SR 520 Mediation Meeting

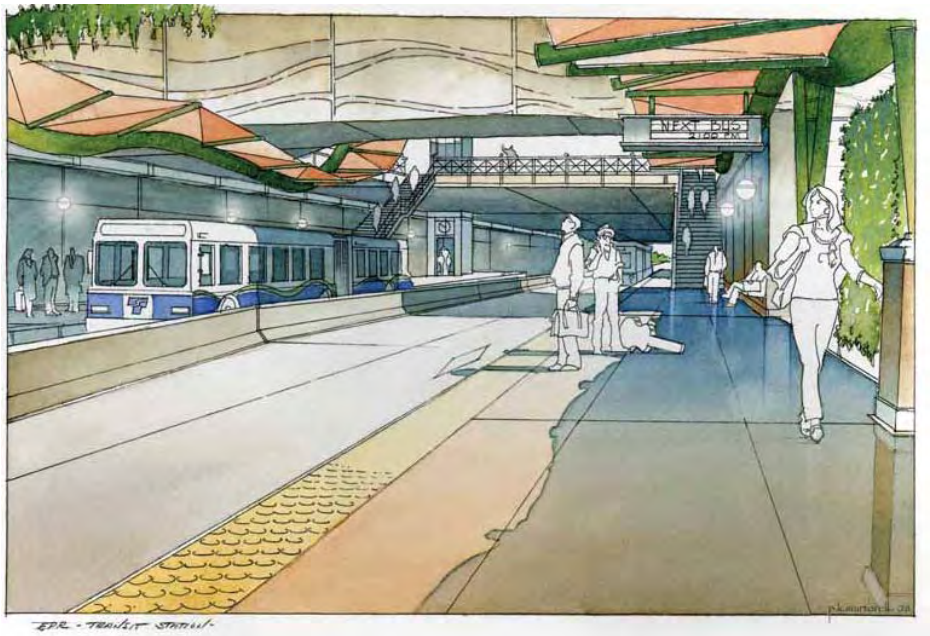
Museum of History and Industry

November 18, 2008

Agenda

- Welcome and Meeting Overview
- High Capacity Transit Plan Update
- Traffic Demand Management
- Preliminary Traffic Operations
- Construction Activities and Effects
- Project Impact Plan
- Next Steps

SR 520 High Capacity Transit Plan



Conceptual rendering of Evergreen Point station

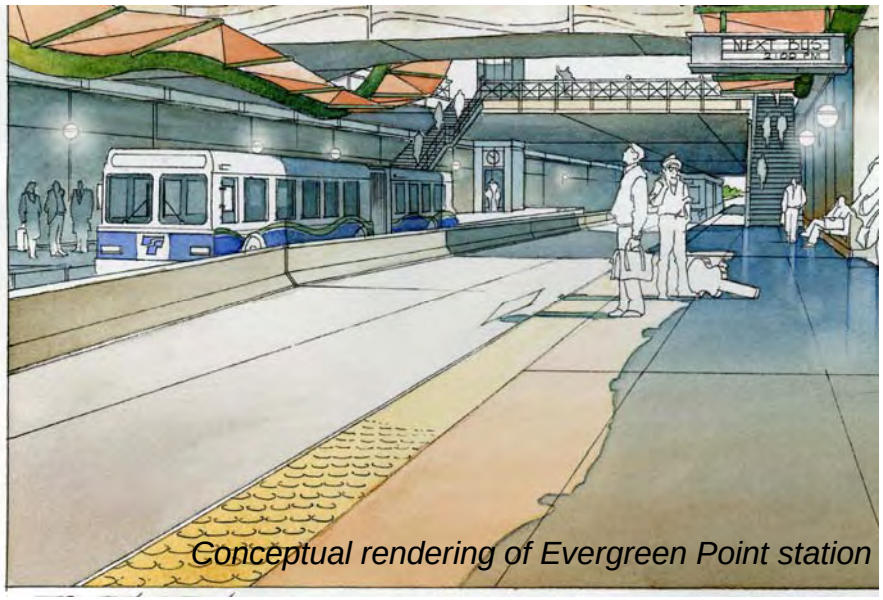
Overview

- Year 2030 SR 520 High Capacity Transit Plan goals.
- BRT: what and why.
- SR 520 Bus Rapid Transit concept.
- Montlake Multimodal Center Vision.
- Funding and Implementation plan.
- Next steps.

SR 520 High Capacity Transit Plan Goals and Key Elements

Goals from the 2007 Draft HCT Plan:

- Define a phased program for Bus Rapid Transit (BRT) through 2030.
- Respond to projected increases in transit demand on the SR 520 corridor.
- Expand the strong transit market already in place.
- Build on speed and reliability benefits from the proposed new HOV lanes.
- Build the ridership needed for future HCT improvements in the corridor.



Conceptual rendering of Evergreen Point station

Plan's three key elements:

1. Bus Rapid Transit operating in SR 520 HOV Lanes.
2. Montlake Multimodal Center.
3. Light rail beyond 2030.

What is BRT?

A strategy for using buses to provide HCT service and quality, supported by capital improvements and high frequency services.

Types of Bus Rapid Transit

Convertible/ BRT		▶ Same exclusivity and access as Busway BRT ▶ Facilities built to LRT standards ▶ Convertible to LRT without new ROW
Busway/ BRT		▶ Exclusive ROW ▶ Not affected by operations in adjacent GP lanes ▶ Direct access to transit facilities
✓ **HOV/ BRT**		▶ Shares lane with HOV to bypass GP traffic ▶ With inside median lanes, buses bypass ramp weaving activity ▶ Direct access to inside median or nearby transit facilities and P&Rs
Arterial/ BRT		▶ Operates on arterials with signals ▶ Shares lane with HOV/business access ▶ Gets priority at signals

✓ *Selected by regional transit agencies for initial Bus Rapid Transit service*

What Are We Looking for in BRT?

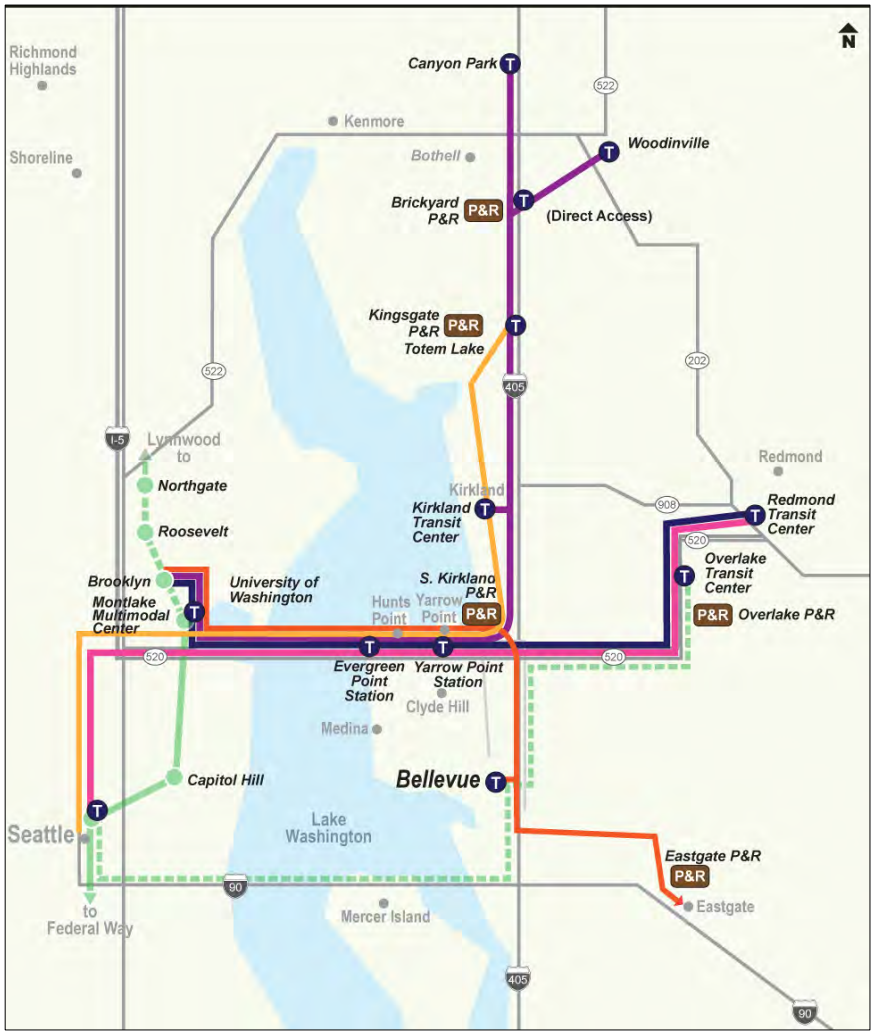
- Frequent all-day two-way transit service in the SR 520 corridor.
  - At least 10 minute frequencies at peak, at least 15 mid-day.
- Fast and reliable travel times.
- Service between Seattle and Eastside urban centers.
  - Jobs and housing growth areas.
  - Direct routes to the University and downtown Seattle.
- Capital improvements targeted at the major travel corridors.
- Connections with regional HCT and local networks.
- Improved bike, pedestrian and Eastside park and ride access.
- Unique identity and experience.
- Foundation for SR 520 HCT in exclusive, dedicated facilities.

BRT Builds on Planned SR 520 Investments

Sound Transit HCT investments and the Lake Washington Urban Partnership also provide capital and service improvements for the corridor.

SR 520 BRT Vision - 2030

- Five core routes:
  - Redmond to University District.
  - Redmond to Downtown Seattle.
  - Eastgate/Bellevue to University District.
  - Totem Lake/Kirkland to Downtown Seattle.
  - Canyon Park/Woodinville to University District.
- Unique BRT identity.
- Direct service at freeway stations, major transit centers and park and rides.
- Local transit and capital investment program focused on access, speed and reliability.



High Quality BRT Service

- Frequent two-way service all day:
  - Every 7 to 10 minutes during peak commute.
  - Every 15 minutes during mid day.
  - Every 15 to 30 minutes in evenings.

- Unique BRT identity and attributes:
  - BRT stations/stops and signage.
  - BRT low floor vehicles with all door boarding.
  - Off-board fare payment.

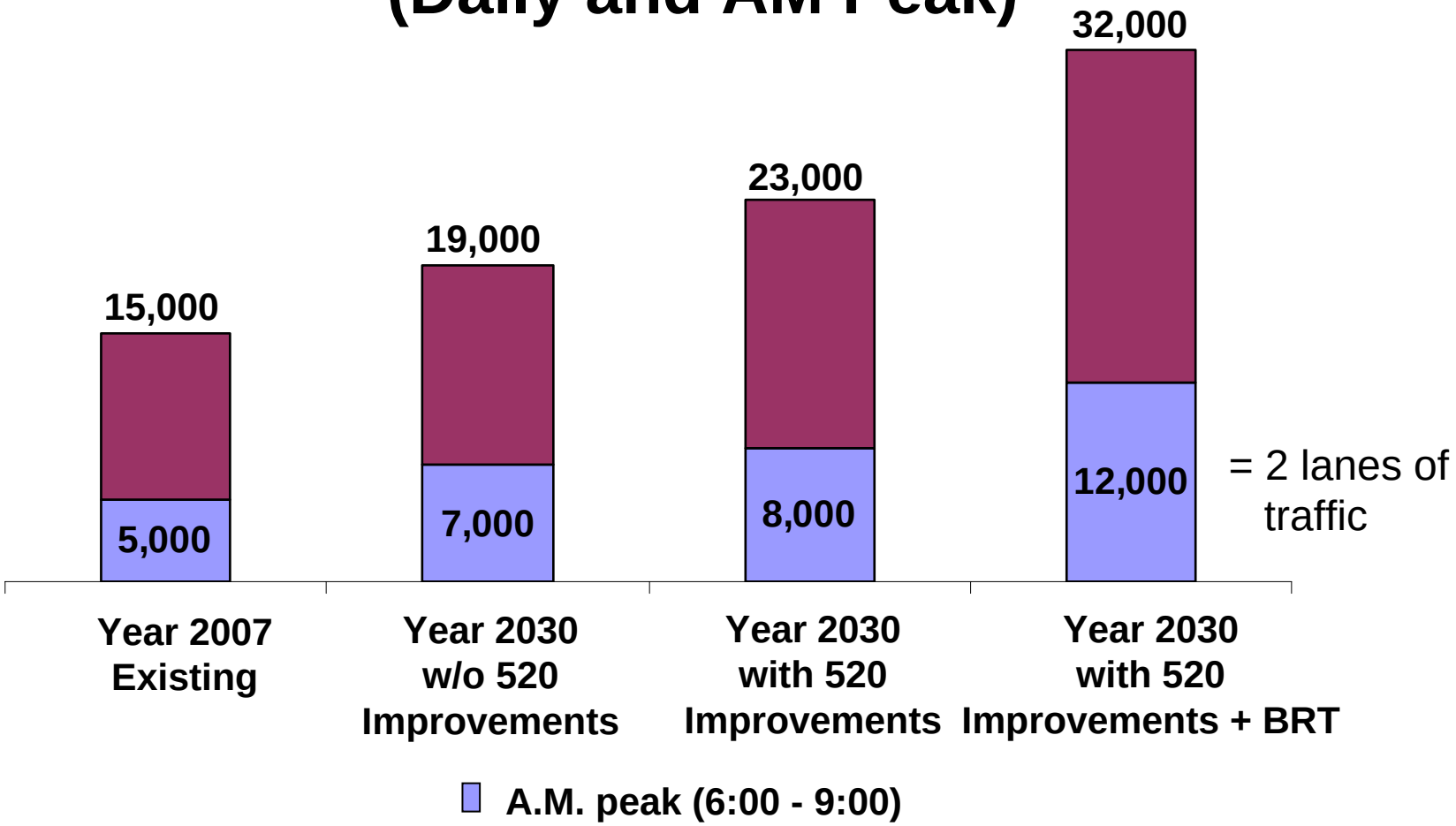
- Real time service information.

Example of a BRT vehicle type

Access, Speed and Reliability

- Improved access for riders through:
  - Local transit service improvements.
  - As many as 2,000 more Eastside park and ride spaces by 2030.
- Speed and reliability
  - Direct access improvements.
  - Strategic investments and shared commitments for fast and reliable travel times on the freeway and local arterials.

What Will SR 520 Ridership Be in 2030? (Daily and AM Peak)



Note: Travel Demand Forecasts without East Link; with East Link being modeled now. Results will be documented in Final HCT Plan. Ridership for BRT will be lower with East Link, particularly where service areas overlap.

