



## INFORMATION

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**Subject:** Presentation - TTC/Transportation Services – Joint Surface Transit Initiatives

**Date:** May 27, 2015

Stephen Buckley, General Manager, Transportation Services has been invited by the Chair to make a presentation to the TTC Board.

**Original Signed by V. Rodo**

Vincent Rodo  
Chief Financial &  
Administration Officer

1-7



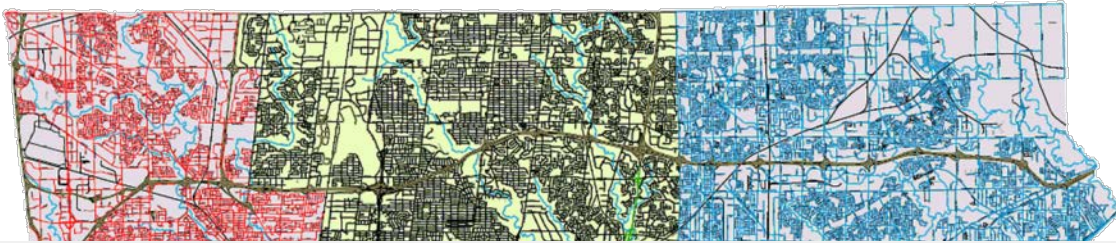
# TTC/Transportation Services Improving Surface Transit Operations

TTC Board Meeting | May 27, 2015

# Agenda

- Overview of Transportation Services
- Surface Transit Achievements and On-going Initiatives
- Moving Forward

# Transportation Services Our Assets



5,600 km  
of streets



400 flashing  
beacons



2,300  
traffic signals



14,750  
pieces of street  
furniture



900  
bridges and culverts



600  
pedestrian crossovers



1 million  
signs



7,950 km  
of sidewalk



4,100  
bus shelters



1200 km  
of bike lanes, trails  
and routes

No idea, its on our website and PPT presentations

# What We Do

Owner, operator and maintainer of the public right-of-way

- road and sidewalk maintenance
- traffic signals, signs and pavement markings
- traffic safety
- infrastructure management and programming
- snow clearing, road salting, and street cleaning
- permitting for on-street parking, construction and events
- red light camera operations





# Other Things We Do

- pedestrian projects
- cycling infrastructure and programs
- public realm
- street furniture
- graffiti management
- StreetARToronto







