SR 520 Program & Portage Bay/Roanoke Park Community Council Meeting

Minimizing impacts for frontline neighbors

Todd Harrison
SR 520 Director of Project Development

Dave Becher
SR 520 Construction Director

Lawrence Spurgeon
SR 520 Environmental Manager

Angie Thomson
Facilitator

November 3, 2022

Zoom participants

All attendees are muted. To adjust your audio settings during the meeting, click on **Audio Settings.**

Chat is disabled.

Please use the **Q&A** to ask questions

Auto-captioning is enabled. Click the CC box to change settings.

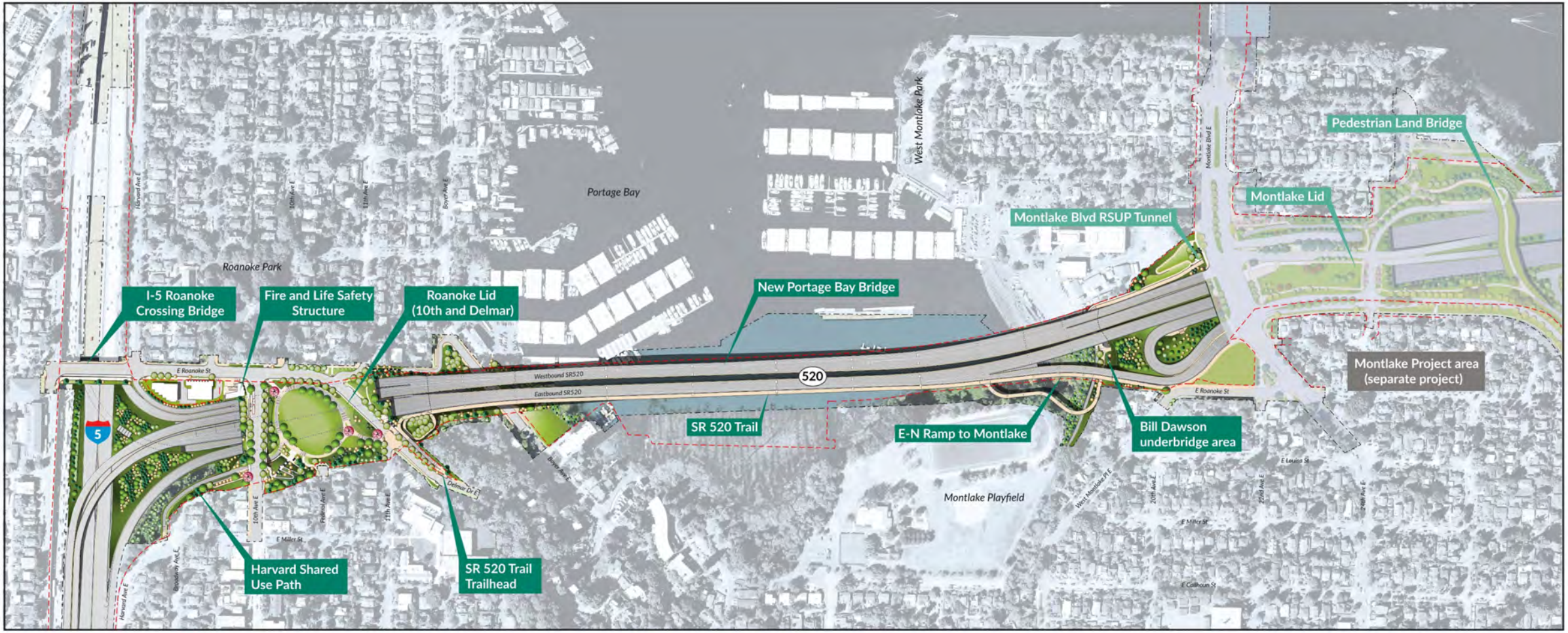
Group guidelines

- Listen actively and contribute constructively
- Challenge ideas, not the person
- Take space and make space; allow opportunities for everyone to speak
- Respect the role of the facilitator to manage the conversation

Agenda

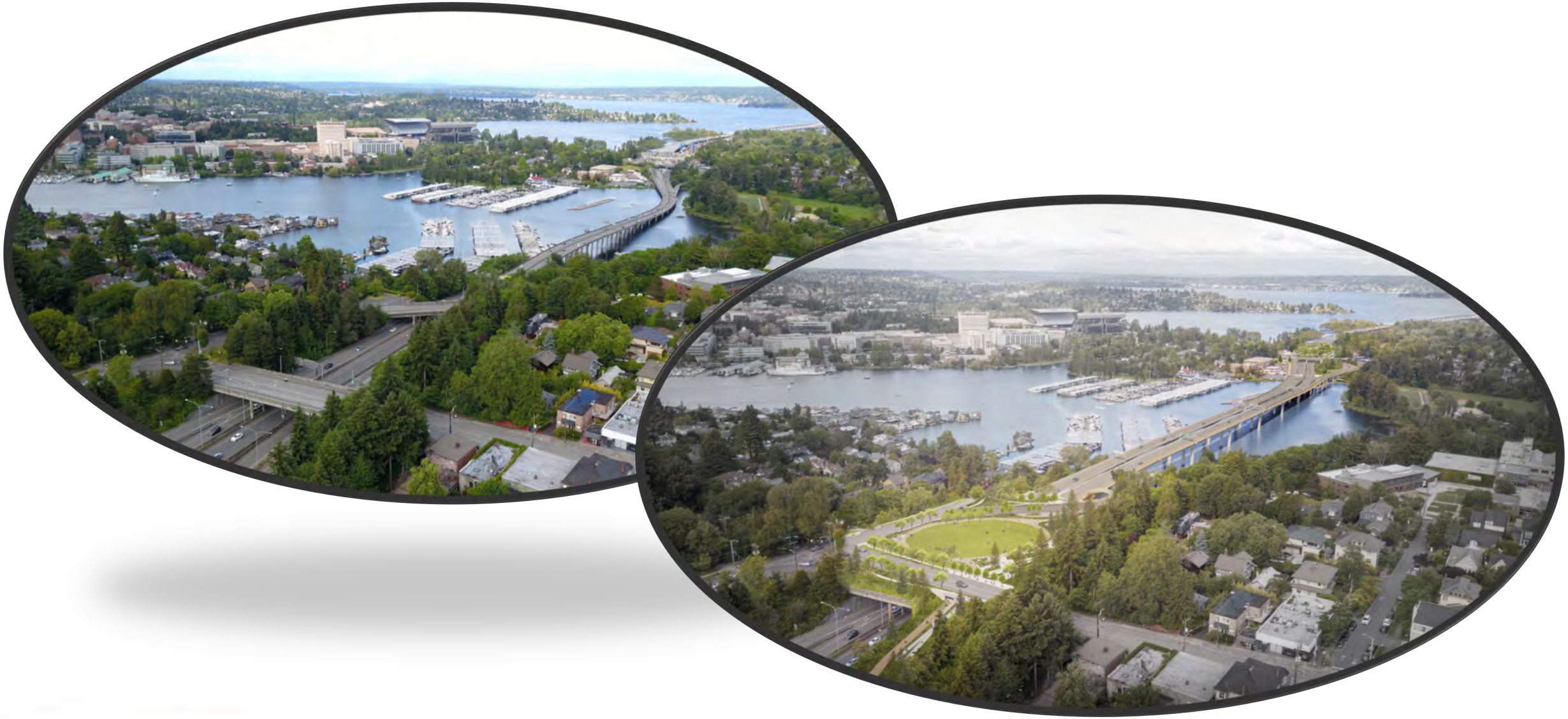
- WSDOT presentation (***45 minutes)***
  - Introduction & welcome
  - Project overview
  - Contractor information
  - Noise impacts
  - Vibration impacts & test pile results
  - Traffic impacts
- Update from SR 520 Project Community Council Subcommittee ***(5 minutes***)
- Facilitated Q&A ***(45 minutes)***
- Informal dialogue/Zoom session ends (***25 minutes)***

Major project elements



Note: concepts and materials shown are draft ideas for discussion purposes only, and are subject to change.