Other Key Findings

- Transit is more efficient to operate due to comprehensive program of BRT investments.
- Travel time and reliability benefits depend on the ability to manage HOV lanes and key arterials.
- No major differences in ridership demand with SR 520 options A, K or L.
- HCT improvements serving the Montlake Multimodal Center replace transfer and access functions of Montlake Flyer Stop.

BRT Capital and Operating Investments

- Operating: 100,000 to 200,000 additional service hours, compared to about 50,000 today.

- Capital for BRT system:
  - BRT vehicles.
  - Information systems, off-board fare payment systems.
  - BRT stations and stops.
  - maintenance base capacity.
  - Bus layover.

- Capital for transit access and speed improvements:
  - Direct access and ramp bypass lanes.
  - Eastside park-and-ride facilities.
  - Local arterial treatments, including transit signal priority.

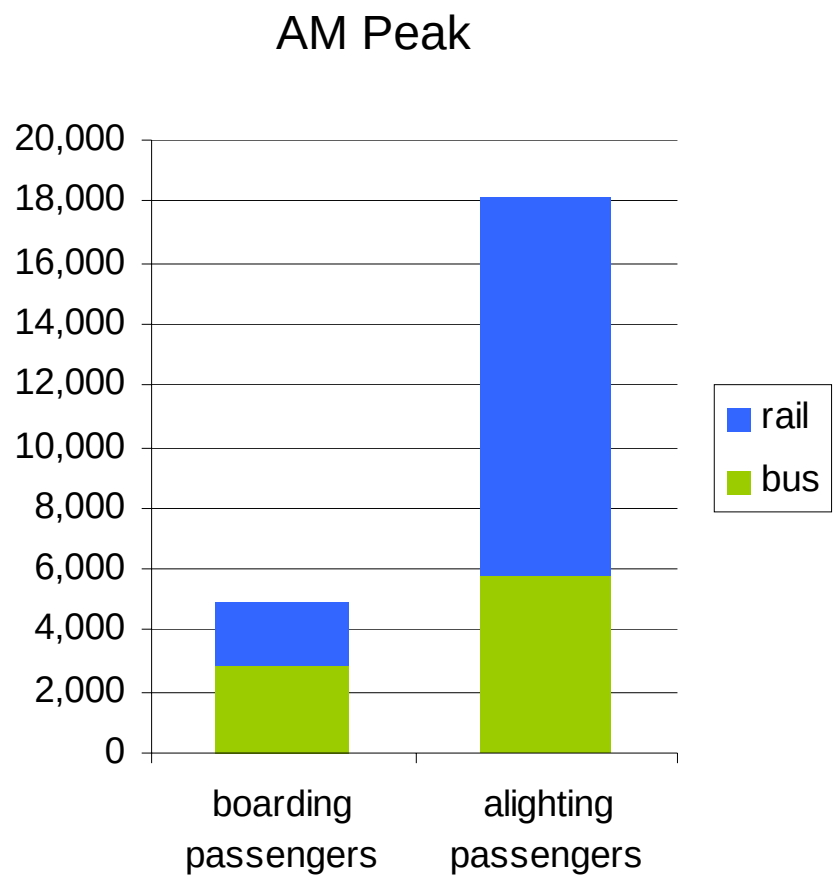
Montlake Multimodal Center Vision

- Multimodal Center for SR 520 BRT, Link light rail and local transit service.
- Provide a gateway to the University District and University of Washington.
- Accommodate transit riders, pedestrians and bicyclists.
- No park and ride lot.

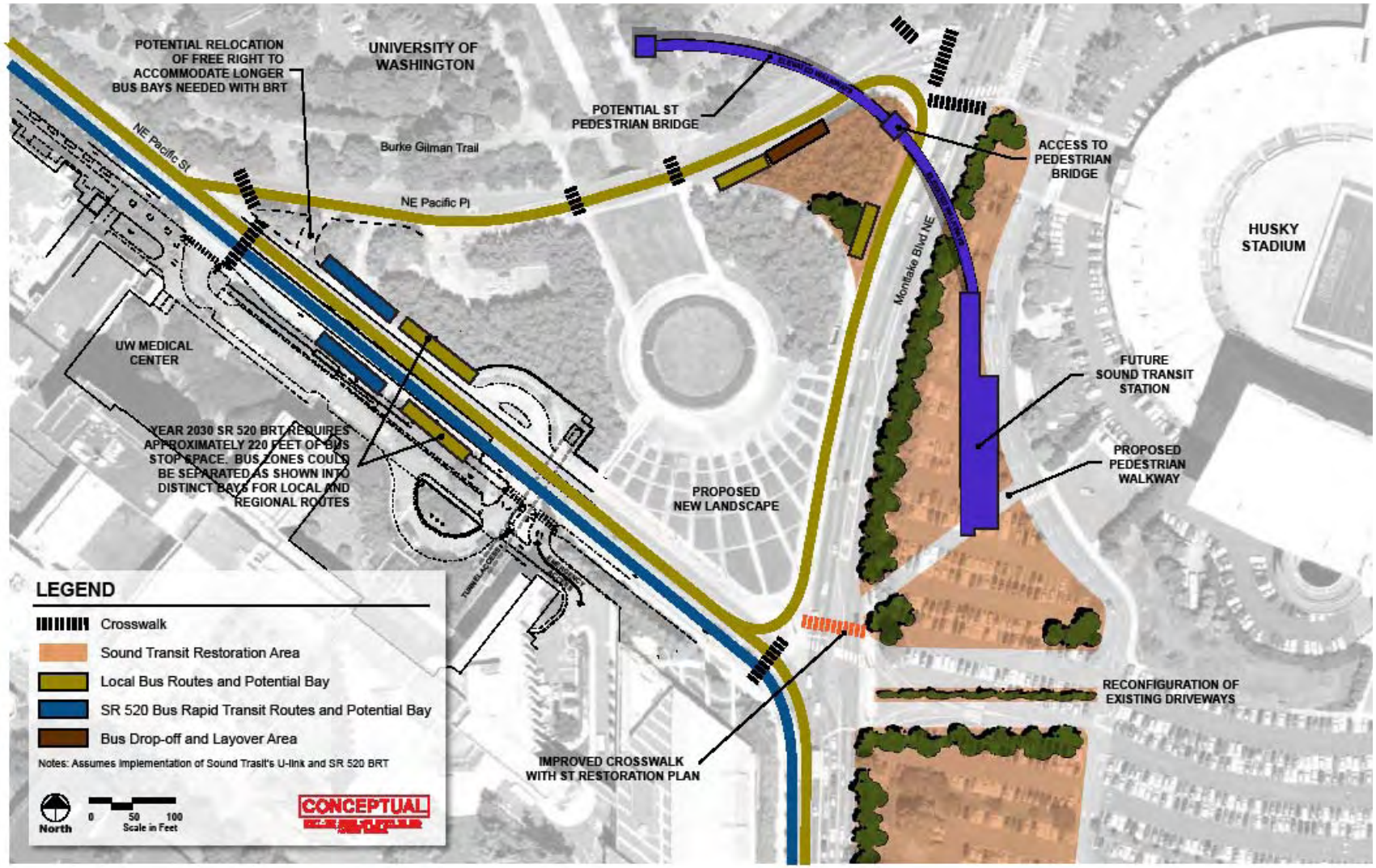
Sound Transit's University of Washington Station (simulation).

Transit Activity at the Montlake Multimodal Center

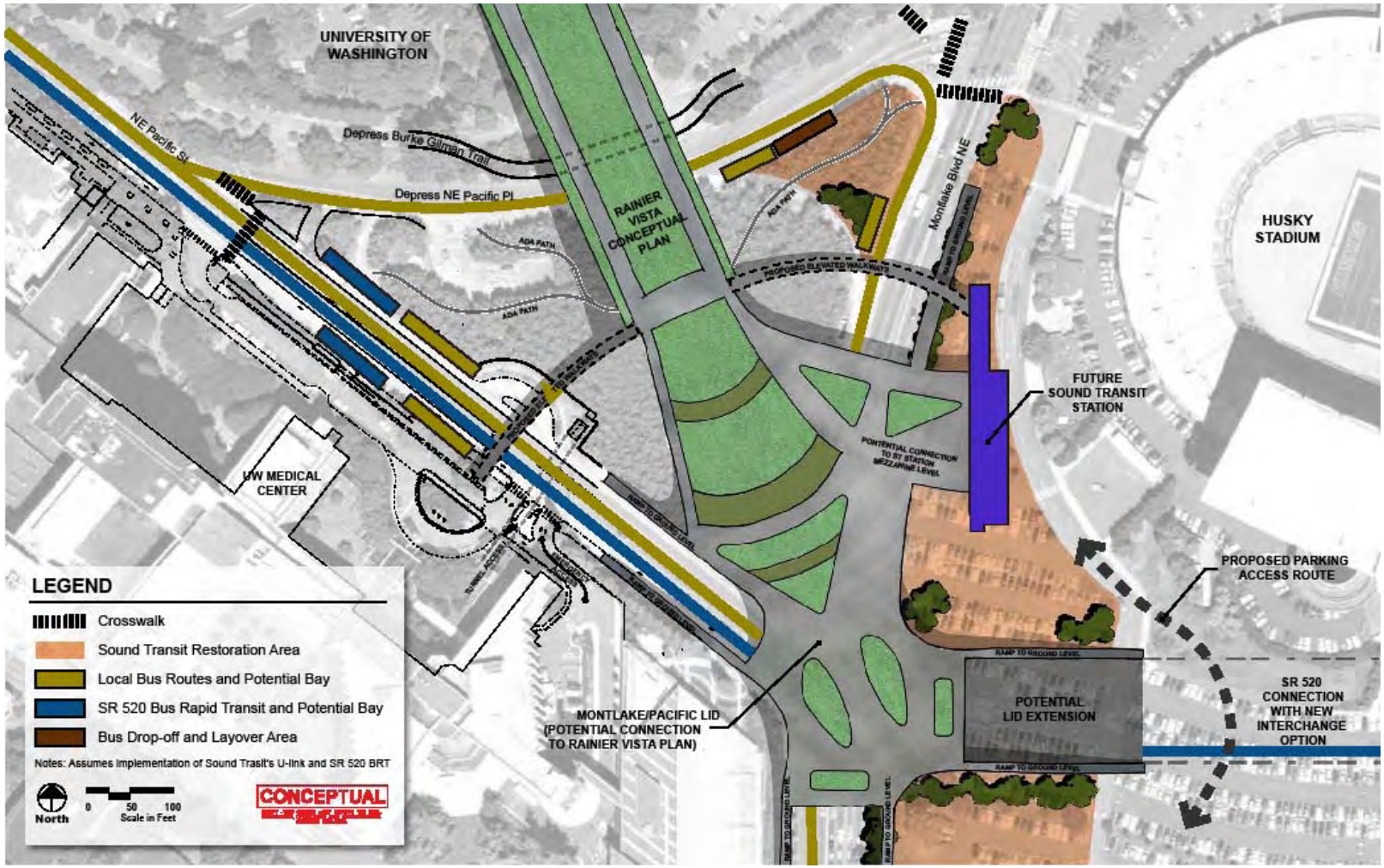
- By 2030 about 18,000 riders would arrive on transit in the morning peak.
- Of those, about 4,000 transfer between light rail and bus.
- Remaining 14,000 are destined to the University of Washington.



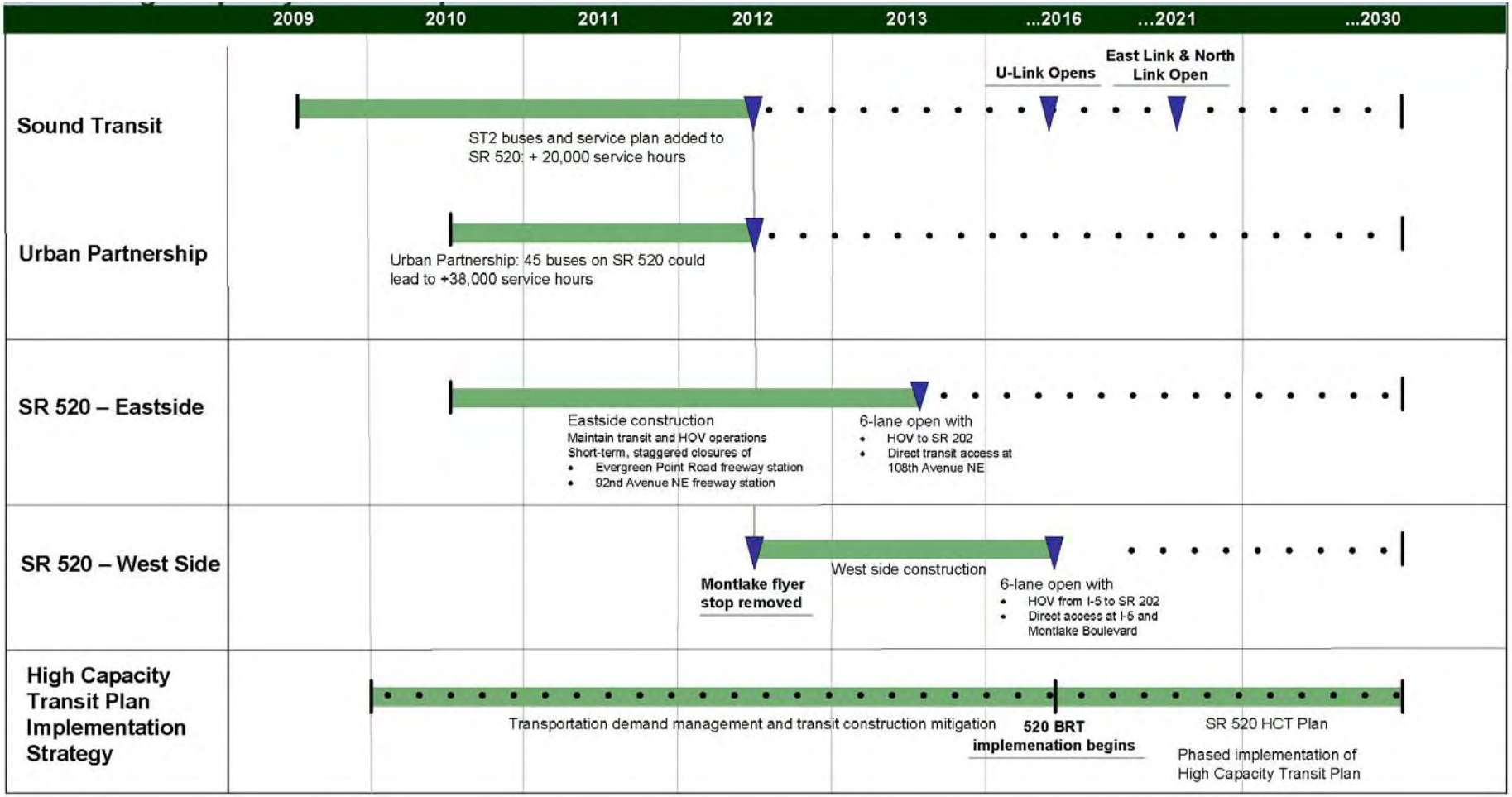
Montlake Multimodal Center Baseline Concept



Montlake Multimodal Center with Rainier Vista Plan and Montlake Pacific Lid



SR 520 HCT Implementation Factors



SR 520 HCT Implementation Strategy

- Phased BRT service, capital facility and financing program, focused on two major milestones:
  - 2016: Opening of completed SR 520 HOV Lanes and University Link.
  - 2030: Build out BRT system, potential transition to light rail.

