

Why do we need a Gondola?



Volume

Translink buses serve 25,000 transit trips a day on and off Burnaby Mountain. To serve this volume, a bus leaves the bus loop at the top of the mountain every 90 seconds in the peak hours. Despite this frequency, people are lined up waiting for service. This number is projected to increase to 40,000 trips (requiring a bus every 50 seconds) in the next 20 years. If nothing is changed, more buses would be required and additional space for parking and storing buses would be built.



Air Quality

The current diesel bus service from SkyTrain to Burnaby Mountain produces over 1,700 tonnes of Greenhouse Gas emissions per year. This will grow to 1,900 tonnes by 2030.



Reliability

About 10 days each year, bus service to SFU is interrupted or delayed due to winter weather. Standard buses must be substituted for articulated buses, reducing capacity. Steep grades make it difficult for buses to navigate and trip times are increased.

Who is involved in the planning?



Who is involved?

TransLink led the planning study, which includes a business case for the project. TransLink's main interests in looking at a gondola are its potential to deliver service more cost-effectively and reliably than buses while increasing transit ridership and reducing greenhouse gas emissions. These objectives are consistent with TransLink's long-range planning objectives as described in Transport 2040. A review of the potential for a gondola was therefore included in TransLink's 2010 Ten-Year Plan.

The City of Burnaby is the local approving authority (for land use, zoning, civic property access and permits). SFU, SFU Community Trust, and the BC Ministry of Transportation and Infrastructure were also consulted.

What is the planning process?

Early feasibility work on the idea of a gondola up Burnaby Mountain showed promise as a project that could improve transit service, reduce impacts on the environment, and save operating costs. In November and December of last year, TransLink held six pre-consultation meetings to provide stakeholder groups with preliminary information about feasibility work being undertaken, and ask for input on the ways in which people would like to be contacted and consulted should a decision be made to proceed. TransLink then commissioned a planning study and business case – to study feasibility and impacts of potential technologies, routes, capital and operating costs, bus service savings, and overall affordability for taxpayers. The Planning Study is almost complete. Consultation input will be considered in finalizing the report, which will be made available on our website.

What technologies were considered to meet the need?

The planning study reviewed a number of potential transit solutions for Burnaby Mountain. These included ground based technologies: trolley buses, light rail transit, funicular, rack railway, and SkyTrain; and aerial technologies: reversible ropeway tram (like the Grouse Mountain tram), and different types of gondolas – monocable, 2 and 3 rope, and funitel.



Accounts	Diesel bus	Trolleybus	SkyTrain	LRT	Rack railway	Funicular	Aerial tram	Monocable gondola	3S gondola
Transportation	○	○	○	○	○	○	○	○	●
Environment	○	○	○	○	○	○	●	○	●
Financial	○	○	○	○	○	○	○	○	○
Deliverability	○	○	○	○	○	○	○	○	○
Urban Development	○	○	○	○	○	○	○	○	○
Social & Community	○	○	○	○	○	○	○	○	○



Recommended Technology: 3 Rope Gondola

(like the Peak 2 Peak in Whistler Blackcomb)



Why?

Capacity



30–35 person gondolas can carry 4000 or more people per hour per direction in approximately half the time of the current bus trip. Initial capacity would be about 3000 per hour. Cabins will circulate continuously during operating hours, every 40 seconds in peak periods.

Environment



By eliminating the need for the majority of buses traveling up the steep mountain grade, the gondola could eliminate 35,000–55,000 annual hours of bus operation from Burnaby Mountain. The locations of support towers can be selected to minimize land impacts.

Reliability



The 3 rope gondola technology is tolerant of high winds and can continue to carry riders regardless of snow and icy road conditions.

Accessibility



Loading and unloading is universally accessible due to the very low speeds in the terminal buildings and a level threshold with no step. Gondola cabins could be outfitted with flip seating to accommodate wheelchairs, strollers and bikes.

Noise



Operation is quiet and would be lower than background noise in residential areas.

How much would it cost to build and operate?

A gondola would:

- Cost about \$120 million to build
- Reduce annual operating and bus costs by \$2 to \$5 million
- Avoid the need to build a \$10 million bus facility at SFU

By 2021 a gondola would deliver the following annual benefits:

- Up to 2 million hours of transit and auto travel time savings
- Up to 26 million reduction in vehicle km (auto driving)
- Up to 7,000 tonne annual reduction in GHG emissions from cars and buses
- \$2.9 million in annual vehicle collision savings
- \$4.2 million in auto operating cost savings



How were different routes evaluated?

