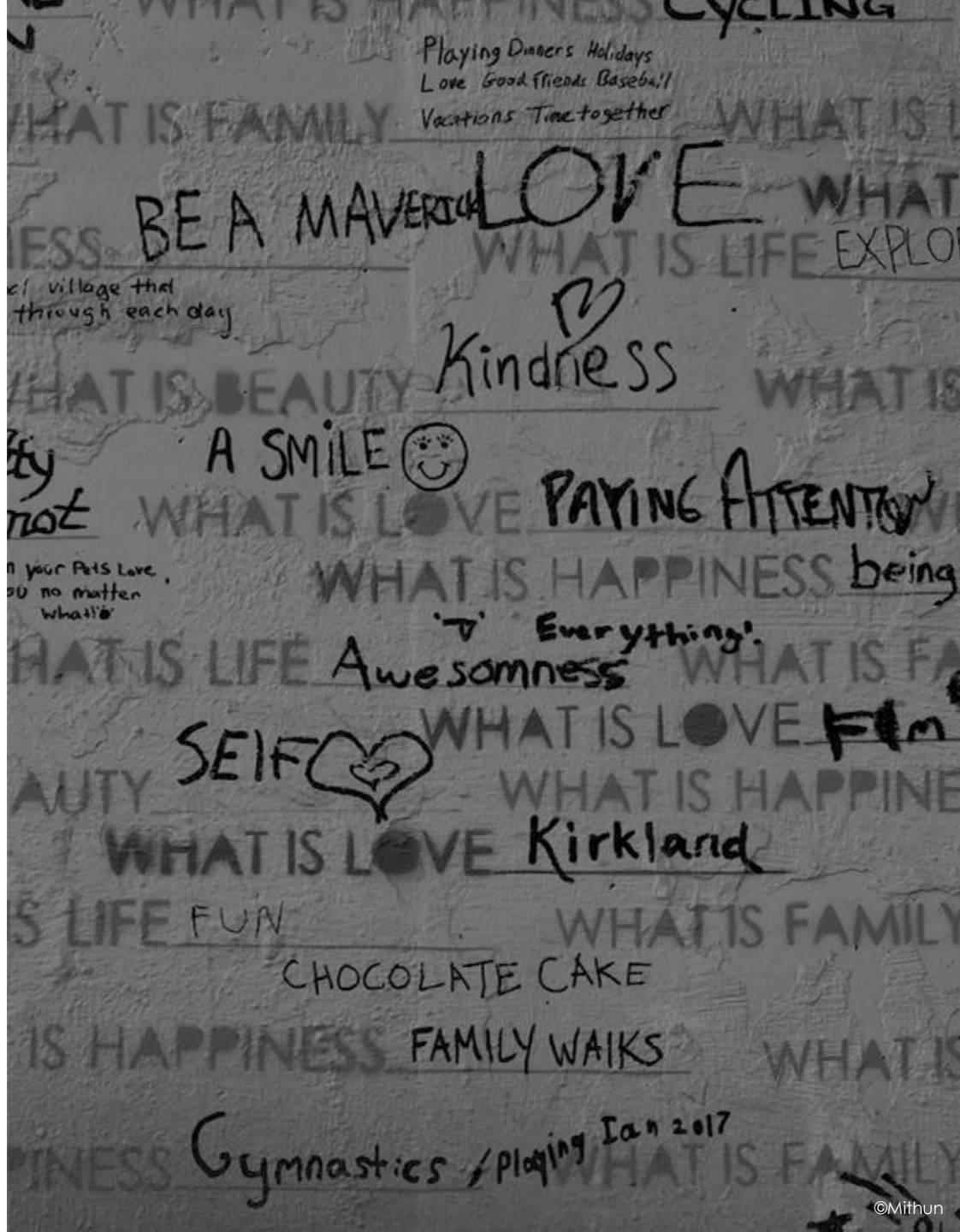
Supplemental Transportation Analysis

NE 85th Station Area Plan
Transportation Commission Briefing

City of Kirkland
Fehr & Peers

September 22, 2021



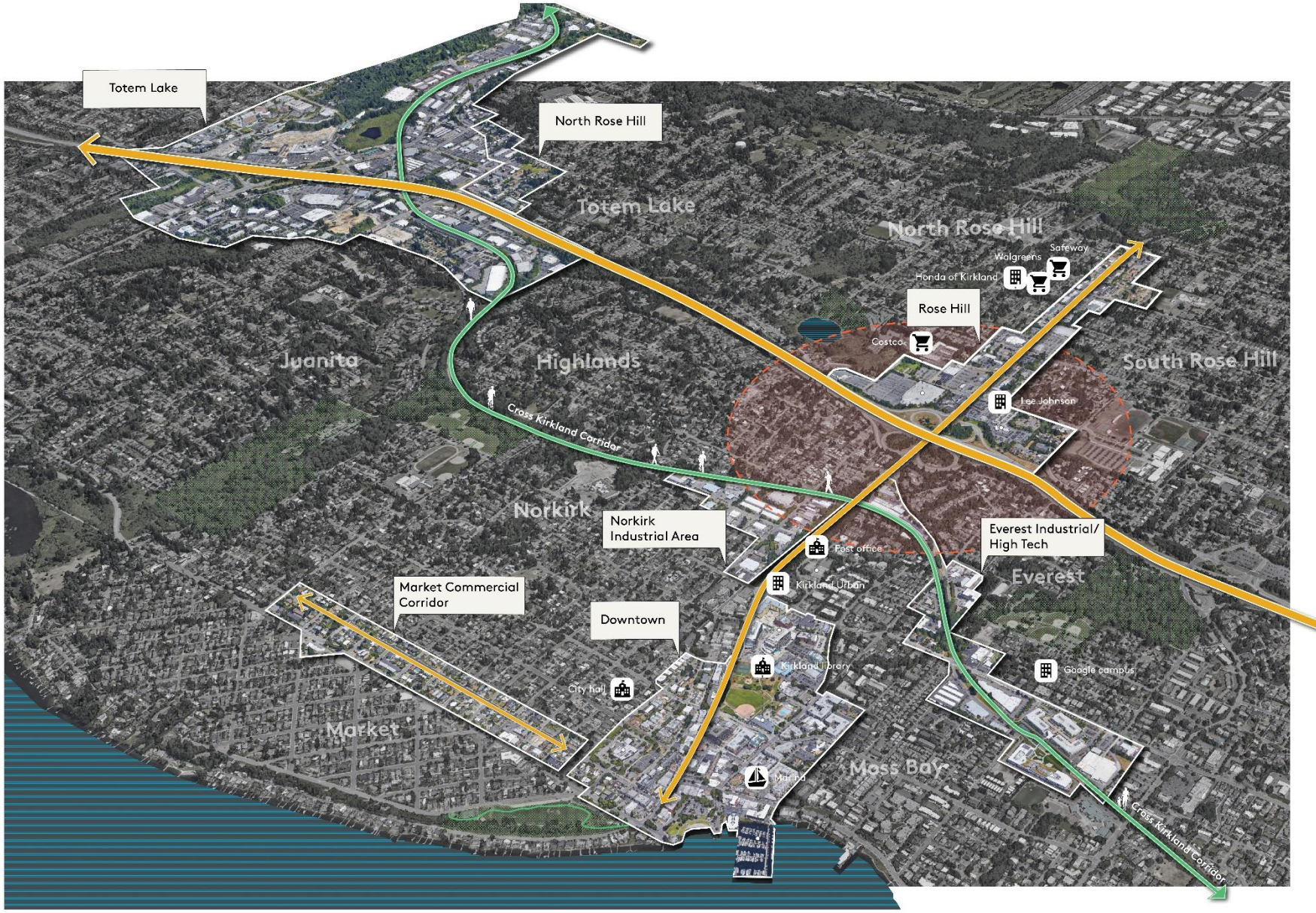
Plan Overview & Comments

Project Objective

Leverage the WSDOT/Sound Transit I-405 and NE 85th St Interchange and Inline Stride BRT station regional transit investment

Maximize transit-oriented development and create the most:

- **Opportunity for an inclusive, diverse, and welcoming community**
- **Value for the City of Kirkland**
- **Community benefits including affordable housing**
- **Quality of life for people who live, work, and visit Kirkland**



Concepts & Growth Framework

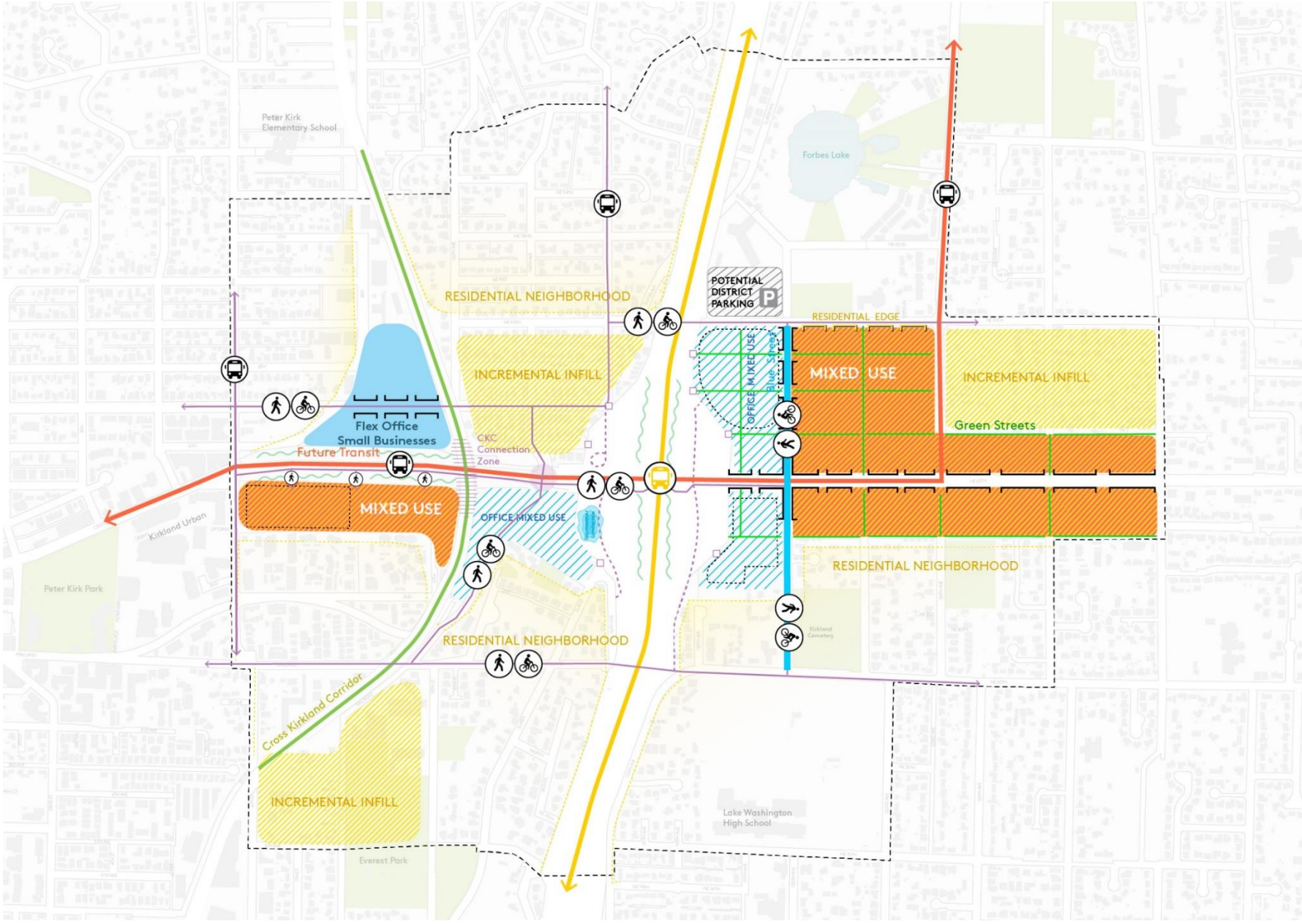
Sets Areas of Change: NE 85th, Norkirk, CKC corridor
(builds off Comprehensive Plan)

Assumes future BRT Station & Interchange improvements

Includes initial Bike/Ped Improvements
(builds off Active Transportation Plan)

Environmental goals
(builds off Sustainability Plan)

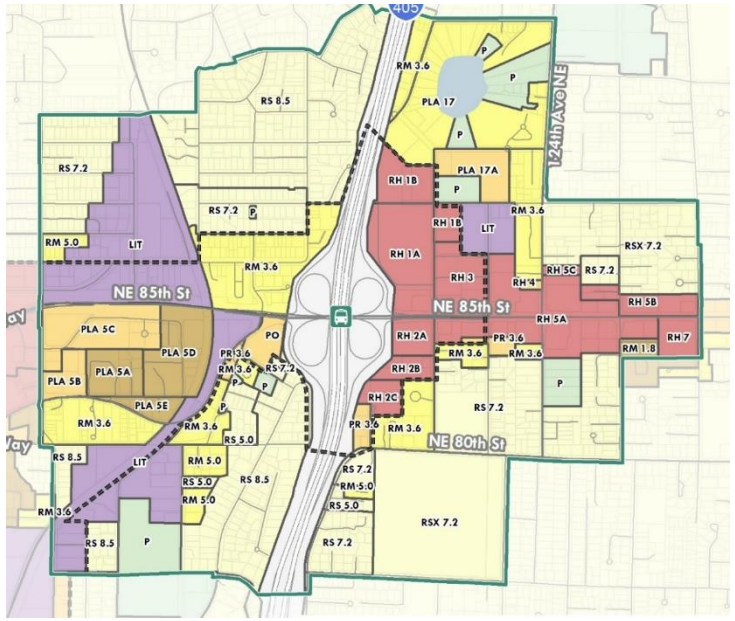
Assumes public services required to support new development



3 DSEIS Alternatives Summary

ALTERNATIVE 1
No Action

Reflects **existing zoning and current plans.** It makes no planning changes to accommodate projected growth.

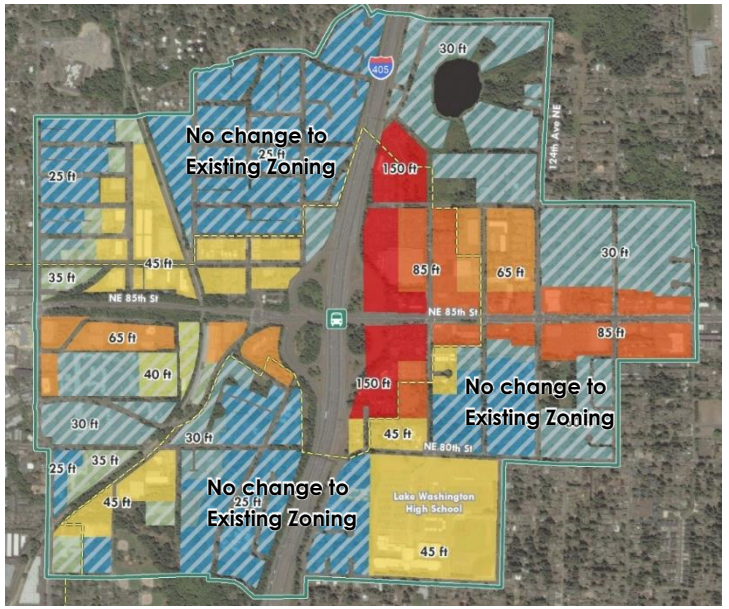


Max Allowable Heights: **67'**
Typical Allowable Heights: **30-35'**

Total Households: **2,782**
Total Jobs: **10,859**

ALTERNATIVE 2
Guiding Transit-Oriented Growth

Allows **moderate growth** around transit, primarily **focused on existing commercial areas such as Rose Hill**.

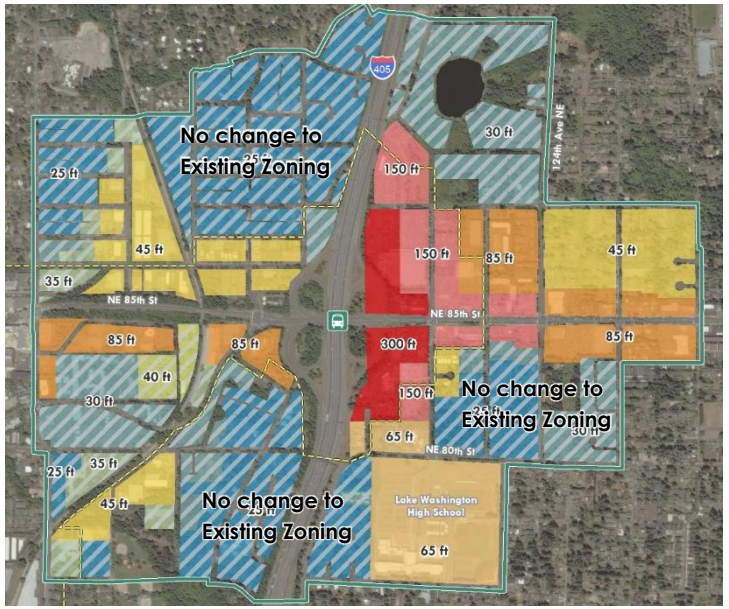


Max Allowable Heights: **150'**
Typical Allowable Heights: **55-85'**

Total Households: **8,509**
Total Jobs: **28,688**

ALTERNATIVE 3
Transit-Oriented Hub

Allows **most growth** to support transit-oriented development, primarily **focused on existing commercial areas such as Rose Hill**.