2009 to 2011

- Involve public and jurisdictions.
- Confirm phasing, priorities and responsibilities.
- Define first phase of Montlake Center improvements.
- Develop financial plan.
- Develop transit service plan for construction mitigation.
- Begin Lake Washington Urban Partnership and Sound Transit 520 service increases.

2012 to 2016

- Operate construction period transit services.
- Complete SR 520 improvements.
- Complete financial strategy.
- Detail service plan.
- Begin initial phase of Bus Rapid Transit operations.
- Complete Sound Transit SR 520 Light Rail Study.

2017 to 2030

- Expand Bus Rapid Transit to implement full concept as demand increases.
- Implement supporting investments.
- Complete East Link, Northgate/Lynnwood and Federal Way Link extensions.

Next Steps

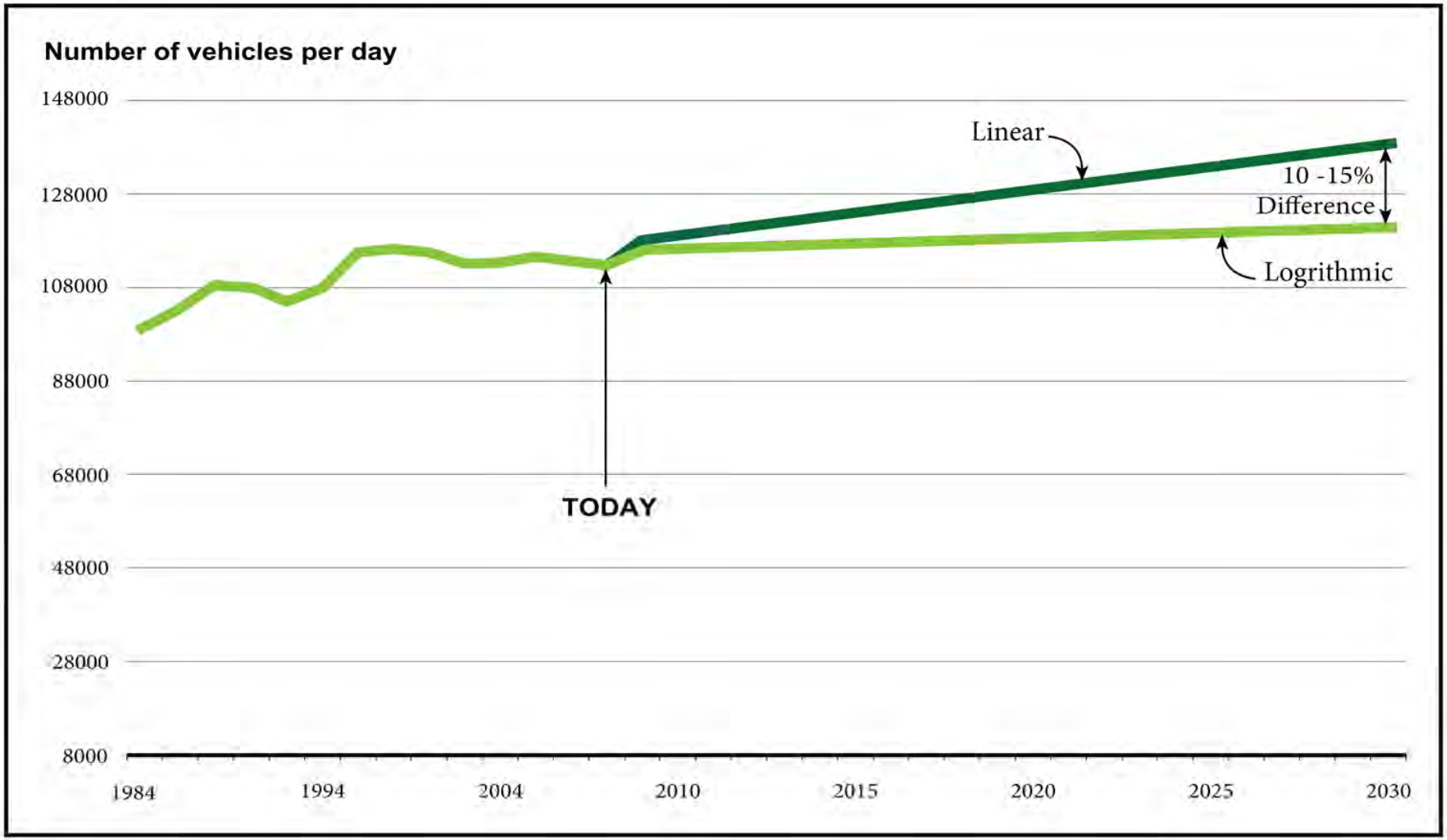
- Complete modeling and analysis with East Link.
- Complete capital and operating cost estimates.
- Identify funding needs.
- Finalize report in December.

Traffic Operations

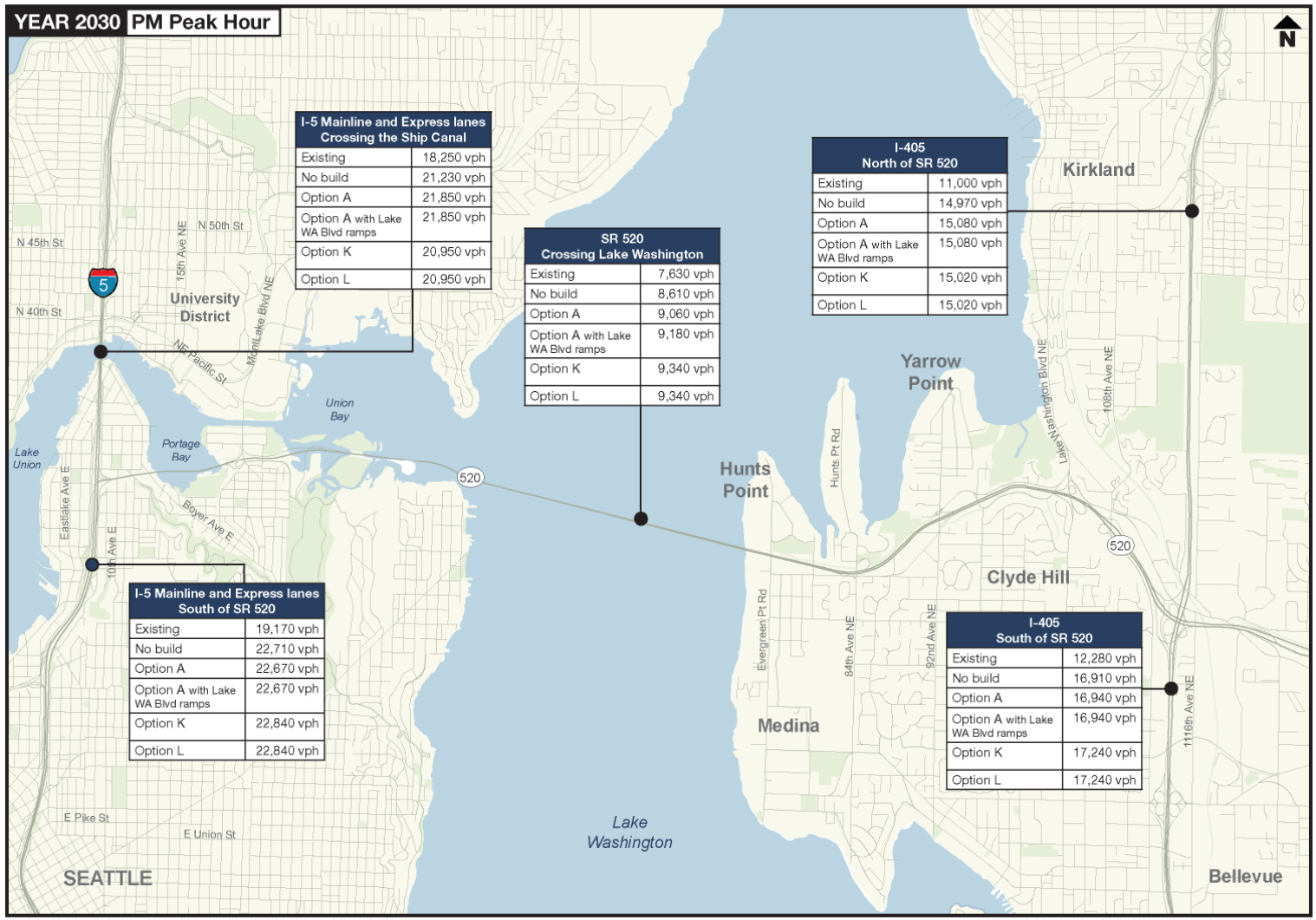
- Transportation Demand Management
- Travel Demand Modeling
- Preliminary Transportation Analysis
  - Volumes
  - Models
  - Travel times

Preliminary Transportation Demand Management

Travel Demand Modeling and SR 520 Corridor



How Does the SR 520 Program Affect Travel Along the Corridor? Traffic Volumes

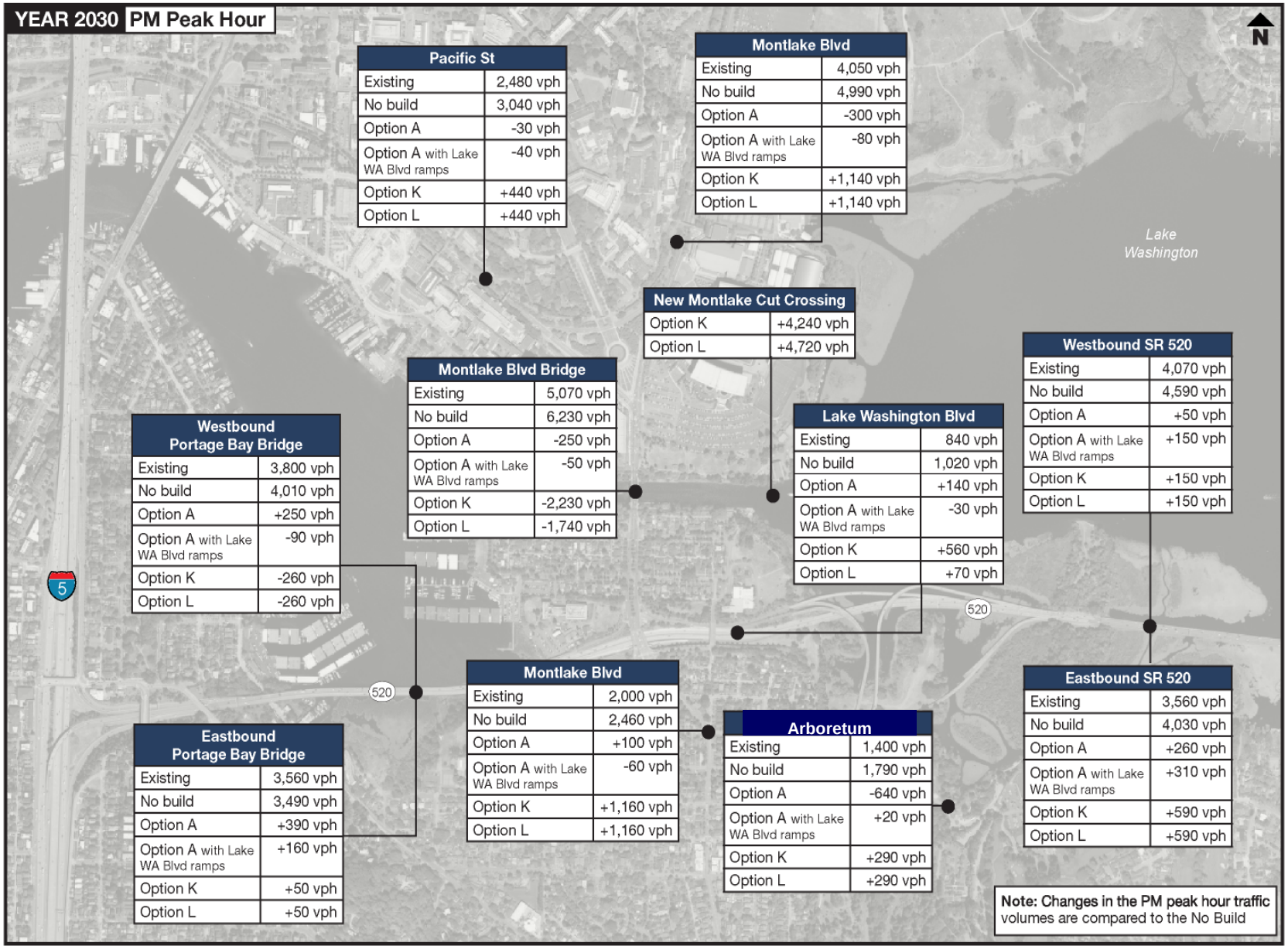


How is Regional Travel Affected?

SR 520 between 124th Avenue and I-5

• Transit travel time	Options A, K and L are similar. HOV lane and direct access ramps provide a substantial benefit compared to No Build.
• HOV travel time	Options A, K and L HOV lane provides a substantial benefit compared to No Build. Option A provides a transit only direct access ramp at Montlake Boulevard. Options K and L provide HOV direct access ramps at SR 520 interchange.
• General-purpose travel time	Option A would increase vehicle trips and travel times on Portage Bay Bridge compared to the other options, due to the removal of the Lake Washington Boulevard ramps. Option A also has a shorter merge section between the I-5 and Montlake interchanges.

