



CITY OF KIRKLAND

Department of Public Works

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MEMORANDUM

To: Kurt Triplett, City Manager

From: David Godfrey, P.E., Transportation Engineering Manager
Pam Bissonnette, Interim Public Works Director

Date: May 8, 2014

Subject: Cross Kirkland Corridor Master Plan Update

RECOMMENDATION:

It is recommended that the Council receives its final update on the Cross Kirkland Corridor (CKC) Master Plan. The purpose of this update is for Council to review a near final Master Plan in preparation for adoption of the Plan on June 17. Ideally, all changes or issues of concern to Council will be discussed at this study session.

BACKGROUND DISCUSSION:

General Background

Council last received a CKC briefing during a regular session on April 15. Information was presented on a number of issues including how plan elements fit together, treatments for access from single family residences, economic development and priorities for implementation. Council's comments on these and other items are summarized in the following sections and were incorporated into the latest draft of the plan.

Because of its size, the latest version of the Master Plan is posted on line with a viewing program at www.kirklandwa.gov/CKCmasterplan.

This memo is structured in parallel with the draft plan; for each section of the plan, both items that are new and comments and questions for Council are identified.

Chapter 1 Introduction

What's new

Section 1: Layout for forward is completed. It will feature Council and City Manager quotes supporting a central piece of text.

Section 2: Text is revised to better describe public process.

Comments/Questions

- If this approach is acceptable to Council, Staff will be contacting Councilmembers and the City Manager to get quotes to include in the Forward.

Chapter 2 Overall Corridor Considerations

What's new

Section 1: Paragraph added to explain that zone names are "handles" for the purposes of the plan and not meant to necessarily be used beyond the plan.

Section 2: At their meeting on April 15, Council directed staff to revise the section on single family residences. The current language allows single family access points but calls for them to be permitted. It also indicates that facilities for motorized vehicles crossing the CKC should be allowed only after careful vetting and sets the stage for Council to implement a permitting process for crossings with final approval by the Council.

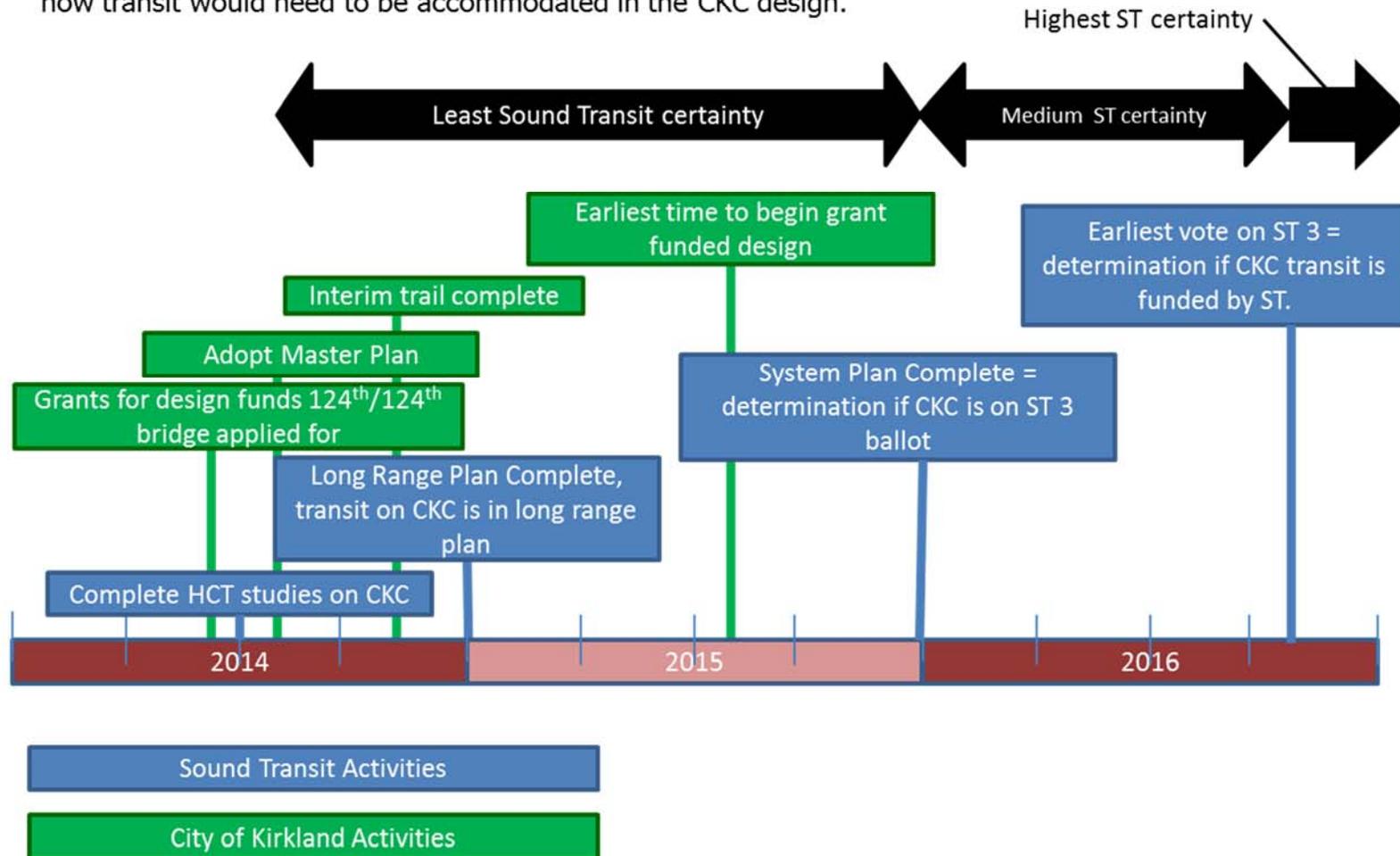
Section 3: New text on the Role of the Master Plan. Council has received information on this topic previously it is now written in the Plan. One element of this section will address how the material in the Master Plan will be valuable regardless of how Sound Transit proceeds with regard to transit on the corridor.

Section 4: New section on connections to the region shows the CKC within the context of the region.

Section 5: New section on transit. One of the outcomes of the April 15 Council meeting was a desire on the part of Council to more clearly emphasize the work that has been done to plan for transit and to more prominently display the fact that the vision for the corridor includes Transit. Previously, the plan covered transit in Chapter 7. This discussion has been moved forward to Chapter 2. This switch raises transit's prominence and better reflects the connection of transit to the overall corridor. Also some of the material previously in the appendix, showing how a potential transit envelope, a trail system and existing utilities can coexist will be moved to Chapter 2. Chart 1 on the next page illustrates potential timing of CKC design and Sound Transit planning decisions. That chart is included here to better explain the process, it will not be in the Plan.

Chart 1. Relationship of Sound Transit Planning and CKC design.

As the Sound Transit process proceeds, there is more certainty about how transit would need to be accommodated in the CKC design.



The following text was added on page 25:

Throughout the development of this master plan, transit options, their potential footprints on the corridor and their possible interactions with existing utilities were considered. Sound Transit and the City of Kirkland collaborated on this planning for typical transit modes such as light rail. Sound Transit is in the midst of a study of possible transit on the CKC which is intended to inform the contents of a possible Sound Transit ballot measure to expand their system scheduled no sooner than 2016. The City of Kirkland also has explored advanced transit technologies, as highlighted by a symposium on the subject held in February of 2014.

Even as transit is considered, it is recognized that the City of Kirkland, the owner of the corridor and the leader of this masterplan effort, is not currently a transit operator. Therefore, elements of the transit design on the corridor may ultimately rest in the hands of others. While the City may not singlehandedly determine mode or timetable of possible future transit, it can determine an optimal location for transit in combination with a trail system. Based on the Transit and Utility Study a general alignment of a transit envelope has been identified on the eastern edge of the corridor. This study, including possible considerations with existing and future utilities is included in "transit and infrastructure" in the appendix.

