CKC-EASTRAIL CROSSING STUDY
CITY OF KIRKLAND

TRANSPORTATION COMMISSION

FEBRUARY 23, 2022

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

PROJECT APPROACH

Project Framework / Baseline Conditions

- Collect data and field reviews
- Draft the basis of conceptual design
- Begin to define draft project goals and criteria

Alternatives Development and Screening

Step 1 – Define Approach
- Conduct preliminary traffic analysis
- Coordinate with City, County to agree on goals, thresholds, and criteria

*** Transportation Commission Update**

We are here

Step 2 –Identify 2AG+2GS
- Complete traffic analysis to identify balanced solutions
- Review design constraints and minimize impacts per goals
- Coordinate with City and County to finalize recommended alternatives

Step 3 –Complete design and traffic analyses for recommended alternatives
- Conduct detailed traffic analysis of 2AG alternatives
- Complete conceptual design of 2AT+2GS alternatives

*** Transportation Commission Update**
*** City Council Update**

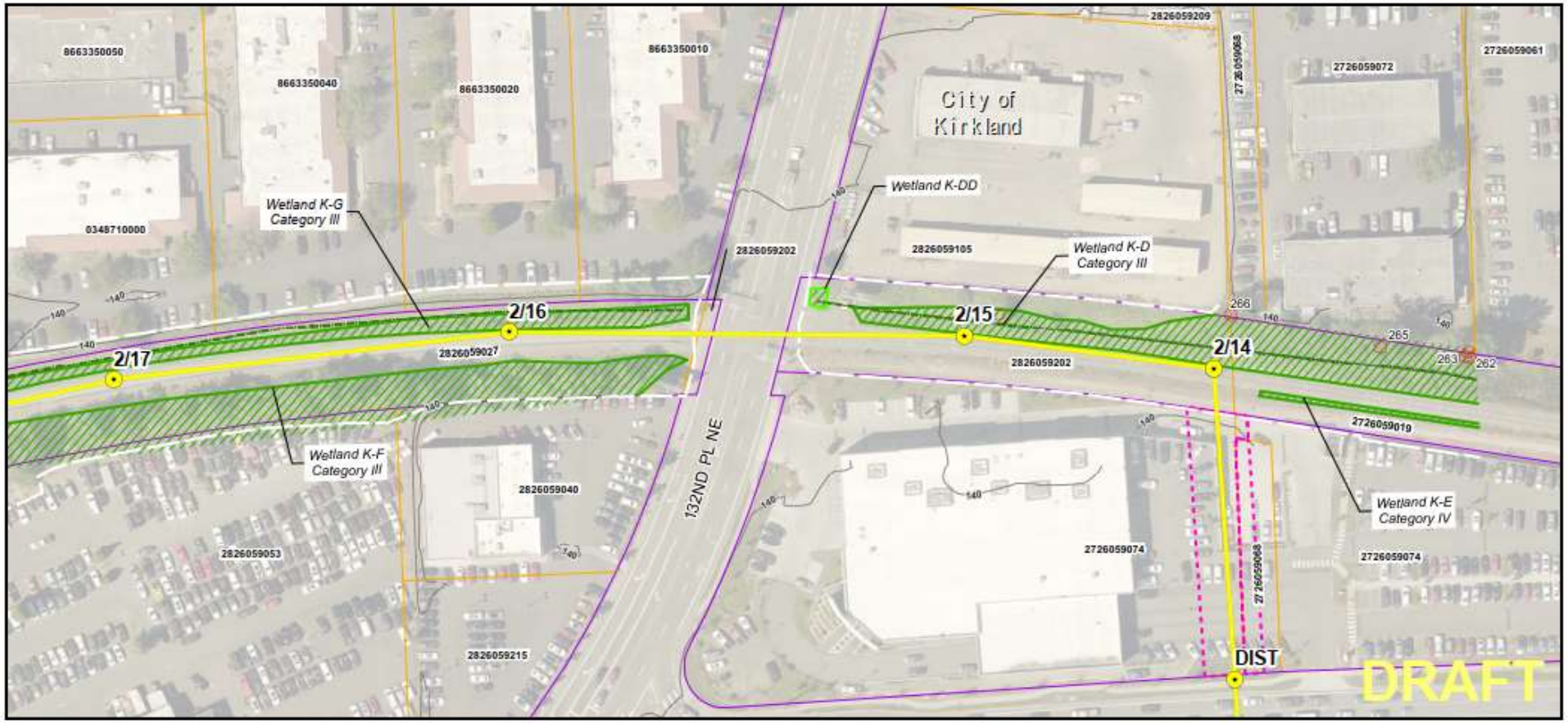
Documentation

- Develop draft and final documentation

TRAFFIC VOLUMES AND COVID-19

- Counts collected January 2022
- Compared to City historic counts for Fall 2019
- 2022 peak hour volumes are 20-30% lower than 2019.
- Note that some other areas in the region have seen a reduction in daily but peak hour volumes have returned to a near pre-covid level
- Method for forecasts:
  - Using 2022 count data
  - Apply seasonal correction for winter
  - Apply 2% annual growth rate for horizon years + pipeline trips
- Uncertainty in short and longer term forecasts due to changes in commutes, work from home, etc.
- Analysis will identify what growth in volumes at-grade alternatives fail, and assign that growth to a range of horizon years.

UTILITY AND WETLAND CONSTRAINTS



New 115kV Pole
Replacement 115kV Pole
Remove 115kV Pole
Existing 115kV Pole
Culvert
115kV Transmission Line
Easement
Proposed Easement
Acquired Easement
Permit

Delineated Stream (survey accuracy)
Delineated Stream (mapping accuracy)
Delineated Wetland Boundary (survey accuracy)
Delineated Wetland Boundary (mapping accuracy)
Estimated Wetland/Stream Boundary (digitized accuracy)
Wetland/Stream Buffer
Wetland
Ditch (mapping accuracy)

Tax Parcel
ROW Line
Contour (10 ft interval)
City Limits
Trees to Remain
Trees to Trim
Trees to Remove
Not Designated

0 80 160
Feet
1 inch = 80 feet

Background: ESRI World Imagery, World Street Map
Data Sources: City of Kirkland, City of Redmond, DEA, King County
Wetland buffers: AECOM

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Sammamish-Juanita 115kV Transmission Line	
City of Kirkland	
Map 13 of 23	
