

**ANNUAL COMPLIANCE  
REPORT FOR 2024 -  
Regulatory Monitor and  
Compliance Officer –  
Ottawa Light Rail Transit**



**Prepared by Sam Berrada  
For City of Ottawa**

**SAB Vanguard Consulting Inc.**

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## **1. Executive Summary:**

In accordance with the Delegation Agreement signed between the City of Ottawa and the Minister of Transport in 2011, the City appointed the Regulatory Monitor and Compliance Officer (RMCO) in 2018 to perform regulatory compliance monitoring for the Confederation Line following revenue service inception.

The specific duties and responsibilities established by the City for the RMCO are provided in Annexes 2 and 3, while the regulatory context is provided in Annexes 4 and 16. As such, the RMCO is responsible to monitor compliance relative to City LRT Regulations (refer to Annex 4) which identify the following responsibilities for OC Transpo and other City Departments:

- Adopt and Implement designated 'Programs';
- Provide Direction and Oversight to city employees and contractors;
- Maintain Program related Records;
- Require contractors to Implement and follow substantially consistent Programs.

Following revenue service inception in September 2019, the RMCO has been performing regulatory monitoring activities focused on Programs identified in City LRT Regulations.

In 2024, the RMCO monitored the following areas:

- 1) Inspections and repairs of bridges / structures;
- 2) Hours of Service Regulations.

The above areas were selected for monitoring using a risk-based approach - the areas monitored by the RMCO since revenue service inception are shown in Annex 6.

This document constitutes the sixth RMCO Annual Compliance Report which describes the specific areas monitored during 2024, including the work that was undertaken to verify compliance, as well as the compliance assessment findings for each area monitored. The monitoring findings for 2024 are provided in Sections 5 and 6 of this Report.

For the first area monitored, the inspections and repairs of bridges / structures are performed by both the City's Infrastructure Water Services Department (IWSD) and Rideau Transit Maintenance (RTM) in accordance with the division of responsibilities identified in the Project Agreement's (i.e. P.A.) "Maintenance Responsibility Table", while OC Transpo is responsible to manage the contract (i.e. P.A.) with RTM and provide Direction and Oversight. Overall, the monitoring activities found that there is a high level of compliance for inspections by both IWSD and RTM, while the repairs require a more systematic process for execution and documentation.

With respect to the second area monitored (i.e. Hours of Service Regulations), this is applicable to safety critical employees operating and controlling trains for OC Transpo, as well as RTM and Alstom employees moving and controlling light rail vehicles in the maintenance service facility (i.e. MSF).

Overall the monitoring activities identified a high level of compliance for OC Transpo, while RTM / Alstom employees are generally working within the maximum hours allowed in the Hours of Service Regulations – however the Regulations have not been formally implemented by RTM or Alstom.

This Annual Compliance Report will be submitted for review at the Transit Committee meeting scheduled on April 10, 2025 and will be in the agenda of the City Council meeting scheduled on April 16, 2025.

## **2. Background:**

On July 14, 2011, Ottawa City Council approved the implementation of the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking.

Since federal legislation was not developed for application to municipal light rail systems, the City of Ottawa was provided with the authority to regulate its light rail transit system. This was formalized with an agreement between the Minister of Transport and the City of Ottawa on October 1, 2011, known as the 'Delegation Agreement'.

In accordance with the Delegation Agreement, and By-Law No. 2015 – 301, the position of 'Light Rail Regulatory Monitor and Compliance Officer' (i.e. 'Regulatory Monitor and Compliance Officer – RMCO') was created to monitor and report on compliance relative to the OLRT Regulations (i.e. City LRT Regulations). Further details on the regulatory background are provided in Annex 1.

The RMCO is tasked with performing regulatory compliance monitoring post-revenue service - specific duties and responsibilities are provided in Annexes 2 and 3, while the regulatory background / context is provided in Annexes 1, 4 and 16.

Below are some important elements relative to the RMCO duties and responsibilities:

- The RMCO is responsible for regulatory compliance monitoring for the Confederation Line (i.e. does not include Trillium line, bus transit or other OC Transpo operations);
- The compliance monitoring relates primarily to City LRT Regulations and the designated 'Programs' relating to safety and security;
- The RMCO was not involved in the construction, implementation or revenue service availability activities for the Confederation Line;
- The RMCO regulatory monitoring activities started after revenue service;
- The RMCO performs monitoring on an ongoing basis and provides quarterly updates to the City Manager as well as annual reports to the Transit Committee and City Council;
- The RMCO does not have the authority or duty to assess the adequacy, sufficiency, or effectiveness of City LRT Regulations, Programs or the Confederation Line infrastructure / equipment / technology.

One of the early RMCO responsibilities consisted of developing a multi-year Work Plan for carrying out monitoring of regulatory compliance relative to City LRT Regulations – this was submitted to City Council and approved on September 12, 2018.

City LRT Regulations were formalized through the 'City Manager Designation – Light Rail Regulations' dated 12 February 2021, and subsequently updated on 18 July 2024 through the 'Confederation Line Designated Regulations'; relevant excerpts are provided in Annex 4.

Sections 3 and 8 of this Report provide information on the RMCO monitoring approach, which is based on City LRT Regulations and monitoring experience to date, thus supplementing the information provided in the Work Plan.

Following revenue service inception in September 2019, the RMCO initiated regulatory monitoring activities which have been carried out annually since that date. The areas monitored by the RMCO since revenue service inception are shown in Annex 6.

In 2024, the RMCO risk-based analysis (refer to Subsection 3.3) identified two major areas to monitor as follows:

- 1) Inspections and repairs of bridges / structures;
- 2) Hours of service Regulations.

The RMCO proceeded to monitor both of these areas in 2024 - the monitoring findings are provided in Sections 5 and 6 of this Report.

As mentioned above, RMCO responsibilities require the preparation of an Annual Compliance Report which describes regulatory monitoring activities undertaken as well as findings identified – this document constitutes the sixth Annual Compliance Report which presents monitoring activities performed in 2024 as well as the corresponding findings.

To further assist readers with a proper review of this Report, please refer to Annex 16, which provides the regulatory context, including the limits on the scope of the RMCO's monitoring work; the monitoring and Oversight work carried out and confirmed by others; and the coordinated interplay between these various Oversight functions.

### **3. Regulatory Monitoring Approach:**

#### **3.1 Summary - Process for RMCO Regulatory Monitoring:**

The RMCO monitoring process is designed to perform monitoring activities in an objective manner while engaging stakeholders such that they understand the process and have the time and opportunity to provide the necessary information and resources.

Monitoring is carried out using a fact and evidence-based approach, coupled with principles of transparency, structure and engagement.

Moreover, the monitoring approach is anchored on the following principles:

- A risk-based approach is used to select the regulatory areas / Programs to be monitored on the basis of several inputs / considerations which are described in Subsections 3.2 - 3.4 of this Report;
- To maintain a structured and consistent approach for monitoring, specific procedures are developed for each area to be monitored, thus providing clear expectations for all stakeholders;
- Monitoring procedures are designed to obtain objective evidence to enable the assessment of regulatory compliance using a fact and evidence-based approach. Objective evidence is gathered through the review / analysis of documents and Records, as well as interviews and field observations;
- As explained in Section 2 of this Report, the RMCO monitoring process is aligned with City LRT Regulations (i.e. 'Confederation Line Designated Regulations'). The Confederation Line Designated Regulations (specifically Appendix B Sections 1 and 5) reaffirm the responsibility for OC Transpo and IWSD to Adopt and Implement specific Programs, including providing Direction and Oversight, and maintaining Records. With respect to contractors, their obligations are based on contractual agreements as well as OC Transpo Direction – this includes the need for contractors to Adopt and Implement substantially consistent Programs identified in City LRT Regulations.

Further details are provided in the following Subsections.

### **3.2 Monitoring Focus on City LRT Regulations:**

As explained in Section 2 of this Report, the RMCO monitoring approach is aligned with City LRT Regulations.

Specifically, the City LRT Regulations identify the following key responsibilities for OC Transpo and IWSD (refer to Annex 4):

- Adopt and Implement designated Programs;
- Provide Direction and Oversight to City employees and contractors;
- Monitor, maintain Program-related Records and provide access to these Records;
- Require contractors to Implement and follow substantially consistent Programs – to the extent relevant to their assigned work.

Therefore, RMCO monitoring activities focus primarily on assessing compliance relative to the above noted OC Transpo and IWSD responsibilities – this is outlined in the Figure below. Further, the RMCO’s mandate is focused on Programs which relate to safety and security.

**Figure 1 – Overview of City Regulatory Responsibilities Relative to Designated Programs**



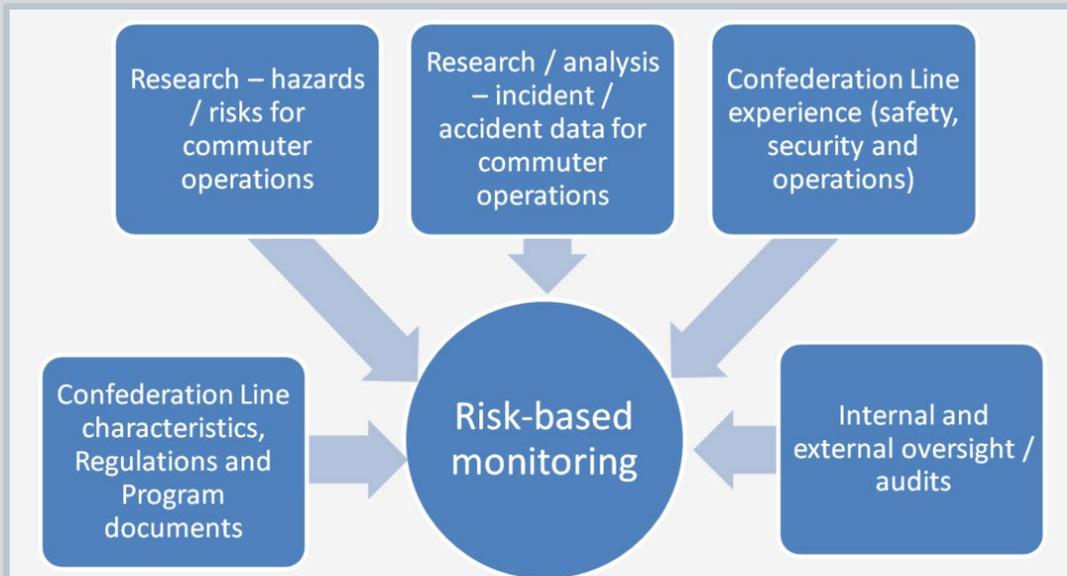
As such, RMCO monitoring activities encompass IWSD, OC Transpo and contractors. The reason that contractor activities are monitored is to assess Program implementation and to cross-check and assess whether appropriate Direction and Oversight was provided to the contractors regarding these Programs; and that appropriate Program-related Records are being maintained. This inherently provides an understanding of whether contractors are conforming to contractual requirements for the areas monitored.

Moreover, it is important to clarify that the responsibilities identified in the City LRT Regulations apply to OC Transpo and IWSD, whereas contractor obligations are associated with their contractual agreements.

### **3.3 Risk-Based Monitoring:**

In accordance with the multi-year Work Plan, a risk-based approach is used to select regulatory Programs / areas to be monitored – this approach uses the inputs shown in the Figure below:

**Figure 2 – Inputs for Risk-Based Analysis:**



The risk-based approach uses the following key inputs:

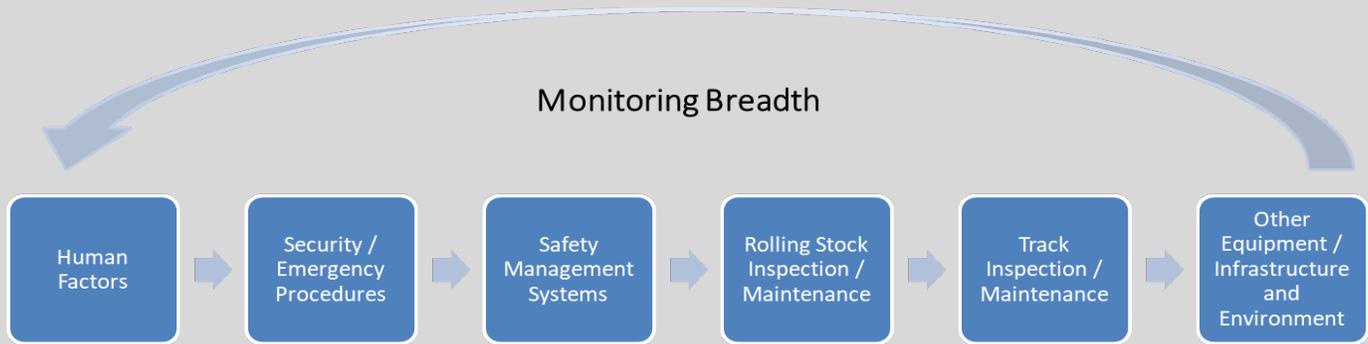
- 1) Research relative to hazards and risks for commuter operations;
- 2) Research and analysis relative to incident / accident data for commuter operations;
- 3) Consideration for Confederation Line characteristics (e.g. technology and infrastructure) as well as Regulations and Programs;
- 4) Consideration for Confederation Line experience (e.g. incidents / accidents, service issues etc.);
- 5) Consideration for internal and external Oversight / monitoring activities and their respective findings (e.g. RMCO monitoring, OC Transpo Oversight) as well as audits and investigations.

The consideration of multiple inputs, as outlined above, contributes to the selection of regulatory Programs / areas for monitoring which have the greatest potential impact on safety and security, thus complementing the City's efforts to achieve the highest possible level of safety and security.

### **3.4 Monitoring Breadth:**

In accordance with the RMCO duties and responsibilities provided by the City (refer to Annexes 2 and 3), regulatory Programs relating to safety and security are monitored on an ongoing basis using a risk-based approach. The following risk areas are considered in the selection process of regulatory Programs to be monitored:

**Figure 3 – Key Risk Areas Considered for Monitoring:**



In order to maintain a broad perspective in the selection of regulatory Programs to monitor, the RMCO considers the hazard / risk areas identified in the Work Plan (refer to the above Figure and Annex 5 of this Report) to progressively monitor Programs in each of these categories thereby obtaining a broad understanding of compliance over time.

In light of the nature of City LRT Regulations, it is to be noted that each risk area identified in the above Figure corresponds to specific Programs referenced in the City LRT Regulations. Further, each risk area may contain different Programs and associated documents which require progressive monitoring over several segments. For example, the “Human Factors” risk area inherently encompasses OCT Programs and associated materials such as “LRT Operating Rules and Procedures”, “Safety Management System”, “Fatigue Management Plan” and “Fitness for Duty” – such Programs are being monitored progressively by the RMCO since RSA.

This approach provides compliance assessment knowledge which increases incrementally over time, and represents a practical approach to achieving broad monitoring breadth over time.

It is important to recognize that this progressive monitoring and compliance assessment approach used by the RMCO is to be distinguished from audits in the following respects:

- Audits typically encompass both compliance monitoring as well as the identification / assessment of risks, adequacy of controls, governance etc., whereas the RMCO mandate consists primarily of monitoring compliance relative to City LRT Regulations and designated Programs;
- As stated in Section 2, as well as Annexes 2 and 3 of this Report, the RMCO mandate does not encompass the assessment of the adequacy, sufficiency, or effectiveness of City LRT Regulations, or the performance of audits;

As such, the RMCO monitoring scope provides meaningful information which relates to regulatory compliance, safety and security, but does not encompass all aspects covered in audits.

## **4. Regulatory Monitoring Overview for 2024:**

As explained in Section 3 of this Report, the selection of regulatory Programs / risk areas to be monitored is based on two key considerations:

- a) Risk-based analysis performed using the key inputs identified in Subsection 3.3;
- b) Monitoring is distributed over the six key risk areas identified in Subsection 3.4 to achieve broad monitoring breadth over time.

This approach ensures that RMCO monitoring activities are prioritized in a manner which corresponds to potential risks relating to regulatory compliance, safety and security, while progressively monitoring the six key risk areas to provide the City with broad regulatory compliance knowledge for such areas and associated regulatory Programs.

In 2024, the RMCO risk-based analysis identified two major areas to monitor as follows:

- 1) Inspections and repairs of bridges / structures;
- 2) Hours of service Regulations.

The above areas had not been previously monitored by the RMCO since revenue service inception (refer to Annex 6 for the areas monitored by the RMCO since RSA).

The rationale for monitoring these risk areas is further discussed in Sections 5 and 6.

The next Sections of this Report describe the monitoring process and findings for the two areas monitored in 2024.

## **5. Monitoring – Inspections / Repairs of Bridges and Structures:**

### **5.1 Background and Rationale for Monitoring Bridges and Structures:**

Prior to describing the monitoring process and findings, it is important to provide background relative to bridges and structures on the Confederation Line.

As explained in Sections 3 and 4, the risk-based analysis performed in the second quarter of 2024 identified bridges and structures as an important area for the RMCO to monitor because of the following key reasons:

- a) The good condition of bridges and structures is key to supporting a safe operation;
- b) From a risk perspective, the potential severity of a mishap relating to bridges / structures can be high;
- c) The responsibility for the inspections / repairs of bridges and structures is divided between the City (i.e. IWSD – “Infrastructure Water Service Department”) and RTM (Rideau Transit Maintenance) while OC Transpo provides Direction / Oversight to RTG / RTM;
- d) Bridges and structures have not been monitored by the RMCO since revenue service inception (refer to Annex 6 for the areas monitored by the RMCO since RSA).

Below is additional information on the Confederation Line bridges and structures:

- 1) There are 43 bridges and structures<sup>1</sup> in the Confederation Line (refer to sample images in Figure 4 below) – these consist mainly of underpasses, overpasses and bridges over highways, roads, waterways and pedestrian walkways.
- 2) There are a wide range of construction dates for the bridges and structures – of the 43 which were monitored, 34 were built in the 1980’s (most of these were subsequently rehabilitated), 7 were built during the construction phase of the Confederation line (between 2014 and 2017), while the remaining 2 bridges were built in 1873 and more recently rehabilitated around the year 2000 (i.e. Booth street bridge over aqueduct and Broad street pedestrian bridge) – refer to Annex 8 for a list of the bridges / structures and their relevant information.
- 3) The good condition of bridges and structures is assured mostly through the implementation of Provincial Regulations which require detailed inspections by a professional engineer at 2 year intervals, as well as the resolution of defects and conditions which are identified. Preventative maintenance and rehabilitations are also being performed.
- 4) The division of responsibilities, between IWSD and RTM, is detailed in the Project Agreement (i.e. Sched. 15-3 “Maintenance Responsibility Table (Footnote 8)”) which identifies each bridge / structure, as well as the party responsible for inspections and repairs – of the 43 bridges / structures, 26 are under the responsibility of IWSD, 16 are under the responsibility of RTM, while the responsibility for the remaining one is being determined by the involved parties (refer to Subsection 5.5.1 part 2).

<sup>1</sup> Tunnels were monitored in 2023 (refer to 2023 RMCO Annual Compliance Report) – as such these were not re-monitored in 2024

**Figure 4 – Sample Images of Bridges and Structures in Confederation Line**

**Structure 056660 – Underpass Tremblay  
(E Twy - Train Stn West Access Rd O/P)**



**Structure 013010 - Bridge Over Rideau River  
(CA Transitway Rideau River Bridge)**



**Structure 015720 – Overpass Bayview  
(MUP U/P Confederation Line E of Bayview Station)**



## 5.2 Applicable Regulations and Program Documents:

The following Regulations and documents stipulate requirements which relate to the inspections and repairs of bridges / structures:

### **Provincial Regulations:**

The Provincial Regulations which stipulate inspection and repair requirements for bridges and structures are identified in the Ministry of Transportation’s “Ontario Structure Inspection Manual (OSIM)”. As well, there are a number of technical documents which provide direction and guidance for inspections and repairs (refer to Annex 9 for list provided by IWSD).

In summary, the Provincial Regulations require bridges and structures to be inspected by a professional engineer at least every 2 years. The reports prepared by the professional engineer detail the inspection findings, as well as the repairs and mitigating actions which need to be undertaken with their respective recommended timelines.

### **Project Agreement:**

The Project Agreement has several parts which apply to the inspection and maintenance of bridges and structures – following are some relevant parts:

- 1) Schedule 15-4 “Regulatory Standards” identifies broad responsibilities for the contractor as well as relevant Programs.
- 2) Schedule 15-3 contains several relevant parts such as:
  - Appendix A – Part 1 “Maintenance and Rehabilitation”;
  - Appendix A – Part 1 Attach. 9 “Structures Maintenance Services”;
  - Appendix A – Part 1 Attach. 12 “Maintenance Records and Reporting”;
  - Appendix A – Part 1 Attach. 15, “Maintenance Responsibility Table”;
  - Appendix B – “Asset Preservation”

The “Maintenance Responsibility Table” divides the responsibility for inspections / repairs of the Confederation Line bridges / structures between the City (i.e. IWSD) and RTG / RTM (i.e. “Project Co.”) - refer to Annex 10 and the next Section titled “Roles and Responsibilities”.

### **Confederation Line Designated Regulations (i.e. “CLR”):**

The Confederation Line Designated Regulations stipulate specific regulatory responsibilities for the City’s Infrastructure and Water Services Department (i.e. “IWSD”) and OC Transpo relative to their respective Programs.

As such, the regulatory responsibilities for the involved parties are summarized below:

- A) **IWSD** is responsible for the inspections, repairs and Oversight of structures / bridges identified in the “Maintenance Responsibility Table” under the City’s

responsibility. The CLR stipulates that the regulatory responsibilities for IWSD include the requirements to:

- **Adopt** and **Implement** designated Programs;
- Provide **Oversight** and **Direction** to their employees and contractors<sup>2</sup> hired to perform related work;
- Monitor and maintain Program-related **Records** and provide access to such Records

Appendix B (Part 5) of the CLR identifies Programs under the responsibility of IWSD. The “Transit Asset Management Plan” is the key Program which relates to the inspections and repairs of bridges / structures.

- B) **OC Transpo** is responsible to manage the contractual requirements (i.e. PA) with RTG / RTM. This includes the responsibility to provide the necessary Direction and Oversight relative to the work performed by RTG / RTM – refer to the CLR Appendix B (Part 1).

In connection with the above, the Project Agreement stipulates that RTG / RTM is responsible for the inspections and repairs of bridges / structures identified the “Maintenance Responsibility Table” under “Project Co.” responsibility. As such, RTG / RTM have the contractual responsibility to perform the inspections / repairs required by the Project Agreement (i.e. “PA”), the applicable Programs and relevant Regulations (e.g. OSIM Provincial Regulations). Below are relevant OCT Programs:

- i) RTM Maintenance and Rehabilitation Plan (RTM-MC-PLN-042);
- ii) RTM Asset Management Plan (RTM-MC-PLN-459).

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<sup>2</sup> This only applies to contractors used by IWSD to perform inspections / repairs of bridges / structures under the City’s responsibility; this does not encompass work done by RTG / RTM which is monitored separately with the engagement of OC Transpo.

