MOBILITY IMPLEMENTATION PLAN

Mobility Implementation Plan

Transportation Commission
July 8, 2021

Transportation

FEHR PEERS

Kevin McDonald

Chris Breiland

July 8, 2021 Agenda

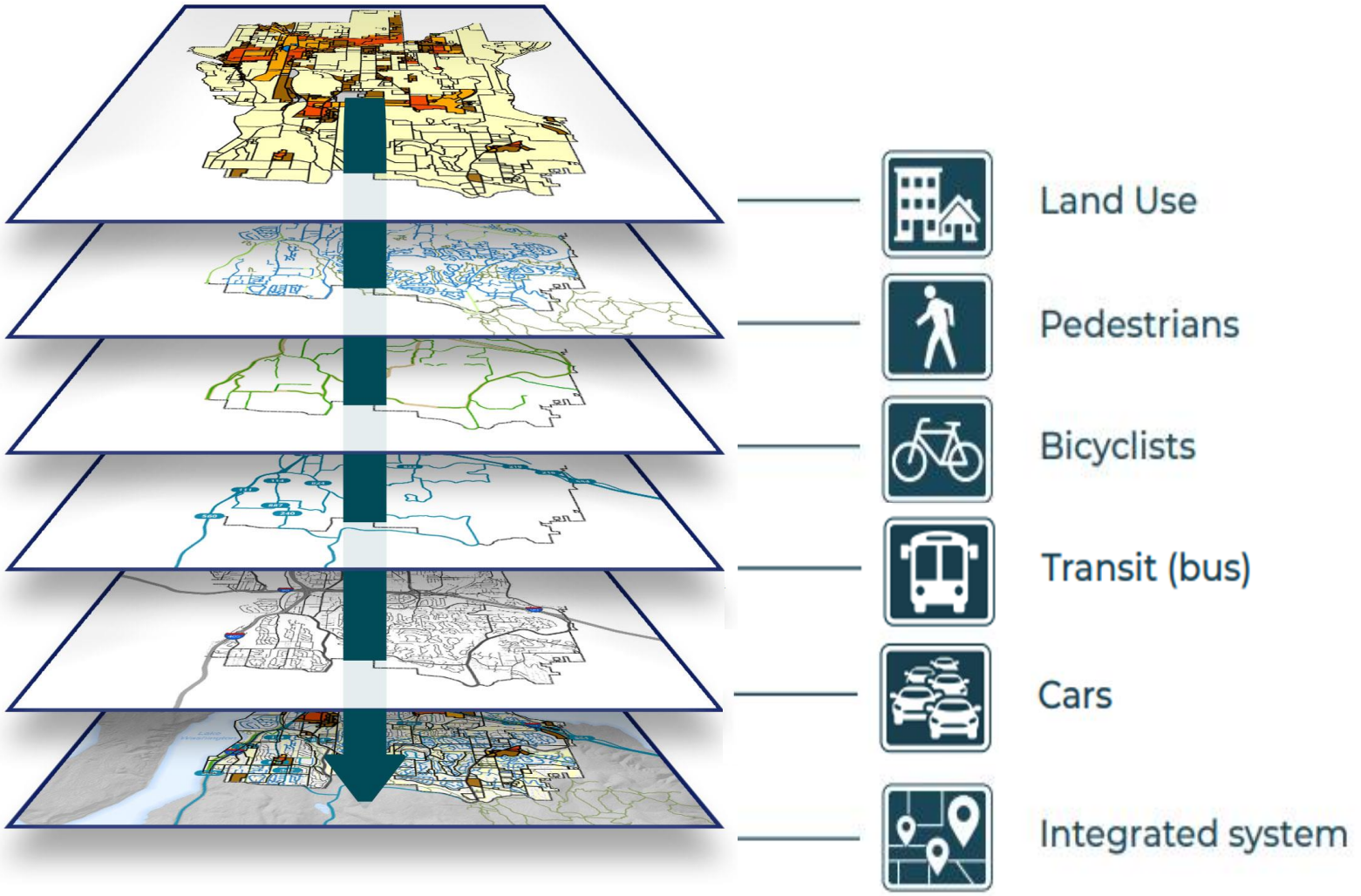
- Information: Public Involvement
- Discussion: Performance Metrics and Targets – Existing Conditions
- Direction:
  - Confirm Performance Metrics and Performance Targets: Pedestrian, Bicycle and Transit
  - Confirm PMAs for Vehicle Facilities
- Discussion: Performance Targets for Vehicle facilities
    - V/C in PMAs
    - Vehicle corridor travel speed/time

MIP – Public Involvement

ENGAGINGBellevue

- Mobility Implementation Plan Web Site: **Live Now**
- It's your City July issue: On-line + 60,000 mailing: **Released June 30**
- Neighborhood News July issue: **Released June 30**
- Fact sheet to provide foundation/background for MIP: **Mid-July**
- Community questionnaire: **Live July 26**
- Community questionnaire report to TC: **September 9**
- Boards and Commissions
  - Planning Commission: **June 23, July 28**
  - East Bellevue Community Council: **July 6**
- Interest Groups
  - Bellevue Chamber of Commerce: **June 23**
  - Bellevue Downtown Association: **June 23**
  - Others by invitation: **TBD**

Layered Network



MIP Performance Metrics: Summary

Mode	TC Recommendation from MMLOS	Staff Proposal for MIP
	MMLOS Metric	***MIP Metric***
 **Pedestrian**	Width of Sidewalk + Landscape	Same as MMLOS
	Frequency and Treatment of Arterial Crossings	
 **Bicycle**	Level of Traffic Stress Corridors and Intersections	
 **Transit**	Bus Stop Components	
	Transit Speed on FTN between Activity Centers	
 **Vehicle**	Volume/Capacity at System Intersections	
	Corridor Travel Speed/Travel Time	

Performance Targets

Table 1. Sidewalk and Landscape Buffer Width Performance Targets		
Performance Management Areas	**Sidewalk and Buffer Width Targets**	**Source**
Downtown	12 to 20 feet combined landscape strip and sidewalk	Land Use Code 20.25A.090
BelRed	12 to 14 feet combined landscape strip and sidewalk	Land Use Code 20.25D.110
Other Commercial/ Mixed-Use Performance Management Areas	16 feet combined landscape strip and sidewalk	Bellevue MMLOS Report

Performance Targets

Table 2. Mid-Block Crossing Performance Targets		
Performance Management Areas	**Mid-Block Crossing Frequency***	**Source**
Downtown	300 feet or less	Downtown Transportation Plan
Factoria	800 feet or less	Factoria Area Transportation Study
Other Commercial/ Mixed-Use Performance Management Areas	600 feet or less	Bellevue MMLOS Report

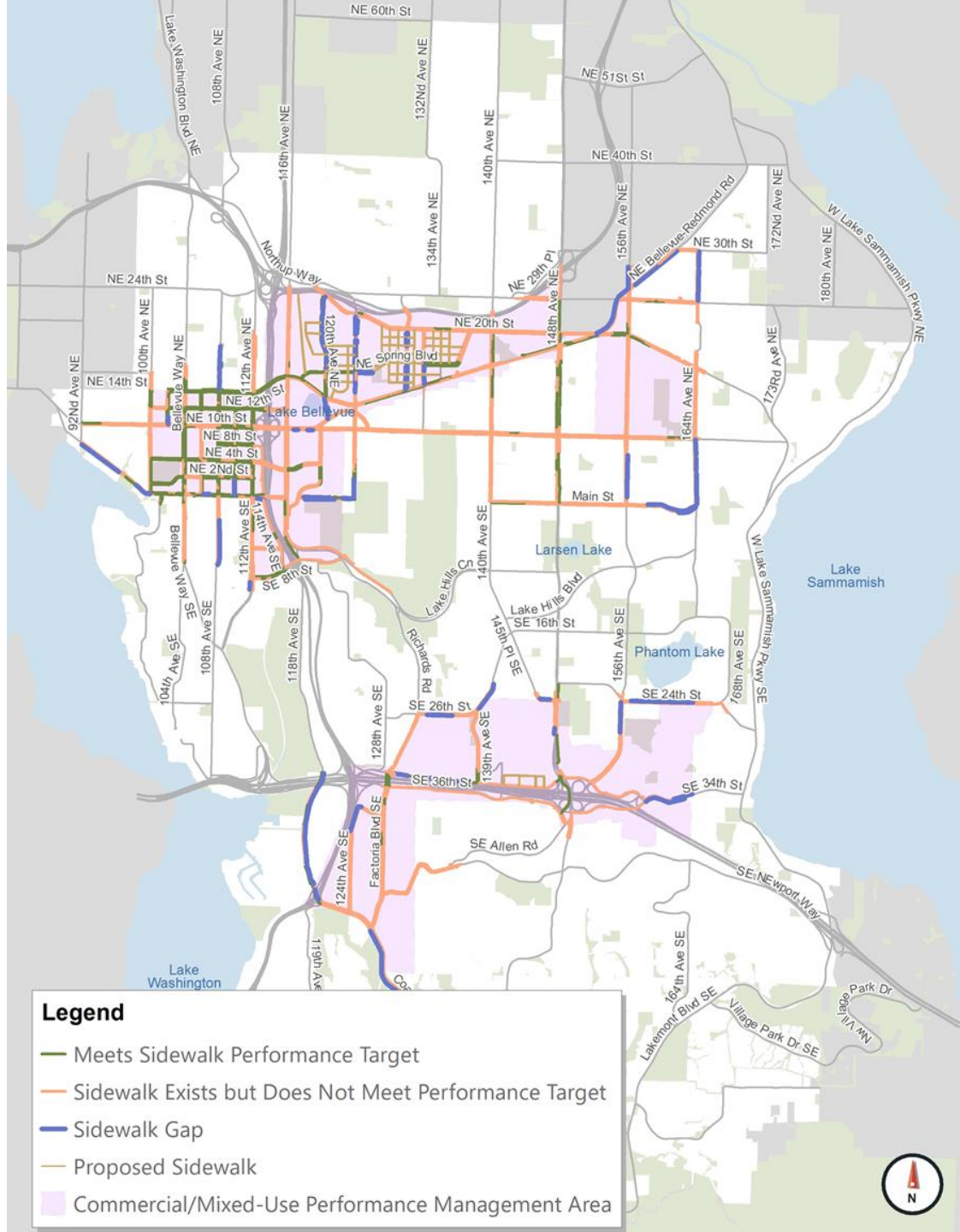
Note:
* Actual crossing locations and therefore specific frequencies to be determined by an engineering study; these targets are used to guide engineering studies to be prepared as new corridor studies and subarea plans are developed