July 2019	PUGET SOUND ENERGY
PSEN0000-0169	DAVID EVANS ASSOCIATES

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CONSIDERATIONS IN BALANCED SOLUTION

Goals	As measured by…	Is there a threshold of acceptability?
Goal: Improves Nonmotorized Connections		
Safety of crossings and connections.	Consistency with design standards Consider queues and their impact to sight lines	
Intuitiveness of crossings and connections	Qualitative evaluation of directness of connections to intersecting sidewalks and existing bike lanes Qualitative evaluation of consistency of crossing concept with other (nearby) crossings in the CKC and Eastrail corridors	
User comfort	Does the crossing feel safe, are there clear sight lines for the user, is it convenient, is CPTED implemented Quantitative comparison of delay and crossing distance between alternatives	
Goal: Fits Context		
Aesthetics and scale relative to context of surroundings	Quality of integration with surrounding land uses Connections accommodate access to adjacent businesses and the trail	

CONSIDERATIONS IN BALANCED SOLUTION

Goals	As measured by…	Is there a threshold of acceptability?
Goal: Minimized Impacts		
Traffic impacts on study intersections and driveways	Vehicle delays on NE 124th St/Slater Ave NE-132nd Ave NE and Slater Ave NE-132nd Ave NE	
	Affects to signal coordination along NE 124th St	Maintain cycle lengths and coordinated phases
	Quantify queues (on Slater-132nd Ave NE between NE 124th St and NE 126th Pl)	Strongly desired to maintain queues outside intersections
Impacts to traffic safety	Qualitative review based on existing literature	
Impacts to right of way	Qualitative/quantitative comparison of alternatives	
Impacts to critical areas	Qualitative/quantitative comparison of alternatives	
Impacts to drainage and groundwater	Qualitative assessment of design concept compatibility with existing surface water drainage that is characteristic of the area	
Impacts to utilities	Qualitative comparison of alternatives	
Impact to ST easement rights	Qualitative comparison of alternatives	

CONSIDERATIONS IN BALANCED SOLUTION

Goals	As measured by…	Is there a threshold of acceptability?
Goal: Feasible Solution		
Cost to construct	Quantitative comparison of alternatives	
Schedule to construct	Qualitative comparison durations and potential to close trail use	
Long-term maintenance and life cycle costs	Qualitative comparison of alternatives	
Groundwater (applies to tunnel options only)	Identify if requires pumps for active drainage	

NEXT STEPS

- Develop two at grade, two grade separated alternatives
- Develop a short and long-term strategy with City and County staff input
- Transportation Commission update April 27
- City Council May 3