Montlake Vicinity: Traffic Volumes



Pacific St	
Existing	2,480 vph
No build	3,040 vph
Option A	-30 vph
Option A with Lake WA Blvd ramps	-40 vph
Option K	+440 vph
Option L	+440 vph

Montlake Blvd	
Existing	4,050 vph
No build	4,990 vph
Option A	-300 vph
Option A with Lake WA Blvd ramps	-80 vph
Option K	+1,140 vph
Option L	+1,140 vph

New Montlake Cut Crossing	
Option K	+4,240 vph
Option L	+4,720 vph

Montlake Blvd Bridge	
Existing	5,070 vph
No build	6,230 vph
Option A	-250 vph
Option A with Lake WA Blvd ramps	-50 vph
Option K	-2,230 vph
Option L	-1,740 vph

Westbound Portage Bay Bridge	
Existing	3,800 vph
No build	4,010 vph
Option A	+250 vph
Option A with Lake WA Blvd ramps	-90 vph
Option K	-260 vph
Option L	-260 vph

Lake Washington Blvd	
Existing	840 vph
No build	1,020 vph
Option A	+140 vph
Option A with Lake WA Blvd ramps	-30 vph
Option K	+560 vph
Option L	+70 vph

Westbound SR 520	
Existing	4,070 vph
No build	4,590 vph
Option A	+50 vph
Option A with Lake WA Blvd ramps	+150 vph
Option K	+150 vph
Option L	+150 vph

Montlake Blvd	
Existing	2,000 vph
No build	2,460 vph
Option A	+100 vph
Option A with Lake WA Blvd ramps	-60 vph
Option K	+1,160 vph
Option L	+1,160 vph

Arboretum	
Existing	1,400 vph
No build	1,790 vph
Option A	-640 vph
Option A with Lake WA Blvd ramps	+20 vph
Option K	+290 vph
Option L	+290 vph

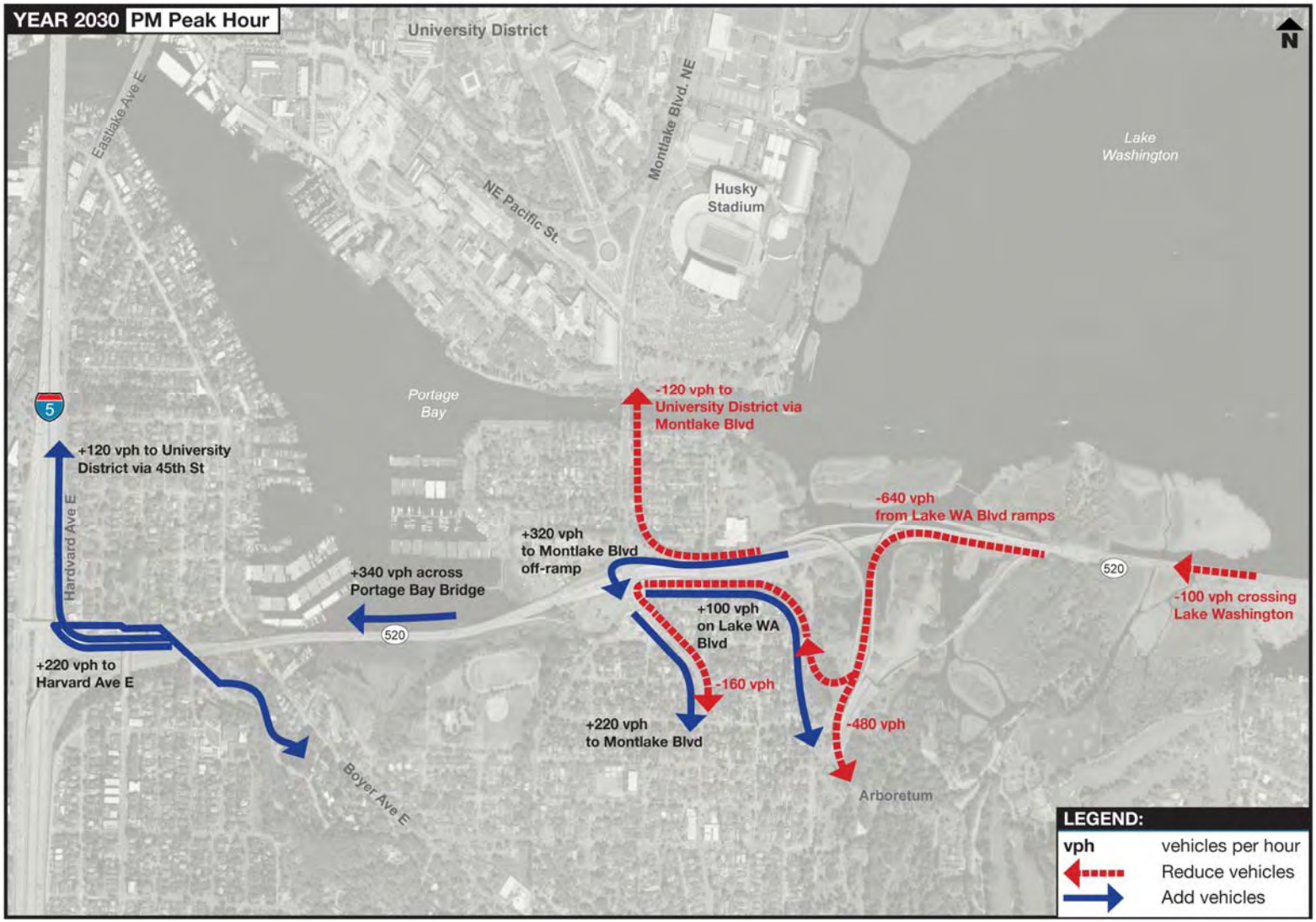
Eastbound Portage Bay Bridge	
Existing	3,560 vph
No build	3,490 vph
Option A	+390 vph
Option A with Lake WA Blvd ramps	+160 vph
Option K	+50 vph
Option L	+50 vph

Eastbound SR 520	
Existing	3,560 vph
No build	4,030 vph
Option A	+260 vph
Option A with Lake WA Blvd ramps	+310 vph
Option K	+590 vph
Option L	+590 vph

Note: Changes in the PM peak hour traffic volumes are compared to the No Build

Lake Washington Blvd Ramp Closure: Trip Diversion

No Westbound Lake Washington Boulevard off-ramp



Lake Washington Blvd Ramp Closure: Trip Diversion

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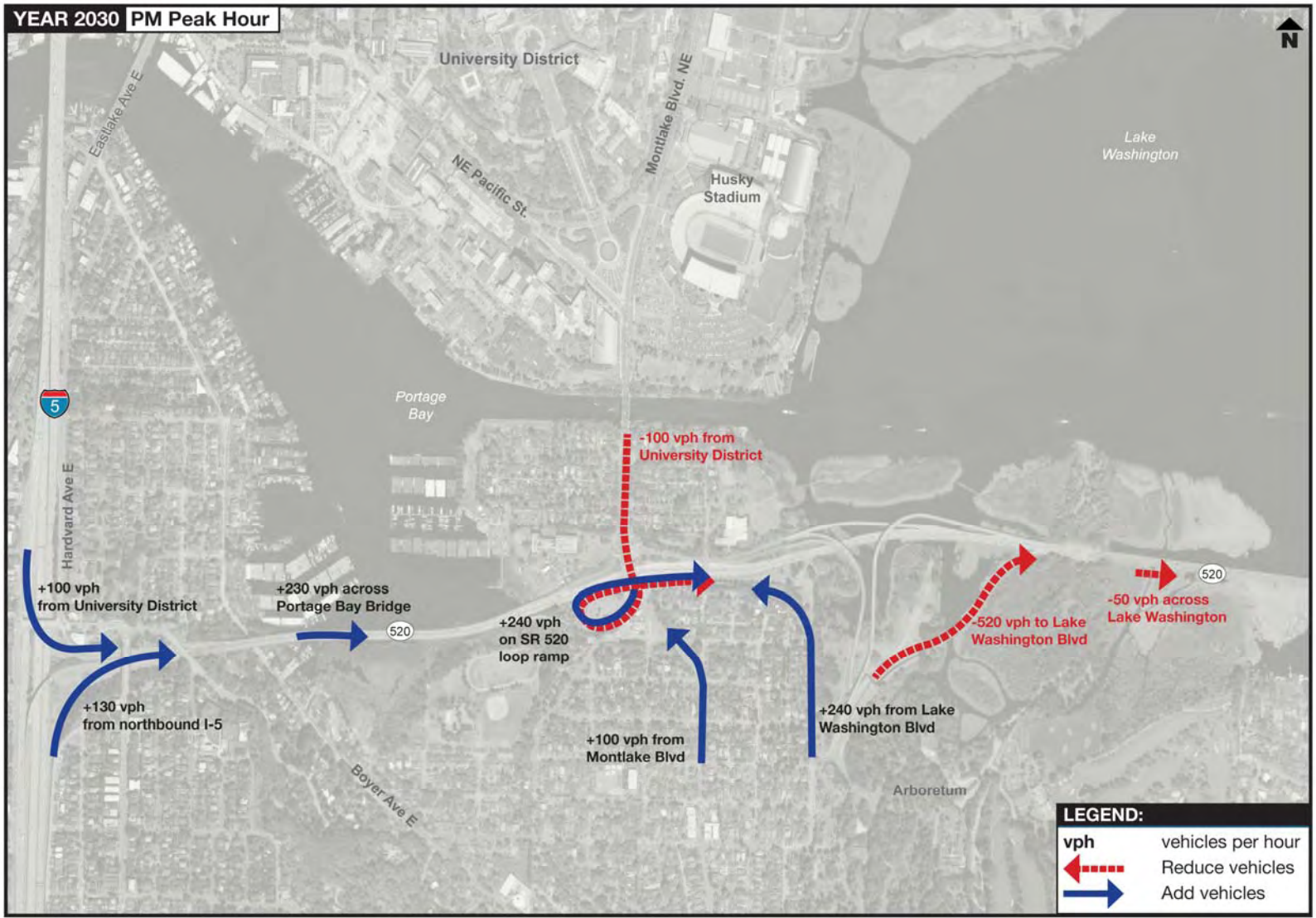


Microsimulation Models

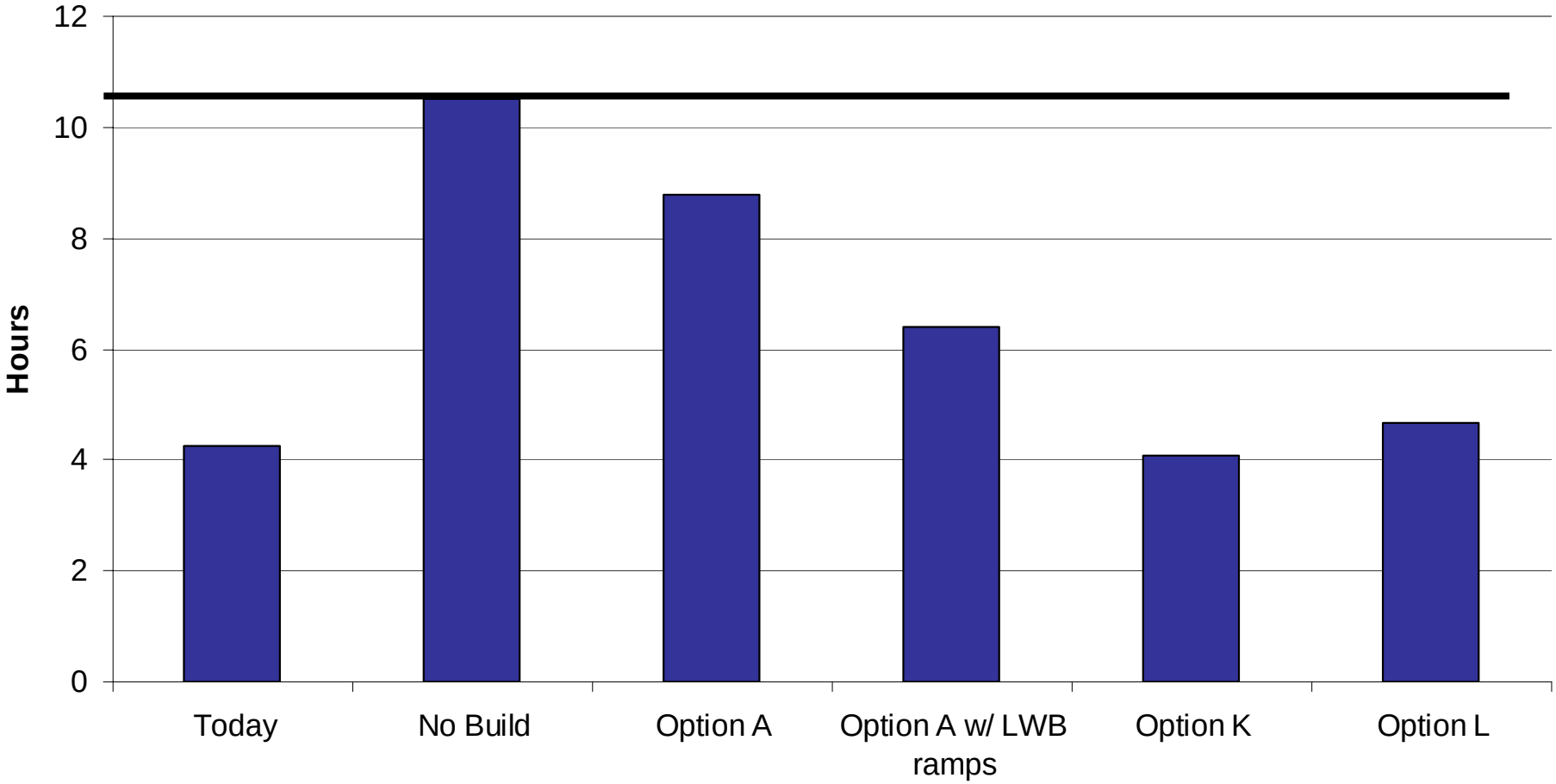
- Existing
- No Build
- Option A
- Option A with Lake Washington Boulevard ramps
- Option K
- Option L

Color Codes:

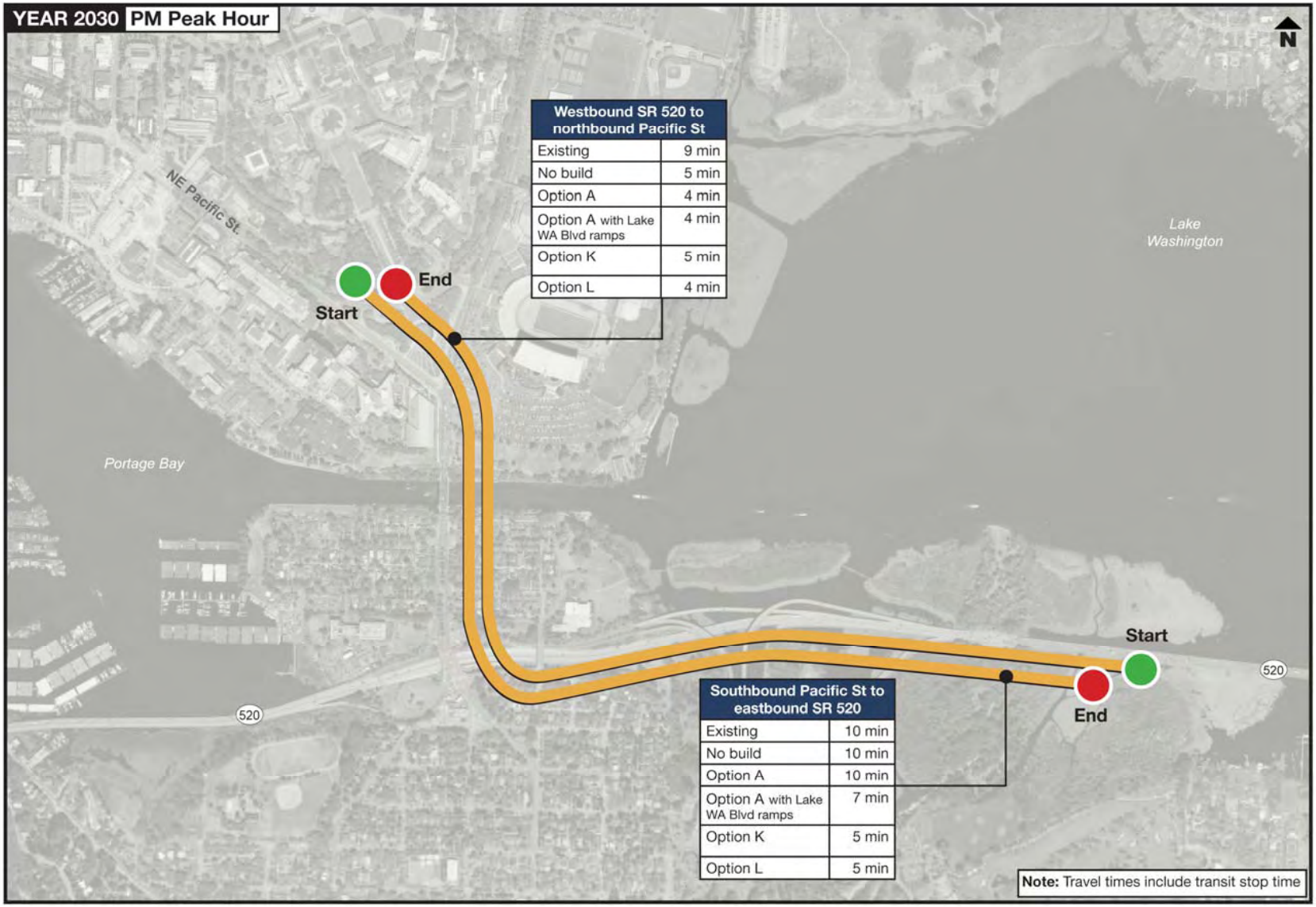
- Red = Stop and go traffic
- Yellow = 20 to 30 miles per hour
- Blue = 40 plus miles per hour

Arterial Operations – Summation of Travel Times

Year 2030 PM Peak Hour



Transit Travel Times: SR 520 to and from the East

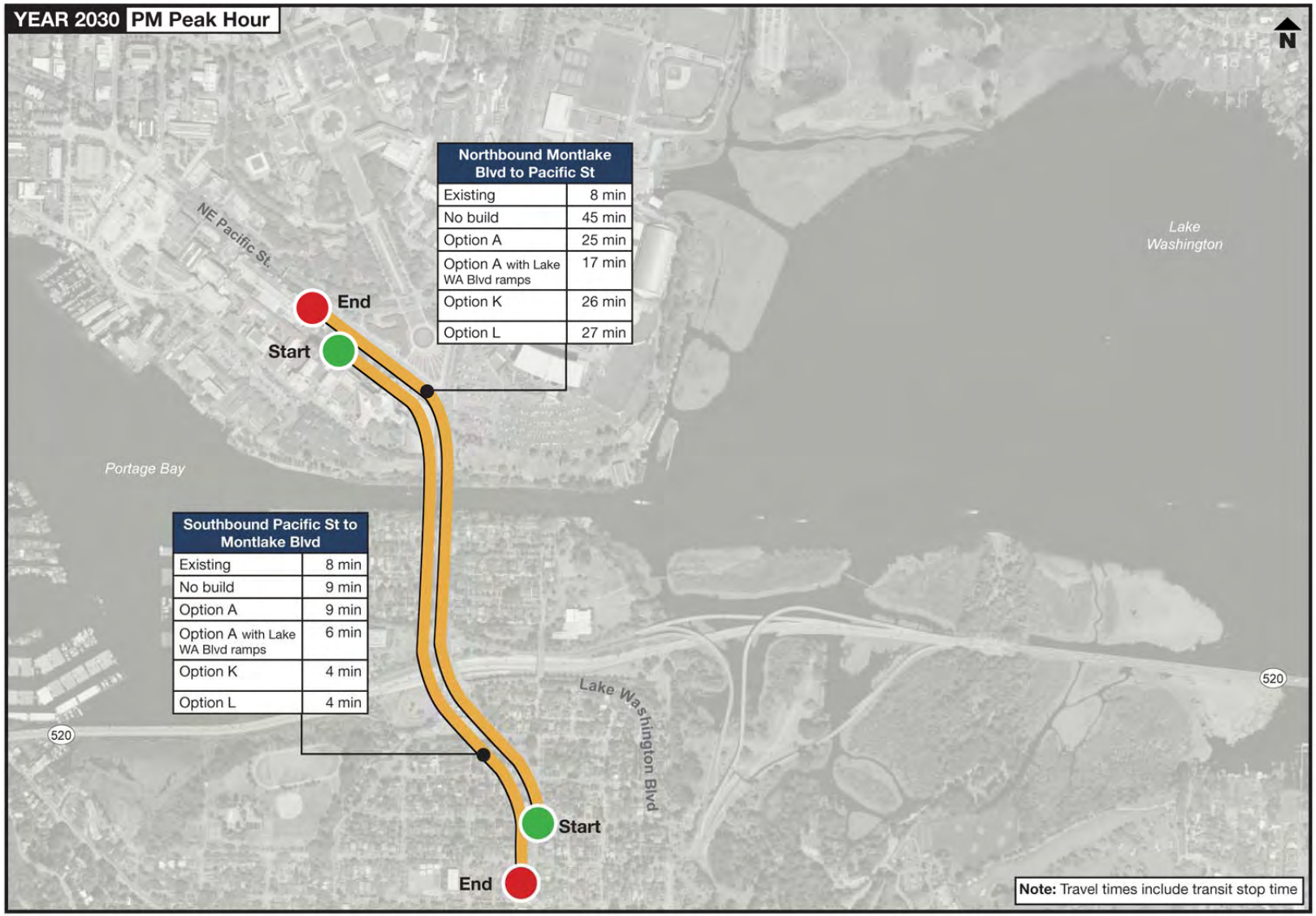


Westbound SR 520 to northbound Pacific St	
Existing	9 min
No build	5 min
Option A	4 min
Option A with Lake WA Blvd ramps	4 min
Option K	5 min
Option L	4 min

Southbound Pacific St to eastbound SR 520	
Existing	10 min
No build	10 min
Option A	10 min
Option A with Lake WA Blvd ramps	7 min
Option K	5 min
Option L	5 min

Note: Travel times include transit stop time

Transit Travel Times: North and South on Montlake Boulevard and Pacific Street

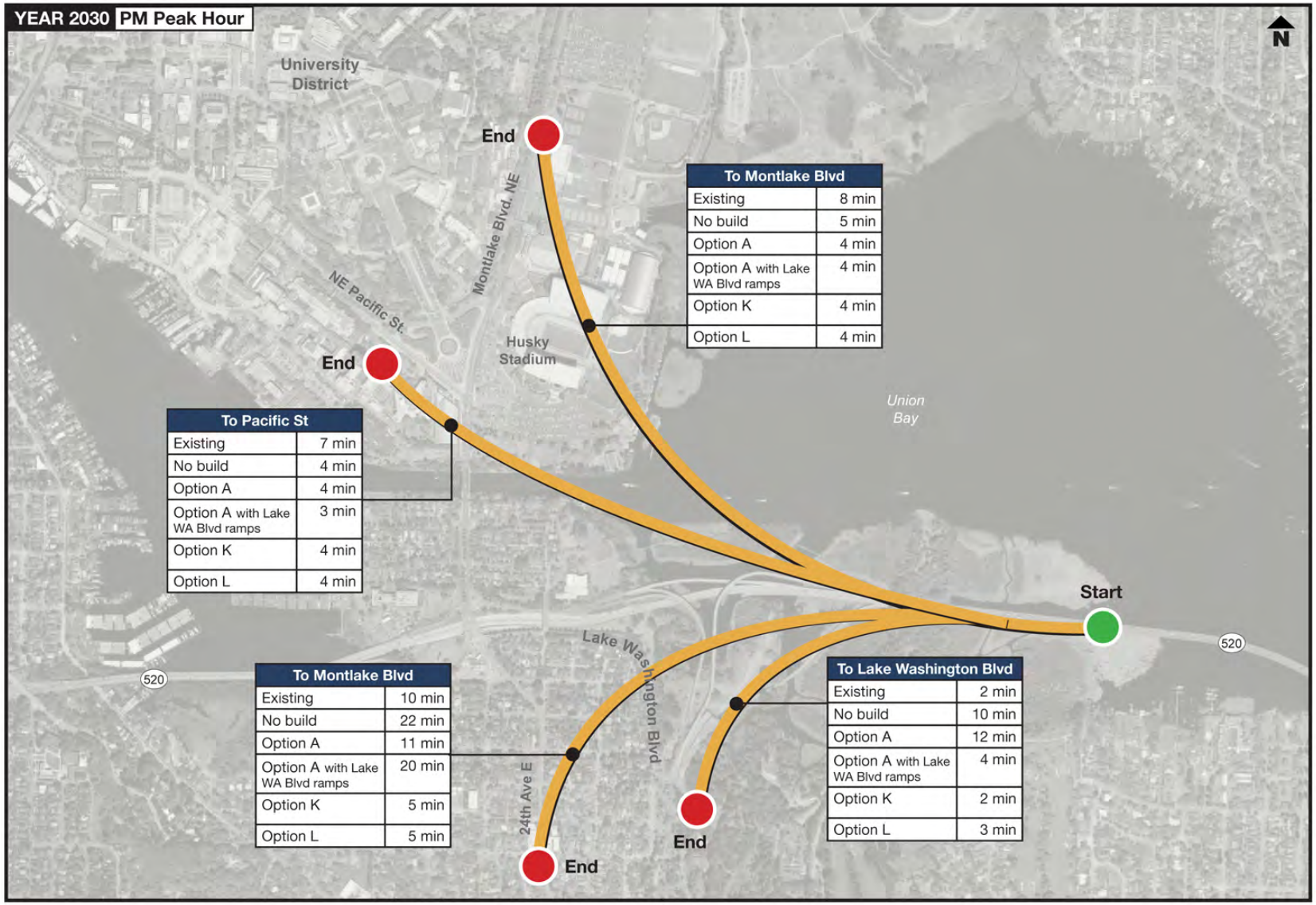


Northbound Montlake Blvd to Pacific St	
Existing	8 min
No build	45 min
Option A	25 min
Option A with Lake WA Blvd ramps	17 min
Option K	26 min
Option L	27 min

Southbound Pacific St to Montlake Blvd	
Existing	8 min
No build	9 min
Option A	9 min
Option A with Lake WA Blvd ramps	6 min
Option K	4 min
Option L	4 min

Note: Travel times include transit stop time

Travel Times: From Westbound SR 520



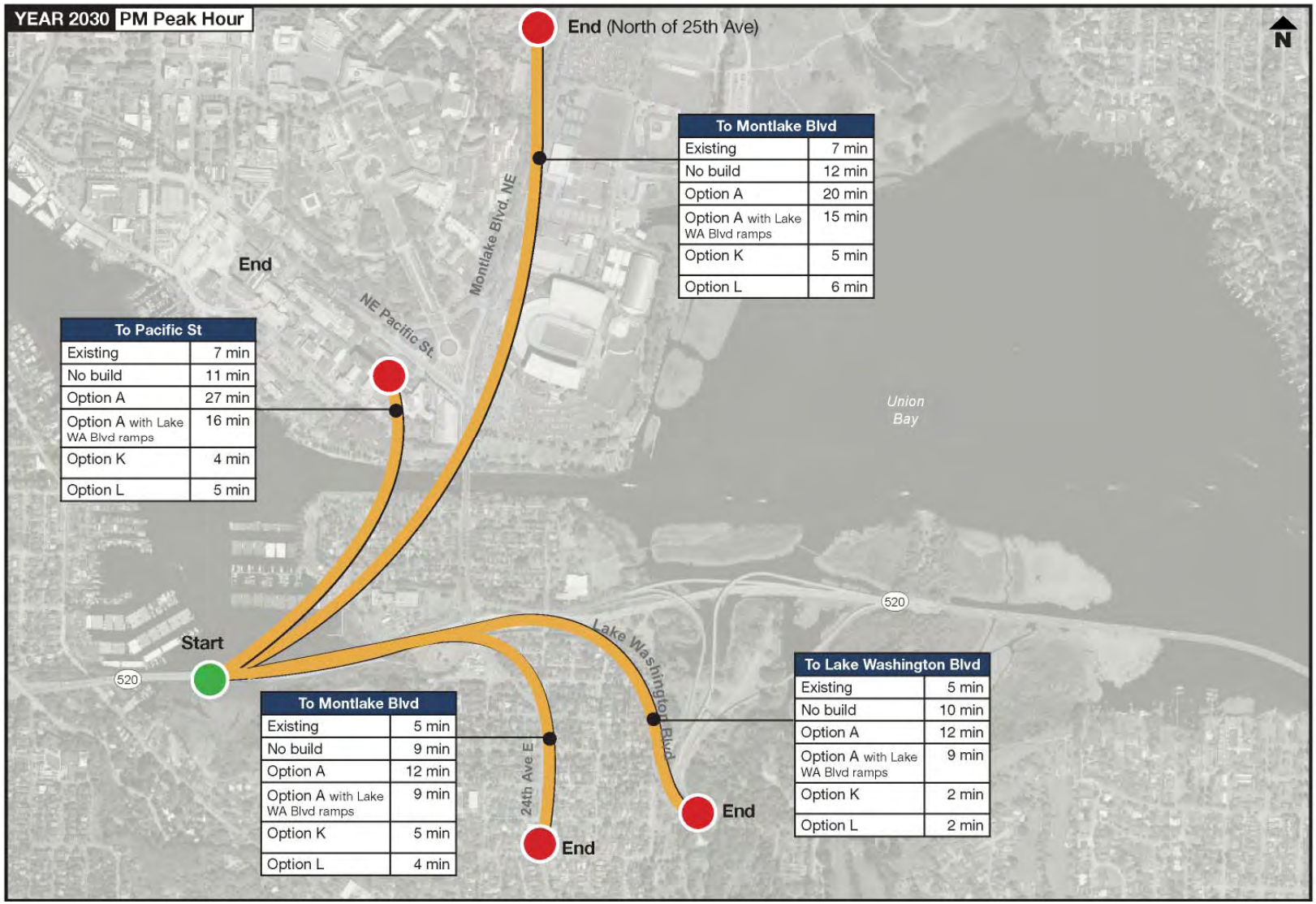
To Montlake Blvd	
Existing	8 min
No build	5 min
Option A	4 min
Option A with Lake WA Blvd ramps	4 min
Option K	4 min
Option L	4 min