As design of the corridor takes place, the status of transit will be carefully monitored, especially during the near term (2014-2016) when the City is beginning to seek funding for design and the content of Sound Transit's next transit package is being established. If and when the corridor is determined to be an appropriate home for transit, whether along the whole of its length, or on select stretches, the city is committed to welcoming it.

Comments/Questions

- Is there an interest on the part of Council in renaming the Buzz zone? If so, staff can develop several alternatives for consideration.
- Is transit adequately addressed with the proposed changes?

Chapter 3 Prototypical Corridor Elements

What's new

Section 1. Minor edits to text and cross-section titles. Typical trail width of 12' inside a 16' trail envelope drawn more clearly.

Section 5. Minor edits to text

Comments/Questions

None.

Chapter 4 Corridor Experience + Ecology

What's new

Sections 1 -6 and 8

Although concepts and graphics have been presented previously in these areas of the plan, the accompanying text has not been available. That text has been drafted in the areas of *Purpose, Events, Eddies, Art, Friction, Activities, History* and *Planting*. Composition of the History element benefited from a session between the consultant team, a Kirkland resident with an interest in, and a collection of, Northern Pacific Railroad history (the CKC was previously a Northern Pacific rail line), a Seattle based railroad historian and Loita Hawkinson of the Kirkland Heritage Society.

Section 7

This section has been amplified to include a fuller discussion of stormwater and strategies for developing trails appropriately in areas of streams and stream buffers. In particular, the Highlands Pass area is mentioned. This is a location where developing a side path away from the shared use path may be the most appropriate treatment given surface water concerns.

Comments/Questions

- Since there is a significant amount of new text, Council may have questions or concerns.

Chapter 5 Corridor Layout

What's new

Text has been added to introduce the layouts. Numerous call outs have been added to the graphics and enhancements have been made to the sheet legends.

Comments/Questions

- There may be locations with callouts that need explanation or locations where Council would like to see callouts added.
- Is the structure of this section clear?

Chapter 6 Character Zone Scrapbook

What's new

Sections 1-9 Council is familiar with the concept of the scrapbook and its role for inspiration and guidance in design of improvements, additional text has been added to many of the Character Zone descriptions and numerous callouts have been added.

As an additional emphasis of the place of transit in the Plan, a 40' space on the east side of the corridor is now delineated on the drawings (see Figure 1 below). This is not to indicate that any transit that comes to the corridor would necessarily go in or be limited to this particular space but rather to emphasize that transit can be accommodated in the future. Forty feet was selected because it is adequate to support the highest impact transit modes.

Comments/Questions

- Is transit adequately addressed with the proposed changes?
- Are there any areas that need additional explanation

Figure 1. Buzz Zone Scrapbook illustration showing potential future transit area (orange dashed lines)



Chapter 7 Realizing the Vision

What's new

Section 1 A discussion of the implementation priorities identified by Council on April 15 is in this section and the ability to fund corridor improvements with Impact Fees will also be discussed.

Sections 2 -4 Planning level cost estimates have been prepared for the corridor. Two levels of improvements were estimated: 1) Development with the full vision of the trail system, and 2) A basic single paved trail. Costs for the basic trail are derived by removing items from the full vision estimate. Because the Master Plan does not include any transit improvements, costs for transit are not included in the estimates. Initial cost estimates are shown in Figure 2. The cost of selected single items with a high cost, bridges for example, are included in the section costs, but noted with asterisks and shown separately below the zone costs. The costs shown in Figure 2 are rounded from more detailed estimates. An example of a detailed cost sheet is shown in Figure 3. These sheets will be in an Appendix (see below). Costs are currently being reviewed and revised upward to better capture the costs of potential surface water mitigation, permitting and other issues. Estimated costs for Maintenance and Operations are also being explored with staff from Public Works and Parks. More complete information will be available at the May 20 Council Study Session.

Figure 2. Initial cost estimates for various sections of the CKC; full vision and a single basic paved trail.