Existing Conditions

Table 3. Pedestrian Network Performance		
Sidewalk System Completion and Width		
	Miles	Proportion
Sidewalks That Meet Performance Target	21	25%
Sidewalks Exist but Do Not Meet Performance Target	45	52%
Sidewalk Gaps	20	23%
Total Sidewalk Distance	86	100%
Mid-block Crossing Frequency		
		Proportion
Percentage of Recommended Mid-block Crossings Completed		~13%*

Existing Conditions

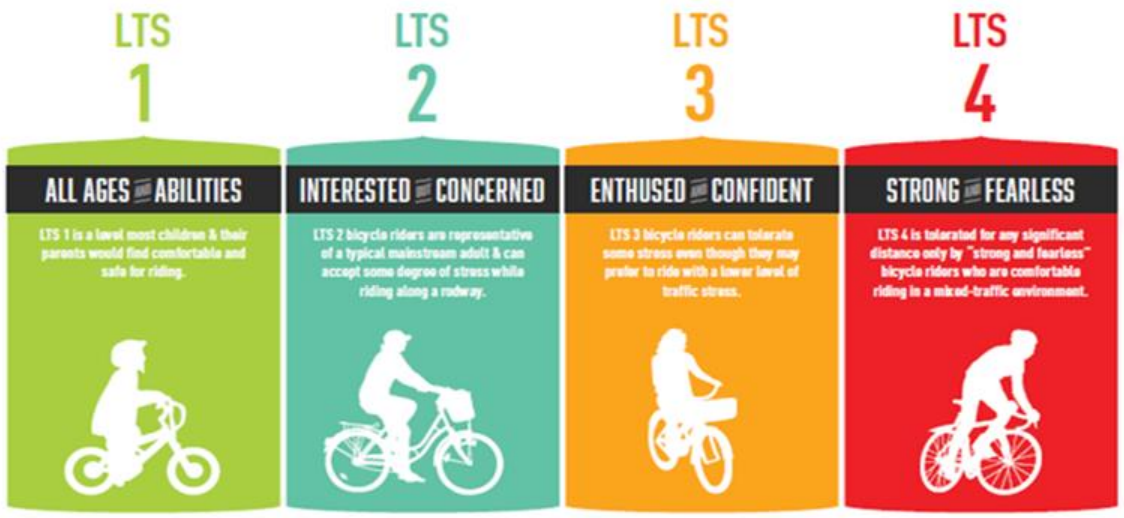
Sidewalk Meets Performance Target



Existing Conditions

- 17 mid-block crossings within Commercial/Mixed-Use Performance Management Areas
- 13% of the total recommended
- Approximately 118 additional midblock crossings recommended to meet Performance Target

Existing Conditions



Bellevue Bicycle Level of Traffic Stress (LTS) Categories Source: MMLOS Metrics, Standards & Guidelines, 2017

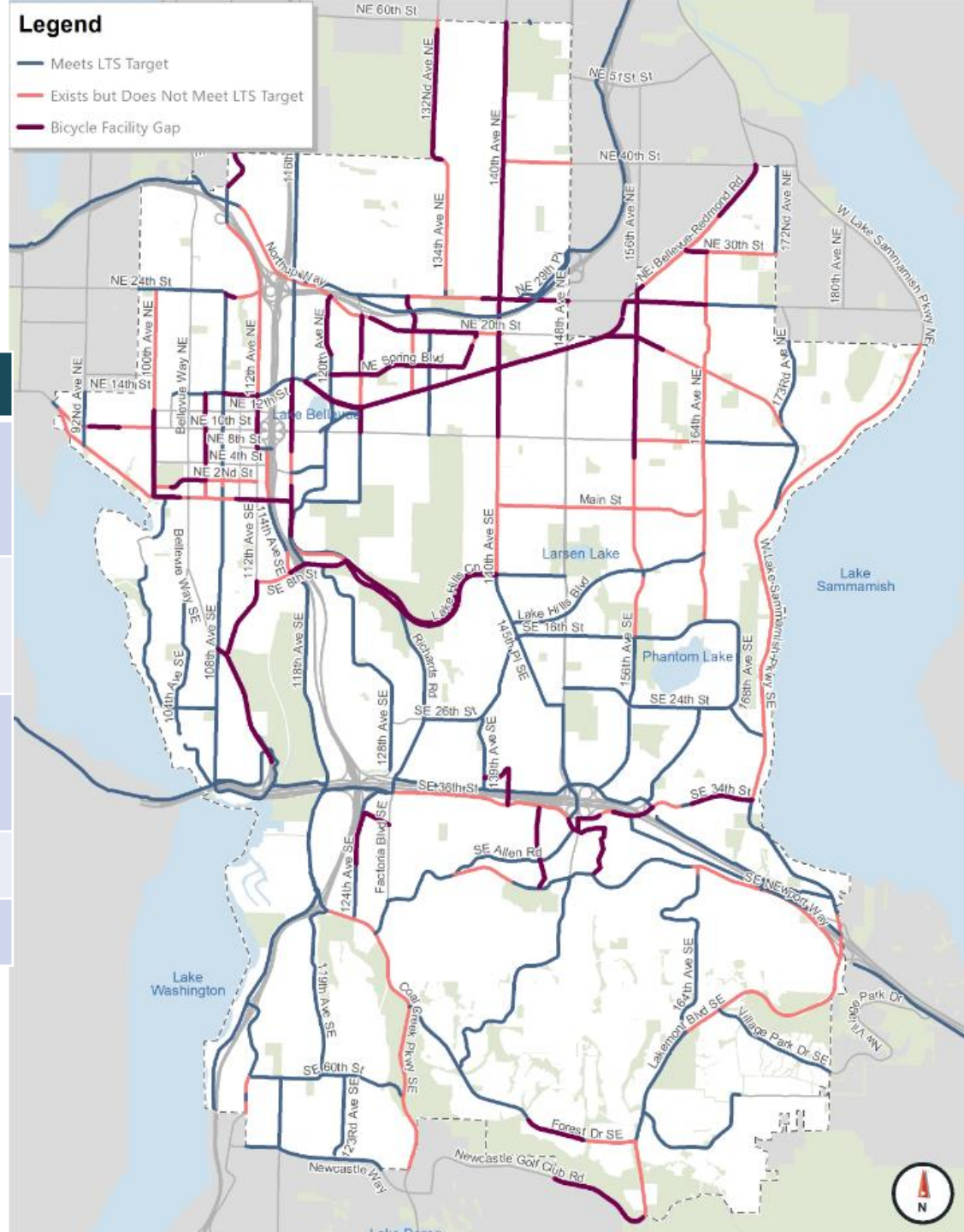
Table 5: Bicycle Level of Service / Level of Traffic Stress *(Amended from the MMLOS Metrics, Standards & Guidelines, 2017)*

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

Notes: This table is amended from Transportation Commission recommendations in their MMLOS report per evolving best practices. The final design and the ultimate achieved LTS is subject to engineering design and site-specific situations.

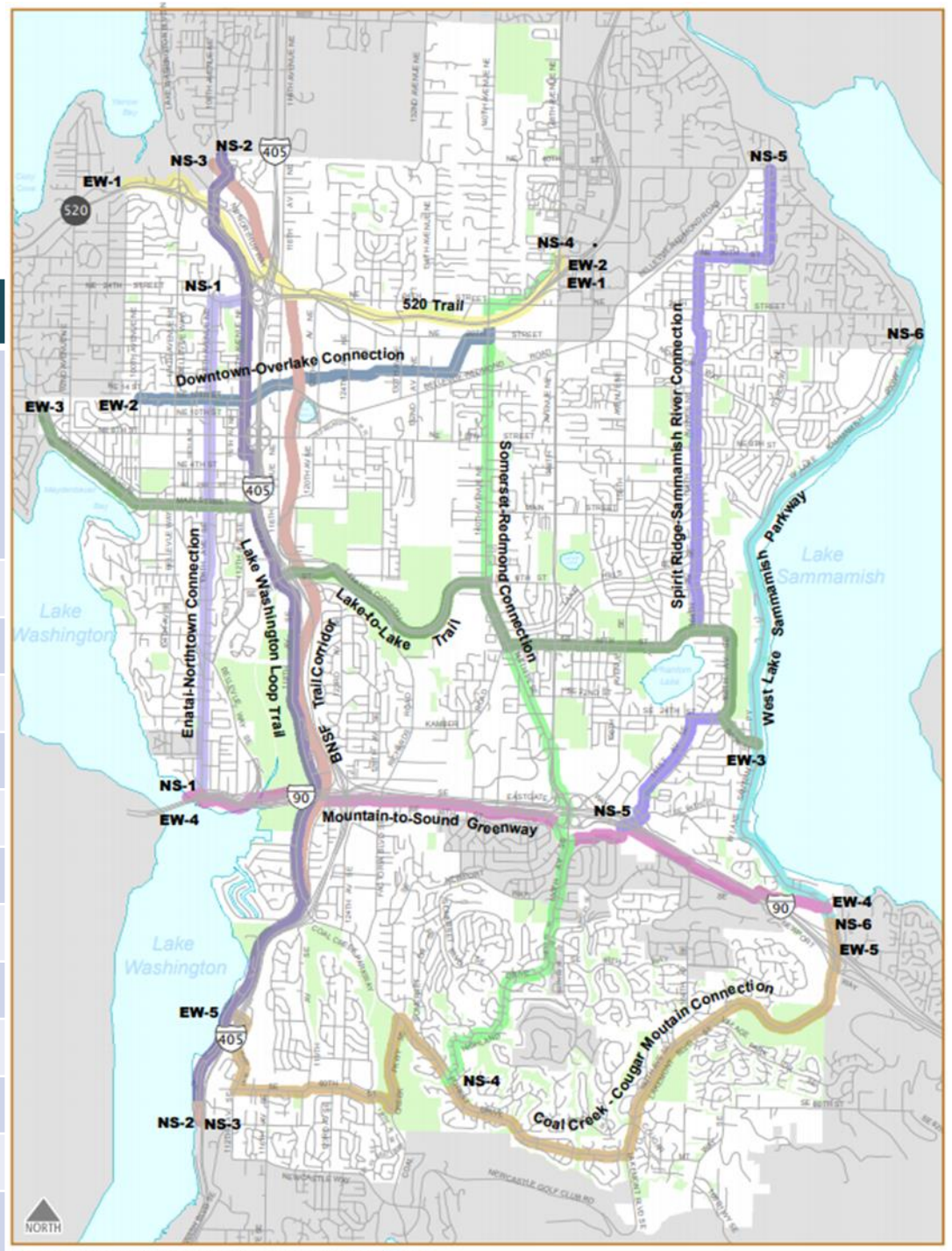
Existing Conditions

Table 4. Bicycle Facility Performance		
	Miles	Proportion of Planned System
Bicycle Facilities That Meet LTS	74	53%
Bicycle Facilities Exist but Do Not Meet LTS	32	23%
Bicycle Facility Gaps	33	24%
Total	139	100%



