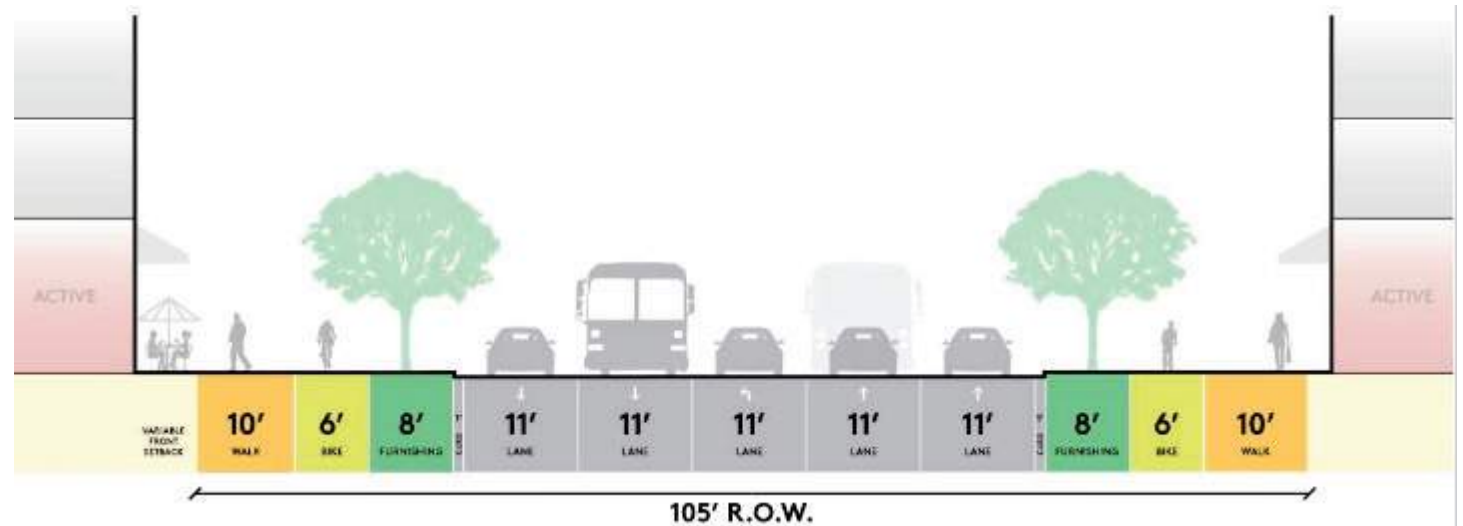
NE 85th St Corridor

Refined Recommended Transportation Improvement Projects

Enhanced sidewalks revised to include one-way protected bike lanes

- Transportation Commission feedback for more comfortable walking and bicycling experience
- Key east-west connection through station area and beyond
- Low-stress facility type for bicycling on high volume arterial

NE 85th Street (122nd Ave NE to 128th Ave NE)*



**Typical cross section, EB dual left lanes to remain at 124th Ave NE*

Protected Intersections

Refined Recommended Transportation Improvement Projects

Protected movements for walking and bicycling through arterial and key collector intersections

- Transportation Commission feedback for improved walking and bicycling safety through intersections

4-way bicycle movements

- 6th St/Kirkland Way
- 6th St/NE 85th St
- 6th St/7th Ave
- 124th Ave NE/NE 90th St
- NE 85th St/124th Ave NE
- NE 85th St/122nd Ave NE



**Conceptual example of a protected intersection that accommodates 4-way bicycle movements*

Protected Intersections

Refined Recommended Transportation Improvement Projects

Protected movements for walking and bicycling through arterial and key collector intersections

- Transportation Commission feedback for improved walking and bicycling safety through intersections

3-way bicycle movements

- NE 90th St/120th Ave NE
- NE 90th St/122nd Ave NE
- NE 80th St/122nd Ave NE
- NE 85th St/120th Ave NE
 - East-west protected bike lanes on NE 85th St, SB bike lane on 120th Ave NE



**Conceptual example of a protected intersection that accommodates 3-way bicycle movements*

NE 85th St & 120th Ave NE Intersection

Refined Recommended Transportation Improvement Projects

April 2022 Revised Concept

- 4 EB approach lanes
- 3 NB approach lanes
- PM peak delay 103 seconds
LOS F
- Requires additional ROW on
120th Ave NE
- Integrates into 405
interchange approach
- Shortens western pedestrian
crossing distance
- Integrates with WSDOT
shared use paths west to
interchange and protected
bike lanes east to 128th Ave
Greenway



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

APRIL 2022 REVISION
KIRKLAND 85TH STATION AREA PLAN
NE 85TH STREET / 120TH AVENUE NE
CONCEPTUAL DESIGN

Memorandum

Date: April 20, 2022 (Updated April 26, 2022)
To: Victoria Kovacs, City of Kirkland
CC: Erin Ishizaki, Mithun
From: Jeff Pierson and Kendra Breiland, Fehr & Peers
Subject: **NE 85th St SAP – Transit Travel Time and Person Trip Analysis**

SE20-0719

This memorandum presents the results of additional analysis requested by the City of Kirkland for the Preferred Alternative for the NE 85th St Station Area Plan.

