



100th Ave Northeast Corridor Design
Advisory Group Meeting #2 Summary
August 9, 2016 5:00 – 7:30 p.m.

Kirkland City Hall, Peter Kirk Room, 123 5th Ave., Kirkland, WA 98033

Attendees:

Project staff

- Frank Reinart
City of Kirkland
- Christian Knight
City of Kirkland
- Paul Ferrier
HDR
- Brian Magee
HDR
- Guy Michaelson
Berger Partnership
- Dennis Sandstrom
Envirolssues
- Betsy Kinsey
Envirolssues

Committee members

- Edison Colio
Juanita resident
- Faith DeBolt
Finn Hill resident
- Scott Emry
Lake Washington School District
- Marianna Hanefeld
Arts Commission
- Tiffany Martin
Juanita Neighborhoods Association
- Doug McFadyen
Large commercial access
- George Needham
Small commercial access
- Jon Pascal
Finn Hill Neighborhood Alliance

Committee members not in attendance

- Andrea Clinkscales
Cascade Bicycle Club
- Donna Gaw
Community Connectivity Consortium
- Matt Hutchinson
Small commercial access

Welcome and introductions

Dennis Sandstrom, facilitator, welcomed participants, reviewed the meeting agenda and asked everyone to introduce themselves.

What we've heard

Outreach events

Dennis reviewed the different events and methods used to gather public feedback, including the first advisory group meeting, design charrette, open house (OH) and online open house (OOH). He described how the OH and OOH were organized and publicized, and shared general lessons learned for use at

future events. He noted that the time of day (weekday, evening) and location (Juanita Community Church) were well received and that social media posts helped share the online open house. He asked the group to share their overall thoughts regarding the OH and OOH. People generally thought both the OH and OOH were great. They found the OOH very accessible and were happy it reached so many people, however there were general concerns that some ideas are hard to capture through the online platform. People appreciated the face-to-face conversations and idea building that the OH made possible and found this feedback richer.

Feedback results

Paul Ferrier, HDR, shared specific results to questions asked in the OH and OOH. A summary of the input received is below.

Design Component	Potential Design Parameter / Approach Based on Provided Input
Sidewalk Width	6 – 8 ft
Planter Zone Width	4 – 6 ft
Bike Lane Configuration	On-Street with Buffer
Bike Lane Width	5 ft
Bike Lane Buffer	Minimum 2 ft Width
Access Management	Explore options to include raised medians
Crosswalk Locations	Retain existing crosswalks. Consider adding one or more crossing locations between NE 137th St and Simonds Rd NE

Questions and discussion

Jon Pascal, Finn Hill Neighborhood Alliance, asked if participants understood what was meant by “access management” and if participants specifically asked for access management. He also noted that Paul’s comments regarding access management were mostly in regard to the commercial area of the corridor, but many participants stated that improved access management, particularly crosswalks, is needed in the residential area.

Paul and Frank Reinart, City of Kirkland, replied that the term “access management” was explained to people and that examples of access management were provided to participants. Paul then gave examples of feedback they received regarding access management in both the commercial and residential areas, demonstrating that access management is an important focus throughout the corridor.

Faith DeBolt, Finn Hill resident, asked if the proposed widths are realistic or feasible for the corridor. Paul answered that there is a considerable amount of space and the width of each component will depend greatly on how many lanes 100th Ave. NE will have.

Selection criteria for best-value alternative

Paul introduced HDR's process for creating and then scoring criteria to determine the best-value design alternative. He provided examples of performance attributes that may apply to this project, based on similar projects. He outlined the five-step-process for developing the quantitative model that determines the best-value alternative. The project team will be working to further develop the scoring criteria in the coming weeks by incorporating City requirements and public input specific to the corridor. The purpose of this portion of the presentation was to educate members of the Advisory Group on the process to set up a final opportunity for input on the developing criteria in the next Advisory Group meeting.

Questions and discussion

Discussion during this section touched on different categories for consideration and how to weigh categories. In particular, the group discussed how to assign relative weights to multimodal safety and functionality. Frank added that the City's Master Plan places a focus on non-motorized safety and mobility. He emphasized that while the 100th Ave. NE corridor will have its own priority scheme, which will likely vary across different sections of the corridor due to its size and complexity, the priority schemes will not be incompatible with the City's Master Plan.

