



# STAFF REPORT ACTION REQUIRED with Confidential Attachment

## TTC Top Risks Update

<b>Date:</b>	July 20, 2016
<b>To:</b>	TTC Audit and Risk Management Committee
<b>From:</b>	Chief Executive Officer
<b>Reason for Confidential Information:</b>	This report with confidential information contains information about the security of property of the TTC

## Summary

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The TTC applies Enterprise Risk Management to support the achievement of its strategic objectives. The TTC uses a structured approach for the identification, assessment and treatment of risk.

The attachments contain analysis for four of the TTC's top risks currently in the corporate risk register. Risks are identified by the Executive team and management during risk workshops. The top risks are determined based on their likelihood and impact on the strategic objectives. The list of top risks is dynamic and is updated as we continue to identify and assess risks.

## Recommendation

It is recommended that the Audit and Risk Management Committee:

1. Receive the information as set out in the Attachments;
2. Note that the confidential information as set out in the Confidential Attachment (2) is to remain confidential in its entirety as it contains information about the security of the property of the TTC.

## **Financial Summary**

This report has no financial impact. Ultimately ERM will be used to prioritize funding requirements. The Business Case process will be used should additional resources be required.

## **Accessibility/Equity Matters**

There are no accessibility or equity issues matters arising from this report.

## **Contact**

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## **Attachments**

1. TTC Top Risks Update
2. Confidential Attachment: TTC Top Risks Update

# TTC Risk Summary & Listing

Attachment 1

Risk Count: 3



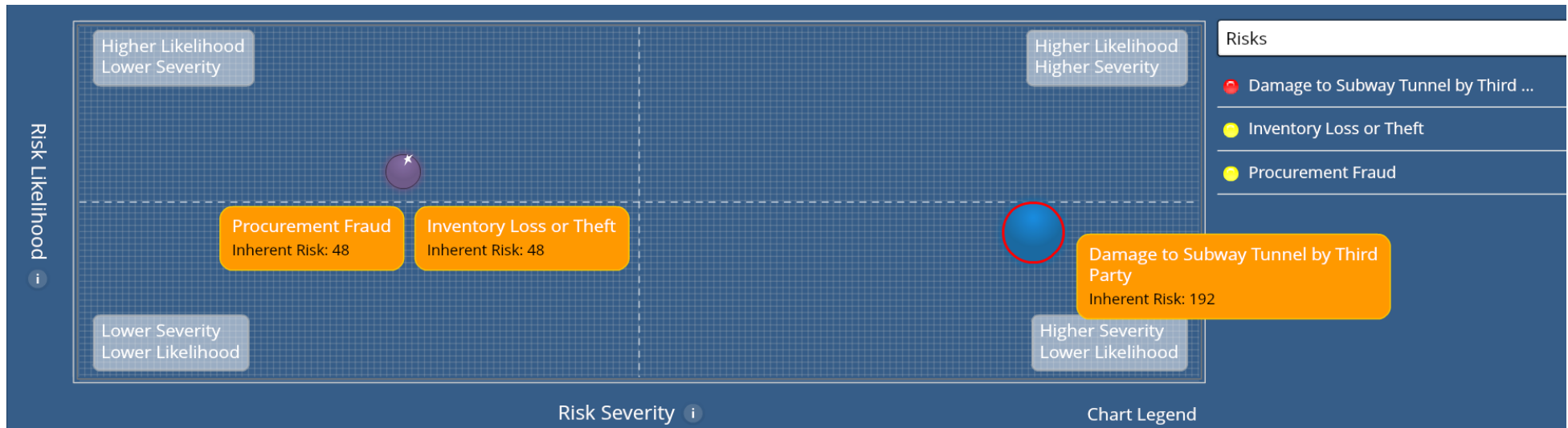
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## Disclaimer

The information contained in this document is confidential and for the use of TTC and those with whom it contracts directly and must not be communicated to other persons without the prior written consent of TTC.

