

Chapter 3

Section 3.06

Metrolinx—GO Station Selection

1.0 Summary

On September 27, 2017, the Standing Committee on Public Accounts (Committee) passed the following motion: “that the Auditor General conduct a value-for-money audit on the proposed Metrolinx GO stations at Kirby and Lawrence East.” The Auditor General stated during the debate on the motion that “we would look at the supporting business case and the decision-making and the process leading up to the selection of those two stations” and “whether or not the business case...supports the decision-making that went into it.”

The stations were two of 12 proposed GO stations that Metrolinx in June 2016 recommended be built. The building of new GO stations became part of an initiative that the Province had already begun to improve the regional rail network of the Greater Toronto and Hamilton Area (GTHA). The Committee’s motion arose from controversy around the Kirby and Lawrence East stations highlighted by media reports between March and August 2017.

We found that the Minister of Transportation and the City of Toronto influenced Metrolinx’s decision-making process leading up to the selection of the two stations. As a consequence, Metrolinx inappropriately changed its recommendations on the Kirby and Lawrence East stations. Metrolinx’s initial business cases concluded that the stations’ costs and disadvantages significantly outweighed

their benefits. Metrolinx overrode that conclusion and recommended its Board approve them because the Minister of Transportation and the City of Toronto had made it clear they wanted these stations.

The sequence of events leading up to Metrolinx’s changed recommendations is included in **Figure 1**.

In Metrolinx’s updated February 2018 analysis, the expected benefits of the 12 proposed stations increased due to the inclusion of new assumptions. The analysis also evaluated the stations using assumptions that are not in line with Metrolinx’s current practices for transit planning.

When we completed our audit, Metrolinx had put the construction of all 12 proposed GO stations out for tender. Our audit focused on the process that led to Metrolinx’s decision to recommend that the Kirby and Lawrence East stations be built.

The following are some of our specific findings:

- **The Minister did not use the legislated channels available to him to direct Metrolinx’s regional transportation planning work; instead, he and the City of Toronto influenced Metrolinx to override its own GO station planning process.** Under the *Metrolinx Act, 2006*, the Minister of Transportation can give written directives to Metrolinx regarding any matter under the Act. A written directive to Metrolinx from the Minister to add the Kirby and Lawrence East stations would have demonstrated greater

Figure 1: Sequence of Events Involving Kirby and Lawrence East Stations

Source of data: Metrolinx

Date	Event
January 2016	Metrolinx shortlisted 17 station locations to be assessed through business case analysis after conducting six planning stages outlined in Figure 4.
January 21, 2016	Metrolinx finalized the Terms of Reference for three external consulting firms contracted to undertake business case analyses on the 17 shortlisted station locations.
May 2016	The external consultant firms submitted draft initial business cases for each the 17 station locations to Metrolinx for review.
June 1, 2016	In an email to the Ministry of Transportation, Metrolinx's CEO outlined a preliminary list of 10 stations he anticipated would be included in the Regional Express Rail program. He indicated that Kirby was one of the stations that would not move forward at this time. He also indicated that the City (Toronto) would like to include Lawrence East, while Metrolinx believes there is not a strong case for its inclusion.
June 2, 2016	The co-ordinating consultant firm submitted the first draft of the Summary Report of the 17 initial business case results. It does not recommend Kirby and Lawrence East at this time (they are two of the seven stations included in the 'not recommended' category).
June 9, 2016	Metrolinx's CEO briefed the Minister of Transportation (Minister) in person on the status of the station selection process. In an email to the Metrolinx Board Chair, Metrolinx's CEO noted that the briefing with the Minister was "so-so" and that his interpretation is that he (the Minister) is disappointed Kirby and Highway 7-Concord are not included.
June 14, 2016	Metrolinx staff took another look at Kirby and Highway 7-Concord to see if adding express service would improve the business case results enough to support the inclusion of at least one of these stations. The results did not change staff's recommendations against including these two stations.
June 15, 2016	At an in camera Board meeting, the Metrolinx Board decided to support the 10 stations recommended by Metrolinx in a draft staff report to the Board (Kirby, Lawrence East and Highway 7-Concord were not recommended at this time).
June 16, 2016	Metrolinx received draft news releases from the Ministry announcing 14 new stations (including Kirby, Lawrence East, Highway 7-Concord and Park Lawn).
June 20, 2016	During a special teleconference Board meeting, the Metrolinx Board Chair indicated that Lawrence East had been added, and that the Minister believed another station was needed at Kirby. No approval was requested at this meeting; the purpose of the meeting was to update the Board.
June 22, 2016	The Ministry of Transportation published a news release announcing the building of the Lawrence East GO station.
June 24, 2016	The Ministry of Transportation published a news release announcing the building of the Kirby GO station.
June 28, 2016	At a public Board meeting, Metrolinx staff submitted a report to the Board recommending the addition of 12 stations, including Lawrence East and Kirby, and the Board approved the list.
March 27, 2017–ongoing	On March 27, 2017, a Toronto Star article first raised questions about the Minister of Transportation's possible influence on the recommendation of Kirby station. In the following months, Metrolinx's station selection process, and in particular the recommendation and approval of Kirby and Lawrence East, was the subject of several news articles.
August 29, 2017	The Minister of Transportation sent a letter to the Metrolinx Board Chair indicating that Metrolinx should not proceed with Kirby and Lawrence East Stations until Metrolinx staff and the Board were satisfied that they are justified.
September 20, 2017	The Standing Committee on Public Accounts received a draft motion to consider that the Auditor General conduct a special audit on the selection of the Kirby and Lawrence East stations.
September 27, 2017	The Standing Committee on Public Accounts passed the motion requesting that the Auditor General conduct a special audit on the selection of the Kirby and Lawrence East stations.
September 29, 2017	Metrolinx released an adjusted Summary Report on the two stations' evaluations that significantly softened the language around the stations' poor evaluation results from June 2016.

Date	Event
February 26, 2018	Metrolinx released an updated analysis that dramatically improved the stations' initial negative evaluations. The new analysis relied on three assumptions about how future GO service as a whole will be faster, more accessible, and more appealing to riders. It is not certain that these improvements will actually be in place when the stations are built.
March 1, 2018	At a public Board meeting, having received a staff report and updated business case analysis for the shortlisted stations, Metrolinx's Board approved the continued delivery of all 12 stations previously approved in June 2016.
March 29, 2018	Metrolinx and Infrastructure Ontario issued a Request for Qualifications for the New Stations, to be built under a Design-Build-Finance AFP contract. Requests for Proposals for qualified bidders are planned to be released in Winter 2018/19.

transparency and accountability in that it would have signalled clear ownership of the decision. The public would have benefited from knowing that a government policy decision was overriding the results of Metrolinx's business-case analysis. Instead, the Ministry of Transportation went so far as to issue news releases announcing the Kirby and Lawrence East stations before the Board had even met to make its final recommendations.

- **Metrolinx's response to the influence was to make the Kirby and Lawrence East evaluation results look better.** Metrolinx's 2016 original business-case analyses of the Kirby and Lawrence East stations noted that both stations were expected to result in a net loss of GO ridership, a net increase in vehicle use (driving) in the region and an overall decrease in fare revenue. The business-case analyses did note positively that the stations aligned with municipal land-use policy, which slightly improved their evaluation results, but they still concluded overall that these stations were "low-performing" and "should not be considered further during the next ten years." However, the Metrolinx Board Chair and Chief Executive Officer guided the process whereby the Metrolinx Board ultimately supported the decision to add these two stations.
- **Metrolinx's lack of a rigorous transit-planning process that weighs all costs and benefits against established criteria enabled Metrolinx to deviate from**

the recommendations of the original business-case analyses and find a way to justify building the Kirby and Lawrence East stations. Metrolinx removed Kirby and Lawrence East from the original list of "not recommended" stations and put them into a new category it created of "low" performing stations. It put the remaining "not recommended" stations into another new category it created of "very-low" performing stations. These new categories were used in Metrolinx's June 28, 2016, report to the Board, which recommended building all but the "very-low" performing stations. In other words, Metrolinx made the Kirby and Lawrence East stations appear to have better evaluation results than the "very-low" performing stations to ensure the Board would approve building them.

This report contains five recommendations, with nine action items, to address our audit findings.

Overall Conclusion

Our audit concluded that the ultimate selection by Metrolinx of the proposed GO stations at Kirby and Lawrence East was clearly influenced by the Minister of Transportation and the City of Toronto. Their selection was not entirely based on thorough analysis of reliable and relevant information against established criteria. The 2016 analysis on which the selection was ultimately based did not specify how

relevant factors, especially economic and strategic factors, should be weighed against each other. Economic criteria were also adjusted to better align with the ultimate decision made.

