Preliminary Assessment for Operations Model 4

Detailed Assessment for Operations Model 4 Assessment Criteria	**Model 4 - Municipality performs all aspects of Operational Activities except for Facility Operations. (TTC, Ottawa)**
<u>Customer Experience</u> Is the model likely to contribute to a seamless customer service experience between bus service and the LRT service?	- Should be relatively seamless customer experience, as City will be responsible for customer interface for HSR and LRT
Is the model providing benefits to schedule and service integration requirements of the project?	- Schedule and service integration should be relatively seamless, as City will be responsible for both HSR and LRT operations. - Will need to coordinate with Metrolinx and third party if any schedule changes have an impact on maintenance activities (should be minimal).
Does the model give the City the desired profile with transit customers?	- City will have high public profile as the operator of the LRT and as the customer interface provider. City will be responsible for system successes and any challenges/issues. - City will have the ability to optimize fare enforcement activities to achieve best balance between customer service and revenue objectives.
Does this model provide appropriate opportunities for the City to consider socio-economic circumstances when dealing with transit customers? Does the model foster opportunities for enhanced Inclusion, Diversity, Equity and Accessibility (IDEA) for the public?	- Increased opportunity (compared to Model 1) for the City to consider socio-economic factors when dealing with Customer Service and Fare Enforcement i.e. addressing the barriers that affordability and enforcement can present to some. - Highest opportunity for the City to influence delivery of the City's mandate for enhanced IDEA; coordination required with Metrolinx, and third party
Does the model allow for the integration/coordination of some customer facing roles to enhance efficiency? (e.g., security also performs fare	- This model should be efficient as the City will provide fully integrated customer service activities (e.g. one call centre, one communications team, etc) - Same party (City) would be responsible for all LRT customer facing functions, which would potentially enhance LRT customer service efficiency.

enforcement and passenger relations)	
<u>Accountability - Interface(s) between parties</u> In the model, what interfaces exist between the City and other parties? How complex are the interfaces between the City and other parties?	While many interfaces are expected to be resolved compared to the other models, Model 4 still contemplates some of the interfaces identified for other models, with the addition of some unique interfaces, such as Operations vs Maintenance, Maintenance Scheduling, LRT's Facility Operations, etc. Interfaces in the model are mainly Moderate to High in complexity. For this model, known interfaces include but are not limited to the following: Transition from construction to operations - Third party will be responsible for design, construction, commissioning, and facility operations. City will be responsible for LRT system and vehicle operations. Will require careful management of the start-up phase to avoid disputes about early operational challenges due to unforeseen design, construction, and commissioning issues Complexity: Moderate to High Operations vs Maintenance - City will be responsible for all aspects of system and vehicle operations. Third party will be responsible for system and vehicle maintenance. This will create potential for disputes about the cause(s) of operational and maintenance issues (e.g., operational disruptions may be caused by improper maintenance; excessive maintenance may be caused by improper operation) Complexity: Moderate to High Maintenance Scheduling (Vehicles and System) - City will be responsible for scheduling of operations, including number of vehicles required etc. Third party will be responsible for scheduling the necessary preventive and corrective maintenance on the vehicles and system. This may create conflicts between the need for in-service vehicles vs vehicles requiring maintenance. Complexity: Moderate LRT's Facility Operations - City will be responsible for all aspects of operations, including network operations (such as power control/electrification). Third party will be responsible for facility operations, including stops and Traction Power Sub Station. This may create coordination issues related to operations and maintenance of stops, Traction Power Sub Station, power supply etc. Complexity: Moderate Operations monitoring/payments - Third party is responsible for operation facility; Metrolinx is responsible for monitoring Project