To Pacific St	
Existing	7 min
No build	4 min
Option A	4 min
Option A with Lake WA Blvd ramps	3 min
Option K	4 min
Option L	4 min

To Montlake Blvd	
Existing	10 min
No build	22 min
Option A	11 min
Option A with Lake WA Blvd ramps	20 min
Option K	5 min
Option L	5 min

To Lake Washington Blvd	
Existing	2 min
No build	10 min
Option A	12 min
Option A with Lake WA Blvd ramps	4 min
Option K	2 min
Option L	3 min

Travel Times: From Eastbound SR 520



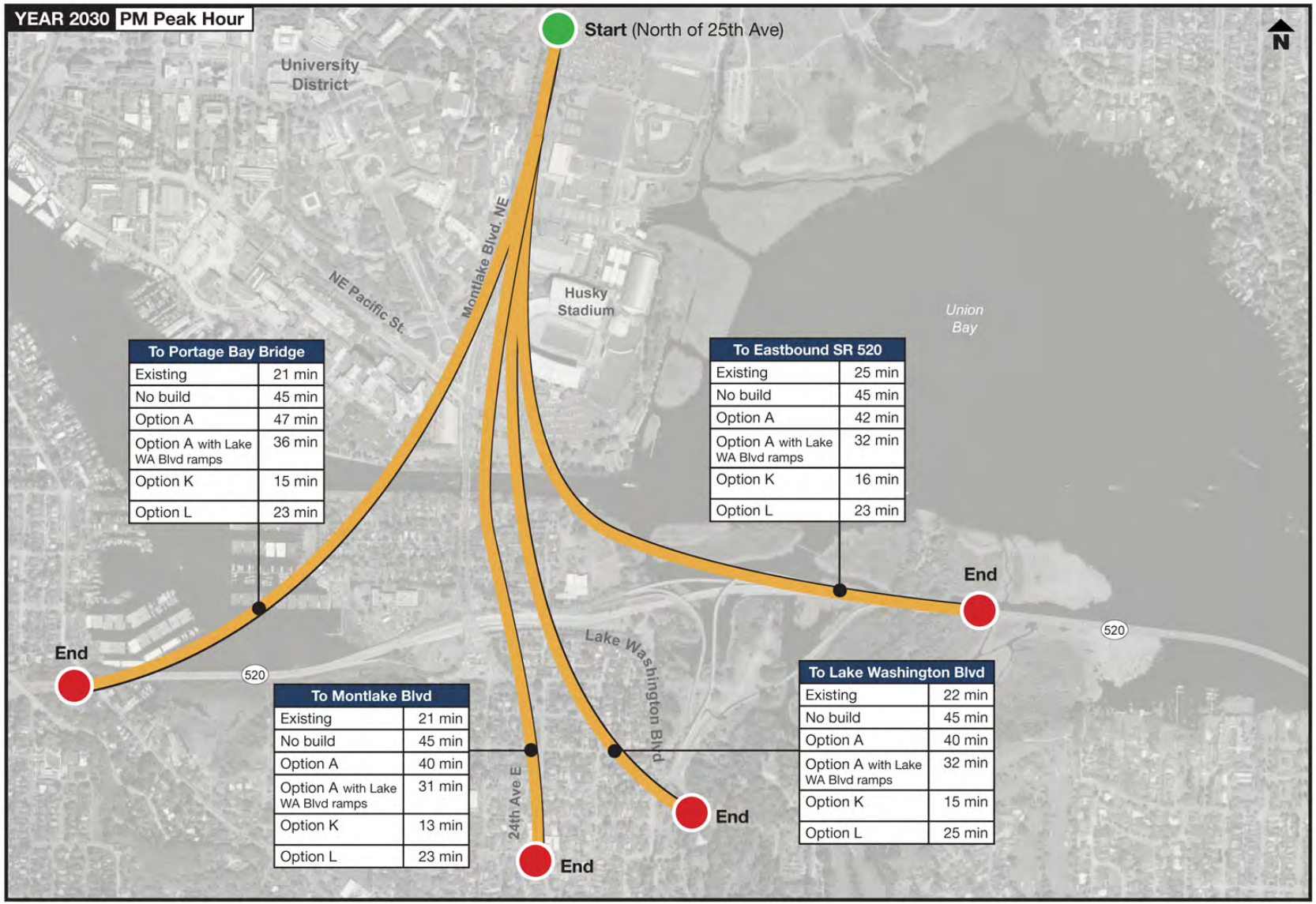
To Montlake Blvd	
Existing	7 min
No build	12 min
Option A	20 min
Option A with Lake WA Blvd ramps	15 min
Option K	5 min
Option L	6 min

To Pacific St	
Existing	7 min
No build	11 min
Option A	27 min
Option A with Lake WA Blvd ramps	16 min
Option K	4 min
Option L	5 min

To Montlake Blvd	
Existing	5 min
No build	9 min
Option A	12 min
Option A with Lake WA Blvd ramps	9 min
Option K	5 min
Option L	4 min

To Lake Washington Blvd	
Existing	5 min
No build	10 min
Option A	12 min
Option A with Lake WA Blvd ramps	9 min
Option K	2 min
Option L	2 min

Travel Times: Southbound from Montlake Boulevard



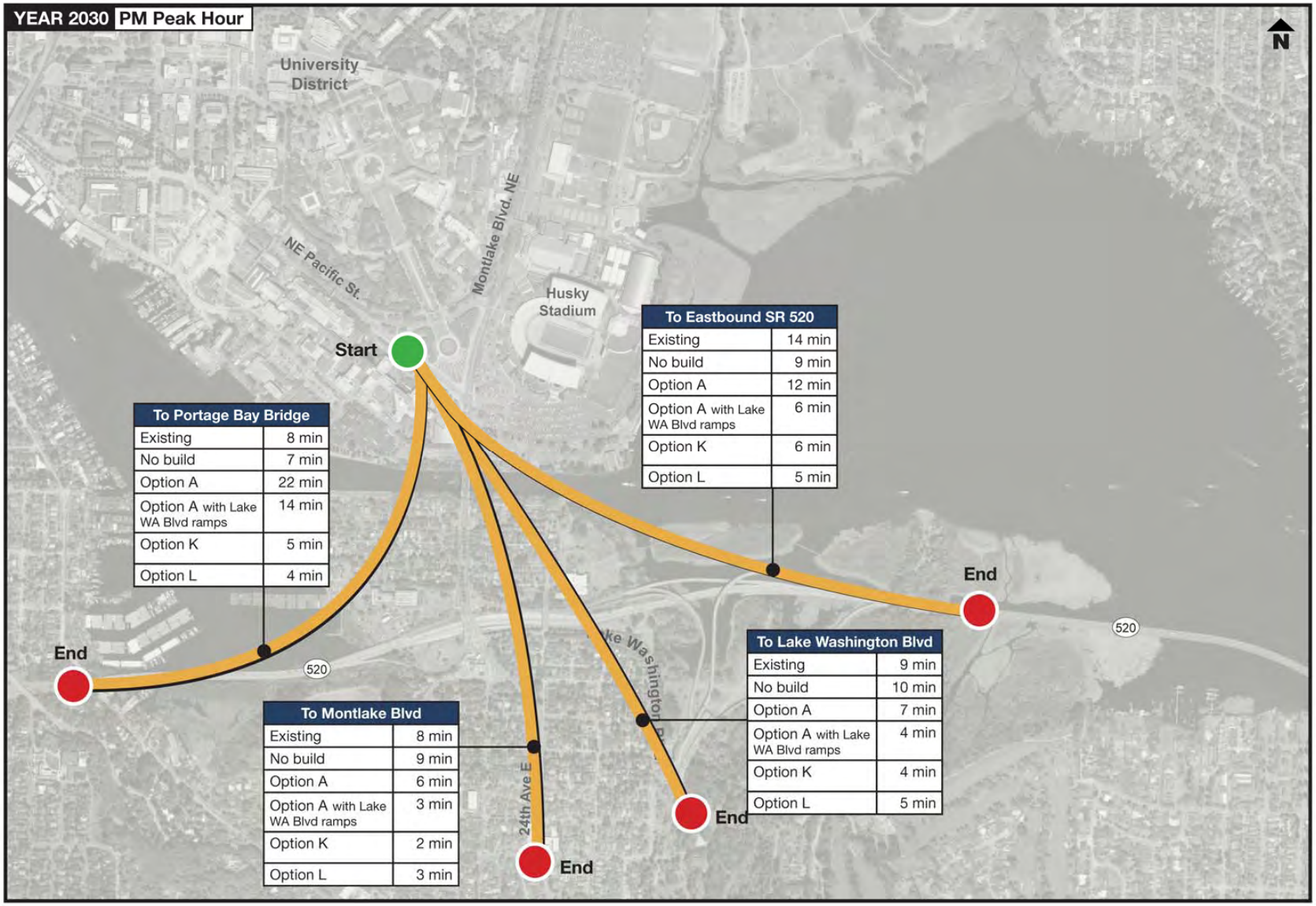
To Portage Bay Bridge	
Existing	21 min
No build	45 min
Option A	47 min
Option A with Lake WA Blvd ramps	36 min
Option K	15 min
Option L	23 min

To Eastbound SR 520	
Existing	25 min
No build	45 min
Option A	42 min
Option A with Lake WA Blvd ramps	32 min
Option K	16 min
Option L	23 min

To Montlake Blvd	
Existing	21 min
No build	45 min
Option A	40 min
Option A with Lake WA Blvd ramps	31 min
Option K	13 min
Option L	23 min

To Lake Washington Blvd	
Existing	22 min
No build	45 min
Option A	40 min
Option A with Lake WA Blvd ramps	32 min
Option K	15 min
Option L	25 min

Travel Times: Southbound from Pacific Street



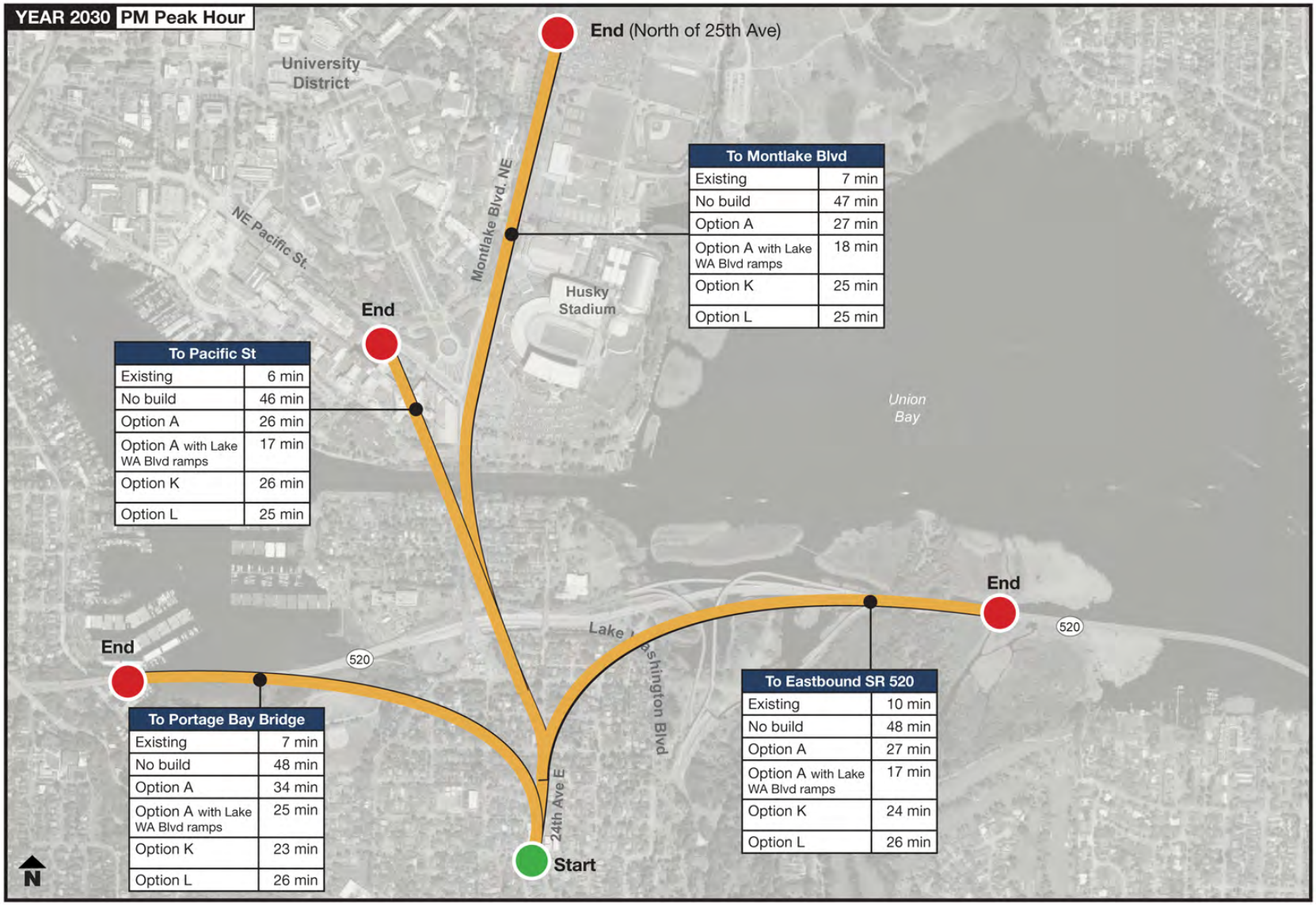
To Portage Bay Bridge	
Existing	8 min
No build	7 min
Option A	22 min
Option A with Lake WA Blvd ramps	14 min
Option K	5 min
Option L	4 min

To Eastbound SR 520	
Existing	14 min
No build	9 min
Option A	12 min
Option A with Lake WA Blvd ramps	6 min
Option K	6 min
Option L	5 min