The publicly available information included in the June 2016 staff report to the Board of Directors to justify the approval did not highlight important details, especially that Metrolinx planning staff believed the Kirby and Lawrence East GO stations should not be considered for the next 10 years because of the significant delays and potential ridership loss they were expected to cause. Metrolinx's updated analysis of the new stations, published in February 2018, presented a best-case scenario that assumed future changes to the GO system that, to varying degrees, are not certain to be fully implemented as planned when the stations are completed. The reanalysis also evaluated the stations using assumptions (such as auto-operating cost savings; growth in the value of time) that are not in line with Metrolinx's current practices for evaluations of this kind.

OVERALL METROLINX MANAGEMENT RESPONSE

Since the preliminary selection of 12 GO Station sites in 2016, Metrolinx made several important improvements to its Business Case methodology. Metrolinx published an improved Business Case Guidance in March 2018, establishing the criteria and the analytical methods and parameters that constitute the economic factors of any business case. Metrolinx also established a formal and transparent decision process with multi-stage approvals whereby business cases are presented to the Metrolinx Board. Further design and analysis is currently underway on the GO Stations projects, and there is a further decision point with updated business case analysis before the stations are approved for procurement and full construction funding.

In 2019, Metrolinx will implement further improvements, including:

- In April 2019, publishing the complete Business Case Guidance (v1), to provide prescriptive direction on the criteria for the strategic factors of any business case, increase the consistency with which sensitivity analysis is performed and develop a procedure for approving criteria changes and incorporating up-to-date assumptions in financial and economic analysis;
- convening annually an Advisory Panel for Project Evaluation, comprising experts from academia, public policy and government, to ensure that the Business Case Guidance is up-to-date and based on the latest research; and
- publishing business cases ahead of Board meetings, adding a cover decision note that clearly presents the recommendations and the rationale drawing from the business case, the sensitivity analysis and other explicit external considerations not captured in the business case.

Finally, Metrolinx welcomes the Auditor General's recommendations pertaining to clarifying its relations with the Ministry and municipalities in planning the regional transportation system.

2.0 Background

Metrolinx (formerly the Greater Toronto Transportation Authority) was created by the Province in 2006. Under the *Metrolinx Act, 2006* (Act), Metrolinx has a duty to provide leadership in coordinating, planning and implementing a regional transportation network. The Greater Toronto and Hamilton Area (GTHA) that Metrolinx serves comprises the Cities of Hamilton and Toronto, and the Regions of Durham, Halton, Peel and York. Home to 7.2 million people, the GTHA population is expected to grow by about 110,000 each year, to over 10 million residents by 2041. In addition to the number of residents, over 3 million Ontarians commute to work in the GTHA.

2.1 Metrolinx's Roles and Responsibilities

Figure 2 outlines Metrolinx's roles and responsibilities.

In addition to its leadership role in regional transportation planning, Metrolinx operates GO Transit, which serves the entire GTHA, as well as the Union–Pearson Express, which links Union Station with Pearson Airport.

Municipalities across the region also undertake local transportation planning, and own and operate independent local transit services, such as the Toronto Transit Commission and Durham Regional Transit. Hence, to fulfill its role, Metrolinx relies on co-ordination and collaboration with and between independent stakeholders, including cities and local transit providers.

Metrolinx is governed by a Board of Directors. Board members are appointed by the Lieutenant Governor in Council on the recommendation of the Minister of Transportation.

Approximately one-third of Metrolinx's operating revenue comes from provincial subsidy (\$341 million in 2017/18); the remainder comes from fare revenue (from GO Transit and the Union–Pearson Express), non-fare revenue (such as rental and advertising income) and service fees from operating PRESTO, the regional fare payment system. Metrolinx relies almost entirely on capital

funding from the Province (\$3.4 billion in 2017/18) to pay for construction and maintenance of assets and infrastructure.

2.2 Overview of Regional Transportation Planning

One of Metrolinx's key responsibilities under the Act is to create an integrated regional transportation system for the GTHA. This means interconnecting the GTHA's infrastructure of highways and roads, subways, buses, light rail and other forms of transportation. The objective is to enable the 7.2 million residents—as well as the more than 3 million Ontarians who work in the region and the goods that need to travel as part of that work—to move quickly and reliably within the GTHA.

2.2.1 The Transit Component of Regional Transportation Planning

Metrolinx's first Regional Transportation Plan, *The Big Move*, was a 25-year plan adopted by the Metrolinx Board in November 2008.

The plan identified disconnected and varied transit services as one of the key challenges for transit in the region as follows:

The GTHA's public transit system is currently comprised of nine separately-governed local

Figure 2: Metrolinx's Roles and Responsibilities

Source of data: Metrolinx

Core Role	Responsibilities
Planning	<ul style="list-style-type: none"> Develop and co-ordinate the implementation of a long-term (25- to 30-year) Regional Transportation Plan for the GTHA, to be reviewed every 10 years Also plan for regional transportation needs in the short and medium term Consult with municipalities and other stakeholders to ensure local transit priorities are reflected in the Regional Transportation Plan and shorter-term plans Undertake business-case analyses to assess costs and benefits of potential projects
Building	<ul style="list-style-type: none"> Work with Infrastructure Ontario to procure projects financed through Alternative Financing Procurement Oversee and lead construction of transit projects in the GTHA Facilitate and manage the procurement of local transit vehicles, equipment, facilities and services on behalf of municipalities
Operating	<ul style="list-style-type: none"> Operate GO Transit trains and buses, Union–Pearson Express service and programs such as Smart Commute Manage and administer the PRESTO integrated regional fare-payment system

transit agencies and one regional transit provider. This patchwork of systems is poorly integrated, making travel across boundaries by public transit an inconvenient, frustrating, unattractive and costly option for many travelers. Given that one out of every four trips in the GTHA crosses a regional boundary, these arrangements need to change if transit is to attract a larger share of trips.

Under the Act, the Regional Transportation Plan must be reviewed at least every 10 years. In March 2018, following a three-year review process, the Board approved the updated Regional Transportation Plan, which extends to 2041.

2.2.2 2041 Regional Transportation Plan

The 2041 Plan carries forward the original vision of *The Big Move*, “to achieve a transportation system for the GTHA that is effective, integrated and multi-modal” (taking into account all forms of transportation in the region). The updated 2041 plan further refined this vision into five core strategies:

1. Complete the delivery of current regional transit projects (including GO Regional Express Rail, Light Rail Transit, and Bus Rapid Transit projects);
2. Connect more of the region with frequent rapid transit;
3. Optimize the transportation system;
4. Integrate transportation and land use; and
5. Prepare for an uncertain future.

2.2.3 Stakeholders and Key Players in Regional Transit Planning

There are three main stakeholders Metrolinx must work with for regional transit planning: the Ministry of Transportation, city and regional governments in the GTHA, and municipal transit providers. **Figure 3** summarizes the different entities Metrolinx interacts with in regional transit planning.

2.3 Overview of Plans for GO Rail Network

Two initiatives announced in 2014 put Metrolinx on the path of selecting new station locations for its GO rail network. One was introduced by the Province (Regional Express Rail, **Section 2.3.1**) and the other by the City of Toronto (SmartTrack, **Section 2.3.2**). Both of these initiatives have been integrated by Metrolinx into its updated *2041 Regional Transportation Plan*.

2.3.1 The Regional Express Rail Initiative

In April 2014, the Province announced that \$13.5 billion would be invested in the Regional Express Rail initiative. This is an initiative to transform the GO rail network from a largely rush-hour service into a more frequent, all-day, regional transit service.

Metrolinx was tasked with implementing this initiative over a 10-year period (i.e., to be completed by 2024). To begin, it undertook a review of the existing GO network in 2014 and 2015 to identify how this network could be enhanced. At the same time, Metrolinx’s GO Transit division had been separately reviewing potential sites for new GO stations. This new-station planning work was ultimately brought into the scope of the Regional Express Rail initiative.

2.3.2 The SmartTrack Plan

During the 2014 mayoral election for the City of Toronto, the ultimately successful candidate campaigned on a transit plan called SmartTrack. This plan proposed to construct new GO stations along existing GO rail corridors running through Toronto.

