

Metro North Transmission Study Update

May 2016

Metro North Transmission Study to meet demand

An additional transmission line between Coquitlam and Vancouver is needed to address the growing demand for electricity resulting from the region's increasing population.

We're working to ensure the line is in place as early as 2020¹ to improve the Metro Vancouver transmission network by increasing electrical transmission capacity and strengthening reliability of the network.

Our current transmission system is at its limit and without these improvements the network faces reduced service reliability. Under certain conditions this reduced reliability could mean outages for about 30,000 homes and businesses and service interruption for about 90,000 homes and businesses.

¹ Required in service date is influenced by load forecast, which is monitored annually.

Further study and technical work required

We've been studying three alternatives as part of the Metro North Transmission Study and have identified one alternative (Alternative 2 – see map page 4) for further study, technical work and consultation. Alternative 2 impacts fewer residents and property owners, has lower seismic and construction risks and offers the best value in terms of capacity for the investment.

Further technical study will include determining the positioning of the line within the existing right-of-way, as it leaves the Meridian Substation and through the area south of Sasamat Lake. We'll also work with local governments to determine the underground alignment of the line through Burnaby to Horne Payne Substation and through Vancouver to Mount Pleasant Substation.

Further technical study will also help us to confirm how to avoid a third crossing of Burrard Inlet and the best design to ensure the portion of the line around Burnaby Mountain is seismically secure.



This right-of-way through the Village of Anmore was established in the 1960's.

Key facts

This transmission improvement will consist of a combination of overhead transmission lines and underground transmission cables, running from the Meridian Substation in Coquitlam to the Mount Pleasant Substation in Vancouver. Generally, we'll be able to use our existing rights-of-way.

While further technical work and study is needed, these improvements could include:

- About 10 km of overhead lines and 20 km of underground cables from Coquitlam through Anmore, Port Moody, Burnaby and Vancouver.
- Replacement of existing overhead lines in Anmore and Port Moody, resulting in fewer, taller poles than existing in these areas.
- An overhead crossing of Burrard Inlet, within the current right-of-way.
- A new underground route through Burnaby and Vancouver.



Alternative 2 would run from the Meridian Substation (pictured), in Coquitlam, to the Mount Pleasant Substation in Vancouver.

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The existing right-of-way crossing Burrard Inlet from Burns Point in Belcarra Regional Park.

Alternative 2 overview

COQUITLAM (MERIDIAN SUBSTATION)/ANMORE

A new 230kV transmission line originating at the Meridian Substation in Coquitlam.

- Through Anmore our existing right-of-way would be used. Although additional work is required, the design to date includes:
 - Twelve existing wooden H-frame structures (totaling 25 poles), supporting one 230 kV circuit, could be replaced with eight taller steel monopoles, supporting two 230 kV circuits (see images on page 3), reducing the total number of poles by 17.
 - Seven existing monopoles, supporting two 230 kV circuits would remain in place with an added grounding wire.

PORT MOODY/BURRARD INLET CROSSING

- Through Port Moody the alignment would generally be within our existing right-of-way in and adjacent to Belcarra Regional Park.
- Within the existing right-of-way, existing lines will be consolidated onto fewer, taller poles.
- The location of these poles will be the subject of further study.

- Three options were looked at for a crossing of Burrard Inlet. The option identified for further study:
 - Uses our existing right-of-way for new 230kV poles, eliminating the need for a third transmission crossing of the inlet.
 - Considers input from the cities of Burnaby and Port Moody, Metro Vancouver and the federal government and First Nations.
 - Uses our existing property on the south side of Burrard Inlet to transition the line from overhead transmission line to underground transmission cable.

BURNABY/VANCOUVER (MOUNT PLEASANT SUBSTATION)

- Would require a new transmission cable to run underground in Burnaby and Vancouver to the Mount Pleasant Substation in Vancouver.
- Exact alignment would be determined through technical work and discussions with the City of Burnaby and City of Vancouver.

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Benefits

Improving Metro North Transmission will help:

- **Address increasing electricity demand**, increase electrical transmission capacity and strengthen 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.

When compared to the other alternatives studied, the improvements from Meridian Substation in Coquitlam to the Mount Pleasant Substation in Vancouver have:

- Fewer overall residents and property owners potentially impacted by construction.
- Lower seismic and construction risks.
- Best value in terms of capacity for the investment.



Existing structures (monopole and wooden H-frame) in Anmore.



Preliminary rendering showing a new steel monopole replacing a wooden H-frame in Anmore (tower design and placement subject to change). With Alternative 2, there would be 17 fewer poles than existing in the Anmore area.

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Engaging with communities

Since July 2013 we've had more than 40 meetings with local and regional governments, transportation authorities, community groups, property owners and others to discuss the need for transmission improvements and the alternatives being studied. At the same time, engagement has also been ongoing with First Nations. Information about previous engagement can be found at bchydro.com/mnt.

We'll continue engagement with local and regional governments, including Coquitlam, Anmore, Belcarra, Port Moody, Burnaby, Vancouver and Metro Vancouver, property owners, residents, stakeholders and the public. We'll continue to provide opportunities for you to receive study updates, as well as provide your feedback, ask questions or express interests or concerns.

More information will be available at bchydro.com/mnt and we encourage you to email us at stakeholderengagement@bchydro.com to sign-up for updates.

What's next?

This spring, we'll complete field work to further inform engineering and design, continuing discussions with First Nations, local and regional governments and stakeholders, and meeting with property owners.

This transmission upgrade will require a Certificate of Public Convenience and Necessity from the BC Utilities Commission (more information can be found at bcuc.com). Subject to receiving that certificate, we anticipate construction could start as early as 2018 and complete as early as 2020² to meet growing demand for electricity and avoid impacts to reliability.

² Required in service date is influenced by load forecast, which is monitored annually.

Metro North Transmission Study—Route Alternatives



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