### **5.3 Roles and Responsibilities:**

This Subsection provides information on the roles and responsibilities of the three stakeholders involved in the inspections and repairs of bridges / structures, as well as how they relate to City LRT Regulations and the PA – this is summarized below:

#### **1) OC Transpo:**

- ✓ OC Transpo is the public transit agency for the City of Ottawa;
- ✓ The City LRT Regulations (i.e. ‘Confederation Line Designated Regulations’ Appendix B Part 1) provide specific responsibilities for OC Transpo relative to the Implementation of designated Programs. This includes the Adoption, Implementation, Direction, Oversight and Records for such Programs. As well, it is required that the Direction and Oversight performed by OC Transpo encompass both the City’s internal operation as well as contractors;
- ✓ City LRT Regulations identify specific ‘OCT Programs’ in Appendix B part 1.3 – the ‘Maintenance and Rehabilitation Plan’ is one such Program which relates to bridges / structures;
- ✓ The inspections and repairs of bridges / structures identified in Schedule 15-3 of the Project Agreement “Maintenance Responsibility Table” under “Project Co.” responsibility was contracted by the City to RTG through the Project Agreement.

#### **2) Infrastructure Water Services Department (IWSD):**

- ✓ IWSD is the City of Ottawa’s Department responsible for infrastructure and water services;
- ✓ The City LRT Regulations (i.e. ‘Confederation Line Designated Regulations’ Appendix B Part 5) provide specific responsibilities for IWSD relative to the Implementation of designated Programs. This includes the Adoption, Implementation, Direction, Oversight and Records for such Programs;
- ✓ City LRT Regulations identify specific ‘Programs’ in Appendix B part 5.3 – the “Transit Asset Management Plan” is one such Program which relates to bridges / structures;
- ✓ The inspections and repairs of bridges / structures identified in Schedule 15-3 of the Project Agreement “Maintenance Responsibility Table” under “City” responsibility are performed by the City or are subcontracted by IWSD to specialized Firms.

#### **3) RTG (Rideau Transit Group) and RTM (Rideau Transit Maintenance):**

- ✓ RTG is the top concessionaire contractor which signed the 30 year Project Agreement (i.e. Contract) for the Confederation Line with the City of Ottawa;
- ✓ RTG is a General Partnership Firm of ACS Infrastructure Canada, SNC-Lavalin, and Ellis Don;
- ✓ It is the RMCO’s understanding that RTG dropped-down the maintenance obligations set-out in the P.A. to RTM (Rideau Transit Maintenance);

- ✓ The Project Agreement, the applicable Regulations such as OSIM provincial Regulations, as well as the OCT Program titled ‘Maintenance and Rehabilitation Plan’ contain requirements relative to the inspections and repairs of bridges / structures;
- ✓ The inspections and repairs of bridges / structures identified in Schedule 15-3 of the Project Agreement “Maintenance Responsibility Table” under “Project Co.” responsibility are subcontracted by RTM to specialized Firms.

The Figure below summarizes the responsibilities for each party relative to inspections and repairs of bridges / structures:

**Figure 5 – Responsible Parties**

PARTY	RESPONSIBILITY
RTG / RTM	Inspections, Repairs and Oversight of bridges / structures identified under “Project Co” in the “Maintenance Responsibility Table”
City “Infrastructure and Water Services Department” (IWSD)	Inspections, Repairs and Oversight of bridges / structures identified under “City / Other” in the PA “Maintenance Responsibility Table”
OC Transpo	Direction and Oversight for bridges / structures identified under “Project Co” in the PA “Maintenance Responsibility Table”

## **5.4 Monitoring Process:**

As explained in the Section 3, the RMCO develops monitoring procedures for each area monitored in order to use a structured and transparent approach with clear responsibilities for each stakeholder. As such, specific procedures were developed for each party (i.e. IWSD, OC Transpo, RTG / RTM) to monitor the inspections and repairs of bridges / structures. A summary of the monitoring process is outlined below:

### **5.4.1 Monitoring Approach:**

The monitoring is performed using a fact and evidence-based approach consisting of the following:

1. Review and analysis of applicable Regulations, Program-related documents and Records;
2. Interviews;
3. Field observations.

In light of the three stakeholders (refer to Subsection 5.3) involved in the inspections and repairs of bridges / structures, the monitoring was performed using three segments and three separate monitoring procedures, as summarized below:

- Segment 1 (procedure P4005) engaged IWSD with the objective to monitor their regulatory responsibilities which include Program Adoption, Implementation, Direction, Oversight and Records (i.e. outlined in ‘Confederation Line Designated Regulations’ Appendix B Part 5);
- Segment 2 (procedure P4006) engaged OC Transpo with the objective to monitor their regulatory responsibilities which include Program Direction and Oversight relative to the work performed by RTG / RTM;
- Segment 3 (procedure P4007) engaged RTG / RTM with the objective to monitor their responsibilities outlined in the Project Agreement and relevant Regulations relative to the inspections and repairs of bridges / structures under their responsibility.

Annex 7 provides flowcharts summarizing the monitoring activities for each segment and their respective timelines.

### **5.4.2 Documents / Records Requested During Monitoring:**

The RMCO requested documents and Records to verify the following elements:

- 1) Inventory of Structures
- 2) Inspection Records for each bridge / structure
- 3) Repair Records: the RMCO requested Records confirming that repairs were performed for a sample of conditions identified by the P. Eng. in the inspection reports which had timelines due for completion during the summer of 2024
- 4) Oversight plan and Records.

### 5.4.3 Elements Verified During Monitoring:

The RMCO performed a number of verifications to validate the information provided and to ensure that inspections and repairs of bridges and structures are being performed effectively – following are the elements verified:

- i) **Completeness of inventory of bridges / structures:** the monitoring included a cross-verification of lists of bridges / structures provided by IWSD and RTM versus the list in the PA to ensure that all structures are identified. This was further validated through field observations which included a walk-through and / or ride of the entire Confederation Line to ensure that all structures are identified in the lists provided.
- ii) **Clear Accountability for each structure:** the monitoring included a verification of the lists of bridges / structures provided by IWSD and RTM versus the PA to ensure that all structures have clear accountabilities which correspond to the division of responsibilities identified in the “Maintenance Responsibility Table”.
- iii) **Execution of Inspections:** the monitoring assessed the execution of inspections by requesting and verifying inspection Records for each bridge / structure in the Confederation Line.
- iv) **Execution of Repairs:** the monitoring assessed the execution of repairs by requesting a specific sample of repair Records selected from the OSIM inspection reports. This enabled the RMCO to determine if the repairs which were due for completion at the time of monitoring (i.e. summer 2024) had been performed.
- v) **Oversight:** the monitoring assessed whether each party had an Oversight plan and whether Records confirmed that Oversight activities are being performed.

### 5.4.4 Time Period Monitored:

Inspection Records were requested for the time period spanning Jan. 1, 2022 to March 31, 2024. The rationale for this time period is to ensure that inspection Records for all bridges / structures are provided, given that regulatory inspections are required at time intervals of 2 years (i.e. OSIM inspections).

### 5.4.5 Interviews:

The RMCO performed interviews with staff from each of the three stakeholders to validate the observations identified from the documents and Records received during the monitoring and to confirm the findings – below are the staff interviewed for each stakeholder:

- 1) Five staff working for IWSD and Public Works involved in the coordination / planning of inspections, repairs and Oversight.
- 2) Three staff working for OC Transpo involved in Direction and Oversight to RTG / RTM.
- 3) Two staff working for RTM involved in the coordination / planning of inspections, repairs and Oversight.

#### **5.4.6 Field Observations**

The RMCO performed field observations on August 28 with the participation of IWSD, OC Transpo and RTM. This covered the entire Confederation Line with the purpose to validate the list of structures provided and to confirm that all bridges / structures seen in the field were included in the lists provided by IWSD and the PA Maintenance Responsibility Table. It should be noted that the field observations were not technical in nature, but were rather focused on the validation of the inventory of bridges / structures versus the lists provided.

#### **5.4.7 Monitoring Timeline:**

The timeline for these monitoring segments is summarized below:

- 1) Inception of monitoring with each of the three stakeholder (i.e. OC Transpo, IWSD and RTG/ RTM): June 17, 2024
- 2) RMCO reviews documents / Records and identifies sample repair Records to be provided: July 31, 2024
- 3) RMCO completes review / analysis of repair Records: August 15, 2024
- 4) Field observations: August 28, 2024
- 5) Interviews: August 15 – 23 , 2024
- 6) Completion of monitoring segments: Sept. 17, 2024

#### **5.4.8 Collaboration:**

Throughout the monitoring segments, collaboration was excellent by all three stakeholders (IWSD, OC Transpo, RTG / RTM). This included the following:

- i) Providing the requested documents and Records in a timely manner;
- ii) Providing the requested repair Records in a timely manner;
- iii) Staff availability for interviews;
- iv) Staff availability for field observations;
- v) Staff availability to review draft findings and conclude monitoring segments.

## **5.5 Monitoring Findings – Inspections and Repairs of Bridges / Structures:**

The monitoring findings for each of the three stakeholders involved in the inspections and repairs of bridges / structures is provided below.

### **5.5.1 Findings for IWSD – Inspections and Repairs of Bridges / Structures:**

Figure 6 provides a compliance assessment summary for IWSD on the basis of the objective evidence collected during monitoring activities. A summary of the compliance findings is provided below, while a detailed Table of Findings is available in Annex 11.

#### **Compliance Findings for IWSD - Overview:**

Overall there were 6 elements monitored for IWSD, of which 2 were fully compliant, 3 were mostly compliant and 1 was partially compliant – below is a summary description of the findings:

##### **1) Adoption: Compliant**

- IWSD provided a number of documents applicable to the inspection and maintenance of bridges and structures - these include the following: i) Transit Asset Management Plan; ii) Ontario Structures and Inspection Manual (OSIM); iii) A number of Standards and manuals (refer to Annex 9).

##### **2) Direction: Mostly Compliant**

- The documents provided by IWSD specify requirements for inspections / maintenance of bridges / structures.
- IWSD provided a detailed inventory of bridges / structures which are being actioned for inspections and repairs by their staff. However one structure (015720 - Bayview) did not receive an OSIM inspection because it was not identified in the Project Agreement "Table of Maintenance Responsibility Table" and was not recognized by any party as requiring action. IWSD has undertaken an OSIM inspection of this structure in 2024 (following the monitoring) and is interfacing with OC Transpo to establish clear accountabilities for each structure (refer to opportunity #1 in Subsection 5.5.4).

##### **3) Implementation - Inspections: Compliant**

- IWSD provided objective evidence and Records which confirm that OSIM inspections have been performed on all structures under their responsibility with one exception - the OSIM inspection on structure 226780 (Blair E Twy O/P) was deferred as allowed by the Provincial Ministry of Transportation; IWSD advised that the deferral was due to stage 2 construction (refer to Opportunity #2 in Subsection 5.5.4).

**4) Implementation - Repairs: Partially Compliant**

- The RMCO requested Records for a sample of 42 repair items on 10 different structures to verify if priority repairs (i.e. recommended by P.Eng. in OSIM inspection report within 0-2 years and due for completion by summer 2024) were performed. It is important to note that the repair / maintenance items identified in the OSIM inspection reports typically have timelines of 0-5 years - therefore the sample selected (i.e. due within 0-2 years) focused on those judged by the P.Eng. to require more timely action.
- IWSD provided a spreadsheet showing that 13 of 42 (31%) repairs / maintenance items were completed. Since the repair items are recommendations from a P.Eng. they should be the subject of a review and disposition by the City – however the status of the items which were not completed is unclear because documentation relative to the review and disposition was not available. Moreover, the objective evidence and interviews indicate that there is a backlog of repairs which needs to be scoped-out, prioritized and actioned - refer to opportunities #4 and 5 in Subsection 5.5.4.
- It is important to point out that the term “repairs” encompasses all items identified by the P.Eng. in the OSIM inspection report as requiring action(s). Not all these items involve structural repairs – they include items which relate to sidewalks, fencing, posts, signs etc.

**5) Oversight: Mostly Compliant**

- IWSD provided a description of several Oversight processes as well as evidence that such activities are being performed by staff.
- However IWSD did not provide a formal Oversight plan. As such, there is an opportunity for IWSD to formalize and implement an Oversight plan relative to bridges and structures. The Oversight plan should include elements such as scope, responsibilities / accountabilities, oversight methods, frequency and records - refer to opportunity #3 in Subsection 5.5.4.

**6) Records: Mostly Compliant**

- IWSD is using an information system named "Maximo" for planning, recording and implementing inspections and repairs / maintenance of structures. IWSD also provided excel spreadsheets and other documents which identify repairs and oversight activities.
- The “Maximo” system provides some capability to enter / maintain records - however the information system can be enhanced to provide the capability to record, prioritize and implement repairs.

**Figure 6 – Summary of Compliance\* Findings for IWSD:**

Regulatory Responsibility	Compliance Finding - IWSD	Comments
Adoption	Compliant	Regulatory program documents developed / adopted are identified in 'Confederation Line Designated Regulations' and supplementary documents. (e.g. Transit Asset Management Plan).
Direction	Mostly Compliant	Direction being provided by IWSD for execution of inspections / repairs. However, list of structures provided by IWSD is missing accountability for Bayview overpass - this structure was added after PA signature, but has no accountable party for inspection / maintenance.
Implementation - Inspections	Compliant	IWSD provided OSIM inspection reports for 25 of the 26 bridges / structures under their responsibility. Blair road overpass OSIM inspection was deferred as allowed by MTO – refer to 'Opportunities' table (need to formalize deferral process).
Implementation - Repairs	Partially Compliant	Sample verification of repairs shows that about 1/3 (i.e. 13 of 42) were completed. Also refer to 'Opportunities' table (need to formalize process for repairs and scope-out backlog).
Oversight	Mostly Compliant	IWSD provided a description of several Oversight processes performed by staff, but no formal Oversight Plan available - refer to 'Opportunities' table.
Records	Mostly Compliant	IWSD is using an information system called "Maximo" which functions effectively for inspections. However, repairs and their status are not being recorded systematically - refer to 'Opportunities' table.

\* Refer to Annex 11 for definitions for compliance ratings

**5.5.2 Findings for OC Transpo – Inspections and Repairs of Bridges / Structures:**

As explained in Subsection 5.3 the responsibility for the inspections / repairs of bridges and structures is shared between the City (i.e. IWSD) and RTG / RTM, while OC Transpo provides Direction / Oversight to RTG / RTM.

Figure 7 provides a compliance assessment summary for OC Transpo on the basis of the objective evidence collected during monitoring activities. A description of the compliance findings is provided below, while a detailed Table of Findings is available in Annex 11.

## **Compliance Findings for OC Transpo<sup>3</sup> – Overview:**

Overall there were 5 elements monitored for OC Transpo, of which 3 were fully compliant while 2 were mostly compliant – below is a summary description of the findings:

### **1) Adoption: Compliant**

- Regulatory program documents developed / Adopted are identified in the ‘Confederation Line Designated Regulations’ as well as associated supplementary documents.
- OC Transpo provided a number of Programs and documents which specify requirements for the inspections and repairs of bridges / structures - these include the following:
  - i) Maintenance and Rehabilitation plan (RTM-MC-PLN-042)
  - ii) Asset Management Plan (RTM-MC-PLN-459)
  - iii) Ontario Structure Inspection Manual (OSIM)
  - iv) Project Agreement Schedules 15-3 and 15-4.

### **2) Direction: Mostly Compliant**

- Direction for bridge inspections / repairs is provided to RTG / RTM through the Project Agreement (Maintenance Responsibility Table - Sched. 15-3 Att. 15) as well as City Designated Programs and documents.
- The Confederation Line Designated Regulations identify specific Programs (i.e. Maint. & Rehab. Plan and Asset Management Plan). As well, there are supplementary documents which identify inspection / repair requirements for bridges / structures.
- A review of the P.A. "Maintenance Responsibility Table" versus the inventory provided shows that a structure was not identified in the P.A. (015720 Bayview overpass built in 2017) - as such, this structure did not receive OSIM inspections since RSA. An OSIM inspection was carried out following monitoring. As well, OCT is engaging RTG / RTM to clarify accountabilities relative to this structure. Furthermore, OCT and IWSD have undertaken actions to interface and ensure that the inventory of structures is complete with clear accountabilities - refer to Opportunity #1 in Subsection 5.5.4.

### **3) Oversight Plan: Compliant**

- OC Transpo has a substantive Oversight plan (i.e. “Line 1 Oversight Plan”) which is updated annually and includes detailed schedules of monitoring activities for each year.
- OC Transpo has dedicated Oversight resources focused on monitoring – this includes bridges / structures.

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<sup>3</sup> Note: “Implementation” is not assessed for OC Transpo because the inspections / repairs of bridges and structures is shared between IWSD and RTG / RTM, while OC Transpo provides Direction / Oversight to RTG / RTM (i.e. OCT does not perform inspections or repairs).

#### **4) Oversight Activities: Mostly Compliant**

- OC Transpo Oversight activities encompass the inspection / repairs of bridges / structures including Records and field observations.
- A review of OC Transpo's Oversight Records confirms that OCT monitored bridges / structures during the RMCO monitoring period.
- OC Transpo provided contractual correspondence sent to RTG / RTM regarding contractual deliverables.
- Notwithstanding the above, OCT Oversight processes do not appear to have identified the following issues:
  - Repairs are not being performed in a timely manner by RTG / RTM (refer to Subsection 5.5.3);
  - One OSIM bridge inspection (Blair Ped Bridge (228685-1 / 229040-1) was missed by RTG / RTM during the monitoring period (OSIM reports provided for Sept. 2021 and Aug. 2024, which is greater than 2 years);
  - Structure 015720 (Bayview Overpass built in 2017) was built for Stage 1 and should have been under the responsibility of RTG / RTM but was not in the PA and was not identified as an exception - as such, it did not receive an OSIM inspection since RSA. This structure was subsequently inspected in 2024 following RMCO monitoring.

#### **5) Records: Compliant**

- OC Transpo has an information system (i.e. "CleverCad") to store and maintain Oversight Records;
- OC Transpo provided a number of different Records – this includes Oversight Records and schedules, contractual correspondence, as well Records relating to the PA and program documents.

**Figure 7 – Summary of Compliance Findings for OC Transpo:**

Regulatory Responsibility	Compliance Finding - OCT	Comments
Adoption	Compliant	Regulatory program documents developed / adopted are identified in 'Confederation Line Designated Regulations' and suppl. documents.
Direction	Mostly Compliant	OC Transpo providing Direction to RTG / RTM relative to: - Execution of bridge / structure inspections; - Contract deliverables However list of structures does not show Bayview overpass.
Implementation	Not Assessed	- "Implementation" not assessed for OC Transpo because bridge inspections / maintenance are performed by the City (IWSD) and RTG / RTM as stipulated in the Project Agreement ('Maint. Responsibility Table' - Sched. 15-3 att. 15). - OC Transpo conveyed requirements to RTG / RTM through the Project Agreement and Regulatory Program Documents
Oversight - Plan	Compliant	OC Transpo has a substantive Oversight Plan (i.e. 'Line 1 Oversight Plan') which is updated annually and includes detailed schedules; OC Transpo has dedicated oversight resources focused on monitoring, including bridges / structures.
Oversight - Activities	Mostly Compliant	OC Transpo Oversight activities encompass the inspection / maintenance of bridges / structures including records and field observations. OCT oversight processes have not identified the following issues: - Repairs / maintenance not being performed in a timely manner by RTM - One OSIM bridge inspection (Blair Ped Bridge (228685-1 / 229040-1) was missed by RTG / RTM during the monitoring period.
Records	Compliant	OC Transpo has systems (e.g. "Clever-Cad") to store and maintain Records; OC Transpo provided Records relative to: i) P.A. and Program Documents; ii) Contractual correspondence; iii) Oversight Plan and schedules; iv) Oversight activities

### **5.5.3 Findings for RTG / RTM – Inspections and Repairs of Bridges / Structures:**

Figure 8 provides a conformance assessment summary for RTG / RTM on the basis of the objective evidence collected during monitoring activities.

A description of the conformance findings is provided below, while a detailed Table of Findings is available in Annex 11.

#### **Conformance<sup>4</sup> Findings for RTG / RTM - Overview:**

Overall there were 5 elements monitored for RTG / RTM, of which 3 were fully conformant, 1 was mostly conformant and 1 was partially conformant – below is a summary description of the findings:

##### **1) Adoption / Direction: Conformant**

- RTM provided a number of documents which provide Direction internally and specify requirements for the inspections and repairs of bridges and structures - these include the following:
  - Maintenance and Rehabilitation plan (RTM-MC-PLN-042);
  - Asset Management Plan (RTM-MC-PLN-459);
  - Ontario Structure Inspection Manual (OSIM).

##### **2) Implementation – Inspections: Mostly Conformant**

- RTM provided OSIM inspection reports which confirm that 15 of the 16 structures under their responsibility were inspected in a timely manner (i.e. every 2 years).
- The only exception is as follows:
  - Blair Ped Bridge (#228685-1 / 229040-1) received OSIM inspections in 2021 and 2024 (i.e. exceeded 2 year OSIM requirement).
- OC Transpo is currently engaging RTM to add the inspection / maintenance of Bayview overpass (structure 015720) which was built after the Project Agreement signature.

##### **3) Implementation – Repairs: Partially Conformant**

- The RMCO requested Records for a sample of structures to verify if certain repairs (i.e. identified in OSIM inspection reports within 0-2 years and due for completion at the time of monitoring) were completed.
- RTM provided an excel spreadsheet showing that only 1 of 9 bridges / structures with such repairs were completed. Further, it is unclear if there are repair Records in RTM's information system which correspond to the excel spreadsheet. Refer to Opportunity #4 in Subsection 5.5.4

<sup>4</sup> Note: The term 'conformant' is used for contractors, rather than 'compliant', since findings relate to contractual requirements (i.e. Project Agreement) and Direction from OC Transpo, rather than City LRT Regulations.

- The objective evidence, interviews and RTM audit reports indicate that there is a backlog of repairs which needs to be inventoried and actioned. Refer to Opportunity #5 in Subsection 5.5.4.

**4) Oversight: Conformant**

- RTM provided an Oversight plan (RTM-OP-PLN-739) as well as two audit reports (dated Dec. 2023 and Dec. 2022) focused on "structure maintenance" which encompass bridge inspections / maintenance.

**5) Records: Conformant**

- RTM has an information system which is used to record inspections, prioritize repairs and Record their completion.
- RTM also provided audit records and excel spreadsheets showing repairs and their status.

**Figure 8 – Summary of Conformance\* Findings for RTG / RTM:**

Responsibility	Conformance Finding – RTG / RTM	Comments
Adoption / Direction	Conformant	RTM provided a number of documents applicable to the inspection and maintenance of bridges and structures (e.g. 'Maintenance and Rehabilitation Plan').
Implementation - Inspections	Mostly Conformant	RTM provided OSIM inspection records for 15 of the 16 bridges / structures under their responsibility; - The only exception is Blair pedestrian bridge which received OSIM inspections in 2021 ad 2024 (i.e. > 2 years)
Implementation - Repairs	Partially Conformant	Sample verification shows that repairs for only 1 of 9 structures was completed. Also refer to 'opportunities' Table (need to formalize repair process and scope-out / address backlog).
Oversight	Conformant	RTM provided an Oversight Plan and 2 audit reports for the period monitored. Audit reports are focused on "Structure Maintenance" and encompass Bridge inspections / maintenance.
Records	Conformant	RTM has an information system used to record inspections and prioritize / record repairs. RTM also provided inspection records and spreadsheets showing repairs and their status.