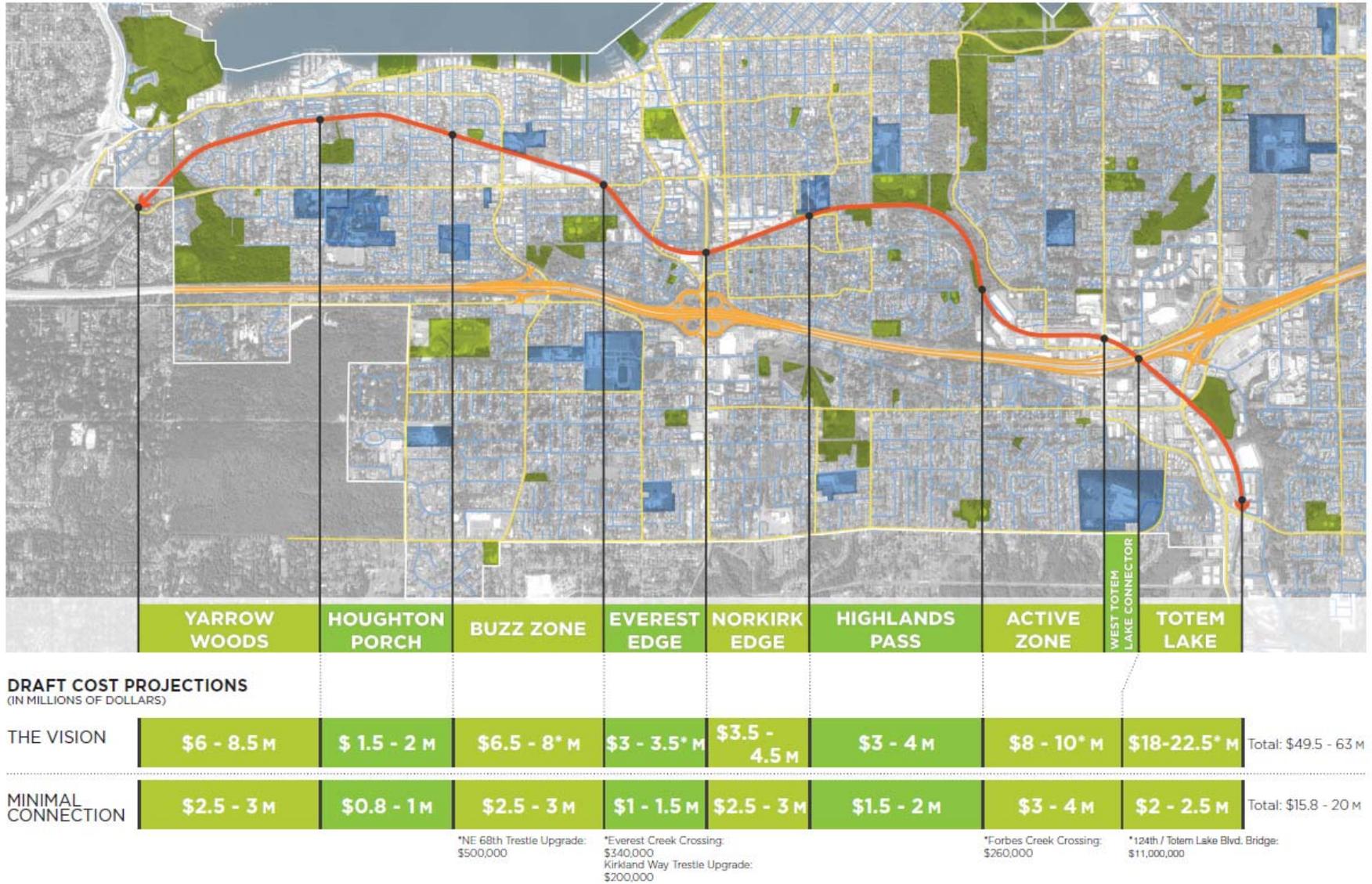


Figure 3. Sample detailed cost estimate, Houghton Porch

Houghton Porch						
Site Preparation						
Clearing and Grubbing	122,160	SF	1.00	\$122,160.00		\$122,160.00
Rough Grading (Typical Profile)	1,700	CY	23.00	\$39,100.00		\$39,100.00
Rough Grading (at Retaining Walls)	350	CY	30.00	\$10,500.00		\$5,250.00
Retaining Walls	1,148	FF	80.00	\$91,840.00		\$45,920.00
Site Civil Infrastructure (Not Included in Cost)						
Water	1	Allow.	20,000.00	\$20,000.00		-
Sewer	0	Allow.	15,000.00	\$0.00		-
Electrical	0	Allow.	10,000.00	\$0.00		-
Site Improvements						
Trail						
Primary Trail - 12' wide asphalt	3,054	LF	60.00	\$183,240.00		\$183,240.00
Increased Width Primary Trail - 16' wide asphalt	0	LF	75.00	\$0.00		-
Secondary Trail - 8' wide crushed rock	3,062	LF	20.00	\$61,240.00		-
Safety railing	1,320	LF	20.00	\$26,400.00		\$26,400.00
Guardrail	350	LF	50.00	\$17,500.00		\$8,750.00
Art	1	Allow.	5.0%	\$47,444.00		-
Events / Eddies						
Micro Shelters	4	Ea.	55,000.00	\$220,000.00		-
Prototypical Mixing Zones	0	EA	33,400.00	\$0.00		-
Prototypical Seating Eddies	4	EA	12,500.00	\$50,000.00		-
Landscape (Baseline)						
Restoration Planting	213,780	SF	0.50	\$106,890.00		\$106,890.00
				Houghton Porch Subtotal	\$996,314.00	\$537,710.00
Construction Soft Costs						
				Escalation (undetermined %)	\$0.00	\$0.00
				Subtotal	\$996,314.00	\$537,710.00
				Design Contingency (20%)	\$199,262.80	\$107,542.00
				Subtotal	\$1,195,576.80	\$645,252.00
				General Conditions (5%)	\$49,815.70	\$26,885.50
				Subtotal	\$1,245,392.50	\$672,137.50
				Contractor Overhead (5%)	\$49,815.70	\$26,885.50
				Subtotal	\$1,295,208.20	\$699,023.00
				Contractor Profit (6%)	\$59,778.84	\$32,262.60
				Subtotal	\$1,354,987.04	\$731,285.60
				Total Construction Contract Amount	\$1,354,987.04	\$731,285.60
Design & Administrative Soft Costs						
				Sales Tax (8.8%)	\$119,238.86	\$64,353.13
				Subtotal	\$1,474,225.90	\$795,638.73
				Permitting and Mitigation Fees	N.I.C.	N.I.C.
				Subtotal	\$1,474,225.90	\$795,638.73
				Estimated Design Fees (15% Total Construction Contract Amount)	\$203,248.06	\$109,692.84
				Subtotal	\$1,677,473.96	\$905,331.57
				Administrative Costs (10% Design Fees)	\$20,324.81	\$10,969.28
				Subtotal	\$1,697,798.76	\$916,300.86
				Houghton Porch Grand Total	\$1,697,798.76	\$916,300.86

In Chapter 7 of previous drafts, a section on Land Use has been included as a placeholder. This portion of the plan has been drafted and describes how development can be used to activate the edges of the corridor. More detail on this section will be presented at the Study Session on May 20.

As presented at the April 15 Council Meeting, a brief discussion of Economic Development is included in this chapter. A draft report that more fully describes the benefits of trail development to Economic Development is part of Additional Material described below.

Comments/Questions

- Since this material is all new, Council may have questions or comments on a number of issues.

Acknowledgements

An Acknowledgement page will be developed that lists those that have contributed to the plan's development.

Appendices

What's new

No new material is presented here. For the final version, information on costs will be presented along with the public outreach reports.

Comments/Questions

None

Additional Material

The City Manager's Office has recently prepared documents covering Economic Development (Attachment 1) and Advanced Transportation (Attachment 2). Although not part of the Plan or its Appendices, this material will be packaged with the Master Plan.

Other topics

Community Future Day April 26

Participants in the Build a Better Kirkland exercise were asked to simulate "spending" funds across choices in Parks, Transportation and the CKC. The amount of funds available for allocation was modeled on the funding currently allocated to Parks and Transportation. Similarly, the types of funds were also modeled on current funding and therefore in addition to dedicated sources for Parks and Transportation, general fund dollars were also distributed to participants.

Two choices of CKC funding were available - the full vision trail and the more basic trail. About 40% of the total funding was "spent" on the basic vision and about 60% on the full vision. More information on the results and implications of the April 26 exercise will be available at the May 20 study session.

SEPA

A SEPA review is being conducted on the action of Council adoption of the Master Plan. A SEPA checklist has been completed and it is anticipated that the review will result in a Determination of Non-Significance. An update on this process will be available at the May 20 Study Session.

Schedule

It's anticipated that all remaining questions and comments can be gathered at the May 20th Study Session. The current schedule calls for these comments and questions to be addressed in a final plan which will be brought to Council on June 17.

Economic Development and the Cross Kirkland Corridor

Overview

The mission of economic development in Kirkland is to create and support public and private initiatives that promote job creation, business retention and recruitment, and increase goods and services to residents and businesses.

A healthy economy is an integral part of Kirkland's high quality of life and an important community value. Kirkland's economy allows residents to access job opportunities as well as goods and services. It provides revenue sources that help to ensure needed public services. Economic development should not compromise residential neighborhoods or the natural environment.

Seven key goals help guide the way to the achievement of Kirkland's economic development mission. They are:

- 1) Foster a strong and diverse economy consistent with community values, goals and policies.
- 2) Promote a positive business climate.
- 3) Strengthen the unique role and economic success of Kirkland's commercial areas.
- 4) Develop and implement economic development strategies that reflect the role of Kirkland businesses in the regional economy.
- 5) Provide the infrastructure and public facilities to support economic activity and growth.
- 6) Foster collaborative partnerships among community interest groups to achieve Kirkland's desired economic goals.
- 7) Recognize Kirkland's artistic, cultural, historic and recreational resources as important contributors to economic vitality.

Purchase and Redevelopment of the Cross Kirkland Corridor

The most recent major initiative that has a significant economic development component is the purchase and redevelopment by the City of Kirkland of the abandoned Burlington Northern Santa Fe Corridor. Renamed the Eastside Rail Corridor, it is a 42-mile stretch of right-of-way, currently in multiple ownerships, with the Kirkland Segment of 5.75 miles owned by the City of Kirkland. The redevelopment of rail corridor for bike, pedestrian and transit use, for recreation and transportation is the plan, and the result will be transformative, particularly in regard to the redevelopment of the business districts in Kirkland and elsewhere that lie along it and the jobs that could be realized.

The segment of the corridor that passes through Kirkland once carried freight trains that served among other industries, aerospace. With locations in Renton and Everett, Boeing depended on suppliers along the BNSF line for manufacture and assembly of airplane parts. Vestiges of this can be seen in many warehouse and manufacturing spaces in Totem Lake that date from this era.

That the corridor could be redeveloped, particularly for transit, could be a defining factor in decisions by tech companies and others to locate in Kirkland as their workforces can benefit from home to work connections and recreational opportunities.