Transit Time Analysis

Transit travel times within the NE 85th St Station Area were estimated using a combination of data from Google Maps and the existing and future year intersection operations analysis results. Two different routes were evaluated to estimate how travel times for transit vehicles might change from existing conditions to 2044 conditions under the 2044 Preferred Alternative for the Station Area Plan. The two routes are:

- Along NE 85th St between 128th Ave NE and 6th St (Route 250)
- Along NE 85th St and 124th Ave NE between NE 90th St and 6th St (Route 239 and K Line)

The existing range of travel times between these origins and destinations was estimated using historical travel time data from Google Maps for a Tuesday afternoon around 5pm. **Table 1** shows the range, distance, and estimated averaged speeds for each section. These speed estimates are consistent with the data collected as part of Metro's Speed and Reliability Study for the K Line which showed speeds in this corridor ranging from less than 10mph to 20mph.

**Table 1. Existing Travel Time Estimates**

Transit Route	Direction	Distance	Travel Time	Average Speed
250	Westbound	1.4 miles	5 to 10 minutes	8 to 17 mph
250	Eastbound	1.4 miles	5 to 8 minutes	11 to 17 mph
239 / K Line	Westbound	1.3 miles	5 to 9 minutes	9 to 16 mph
239 / K Line	Eastbound	1.3 miles	5 to 9 minutes	9 to 16 mph

Source: Fehr & Peers.

For the 2044 Preferred Alternative, the change in travel time was calculated using the average delay per movement from the intersection Level of Service (LOS) results for the existing year and future year scenarios at the following locations:

- NE 85th St / 6th St
- NE 85th St / Kirkland Way
- NE 85th St / 120th Ave NE
- NE 85th St / 124th Ave NE
- NE 85th St / 128th Ave NE
- NE 90th St / 124th Ave NE

The additional travel time for transit vehicles through the new interchange at I-405 is assumed to be negligible since transit has dedicated right-of-way. The differences in delay for each of the movements along the transit routes were added to the existing travel time estimates in Table 1. As shown in **Table 2**, the travel times increase by approximately 1 to 2 minutes in each direction through the study area.

Table 2. 2044 Alternative B (Preferred) Travel Time Estimates

Transit Route	Direction	Distance	Travel Time	Average Speed
250	Westbound	1.4	7 to 12 minutes	7 to 12 mph
250	Eastbound	1.4	6 to 9 minutes	9 to 14 mph
239 / K Line	Westbound	1.3	7 to 11 minutes	7 to 11 mph
239 / K Line	Eastbound	1.3	6 to 10 minutes	8 to 13 mph

Source: Fehr & Peers.

These estimates assume the proposed intersection mitigations at the intersections of NE 85th St / 120th Ave NE and NE 90th St / 124th Ave NE which reduce the overall vehicular delay and also accommodate transit vehicles travelling through the study area. Beyond these mitigations, no additional changes are recommended to specially accommodate transit since right-of-way along



the corridor is limited and converting general purpose travel lanes to transit-only lanes significantly increase congestion for all vehicles, including the transit.

Mode Share

The number of person trips and modal percentages for each quadrant of the study area were estimated using information from the Bellevue-Kirkland-Redmond (BKR) travel demand model and the Puget Sound Regional Council (PSRC) regional travel demand model. The initial number of PM peak hour vehicle trip generated by the project were calculated using Fehr & Peers' MainStreet tool, which incorporates built environment variables to better reflect trip generation rates in dense urban areas compared with standard rates from the ITE Trip Generation Manual. The BKR model was used to estimate the number of transit trips and the PSRC model was used to estimate the number of walk and bike trips.

Table 3 and **Table 4** on the next page show the number of person trips and mode splits for 2044 Alternatives A and B. The modal splits between the alternatives are similar with the preferred alternative showing a 1% increase in the mode shares for transit, walk, and bike trips. Overall, the number of vehicle trips (SOV and HOV) increased by 45% while other modes increased by 55% between Alternative A and Alternative B.