Faith asked if someone could clarify what is meant by the term "alternative." The project team explained that term "alternative" is equivalent to a design "option" that may be used for evaluation. To determine the best-value alternative, multiple alternatives are developed, compared, and scored to determine which "alternative" (or option) is the best value for the project. As an example, it was noted that one design alternative may have a 6-ft sidewalk while another design alternative may have an 8-ft sidewalk and the evaluation criteria would be used to select which of those two alternatives would provide the best value.

Corridor constraints and fatal flaw process

Dennis introduced the conversation for corridor constraints and the fatal flaw process. He stated that geotech work is occurring in the corridor now in order to determine the current conditions. The biggest item for discussion is the public right of way (ROW).

Frank reported that there is a fairly consistent 100-foot-wide ROW along the corridor. However, there are several private encroachments into the ROW along the corridor and the ROW is narrower in some sections, getting as small as 60 feet in one particular location. The City's goal is to be as minimally disruptive as possible when it comes to these types of projects, and this includes considering potential acquisitions. It is still too early to say whether the City will seek to acquire additional ROW, but there may be some opportunities for the City to explore in order to make this a consistently wide, multipurpose corridor.

Alternatives development

After a short break, Paul reconvened the group and brought everyone's attention to two roll plots depicting existing conditions along the corridor. Google Earth was also used to provide supplemental

100th Ave Northeast Corridor Design Advisory Group Meeting 2 Summary

views of the corridor in order to help facilitate discussion focused on specific locations, intersections or properties. Paul asked for the group's input regarding access management along the corridor. Frank added that the project team is seeking input regarding access for all forms of transportation. He invited everyone to participate in an open discussion that considers all possibilities for the corridor.

The conversation began with concerns and idea-sharing around the southern-most point on the corridor, the intersection of 100th Ave. NE and NE 132nd St. This sparked a lot of discussion around pedestrian access to the elementary school and traffic that occurs during the start and end of each school day. Many participants noted how the sidewalk on 100th, north of the school, currently feels uninviting for pedestrians and school children which may be the cause of people walking through the Goodwill and US Bank parking lots. There was some consensus that providing buffered corners to protect pedestrians crossing the NE 132nd St. intersection, as well as buffers for sidewalks away from intersections, would help make them more inviting. Members liked the idea of a clearly marked and signed pedestrian entrance to the school near the southwest corner of the intersection. Scott Emry noted that the school district may be open to working with the City to include an access at this location. Generally, members wanted to see the intersection much safer and more comfortable for pedestrians.

The discussion moved further north along 100th Ave. NE. Conversation centered around Starbucks and the intersection of 100th Ave. NE with Juanita Woodinville Way NE. Members expressed interest in seeing fewer driveways and consolidating the intersection to be more of a "T," with improved signage so drivers know which lane to be in. However, the group did acknowledge that the resulting change to access for businesses and residents on the west side of 100th Ave NE in this area would need to be considered. There was discussion of using the corner to create a landmark for the area, perhaps incorporating public art or additional landscaping. This idea brought forth concerns of maintainability: who would be responsible for maintenance and the consequence of overgrowth.

Further north, at the intersection of 100th Ave. NE and NE 137th St., it was noted that the east and west sides of NE 137th St. need to be aligned; they currently are not aligned, which causes confusion. Doug McFadyen noted that there was tentative discussion in the past with King County to realign the east leg of this intersection using open green space on the Safeway property as long as the cost of the realignment was paid by the County.

The conversation switched to focus on the area's identity. Members would like to see a more cohesive corridor that helps mark the area as a destination. Some elements mentioned that would support this were a unique name and art pieces for the area.

Next steps

Dennis thanked everyone for their participation and flagged upcoming events including the next advisory group meeting, the Juanita Neighborhood Association Picnic and DennyFest. The date of the next meeting is not set yet, but is expected to be in September. Members can expect to provide more input at the next meeting on more topics, including the selection criteria for the best-value alternative.

Appendices

- A. Meeting agenda
- B. Presentation slides



Advisory Group Agenda – Meeting #2

Date & Time: August 9, 2016, 5:00 – 8:00 p.m.

