East Link Light Rail

What is the Cost-Savings Decision Making Process?

Memorandum of Understanding (MOU)

November 2011

The MOU identifies Sound Transit and the City of Bellevue's committment to work together to manage the project's scope, schedule and budget.

Collaborative Design Process

Early 2012

The City and Sound Transit are working together to meet the MOU goal of reducing the City's financial contribution for a downtown light rail tunnel by up to $60 million.

Cost-Savings Study

Early 2012

Sound Transit and the City of Bellevue developed ideas to reduce East Link costs within the City of Bellevue and convened a peer review panel to identify the most promising ideas.

Key Decision Milestones

Open House
April 26

ST Board/Committee & City Council briefings
May 24 & 29th

Publish Cost - Savings Report
Early June

★ *Open House, June 5*
We are here

City and ST identify ideas to advance for further development
June

- June 14th
  ST Capital Committee
- June 18th
  Bellevue City Council recommendation
- June 28th
  ST Board identifies ideas

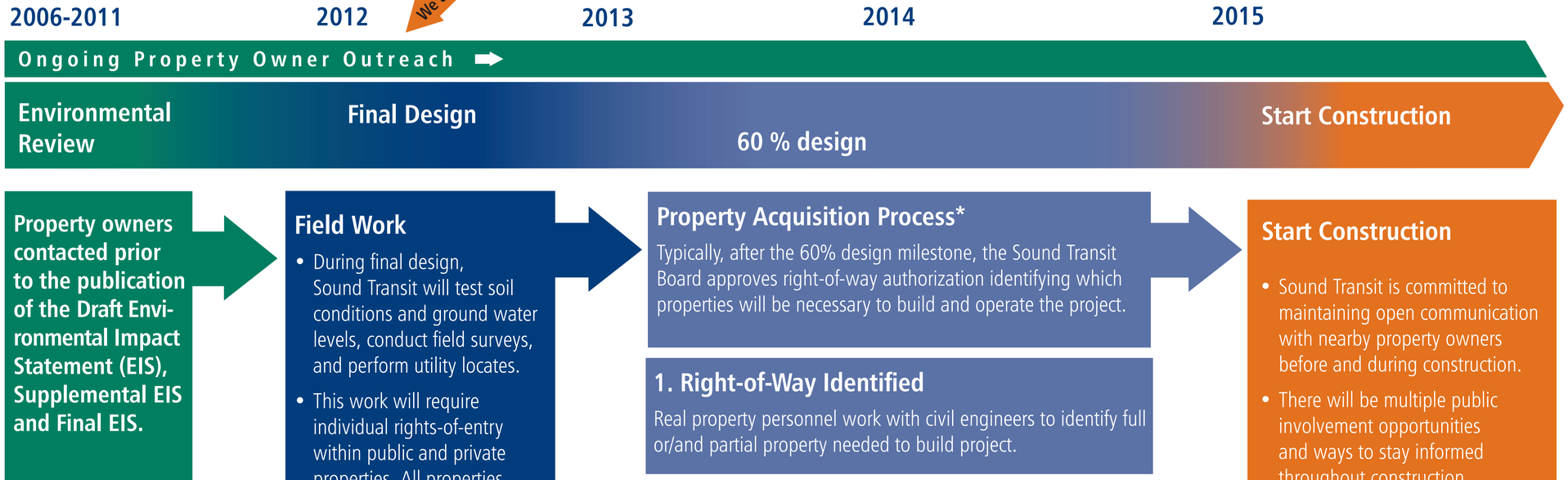
Additional Design & Environmental Review as Needed
July → 2013

City and ST select final cost-savings ideas
No earlier than 2013

Ongoing Community Outreach and Stakeholder Briefings

East Link Light Rail

How Will Sound Transit Work With Property Owners?



Property owners contacted prior to the publication of the Draft Environmental Impact Statement (EIS), Supplemental EIS and Final EIS.

Field Work

- During final design, Sound Transit will test soil conditions and ground water levels, conduct field surveys, and perform utility locates.
- This work will require individual rights-of-entry within public and private properties. All properties requiring rights-of-entry will be contacted by Sound Transit representatives.

Property Acquisition Process*

Typically, after the 60% design milestone, the Sound Transit Board approves right-of-way authorization identifying which properties will be necessary to build and operate the project.

1. Right-of-Way Identified

Real property personnel work with civil engineers to identify full or/and partial property needed to build project.

2. Board Meeting Notice

Sound Transit will notify property owners of the Sound Transit Board meeting where the Board will authorize property purchases.

3. Appraisal/Review Process

Independent appraiser contacts property owner to schedule appraisal. Appraisal will then be reviewed by Sound Transit to determine compensation for property.

4. Written Offer

Property owner receives written offer with copy of reviewed appraisal. Sound Transit will make reasonable efforts to acquire real property expeditiously through voluntary agreements based on appraised fair market value.

5. Conclude Property Purchase

Sound Transit purchases property.

Start Construction

- Sound Transit is committed to maintaining open communication with nearby property owners before and during construction.
- There will be multiple public involvement opportunities and ways to stay informed throughout construction.
- Sound Transit will work with property owners throughout construction to facilitate access during construction sequencing.

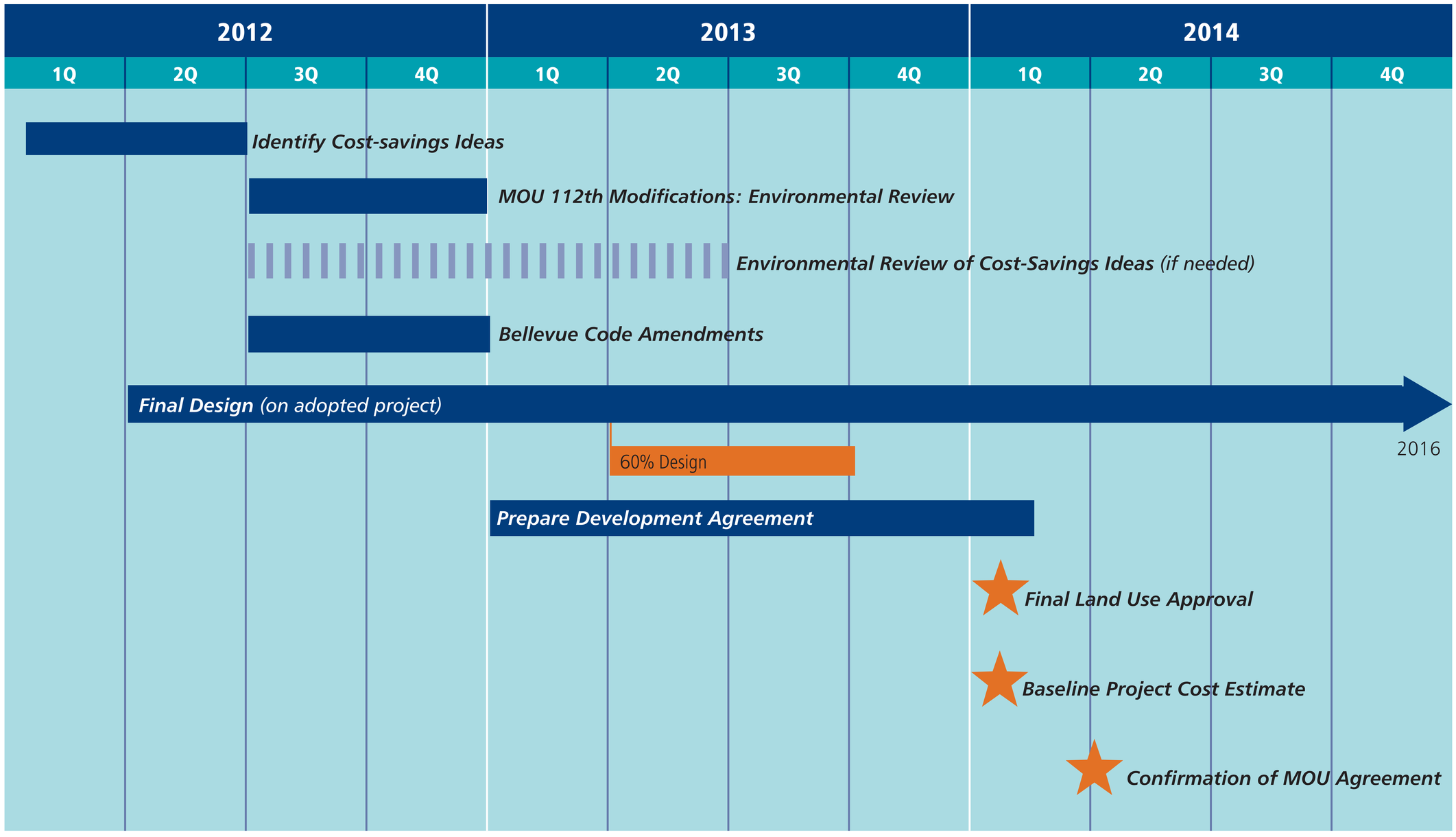
Questions?

For more information, contact the East Link Community Outreach Team at
206-398-5459 or eastlink@soundtransit.org.

***Note:** The property acquisition process typically occurs after the 60% design milestone. This is when design has progressed to determine which properties, and how much of the property, needs to be purchased.