At the first Regional Stakeholder Forum held on May 29, 2015, the Metrolinx CEO pointed out to stakeholders that SmartTrack overlaps and is congruent with the Regional Express Rail initiative. Through 2015 and 2016, Metrolinx worked with the City of Toronto on integrating SmartTrack with

Figure 3: Entities Metrolinx Interacts with in Regional Transit Planning

Prepared by the Office of the Auditor General of Ontario

Entity	Role in Regional Transit	Interaction with Metrolinx
Ministry of Transportation (Province)	<ul style="list-style-type: none"> • Sets policy priorities and policy framework for transportation in the province and the region • Funds transit and transportation capital investments • Through Minister's letters of direction, can amend the Regional Transportation Plan or direct steps to be taken for Plan implementation • Can introduce initiatives (e.g., the Regional Express Rail initiative) 	<ul style="list-style-type: none"> • Minister of Transportation issues mandate letters to Metrolinx and may issue letters of direction • Minister of Transportation recommends appointments to Metrolinx's Board of Directors • Ministry receives funding requests from Metrolinx for transit projects, and reviews Metrolinx's supporting business cases and other analysis in deciding whether to approve requests • Ministry provides direction and feedback on assumptions and inputs used in Metrolinx's analyses • Ministry provides grants funding approximately one-third of Metrolinx's annual operating costs and virtually all capital costs¹ • Province can commit funding for one-off large-scale initiatives
City and regional governments in the GTHA ²	<ul style="list-style-type: none"> • Own municipal transit agencies • Responsible for land-use planning and budget approvals within the municipality (including transit routes and stations proposed by municipal transit agencies and Metrolinx) 	<ul style="list-style-type: none"> • Metrolinx and GTHA governments work together to ensure local objectives are reflected in the Regional Transportation Plan (GTHA governments share local transportation plans and priorities, and employment and population forecasts, with Metrolinx planners) • Metrolinx co-ordinates with GTHA governments to integrate regional transit into the municipality (including infrastructure, routes, fares and schedules) • GTHA governments provide more or less support for Metrolinx's planned transit projects in their municipality
Municipal transit agencies ³	<ul style="list-style-type: none"> • Propose municipal transit plans to their municipal government for approval • Develop and operate transit within the municipality 	<ul style="list-style-type: none"> • Metrolinx co-ordinates with agencies to integrate regional transit with local transit
Consultants	<ul style="list-style-type: none"> • Prepare business cases, which assess potential transit investments from strategic, financial, economic and deliverability perspectives 	<ul style="list-style-type: none"> • Metrolinx establishes terms of reference for consultant work, and collaborates with consultants in finalizing business cases

1. For the five fiscal years from 2013/14 to 2017/18, the Province contributed an average of \$238 million/year for Metrolinx's operating costs and \$2.6 billion/year for Metrolinx's capital costs.

2. There are 30 municipal governments in the GTHA: two single-tier governments (City of Toronto and City of Hamilton); and four regional municipal "upper-tier" governments (Halton Region, Peel Region, York Region and Durham Region), which contain 24 incorporated "lower-tier" municipalities.

3. There are nine municipal transit agencies in the GTHA: Toronto Transit Commission (Toronto); Hamilton Street Railway (Hamilton); Oakville Transit, Burlington Transit and Milton Transit (Halton Region); Brampton Transit and Mississauga Transit (Peel Region); York Region Transit/VIVA (York Region); and Durham Region Transit (Durham Region). There are also eight specialized paratransit agencies in the GTHA serving people with disabilities: Burlington HandiVan, Durham Region Transit Specialized Services, York Region Transit Mobility Plus, Hamilton Accessible Transportation Services (ATS), Milton access+, Oakville care-A-van, Peel TransHelp, and TTC WheelTrans.

the Regional Express Rail initiative. This included evaluating and selecting new station locations on existing GO rail corridors.

2.3.3 New Station Evaluation and Selection Process

Metrolinx conducted a multi-step evaluation to select which new GO stations should be built. Five key criteria were used to assess whether stations would benefit the GO network. In order to be recommended, new stations should:

- improve service and add riders;
- minimize impacts on trip time for existing riders;
- be appropriately spaced with adjacent stations;
- support regional and municipal plans; and
- be well-adapted to their local (urban/sub-urban) context.

There were six planning stages as outlined in **Figure 4**.

3.0 Audit Objective and Scope

On September 27, 2017, the Legislature’s Standing Committee on Public Accounts (Committee) passed a motion requesting “that the Auditor General conduct a value-for-money audit on the proposed Metrolinx GO stations at Kirby and Lawrence East.” The motion was presented in light of controversy surrounding Metrolinx’s June 2016 recommendation to its Board that these two stations be built.

We accepted this assignment under Section 17 of the *Auditor General Act*, which states that the Committee can request the Auditor General to perform special assignments. The Committee agreed that this audit would be included in the next year’s Annual Report of the Office of the Auditor General.

Our objective was to assess whether Metrolinx’s selection of the proposed GO stations at Kirby and Lawrence East was based on thorough analysis of reliable and relevant information to support the regional transit network.

Figure 4: Six Planning Stages for New Station Selection

Source of data: Metrolinx

Stage	Timeline
1. Identify an initial list	<ul style="list-style-type: none"> December 2014: Metrolinx receives final consultant report identifying and evaluating more than 120 potential new station sites (sites included those previously identified by municipalities, and those with strategic potential for the transit network)
2. Focus the analysis	<ul style="list-style-type: none"> March 2015: Metrolinx cut initial 120+ sites to 56 location options (sites scored based on plans and land use, transportation connectivity and technical feasibility)
3. Evaluate stations	<ul style="list-style-type: none"> September 2015–January 2016: Metrolinx uses 40 measures to assess each of the 56 locations (measures fall into four categories: strategic, economic, technical/operational and revenue)
4. Engage stakeholders	<ul style="list-style-type: none"> February–March 2016: Metrolinx hosts regional open houses with members of the public and sets up a website to receive feedback on the new stations (Metrolinx uses municipal and public feedback to inform Stage 5, Refine the list)
5. Refine the list	<ul style="list-style-type: none"> January 2016: Metrolinx uses nine metrics (see Appendix 2) to screen the 56 options down to 17 station locations (24 individual station sites, with some analyzed as part of a cluster); refined list made up of sites most compatible with Regional Express Rail network service planning, and locations showing current or future promise in connecting to rapid transit and offering development potential
6. Prepare initial business cases	<ul style="list-style-type: none"> January 2016: Metrolinx hires three consulting firms to prepare business cases for each of the 24 stations at 17 locations May 2016: Draft versions of business cases received by Metrolinx and circulated for internal review Early June 2016: Metrolinx works to finalize the new stations it expects to recommend to its Board

Before starting our work, we identified the audit criteria we would use to address our audit objective (see **Appendix 1**). These criteria were established based on a review of applicable legislation, Hansard debates, directives, policies and procedures, internal and external studies, and best practices.

Senior management at Metrolinx reviewed and agreed with the suitability of our objective and related criteria.

We focused on activities of Metrolinx in the three-year period ending March 2018.

We conducted the audit between December 5, 2017, and June 20, 2018, and obtained written representation from Metrolinx that, effective November 9, 2018, it has provided us with all the information it is aware of that could significantly affect the findings or the conclusion of this report.

We did our work primarily at Metrolinx's head office in Toronto. In conducting our audit work, we reviewed:

- applicable legislation and binding documents including the *Metrolinx Act, 2006* and the *Growth Plan for the Greater Golden Horseshoe* (2017);
- Metrolinx's 2008 and 2018 regional transportation plans;
- Official and Secondary Plans of cities and regions within the GTHA;
- Metrolinx's *2018 Draft Business Case Guidance*;
- transit planning research, including approaches to regional transportation planning in the United Kingdom, the United States and Australia;
- best practices in governance and transit assessment in Metropolitan Vancouver, British Columbia, and Minnesota, United States; and
- a variety of other documents and correspondence.

Furthermore, we reviewed in detail the business cases undertaken by Metrolinx in support of planning and development of projects for the regional transportation network. With regard to the

new stations, these included the 17 business cases undertaken in 2016 to select new stations, as well as the updated business case undertaken in 2018 on the 12 previously approved stations. We also interviewed relevant staff members in order to:

- gain an understanding of the modelling tools used to forecast future ridership, and the economic and financial models used to estimate how transit investments will affect the region;
- confirm the sources and derivation of values used in the economic modelling;
- gain an understanding of how different teams contribute to the planning process at Metrolinx, including:
 - the service planning group (which plans, for example, train routing and timetabling);
 - the capital projects group (which deals with procurement and construction); and
 - the planning and analytics group (which does modelling and economic analysis); and
- gain an understanding of provincial, municipal and stakeholder relationships, insofar as they affect how transit projects are planned, funded, approved and implemented.

In addition to planning staff, we met with Metrolinx senior management and the Metrolinx Chief Planning Officer to better understand the planning and decision-making processes from an organizational perspective. In order to validate our findings, and to gain additional perspective on Metrolinx's governance, we also interviewed three of Metrolinx's current Board Members, who have served in these positions since before 2016.

In our review of the station selection process, we reviewed correspondence within Metrolinx, and between Metrolinx and other stakeholders.

We met with leading researchers in transportation analysis and modelling from the University of Toronto, to obtain their perspectives on best practices in transit planning, estimating ridership growth and the transportation planning environment in Ontario.

