

**INVESTING IN OUR REGION
INVESTING IN OUR FUTURE**

Project Prioritization Framework



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1 Introduction

Metrolinx established a Prioritization Framework in 2010/11 to assist with planning for implementation of *The Big Move* priorities. The intent was to inform the order for investment in capital projects based on highest benefit so that projects are ready to proceed when funding becomes available. Prioritization is a tool to guide project planning and implementation decisions based on Metrolinx “triple bottom line” pillars of environment, economy, and quality of life and provides technical evidence, robustness and credibility to decisions.

The projects being prioritized are the Next Wave unfunded capital projects from the list of priority transit projects in *The Big Move*, including both GO and rapid transit projects. These projects are all priorities in *The Big Move*. As shown in Figure 1, the Project Prioritization Process is a method to guide the phasing of investments, not to suggest that some projects are not priorities.

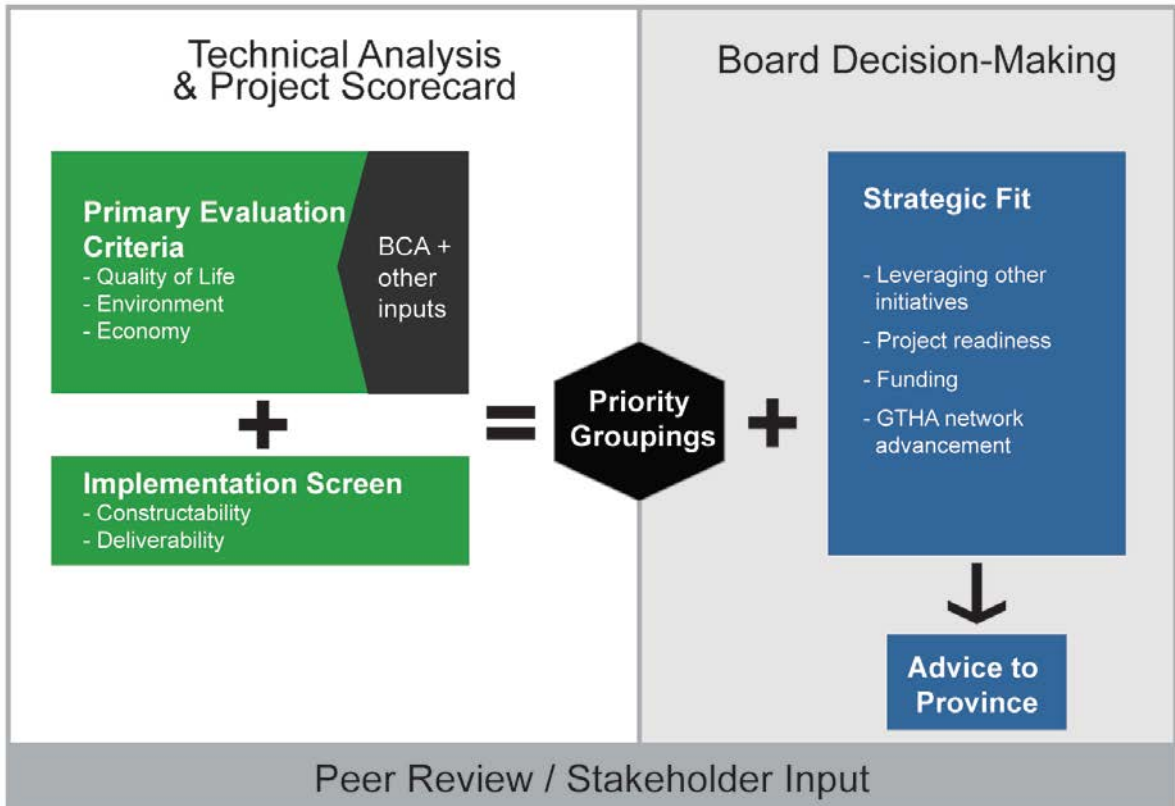
Figure 1 – Project Prioritization Process



The Framework, as shown in Figure 2, evaluates the Next Wave projects against a multi-account framework using data inputs from the Benefits-Cost Analysis (BCA) tool and other sources. Evaluation criteria consist of two main categories: Primary Evaluation Criteria, which capture different measures of the three “triple bottom line” pillars, and a measure of implementation potential. The prioritization also includes consideration of strategic fit as an opportunity for decision-makers to weigh in on broader considerations not captured in the quantitative criteria.

During the Framework’s development, municipal stakeholders were consulted both on the methodology and to confirm that the data inputs used were appropriate. In addition, a Peer Review panel provided an objective third-party review of the methodology and its application.

Figure 2 - Metrolinx Prioritization Framework



This appendix provides an overview of the evaluation methodology, describes the projects included in the Next Wave, and outlines a range of Strategic Fit considerations.

