



CROSS KIRKLAND CORRIDOR MASTER PLAN

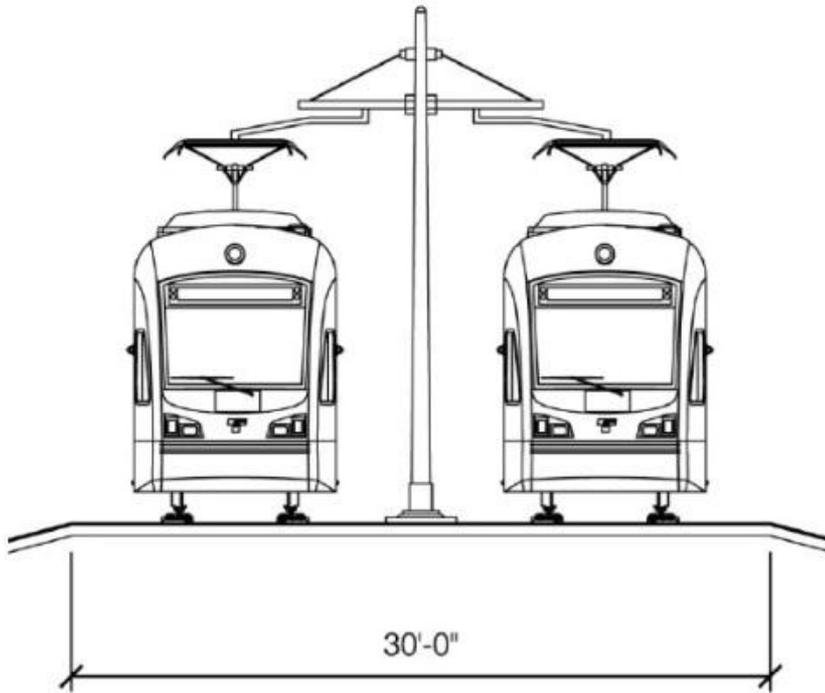
DRAFT - 1/22/14

OUTLINE

- 1. INTRODUCTION**
- 2. SOUND TRANSIT ENVELOPE**
- 3. ROLE OF THE MASTER PLAN**
- 4. MASTER PLAN STRUCTURE**
- 5. TOPICS FOR CONSIDERATION**
 - TRAIL PROFILES
 - TRAILHEADS
 - RESTROOMS
 - ACCESS POINTS
 - PARKING
 - LIGHTING
- 6. CORRIDOR EXPERIENCE & ECOLOGY**
- 7. SAMPLE: CORRIDOR LAYOUT**
- 8. SAMPLE: CHARACTER ZONE SCRAPBOOK**

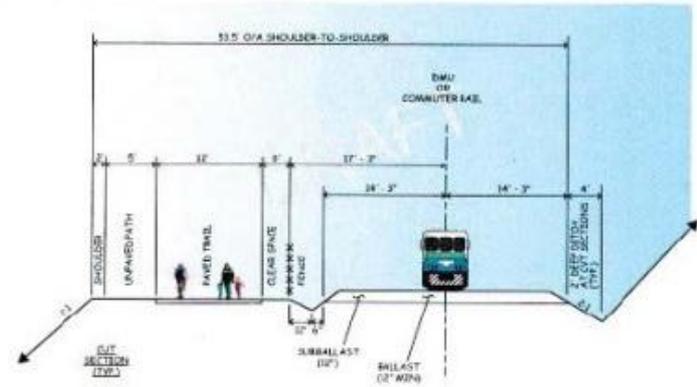
2. SOUND TRANSIT ENVELOPE



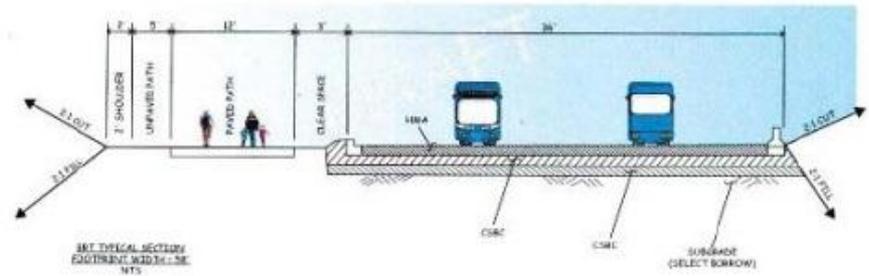


Typical Sound Transit Trackway Width

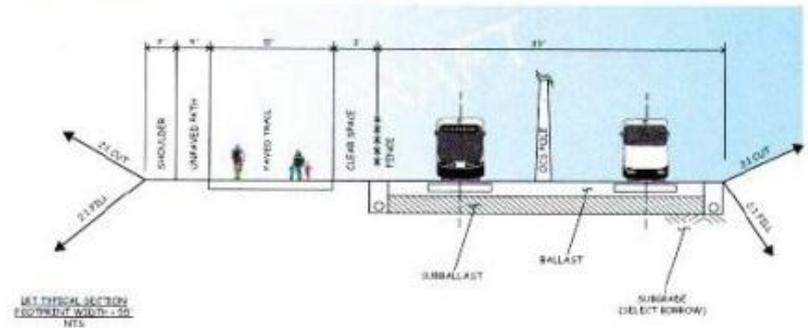
Sounder Commuter Rail Sample Cross Section