\* Refer to Annex 11 for definitions for conformance ratings

#### 5.5.4 Opportunities:

The following Figure summarizes the opportunities identified during the monitoring activities. Remedial actions for the findings and opportunities are discussed in Section 7 of this Report.

**Figure 9 – Opportunities**

#	Party Applicable	Opportunity Description
1	IWSD, OCT	In consideration of the division of responsibilities in the 'Maintenance Responsibility Table' there is an opportunity for IWSD and OC Transpo to develop an <u>interface plan</u> to review the following: <ul style="list-style-type: none"> <li>✓ Ensure that a common list of structures / bridges (specific to the confed. line) is shared and understood</li> <li>✓ Ensure that there is clear accountability for each structure / bridge; this will allow OCT to address any contractual issues with RTG / RTM and to effect changes in Direction / Oversight (as required)</li> <li>✓ Develop a periodic interface schedule (e.g. annually) between IWSD and OCT to share updates and other knowledge to ensure that any issues are addressed, as well as 'Confederation Line Regulations' responsibilities</li> </ul>
2	IWSD	IWSD to develop and implement a process for the <u>deferral of OSIM inspections</u> . This should describe roles / resp., process, communication, records and identification of 'Head of Structure' for the City (as per MTO letter of January 2009 in Annex 1).
3	IWSD	IWSD to develop and implement <u>Oversight plan</u> (refer to OC Transpo "Line 1 Oversight Plan"). This should include scope, responsibilities / accountabilities, oversight methods, frequency and records.
4	IWSD, RTM	Develop processes to <u>systematically log repairs</u> / maintenance identified in OSIM inspection reports in order to: <ul style="list-style-type: none"> <li>✓ Review and determine disposition;</li> <li>✓ Prioritize and develop timeline;</li> <li>✓ Plan, monitor, complete and record.</li> </ul>
5	IWSD, RTM	Prepare list / inventory of <u>overdue repairs</u> for bridges / structures. This will be valuable to understand the magnitude of the backlog and to subsequently prioritize, complete and record work.

## **5.6 Actions Taken Relative to Findings and Opportunities:**

The above findings and opportunities have been the subject of meetings and follow-up to obtain remedial actions and their respective timelines – refer to Section 7.

With respect to the findings under the responsibility of IWSD, they have provided documented updates showing the actions taken and their respective timelines and status (refer to Subsection 7.2).

For the items under the responsibility of RTG / RTM, OC Transpo has formally requested corrective action plans for each finding. Such findings and remedial actions are the subject of regular meetings with stakeholders and are tracked formally by OC Transpo and the RMCO in a table (refer to Subsection 7.1 and Annex 14).

With respect to the findings under the responsibility of OC Transpo, the actions and following up undertaken is summarized in Subsection 7.3.

With respect to the opportunities identified in Figure 9, below is a summary of the actions being taken:

- 1) Opportunity #1: OC Transpo and IWSD advised the RMCO that they have already initiated an interface plan to address this opportunity. This includes periodic meetings and the sharing of the information system (i.e. “Maximo”) used for bridges / structures to obtain visibility on the status of inspections / maintenance;
- 2) Opportunity #2: IWSD is developing a formal process for the deferral of OSIM inspections. The process is being implemented in 2025 – additional information is provided in Subsection 7.2;
- 3) Opportunity #3: IWSD is developing a formal Oversight Plan which is being implemented in 2025 – additional information is provided in Subsection 7.2;
- 4) Opportunity #4: Both IWSD and RTM are implementing a process to systematically log and manage repairs. Both have committed to complete this during 2025 - additional information is provided in Subsection 7.2;
- 5) Opportunity #5: Both IWSD and RTM are in the process of reviewing their overdue repairs in order to determine the backlog and to subsequently prioritize and address the items. Both have committed to complete this during 2025 - additional information is provided in Section 7.

## **6. Monitoring – Hours of Service Regulations:**

### **6.1 Background, Rationale and Scope - Monitoring Hours of Service Regulations:**

Prior to describing the monitoring process, this Subsection provides background and context relative to “Hours of Service Regulations” (HOS).

#### **Background and Rationale for Monitoring:**

Subsection 3.4 reviewed the risk-based approach used by the RMCO to select areas for monitoring. This approach considers the six major risk areas associated with the transportation sector and commuter service to determine the most appropriate regulatory programs to monitor. In this manner the RMCO has monitored each of the six major risk areas since revenue service inception to provide the City with a broad understanding of regulatory compliance – specifically, the RMCO has monitored eleven different elements since RSA (refer to Annex 6) including certain elements which were re-monitored to assess progress.

A key area within the six major risk areas is “Human Factors” which involves several aspects which can influence employee actions and decisions – following are examples<sup>5</sup>:

- i) Knowledge / skill
- ii) Fatigue
- iii) Fitness for duty
- iv) Attention / judgement / situational awareness
- v) Willful violation / shortcut
- vi) Etc.

The above examples demonstrate the complexity of human factors, as well as the need to monitor different aspects to obtain a deeper understanding of regulatory compliance and risk.

During the fall of 2019, the RMCO monitored rules training for employees involved in train operations – this relates directly to first aspect relating to “knowledge / skill”.

Moreover, the City’s decision to invest in the “Communications Based Train Control” (CBTC) system is valuable in reducing risks related to most of the human factors aspects listed above – this mitigates key causes of incidents in the railway industry such as compliance with signal indications, track authority limits and speed limitations<sup>6</sup>. It should be noted that the RMCO monitored CBTC during 2023.

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<sup>5</sup> “Managing the Risks of Organizational Factors” by James Reason 1997

<sup>6</sup> “Human Factors Considerations in the Evaluation of Processor-Based Signal and Train Control Systems”- U.S. Department of Transportation June 2007; [https://railroads.fra.dot.gov/sites/fra.dot.gov/files/fra\\_net/408/ord0707.pdf](https://railroads.fra.dot.gov/sites/fra.dot.gov/files/fra_net/408/ord0707.pdf)

Although CBTC is an effective technology to reduce risk and improve operational efficiency, there are operational circumstances where risk is not fully mitigated by CBTC – following are examples:

- Movement of trains and LRV's in the MSF (i.e. maintenance facility);
- Movement of trains on main track in partially or fully manual CBTC modes (i.e. under specific operational circumstances and / or equipment / technology issues and / or malfunctions).

In consideration of the above, the RMCO's risk-based analysis identified "Hours of Service Regulations" as an area to monitor in 2024 since this has a potential effect on human factors aspects such as fatigue and attention / judgement. As such, the RMCO monitored HOS Regulations in the fall of 2024 – this represents another step forward in the progressive monitoring of regulatory programs which provide the City with a greater understanding of regulatory compliance and risk.

### **Monitoring Focus:**

The monitoring of HOS regulations focused on safety critical employees working for OC Transpo, RTG / RTM and Alstom, as follows:

1) OC Transpo:

- Electric Rail Operators (i.e. "ERO") responsible to operate trains in the Confederation Line;
- Electric Rail Controllers (i.e. "ERC") working in the Transit Operations Control Centre ("TOCC").

2) RTM:

- Rail Traffic Controllers responsible to coordinate and monitor the movement of LRV's and consists in the MSF (maintenance facility);

3) Alstom:

- Hostlers responsible to perform LRV / consist movements in the MSF.

## 6.2 Applicable Regulations and Program Documents:

City Regulations require that employees performing safety critical and safety sensitive duties on Line 1 for OC Transpo and contractors comply with the Federal “Commercial Vehicle Drivers Hours of Service Regulations - SOR/2005-313” (i.e Federal HOS Regulations).

The following OC Transpo regulatory Programs and documents relate to Hours of Service Regulations:

- 1) OCT “Electric Rail Operating Rules” (OTRC-S100-00-RUL)
- 2) OCT “Safety Management System” (OCT-S230-03-PROG )
- 3) OCT “Fatigue Management Plan”
- 4) OCT “Fitness for Work Plan” (SC-001-PLN)
- 5) OCT Work Instruction - ”Hours of Service Line 1” (OTRC-S200-43-WI)
- 6) Approaching Hours of Service Violation While On-Duty (TOPC-Q120-03-SOP)
- 7) Hours of Service Exemptions for Emergency Situations (TOPC-Q120-02-SOP)

Part 5.1 of the OCT “Fitness for Work Plan” provides a summary of the HOS Regulation requirements as follows:

*“Persons engaged in safety critical / sensitive positions that are not related to O-Train Line 2 are required to comply with the Commercial Motor Vehicle Hours of Service Regulation including following Hours of Service:*

- *Maximum 13 hours operating / driving time and 14 hours on-duty time*
- *Minimum 8 hours consecutive rest*
- *Additional 2 hours rest in blocks of more than 30 minutes*
- *Maximum 70 hours per 7 days*
- *Minimum 24 hours consecutive rest per 14 days*
- *36 hours to reset”*

As well Schedule 15-4 of the Project Agreement titled “Regulatory Standards” identifies contractor responsibilities with key Programs such as “Safety Management System”, “LRT Operating Rules and Procedures” and “Standard Operating Procedures (SOP)”. A key part of the “Regulatory Standards” (i.e. Part 1 (b)) states the following:

- “Project Co shall assist the City in the development of the OLRT Regulations policies, procedures, manuals, guidelines...”;
- “OLRT Regulations will become part of the definition of Applicable Laws in this Project Agreement when Adopted by the City”.

The above is particularly important since “Project Co” developed a document titled “4.4 Work / Rest Rules” which is aligned with the Federal HOS Regulations (i.e. “Federal HOS Regulations”) and which was approved by the City – this is covered further in Subsection 6.5.1 and Annex 13.

### **OCT Scheduling Practices and Fatigue Management:**

It is important to note that although Federal HOS Regulations allow for maximum hours of duty which are higher than other Regulations (e.g. Canada Labour Code - CLC), OC Transpo uses schedules for ERO's and ERC's with daily and weekly work hours which are much lower than the maximums allowed in Federal HOS Regulation and which are similar to those in the CLC (i.e. in the range of 8 hours per shift and 40 hours per week).

Further, the OCT "Fatigue Management Plan" states the following:

#### *Section 3:*

*This Fatigue Management Plan is designed to incorporate all components required under Transport Canada's Fatigue Management Plans-Requirements and Assessment Guidelines (2011). Components include:*

- Risk Factors for Fatigue*
- On-the-Job Alertness Strategies*
- Employee work scheduling practices*
- Supervision*
- Training and education*
- Dealing with emergencies*
- Working under unusual operating conditions*
- Rest environment*
- Work environment*
- Implementation*
- Unique deadheading circumstances*
- Evaluation of fatigue management mitigation measures*

#### *Section 4:*

*Aligning with Transport Canada guidelines, OC Transpo identified seven Key Risk Factors and five Additional Risk Factors that are likely to result in fatigue.*

The OCT Fatigue Management Plan also provides a risk matrix which indicates the degree of risk assessed for each factor for OC Transpo operating employees, as well as the mitigations (i.e. "counter measures") for each risk.

### **6.3 Roles and Responsibilities:**

Refer to Subsection 5.3 which provides relevant information regarding roles and responsibilities for OC Transpo and RTG / RTM.

## **6.4 Monitoring Process:**

### **6.4.1 Monitoring Approach:**

Subsection 5.4 explains that the monitoring is performed using a fact and evidence-based approach consisting of the following:

1. Review and analysis of applicable Regulations, Program-related documents and Records;
2. Interviews;
3. Field observations.

Monitoring procedures were developed for each of the two stakeholders involved as follows:

- Segment 4 (procedure P7002) engaged OC Transpo with the objective to monitor their regulatory responsibilities which include Program Adoption, Implementation, Direction, Oversight and Records (i.e. outlined in 'Confederation Line Designated Regulations' Appendix B Part 1);
- Segment 5 (procedure P7003) engaged RTG / RTM with the objective to monitor their responsibilities outlined in the Project Agreement and related contractual documents.

### **6.4.2 Elements Verified During Monitoring:**

The RMCO requested documents, Records and objective evidence to verify the following elements:

- 1) Adoption – have the required Regulations been Adopted by OCT and RTG / RTM?
- 2) Direction:
  - Has OCT provided Direction to RTG / RTM regarding HOS regulatory requirements?
  - Has OCT provided internal Direction to OCT employees through Bulletins, Notices and other communications?
  - Has RTG / RTM provided Direction to Alstom regarding HOS regulatory requirements?
- 3) Implementation:
  - Have OCT, RTG / RTM and Alstom implemented HOS regulatory requirements through training, communication, scheduling etc.
  - Does the review / analysis of employee work hours for OCT, RTG / RTM and Alstom confirm compliance relative to HOS Regulations?
- 4) Oversight:
  - Do OCT and RTG / RTM have Oversight plans?
  - Are Oversight activities being performed relative to HOS Regulations?
- 5) Records: are Records being maintained and made available by OCT, RTG / RTM and Alstom?

### **6.4.3 Time Period Monitored:**

A key aspect of the monitoring involved the review / analysis of work hours for the four types of safety critical employees identified in Subsection 6.1 to assess whether they comply with HOS Regulations – this is described further in Subsection 6.5.

Employee work hour Records were requested from OC Transpo, RTG / RTM and Alstom for the time period spanning January 1 2024 – March 31 2024. Given the relatively high workload during winter, this time period was deemed to provide an adequate picture of compliance relative to HOS Regulations.

### **6.4.4 Interviews:**

The RMCO performed interviews with staff from each of the three stakeholders to validate the observations identified during monitoring – the interviews involved the following types of staff for each stakeholder:

- 1) OC Transpo: Manager responsible for HOS Program, manager responsible for Booking Department, and staff responsible for Oversight, ERO and ERC;
- 2) RTG / RTM: Supervisor for MSF Control Centre, and controller.
- 3) Alstom: Hostlers.

### **6.4.5 Monitoring Timeline:**

The timeline for these monitoring segments is summarized below:

- 1) Inception of monitoring with each of the three stakeholder (i.e. OC Transpo, RTG/RTM): 9 October 2024
- 2) RMCO review / analysis of documents / Records: 25 October 25 – 8 November 2024
- 3) Interviews: 27 November – 3 December 2024
- 4) Completion of monitoring segments: 16 December 2024.

### **6.4.6 Collaboration:**

Throughout the monitoring segments, collaboration was excellent by all stakeholders (OC Transpo, RTG / RTM and Alstom). This included the following:

- i) Providing documents and Records requested in the monitoring procedures in a timely manner;
- ii) Providing the requested Records for employee work hours in a timely manner;
- iii) Staff availability for interviews;
- iv) Staff availability to review draft findings and conclude monitoring segments.

## **6.5 Monitoring Findings – Hours of Service Regulations:**

The monitoring findings for each stakeholder monitored for HOS Regulations are provided below.

### **6.5.1 Findings for OC Transpo – Hours of Service Regulations:**

Figure 10 provides a compliance assessment summary for OC Transpo on the basis of the objective evidence collected during monitoring activities.

A summary of the compliance findings is provided below, while a detailed Table of Findings is available in Annex 12.

#### **Compliance Findings for OC Transpo - Overview:**

Overall there were 7 elements monitored for OC Transpo, of which 6 were fully compliant while 1 was partially compliant – below is a summary description of the findings:

##### **1) Adoption: Compliant**

- OCT Adopted the following regulatory Programs and supplementary documents:
  - 1) Confederation Line Designated Programs:
    - Safety Management System (OCT-S230-03-PROG)
    - Electric Rail Operating Rules (OTRC-S100-00-RUL)
  - 2) Supplementary documents:
    - Fatigue Management Plan (SC-02-PLN)
    - Fitness for Work Plan (SC-001-PLN)
    - Work Instruction titled “Hours of Service – Line 1” (OTRC-S200-43-WI)
    - Approaching Hours of Service Violation While On-Duty (TOPC-Q120-03-SOP)
    - Hours of Service Exemptions for Emergency Situations (TOPC-Q120-02-SOP)

City Regulations require that employees in safety critical positions for OC Transpo (e.g. ERO’s, ERC’s) and Contractors comply with Federal HOS Regulations (i.e. Commercial Vehicle Drivers Hours of Service Regulations - SOR/2005-313)

##### **2) Direction: Compliant**

- The City provided Direction to RTG by approving a document titled “4.4 Work / Rest Rules” developed by OLRTC in 2016 which is aligned with the Federal HOS Regulations (i.e. “Commercial Vehicle Drivers Hours of Service Regulations - SOR/2005-313”). Refer to Subsection 6.2 of this Report titled “Applicable Regulations and Program Documents” for more detail.

- The City’s approval is substantiated in two Records provided to the RMCO (Annex 13):
  - Minutes of the “Regulatory Working Group” dated March 2016 which included participation from OCT, OLRTC, RTM etc.;
  - A document titled “Work Submittal Response – Sched. 15-4 SMS Work Rest Rules” dated April 2016.
- Further, the City advised that they have been sharing relevant documents with RTG / RTM through a "shared drive" which contains documents outlining the requirement for Federal HOS Regulations for safety critical positions.
- Federal HOS requirements have been integrated in OC Transpo's SMS and other Program documents.
- With respect to internal Direction, the city has been directing its employees / staff regarding Federal HOS Regulations through training, program documents, operating documents such as Bulletins, and other communications.

**3) Implementation: Compliant**

- OC Transpo Implementation is compliant on the basis of the following objective evidence:
  - a) RMCO analysis of employee work hour Records provided for Electric Rail Operators and Controllers shows that such employees are working within requirements of Federal HOS Regulations
  - b) Internal Direction is being provided through Programs and supplementary documents
  - c) The training program and delivery for OC Transpo employees is substantiated through associated training Records

**4) Oversight Plan: Compliant**

- OC Transpo has a substantive Oversight Plan (i.e. ‘Line 1 Oversight Plan’) which is updated annually and includes detailed schedules of monitoring activities for each year
- One such schedule titled “Regulatory Compliance, Quality Control & Assurance 2024 Oversight Schedule” identifies monitoring of 20 different elements
- OC Transpo has a substantial number of dedicated Oversight resources focused on the Confederation Line.

**5) Oversight - Internal: Compliant**

- Objective evidence obtained through the monitoring activities confirms that OC Transpo is monitoring its employees relative to hours of service requirements;
- There are several "checks and balances" which support HOS compliance at OC Transpo - this includes information system design and reports, verifications performed by the crew booking office and employee accountability.

**6) Oversight - external: Partially Compliant**

- Monitoring activities indicate that OC Transpo is not monitoring RTG / RTM HOS conformance, either through the review of documents or Records.

- This is corroborated as follows:
  - This monitoring segment shows that RTG / RTM has not implemented Federal HOS Regulations internally or with their sub-contractors
  - RTG / RTM employee work schedules and Records appear to be designed to meet Canada Labour Code requirements, rather than Federal HOS Regulations. RTM controllers are now using schedules made of 8 hour shifts, while they were using 12 hours during the monitoring period (Q1 2024).
  - Alstom hostlers are subcontracted and use schedules made of 12 hour shifts.

**7) Records: Compliant**

- OC Transpo has systems to store and maintain Records for employee hours of service;
- OC Transpo provided relevant Records from the Project Agreement and Program documents, contractual correspondence, Oversight Plan / schedules and Oversight activities.

**Figure 10 – Summary of Compliance Findings for OC Transpo:**

Regulatory Responsibility	Compliance Finding – OCT	Comments
<b>Adoption</b>	<b>Compliant</b>	OCT has adopted Programs and supplementary documents which require that employees in safety critical positions for OC Transpo (e.g. ERO's, ERC's) and Contractors comply with Federal HOS Regulations (i.e. Commercial Vehicle Drivers Hours of Service Regs - SOR/2005-313).
<b>Direction</b>	<b>Compliant</b>	OCT provided internal Direction to its employees to comply with HOS Regs. As well, the City provided Direction to RTG through a document titled "4.4 Work / Rest Rules" developed by OLRTC in 2016 which is aligned with the Federal HOS Regulations.
<b>Implementation</b>	<b>Compliant</b>	OCT has implemented HOS Regulations internally through training, procedures and communications. RMCO analysis of work hour records provided for Electric Rail Operators and Controllers shows that such employees are working within requirements of Federal HOS Regulations.
<b>Oversight Plan</b>	<b>Compliant</b>	OC Transpo has a substantive Oversight Plan (i.e. 'Line 1 Oversight Plan') which is updated annually and includes detailed schedules of monitoring activities for each year
<b>Oversight Internal</b>	<b>Compliant</b>	OC Transpo is monitoring its employees relative to HOS requirements; There are several "checks and balances" which drive HOS compliance at OC Transpo - this includes information system design and reports, verifications performed by crew booking office and employee accountability
<b>Oversight External (i.e. on Contractors)</b>	<b>Partially Compliant</b>	Monitoring activities indicate that OC Transpo is not monitoring RTG / RTM HOS conformance, either through the review of documents or records.
<b>Records</b>	<b>Compliant</b>	OCT has systems to store and maintain Records for employee hours of service

### **6.5.2 Findings for RTG / RTM – Hours of Service Regulations:**

Figure 11 provides a conformance assessment summary for RTG / RTM on the basis of the objective evidence collected during monitoring activities.

A summary of the conformance findings is provided below, while a detailed Table of Findings is available in Annex 12.

#### **Conformance<sup>7</sup> Findings for RTG / RTM - Overview:**

Overall there were 4 elements monitored for RTG / RTM, of which 1 was mostly conformant, 2 were partially conformant and 1 was not conformant – below is a summary description of the findings:

##### **1) Adoption / Direction: Not Conformant**

- RTG / RTM does not appear to have Adopted or provided Direction relative to Federal HOS Regulations as required by the City (refer to Annex 13)
- RTM has indicated that the Canada Labour Code (CLC) is being used relative to their employee work hours
- No objective evidence was submitted regarding Direction by RTG / RTM to Alstom regarding HOS requirements
- RTM's yard controller work schedules were changed mid-2024 from 12 hour shifts to 8 hour shifts - this is permissible under CLC Regulations with certain conditions (e.g. part of CBA)
- Alstom hostlers use schedules of 12 hour shifts. Alstom hostlers are subcontracted by Alstom to an external company. No information was provided regarding the Regulations used for work hours of Hostlers.

##### **2) Implementation: Partially Conformant**

- RTG / RTM appear to have implemented work hour requirements under the Canada Labour Code. Although CLC maximum work hours are lower than those for Federal HOS Regulations, this does not follow Direction provided by the City to implement Federal HOS Regulations (refer to Annex 13)
- RTM provided documents and Records which substantiate implementation of the Canada Labour Code (CLC) work hour requirements since summer of 2024 with Training tables and Collective agreement excerpts
- On the other hand, it is unclear which Regulations Alstom is using for its subcontracted hostlers working on schedules of 12 hour shifts
- Work schedules provided for both RTM controllers and Alstom hostlers show that 12 hour shifts were used during the period monitored (Q1 2024). However, since the summer of 2024 work schedules for RTM controllers have been

<sup>7</sup> Note: The term 'conformant' is used for contractors, rather than 'compliant', since findings relate to contractual requirements (i.e. Project Agreement) and Direction from OC Transpo, rather than City LRT Regulations.

changed to 8 hours per shift and 40 hours per week which appear to be consistent with the CLC. The information obtained by the RMCO regarding Alstom’s subcontracted hostlers indicates that their schedules are made of 12 hours shifts with a two week rotating schedule which averages a little more than 40 hours per week. Although this could potentially conform to the Canada Labour Code (Sections 170 “Modified Work Schedule” and Section 171 “Maximum Hours of Work”), the lack of Direction from RTG / RTM to Alstom and the subcontracted nature of this work makes it unclear whether this is consistent with the CLC (i.e. Section 170 requires that modified work schedules be part of a “collective agreement”).