Max Allowable Heights: **300'**
Typical Allowable Heights: **85-150'**

Total Households: **10,909**
Total Jobs: **34,988**

Fiscal Impact & Community Benefits Study Approach

Setting Priorities Together

The Community Benefits and Fiscal Impacts Study will help us set priorities together – and take a practical approach to maximizing community benefits and the regional transit investment in the Bus Rapid Transit station for years to come. The Study will narrow the range of alternatives presented in the DSEIS and will help set a preferred direction for the Station Area Plan.

Study Approach

The Study is designed to help understand real-world implications of the alternatives being considered by analyzing potential value capture from likely development that could be applied to community benefits and potential fiscal impacts and costs.

It has two parallel tracks:

- **Community Benefits & Tradeoffs Strategies**
  - **Schools**
  - **Affordable Housing**
  - **Parks, Open Space**
- **Fiscal Impacts Analysis**
  - **Costs/Revenues for Public Services**
  - **Costs/Revenues for Infrastructure**

Basis of the Study

A narrowed range of alternatives to help set a preferred direction for the Station Area Plan.

— Community Benefits & Tradeoffs Strategies

- — Studies the tradeoffs between transit-oriented development, growth, and community benefit
- — Analyzes “residual land value” based on growth assumptions and development typologies
- — Recommends policy and plan strategies to maximize that value for community benefit per project priorities & objectives

— Fiscal Impacts Analysis

- — Studies possible costs & revenues on the range of alternatives
- — Analyzes costs needed to provide public services and infrastructure based on growth assumptions and development typologies
- — Analyzes potential revenues from both existing policies (ex. Impact Fees) and possible policies being considered (ex. Commercial Linkage Fees)

June Alternatives for Study Briefing—

Goals for the Fiscal Impacts & Benefits Study

Criteria for the June Alternatives

1. **Prioritize changes that create real value to the community**
   - Focus on a transit-connected district that maximizes the regional Sound Transit investment in BRT
   - Maximize affordable housing and economic development potential

2. **Promote enhanced connections and multiple ways to get around**
   - Improve the function of NE 85th as an urban, multi-modal corridor
   - Create a low-stress priority bike & pedestrian network that serves the full area
   - Transit should operate effectively along NE 85th and other streets

3. **Support community character**
   - Include height transitions to existing residential areas
   - Minimize significant changes to character outside of the proposed growth corridors (ex. with transportation improvements)
   - Remove environmentally critical areas from growth framework
   - Consider phasing and growth over time

June Alternatives & Major Changes from DSEIS

- **Remove DSEIS Alternative 3** levels of growth from further consideration
- Use a **revised version of DSEIS Alternative 1** as the lower limit of growth to be studied (June Alternative B: Current Trends)
- Use a **reduced version of DSEIS Alternative 2** as the upper limit of growth to be studied (June Alternative B: Transit Connected Growth)

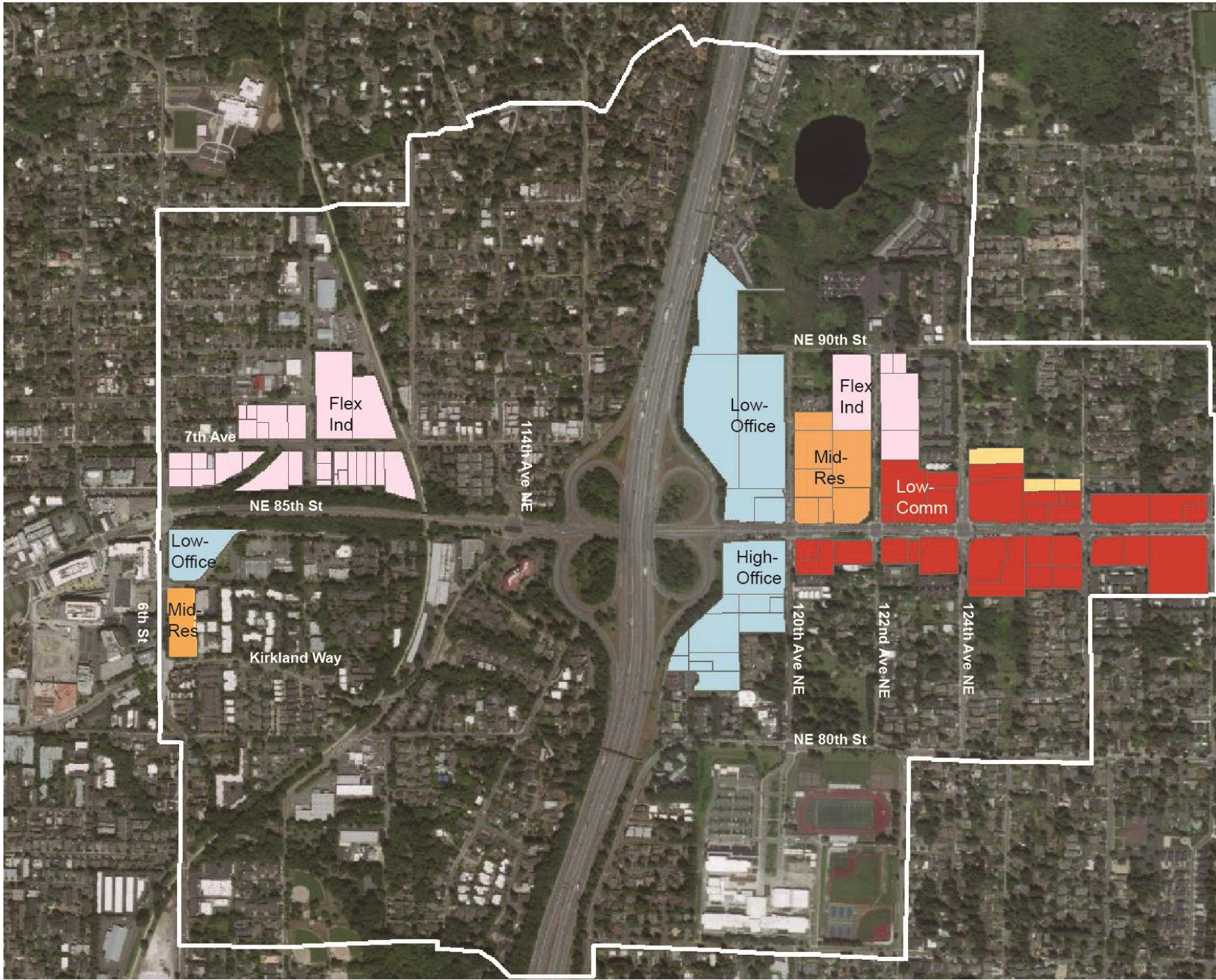
Alternative	Total Future Households	Total Future Employment
DSEIS No-Action Alternative	2,782	10,859
June Alternative A: Current Trends	**3,669**	**11,821**
June Alternative B: Transit Connected Growth	**8,003**	**20,151**
DSEIS Alternative 2	8,509	28,688
DSEIS Alternative 3	10,909	34,988

June Alternative A Current Trends Development Typologies

Based on the starting point of DSEIS Alternative 1: No Action and current zoning

Adjusts growth to reflect recent development trends (which exceed 2015 Comp Plan projections)

Quadrant	Households	Employment
NW	515	1,164
NE	1,844	3,468
SW	710	3,787
SE	600	3,403
Totals	**3,669**	**11,821**



- Low-Intensity Residential
- Mid-Intensity Residential
- Low-Intensity Office
- Low-Intensity Commercial
- Urban Flex Industrial

Note: Areas not highlighted not studied as redeveloped.

June Alternative B: Transit Connected Growth Development Typologies

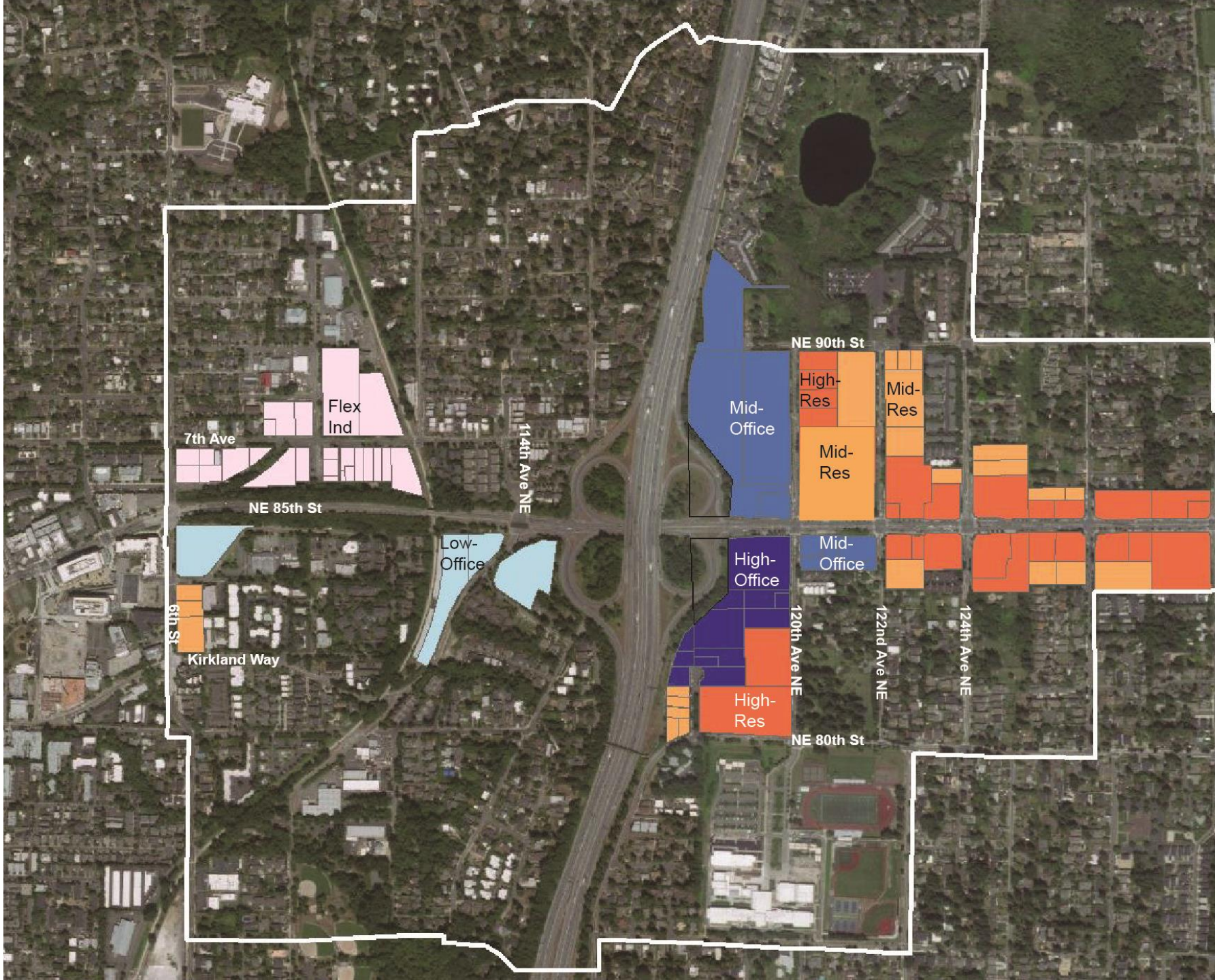
Based on the starting point of DSEIS Alternative 2: Guiding Transit-Oriented Growth

Lowers overall growth and redistributes growth and transitions to reflect public comment and infrastructure needs

Quadrant	Households	Employment
NW	538	1,241
NE	2,915	7,571
SW	710	3,338
SE	3,839	8,001
Totals	**8,003**	**20,151**

- Mid-Intensity Residential
- High-Intensity Residential
- Low-Intensity Office
- Mid-Intensity Office
- High-Intensity Office
- Urban Flex Industrial

Note: Areas not highlighted not studied as redeveloped.



Additional Transportation Network Solutions for Consideration -Urban Gondola

London Emirates Air Line (Image by CUP)

Yenimahalle Teleferik, Ankara (Image by Steven Dale)

Three stations connecting 85th Station Area, Kirkland Urban and Kirkland Transit Center.

Questions for Transportation Commission

Questions/comments about how the potential transportation network improvements address the goals developed for the fiscal impacts/benefits study?

<u>Goals for Fiscal Impacts/Community Benefits Study</u>

1. Prioritize changes that create real value to the community

2. Promote enhanced connections and multiple ways to get around

3. Support community character

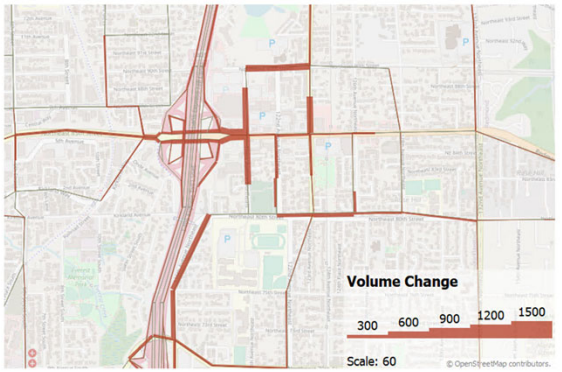
85th SAP Transportation Update

July 28 Update

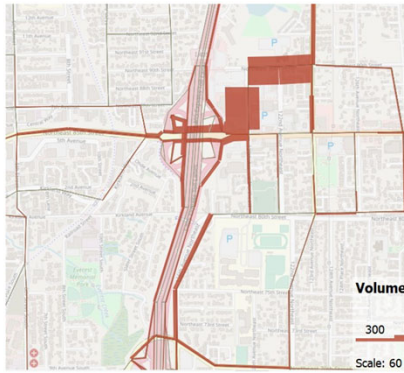
Presented June Alternatives A & B

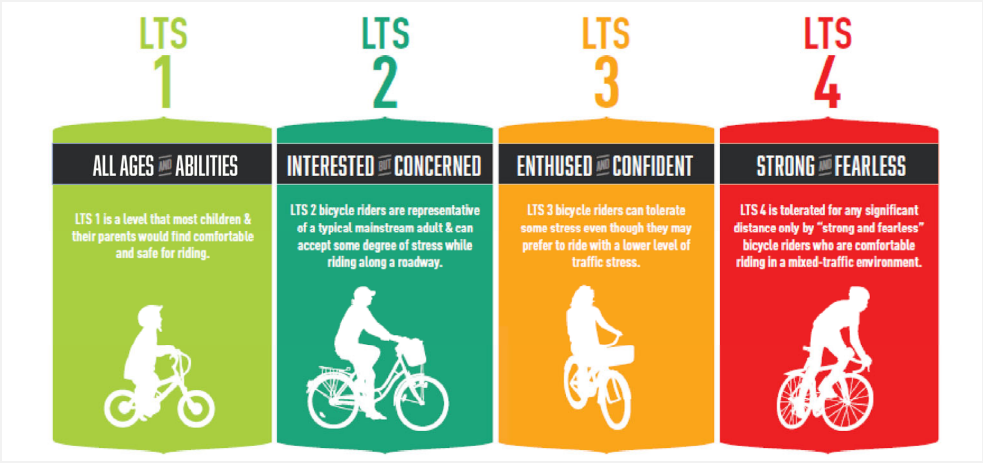
- Land use
- Trip generation
- Preliminary traffic operations analysis
- Discussion of transportation demand management (TDM) strategies
- Conditions for walking and biking in the study area

2044 Alternative B



2044 Alternative 2





Feedback from the Transportation Commission

TC Comment	Response
Update the bike LTS approach.	We updated our analysis to be more sensitive to traffic volumes and speed.
ADA accessibility is very important – please prioritize improvements that are ADA accessible.	Mobility for everyone, including people with disabilities, was a strong emphasis in the development of the Recommended Station Area Investments.
Traffic speed has a major impact on safety and comfort. The SAP should consider roadway speeds.	Our recommended investments attempt to improve the comfort and safety of those walking and rolling through design treatments to the urban environment. The City monitors the appropriateness of posted speed limits on an ongoing basis and may modify speed limits over time based on changes in the SAP.