Current & future Portage Bay Bridge & Roanoke Lid



Project timeline

- **Nov. 14, 2022:** Publish Request for Qualifications (RFQ)
- **Jan. 23, 2023:** Publish Request for Proposals (RFP)
- **Late summer 2023:** Award design-build contract
- **Jan 2024:** Begin construction
- **2030 Complete construction**

How does design-build contract selection work?

The three shortlisted proposers will receive two documents:

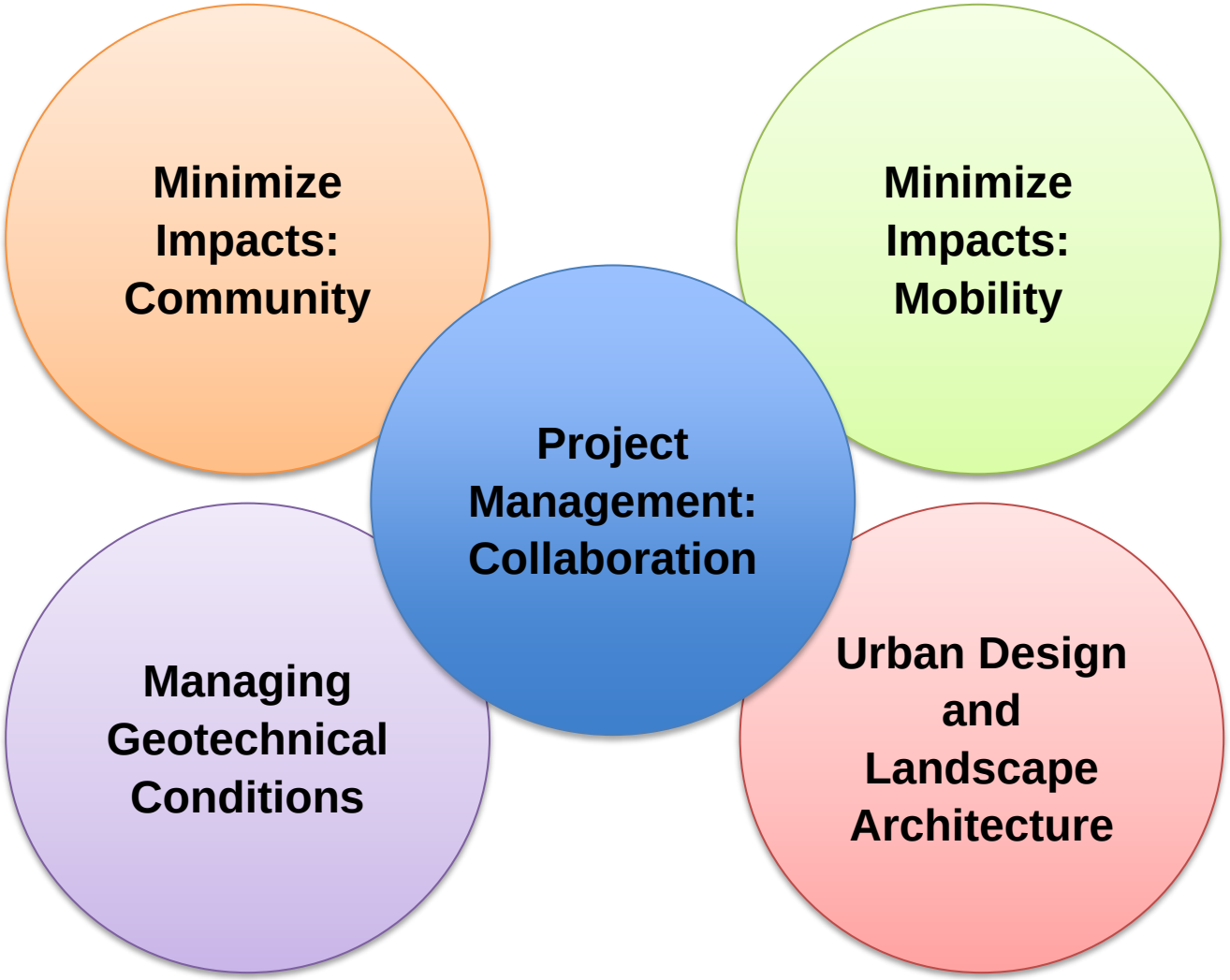
Request for Proposals (RFP)

Contains the **contract requirements** the design-builder must follow

Instructions to Proposers (ITP)

Contains the **proposal requirements** (project goals, and price and technical proposal requirements)

What goals are we using for this project?



How is the design-build contract awarded?

Technical proposal

How it will be designed & built

Price proposal

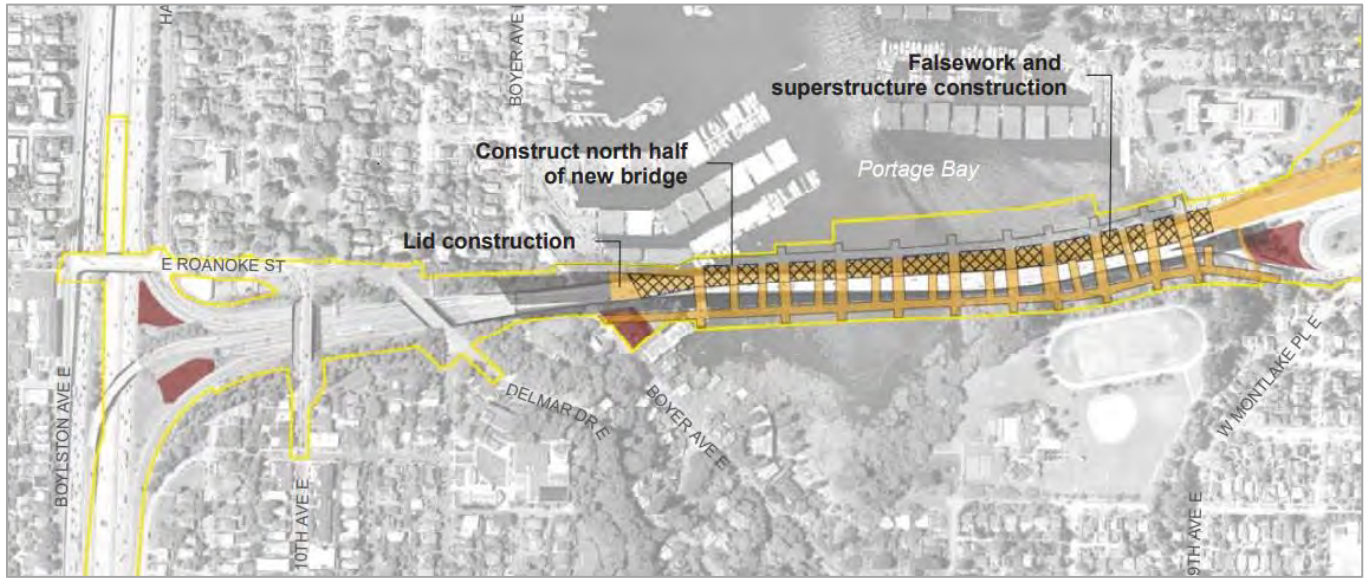
How much it will cost

The contract is awarded based on the **BEST VALUE** = Price proposal minus the technical score