**3) Oversight: Partially Conformant**

- RTG / RTM appear to be performing a limited amount of Oversight by reviewing payrolls periodically – this should be expanded to include internal and external (i.e. contractors) monitoring focused on the conformance of employee work hours
- No objective evidence was provided regarding a formal Oversight plan or Oversight activities other than internal payroll monitoring.

**4) Records: Mostly Conformant**

- RTM provided a number of Records such as “time card reports and schedules for yard controllers”, “training tracker Records for CLC training of yard controllers” and “Alstom Hostler weekly time sheet summaries”
- Records should be expanded to include Direction and Oversight.

**Figure 11 – Summary of Conformance Findings for RTG / RTM:**

Responsibility	Conformance Finding – RTG / RTM	Comments
Adoption / Direction	Not Conformant	RTG / RTM do not appear to have adopted or provided Direction internally or to contractors, relative to Federal HOS Regulations in accordance with Direction from the City
Implementation	Partially Conformant	RTG / RTM appear to have implemented hours of work requirements under the Canada Labour Code – this does not follow Direction provided by the City to implement Federal HOS Regulations
Oversight	Partially Conformant	RTG / RTM appear to be performing a limited amount of Oversight focused on payroll – this should be expanded to include internal and external (i.e. contractors) monitoring specific to work hours conformance
Records	Mostly Conformant	A number of Records were provided by RTG / RTM – Records should be expanded to include Direction and Oversight.

### **Commentary on RTG / RTM Findings:**

Although the findings for RTG / RTM show relatively low conformance, it is important to note that this is the result of not following Direction provided by OC Transpo regarding Federal HOS Regulations. Furthermore, it is important to recognize that this conformance finding needs to be distinguished from safety risk or fatigue risk because of the following reasons:

- RTG / RTM have implemented work schedules with work hours which appear to be consistent with the Canada Labour Code (CLC) with typical shifts of 8 hours and 40 hours per week;
- The CLC stipulates “Standard Hours of Work” of 8 hours per day and 40 hours per week (Section 169). Under certain conditions the “Maximum Hours of Work” can reach 48 hours per week (Section 171);
- The CLC maximum hours of work are substantially lower than those allowed by Federal HOS Regulations (i.e. max. 13 hours of driving per day and 70 hours per week).

On the other hand it is unclear which regulatory basis is being used for the work schedules of Alstom hostlers – this needs to be addressed with clear Direction from RTG / RTM to Alstom.

## 6.6 Actions Taken Relative to Findings and Opportunities for HOS

### Regulations:

OC Transpo has formally requested corrective action plans for each RTG / RTM finding. Such findings and remedial actions are the subject of regular meetings with stakeholders and are tracked formally by OC Transpo and the RMCO in a tracking table (refer to Section 7 and Annex 14).

### Opportunities:

The following Figure summarizes opportunities identified during the monitoring activities related to HOS Regulations, as well as the actions being taken.

**Figure 12 – Opportunities for HOS Monitoring**

#	Party Applicable	Opportunity Description
1	OC Transpo	The federal HOS Regulations require electronic logging devices (Section 77) and daily records of duty (Section 81) unless vehicles operate within a radius of 160km - this is the case for OC Transpo ERO's, but not for OCT controllers or contractor (i.e. RTG / RTM and Alstom) employees. For purposes of clarity, OC Transpo could specify in their regulatory program documents and Direction (internal and to contractors) that only the "on-duty and off-duty time" work hour requirements of the federal HOS Regulations are applicable, whereas the other parts such as electronic logging devices (S.77) and records of duty (S.81) are not applicable.
2	RTG / RTM	The RTM HR policy titled "Scheduled Work Hours and Overtime Policy - hourly staff" (Doc. RTM-HR-POL-060, dated 2016) refers to the provincial ESA (Employee Standards Act) Provincial Regulations, rather than the Canada Labour Code which appears to have been adopted through training and communication. As such, the HR policy needs to be updated.

## **7. Remedial Actions for RMCO Monitoring Findings:**

### **7.1 Remedial Actions for RTG / RTM Findings:**

As explained in Section 3 of this Report, the RMCO monitoring process involves the ongoing review of findings with stakeholders for two key reasons:

- Provide an opportunity for stakeholders to submit objective evidence which contributes to the accuracy and completeness of findings;
- Provide the ability for stakeholders to develop remedial actions expediently.

Further, it is important to note that it is the City's (i.e. OC Transpo) responsibility to engage its contractors to request remedial actions for RMCO findings, to monitor resolution and to use contractual means as required to expedite resolution.

In an effort to support structured and timely follow-up, OC Transpo has established and communicated to RTG / RTM a process map which identifies expectations and timelines relative to the submission of remedial action plans as well as their implementation. Further, OC Transpo has requested remedial actions from RTG / RTM for all RMCO monitoring findings.

In accordance with the above, the RMCO continues to work closely with OC Transpo to provide detailed information on findings, and to jointly engage contractors in an effort to clarify findings and expectations for appropriate remedial actions which address findings.

Remedial actions are reviewed periodically in meetings with OC Transpo, RTG / RTM and the RMCO. The level of collaboration by RTM has been good with updates on remedial actions provided regularly, as well as participation during the meetings - notwithstanding the good collaboration, and progress made on many findings, the resolution of some items is prolonged due to factors such as the following:

- Certain findings relate to the execution of inspections for elements such as track, LRV's, catenary etc. OC Transpo has provided criteria to RTG / RTM which define requirements to achieve conformance. As well, RTG / RTM has been developing / implementing reports which provide visibility regarding the ongoing conformance of such inspections.
- A fact-based approach is being used to establish the status of such items which remain open until data and objective evidence demonstrate that they are resolved conclusively.

The Tables of open findings and their respective remedial actions are presented in Annex 14.

These Tables show the following information:

- Since revenue service inception, the RMCO’s monitoring activities have identified a total of 54 findings, of which 43 have been addressed and closed through remedial actions provided by RTG / RTM. It should be noted that such closed items remain the subject of ongoing Oversight by OC Transpo and monitoring by the RMCO;
- Of the 11 findings which are open, OC Transpo has requested remedial action plans for all such findings, however these items remain open until objective evidence is provided to demonstrate a conclusive resolution. Below is a summary of the open findings:
  - 3 findings relate to the execution of track, LRV and catenary inspections. Although much progress has been made, OCT continues to engage RTG / RTM to consistently achieve the required execution levels and to demonstrate ongoing conformance objectively through documents such as monthly activity reports.
  - 1 finding relates to the Security Management Plan (i.e. “SeMP”) - specifically the fence intrusion detection system (i.e. “FIDS”) has had some implementation challenges and is expected to be functional in 2025.
  - 1 finding relates to the execution of tunnel lighting systems - 4 of the 5 tunnel findings are closed, while the lighting system inspections are being followed closely with RTG / RTM to achieve required execution levels;
  - 1 finding relates to the inspection of CBTC systems – these are being followed closely to achieve the required execution levels;
  - 1 finding relates to the Bridge repairs monitored in 2024; RTG / RTM are implementing a process to systematically log and address repairs identified in OSIM reports – the expected completion is first half of 2025;
  - 4 findings relate to the most recent monitoring segment on HOS Regulations performed in the fall of 2024 – OC Transpo has requested remedial actions which will be monitored during 2025.

During 2025, remedial actions will continue to be the subject of ongoing follow-up by OC Transpo with support from the RMCO.

## **7.2 Remedial Actions for IWSD Findings:**

Following the conclusion of the monitoring segment relative to bridges and structures, the RMCO has worked closely with IWSD in an effort to provide support in the understanding of findings and in the development of remedial actions.

IWSD has demonstrated excellent collaboration by developing remedial actions with the support of external experts. Several meetings were held between the RMCO and IWSD to review the remedial actions and ascertain that they address the monitoring findings.

The Figure below shows the IWSD findings and opportunities as well as the actions being taken - much progress has been made with the expectation that all items will be closed by Q3 2025 (refer to Annex 15 for Table provided by IWSD):

**Figure 13 – IWSD Findings / Opportunities and Remedial Actions:**

Monitoring Segment	Finding Summary - IWSD	Remedial Actions
<b>Bridges / Structures</b>	<b>Direction - Mostly Compliant:</b> Bayview underpass does not have clear accountability	IWSD has undertaken the following actions: i) OSIM inspection performed on Bayview overpass in 2024; ii) OC Transpo and IWSD interfacing with engagements to encompass all bridges and assure execution of inspections / repairs.
<b>Bridges / Structures</b>	<b>Implementation of Bridge Repairs - Partially Compliant:</b> Bridge repairs not being performed on a timely basis by IWSD	i) IWSD developing / implementing processes to systematically record repairs / maintenance identified in OSIM inspection reports in order to prioritize, address and document. This includes information system enhancements. Expected implementation Q3 2025. ii) IWSD preparing list / inventory of overdue repairs for bridges / structures. This will be followed by prioritization, disposition / completion and recording. Expected implementation Q3 2025.
<b>Bridges / Structures</b>	<b>Oversight - Mostly Compliant:</b> Some Oversight activities being performed but no Formal Oversight Plan.	IWSD developing / implementing Oversight Plan – expected implementation Q3 2025.
<b>Bridges / Structures</b>	<b>Records - Mostly Compliant:</b> Records of repairs to be systematized.	IWSD enhancing information system and developing process to systematically record repairs and oversight activities. Expected implementation Q3 2025.
<b>Bridges / Structures</b>	<b>Opportunity:</b> <b>Formalize Deferral Process for OSIM Inspections</b>	IWSD developing / implementing deferral process for OSIM inspections in accordance with MTO guidelines. Expected implementation Q2 2025.

### 7.3 Remedial Actions for OC Transpo Findings:

Following the completion of the monitoring segments carried out during the summer and fall of 2024, the RMCO has worked closely with OC Transpo to follow-up on the findings and their respective remedial actions. Most of this work involved findings identified for RTG / RTM which is discussed above.

As well, OC Transpo is addressing the findings which relate to their organization – a summary of these remedial actions is presented in the Figure below:

**Figure 14 – OC Transpo Findings / Opportunities<sup>8</sup> and Remedial Actions**

Monitoring Segment	Finding Summary - OCT	Remedial Actions
<b>Bridges / Structures</b>	<b>Direction - Mostly Compliant:</b> Bayview overpass does not have a clear accountability (and not inspected since RSA)	OC Transpo has undertaken the following actions: i) Bayview overpass was inspected (OSIM) in 2024 by IWSD; ii) OC Transpo engaging RTG/RTM to take responsibility for future inspections / repairs of Bayview overpass; iii) OC Transpo and IWSD using interface engagements to maintain complete view of all bridges / structures and drive execution of inspections / repairs.
<b>Bridges / Structures</b>	<b>Oversight - Mostly Compliant:</b> Bridge repairs not being performed on a timely basis by RTG / RTM	OC Transpo enhancing Oversight Plan and Schedules to monitor bridge repairs performed by RTG / RTM starting in 2025.
<b>HOS Regulations</b>	<b>Oversight (External on Contractors) – Partially Compliant:</b> RTG / RTM have not implemented HOS Regulations or conveyed requirements to subcontractors	i) OC Transpo engaging RTG / RTM to conform to Direction regarding implementation of Federal HOS Regulations. ii) OC Transpo enhancing Oversight Plan and Schedules to monitor RTG / RTM HOS Regulations conformance starting in 2025.

<sup>8</sup> Refer to Subsection 6.6 (Figure 12) for additional opportunities identified during monitoring.

## **8. Monitoring Approach in 2025:**

In accordance with the risk-based approach outlined in Section 3 of this Report, as well as City LRT Regulations, the RMCO will perform risk-based analyses to identify areas / Programs to be monitored in 2025.

The risk-based selection process will review the following risk inputs (refer to Subsection 3.2 of this Report):

- Confederation line experience, including safety, security and operations;
- Oversight and monitoring findings, including RMCO monitoring, Oversight performed by OC Transpo and Oversight / investigations performed other parties;
- Typical hazards / risks and occurrences faced by similar commuter operations (based on research performed and presented in 2018 Work Plan);
- Confederation Line characteristics and regulatory Programs.

The risk-based analysis will be performed during the second quarter of 2025 and will be followed with the development of a monitoring plan and procedures which will be communicated to stakeholders to initiate monitoring.

During 2025, the RMCO will continue to perform regulatory monitoring in accordance with the City's mandate using a structured approach and the principles described in Section 3 of this Report. The intent will be to monitor two additional risk areas, with the first area to be monitored from June to August, while the second area will be monitored from September to December. This approach will continue to provide regulatory compliance knowledge which increases incrementally over time and which corresponds to the major risk areas experienced by railways and commuter operations – this will be valuable in complementing the City's efforts to achieve the highest possible level of safety and security

## **Context / Disclaimers**

This Report, including any enclosures, attachments and annexes, has been prepared for the exclusive use of the City of Ottawa solely for the purpose for which it is provided under the Terms of the Contracts executed March 2<sup>nd</sup> 2018 and April 26<sup>th</sup> 2023 between the City of Ottawa and SAB Vanguard Consulting Inc., as well as the supplementary information in Annexes 1-3 and 16 of this Report.

Any use, decisions or actions taken as a result of this work shall be the responsibility of the parties directly involved in the decisions or actions.

**ANNEXES**

# ANNEX 1

## Ottawa Light Rail Transit (OLRT) – Regulatory Background

This Annex provides background information on the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking:

On July 14<sup>th</sup>, 2011, Ottawa City Council approved the implementation plan for the Ottawa Light Rail Transit (OLRT) project which is considered in law to be a federal rail transportation undertaking.

Since Federal legislation was not developed for application to municipal light rail systems, the City of Ottawa was provided with the authority to regulate its light rail transit system. This was formalized with a **Delegation Agreement** between the Minister of Transport and the City of Ottawa on October 1<sup>st</sup>, 2011, which provides authority to the City to regulate any matters covered by Part III and IV of the *Canada Transportation Act* as well as the *Railway Safety Act*. This delegated authority applies only to the Confederation Line and does not extend to other OC Transpo operations (i.e. Trillium Line, Bus, Para).

In accordance with the Delegation Agreement, and By-Law No. 2015 – 301, the position of ‘Light Rail Regulatory Monitor and Compliance Officer’ (i.e. ‘Regulatory Monitor and Compliance Officer – RMCO’, or ‘Compliance Officer’) was created to monitor and report on compliance with the Ottawa Light Rail Transit (OLRT) Regulations (i.e. City LRT Regulations); the duties and responsibilities of this position are shown in Annex 2. The Compliance Officer is independent of the Transportation Services department and reports directly to the City Manager and City Council.

The RMCO is tasked with specific responsibilities as follows:

1. Development of a **multi-year Work Plan** for monitoring compliance relative to City LRT Regulations as they relate to the safety and security of the system;
2. Perform ongoing compliance monitoring in accordance with the RMCO mandate and Work Plan;
3. Prepare **Annual Compliance Reports** that describe the specific areas of the regulatory framework that were reviewed during the past year; report on the work that was undertaken to verify compliance in these areas; identify areas where compliance with City LRT Regulations has been fully achieved; and report on areas where compliance has not been fully achieved;
4. **Ongoing monitoring** and reporting of any potential regulatory compliance gaps to the City Manager, in order for City staff to correct any compliance deficiencies.

## **ANNEX 2**

### **Regulatory Monitor and Compliance Officer (RMCO) – Duties and Responsibilities**

The following schedule was prepared by the City of Ottawa to describe the duties and responsibilities of the RMCO. It is part of the Contracts signed between the City of Ottawa and SAB Vanguard Consulting Inc. on March 2<sup>nd</sup>, 2018 and April 26<sup>th</sup>, 2023.

#### **SCHEDULE "A"**

##### **STATEMENT OF DUTIES AND RESPONSIBILITIES**

The Light Rail Regulatory Monitor and Compliance Officer ("Compliance Officer") is responsible for reviewing, investigating, monitoring and reporting on compliance with the Ottawa Light Rail Transit (OLRT) regulations.

The Compliance Officer will be independent of the Transportation Services Department and will report directly to the City Manager and City Council.

The Compliance Officer will be responsible for the development of a multi-year workplan for monitoring compliance with the OLRT regulations as it relates to the safety and security of the system. The workplan will detail the strategy for the selection of regulations, rules, and procedures to be monitored, the overall methodology to undertake monitoring and reporting, the specific regulatory areas to be monitored, and the timeframes for undertaking the work. The multi-year workplan will be submitted to both the Transit Commission and Ottawa City Council. Prior to developing the multi-year workplan, the Compliance Officer will be required to review and understand the City's comprehensive regulatory framework.

The role is expected to involve monitoring regulatory compliance through site visits, interviews with City staff and contractors, and review of relevant documentation, records, and performance reporting. These tasks are expected to include but not be limited to:

- Reviewing regulations, policies and procedures;
- Conducting interviews and meetings with field staff and senior management;
- Conducting field observations of operations, maintenance and/or safety management activities;
- Reviewing technical submissions;
- Analyzing data and performance records;
- Assessing compliance with regulations;
- Providing timely and accurate advice to staff to consider improvements to the regulations and/or to the implementation and enforcement of regulations when required; and,
- Monitoring implementation of staff recommended improvements, developments and new initiatives in respect to the OLRT Regulations.

The Compliance Officer will prepare an Annual Compliance Report that will describe the specific areas of the regulatory framework that were reviewed during the past year; report on the work that was undertaken to verify compliance in these areas; identify areas where compliance with Regulations has been fully achieved; and report on areas where compliance has not been fully achieved. The Annual Compliance Report will also include any revisions to the multi-year workplan.

After preparing a draft of the report and taking input from the City Manager and affected persons as determined necessary, the Annual Compliance Report will be submitted annually to the City’s Transit Commission and City Council. The City Manager will prepare a Management Response Companion Report that will be considered by Transit Commission and Council alongside the Annual Compliance Report.

The Compliance Officer will also be responsible for quarterly monitoring and reporting of any potential regulatory compliance gaps to the City Manager, in order for City staff to correct any compliance deficiencies.

Please refer to Annexes 3 and 16 of this report for further information on the RMCO responsibilities and regulatory context.

## ANNEX 3

### Regulatory Monitor And Compliance Officer (RMCO) – Supplemental Information Relative to Scope / Responsibilities

In accordance with the Delegation Agreement referenced in Annex 1, and the report submitted to City Council on September 23<sup>rd</sup>, 2015, the duties and responsibilities of the RMCO are described in Annex 2.

In addition, the following information is provided to further clarify the scope and responsibilities of the RMCO:

- The RMCO is responsible for regulatory compliance monitoring for the Confederation Line after revenue service.
- This mandate covers the Confederation Line exclusively and any expansions or extensions to this transit system or other light rail systems. This mandate does **not** cover commuter rail operations such as the Capital / Trillium railway, bus transit operations, or Para Transpo operations.
- The RMCO regulatory compliance monitoring primarily relates to City LRT Regulations Adopted by the City through bylaw or by other means, including standards and requirements imposed by Contract. Specifically, the basis for RMCO regulatory monitoring is the ‘Confederation Line Designated Regulations’ dated July 2024 (refer to excerpt Annex 4 of this Report).
- The RMCO was not involved in the construction, implementation, independent safety certification or revenue service availability activities for the Confederation Line.
- RMCO activities consist of performing regulatory compliance monitoring rather than audits. This implies that the assessment of risks, controls, governance, etc. are not part of the RMCO monitoring scope.
- The RMCO monitors compliance relative to City LRT Regulations / Programs on a progressive basis according to monitoring schedules and provides quarterly updates to the City Manager as well as Annual Compliance Reports to City Council and the Transit Committee. This provides a progressive assessment of compliance.
- The development and follow-up for remedial actions required as a result of RMCO monitoring findings are the responsibility of the City. This applies to findings relative to the City’s departments (e.g. OC Transpo) as well as contractors.

The following additional information provides further detail on the RMCO monitoring scope:

- The RMCO monitors compliance with operations and maintenance (“O&M”) related LRT Regulations by OC Transpo (OCT) as per the ‘Confederation Line Designated Regulations’.

- OCT must Adopt and Implement, provide Oversight and Direction and maintain Records in relation to designated O&M Programs, including the Direction to relevant Contractors to do the same and to adhere to Program requirements.
- The RMCO monitors Contractor work activities in relation to the requirements of these O&M Programs as one method of assessing whether OCT is complying with its regulatory obligation to provide meaningful Oversight and Direction to Contractors in relation to these Programs.
- The RMCO does not: (a) assess the adequacy, sufficiency or effectiveness of Programs or their terms; (b) adjudicate possible legal defaults or breaches by Contractors in the performance of their Program related work activities; or (c) enforce Contractor performance obligations.
- The RMCO will be guided by OCT interpretations of Program requirements in monitoring and reporting on conformance by Contractors with their P.A. (Project Agreement) related obligations, including in relation to OCT requested remedial actions by Contractors.
- OCT management, together with internal and/or external legal support, will determine whether RMCO findings of non-conformance according to any of the categories described in the Report Tables (refer to Sections 5 and 6 of this Report), on their own or on a cumulative, sustained or unrectified basis, constitute a contractual default or breach by Contractor according to relevant contract terms.
- The RMCO's findings are primarily intended to assist OCT and its Contractors in making ongoing improvements to the performance of Program work activities, including OCT Oversight practices. These findings are not intended to ascribe legal fault or failure.

## ANNEX 4

### Excerpts From City LRT Regulations– Appendix B of 'Confederation Line Designated Regulations' Dated July 2024

The following excerpts are provided because of their relevance to the regulatory monitoring activities performed by the RMCO.

#### APPENDIX B – MASTER LIST OF CONFEDERATION LINE REGULATIONS

UPDATED AS OF: July , 2024

**Introduction:** The City's delegated self –regulatory regime is based fundamentally on:

- (a) City imposed obligations on various Designated City Organizations to adopt and manage specified programs, plans, procedures and practices in relation to the Confederation Line (collectively "**Programs**"); and
- (b) the City's reliance on various oversight mechanisms, procedures and practices that the City has adopted to manage or direct those persons who are responsible for complying with the requirements of these Programs.