East Link Light Rail

Sound Transit/Bellevue MOU Schedule



June 2012

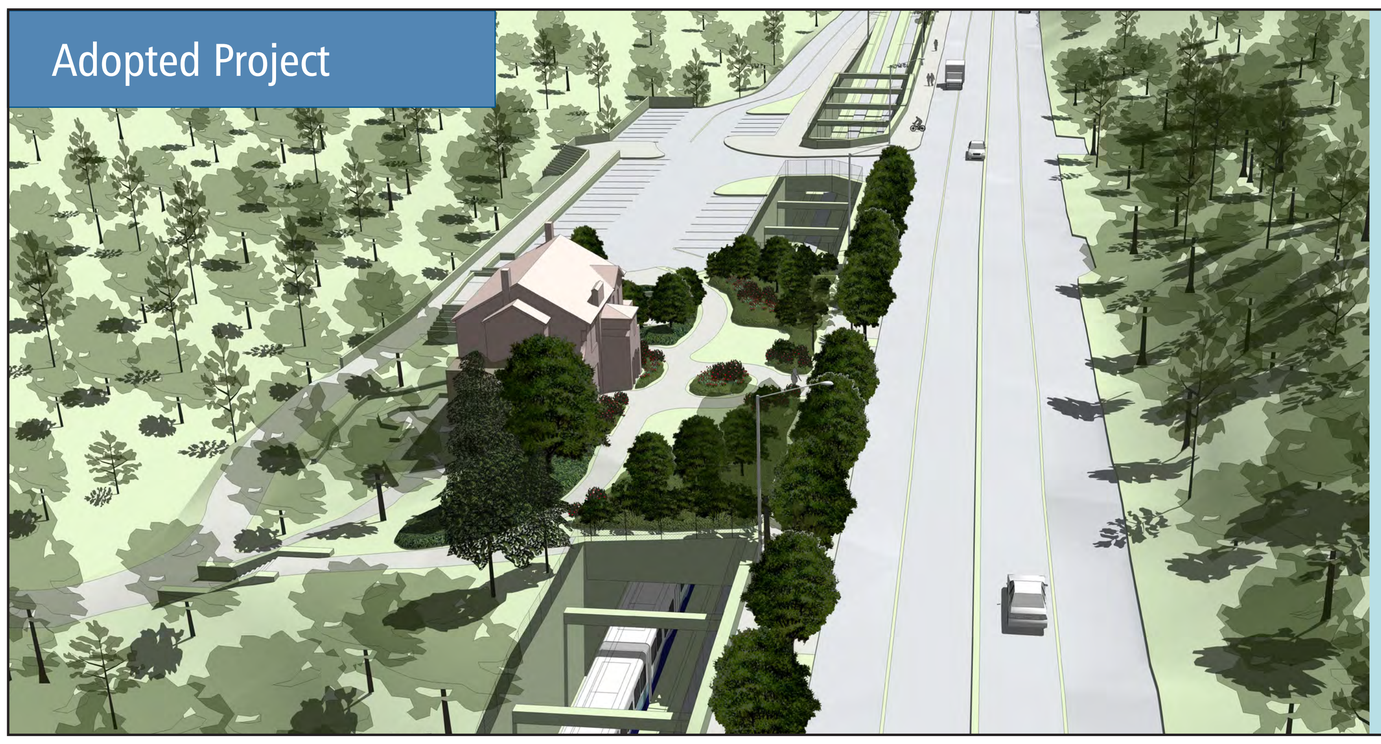
East Link Light Rail
Cost-Savings Ideas

Winters House

Cost-Savings Potential: $6-10 million

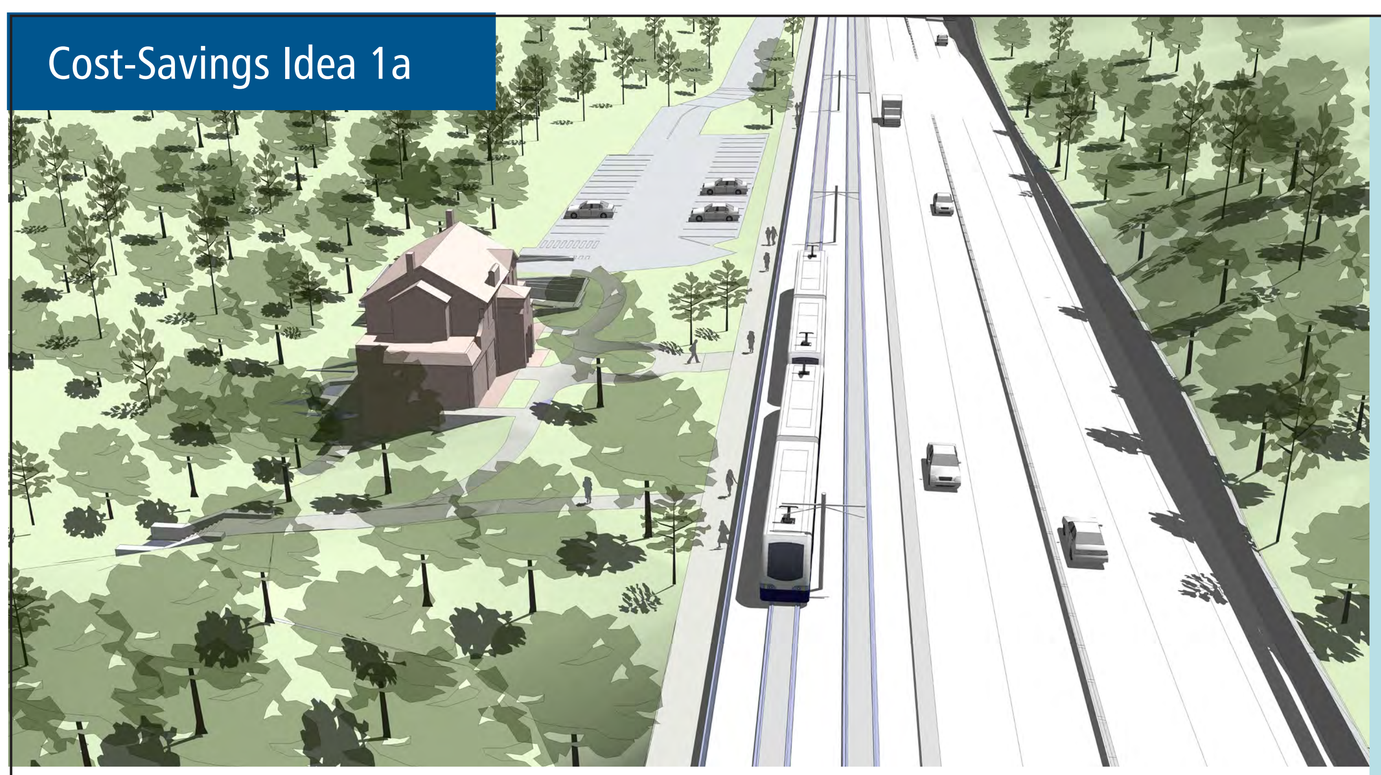
1a) Shift Bellevue Way West, At-grade light rail in front of Winters House

Adopted Project



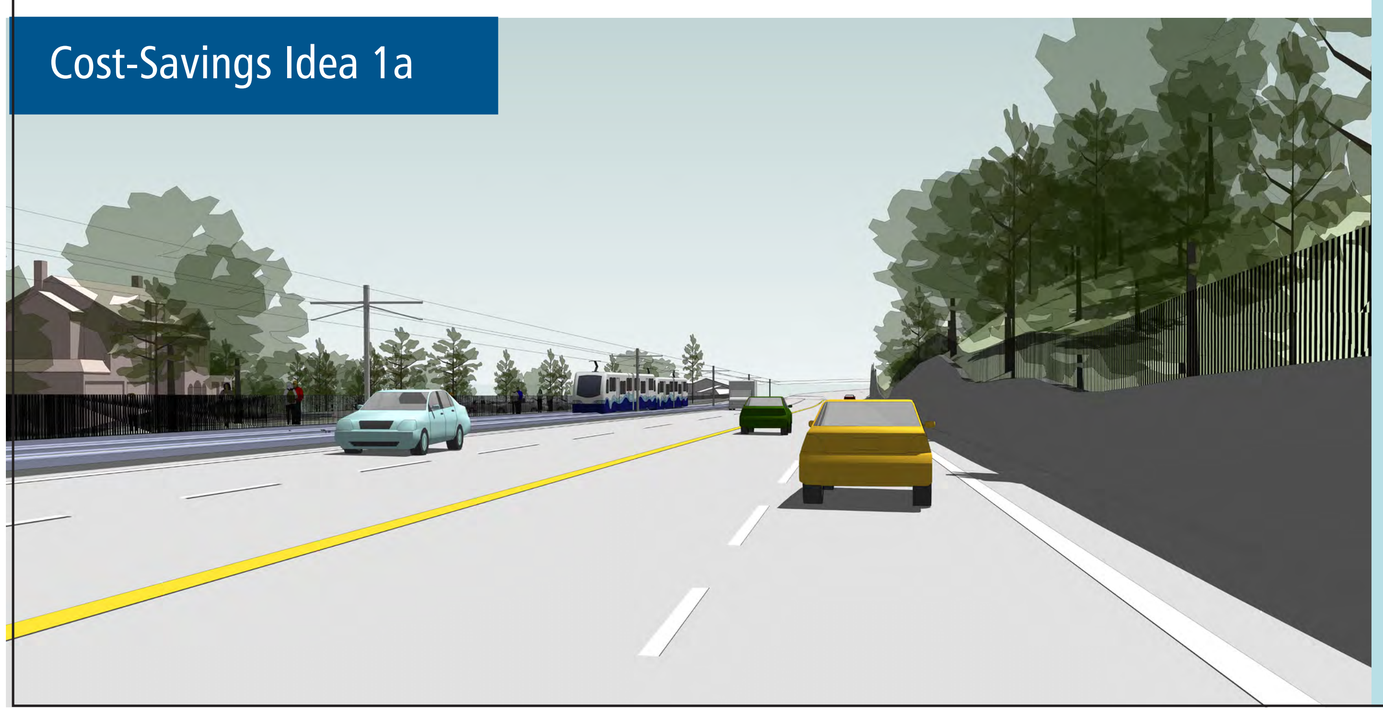
The adopted project includes an elevated structure from I-90 to the South Bellevue Park-and-Ride. The elevated alignment continues north and transitions to a lidded trench in front of the Winters House.