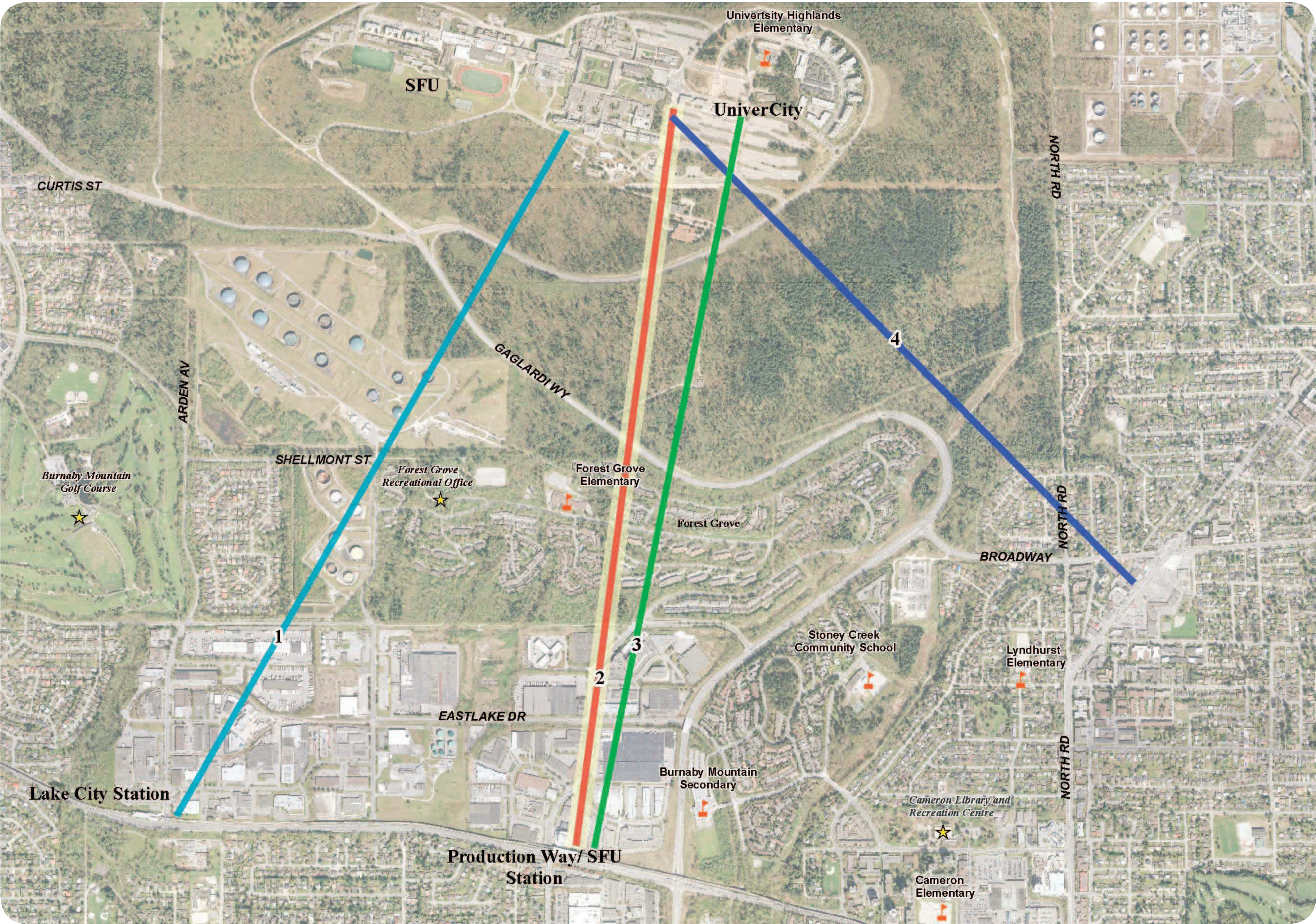
Gondola Route Evaluation

Issue	1: Lake City	2: Production Way – Transit Hub	3: Production Way – Tower Rd	4: Burquitlam
Conservation Area Impact	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Residential Impact	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
SkyTrain/Transit Integration	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
SFU Campus/UniverCity Integration	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Property acquisition risk	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Safety & Approvals (external causes)	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
Cost (including property)	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>



Potential gondola routes were evaluated based on their ability to:

- Minimize conservation area impacts
- Minimize neighbourhood impacts
- Minimize length of route – (reduce cost and travel time, avoiding kinked alignments)
- Minimize impacts of tower locations
- Maximize transit integration – with SkyTrain and SFU/UniverCity



Recommended Route

The route that best meets the criteria is the direct route from Production Way to the UniverCity/SFU terminus.