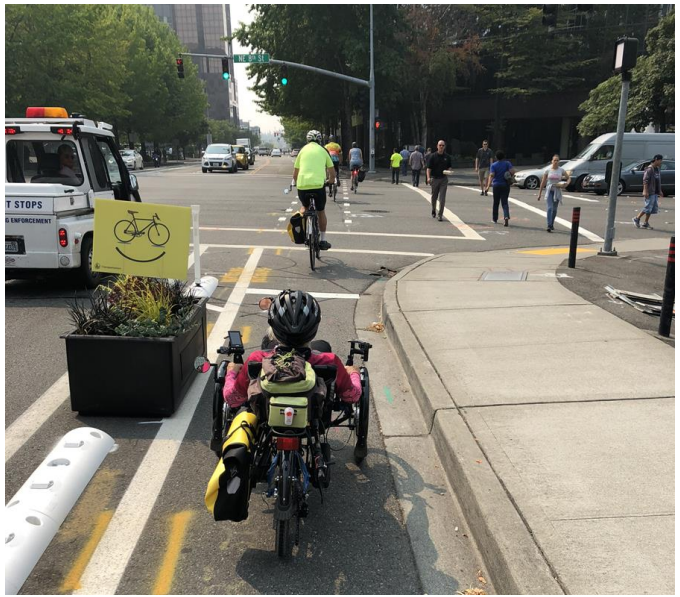
Existing Conditions

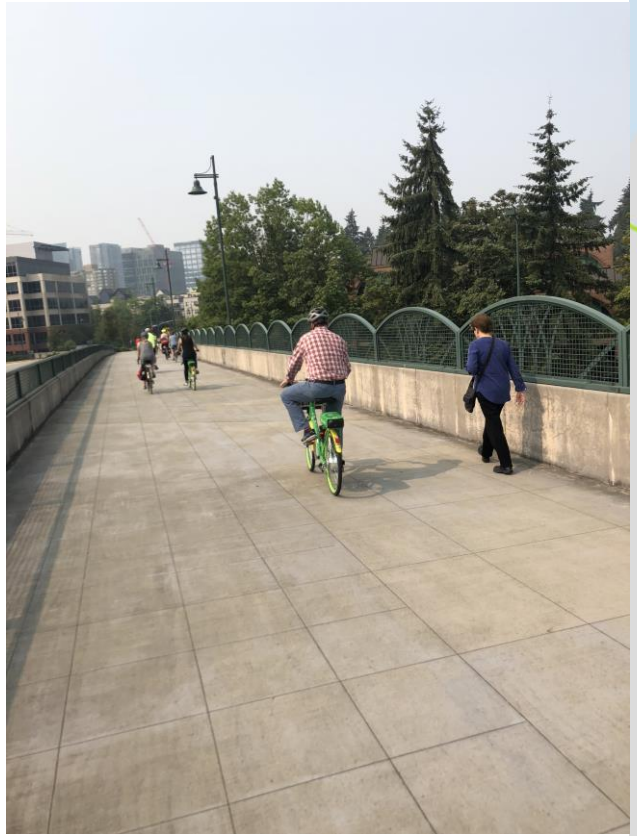
Bicycle Facility Performance		
Priority Bike Corridor	Miles	Proportion of Corridor Complete
Enatai-Northtowne	4	91%
Lake WA Loop	8	66%
Eastrail	8	53%
Somerset-Redmond	7	62%
Spiritridge-Sammamish	6	43%
West Lake Samm Pkwy	5	23%
520 Trail	4	77%
Downtown-Overlake	3	33%
Lake-to-Lake	7	49%
MTSG	6	60%
Coal Creek-Cougar Mtn	7	55%
Total	65	63%