Location: Kirkland City Hall, Peter Kirk Room, 123 5th Ave., Kirkland, WA 98033

Attendees:

Project Staff

- Frank Reinart
City of Kirkland
- Christian Knight
City of Kirkland
- Paul Ferrier
HDR
- Brian Magee
HDR
- Dennis Sandstrom
Envirolssues
- Betsy Kinsey
Envirolssues

Committee Members

- | | |
|--|---|
| <ul style="list-style-type: none"> • Andrea Clinkscales
Cascade Bicycle Club • TBD
Feet First • Jon Pascal
Finn Hill Neighborhood Alliance • Faith DeBolt
Finn Hill resident • Tiffany Martin
Juanita Neighborhood Association • Ed Colio
Juanita resident | <ul style="list-style-type: none"> • Donna Gaw
Community Connectivity Consortium • Marianna Hanefeld
Arts Commission • Scott Emry
Lake Washington School District • Doug McFadyen
Large commercial access • Matt Hutchison
Small commercial access • George Needham
Small commercial access |
|--|---|

Time	Topic	Presenter
5:00 p.m.	Welcome and introductions	Dennis Sandstrom
5:10 p.m.	What we've heard: <ul style="list-style-type: none"> • Design charrette • July 2016 Open House 	Dennis Sandstrom Paul Ferrier
5:40 p.m.	Selection criteria for best-value alternative <ul style="list-style-type: none"> • Overview • What we heard • Input 	Paul Ferrier
6:05 p.m.	Corridor constraints and fatal flaw process <ul style="list-style-type: none"> • Overview • Discussion 	Paul Ferrier Frank Reinart
6:20 p.m.	BREAK	
6:30 p.m.	Alternatives development <ul style="list-style-type: none"> • Access management • Art • Access and multimodal interaction 	Paul Ferrier
7:15 p.m.	Outreach update	Dennis Sandstrom
7:25 p.m.	Next steps and action items <ul style="list-style-type: none"> • Selecting next meeting dates/times • Review action items 	Dennis Sandstrom
7:30 p.m.	Adjourn	

Advisory Group Meeting 2

August 9, 2016

5 – 7:30 p.m.



What we've heard...

Dennis Sandstrom & Paul Ferrier



Design Charrette

- June 23
- Kirkland Street Maintenance Building



Online Open House

- July 13 – August 5
- Gather public input and feedback
- Share information

ONLINE OPEN HOUSE: July 13 – August 5th, 2016 Select Language 

100TH AVE NE Corridor Design

Welcome Project Purpose Design Process 100th Ave Today Future Travel Stormwater Urban Design **Your 100th** Next Steps Thank You

Your 100th

HOW DO YOU GET AROUND IN THE FUTURE?

Imagine your dream vision for the future 100th Avenue Northeast corridor. Please share how you would use the future corridor by answering the questions below. When you are done, please hit the submit button.

1. How would you like to get around 100th Avenue? Select all that apply:

I would bike more I would bike less No change
 I would walk more I would walk less
 I would drive more I would drive less

2. Imagine in your dream corridor, on an average weekday, you take 5 trips in or through the corridor. Of those 5 trips in a day, how many are for:

<input type="text"/>	Commuting to work
<input type="text"/>	Running errands
<input type="text"/>	Having fun



100TH AVE NE Corridor Design

Online Open House

- July 13 – August 5
- Gather public input
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ONLINE OPEN HOUSE: July 13 – August 5th, 2016

Select Language 

100TH AVE NE Corridor Design

Welcome Project Purpose **Design Process** 100th Ave Today Future Travel Stormwater Urban Design Your 100th Next Steps Thank You

Design Process

Next 

HOW ARE WE IMPROVING 100TH AVENUE NORTHEAST?

The City of Kirkland is leading a team of engineers, designers, and planners who will work with the community to improve the corridor.

This open house is part of the first step in the design development process: data collection and research. With your help, the design team is gathering information about the existing corridor and identifying potential design solutions that help set a vision for the future corridor.

YOUR ROLE IN THE DESIGN PROCESS

We'll be in touch throughout the design process to keep you informed and seek your input. Design work will continue through June 2017.



100th Avenue Advisory Group design charrette

DESIGN AND OUTREACH TIMELINE



[Click to enlarge design and outreach timeline](#)

KEY DEFINITIONS

- **Alternative:** a vision for the corridor comprised of a variety of design options that respond to the challenges in the corridor.
- **Best-value alternative:** the alternative that best meets the design team's criteria, also known as the "preferred alternative."
- **30% design:** a preliminary design of the best-value alternative used to set the footprint of the project and start the environmental documentation process.
- **50% design:** a further developed version of the best-value alternative.