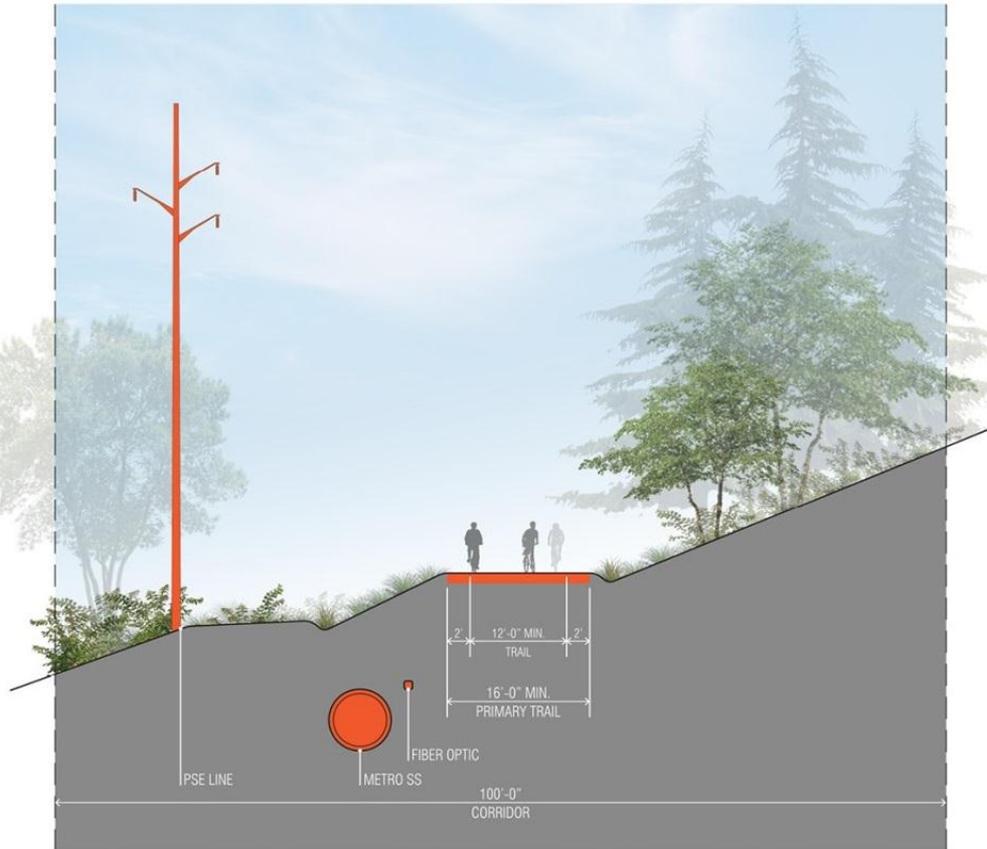


Bus Rapid Transit Sample Cross Section



Light Rail Transit Sample Cross Section



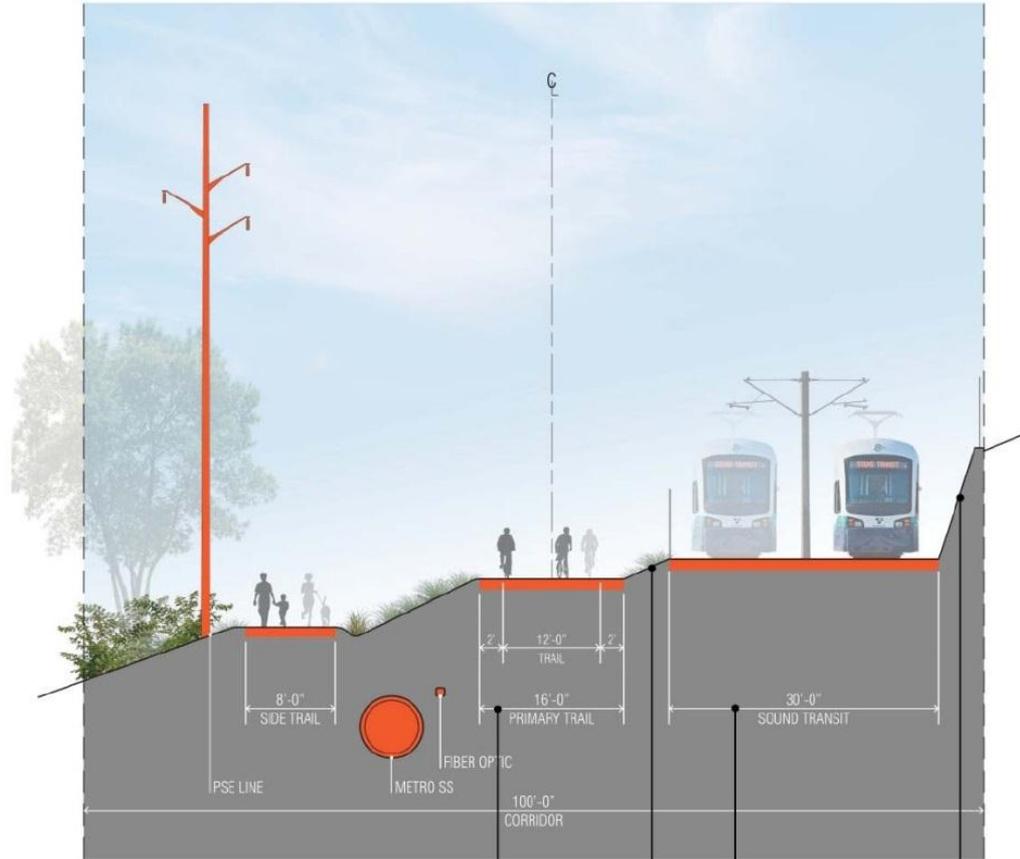


Near Term

Primary Trail

The primary trail is generally assumed to be on the old trackway alignment, on the centerline of the corridor. To provide the 16-foot (or wider) trail envelope, the existing track bed must be widened through a combination of cut/fill grading.

Prototypical Corridor Alignment: with assumed utilities and future transit envelope



The primary trail is assumed to be centered on the historic trackway, typically located in the center of the corridor.

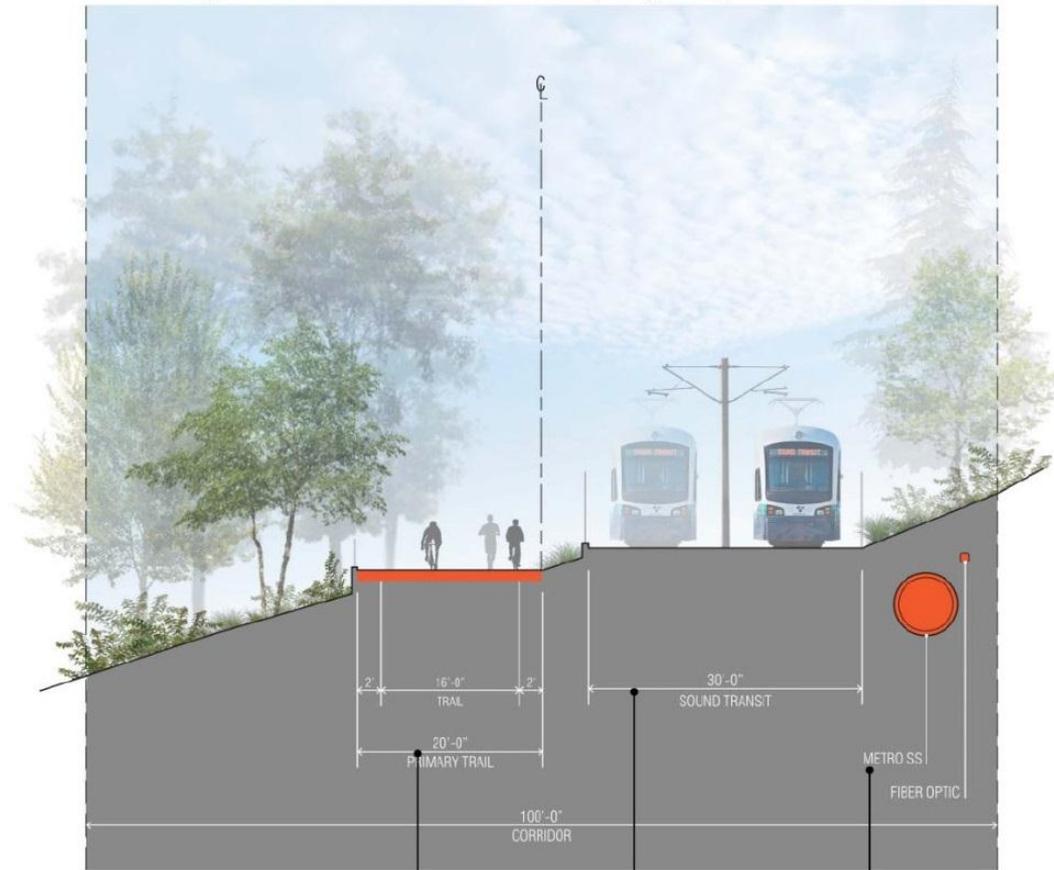
Commuter rail alternate: If commuter rail were constructed on the existing trackway alignment, the primary trail would be shifted (typically westward) off the trackway centerline and likely eliminate the parallel secondary trail.

A 5-foot minimum landscape buffer is assumed between the trackway and primary trail. This buffer is not a requirement and could be replaced by more robust barriers to mitigate reduced clearances. Such barriers should have a high level of design to enhance the corridor experience as well as enhance corridor safety (real and perceived).

A 30-foot trackway envelope is located to favor one side of the corridor to avoid over fragmentation. This envelope is typically assumed to favor the eastern side of the corridor to allow trail users to occupy the more desirable western side.

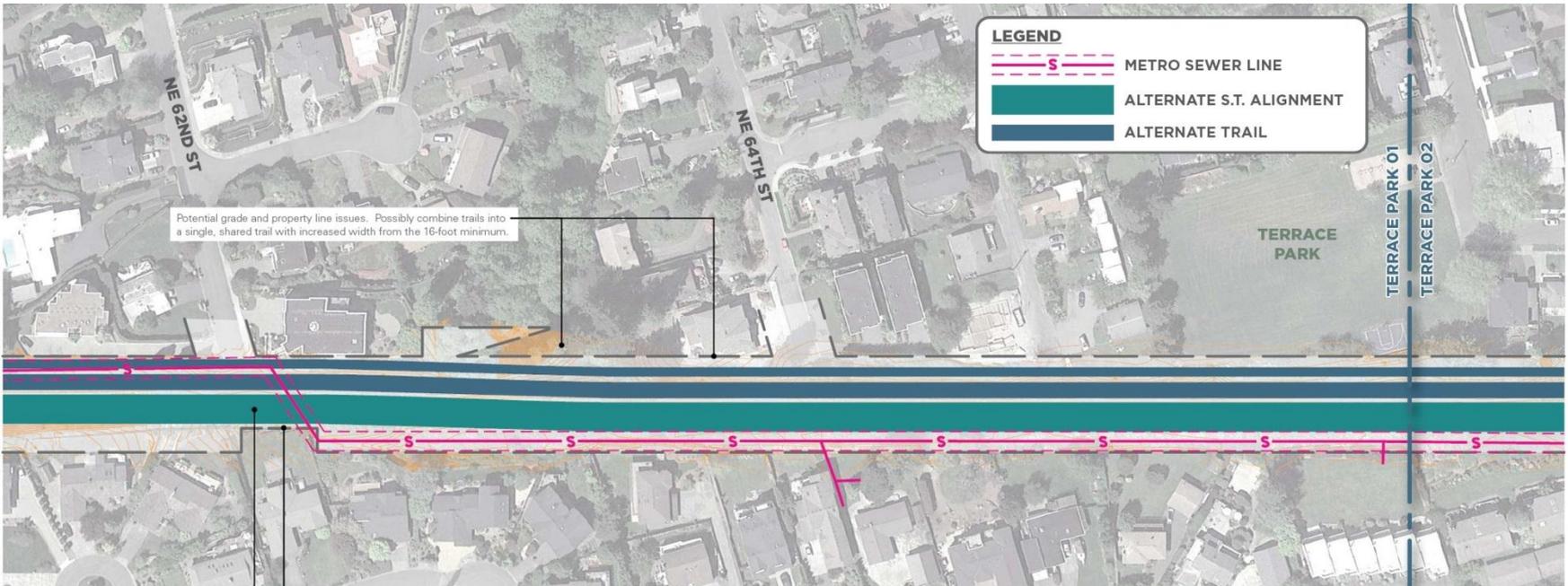
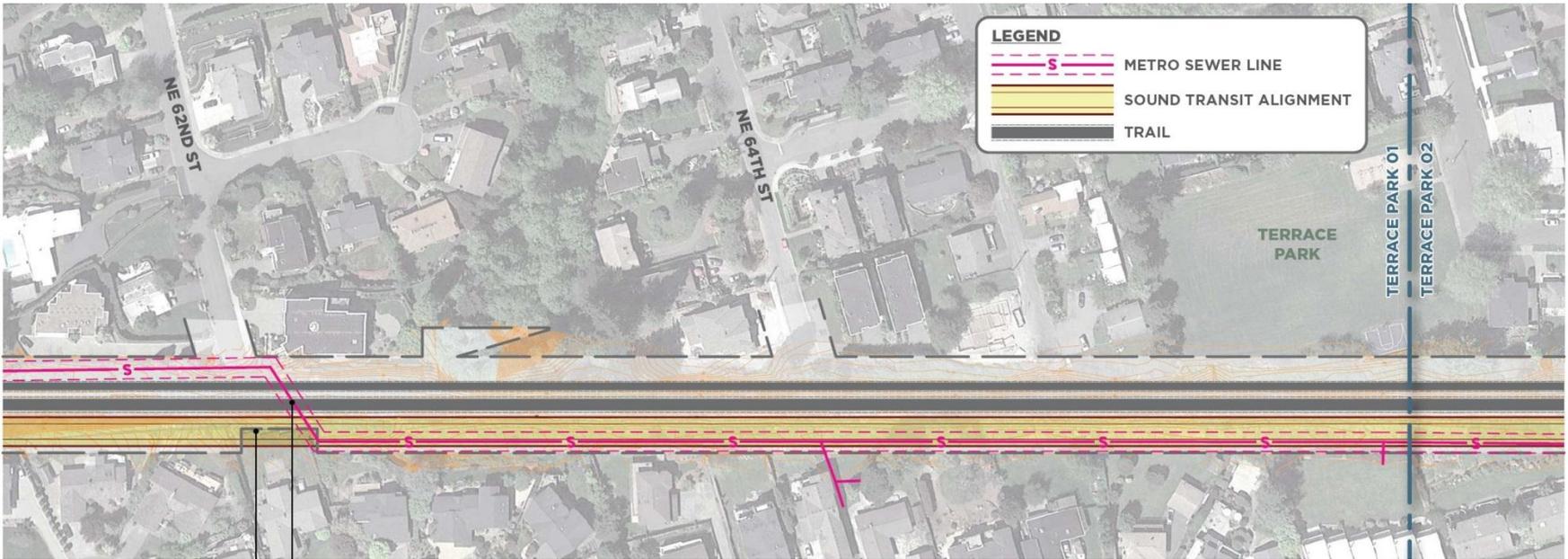
A 5-foot grade transition zone is assumed between the trackway and corridor to allow for grade transition, particular cut/fill retaining structures.