1.1 What is Being Prioritized?

Figure 3 provides a list of the GO and Rapid Transit projects currently being prioritized. Not included in prioritization are state of good repair, asset maximization, and foundation projects, which are all considered prerequisites for system expansion.

Figure 3 – Project List

Next Wave Projects - GO Transit	Next Wave Projects – Rapid Transit (RT)
<ul style="list-style-type: none"> • Barrie –Two-way all-day (2WAD) to East Gwillimbury • Kitchener – 2WAD to Mt. Pleasant • Kitchener Corridor and UP Express Electrification • Lakeshore Electrification and Express Rail • Lakeshore West – Extension to Confederation • Lakeshore East Extension to Bowmanville • Milton – 2WAD to Meadowvale • Richmond Hill – 2WAD to Richmond Hill • Stouffville – 2WAD to Unionville • Stouffville – 2WAD to Mt. Joy 	<ul style="list-style-type: none"> • Brampton Queen St. RT • Downtown Relief Line • Dundas RT – BRT Kipling to Highway 407 • Durham – Scarborough BRT • Hamilton RT – McMaster to Eastgate • Hurontario RT – LRT Mississauga to Brampton • Yonge Subway Extension: Finch to Richmond Hill Centre

2 Prioritization Methodology Overview

The Prioritization Framework is a tool to inform the decision-making process - it is a means to an end, not an end in itself. It is principle-based, meaning the evaluation criteria link to the Vision, Goals and Objectives set out in *The Big Move*.

The Framework evaluates the Next Wave projects against a multi-account framework using data inputs from the Benefits-Cost Analysis (BCA) and other sources. Evaluation criteria consist of two main categories: Primary Evaluation Criteria, which capture different measures of the three “triple bottom line” pillars, and a measure of implementation potential. The primary evaluation criteria include ten different metrics, each under the umbrella of one of the three pillars:

- high quality of life;
- a thriving, sustainable, and protected environment; and
- a prosperous and competitive economy.

Each individual criterion reflects an aspect of its larger pillar and together they provide an indication of a project’s contribution to fulfilling the vision of The Big Move.

2.1 Primary Evaluation Criteria

The Big Move describes “A High Quality of Life” as:

People will have a wide range of options available for getting around regardless of age, means, or ability and the transportation system will contribute to the creation of attractive, liveable neighbourhoods and complete communities.

The criteria associated with “A High Quality of Life” include:

- Building Communities: Change in the density of population and employment projected for the area
- Transit Ridership: Total weekday boardings forecast
- Social Need: Youth, seniors, and low income population within 500m of a rapid transit corridor or 2km of a GO station
- Regional Connectivity: Number of connections to other rapid transit services, mobility hubs, and major destinations

The Big Move describes “A Thriving, Sustainable and Protected Environment” as:

Our transportation system will have a low carbon footprint, conserve resources, and contribute to a legacy of a healthy and clean environment for future generations.

The criteria associated with “A Thriving, Sustainable and Protected Environment” include:

- Greenhouse Gas Emissions Reduction: Tonnes saved annually based on vehicle kilometers traveled.
- New Transit Riders: Projected total new weekday boardings

The Big Move describes “A Strong, Prosperous and Competitive Economy” as:

The transportation system will create opportunities for greater prosperity throughout the region, optimize use of resources and provide better value to households, businesses, and government.

The criteria associated with “A Strong, Prosperous and Competitive Economy” include:

- Economic Impacts: Direct and indirect wages and GDP benefits (post-construction) over the first 30 years of operation.
- Capital Cost per Rider: Capital Cost per New Rider
- Operating Revenue/Cost Ratio: Net new operating revenue/cost ratio.
- Benefit-Cost Ratio: The BCR measures the ratio of transportation user benefits (travel time, safety, operating savings based on vehicle kilometers traveled) to capital costs and estimated incremental operating cost.

Projects are scored relative to one another and not according to an absolute standard. For each metric, projects are scored on a scale of 1 to 5 based on the range of indicator values for comparable projects. A composite score for each pillar is arrived at by averaging the individual criterion scores. Due to differences in the nature of the projects, GO and rapid transit projects are evaluated separately. GO projects are largely incremental expansions of the existing system, while the rapid transit projects are standalone new projects.

Figure 4 provides a listing of the criteria grouped around the three pillars, and a description of the indicators used.