#### 1. OC Transpo Regulations & Programs

**1.1 OC Transpo Regulatory Obligations:** OC Transpo shall comply with the following Confederation Line Regulations and shall generally follow and apply Good Industry Practice in:

- (a) Approving and adopting the Programs described in paragraph 1.3 below (the "**OC Transpo Programs**");
- (b) Implementing, either directly or through its Contractors, the OC Transpo Programs described in paragraph 1.3 below;
- (c) Overseeing OC Transpo employees, Contractors and other persons over whom it has lawful authority to ensure proper implementation and timely compliance with the requirements of the OC Transpo Programs;
- (d) Directing OC Transpo employees, Contractors and other persons over whom it has lawful authority to ensure activities are being conducted and timely compliance with the requirements of the OC Transpo Programs
- (e) Monitoring and maintaining records, providing access to records and responding to enquiries from the RMCO and reporting to the City Manager, in relation to the compliance with the OC Transpo Programs by those who are responsible for compliance;

**1.3 OC Transpo Programs:** OC Transpo is responsible for the following Programs:

- (a) Safety Management System Plan (SMS) for the Confederation Line which includes but is not limited to:
  - (i) A hazard identification and risk analysis (hazard log) procedures;
  - (ii) Safety Incident Management plan(s) and procedures;
  - (iii) Accident and Incident Investigation and Reporting Requirements;
  - (iv) Risk/change management procedures;
  - (v) Knowledge management procedures; and
  - (vi) Safety concern generation and escalation procedures
- (b) Security Management System Plan (SeMS) for the Confederation Line which includes but is not limited to:
  - (i) Emergency response plan/procedures
  - (ii) Threat and vulnerability assessment
  - (iii) Risk management procedures
  - (iv) Security management plan/procedures
- (c) Standard Operating Procedures (SOP);
- (d) Confederation Line Operating Rules and Procedures;
- (e) Maintenance and Rehabilitation Plan;
- (f) Track Safety and Inspection Rules;
- (g) Asset Management Plan which includes but is not limited to:

**5. Infrastructure and Water Services Department Programs**

**5.1 LRT Regulation:** IWSD shall, respectively and as applicable, comply with the following Confederation Line Regulations and shall generally follow and apply Good Industry Practice in:

- (a) Approving and adopting the Programs described in paragraph 5.3 below (the “**Asset Management Services and Infrastructure Services Programs**”);
- (b) Implementing, either directly or through its Contractors, the Infrastructure and Water Services Programs described in paragraph 3.3 below;
- (c) Overseeing Infrastructure and Water Services Department employees, Contractors and other persons over whom it has lawful authority to ensure proper implementation and timely compliance with the requirements of the Asset Management Services and Infrastructure Services Programs;
- (d) Directing Infrastructure and Water Services Department employees, Contractors and other persons over whom it has lawful authority to ensure activities are being conducted and timely compliance with the requirements of the Asset Management Services and Infrastructure Services Programs;
- (e) Monitoring and maintaining records, providing access to records and responding to enquiries from the RMCO and reporting to the City Manager, in relation to the compliance with the Asset Management Services and Infrastructure Services Programs by those who are responsible for compliance;

**5.3 Asset Management Services and Infrastructure Services Programs:** IWSD, in collaboration and/or coordination with OC Transpo and RCP and other City personnel, must establish, adopt and/or apply Programs in relation to the:

- (a) Transit Asset Management Plan for those Confederation Line assets the City is responsible for including Inventory, condition assessment inspections, maintenance, repair, replacement, rehabilitation and lifecycle of those assets identified and in accordance with the provisions of the Project Agreement; and
  - (i) Asset inventory and condition assessment plan
  - (ii) Maintenance and rehabilitation plan
  - (iii) Inspection plan and procedures
  - (iv) Asset Management Plan includes but not limited to:
    - (1) Structures: bridge, culverts, retaining walls, tunnels
    - (2) Stations, facilities,
- (b) Design and Construction process and procedure
- (c) Project management process and procedures
- (d) Documentation process
- (e) Other Programs: the City Manager may direct IWSD to adopt from time to time in relation to the Confederation Line.

## **ANNEX 5**

### **Risk-Based Approach for Monitoring**

#### **Risk-Based Selection of Areas / Regulations to Monitor:**

As described in Section 3 of this Report, a number of factors are considered in the risk-based selection of Regulations / Programs to be monitored - this is summarized below:

- 1) Research relative to hazards and risks for commuter operations (refer to Work Plan);
- 2) Research and analysis relative to incident / accident data for commuter operations (refer to Work Plan);
- 3) Consideration for Confederation Line characteristics (e.g. technology and infrastructure) as well as Regulations and Program documents;
- 4) Consideration for Confederation Line experience (e.g. incidents / accidents, service issues etc.);
- 5) Consideration for internal and external Oversight activities (e.g. RMCO monitoring, OC Transpo Oversight) as well as audits.

This approach is dynamic since key inputs such as those identified in items 4 and 5 (above) are reviewed periodically to better understand risk and to make appropriate selections for Programs to monitor. In this manner, such inputs are considered in the ongoing risk-based selection of Programs to be monitored.

#### **Overview of Potential Hazards / Risks:**

The City mandate for the RMCO states that the focus of regulatory monitoring is on safety and security. As such, related risks can result from multiple sources (hazards), each with their respective potential probability (i.e. likelihood) and consequence (i.e. severity).

The multi-year Work Plan presented research performed on potential hazards, accident / incident causes for commuter operations, and other relevant research. This enabled the identification of the following broad hazard / risk categories:

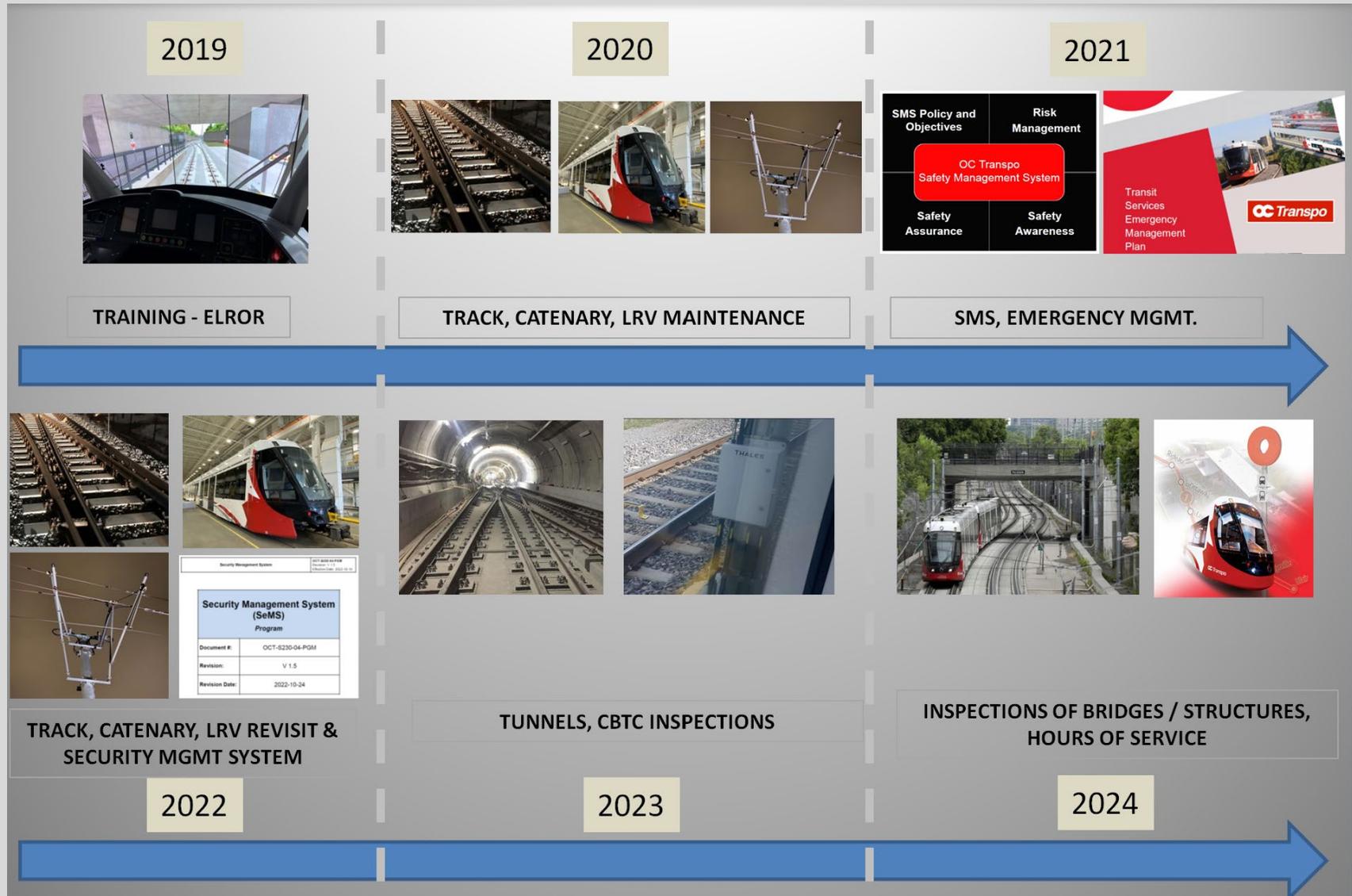
- Human Factors;
- Security Management System and Emergency Procedures;
- Rolling stock inspection / maintenance (i.e. light rail vehicles);
- Track inspection / maintenance;
- Other equipment / infrastructure, environmental and other.

Safety Management Systems has been added to the above categories since this is an integral part of managing safety and operations.

The above risk areas and the corresponding 'OCT Programs' identified in City LRT Regulations are the focus of the RMCO's regulatory monitoring activities.

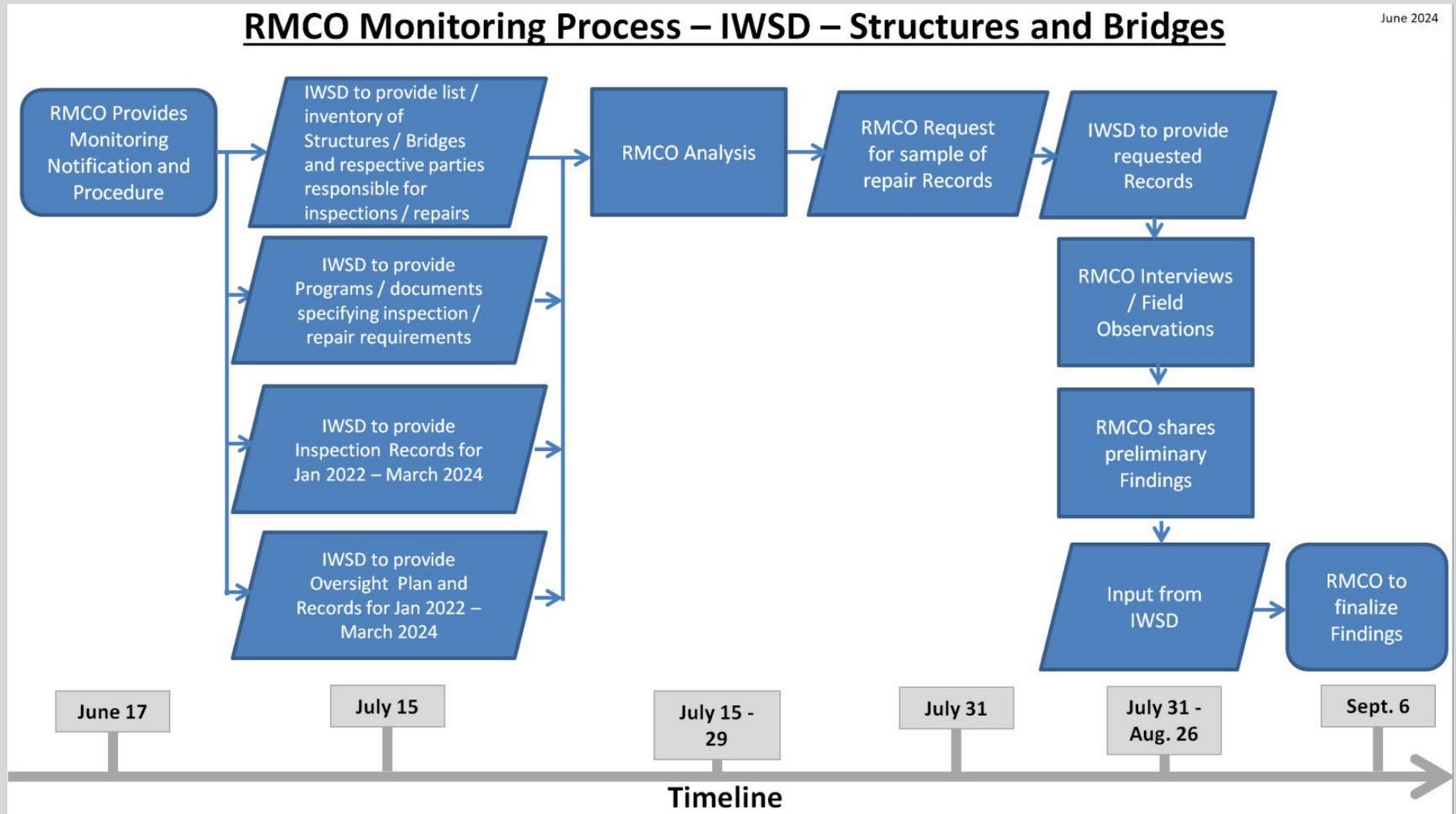
# ANNEX 6 –

## Areas Monitored by RMCO Since Revenue Service Inception



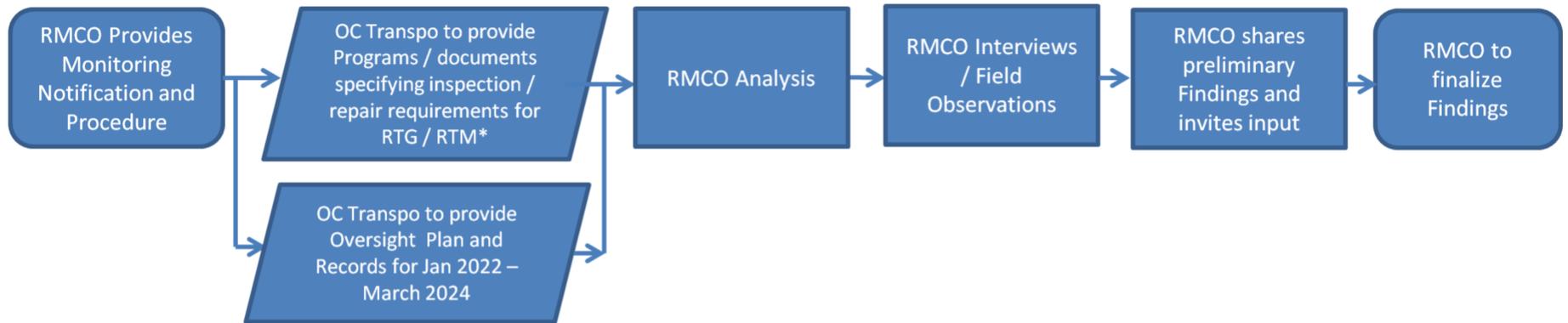
## ANNEX 7 – Monitoring Process for Bridges / Structures

The RMCO monitoring approach consisted of undertaking three segments which engaged the three stakeholders involved in the inspections and repairs of bridges / structures. Below are flowcharts showing the key monitoring activities and associated timelines



## RMCO Monitoring Process – OC Transpo – Structures and Bridges

June 2024



June 17

July 15

July 15 - 29

August

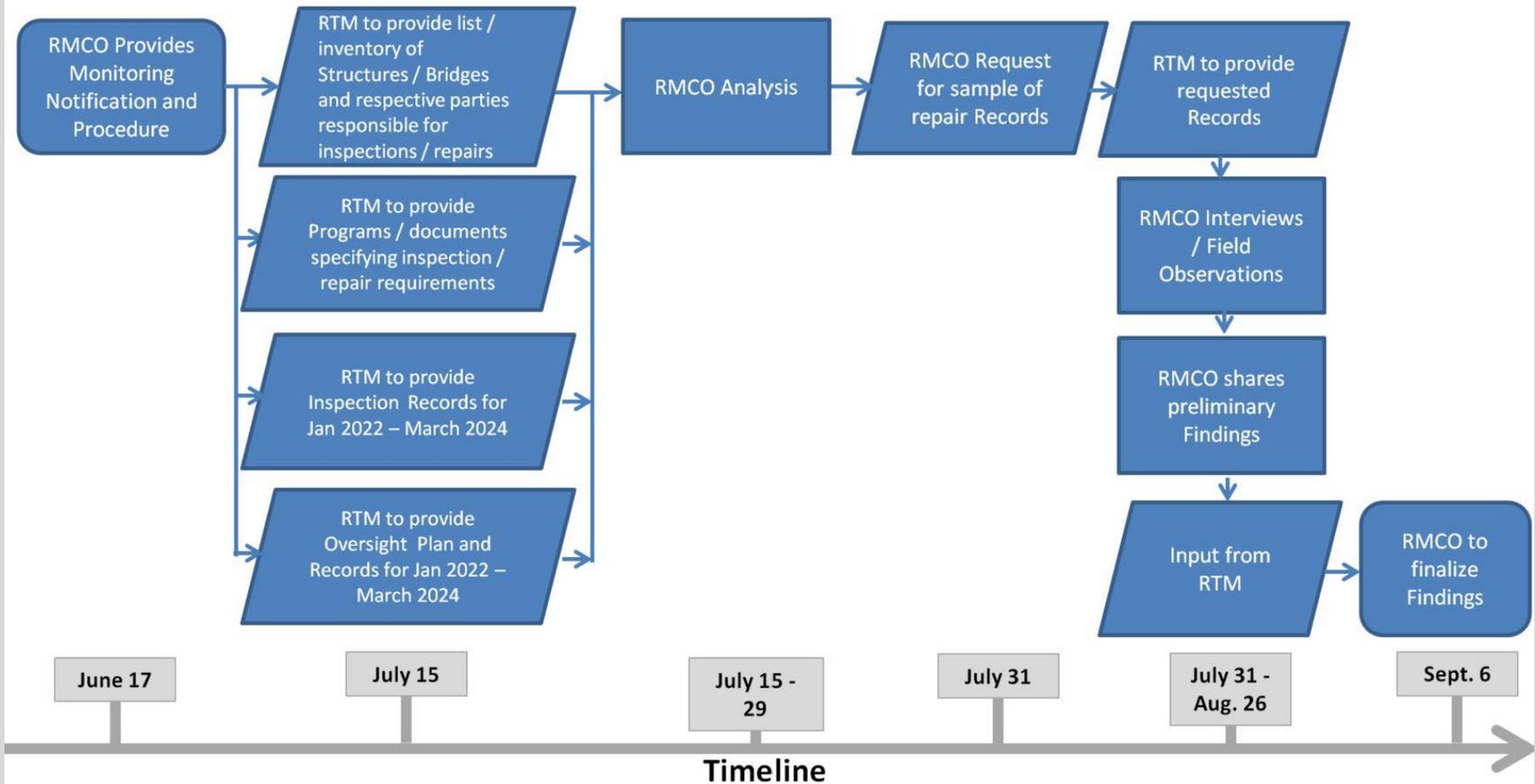
Aug. 26

Sept. 6

Timeline

\* Note: OC Transpo is responsible to manage the contract with RTG / RTM. As such OCT is responsible to provide Direction and Oversight relative to the work under the responsibility of RTG / RTM. The RMCO will monitor separately the work performed by IWSD and RTG / RTM.

## RMCO Monitoring Process – RTM – Structures and Bridges



## ANNEX 8 – List of Bridges and Structures in the Confederation Line

#	Structure ID	Structure Name	Structure Type	Year Built	Last Major Rehab.	Resp.
1	016250	W Twy - Tunneys Bus Access Ramp O/P	Bridge	1984	2006	RTM
2	018210	Tunneys BRT Station Ped Bridge	Bridge	1984	1997	RTM
3	016240	W Twy - Holland Av O/P Transitway	Underpass	1984	2002	IWSD
4	016230	W Twy - Parkdale Av O/P Transitway	Underpass	1983	2002	IWSD
5	016220	W Twy - Hinchey Av O/P Transitway	Underpass	1983	NA	IWSD
6	016210	W Twy - Carruthers Av O/P	Underpass	1983	2002	IWSD
7	016200	W Transitway O/P Bayview Rd	Overpass	1984	2007	RTM
8	016190	Booth Street Bridge	Bridge	2016	NA	RTM
9	015720	MUP U/P Trillium Line E of Bayview Station	Overpass	2017	NA	TBD
10	015040	W Transitway O/P O-Train Trillium Line	Overpass	2016	NA	RTM
11	017040	Broad St Open Aquaduct Pedestrian Bridge	Bridge	1873	2001	RTM
12	017030	Booth St Bridge over Open Aqueduct	Bridge	1873	1999	IWSD
13	018160	Campus BRT Station - CA Tway O/P Ped Tunnel	Overpass	1984	NA	RTM
14	016950	CA Transitway O/P Mann Av/Greenfield Av	Overpass	2016	NA	RTM
15	016040	CA Transitway Hwy 417 Nicholas Ramp O/P Transitway	Underpass	1982	2014	IWSD
16	016050	CA Transitway Lees Av O/P Transitway	Underpass	1982	2014	IWSD
17	014010	CA Transitway U/P Hwy 417	Underpass	1982	2010	IWSD
18	013010	CA Transitway Rideau River Bridge	Overpass	1982	1997	RTM
19	055510	Hurdman Guideway RF Con JG Lot 12	Overpass	2014	2014	RTM
20	055520	Hurdman East O/P on Confederation Line	Overpass	2016	2016	RTM
21	056650	E Twy O/P Riverside Dr next to CNR O/P	Overpass	1986	NA	RTM
22	056660	E Twy - Train Stn West Access Rd O/P	Underpass	1986	2008	IWSD
23	056540	East Ring Road Bridge	Underpass	2015	NA	RTM
24	056670	E Transitway U/P E Train Station Access Road	Bridge	1986	2008	IWSD
25	056680	E Transitway U/P Tremblay Rd	Underpass	1986	2010	IWSD
26	056690	E Twy - Belfast Rd O/P Twy	Underpass	1985	NA	IWSD
27	056700	E Transitway U/P Hwy 417	Underpass	1987	2014	IWSD
28	058710	St Laurent BRT Station - Ped Bridge over Transitway	Underpass	1987	2013	IWSD
29	056720	E Twy - WB Queensway On-Ramp O/P	Underpass	1985	1997	IWSD
30	056730	E Twy - St Laurent Blvd O/P Transitway	Underpass	1985	2013	IWSD
31	056740	E Twy - 417 WB Trumpet Ramp W O/P	Underpass	1986	NA	IWSD
32	226710	E Transitway U/P Trumpet Ramp C	Bridge	1988	NA	IWSD
33	226720	E Twy - 417 WB Trumpet Ramp E O/P	Underpass	1988	NA	IWSD
34	226730	E Twy - Hwy 417 WB St Laurent Blvd Exit Ramp O/P	Underpass	1988	NA	IWSD
35	226740	E Twy - Cyrville Rd O/P	Underpass	1988	2002	IWSD
36	226750	E Twy - Aviation Pkwy SBL [W Bridge] O/P	Underpass	1988	NA	IWSD
37	226760	E Twy - Aviation Pkwy NBL [E Bridge] O/P	Underpass	1988	NA	IWSD
38	226770	E Transitway BCulvert over Cyrville Drain	Bridge Culvert	1987	NA	RTM
39	228685-1	Blair BRT Stn Ped Bridge over Twy (S)	Underpass	1989	2012	RTM
40	228685-2	Blair BRT Stn Ped Bridge over Twy (N)	Bridge	1989	NA	IWSD
41	228626	Blair BRT Stn Ped Bridge over Hwy 174	Bridge	1989	2012	IWSD
42	228627	Blair BRT Station Ped Subway	Bridge	1989	NA	RTM
43	226780	E Twy Blair Rd O/P Transitway	Underpass	1989	NA	IWSD

## **ANNEX 9 – List of Relevant Technical Documents Provided by IWSD for the Inspections and Repairs of Bridges / Structures**

