

Metro North Transmission Project

Project Update October 2017

Project Update

Since October 2016, our focus has been on completing the necessary field work to help develop our preliminary design and preferred routes for the additional transmission line.

At this time, we've determined the planned 230 kilovolt (kV) power line would be approximately 27 kilometres (km) long and include:

- A 10 km overhead power line from Meridian Substation in Coquitlam (Westwood Plateau area) to the south side of Burrard Inlet in Burnaby;
- A 9 km underground power line from the south side of Burrard Inlet to Horne Payne Substation in Burnaby (Lougheed Highway and Gilmore Avenue);
- A 8 km underground power line from Horne Payne Substation to Mount Pleasant Substation in Vancouver (West 6th Avenue and Alberta Street);
- A new terminal station on BC Hydro property south of Burrard Inlet where the overhead line will transition from overhead to underground; and,
- New infrastructure at existing substations in Coquitlam, Burnaby and Vancouver.

Design is ongoing and subject to change. We'll share new information with you as it comes available.

A new transmission line to meet growing demand for energy

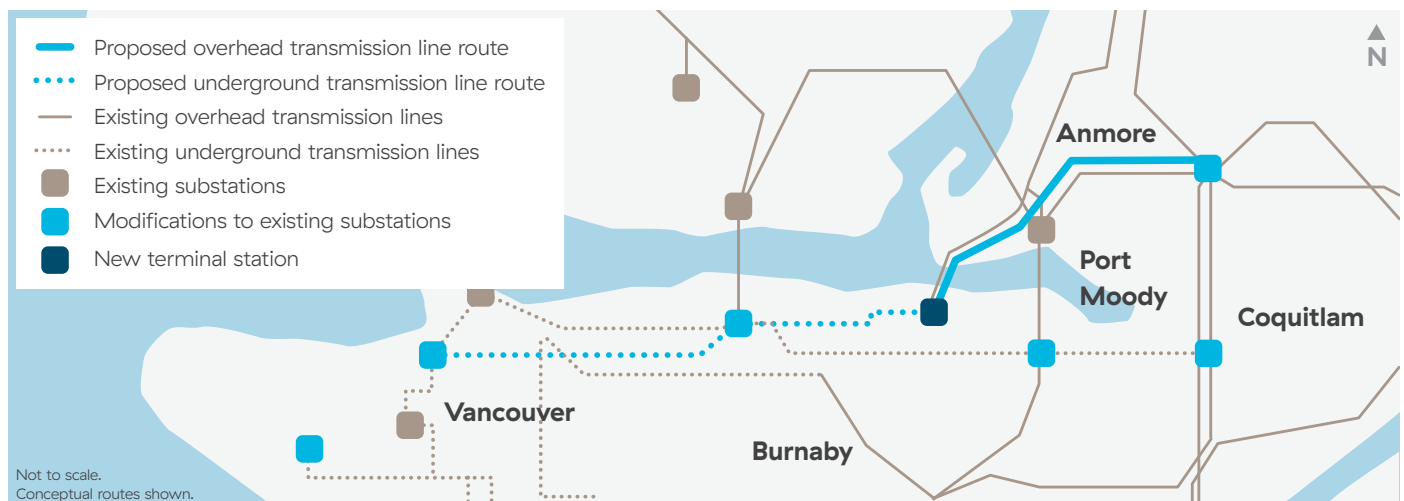
Metro Vancouver is growing and so is the demand for electricity. To ensure we can reliably meet your needs, we're planning to build an additional power line between Coquitlam and Vancouver. We're working to ensure the line is in place as early as 2021.¹

The Metro North Transmission Project will:

- **Address increasing electricity demand** by increasing electrical transmission capacity and strengthening the reliability of the Metro Vancouver electricity network.
- **Benefit residential and business customers** by supporting growth, reducing the risk of overloading cables, and facilitating redistribution of electricity in the event of circuit outages.