# Transportation Services Strategic Agenda

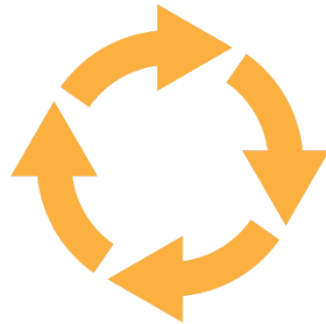
2014-2019



# Our Public Focus Areas



Safety



Mobility



Liveable  
Streets



Quality  
Infrastructure






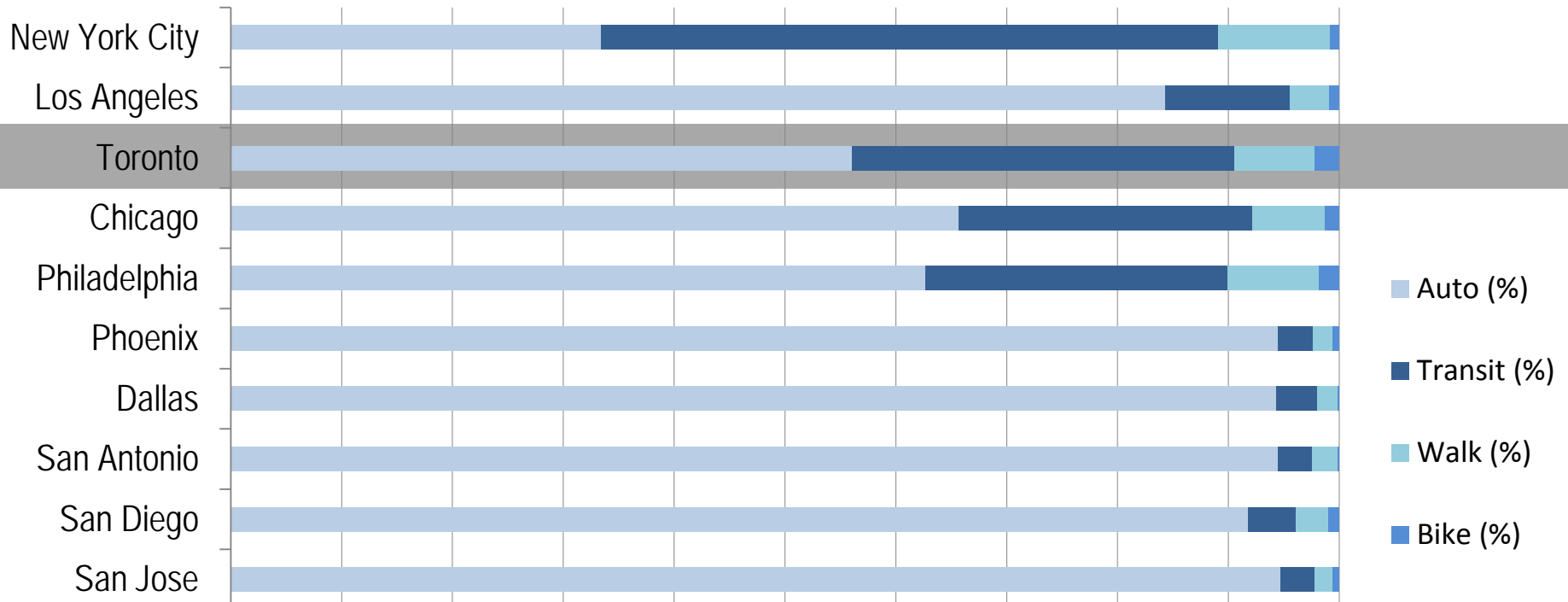
## Mobility Objective 3. Support the operation of high-quality transit services

Over the next five years, Transportation Services will partner with the Toronto Transit Commission (TTC) to increase the comfort, reliability, and speed of surface transit. This will include reviewing the policies that guide surface transit operations, upgrading transit shelters, and revisiting the existing high-occupancy vehicle (HOV) network regulations.

### Initiatives

- 
- 3.1 Establish a Joint Executive Committee to address strategic issues that affect TTC and Transportation Services.
  - 3.2 Conduct a study to identify options for improving downtown streetcar operations.
  - 3.3 Revisit transit signal priority policies and identify improvements.
  - 3.4 Develop policies to guide decisions that affect surface transit operations.
  - 3.5 Continue refinement of transit shelter design to better protect transit users from weather.
  - 3.6 Revisit bus stop design standards to support TTC stop consolidation and articulated buses.
  - 3.7 Re-evaluate HOV policies to improve the operation of the existing HOV network and better coordinate with the networks of neighbours and partners.
  - 3.8 Update the HOV network plan and consider expanding the network in strategic locations.

# Commuter Mode Share in North American Cities



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

# Improving Surface Transit: Focus Areas



Coordination



Better Understanding



Getting Transit Moving



Better Communication



Getting Streets Moving





## Improving Surface Transit: **Coordination**

### Actions Taken

- Established a **Joint Executive Committee**
- Hired a **Manager of Surface Transit Operations in Transportation Services**

### Work Underway

- Developing a **joint annual work program**





## Improving Surface Transit:

# Getting Transit Moving

## Actions Taken

- Conducted **delay studies** for the King St. streetcar operations
- Modified **peak hours restrictions** on King and Queen Sts. in the core
- Implemented **Proof-of-Payment (P-O-P)** on the King St. streetcar
- Piloted and extended LED **“No Left Turn”** signs at key intersections
- Created signal **timing plans** for Yonge Street shuttle operations
- Reviewed transit stops for opportunities to consolidate