	Agreement (PA) compliance; The City is responsible for paying all operating costs. The City needs efficient, effective mechanisms to obtain operations monitoring/PA compliance information to determine appropriate payments and/or penalties. Complexity: Low Agreements – Anticipated that Metrolinx will have a PA with third party for design, construction, maintenance, and facility operation), and a separate agreement with the City for Customer interface and LRT system and vehicle operations. This may be cumbersome as the many interfaces between City and third party will need to be managed by Metrolinx, as there likely will not be an agreement between City and third party. Complexity: Low to Moderate.
Ease of Mitigation: 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?	In general interface issues can be partially mitigated through appropriate provisions in the Project Agreement (PA) and in Standard Operating Procedures (SOPs) between the various parties: Transition from construction to operations – Mitigation: PA will need to provide considerable detail about commissioning, start-up and acceptance testing, and mechanisms to resolve disputes about early operational issues. Operations vs Maintenance – Mitigation: PA will need to provide considerable detail about maintenance responsibilities, and mechanisms to resolve disputes related to the operations/maintenance interface. Models and "lessons learned" from other projects that could inform these requirements Maintenance Scheduling (Vehicles and System) – Mitigation: PA and SOPs will need to provide clarity about roles and responsibilities for vehicle (and system) availability for service vs availability for maintenance. Facility Operations: Mitigation: Metrolinx agreements with third party and the City will need to be carefully structured to deal with the interfaces and relationships between City and third party. Operations Monitoring/Payments – Mitigation: PA could include mechanisms for monitoring operations performance and tracking appropriate payments and penalties. Operation & Maintenance payment agreement between the City and Metrolinx could contain provisions to ensure the City gets appropriate information to inform Operations payments.

	Agreements: Mitigation: Metrolinx agreements with third party and the City will need to be carefully structured to deal with the interfaces and relationships between City and third party.
Risks and Liability What risks to the City does the model create? What are the likelihood and consequence of each risk?	In addition to many of the risks identified for other models, Model 4 contemplates a new set of commonly known risks relating to operational activities fully transferred to the City. Model 4 exposes many risks with overall Medium to High and High as a result of their likelihood and consequence. Some of the most commonly known risks relating to Model 4 include but are not limited to the following: For Model 4, operational activities are fully transferred to the City party. For this model, in case of a Light Rail Vehicle (LRV)-related collision, the City (as the driver's employer and supervisor) is most probable to bear any alleged liability, either related to driver or system related such as malfunctions in traffic signal or vehicle mechanical problems. In Model 4 risks associated with all operational activities are borne by the City (LRV drivers, LRV-related collisions, etc.) and not transferred to third Party) Operations vs maintenance conflicts - Likelihood: High, Consequence: Medium to High Overall Risk: Medium to High Insufficient Operations Procedures and SOPs - Likelihood: Medium, Consequence: Medium to High Overall Risk: Medium Insufficient operator training - Likelihood: Low, Consequence: Medium to High Overall Risk: Low to Medium Disputes during start-up and operations related to design, construction, and commissioning issues - Likelihood: High, Consequence: Medium to High Overall Risk: Medium to High Maintenance Scheduling Conflict - Likelihood: Medium to High, Consequence: Medium Overall Risk: Medium Coordination Issues, related to operations and maintenance of stops, Traction Power Sub Station, power supply, etc. - Likelihood: Medium, Consequence: Medium Overall Risk: Medium

	Training scheduling of Operations Control Centre staff - Likelihood: Low, Consequence: Low Overall Risk: Low Incidents associated with dispatch/communications - Likelihood: medium, Consequence: Medium Overall Risk: Medium Incidents associated with the operation of signals and control systems - Likelihood: Medium, Consequence High Overall Risk: High
How easy can the potential risks be mitigated?	These risks can be partially mitigated through appropriate provisions in the Project Agreement and appropriate Standard Operating Procedures, emergency response plans and operator training between the various parties. Regardless, more risks to the City in Models 3 and 4. - Create or use updated PAs/SOPs to mitigate the risk and to achieve: - Reduced disputes during start-up and operations related to design, construction, and commissioning - Reduced maintenance scheduling conflicts - Coordination related to operations and maintenance of stops, Traction Power Sub Station, power supply, etc. - reduced operations vs maintenance conflicts City will need expertise to develop and deliver operation procedures/training to: - Establish essential SOPs - Deliver complete operator training package - LRV-related collisions: establish appropriate SOPs related to notification, emergency response, etc., as well as operator training.
<u>Cost to the City</u> Is the model likely to result in greater or lesser cost certainty to the City? 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	Least cost certainty compared to other models (because fewest activities are contracted to third party) Most upfront cost to the City to bring in new functions compared to other models. City would need to expand some HSR customer service activities, create fare enforcement program, and staff, train and manage LRV drivers, and staff to operate and manage the LRT system. Ongoing Costs should be similar to Model 3 and slightly higher than Models 1 and 2:

appropriate skills and expertise? Is the model likely to result in greater or lesser ongoing cost to the City for operations (excluding facility operations)?	- third party will need to make a profit on fewest aspects of contracted operations compared to other models - significant complex interfaces requiring management by City staff compared to other models - most new, additional City staff required compared to other models - the relative cost of City staff vs third party staff is unknown