Alternate Corridor Alignment: due to clearance conflicts with the prototypical alignment



The shifting of the trail from trackway centerline westward is assumed to be completed in conjunction with the development of the transit corridor

At various locations along the corridor, the Metro line shifts to the east



3. ROLE OF THE MASTER PLAN



INTRODUCTION

PROTOTYPICAL CORRIDOR ELEMENTS

PROTOTYPICAL CORRIDOR ELEMENTS

FUNCTIONALITY

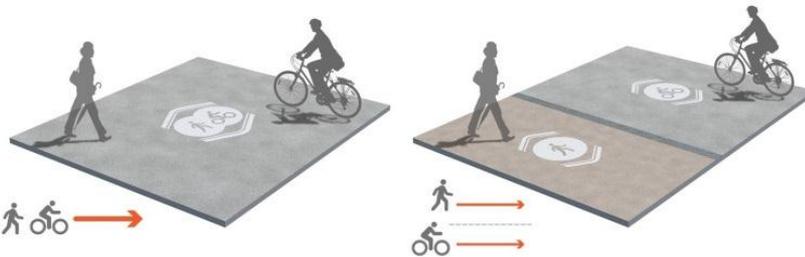
Corridor Profiles

A key element of the CKC master plan is the development of a shared use trail. The master plan proposes a primary trail (meeting the guidelines of a shared use path) and, in places, a secondary, parallel trail.

The intent is that the primary trail is a shared use trail for the foreseeable future. In the near term the plan does not exclude pedestrians from the shared use (primary) trail, as the choice of route is part of the richness of experience.

One of the unique qualities of trail corridors and shared use paths are that they self-regulate to conditions. For example, during evening commutes with higher bike volumes and speeds, pedestrians and more timid bike riders are more likely to shift to secondary routes, yet at less busy times of the day, they might choose to use the primary route. The ability to let trail traffic self-regulate as long as it can be done safely is desirable.

The opportunity of the CKC master plan is to develop a vision of an evolving trail that changes over time as demand and the changing city around it warrant. Even in areas where dual trails are shown, it may take some time and a phased approach for dual parallel trails to be constructed due to budget and environmental considerations. It is anticipated when future traffic volumes dictate then regulations to separate different modes and users to different parts of the trail can be implemented. The master plan sets a course where trail expansions (including the addition of dual, separated parallel routes) may ultimately be desired, but may not be needed or appropriate at the start. The design of the CKC is intended to allow a trail that will be phased in and evolve over time.



Primary Trail

The primary trail is envisioned as a shared use path that either bikes or pedestrians could choose to use, as it will tend to be wide, flat and smooth and will appeal to a wide variety of users. This trail is consistent with the vast majority of our regional trail system.

Materials

A hardscape paved trail of asphalt, cast-in-place concrete or unit pavers, dependent upon location and intensity of use.

Width

The CKC assumes a minimum width of 12 feet, with an additional two feet of clearance on both sides. This width can increase in response to anticipated uses and traffic volumes. Portions of the trail may also be narrower for limited distances to accommodate pinch points such as existing bridges, etc.

The Trail Evolves - Divided Trail

As traffic volumes increase, portions of the trail can evolve from shared to divided with demarcations (pavement/paint or other delineation) separating bikes and other wheeled uses from pedestrians.

This master plan shows the vision for a full build-out of a trail network; however, as with most master plans, it is intended that this vision will be realized over time. The CKC will be a popular trail corridor from the time it opens, but even with that popularity it will take some time to build trail capacity to match the levels of the region's busier trails, such as the Burke Gilman and the Sammamish River Trail. Prematurely overbuilding trail capacity or over-regulating trail users can limit trail experience and even create unanticipated safety issues.



Secondary Trail

A secondary, parallel trail can provide an alternate, slower speed, less direct, more interesting and rich route for corridor users (with latitude from guidelines for Shared Use Paths). This secondary trail could be constructed at the time of the primary trail or as a later phase of construction based on issues of cost, permitting and trail use volumes.

Materials

A hardscape paved trail (asphalt, cast-in-place concrete or unit pavers) or soft surface trail (crushed rock), dependent upon location and intensity of use.

Width

The secondary trail assumes an 8-foot width (with an additional one foot of clearance on both sides). However, this can be widely adjusted as site-specific design elements dictate.

Utilizing Grade Transitions

Grade transitions, existing or created, between parallel trails can provide additional buffering and the opportunity for integrated furnishings and elements that enrich the experience of both trails.

The Trail Evolves

Divided Trail: As traffic volumes on the primary trail increase, the secondary trail can evolve to become the pedestrian zone of a divided trail system, separating bikes and other wheeled uses from pedestrians.



PROTOTYPICAL CORRIDOR ELEMENTS

FUNCTIONALITY

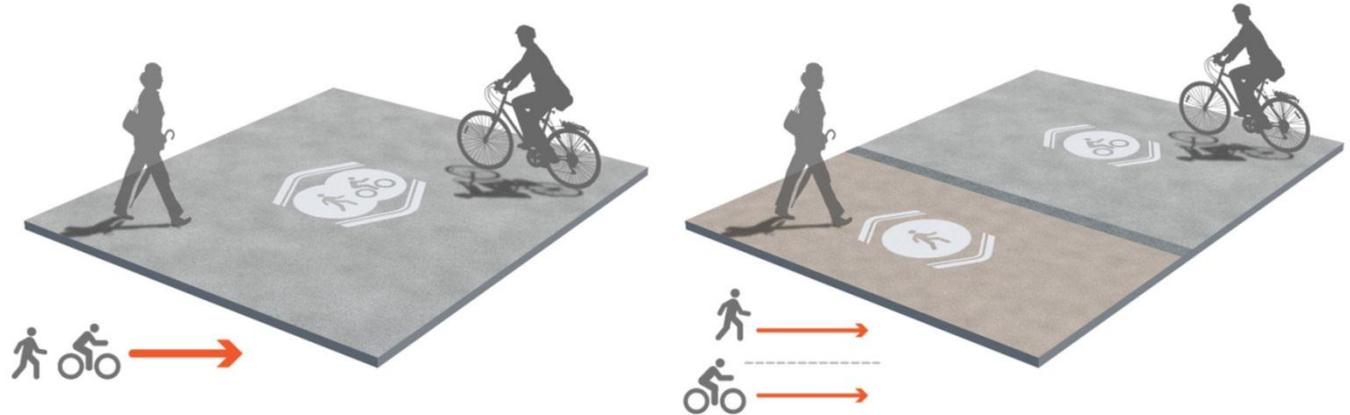
Corridor Profiles

A key element of the CKC master plan is the development of a shared use trail. The master plan proposes a primary trail (meeting the guidelines of a shared use path) and, in places, a secondary, parallel trail.