¹Required in service date is influenced by load forecast, which is monitored annually. Construction will not begin until the project is approved by the BC Utilities Commission and a final investment decision is supported by BC Hydro's Board of Directors.

Here's a look at our preferred route:



Check out bchydro.com/mnt for detailed maps of our preferred route.

Minimizing our footprint

During preliminary design, it is important to us that we minimize our footprint as much as possible.

For the overhead portions of line, our preliminary design uses existing rights-of-way that have been in place since the 1940s. Where we don't have overhead rights-of-way, we are designing the line to go underground in city streets, where possible. For the underground portions, we aimed to find a route that would minimize the cable length and bends, and avoid streets with high utility congestion from water mains, sewers, storm pipes and other utilities. Our objective was also to minimize the risk of impacting the existing tree canopy during construction.

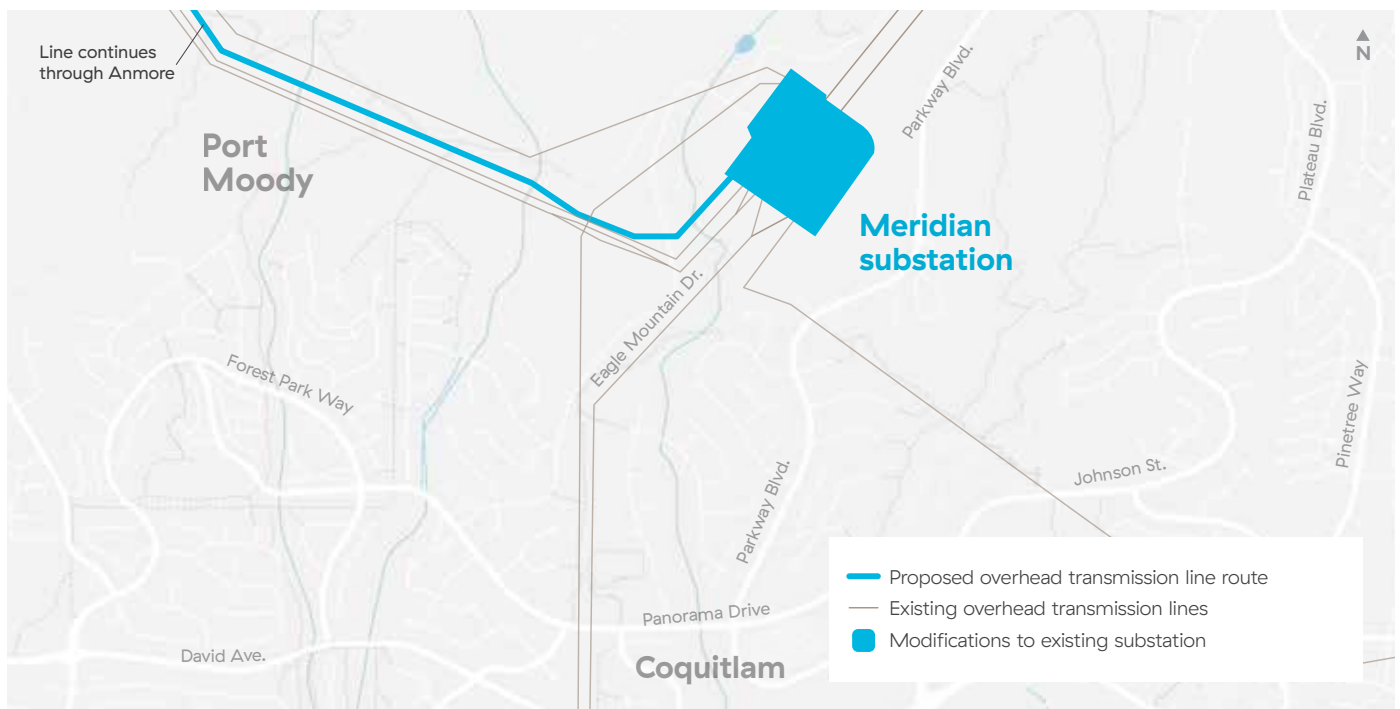
For areas along the overhead route where tree removal is necessary, we are using professional arborists and foresters to assess the amount of clearing needed to keep our power lines safe. We also follow strict environmental requirements that minimize impacts near bodies of water and protect at-risk species and habitat.