To Montlake Blvd	
Existing	8 min
No build	9 min
Option A	6 min
Option A with Lake WA Blvd ramps	3 min
Option K	2 min
Option L	3 min

To Lake Washington Blvd	
Existing	9 min
No build	10 min
Option A	7 min
Option A with Lake WA Blvd ramps	4 min
Option K	4 min
Option L	5 min

Travel Times: Northbound from Montlake Boulevard



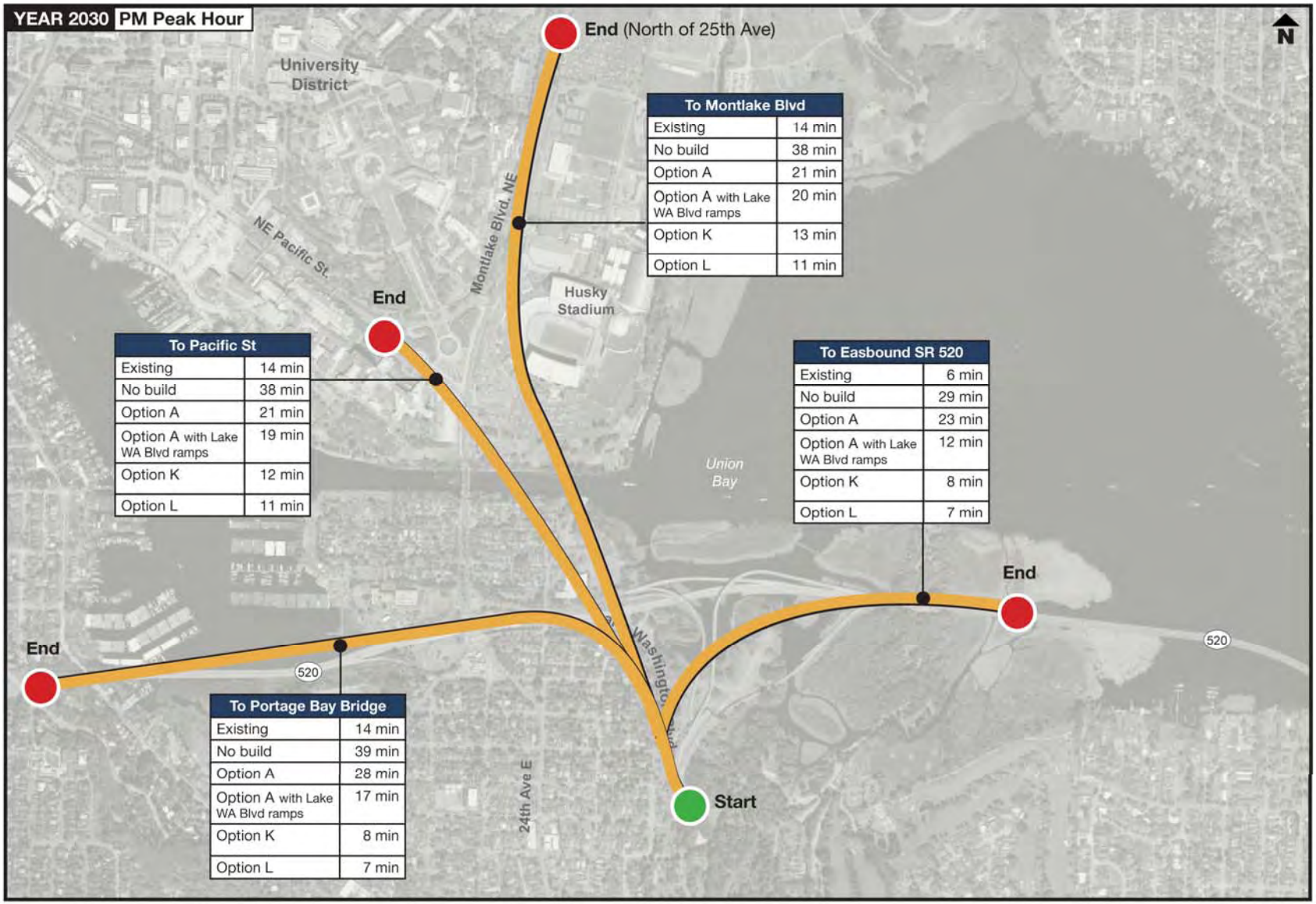
To Montlake Blvd	
Existing	7 min
No build	47 min
Option A	27 min
Option A with Lake WA Blvd ramps	18 min
Option K	25 min
Option L	25 min

To Pacific St	
Existing	6 min
No build	46 min
Option A	26 min
Option A with Lake WA Blvd ramps	17 min
Option K	26 min
Option L	25 min

To Portage Bay Bridge	
Existing	7 min
No build	48 min
Option A	34 min
Option A with Lake WA Blvd ramps	25 min
Option K	23 min
Option L	26 min

To Eastbound SR 520	
Existing	10 min
No build	48 min
Option A	27 min
Option A with Lake WA Blvd ramps	17 min
Option K	24 min
Option L	26 min

Travel Times: Northbound from Lake Washington Boulevard



To Montlake Blvd	
Existing	14 min
No build	38 min
Option A	21 min
Option A with Lake WA Blvd ramps	20 min
Option K	13 min
Option L	11 min

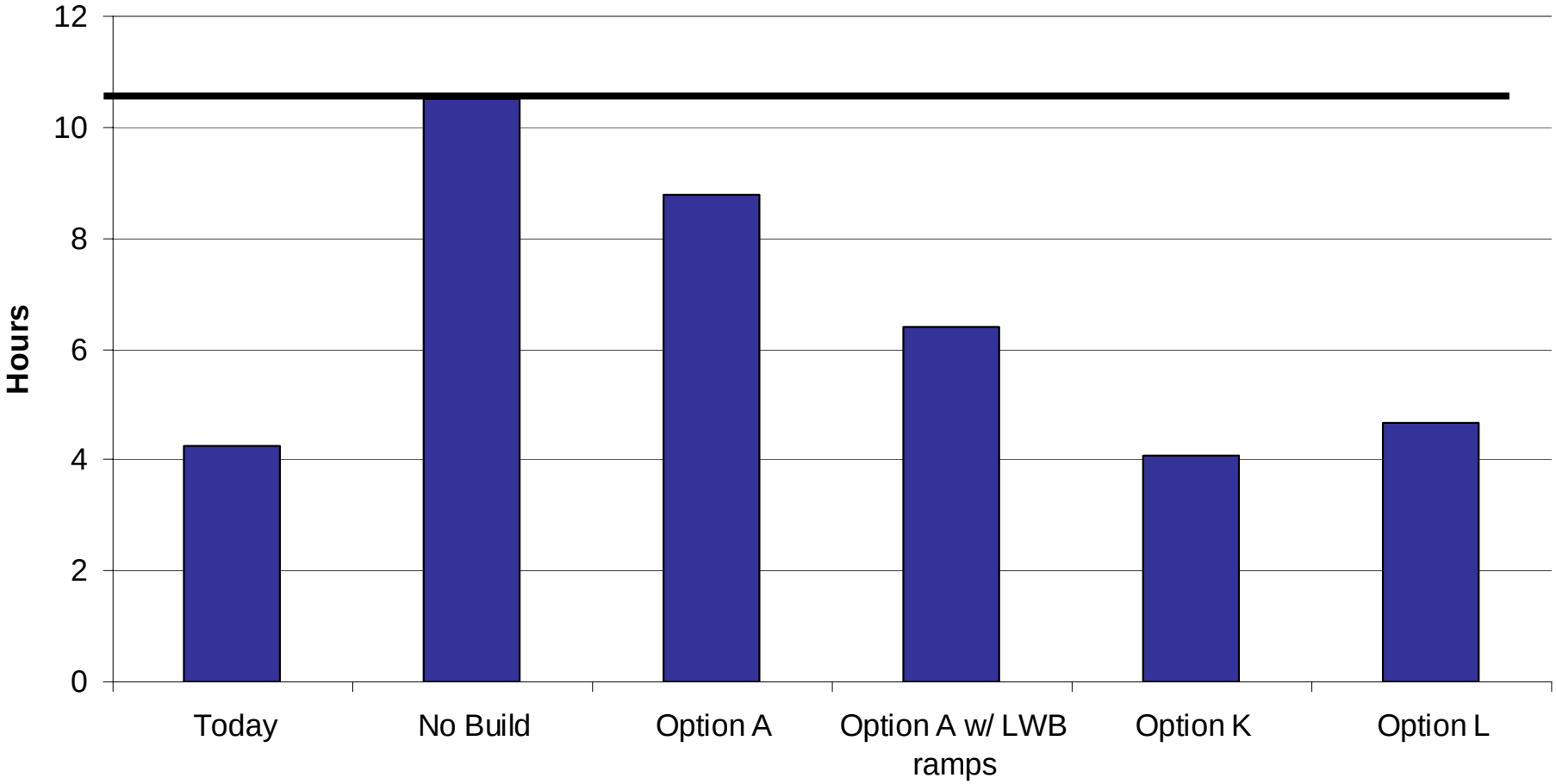
To Pacific St	
Existing	14 min
No build	38 min
Option A	21 min
Option A with Lake WA Blvd ramps	19 min
Option K	12 min
Option L	11 min

To Easbound SR 520	
Existing	6 min
No build	29 min
Option A	23 min
Option A with Lake WA Blvd ramps	12 min
Option K	8 min
Option L	7 min

To Portage Bay Bridge	
Existing	14 min
No build	39 min
Option A	28 min
Option A with Lake WA Blvd ramps	17 min
Option K	8 min
Option L	7 min

Arterial Operations – Summation of Travel Times

Year 2030 PM Peak Hour



Option A Sub-Options

- **Westbound off-ramp to Lake Washington Boulevard:**
  - Less congestion at the Montlake interchange, particularly for southbound movements through the interchange.
  - Trips shift back to Lake Washington Blvd ramps instead of continuing across Portage Bay and up to Harvard or NE 45th Street. Less congestion on Portage Bay Bridge.
- **Eastbound on-ramp from Lake Washington Boulevard:**
  - Eases congestion and delay at the eastbound ramp intersection.
  - Adds a conflict point on SR 520 where the ramp joins eastbound freeway.

Option K Sub-Options

•Eastbound off-ramp at Montlake Boulevard:

- Removes about 200 vehicles per hour from the keyhole.
- Operations in keyhole is expected to be similar or slightly better. Volume in keyhole reduced from 2000 vehicles per hour to 1800 vehicles per hour.
- Shortens eastbound merge length on Portage Bay Bridge.

•Westbound on-ramp from Montlake Boulevard:

- Increases capacity to SR 520.
- Shortens westbound merge length between Montlake Boulevard and I-5.
- Consecutive on-ramps could cause additional SR 520 congestion.

Conclusion: Regional System Operations

- **Transit Travel Times:**
  - Options A, K and L are similar.
  - HOV lane and direct access ramps provide a substantial benefit compared to No Build.

- **HOV Travel Times:**
  - Options A, K and L HOV lane provides a substantial benefit compared to No Build.
  - Option A provides a transit only direct access ramp at Montlake Boulevard.
  - Options K and L provide HOV direct access ramps at SR 520 interchange.

- **General-purpose Travel Times:**
  - Option A would increase vehicle trips and travel times on Portage Bay Bridge compared to the other options, due to the removal of the Lake Washington Boulevard ramps. Option A also has a shorter merge section between the I-5 and Montlake interchanges.

Conclusion: Regional System Operations, continued

Common to All:

- No substantial changes in regional traffic volumes would be expected as a result of the various Montlake Boulevard area interchange options.
- No substantial changes in the regional transit planning efforts would occur as a result of the Montlake Boulevard area interchange options.
- All options are compatible with:
  - Sound Transit and King County Metro plans.
  - SR 520 High Capacity Transit Plan.
  - State, regional and local goals.
- Additional State and local Transportation Demand Management could be applied to all options and result in lower traffic volumes in the interchange areas.

Conclusion: SR 520 Corridor Operations

Common to all Options:

- Safety would be improved with all three options by improving the design for on- and off-ramp connections, shoulder widths, and sight distances.
- Provides similar benefits to person mobility by completing the HOV lane system on the corridor, thus improving transit and HOV mobility and reliability.
- Transit service on the SR 520 corridor would be similar with all options.

Conclusion: SR 520 Corridor Operations, continued

Option A:

- Option A would result in an adverse effect on general purpose traffic on Portage Bay Bridge due to additional traffic using the congested section of SR 520.
- Option A with Lake Washington Boulevard ramps added back into the system would alleviate the adverse effect.
- The addition of a westbound auxiliary lane on SR 520 between Montlake Boulevard and I-5 would help alleviate on-ramp congestion as part of either Option A scenario.

Option K:

- Improves freeway operations through the Lake Washington Boulevard and Montlake Boulevard interchange areas.

Option L:

- Same as Option K.

Conclusion: Local Roadway Operations

Option A:

- Option A has the longest transit travel times of the options, but is an improvement over No Build.
- Option A would divert trips out of the Arboretum but increase trips through other neighborhoods (North Capitol Hill, Montlake, Madison Park).
- Option A would operate with higher levels of local congestion than other options.
  - Adding the Lake Washington Boulevard ramps would reduce the congestion.
- Option A adds two lanes across the Montlake cut, but congestion on the local roadways does not allow the capacity to be fully utilized.
  - Additional capacity on Montlake Boulevard and 24th Avenue would be required south of the SR 520 interchange to effectively use the new drawbridge.
- Option A would continue to have traffic congestion effects during the off-peak period resulting from drawbridge openings.

Conclusion: Local Roadway Operations, continued

Option K:

- Option K would provide the most improvement for local congestion.
- Option K could be modified to include design elements from Option L at local intersections to improve operations.
- Option K adds four new lanes of capacity across the Montlake cut that can be used effectively.

Option L:

- Option L would operate better than Option A because of the separation between freeway and local traffic.
- Option L adds four new lanes of capacity across the Montlake cut that can be used effectively.
- Option L would continue to have traffic congestion effects during the off-peak period resulting from drawbridge openings.

Questions

Project Impact Plan

- What issues need to be incorporated into the impact plan based on the results of the preliminary transportation analysis?

Construction Activities and Effects

Presentation Overview

- Describe construction activities occurring near neighborhoods, parks, and natural resource areas
- Identify potential effects (most are similar among options)
- Discuss potential mitigation measures
- More detail will be developed in conjunction with supplemental draft EIS and resource agency coordination

What types of Construction Activities will there be?