The intent is that the primary trail is a shared use trail for the foreseeable future. In the near term the plan does not exclude pedestrians from the shared use (primary) trail, as the choice of route is part of the richness of experience.

One of the unique qualities of trail corridors and shared use paths are that they self-regulate to conditions. For example, during evening commutes with higher bike volumes and speeds, pedestrians and more timid bike riders are more likely to shift to secondary routes, yet at less busy times of the day, they might choose to use the primary route. The ability to let trail traffic self-regulate as long as it can be done safely is desirable.

The opportunity of the CKC master plan is to develop a vision of an evolving trail that changes over time as demand and the changing city around it warrant. Even in areas where dual trails are shown, it may take some time and a phased approach for dual parallel trails to be constructed due to budget and environmental considerations. It is anticipated when future traffic volumes dictate then regulations to separate different modes and users to different parts of the trail can be implemented. The master plan sets a course where trail expansions (including the addition of dual, separated parallel routes) may ultimately be desired, but may not be needed or appropriate at the start. The design of the CKC is intended to allow a trail that will be phased in and evolve over time.



Primary Trail

The primary trail is envisioned as a shared use path that either bikes or pedestrians could choose to use, as it will tend to be wide, flat and smooth and will appeal to a wide variety of users. This trail is consistent with the vast majority of our regional trail system.

Materials

A hardscape paved trail of asphalt, cast-in-place concrete or unit pavers, dependent upon location and intensity of use.

Width

The CKC assumes a minimum width of 12 feet, with an additional two feet of clearance on both sides. This width can increase in response to anticipated uses and traffic volumes. Portions of the trail may also be narrower for limited distances to accommodate pinch points such as existing bridges, etc.

The Trail Evolves – Divided Trail

As traffic volumes increase, portions of the trail can evolve from shared to divided with demarcations (pavement/paint or other delineation) separating bikes and other wheeled uses from pedestrians.

This master plan shows the vision for a full build-out of a trail network; however, as with most master plans, it is intended that this vision will be realized over time. The CKC will be a popular trail corridor from the time it opens, but even with that popularity it will take some time to build trail capacity to match the levels of the region's busier trails, such as the Burke Gilman and the Sammamish River Trail. Prematurely overbuilding trail capacity or over-regulating trail users can limit trail experience and even create unanticipated safety issues.



Secondary Trail

A secondary, parallel trail can provide an alternate, slower speed, less direct, more interesting and rich route for corridor users (with latitude from guidelines for Shared Use Paths). This secondary trail could be constructed at the time of the primary trail or as a later phase of construction based on issues of cost, permitting and trail use volumes.

Materials

A hardscape paved trail (asphalt, cast-in-place concrete or unit pavers) or soft surface trail (crushed rock), dependent upon location and intensity of use.

Width

The secondary trail assumes an 8-foot width (with an additional one foot of clearance on both sides). However, this can be widely adjusted as site-specific design elements dictate.

Utilizing Grade Transitions

Grade transitions, existing or created, between parallel trails can provide additional buffering and the opportunity for integrated furnishings and elements that enrich the experience of both trails.

The Trail Evolves

Divided Trail: As traffic volumes on the primary trail increase, the secondary trail can evolve to become the pedestrian zone of a divided trail system, separating bikes and other wheeled uses from pedestrians.





Existing

Topography

While the full corridor cross section ranges from gently to steeply sloping, the former track bed provides a relatively flat and therefore logical location for a shared use path. Through much of the corridor there is a parallel level topographic shelf allowing for additional program elements.

Vegetation & Tree Canopy

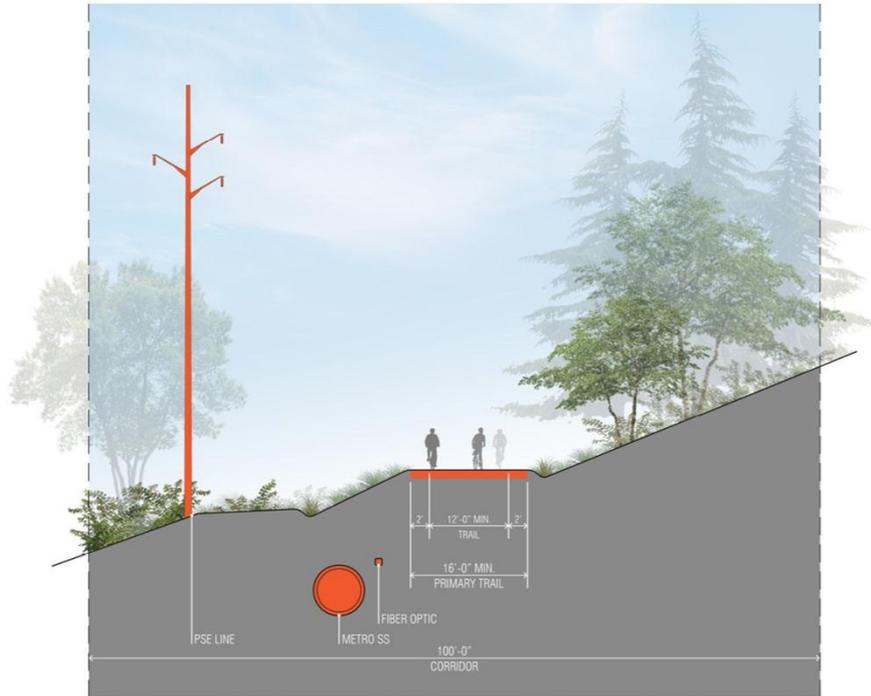
The CKC is home to a significant contiguous tree canopy and vegetation coverage providing wildlife habitat and places for wildlife movement as well as a host of other ecological benefits.

Hydrology

The corridor contains a rich and extensive hydrologic network of streams, ditches and wetlands. Streams and wetlands should be protected and enhanced while underutilized areas of the corridor should be evaluated for stormwater capture and treatment opportunities.

Utilities

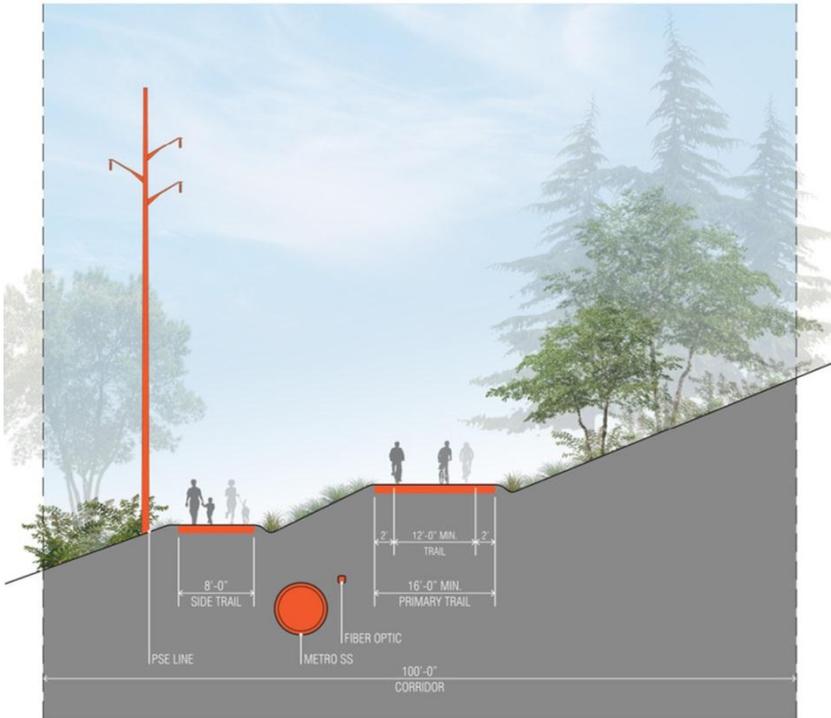
There are several existing utilities on the corridor now, and more planned for the future, including sewer lines, water lines, communication lines, future electrical transmission lines, and reclaimed water distribution lines.



