



## **Annual Review of TTC's Safety, Health and Environment Management System**

**Date:** May 29, 2019

**To:** Audit and Risk Management Committee

**From:** Chief Safety Officer

### **Summary**

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The TTC manages and mitigates occupational health and safety, operational safety, and environmental risks due to our operations, activities, and services in a systematic and consistent manner through the TTC's Safety, Health & Environment (SH&E) Management System. Over the past several years, the TTC has been developing and implementing a Safety, Health & Environment (SH&E) Management System to manage its occupational health and safety, operational safety, and environmental risks. A SH&E Management System is a comprehensive and proactive approach to managing SH&E risk. The system goes beyond a simple sum of individual or isolated safety and environmental management programs and activities such as investigation, inspection or training. It is designed to improve SH&E performance and reduce risk by integrating all its processes into a continuous improvement cycle of Plan-Do-Check-Act.

A review of TTC's Safety, Health and Environment (SH&E) Management System is conducted by the Safety, Security and Environment (SX) Committee on an annual basis. The purpose of the annual review is to evaluate the effectiveness and adequacy of TTC's SH&E Management System and to identify opportunities for continuous improvement, ensuring the on-going management of TTC's SH&E risk.

The period between Q4 2017 to Q3 2018 was reviewed by the SX Committee in March 2019. The review was completed through analysis of: performance indicators, audit/assessment results, regulatory oversight, findings from other transit agencies, status of SH&E initiatives, and group/departmental management reviews. This involved both a top down and a bottom up review as detailed below.

This report summarizes the results of the aforementioned review. It includes Opportunities for Improvement in TTC's SH&E Management System and the 2019 to 2021 TTC Corporate SH&E Goals and Objectives.

### **Recommendations**

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It is recommended that the Audit and Risk Management Committee:

1. Approve management's approach to continuously improving the effectiveness of TTC's SH&E Management System, identifying opportunities for improvement, and developing corporate SH&E goals and objectives.
2. Direct staff to develop a quarterly report detailing compliance to SH&E regulatory orders to provide assurance that Commissioners have discharged their legal responsibilities.
3. Receive this report, the Opportunities for Improvement and the 2019 to 2021 TTC Corporate SH&E Goals and Objectives for information.
4. Forward this report, the Opportunities for Improvement and the 2019 to 2021 TTC Corporate SH&E Goals and Objectives to the TTC Board for information.

## **Financial Summary**

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The recommendations in this Report have no additional funding implications beyond the combined costs of the Safety and Environment Department that were included in the 2019 Operating Budget and approved by the TTC Board on January 24, 2019.

## **Equity/Accessibility Matters**

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An effective and robust SH&E Management System is essential to the protection of vulnerable populations in the community, among customers and employees. This review is management's tool for ensuring continuous improvement.

## **Decision History**

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The full report of the annual review, including the Opportunities for Improvement and the 2019 to 2021 TTC Corporate SH&E Goals and Objectives, have been approved by the SX Committee. We have been conducting an annual review of TTC's SH&E management system with the Executive for a number of years, however this is the first time this review is provided to the ARMC and to the Board. From this point forward, this annual review will be presented to the ARMC and the Board to provide members with information on the functioning of the TTC's SH&E Management System which will help them fulfill their legislative duties as corporate directors.

## **Issue Background**

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The TTC's SH&E Management System is built on the TTC's commitment to protect the environment and the safety and health of its workers, customers and the general public.

The SX Committee meets annually to review the SH&E Management System at TTC, to ensure its continuing suitability, adequacy and effectiveness. This review identifies opportunities for continuous improvement and evaluates how well the SH&E Management System is functioning in supporting the safety and security cornerstone of TTC's Corporate Plan.

Under safety and environmental legislation, Board members are considered directors of a corporation and have prescribed duties to take all reasonable care to ensure that the TTC complies with safety and environmental legislation and all regulatory orders. As such, they should be aware of the TTC's SH&E Management System and its performance.