Cost-Savings Idea 1a



Cost-Savings Idea1a replaces the trench in front of the Winters House with at-grade light rail along the east side of Bellevue Way. Bellevue Way is shifted to the west and realigned to provide additional separation between light rail and the Winters House. The elevated guideway is extended further north to provide a driveway at the Blueberry Farm stand that will also serve the Winters House.

Cost-Savings Idea 1a



Why Consider this Alternative?

- Reduces construction cost
- Reduces construction risk by replacing a retained cut/lidded trench with an at-grade alignment
- Improves light rail operations due to fewer vertical changes in the alignment
- Provides additional separation between light rail and the Winters House
- Maintains access to the Blueberry Farm Stand

Cost Analysis

Adopted Project Estimate (2010 $)	Cost Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
$22 million	$13 million	$6-10 million

East Link Light Rail
Cost-Savings Ideas

112th Avenue SE

Cost-Savings Potential: $5-9 million

2a) 112th Ave. SE Alignment at Surrey Downs Park

MOU Recommendation

The MOU recommendation includes an elevated alignment across 112th Avenue SE. The light rail transitions to a retained cut trench after crossing 112th Avenue SE, just north of SE 8th Street. North of SE 8th Street, the alignment continues in a retained cut trench to cross below a reconstructed SE 4th Street. This concept maintains Surrey Downs neighborhood access at SE 4th Street.

Cost-Savings Idea 2a

Cost-Savings Idea 2a extends the elevated guideway slightly further north after crossing 112th Avenue. SE to accommodate a new neighborhood access road below the aerial guideway at SE 8th Street. The light rail then transitions north through a retained cut and at-grade alignment north of SE 8th Street. This new road extension replaces the Surrey Downs neighborhood access road at SE 4th Street.

Why Consider this Alternative?

- Reduces construction cost
- Construction risk is reduced by replacing a retained cut trench with an at-grade alignment
- Improves light rail operations due to fewer vertical changes in the alignment
- Avoids the need for a bridge at SE 4th St.
- Improves drainage within the trackway

Cost Analysis

Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010
$57 million	$50 million	$5-9 million

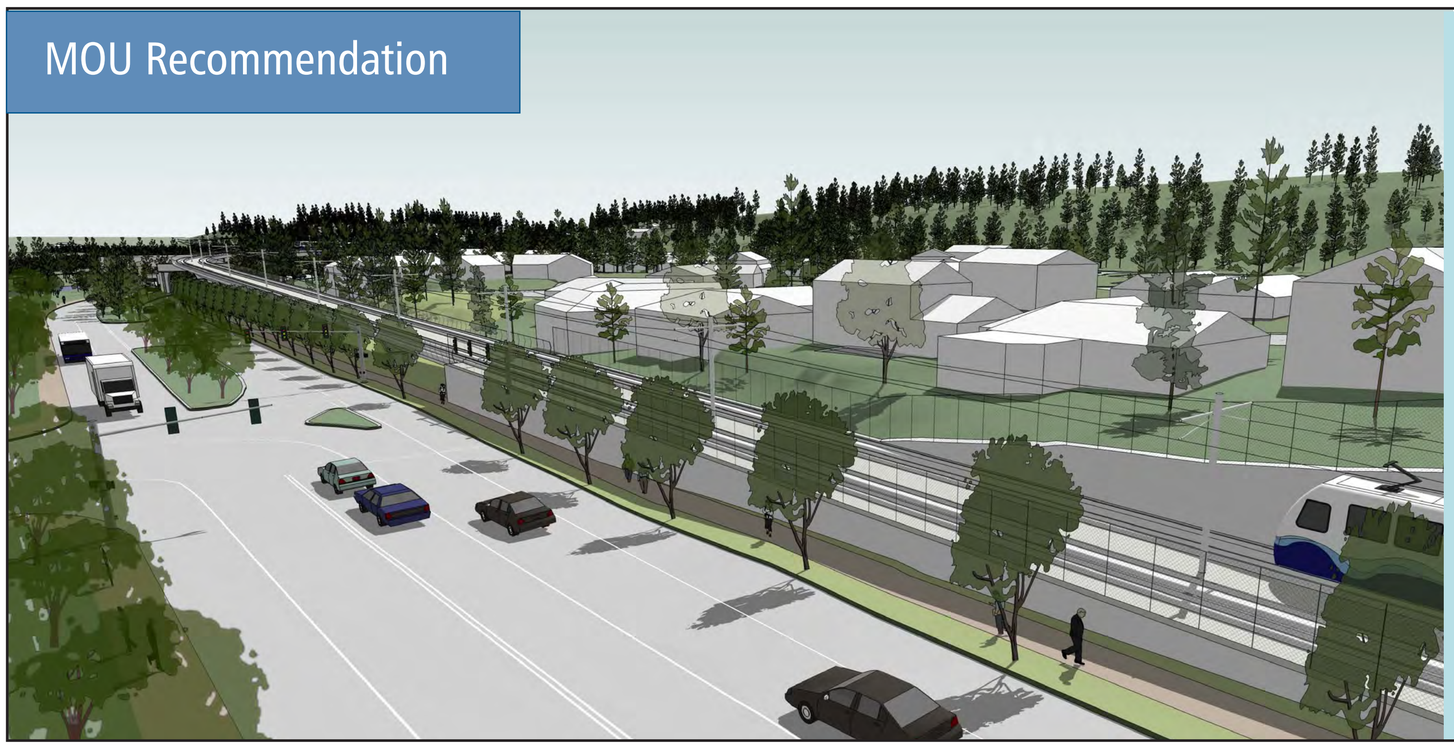
East Link Light Rail
Cost-Savings Ideas

112th Avenue SE

Cost-Savings Potential: $5-9 million

2a) 112th Ave. SE Alignment at Surrey Downs Park (Continued)

MOU Recommendation



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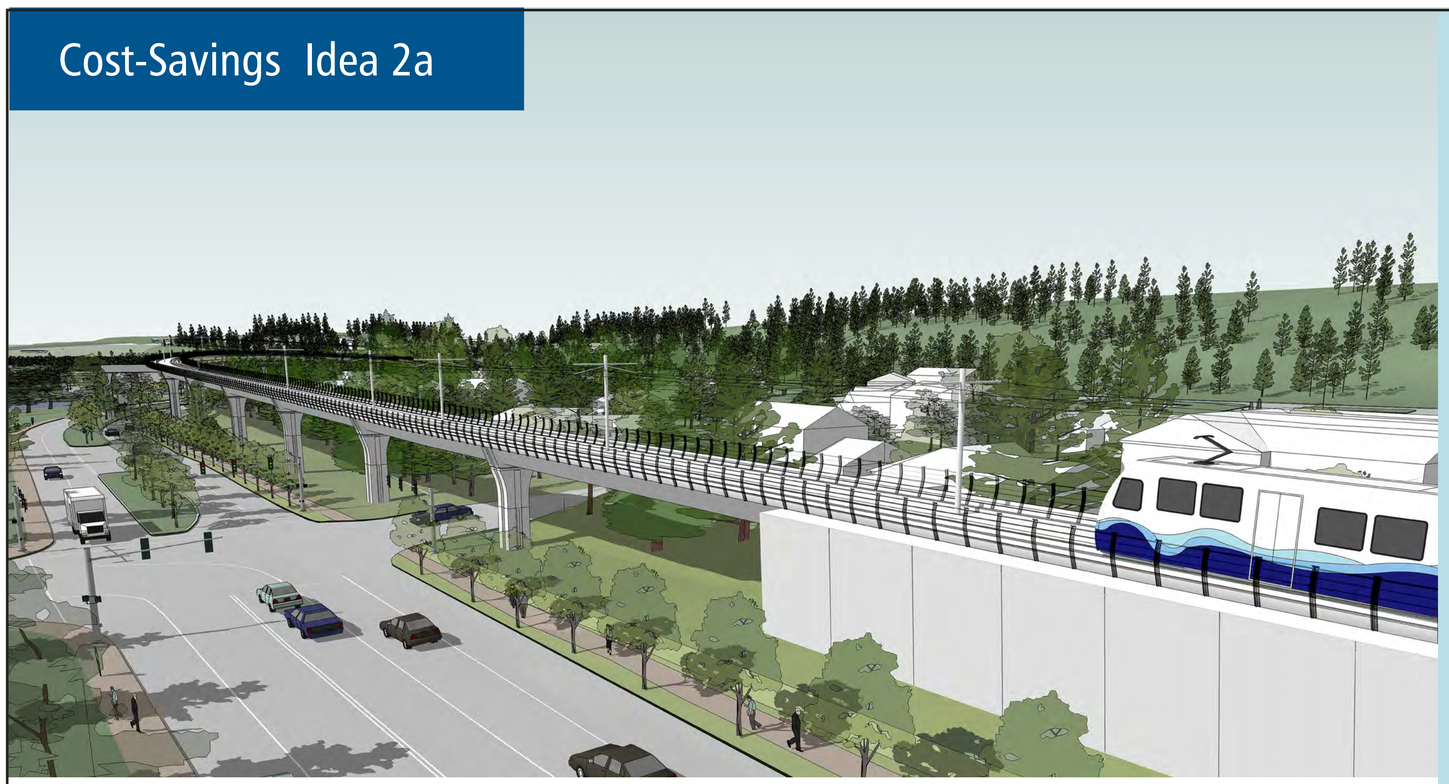
Cost-Savings Idea 2a



Cost-Savings Idea 2a extends the elevated guideway slightly further north after crossing 112th Avenue. SE to accommodate a new neighborhood access road below the aerial guideway at SE 8th Street. The light rail then transitions north through a retained cut and at-grade alignment north of SE 8th Street. This new road extension replaces the Surrey Downs neighborhood access road at SE 4th Street.