# TTC Risk Summary & Listing

## RISK SUMMARY



Risk#	Title	Risk Owner	Inherent Risk Score	Current Risk Score	Residual Risk Score
<b>Materials &amp; Procurement</b>					
TTCRK15110003	Inventory Loss or Theft	Head of Materials and Procurement	48	34	6
TTCRK16040012	Procurement Fraud	Head of Materials and Procurement	48	31	6
<b>Subway Infrastructure</b>					
TTCRK16060006	Damage to Subway Tunnel by Third Party	Head of Subway Infrastructure	192	106	48

# TTC Risk Summary & Listing

## Inventory Loss or Theft

### Attachment 1

RISK IDENTIFICATION		TTCRK15110003
<b>Register</b>	Materials & Procurement	<b>Risk Owner</b> Head of Materials and Procurement
<b>Description</b>		
<p>The Materials Management Section of the TTC's Materials and Procurement (M&amp;P) Department operates 5 warehouses that store and deliver inventory (parts and related supplies) to 23 satellite stores. The total value of inventory as of December 31, 2015 was \$147.1 million. While some of the TTC's biggest stores are staffed on a 24/7 basis, the majority are not and allow staff more open access to inventory. This leaves open the potential that some inventory could be misappropriated without detection.</p>		

RISK MITIGATION	
<p>Since 2013, the TTC has converted 5 major bus garage stores to 24/7 stores. By the end of 2016, the remaining three bus garage stores will have controlled access on a 24 hour basis, 5 days a week. M&amp;P will undertake a study of physical security measures at all of its remaining non-24/7 stores and consider the costs and benefits of either converting them or consolidating them so that a system-wide 24/7 controlled store operation can be achieved. Current physical security measures at warehouses include alarm systems as well as fences and gates to prevent unauthorized access.</p>	
<p>Cycle counts are conducted on a daily basis at stores and warehouses to ensure inventory is adequately tracked. A cycle count is a method whereby a portion of inventory is counted until the entire inventory has been counted over a calendar year. When a count result is different from the inventory recorded, this results in an adjustment. Cycle count adjustments are charged or credited back to Materials Management. In addition to cycle counts, strip counts are conducted in non-24/7 stores to ensure parts availability as well as inventory accuracy. A strip count requires that a portion of inventory be counted each week day so that by month end the entire store's inventory is counted. Any adjustments are charged or credited back to TTC operations. A 2016 Auditor General Report noted areas for improvement in the recording of inventory. M&amp;P will conduct a review of the cycle and strip count methods currently being used including a review of the dollar threshold requirement for supervisory oversight to ensure any inventory discrepancies are adequately identified and investigated.</p>	
<p>A number of improvements have been made to ensure that returned goods that are stored in warehouses are processed in a timely manner. These include the introduction of an aging report, adopting First In First Out (FIFO) metrics and tying performance measures to the timely processing of returns. In addition, M&amp;P will improve its warehouse floor plan so that inventory can be stored in a more organized fashion and plans to adopt optimized warehouse practices.</p>	
<p>TTC managers and staff must complete an ethics training course and all employees sign an</p>	

RISK ASSESSMENT						
	Minimal	Minor	Moderate	Major	Catastrophic	Disastrous
Frequent	Yellow	Orange	Red (●)	Dark Red	Dark Red	Dark Red
Probable	Yellow	Yellow	Orange	Red	Red	Dark Red
Occasional	Light Green	Yellow (●)	Yellow	Orange	Red	Red
Remote	Light Green	Light Green	Yellow	Yellow	Orange	Red
Improbable	Light Green	Light Green	Light Green	Yellow	Yellow	Orange

● Residual                      ● Inherent

Assessment Type	Likelihood	Severity	Risk Score
Inherent Overall Assessment	Frequent	Moderate (I)	48
Residual Overall Assessment	Occasional	Minor (I)	6
Current Risk Score			34

# TTC Risk Summary & Listing

## Inventory Loss or Theft

acknowledgment of their understanding and adherence to the TTC's code of conduct and conflict of interest policies. In addition, the TTC will embark on a communications strategy underscoring a zero tolerance approach to theft. Employees can anonymously report wrongdoing through the "Integrity Line" hotline. Information is followed up by Investigative Services to determine next steps.