- 1) Ontario Structure Inspection Manual
- 2) Ontario Regulation 104/97 Standards for Bridges
- 3) Amendment to Ontario Regulation 104/97 for Bridges
- 4) Ontario Structure Inspection Manual – Supplementary Clarification to OSIM - Attachment 1
- 5) Ontario Structure Inspection Manual – Supplementary Clarification to OSIM – Attachment 2
- 6) Ontario Structure Inspection Manual – Supplementary Clarification to OSIM – Attachment 3
- 7) 2024 Structure Inspection-Supplementary Clarification to OSIM
- 8) Ministry of Transportation Ontario Structural Manual
- 9) Ministry of Transportation Ontario Inspection of Newly Constructed Structures and Rehabilitated Structures
- 10) Ministry of Transportation Ontario Safety Practices for Structure Inspections
- 11) City of Ottawa Transit Asset Management Plan
- 12) MTO Structure Rehabilitation Manual
- 13) Guideline for Risk Assessment of Bridges

## **ANNEX 10 – Project Agreement Excerpt (Sched. 15-3, Appendix A, Attach. 1) - Maintenance Responsibility Table (Footnote 8) Structures and Bridges**

Ottawa Light Rail Transit Project		Schedule 15-3 to Project Agreement Execution Version	
MAINTENANCE RESPONSIBILITY TABLE		Project Co	City / Other
<b>Structures/Bridges: [Footnote 8]</b>			
<b>Stage 1</b>			
New Ramps in the staging of transit movements in and around this area.	W of Tunney’s Station	✓	
W Transitway U/P Tunney’s Bus Access Ramp	Tunney’s Ramp over W Twy	✓	
Tunney’s BRT Station SN 018210	Ped Bridge	✓	
W Transitway U/P Holland Av SN 016240	Holland Av over W Transitway		✓

<b>MAINTENANCE RESPONSIBILITY TABLE</b>		<b>Project Co</b>	<b>City / Other</b>
W Transitway U/P Parkdale Av SN 016230	Parkdale Av over W Transitway		✓
W Transitway U/P Hinchey Av SN 016220	Hinchey Av over W Transitway		✓
W Transitway U/P Carruthers Av SN 016210	Carruthers Av over W Transitway		✓
W Transitway O/P Bayview Rd SN 016200	Bayview Rd under W Transitway	✓	
W Transitway O/P O-Train Line SN 015040	0.30 km E of Bayview Rd	✓	
Broad St Bridge SN 017040	Lebreton Flats W of Booth, OF Con A Lot 39/40	✓	
Booth St Bridge O/P Open Aqueduct SN 017030	Booth St over Open Aqueduct		✓
Campus BRT Station – CA Twy O/P Ped Tunnel SN 018160	Ped Subway at Univ of Ottawa Campus Station	✓	
CA Transitway O/P Mann Av SN 016950	Mann Av under CA Transitway	✓	
CA Transitway Hwy 417 Nicholas Ramp O/P Transitway SN 016040	Nicholas St off ramp over CA Transitway		✓
CA Transitway U/P Queensway SN 014010	CA Transitway under Queensway		✓
CA Transitway Lees Av O/P Transitway SN 016050	Lees Av over CA Transitway		✓
CA Transitway O/P Rideau River SN 013010	CA Transitway over Rideau River	✓	
Hurdman Stn W Bridge		✓	
Hurdman Stn E Bridge		✓	

<b>MAINTENANCE RESPONSIBILITY TABLE</b>		<b>Project Co</b>	<b>City / Other</b>
E Transitway O/P Riverside Dr SN 056650	Riverside Dr under E Transitway	✓	
E Transitway U/P W Train Station Access Rd SN 056660	W Access Rd over E Transitway		✓
New Ering Rd Bridge		✓	
E Transitway U/P E Train Station Access Rd SN 056670	E Access Rd over E Transitway		✓
E Transitway U/P Tremblay Rd SN 056680	Tremblay Rd over E Transitway		✓
E Transitway U/P Belfast Rd SN 056690	Belfast Rd over E Transitway		✓
E Transitway U/P Queensway EB & WB SN 056700	EB Queensway over E Transitway		✓
St Laurent BRT Station – Tunnels SN 056710-1,-2,-3	St Laurent Stn Tunnels – connects Centre Tunnel to 056700 E Tway		✓
St Laurent BRT Station – Ped Bridge O/P E Transitway SN 056710-5	Ped Bridge		✓
E Twy U/P WB Queensway On-Ramp SN 056720	Queensway NW Ramp over E Transitway		✓
E Transitway U/P St Laurent Blvd SN 056730	St Laurent Blvd over E Transitway		✓
E Transitway U/P Trumpet Ramp W SN 056740	Queensway Off Ramp over E Transitway		✓
E Transitway U/P Trumpet Ramp C SN 226710	W/Ramp from St Laurent SB		✓
E Transitway U/P Trumpet Ramp E SN 226720	W/Ramp from St Laurent S/B over T/Way		✓
E Transitway U/P WB Queensway Exit Ramp SN 226730	Exit Ramp over T/Way		✓

<b>MAINTENANCE RESPONSIBILITY TABLE</b>		<b>Project Co</b>	<b>City / Other</b>
	@ St Laurent		
E Transitway U/P Cyrville Rd SN 226740	E Transitway under Cyrville Rd		✓
E Transitway U/P Aviation Pkwy SBL [W Bridge] SN 226750	E Transitway @ Aviation Pkwy SBL		✓
E Transitway U/P Aviation Pkwy NBL [E Bridge] SN 226760	E Transitway @ Aviation Pkwy NBL		✓
E Transitway Cyrville Drain SN 226770–	E Transitway over Cyrville Drain	✓	
Blair BRT Station Ped Bridge Over Tway SN 229040-1	Ped Bridge Over Tway	✓	
Blair BRT Station Ped Subway SN 229040-3	Ped Subway	✓	
Blair BRT Station Ped Bridge Over Hwy 174 SN 229040-4	Ped Bridge Over Hwy 174 – 0.35 Km W of Blair Rd		✓
E Tway – Blair Rd O/P Transitway SN 226780	E Transitway under Blair Rd		✓

## ANNEX 11 – Table of Findings for Monitoring of Bridges / Structures

### Findings for IWSD (Bridges / Structures)

ITEM	REGULATORY REQUIREMENT	REGULATORY REFERENCE	ELEMENT	IWSD FINDING	NOTES
1	PROGRAM ADOPTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 5	ADOPTION	COMPLIANT	IWSD PROVIDED A NUMBER OF DOCUMENTS APPLICABLE TO THE INSPECTION AND MAINTENANCE OF BRIDGES AND STRUCTURES - THESE INCLUDE THE FOLLOWING: - TRANSIT ASSET MANAGEMENT PLAN - ONTARIO STRUCTURES AND INSPECTION MANUAL (OSIM) - A NUMBER OF STANDARDS AND STRUCTURAL MANUALS
2	PROGRAM DIRECTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 5	DIRECTION	MOSTLY COMPLIANT	1) THE DOCUMENTS PROVIDED BY IWSD (REFER TO ITEM 1 ABOVE) SPECIFY REQUIREMENTS FOR INSPECTIONS / MAINTENANCE OF BRIDGES / STRUCTURES. 2) IWSD PROVIDED A DETAILED INVENTORY OF BRIDGES / STRUCTURES WHICH ARE BEING ACTIONED FOR INSPECTIONS AND REPAIRS BY THEIR STAFF. HOWEVER ONE BRIDGE (015720 - BAYVIEW) DID NOT RECEIVE AN OSIM INSPECTION BECAUSE IT WAS NOT IDENTIFIED IN THE PROJECT AGREEMENT "TABLE OF MAINTENANCE RESPONSIBILITY TABLE" AND WAS NOT RECOGNIZED BY ANY PARTY AS REQUIRING ACTION. IWSD AND OC TRANSPH HAVE UNDERTAKEN ACTIONS TO INTERFACE AND ENSURE THAT CLEAR ACCOUNTABILITIES ARE ESTABLISHED FOR EVERY EXISTING STRUCTURE- REFER TO OPPORTUNITY #1.
3A	PROGRAM IMPLEMENTATION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 5	IMPLEMENTATION - INSPECTIONS	COMPLIANT	IWSD PROVIDED OBJECTIVE EVIDENCE AND RECORDS WHICH CONFIRM THAT OSIM INSPECTIONS HAVE BEEN PERFORMED ON ALL STRUCTURES UNDER THEIR RESPONSIBILITY WITH ONE EXCEPTION. - THE OSIM INSPECTION ON STRUCTURE 226780 (BLAIR E TWY O/P) WAS DEFERRED DUE TO STAGE 2 CONSTRUCTION (REFER TO OPPORTUNITY #2).
3B			IMPLEMENTATION - MAINTENANCE / REPAIRS	PARTIALLY COMPLIANT	THE RMCO REQUESTED RECORDS FOR A SAMPLE OF TEN STRUCTURES TO VERIFY IF PRIORITY REPAIRS (I.E. RECOMMENDED BY P.ENG WITHIN 0-2 YEARS AND WHICH ARE DUE FOR COMPLETION SINCE LAST OSIM INSPECTION) WERE COMPLETED. IWSD PROVIDED A SPREADSHEET SHOWING THAT 13 OF 42 (31%) REPAIRS / MAINTENANCE ACTIVITIES WERE COMPLETED. SINCE THESE REPAIRS ARE RECOMMENDATIONS FROM P.ENG, THEY REQUIRE REVIEW AND DISPOSITION BY THE CITY. MOREOVER, THE OBJECTIVE EVIDENCE AND INTERVIEWS INDICATE THAT THERE IS A BACKLOG OF REPAIRS WHICH NEEDS TO BE SCOPED-OUT, PRIORITIZED AND ACTIONED - REFER TO OPPORTUNITIES #3 AND 4.

4	PROGRAM OVERSIGHT	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 5	OVERSIGHT	MOSTLY COMPLIANT	IWSD PROVIDED A DESCRIPTION OF CERTAIN OVERSIGHT PROCESSES AS WELL AS EVIDENCE THAT SUCH ACTIVITIES ARE BEING UNDERTAKEN BY STAFF. HOWEVER IWSD DID NOT PROVIDE A FORMAL OVERSIGHT PLAN. AS SUCH, THERE IS AN OPPORTUNITY FOR IWSD TO FORMALIZE AND IMPLEMENT AN OVERSIGHT PLAN RELATIVE TO BRIDGES AND STRUCTURES - REFER TO OPPORTUNITY #5 .
5	PROGRAM RECORDS	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 5	RECORDS	MOSTLY COMPLIANT	IWSD IS USING AN INFORMATION SYSTEM CALLED "MAXIMO" FOR PLANNING, RECORDING AND IMPLEMENTING INSPECTIONS AND MAINTENANCE OF STRUCTURES. IWSD ALSO PROVIDED EXCEL SPREADSHEETS AND OTHER DOCUMENTS WHICH IDENTIFY REPAIRS AND OVERSIGHT ACTIVITIES. MAXIMO PROVIDES SOME CAPABILITY TO ENTER / MAINTAIN RECORDS - HOWEVER THE INFORMATION SYSTEM CAN BE ENHANCED TO PROVIDE THE CAPABILITY TO RECORD, PRIORITIZE AND IMPLEMENT REPAIRS. MOREOVER, THERE WOULD BE VALUE IN ALLOWING CITY STAKEHOLDERS (e.g. OC TRANPO / PUBLIC WORKS) TO USE THE INFORMATION SYSTEM FOR PURPOSES OF VISIBILITY AND COORDINATION.

**OPPORTUNITIES IDENTIFIED:**

- 1) IWSD AND OC TRANPO TO DEVELOP INTERFACE PLAN TO ENSURE THAT KEY ISSUES FOR SHARED RESPONSIBILITIES RELATIVE TO BRIDGES / STRUCTURES ARE REVIEWED / ADDRESSED PERIODICALLY. THIS WOULD INCLUDE THE REVIEW OF ALL STRUCTURES IN THE CONFEDERATION LINE TO ENSURE THAT THERE ARE CLEAR RESPONSIBILITIES / ACCOUNTABILITIES FOR INSPECTIONS AND MAINTENANCE. THIS INTERFACE PLAN HAS ALREADY BEEN INITIATED BETWEEN IWSD AND OC TRANPO WITH MEETINGS AND THE SHARING OF THE INFORMATION SYSTEM (I.E. "MAXIMO") ETC.
- 2) IWSD TO DEVELOP AND IMPLEMENT A PROCESS FOR THE DEFERRAL OF OSIM INSPECTIONS IN ACCORDANCE WITH THE MTO LETTER OF 2009. THIS SHOULD DESCRIBE ROLES / RESPONSIBILITIES, PROCESS, COMMUNICATION, RECORDS AND IDENTIFY "HEAD OF STRUCTURES" FOR THE CITY TO APPROVE SUCH DEFERRALS.
- 3) IWSD TO DEVELOP / IMPLEMENT PROCESSES TO SYSTEMATICALLY LOG REPAIRS / MAINTENANCE ELEMENTS IDENTIFIED IN OSIM INSPECTION REPORTS, TO REVIEW AND PRORITIZE THEM, AND TO ACTION AND MONITOR SUCH UNTIL CLOSURE.
- 4) IWSD TO PREPARE A LIST / INVENTORY OF OUTSTANDING REPAIRS / MAINTENANCE FOR BRIDGES / STRUCTURES. THIS WILL BE VALUABLE TO UNDERSTAND THE MAGNITUDE OF THE REPAIR / MAINTENANCE BACKLOG AND TO SUBSEQUENTLY PRIORITIZE, PLAN AND IMPLEMENT REQUIRED WORK.
- 5) OPPORTUNITY FOR IWSD TO FORMALIZE AND IMPLEMENT AN OVERSIGHT PLAN RELATIVE TO BRIDGES AND STRUCTURES. THIS WOULD IDENTIFY ELEMENTS SUCH AS SCOPE, RESPONSIBILITIES / ACCOUNTABILITIES, OVERSIGHT METHODS, FREQUENCY OF OVERSIGHT AND RECORDS.

**( ) COMPLIANCE SCALE:**

C = COMPLIANT
MC = MOSTLY COMPLIANT
PC = PARTIALLY COMPLIANT
NC = NOT COMPLIANT

- Compliant:** means that monitoring activities have identified compliant results in accordance with requirements in Program documents
- Mostly Compliant** means that monitoring activities have identified predominantly compliant results, with some exceptions.
- Partially Compliant** means that monitoring activities have identified mixed results, with some compliant areas, as well as non-compliant areas.
- Not Compliant** means that monitoring activities have identified either fully non-compliant results or mostly non-compliant results.

## Findings for OC Transpo (Bridges / Structures)

ITEM	REGULATORY REQUIREMENT	REGULATORY REFERENCE	ELEMENT	OC TRANSPOND FINDING	NOTES
1A	PROGRAM ADOPTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	DEVELOPMENT / ADOPTED	COMPLIANT	REGULATORY PROGRAM DOCUMENTS DEVELOPED / ADOPTED ARE IDENTIFIED IN CONFEDERATION LINE DESIGNATED REGULATIONS AS WELL AS ASSOCIATED SUPPLEMENTARY DOCUMENTS. OC TRANSPOND PROVIDED A NUMBER OF DOCUMENTS WHICH SPECIFY REQUIREMENTS FOR THE INSPECTION AND REPAIRS OF BRIDGES AND STRUCTURES - THESE INCLUDE THE FOLLOWING: - RTM MAINTENANCE AND REHABILITATION PLAN (RTM-MC-PLN-042) - RTM ASSET MANAGEMENT PLAN (RTM-MC-PLN-459) - ONTARIO STRUCTURE INSPECTION MANUAL (OSIM) - PROJECT AGREEMENT SCHED 15-3 APPENDIX A – ATTACHMENT 15 "MAINTENANCE RESPONSIBILITY TABLE" FOOTNOTE 8
2A	PROGRAM IMPLEMENTATION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	IMPLEMENTATION	NOT APPLICABLE TO OC TRANSPOND (REFER TO RTM FINDINGS)	1) "IMPLEMENTATION" REGULATORY COMPLIANCE IS NOT ASSESSED FOR OC TRANSPOND BECAUSE BRIDGE / STRUCTURE INSPECTIONS / MAINTENANCE ARE PERFORMED BY THE CITY (IWSD) AND RTG / RTM AS STIPULATED IN THE PROJECT AGREEMENT (MAINTENANCE RESPONSIBILITY TABLE - SCHED. 15-3 ATT. 15). 2) THE CITY CONVEYED REQUIREMENTS TO RTG / RTM THROUGH THE PROJECT AGREEMENT, REGULATORY PROGRAM DOCUMENTS (ie MAINTENANCE AND REHAB. PLAN) AND SUPPLEMENTARY DOCUMENTS (e.g. ASSET MANAGEMENT PLAN). 3) IMPLEMENTATION COMPLIANCE IS ASSESSED THROUGH MONITORING OF CONTRACTORS (REFER TO RTG / RTM FINDINGS). 4) OC TRANSPOND IS MONITORING THE WORK DONE BY RTG / RTM THROUGH THEIR OVERSIGHT PROCESS (REFER TO ITEMS 4A / 4B BELOW)
3A	PROGRAM DIRECTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	DIRECTION	MOSTLY COMPLIANT	1) DIRECTION FOR BRIDGE INSPECTIONS / MAINTENANCE IS PROVIDED TO RTG / RTM THROUGH PROJECT AGREEMENT (MAINTENANCE RESPONSIBILITY TABLE - SCHED. 15-3 ATT. 15) AS WELL AS CITY DESIGNATED PROGRAMS. 2) THE CONFEDERATION LINE REGULATIONS IDENTIFY APPLICABLE DESIGNATED PROGRAMS (i.e. MAINT. & REHAB. PLAN AND ASSET MANAGEMENT PLAN). AS WELL, THERE ARE SUPPLEMENTARY DOCUMENTS WHICH IDENTIFY INSPECTION / MAINTENANCE REQUIREMENTS FOR BRIDGES / STRUCTURES. 3) A REVIEW OF THE P.A. "MAINTENANCE RESPONSIBILITY TABLE" VERSUS THE EXISTING INVENTORY OF STRUCTURES SHOWS THAT AN UNDERPASS WAS NOT IDENTIFIED IN THE P.A. (015720 BAYVIEW OVERPASS BUILT IN 2017) - AS SUCH, THIS STRUCTURE DID NOT RECEIVE OSIM INSPECTIONS SINCE RSA. OCT IS ENGAGING RTG / RTM TO CLARIFY ACCOUNTABILITIES RELATIVE TO THIS STRUCTURE. AS WELL, OCT AND IWSD HAVE UNDERTAKEN ACTIONS TO INTERFACE AND ENSURE THAT THE MAINTENANCE RESP. TABLE IS COMPLETE WITH CLEAR ACCOUNTABILITIES. REFER TO OPPORTUNITY BELOW.

4A	PROGRAM OVERSIGHT	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	OVERSIGHT PLAN / PROCESSES	COMPLIANT	<p>1) OC TRANSPO HAS A SUBSTANTIVE OVERSIGHT PLAN (i.e. 'LINE 1 OVERSIGHT PLAN') WHICH IS UPDATED ANNUALLY AND INCLUDES DETAILED SCHEDULES OF MONITORING ACTIVITIES FOR EACH YEAR.</p> <p>2) OC TRANSPO HAS DEDICATED OVERSIGHT RESOURCES FOCUSED ON MONITORING, INCLUDING BRIDGES / STRUCTURES SPECIFICALLY.</p>
4B			OVERSIGHT ACTIVITIES	MOSTLY COMPLIANT	<p>1) OC TRANSPO OVERSIGHT ACTIVITIES ENCOMPASS THE INSPECTION / REPAIRS OF BRIDGES / STRUCTURES INCLUDING RECORDS AND FIELD OBSERVATIONS.</p> <p>2) A REVIEW OF OC TRANSPO'S OVERSIGHT RECORDS CONFIRMS THAT BRIDGES WERE MONITORED DURING THE PERIOD MONITORED BY THE RMCO.</p> <p>3) OC TRANSPO PROVIDED CONTRACTUAL CORRESPONDENCE REQUESTING LATE DELIVERABLES FROM RTG / RTM.</p> <p>4) NOTWITHSTANDING THE ABOVE, OCT OVERSIGHT PROCESSES DO NOT APPEAR TO HAVE IDENTIFIED THE FOLLOWING ISSUES:</p> <ul style="list-style-type: none"> <li>- REPAIRS ARE NOT BEING PERFORMED IN A TIMELY MANNER BY RTG/RTM;</li> <li>- ONE OSIM BRIDGE INSPECTION (BLAIR PED BRIDGE (228685-1 / 229040-1) WAS MISSED BY RTG / RTM DURING THE MONITORING PERIOD (OSIM REPORT PROVIDED FOR SEPT. 2021 AND AUG. 2024);</li> <li>- STRUCTURE 015720 (BAYVIEW OVERPASS BUILT IN 2017) WAS BUILT FOR STAGE 1 AND SHOULD HAVE BEEN UNDER THE RESPONSIBILITY OF RTG / RTM BUT WAS NOT IN THE PA AND WAS NOT IDENTIFIED AS AN ISSUE - AS SUCH, IT DID NOT RECEIVE OSIM INSPECTIONS SINCE RSA (IT WAS INSPECTED IN 2024 FOLLOWING RMCO MONITORING).</li> </ul>
5A	PROGRAM RECORDS	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	RECORDS	COMPLIANT	<p>1) OC TRANSPO HAS SYSTEMS TO STORE AND MAINTAIN RECORDS;</p> <p>2) OC TRANSPO PROVIDED RECORDS RELATIVE TO PA AND PROGRAM DOCUMENTS, CONTRACTUAL CORRESPONDENCE, OVERSIGHT PLAN / SCHEDULES AND OVERSIGHT ACTIVITIES.</p>

**OPPORTUNITY IDENTIFIED:**

1) IWSD AND OC TRANSPO TO DEVELOP INTERFACE PLAN TO ENSURE THAT KEY ISSUES FOR SHARED RESPONSIBILITIES RELATIVE TO BRIDGES / STRUCTURES ARE REVIEWED / ADDRESSED PERIODICALLY. THIS WOULD INCLUDE THE REVIEW OF ALL STRUCTURES IN THE CONFEDERATION LINE TO ENSURE THAT THERE ARE CLEAR RESPONSIBILITIES / ACCOUNTABILITIES FOR INSPECTIONS AND MAINTENANCE. THIS INTERFACE PLAN HAS ALREADY BEEN INITIATED BETWEEN IWSD AND OC TRANSPO WITH MEETINGS AND THE SHARING OF THE INFORMATION SYSTEM (I.E. "MAXIMO") ETC.