Cost-Savings Idea 2a

East Link Light Rail
Cost-Savings Ideas

Downtown Station Design

Cost-Savings Potential: $4-7 million

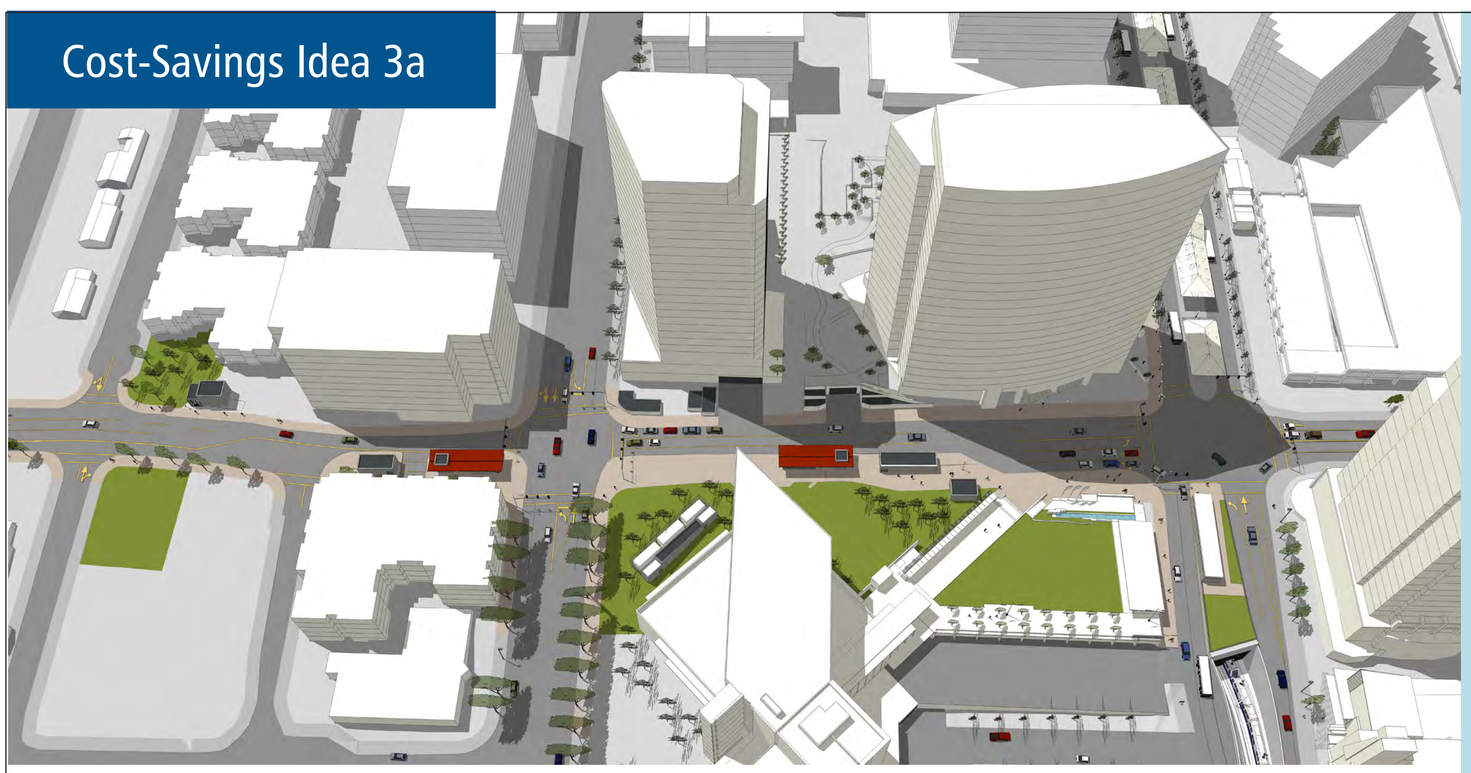
3a) Eliminate Mezzanine

Adopted Project

The adopted project provides a cut-and-cover tunnel and station with a center platform and mezzanine. The mezzanine allows passengers to move below the street from entrances along the sides of 110th Avenue to the center platform. Tunnel portal located in the median of NE 6th Street.

Identifies station entrance

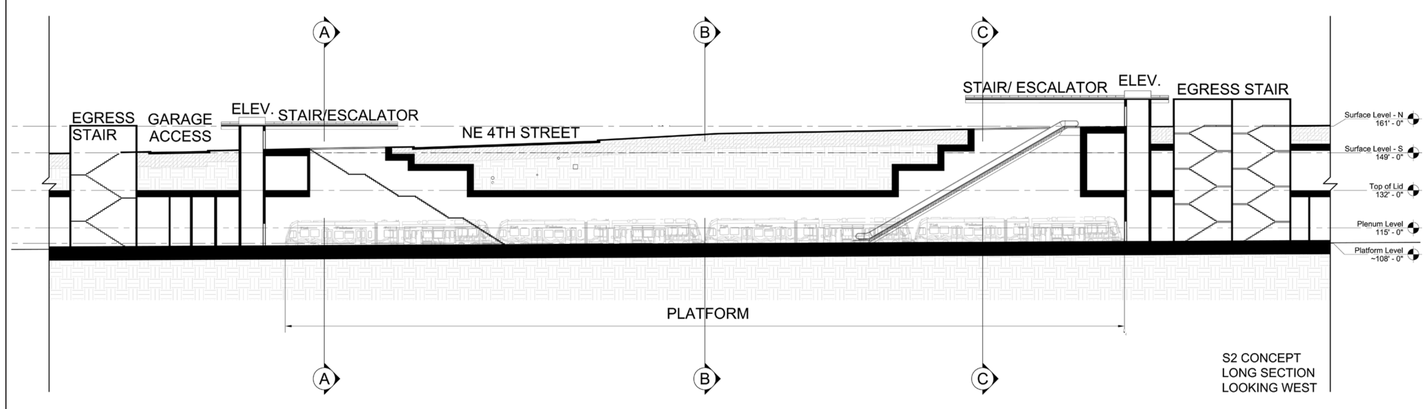
Cost-Savings Idea 3a



Cost-Savings Idea 3a eliminates the mezzanine and provides access to the center station platform from 110th Avenue NE. Two station entrances located on east side of 110th Avenue NE; north and south of NE 4th Street.

Identifies station entrance

Cost-Savings Idea 3a



Why Consider this Alternative?

- Reduces construction cost and may shorten construction duration
- Improves station access by reducing the depth of the station
- Reduces construction risk due to a shallower tunnel and station
- Successfully used in the Downtown Seattle Transit Tunnel at the International District and Convention Place Stations

Cost Analysis

Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
$70 million	$64 million	$4-7 million

East Link Light Rail
Cost-Savings Ideas

Downtown Station Design

Cost-Savings Potential: $8-13 million

3b) Stacked Tunnel Configuration

Adopted Project

The adopted project provides a cut-and-cover tunnel and station with a center platform and mezzanine. The mezzanine allows passengers to move below the street from entrances along the sides of 110th Avenue to the center platform. Tunnel portal located in the median of NE 6th Street.

Identifies station entrance

Cost-Savings Idea 3b

Cost-Savings Idea 3b constructs a stacked cut-and-cover tunnel and station. This concept eliminates the mezzanine and relocates station access to the east side of 110th Avenue NE. Two station entrances located on east side of 110th Avenue NE; north and south of NE 4th Street.

Identifies station entrance

Cost-Savings Idea 3b

Why Consider this Alternative?