## Work Underway

- Introducing new and larger **accessible streetcars**
- Modifying **peak hours restrictions** on Queen, Dundas, College and other major transit routes
- Reviewing next generation of **transit signal priority**
- Prioritizing additional **transit operations studies**
- Developing criteria for where to consider **queue jump lanes**
- Working on **TOC-TTC** (ATMS/CAD-AVL) center-to-center integration





# Improving Surface Transit: Getting Transit Moving







# Improving Surface Transit: Getting Transit Moving





# Improving Surface Transit: Getting Transit Moving

## 7 506 CARLTON STREETCAR







# Improving Surface Transit: Getting Transit Moving







## Improving Surface Transit:

# Getting Streets Moving

## Actions Taken

- Reinitiated a **corridor timing program**
- Revised **peak hour clearance times**
- Initiated a **courier loading zone pilot**
- Increased peak hour **“No Stopping” fines**
- Conducted peak hour **enforcement and tow blitzes**
- Upgraded our **Transportation Operations Centre (TOC)**
- Piloted the acceleration of **disruptive construction projects**

## Work Underway

- Proposing **new lane closure fee** to reduce the duration of lane occupations
- Expanding active traffic control on arterials with a new **Advanced Traffic Management System**
- Initiating a **Curbside Management Plan** for the downtown
- Procuring next-generation **adaptive traffic signal** technology
- Expanding LED **“No Left Turn” signs**





## Improving Surface Transit:

# 2014 Corridor Retiming Program

Corridor	Annual VOT Benefits	3-year B/C for VOT Savings	Annual Delay Reduction (hours/year)	Annual Fuel Reduction (liters/year)	Surface Transit Customers per Day
Sheppard Ave W	\$2.2M	51:1	70,500	552,000	40,000
Sheppard Ave E	\$2.3M	60:1	86,000	483,000	38,000
Yonge St	\$4.0M	76:1	142,500	814,000	4,000
Markham Rd	\$3.3M	109:1	144,000	456,000	19,000
Islington Ave	\$1.3M	30:1	42,500	319,500	14,000
O'Connor Dr/ Broadview Ave	\$1.6M	48:1	60,000	290,000	26,000
Leslie St	\$2.1M	81:1	87,000	359,000	10,000





## Improving Surface Transit:

# 2015 Corridor Retiming Program

Corridor	Annual VOT Benefits	3-year B/C for VOT Savings	Annual Delay Reduction (hours/year)	Annual Fuel Reduction (liters/year)	Surface Transit Customers per Day
Bathurst St					37,500
Dundas St					31,000
Lake Shore Blvd E/Woodbine Ave					4,000
Kipling Ave					23,000
Steeles Ave W					27,000
McCowan Rd					37,000
Danforth Ave					8,000
Warden Ave					15,000







## Improving Surface Transit:

# Better Understanding

### Actions Taken

- Used **TTC data** to better understand streetcar operations, and identify areas for tactical interventions
- Used **vehicular probe data** to better understand traffic performance on arterial roads
- Created a **Big Data Innovation Team** to better capitalize on big data for both planning, operations and evaluation

### Work Underway

- Using **TTC data** to better target peak hour clearances on streetcar routes
- Using **vehicular probe data** to identify the most congested and most unreliable road segments

