

Metrolinx: Peterborough Rail Study

To view the report go to:

http://www.metrolinx.com/Docs/general/Peterborough_Rail_Study.pdf

(released May 10, 2010)

The following Infonote provides an overview of the Peterborough Rail Study. As a community we are working to build an infrastructure that meets the social, physical and environmental needs of our citizens. We are all working to be responsible and responsive to the changing demographics of Peterborough as well as the changing expectations of people, services and systems. The proposed public transportation system of enhanced rail travel will be vital to Peterborough county and city. As you read this document, here are some questions we must think about.

Questions to consider:

1. How will this community be able to develop in a healthy and green manner, if we do not develop a public transportation system that includes rail travel?
2. Eighteen percent of the population is over 65 years of age. An additional 13.5% of our residents are between 55 and 64 years of age. With more and more health care specialities being regionalized in Toronto, should we not develop public transportation to accommodate people who cannot drive but require access to services in the Greater Toronto Area?
3. This community is preparing for increased immigrant integration. There will continue to be an expectation from new Canadians that there will be public transportation systems that include bus and rail service. How can we commence to build a transportation infrastructure to meets the needs of the future?
4. If rail service is not available, how many trucks will be on the road to deal with the needs of GE Canada, Indusmin Mines and Pepsi QTG? What is the environmental impact of continued use of cars and trucks? What will be the impact be on jobs if the manufacturing sector does not have adequate rail transportation?

In March 2008, the Federal and Provincial governments agreed to undertake a joint study for the potential reinstatement of passenger rail service between Toronto and Peterborough. The study was led by Metrolinx, the regional transportation authority for the Greater Toronto and Hamilton Area, and was overseen by a Steering Committee composed of senior officials from Metrolinx, the Ontario Ministry of Transportation (MTO) and Transport Canada.

The purpose of the study was to provide an assessment of the:

- Market potential and ridership demand,
- Vehicle technology options,
- Potential station locations,
- Required infrastructure improvements.

Further, the report provided a rough order of magnitude capital and operating cost estimates for feasible route alternatives and an implementation plan for the proposed service.

Methodology:

- Using recent population, employment and travel data, the consultants undertook extensive travel demand modelling to develop ridership forecasts for three horizon years, including the proposed start-up date of 2016, and for the years 2021 and 2031.
- Concurrent with the ridership study, consultants conducted train movement simulations to develop potential train schedules.
- Based on these schedules, ridership modelling was carried out to determine ridership sensitivities to differing levels of service.
- While the ridership projections and train movement simulations were being developed, the Study Team gathered base information from CP and other sources on the relevant rights-of-way over which the proposed service would operate.
- In addition, site inspections were carried out to verify the data provided and to acquire first hand understanding of the condition of the railway infrastructure.

Assessment of Market Potential

To better understand the travel demand in this corridor, the current travel trends, travel context and forecasted travel future market potential along the rail corridor between Toronto and Peterborough were assessed.

Transportation Demand Trends

Trip data from the Transportation Tomorrow Survey (TTS) was used to examine characteristics and trends in travel demand in the Eastern GGH and along the study corridor. The TTS survey has been performed every 5 years, corresponding to Census years, since 1986. Trip data for the Peterborough Area has been collected since 1996, which is the base year for the travel trend analysis in this section.

The data documented the years from 1996 to 2006 were characterized by rapid growth and a continued shift towards the suburbanization of the Greater Toronto Area as population and employment growth in the regions continued to greatly outpace that in Toronto.

Specifically:

- The fastest growing interchanges are between the Regions of York, Durham and Peel with Toronto-based movements growing at a much slower rate.
- The largest growth was seen in trips based in York Region which grew by 51% over the 10 year period, followed by the Peel and Durham Regions which had trip growth of 40% and 27% respectively.
- Trips from Peterborough have grown at a slower pace, increasing by 8% over the 10 year span. This growth was found almost exclusively within Peterborough and between Peterborough, Kawartha Lakes and Durham Region, as the total trips to the farther away destinations of Toronto, York and Peel have fallen over the 10 year period.

To more closely examine growth in the Peterborough Rail Corridor, data breaks down the total daily trips into trips with an origin or destination in downtown Toronto, and all other trips in the corridor to show how trips are distributed within the corridor. For this analysis, the corridor is defined as any of the primary regions that would be served by a potential rail service. The data indicates;

- Total trips in the corridor have increased by 40% over the 10 year period and transit mode shares have increased for both the downtown Toronto oriented trips and for the other corridor trips.
- The overall growth in other corridor trips (95%) outpaced the growth in downtown Toronto trips (11%) which resulted in only a one percent overall increase in corridor mode share due to the decreased overall prominence of the transit-friendly downtown Toronto trips.

