



# Ashbridges Bay TTC Facility for Improved Streetcars





# Project Overview

## Purpose of Project

A new transit facility at Ashbridges Bay will make the following transit improvements possible:

- Accessible, low-floor streetcars
- Enhanced access for people with disabilities, seniors, families with strollers
- Multiple doors to significantly speed boarding times
- Proof of payment system to reduce line-ups
- Accommodation for bicycles
- Air conditioning in the summer to enhance passenger comfort

In order to provide these service improvements, a new Maintenance and Storage Facility is necessary to store and maintain the new streetcars. One hundred of the 204 new streetcars will be stored at the Ashbridges Bay Facility.

### Q: Why is a new facility needed?

A: Roncesvalles and Russell (Connaught) facilities cannot fully accommodate the new vehicles. Both are over 80 years old, and have insufficient space within the existing buildings to service and store the new, longer streetcars. Furthermore, in order to create enough space at these facilities, rebuilding and expanding into adjacent residential neighbourhoods would be required. These two facilities are large enough to store only 52 new streetcars at each site out of the 204 total.

### Q: Are other maintenance and storage facilities being planned in Toronto?

A: Yes! In order to enhance transit in Toronto, new facilities are imperative to support the vehicle needs. Transit improvements cannot be made without new infrastructure. Facilities are planned across the City, including on Sheppard, Eglinton and Finch Avenue.

# New Vehicles

## Features and Enhancements

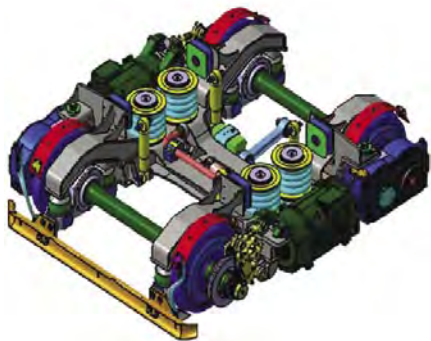
**Q: What are the key improvements of the new streetcars to be used on existing lines?**

A: The new streetcars will be accessible. They are about twice the length of the existing shorter streetcars and have more seats and room for standing passengers. Additional new features include highly visible LED destination signs, air conditioning, interior accommodation for bicycles, large windows, and passenger assistance alarms.

## Measures to Reduce Noise and Vibration

**The new streetcar will be designed to minimize noise and vibration**

- The TTC will follow a comprehensive noise and vibration control plan.
- Specified noise and vibration levels will be achieved by careful selection, design, location, and installation of components on the new streetcar.
- Noise and vibration levels will be predicted with simulation software before the new streetcars are built.
- The first three new streetcars will be tested on Toronto streets for 9 months to ensure the established criteria has been achieved.
- Several components of the new streetcar will be designed to minimize noise and vibration. Some examples are listed below.



### Vibration Reducing Components:

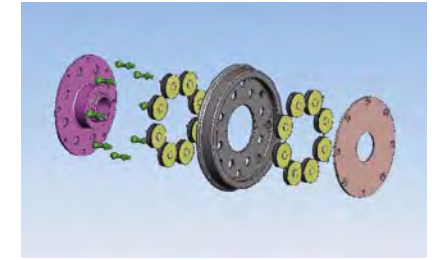
- Wheels
- Wheel-Axle Assembly
- Suspension

# Wheels

## Typical Semi-Soft Wheel

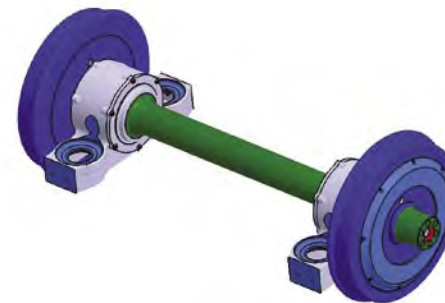


## Advanced Softer Wheel



- Most rail vehicles use stiff wheels.
- Typical European streetcars use semi-soft wheels.
- TTC will use advanced softer wheels on the new streetcar.
- Softer wheels tend to transmit less vibrations into the ground than other wheel types.

## Wheel-Axle Assembly

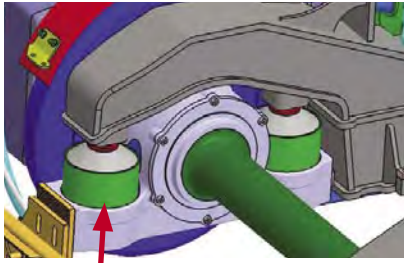


- Unsprung mass hung on the wheel-axle assembly has a major impact on vibration.
- Vibration levels can be minimized by reducing this mass.
- Efforts are being made to minimize this mass on the new streetcar and it will be less than that of existing TTC streetcars.