Near Term

Primary Trail

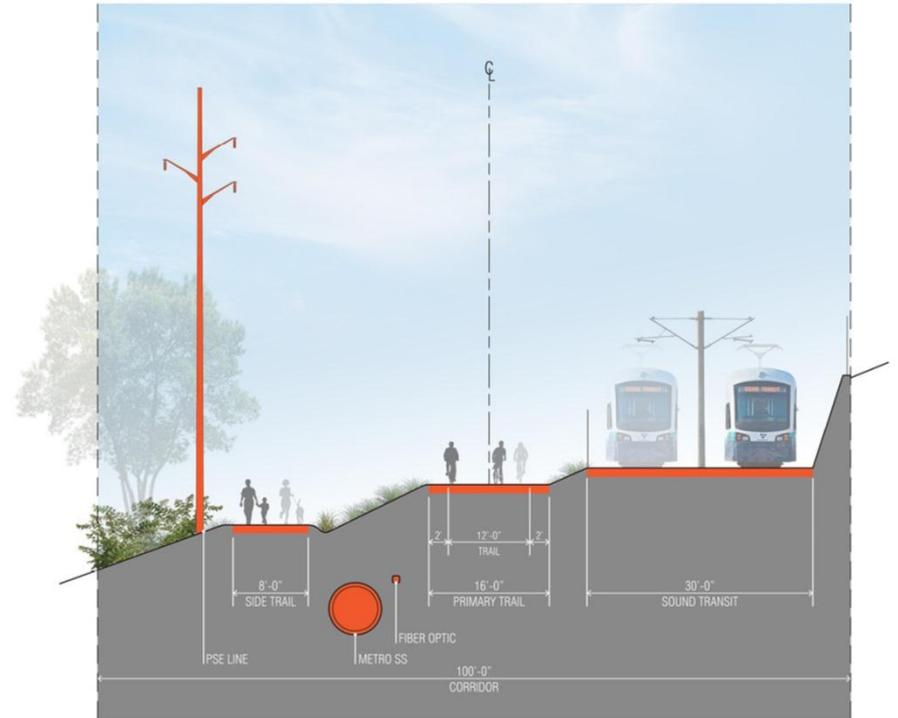
The primary trail is generally assumed to be on the old trackway alignment, on the centerline of the corridor. To provide the 16-foot (or wider) trail envelope, the existing track bed must be widened through a combination of cut/fill grading.



Near Term

Secondary Trail

A parallel secondary trail can be added to the corridor where desired and space and topography allow. The master plan includes this secondary trail for a majority of its length.



Long Term

The Corridor Evolves

The primary trail layout on the historic trackway allows for a future 40-foot transit envelope to be constructed east of the trail envelope. (See the Transit and Utility Study in the appendix for detailed analysis.)

PROTOTYPICAL CORRIDOR ELEMENTS

FUNCTIONALITY

Intersections

For all roadway crossings, the street will have right-of-way priority over the trail corridor (whereas driveways across the corridor give priority to the trail corridor). There will be several different types of street crossings along the corridor, including Rapid Flash Beacon (RFB) and signalized intersections, in addition to grade separated crossings. While street crossing design itself may vary, the detailing of the corridor elements approaching all crossings is to have a common language to intuitively warn and guide corridor users to appropriate intersection use.

Road Zone

Delineated crossings mix bikes and pedestrians in a common area (no mode separated crossings).

Sidewalk Zone

Paving associated with the streetscape continues through the intersection with CKC paving starting at the back side of the streetscape, reinforcing street right-of-way and providing clear edge definition at the point where trail users enter a roadway and should be on high alert. The sidewalk is home to all typical crossing elements including poles, pedestrian signal button, ADA ramps, etc., in a typical and expected manner.

Transition Zone

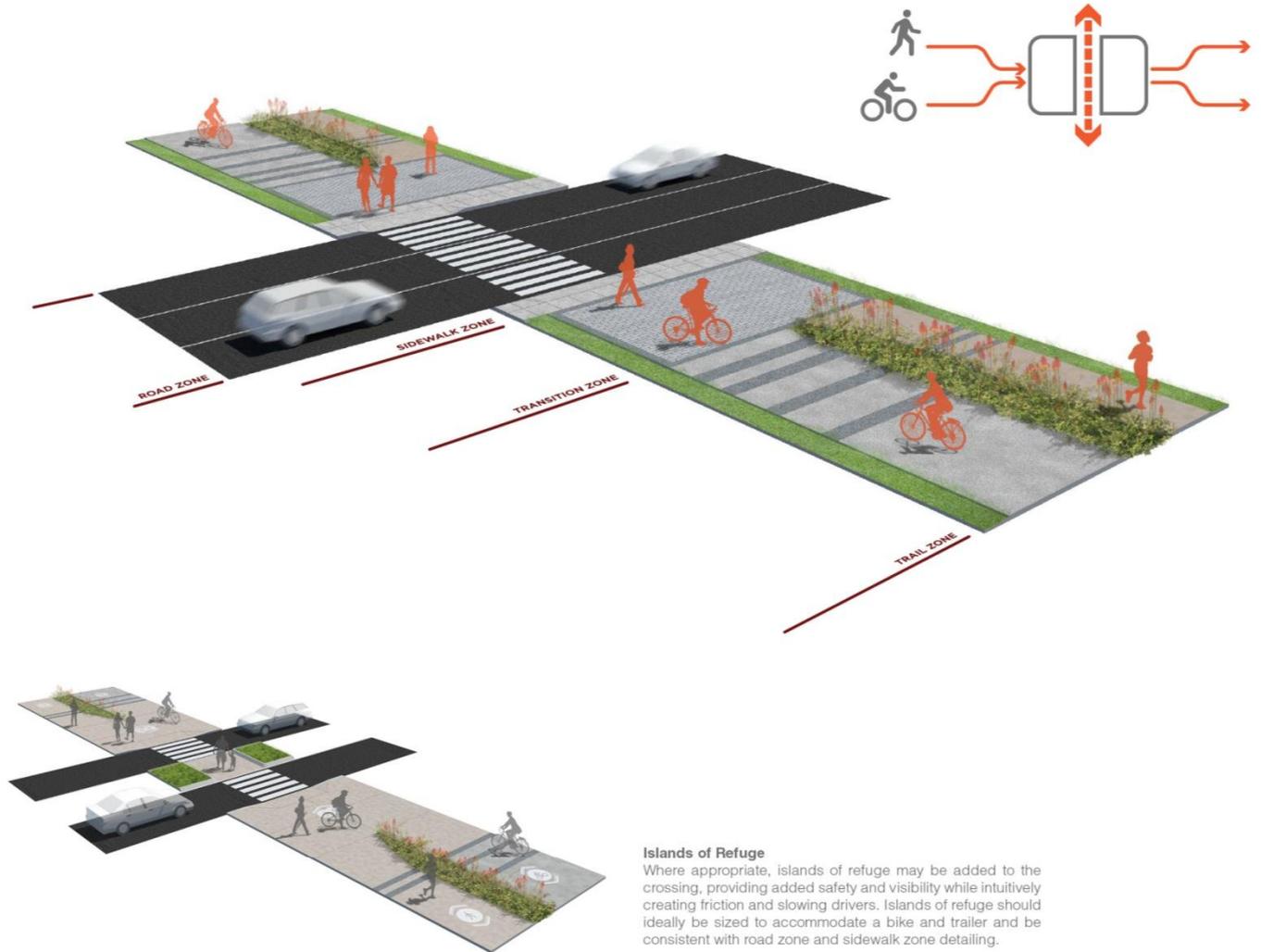
A threshold of specialty paving (textured concrete or pavers) with 20-foot minimum clearance from street crossings creates a visual and tactile warning, intuitively slowing and alerting trail users to "heads up" moments of intersections, while conversely acting as portals to welcome users arriving to the corridor. This threshold paving becomes a mixing zone where users of primary and secondary trails are co-mingled before engaging the street crossing.

Trail Zone

Typical trail paving for primary and, where present, secondary trails are interrupted by threshold strips of accent paving (similar to threshold specialty paving) in increasing frequencies approaching crossings, acting as rumble strips and warning trail users of the mixing zone and intersection ahead. Vertical and overhead elements (outside required clearances) may also be used to create a sense of "friction" and slow corridor users approaching the intersections.

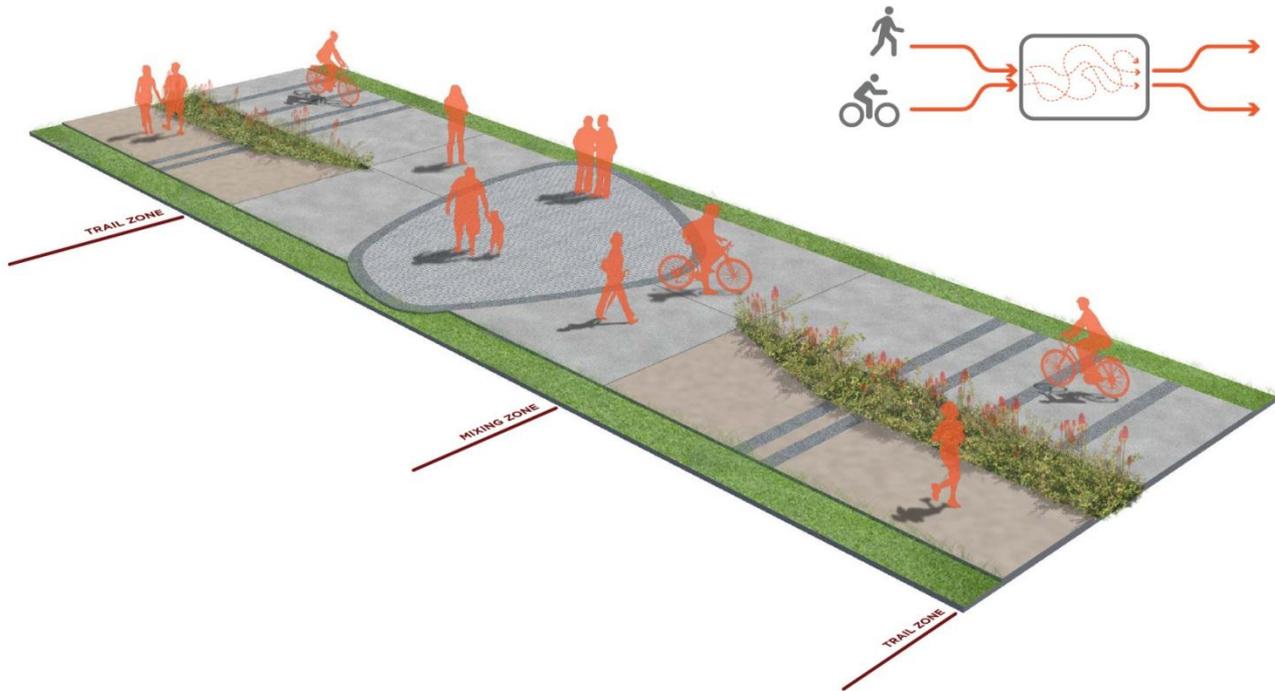
Sight Distance

Visual access is optimized for both corridor users and drivers approaching crossings.