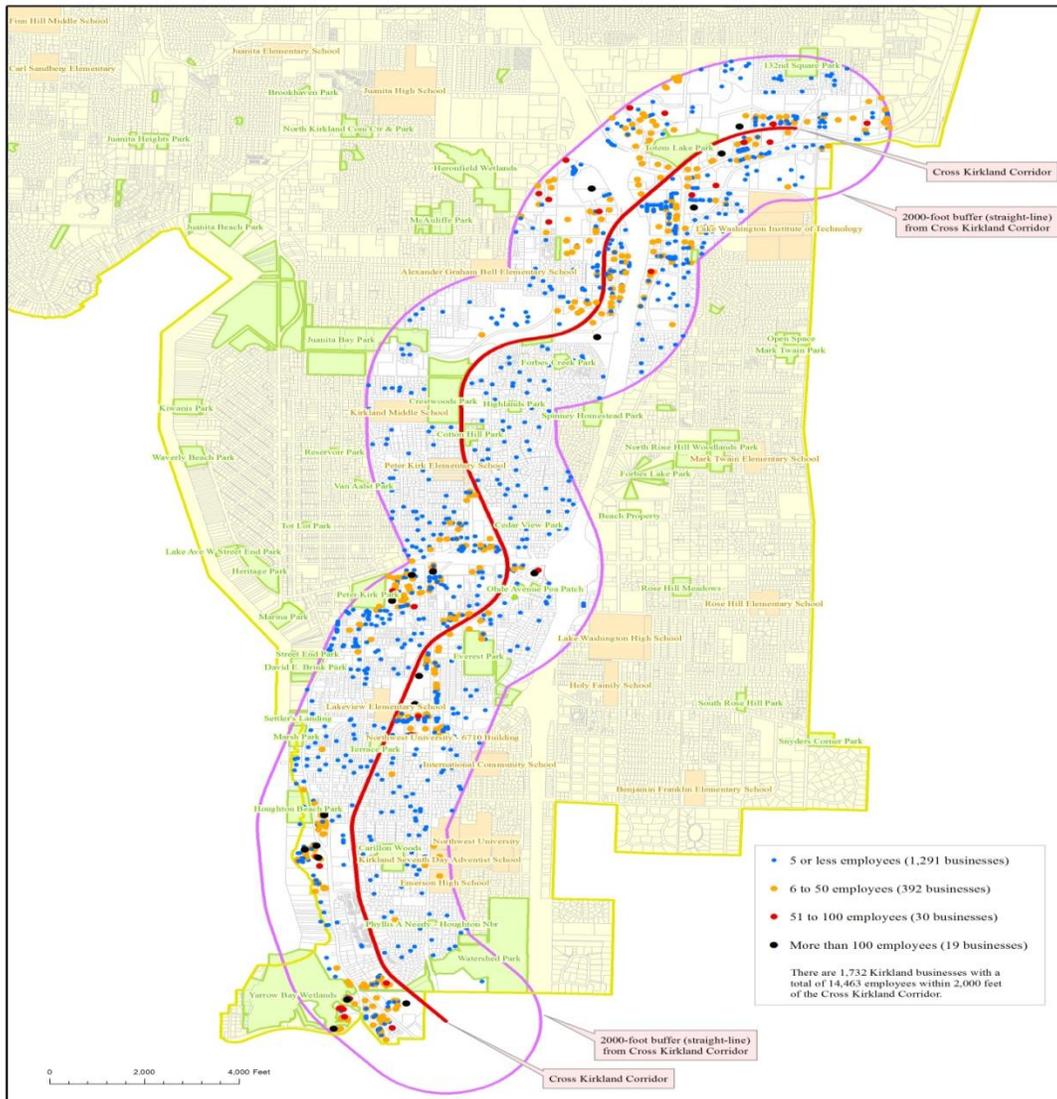
Eastside Tennis Center in Totem Lake, former warehouse that backs onto the Cross Kirkland Corridor



Macro Technologies in Totem Lake, located near the Cross Kirkland Corridor

At present, 1,173 businesses with a total of 10,904 employees are located within 2,000 feet of the centerline of the corridor. These include several of the largest businesses in Kirkland – Evergreen Health, Google, Nintendo, Astronics and Kenworth Truck (Paccar).

In the Parmac area of the Totem Lake Business District alone, the commercial zones that lie adjacent to the corridor are currently zoned to accommodate approximately 5.8 million square feet of redeveloped office space. Using a figure of four employees per 1,000 square feet of office space, this equates to an additional 23,200 employees, and could accommodate Kirkland’s entire share of the regional target for employment growth it must demonstrate that it can handle in the 2035 Comprehensive Plan.



Businesses within 2000' of Cross Kirkland Corridor

In the event that this is realized, \$1.7 million in additional annual business and property taxes could be collected and put back into redevelopment of the corridor.

Placemaking

The High Line in New York City is an elevated former subway line that has become one of Manhattan's must-explore city parks. It has a variety of attractions along its length, spurring reinvestment in bordering commercial districts.

The rezoned area has provided opportunities for new residential and commercial development, facilitated the reuse of the High Line as a unique park, created and maintained affordable housing, and enhanced the neighborhood's art gallery district.

Since the rezoning, a total of 1,374 new housing units—132 of which are affordable units—and just under 500,000 square feet of commercial office space were completed or put into construction from Gansevoort Street to 30th Street.

A total of 33 new housing, commercial, retail, non-profit and gallery projects are completed, in construction, or in the planning stage as a result of the new economic development opportunities provided by the High Line.



High Line, New York, NY

Decades of improvements have transformed the San Antonio River from a corridor of danger to a corridor of civic pride. The San Antonio Riverwalk has spurred hotel, restaurant and convention center development with water taxis running along the lively pedestrian promenade



San Antonio Riverwalk, San Antonio, TX

The Burke-Gilman – Sammamish Trail is a 27-mile multi-use recreational path built on an abandoned Seattle Lake Shore and Eastern Railway corridor. The City of Seattle manages the Burke-Gilman Trail, which connects directly to the Sammamish River Trail in Bothell. It continues through Redmond and Issaquah.



Burke-Gilman Trail, Seattle, WA

The 150-mile Great Allegheny Passage connects with the 184.5-mile C&O Canal Towpath at Cumberland, Maryland to create a 334.5-mile traffic and motorized vehicle-free route between Pittsburgh, PA and Washington, DC.

The Trail Town Program is an economic development initiative along The Great Allegheny Passage. It fosters a corridor of revitalized trailside communities that reap the economic benefits of trail-based tourism and recreation as part of a larger, coordinated approach to regional economic development. The long-term economic viability of participating communities is to be achieved through concentrated business development efforts that capitalize on the trail user market. The goals of the program are simple:

- Retain existing businesses.
- Expand and increase revenues of existing businesses.
- Recruit sustainable businesses.
- Adopt the Trail Town vision and integrate its concept of a visitor-friendly environment in community planning.



Great Allegheny Passage

Redevelopment Benefits



Impetus for Locational Decisions

3400 Stone in Seattle, WA -- Global Headquarters for Brooks Sports

Seattle's Burke-Gilman Trail served as a major drawing card in the location decision process for the new global headquarters building for Brooks Sports which opened in 2013. The company occupies approximately 80,000 square feet of the 120,000 square foot building, located across the street from the popular trail in the vibrant Fremont/Wallingford area. The manufacturer of running footwear and apparel has a mission of inspiring people to run and be active. Its first floor retail location adjacent to the Burke-Gilman Trail is meant to serve as a welcoming trailhead for runners, walkers and others who will gather at Brooks to meet friends and begin their workouts.

Enhanced Property Values

In 1987, nine years after the Burke-Gilman Trail was constructed, a study was conducted to determine what effect, if any, the Burke-Gilman Trail had on property values and crime affecting property near and adjacent to the trail.

The study found that the Burke-Gilman Trail is regarded by real estate companies as an amenity that helps to attract buyers and to sell property. Single-family homes, condominiums and apartments are regularly advertised as being near or on the Burke-Gilman Trail. Property near but not immediately adjacent to the trail was found to be significantly easier to sell, and according to realtors, sells for an average of six percent more as result of its proximity to the trail.

The existence of the trail has had little, if any, effect on crime and vandalism experienced by adjacent property owners. Police officers interviewed stated that there is not a greater incidence of burglaries and vandalism of homes along the trail.

Numerous other examples across the United States support the contention that greenways help to support the property values of the communities in which they are located. Examples include:

- Apex, NC: The Shepard's Vineyard housing development added \$5,000 to the price of 40 homes adjacent to the regional greenway---and those homes were still the first to sell.
- Front Royal, VA: A developer who donated a 50-foot-wide, seven-mile-long easement along a popular trail sold all 50 parcels bordering the trail in only four months.
- Salem, OR: Land adjacent to a greenbelt was found to be worth about \$1,200 an acre more than land only 1000 feet away.