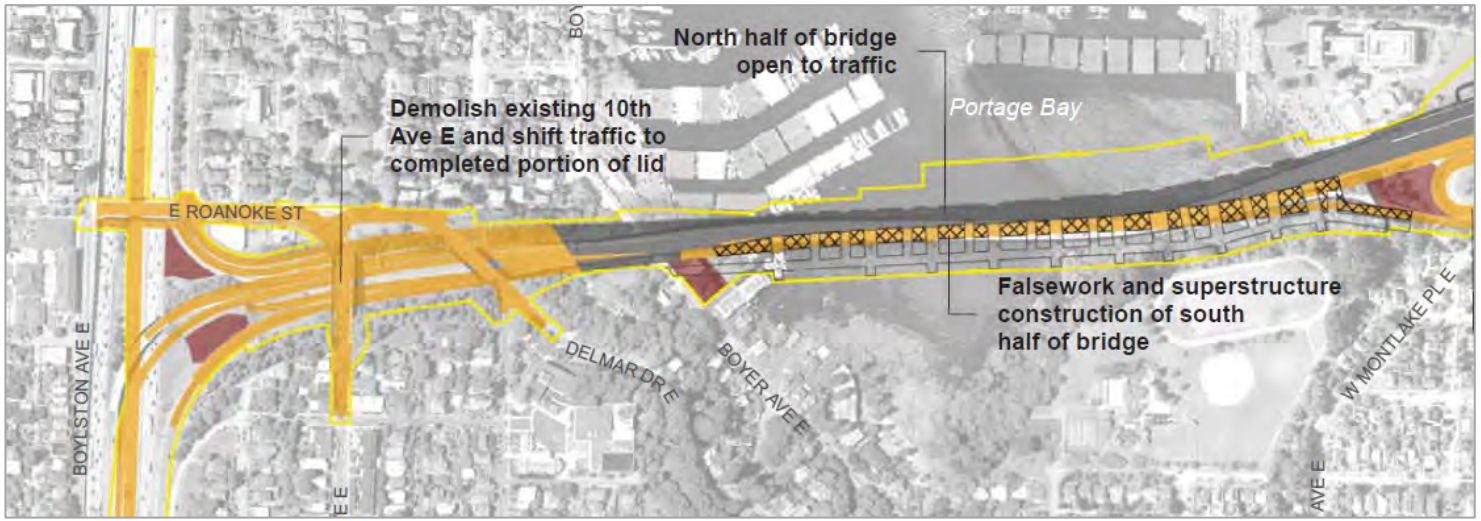
What are the contract requirements?

- Permit requirements
- Contract constraints
- Agreements & plans
- Incentives for going above and beyond contract requirements

Conceptual construction sequencing



Rendering of north bridge construction, estimated to take place first while traffic remains open on existing SR 520 bridge



Rendering of south bridge construction, estimated to take place after construction of north bridge and demolition of existing bridge

Construction Impacts

Noise

Vibration

Traffic

What's a Community Construction Management Plan (CCMP)?

WSDOT

SR 520 Bridge Replacement and HOV Program

SR 520 Portage Bay Bridge and Roanoke Lid Project

Community Construction Management Plan

SR 520 Portage Bay Bridge and Roanoke Lid Project CCMP

(Contract name: SR 520 / I-5 to Montlake - I/C and Bridge Replacement Project

Draft June 2022

The Community Construction Management Plan (CCMP) outlines the process for community members to provide input about construction management practices to help avoid, minimize, and/or mitigate construction effects on historic and other properties. It also guides the actions of construction contractors, provides opportunities for the Washington State Department of Transportation (WSDOT) and hired contractors to keep the public and Section 106 concurring parties informed, and gathers input to improve the construction practices addressed by the CCMP.

Noise: What are the limits for daytime noise?

DAYTIME SOUND LIMITS FOR CONSTRUCITON (SMC 25.08.425)
7 a.m. – 10 p.m. weekdays; 9 a.m. – 10 p.m. weekends & holidays

Residential Daytime Noise Limit L_{eq} (dBA)
80

DAYTIME SOUND LIMITS FOR IMPACT NOISE (SMC 25.08.425)
8 a.m. – 5 p.m. weekdays; 9 a.m. – 5 p.m. weekends & holidays

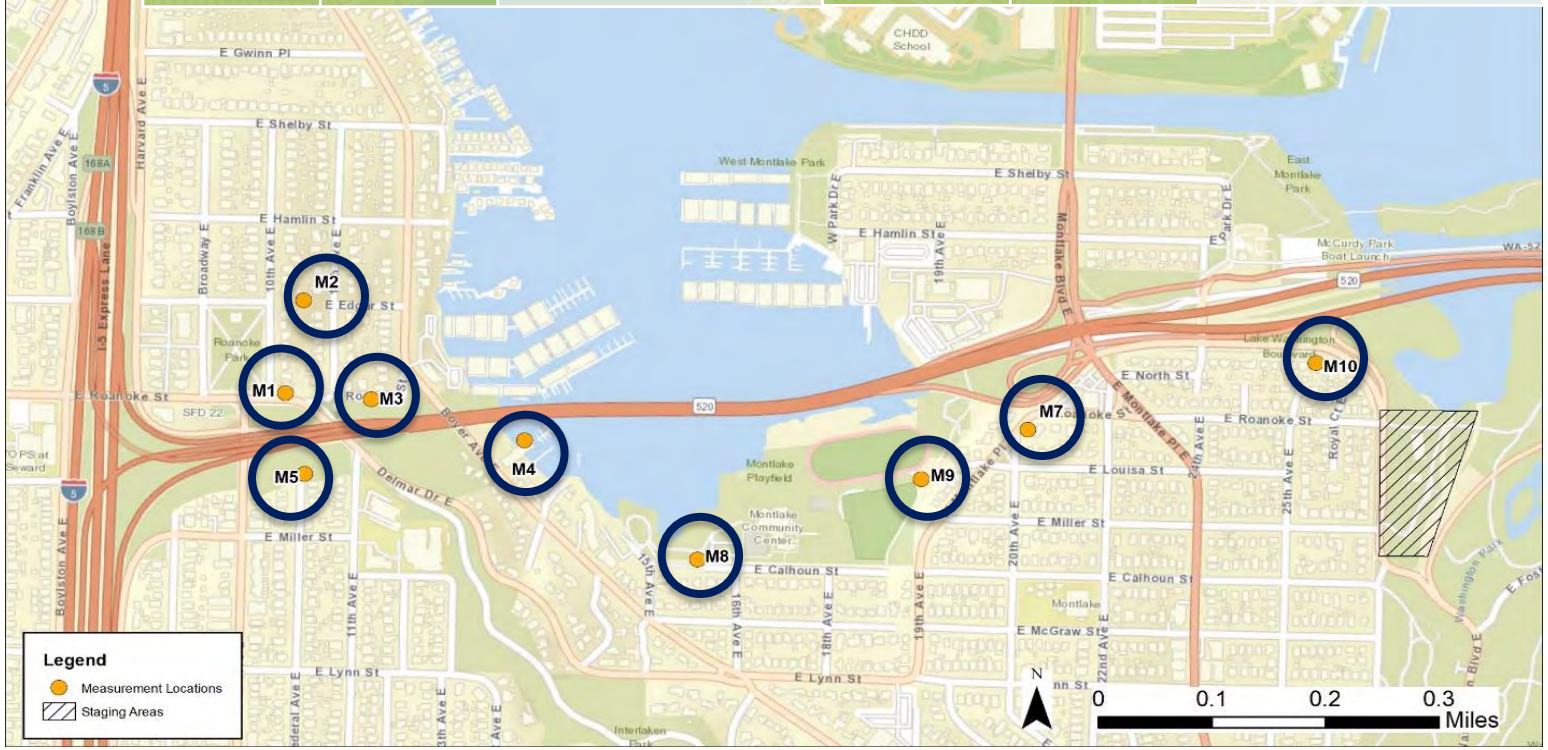
Impact Noise	Duration
L_{eq} = 90 dBA	Continuously
L_{eq} = 93 dBA	30 Minutes
L_{eq} = 96 dBA	15 Minutes
L_{eq} = 99 dBA	7 Minutes 30 Seconds