Islands of Refuge

Where appropriate, islands of refuge may be added to the crossing, providing added safety and visibility while intuitively creating friction and slowing drivers. Islands of refuge should ideally be sized to accommodate a bike and trailer and be consistent with road zone and sidewalk zone detailing.



Mixing Zones

Areas of high activity along the trail corridor, including events and eddies, trail access points, pedestrian crossing points, etc., apply a similar kit of parts as the intersections (trail zone and mixing zone) to intuitively slow and alert trail users to "heads up" moments.



OVERALL CORRIDOR CONSIDERATIONS

OVERALL CORRIDOR CONSIDERATIONS

SERVICES & ACCESS TO THE CORRIDOR

Trailheads

The CKC will be part of a regional trail network allowing trail users to arrive by the trail itself, yet there may be a desire to establish trailheads that serve as meeting points along the corridor and provide services to corridor users. This will be particularly important in the near term as Kirkland is ahead of King County in the development of its corridor master plan and may therefore complete its trail prior to connections to the north or south are established by the county. There are two logical trailheads located near the north and south limits of the CKC.

The South Kirkland Park and Ride

The emerging redevelopment, provides a logical southern trailhead with excellent transit access, services, a connection to the 520 Shared Use Path (in construction), and potential parking when low-volume off-peak commute times compliment the prime recreational user times.

Totem Lake and the Reimagined Totem Lake Park

Totem Lake Park provides a logical northern trailhead with excellent transit access and hopes of a revitalized commercial center. While there is no public parking readily identified in Totem Lake, an abundance of surface parking at both commercial and business properties suggest that some parking-share agreement might be feasible.

Access Points

Roads

Improve access points to corridor from adjacent public realm (predominately ROW).

Pedestrian Access Points & Crossings

Access to the corridor should be provided on access from public properties or larger (typically commercial) private access points, possibly in combination with shared parking reservoirs.

Residential Access Points

While many of the properties adjoining the corridor have developed their own access paths (goat trails) onto the corridor, access paths from single-family residences should be phased out through management and capital improvements due to long-term concerns with consistent maintenance and safety.

Restrooms

Restrooms are not a required or standard element along the existing regional trail network, yet where those facilities are located they are heavily used and appreciated. Strong support for restrooms has emerged through the master plan process and three potential sites have been proposed:

- The South Kirkland trailhead
- The reimagined Totem Lake Park
- The reimagined Terrace Park

Lighting

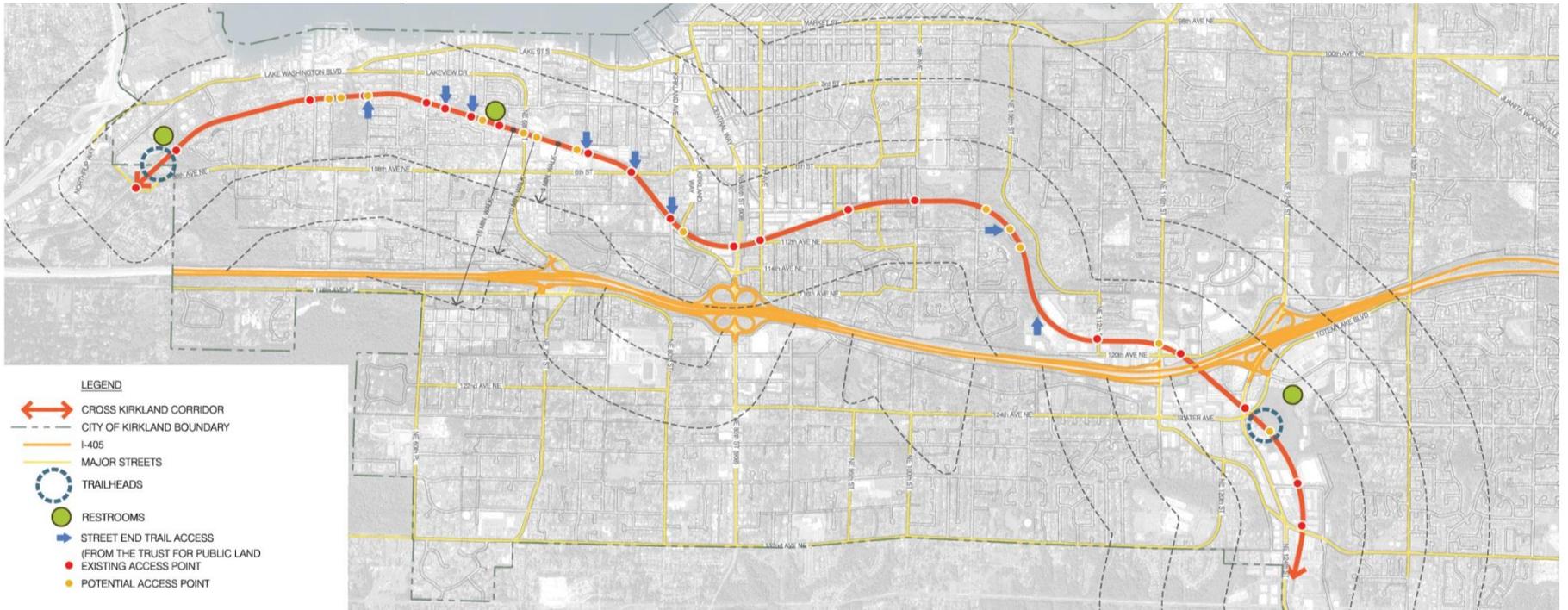
The decision whether or not to light the corridor remains undetermined and may be made during phased implementation after the master plan is complete. While lighting the corridor may increase its use as both a transposition facility and a recreation facility, lighting may also encourage undesirable use of the corridor in the evening when it would otherwise be largely unused. The decision to light or not to light the corridor does not need to be consistent for the whole of the corridor, with the most urban and high activity areas potentially being lit whereas lesser intensity areas may remain unlit. All road crossings would be lighted to meet applicable guidelines.

Parking

No parking is proposed as part of the CKC master plan. The corridor is intended to be a transportation and key inter-city connection in itself, and creating corridor-specific parking undermines that role and runs counter to one of the CKC's primary goals, "Foster a Greener Kirkland." The decision not to include parking is consistent with other regional trails and is supported in the reality that the corridor as an inherently long linear space does not lend itself to the construction of parking lots. While parking is not regularly provided on similar regional trails, nearby facilities, particularly parks, can sometimes become informal trailheads; the master plan identifies the South Kirkland Park and Ride and Totem Lake Park as trailheads. In addition to these trailheads, there is abundant surface parking close to the corridor along a majority of its route that the city could negotiate for trail parking during non-business hours, conveniently the highest demand period for

Wayfinding

Wayfinding on the CKC is about creating intuitive cues to guide navigation as well as revealing the rich history and character of Kirkland through storytelling and interpretation. Wayfinding along the CKC includes signage, art, site hardscape and ecological elements and is not limited to the CKC itself, forming a web of wayfinding elements to guide users to and from the corridor as an integral transportation element for the City of Kirkland.



CORRIDOR EXPERIENCE & ECOLOGY

CORRIDOR EXPERIENCE & ECOLOGY

EVENTS

Text forthcoming...

- Major gathering spaces along the corridor
- Opportunities for art and performance
- Iconic, signature moments





- Secondary elements and events
- Places for pause and escape
- Subtle discoveries that enrich the space

EDDIES

Text forthcoming...



CORRIDOR EXPERIENCE & ECOLOGY

ART

Text forthcoming...

- Enriches the whole corridor
- Integrated
- Curated
- Ephemeral



FRICTION

Text forthcoming...



- Intuitively slows and alerts trail users to “heads up” moments
- Changes in paving textures, colors and materials
- Adjacent and overhead elements create a sense of compression



CORRIDOR EXPERIENCE & ECOLOGY

ACTIVITIES

Text forthcoming...