- **Demolition**
- **Bridge construction:**
  - Work bridges
  - Permanent structures
- **Construction in recreational areas**
- **Construction traffic:**
  - Haul routes
  - Ramp and street closures
  - Transit stop closures

Demolition of Existing Facilities

- **Potential Effects:**
  - Noise
  - Debris/sediment from bridge removal
- **Potential Mitigation Measures**
  - Limit hours of operation to reduce noise during evening and weekend hours.
  - Use best management practices to contain debris and sediment and protect surface waters.

Mitigation: Bridge Demolition in Pieces

Use saw cutting instead of jackhammering or hydrodemolition

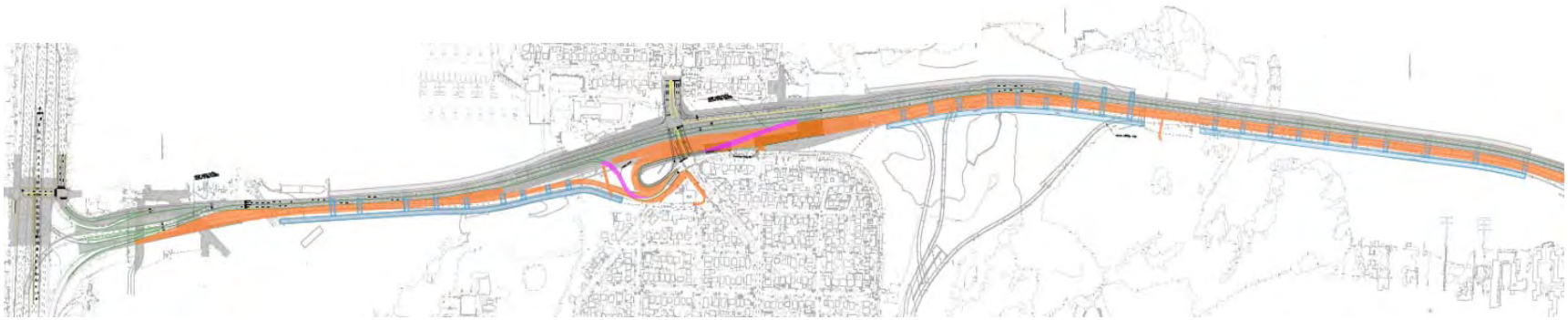
Bridge Construction

- **Temporary work bridges.**
- **Construction of permanent bridge piers.**

Work Bridge Locations

- Portage Bay, Arboretum, West Approach

Stage 1



Stage 4

Potential Effects

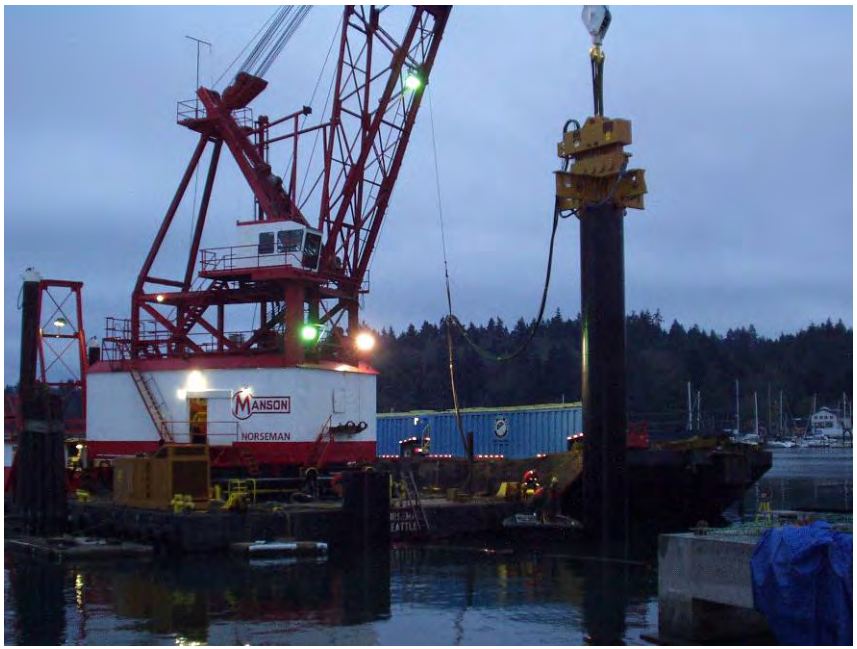
- Noise from pile driving (above and in water).
- Disturbance and shading of wetlands and fish habitat.
- Work bridges may provide predator fish habitat.
- Work bridges may obstruct navigation channel under SR 520.

Potential Mitigation Measures

- Limit hours of construction for pile driving.
- Observe in-water work windows.
- Use Best Management Practices to limit wetland and water quality effects.
- Keep one navigation channel open at all times.
- Use cased drilled shafts for permanent foundations.

Mitigation: Large Vibratory Hammer

Use vibratory hammers to reduce noise.



Mitigation: Pile Cap Cushions

Wood – 11 to 26 dB reduction

Micarta – 7 to 8 dB reduction

Nylon – 4 to 5 dB reduction

Use pile cap cushions to reduce noise.

Mitigation: Gunderboom® Sound Attenuation System

- Use gunderbooms to reduce effects on fish.
- Underwater curtain of air.
- Five to ten dB reductions.

Bill Hall, Caltrans

Mitigation: Construction from Barges

Use barges instead of work bridges where practical.

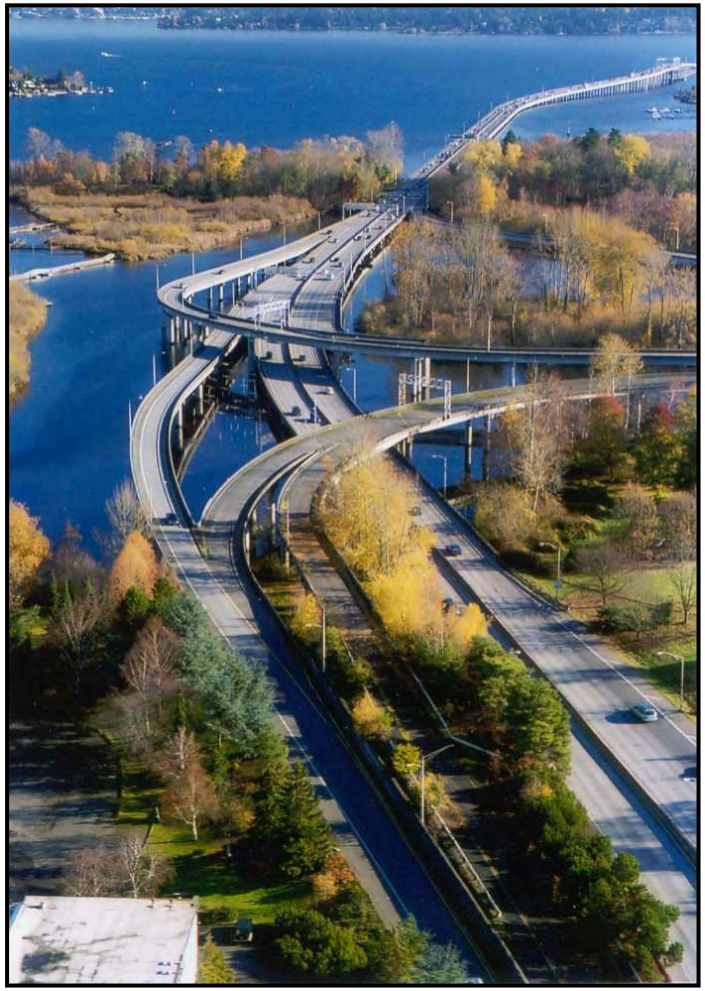
Mitigation: Best Management Practices

- Use containment measures (e.g. cofferdams) to keep sediments out of water.
- Limit areas of exposed soil; revegetate promptly.
- Control erosion and sediment through mulching, matting, filter fabric, sediment traps, and swales or ditches.

Cofferdam

Construction Effects in Recreational Areas

- Potential Effects:
  - **East Montlake/McCurdy Parks:**
    - Used for storm-water during construction.
  - **Arboretum:**
    - Intermittent closures of Waterfront Trail in underpass area; temporary loss of canoe access under bridge.
  - **University of Washington:**
    - Temporary closures of WAC and Canoe House (Options K and L only).
  - Temporary closures of Bill Dawson and East Campus trails in the vicinity of SR 520.



Construction Traffic: Haul Routes

- **Potential Effects:**
  - Under Options A and L, up to 12 trips per hour during peak construction activity; Option K would require more truck trips because of larger excavation volumes.
  - Arterials used may include Montlake Boulevard, 24th Avenue, Roanoke, Harvard Avenue, Boylston Avenue, Miller Street, Newton Street, Fuhrman Avenue, Boyer Avenue, Eastlake Avenue, 45th Avenue, Pacific Street, 10th Avenue, 11th Avenue, and 15th Avenue.
- **Potential Mitigation:**
  - Limit construction trips during peak periods.
  - Stay on state routes as much as possible and seek opportunities to access work zones directly from SR 520.
  - Work with Seattle Department of Transportation to provide appropriate haul routes that minimize neighborhood effects.
  - Repair damage to pavement from heavy vehicles.

Construction Traffic: Ramp and Street Closures

- **Potential Effects:**
  - If Lake Washington Boulevard ramps are closed, congestion at Montlake would increase
  - Closure of Delmar Drive E bridge would affect local access
  - Short-term closures of most ramps during off-peak hours
- **Potential Mitigation Measures:**
  - Reduce construction duration to minimize effects
  - Provide temporary lane configurations to optimize mobility through Montlake
  - Apply traffic management strategies to reduce congestion
  - Develop communication plan to provide advance notice of closures and detour routes

Construction Traffic: Transit Stop Closures

- **Potential Effects:**
  - Montlake Flyer Stop closure would affect Seattle-Eastside transfers.
  - Congestion on Montlake Boulevard during construction could reduce transit reliability.
- **Potential Mitigation:**
  - Implementation of BRT system will provide improved transit options.
  - Work with transit service providers to identify and serve alternate transfer locations.
  - Apply traffic management strategies to reduce congestion.

Construction Traffic: Mitigation Planning Process

- **WSDOT:**
  - Public Transportation Division (PTD) initially involved during project scoping / budgeting process to identify mitigation funds.
  - After design completion and construction process definition, PTD analyzes potential traffic impacts to create mitigation targets.

- **WSDOT and Mitigation Partners:**

  (King County Metro, Sound Transit, Transportation Management Associations, etc)
  - Identify travel patterns and markets mitigation can target most effectively.
  - Develop mitigation plans to address identified markets and meet mitigation targets.
  - Measure performance of mitigation program against targets.

Construction Traffic: Mitigation Impact Analysis

- Review construction process (i.e. lane narrowing, shoulder closures, lane closures and time of day).
- Analyze potential traffic impacts (based on constrained construction capacity versus demand and normal traffic flow).
- Develop mitigation targets.

I-405 Southbound Morning Commute (7-8am)

HOV Lane

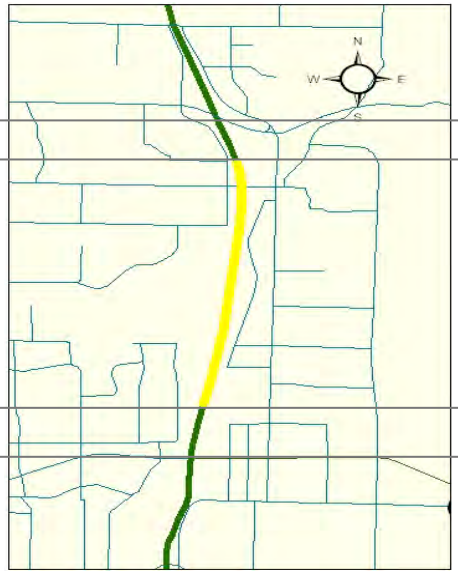
Volumes vphpl | Speed mph

1800 Current Capacity

60

1530 | 51

1700 Construction Capacity



GP Lanes

Volumes vphpl | Speed mph

2200 Current Capacity

2050 Construction Capacity

60

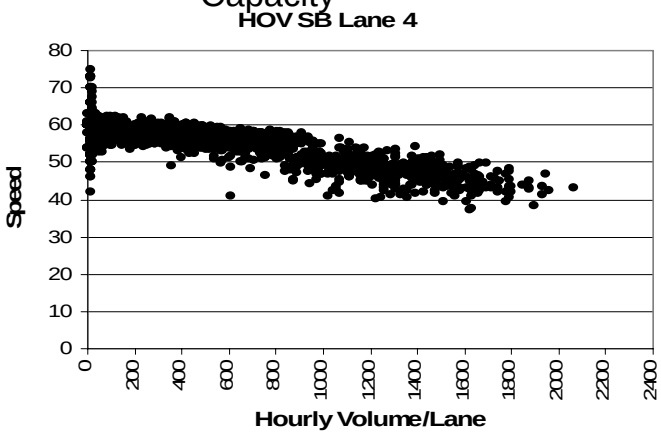
NE 124th

1845 | 33

NE 85th

1845 Current Throughput

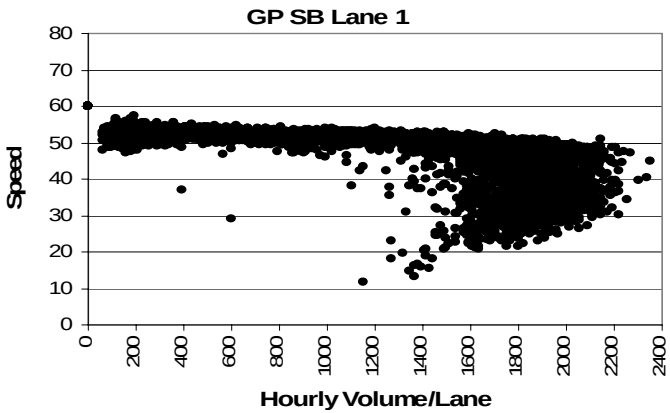
1720 Construction Throughput



GP Shift Target (All 3 Lanes) = 375 vph

HOV Available Capacity 170 vph

=



Construction Traffic: Mitigation Elements

- **High Cost:**
  - Communications - Web Based Traveler Information, Variable Message Signs (Long Term)
  - Transit Service (Long Term)
  - Leased Park and Rides (Short or Long Term)
  - Incident Response (Short or Long Term)

- **Low Cost, Short Term Mitigation:**
  - Communications (Public Outreach and Construction Info)
  - Vanpool / Carpool Promotions and Incentives
    - Employer or Residential Based Marketing
  - Vanpool Relocation Out of Crowded Park & Rides
  - Bike Lockers

Questions

Project Impact Plan

- What issues need to be incorporated into the impact plan based on the construction plans?
- What are the participants comments on the draft impact plan distributed on November 11th?

Next Steps