- Reduces construction cost; may shorten construction duration
- Reduces construction risk due to narrower tunnel
- May reduce utility relocations due to narrower tunnel
- Successfully used in Vancouver, BC

Cost Analysis

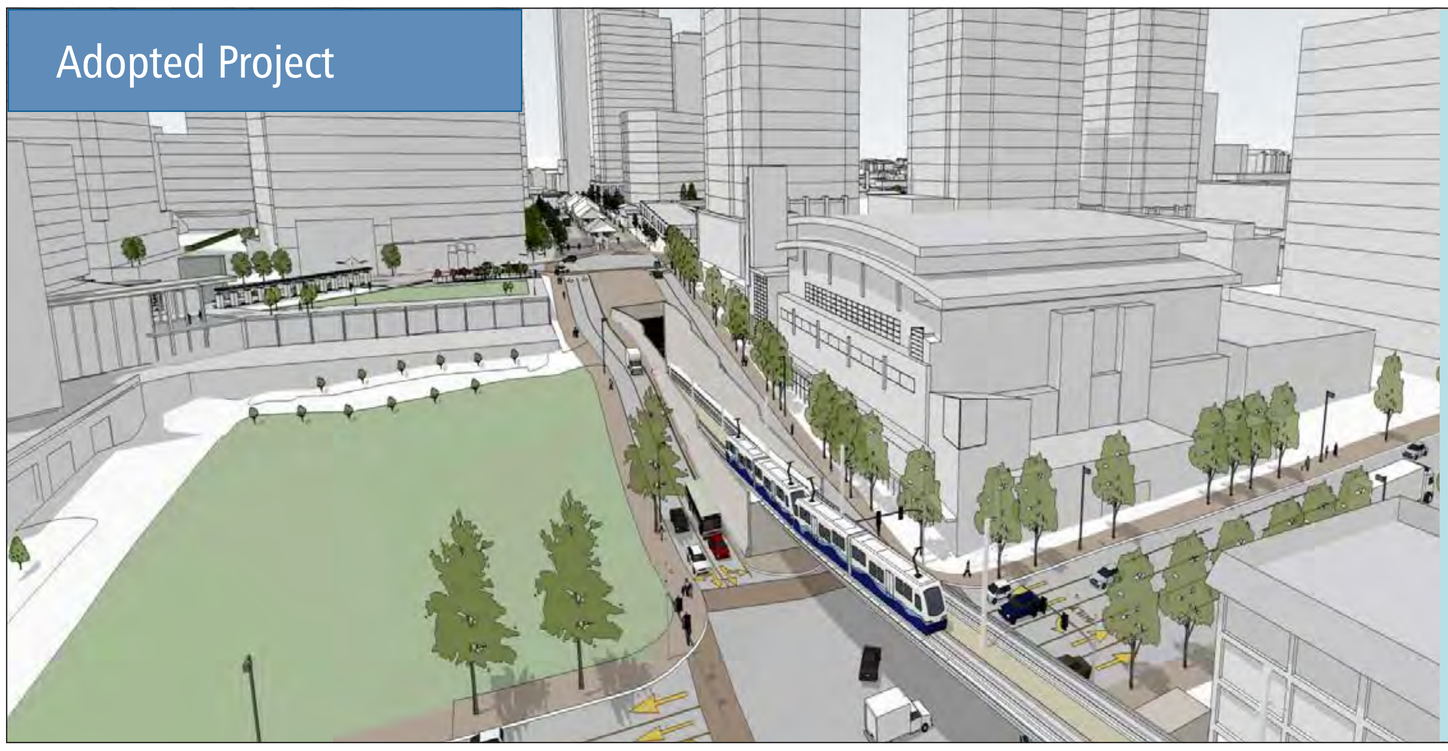
Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
$149 million	$138 million	$8-13 million

East Link Light Rail
Cost-Savings Ideas

Downtown Station Design
Cost-Savings Potential: $10-18 million

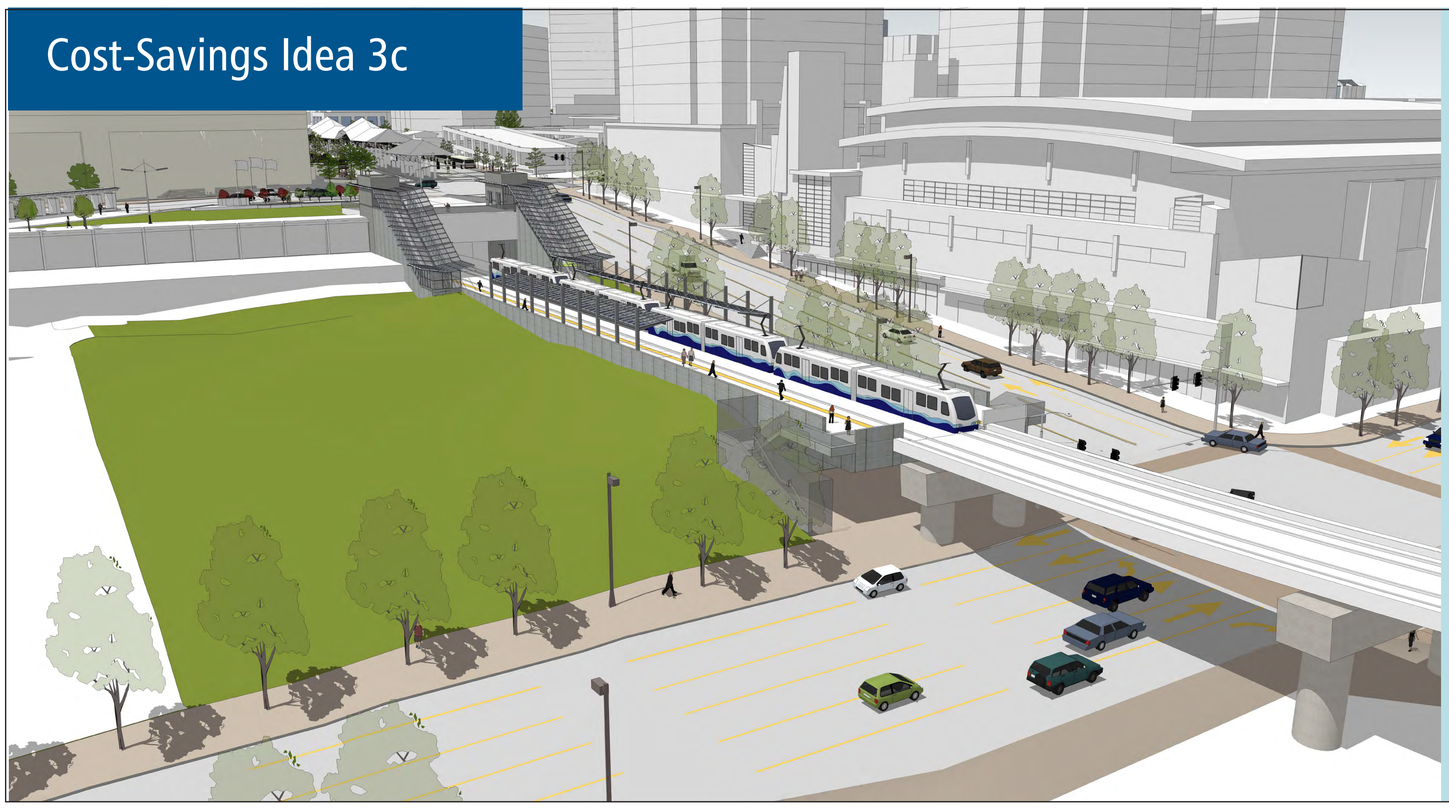
3c) Relocate Station to NE 6th Street

Adopted Project



The adopted project provides a cut-and-cover tunnel and station with a center platform and mezzanine. The mezzanine allows passengers to move below the street from entrances along the sides of 110th Avenue to the center platform. Tunnel portal located in the median of NE 6th Street.

Cost-Savings Idea 3c



Cost-Savings Idea 3c relocates the station to NE 6th Street with at-grade station access on the west end of NE 6th Street. One station entrance at NE 6th Street. The tunnel portal is located on the south side of NE 6th Street.

Why Consider this Alternative?

- Reduces construction cost; may shorten construction duration
- Reduces construction risk due to replacement of subway station with an elevated station
- Reduces construction risk due to a shallower tunnel
- Greater visibility of the station

Cost Analysis

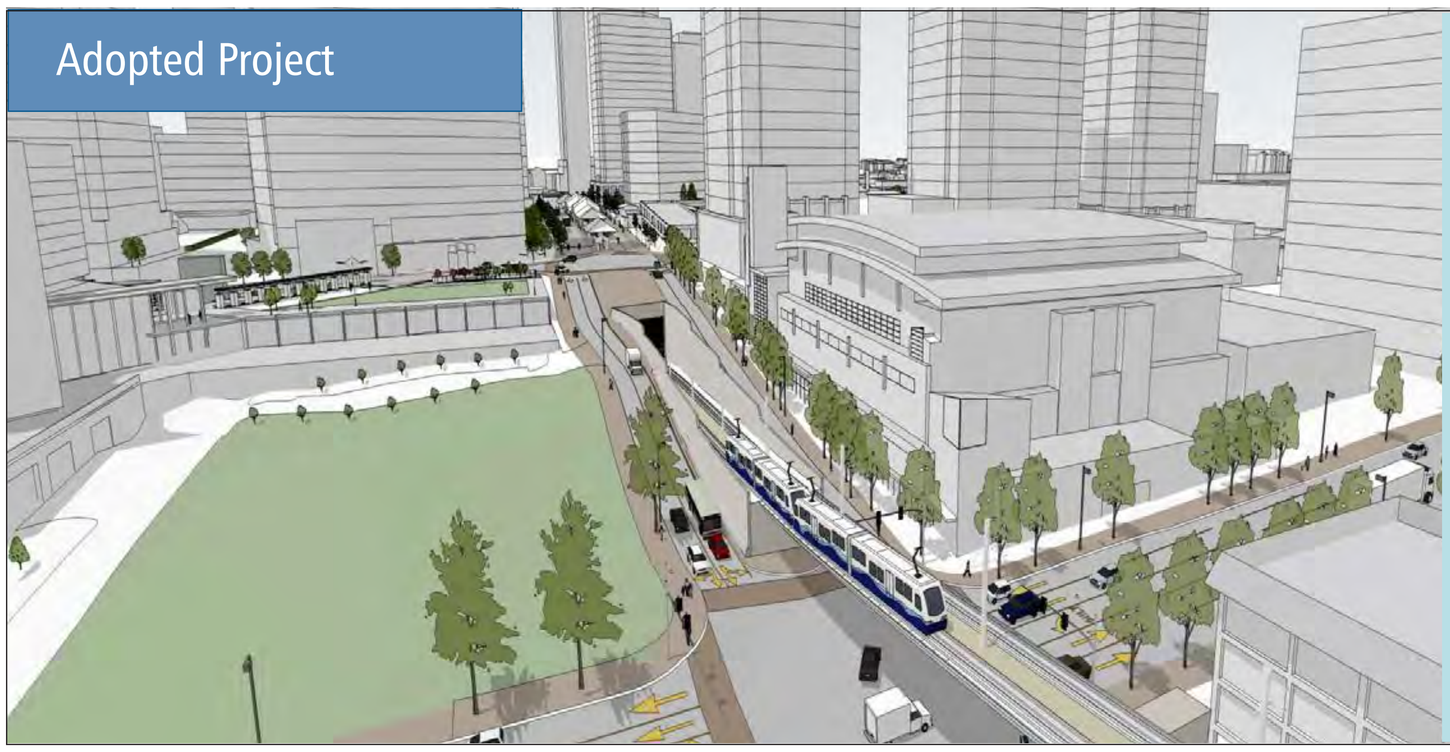
Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
$188 million	$173 million	$10-18 million