- Add interest and create buzz to compliment permanent corridor elements



CORRIDOR EXPERIENCE & ECOLOGY

ECOLOGY & SURFACE WATER

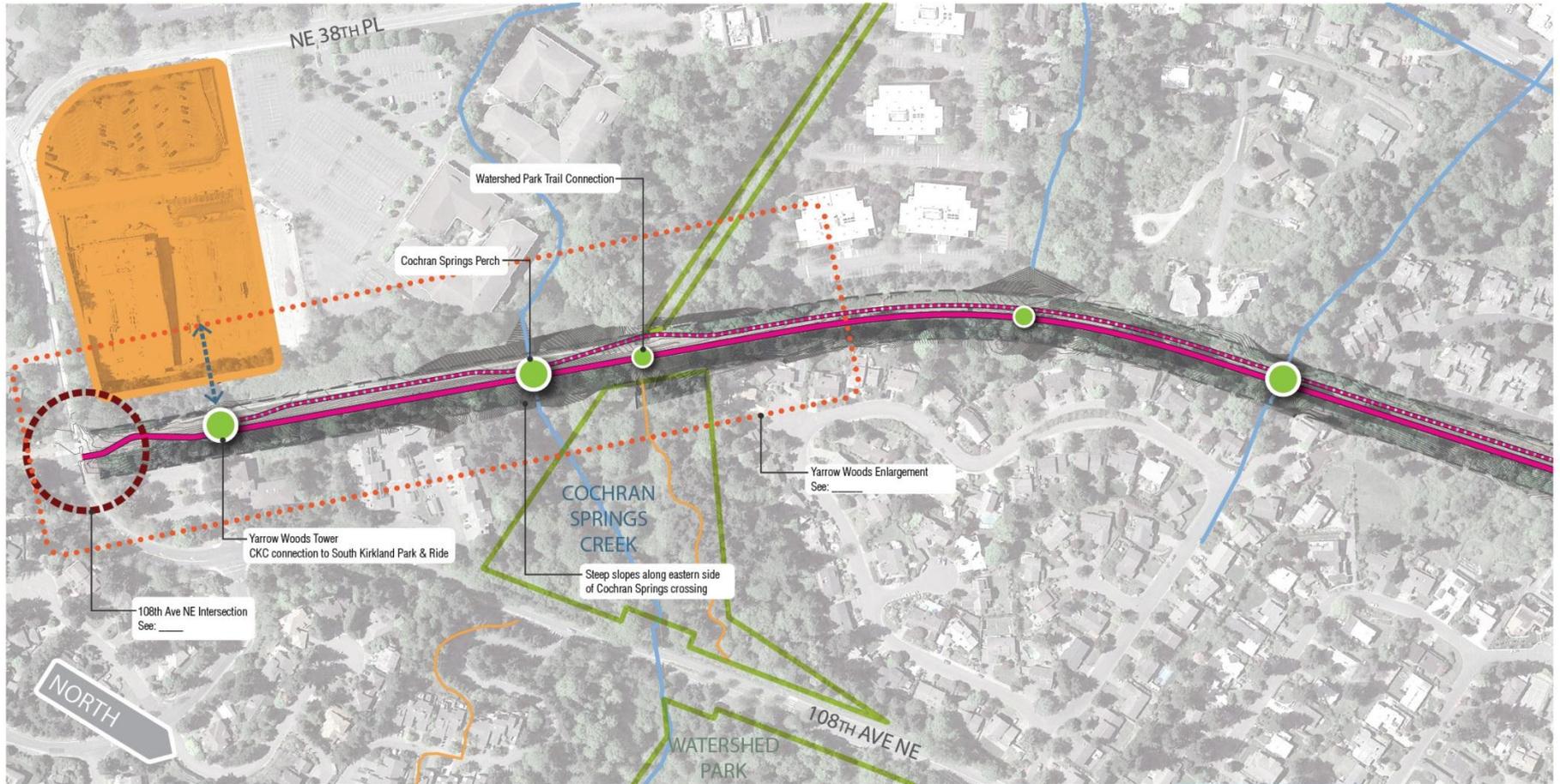
As the corridor is intended to be a regional trail with broad pedestrian and neighborhood connections, so too should it be considered for its regional ecological connections. At close to six miles in length, the corridor encompasses a wide range of vegetation communities. It also intersects and contributes toward significant contiguous tree canopy and vegetation coverage. It is important to note that this significant vegetation is on public properties owned by multiple entities and agencies and a large number of private owners. Yet the ecological function is blind to legal boundaries, and whatever the ownership the enhanced connections between these properties can enhance ecological function with thoughtful design interventions and management over time.

The contiguous tree canopy and vegetation are critical elements of regional ecology. They provide wildlife habitat and places for wildlife movement as well as a host of other ecological services that include a reduction in the urban heat island effect, maintaining biodiversity, and stormwater mitigation. Beyond the ground plane it is important to recognize the value and critical ecological function of connecting tree canopies together, even as more intensive land use and human activities occur at the ground level.

- Enhance ecology while enhancing the human experience.



SITE SPECIFIC CORRIDOR LAYOUT





- | | |
|--|--|
|  MAIN TRAIL |  CROSSING AT GRADE |
|  SIDE TRAIL |  CROSSING SEPARATED GRADE |
|  TRAIL ELEMENT |  TRAIL |
|  RIGHT OF WAY |  STREAM |
| |  PARK |
| |  SCHOOL |

CHARACTER ZONE DESIGN

CHARACTER ZONE DESIGN

FOCUS ZONES

Yarrow Woods

Text forthcoming...

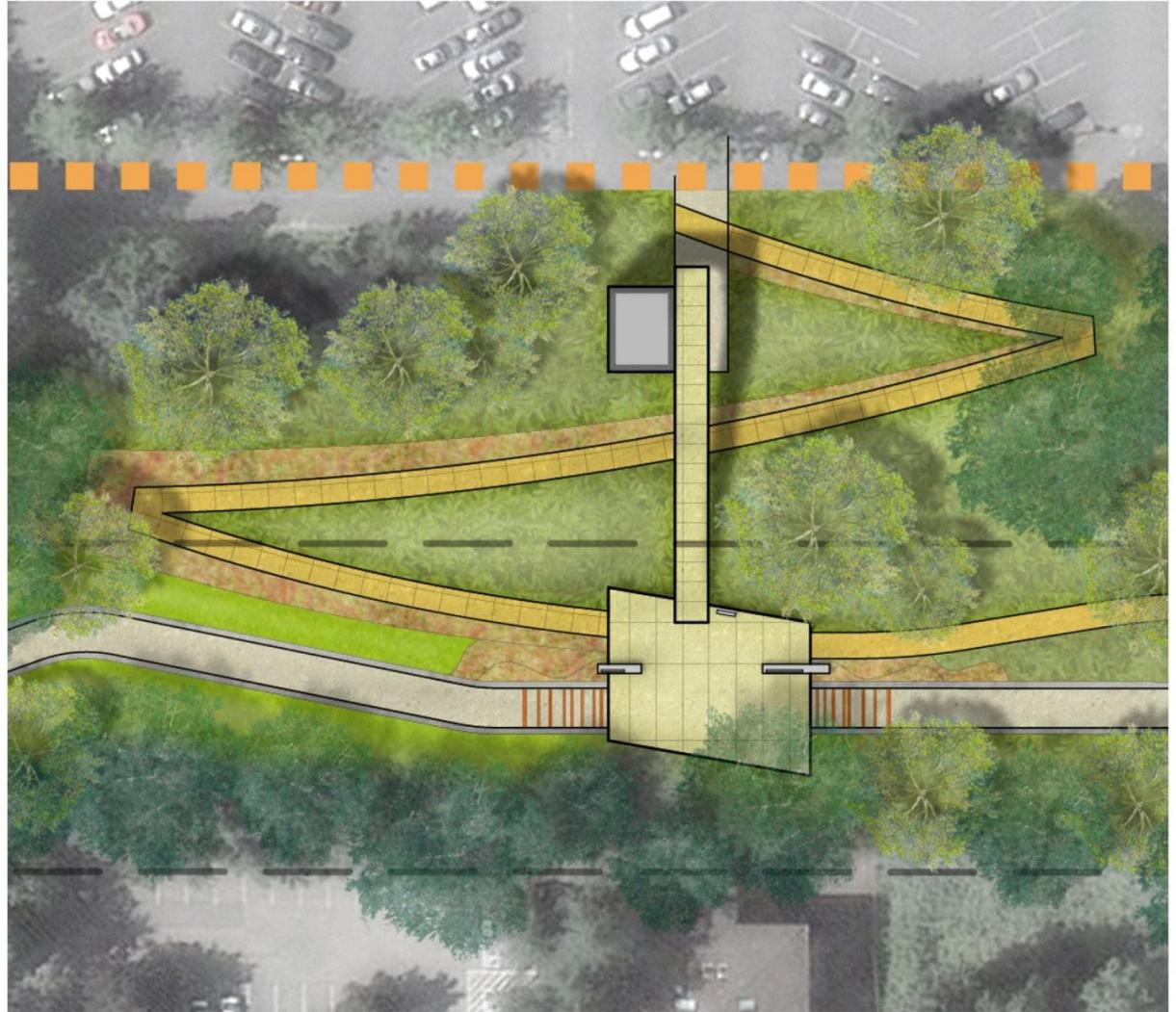




CHARACTER ZONE DESIGN

Yarrow Woods Tower:

The CKC connects to the South Kirkland Park and Ride through a series of ramps and steps and an iconic elevator tower that provides bike, pedestrian and ADA access between the two. The challenge of the large grade transition provides the opportunity for a robust engineering element that is functional and can be seen from the neighborhood and the 520 shared use trail, intuitively guiding visitors to connect to the CKC. The highly visible tower marks the southern portal to the CKC and can become landmark for Kirkland.