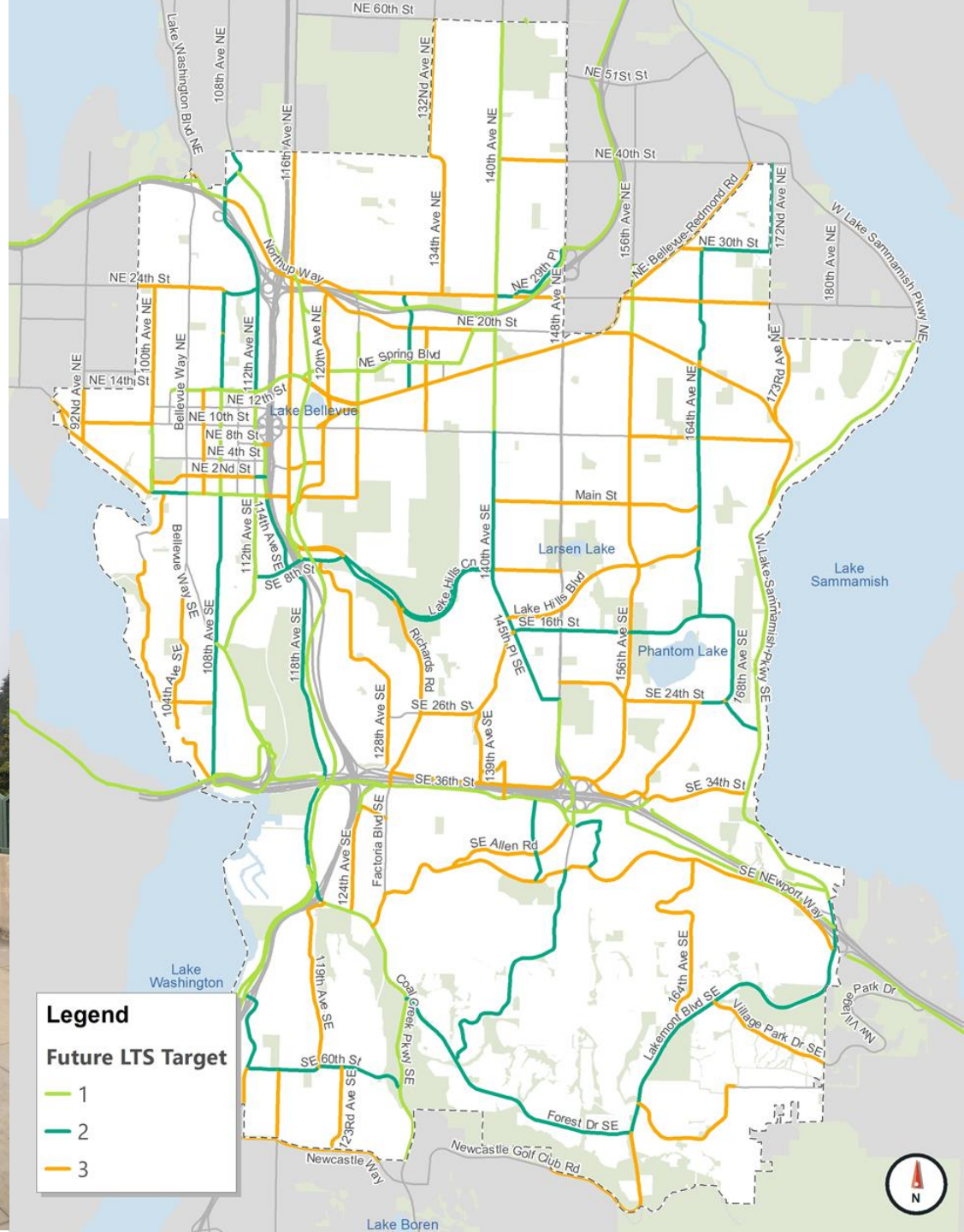


Planned Future Conditions

Bicycle Facilities Meet Performance Target





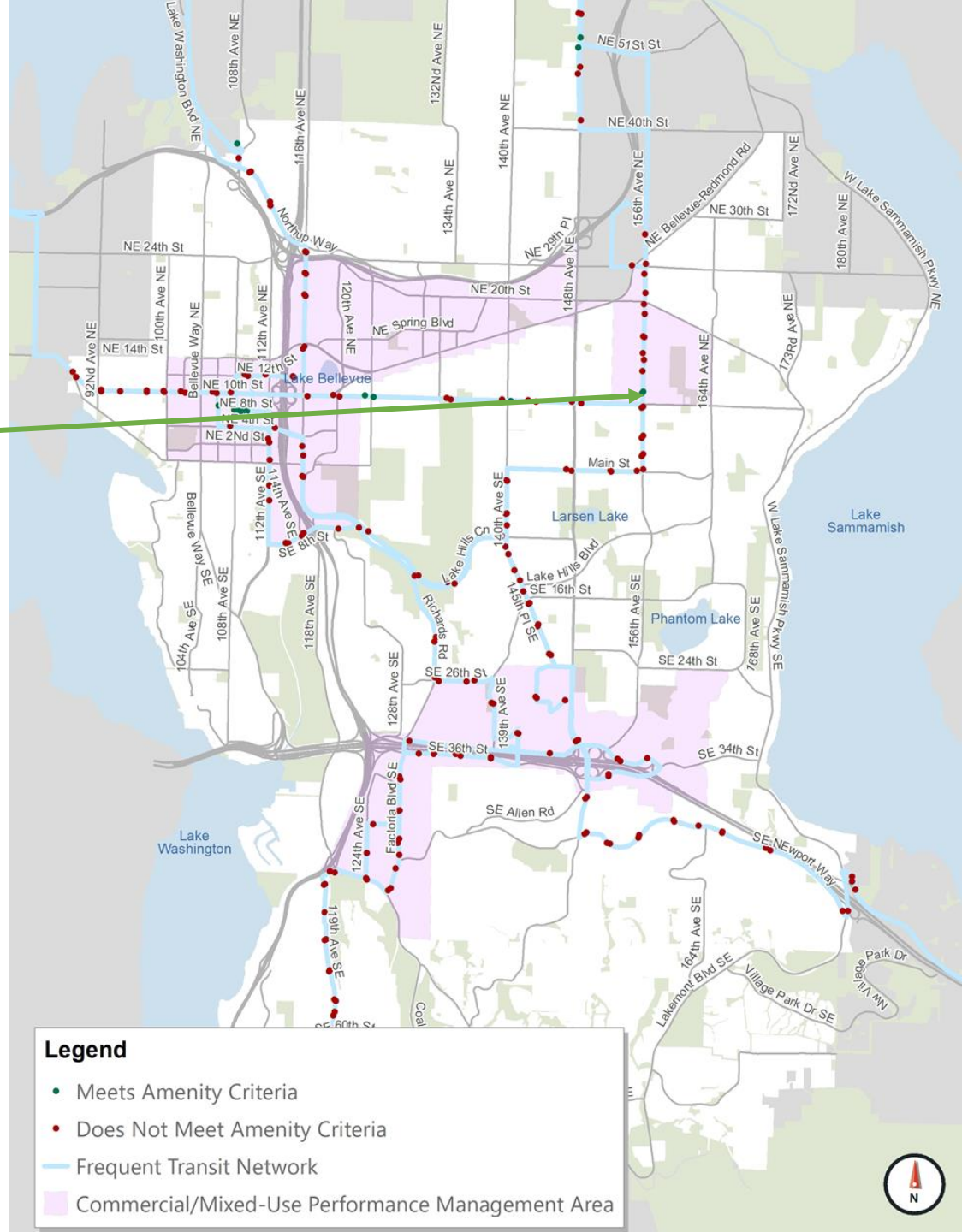


Existing Conditions

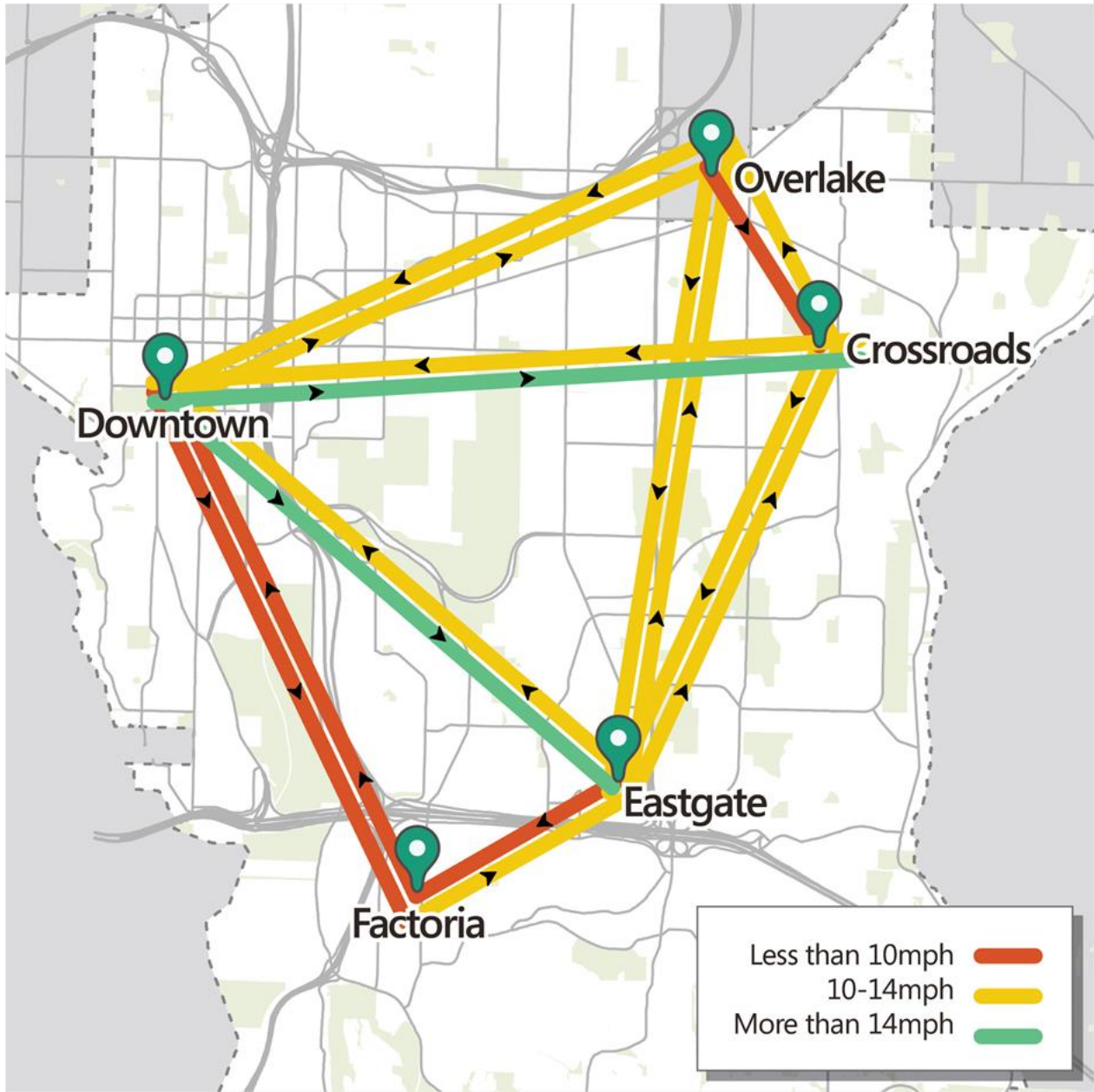
Table 6. Transit Performance Targets		
Passenger Comfort, Access and Safety		
Amenities	Number of Stops	Proportion
Stops That Fully Meet Amenity Performance Target	14	7%
Stops That Meet 3 or 4 Amenity Components	78	36%
Stops That Meet 1 or 2 Amenity Components	41	19%
Stops That Meet No Amenity Components	81	38%
Total Stops	214	100%
Transit Travel Speed		
Transit Speed	Number of Commercial/Mixed-Use Performance Management Areas Pairs	
Faster than 14mph Performance Target	2	
10-14mph	10	
Slower than 10mph	4	
Total Pairs Commercial/Mixed-Use Performance Management Areas	16	

Existing Conditions

Transit Stop Meets Performance Target



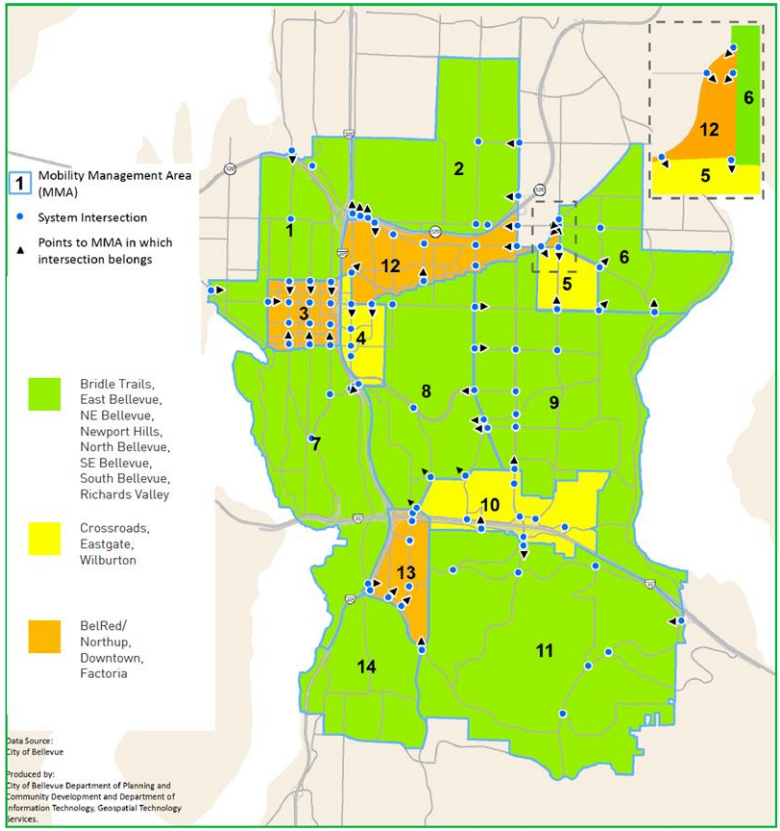
Existing Conditions



Existing Conditions

Table 7. Existing V/C by Mobility Management Area

MMA	V/C Standard	Existing V/C	Congestion Allowance for MMA	# of Intersections that Exceed V/C Standard
Area 1: North Bellevue	0.85	0.64	3	0
Area 2: Bridle Trails	0.80	0.69	4	3
Area 3: Downtown	0.95	0.72	9	3
Area 4: Wilburton	0.90	0.75	3	1
Area 5: Crossroads	0.90	0.71	2	0
Area 6: NE Bellevue	0.80	0.70	2	0
Area 7: South Bellevue	0.85	0.76	4	2
Area 8: Richards Valley	0.85	0.70	5	1
Area 9: East Bellevue	0.85	0.83	5	4
Area 10: Eastgate	0.90	0.72	4	2
Area 11: SE Bellevue	0.80	0.71	3	1
Area 12: Bel-Red/ Northup	0.95	0.73	7	2
Area 13: Factoria	0.95	0.79	5	0
Area 14: Newcastle	-	-	-	-
All System Intersections		0.73		17