- Oakland, CA: A three-mile greenbelt around Lake Merritt, near the city center, was found to add \$41 million to surrounding property values.
- Brown County, WI: Lots adjacent to the Mountain Bay Trail sold faster for an average of nine percent more than similar property not located next to the trail.
- Dayton, OH: Five percent of the selling price of homes near the Cox Arboretum and park was attributable to the proximity of that open space.
- In metro-Denver, 73% of real estate agents and 57% of homeowners living adjacent to a trail perceived the trailside location as an asset and priced the homes higher.

Business Growth, Retention and Increased Sales Taxes

Along with increased property values, the economic benefits associated with greenways include increased business growth and expansion, improved retention and collection of incremental sales tax revenues. Examples include:

- Glendale, CO: The city attributes \$40 million in economic benefit from the \$4 million investment that Arapahoe County, CO has provided through Open Space Program funding to support the development of Infinity Park.
- Leadville, CO: In the months following the opening of the Mineral Belt Trail, the city reported a 19 percent increase in sales tax revenues.
- The Outer Banks, NC: Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment.
- Damascus, VA: At the Virginia Creeper Trail, a 34-mile trail in southwestern Virginia, locals and non-locals spend approximately \$2.5 million annually related to their recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly in the Washington and Grayson County economies.
- Morgantown, WV: The 45-mile Mon River trail system is credited by the Convention and Visitors Bureau for revitalizing an entire district of the city, with a reported \$200 million in private investment as a direct result of the trail.
- Tallahassee, FL: The Florida Department of Environmental Protection Office of Greenways & Trails estimate an economic benefit of \$2.2 million annually from the 16-mile St. Marks Trail.
- San Antonio, TX: Riverwalk Park, created for \$425,000, has surpassed the Alamo as the most popular attraction for the city's \$3.5-billion tourism industry.
- Allegheny Passage, PA: The direct economic impact of the trail exceeded \$14 million a year, encouraging the development of several new businesses and a rise in property values in the first trailhead town.
- Dallas, TX: The 20-mile Mineral Wells to Weatherford Trail attracts 300,000 people annually and generates local revenues of \$2 million.

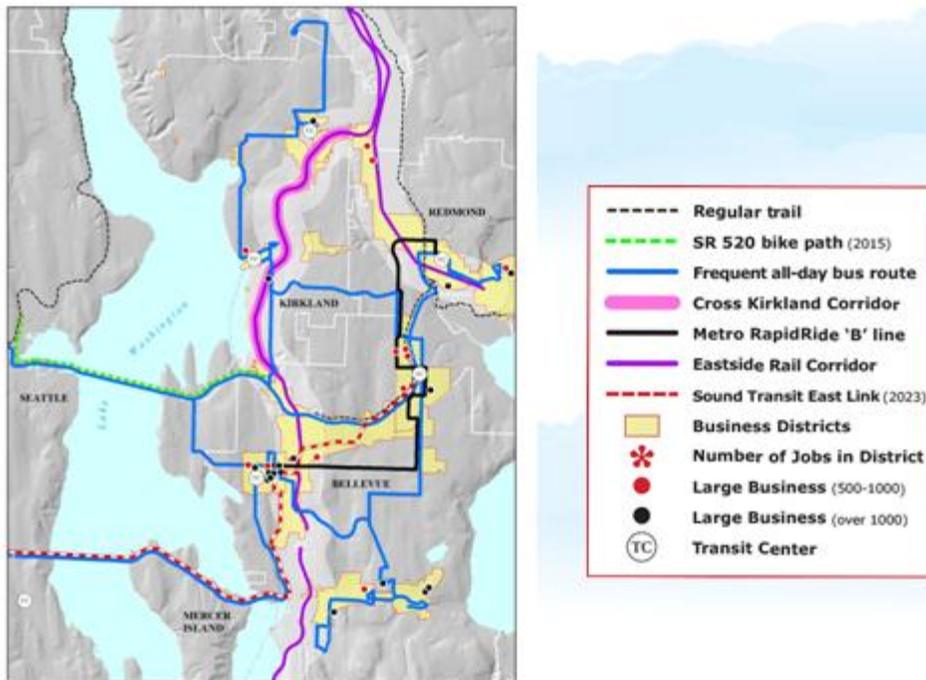
Lure to New Uses and Adaptive Reuse of Older Industrial Buildings

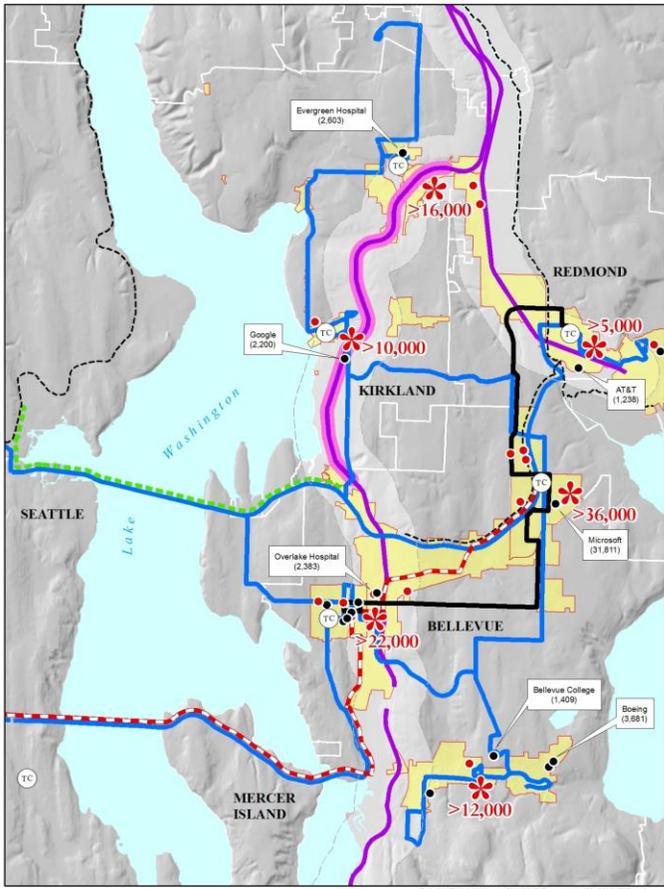
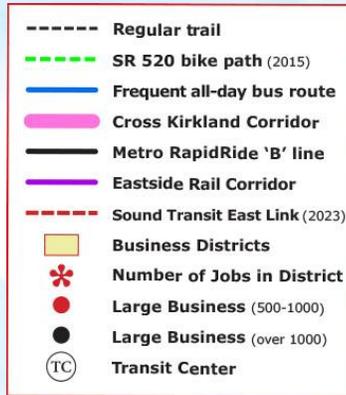
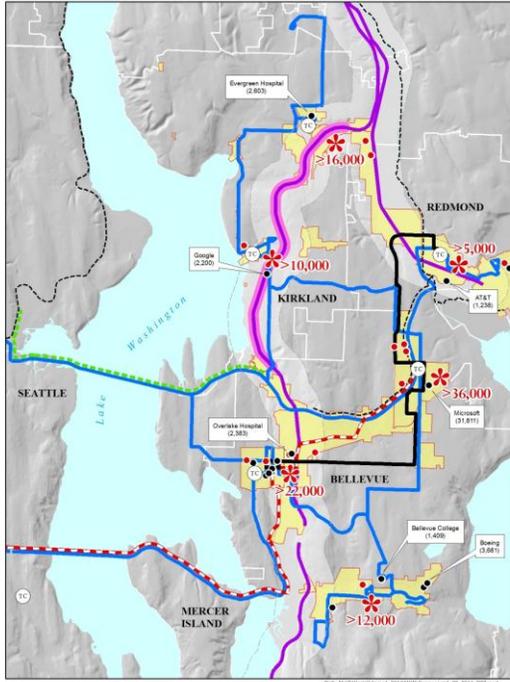
In Kirkland, interim zoning has been adopted for the parcels that border the corridor in Totem Lake to attract retail uses that have been associated with corridors nationally. In particular, restaurants, breweries, wineries and distilleries are now allowed in areas of Totem Lake that were formerly zoned for industrial use only, with the expectation that high tech office would eventually transform the district. The hope is that the retail uses will generate excitement, thereby spurring further redevelopment to high tech office. One brewery and three wineries have already located along the corridor and other breweries are looking for space.