Noise: What are the limits for nighttime noise?

Tentative Nighttime Noise Limits per MPPCNV 6903010-NV*

*MPPCNV DECISION 6903010-NV has been appealed and subject to changes to conditions resulting from hearing examiner review

Noise monitor	Nighttime Average	Nighttime Limit L_{eq} (dBA)	**Noise Monitor**	Nighttime Average	Nighttime Limit L_{eq} (dBA)
M1	65	71	M6	60	66
M2	51	57	M7	72	72
M3	56	62	M8	54	60
M4	60	66	M9	54	60
M5	64	70	M10	61	67



Noise: How will neighbors be notified about noise?

- The project will follow the noise limits set in the MPPCNV.
- On limited occasions, the project may require noisy work that exceeds the MPPCNV limits. In that case, the design-builder will apply for a **temporary noise variance (TNV**) from the city of Seattle.
- The contract limits TNVs to 45 over 6 years.
- TNVs are granted for a limited time period.
- The city of Seattle requires **72 hours advanced** notification of nighttime work.
- WSDOT typically provides notice **at least a week prior to nighttime work** for the Montlake Project.
- There will be fewer TNVs for the Portage Bay Project than Montlake.

Noise: What are the options for neighbors when a temporary noise variance (TNV) has been granted?

Hotel voucher

Noise: What resources can neighbors access to reduce noise impacts?

Noise Mitigation Pilot Program

Noise: What's the eligibility area for the Noise Mitigation Pilot Program?

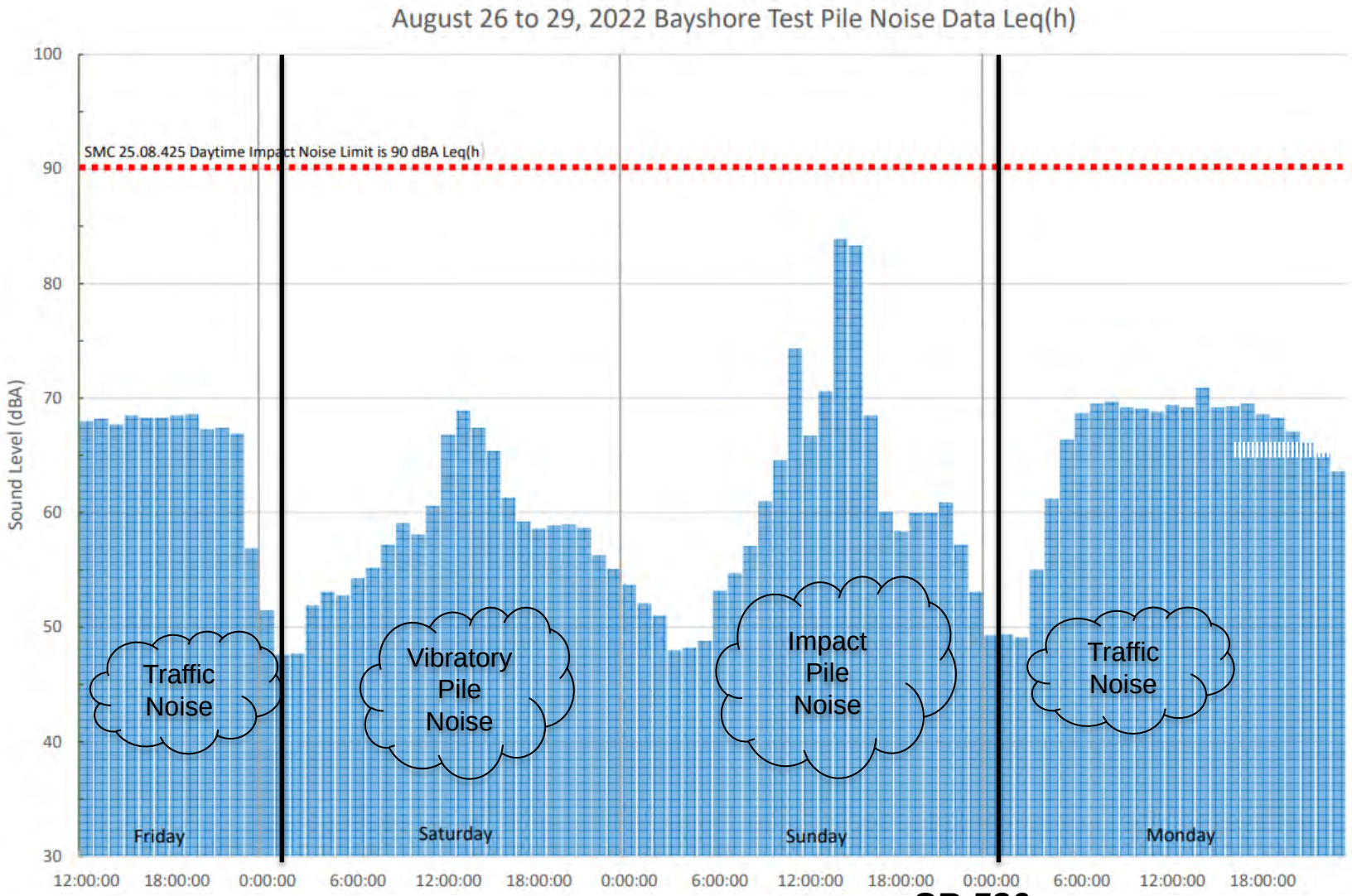
Noise & vibration: Why did we do the test pile installation?