Existing Conditions

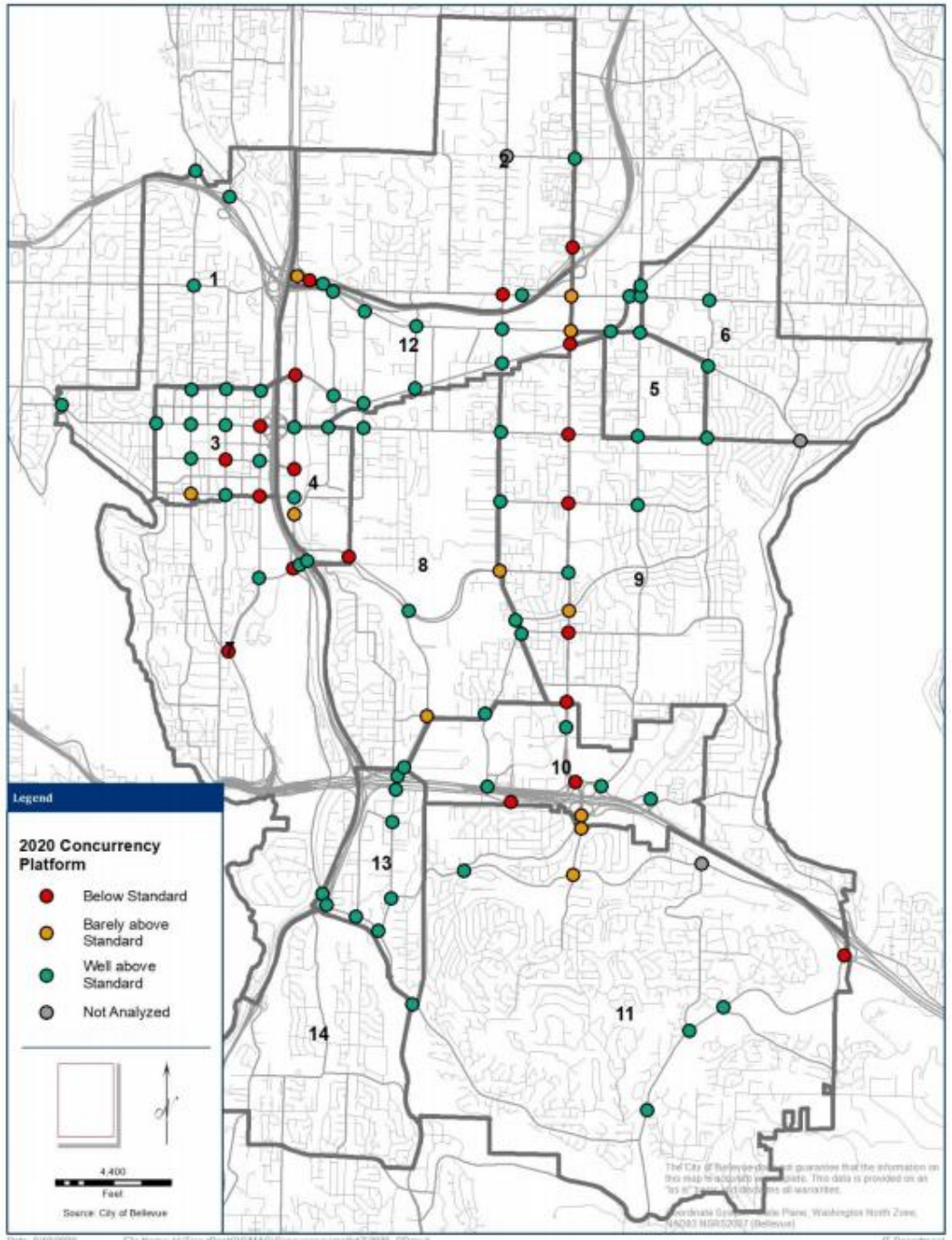
City of Bellevue
Transportation Department
Modeling and Analysis Group

Concurrency Update Report

Performance Snapshot
December 31, 2019

Prepared August 2020

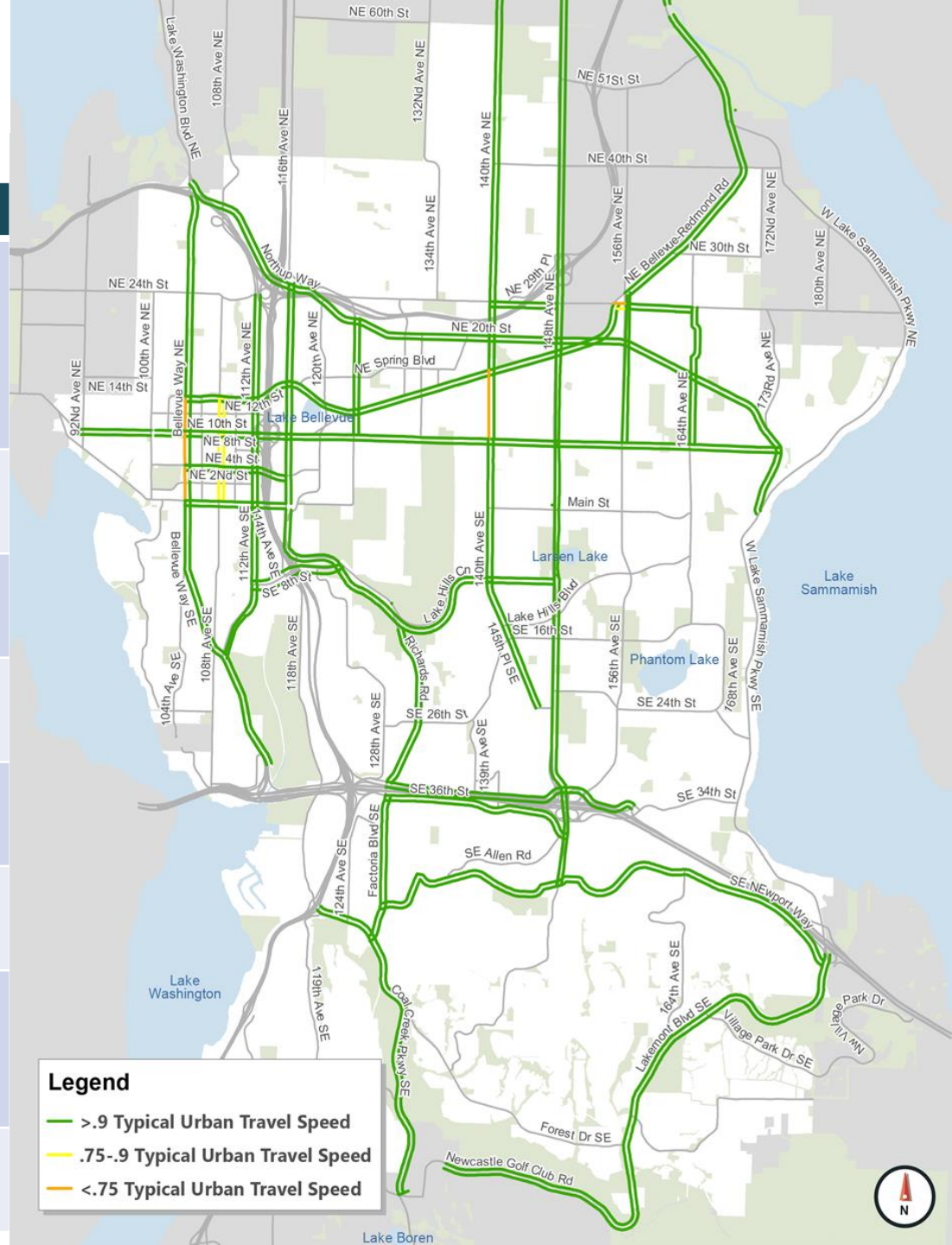
Figure 4 2020 Concurrency Platform (PM Peak) System Intersection Assessment



Existing Conditions

Table 8. Existing Corridor Travel Speed Preliminary Results

Corridor	From	To	Speed Limit	4-6PM Peak Period **Speed**	4-6PM Peak Period Travel **Time**
Bellevue Way (SB)	NE 12th St	Main St	30 mph	9 mph	5 min.
Bellevue Way (SB)	Main St	112th Ave SE	30 mph	22 mph	3 min.
Bel-Red Rd (EB)	116th Ave NE	148th Ave NE	35 mph	22 mph	7 min.
NE 8th St (EB)	I-405	124th Ave NE	30 mph	20 mph	2 min.
148th Ave SE (SB)	SE 8th St	Eastgate Way	35 mph	16 mph	10 min.
Factoria Blvd (SB)	I-90	Coal Creek Pkwy	35 mph	14 mph	4 min.
Coal Creek Pkwy (SB)	I-405	Forest Dr	35 mph	24 mph	3 min.