Interconnected Eastside Transportation Network

Without connections to other locations however, especially in nearby Redmond, Bellevue and Woodinville – that either complete the journey from home to work to play, or link to hubs for light rail and bus rapid transit, thus picking up additional ridership, it is hard to maximize the current 5.75 miles as an economic development driver. Linkages to these transit hubs (Sound Transit2 light rail project at Bellevue Hospital District), I-90 bus rapid transit, as well as the regional trail systems, will need to be implemented.

The following three diagrams depict the potential for a fully integrated, interconnected, multi-modal transportation system on the Eastside:





BY 2031...

City of Kirkland Growth Targets:

- +8,570 households
- +20,850 jobs

King County Growth Targets:

- +233,000 households
- +428,000 jobs

Plans underway

Google

Phase II of the Google campus will contain approximately 180,000 square feet of office space and 720 parking stalls in two underground levels of parking. It is located directly adjacent to Google's current campus. The current campus and the Phase II campus are separated by the Cross Kirkland Corridor, which will be improved as part of Phase II providing the necessary vehicular, pedestrian and infrastructure improvements to connect the two phases. Construction is scheduled to be complete in 2015.



Google Campus Phase II

South Kirkland Transit Oriented Development

The South Kirkland Park and Ride – Transit Oriented Development project is currently under construction and due to be completed in the fall of 2014. It is a mixed-use project that will include 58 affordable apartments, 185 market rate apartments, commercial buildings, and parking for transit users, apartment dwellers and retail shoppers. It will serve as the southernmost access point to the Cross Kirkland Corridor.



SOUTH KIRKLAND TRANSIT ORIENTED DEVELOPMENT | Market Rate Housing

Totem Lake Park Master Plan

The Kirkland City Council has approved the Totem Lake Park Master Plan, which would turn the 17-acre parcel of land and lake into a park with a looping boardwalk, a restroom facility and a play area. Implementation of the plan will help to give the Totem Lake Business District a sense of place, and encourage redevelopment of the Totem Lake Malls immediately to the north.



Totem Lake Park Master Plan rendering of spiral overpass

Summary

Kirkland is committed to fostering economic development initiatives that lead to job creation, business retention and recruitment and the provision of goods and services to residents and businesses.

The purchase and redevelopment of the Cross Kirkland Corridor represents an important opportunity that can be embraced to support all of these economic development goals.

From the High Line in New York City, to the nearby Burke-Gilman Trail, there are numerous examples of greenways across the United States that have been successfully repurposed to become community assets that promote active transportation, recreation and economic vibrancy.

Development activity is already occurring within Kirkland along the corridor. Google is undergoing a major campus expansion on the western side of the corridor from its present campus. The South Kirkland Transit Oriented Development will serve as a southern gateway to the corridor, and provide connections between employers and their workforces. New businesses have been established near the corridor, and cited their proximity to it as an important element of their business model.

As the owner of the corridor, the City of Kirkland can continue to take the lead on championing its responsible development into a world class multi-modal transportation link and recreational asset that catalyses economic activity.

Exploration of 21st Century Transit Options for Kirkland

Background

Current regional transportation plans do not bring transit to Kirkland as quickly as the businesses and citizens of Kirkland have anticipated. And, even when regional transit does come to Kirkland, it will not connect to the ‘last mile’ or the dispersed development pattern that defines this Eastside suburb. Therefore, the City of Kirkland believes that it is necessary to think ‘outside the box’ and examine alternative advanced transportation technologies. These technologies are able to connect the first and last mile, thereby functioning as ‘feeders’ to traditional transit, and have the potential to be implemented ahead of traditional transportation at a lower cost.

Advanced transit and autonomous transportation technology are growing at an exponential rate and should be considered and included in long-range planning and strategy documents of planners and policy makers. In fact, nothing in RCW Chapter 81.112, Regional Transit Authorities, would prevent one or another advanced transit technology from being deployed by the regional transit authority, in this case Sound Transit. To the contrary, Section 81.104.100 states that “Nothing in this chapter shall restrict development, construction, or operation of a personal rapid transit system by a city or county.” Further, light, heavy, or rapid rail systems, monorail, inclined plane, funicular and trolley are all technologies enabled in Chapter 81.104.015 and deemed appropriate to study “to ensure an appropriate range of technologies and service policies can be evaluated” (81.104.100) in the process of planning regional transportation systems. Accordingly, the City of Kirkland examined some potential advanced transportation technologies at a February 8, 2014 [Advanced Transportation Symposium](#) that explored 21st Century Suburban Mobility Solutions for the Cross Kirkland Corridor.

The purpose of the symposium was to bring together government and private sector transportation interests to share their knowledge about advanced transit options that are being developed and implemented throughout the world. These applications currently deployed in cities, airports, and on college campuses could be adapted to connect the ‘first and last mile’, linking suburban business and residential districts to high capacity transit hubs.

The day’s presentations and discussions focused on the potential of deploying small-scale transit as an interim use on the Cross Kirkland Corridor (e.g. ahead of light rail service) or, possibly on the entire 42-mile Eastside Rail Corridor. [The event was filmed and available to view.](#)

Economic Benefits of Transit

The advantage of advanced transit is its ability to increase employee mobility with economic benefits to businesses. Approximately 70% of Kirkland residents work outside of Kirkland, the majority traveling to neighboring communities with their primary home to work routes often congested. Similarly, major businesses in Kirkland are reliant on a workforce that is spread over the Puget Sound Region. With cuts in bus service and congested roadways, commute times are lengthy, resulting in reduced family or personal time. Additionally, there are continued negative environmental consequences of primarily single occupancy vehicle travel modes.

For businesses that border the Cross Kirkland Corridor and the 42-mile Eastside Rail Corridor, the potential of deploying some form of transit on the Corridor can mean an appreciable lowering of costs for employee overhead, as many could opt for some form of advanced transit as their preferred transportation choice. Businesses also can brand themselves as “Green” given their ability to offer a sustainable mode of transportation as well as a recreational amenity to their employees. There are approximately 10,000 employees in Kirkland who work in businesses located a half-mile from the centerline of the corridor, and potentially 42,000 employees that could benefit from a transit service if the communities of Bellevue and Redmond also participate in the reuse of the corridor for transit.

Other benefits of transit have to do with the cost of development. In the Puget Sound Region, particularly the cities of Bellevue and Seattle, we are experiencing the rise of business districts that have as a primary asset the availability of transit. The South Lake Union District in Seattle is a current beneficiary, and the Spring District, a major mixed-use development, is planned alongside the Sound Transit 2 Light Rail link between Seattle, Bellevue and Redmond. In addition, downtown Bellevue is seeing extensive office and residential development and a low office vacancy rate of 4% due in part to its current bus accommodations and the promise of future light rail service.

In Kirkland, the reverse is true. Although proximity to I-405 does provide development opportunities, in recent years, development has been stymied given the cost of building structured parking in lieu of transit service. A case in point is the Parkplace mixed-use project (1.3 million square feet), whose failure to launch can in part be ascribed to the multi-layered structured parking that is part of the currently adopted master plan that needs to be built prior to the construction of various office and retail spaces. Similarly, businesses have moved given limited transit options, most recently Market Leader in the I-405 Office Park in Totem Lake.