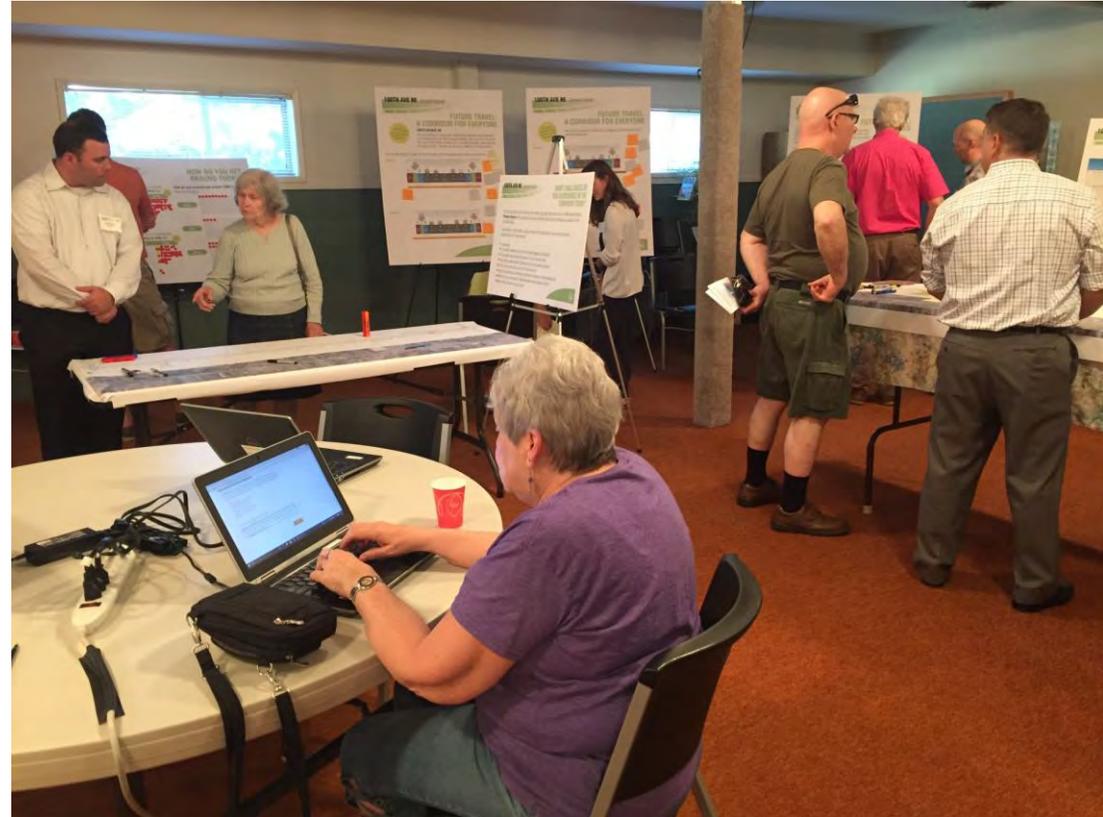
Online Open House participation

- Unique users: 702
- Avg. session duration: 6:47 (not a typo!)
- Survey totals:
 - 100th Ave today – 196
 - Future travel – 172
 - Stormwater – 171
 - Urban design – 155
 - Your 100th – 156
 - Next steps – 129
 - Comment – 81



In-person Open House

- July 28
- Juanita Community Church
- 42 attendees
- **Purpose:** share information & gather public input
- **Format:** Information display boards, interactive boards and maps, online open house access



Notifications

- Postcard
- Email announcements
- Social media posts
- Webpage update
- Press release
- Posters
- Espresso stand
- Juanita Friday Farmers Market



Lessons Learned

- Location
- Social media connections
- Time of in-person open house



What we heard...