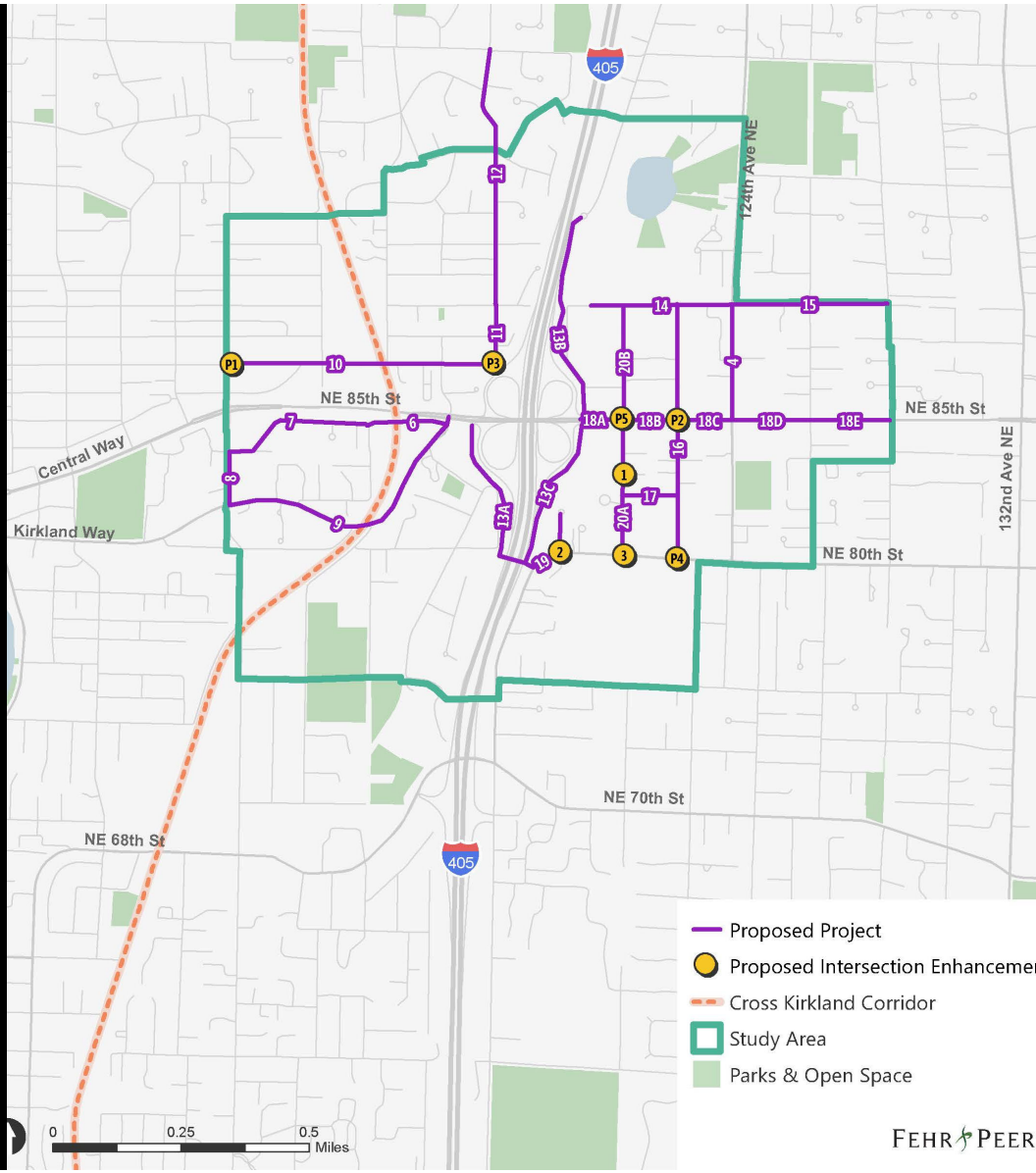
Feedback from the Transportation Commission

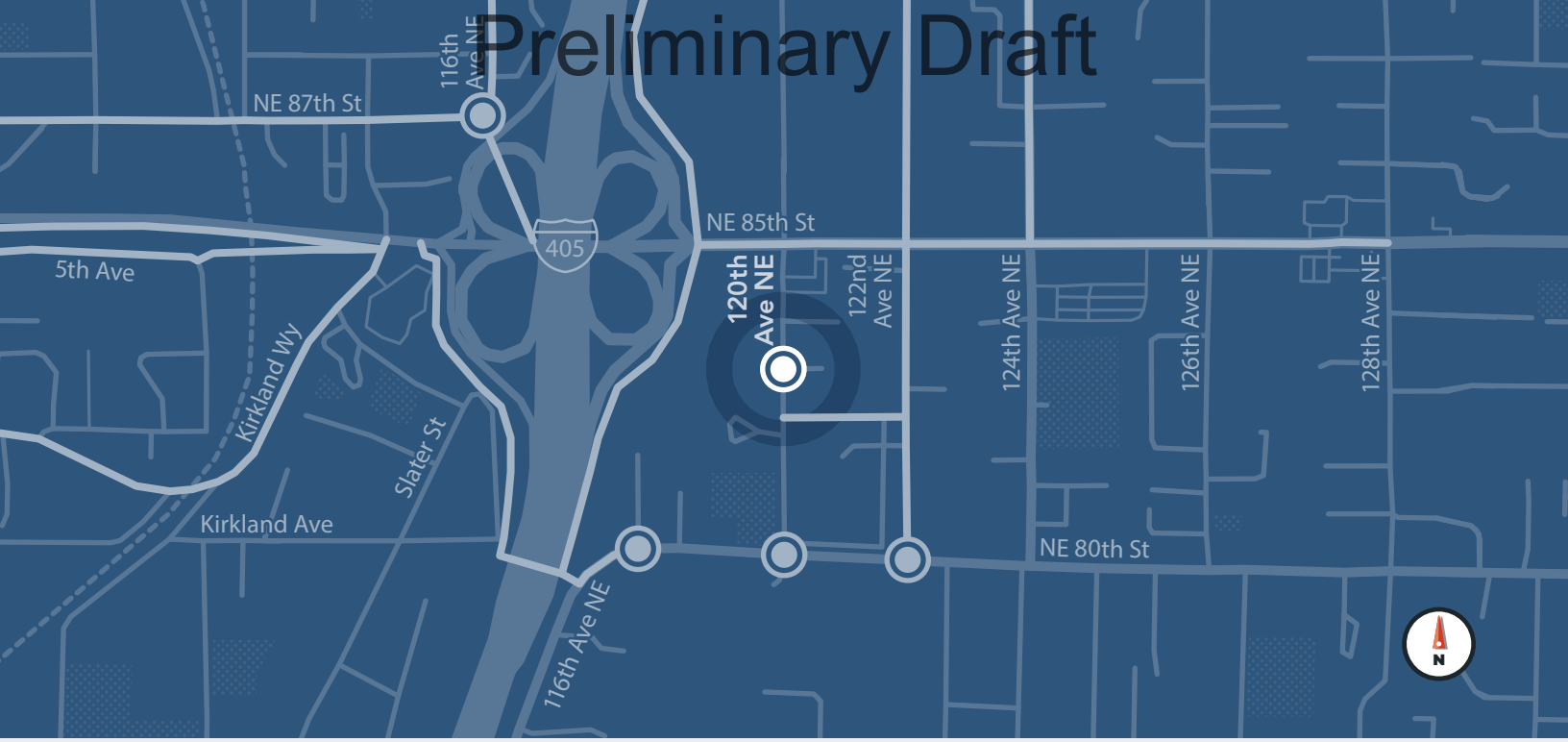
TC Comment	Response
Consider bold improvements for transit along 85th Street, such as center-lane running transit.	The Kirkland Transit Implementation Plan evaluated several alternatives to identify optimal transit priority solutions along NE 85th Street, including side and center-running transit lanes between I-405 and 6th Street. Center running transit was removed for further consideration due to limited speed and reliability benefits for the substantial cost and challenges related to pedestrian access.
Please look into improvements needed along Kirkland Way to provide a low-stress environment for walking and biking.	We have included buffered bike lanes and sidewalks along Kirkland Way from 6th Street to 85th Street.
Please update the maps to be color-blind accessible.	Done

Feedback from the Transportation Commission

TC Comment	Response
If 118th Avenue is made an access to the Lee Johnson site, please consider the neighborhood impacts.	Agreed. Under this option, we would assume that 118th Avenue is improved to include sidewalks.
Please evaluate potential impacts of the June Alternatives to the south.	We added 70th/116th into our analysis and found that the project would not impact this intersection's ability to perform at WSDOT's LOS standard.
Please consider intersection treatments to improve conditions for walking and biking – not just linear facilities.	We have included concepts for several key locations, including: 6th Street/7th Avenue; 87th Street/116th; 85th/120th; 85th/122; and 80th/122nd

Project Number	Recommended Station Area Investment
1	Lee Johnson East Access (Including 120th Corridor from NE 83rd to NE 85th Street)
2	Lee Johnson South Access
3	NE 80th Street/120th Avenue NE Signal Improvement (Including 120th Corridor from NE 80th to NE 83rd Street)
4	124th Avenue NE Widening
5	NE 85th Street Lane Addition
6	5th Avenue to Kirkland Way Shared Use Trail
7	5th Avenue Greenway
8	6th Street Widened Sidewalks
9	Kirkland Way Complete Street
10	7th Avenue/NE 87th Street Complete Street
11	NE 87th Street/116th Avenue NE Complete Street
12	116th Avenue NE Greenway
13A	405 Interchange Path (SW)
13B	405 Interchange Path (NE)
13C	405 Interchange Path (SE)
14	NE 90th Street Complete Street
15	NE 90th Street Greenway
16	122nd Avenue NE Bike Route
17	120th Avenue NE to 122nd Avenue NE Ped-Bike Connection
18A	NE 85th Street Enhanced Sidewalks
18B	NE 85th Street Enhanced Sidewalks
18C	NE 85th Street Enhanced Sidewalks
18D	NE 85th Street Enhanced Sidewalks
18E	NE 85th Street Enhanced Sidewalks
19	116th Avenue NE Pedestrian/Bike Access to Overcrossing
20	120th Avenue NE improvements (NE 85th Street to NE 90th Street)
P1	6th Street/7th Avenue Intersection Treatment
P2	NE 85th Street / 122nd Avenue NE Bicycle Signal Improvements
P3	NE 87th Street/116th Avenue NE Enhanced Intersection
P4	122nd Avenue NE and NE 80th Street Intersection Treatment





Project #1

LEE JOHNSON EAST ACCESS (INCLUDING 120TH CORRIDOR FROM NE 83RD TO NE 85TH STREET)

PROJECT DESCRIPTION

New complete street and signalized connection to 120th Avenue NE, as well as a new northbound lane on 120th Avenue NE connecting to NE 85th Street.

Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Cost
- Right-of-way

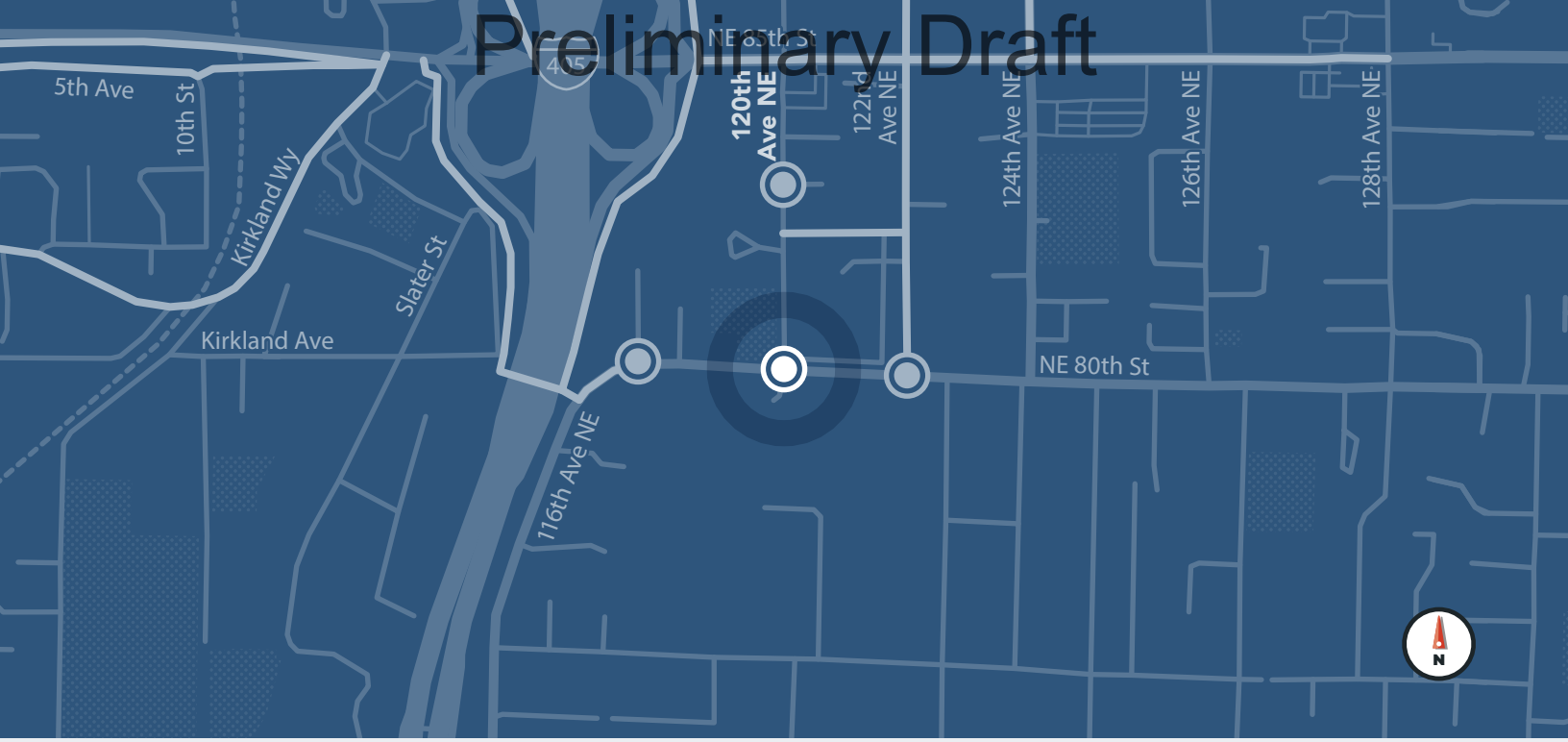
Planning-level Cost

Low

$X,XXX

High

$X,XXX



Project #3

NE 80TH STREET/120TH AVENUE NE SIGNAL IMPROVEMENT

(INCLUDING 120TH CORRIDOR FROM NE 80TH TO NE 83RD STREET)

PROJECT DESCRIPTION

Improve 120th Avenue between NE 80th Street and NE 83rd Street and improve intersection with NE 80th Street to add southbound left turn pocket to separate left and right turning movements.

Project Catalyst

- Station Access
- Complete Network
- **Capacity for Growth**

Implementation Considerations

- Cost
- Right-of-way
-
-

Planning-level Cost

Low

$X,XXX

High

$X,XXX

Project #4

124TH AVENUE NE WIDENING

PROJECT DESCRIPTION

Widen 124th Avenue NE to five lanes plus bike lanes from NE 85th Street through the NE 90th Street intersection.

Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way constraints
- Cost
- Bike facility will be high-stress

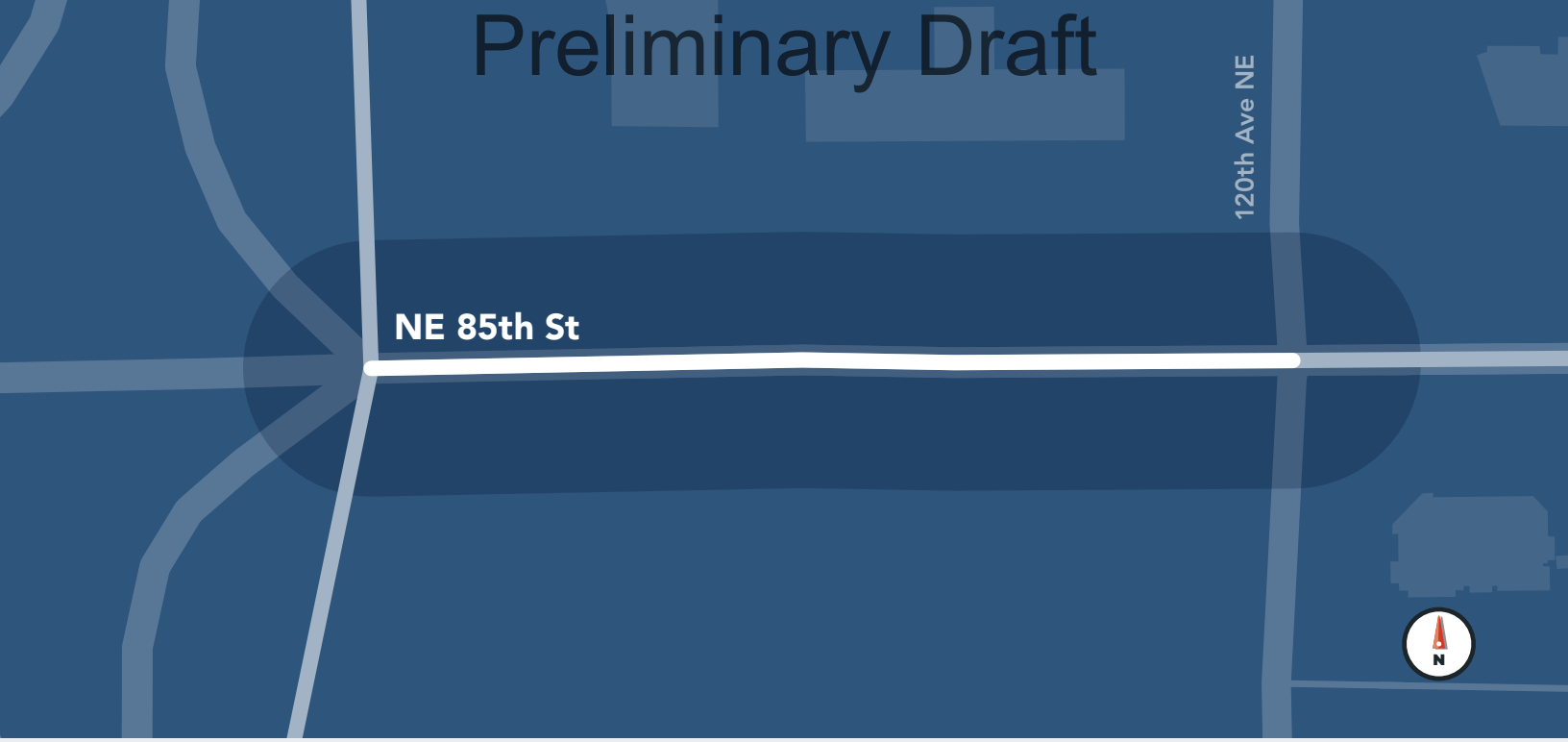
Planning-level Cost

Low

$X,XXX

High

$X,XXX



Project #5

NE 85TH STREET LANE ADDITION

PROJECT DESCRIPTION

New eastbound right turn lane on NE 85th Street from I-405 off ramp to 120th Avenue NE provides additional access to Lee Johnson site

Project Catalyst

Station Access

Complete Network

Capacity for Growth

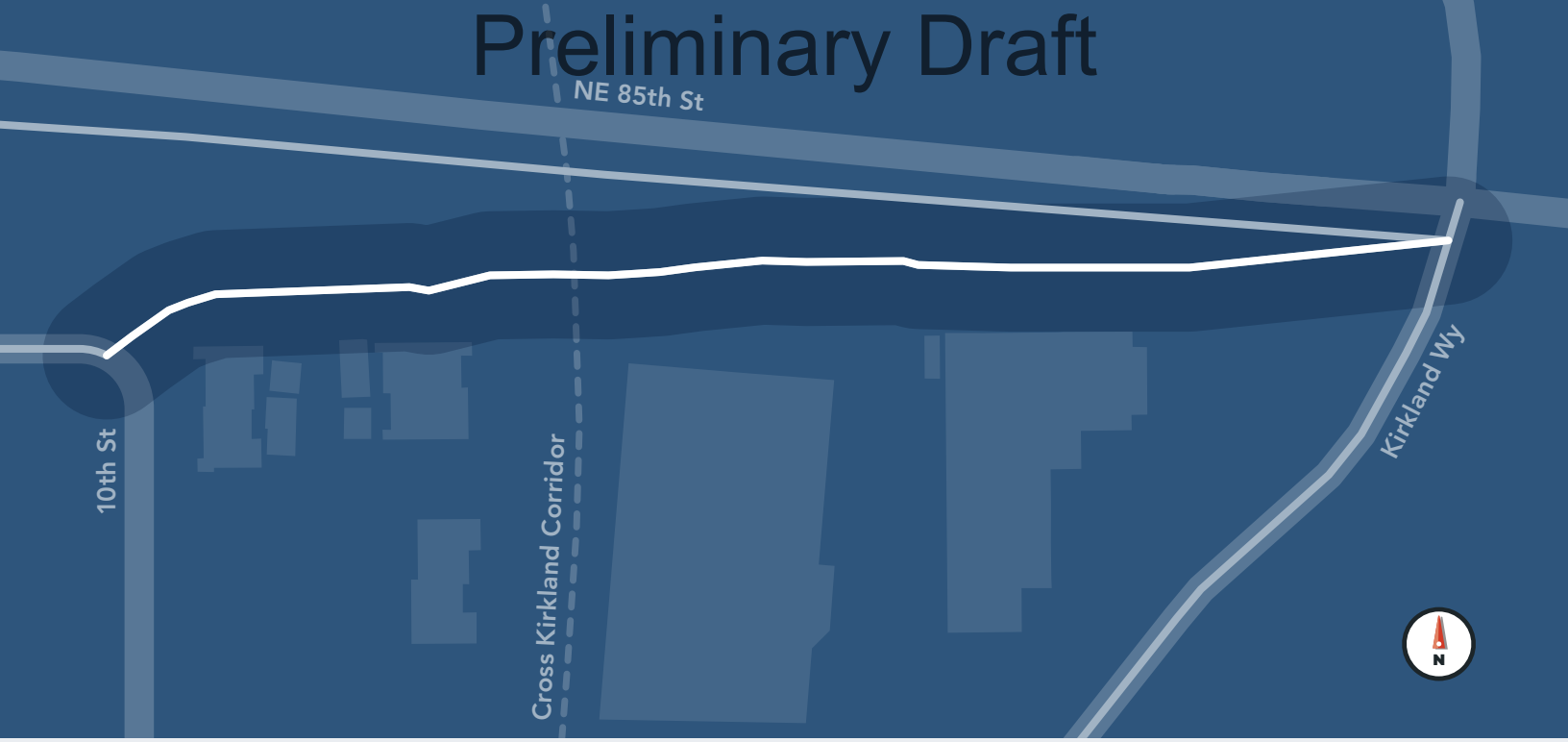
Implementation Considerations

- Right-of-way constraints
- Cost
- Impact on pedestrian environment (longer crossings)

Planning-level Cost

Low
$X,XXX

High
$X,XXX



Project #6

5TH AVENUE TO KIRKLAND WAY SHARED USE TRAIL

PROJECT DESCRIPTION

Improve shared use trail from 5th Avenue to Kirkland Way by widening to 12 feet, minimizing grade, and adding lighting

Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

Implementation Considerations

- Right-of-way constraints
- Cost
- Grade

Planning-level Cost

Low
$X,XXX

High
$X,XXX

Project #7

5TH AVENUE GREENWAY

PROJECT DESCRIPTION

Add sharrows and signage to make these quiet streets serve as a greenway

Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

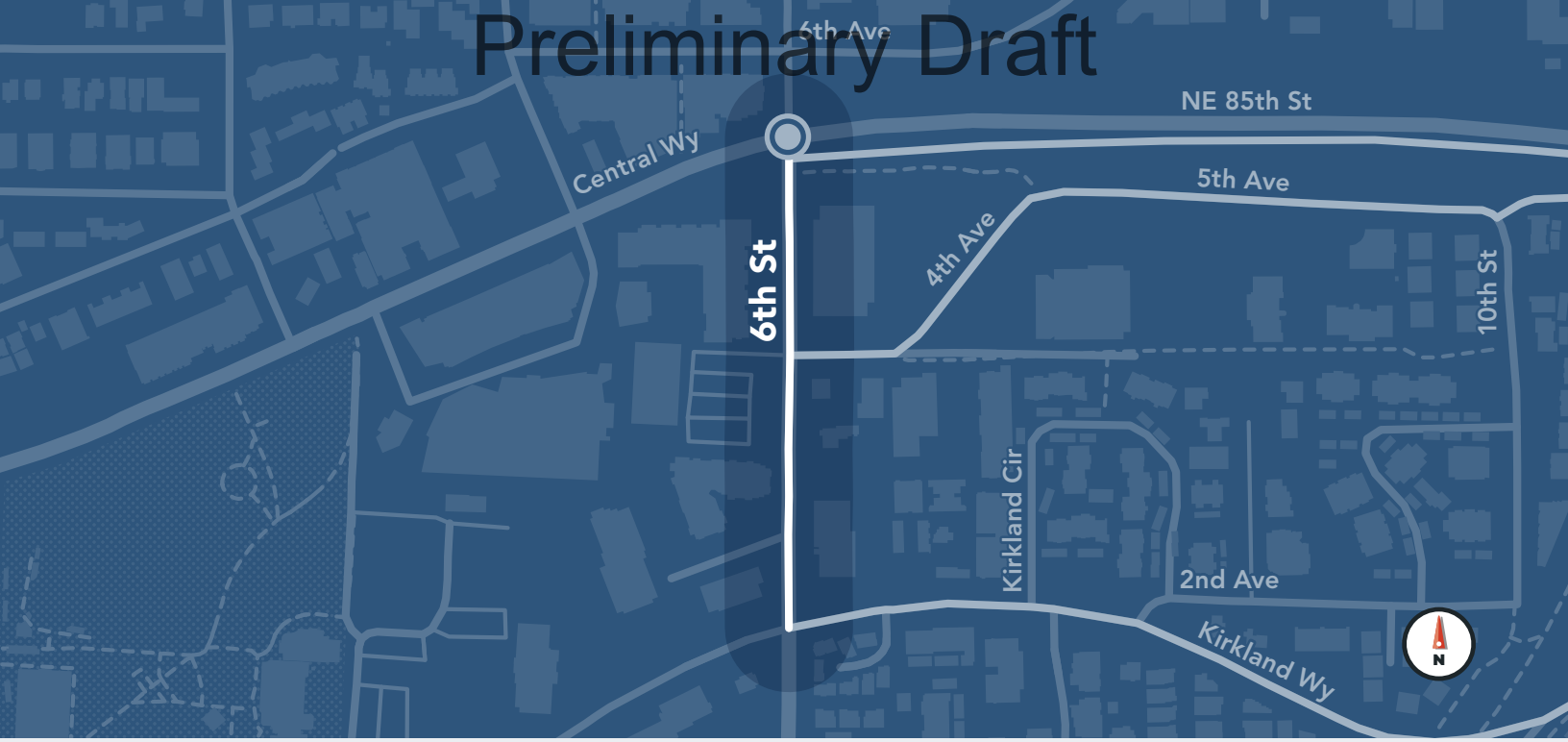
Implementation Considerations

- May require enhanced treatment on west end of corridor

Planning-level Cost

Low
$X,XXX

High
$X,XXX

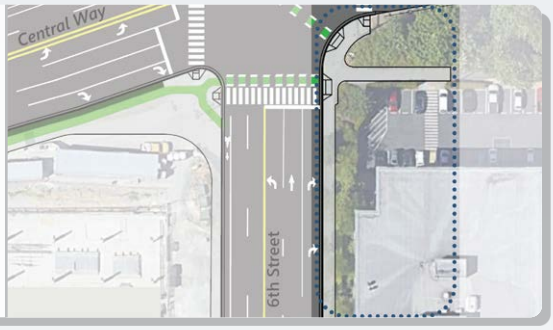


Project #8

6TH STREET WIDENED SIDEWALKS

PROJECT DESCRIPTION

Add widened sidewalk on the east side of 6th Street between Kirkland Way and Central Avenue so that northbound bicyclists can share the facility with pedestrians



Project Catalyst

- Station Access
- **Complete Network**
- Capacity for Growth

Implementation Considerations

- Right-of-way constraints
- Cost
- Phasing with planned developments

Planning-level Cost

Low
$X,XXX

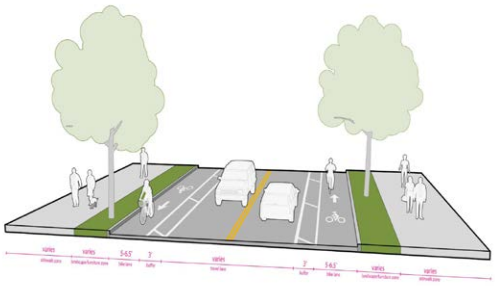
High
$X,XXX

Project #9

KIRKLAND WAY COMPLETE STREET

PROJECT DESCRIPTION

Provide buffered bike lanes and standard sidewalks (both sides of street) between 6th Avenue NE and NE 85th Street



Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way constraints
- Cost
- Need to replace the CKC bridge

Planning-level Cost

Low

$X,XXX

High

$X,XXX

Project #10

7TH AVENUE/NE 87TH STREET COMPLETE STREET

PROJECT DESCRIPTION

Reconfigure street to provide parking-protected bike lanes and sidewalks between 6th Street and 116th Avenue NE.

Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

Implementation Considerations

- Cost
- Grade
- Treatments at intersections

Planning-level Cost

Low
$X,XXX

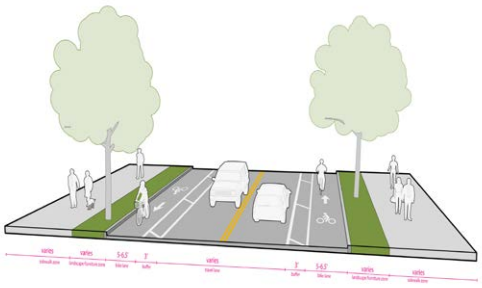
High
$X,XXX

Project #11

NE 87TH STREET/116TH AVENUE NE COMPLETE STREET

PROJECT DESCRIPTION

Provide buffered bike lanes and standard sidewalks (both sides of street) north of the station access to NE 90th Street



Project Catalyst

- **Station Access**
- Complete Network
- Capacity for Growth

Implementation Considerations

- Right-of-way constraints

Planning-level Cost

Low
$X,XXX

High
$X,XXX

Project #12

116TH AVENUE NE GREENWAY

PROJECT DESCRIPTION

Enhance with sharrows, signage, and sidewalk infill between NE 90th Street and NE 100th Street

Project Catalyst

~~Station Access~~

Complete Network

~~Capacity for Growth~~

Implementation Considerations

- Right-of-way constraints

Planning-level Cost

Low
$X,XXX

High
$X,XXX

Project #13B

405 INTERCHANGE PATH (NE)

PROJECT DESCRIPTION

Shared-use trail connecting BRT station to Slater Avenue

Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

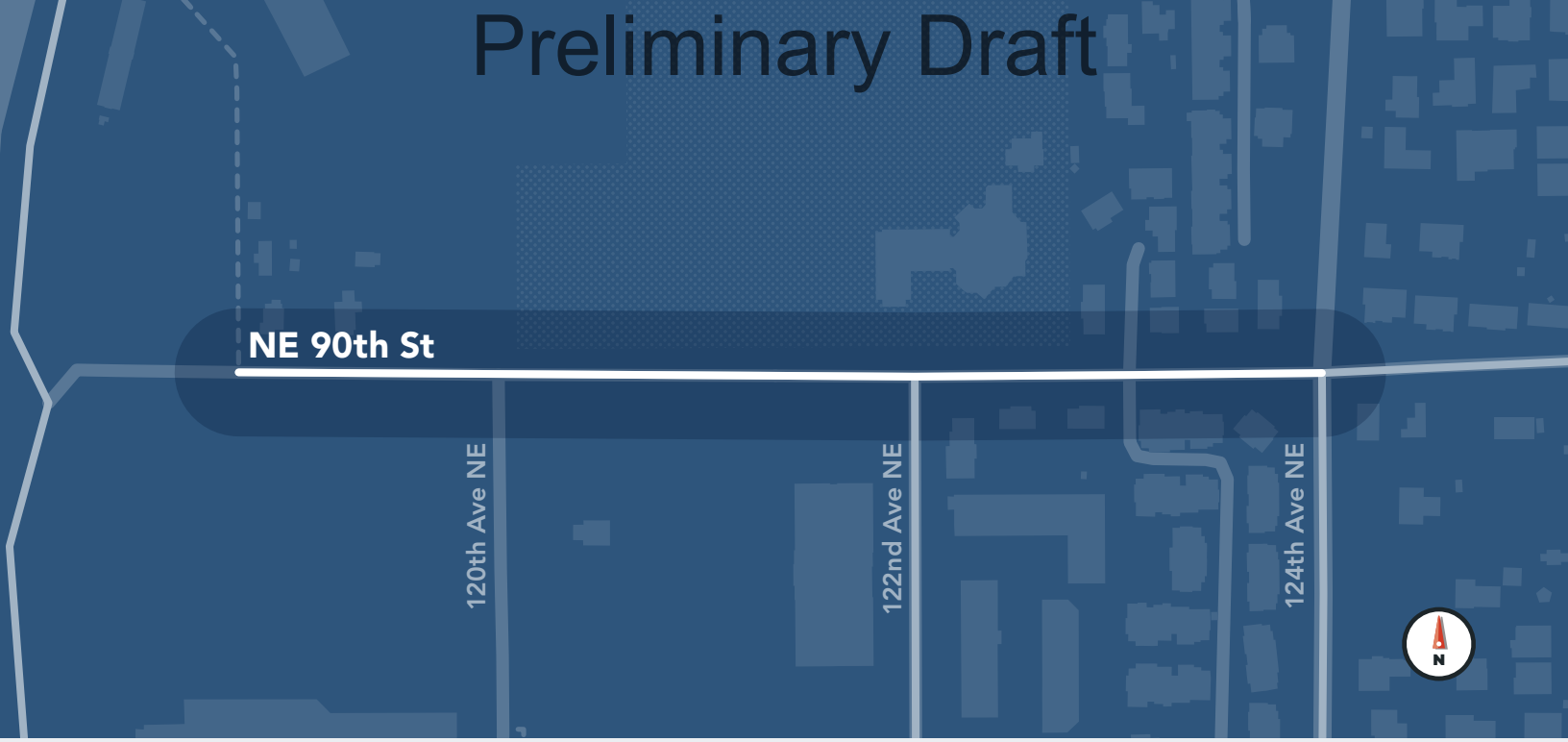
Implementation Considerations

- Right-of-way
- Cost

Planning-level Cost

Low
$X,XXX

High
$X,XXX



Project #14

NE 90TH STREET COMPLETE STREET

PROJECT DESCRIPTION

Reconfigure street to provide parking-protected bike lanes and sidewalks between the planned 405 Interchange Path and124th Avenue NE

Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

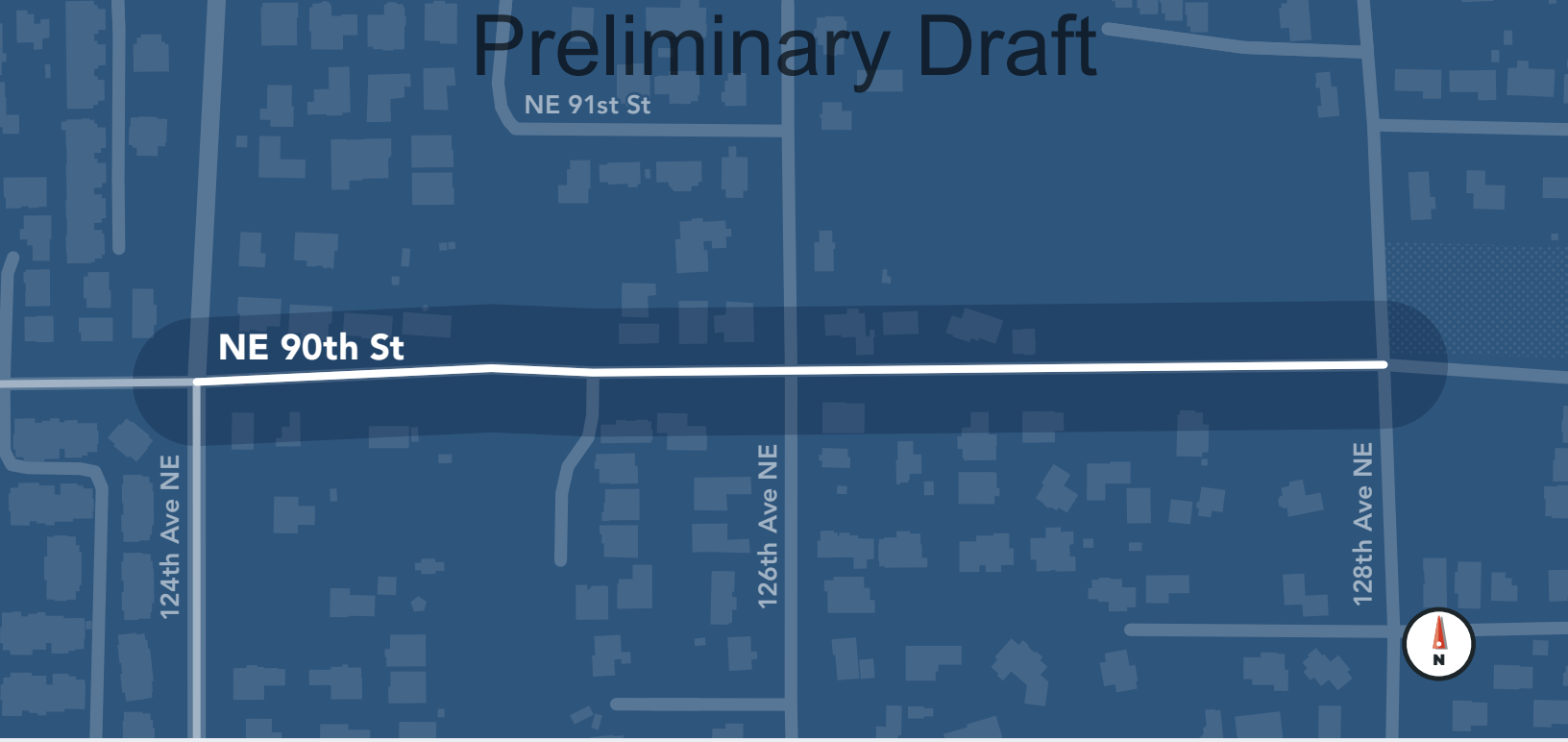
Implementation Considerations

- Right-of-way
- Cost
- Treatments at intersections

Planning-level Cost

Low
$X,XXX

High
$X,XXX

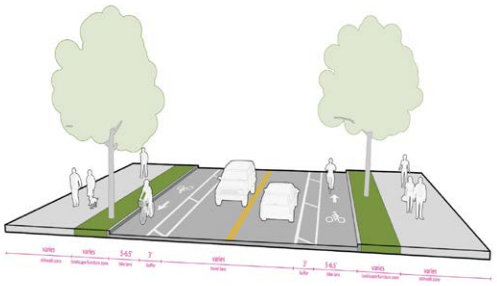


Project #15

NE 90TH STREET GREENWAY

PROJECT DESCRIPTION

Provide buffered bike lanes and standard sidewalks (at least one side of the street) between 124th Avenue NE and 128th Avenue NE



Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way
- Cost
- Treatments through wetlands

Planning-level Cost

Low
$X,XXX

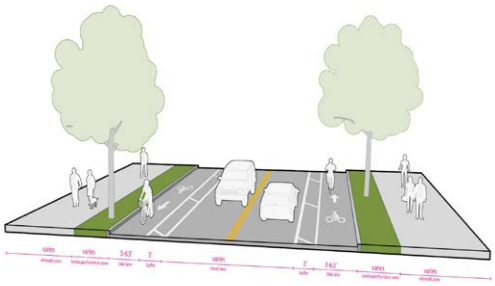
High
$X,XXX

Project #16

122ND AVENUE NE BIKE ROUTE

PROJECT DESCRIPTION

Provide buffered bike lanes and standard sidewalks (both sides of street) between NE 80th Street and NE 90th Street



Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way
- Cost
- Grade

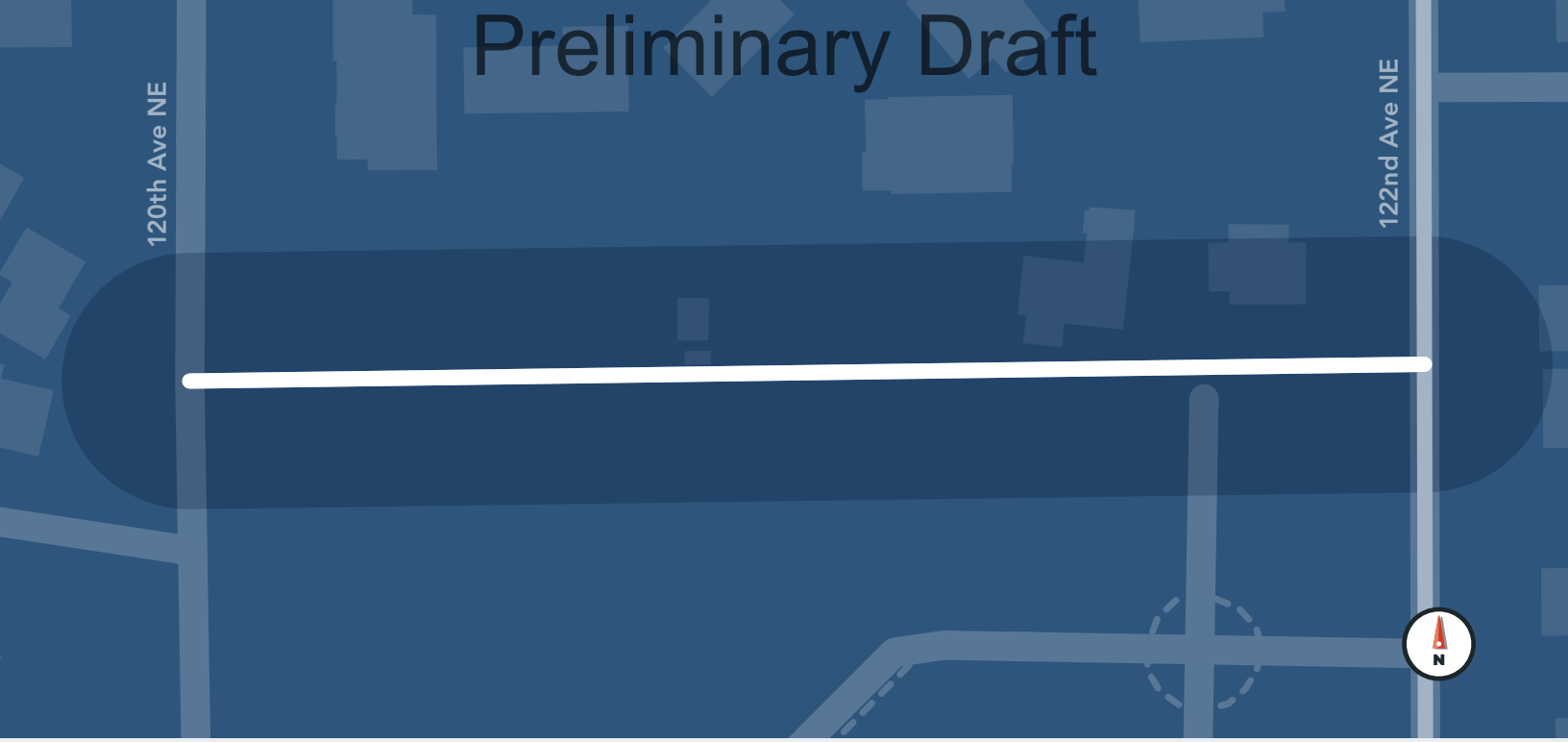
Planning-level Cost

Low

$X,XXX

High

$X,XXX



Project #17

120TH AVENUE NE TO 122ND AVENUE NE PED-BIKE CONNECTION

PROJECT DESCRIPTION

Provide a 12-foot path for walking and biking in the vicinity of NE 82nd Street.

Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Cost

Planning-level Cost

Low

$X,XXX

High

$X,XXX

Project #18B

NE 85TH STREET ENHANCED SIDEWALKS

PROJECT DESCRIPTION

Provide 15-20 foot sidewalks (including amenity zones) on both sides of NE 85th Street to provide a high-quality experience for walking and opportunity for last-mile bike connections between 120th Avenue NE and 122nd Avenue NE.

Project Catalyst

- **Station Access**
- Complete Network
- Capacity for Growth

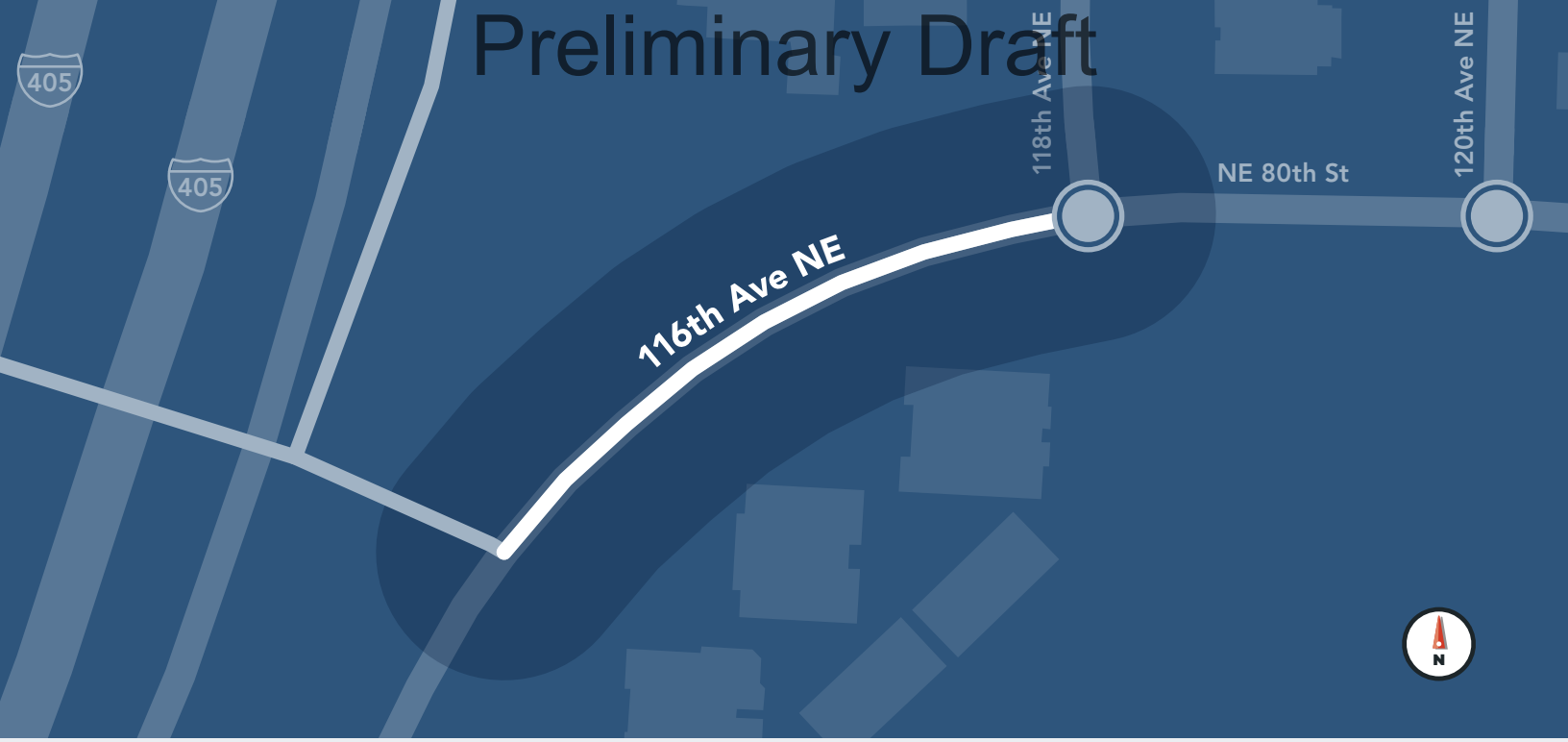
Implementation Considerations

- Cost
- Right-of-way

Planning-level Cost

Low
$X,XXX

High
$X,XXX



Project #19

116TH AVENUE NE PEDESTRIAN/BIKE ACCESS TO OVERCROSSING

PROJECT DESCRIPTION

Improve space allocated for bikes and pedestrians on west side of NE 116th to provide a more comfortable connection, including provision of an enhanced crossing of NE 116th Avenue to the south.

Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way
- Cost

Planning-level Cost

Low

$X,XXX

High

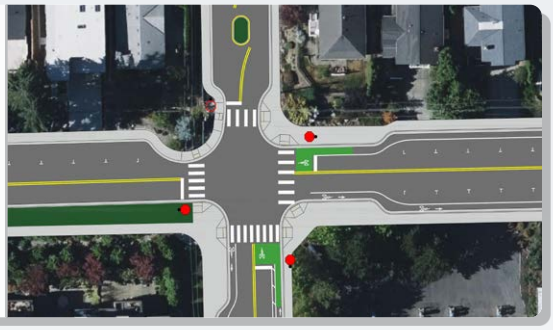
$X,XXX

Project #P1

6TH STREET/7TH AVENUE INTERSECTION TREATMENT

PROJECT DESCRIPTION

Improve treatments for people walking and biking



Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way

Planning-level Cost

Low
$X,XXX

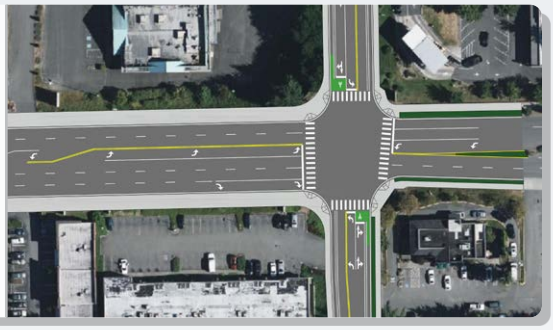
High
$X,XXX

Project #P2

NE 85TH STREET / 122ND AVENUE NE BICYCLE SIGNAL IMPROVEMENTS

PROJECT DESCRIPTION

Improve intersection and signal to better accommodate bikes along 122nd Avenue NE and in crossing NE 85th Street



Project Catalyst

Station Access

Complete Network

Capacity for Growth

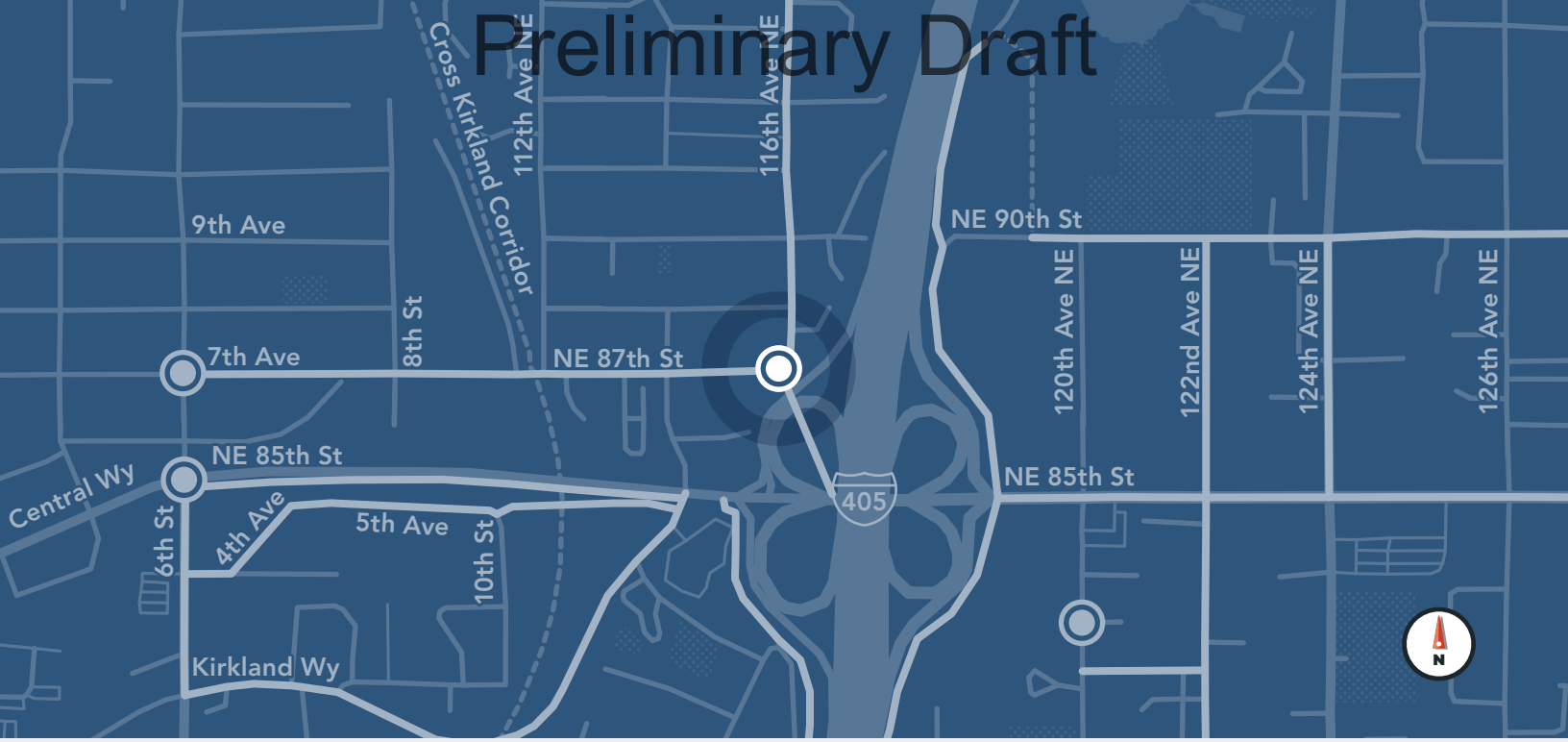
Implementation Considerations

- Right-of-way
- Cost
- Treatments at intersections

Planning-level Cost

Low
$X,XXX

High
$X,XXX

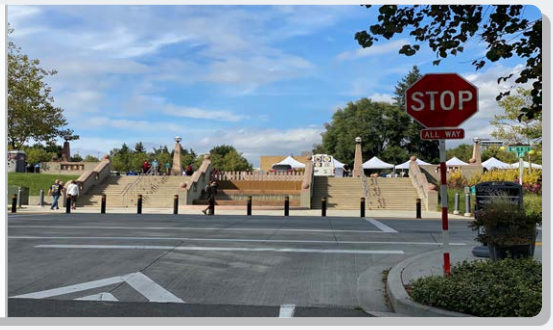


Project #P3

NE 87TH STREET/116TH AVENUE NE ENHANCED INTERSECTION

PROJECT DESCRIPTION

Improve treatments for people walking and biking at this challenging intersection in front of the BRT station. Treatments may include a raised intersection with all-way stop or a mini-roundabout.



Project Catalyst

- Station Access
- Complete Network
- Capacity for Growth

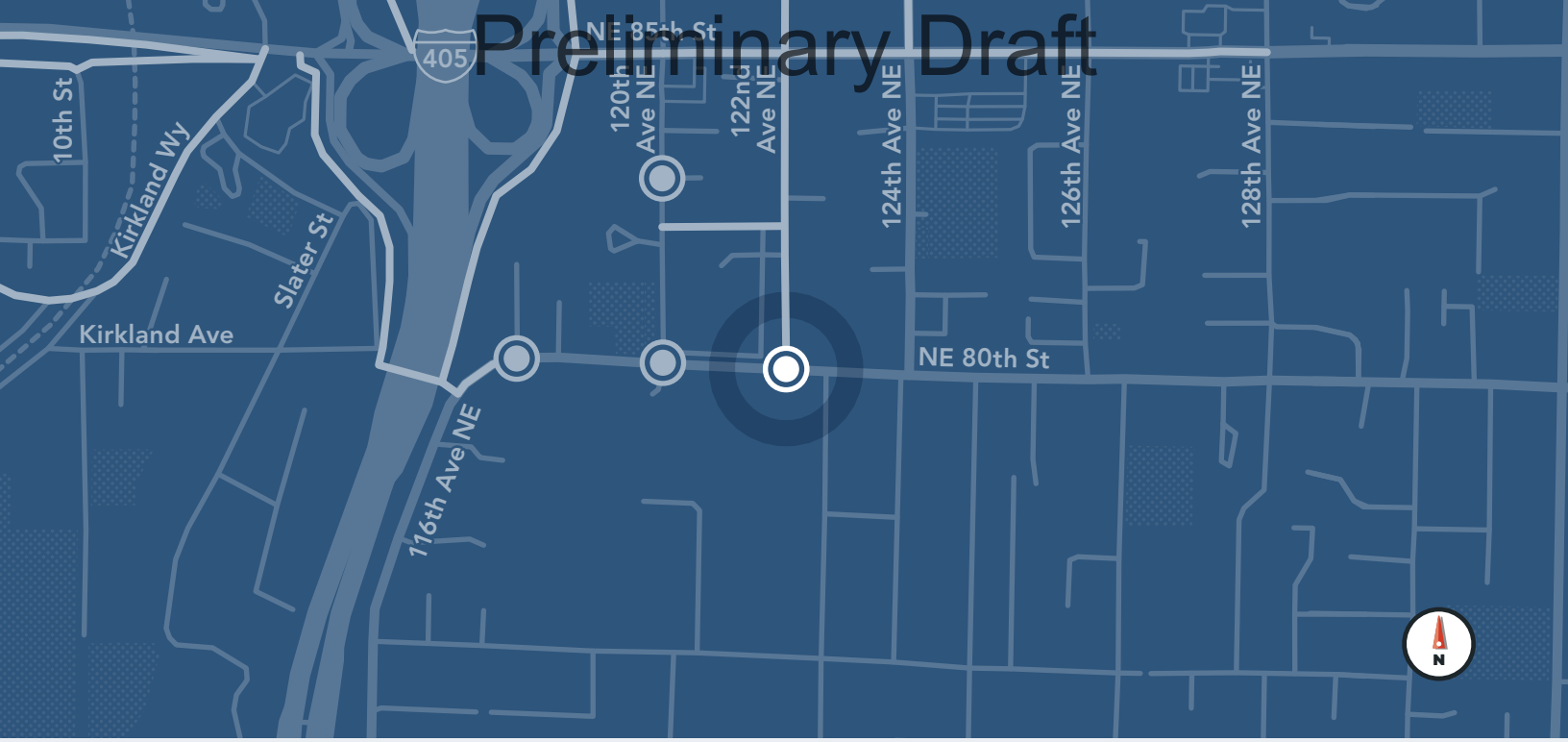
Implementation Considerations

- Right-of-way
- Sight distance
- Cost

Planning-level Cost

Low
$X,XXX

High
$X,XXX



Project #P4

122ND AVENUE NE AND NE 80TH STREET INTERSECTION TREATMENT

PROJECT DESCRIPTION

Add treatments, including a RRFB, to improve crossing comfort for people walking and biking