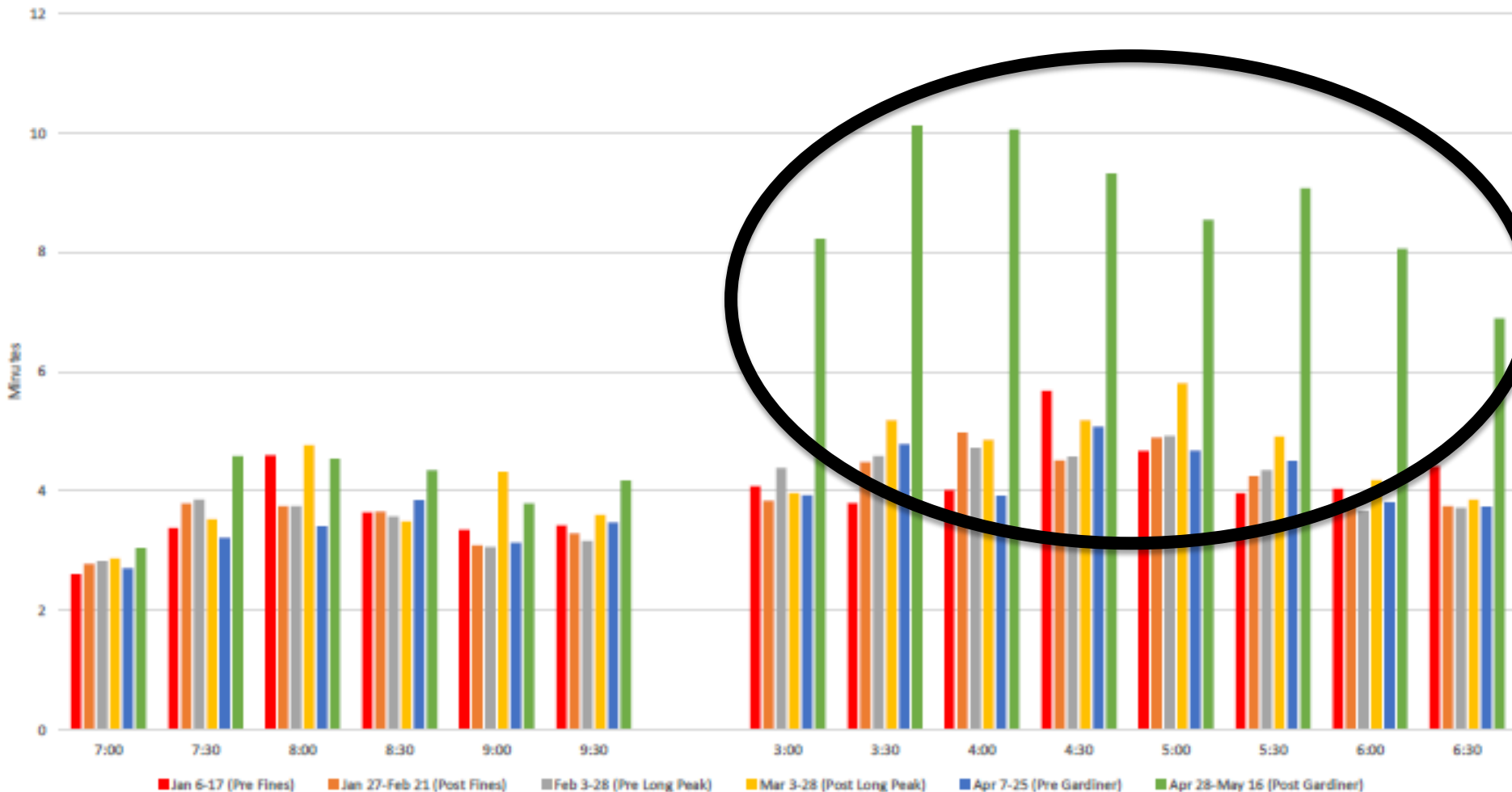




## Improving Surface Transit:

# TTC AVL Data – Measuring Impacts

Travel Times Before/After Changes: Increased Fines, Longer Peak, Gardiner Construction Jameson to Queensway WB