- Sidewalks
 - Significant support for inclusion on north end of project
 - Buffered from roadway lanes
- Planters
 - 46% respondents preferred 4 ft width
 - 47% respondents preferred 6 ft width

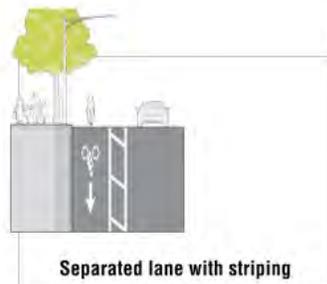
Design Component	Stakeholder Input
Sidewalk Width	6 – 8 ft
Planter Zone Width	4 – 6 ft



What we heard...

- Bike Lanes
 - Strong support for bike buffers
 - 73% respondents chose on-street bike lanes over sidewalk-level lanes
 - Three main configurations
 - On-Street with Buffer
 - On-Street without Buffer
 - Sidewalk-Level

Design Component	Stakeholder Input
Bike Lane Configuration	On-Street with Buffer
Bike Lane Width	5 ft
Bike Lane Buffer	Minimum 2 ft Width



What we heard...

- Preliminary Input from Charrette and Open Houses

Design Component	Potential Design Parameter / Approach Based on Provided Input
Sidewalk Width	6 – 8 ft
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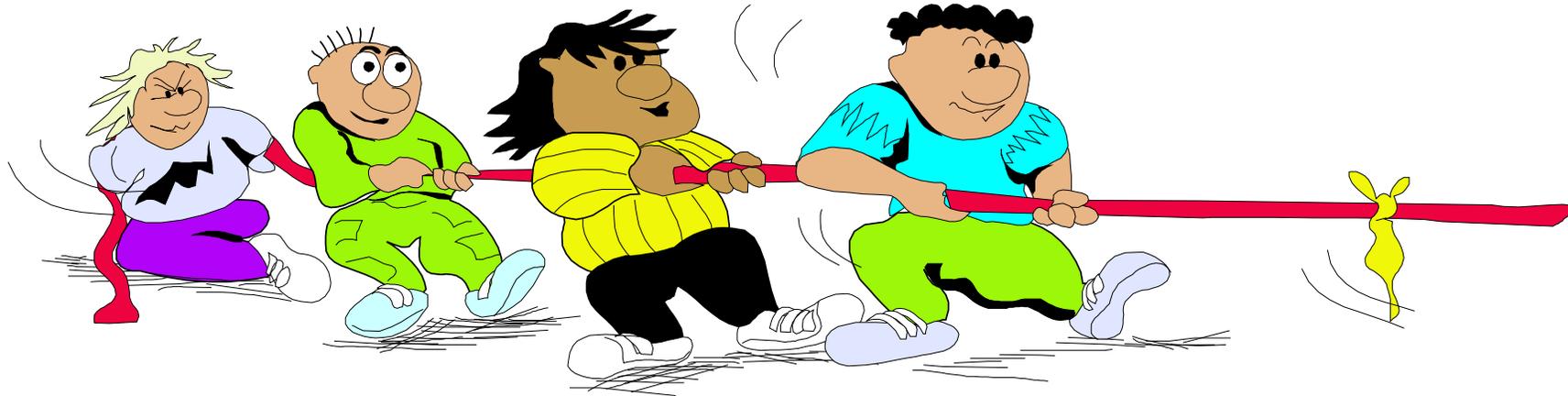
Selection criteria for best-value alternative