## **Comments**

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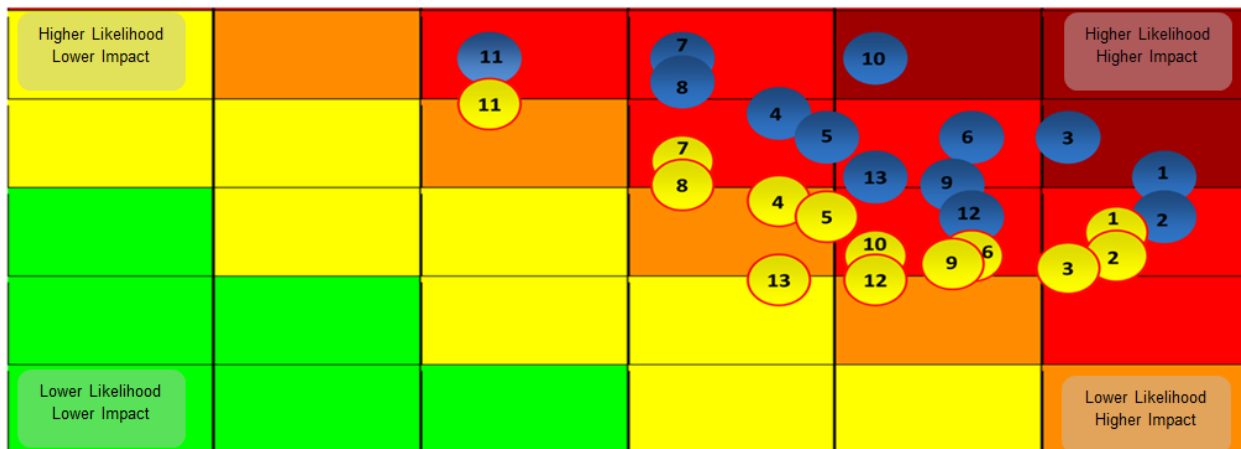
The information listed below summarizes the results from the analysis of the following inputs:

- Safety risks,
- Performance indicators,
- Audit/assessment results,
- Regulatory oversight,
- Status of SH&E initiatives, and
- Group/departmental management reviews.

## **Safety Risks**

One of the key steps in developing a proper SH&E Management System is to identify and assess safety hazards and environmental aspects. The TTC has implemented a Corporate Risk Review process to provide adequate oversight of risks. The Corporate Risks are identified by the Executive and Management Team during risk workshops. This process is currently under review by the Audit, Risk and Compliance Department.

The purpose of the Corporate Risk Review is to ensure the adequacy of controls for the most significant corporate risks. Since all relevant stakeholders are present during a risk review, representing various departments across the organization, adequate oversight and communication of the TTC's Corporate Risks is achieved. The result is that the SX Committee is assured that safety and environmental risks are being managed to a level that is as low as reasonably practicable (ALARP). The heat map below highlights the Corporate Safety Risks that have been fully or partially assessed.



### Chart Legend

- |  |   |
|--|---|
| 1. Collision between two trains during revenue service * | 8. Streetcar collision during revenue service                               |
| 2. Train derailment *                                    | 9. Loss of transit control centre (TCC) functionality for extended time     |
| 3. Damage to subway corridor by third party *            | 10. Employee overcome by internal combustion engine gases in subway tunnel  |
| 4. Extreme subway station crowding                       | 11. Unauthorized access of the subway system                                |
| 5. Subway-SRT fire/smoke *                               | 12. Collision between TTC revenue bus and train at railway grade crossing * |
| 6. Injury at track level *                               | 13. Employee impairment leading to a catastrophic event                     |
| 7. Bus collision during revenue service *                |   |
- \* Risk assessments are partially completed

**Yellow Bubbles:** The placement of the yellow bubbles on the heat map represents the current risk levels with the existing controls in place, i.e. the risk score today. The risks that reside in the upper right quadrant are the most significant risks for the TTC. Risks that reside in the lower left quadrant are risks that have been mitigated to a lower likelihood and impact. Risks in the other two quadrants, the upper left and the lower right, represent mid-level risks. As more mitigation strategies are implemented the location of the bubble will shift closer to the bottom and/or left.

**Blue Bubbles:** The placement of the blue bubbles on the heat map represent the inherent risk levels without any controls in place. Since the blue bubble represents the inherent risk and not the current risk, the location of the blue bubble will not change as we continue to reduce the risk level.

### SH&E Performance

From the statistical analysis and moving annual comparison of SH&E performance data, the table below highlights the performance indicators where adverse trends were observed:

Note: The data has been updated to the end of Q4 2018.