We also engaged a consultant with expertise in the field of transportation planning to assist us on this audit.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Canadian Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Metrolinx Overrode Planning Evidence to Accommodate External Influence on Station Selection Decision

Metrolinx appropriately gathered comprehensive information for selecting new GO stations; however, it did not have a rigorous process for weighing all costs and benefits against established criteria.

The information Metrolinx gathered on the Kirby and Lawrence East stations from January to June 2016 showed that the costs from an economic perspective significantly outweighed the benefits.

Despite this, Metrolinx recommended the Kirby and Lawrence East GO stations in June 2016, on the basis of undefined “strategic considerations.” With such a vague process for selecting stations, any decision can be justified.

This section overviews the business-case analyses done on the proposed new GO stations in June 2016 and outlines Metrolinx’s decision-making process, which was influenced by the Minister of Transportation and the City of Toronto, leading Metrolinx to override the results of its initial business-case analyses.

4.1.1 Business-Case Analysis of 17 Shortlisted Stations Was Comprehensive

Metrolinx had shortlisted 17 station locations by January 2016, using the six planning stages found in **Figure 4**.

Kirby was one of seven stations considered for the Barrie line in June 2016; the locations of those seven stations are shown in **Figure 5**.

Lawrence East was one of five stations considered for the Stouffville line in June 2016; the locations of those five stations are shown in **Figure 6**.

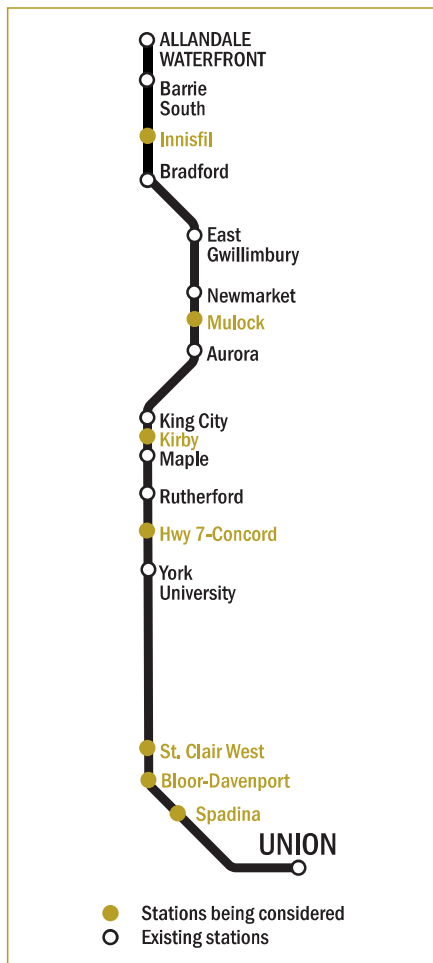
The other five of the 17 shortlisted stations (in alphabetical order) were Breslau, Liberty Village, Park Lawn, St. Clair West (Kitchener) and Whites Road (these stations are on different GO corridors and are not shown in the figures noted above).

Metrolinx hired three consulting firms to undertake a business-case analysis of each of the 17 shortlisted stations. One of the three consulting firms was also responsible for preparing a Summary Report of the business-case analysis results. There were four components to the business-case analysis: Strategic, Economic, Financial, and Deliverability/Operations. These components are described in **Figure 7**.

The business-case analysis evaluated the new stations over a 60-year period, from 2022 to 2081. The analysis incorporated annual ridership demand, which was estimated using average

Figure 5: Seven Proposed New Station Locations Being Considered in June 2016 for the Barrie Line

Source of data: Metrolinx

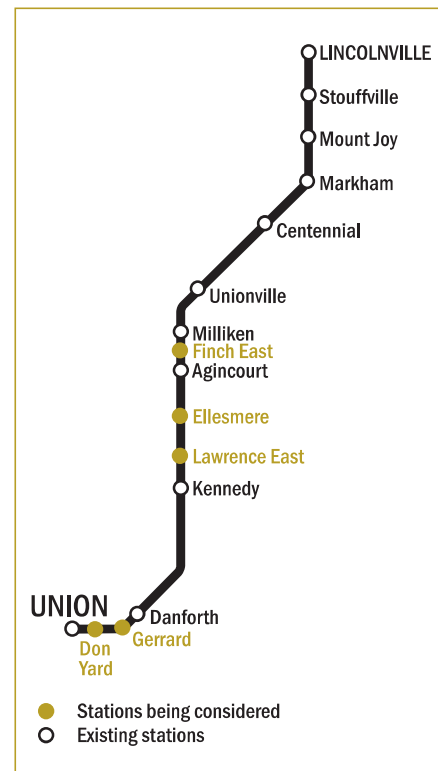


ridership growth rates for each line, and 2031 population and employment forecasts provided by GTHA municipalities that conformed to provincial growth plan targets (under the *Places to Grow Act, 2005*, the Ministry of Municipal Affairs and Housing issues regional growth plans that guide government investments and land-use-planning policies).

Consultants submitted their initial business-case analyses and the Summary Report to Metrolinx for review in May and early June 2016. The Summary Report recommended that 10 stations be added; the seven stations it did not recommend included the Kirby and Lawrence East GO stations.

Figure 6: Five Proposed New Station Locations Being Considered in June 2016 for the Stouffville Line

Source of data: Metrolinx



4.1.2 Business-Case Analysis Concluded Kirby GO Station Should Not Be Recommended

For the 2031 forecast year, the Kirby GO station was expected to result in:

- ridership loss of over 57,000 trips in that year;
- additional car travel of almost 40,000 kilometres per day (for commuters who switch from GO transit to driving); and
- an annual loss of over \$900,000 in fare revenue.

The analysis estimated that these forecasted results would translate into a net economic cost to the GTHA of \$478 million over 60 years.

From a strategic perspective, a Kirby GO station did conform to broad provincial and regional growth policies, and was aligned with the City of Vaughan's vision for the development of the area.

Figure 7: Considerations within Four Components of Business-Case Analysis

Source of data: Metrolinx

Strategic Component

- **Policy alignment**—The station location should align with policies in the area’s plan for growth (being sensitive to whether the location is urban, built-up or rural); and local land-use and transportation policies.
- **Development potential and intensification**—The location’s development patterns should support transit (taking into account the people, jobs and development currently within 800 metres of the location).
- **Real-estate-market demand**—The station should be well-situated in relationship to current and future real-estate-market demand.
- **Operational system**—The station should be an appropriate distance (not less than 1.5 km) from existing and other potential new stations.
- **Connectivity and ridership drivers**—Will the station lead to more or fewer overall GO riders? How well does the station connect to other existing or planned transit? What key destinations and places of interest are within 800 metres of the station?

Economic Component

- **Overall**—Will transit riders will be added or lost with a new station? (Time delays can be converted into loss of ridership, which in turn means loss of fare revenue and increases in car/vehicle use.)
- **Travel time savings**—What are the journey time changes for existing GO customers? What are the time savings for new GO customers switching to transit from other modes of transportation?
- **Vehicle operating cost savings**—If longer travel times on GO transit mean riders will switch to car (vehicle) travel, how many more vehicle kilometres will be travelled? How much more will it cost drivers to travel that kilometre distance?
- **Decongestion on road network**—To what extent does the new station reduce or increase congestion on the road network?
- **Safety**—If the new station results in fewer or more vehicle kilometres travelled, to what extent will the number of collisions in the area be affected?
- **Greenhouse gas emissions**—If the new station results in fewer or more vehicle kilometres travelled, what will be the change in greenhouse gas emissions?

Financial Component

- **Affordability and capital cost**—How much will it cost to build the station? How much will it cost to operate and maintain the station, including labour and station costs, and ticketing machine operating and maintenance costs?
- **Incremental fare revenues**—In the first 60 years after the station is built, how much additional fare revenue will the station generate?

Deliverability/Operations Component

- How easy will the station be to construct and operate? (For example, do adjacent buildings, existing infrastructure, or regionally protected lands or waterways pose problems for constructing the station?)
- How will residents be affected by the construction process and operation of the station?

The one strategic criterion the station did not meet was to improve transit service and increase ridership. As the analysis indicated, the area around Kirby GO station is not currently serviced by frequent local transit and is not close to key destinations, and travel time delays would translate to overall ridership loss.

The overall conclusion of the business-case analysis was that “the benefits which could be real-

ized by a Kirby station are not large enough to outweigh the negative impacts to GO Transit and the economy.” Another finding was that for every dollar spent on the new station, “transportation users and society would pay an additional \$3.60.” In other words, the additional costs to the region because of increased auto travel and travel time delays for GO passengers would be more than three-and-half times the costs to build and operate the station.