- Minimizes impacts on conservation area
- Minimizes residential property crossing
- Minimizes travel time (6.5 minutes versus 15 minutes by bus)
- Maximizes integration with transit facilities
- Least conflict with utilities
- Potential low impact tower locations

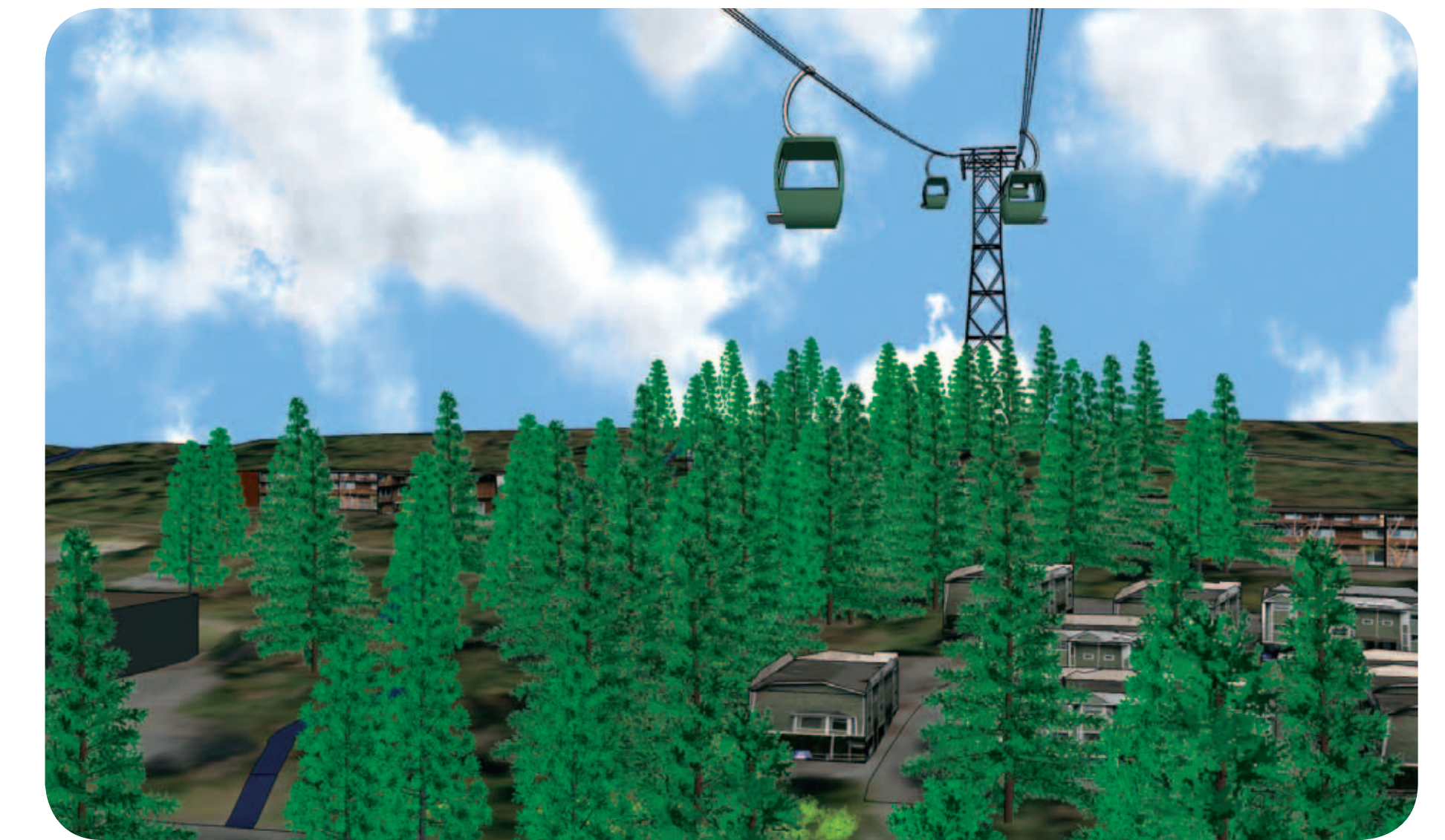


What would the gondola look like?