Tourism Demand

A simple process is used to identify the weekend and off-peak market that exists between Peterborough and Toronto. The process uses data obtained in the *Peterborough Area and Highway 7 Corridor Travel Pattern Survey*, completed in 2008 for the Ontario Ministry of Transportation, to provide an estimate of the existing travel between Peterborough and Toronto on a typical summer weekend. The purpose of the survey was to better understand travel patterns on the Highway 7 Corridor in the Peterborough Area. The inferred weekend demand is shown below as an example of some of the data collected for this report:

Inferred Weekend Trips between Toronto and Peterborough

Trip Interchange Weekend	Trips
Toronto – Peterborough City	2,400
Toronto – Peterborough County	4,500
Peterborough City - Toronto	2,900
Peterborough County - Toronto	3,400

Future Growth and Travel Demand

The study analyzed future land use assumptions, as well as travel demand forecasting and assumptions. It presented the implications of future growth on travel in the Study Corridor.

Land Use, Population & Employment

The Growth Plan:

- is based on the premise of encouraging more compact, mixed-use development while controlling greenfield developments to contain urban sprawl.
- specifies that at least 40% of new development should be concentrated within existing urban areas, preferably in Urban Growth Centres and activity corridors, and that the development of designated Greenfield areas is controlled to minimum density standards.
- restricts new growth within the Greenbelt to protect environmentally sensitive areas and prime farming lands.

Under the plan, the Greater Golden Horseshoe (GGH) is:

- projected to grow to a total population of 11.5 million people by the year 2031
- employment is projected to reach a total of 5.56 million jobs over the same time period.

The eastern GGH is:

- projected to grow by 1.47 million people from 2006 to 2031, accounting for almost half of the total GGH-wide population growth.
- Durham Region in particular is one of the fastest growing regions in the GGH, and is expected to add 380,000 people over the 25 year period.
- York Region is projected to be the fastest growing employment centre, almost doubling its total employment to reach 780,000 jobs in 2031.
- the Peterborough area is showing comparatively smaller growth and is expected to grow by 8% in population and 11% in employment over the same 25 year span.

Exhibit 4-9: 2006 and 2031 East-GGH Population and Employment Growth

Municipality		Population			Employment		
		2006	2031	Growth	2006	2031	Growth
Toronto	Total	2,610,000	3,080,000	470,000	1,400,000	1,640,000	240,000
	GTHA %	(59%)	(52%)	(32%)	(66%)	(57%)	(32%)
Durham	Total	580,000	960,000	380,000	200,000	350,000	150,000
	GTHA %	(13%)	(16%)	(26%)	(9%)	(12%)	(20%)
York	Total	930,000	1,500,000	570,000	430,000	780,000	350,000
	GTHA %	(21%)	(25%)	(39%)	(20%)	(27%)	(46%)
Peterborough ¹	Total	138,000	149,000	11,000	54,000	60,000	6,000
	GTHA %	(3%)	(3%)	(1%)	(3%)	(2%)	(1%)
Northumberland	Total	84,000	96,000	12,000	27,000	33,000	6,000
	GTHA %	(2%)	(2%)	(1%)	(1%)	(1%)	(1%)
Kawartha Lakes	Total	77,000	100,000	23,000	23,000	27,000	4,000
	GTHA %	(2%)	(2%)	(2%)	(1%)	(1%)	(1%)
TOTAL		4,419,000	5,885,000	1,466,000	2,134,000	2,890,000	756,000
		(100%)	(100%)	(100%)	(100%)	(100%)	(100%)

Future Transportation System Performance

From 2001 to 2031, even with the prescribed roadway widenings and other transportation network improvements, travel demand growth is projected to significantly outstrip transportation supply. For example:

- In the Peterborough Corridor, travel demand is projected to increase by 52% in terms of total vehicle-kilometres traveled while transportation supply in terms of total lane-kilometres is only projected to increase by 10%.
- This imbalance will lead to increased traffic congestion throughout the GTHA and, in particular, within the Highway 401 corridor through Durham region feeding into Toronto.
- Congestion in 2001 is already quite significant in the peak hour, but will worsen considerably by 2031, spreading to almost all major arterials and highways in the corridor, indicating that traffic is at or near gridlock.
- In 2031, both Highway 401 and 407 will be congested from the east end of Oshawa into Toronto, along with most of the major east-west arterials in Durham region.
- As a further example of the worsening roadway Peterborough to Downtown Toronto increases by 24% from 163 minutes in 2001 to 202 minutes in 2031, while similarly the travel time from Agincourt to Downtown Toronto increases by 17% from 61 minutes in 2001 to 72 minutes in 2006 showing the severe congestion within the City of Toronto itself.

- In addition to the traditional rush hour flows, travel times in the reverse (eastbound) direction also increase with the trip from Downtown Toronto to Peterborough increasing by 19% from 83 minutes to 99 minutes.