Vibratory hammer used for the on-land test pile in Aug. 2022

Impact hammer used on the Montlake Project in Oct. 2020

Crane barge used for the in-water test pile installation in Sept. 2022

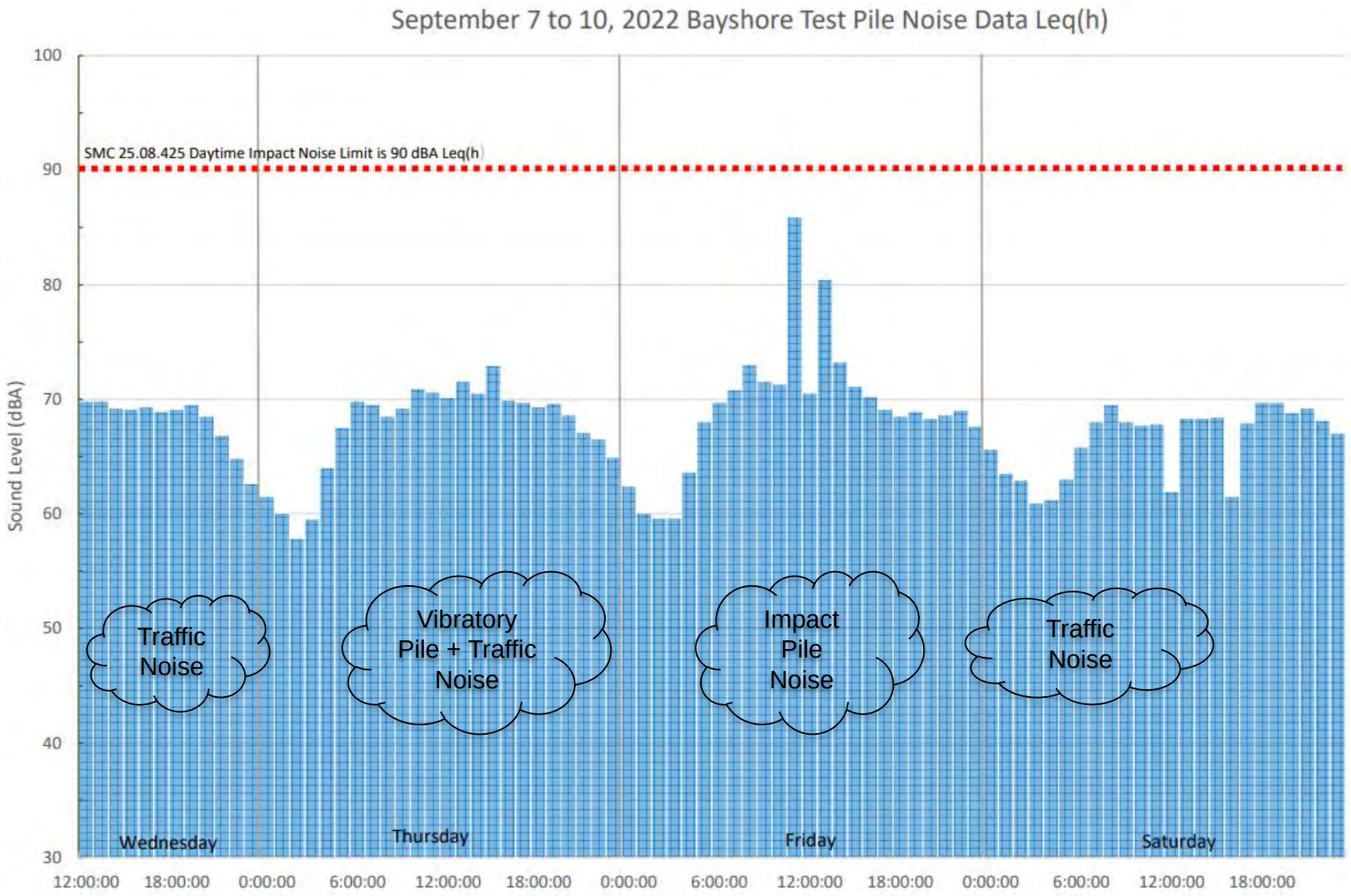
Noise: What did we learn from the on-land test pile?



SR 520 closes

SR 520 re-opens

Noise: What did we learn from in-water test pile?

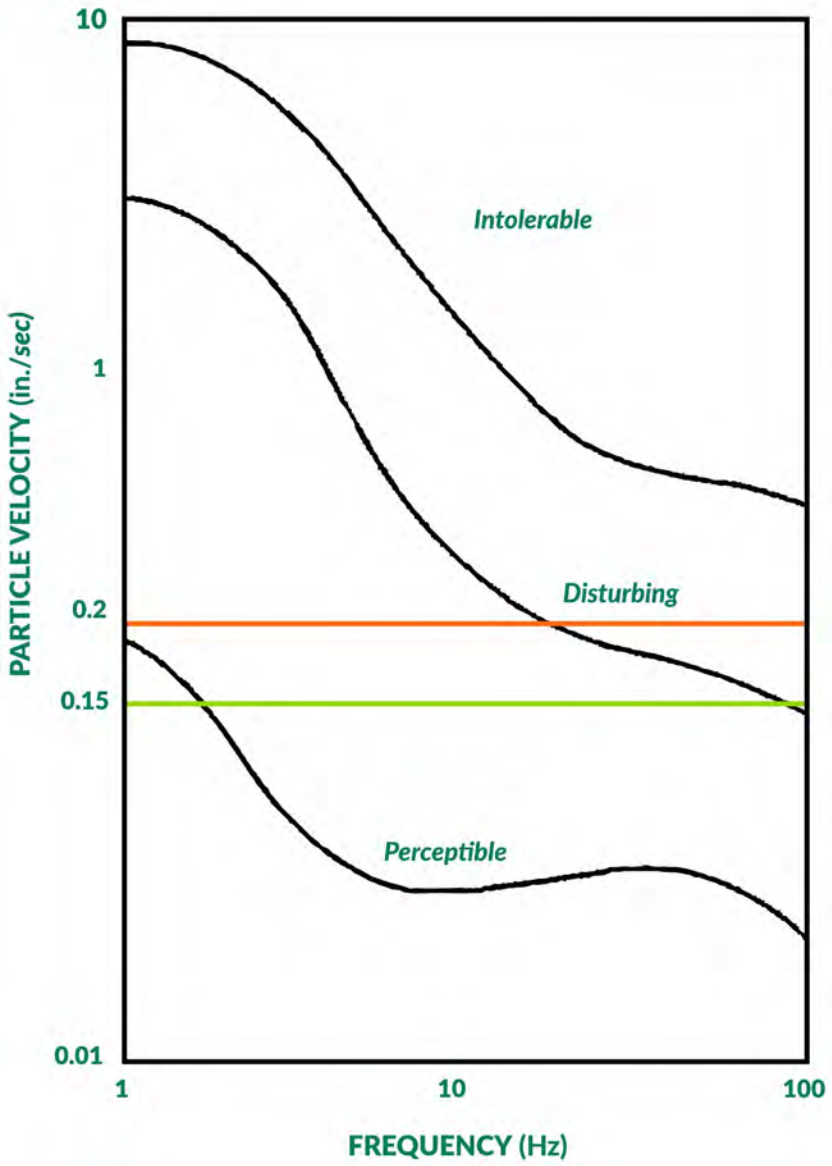


Vibration: What will be the vibrations limits?