Economic Development Potential with Cross Kirkland Corridor Transit Development

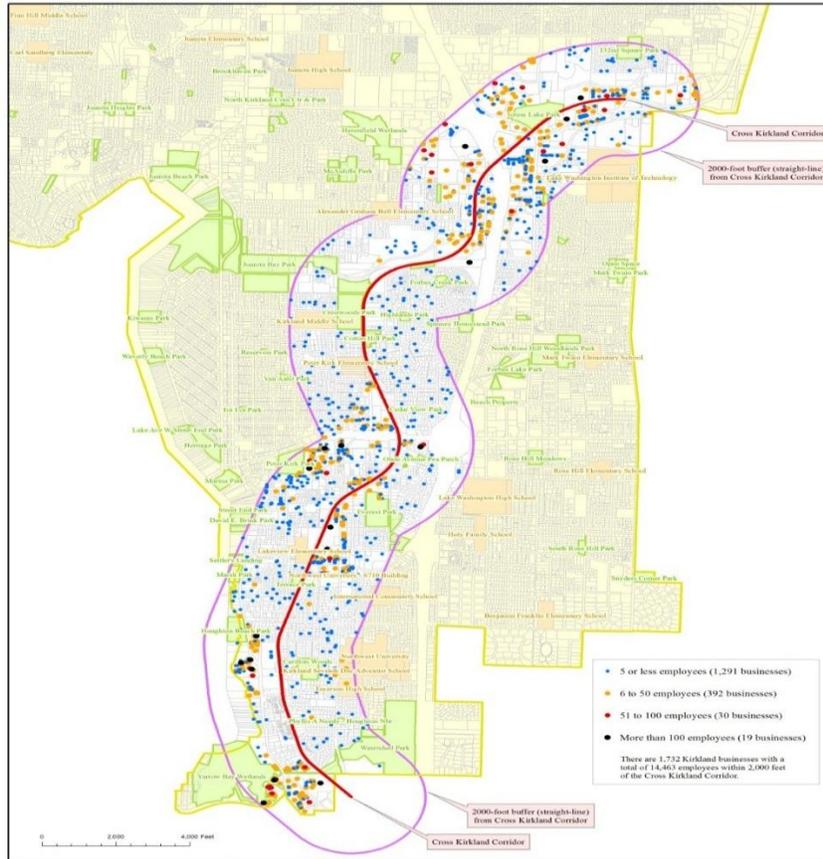
Corridor redevelopment with transit, could be a defining factor in decisions by tech companies and others to locate in Kirkland as their workforces can benefit from home to work connections and recreational opportunities.

As noted previously, 1,173 businesses with a total of 10,904 employees are located within 2,000 feet of the centerline of the Corridor in Kirkland alone. These include several of the largest businesses in Kirkland – Evergreen Health, Google, Nintendo, Astronics and Kenworth Truck (Paccar).

In the Parmac area of the Totem Lake Business District, the commercial zones that lie adjacent to the Corridor are currently zoned to accommodate approximately 5.8 million square feet of redeveloped office space. Using a figure of four employees per 1,000 square feet of office space, this equates to an additional 23,200 employees, and could accommodate Kirkland’s entire share of the regional target for employment growth that it must demonstrate it can handle in the 2035 Comprehensive Plan.

In the event that this is realized, \$1.7 million in additional annual business and property taxes could be collected and put back into redevelopment of the Corridor. Further detail on economic development

potential for the Cross Kirkland Corridor can be found in “Economic Development and the Cross Kirkland Corridor” another companion document to the Cross Kirkland Corridor Master Plan.

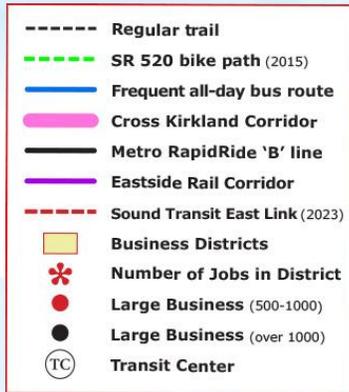
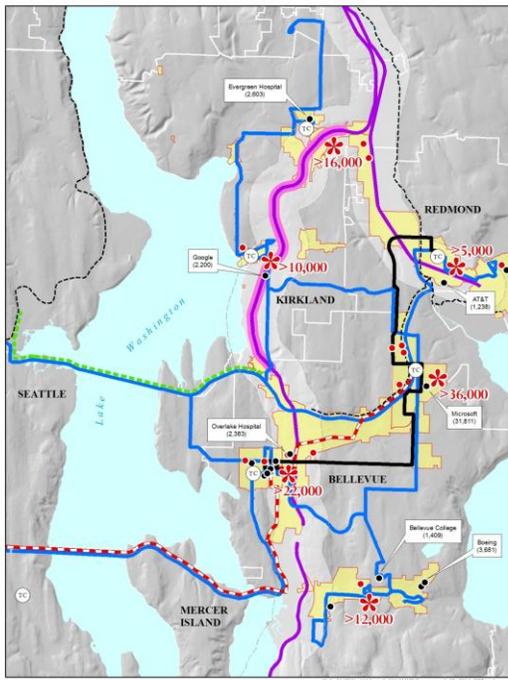
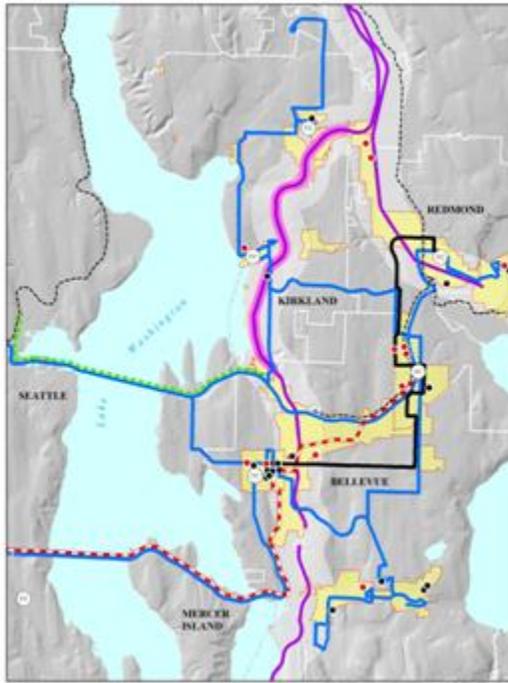


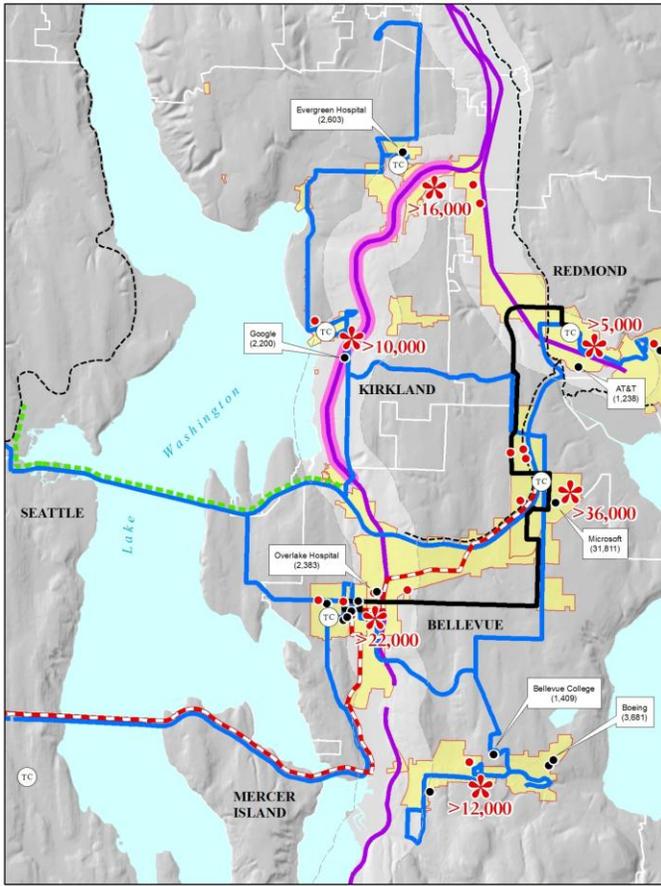
Businesses within 2000' of Cross Kirkland Corridor

An Interconnected Eastside Transportation Network Could Yield Major Mobility and Economic Development Benefits

Without connections to other locations however, especially in nearby Redmond, Bellevue and Woodinville – that either complete the journey from home to work to play, or link to hubs for light rail and bus rapid transit, thus picking up additional ridership, it is hard to envision the current 5.75 miles as an economic development driver. Linkages to these transit hubs (Sound Transit 2 light rail project at Bellevue Hospital District), I-90 bus rapid transit, as well as the regional trail systems, will need to be implemented.