Exhibit 4-18: 2001 & 2031 Auto Travel Times for Major Interchanges.

Trip Interchange	2001 Auto Time (min)	2031 Auto Time (min)	% Change
Peterborough - Downtown Toronto	163	202	24%
Downtown Toronto - Peterborough	83	99	19%
Agincourt - Downtown Toronto	61	72	17%
Downtown Toronto - Agincourt	23	26	11%
Locust Hill - Agincourt	33	40	20%
Agincourt - Locust Hill	24	26	10%
Peterborough - Locust Hill	77	94	23%
Locust Hill - Peterborough	70	74	6%

While no specific type of passenger train service was presupposed for the study, based on the results of the travel demand and ridership analyses it was determined that a commuter rail type of service would be the most appropriate. The study evaluated three potential service levels, including:

1. Basic Service – two trains departing Peterborough in the morning and returning in the evening;
2. Enhanced Service – the Basic Service plus two additional trains departing Locust Hill in the morning and returning in the evening; and
3. All-Day Service to Locust Hill – Basic Service plus half-hourly service all day long in both directions between Locust Hill and Toronto.

Based on the ridership forecasts of approximately 1,900 total boardings per weekday for both directions, it was determined that Basic Service would be sufficient to meet ridership projections for the early years of the train service beginning in 2016. Assuming a ramp up to the Enhanced Service beginning in 2021, total (two-way) weekday ridership is projected to increase to 3,700 boardings by 2021 and to 4,160 by 2031. These service level assumptions form the basis of the operating cost estimates presented in this report. Based on ridership projections for the analysis period to 2031, all-day and weekend services were found to be unjustifiable.

Why this report is important to Peterborough:

1. Places to Grow: Growth Plan for the Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe (GGH), developed under the *Places to Grow Act, 2005*, is a framework for implementing the Government of Ontario’s vision to better manage growth in the region. The Growth Plan provides a framework for development of a number of policies in the areas of:

- managing growth,
- general intensification,
- growth centres,
- major transit station areas and intensification corridors,
- employment lands,
- designated greenfield areas,
- settlement area boundary expansions, and
- rural areas.

Population and employment forecasts presented in the plan illustrate that Peterborough City and County can expect population growth of 15% and employment growth of 13% from 2001 to 2031 while Durham Region to the south of a large part of the rail corridor can expect population growth of 81% and employment growth of 84%. Durham Region is the third fastest growing region in the Greater Toronto Area (GTA) over that span, after Halton and York Regions.

The Peterborough Rail Corridor connects the two Urban Growth Centres of Downtown Toronto and Downtown Peterborough, as well as the proposed new airport in North Pickering. One important initiative in the Growth Plan that will have a major impact on the potential success of a new Peterborough rail service is the creation of the Greenbelt which protects environmentally sensitive lands and prime farming areas from further development. Approximately 55% of the length of the Peterborough Rail Corridor passes through the Greenbelt which will limit the growth potential surrounding many of the proposed stations.

2. City of Peterborough Central Area Master Plan

In May 2009, the City of Peterborough completed the Central Area Master Plan (CAMP) to complement the Commercial Land Use policies of the City of Peterborough Official Plan. The Central Area Master Plan identifies a series of specific planning strategies that will assist the Central Area to achieve its full potential within the 2020 planning horizon in accordance with the designation of Downtown Peterborough as an Urban Growth Centre under Places to Grow. The major strategies of the Master Plan include:

- Confirming the priority functions of the Central Area and strengthening retail function;
- Promoting quality of life in the central area through neighbourhood planning;
- Encouraging new residential development in the Central Area;
- Fostering improved pedestrian connectivity in the Central Area;
- Improving municipal infrastructure in the Central Area;
- Promoting economic development; and
- Strategies promoting sound planning practices and quality development through site and building
- Design guidelines, residential intensifications study and streetscape design guidelines.

3. New Transportation Plan for the City of Peterborough :

Over the next few months, the community has an opportunity to have input into what/how our transportation system in Peterborough should be configured. This is the time to provide ideas and direction about what a comprehensive system of transportation should include. To plan for the future of this community, transportation needs to include many ways of moving people around the community – cars may one day be one of the lesser used modes of transportation if we plan effectively.

The City of Peterborough, has initiated an Update of the 2002 Comprehensive Transportation Plan. The Update is in part being driven by the need to address the revised population and employment projections arising from the Greater Golden Horseshoe Growth Plan.

The study will identify infrastructure expansion and upgrade needs to address any future capacity-related deficiencies in the road network. Recommendations arising from the study will guide the establishment of infrastructure improvement priorities and support the development of the Ten-year Capital Program.

For more information about our InfoNotes contact Dawn Berry Merriam at 705-743-5915 or
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