Table 5 shows how the number of person trips by mode could shift due to travel demand management (TDM) policies that encourage drivers to shift to alternate modes. Based on the TDM strategies identified in Fehr & Peers' October 12th, 2021 Supplemental Transportation Analysis memo, a 13% reduction in vehicle trips was determined to be reasonable based on the policies that will be implemented as part of the subarea plan. The trips are assumed to proportionally shift from SOV and HOV trips to transit, walk, and bike trips.

Table 6 shows the percent change in person trips by quadrant assuming a 13% reduction in SOV and HOV trips between Alternative B with and without the TDM policies. This translates to a 31% increase in the number of transit, walk, and bike trips. **Table 7** shows the absolute change in modal splits with SOV and HOV trips decreasing by 7% and 2% respectively and transit and walk/bike trips increasing by 4% and 6% respectively.

**Table 3. 2044 Alternative A (No Action) PM Peak Hour Person Trips**

Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	830	230	140	240	1,440
Northeast	3,920	1,280	700	1,350	7,250
Southwest	1,650	460	390	440	2,940
Southeast	3,380	1,120	610	1,080	6,190
Total	9,780	3,090	1,840	3,110	17,820
Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	57%	16%	10%	17%	100%
Northeast	54%	18%	10%	19%	100%
Southwest	56%	16%	13%	15%	100%
Southeast	55%	18%	10%	17%	100%
Total	55%	17%	10%	17%	100%

Source: Fehr & Peers.

Table 4. 2044 Alternative B (Preferred) PM Peak Hour Person Trips

Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	1,140	330	200	380	2,050
Northeast	4,350	1,300	800	1,380	7,830
Southwest	2,100	590	500	570	3,760
Southeast	6,670	2,060	1,500	2,400	12,630
Total	14,260	4,280	3,000	4,730	26,270
Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	56%	16%	10%	19%	100%
Northeast	56%	17%	10%	18%	100%
Southwest	56%	16%	13%	15%	100%
Southeast	53%	16%	12%	19%	100%
Total	54%	16%	11%	18%	100%

Source: Fehr & Peers.

**Table 5. 2044 Alternative B (Preferred) with TDM PM Peak Hour Person Trips**

Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	990	290	270	510	2,060
Northeast	3,780	1,130	1,070	1,840	7,820
Southwest	1,830	510	660	760	3,760
Southeast	5,800	1,790	1,940	3,100	12,630
Total	12,400	3,720	3,940	6,210	26,270
Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	48%	14%	13%	25%	100%
Northeast	48%	14%	14%	24%	100%
Southwest	49%	14%	18%	20%	100%
Southeast	46%	14%	15%	25%	100%
Total	47%	14%	15%	24%	100%

Source: Fehr & Peers.

Table 6. 2044 Alternative B (Preferred) with TDM Percent Change in Person Trips

Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	-13%	-12%	35%	34%	0%
Northeast	-13%	-13%	34%	33%	0%
Southwest	-13%	-14%	32%	33%	0%
Southeast	-13%	-13%	29%	29%	0%
Total	-13%	-13%	31%	31%	0%

Source: Fehr & Peers.

Table 7. 2044 Alternative B (Preferred) with TDM Change in Mode Split

Quadrant	SOV	HOV	Transit	Walk/Bike	Total
Northwest	-8%	-2%	3%	6%	0%
Northeast	-7%	-2%	3%	6%	0%
Southwest	-7%	-2%	4%	5%	0%
Southeast	-7%	-2%	3%	6%	0%
Total	-7%	-2%	4%	6%	0%

Source: Fehr & Peers.

Appendix – Transit Travel Time Analysis Assumptions

Intersection volume forecasts were developed using 2035 land use projections outside of the station area and 2044 land use projections within the station area. The following intersections were used to estimate changes in travel time between existing conditions and the preferred alternative. The proposed mitigations at two of the intersections are described.

- **NE 85th St / 6th St** – no mitigations proposed.
- **NE 85th St / Kirkland Way** – no mitigations proposed/not a study intersection.
- **NE 85th St / 120th Ave NE** – identified mitigation for this intersection includes widening the northbound approach to include a dual left turn lane and a shared through/right turn lane; an additional eastbound through lane was assumed consistent with the planned improvements for the I-405/NE 85th St Interchange project.
- **NE 85th St / 122nd Ave NE** – no mitigations proposed/not a study intersection.
- **NE 85th St / 124th Ave NE** – no mitigations proposed.
- **NE 85th St / 128th Ave NE** – no mitigations proposed/not a study intersection.
- **NE 90th St / 124th Ave NE** – identified mitigation for this intersection includes adding northbound and southbound through lanes and restriping the eastbound through lane to be an eastbound through/left/right lane with east/west split phasing.

In addition to the above mitigations, the LOS analysis for the preferred alternative assumed lower demand volumes due to the proposed TDM policies.

