Electrification Study Backgrounder

METROLINX

An agency of the Government of Ontario

#1 Introduction to the Study

Metrolinx has initiated a study of the electrification of the entire GO Transit rail system as a future alternative to diesel trains now in service, as well as the future Air Rail Link (ARL) between Union Station and Lester B. Pearson International Airport. The study is examining how GO and the ARL rail services will be powered in the future – using electricity, enhanced diesel technology or other means.

Over the past 20 years there have been many previous electrification studies but this is the first time that electrification of the entire GO rail system – all seven corridors – has ever been studied. The study is using an expanded and enhanced GO rail network from the network of today as the basis of comparison; this "reference case" network presumes that additional tracks and some of GO's proposed line extensions (to St. Catharines, Kitchener, Barrie Waterfront, Bloomington Road, and Bowmanville) will be constructed in the coming years, resulting in increased train volumes.

WHY DO THIS STUDY NOW?

In late 2008, Metrolinx published a Regional Transportation Plan – "The Big Move" – a multimodal vision for regional transportation to strengthen the economic, social and environmental sustainability of the Greater Toronto and Hamilton Area. "The Big Move" sets out a fast, frequent and expanded regional rapid transit network as a key element of the plan. The plan includes establishing Express Rail and Regional Rail services at speeds and frequencies that could be enhanced by system electrification.

The overriding purpose of the electrification study is to provide Metrolinx's Board of Directors with the information needed to decide how GO and ARL trains will be powered in the future – a decision that needs to be made soon. If a decision is made to electrify part or all of the GO rail network, significant lead time will be needed to complete the necessary Environmental Assessments, manufacture and purchase new equipment, and design and build infrastructure to support a move towards electrification (for example, infrastructure such as overhead wires, power substations, maintenance facilities and signaling systems).

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STUDY SCOPE

The study is guided by the Electrification Study Terms of Reference, which were developed with advice from a multi-stakeholder Community Advisory Committee and approved by the Metrolinx Board. The study includes:

- A comprehensive review and comparison of rolling stock technologies – electric, diesel and alternative fuel sources – that could be used to provide future GO/ARL rail service;
- Consideration of power supply and distribution options – overhead wires, third-rail, and others – to deliver electricity to a potential future electrified rail service;
- Identification of a "short list" of options for potential electrification of the rail network, including the order in which GO's seven rail corridors could be electrified;
- A detailed assessment of the benefits and costs of the "short list" options; and
- A stakeholder engagement and communications program to reach out to and consult with stakeholders throughout the study process.

TIMELINE

The study began in January 2010 and will be completed by late December 2010. Metrolinx's Board of Directors will consider the study findings at its February 2011 meeting.

FOR MORE INFORMATION

www.gotransit.com/estudy