



Hamilton

# Hamilton Light Rail Transit Project

## Operational Models

LRT Sub-Committee

July 26, 2023

# Roles and Responsibilities

| Roles                      | Responsibilities  |
|----------------------------|---|
| Owner                      | <ul style="list-style-type: none"><li>• Metrolinx is the owner of the LRT assets and infrastructure</li></ul>   |
| Project Delivery           | <ul style="list-style-type: none"><li>• Metrolinx has contractual responsibility for design, planning, construction, maintenance, and operations, as well as for the acquisition of property, and community/stakeholder engagement.</li></ul>   |
| Costs                      | <ul style="list-style-type: none"><li>• Metrolinx is responsible for all capital costs, including land acquisition costs associated with the Project</li><li>• Metrolinx is responsible for lifecycle maintenance costs</li><li>• The City is responsible for operating and non-lifecycle maintenance costs</li></ul> |
| Revenues                   | <ul style="list-style-type: none"><li>• The City will be entitled to all fare box and certain non-fare box revenues</li></ul>   |
| Operations and Maintenance | <ul style="list-style-type: none"><li>• The Memorandum of Understanding does not set out which party will operate the LRT line (City or a third party through Metrolinx)</li></ul>  |

# Roles and Responsibilities

- MOU defines the funding responsibilities between the City and Metrolinx (regardless of who the operator is).
- MOU does not set out which party will operate the LRT (the City or a third party through Metrolinx).
- As Metrolinx remains the owner of the LRT assets and infrastructure, they will retain final approval over the selection of the operations model.
- LRT operations will be subject to performance standards set by Metrolinx.
- MOU acknowledges the importance of achieving a seamless customer experience between LRT and HSR services.

# Decision-Making Timeline

**Stage 1:** Present operational models, and present assessment criteria on how staff will assess models

July 26, 2023 LRT Sub-Committee

**Stage 2:** Present preliminary analysis of operational models

September 25, 2023 LRT Sub-Committee

**Stage 3:** Present final analysis as well as recommended operational model

November 29, 2023 LRT Sub-Committee



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# Elements of LRT Operations and Maintenance

The successful operation of an LRT line is comprised of activities related to asset management, facility operation, vehicle maintenance and operational service delivery.



| Performed by Third Party or by the City   | Performed by Third Party   |
|---|--|
| <b>Operational Activities:</b><br>LRT B Line Operations<br>LRT Vehicle Operations<br>Passenger Interface Provider | <b>Maintenance Activities:</b><br>Custodial<br>Preventative<br>Corrective<br>Life Cycle              |
|   | <b>Facility Operations:</b><br>Metrolinx will bundle facility operations with maintenance activities |

# Operational Activities

# Operational Activities

The term “LRT Operations” encompasses an extensive list of functions. For clarity, we have separated like activities into *bundles*.

**Bundle 1 – LRT B Line Operations**

**Bundle 2 – LRT Vehicle Operations\***

**Bundle 3 – Passenger Interface Provider**

\*Note: Typical industry practice bundles together Bundle 2 (LRT Vehicle Operations) into Bundle 1. Staff has separated out these bundles so the City can consider if it wants to provide either/neither or both Bundles 1 & 2.

# Bundle 1 (LRT B Line Operations)

## Responsibilities include (not an exhaustive list):

- LRT Operations Control Centre (24/7/365)
- Manage on time service performance and disruptions
- Unplanned and emergency event management
- Scheduling and planning of service
- Establishing, monitoring and reporting operational performance
- Safety and security of the LRT line
- Power control authority for traction power with local hydro provider
- Training to third parties who access right of way (e.g. emergency services)



# Bundle 2 (LRT Vehicle Operations)

Responsibilities include (not an exhaustive list):

- Driving LRT vehicles
- Safe operation of vehicles
- Adhering to schedules
- LRT driver staff management activities (e.g. staffing and forecasting, recruitment, training/testing, scheduling, performance management)



# Bundle 3 (Passenger Interface Provider)

## Responsibilities include (not an exhaustive list):

- Overall customer experience (e.g. call centre management, inquiries, issues management)
- Communications, social media and other channels
- Safety and security of employees and passengers
- Fare collection and/or enforcement, fraud investigation and ticketing
- Emergency event coordination



# Operations: Other Activities

## Common Activities

- There are common responsibilities and activities which are performed by all parties, regardless of who performs the function (e.g. implementation of Standard Operating Procedures).