Existing Conditions

- Illustration of underlying speed data
- 5-6 PM, congested period
  - Most congested portion of the peak hour
- Shorter segments, pick up traffic signal effects, shorter than many trips along a corridor

Existing Conditions

- Another option for calculating the MMLOS vehicle corridor travel speed metric
- 4-6 PM, congested period

Table 7. Transportation System Performance Metrics – Existing Conditions Summary

		Meets Performance Target	Does Not Meet Performance Target	
		Fully Complete	Partially Complete	Network Gap
	**Sidewalk Completion**	25%	52%	23%
	Crossing Frequency (spacing)	13%	N/A	84%
	**Corridor LTS Completion**	53%	23%	24%
	**Passenger Amenities**	7%	55%	38%
	Transit Speed Between Activity Centers	Faster than 14mph	10-14mph	Slower than 10mph
	(Activity Center Pairs)	2	10	4
	**Intersection V/C (Number of MMAs)**	Average V/C in MMA Meets Existing Concurrency Standard	Average V/C in MMA Does Not Meet Existing Concurrency Standard	
		13	0	
	Corridor Travel Speed (Number of Miles)	No Performance Targets Defined for Corridor Travel Speed		
		Faster than 0.9 times Typical Urban Travel Speed	Between 0.9 and 0.75 times Typical Urban Travel Speed	Slower than 0.75 times Typical Urban Travel Speed
		94%	3%	3%

Performance Metrics and Targets – Summary

MOBILITY IMPLEMENTATION PLAN

	TC Recommendation for MMLOS			Mobility Implementation Plan		
Mode	**MMLOS Metric**	**MMLOS Target**	**MMLOS Geography**	**MIP Metric**	**MIP Target**	**MIP Geography**
	Width of Sidewalk + Landscape	Varies by Land Use	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS
	Frequency and Treatment of Arterial Crossings	Varies by Land Use	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS
	Level of Traffic Stress Corridors and Intersections	LTS 1 on Priority Bicycle Corridors LTS 2 or 3 on Bicycle Network Corridors	Citywide Corridors and Intersections	Per MMLOS	Per MMLOS	Per MMLOS
	Transit Speed on Frequent Transit Network between Activity Centers	14 mph between Activity Centers	FTN between Activity Centers	Per MMLOS	Per MMLOS	Per MMLOS
	Bus Stop Components	Varies by Bus Stop Type	Citywide	Per MMLOS	Per MMLOS	Per MMLOS
	Volume/Capacity at System Intersections	Varies by MMA	Mobility Management Area	V/C	TBD in PMAs	PMAs TBD
	Corridor Travel Speed	40% Speed Limit with MMA Group Overlay	Primary Vehicle Corridor	Corridor Travel Speed	TBD on Corridors	Corridors TBD

Mobility Management Areas

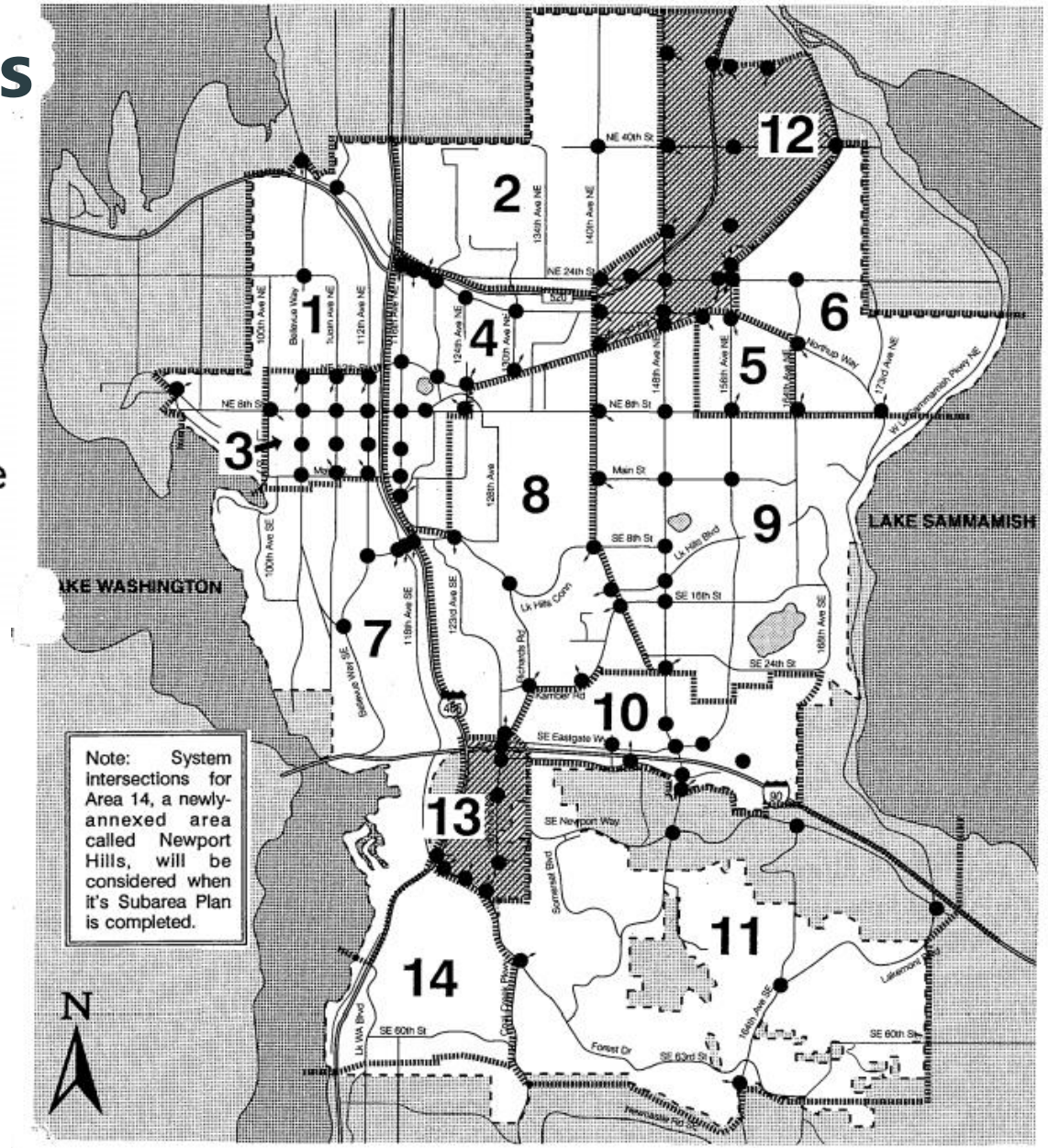
12/08/93 CITY OF BELLEVUE, WASHINGTON

ORDINANCE NO. 4606

AN ORDINANCE relating to traffic congestion in the City; repealing Ordinance No. 4017 as amended by Ordinance No. 4139, and Chapter 14.10 of the Bellevue City Code; and adding a new Chapter 14.10 to the Bellevue City Code, entitled the Traffic Standards Code.

Why 14 original MMAs

- Mobility management areas with long-range objectives and shorter-term standards tailored to each area's characteristics and needs
- Distinct areas with boundaries based on factors such as ... area-specific mobility targets.
- Level-of-service standards are tailored for each mobility management area, reflecting distinct conditions and multiple community objectives



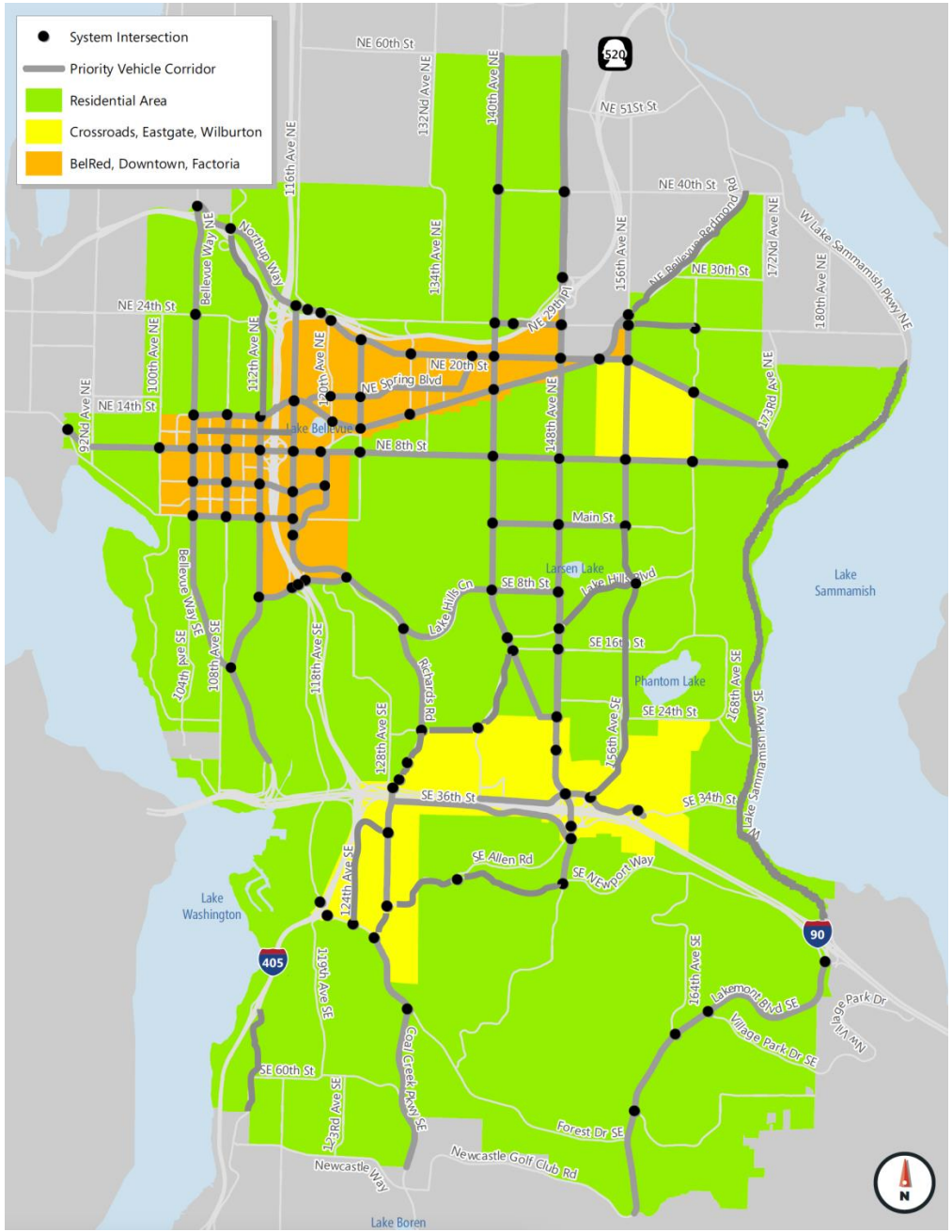
Performance Management Areas

Why staff recommends 7 PMAs

- Mixed-use, high density, high growth
- Supported by light rail and robust transit
- Closely-spaced intersections, small street grid
- High pedestrian priority; wide sidewalks and frequent mid-block crossings