Construction Vibration Limits for Test Pile Analysis

Location	Threshold Limit	Allowable Limit
On-Land Facilities and Structures	**Peak Particle Velocity (from transient or continuous vibration source)**	
Type III. Non-engineered timber and masonry buildings (e.g. most residential homes)	0.15 inches per second	0.20 inches per second
Type IV: Historic buildings extremely susceptible to vibration damage (e.g. the Seward School, Seattle Yacht Club, and the historic buildings on the NOAA Campus)	0.09 inches per second	0.12 inches per second

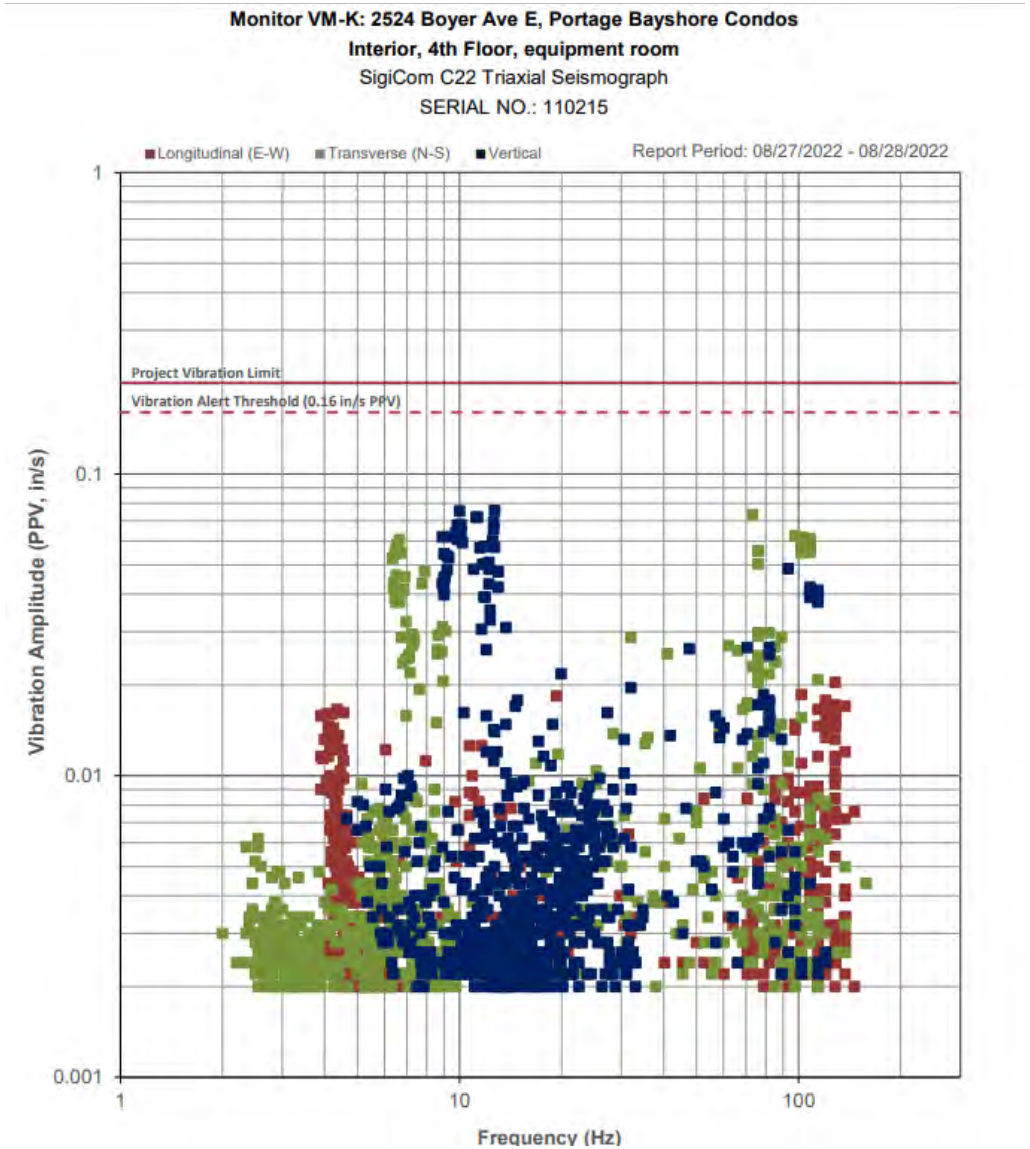
Vibration: How do people experience vibration levels?



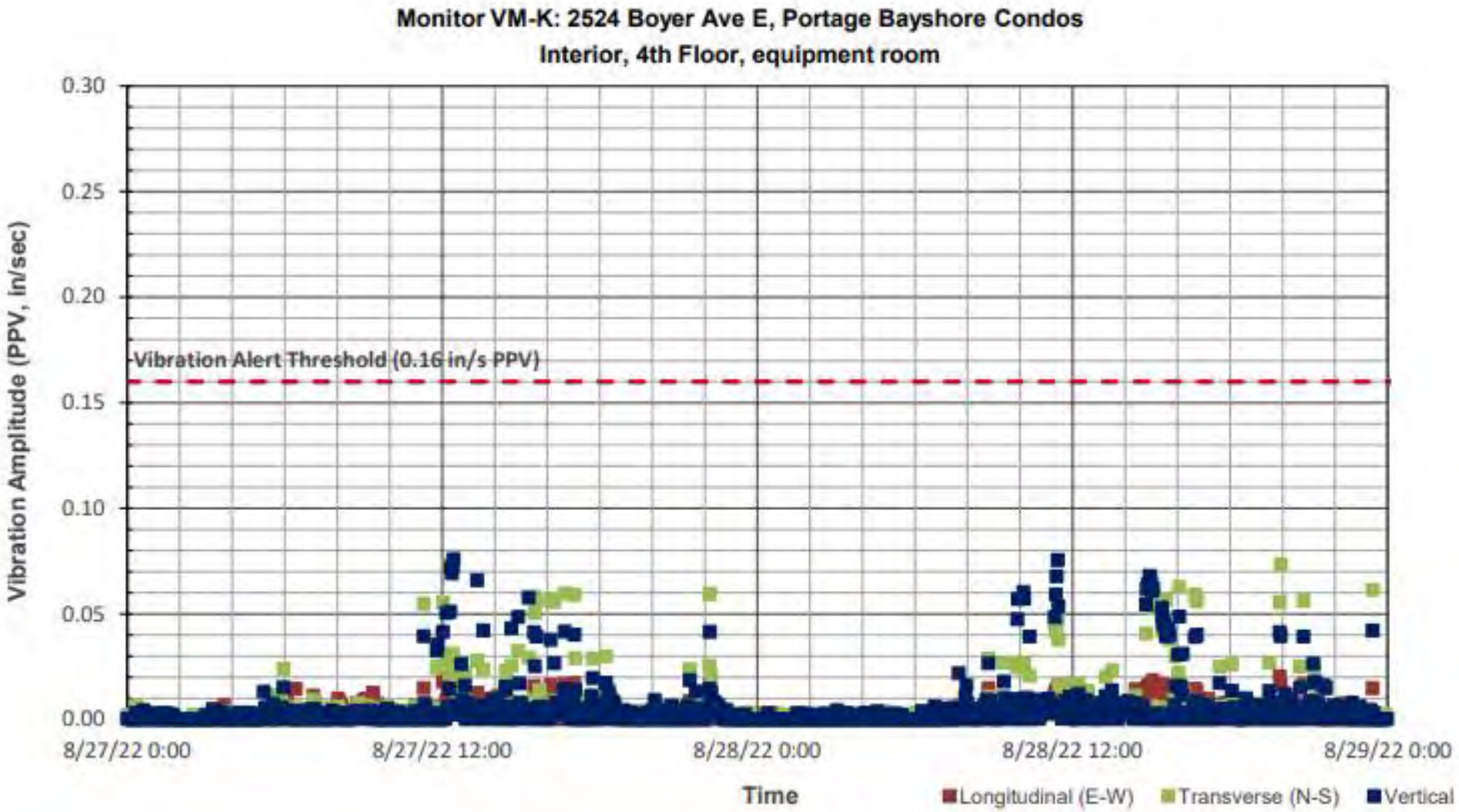
LEGEND

- Allowable Type III vibration limit
- Type III threshold vibration limit

Vibration: What were the on-land vibration frequency levels?