4.1.3 Business-Case Analysis Concluded Lawrence East GO Station Should Not Be Recommended

For the 2031 forecast year, a Lawrence East GO station was expected to result in:

- ridership loss of over 148,000 trips in that year;
- additional car travel of almost 7,000 kilometres per day (for commuters who switch from GO transit to driving); and
- an annual loss of nearly \$1.3 million in fare revenue.

The analysis estimated that these forecasted results would translate into a net economic cost to the GTHA of \$367 million over 60 years.

From a strategic perspective, a Lawrence GO station did align with the City of Toronto's growth objectives and transit plans. The two strategic criteria the station did not meet were (i) to improve transit and increase ridership; and (ii) having a sufficient demand for real estate development to justify the station. Even though the City of Toronto was planning to develop the area, the analysis predicted that employment densities, population densities and real estate market demand would all remain low.

The overall conclusion of the business-case analysis was that the "area's low employment and population densities and limited real estate market demand may not support RER [Regional Express Rail] service at this time"; and "its negative value results from the net loss in ridership due to the additional time required for trains to serve the

station." In other words, while the station would satisfy the City of Toronto's growth and transit objectives, the analysis showed that it would have an overall negative impact on the regional transit network and its users.

Figure 8 shows the business-case analysis results for the first 60 years if the Kirby and Lawrence East GO stations are built.

4.1.4 The Minister of Transportation Influenced Metrolinx to Approve the Kirby Station

The Minister of Transportation was the MPP representing the Vaughan riding, where a Kirby station would be located. On June 9, 2016, the Metrolinx CEO briefed him in person on the station-selection status. The Metrolinx CEO let the Minister know that neither Kirby nor Highway 7–Concord (another station in the City of Vaughan) were included as recommended stations. The Metrolinx CEO stated in an email later that day to the Metrolinx Board Chair that he interpreted the Minister to be "disappointed" by the news. The Metrolinx CEO further informed the Board Chair that he was discussing an "alternative analysis" with Metrolinx's Chief Planning Officer.

On June 14, 2016, Metrolinx's CEO informed the Board Chair by email that planning staff had taken another look at Kirby and Concord stations, to assess how the stations would perform assuming future implementation of express train service. The thought was that adding express train service

Figure 8: Estimated Impacts over 60 years with the Addition of Kirby and Lawrence East Stations

Source of data: Metrolinx

	Kirby	Lawrence East	Total
Net loss of riders (millions of trips)	3.3	12.8	16.1
Net additional time for travellers (millions of person-hours)	17.7	37.6	55.3
Net additional auto travel (millions of vehicle-kilometres)	688.1	181.7	869.8
Net loss of fare revenues (\$ million)	17.4	32.7	50.1
Capital costs (\$ million)	98.4	22.7	121.1
Net economic loss (\$ million)	(477.8)	(367.4)	(845.2)

would shorten the travel time for those riders not getting off at the Kirby and Concord stations, as the express trains would not stop at them. With shorter travel times, the results of the business-case analysis for a Kirby GO station would not be as negative—the shorter travel times should lead to increased ridership, reduction in car travel and additional fare revenues. However, he noted:

Unfortunately, while [express train service] did “improve” the business case, both stations still perform relatively poorly. Based on this, staff would suggest that both stations be put into the “future consideration” category. I have the impression this will be looked at unfavourably at this point. I am going to think overnight if I have any other ideas. If we cannot develop a technical rationale, we may receive some direction on one or both of these.

4.1.5 The City of Toronto Influenced Metrolinx to Approve the Lawrence East Station

The City of Toronto was targeting the Lawrence East area for growth. Because a GO station in this area would support such growth, the City of Toronto did its own evaluation of the Lawrence East area as a potential location for a GO station. The City sent its evaluation to Metrolinx in spring 2016.

On June 1, 2016, the Metrolinx CEO noted in an email to the Ministry of Transportation that the City of Toronto wanted the Lawrence East station but that Metrolinx’s business-case results did not support this station.

On June 11, 2016, the Metrolinx CEO pointed out to the Metrolinx Board Chair by email that the City’s evaluation of the Lawrence East location was not all that different from Metrolinx’s business-case results. He challenged the City to help Metrolinx demonstrate that Lawrence East will perform better than in both Metrolinx’s and the City’s analyses.

On June 13, 2016, City of Toronto and Metrolinx staff met to discuss the Lawrence East station. In

briefing the Metrolinx Board Chair about this meeting in a June 14 email, the Metrolinx CEO noted that “no new specific information was provided. We are left with the results from both our and the city’s technical evaluation that the site performs relatively poorly. My proposal is that I write to [the Deputy City Manager of Toronto] and request that the city make a submission that sets out the strategic and technical case for the inclusion of the station.”

On June 15, 2016, the Metrolinx Board held a special meeting before a scheduled public Board meeting scheduled for June 28. The Metrolinx Board Chair explained in an email to other Board members that the purpose for the meeting was as follows:

Before our June 28 public board meeting, the Minister and Mayor Tory want to make an announcement about the Smart Track stations Mayor Tory will be recommending to Council. They want this to be a positive announcement reflecting City-Province-Mx [Metrolinx] cooperation. We did not want the Minister doing so without the input of the board in advance. To permit the joint announcement and preserve confidentiality, we agreed to this special meeting. We will then revisit the same issues in public session on June 28 but by then, it would be too late to do other than approve the staff report. Thus the real substantive meeting is this one on Wednesday [June 15].

The Metrolinx Board was informed at this Board meeting that 10 new stations would be recommended, not including Lawrence East (or Kirby). The Metrolinx Board Chair also informed Board members that the City of Toronto would like a Lawrence East station.

On June 16, 2016, the Ministry of Transportation asked Metrolinx to review draft news releases announcing new stations. Four of the news releases announced stations that Metrolinx was planning not to recommend: Kirby and Lawrence East, as well as Highway 7—Concord and Park Lawn.

4.1.6 Metrolinx Planning Staff Tried to Justify Recommending Kirby and Lawrence East Stations

In response to the Minister's and the City of Toronto's attempts to influence the station selection, Metrolinx planning staff tried to justify including the Kirby and Lawrence East stations by changing the criterion used in the business-case analysis to recommend which stations should be built.

An unpublished June 2016 draft of the Summary Report (initially prepared by the co-ordinating consultant and subsequently updated in consultation with Metrolinx) classified the 17 proposed stations into three distinct groups: "recommended" (five of the 17 stations); "contingent" (another five of the 17 stations); and "not recommended" (the remaining seven of the 17 stations, including Kirby and Lawrence East).

Metrolinx was planning in June 2016 to recommend to its Board both the five "recommended" stations and the five "contingent stations" (10 stations in total). In other words, "contingent stations" "made the cut" while "not recommended stations" did not.

On June 20, 2016, Metrolinx planning staff emailed senior management that they had changed the dividing line between the contingent and the not recommended groups. Originally, stations with a net economic cost of \$250 million or more were in the not recommended group; the amount was increased to \$300 million. This enabled Don Yard, with a net economic cost of \$281 million, to move from the not recommended to the contingent group.

The email further states that "if we [increase the amount] even more to include Lawrence, then it would include Ellesmere and Whites, but Kirby would still [be not included]." (Lawrence East's net economic cost was \$367 million while Kirby's was \$478 million.) In other words, increasing the amount to include Kirby would result in other, undesired stations being included in the contingent group.

Thus, Metrolinx's planning staff's attempts to justify Kirby and Lawrence East stations in this way ultimately did not work. We noted in this regard that on July 7, 2016 (after the Metrolinx Board had approved Kirby and Lawrence East as recommended stations), Metrolinx planning staff still had concerns about how the stations had been grouped. An internal review document of the business cases stated that the cut-off point for station selection seemed "to be set arbitrarily" and some "valid basis" for their inclusion needed to be provided.

4.1.7 Metrolinx Created a New Group to Justify Recommending Kirby and Lawrence East Stations

Metrolinx split the "not recommended" group into two subgroups, calling one "low-ranking" (which would be recommended for construction) and the other "very-low-ranking" (which would be not recommended for construction). Kirby and Lawrence East were the only two stations in the "low-ranking" group. Metrolinx defined low-ranking stations as "sites with poor economic performance but advantaged by strategic factors or sensitivities."

As explained in **Sections 4.1.2** and **4.1.3**, the business-case analyses had already taken "strategic" considerations into account. But in those analyses, the strategic benefits—aligning with Vaughan's and Toronto's growth objectives and transit plans—were not large enough to outweigh the high net economic costs.

Metrolinx overrode these business-case analysis results in its report to the Board. The report stated that "Metrolinx should...[i]nclude strategic considerations in addition to the results of the Initial Business Cases and the network fit analysis to also support strategic considerations to include factors like overall priorities of the various levels of government."