Paul Ferrier



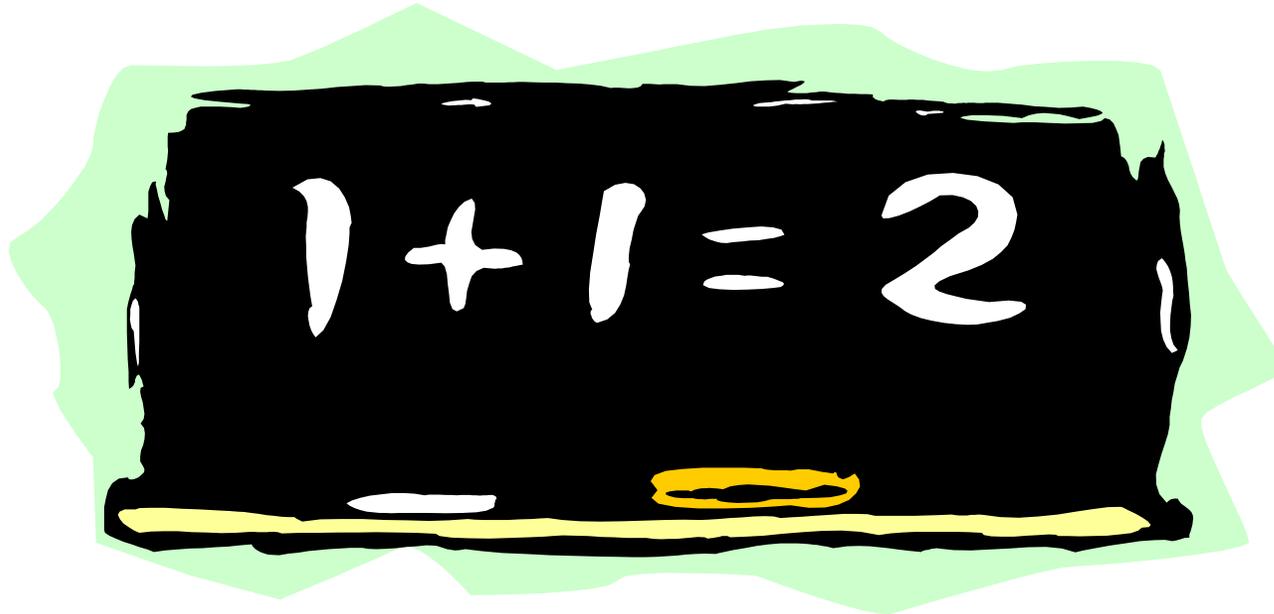
Alternative Analysis

- Projects often have competing needs and stakeholders often have competing expectations



Alternative Analysis

- This process uses a mathematical approach to quantify the performance for each of the attributes (purpose and need)



Alternative Analysis

- By dividing the overall performance by the cost you get the value of each alternative
- Attributes will be established to evaluate performance

$$\text{Value} = \frac{\text{Performance} \uparrow}{\text{Cost} \downarrow}$$

Example Performance Attributes for a Project

Mainline Operations (Safety & Mobility)	Maintainability	Environmental Impacts
Local Operations (Safety & Mobility)	Construction Impacts	Project Schedule

- Why Assign These Attributes?
 - Performance attributes provide a way to consider the relationship between cost and performance as it relates to value
 - These attributes are applied during an alternative analysis to identify, evaluate, and document design alternatives
 - Performance attributes are defined based upon input from stakeholders and project team prior to being finalized by the City



5-Step Process

1. Identify key project (scope and delivery) performance attributes and requirements for the project.
2. Establish the hierarchy and impact of these attributes on the project.
3. Establish the baseline of the current project performance by evaluating and rating the effectiveness of the current design concepts.

Mainline Operations (Safety & Mobility)	Maintainability	Environmental Impacts
Local Operations (Safety & Mobility)	Construction Impacts	Project Schedule



5-Step Process

4. Identify the change in performance of alternative project concepts generated by the study.
5. Measure the aggregate effect of alternative concepts relative to the baseline project's performance as a measure of overall value improvement

Mainline Operations (Safety & Mobility)	Maintainability	Environmental Impacts
Local Operations (Safety & Mobility)	Construction Impacts	Project Schedule



Define a Baseline

PERFORMANCE ATTRIBUTE DEFINITIONS			
<i>TH 14/TH 56 Interchange</i>			
<i>Standard Performance Attribute</i>	<i>Description of Attribute</i>	<i>Baseline Design</i>	<i>Baseline Rating</i>
Mainline Operations	An assessment of traffic operations and safety on TH-14. Operational considerations include level of service relative to the 20 year traffic projections as well as geometric considerations such as design speed, sight distance, lane and shoulder widths.	Posted Speed 65 MPH Design Speed 70 MPH 84' center to center median	5
Local Operations	An assessment of traffic operations and safety on the local roadway infrastructure. Operational considerations include level of service relative to the 20 year traffic projections; geometric considerations such as design speed, sight distance, lane widths; bicycle and pedestrian operations and access. Including shared use path	Posted Speed 55 MPH Design Speed 60 MPH (Gravel = 40 MPH) Construct frontage roads as needed for property access	5
Maintainability	An assessment of the long-term maintainability of the transportation facility(s). Maintenance considerations include the overall durability, longevity and maintainability of pavements, structures and systems; ease of maintenance; accessibility and safety considerations for maintenance personnel.	9" PCC 4" OGAB 5" Class V aggregate base 4" bituminous shoulders Precast concrete girders for bridges	5