We've held ongoing meetings with First Nations, local and regional governments, transportation authorities, community groups, residents, and other stakeholders to discuss the project and inform our preliminary design. We'll host additional engagement events in the upcoming months and continue to provide opportunities for feedback online.

Coquitlam

In Coquitlam, our preliminary design has the additional 1 km long power line on approximately seven steel, H-frame structures starting at Meridian Substation. The power line would be within an existing right-of-way, which currently contains four power lines that have been in place since the early 1970s.

We would need to remove some trees between existing lines to ensure the safety and reliability of the additional transmission line. Our priority is to minimize the amount of clearing required.



Anmore

Our preliminary design in the residential area of Anmore includes:

- Installing an additional overhead 230 kV transmission line within our existing right-of-way. This line will parallel existing lines in the right-of-way.
- Replacing six existing wooden H-frame structures, supporting one 230 kV transmission line, with three taller steel monopoles supporting two 230 kV transmission lines. These monopoles will be similar to three existing monopoles in the right-of-way.
- Adding grounding wire to the three existing monopoles, supporting two 230 kV transmission lines.

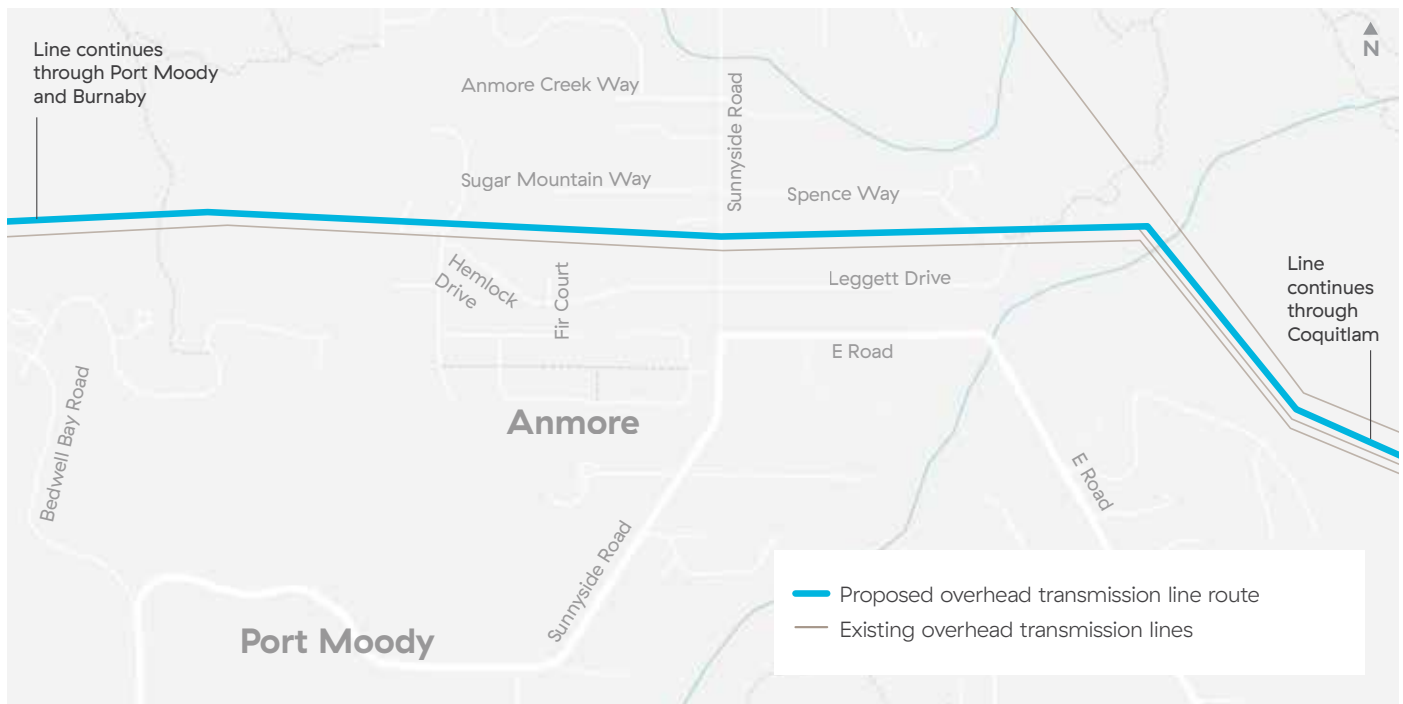
Since August 2017, we've conducted field studies along the right-of-way to:

- Confirm our right-of-way boundaries;
- Identify sub-surface conditions at proposed monopole locations;
- Identify archaeological areas of interest; and,
- Assess existing trees both within and just outside of the right-of-way.

Some residents have asked why we can't build the additional line underground through Anmore. We assessed an underground option and learned that it would cost approximately 3.5 to 4 times more to build an underground cable. It's difficult for us to justify the significant cost increase to underground the line when there is sufficient space in an existing right-of-way for an overhead line. Further, even if the additional line was built underground, the three existing transmission lines would still remain overhead.

We're looking for ways to reduce potential impacts to properties along the right-of-way. This includes:

- Compressing the construction schedule where possible to ensure the majority of work takes place over a shorter period of time;
- Minimizing the amount of new infrastructure that will be built along the existing right-of-way; and,
- Hiring a landscape architect to develop landscape and restoration plans to restore affected properties.



Port Moody/Burrard Inlet Crossing

In Port Moody, our preliminary design includes the proposed power line built along approximately 5 km of our existing right-of-way:

- Between Coquitlam and Anmore, there is a short 760 metre (m) section where the line would be supported by two steel H-frame structures, totaling five poles.
- West of Anmore the line would re-enter Port Moody, staying within our rights-of-way in and adjacent to Belcarra Regional Park, and passing through a short section of Admiralty Point Park before it spans Burrard Inlet. For this area, we will be consolidating existing lines with the new power line onto fewer, taller poles. Our current design lets us reduce the total number of existing structures by almost half; 78 wooden structures would be replaced with approximately 28 taller, steel structures. We still need to design the towers and determine their exact placement within the right-of-way.

Approximately 2 km of the existing right-of-way is within Belcarra Regional Park. We aim to minimize impacts to the park by:

- Maximizing vegetation retention and minimizing disturbance in riparian areas;
- Planning work outside of bird nesting window, where possible;
- Retaining the maximum amount of healthy understory trees in the right-of-way;
- Where we have to remove or modify hazard trees outside of the right-of-way, modifying some into standing wildlife trees and coarse woody debris; and,
- Using existing access.



Burnaby

After crossing Burrard Inlet to Burnaby, the line would transition from overhead to underground. The transition structure would be built on BC Hydro–owned land south of Barnet Highway and some tree clearing would be required.