Vibration: What were the on-land vibration levels over time?



Vibration: Conclusions from the test pile installation

- We understand that impact hammer noise and air “shock wave” vibration of windows are disturbing for neighbors.
- We confirmed that vibratory hammers produced lower levels of noise and similar levels of vibration as the impact hammer.
- We confirmed that in-water piling can be installed successfully with vibratory hammers to reduce the use of impact hammers.
- We confirmed that piling can be installed with vibration levels below acceptable thresholds.
- We learned we’ll need larger vibratory hammers in addition to the impact hammers to install on-land piles.

Vibration: What's the pre- and post-construction inspection process?

PBB pre-construction inspection

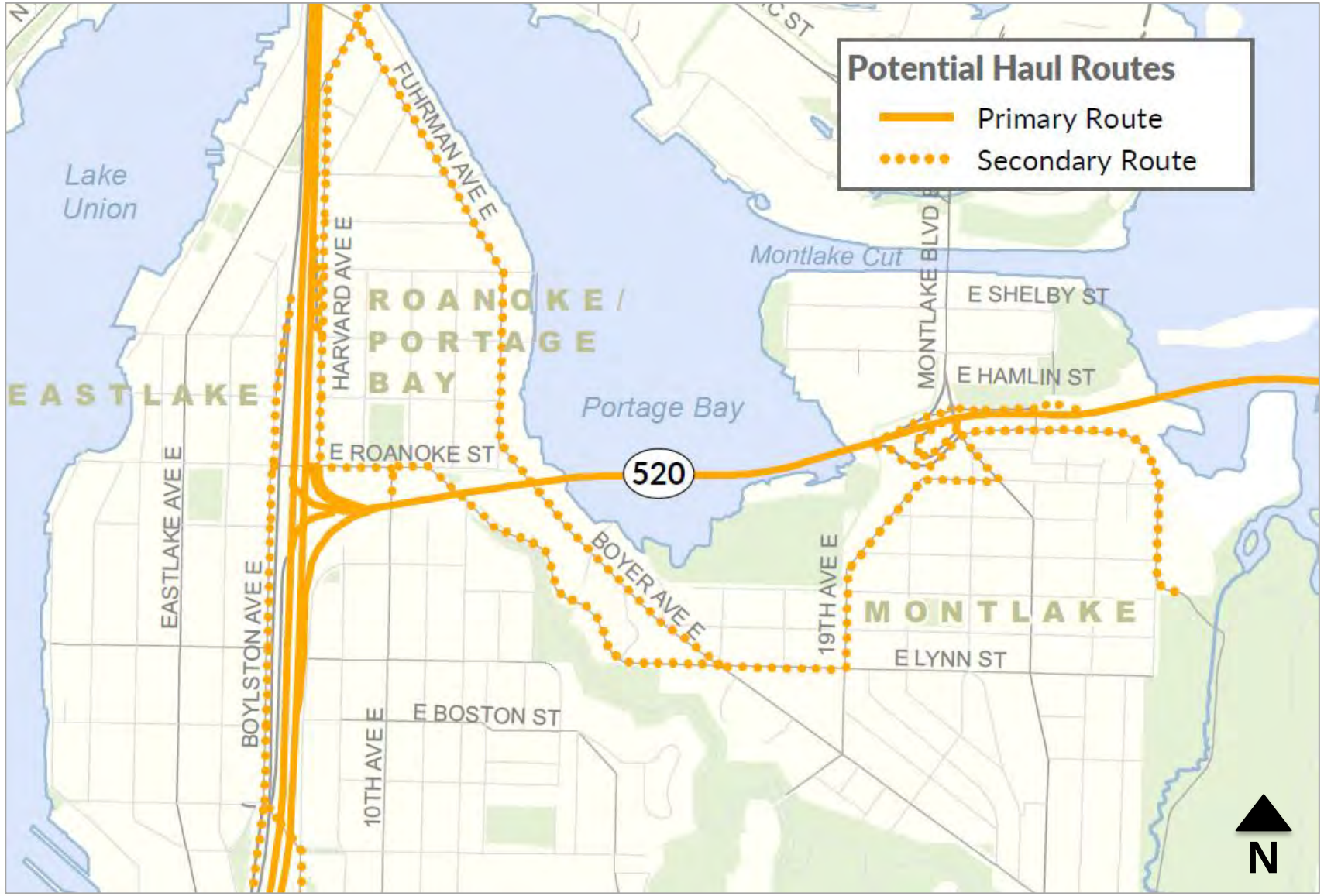
I-5 post-construction inspection / PBB pre-construction inspection

Montlake post-construction inspection / PBB pre-construction inspection

Vibration: What happens if there's vibration-related damage?

RESOURCE	PROCESS
Vibration damage fund (less than $15K)	• Call 24/7 hotline and/or • Email SR520 inbox
Tort claim process (more than $15K)	• Call 24/7 hotline and/or • Email SR520 inbox • Fill out online form

Traffic: What are the haul routes?