The following three diagrams depict the potential for a fully integrated, interconnected, multi-modal transportation system on the Eastside:





BY 2031...

City of Kirkland Growth Targets:

- +8,570 households
- +20,850 jobs

King County Growth Targets:

- +233,000 households
- +428,000 jobs

Advanced Transportation Alternatives for the Cross Kirkland Corridor

Realizing the potential for a fully integrated, interconnected, multi-modal transportation system on the Eastside, the City of Kirkland brought [panelists](#) together to describe various types of advanced transit that may have the potential to be implemented ahead of traditional transportation. Models included manually operated and automated vehicles running on tires, rail, guideway, and cable. Deployed in airports, college campuses and major cities, these systems could be adapted to connect suburban residential and employment centers, schools, hospitals, shopping and recreation areas and high capacity transit hubs. Proponents note that these advanced technologies are energy efficient, less costly to build and operate than traditional transit, with designs that scale to people and neighborhoods.

Technology presenters and audience members at the Advanced Transportation Symposium were asked to address the following considerations in describing how their transit technology could be implemented for the Cross Kirkland Corridor and larger Eastside transit needs:

Initial Considerations in Evaluating Transportation Modes on the Cross Kirkland Corridor

- Physical Appearance
 - What is the footprint of the system?
 - Are there customization opportunities for the system to fit the CKC parameters?
 - What other facilities are required for operation?
 - What might the spacing of stations be?
- Cost
 - What is the infrastructure cost per mile?
 - What are the operating and maintenance costs?
- Funding Opportunities
 - What funding or cost sharing opportunities are available?
- Capacity
 - How many people will the vehicle accommodate?
 - What is the maximum number of passengers per hour?
 - How flexible is the system in responding to surges and off peak ridership times?
- Transportation Time
 - How does trip-time compare to alternatives such as car, bike and bus?
 - What is the normal operating speed?
- Compatibility to Connect with Regional Systems
 - How would the system connect to other systems?
 - How would the system stations accommodate the different ways people might arrive at the station such as walking, biking or driving?
- Safety Standards
 - What regulatory permits and approval is needed? What is the estimated timeframe for this?
- Environmental Standards
 - What is the environmental impact of the system and the results of any environmental impact studies that have been performed?
- Readiness
 - What is the estimated time to the build, implementation and obtain regulatory approval?

Technologies Presented at the Advanced Transportation Symposium

The first panel at the Advanced Transportation Symposium looked at traditional transit modes in the Puget Sound Region including King County Metro Buses and Sound Transit Light Rail Service.

Following was an introduction to Advanced Transit Technology that looked at several Personal Rapid Transit (PRT) and Group Rapid Transit (GRT) systems that are in operation around the world. These systems included:

Personal rapid transit (PRT), or **podcars**, which are a transit mode featuring small automated vehicles operating on (a network of) dedicated guideways. A PRT system provides direct origin-to-destination connections and typically operates on demand. The size of the vehicles accommodates an individual or small group (4 adults, 2 children) traveling together by choice. Systems described at the symposium include:

- [2getthere](#) operating in [Masdar City](#)
November 28, 2010 marked the first day of the operations of the PRT system at Masdar City. The system runs through the 'undercroft' providing it multiple lanes of exclusive right-of-way, connecting remote parking and the Masdar Institute of Science and Technology.
- [Ultra Global](#) operating at [Heathrow Airport](#)
21 PRT vehicles facilitate the journey between the stations at the business car park and Terminal 5. The system's infrastructure is smoothly interwoven in between the access roads to the terminal. It greatly improves the link and offers a superior service to travelers.
- [Vectus](#) operating in [Suncheon Bay](#)
The PRT System, consisting of 40 vehicles, will facilitate the transportation of visitors between Suncheon City Garden Expo site and the world famous Suncheon Coastal Wetlands Park along a 4.6 km bi-directional guideway.

Group Rapid Transit (GRT) systems feature larger vehicles (up to 25 passengers) and can be installed both in line and network configurations – offering a middle ground between mass and personally oriented systems. Systems described at the symposium include:

- [West Virginia University](#) (Morganstown, US)
The very first in the '70s is still operational today, with modifications taking place to optimize and improve the system. Originally built by Boeing, the application consists of 71 vehicles accommodating up to 18 passengers per vehicle – although named 'PRT' it is configured as a Group Transit application.
- [2getthere Rivium](#) ParkShuttle (Netherlands)
A unique GRT application in the sense that it is the only system installed at grade, with at grade crossings. With the first generation realized in 1999, the second generation debuted in 2007 with the track extended and additional stations added.

The Symposium also looked at opportunities for emerging technology on the Cross Kirkland Corridor. The Cross Kirkland Corridor offers a closed system that could be utilized as a pilot operation for emerging technology in need of regulatory approval. Technologies that were presented include:

- [LEVX](#)
LEVX® Transportation Systems are comprised of three core technical advancements that when combined offer achievable and sustainable options for mobility and the environment. Energy free [magnetic suspension](#) eliminates both static and magnetic drag from the system, dramatically slashing overall energy requirements. Each LEVX® carriage remains suspended continuously, never touching down on the guideway rails and may be moved forward or backward with minimal force.
- [SkyTran](#)
An elevated on demand two person vehicle system that is called for by computer, tablet, or smart phone and arrive almost instantaneously for a quick departure. SkyTran's magnetic levitation system can easily be powered by clean energy sources such as solar and wind making it the greenest mass transportation system available.
- [CyberTran](#)
CyberTran is a unique passenger rail system that works more like an elevator than a traditional transit system. Rather than running on a defined schedule, a computer-controlled system responds to passenger needs in real time. Passengers input their destinations at a station, and after a small amount of time has passed, vehicles arrive to deliver the passengers directly to their destinations. Multiple small vehicles and off-line stations allow for this level of flexibility and responsiveness.
- [Cable Propelled Transit](#)
While not a new concept Cable-Propelled Transit is emerging in urban landscapes. Cable-Propelled Transit (CPT) is a transit technology that moves people in motor-less, engine-less vehicles that are propelled by a steel cable. Top supported systems, also known as aerial cable systems, are supported from above via a cable. Bottom supported systems are supported by tracks or rails underneath, yet are still propelled by a cable.

Conclusion

The Advanced Transportation Symposium was the start of a conversation to determine innovative, efficient and effective transit on the Cross Kirkland Corridor and the Eastside Rail Corridor that increases transit opportunities by connecting the first and last mile. A technical evaluation of the options presented as well as others (e.g. autonomous vehicles) not included in the symposium should be

conducted. An extensive list of systems can be found at <http://www.advancedtransit.org/advanced-transit/systems>.

At the staff debrief of the symposium immediately following the event, a plan for moving forward was developed:

Key Issues identified include the insufficiency of traditional modes of transportation to meet the needs of Kirkland residents and business as well as the economic need to promote transit on the Cross Kirkland Corridor.

Next Steps should include continuing to assume a leadership role in the advocacy of advanced transit solutions in the region in order to shape future discussion in the regional transportation sphere. One way of doing so is to include Advanced Transit considerations in Master Plan documents. Additionally, private investment in a multi-employer advanced transit solution should be explored.

Advanced transit and autonomous transportation technology are growing at an exponential rate and should be considered and included in long range planning and strategy documents of planners and policy makers. The Puget Sound Regional Council held a workshop in April, 2014 examining driverless technology to include in their 2040 plan. It would behoove cities within the Puget Sound Region to consider and plan for advanced transportation technology implementation. This will encourage a coordinated and collaborative effort in efficient and effective regional transportation to benefit the long term economic, environmental and livability of the region.