## Event Management

- All parties play a role in planned and unplanned event management (e.g. emergency events, planned decommissioning of a portion of the LRT for maintenance activities, etc.).

## Bus Bridging

- The City is responsible for providing backup service, known as “bus bridging” to bridge any service gaps caused by an LRT outage (planned or unplanned).

# Maintenance and Facility Operations

# Maintenance and Facility Operations

## Non-Lifecycle Maintenance (funded by City):

- Custodial, Preventative and Corrective activities which enable the asset to deliver the intended level of service but do not significantly contribute to extending the lifecycle of the asset.

## Lifecycle Maintenance Activities (funded by Metrolinx):

- Renewal Maintenance activities which contribute to extending the life-cycle of the asset through structural refurbishment or end of life replacement

## Facility Operations (funded by City):

- Property management activities of the Operations, Maintenance and Storage Facility (OMSF)

Maintenance and facility operations activities are highly integrated and will be performed by a third party, through Metrolinx Administration and Procurement.

# Operational Models

# Operational Models

There are four general operational models:

1. Third party performs all operational activities.
2. City performs Passenger Interface Provider activities.
3. City performs Passenger Interface Provider activities and LRT Vehicle Operations activities.
4. City performs all aspects of Operational Activities (excluding Facility Operations).

# Operational Models

| Operational Activities                 | Operational Model 1                             |             | Operational Model 2                                    |             | Operational Model 3   |             | Operational Model 4  |             |
|--|---|-------------|--|-------------|---|-------------|--|-------------|
|  | Third party Performs all Operational Activities |             | City performs Passenger Interface Provider Activities. |             | City performs Passenger Interface Activities and LRT Vehicle Operations |             | City performs all aspects of Operational Activities except for Facility Operations |             |
|  | City  | Third Party | City   | Third Party | City  | Third Party | City   | Third Party |
| Bundle 1: LRT B Line Operations        |   | X           |  | X           |   | X           | X  |             |
| Bundle 2 : LRT Vehicle Operations      |   | X           |  | X           | X   |             | X  |             |
| Bundle 3: Passenger Interface Provider |   | X           | X  |             | X   |             | X  |             |

## Examples:

Model 2: Region of Waterloo Line, Hazel McCallion Line in Peel Region

Model 4: Eglinton Crosstown and Finch West Lines in Toronto and Confederation Line in Ottawa

# Operational Models: Assessment Criteria

1. **Customer experience:** to assess a seamless experience between all modes of transit, ease of information, and continuity:
  - Is the model likely to contribute to a seamless customer service experience between bus service and the LRT service?
  - Is the model providing benefits to schedule and service integration requirements?
  - Does the model give the City the desired profile with transit customers?
  - Does the model provide appropriate opportunities for the City to consider socio-economic circumstances when dealing with transit customers?
  - Does the model allow for the integration/coordination of some customer facing roles to enhance efficiency (e.g. security also performs fare enforcement and passenger relations)?

# Operational Models: Assessment Criteria

2. **Interface(s) between parties:** to assess the interface(s) between Metrolinx, the City and various third parties and to determine the associated complexities with shared activities (typically, fewer interfaces and less complex interfaces would be preferred):
- How many interfaces exist between the City and other parties?
  - How complex are the interfaces between the City and other parties?
  - How easy or difficult will it be to create agreements that clarify interface roles and responsibilities, and provide adequate incentive for other parties to act responsibly?

# Operational Models: Assessment Criteria

3. **Risks and liability:** to assess the types of risks and liabilities that exist for each model, their likelihood of occurrence, and the consequences associated with each risk:
  - What risks to the City does the model create?
  - What are the likelihood and consequences of each risk?
  - How can the potential risks be mitigated?

# Operational Models: Assessment Criteria

4. **Cost to the City:** to assess the relative cost impact of each model to determine if this creates an additional funding liability for the City (note: at this stage, it is likely that this will be a “high-level” qualitative assessment of the relative costs associated with each model):
  - Is the model likely to result in higher or lower costs to the City for operations and non-lifecycle maintenance?
  - Is the model likely to result in higher or lower costs to the City associated with bringing in new functions, setting up the staffing units and appropriate skills and expertise?

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**QUESTIONS?**