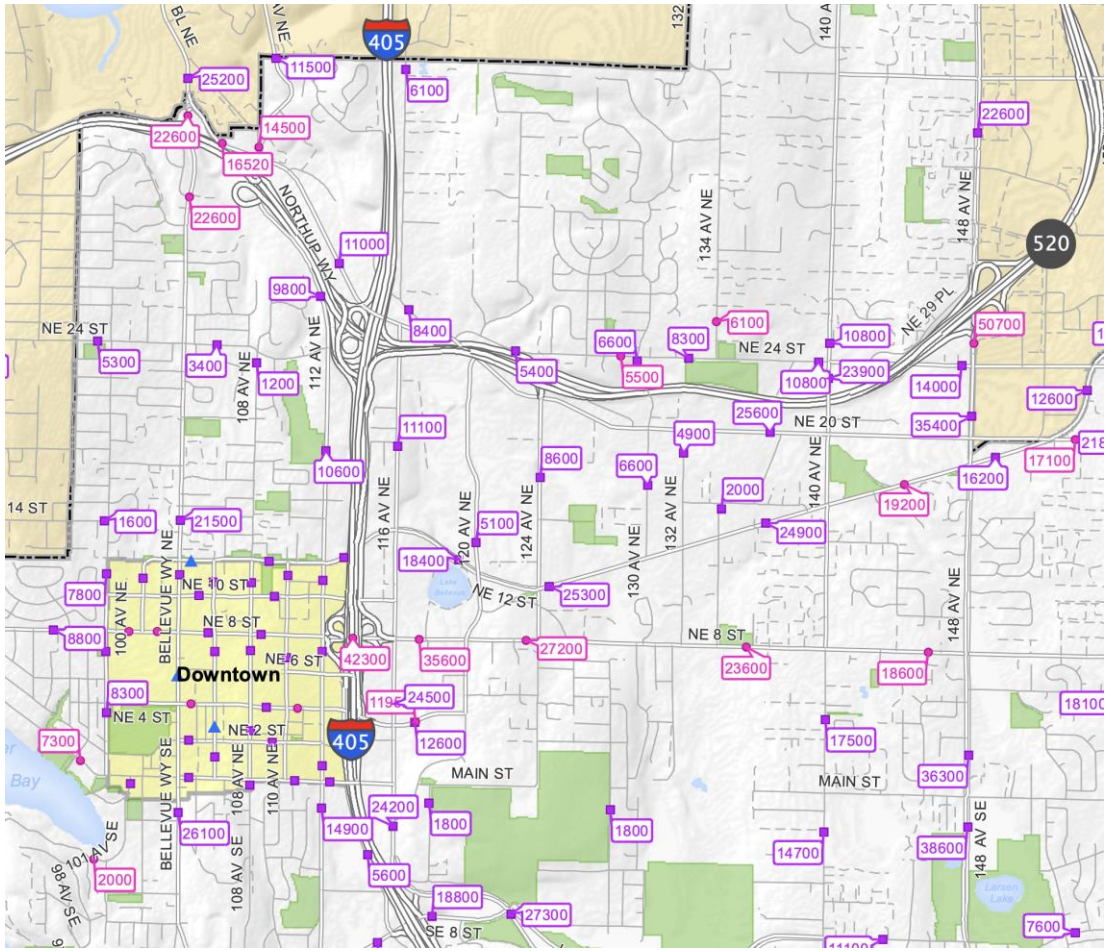
- Mixed-Use/Commercial, moderate density
- Moderate street connectivity
- Frequent Transit Network
- Pedestrian and bicycle connections to transit

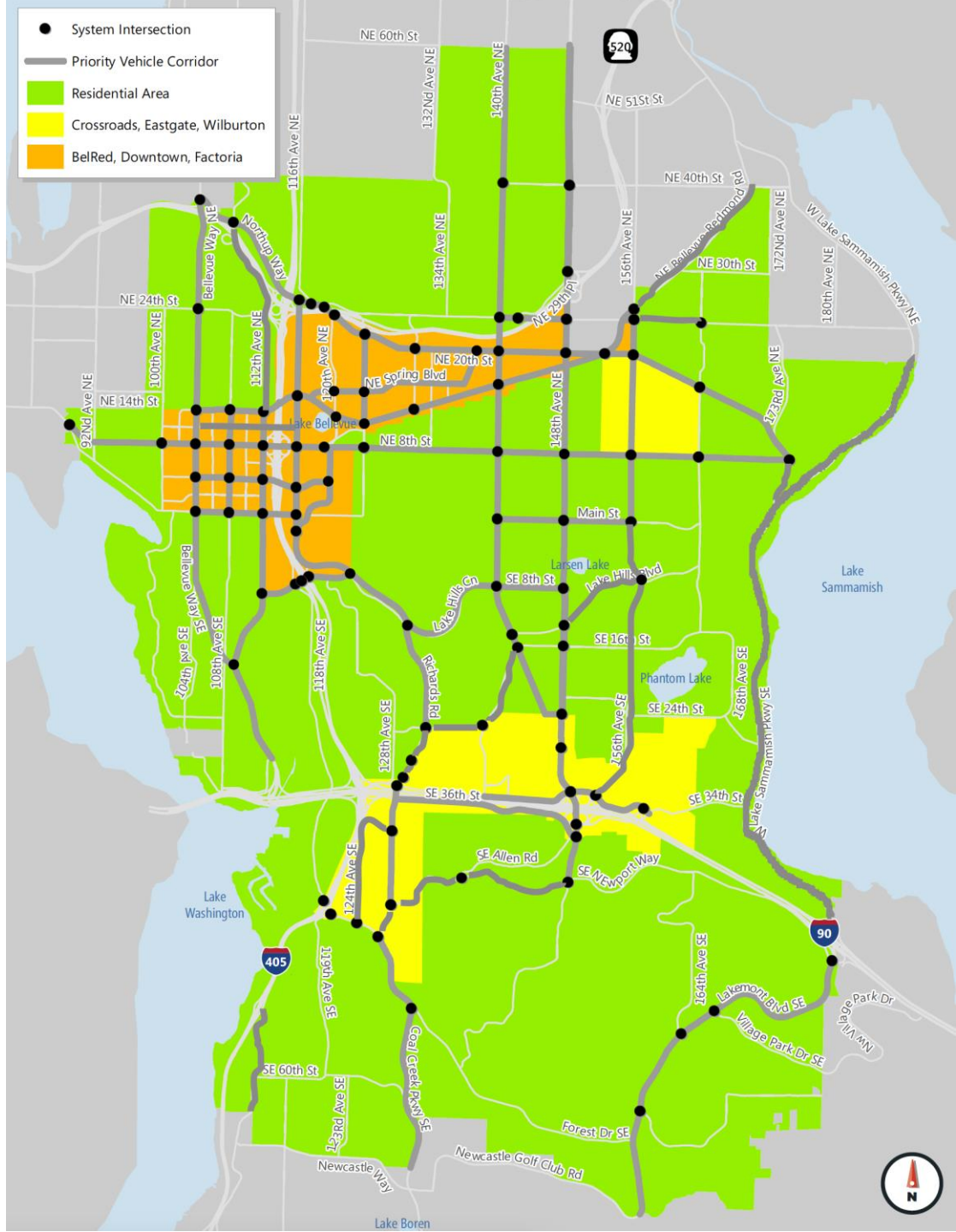
- Residential, low density
- Relative stability
- Mobility options available, some transit, cars used for most trips
- Connected pedestrian and bicycle networks



Priority Vehicle Corridors

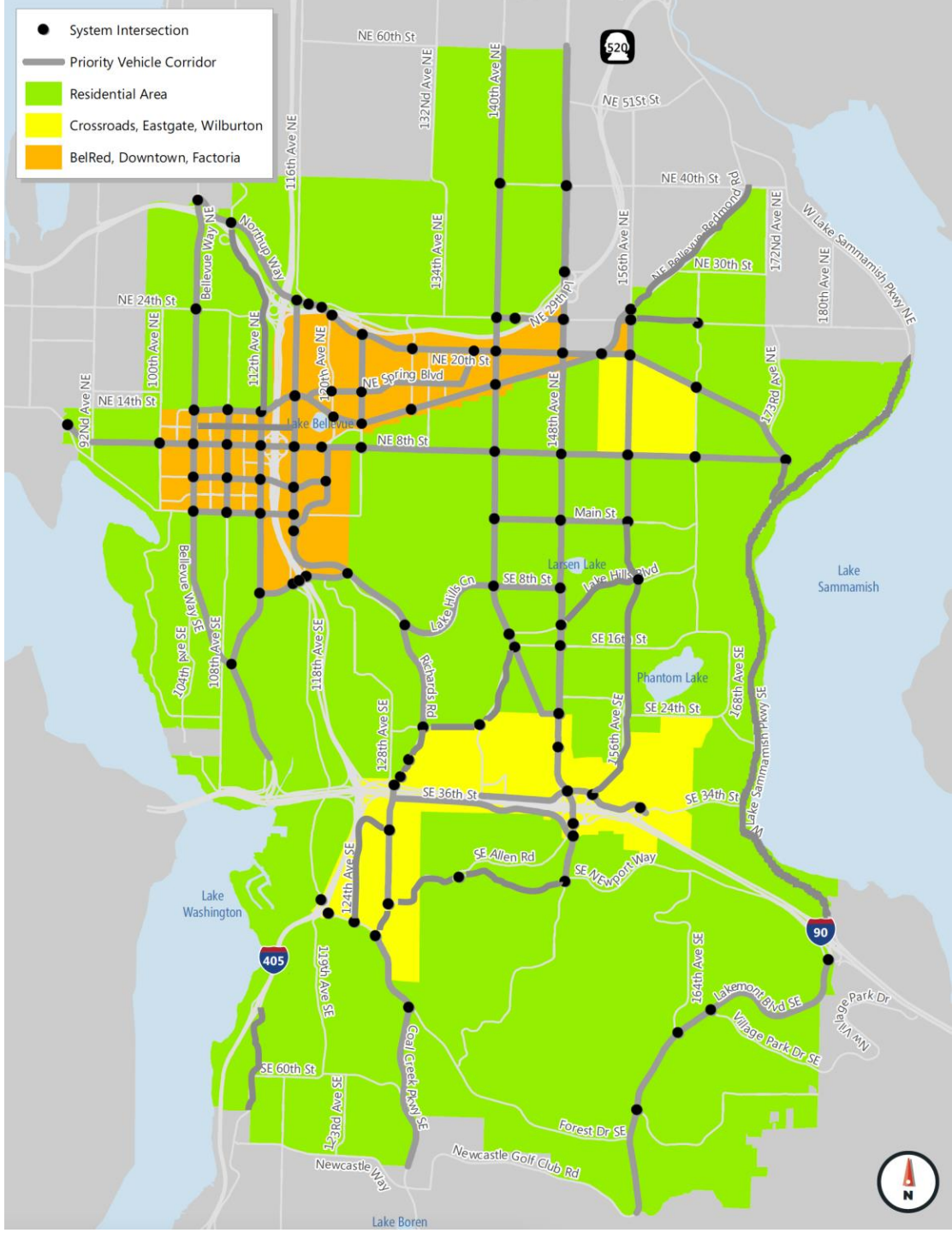
- Arterial Streets
- Over 10,000 average daily trips