In March 2018, Metrolinx published its *Draft Business Case Guidance*, which states that business cases are only one of five inputs Metrolinx considers in decision-making. As shown in **Figure 9**,

Figure 9: Inputs for Metrolinx’s Decision-Making

Prepared by the Office of the Auditor General of Ontario



Note: The five inputs in gold are referenced in Metrolinx’s *Draft Business Case Guidance*. Our audit found that there was a sixth input, influence from stakeholders, which we have added in this figure to the five inputs identified by Metrolinx.

Metrolinx considers public engagement, policies and other investments, emergent trends and conditions, and capacity to deliver in addition to business cases. Based on our review of the process which led to the approval of Kirby and Lawrence East stations, a sixth input—stakeholder influence—was also an important input in Metrolinx’s decision-making.

Repeatedly adding further “strategic considerations” to the decision-making process makes it possible to justify any decision. Similarly, putting so much priority on these vague strategic considerations—and less weight on net economic costs—makes the decision-making process seem arbitrary. This is especially concerning because it resulted in Metrolinx choosing just those two stations that the Minister and the City of Toronto influenced it to choose.

Metrolinx’s Board Chair recognized this in a June 13, 2016, email to other Board members. At this point, Metrolinx was expecting to recommend

just the 10 stations and not Kirby or Lawrence East. The Chair wrote:

[T]here will be disappointed local communities both in Toronto and across the GTHA which will be very disappointed not to have achieved a station. The Minister will be bearing the political burden of explaining these outcomes which is why staff have worked so hard to be principled and evidence-based in reaching their conclusions. Absent that, our conclusions could be seen as arbitrary and essentially political which could open a Pandora’s box of new demands across the region.

Part of what was seen as a means to address the potential public perception of arbitrary decisions was to try to change the variables considered in decision-making.

Throughout June 2016, Metrolinx’s CEO and Board Chair corresponded frequently on the matter of the Minister’s support for Kirby GO station, and the City of Toronto’s desire for a Lawrence East GO station, neither of which were supported by the results of Metrolinx’s business case analysis. Ultimately, the apparent need for alignment and co-operation between the City, the Province, and Metrolinx could be perceived to have compromised the Metrolinx Board’s fiduciary responsibility.

In other jurisdictions, other practices ensure greater accountability when a decision is made to proceed—for political reasons—with transit investments that have a significant net economic cost. For example, when such situations are encountered in the United Kingdom, the most senior civil servant in each department has a duty to seek a Ministerial direction if they think a spending proposal does not promise good value for money. In May 2016, the Permanent Secretary of the Department for Transport wrote to the Secretary of State for Transport to seek Ministerial direction on the request to increase pre-construction funding on a proposed pedestrian bridge. He was concerned that there were several risks to the successful delivery of the project, which was ultimately cancelled in August 2017.

Since 2003, the Minnesota Department of Transportation has been governed by a Cost-Effectiveness Policy when undertaking cost-benefit analysis. The policy requires that if a project's net economic costs are estimated to be too high, further justification must be established. Varying levels of managerial approval must be obtained and documented at each stage when decisions are made to advance these projects toward development.

RECOMMENDATION 1

To support co-ordinated, accountable and transparent decision-making for transit investments in the Greater Toronto and Hamilton Area, we recommend that Metrolinx establish a clear framework for how:

- criteria used in business cases are established and changed;
- inputs outside of business cases (such as public engagement, policies and other investments, emergent trends and conditions, and capacity to deliver) are distinct from the considerations included in business cases;
- both inputs outside of business cases and the criteria used in business cases are weighted in the decision-making;
- Metrolinx should request official Ministerial direction when the Province's objectives are not in alignment with Metrolinx's business cases, plans, and decisions; and
- Metrolinx should request formal City or municipal recommendations when municipal stakeholders' objectives are not in alignment with Metrolinx's business cases, plans and decisions.

METROLINX RESPONSE

Metrolinx accepts the Auditor General's recommendation. Metrolinx has already taken several steps to consolidate its decision supporting methodology, such as the Draft Business Case Guidance published in March 2018.

Metrolinx will publish the complete Business Case Guidance (v1) in April 2019. The Guidance will provide a prescriptive direction for business case criteria. These criteria will be tracked through successive business cases—if they need to be adjusted, the adjustments must be documented and justified explicitly. Metrolinx will also develop a supporting procedure document to clarify how decision processes are informed by business cases throughout the project lifecycle.

Metrolinx business cases focus on transportation benefits and costs. Investment decision-making should also take into consideration emergent trends and conditions, public engagement, non-transportation-related policies and the market's capacity to deliver. Metrolinx management will bring forward to the Board options for incorporating these in a more transparent form.

Metrolinx will seek formal direction from the Minister of Transportation and clear recommendations from municipalities, when major changes to business cases, plans and decisions are suggested, for more transparency and expeditious delivery.

RECOMMENDATION 2

To confirm whether the Kirby and Lawrence East GO stations should be built, we recommend that the Ministry of Transportation independently assess whether they should proceed at this time and whether these stations will benefit the regional transportation network.

METROLINX RESPONSE

Metrolinx accepts this recommendation and will support the Ministry of Transportation in this work as required.

MINISTRY OF TRANSPORTATION RESPONSE

The Ministry of Transportation (MTO) accepts the Auditor General's recommendation. The government is reviewing all expenditures, and MTO will work with Metrolinx to develop proposals for government on which investments are to proceed, including stations.

4.1.8 Metrolinx's 2018 Reanalysis of the 12 Stations Increased Their Benefits

In August 2017, the Minister of Transportation instructed the Metrolinx Board Chair to hold off on proceeding with the Kirby and Lawrence East stations until Metrolinx staff and the Board were satisfied that they are justified. In February 2018, Metrolinx released an updated analysis of the 17 shortlisted stations, concluding that the 12 stations that had been recommended in June 2016 (including Kirby and Lawrence East) were justified.

The reanalysis introduced three new assumptions to three newly planned initiatives not included in the 2016 analysis: fare integration, express service, and station platforms that are level with train doors ("level boarding"). **Figure 10**

explains these initiatives and shows how they increased the economic benefits of the 12 stations by a total of \$5.3 billion over the first 60 years after the stations are built.

The economic benefits of the 12 stations were overstated by about \$2.9 billion because of two out-of-date assumptions used in Metrolinx's calculations. Metrolinx has since released updated economic values in its March 2018 *Draft Business Case Guidance*. The assumptions had to do with savings to GO riders resulting from reduced car use and reduced travel time associated with the 12 new stations. **Figure 11** explains the issue with Metrolinx's calculations of reduced car use, and the resulting overstated savings of \$393 million. **Figure 12** explains the issue with Metrolinx's calculations of reduced travel time, and the resulting overstated savings of \$2.9 billion.

A further concern with Metrolinx's incorporation of the three newly planned initiatives in its reanalysis, and the resulting \$5.3 billion in economic benefits, is the likelihood that the initiatives will not be in place by the time the stations are built. For example:

- Fare integration is only in the early planning stages.

Figure 10: 2018 Reanalysis Assumptions and Their Impacts over 60 Years

Source of data: Metrolinx

Assumption	What It Means	Impacts ¹ (\$ million)			Total
		On Kirby	On Lawrence East	On 10 Other Stations	
Fare integration ²	GO Transit and municipal transit fares will be identical	n/a	145	2,285	2,430
Express service ³	Trains serving certain outer stations will run non-stop past certain inner stations	425	296	1,239	1,960
Level boarding ⁴	Train doors will be level with train platforms, speeding up entry and exit	39	47	859	945
Total		464	488	4,383	5,335

1. The impacts increased the economic benefits of the stations by the amounts indicated.
2. Metrolinx's 2018 reanalysis applied fare integration only to Toronto stations (i.e., excluding Kirby, Innisfil, Mulock and Breslau). It assumed that the cost of a Toronto trip would be the same on GO as on the TTC, with free transfers between the two.
3. Metrolinx's 2018 reanalysis assumed express trains would bypass new stations on the Lakeshore West, Barrie and Stouffville lines, avoiding extra stoppage trip time for passengers coming from outer stations.
4. Metrolinx's 2018 reanalysis assumed that all new stations would be built for level boarding. This reduces stoppage trip time from two minutes to about 1.5 minutes for riders travelling through the stations.

Figure 11: Issue with Metrolinx's Assumption of Cost Savings from Reduced Car Use over 60 Years

Prepared by the Office of the Auditor General of Ontario

Issue: Do new riders who switch to GO Transit:

- give up their cars altogether? or
- save on reduced driving costs but keep their cars?