Project Catalyst

Station Access

Complete Network

Capacity for Growth

Implementation Considerations

- Right-of-way

Planning-level Cost

Low

$X,XXX

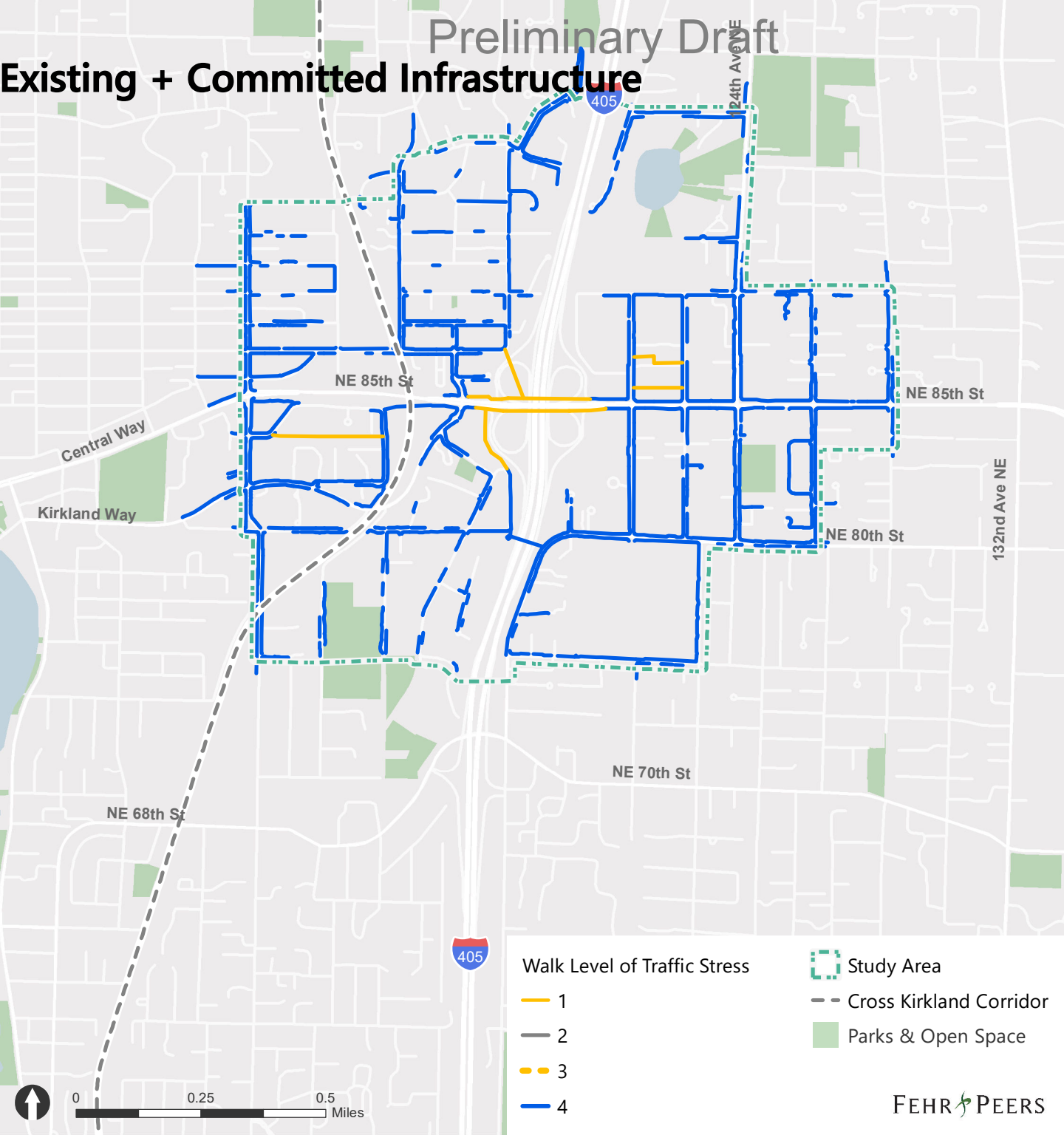
High

$X,XXX

Appendix C: Level of Traffic Stress Analysis for Walking and Biking

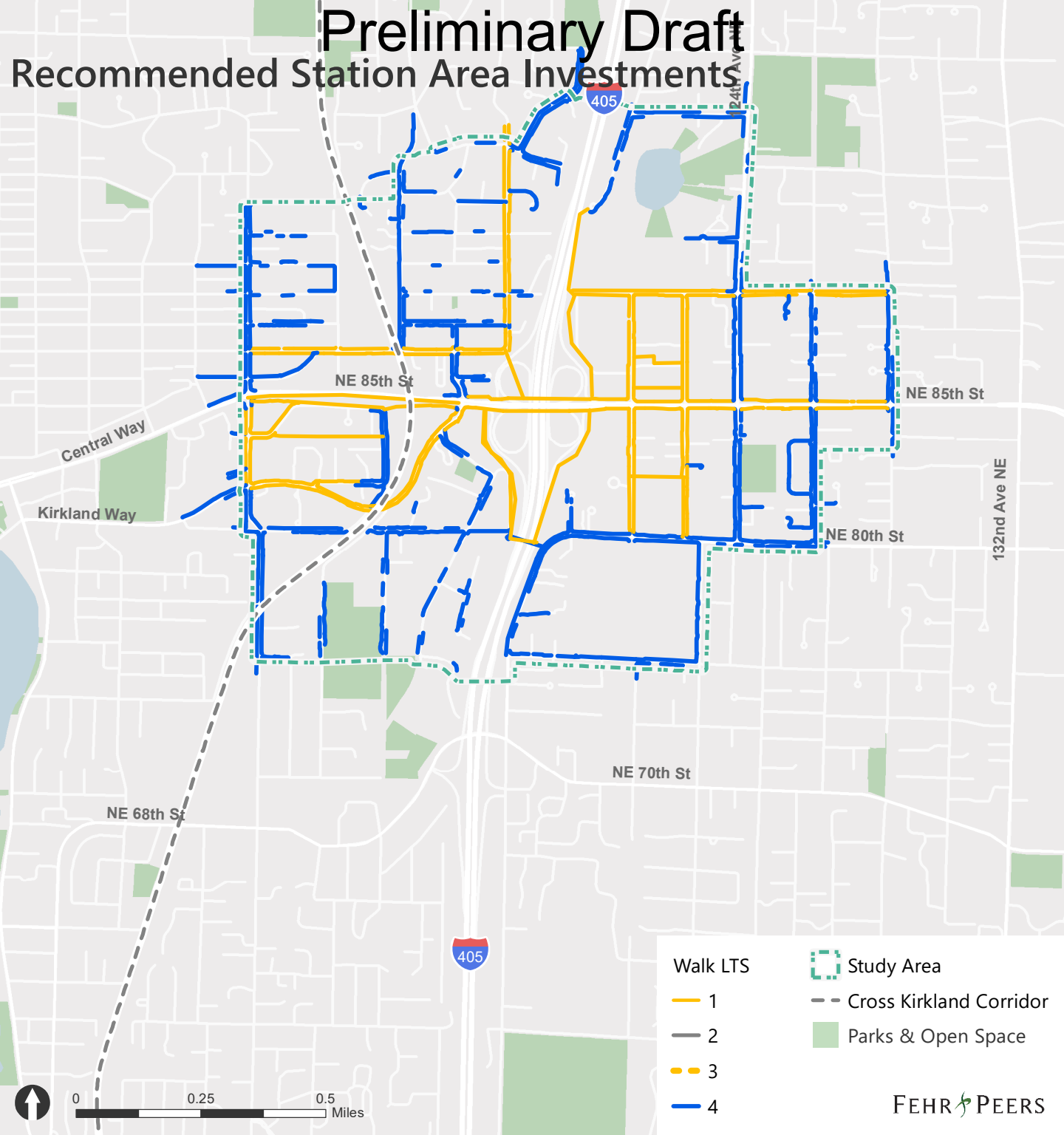
Preliminary Draft

Existing + Committed Infrastructure



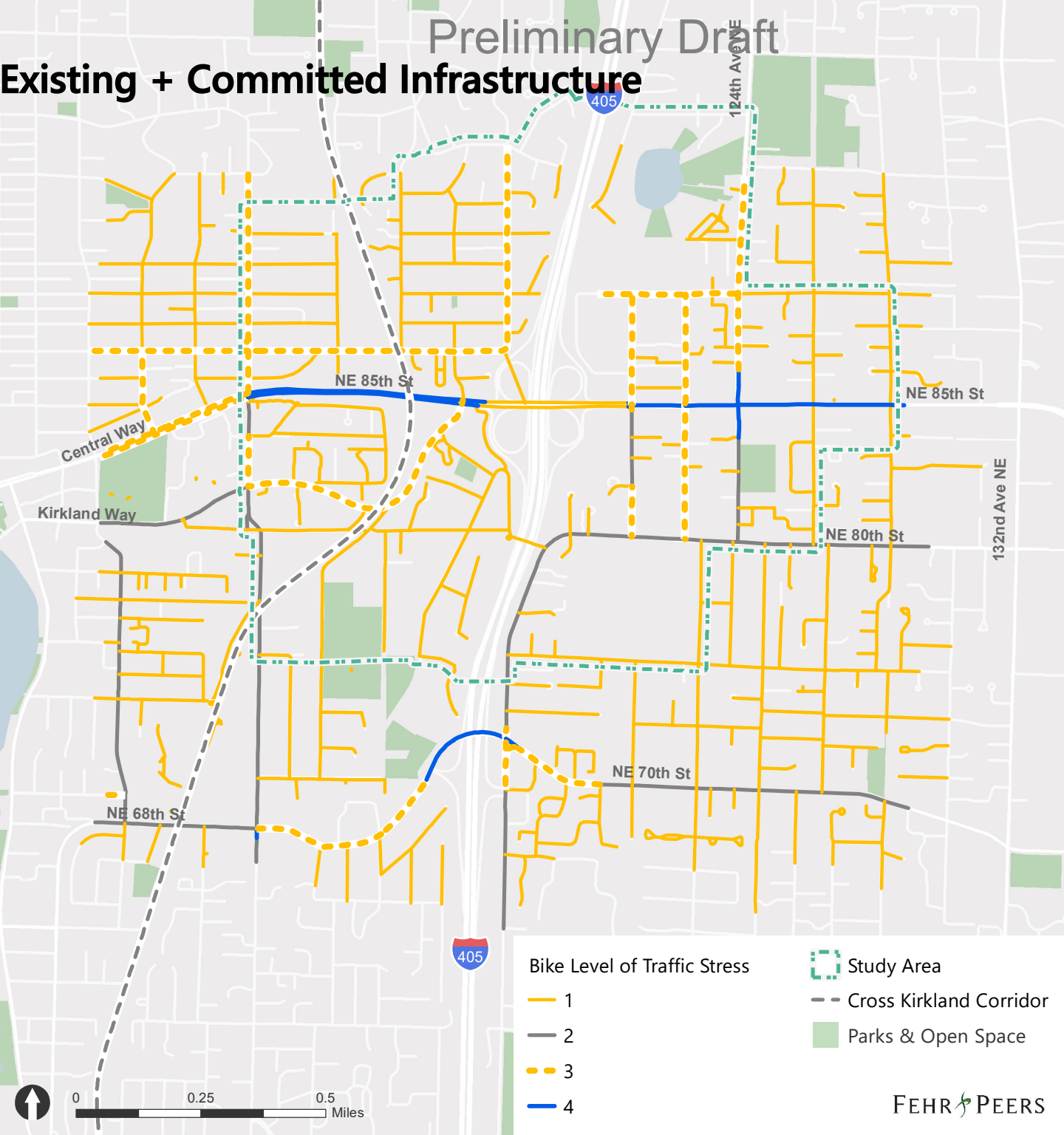
Preliminary Draft

Recommended Station Area Investments



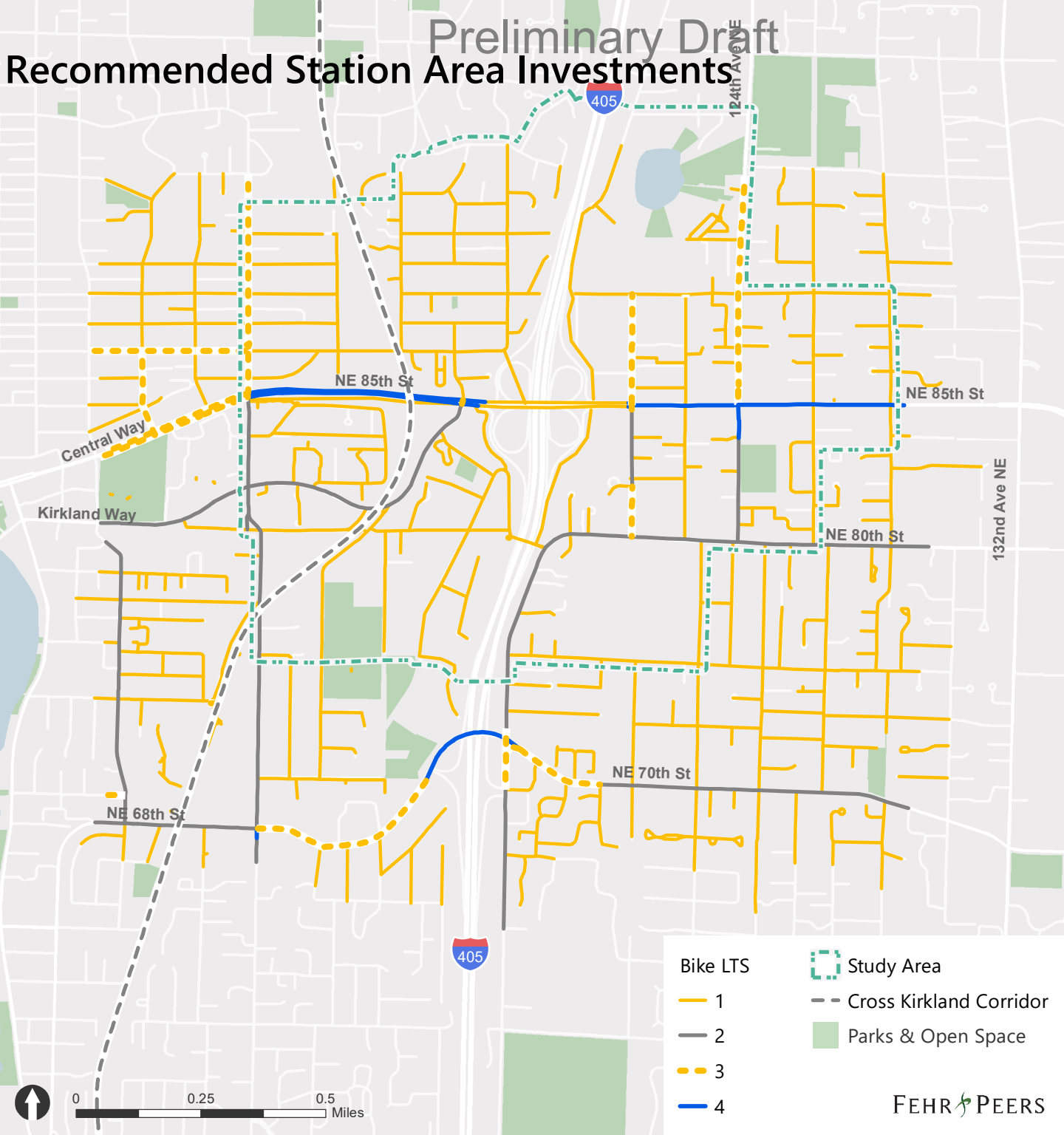
Preliminary Draft

Existing + Committed Infrastructure

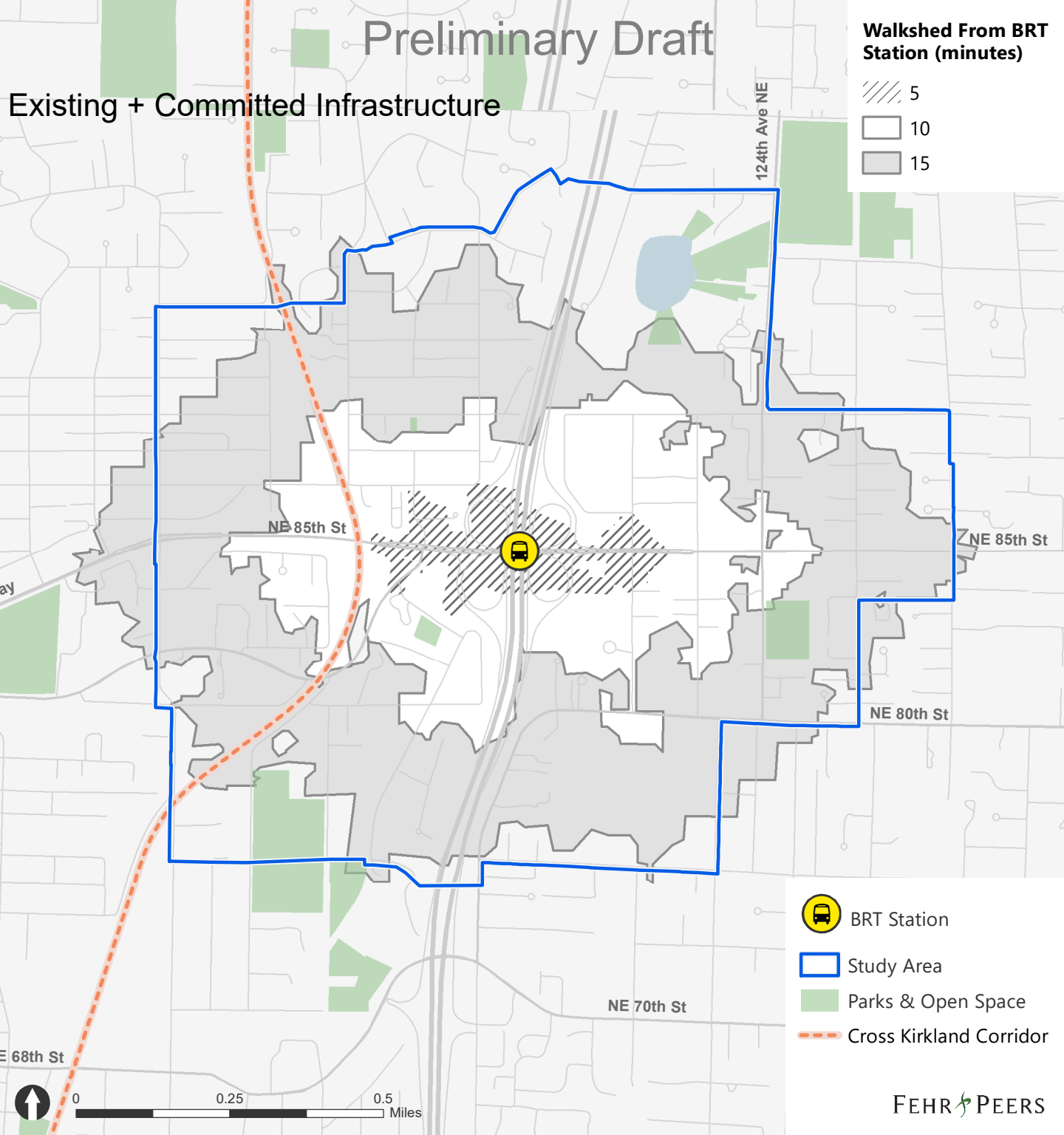


Preliminary Draft

Recommended Station Area Investments

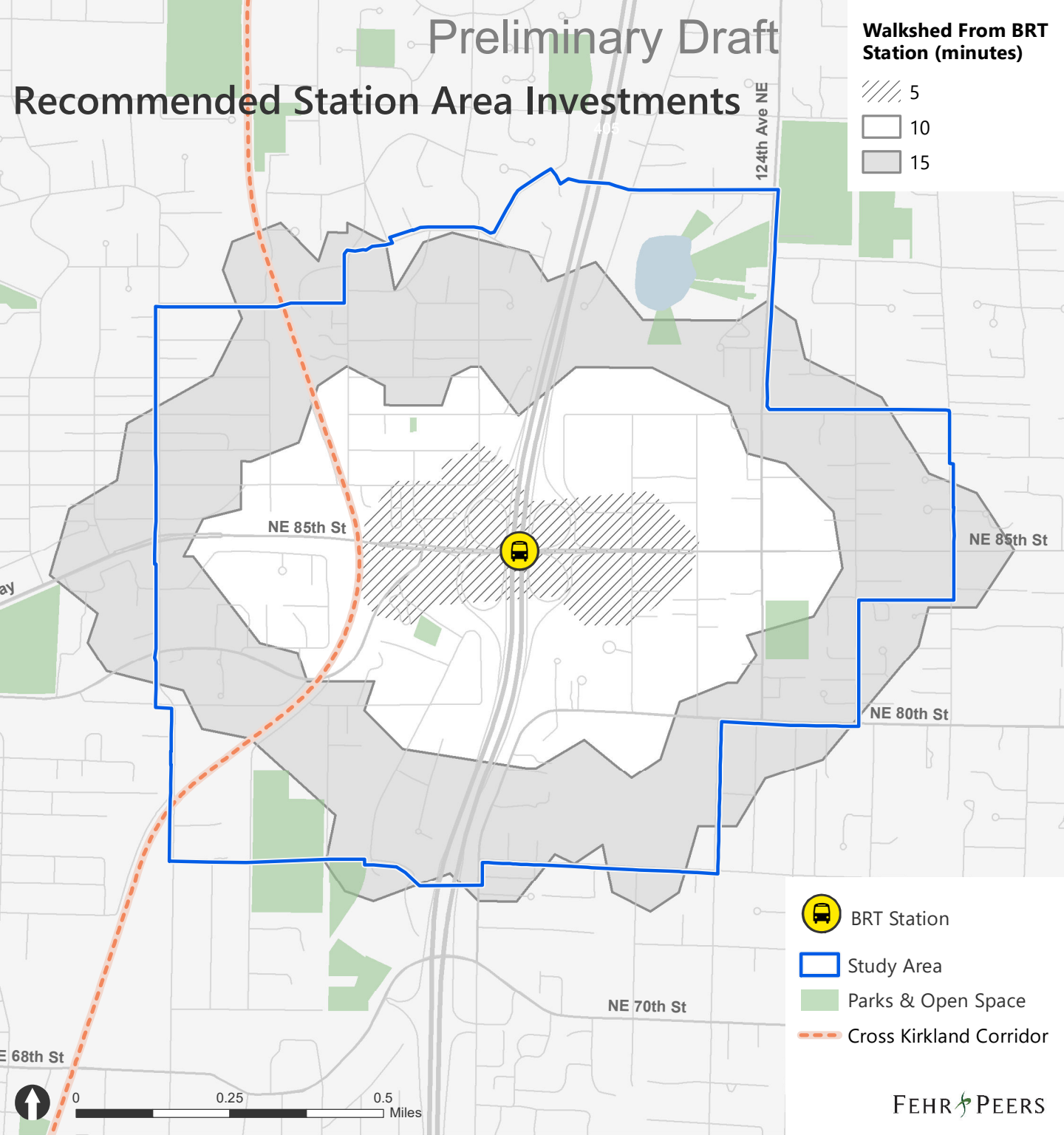


Appendix D: Travelshed Analysis for Walking and Biking

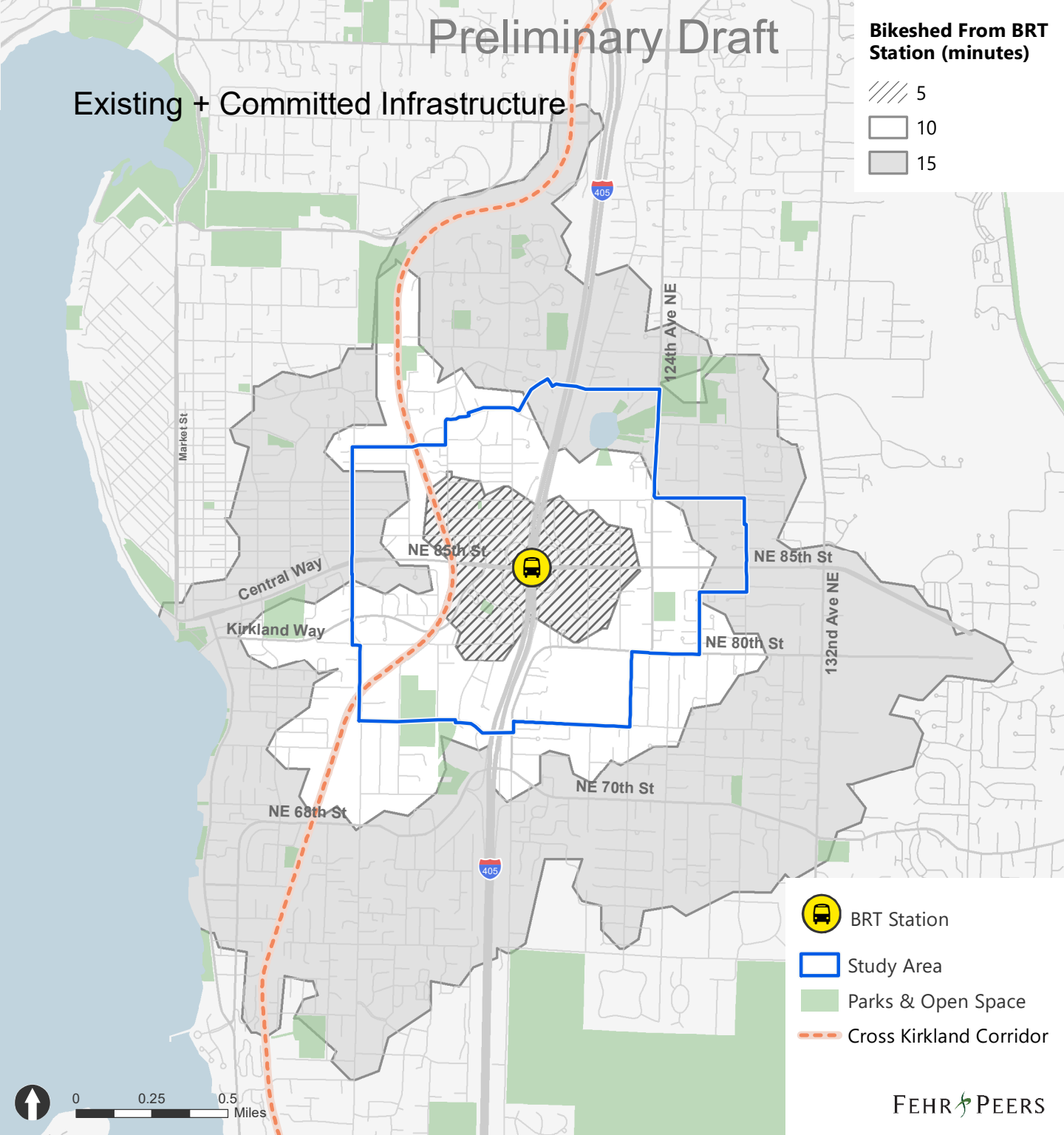

Preliminary Draft
Existing + Committed Infrastructure
Walkshed From BRT Station (minutes)
5
10
15
124th Ave NE
NE 85th St
NE 85th St
NE 80th St
NE 70th St
E 68th St
BRT Station
Study Area
Parks & Open Space
Cross Kirkland Corridor
0
0.25
0.5
Miles
FEHR PEERS

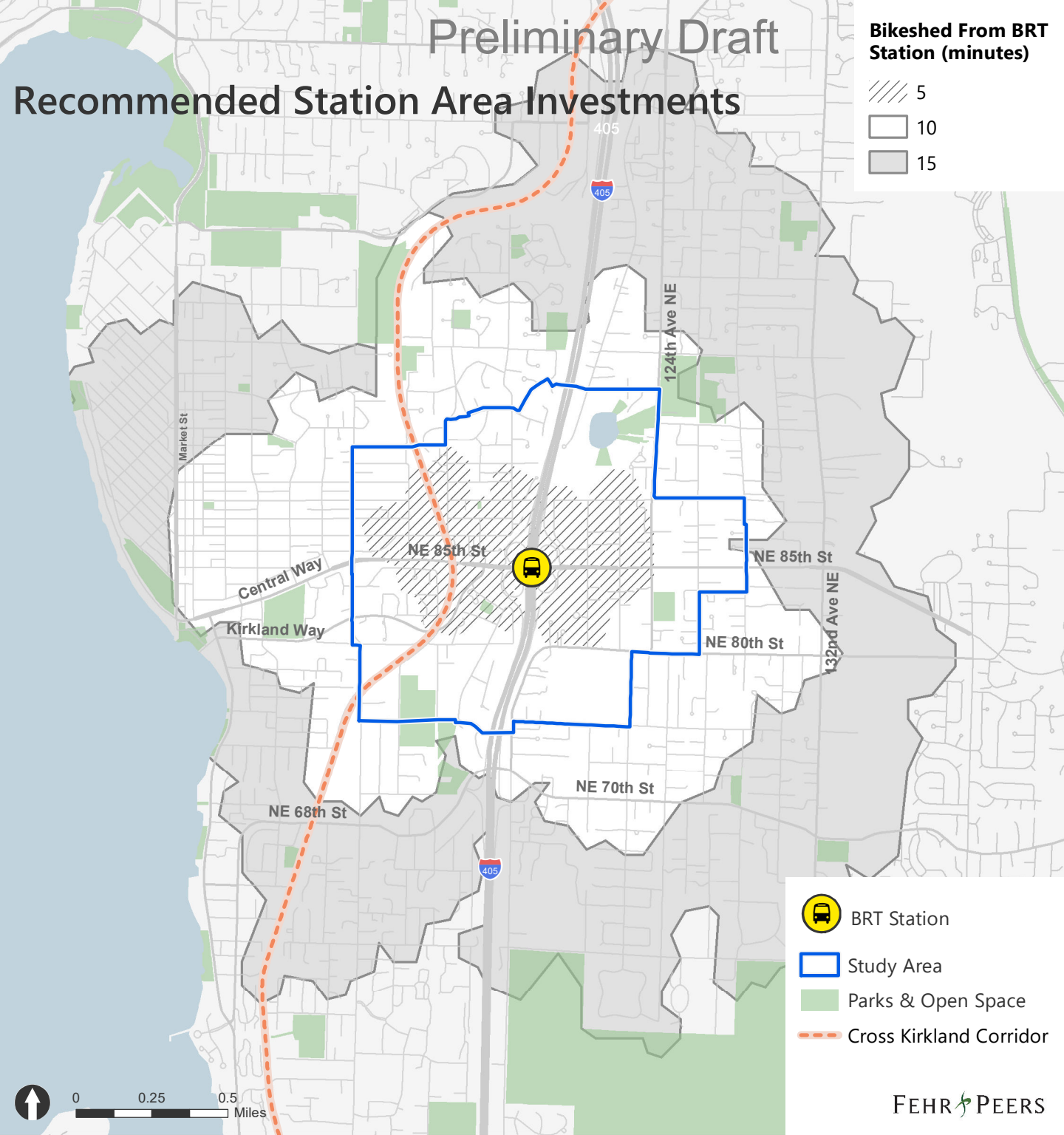
Preliminary Draft

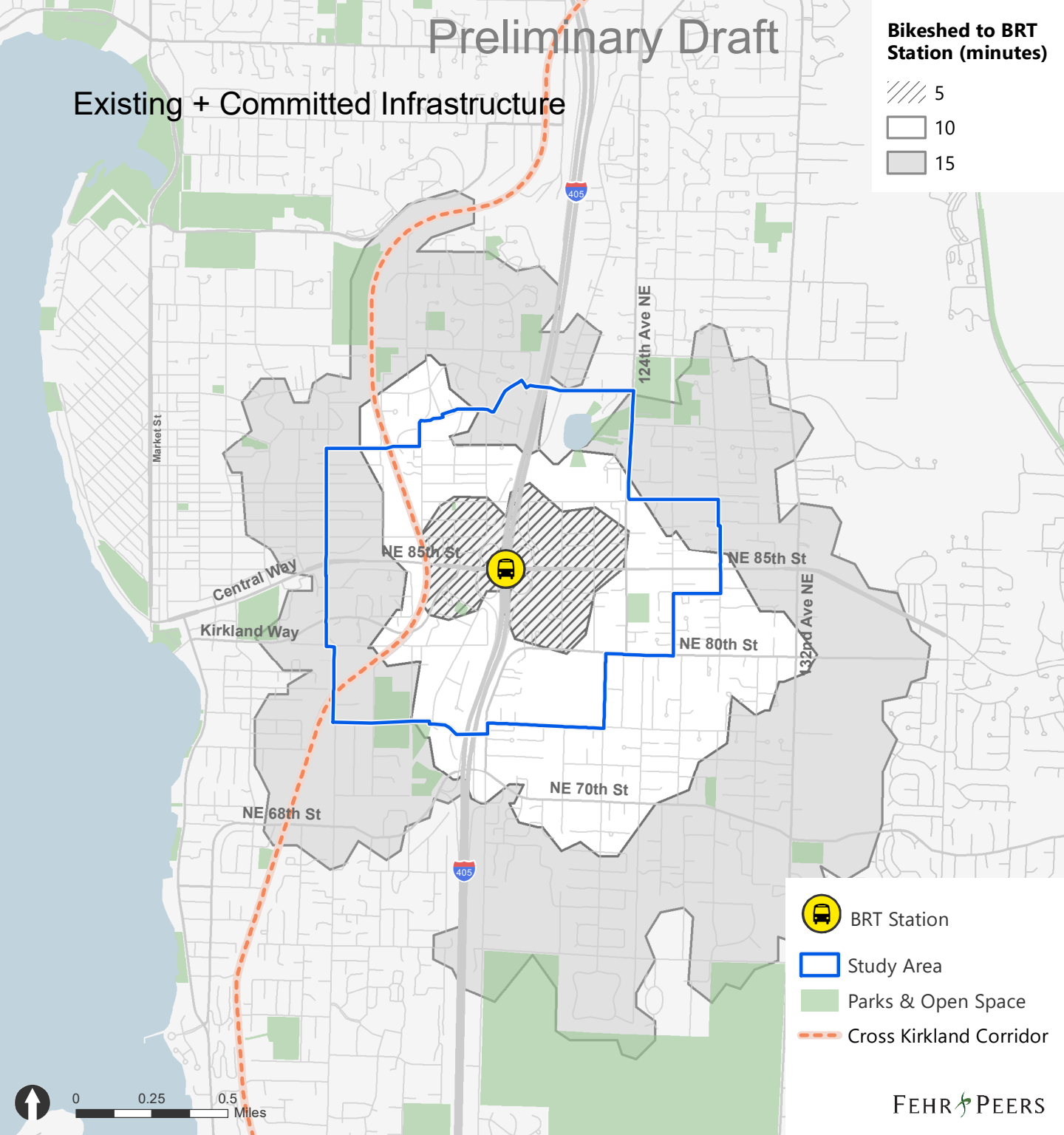
Recommended Station Area Investments

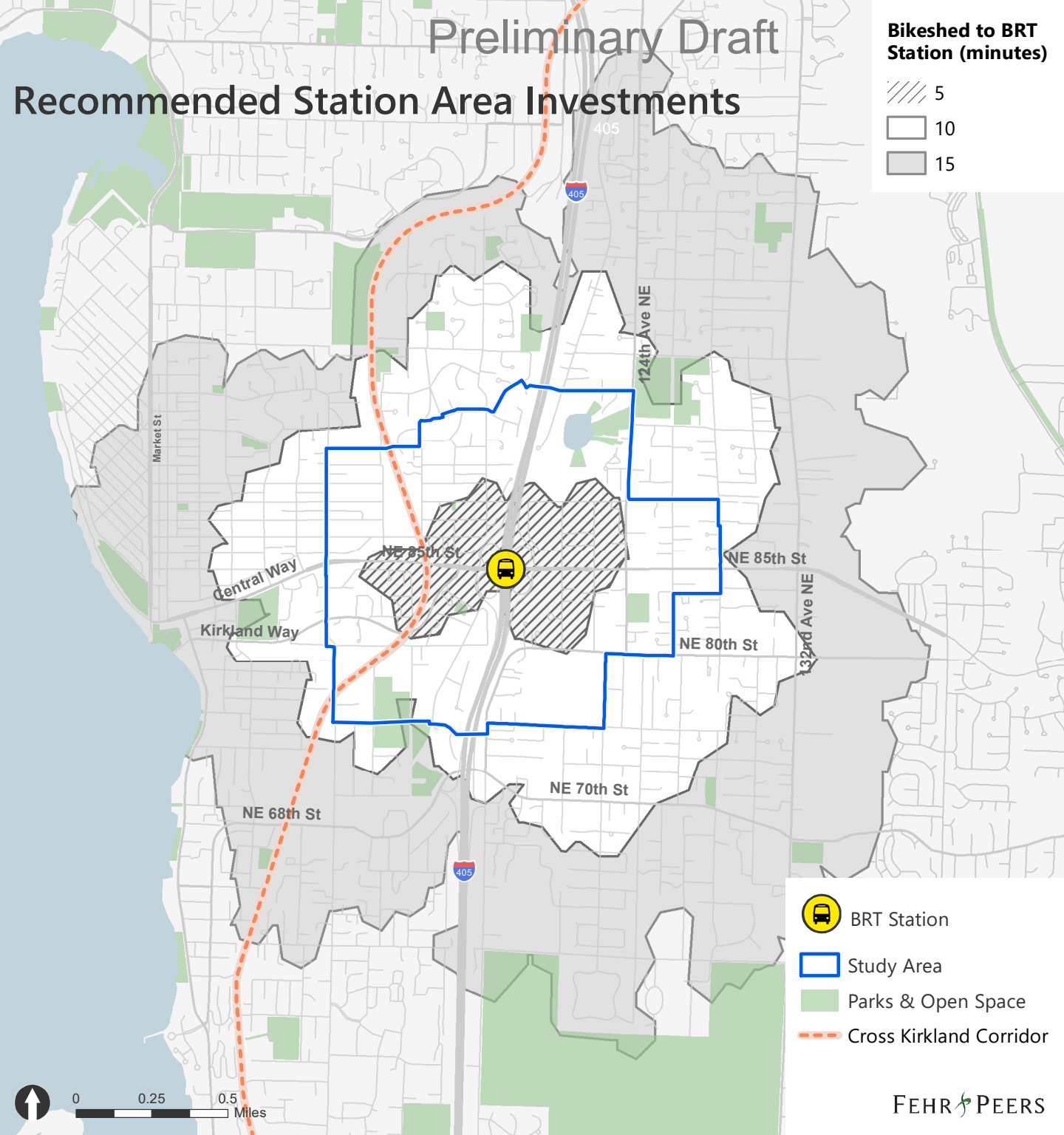


FEHR PEERS


Preliminary Draft