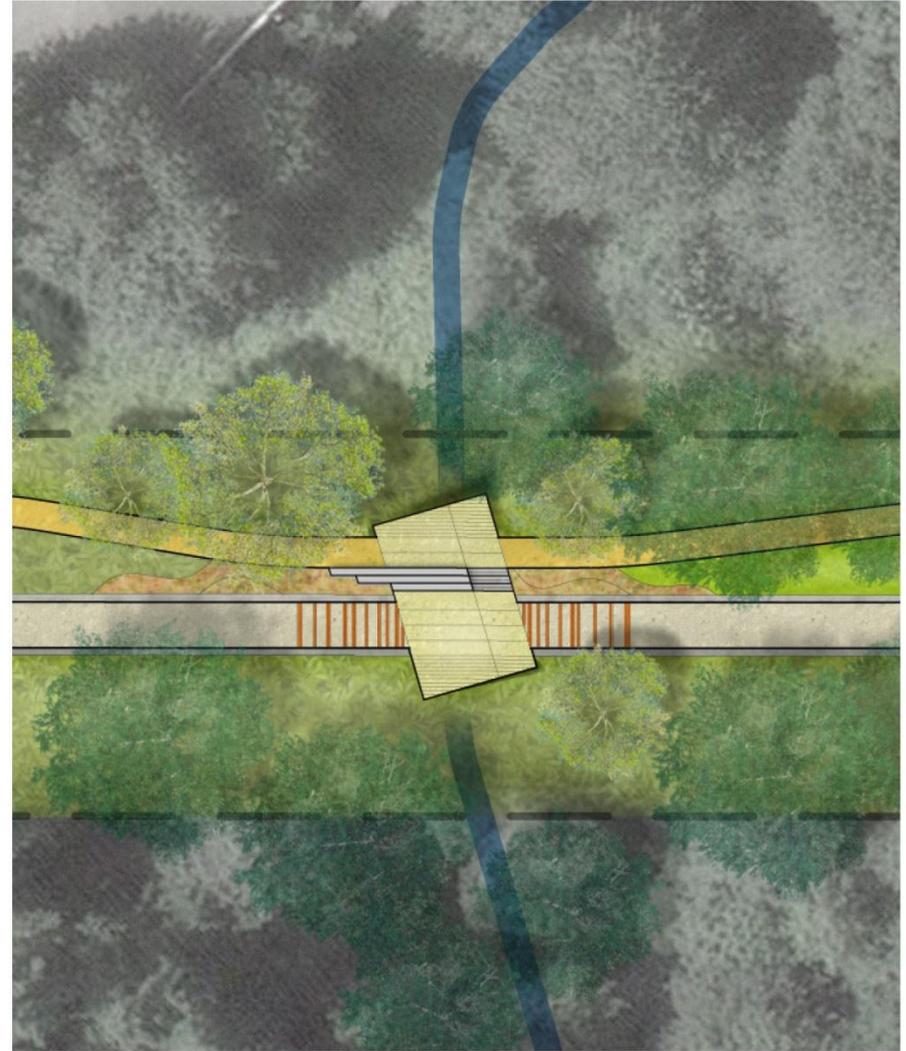
CHARACTER ZONE DESIGN

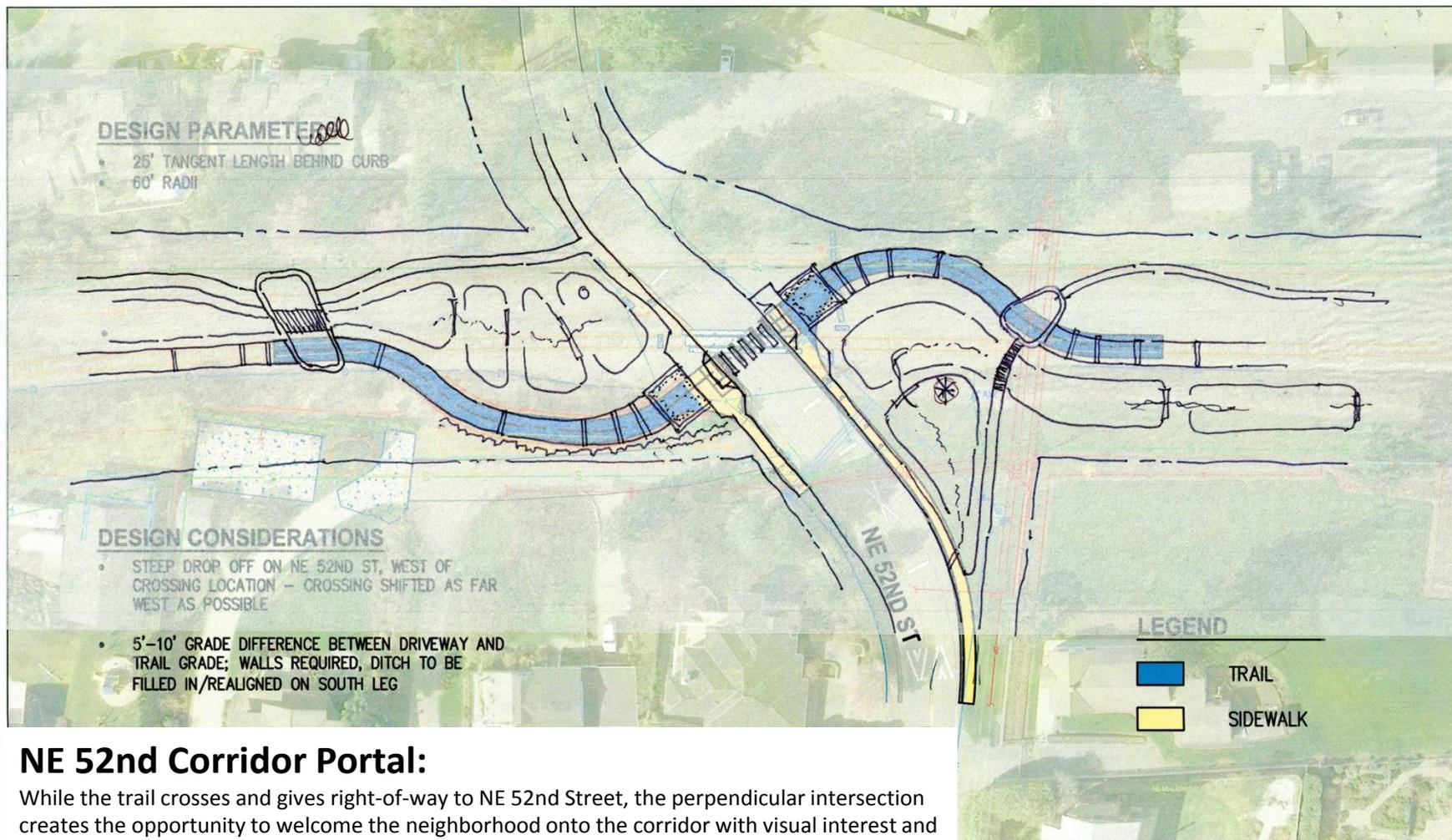
CHARACTER ZONES



Cochran Springs Perch:

With the corridor's crossing of the largest ravine on the CKC, the height of the trail is highlighted with a structural perch that cantilevers into the trees and over the creeks below to provide a unique vantage point of the watershed while becoming a welcomed pause on the trail.





NE 52nd Corridor Portal:

While the trail crosses and gives right-of-way to NE 52nd Street, the perpendicular intersection creates the opportunity to welcome the neighborhood onto the corridor with visual interest and ecological elements. To the south, primary and secondary trails are divided by a wetland which makes use of the site's existing groundwater. Terraced ponds step downhill toward Lake Washington creating habitat, reducing grades for improved pedestrian access, and making an intuitive connection to the corridor. To the north, stormwater runoff from east of the corridor is daylighted into bioretention wetlands, providing stormwater treatment and visual interest along the trail.

UPCOMING SCHEDULE

February 12 Eastside Rail Corridor Regional Advisory Council

February 27 Joint Public Meeting with PROS Plan

April 1 **City Council** Check-in/Update at regular meeting

April 26 Community Planning Day III

May 20 **City Council** final Check-in/Update at Study Session

June 17 **City Council** Adoption at regular meeting



CROSS KIRKLAND CORRIDOR MASTER PLAN

DRAFT - 1/22/14