Paired Comparison to Weight Attributes

- Not all of the attributes are equal

PERFORMANCE ATTRIBUTE MATRIX									
TH 14/TH 56 Interchange Alternatives									
<i>Which attribute is more important to the projects purpose and need?</i>									
								TOTAL	%
Mainline Operations	A	A	A	A	A	A	A	7.0	25%
Local Operations	B	B	B	E	B	B		5.0	18%
Maintainability	C	C	E	C	C			4.0	14%
Construction Impacts	D	E	D	D				3.0	11%
Environmental Impacts	E	E	E					6.0	21%
Project Schedule	F	G						1.0	4%
Risks	G							2.0	7%
								28.0	100%



Value Matrix

VALUE MATRIX														
TH14/TH 56 - Interchange Location Alternatives														
Attribute	Attribute Weight	Concept	Performance Rating										Total Performance	
			1	2	3	4	5	6	7	8	9	10		
Mainline Operations	25	Baseline					5						125	
		1					5						125	
		2					5						125	
		3					5						125	
		4					5						125	
Local Operations	18	Baseline					5						90	
		1							7				126	
		2									8			144
		3									7			126
		4										9		162
Maintainability	14	Baseline					5						70	
		1									8		112	
		2										8		112
		3										8		112
		4										7		98
Construction Impacts	11	Baseline					5						55	
		1									7		77	
		2										7		77
		3										7		77
		4										6		66
Environmental Impacts	21	Baseline					5						105	
		1									7		147	
		2										7		147
		3										7		147
		4										7		147
Project Schedule	4	Baseline					5						20	
		1									6		24	
		2										6		24
		3										6		24
		4										6		24
Risks	7	Baseline					5						28	
		1					5						28	
		2			3									21
		3			3									21
		4				4								28



Value Improvement

- By using one of the alternatives as a baseline, a comparison can be made to find the highest value. The highest value may not always be the cheapest.

Total Performance Score

Performance Cost

Quantified Results

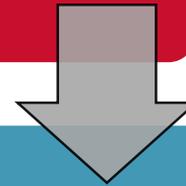
OVERALL PERFORMANCE		Performance (P)	% Change Performance	Cost (C)	% Change Cost	Value Index (P/C)	% Value Improvement
	Baseline	500	 	\$158.6	 	3.15	
1	Three-Legged Diamond I/C	646	29%	\$155.8	2%	4.15	32%
2	Partial Diverging Diamond I/C	650	30%	\$155.8	2%	4.17	32%
3	Diamond I/C with Roundabouts	632	26%	\$158.0	0%	4.00	27%
4	Modified Diamond I/C	650	30%	\$157.7	1%	4.12	31%



Alternative Development

- Top tier alternatives will be supported by additional options to include more options in the evaluation process

Primary Alternatives



Secondary Alternatives



Alternative Development

Primary Alternatives

Two primary alternatives may be developed to represent a corridor-wide depiction of design elements which are supported by community input while also presenting project footprints that are on the minimum and maximum ends of the spectrum.

Alternative Name	Alternative Subtitle	Description
A	Full-Build	Fully utilizes 100' ROW from NE 132nd St to NE 145th St. Represents a maximum build option which will likely be augmented by Secondary Alternatives to address ROW limitations.
B	Minimal Section	Minimizes footprint of 100th Ave NE and typically limits roadway widening to the addition of a 5' unbuffered bike lane and a 4' planter zone.



Alternative Development

Secondary Alternatives

A series of secondary alternatives may be provided to evaluate specific options for corridor elements or unique locations along the corridor. Secondary alternatives are intended to be supplemental to the primary alternatives and may be evaluated with respect to both Alternative A and Alternative B.