### AREAS ASSESSED

No link between inventory drawn and usage  
Physical access to inventory in non-24/7 stores  
Delays in Processing Returned Goods  
Insufficient Counting and Tracking of Inventory  
Inventory that could be used for personal use  
Physical access to inventory in 24/7 stores  
Entitlement culture  
Physical access to inventory at warehouses

# TTC Risk Summary & Listing

## Procurement Fraud

### RISK IDENTIFICATION TTCRK16040012

**Register** Materials & Procurement **Risk Owner** Head of Materials and Procurement

**Description**

The Materials & Procurement Department (M&P) manages the procurement of goods and services through the purchase authorization process. Procurement fraud can arise if either M&P staff or personnel from the requesting department have undisclosed, personal interests in a supplier or contractor or accept inappropriate gifts, favors or kickbacks from vendors. Service contracts, like those for snow removal, concrete pouring and towing warrant particular focus given their high value and multi-year durations. In addition, system contracts providing for large quantities of highly consumable goods like tools and batteries are more vulnerable to theft given the high resale or personal use value of the goods. The TTC is committed to putting safe guards in place to protect against procurement fraud in all of these areas.

### RISK MITIGATION

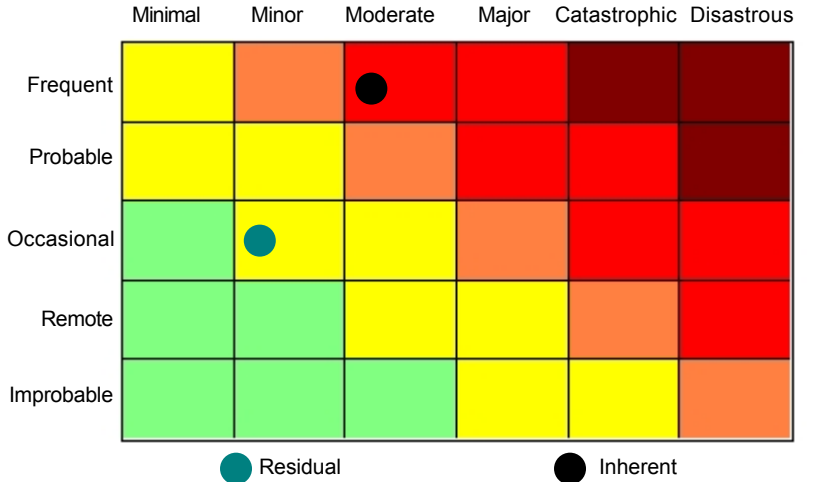
Materials and Procurement (M&P) has adopted a number of measures to ensure that adequate controls are in place to minimize the risk of procurement fraud. Through the purchase authorization process bidders must satisfy a prequalification requirement including a business name report to ensure their legitimacy and to remove the possibility of phantom or shell companies. M&P staff follow a detailed bidding process including limits on sole sourcing, bidding timelines, and confidentiality requirements that protect against giving any one bidder an unfair advantage. Red flags pointing to the potential for collusion, a shell company, bribes, bid rigging or any form of conflict of interest result in an investigation by TTC's Investigative Services.

M&P recently introduced a segregation of duties standard which mitigates the risk of fraud by separating core employee responsibilities including the authorization to purchase, payment functions and the receipt of goods and services. M&P plans to implement a further safeguard by way of a Checklist and Disclosure Signoff requiring the buyer to confirm that no conflict of interest exists before a contract is awarded. Additionally, M&P will introduce an independent assessment of contract specifications (third party validation) to protect the TTC against the possibility of employees altering the specifications of a bid to favor a specific supplier.

Once contracts are awarded, M&P produces monthly management reports that identify who purchased what and in what quantity. This is a particularly important control for the consumable types of goods managed through a system contract. The information allows management to spot trends and anomalies that could be a flag for inappropriate use. Monthly exception reports list specific transactions that fall outside of the normal course of business.