SH&E Performance Indicator	Identified Trends
<p><b>1. Occupational Lost-Time Injury Rate (LTIR) and No-Lost Time Injury Rate (NLTIR)</b></p>	<ul style="list-style-type: none"> <li>The moving annual LTIR and NLTIR to the end of Q4 2018 were both higher than their corresponding rates to the end of Q4 2017.</li> <li>Emotional trauma injuries, resulting from <i>Acute Emotional Events, Assaults, Threats, and Collision</i> injury event types represent approximately 30% of the overall lost time and no lost time injuries during the review period. To improve the areas of acute emotional trauma and psychological health and safety, a formal program based on CSA <i>Standard Z1003 – Psychological Health and</i></li> </ul>

SH&E Performance Indicator	Identified Trends
	<p><i>Safety in the Workplace</i> will be developed. (See Goal 1-10 in Attachment 1)</p> <ul style="list-style-type: none"> <li>Ergonomic related injuries (e.g. overexertion, reach/bend/twist, repetition) account for 22% of all lost time injuries, and 14% of all no lost time injuries over the review period. The <i>Ergonomic Musculoskeletal Disorder Prevention Program</i>, currently being implemented, focuses on preventing such injuries and resolving ergonomic concerns (See Goal 8-1 in Attachment 1).</li> </ul>
<p><b>2. Customer and Public Safety Performance</b></p>	<ul style="list-style-type: none"> <li>The moving annual bus collision rates (<i>Total, Not-Preventable</i> and <i>Preventable</i>) to the end of Q4 2018 were higher than their corresponding rates to the end of Q4 2017. To improve the focus and accountability for public and customer safety, a comprehensive <i>Corporate Program – Traffic Safety</i> will be developed in 2019. This will include all aspects of surface operational safety and comprise the TTC contribution to the City’s Vision Zero Program (See Goal 2-7 in Attachment 1).</li> </ul>
<p><b>3. Operational Safety Performance</b></p>	<ul style="list-style-type: none"> <li>Both the moving annual average platform overshoots and the moving annual average signal violations per month to the end of Q4 2018 were higher than their corresponding rates to the end of Q4 2017.</li> </ul> <p>Through the implementation of Automatic Train Control (ATC), platform overshoots and signal violations will decrease significantly as the ATC zones expand over the network.</p>

**Audit / Assessment Results**

A number of internal and external audits and other safety assurance activities were conducted to examine different aspects of the SH&E Management System. Based on the findings, corrective actions were established and are tracked on an on-going basis.

The table below summarizes the status of corrective actions from audits conducted in previous years. Further details on the findings and corrective actions from these audits are available upon request.

<b>Audit</b>	<b>Corrective Action Status</b>	<b>Overdue Corrective Actions</b>
APTA (2014)	112 of 112 completed	N/A
Waste Management (2015)	15 of 20 completed	0 of 5
Fire Safety Program (2016)	24 of 24 completed	N/A
Subsurface Environmental Contamination (2017)	6 of 12 completed	0 of 6
Biohazard Control Program (2017)	10 of 33 completed	0 of 23
SH&E Communication (2017)	34 of 39 completed	0 of 5

There were two audits conducted in the current review period between Q4 2017 and Q3 2018. First, in April 2018, the American Public Transportation Association (APTA) conducted a regular triennial audit to assess the effectiveness and improvement of the Safety Management System in controlling against TTC’s operational risks, its adequacy in meeting corporate goals and objectives, and whether it meets contemporary industry standards. The final audit report along with TTC’s Safety Improvement Plan in response to the findings will be presented at the June Board meeting.

Second, as a result of the diesel fuel spill at Queensway Bus Garage on June 6, 2018, a comprehensive Environmental Compliance Audit was undertaken for Queensway Bus Garage. A corrective action plan was developed and is being tracked to completion. Details of this audit will be presented at a future Audit and Risk Management Committee meeting.

**Status of SH&E Initiatives**

The table below summarizes the status of SH&E initiatives. As a result of previous annual reviews, there were 11 new or revised SH&E Management System corporate programs or processes approved by the SX between October 2017 and December 2018. To date, these processes are close to being fully implemented across the TTC.