Alternative Name	Alternative Subtitle	Description
1	Juanita-Woodinville Way Intersection	<p><u>Purpose:</u> Review alternate configurations for the intersection.</p> <p>A1/B1 - As depicted in Primary Alts. (Realigned intersection) A1.1/B1.1 - Similar to Base. Closes west leg of intersection. A1.2/B1.2 - Retain free rights and traffic islands.</p>
2	Non-Motorized Section	<p><u>Purpose:</u> Review additional configurations for bike lanes, planter zones, and sidewalks.</p> <p>A2/B2 - As depicted in Primary Alts. A2.1 - Raised Bike Lane Curb, B2.1 – N/A A2.2/B2.2 - Sidewalk-Level Bike Lane A2.3 - Reallocate bike buffer to 5' bike lane and planter, B2.3 – N/A</p>



Alternative Development

Secondary Alternatives

A series of secondary alternatives may be provided to evaluate specific options for corridor elements or unique locations along the corridor. Secondary alternatives are intended to be supplemental to the primary alternatives and may be evaluated with respect to both Alternative A and Alternative B.

Alternative Name	Alternative Subtitle	Description
3	Access Management	<p><u>Purpose:</u> Review options for managing access to improve corridor safety and operations.</p> <p>A3/B3 - As depicted in Primary Alts. A3.1/B3.1 - Reducing conflict points by merging driveways A3.2/B3.2 - Include barriers in some locations to manage left turn movements</p>
4	New Vehicle / Pedestrian Signal	<p><u>Purpose:</u> Review options for the inclusion of a new signal between NE 137th and Simonds Rd.</p> <p>Development of options is pending further investigation.</p>



Alternative Development

Secondary Alternatives

A series of secondary alternatives may be provided to evaluate specific options for corridor elements or unique locations along the corridor. Secondary alternatives are intended to be supplemental to the primary alternatives and may be evaluated with respect to both Alternative A and Alternative B.

Alternative Name	Alternative Subtitle	Description
5	Limited ROW – 80ft Width	<p><u>Purpose:</u> Present a roadway section option in the case that only 80' of ROW width is available. (Ex: Buttera Motors)</p> <p>A5/B5 - Not depicted in Primary Alts A5.1/B5.1 - Reduce section to 78' width with 6' sidewalks, no planters, no bike buffers, and 11' roadway lanes.</p>
6	Limited ROW – 60ft Width	<p><u>Purpose:</u> Present a roadway section option in the case that only 60' of ROW width is available. (Ex: King County Parcel) A6/B6 - Not depicted in Primary Alts</p> <p>A6.1/B6.1 - Reduce section to 59' width with 6' sidewalks, no planters, and a 4-lane section with two 11' inside lanes and two 12' outside roadway/shared bike lanes.</p>



Alternative Development

Secondary Alternatives

A series of secondary alternatives may be provided to evaluate specific options for corridor elements or unique locations along the corridor. Secondary alternatives are intended to be supplemental to the primary alternatives and may be evaluated with respect to both Alternative A and Alternative B.

Alternative Name	Alternative Subtitle	Description
7	Property Interface - Juanita Collision	<p><u>Purpose:</u> Illustrate the design changes needed to avoid impacts to the building's overhang which resides in the ROW.</p> <p>A7/B7 - Not depicted in Primary Alts A7.1/B7.1 - TBD A7.2/B7.2 - TBD</p>
8	Property Interface - Forget Me Not Consignments	<p><u>Purpose:</u> Illustrate the design changes needed to retain property access and some on-site parking.</p> <p>A8/B8 - Not depicted in Primary Alts A8.1/B8.1 - TBD A8.2/B8.2 - TBD</p>



Alternative Development

Secondary Alternatives

A series of secondary alternatives may be provided to evaluate specific options for corridor elements or unique locations along the corridor. Secondary alternatives are intended to be supplemental to the primary alternatives and may be evaluated with respect to both Alternative A and Alternative B.

Alternative Name	Alternative Subtitle	Description
9	Cedar Creek Culvert	<u>Purpose:</u> Present the potential options for addressing the existing culvert. A9/B9 - Retain existing culvert. A9.1/B9.1 - TBD A9.2/B9.2 - TBD
10	Stormwater Management	<u>Purpose:</u> Present options for stormwater management facilities A10/B10 - Fit facilities within existing footprints A10.1/B10.1 - TBD A10.2/B10.2 - TBD



Corridor constraints and fatal flaw process

Paul Ferrier & Frank Reinart



Fatal Flaw Criteria will address at a minimum:

- **Roadway Function (Safety & Mobility)**
- **Multimodal Function (Safety & Mobility)**
- **Right of Way Impacts**
- **Environmental Impacts**



Alternatives development

Paul Ferrier



Outreach update

Dennis Sandstrom



Project Timeline