Figure 4 - Primary Evaluation Criteria

Criteria	Indicator	BCA
A High Quality of Life		
Building Communities	Change in the density of population + employment projected for the area.	
Transit Ridership	Total Weekday Boardings Forecasted	
Social Need	Youth/Seniors/Low Income population within 500m of an RT corridor or 2km of a GO station	
Regional Connectivity / Destinations	Number of connections to other RT services/mobility hubs/post-secondary institutions/hospitals	
A Thriving, Sustainable and Protected Environment		
GHG Emissions reduction	Tonnes saved annually based on VKT	✓
New Transit Riders	Projected total NEW weekday boardings	
A Strong, Prosperous and Competitive Economy		
Economic Impacts	Direct and Indirect Wages and GDP benefits (post-construction) over the first 30 years of operation (PV \$M)	✓
Capital Cost per Rider	Capital Cost per New Rider	
Operating Revenue / Cost Ratio	Net New Operating Revenue / Cost Ratio	
Benefit-Cost Ratio	Transportation User Benefits (travel time, safety, operating savings based on Vehicle Kilometres Travelled (VKT) Capital cost Estimated incremental operating cost	✓

Extensive sensitivity testing, with different weightings and approaches to normalization was conducted to arrive at an appropriate balance of measures. Particular attention was paid to arriving at a balance of measures that treat large-scale and smaller-scale projects fairly, as well as accounting for projects of differing lengths.

2.2 Implementation Screen

Once projects have been scored by the Primary Evaluation Criteria, each project is analyzed for implementation potential which looks at issues of deliverability and constructability. Examples of implementation consideration may include the need for road widening or other supportive infrastructure such as bridges, phasing

potential, as well as possible community opposition. In other words: “Is there support for the project or will it be allowed to proceed?” and, “Can it be built?”

Together, the primary criteria and the implementation screen create a profile for each project, which feed into three priority groupings - Priority Group A, Priority Group B, and Priority Group C. These priority groupings are further refined in the “Strategic Fit” phase of the Prioritization Framework, an important step for decision-makers to consider broader aspects not captured in the quantitative criteria.

2.3 Strategic Fit

The following questions frame key issues around Strategic Fit:

- **Leveraging other investments and initiatives:** Does the project have a strong connection to other capital investments, including transportation? Is it supported by advanced transit-oriented development and land-use?
- **Project readiness:** What is the project state of readiness and have actions been undertaken to advance project such as: preliminary design or land acquisition?
- **Funding:** Is funding committed? What partners are engaged to secure government or private sector investment? Is there an opportunity for Alternative Financing and Procurement (AFP)?
- **Completing the network throughout whole region:** Does the project strategically advance implementation of The Big Move across the whole GTHA region?

2.4 External Review Findings

An external review of the Prioritization Framework conducted in early 2013 endorsed the general approach, validating the logic and systematic nature of the framework as well as the inputs. Reviewers noted that the methodology follows best practices in the field and made the best use of available information. The reviewers noted that the Prioritization Framework ensures that the vision, goals and objectives laid out in The Big Move are represented throughout the prioritization process. The Prioritization Framework was recognized for integrating quantitative and qualitative measures and for taking into account the broader context of project readiness, market maturity, and regional equity. The review noted challenges associated with data quality and availability, and concluded that the framework made appropriate use of the data available.

The review did recommend that information about the projects continue to be refined and that metrics be updated as more data becomes available. In addition, the review recommended that project phasing and project interdependencies be more actively considered within the framework.

3 Project Phasing and Timing

The prioritization analysis is a key input to decisions about the implementation and potential phasing of the Next Wave. As funding becomes available this tool will be used to inform the sequence and phasing of implementation.

Due to the range of ramp-up periods and construction timelines, even if all projects were started immediately, there would be variation in the time until service on each projects begins. In addition to the prioritization analysis, a number of other factors such as the capacity of industry will need to be considered when determining how quickly and within which timeline project implementation can proceed. Implementation planning will include a comprehensive consideration of the phasing and timing of the Next Wave projects. Developing this implementation program will need to consider:

- A. Cash flows to fund major construction will play a significant role in shaping implementation planning. Because different projects have different construction timelines as well as a range of capital costs, implementation planning needs to phase construction periods to achieve a manageable and responsible spending profile consistent with funding available through the investment strategy and borrowing.
- B. The potential for incremental phasing within each project may also influence the implementation program. This consideration will take into account the potential for a project to be constructed and begin operations in shorter incremental phases.
- C. The required ramp-up time for planning, design and engineering, environmental assessment, and property acquisition differs among the Next Wave projects. Some projects are farther along in the planning process and may even have completed environmental assessments. Other projects will require longer times to complete these preliminary steps. In addition to planning, the projects vary considerably in their estimated construction times. Implementation planning will look at these variables and the phasing expectations for each individual project in assessing the expected date for service to begin.
- D. The relationship of services provided by the various projects is also an important criterion. Given that there are interdependencies amongst some of the projects, it is important to ensure that projects are planned to begin operations with consideration to related projects.
- E. Construction capacity in the region may also impact the timing and phasing of project implementation. Planning for implementation will need to take into account the ability of the GTHA's engineering, construction, and contracting industries to deliver rapid transit infrastructure.

May 2013

All of these factors are important inputs that will inform further work to finalize the scope and phasing of the Next Wave projects.