NE 85th St / Kirkland Way was not evaluated for the updated land use alternatives so the delay results from Alternative 2 in the DEIS were used instead in order to capture the benefit of the proposed roundabout configuration.

NE 85th St / 122nd Ave NE was not evaluated for the updated land use alternatives so the future delays were increased 25% from existing conditions, consistent with the change in delay at nearby intersections.

NE 85th St / 128th Ave NE was not a study intersection for the station area plan, but the City provided existing volumes and signal timings such that delays could be calculated. For the future scenario, delays were increased 25% from existing conditions, consistent with the change in delay at nearby intersections.

The tables on the following pages show the calculations for the change in travel time for each of the transit routes.

Route 250 – Westbound

Intersection	Movement	Existing Delay (s)	Future Delay (s)	Difference (s)
NE 85th St / 128th Ave NE	WBT	10.1	12.6	2.5
NE 85th St / 124th Ave NE	WBT	47.6	50.2	2.6
NE 85th St / 122nd Ave NE	WBT	1.7	2.1	0.4
NE 85th St / 120th Ave NE	WBT	9.3	107.3	98.0
NE 85th St / Kirkland Way	WBT	21.8	6.9	-14.9
NE 85th St / 6th St	WBT	48.9	46.1	-2.8
<i>Total</i>	-	<i>139.4</i>	<i>225.2</i>	<i>85.8</i>

Source: Fehr & Peers.

Route 250 – Eastbound

Intersection	Movement	Existing Delay (s)	Future Delay (s)	Difference (s)
NE 85th St / 6th St	EBT	53.8	60.6	6.8
NE 85th St / Kirkland Way	EBT	32.0	15.4	-16.6
NE 85th St / 120th Ave NE	EBT	18.9	40.4	21.5
NE 85th St / 122nd Ave NE	EBT	1.3	1.6	0.3
NE 85th St / 124th Ave NE	EBT	2.7	28.0	25.3
NE 85th St / 128th Ave NE	EBT	11.0	13.8	2.8
<i>Total</i>	-	<i>119.7</i>	<i>159.8</i>	<i>40.1</i>

Source: Fehr & Peers.

Route 239/K Line – Westbound

Intersection	Movement	Existing Delay (s)	Future Delay (s)	Difference (s)
NE 90th St / 124th Ave NE	SBT	16.1	48.6	32.5
NE 85th St / 124th Ave NE	SBR	27.3	33.7	6.4
NE 85th St / 122nd Ave NE	WBT	1.7	2.1	0.4
NE 85th St / 120th Ave NE	WBT	9.3	107.3	98.0
NE 85th St / Kirkland Way	WBT	21.8	6.9	-14.9
NE 85th St / 6th St	WBT	48.9	46.1	-2.8
<i>Total</i>	-	<i>125.1</i>	<i>244.7</i>	<i>119.6</i>

Source: Fehr & Peers.

Route 239/K Line – Eastbound

Intersection	Movement	Existing Delay (s)	Future Delay (s)	Difference (s)
NE 85th St / 6th St	EBT	53.8	60.6	6.8
NE 85th St / Kirkland Way	EBT	32.0	15.4	-16.6
NE 85th St / 120th Ave NE	EBT	18.9	40.4	21.5
NE 85th St / 122nd Ave NE	EBT	1.3	1.6	0.3
NE 85th St / 124th Ave NE	EBL	69.4	58.8	-10.6
NE 90th St / 124th Ave NE	NBT	18.7	48.6	29.9
<i>Total</i>	-	<i>194.1</i>	<i>225.4</i>	<i>31.3</i>

Source: Fehr & Peers.

We did not perform a quantitative analysis of converting a general-purpose travel lane into a transit-only lane along NE 85th St since the PM peak hour demand for through travel along the corridor is between 1,200 to 1,500 vehicles per hour in each direction. The assumed capacity of a single travel lane at a signalized intersection is between 600 to 800 vehicles per hour. The delay experienced by all vehicles would be substantial with this conversion.

There would be limited benefit from installing an eastbound transit queue jump or transit signal priority in the dedicated right-turn lane at the intersection of NE 85th St / 122nd Ave NE due to the low future delay estimate (less than two seconds on average).

The highest delay for transit at the evaluated intersections is for westbound routes at NE 85th St / 120th Ave NE. The proposed design at this location:

- Provides an enhanced landscape buffer and dedicated pedestrian/bike facilities along NE 85th Street to increase comfort for those walking and biking;
- Installs a bumpout on the northwest corner, which reduces the north-south crosswalk length and tightens the radius for southbound right-turning vehicles.

With these design elements, there is not sufficient right-of-way to include dedicated transit lanes. Overall, the increase in travel times along the entire segments are between 1-2 minutes