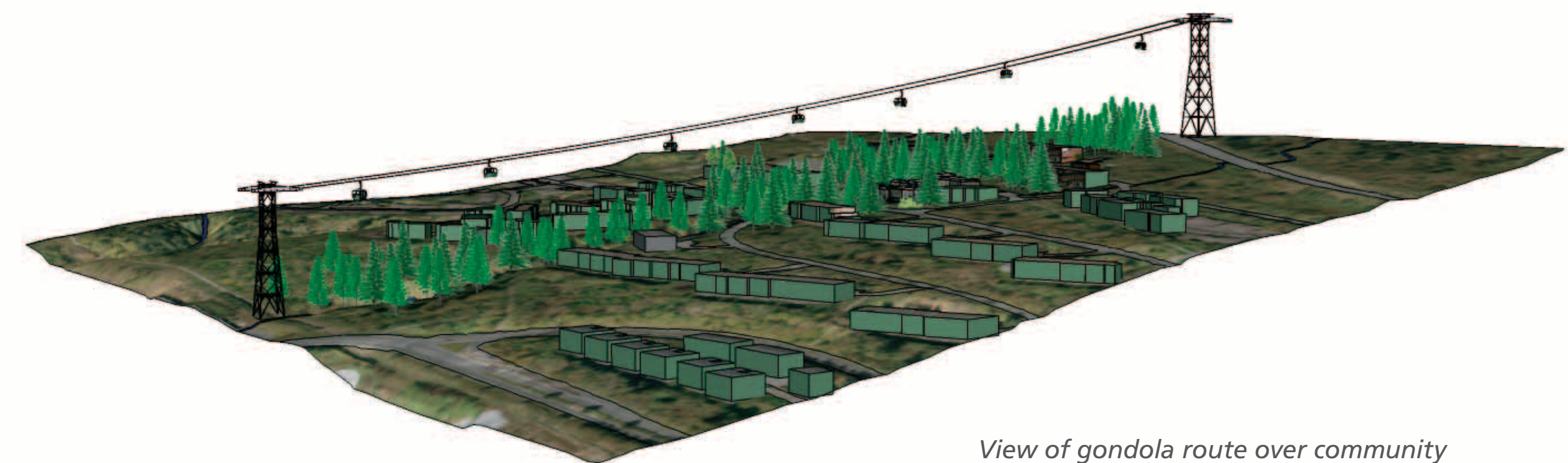
View from a residential property

The gondola route would travel over a portion of the Forest Grove residential community at the foot of Burnaby Mountain. The gondola would travel approximately 40 metres (130 feet) above the ground and over top of the tree canopy. The operation is very quiet.



View from a gondola cabin over community

The tree canopy would be left largely intact, minimizing the visibility of homes from the cabins.



View of gondola route over community

A key objective would be to minimize any impacts on residents. Construction methods permit the installation of the cable with minimal disruption to the trees and land, and much of the road access for tower construction is already in place.

Where would the gondola towers be located?

There would be 5 towers of up to 70 m (230') to support the cables carrying the gondolas. The heights and exact locations of these towers have not been determined, as this is a key topic requiring input from stakeholders and the community. Tower locations and environmental impacts will need the approval of the City of Burnaby and an environmental assessment will be undertaken. A key commitment of this project is to minimize impacts on the environment and in the conservation area in particular.

Locating the towers on the road would make them more visible, but visual impacts could be mitigated by landscaping or paint treatments. Locating towers in the forested area would have greater environmental impacts but may make them less visible.

TOWER LOCATION OPTIONS:

- Edge of forest/next to roads
- In forest
- Over/straddling roads

Please provide comments on this topic in the feedback form.

Key Project Objective – minimizing impacts on conservation areas

A key driver in planning the project is minimizing impacts on the conservation areas. An environmental assessment will provide us with direction regarding specific requirements to reduce impacts on trees, trails, streams, fish, and wildlife. Project decisions, including tower locations and construction methodology, will be driven by this objective.



How will the gondola integrate with the existing transit system?

Bus routes would be changed to avoid unnecessary duplication with the gondola.

- Bus 145 would be replaced by the gondola
 - » Bus 145 would still operate very early mornings and late nights when the gondola is closed, and during gondola maintenance.
- Bus 143 would be replaced by the gondola once the Evergreen Line is built and operating
- Routes 135 and 144 would be unchanged.
- Other routes in the area (such as 110 and 136) may be slightly modified to maintain coverage

Please provide comments on this topic in the feedback form.



The lower terminus of the gondola would be built adjacent to the existing bus loop at Production Way, and connected by a new covered concourse area. The upper terminus would be just below the town square across from the SFU bus loop.



Ticketing would be integrated with the rest of the transit system.

Next Steps



- The planning study and business case are being completed – consultation input will be considered in final recommendations.
- Sources of funding from three levels of government are being considered. Some grant funding may be available due to the environmental benefits and innovative components of the project.
- Investment in this project will be considered among other regional transportation priorities.
- An environmental assessment process for the project will be determined.

A final decision regarding the proposed Burnaby Mountain Gondola Project will be made by TransLink. In making this decision, TransLink will consider findings in the planning study and business case, and input from public consultation.

We want to hear from you.

Your feedback is important to us. We are seeking public input on these topics:

- Tower location options
- Topics that are of interest to stakeholders for consideration in design and construction
- Integration with the existing transit system

Please complete a feedback form provided at the Open House or online at **translink.ca**. The deadline for submitting your feedback in this consultation is June 30, 2011. TransLink will consider this input as it makes a decision on whether to proceed.