## Findings for RTG / RTM (Bridges / Structures)

ITEM	ELEMENT	CONTRACTUAL REFERENCE	ELEMENT	RTG / RTM FINDING	NOTES
1	PROGRAM ADOPTION / DIRECTION	SCHEDULE 15-3 MAINTENANCE AND REHAB. REQUIREMENTS / APPDX. A ATT. 9 AND ASSOCIATED PROGRAMS (e.g. MAINT. & REHAB. PLAN)	ADOPTION / DIRECTION	CONFORMANT	<p>RTM PROVIDED A NUMBER OF DOCUMENTS WHICH SPECIFY REQUIREMENTS FOR THE INSPECTION AND REPAIRS OF BRIDGES AND STRUCTURES - THESE INCLUDE THE FOLLOWING:</p> <ul style="list-style-type: none"> <li>- RTM MAINTENANCE AND REHABILITATION PLAN (RTM-MC-PLN-042)</li> <li>- RTM ASSET MANAGEMENT PLAN (RTM-MC-PLN-459)</li> <li>- RTM PREVENTATIVE MAINTENANCE PLAN (RTM-MC-PLN-641)</li> <li>- ONTARIO STRUCTURE INSPECTION MANUAL</li> </ul>
2A	PROGRAM IMPLEMENTATION	SCHEDULE 15-3 MAINTENANCE AND REHAB. REQUIREMENTS / APPDX. A ATT. 9 AND ASSOCIATED PROGRAMS (e.g. MAINT. & REHAB. PLAN)	IMPLEMENTATION - INSPECTIONS	MOSTLY CONFORMANT	<p>RTM PROVIDED OSIM INSPECTION REPORTS WHICH CONFIRM THAT 15 OF THE 16 STRUCTURES UNDER THEIR RESPONSIBILITY WERE INSPECTED IN A TIMELY MANNER (ie EVERY 2 YEARS). THE ONLY EXCEPTION IS AS FOLLOWS:</p> <ul style="list-style-type: none"> <li>- BLAIR PED BRIDGE (#228685-1 / 229040-1) RECEIVED OSIM INSPECTIONS IN 2021 AND 2024 (ie EXCEEDED 2 YEAR OSIM REQUIREMENT).</li> </ul> <p>NOTE: OC TRANSPO IS CURRENTLY ENGAGING RTM TO ADD THE INSPECTION / MAINTENANCE OF BAYVIEW UNDERPASS (015720) WHICH WAS IMPLEMENTED AFTER PROJECT AGREEMENT SIGNATURE.</p>
2B			IMPLEMENTATION - MAINTENANCE / REPAIRS	PARTIALLY CONFORMANT	<p>THE RMCO REQUESTED RECORDS FOR A SAMPLE OF STRUCTURES TO VERIFY IF PRIORITY REPAIRS (i.e. DUE 0-2 YEARS AFTER LAST OSIM INSPECTION) WERE COMPLETED.</p> <p>RTM PROVIDED A SPREADSHEET SHOWING THAT ONLY 1 OF 9 BRIDGES / STRUCTURES WITH DUE REPAIRS / MAINTENANCE (ie 0 - 2 YEARS) WAS COMPLETED.</p> <p>THE OBJECTIVE EVIDENCE, INTERVIEWS AND RTM AUDIT REPORTS INDICATE THAT THERE IS A BACKLOG OF REPAIRS WHICH NEEDS TO BE INVENTORIED AND ACTIONED.</p> <p>REFER TO OPPORTUNITIES 1 AND 2 BELOW.</p>
3	PROGRAM OVERSIGHT	SCHEDULE 15-3 MAINTENANCE AND REHAB. REQUIREMENTS / APPDX. A ATT. 9 AND ASSOCIATED PROGRAMS (e.g. MAINT. & REHAB. PLAN)	OVERSIGHT	CONFORMANT	<p>RTM PROVIDED AN OVERSIGHT PLAN (RTM-OP-PLN-739) AS WELL AS 2 AUDIT REPORTS (DATED DEC. 2023 AND DEC. 2022) FOCUSED ON "STRUCTURE MAINTENANCE" AND WHICH ENCOMPASS BRIDGE INSPECTIONS / MAINTENANCE.</p>

4	PROGRAM RECORDS	SCHEDULE 15-3 MAINTENANCE AND REHAB. REQUIREMENTS / APPDX. A ATT. 9 AND ASSOCIATED PROGRAMS (e.g. MAINT. & REHAB. PLAN)	RECORDS	CONFORMANT	RTM HAS AN INFORMATION SYSTEM WHICH IS USED TO RECORD INSPECTIONS, PRIORITIZE REPAIRS AND RECORD THEIR COMPLETION. RTM ALSO PROVIDED AUDIT RECORDS AND EXCEL SPREADSHEETS SHOWING REPAIRS AND THEIR STATUS.
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<b>OPPORTUNITIES IDENTIFIED:</b>	<p>1) RTM TO DEVELOP / IMPLEMENT PROCESSES TO SYSTEMATICALLY LOG REPAIRS / MAINTENANCE ELEMENTS IDENTIFIED IN OSIM INSPECTION REPORTS, TO REVIEW AND PRORITIZE THEM, AND TO ACTION AND MONITOR SUCH UNTIL CLOSURE.</p> <p>2) RTM TO PREPARE A LIST / INVENTORY OF OUTSTANDING REPAIRS / MAINTENANCE ON BRIDGES / STRUCTURES. THIS WILL BE VALUABLE TO UNDERSTAND THE SIZE OF THE REPAIR / MAINTENANCE BACKLOG AND TO SUBSEQUENTLY PRIORITIZE, PLAN AND IMPLEMENT REQUIRED WORK.</p>
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<b>( ) CONFORMANCE SCALE:</b>	<p><b>C = CONFORMANT</b></p> <p><b>MC = MOSTLY CONFORMANT</b></p> <p><b>PC = PARTIALLY CONFORMANT</b></p> <p><b>NC = NOT CONFORMANT</b></p>	<p><b>Conformant:</b> means that monitoring activities have identified conformant results in accordance with Contractual / Program requirements</p> <p><b>Mostly Conformant</b> means that monitoring activities have identified predominantly conformant results, with some exceptions.</p> <p><b>Partially Conformant</b> means that monitoring activities have identified mixed results, with some conformant areas, as well as some non-conformant areas</p> <p><b>Not Conformant</b> means that monitoring activities have identified mostly non-conformant results.</p>
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## ANNEX 12 – Table of Findings for Monitoring of HOS Regulations

### Findings for OC Transpo (HOS Regulations)

ITEM	REGULATORY REQUIREMENT	REGULATORY REFERENCE	ELEMENT	OC TRANSP	COMMENTS
1	PROGRAM ADOPTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	DEVELOPMENT / ADOPTION	COMPLIANT	<p>REGULATORY PROGRAM DOCUMENTS DEVELOPED / ADOPTED INCLUDE THE FOLLOWING:</p> <p>1) CONFEDERATION LINE DESIGNATED PROGRAMS:                      - Electric Rail Operating Rules (OTRC-S100-00-RUL)                      - Safety Management System (OCT-S230-03-PROG)</p> <p>2) SUPPLEMENTARY DOCUMENTS:                      - Fatigue Management Plan (SC-02-PLN)                      - Fitness for Work Plan (SC-001-PLN)                      - Hours of Service- Line 1 (Work Instruction Hours of Service- Line 1)                      - Approaching Hours of Service Violation While On-Duty (TOPC-Q120-03-SOP)                      - Hours of Service Exemptions for Emergency Situations (TOPC-Q120-02-SOP)</p> <p>CITY REGULATIONS REQUIRE THAT EMPLOYEES IN SAFETY CRITICAL POSITIONS FOR OC TRANSP (E.G. ELECTRIC RAIL OPERATORS AND CONTROLLERS) AND FOR CONTRACTORS (E.G. RTM CONTROLLERS AND ALSTOM HOSTLERS) COMPLY WITH FEDERAL HOS REGULATIONS TITLED "COMMERCIAL VEHICLE DRIVERS HOURS OF SERVICE REGS. - SOR/2005-313)".</p> <p>REFER TO THE "OPPORTUNITIES" SECTION BELOW THE TABLE.</p>
2	PROGRAM DIRECTION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	DIRECTION	COMPLIANT	<p>1) THE CITY APPROVED A DOCUMENT IN 2016 DEVELOPED BY OLRTC TITLED "4.4 WORK/REST RULES (OLR-05-0-0000-RGL-1040400)" WHICH IS ALIGNED WITH THE FEDERAL HOS REGULATIONS (i.e. COMMERCIAL VEHICLE DRIVERS HOURS OF SERVICE REGS. - SOR/2005-313).</p> <p>2) THE CITY'S APPROVAL IS SUBSTANTIATED IN TWO RECORDS                      - MINUTES OF THE "REGULATORY WORKING GROUP" DATED MARCH 2016 WHICH INCLUDED PARTICIPATION FROM OC TRANSP, OLRTC AND RTM;                      - A DOCUMENT TITLED "WORK SUBMITTAL RESPONSE - SCHED. 15-4 SMS WORK REST RULES" (RTG REF. RTG-OTT-05-0-TRA-0087) DATED APRIL 2016.</p> <p>3) FURTHER, THE CITY HAS BEEN SHARING DOCUMENTS WITH RTG/RTM THROUGH A "SHARED DRIVE" WHICH CONTAINS DOCUMENTS OUTLINING THE REQUIREMENT TO MEET FEDERAL HOS REGULATIONS FOR SAFETY CRITICAL AND SENSITIVE POSITIONS.</p> <p>4) HOURS OF SERVICE REQUIREMENTS HAVE BEEN INTEGRATED IN OC TRANPO'S SMS.</p> <p>5) WITH RESPECT TO INTERNAL DIRECTION, THE CITY HAS BEEN PROVIDING DIRECTION TO ITS EMPLOYEES / STAFF REGARDING FEDERAL HOS REGULATIONS THROUGH COMMUNICATIONS, TRAINING, AND PROGRAM DOCUMENTS.</p>
3	PROGRAM IMPLEMENTATION	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	IMPLEMENTATION	COMPLIANT	<p>OC TRANSP IMPLEMENTATION IS COMPLIANT ON THE BASIS OF THE FOLLOWING OBJECTIVE EVIDENCE:</p> <p>A) RMCO ANALYSIS OF WORK HOUR RECORDS PROVIDED FOR ELECTRIC RAIL OPERATORS AND CONTROLLERS SHOW THAT SUCH EMPLOYEES ARE WORKING WITHIN COMMERCIAL VEHICLE DRIVERS HOURS OF SERVICE REGS.</p> <p>B) INTERNAL DIRECTION PROVIDED THROUGH PROGRAM AND SUPPLEMENTARY DOCUMENTS</p> <p>C) TRAINING PROGRAM AND DELIVERY FOR OC TRANSP EMPLOYEES SUBSTANTIATED THROUGH ASSOCIATED TRAINING RECORDS</p>

4A	PROGRAM OVERSIGHT	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	OVERSIGHT PLAN / PROCESSES	COMPLIANT	<p>1) OC TRANSPO HAS A SUBSTANTIVE OVERSIGHT PLAN (i.e. 'LINE 1 OVERSIGHT PLAN') WHICH IS UPDATED ANNUALLY AND INCLUDES DETAILED SCHEDULES OF MONITORING ACTIVITIES FOR EACH YEAR.</p> <p>2) ONE SUCH SCHEDULE TITLED "REGULATORY COMPLIANCE, QUALITY CONTROL &amp; ASSURANCE 2024 OVERSIGHT SCHEDULE" IDENTIFIES THE MONITORING OF 20 DIFFERENT ELEMENTS.</p> <p>3) OC TRANSPO HAS A SUBSTANTIAL NUMBER OF DEDICATED OVERSIGHT RESOURCES FOCUSED ON THE CONFEDERATION LINE.</p>
4B			OVERSIGHT - INTERNAL	COMPLIANT	<p>1) THE OBJECTIVE EVIDENCE PROVIDED CONFIRMS THAT OC TRANSPO IS MONITORING ITS EMPLOYEES RELATIVE TO HOURS OF SERVICE REQUIREMENTS;</p> <p>2) THERE ARE SEVERAL "CHECKS AND BALANCES" WHICH SUPPORT COMPLIANCE - THIS INCLUDES INFORMATION SYSTEM DESIGN AND REPORTS, BOOKING OFFICE VERIFICATIONS AND EMPLOYEE ACCOUNTABILITY.</p>
4C			OVERSIGHT - EXTERNAL	PARTIALLY COMPLIANT	<p>1) MONITORING FINDINGS INDICATE THAT OC TRANSPO IS NOT MONITORING RTG / RTM HOURS OF SERVICE CONFORMANCE, EITHER THROUGH THE REVIEW OF DOCUMENTS OR RECORDS.</p> <p>2) THIS IS CORROBORATED AS FOLLOWS:</p> <p>A) REVIEW OF DOCUMENTS SHOWS THAT RTG / RTM HAS NOT IMPLEMENTED FEDERAL HOS REGULATIONS INTERNALLY OR WITH THEIR SUB-CONTRACTORS;</p> <p>B) RTG / RTM EMPLOYEE WORK SCHEDULES AND RECORDS APPEAR TO BE DESIGNED TO MEET CANADA LABOUR CODE REQUIREMENTS, RATHER THAN FEDERAL HOS REGULATIONS - RTM CONTROLLERS ARE NOW USING SCHEDULES OF 8 HR SHIFTS. DURING THE MONITORING PERIOD RTM CONTROLLERS USED SCHEDULES MADE OF 12 HR SHIFTS.</p> <p>C) ALSTOM HOSTLERS ARE SUBCONTRACTED AND USE SCHEDULES MADE OF 12 HOUR SHIFTS.</p>
5	PROGRAM RECORDS	CONFEDERATION LINE DESIGNATED REGULATIONS - APPX B SECTION 1	RECORDS	COMPLIANT	<p>1) OC TRANSPO HAS SYSTEMS TO STORE AND MAINTAIN RECORDS FOR EMPLOYEE HOURS OF WORK;</p> <p>2) OC TRANSPO PROVIDED RELEVANT RECORDS FROM THE PROJECT AGREEMENT AND PROGRAM DOCUMENTS, CONTRACTUAL CORRESPONDENCE, OVERSIGHT PLAN / SCHEDULES AND OVERSIGHT ACTIVITIES.</p>

**OPPORTUNITIES IDENTIFIED:**

1) THE FEDERAL HOS REGULATIONS REQUIRE ELECTRONIC LOGGING DEVICES (SECTION 77) AND DAILY RECORDS OF DUTY (SECTION 81) UNLESS VEHICLES OPERATE WITHIN A RADIUS OF 160KM. THIS IS THE CASE FOR OC TRANSPO ERO'S, BUT NOT FOR OCT CONTROLLERS OR CONTRACTOR EMPLOYEES. FOR PURPOSES OF CLARITY, OC TRANSPO COULD SPECIFY IN THEIR REGULATORY PROGRAM DOCUMENTS AND DIRECTION (INTERNAL AND TO CONTRACTORS) THAT ONLY THE "ON-DUTY AND OFF-DUTY TIME" REQUIREMENTS OF THE FEDERAL HOS REGULATIONS ARE APPLICABLE, WHEREAS THE OTHER PARTS SUCH AS ELECTRONIC LOGGING DEVICES (S.77) AND RECORDS OF DUTY (S.81) ARE NOT APPLICABLE.

**( ) CONFORMANCE SCALE:**

C = CONFORMANT
MC = MOSTLY CONFORMANT
PC = PARTIALLY CONFORMANT
NC = NOT CONFORMANT

**Conformant:** means that monitoring activities have identified conformant results in accordance with Contractual / Program requirements

**Mostly Conformant** means that monitoring activities have identified predominantly conformant results, with some exceptions.

**Partially Conformant** means that monitoring activities have identified mixed results, with some conformant areas, as well as some non-conformant areas

**Not Conformant** means that monitoring activities have identified mostly non-conformant results.

## Findings for RTG / RTM (HOS Regulations)

ITEM	ELEMENT	CONTRACTUAL REFERENCE	ELEMENT	RTG / RTM	COMMENTS
1	PROGRAM ADOPTION / DIRECTION	P.A. SCHEDULE 15-4 "REGULATORY STANDARDS" AND REGULATORY WORK GROUP MINUTES / CITY "WORK SUBMITTAL RESPONSE SUB-2428"	ADOPTION / DIRECTION	NOT CONFORMANT	<p><b>FINDING A1: RTG / RTM DOES NOT APPEAR TO HAVE ADOPTED OR PROVIDED DIRECTION RELATIVE TO FEDERAL HOS REGULATIONS IN ACCORDANCE WITH DIRECTION FROM THE CITY:</b></p> <ul style="list-style-type: none"> <li>- RTG / RTM PROVIDED DOCUMENTS AND RECORDS WHICH INDICATE THAT THEY ARE CURRENTLY FOLLOWING THE CANADA LABOUR CODE (CLC) REQUIREMENTS FOR HOURS OF WORK.</li> <li>- HOWEVER OC TRANSPO PROVIDED OBJECTIVE EVIDENCE THAT FEDERAL HOS REGULATIONS WERE AGREED UPON AND DIRECTION WAS PROVIDED PRIOR TO RSA FOR IMPLEMENTATION BY RTG / RTM.</li> <li>- IT DOES NOT APPEAR THAT FEDERAL HOS REGULATIONS WERE FORMALLY IMPLEMENTED BY RTG / RTM OR ALSTOM.</li> <li>- ALTHOUGH CLC REQUIREMENTS ARE MORE RESTRICTIVE THAN FEDERAL HOS REGULATIONS, THIS DOES NOT CONFORM TO THE DIRECTION PROVIDED BY OC TRANSPO TO RTG WHICH IS DOCUMENTED IN THE PROCEEDINGS OF THE REGULATORY WORKING GROUP (MINUTES DATED 9 MARCH 2016) AND THE CITY'S "WORK SUBMITTAL RESPONSE SUB-2428" FOR WORK REST RULES (RTG REF. RTG-OTT-05-0-TRA-0087) DATED 1 APRIL 2016, AS WELL AS OC TRANSPO'S SMS WHICH FURTHER DETAILS HOS REQUIREMENTS.</li> <li>- RTG / RTM DID NOT PROVIDE ANY OBJECTIVE EVIDENCE REGARDING DIRECTION FROM RTG / RTM TO ALSTOM REGARDING HOURS OF SERVICE (HOS) REQUIREMENTS.</li> </ul>
2	PROGRAM IMPLEMENTATION	P.A. SCHEDULE 15-4 "REGULATORY STANDARDS" AND REGULATORY WORK GROUP MINUTES / CITY "WORK SUBMITTAL RESPONSE SUB-2428"	IMPLEMENTATION	PARTIALLY CONFORMANT	<p><b>FINDING B2: RTG / RTM APPEAR TO HAVE IMPLEMENTED HOURS OF WORK REQUIREMENTS UNDER THE CLC (CANADA LABOUR CODE) - THIS DOES NOT FOLLOW DIRECTION PROVIDED BY THE CITY TO IMPLEMENT FEDERAL HOS REGS.</b></p> <ul style="list-style-type: none"> <li>- RTG / RTM PROVIDED DOCUMENTS AND RECORDS WHICH SUBSTANTIATE IMPLEMENTATION OF THE CANADA LABOUR CODE (CLC) HOURS OF WORK REQUIREMENTS SINCE SUMMER 2024 THROUGH TRAINING TABLES AND COLLECTIVE AGREEMENT EXCERPTS.</li> <li>- ALTHOUGH THE CLC REQUIREMENTS FOR MAXIMUM HOURS OF WORK ARE GENERALLY WITHIN THE REQUIREMENTS OF FEDERAL HOS REGULATIONS, THE TRAINING AND IMPLEMENTATION DO NOT CONFORM TO THE CITY'S DIRECTION.</li> <li>- WORK SCHEDULES FOR THE PERIOD MONITORED SHOW THAT BOTH RTM CONTROLLERS AND ALSTOM HOSTLERS USED SCHEDULES OF 12 HOUR SHIFTS - THIS IS FEASIBLE UNDER THE CLC (SECTION 170) PROVIDED THAT CERTAIN CONDITIONS ARE MET (E.G. MUST BE IN THE COLLECTIVE AGREEMENT, MUST AVERAGE 40 HRS IN 2 WEEK PERIOD etc.); HOWEVER RTM PROVIDED A COLLECTIVE AGREEMENT WHICH WAS IMPLEMENTED MID-2024 USING 8 HOUR SHIFTS, WHILE ALSTOM USES SUBCONTRACTORS.</li> <li>- CLC REGULATIONS REQUIRE THAT WHEN MAXIMUM HOURS OF WORK ARE EXCEEDED (ie 48 HRS PER WEEK), "THE EMPLOYER MUST SUBMIT A REPORT" TO ESDC - RTM DOES NOT APPEAR TO BE SENDING SUCH REPORTS.</li> </ul>

3	PROGRAM OVERSIGHT	P.A. SCHEDULE 15-4 "REGULATORY STANDARDS" AND REGULATORY WORK GROUP MINUTES / CITY "WORK SUBMITTAL RESPONSE SUB-2428"	OVERSIGHT	PARTIALLY CONFORMANT	<p><b>FINDING C1: RTG / RTM APPEAR TO BE PERFORMING LIMITED OVERSIGHT FOCUSED ON PAYROLL - THIS CAN BE EXPANDED TO INCLUDE INTERNAL AND EXTERNAL (I.E. CONTRACTORS) MONITORING SPECIFIC TO WORK HOURS CONFORMANCE.</b></p> <p>- RTM STATED THAT THE PAYROLL OF THEIR EMPLOYEES IS BEING MONITORED - THIS IS SPECIFIC TO PAYROLL BUT NOT TO THE MONITORING OF REGULATORY COMPLIANCE (E.G. DAILY WORK HOUR LIMITS ETC.).</p> <p>- AS WELL, THERE IS NO FORMAL OVERSIGHT PLAN RELATIVE TO HOURS OF WORK EITHER INTERNALLY FOR RTM EMPLOYEES OR EXTERNALLY FOR ALSTOM HOSTLERS.</p>
4	PROGRAM RECORDS	P.A. SCHEDULE 15-4 "REGULATORY STANDARDS" AND REGULATORY WORK GROUP MINUTES / CITY "WORK SUBMITTAL RESPONSE SUB-2428"	RECORDS	MOSTLY CONFORMANT	<p><b>FINDING D1: A NUMBER OF RECORDS WERE PROVIDED BY RTG / RTM - RECORDS CAN BE EXPANDED TO INCLUDE DIRECTION AND OVERSIGHT.</b></p> <p>RTG / RTM PROVIDED RECORDS FOR THE FOLLOWING:</p> <ol style="list-style-type: none"> <li>1) TRAINING OF EMPLOYEES ON CANADA LABOUR CODE AND RTM ORIENTATION</li> <li>2) RTM EMPLOYEE WORK SCHEDULES</li> <li>3) RTM EMPLOYEE WORK HOURS</li> <li>4) ALSTOM HOSTLER WEEKLY TIME SHEETS</li> </ol> <p>HOWEVER RECORDS OF OVERSIGHT OR DIRECTION TO SUBCONTRACTORS WERE NOT PROVIDED.</p>

**OPPORTUNITIES IDENTIFIED:**

1) THE RTM HR POLICY TITLED "SCHEDULED WORK HOURS AND OVERTIME POLICY - HOURLY STAFF" (DOC. RTM-HR-POL-060, DATED 2016) REFERS TO THE PROVINCIAL ESA (EMPLOYEE STANDARDS ACT) REGULATIONS, RATHER THAN THE CANADA LABOUR CODE WHICH APPEARS TO HAVE BEEN ADOPTED THROUGH TRAINING AND COMMUNICATION. AS SUCH, THE HR POLICY NEEDS TO BE UPDATED.

**( ) CONFORMANCE SCALE:**

**C = CONFORMANT**

**Conformant:** means that monitoring activities have identified Conformant results in accordance with requirements in Program documents

**MC = MOSTLY CONFORMANT**

**Mostly Conformant** means that monitoring activities have identified predominantly Conformant results, with some exceptions.