<b>Achievement</b>	<b>Developed/Revised</b>	<b>Date Completed/ Date Implemented/ % Completed/Implemented</b>
<b>Operational and Occupational Safety</b>		

Achievement	Developed/Revised	Date Completed/ Date Implemented/% Completed/Implemented
1. SH&E SOFTWARE: Acquire and implement a commercial-off-the-shelf (COTS) enterprise SH&E Software solution to manage SH&E processes through 2 phases.	N/A	Contract Awarded August 2018 Phase 1 underway
2. Fire Safety Program (Revise)	√	Q4 2017
3. Mechanical Material Handling Equipment Standard (Develop)	√	Q1 2018 (Standard) Associated Programs in development 2019 to 2021
4. JHSC Improvement Project / Terms of Reference (Revise)	√	Unionized Terms of Reference approved January 2018 Multi-Workplace Terms of Reference 80%
5. Workplace Hazardous Materials Control Program (Implement)	N/A	87%
6. Hazardous Energy Control/Lockout Tagout Program (Implement)	N/A	67%
7. Hearing Loss Prevention Program (Implement)	N/A	83%
8. Active Fall Protection Program (Develop and Implement)	√	40%
9. Management of OHS Hazards and Risks Standard (Develop)	√	Q4 2017
10. OHS Hazard Identification and Risk Assessment (HIRA) Procedure (Develop)	√	Q3 2018
11. Workplace Violence Program (Implement)	√	84%

<b>Achievement</b>	<b>Developed/Revised</b>	<b>Date Completed/ Date Implemented/% Completed/Implemented</b>
12. Musculoskeletal Disorder (MSD) / Ergonomics Program (Implement)	√	75%
13. Suicide Prevention Program (Develop)	√	Q4 2018
<b>Environmental</b>		
14. Discharged Water Program (Implement)	N/A	Q2 2018
15. Waste Management Program (Implement)	N/A	68%
16. Subsurface Contaminant Management Program (Develop)	√	Q4 2018
17. Environmental Due Diligence for Buying and Leasing Properties Procedure (Develop and Implement)	√	Q2 2018

### **Regulatory Oversight**

The table below summarizes and compares the number of events/documents issued that have involved interactions with the Ministry of Labour (MOL), Ministry of Environment, Conservation, and Parks (MECP), Technical Standards and Safety Authority (TSSA), and City of Toronto including any orders issued between Q4 2017 to Q3 2018 (current review period) and Q4 2016 to Q3 2017 (previous review period). All orders and violations have been resolved.

<b>Type of Event/Documents Issued</b>	<b>Number (Q4 2017 to Q3 2018)</b>	<b>Number (Q4 2016 to Q3 2017)</b>
<b>Occupational Health and Safety Compliance</b>		
MOL Orders	36	51
MOL Field Visit Reports	108	128



Type of Event/Documents Issued	Number (Q4 2017 to Q3 2018)	Number (Q4 2016 to Q3 2017)
MOL Regulatory Agency Interaction Reports (RAIR) Issued	63 incidents resulting in 133 interactions	82 incidents resulting in 150 interactions
Work Refusals	16 (2 resolved at Stage 1)	17 (2 resolved at Stage 1)
Worker Safety Complaints	10	27
Critical Injuries	23	33
Section 52/53 Notices of Accident	0	1
Customer Concerns	0	1
<b>Environmental Compliance</b>		
TSSA orders	3	0
City of Toronto Notices of Violation	1	0
MECP Inspection Reports	4	2

### **Group/ Departmental Management System Reviews**

In November 2018, groups/departments within the TTC performed group/department level SH&E management reviews to assess their SH&E performance between Q4 2017 and Q3 2018. These bottom up reviews were based on a variety of SH&E performance data compiled by the Safety and Environment Department and were guided by a set of questions designed to assist the groups/departments in their performance evaluation. Group/department level SH&E management system reviews identified a number of priorities, initiatives and opportunities for improvement including the need to improve customer and public safety, the need to improve in the area of acute emotional trauma and psychological health and safety and the need to improve organizational understanding of the SH&E management system.