East Link Light Rail
Cost-Savings Ideas

Downtown Station Design
Cost-Savings Potential: $14-23 million

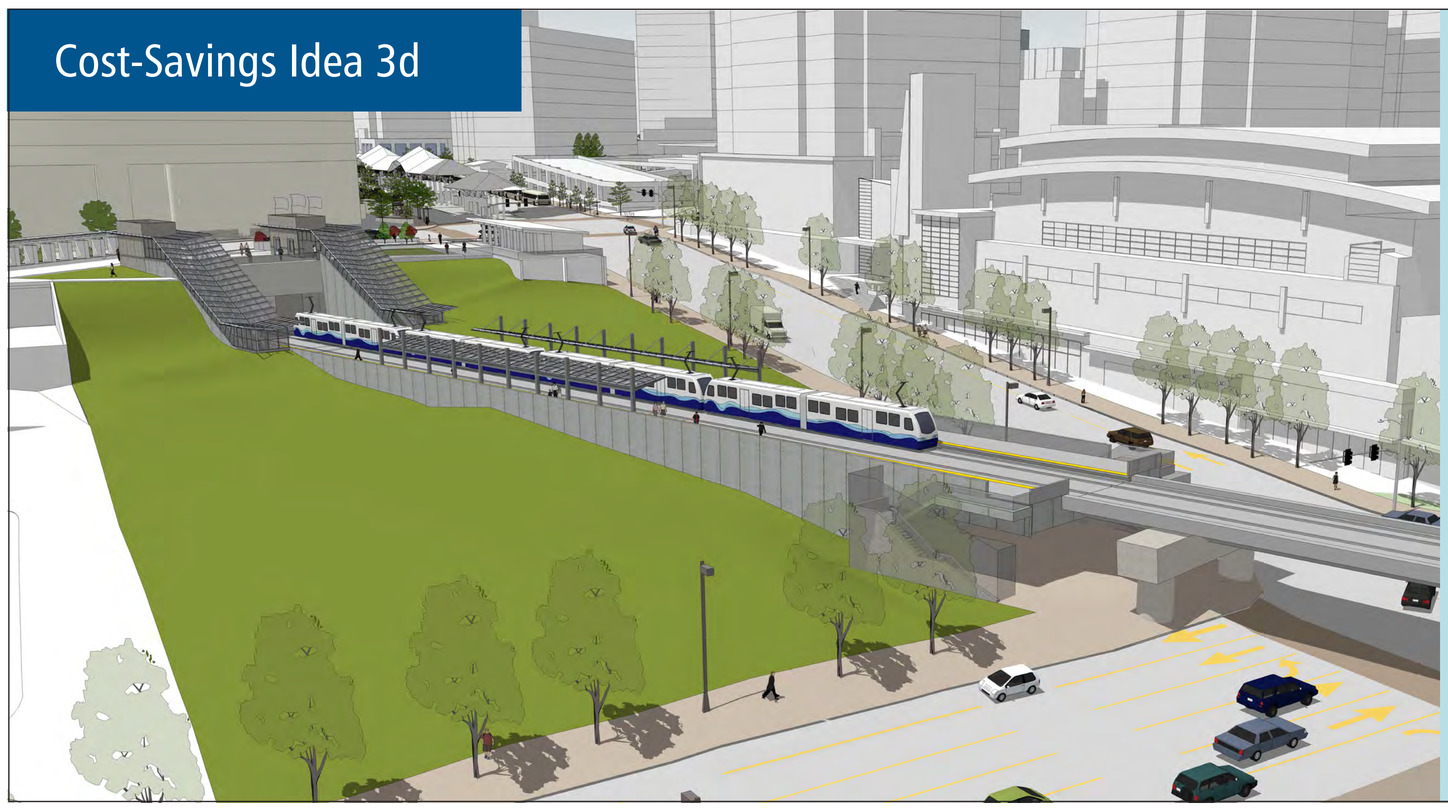
3d) Relocate Station to City Hall Plaza

Adopted Project



The adopted project provides a cut-and-cover tunnel and station with a center platform and mezzanine. The mezzanine allows passengers to move below the street from entrances along the sides of 110th Avenue to the center platform. Tunnel portal located in the median of NE 6th Street.

Cost-Savings Idea 3d



Cost-Savings Idea 3d relocates the station to the City Hall Plaza in a shallower tunnel. This concept replaces existing parking and other adjacent uses. One station entrance at NE 6th Street. The tunnel portal is located in the middle of the City Hall parking garage.

Why Consider this Alternative?

- Reduces construction cost; may shorten construction duration
- Reduces construction risk due to replacement of subway station with a partially elevated station
- Reduces construction risk due to a shallower tunnel
- Greater visibility of the station

Cost Analysis

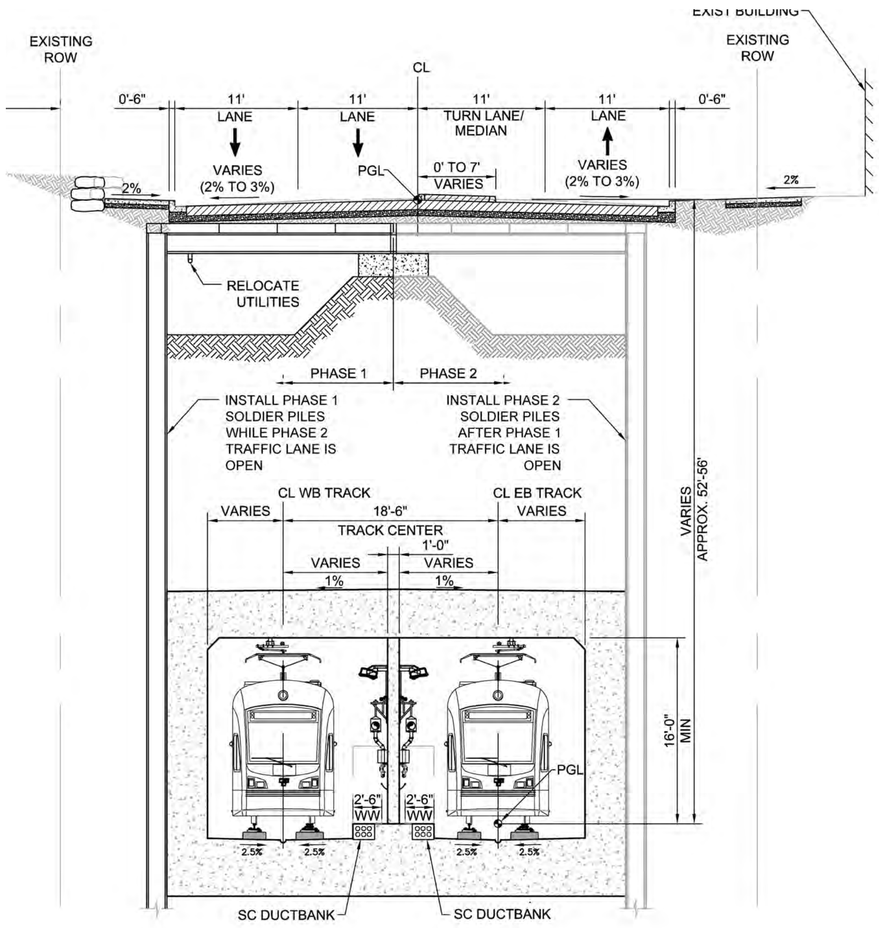
Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
$188 million	$168 million	$14-23 million

East Link Light Rail
Cost-Savings Ideas

Downtown Tunnel Design
4a) Retained Cut from Main St. to NE 2nd St.