Existing + Committed Infrastructure
Bikeshed From BRT Station (minutes)
5
10
15
405
124th Ave NE
Market St
NE 85th St
Central Way
Kirkland Way
NE 85th St
132nd Ave NE
NE 80th St
NE 70th St
NE 68th St
405
BRT Station
Study Area
Parks & Open Space
Cross Kirkland Corridor
0
0.25
0.5
Miles
FEHR PEERS


Preliminary Draft
Recommended Station Area Investments
Bikeshed From BRT Station (minutes)
5
10
15
405
124th Ave NE
Market St
NE 85th St
Central Way
Kirkland Way
NE 85th St
132nd Ave NE
NE 80th St
NE 70th St
NE 68th St
405
BRT Station
Study Area
Parks & Open Space
Cross Kirkland Corridor
0
0.25
0.5
Miles
FEHR PEERS


Preliminary Draft
Existing + Committed Infrastructure
Bikeshed to BRT Station (minutes)
5
10
15
405
124th Ave NE
Market St
NE 85th St
Central Way
Kirkland Way
NE 85th St
132nd Ave NE
NE 80th St
NE 70th St
NE 68th St
405
BRT Station
Study Area
Parks & Open Space
Cross Kirkland Corridor
0
0.25
0.5
Miles
FEHR PEERS


Preliminary Draft
Recommended Station Area Investments
Bikeshed to BRT Station (minutes)
5
10
15
405
124th Ave NE
Market St
Central Way
Kirkland Way
NE 85th St
NE 85th St
132nd Ave NE
NE 80th St
NE 70th St
NE 68th St
405
BRT Station
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Parks & Open Space
Cross Kirkland Corridor
0
0.25
0.5
Miles
FEHR PEERS