### **Opportunities for Improvement**

As a result of this review, the following three opportunities for improvement were identified:

<b>Opportunity</b>	<b>Solutions / Strategic Options</b>
<p>Opportunity to improve the focus and accountability for Public and Customer Safety</p>	<p>Solution:</p> <ul style="list-style-type: none"> <li>• Develop a corporate standard for management of platform passenger loads and apply it to all at risk stations with a set of triggers for mitigation actions for all accountable departments.</li> <li>• Develop and implement a comprehensive Traffic Safety Program that would include all aspects of surface operational safety and comprise the TTC contribution to the City’s Vision Zero Program. (Goal 2-7)</li> </ul>
<p>Opportunity to improve the areas of acute emotional trauma and psychological health and safety</p>	<p>Solution:</p> <ul style="list-style-type: none"> <li>• A Working Group was formed in 2018 at the recommendation of the SX Committee. The group is currently assessing data to identify trends and causal factors, outline current actions and initiatives. The group will be releasing findings and recommendations.</li> <li>• A formal Program based on CSA Standard Z1003 – <i>Psychological Health and Safety in the Workplace</i> has been added to the Corporate SH&amp;E Goals and Objectives. (Goal 1-10)</li> </ul>
<p>Opportunity to improve organizational understanding of the SH&amp;E Management System and facilitate safety support for Groups and Departments</p>	<p>Solution:</p> <ul style="list-style-type: none"> <li>• Revamp the Safety &amp; Environment Department website into a Safety Portal that is easier to navigate and which provides departments with detailed information on safety processes and programs, as well as contact information for each program area. (Goal 1-1)</li> <li>• Safety &amp; Environment Department will also consider additional communication methods and opportunities to increase organizational awareness of SH&amp;E processes and supports available.</li> </ul>

### **TTC Corporate SH&E Goals and Objectives**

As a result of this review, the 2019 to 2021 TTC corporate SH&E goals and objectives were established. These goals and objectives are attached to this report as Attachment 1.

## **Contact**

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John O'Grady, Chief Safety Officer  
416-393-4229  
john.o'grady@ttc.ca

## **Signature**

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John O'Grady  
Chief Safety Officer

## **Attachments**

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Attachment 1 - 2019 to 2021 TTC Corporate SH&E Goals and Objectives

## 2019 TO 2021 TTC CORPORATE SAFETY, HEALTH AND ENVIRONMENT GOALS AND OBJECTIVES

The key output of the SH&E Management System Review is to establish corporate level goals and objectives for 2019 to 2021.

The Group / Department level effort is categorized as follows. Please note, since the Q3 2018 re-organization of the Safety & Environment Department, implementation of SH&E Projects (Standards, Programs, Procedures, Plans) within Groups and Departments that no longer have embedded safety staff are being supported by the Safety Specialists, Occupational Hygienists and Environmental Advisors.

<u>Category</u>	<u>Percentage of Effort</u>	<u>Description of Effort</u>
1	0 to 25	S&E to formalize or evaluate existing processes with minimal involvement required from Groups and Departments.
2	25 to 50	Development and/or implementation of a program with some existing processes and minor to moderate gaps. Group/Department effort required will vary by applicability of the program.
3	50 to 75	Development and/or implementation of a program with minimal existing processes and moderate to major gaps. Group/Department effort required will vary by applicability of the program.

### ***Goal 1: Continue to strengthen and improve the effectiveness of the SH&E Management System***

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	<b>S&amp;E Department Intranet Website.</b> (Revamp as a Safety Portal to enhance understanding and connectivity of the SH&E Management System and facilitate safety support)	S&E	S&E	1	Q1 2019	Q3 2019

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
2	<b>Contractor and Construction SH&amp;E Management Standard</b> (develop and implement)	S&E EC&E	All	2	Q3 2018	Q2 2020
3	Propose leading indicator metrics for the CEO report	S&E	All	1	Q1 2019	Q4 2019
4	<b>Procure SH&amp;E Software to manage SH&amp;E business processes</b>	S&E	S&E Operations Service Delivery Vehicles Infrastructure & Engineering EC&E M&P Information Technology Services (ITS) Human Resources	3	Q1 2016	Completed Q2 2018
4a	<b>SH&amp;E Software Phase 1:</b> Implement incident reporting, investigation and corrective action tracking module	S&E	Same as 4 above	3	Q3 2018	Q4 2020
4b	<b>SH&amp;E Software Phase 2:</b> Implement additional modules to support business processes	S&E	Same as 4 above	3	Q2 2019	Q4 2021