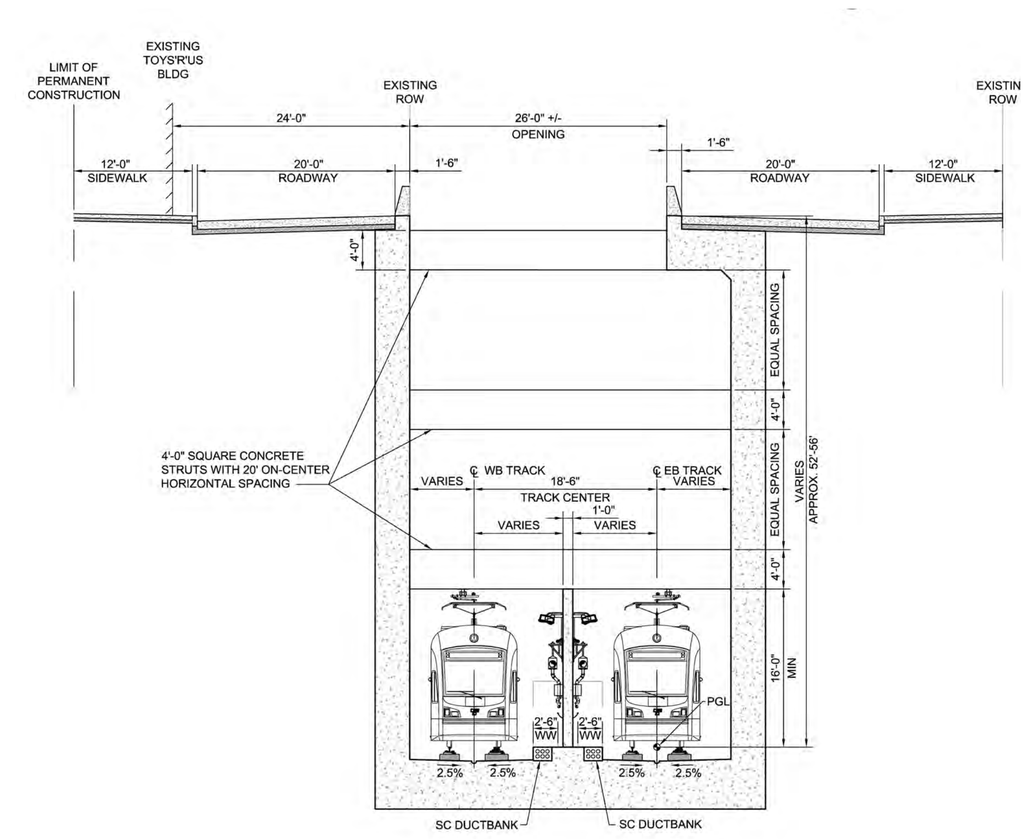
Upon further analysis, no cost-savings

Adopted Project



The adopted project includes a cut-and-cover tunnel with a station on 110th Avenue NE between Main St. and NE 6th Street. The roadway would return to it's current configuration upon completion of the project.

Cost-Savings Idea 4a



Cost-Savings Idea 4a replaces the cut-and-cover tunnel between Main Street and NE 2nd Street with a retained cut structure. The retained cut would include an opening along 110th Avenue NE. The intersections of Main Street and NE 2nd Street would be reconfigured to channel vehicular traffic. Wider travel lanes would be required to provide access for emergency vehicles.

Why Consider this Alternative?

- The original cost-savings idea envisioned a reduction in construction cost by reducing the length of the cut-and-cover tunnel and reducing tunnel ventilation requirements.
- However, after further engineering analysis and review, it was determined that this idea would in fact significantly increase costs and would also have other long-term disadvantages.

Cost Analysis

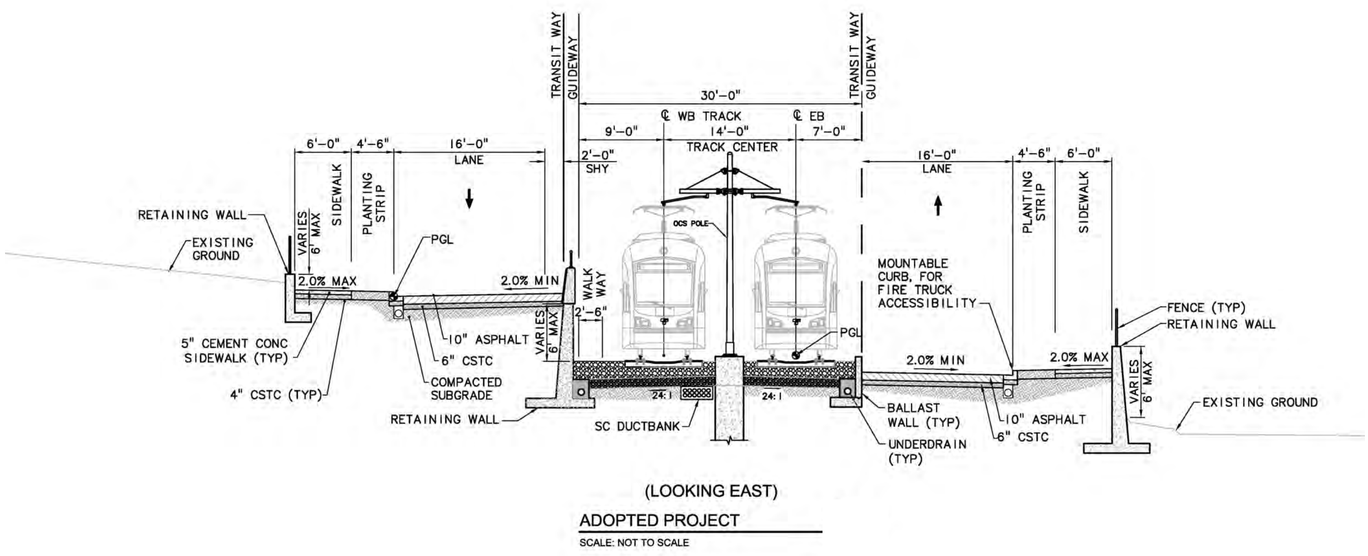
Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
Upon further analysis, no cost-savings		

NE 16th Street Road & Light Rail

5a) Build Two-Way Road on North Side of Light Rail

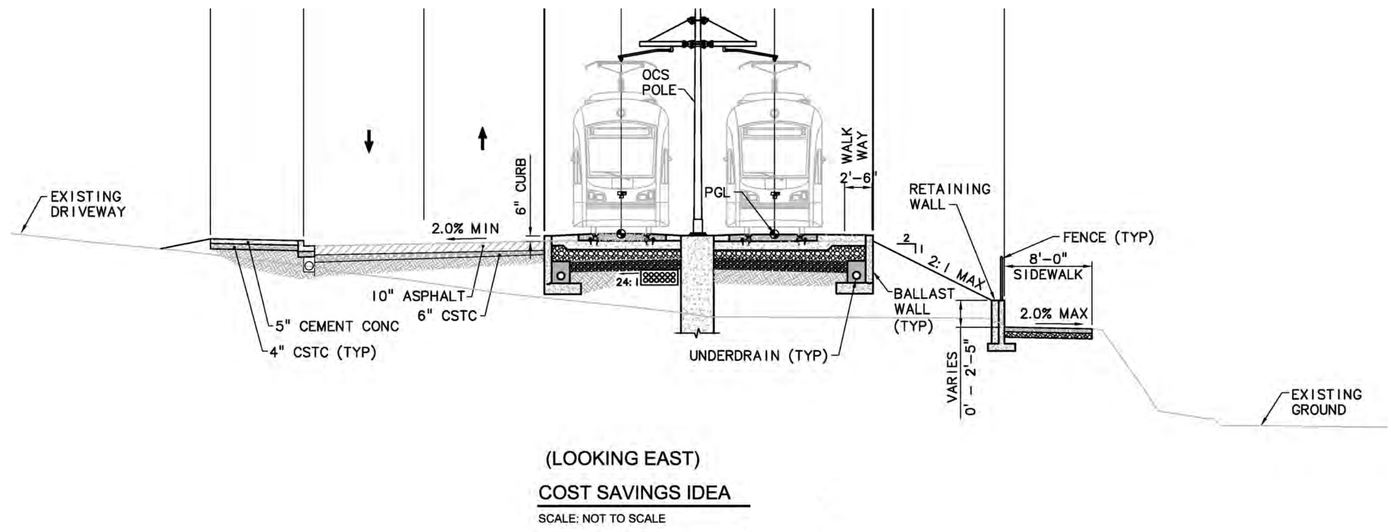
Upon further analysis, no cost-savings

Adopted Project



The adopted project builds a split roadway cross-section on both sides of the light rail guideway. The north side of the roadway is elevated above the light rail and south side of the roadway.

Cost-Savings Idea 5a



Cost-Savings Idea 5a builds a two-way road on the north side of the light rail alignment. This concept minimizes the roadway section and uses an embedded light rail guideway to improve fire access width, eliminate throw-away walls, reduce the scope of drainage improvements and overall need for right-of-way in this area.

Why Consider this Alternative?