# Suspension

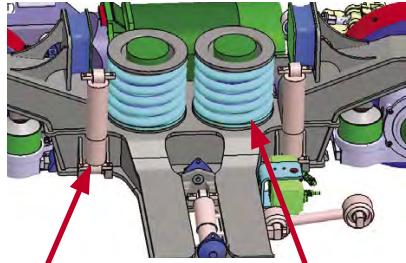
In addition to softer wheels and reduced wheel-axle assembly mass, the new streetcar has two sets of suspension to minimize vibration.

## Primary Suspension



Rubber Spring

## Secondary Suspension

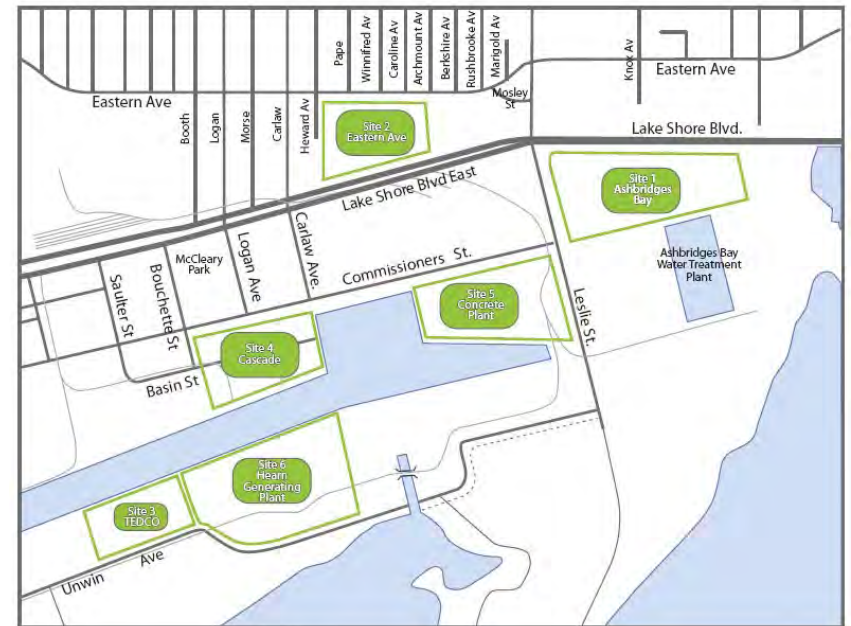


Hydraulic Damper

Coil Spring

## Vehicle Consultations - [www.ttc.ca/LRV](http://www.ttc.ca/LRV)

Additional consultations specific to the new vehicles will be taking place starting later in April. We'd like to get additional feedback to assist with the detailed design of the vehicles. We will be launching a project website ([www.ttc.ca/LRV](http://www.ttc.ca/LRV)), as well as hosting a series of public meetings and a number of focus groups.



## Site Selection Process:

### How did we get here?

#### What?

In August 2009, the TTC awarded a contract to Bombardier for the purchase of 204 modern and accessible streetcars to replace its existing vehicle fleet. A new maintenance and storage facility (MSF) is required to maintain and store the new vehicles.

#### Why?

In addition to routine maintenance activities, the new Ashbridges facility will store 100 vehicles and provide fleet repair services to up to 20 vehicles at a time. The current streetcars are 15 metres in length, each new streetcar will be double the size at 30 metres and will provide additional capacity and increase service reliability.

#### Features & Benefits

The new Maintenance and Storage Facility will be a state-of-the-art complex designed to Toronto Green Building Standards which will result

in measurable improvements to air and water quality; increase energy and water efficiency, reduce greenhouse gas emissions. The surrounding area will include green space and a parkette located at the North West corner of the site.

## How was the Ashbridges site selected?

A city-wide property search for sites for the proposed Maintenance and Storage Facility was initiated in February 2009 and was based on the following criteria:

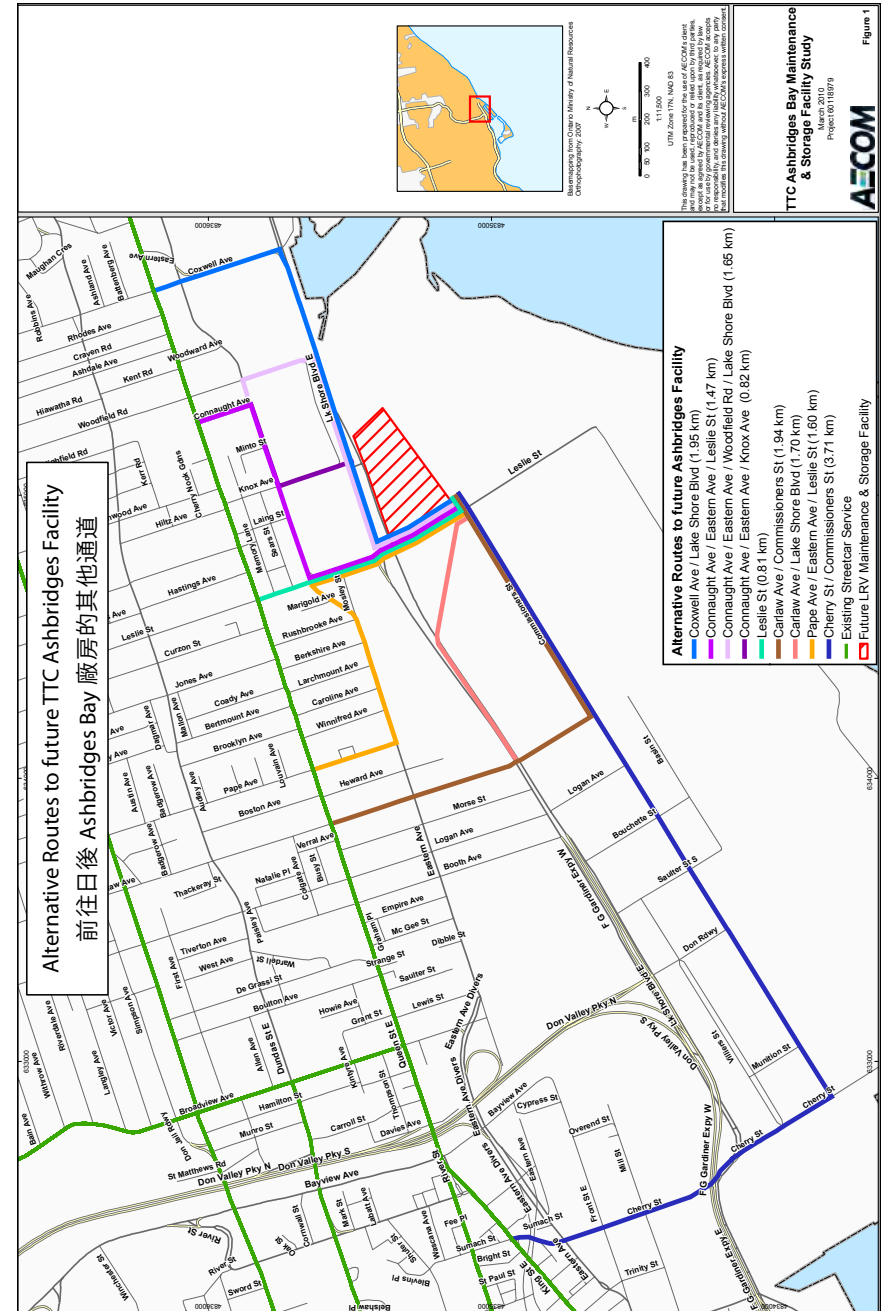
- Property requirement approximately 22 acres
- Close proximity to existing streetcar network
- Minimal relocation of existing business and facilities
- Minimize crossing of existing rail road tracks

In total, 14 sites were evaluated and six sites that met the criteria were identified. Site evaluations for the six finalists were assessed based on: property size, community considerations, operational issues, cost, and potential for site to be developed and in service in time for delivery of the new streetcars.

In June 2009, public consultations were held to inform the public of a shortlisted group of the three sites which met operational needs: Eastern Avenue site, TEDCO Unwin Avenue site and the Ashbridges site. 200 members of the public provided feedback on the sites and the Ashbridges Bay site and Unwin sites received support. In December 2009 Toronto City Council approved a settlement with the Toronto Port Authority to transfer ownership of the selected property to the City for TTC use and the TTC Commission approved the use of this property for an streetcar maintenance and storage facility.

The Unwin site was dropped for multiple reasons, such as: additional capital cost for extra connection tracks (longer distance), need for construction of a new bridge on Unwin (to replace one lane bridge), additional operational cost for the added 1km between Commissioners and the Unwin site. Tracks for this option would cross the railway tracks twice in travels from Commissioners. Concerns and community opposition from residents and the Film Industry in particular was expressed towards the Eastern Avenue option. The Eastern Avenue option would require acquisition and demolition of a building that would extend the construction completion by 1-2 years.

# Routing Options



# Comments & Questions

## New Streetcars (Light Rail Vehicles/LRVs)

**Q1: Do you have any comments/recommendations regarding the new streetcars?**

## Routing Options

**Q1: What do you like/dislike about the routing option(s)?**

**Q2: Do you have any comments/recommendations on any specific route?**

## Overview

**Q1 Do you have any other comments, recommendations or questions about the project?**

Please submit your comments this evening or by April 20, 2010 to:

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