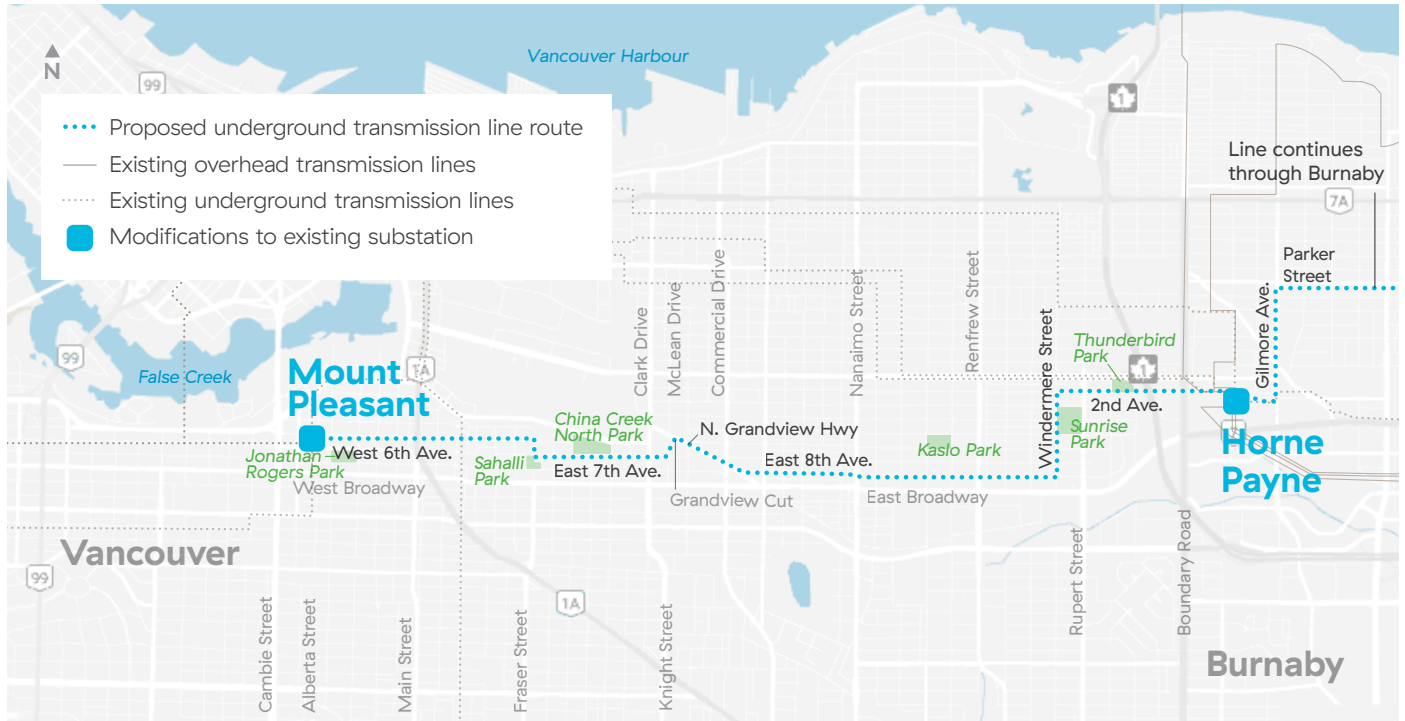
From here the line would run underground along Barnet Highway in the eastbound curb lane, connecting to Sperling Avenue via Inlet Drive/Hastings Street. The line will continue south on Sperling then turn west onto Curtis/Parker Street to Gilmore Avenue. At Gilmore, the line will run south and enter Horne Payne Substation. The exact placement of the underground line in city streets is the subject of ongoing study.



Barnet Highway



Vancouver



From Horne Payne Substation in Burnaby, the additional cable would run underground via Vancouver city streets to Mount Pleasant Substation:

- The cable would cross Highway 1 underneath East 2nd Avenue to Windermere Street using a trenchless construction method.
- From Windermere Street the cable would be routed along East 8th Avenue, North Grandview Highway, cross the Grandview Cut at McLean Drive and travel along East 7th Avenue, Fraser Street then East 6th Avenue.

The exact placement of the underground line in city streets is the subject of ongoing study.

Investing in communities Crossing the Grandview Cut: A new walking and cycling bridge

We're proposing a new walking and cycling bridge that would be built from North Grandview Highway to East 6th Avenue at McLean Drive to facilitate the crossing of the Grandview Cut. The bridge would improve walking and cycling connections for those using the Central Valley Greenway. It would also contain our new transmission cable, suspended underneath the structure.