- Total road/light rail width gets narrower
- Reduces the amount of road construction
- Supports a phased implementation of a comprehensive plan for NE 16th St

Cost Analysis

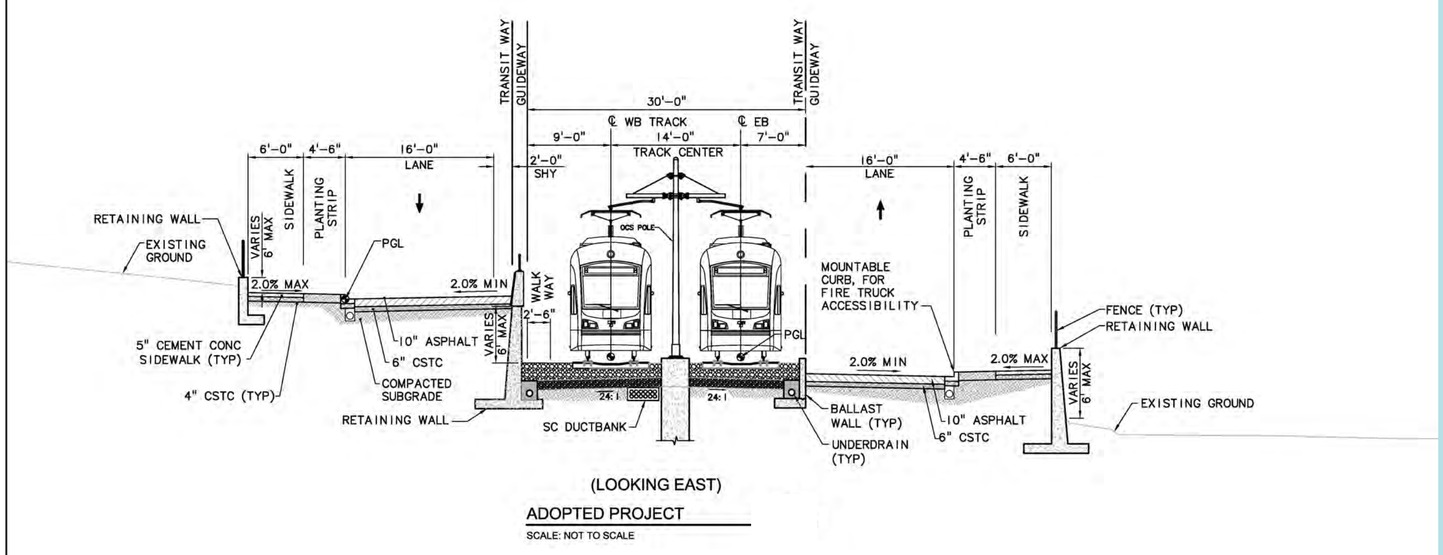
Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
Upon further analysis, no cost-savings		

East Link Light Rail
Cost-Savings Ideas

NE 16th Street Road & Light Rail
5b) Alternative Configuration of NE 16th

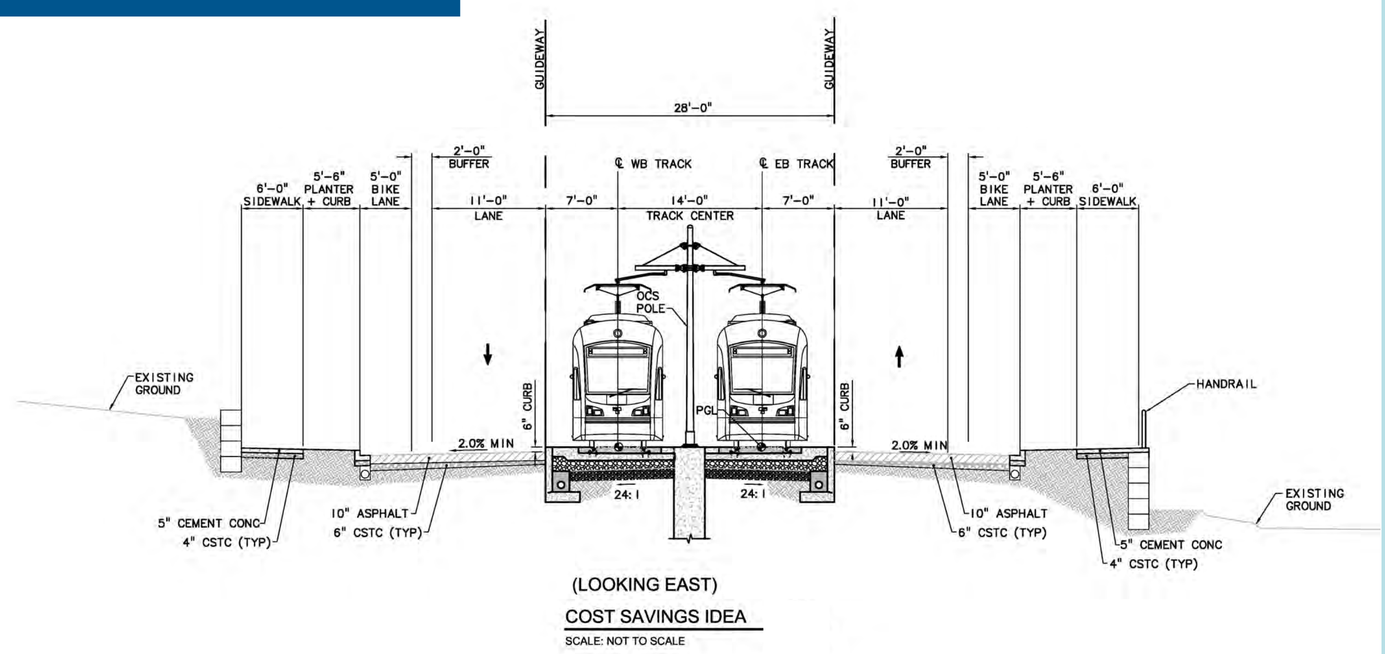
Upon further analysis, no cost-savings

Adopted Project



The adopted project builds a split roadway cross-section on both sides of the light rail guideway. The north side of the roadway is elevated above the light rail and south side of the roadway.

Cost-Savings Idea 5b



The alternative configuration of NE 16th Street provides a split roadway cross-section on both sides of the guideway. The north and south roadways are vertically aligned and positioned with the light rail.

Why Consider this Alternative?

- Reduces future cost for constructing the roadway
- Accommodates future development opportunities, and the future extension of 134th Avenue NE
- Consistent with City of Bellevue plans

Cost Analysis

Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
Upon further analysis, no cost-savings		

East Link Light Rail

What We've Heard

The first cost-savings open house generated robust community dialogue. Public comments demonstrated thoughtful insight and analysis of the cost-saving ideas. Participants identified key benefits and drawbacks for all of the ideas under consideration. The following key themes emerged:

- General support for seeking cost-savings measures
- Concern for noise and visual impacts
- Opposition to additional property acquisitions
- Concern for increased cut-through traffic in the Surrey Downs neighborhood
- Preference for a grade-separated alignment on 112th Ave SE
- Concern for environmental effects
- Support for access to downtown light rail stations
- General support for considering modifications to the downtown station

How will community feedback be included in the Cost-Savings process?

Sound Transit and the City of Bellevue will weigh public feedback from open houses, stakeholder briefings and public comment as they refine the cost-savings concepts. All comments will be compiled and shared with the Sound Transit Board and Bellevue City Council. In late June, cost-savings ideas will be identified for incorporation into value engineering and further development. As the project moves forward, there will be ongoing community engagement. City Council and Sound Transit deliberations on which ideas merit further consideration begins June 11. Comments received by June 10 will be included in the initial public comment summary. Comments received after June 10 will be included in subsequent updates.

Ideas for Further Engineering Review

Engineering cost-savings ideas are estimated to have a value of $20-24 million.

1. **Downtown Tunnel Design Optimization:** depth structural load-bearing walls, eliminate tunnel waterproofing.
   Cost-Savings Potential: $5 million
2. **Downtown Station Design Optimization:** Reduce mezzanine platform size
   Cost-Savings Potential: $3 million
3. **Elevated Guideway Design:** foundations, superstructure, construction methods, and geotech optimization
   Cost-Savings Potential: $16 million
4. **Reduce Stormwater Vaults:** Utilize low-impact development designs such as drywells, bioswales, rain gardens
   Cost-Savings Potential: $2 million
5. **Expedite Tunnel Construction Through Additional Road Closures:** Traffic closures and/or limited access along 110th Avenue NE
   Cost-Savings Potential: $13 million

Likely savings for the cost-savings ideas that may be advanced for further engineering totals $20-24 million. This assumes that about half of the total potential savings will be realized, which is reasonable for the current level of design. Actual savings will be determined with additional engineering work that will occur during final design.

East Link Light Rail

Cost-Savings Ideas That May Affect the MOU Project Description

Description	Adopted Project Estimate (2010 $)	Cost-Savings Idea Estimate (2010 $)	Range of Savings (2010 $)
1. Bellevue Way Alignment at Winters House			
a. Shift Bellevue Way west to allow space for at-grade light rail in front of Winters House	$22 million	$13 million	$6-10 million
b. Relocate Winters House, at-grade	$19 million	$13 million	$4-7 million
2. 112th Ave. SE Alignment at Surrey Downs Park			
a. At-grade, closing SE 4th Street while extending SE 8th into Surrey Downs to provide new neighborhood access	$57 million	$50 million	$5-9 million
3. Downtown Station Design			
a. Eliminate mezzanine, station entrance in outer lane of 110th	$70 million	$64 million	$4-7 million
b. Construct a stacked tunnel configuration with entrances in the outer lane of 110th Avenue. (Allows tunnel to be narrower).	$149 million	$138 million	$8-13 million
c. Relocate Station to NE 6th Street (Parallel)	$188 million	$173 million	$10-18 million
d. Relocate station to the City Hall plaza (Diagonal)	$188 million	$168 million	$14-23 million
4. Downtown Tunnel Design			
a. Retained cut from Main Street to NE 2nd Street	Upon further analysis, no savings.		
5. NE 16th Street Cross- Section			
a. Build two-way road on north side of light rail alignment	Upon further analysis, no savings.		
b. Alternative configuration of NE 16th Street	Upon further analysis, no savings.		