		Overstatement of Savings from Metrolinx's Use of \$0.66/km Value (\$ million)			
Estimated Cost Savings from Giving Up Cars: \$0.66/km	Estimated Cost Savings from Reduced Driving Costs: \$0.18/km	Kirby Station	Lawrence East Station	10 Other Stations	Total
Amount includes all the costs of having a car: insurance, licence and registration, vehicle depreciation, financing, fuel, maintenance and tires.	Amount only includes the costs of operating a car: fuel, maintenance and tires.	79.0	1.5	312.8	393.3

- Express service does not currently exist on the Barrie and Stouffville lines. When Metrolinx looked at implementing it on the Stouffville line in 2016, it concluded that significant infrastructure costs, major property acquisition requirements and unacceptable community impacts constituted “fatal flaws” to its implementation. Metrolinx told us that it has since focused on how to reduce the significant infrastructure costs of express service for the Barrie and Stouffville lines, although its February 2018 updated station analysis does not include any information on this planning work. Metrolinx informed us it is planning to require the contractor it procures for the station work to achieve express service, and it is exploring options such as constructing short “passing tracks” to enable express trains to bypass non-express trains. Nevertheless, an achievable and sufficiently cost-effective express-service solution has not yet been finalized.
- Metrolinx's 2018 business case for level boarding found that it poses many challenges, such as modifications to existing trains and stations, and will take many years.
- According to Metrolinx's March 2018 *Draft Business Case Guidance* document, the \$0.66/km rate is no longer considered appropriate when there is no evidence that new GO riders will completely give up their vehicles. Although Metrolinx is undertaking further research in this area, currently the extent to which transit users give up their cars as a result of a new transit investment is unclear.
- A consultant hired by Metrolinx in March 2018 to determine how other jurisdictions calculate transit-user savings reported that Metrolinx should significantly lower the \$0.66/km rate.
- The same December 2014 memo from the Ministry of Transportation cited in **Figure 12** stated that Metrolinx should use a 0% value-of-time growth rate because a growth rate of 1.6% could have a “significant impact on the [economic value] of each project and a potentially significant impact on the ranking or prioritization of a group of projects.” The memo also noted that organizations in other jurisdictions, including Transport Canada and the U.S. Transportation Research Board, do not assume time grows in value when they assess the economics of transportation projects.

Further issues with Metrolinx's assumption of economic benefits of \$2.9 billion as presented in **Figures 11** and **12** are as follows:

Figure 12: Issue with Metrolinx's Assumption of Savings from Reduced Travel Time over 60 Years

Prepared by the Office of the Auditor General of Ontario

Issue: Should the value of time GO riders save:

- increase every year? or
- stay the same?

Metrolinx's Assumption	Direction to Metrolinx from Ministry of Transportation*	Overstatement of Savings from Metrolinx's Use of 1.6%/year Value (\$ million)			
		Kirby Station	Lawrence East Station	10 Other Stations	Total
Increase value of time by 1.6% every year until 2044 (and stays the same after that).	No increase (0%) in the value of time.	126	27	2,332	2,485

* In a December 2014 memo, the Ministry of Transportation shared research findings with Metrolinx that there had been no real growth in market wages in the GTHA for 35 years, and that Metrolinx should therefore use a 0% value-of-time growth rate in business cases.

RECOMMENDATION 3

To improve the accuracy of the analyses on which Metrolinx bases its future transit-planning decisions, we recommend that Metrolinx:

- establish a regular interval at which inputs and assumptions used in business cases are reviewed for their relevance and reliability; and
- use the most up-to-date inputs and assumptions in its future business-case analyses.

METROLINX RESPONSE

Metrolinx accepts the Auditor General's recommendation. Through Metrolinx's multi-stage approval process, the latest scope and costs of a project are assessed at each stage in a project's life cycle to ensure accurate understanding of costs and benefits.

Metrolinx will regularly review the Business Case Guidance to incorporate up-to-date inputs and assumptions in the financial and economic analysis (e.g., value of time, auto operating costs, inflation, etc.). Metrolinx will assess the potential impacts of these changing inputs on business cases underway at the time.

Metrolinx will establish an Advisory Panel for Project Evaluation to ensure that Metrolinx's

Business Case practices are up to date and based on the latest research. The Advisory Panel will comprise experts from academia, public policy and government.

4.2 Metrolinx Limited the Clarity and Transparency of the Information It Provided to the Public in Support of Decisions

Throughout the station evaluation process, Metrolinx revised both published analysis and supporting documentation. This obscured the net economic costs estimated in the original business cases, making the results of the business-case analysis—both on Metrolinx's website and in the published report to the Board—much less clear and transparent.

4.2.1 Initial Business-Case Terminology Changed to Make Kirby and Lawrence East Acceptable

As described in **Section 4.1.6**, an unpublished June 2016 draft of the Summary Report (of the initial business cases prepared by three external consultants) classified the 17 stations into three distinct groups: recommended, contingent and not recommended. This is in line with the objectives of

the business-case analysis as stated in the Terms of Reference, where the co-ordinating consulting firm was to “[p]repare [an] evidence-based summary of recommended stations for construction within [a] 10-year horizon.” The consulting firms were requested to come up with the “recommended course of action” for Metrolinx regarding the 17 stations.

Figure 13 summarizes the justification for these classifications, and the recommended course of action for each type of station.

Metrolinx did not post the Summary Report on its website until September 2017. When it did, it posted an edited version of the Summary Report provided by the consultants. These edits included changing the consultants’ group name of “Recommended” stations to “Best Performing,” and “Not Recommended” to “Low Performing.” Metrolinx’s renaming of the groups and removal of the word “recommended” made the results of the consultants’ analysis less clear to the reader and obscured the negative evaluation of the Kirby and Lawrence East stations arrived at by the consultants.

The report to the Board used the same revised group names and, after being revised twice from its original June 10, 2016 version, went even further in obscuring the consultants’ negative analysis of the Kirby and Lawrence stations. This is summarized in **Figure 14**.

4.2.2 Sensitivity Analyses Not Included in 2018 Reanalysis Report

As mentioned in **Section 4.1.8**, Metrolinx released an updated analysis of the 17 shortlisted new stations in February 2018. This public 2018 Reanalysis Report is available on Metrolinx’s website as *Technical Report: GO Expansion RER New Stations Business Case Analysis*. The accompanying staff report brought to the Metrolinx Board recommended “[t]hat staff continue the delivery” of all 12 previously recommended stations. However, we noted that the Reanalysis Report presented only a “best-case” scenario that assumed that three initiatives that significantly increased the stations’ economic benefits (fare integration, express service

Figure 13: Initial Grouping of 17 Stations in Draft Summary Report

Source of data: Metrolinx

Status	Station	Reason for Status	Recommended Course of Action
Recommended	Gerrard	Satisfy municipal, regional and provincial goals	Can be implemented in near-term and provide significant local and overall regional benefits
	Liberty Village		
	Innisfil		
	Breslau		
	Spadina		
Contingent	Mulock	Marginal overall benefit	Should not be undertaken without more detailed study
	Finch		
	St. Clair West (Kitchener)		
	Don Yard		
	Bloor-Davenport		
Not Recommended	Lawrence East	Projected poor economic performance, lack of fit at the regional or network level, or high combined impact on corridor running times	Should not be considered further during the next 10 years
	Ellesmere		
	Whites Road		
	Kirby		
	St. Clair West (Barrie)		
	Highway 7-Concord		
	Park Lawn		

Figure 14: Revisions to Board Report Concerning Kirby and Lawrence East Stations

Source of data: Metrolinx

Station	June 10, 2016 (Draft)	June 19, 2016 (Draft)	June 28, 2016 (Final)
Kirby	<p>Not recommended for inclusion in RER program:</p> <p>New development around the location would draw new riders, but not in sufficient numbers to offset the delays to large numbers of upstream riders, potentially deterring some people from taking GO</p>	<p>Aligns with municipal planning policies and provides opportunity to attract significant contributions from adjoining landowners</p> <p>Requires additional work with the local municipality and development community to ensure transit oriented development is optimized, as well as piloting the location for enhanced first and last mile access by modes other than automobile</p> <p>Need to develop strategies to offset travel time impacts on customers with origins/destinations to the north of the proposed station</p>	<p>Located in area subject to new development</p> <p>Low forecast ridership</p> <p>Subject to additional work with municipality and landowners</p> <p>Subject to corridor service planning and further analysis of service implications</p>
Lawrence East	<p>Not recommended for inclusion in RER program:</p> <p>Located in a low-density industrial area with limited potential for new ridership; delay to existing riders is greater than the time saved by new riders shifting to this station yields potential net loss to corridor ridership</p>	<p>In concert with municipality and local landowners, opportunities exist for redevelopment of existing industrial and commercial land uses</p> <p>Connectivity to major bus routes may yield higher ridership with fare integration</p> <p>Need to plan for station in the context of the municipality's Scarborough transit network plans</p> <p>Need to develop strategies to offset the travel time impact on customers with origins/destinations to the north of the proposed station</p>	<p>Located in a low-density industrial and residential area; low forecast ridership, subject to additional work with municipality/landowners; connectivity to major bus route may yield higher ridership with fare integration</p> <p>Subject to corridor service planning and further analysis of service implications</p>

and level boarding) would be in place when the stations are expected to begin operating in 2024. What the report lacked was “sensitivity analyses,” which would have presented a range of estimates about the economic benefits of the stations if, for example, any of the initiatives were not implemented or were implemented differently than assumed under the best-case scenario. Metrolinx did undertake such sensitivity analyses internally, assessing how the estimated benefits of each station

changed with the addition or removal of each initiative. However, it did not include a range of possible benefits in the report published for stakeholders and the public.