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
5	<b>Management of Occupational Health and Safety (OHS) Hazards and Risks Standard</b> (develop and approve)	S&E	All	3	Q2 2016	Completed Q4 2017
5a	<b>Hazard Identification and Risk Assessment Procedure</b> (implement)	S&E	All	3	Q1 2019	Procedure approved Q4 2018 Q2 2022
5b	<b>Job Safety Analysis Procedure</b> (develop and implement)	S&E	All	3	Q2 2018	Q2 2022
5c	<b>Real-Time Hazard Assessment Procedure</b> (develop and implement)	S&E	All	3	Q2 2020	Q1 2023
6	Evaluate <b>Training &amp; Competency</b> element of the SH&E Management System	S&E	Human Resources (HR) Operations Training Centre (OTC) Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	1	Q3 2018	Q2 2019

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
7	Evaluate <b>Procurement</b> element of the SH&E Management System	S&E	All	1	Q2 2018	Q2 2019
8	<b>Corporate Standard - Personal Protective Equipment (PPE)</b> (update and implement)	S&E	All	1	Q1 2018	Q4 2019
9	<b>Workplace Inspection Standard</b> (develop and implement)	S&E	All	2	Q3 2018	Q4 2020
10	<b>Psychological Health and Safety Program</b> (develop and implement)	S&E	Emotional Trauma Injury Working Group	2	Q1 2019	Q4 2020

**Goal 2: Systematically manage occupational safety hazards with serious injury potential**

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	<b>Mechanical Material Handling Equipment Standard</b> (develop and approve)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering M&P EC&E	2	Q3 2015	Completed Q1 2018
1a	<b>Safe Operation of Powered Lift Trucks</b> (develop and implement)	S&E	Same as 1 above	2	Q1 2018	Q4 2020
1b	<b>Safe Operation of Overhead Cranes and Hoists Program</b> (develop and implement)	S&E	Same as 1 above	2	Q3 2019	Q4 2021
1c	<b>Safe Operation of Vehicle Lifting Devices</b> (develop and implement)	S&E	Same as 1 above	2	Q1 2020	Q3 2022
2	<b>Hazardous Energy Control/ Lockout Tagout Program</b> (implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering M&P OTC EC&E	3	Q3 2016	Q4 2020



Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
3	<b>Working at Heights Standard</b> (develop and approve)	S&E	Operations Vehicles Infrastructure & Engineering M&P EC&E	2	Q3 2014	Completed Q3 2016
3a	<b>Active Fall Protection Program</b> (implement)	S&E	Same as 3 above	2	Q2 2018	Program approved Q1 2018 Q4 2020
3b	<b>Mobile Elevated Work Platform Program</b> (develop and implement)	S&E	Same as 3 above	2	Q2 2019	Q4 2021
3c	<b>Ladder Safety Program</b> (update and implement)	S&E	Same as 3 above	2	Q3 2018	Q4 2020
3d	<b>Scaffolding Program</b> (develop and implement)	S&E	Same as 3 above	2	Q1 2020	Q4 2022
4	<b>Machine Guarding Standard</b> (develop and implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	3	Q1 2020	Q4 2022

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
5	<b>Electrical Safety Standard</b> (gap analysis against requirements in CSA Standard Z462)	S&E Subway Infrastructure	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	2	Q2 2019	Q2 2020
6	<b>Fatigue Management</b> (assess fatigue risk factors & evaluate current protective measures against accepted best practice in the rail / public transit industry)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q2 2019	Q2 2020
7	<b>Traffic Safety Program</b> (develop and implement)	S&E	Service Delivery Vehicles Operations Infrastructure & Engineering	2	Q1 2019	Q4 2020

**Goal 3: Update existing SH&E processes to ensure compliance with legislation and best practice**

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	<b>Fire Safety Plans</b> (review and update for all surface properties)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering Audit, Risk, and Compliance	1	Q1 2018	Q2 2019
2	<b>Hearing Loss Prevention Program</b> (implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering HR EC&E	2	Q4 2016	Q4 2019
3	<b>Hazardous Materials Management Program (WHMIS/GHS)</b> (implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E OTC ITS M&P Audit, Risk, and Compliance	1	Q1 2016	Q1 2020