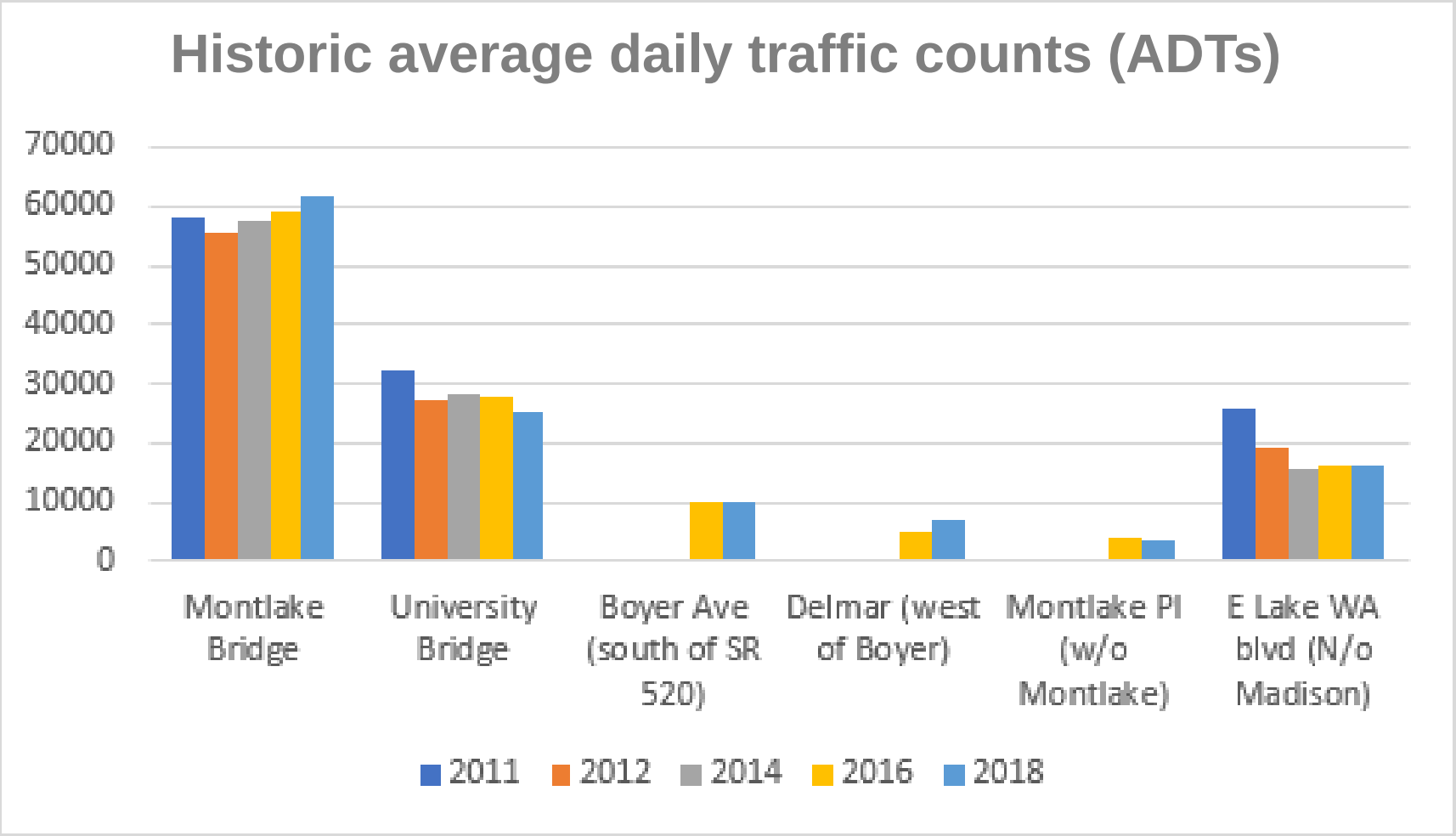
Traffic: How much additional construction traffic can be expected?

	EXISTING WEEKDAY			PROJECT AVERAGE (TYPICAL DAY)		PROJECT PEAK ACTIVITIES (INFREQUENT)	
Study Street*	**Total Vehicle Volume**	**Daily Trucks & Buses**	**Trucks Percentage of Total Vehicles**	**Daily Trucks**	**Trucks Percentage of Total Vehicles**	**Daily Trucks**	**Trucks Percentage of Total Vehicles**
E Roanoke St	7,050	160	2.3	30	0.4	170	2.4
Fuhrman Ave E	7,240	170	2.3	20	0.3	230	3.2
Boyer Ave E	5,940	130	2.2	20	0.4	230	3.9
Boyer Ave E	6,180	140	2.3	15	0.2	210	3.4
Delmar Dr E	4,910	100	2.0	20	0.4	160	3.3
E Lynn St	5,270	110	2.1	15	0.3	120	2.3

*Additional locations included in the study. Only streets within the Portage Bay/Roanoke Park neighborhoods shown in the table above.

Source: Fig.10-9 in the Final Transportation Discipline Report, included as part of the May 2011 FEIS

Traffic: How have traffic patterns changed since 2011?



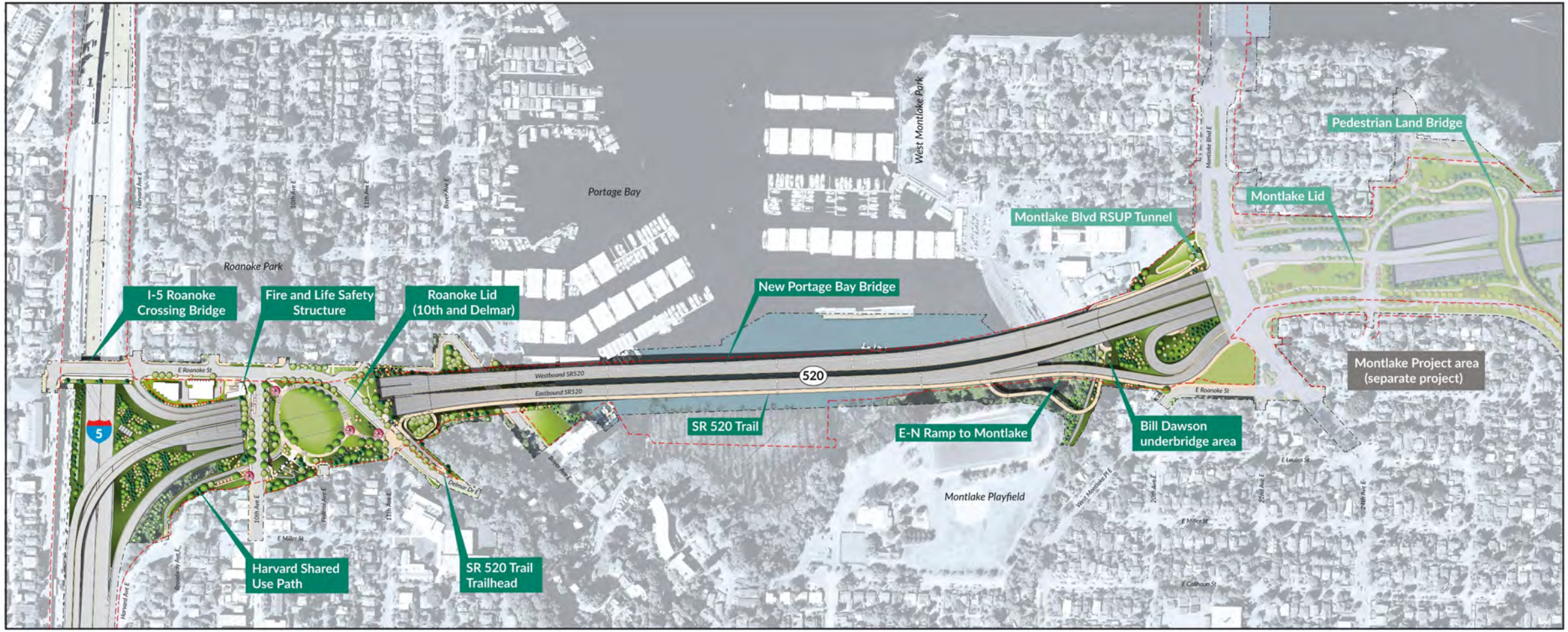
UW light rail station opened March 2016; KC Metro Route #25 also discontinued in March 2016

Traffic: Where will materials and equipment be staged?

Traffic: How will crews access the work bridge?

Q&A format

Questions?



Note: concepts and materials shown are draft ideas for discussion purposes only, and are subject to change.