Similarly, the 2018 Reanalysis Report did not include sensitivity analyses for different assumptions about vehicle-operating costs and the value of time, presenting only one scenario, which maximized the stations' economic benefits. We noted that in a separate 2015 business case, Metrolinx

actually did prepare sensitivity analyses showing the different evaluation results using a \$0.20/km vehicle-operating cost and a 0% growth rate for the value of time. Metrolinx could have provided similar sensitivity analyses in the 2018 public report but did not.

RECOMMENDATION 4

To help decision-makers and stakeholders understand the expected benefits of proposed investments, we recommend that Metrolinx:

- use language that is clear and understandable in its reports to the Board and those it posts on its website for the public; and
- include and clearly disclose sensitivity analyses in its published business-case results.

METROLINX RESPONSE

Metrolinx accepts the Auditor General's recommendations. Metrolinx will include a cover note with business cases presented to Metrolinx's Board. This note will specify the recommendation and identify how other factors outside of the business case, such as the funding status, procurement and commercial issues, stakeholder and public input, and project risks have been factored in.

Metrolinx will include the results of sensitivity analysis in its published business case results moving forward.

Metrolinx will provide more prescriptive guidance on sensitivity analysis in the complete Business Case Guidance (v1), which will be released by April 2019. This will include a consistent set of sensitivity analyses to be applied across projects, as well as guidance for developing project-specific sensitivity analysis.

4.3 Under the Act, Metrolinx Must Reconcile Leadership in Planning and Collaboration with Stakeholders

4.3.1 Transit Planning Must Keep Sight of Region's Best Interests

Multiple parties have vested interests in the future state of the GTHA, and specifically in planning transportation in the GTHA. Those interests differ as transit ridership and transit needs vary across the region. In 2017, for example, there were as many as 530 million people riding the TTC in Toronto, compared to just 3 million people riding Oakville Transit in Oakville. Between those groups are riders of GO Transit's regional services, which numbered 69 million in 2017.

Regional transportation planning is concerned with growth and development, and how to integrate the movement of people and goods throughout the region. As the regional transportation planner for the GTHA, Metrolinx must develop a 30-year vision for a transportation network that serves the region's best interests.

Cities and municipalities also plan for future growth and development by determining what uses the land in their boundaries will be put to. This includes considering the local transit system and how it can support Official Plans for how the municipality wants population and employment to be distributed.

Metrolinx's Board Chair characterized this difference in local and regional perspectives in a June 13, 2016, email to Board members about the Lawrence East GO station: "The City values the local service in particular while [Metrolinx] staff focus on the trade-offs and aim for the best overall balance for the network."

Collaboration is essential to Metrolinx's task. Metrolinx and municipalities try to reach agreement on transit projects built on municipal property and connecting to local transit. Metrolinx and provincial government decision-makers communicate back and forth, with the government informing

Metrolinx about provincial priorities, and Metrolinx providing leadership, analysis and advice on which projects will best realize the 30-year plan.

It is important to note that Metrolinx has the power to plan and propose projects, but it must depend on collaboration with municipalities to put them into effect. That is, Metrolinx relies on municipalities for permits, approvals and transit-supportive land use in order to deliver projects. Without the support of the local municipality, implementing regional transit projects in the GTHA is extremely difficult.

An example to illustrate this is one of *The Big Move's* planned priority projects: Hurontario rapid transit from Port Credit to downtown Brampton. Metrolinx proposed the route for this project, and the Province committed \$1.6 billion to it in April 2015. However, in October 2015, Brampton City Council voted against the Brampton portion of the route because some councillors felt the proposed route through the city's downtown would not have enough riders and lacked potential for future growth. As a result, the light rail service, expected to open in 2022, will terminate at the Brampton Gateway Terminal at Steeles Avenue instead of the Brampton GO station in downtown Brampton.

4.3.2 Stakeholder Interests Can Inappropriately Override Regional Interests

In its leadership role of regional transportation planning, Metrolinx is mandated to plan and achieve what is best for the region. What is best for the region may not always align with the desires of certain stakeholders and interested parties.

In past cases of such misalignment, the distinct positions of Metrolinx and opposing stakeholders were clear. For example, when Brampton City Council voted against Metrolinx's approved route for Hurontario rapid transit, Metrolinx provided the best analysis and advice regarding the region's interests, but the City—with its decision-making authority—overrode that analysis and advice.

In the above case, Metrolinx advised the adoption of a transit project that a municipality did not want built, and the municipality blocked it. The case of the Kirby and Lawrence East GO stations is the opposite misalignment: municipal stakeholders (an MPP, the City of Toronto) wanted transit projects built that Metrolinx had concluded were not in the region's best interests. However, Metrolinx succumbed to the influence of the MPP/Minister of Transportation and the City of Toronto and overrode its initial, objective analysis.

The appropriate way to address the misalignment would have been for the Minister to use the legislated channels available to him to direct Metrolinx. The *Metrolinx Act, 2006*, provides for the Minister of Transportation to give written directives to Metrolinx, including direction to amend the regional transportation plan, and to take specific steps towards its implementation. These directives can be made public, such as the Minister's mandate letter for the 2017/18 fiscal year (posted on Metrolinx's website), or can be sent directly to Metrolinx, as occurred in April 2012, when the Minister directed Metrolinx to develop an implementation plan for Toronto light rail transit projects and related criteria.

Written directives ensure greater accountability in that they ensure clear ownership of decisions that significantly affect the regional transportation network. In cases where ministerial direction aligns with Metrolinx's recommendations, Metrolinx gains further explicit support from the Province in advancing transit projects. However, in cases where a directive is misaligned with Metrolinx's position as regional transit planner, the public benefits from the full knowledge that a government policy decision is overriding Metrolinx's planning recommendation.

Metrolinx could have taken the position that its best analysis and advice do not support the Kirby and Lawrence East GO stations. If the Province and the Minister were committed to the stations for other reasons, a ministerial directive could have been issued, with the Province and Minister "owning" the decision in a transparent manner.

As noted in **Section 4.1.7**, transportation planning in the United Kingdom makes effective use of this safeguard: the most senior civil servant in each department has a duty to seek a ministerial directive if they think a spending proposal does not promise good value for money.

RECOMMENDATION 5

To help Metrolinx effectively carry out its duties as a regional transportation planner, we recommend that the government of the day review the *Metrolinx Act, 2006*, and determine whether greater clarity regarding Metrolinx's roles and responsibilities in the planning of the regional transportation system would benefit Ontarians.

METROLINX RESPONSE

Metrolinx accepts this recommendation and will support the Province in this work as required.

MINISTRY OF TRANSPORTATION RESPONSE

The Ministry of Transportation is currently reviewing the *Metrolinx Act, 2006*, and will be developing proposals that would clarify roles and responsibilities with respect to planning and decision-making.

Appendix 1: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Roles of key stakeholders involved in the new station planning process are clearly defined and effective communication protocols are established for timely contribution to the planning process.
2. Comprehensive business cases clearly set out the analysis of the achievable benefits, costs, and impacts of potential investments to support evidence-based decision-making. All key assumptions and significant changes to the forecasted projections and benefit cost analysis should be clearly documented and properly supported.
3. Proposed stations are thoroughly evaluated by qualified individuals using a clear and appropriate framework for alignment with the regional transit network.
4. All decisions to proceed with the new stations are supported by thorough analysis of reliable and relevant data.
5. Sufficient details of the supporting analysis and evidence are publicly posted on Metrolinx's website to justify the decisions on the proposed stations.

Appendix 2: Key Criteria Used to Refine List of Potential Stations

Source of data: Metrolinx

Category	Objective	Measure/Metric
Strategic/Economic Planning	Connectivity and ridership drivers	Number of trips involving the new station (users boarding or disembarking).
		Connections to other higher order transit modes and potential to improve network and/or corridor service.
		Connections to key destinations.
	Travel time savings	Time savings associated with the new station.
	Market potential	Proximity of new station to future market demand.
	Development potential	Proximity of new station to area with future development and intensification potential. Extent to which station could support this development.
	Policy alignment	Alignment of new station with Growth Plan policy.
Financial/Technical	Affordability	Expected costs to construct the station.
	Ease of construction	Feasibility and constraints associated with the new station site.