



Regional Express Rail (RER)

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Metrolinx Board of Directors
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The Big Move: Planning for Regional Express Rail



Priority Action 1.1

- Fast
- Frequent
- All-day, two-way
- Express rail service to every part of the GTHA

The Big Move: Express Rail

- Average Speed: 10% – 25% faster than today
- Frequency: every 15 mins or less
- Mix of electric in more urban areas and diesel service in out-lying areas:
 - Mixed fleet type – combination EMUs, DMUs, electric and diesel locomotives
 - Mix of lengths – 12 car bi-level sets for peak period and shorter trains for off-peak, lower volume trips

Express Rail is a successful model

Paris – Réseau Express Régional (RER)

- 5 lines, 600 km (over 10% is underground)
- 100% electrified
- 65% of rolling stock is bi-level
- 10 - 60 minute frequency during the mid-day at stations outside the central region
 - 10-20 minutes on busier lines; 30-60 minutes on lines that have less demand
 - higher frequency in the central area is due to convergence of branch lines



Express Rail is a successful model

Stockholm – Pendeltåg

- 4 lines
- 100% electrified
- 100% single-level vehicles
- 7 – 30 minute frequency during the mid-day on the two major cross-county lines
 - 7-15 minutes on busier northeast to southwest route;
 - 15-30 minutes on northwest to southeast route
- Other 2 lines offer frequency of 30+ minutes during both peak and mid-day



Preliminary Regional Express Rail Service Concept



- 15 minute two-way electrified service within the GTHA urban area
- A shift in the operating model of GO Transit to faster and more frequent trains
- Lakeshore and some other corridors could run a mix of non-stop express and local train service, others would be all-stop service
- All day service at lower frequencies outside current core services

Business Case

- A stage-one Business Case will:
 - generate a benefit - cost ratio
 - Identify options for a preferred Regional Express Rail concept by examining variables such as frequency, extent of service and infrastructure
 - analyse service concept(s) of differing frequencies to compare against a peak period base case
- Early review indicates the following major cost and benefit drivers:
 - Attracts significantly more riders & fares
 - Better utilizes planned track capacity expansion
 - Large infrastructure and fleet investment required compared to incremental expansion
- The Business Case will be progressively updated at various stages of the project/program development

A Large and Complex Project



Track / signal / electrification



Maintenance Facility Upgrades



New fleet and facilities



Local Transit & Parking



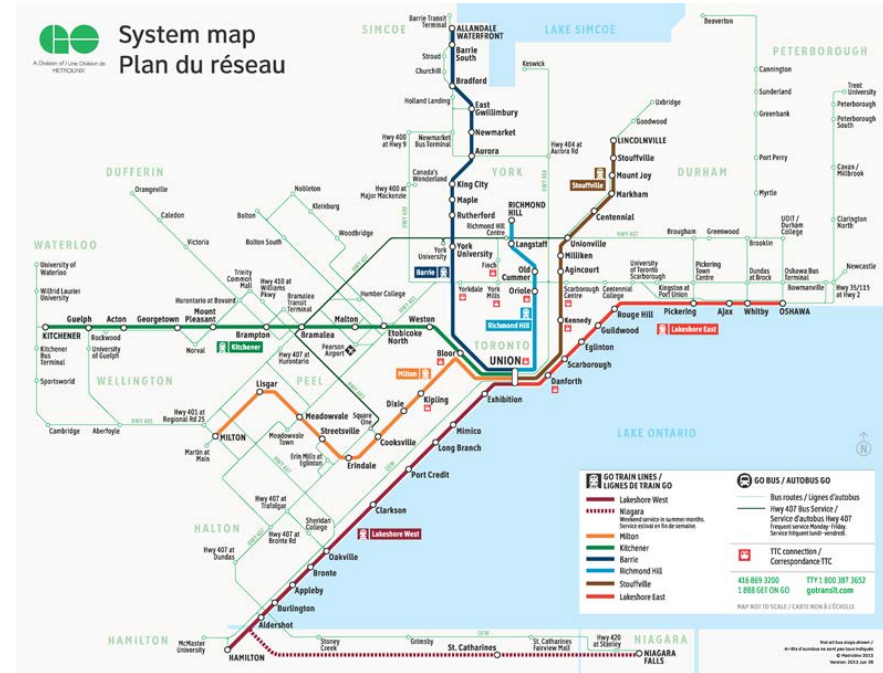
Crews



Union

A Large and Complex Project

- Seven operating corridors that carry freight limiting construction access
- Continuing to carry over 200,000 riders daily across 8,000sq km and through 30+ municipalities
- Numerous environmental assessments especially for electrification
- Transitioning to new fleet types
- Hundreds of grade-crossings, grade-separations and crossing agreements
- Numerous utility agreements and property acquisitions
- Track expansion
- and more



Key Success Factors

- Steady flow of funds
- Commissioning equipment
- Crewing & Training
- Fleet transition
- Acquiring skills and expertise
- Modification of maintenance facilities and practices
- Hydro One negotiations
- CN/CP negotiations
- Coordination within existing operations
- Union Station: capacity; clearance and grounding; heritage approvals
- Stakeholder relations

Key Considerations



- Acceleration of the project will require commitment and certainty of capital and operating funding
- Customized service plan for each corridor
- Extent of service and/or electrification on each corridor
- Phasing of corridors
- Fleet transformation

Work is Already Underway

- Two Way All Day GO rail service program has begun
- Major infrastructure upgrades to Lakeshore Corridor and Kitchener corridor has enabled increased service:
 - Lakeshore 30-minute service 2013
 - Kitchener off-peak service in 2015
- Niagara and Barrie Weekend Rail Service
- Union Station Rail Corridor (USRC) signals modernization underway
- Environmental Assessment for Electrification UP Express in the Kitchener corridor has now received Ministry of Environment approval
- Environmental Assessment for hydro infrastructure is still pending

10 Year Timeline

Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10

Planning Design & Engineering

EA / TPAP

EA / TPAP

UP Electrification Construction

UP Electric In Service

Procurement

Construction

Service Roll-out

Next Steps

- Develop the RER program work plan including:
 - Develop service, infrastructure and operating plans including:
 - electrification base case
 - system inter-operability
 - technical skills and workforce plan
 - Phasing and timeline
 - Cost / Revenue Estimates
 - Project Benefits and Business Case
 - Discussions with CN and CP
- Progress Report back to Board on September 2014

THANK YOU