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
4	<b>Managing Heat Stress Procedure</b> (develop and implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q1 2017	Q4 2019
5	<b>Managing Cold Stress Procedure</b> (develop and implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q1 2018	Q4 2019
6	<b>Hot Work Procedure</b> (develop and implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	2	Q2 2017	Q4 2019
7	<b>Workplace Violence Program</b> (implement)	S&E	All	2	Q1 2018	Q4 2019
8	<b>Smoke Free Workplace Policy</b> (update and implement)	S&E	All	1	Q4 2018	Q3 2019

**Goal 4: Manage business to ensure compliance with all applicable environmental laws and regulations**

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	<b>Discharged Water Program</b> (implement)	S&E	Operations OTC Service Delivery Vehicles Infrastructure & Engineering EC&E	2	Q4 2016	Completed - Q2 2018
2	<b>Waste Management Program</b> (implement)	S&E	Operations M&P OTC Service Delivery Vehicles Infrastructure & Engineering EC&E	3	Q2 2017	Q2 2020
3	<b>Subsurface Contaminant Management Program</b> (implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	1	Q4 2017	Completed Q1 2019

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
4	<b>Fuel Management Program</b> (develop and implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q2 2018	Q4 2020
5	<b>Storage Tank Program</b> (develop and implement)	S&E	EC&E Operations Infrastructure & Engineering Service Delivery Vehicles	1	Q1 2020	Q4 2021
6	<b>Anti-Idling Standard</b> (implement)	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q4 2017	Q4 2020
7	<b>Environmental Plan</b> (update and approve)	S&E	Not applicable	1	Q1 2018	Q3 2019

**Goal 5: Improve planning and preparedness for emergencies**

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	<b>Comprehensive Best-Practice Emergency Management Program</b> (develop and implement) Program to include risk and resilience assessments, and business continuity	Audit, Risk, and Compliance (ARC)	Executive All Depts	1	Q2 2019	Q4 2019

**Goal 6: Improve JHSC effectiveness to support a robust Internal Responsibility System (IRS)**

Item	Objective	Lead Department	Involved Groups/Departments	Group/ Department Effort	Start	Finish
1	Roll-out new unified <b>union JHSC Terms of Reference</b>	S&E	All	2	Q1 2018	Q2 2019
2	Develop and roll-out new <b>staff JHSC Terms of Reference</b>	S&E	All	2	Q2 2018	Q2 2019

**Goal 7: Ensure SH&E Management System is functioning effectively**

Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
1	Conduct SH&E audit on <b>Workplace Hazardous Materials Control Program</b>	S&E	Operations EC&E Service Delivery Vehicles Infrastructure & Engineering OTC ITS M&P	2	Q2 2020	Q4 2020
2	Conduct <b>APTA Yard Safety Peer Review</b>	S&E	Infrastructure & Engineering Operations Vehicles	1	Q1 2019	Q2 2019
3	Conduct SH&E audit on the <b>Asbestos Management Program</b>	S&E	Operations Service Delivery Infrastructure & Engineering EC&E	2	Q2 2020	Q3 2020
4	Conduct SH&E audit on the <b>Respiratory Protection Program</b>	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E	2	Q2 2019	Q3 2019



Item	Objective	Lead Department	Involved Groups/ Departments	Group/ Department Effort	Start	Finish
5	Conduct follow up SH&E audit on <b>IR&amp;I Corporate Program</b>	S&E	All	2	Q3 2020	Q4 2020
6	Conduct SH&E audit on the <b>Hazardous Energy Control/LOTO Program</b>	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering EC&E M&P OTC	2	Q1 2021	Q2 2021
7	Conduct SH&E audit on the <b>Discharged Water Program</b>	S&E	Operations Service Delivery Vehicles Infrastructure & Engineering	1	Q2 2021	Q3 2021

***Goal 8: Reduce the frequency of lost time injuries at the TTC***

Item	Objective	Lead Department	Involved Groups / Departments	Group/ Department Effort	Start	Finish
1	<b>Musculoskeletal Disorder Prevention (Ergonomics) Program</b> (implement)	S&E	All	3	Q2 2018	Q2 2020