All managers must complete an ethics training course and all staff must sign an acknowledgment of

### RISK ASSESSMENT



Assessment Type	Likelihood	Severity	Risk Score
Inherent Overall Assessment	Frequent	Moderate (I)	48
Residual Overall Assessment	Occasional	Minor (I)	6
Current Risk Score			31

# TTC Risk Summary & Listing

## Procurement Fraud

their understanding and adherence to the TTC's code of conduct and conflict of interest policies. In addition, the TTC will embark on a communications strategy underscoring the message that all employees are expected to adhere to strict ethical standards and that significant consequences will result for those who participate in defrauding the TTC in any way. The TTC's "Integrity Line" allows for anonymous reports concerning inappropriate behaviour including fraud. Information is followed up by TTC's Investigative Services to determine next steps.

### AREAS ASSESSED

System contract fraud

Purchase authorization fraud

Service contract fraud



# TTC Risk Summary & Listing

## Damage to Subway Tunnel by Third Party

RISK IDENTIFICATION		TTCRK16060006
<b>Register</b> Subway Infrastructure	<b>Risk Owner</b> Head of Subway Infrastructure	
<b>Description</b>		
<p>The TTC' s subway spans 61.9 km. The Toronto-York Spadina Subway Extension Project will extend the subway an additional 8.6 km across the municipal boundary between the City of Toronto and The Regional Municipality of York (York Region).</p> <p>Extensive portions of the subway are underground. Damage to the subway tunnel can occur due to a variety of construction/maintenance activities that infringe upon the subway right-of-way. For example, the tunnel could be pierced by a construction drill or a pile. A pile is a vertical structural element that is driven deep into the ground at a construction site. Damage to the tunnel could also result from heavy loads being applied on roadways overtop the TTC tunnel structure. In addition, alterations or deterioration of existing buildings adjacent to or spanning the subway tunnel could cause damage.</p> <p>The TTC subway tunnel has been pierced on two known occasions in the past. In New York City (2014), a subway tunnel was pierced by a large drill bit which struck a revenue train passing through the tunnel.</p>		

RISK ASSESSMENT						
	Minimal	Minor	Moderate	Major	Catastrophic	Disastrous
Frequent	Yellow	Orange	Red	Dark Red	Dark Red	Dark Red
Probable	Yellow	Yellow	Orange	Red	Dark Red	Dark Red (●)
Occasional	Light Green	Yellow	Yellow	Orange	Red	Dark Red
Remote	Light Green	Light Green	Yellow	Yellow	Orange	Dark Red (●)
Improbable	Light Green	Light Green	Light Green	Yellow	Yellow	Orange

● Residual                      ● Inherent

Assessment Type	Likelihood	Severity	Risk Score
Inherent Overall Assessment	Probable	Disastrous (I)	192
Residual Overall Assessment	Remote	Disastrous (I)	48
Current Risk Score			106

RISK MITIGATION
<p>The TTC has a number of rigorous controls to help mitigate the potential for damage to the subway tunnel by a third party. These controls emphasize that developers, contractors and utilities survey the TTC subway structure and demonstrate that their building designs or construction activities will not infringe upon the subway right-of-way or cause damage to the subway infrastructure. The TTC does not provide structure survey information to third parties. In the case of new developments, the TTC will not provide clearance letters that allow the issuing of a building permit by the City if any requested structure surveys were not carried out or if the TTC is concerned that the third party activity will damage the TTC subway infrastructure.</p> <p>Crown agency projects are not subject to municipal approvals and the requirements for municipal building permits. The TTC enters into specific agreements with Crown agencies for projects impacting the subway right-of-way.</p> <p>Once third party construction activities begin, the regulatory requirements of the Ontario Underground Infrastructure Notification Act require excavators to obtain clearance from the TTC via the One-Call program prior to commencing an excavation. The TTC will not provide this clearance if there is a concern that the activity will damage the tunnel structure.</p>

# TTC Risk Summary & Listing

## Damage to Subway Tunnel by Third Party

Heavy loads being moved on public roadways above the subway tunnel require a special permit from the City of Toronto. This permit process involves the TTC so that the potential for overloading of the subway structure can be addressed.

### AREAS ASSESSED

Damage to subway tunnel by 3rd party construction/excavation  
Damage to subway tunnel by additions/alterations to existing 3rd party developments  
Deterioration of 3rd party structures above/adjacent subway tunnel  
Vehicle loading on City of Toronto roadways above subway tunnel structure