The preliminary design for the 60 m long bridge features:

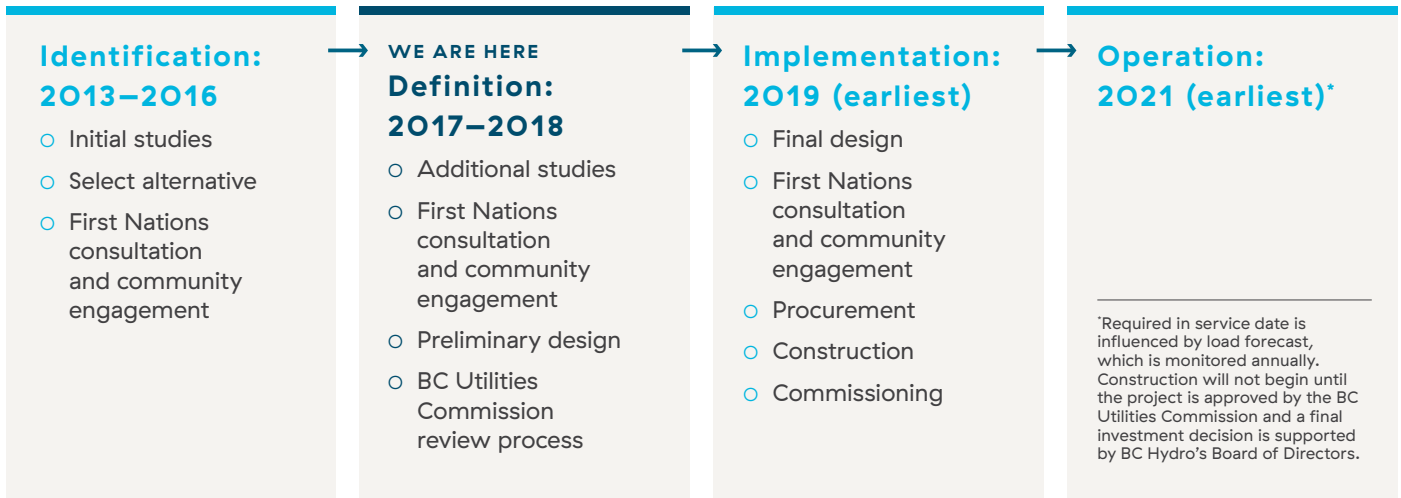
- A 3.5 m cycling path and 2.5 m walking path
- Lighting for visibility and safety
- Seismic design for a 1-in-2,475 year earthquake

In August 2017, we held outdoor engagement events near the Grandview Cut regarding the proposed walking and cycling bridge. Read a summary of the feedback we received on our project website (bchydro.com/mnt).



Rendering of proposed walking and cycling bridge.

Project timeline



Minimizing our impact

We manage our projects in a financially, socially, and environmentally sustainable way. We're working with independent environmental consulting firms, to identify impacts and develop mitigation strategies now to inform environmental management and monitoring activities should the project proceed to construction. We'll report on these findings and strategies within our application to the BC Utilities Commission in spring 2018.

We're looking at:

- Air quality
- Noise
- Fish, fish habitat and aquatic biology
- Vegetation including at-risk plant species
- Wetland habitat, health and function
- Wildlife and wildlife habitat
- Visual landscapes
- Land and resource use including parks, recreational and tourism areas, utilities and land use plans
- Contaminated sites
- Economy
- Community
- Heritage resources

What's next?

In spring 2018, we'll submit our application for a Certificate of Public Convenience and Necessity to the BC Utilities Commission (bcuc.com). Subject to receiving this certificate, we anticipate construction could start as early as 2019 and be complete as early as 2021.

You can learn more about the project by visiting bchydro.com/mnt. We also encourage you to email us at stakeholderengagement@bchydro.com to sign-up for updates.

We want your input

What should we consider as our design progresses? Share your thoughts on what's important to you and your neighborhood. Visit bchydro.com/mnt.

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