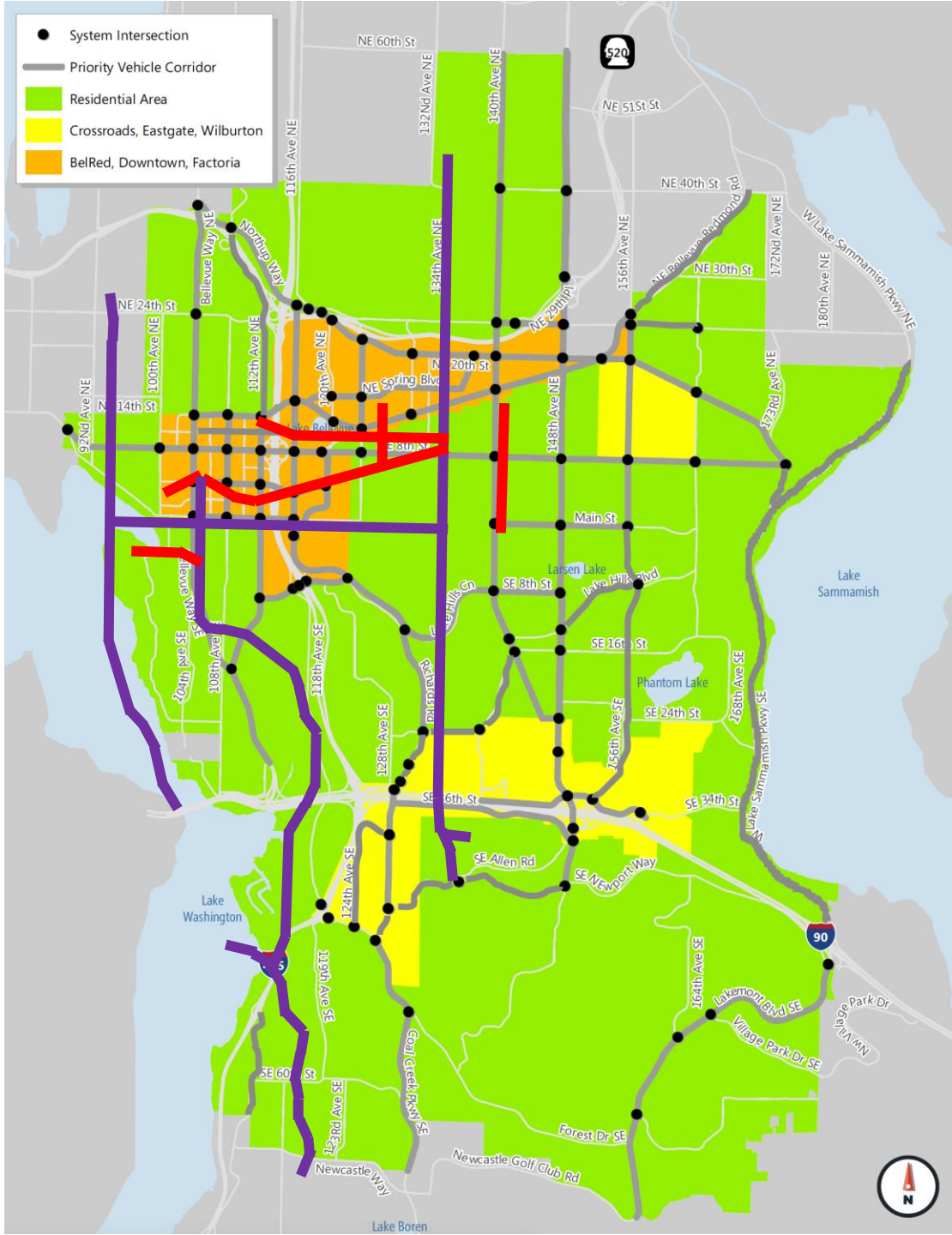
Priority Vehicle Corridors

- Arterial Streets
- Over 10,000 average daily trips
- Over 20,000 average daily trips



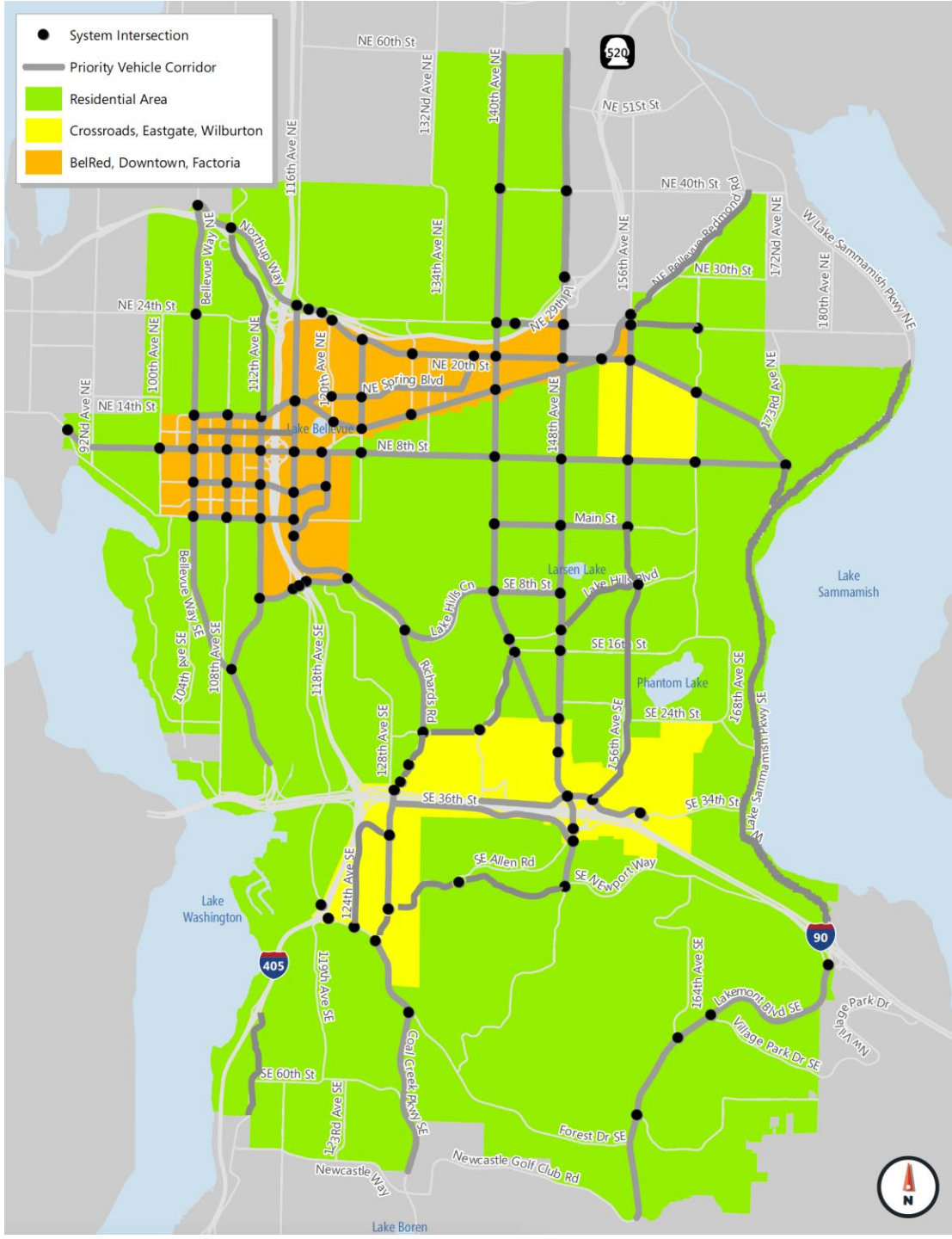
Priority Vehicle Corridors

- Arterial Streets
- Over 10,000 average daily trips
- Over 20,000 average daily trips
- Major regional connectors



Discussion/Recommendation

- Clarifying questions
- Questions, comments and **final recommendations** on Vehicle Level-of-Service
  - Performance Metrics
  - Performance Management Areas
  - Performance for other modes
- Questions, comments, discussion and/or **recommendations** on Vehicle Level-of-Service
  - Performance Targets
    - System Intersection V/C
    - Vehicle Priority Corridors



Next Steps

July 22 TC Meeting

- 2030 TFP Forecast of mode performance relative to Performance Targets
- Equity Index Preliminary Recommendation
- Confirm Performance Targets for vehicle mode

July 28 PC Public Hearing

- Multimodal Concurrency standard policy recommendation

September 9 TC Meeting

- Questionnaire Results
- TFP (2033) Modeling Analysis
- Environmental Metrics Introduction

Thank You!

Level-of-Service in Bellevue
Toward a Multimodal Approach to Mobility

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Mobility Implementation Plan web site