**PC = PARTIALLY CONFORMANT**

**Partially Conformant** means that monitoring activities have identified mixed results, with some Conformant areas, as well as non-Conformant areas.

**NC = NOT CONFORMANT**

**Not Conformant** means that monitoring activities have identified mostly non-Conformant results.

## ANNEX 13 – Records Substantiating Direction by City to RTG Regarding HOS Regulations

### Excerpts from Regulatory Work Group Meeting of March 9, 2016

Form No: N/A	Meeting Minutes (general)	OLRT Project	
Revision 00		Owner:	Quality Manager

**FINAL**

**Document No. OLR-05-0-0000-MOE-0025**

Meeting: Regulatory Working Group  
 Date of Meeting: March 9, 2016  
 Location: 1500 St. Laurent  
 Project: CONFEDERATION LINE  
 Purpose: PA Schedule 15-4 -- Regulatory Standards

**Attendees:**

Name	Last Name	Email	Party	Present
Richard	Holder (RH)	Richard.Holder@ottawa.ca	RIO	X
David	Morgan(DM)	David.Morgan@stvinc.com	RIO	X
Barbara	Stacey(BS)	Barbara.Stacey@ottawa.ca	RIO	X
Michael	Morgan (MM)	Michaelj.Morgan@transpo.ottawa.on.ca	TS	X
Jim	Hopkins (JH)	Jim.Hopkins@transpo.ottawa.on.ca	TS	X
James	Babe (JB)	James.Babe@ottawa.ca	TS	
Donna-Lynn	Ahee (DLA)	Donna-Lynn.Ahee@ottawa.ca	TS	X
Grant S.	Bailey (GSB)	grant.bailey@rtmcp.ca	RTM	X
Louis	Ranger (LR)	Louis.Ranger@ottawa-lrt.ca	OLRT-C	X
Brian	McDonnell (BMcD)	bmc@ican.net	OLRT-C	X (by phone)
Andy	Ashworth	Andy.Ashworth@ottawa-lrt.ca	OLRT-C	X (by phone)
William	VanRyswyk (WV)	vanryswyk@stsd.com	OLRT-C	
Hilary	Kennedy (HK)	hilary.kennedy@ottawa-lrt.ca	OLRT-C	

**AGENDA**

1. Draft Minutes – RWG Meeting of February 29, 2016
2. Business Arising from RWG Meeting of February 29, 2016
3. Review of RTG Response to City Comments
  - (A) SMS Section 4.3 – Safety Critical Positions
  - (B) SMS Section 4.5 – Medical Rules
  - (C) SMS Section 4.4 – Work/Rest Rules
  - (D) SMS Section 4.2.1.1 – Working on the Confederation Line Procedures

Form No: N/A	Meeting Minutes (general)	OLRT Project	
Revision 00		Owner:	Quality Manager

Item / Details	Status / Action
<b>(C) SMS Section 4.4 – Work/Rest Rules</b>	
The meeting reviewed proposed RTG amendments to the Work/Rest Rules.	
The Rev B Version and RTG Response were accepted as presented and will be submitted to RIO for approval.	OLRT-C/RIO
TS will draft the final version of the SMS and incorporate RTG material and RWG comments as appropriate.	TS

## Decision Record Dated 1 April 2016 to Accept OLRTC “Work Rest Rules”



Confederation Line  
Ligne de la Confédération

### WORKS SUBMITTAL RESPONSE

*City comments to RTG Works Submittal in accordance with PA Schedule 10 Section 4.9*

#### Submittal Information

Submittal Description:	SUB - 2428: Schedule 15-4: Safety Management System (SMS) Documents - WORK REST RULES _RevB
RTG Ref. Number:	RTG-OTT-05-0-TRA-0087
Date Submittal Received:	March 17, 2016

#### Comment Information

RIO Ref. Number:	RAC-SUB-2428
Response Due Date:	April 04, 2016
Response Date:	April 01, 2016

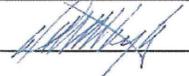
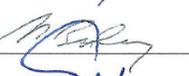
#### Review Comments

Assigned Comment:	REVIEWED AS NOTED.
Comments:	This document, as produced by RTG, is accepted. Transit Services will continue to develop and finalise this document as part of the final Safety Management System.
Attachment Included:	<input type="checkbox"/>

## Excerpts from OLRTC “4.4 Work Rest Rules”



**CONFEDERATION LINE**  
**SAFETY MANAGEMENT SYSTEM**  
**4.4 WORK/REST RULES**

Coordinated by:	Louis Ranger, Strategic Advisor, OLRT-C	
Approved by:	David Whyte, Project Director, OLRT-C	
Prepared and approved by:	Grant Bailey, Director, RTM	
Accepted by:	Antonio Estrada, CEO, RTG	
	Name, Title	Signature
Document No.	OLR-05-0-0000-RGL-1040400	Rev: B
This document may contain confidential and commercially sensitive information.		March 15, 2016

### 1. PURPOSE

The purpose of this document is to define work/rest rules for those *workers* on the Confederation Line who have a direct impact on the safety of the operation. The intent is to reduce the risk of fatigue impairment in the workplace.

### 4. MAXIMUM TIME ON DUTY

4.1 The maximum *on-duty time* in a day for *workers* on the Confederation Line is 14 hours.

4.2 The maximum *working time* in a day for *workers* on the Confederation Line is 13 hours.

### 5.0 MANDATORY OFF-DUTY TIMES

5.1 Eight hours of consecutive *off-duty time* is required once a *worker* has accumulated 13 hours of *working time* in a day.

5.2 Eight hours of consecutive *off-duty time* is required once a *worker* has accumulated 14 hours of *on-duty time* in a day.

5.3 *Workers* may not work after 16 hours has elapsed from the end of the most recent period of 8 or more consecutive hours of *off-duty time* and the time when the next mandatory *off-duty time* will commence.

### 6.0 OFF-DUTY TIME

6.1 No *worker* shall go on-duty unless the *worker* has taken at least 24 consecutive hours of *off-duty time* in the preceding 14 days.

### 7.0 CYCLES

7.1 *Workers* must follow either Cycle 1 or Cycle 2 as determined by the *employer*.

7.2 Subject to Section 8.0, no *worker* who is following Cycle 1 shall be on-duty after the *worker* has accumulated 70 hours of *on-duty time* during any period of 7 days or, if the *worker* has reset the cycle in accordance with Section 8.0, during the period of the cycle that was ended.

**Note:** This document was subsequently integrated in OC Transpo’s SMS which is a requirement under the P.A. (Regulatory Standards - Schedule 15-4

## ANNEX 14 - Status of RMCO Findings and Remedial Actions\*

REGULATORY AREA / PROGRAM	PERIOD MONITORED	NUMBER OF FINDINGS	NUMBER OF FINDINGS CLOSED	NUMBER OF FINDINGS OPEN
RULES TRAINING - OPERATING EMPLOYEES	Q4 - 2019	1	1	0
TRACK INSPECTIONS	Q1 / Q2 - 2020	8	8	0
LRV INSPECTIONS	Q3 / Q4 - 2020	5	5	0
CATENARY INSPECTIONS	Q3 / Q4 - 2020	5	5	0
SMS	Q2 / Q3 - 2021	6	6	0
ERP	Q4 - 2021	6	6	0
INSPECTIONS LRV, TRACK, CATENARY	Q2 / Q3 - 2022	4	1	3
SECURITY MANAGEMENT SYSTEM	Q4 - 2022	6	5	1
TUNNEL INSPECTIONS	Q2 / Q3 - 2023	5	4	1
CBTC INSPECTIONS	Q3 / Q4 - 2023	2	1	1
BRIDGE INSPECTIONS / REPAIRS	Q2 / Q3 - 2024	2	1	1
HOS REGULATIONS	Q4 - 2024	4	0	4
	<b>TOTAL</b>	<b>54</b>	<b>43</b>	<b>11</b>

\* This status was taken on Jan. 21, 2025. Please refer to the next pages for details on open RMCO findings.

### Summary of RMCO Monitoring Findings and Remedial Actions Status - Jan. 2025

Finding #	Area Monitored	Monitoring Period	Finding Description	Relevant Program Document(s)	Status (JAN. 2025)	Comments / Next Steps Requested by OC Transpo
<b><u>33</u></b>	<b>Inspections of LRV, Track and Catenary</b>	JUNE - AUG. 2022	<p><u>2022-7 Inspections of LRV's:</u></p> <p>.....</p> <p><b>Finding:</b> LRV mileage inspections generally conformant, but about 30% of sample monitored show 10K inspections performed beyond 5% allowable tolerance.</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;</p> <p>ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";</p> <p>iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<b>OPEN</b>	<p>1) RTM actions in progress;</p> <p>2) OCT reviewing with RTM reporting required to demonstrate conformance objectively</p>
<b><u>34</u></b>	<b>Inspections of LRV, Track and Catenary</b>	JUNE - AUG. 2022	<p><u>2022-8 Inspections of Track (i.e. Guideway):</u></p> <p>.....</p> <p><b>Finding:</b> Monitoring of Track inspections show about 30% of records missing for three types of inspections (3 month mainline, 1 day mainline, 1 month turnout) and 15% of records missing for 3 day mainline inspections. Track inspections relative to extreme weather were conformant</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;</p> <p>ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";</p> <p>iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<b>OPEN</b>	<p>1) RTM actions in progress;</p> <p>2) OCT reviewing with RTM reporting required to demonstrate conformance objectively</p>
<b><u>35</u></b>	<b>Inspections of LRV, Track and Catenary</b>	JUNE - AUG. 2022	<p><u>2022-9 Inspections of Catenary / OCS:</u></p> <p>.....</p> <p><b>Finding:</b> Monitoring of Catenary inspections show 5 of 12 records missing for 6 month OCS tensioning WMS002, and 3 of 12 records missing for two types of inspections (6 month WMS001 and 1 year WMS005). As well, inspection records for 2M inspections identified 2 inspections which were done late.</p>	<p>i) P.A. Schedule 15-3 Maintenance and Rehabilitation Requirements;</p> <p>ii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";</p> <p>iii) City adopted Program "Track Safety and Inspection Rules RTM-ENG-RUL-132"</p>	<b>OPEN</b>	<p>1) RTM actions in progress;</p> <p>2) OCT reviewing with RTM reporting required to demonstrate conformance objectively</p>
<b><u>39</u></b>	<b>Security Management System</b>	OCT. - DEC. 2022	<p><u>2022-13 Fence Intrusion Detection System:</u></p> <p>.....</p> <p><b>Finding:</b> Fence Intrusion Detection System (FIDS) does not appear to be operational as per RTM SeMP.</p>	<p>i) RTM SeMP 4.7</p>	<b>OPEN</b>	<p>1) RTM actions in progress;</p> <p>2) FID expected to be operations first half 2025</p>

46	Tunnel Lighting Inspections	MAY-SEPT 2023	<p><b>2023-5 Tunnel Lighting Inspection:</b></p> <p><b>Finding:</b> Lighting inspections were mostly conformant. WMS-005 (6 month) and 009 (1 year)</p>	<p>1) PA Sched. 15-3 Appdx A, Attach 8;                  2) City Designated Program "Maintenance &amp; Rehabilitation Plan" (RTM-MC-PLN-042)                  3) Supplementary documents such as Alstom Asset Management Plan and WMS procedures</p>	OPEN	1) OC Transpo reviewing with RTM reporting required to demonstrate conformance objectively.
47	CBTC Inspections / Maintenance	SEPT. - NOV. 2023	<p><b>2023-6 CBTC Inspections / Maintenance :</b></p> <p><b>Finding:</b> Several CBTC inspection types were mostly conformant (1Y, 6M, 1M, 1W, 1D)</p>	<p>i) P.A. Schedule 15-2 Part 4 Article 5;                  ii) P.A. Schedule 15-3 (Maintenance and Rehabilitation Requirements);                  iii) City adopted Program "Maintenance and Rehabilitation Plan RTM-MC-PLN-042";</p>	OPEN	Remedial Actions in Progress
50	Bridge / Structure inspections	JUNE - AUG. 2024	<p><b>2024-2 Bridge / Structure Repairs :</b></p> <p><b>Finding:</b> The information provided by RTM shows that most of the short terms repairs (i.e. 0-2 years) in the sample of structures were not completed on a timely basis. RTM to develop process to record, review, prioritize, address and close / record repairs identified in OSIM reports.</p>	<p>i) P.A. Sched. 15-3 Maintenance and Rehabilitation Requirements / Appendix A Attachment 9                  ii) Program documents such as "Maintenance and Rehabilitation Plan"</p>	OPEN	Remedial Actions in Progress
51	HOS Regulations	SEPT. - DEC. 2024	<p><b>2024-3 HOS Regulations - Adoption / Direction:</b></p> <p><b>Finding:</b> RTG / RTM does not appear to have adopted or provided Direction relative to Federal HOS Regulations in accordance with Direction from City</p>	<p>i) P.A. Sched. 15-4 Regulatory Standards                  ii) Regulatory Work Group minutes and City "Work Submittal Response SUB-2428"</p>	OPEN	Findings reviewed with RTM Dec. 16, 2024
52	HOS Regulations	SEPT. - DEC. 2024	<p><b>2024-4 HOS Regulations - Implementation:</b></p> <p><b>Finding:</b> RTG / RTM appear to have implemented hours of work requirements under the CLC – this does not follow Direction provided by the City to implement Federal HOS Regulations.</p>	<p>i) P.A. Sched. 15-4 Regulatory Standards                  ii) Regulatory Work Group minutes and City "Work Submittal Response SUB-2428"</p>	OPEN	Findings reviewed with RTM Dec. 16, 2024

<p><b><u>53</u></b></p>	<p><b>HOS Regulations</b></p>	<p>SEPT. - DEC. 2024</p>	<p><b>2024-5 HOS Regulations - Oversight :</b>                  .....  <b>Finding:</b>                  RTG / RTM appear to be performing a limited amount of Oversight focused on payroll – this should be expanded to include internal and external (i.e. contractors) monitoring specific to work hours conformance.</p>	<p>i) P.A. Sched. 15-4 Regulatory Standards                  ii) Regulatory Work Group minutes and City "Work Submittal Response SUB-2428"</p>	<p><b>OPEN</b></p>	<p>Findings reviewed with RTM Dec. 16, 2024</p>
<p><b><u>54</u></b></p>	<p><b>HOS Regulations</b></p>	<p>SEPT. - DEC. 2024</p>	<p><b>2024-6 HOS Regulations - Records:</b>                  .....  <b>Finding:</b>                  A number of Records were provided by RTG / RTM – Records should be expanded to include Direction and Oversight.</p>	<p>i) P.A. Sched. 15-4 Regulatory Standards                  ii) Regulatory Work Group minutes and City "Work Submittal Response SUB-2428"</p>	<p><b>OPEN</b></p>	<p>Findings reviewed with RTM Dec. 16, 2024</p>

## ANNEX 15 - IWSD Remedial Actions for Findings and Opportunities – Bridges / Structures

ITEM*	REGULATORY RESPONSIBILITY**	FINDING DESCRIPTION	ACTION REQUIRED - DESCRIPTION	ACTION(S) BEING TAKEN - DESCRIPTION	RESPONSIBLE	EXPECTED COMPLETION DATE	STATUS
3A	IMPLEMENTATION - INSPECTIONS	All OSIM regulatory inspections were performed, except: i) Structure 226780 (Blair Rd O/P Transitway) which was deferred ii) Bayview underpass	<u>Deferral of OSIM Inspections:</u> IWSD to develop and implement a process for the deferral of OSIM inspections. This should describe roles / resp., process, communication, records and identification of 'Head of Structure' for the City (as per MTO letter of January 2009).	Development / formalization of OSIM inspection deferral process is near complete. OSIM Deferral Process includes roles / responsibilities, communication, records and identifies 'Head of Structures' as Senior Structural Advisor (IWSD).	Scott Laberge	Q2 2025	75% complete
3B1	IMPLEMENTATION - REPAIRS PART 1	Monitoring sample of repairs showed that 31% (13 of 42) short term repairs identified in OSIM reports (due date during monitoring period) have been completed.	<u>Repair Process:</u> IWSD to develop process to systematically log repairs / maintenance identified in OSIM inspection reports in order to: i) Record each repair identified in OSIM report; ii) Review, determine disposition, prioritize and develop timeline; iii) Implement and monitor; iv) Close and record.	IWSD has developed a process to record repairs/maintenance identified during OSIM inspections. Documentation process includes: recording each repair/maintenance item from OSIM reports, reviewing and prioritizing each item, remedial action implementation and repairs/maintenance item close out. Next step includes, IWSD working with IT to configure maintenance management software Maximo to implement and support process changes.	Scott Laberge	Q3 2025	50% complete
3B2	IMPLEMENTATION - REPAIRS PART 2	Monitoring revealed that there is a backlog of repairs (i.e. identified in OSIM reports but not closed) which need to be scoped-out, prioritized and actioned.	<u>Backlog of Repairs:</u> Prepare list / inventory of outstanding repairs for bridges / structures in Confederation Line. This will be valuable to understand the magnitude of the backlog and to subsequently prioritize, plan, implement, complete and record.	IWSD has developed a comprehensive list of outstanding repairs/maintenance from 2023 Line 1 OSIM inspections. 2024 Line 1 OSIM inspection reports are under review to capture maintenance needs. OSIM inspections have a biennial inspection frequency, 2023 and 2024 inspection results together will include a comprehensive list of repair/maintenance needs for all Line 1 OSIM inspected bridges.	Scott Laberge	Q3 2025	50% complete

4	OVERSIGHT	IWSD provided evidence of some oversight being performed. However there is no formal Oversight Plan.	<u>Oversight Plan / Process:</u> IWSD to develop and implement Oversight plan. This should include scope, responsibilities / accountabilities, oversight methods, frequency and records.	Development of an oversight plan is underway. Oversight plan will include scope, responsibilities / accountabilities, oversight methods, frequency and records. IWSD will mirror OC Transpo's oversight plan for consistency. Oversight plan will also include process flow clearly showing all stakeholders.	Scott Laberge	Q3 2025	25% complete
5	RECORDS	The existing information system ("Maximo") provides some capability to enter / maintain records. However the information system needs to be enhanced to support the repair and oversight processes being developed (refer to items 3B and 4 above).	<u>Records:</u> IWSD to strengthen information system and record-keeping to maintain records for the major steps which make-up the repair and oversight processes (refer to items 3B and 4 above) .	IWSD has developed a process to track and record bridge repairs, and oversight activities using existing information systems. IWSD will leverage Maximo, GIS and MS Excel applications. Next steps include IWSD using configure maintenance management software Maximo to support process.	Scott Laberge	Q3 2025	75% complete
* Refer to Table of RMCO monitoring Findings for IWSD							
** Confederation Line Designated Regulations - Appendix B Section 5 (IWSD Programs)							
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## **ANNEX 16 -** **Regulatory And Legal Context**

The information below is provided to further assist readers with a proper review of this Report. This provides guidance regarding the limits on the scope of the RMCO's monitoring work; the monitoring and Oversight work carried out and confirmed by others; and the coordinated interplay between these various Oversight functions:

**1. Limited Scope:** The RMCO only monitors regulatory compliance for OC Transpo (OCT) and IWSD obligations and commenced doing so after revenue service inception.

This means the RMCO Monitoring is limited to operations and maintenance (O&M) activities and OCT's compliance with its LRT regulatory obligations (i.e. Adopt, Implement, provide Direction, Oversight and maintain Records relative to designated Programs).

**2. Other Compliance Monitoring:** The monitoring and reporting of compliance with LRT Regulations applicable to other Confederation Line activities and other designated Programs, is carried out by designated representatives for the other City Departments responsible for these other activities.

These other activities include design, construction, testing and commissioning activities, property planning and land management matters, Oversight of accident and safety incident investigations and other LRT regulatory management matters.

**3. Review of Contractor Performance:** There are no LRT Regulations that apply to contractors directly. The LRT Regulations only apply to OCT and other City Departments.

The RMCO reviews contractor work activities as one method by which to assess whether or not OCT is complying with its LRT regulatory obligation to provide responsible Oversight and Direction to the contractors regarding their compliance with O&M related Programs (e.g. SMS Plan, SeMS Plan, Maintenance and Rehabilitation Plan etc.).

**4. Interplay with Other Oversight Activities:** The RMCO obtains information from, and periodically exchanges observations and insights regarding contractor work activities, with OCT who are involved with contract Oversight procedures and practices to the extent these relate to the O&M matters and Programs being monitored by the RMCO.

This provides the RMCO with an opportunity to compare and cross check his findings with the findings arising from these other Oversight functions.

There is however no expectation that the findings of the RMCO for a particular reviewed O&M segment at a particular point in time will fully align with the findings from these other Oversight functions because of differences in the:

- (a) Timing of the monitoring, Oversight and reporting activities;
- (b) The nature and scope of the RMCO monitoring work compared to the OCT and RCP contract Oversight investigations and reviews; and
- (c) The nature and scope of the information being relied upon in these different proceedings (e.g. prescriptive PA related performance metrics and reports versus

tailored information requests, inspections, interviews and other RMCO required information identified at time of review).

**7. Limits on RMCO Role:** The RMCO monitors and reports on compliance with LRT Regulations that apply to OCT (i.e. Adopt, Implement, provide Direction, Oversight and maintain Records relative to designated Programs). There are related activities and responsibilities which are not assigned to or vested with the RMCO:

*(a) No Enforcement of Regulations:* The RMCO is not a regulatory officer with powers to enforce compliance by OCT with LRT Regulations.

In a self – regulatory model of regulation enforcement against OCT (and other City Departments) is the responsibility of the City Manager or designate as the senior regulatory officer for the City.

Enforcement and / or corrective actions that may be taken or directed by the City Manager at her/his discretion will most likely be process and continuous improvements, and / or employer/employee based (e.g. possible Directions to rectify, reprimands, compensation adjustments, warnings, suspension, termination or other).

*(b) No P.A. (i.e. Project Agreement) Enforcement:* The RMCO does not enforce conformance with PA obligations by RTG/ RTM or other contractors. This is the responsibility of the City through designated OCT/RCP representatives and according to PA remedies and recourse rights in favor of the City.

The RMCO however will confer with OCT and RTG/RTM representatives regarding potential PA enforcement matters in relation to outstanding remedial actions and plans as part of the RMCO's ongoing monitoring of OCT's Oversight and Direction responsibilities.

*(c) No Auditing:* The RMCO is not a safety and/or security auditor. Audits are carried out on a scheduled basis by other contracted professional safety and security audit firms.

*(d) No Adjudication:* The RMCO does not make legal determinations regarding possible breaches or non - compliances with LRT Regulations. This is the responsibility of OCT and RCP management, City legal advisors (internal/external) and potentially a formally appointed adjudicator and/or Court.

*(e) No Assessment:* The RMCO does not assess the adequacy, suitability or completeness of the LRT Regulations or the terms of the PA and is not required or expected to make recommendations for change.

This is the responsibility of the City Manager with input and recommendations from designated representatives for the City Departments who have the responsibility to comply with LRT Regulations.

*(f) Informal Observations:* The RMCO may, but is not required to, provide informal non-binding observations and insights in relation to any of the above and in relation to other Confederation Line activities, developments or matters on a voluntary basis in the course of carrying out the RMCO mandated work activities.