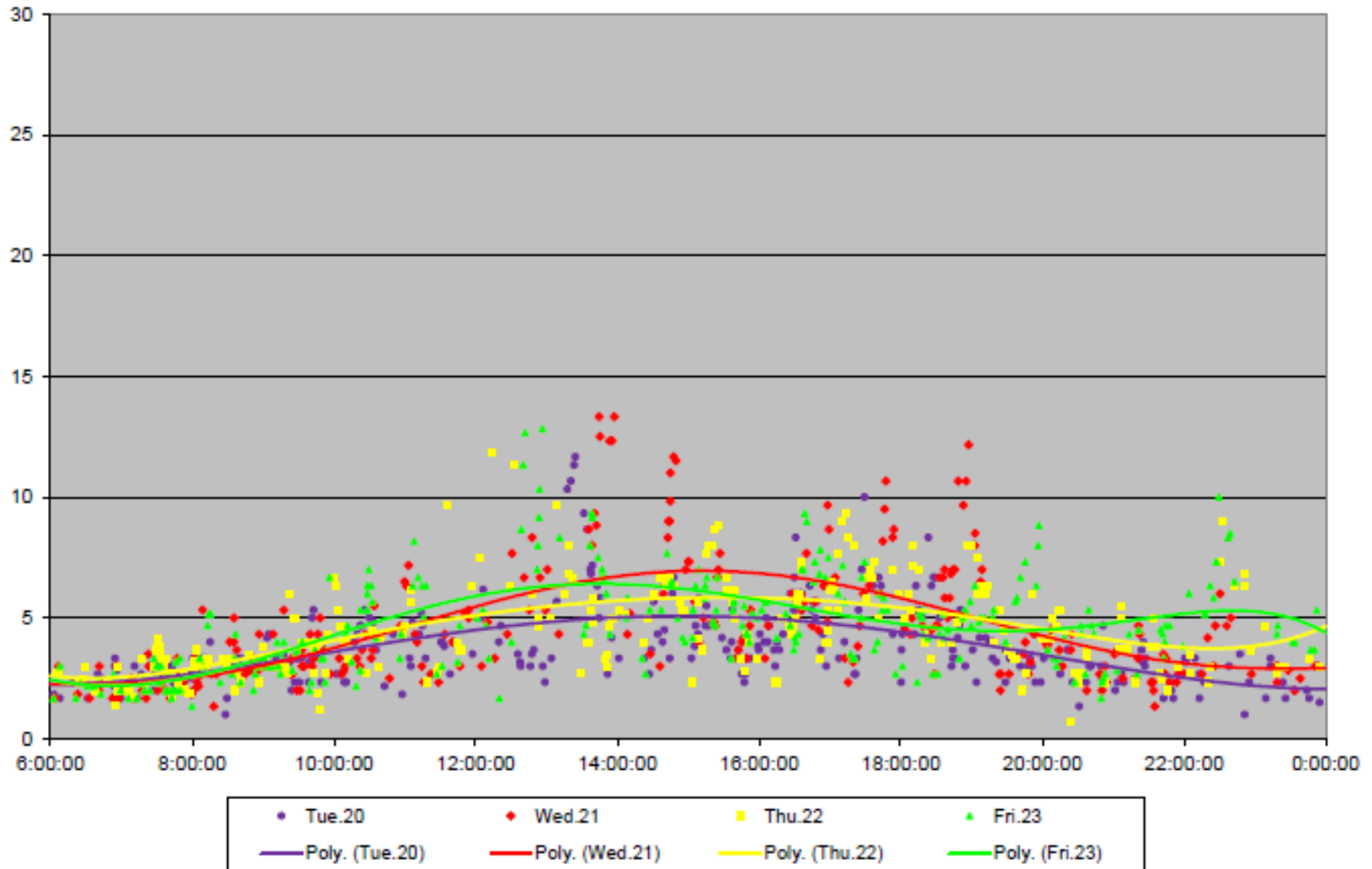




Improving Surface Transit:

# TTC AVL Data – Measuring Reliability

504 King Link Times From John To Spadina Westbound May 2014



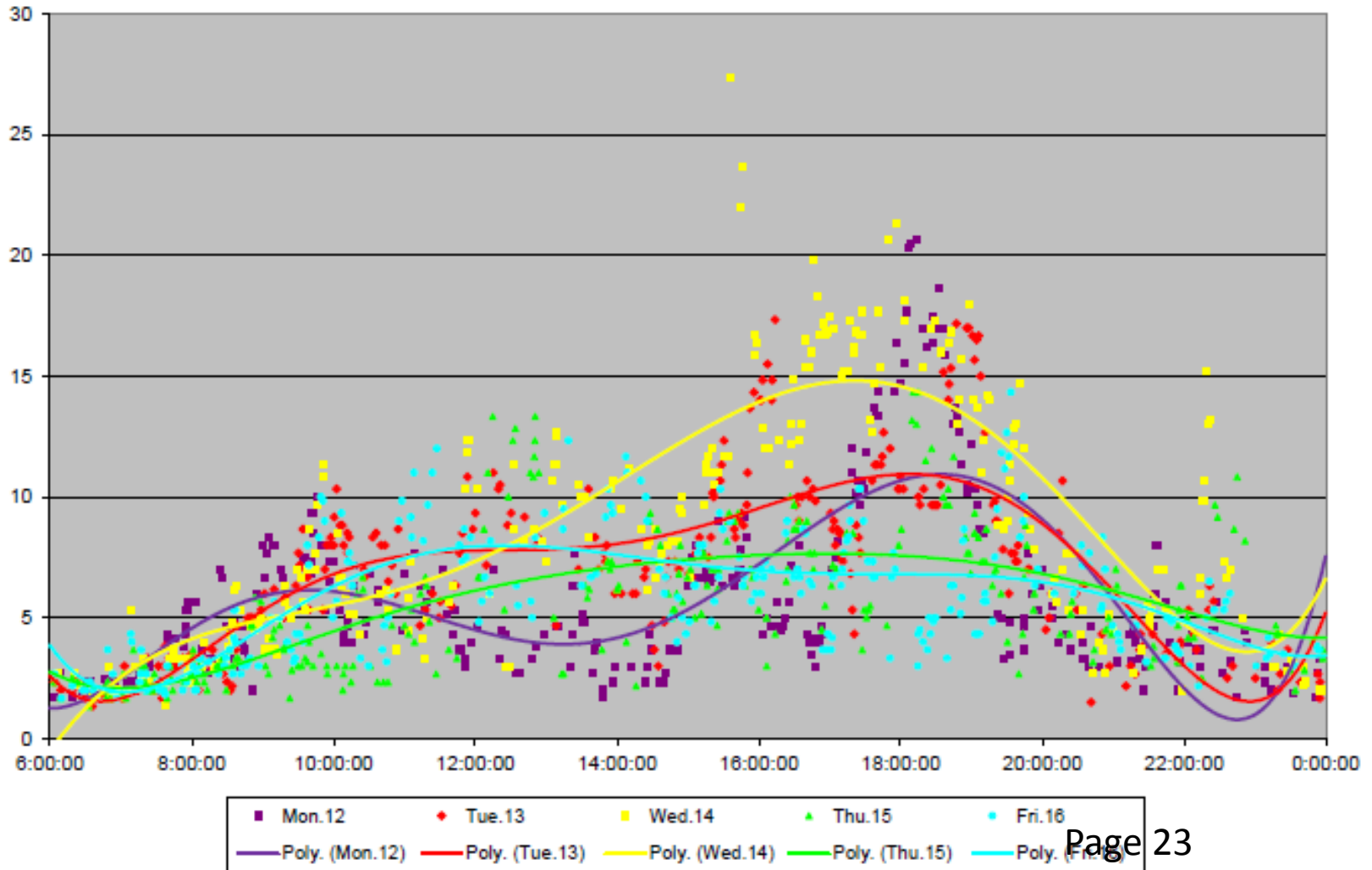




Improving Surface Transit:

# TTC AVL Data – Measuring Reliability

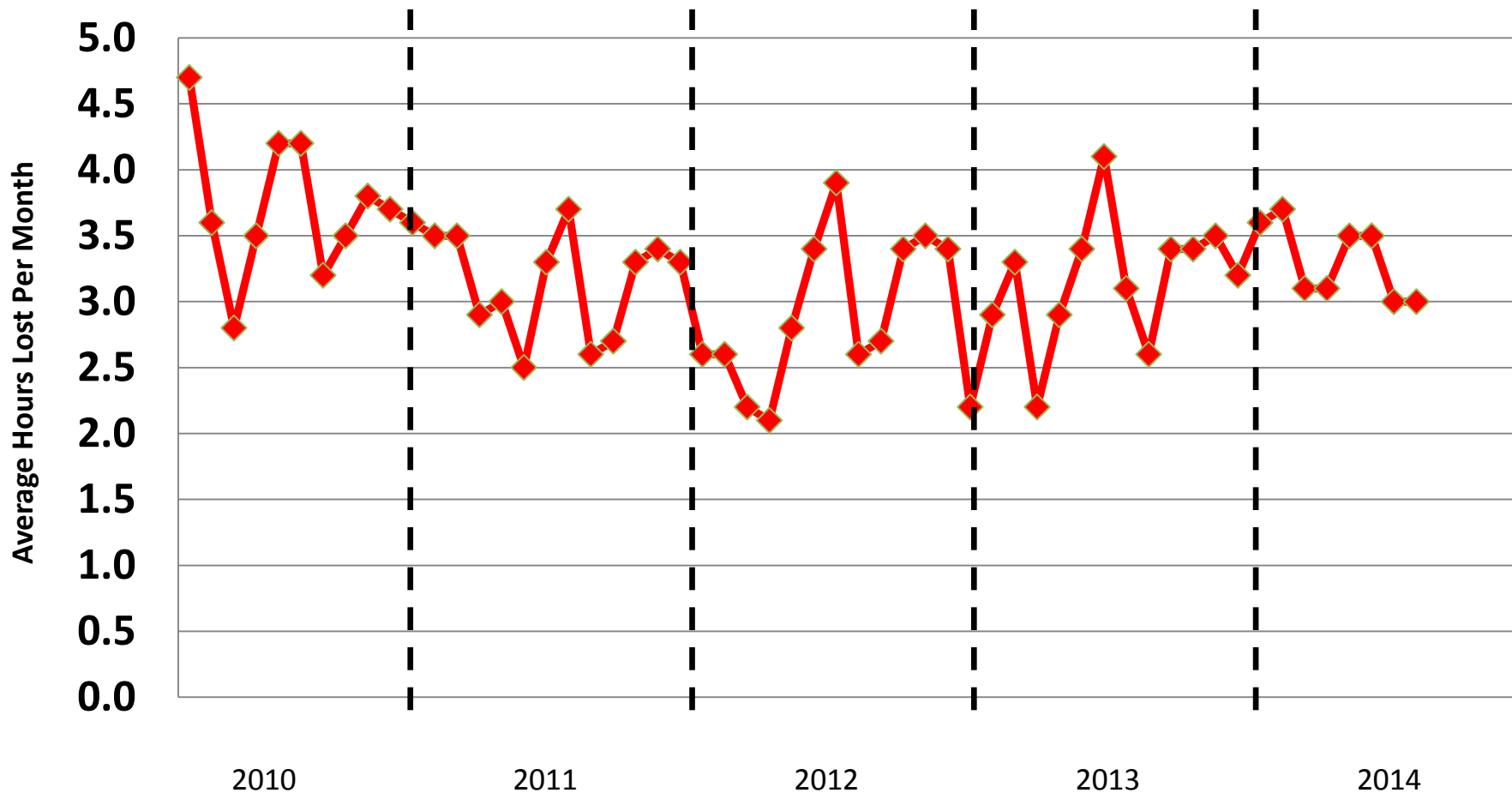
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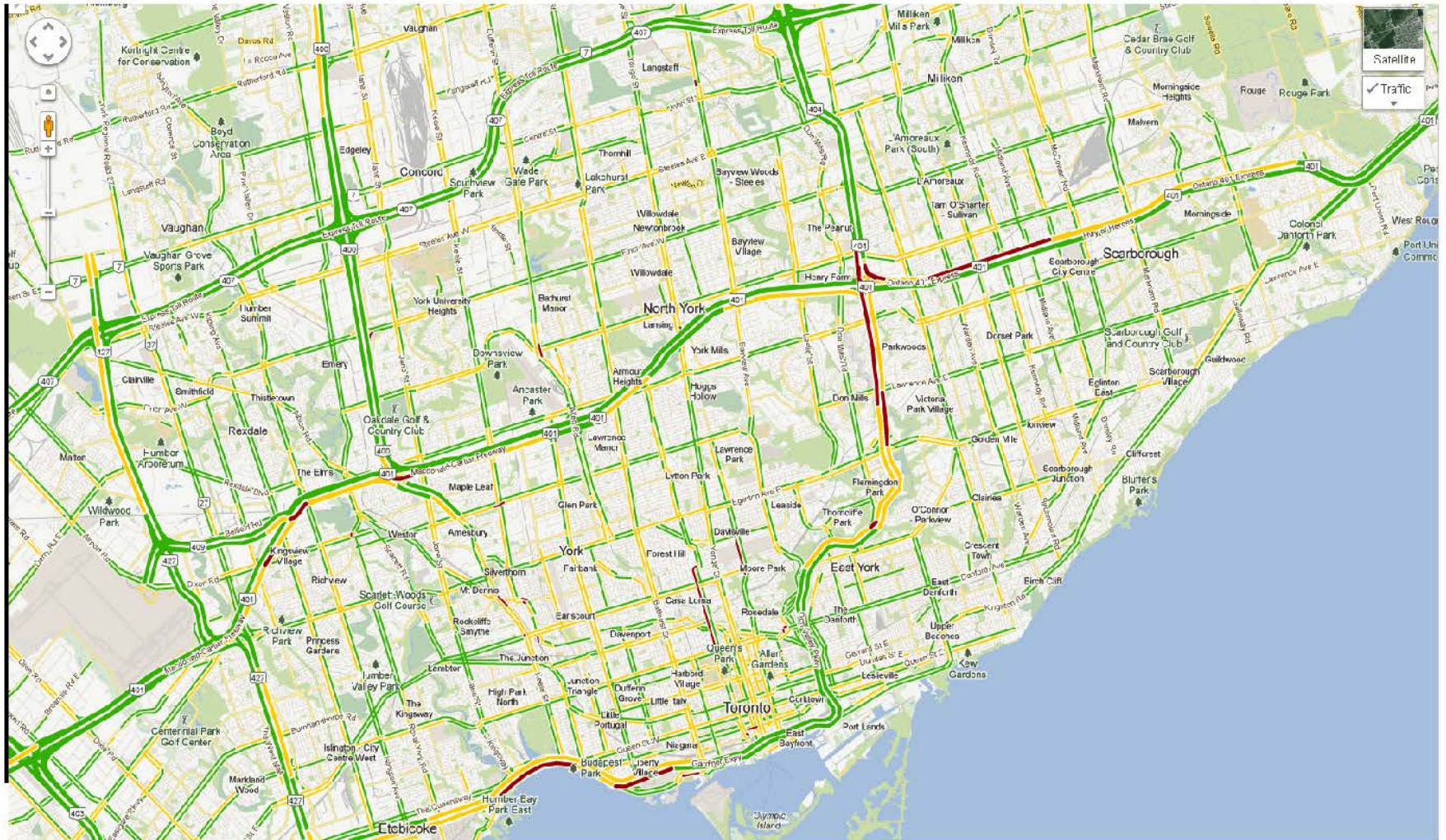
Improving Surface Transit:

# Monthly Hours Lost Due to Congestion





# Improving Surface Transit: Using Big Data to Improve Operations





Improving Surface Transit:

# Better Communication

## Actions Taken

- Improving communications on **disruptive construction projects**
- **Tweeting** out incidents on the Gardiner, DVP and major roads

## Work Underway

- Enhancing our **Road Closure Reporting System** and publishing via open data
- Piloting the display of **real-time transit** (and bike- and car-sharing) information at City Hall and Metro Hall
- Developing an **Advanced Traveller Information** Strategy
- Working jointly to develop common **base mapping** for the City's Toronto 360 Wayfinding Strategy & TTC Transit Shelters







# Improving Surface Transit: Better Communication



Notifications



Messages



Search Twitter



## TO Main Roads

@TO\_MainRoads

City of Toronto traffic incident alerts for the City's main roads. We do not provide responses at this account. Terms of Use: [www1.toronto.ca/wps/portal/con...](http://www1.toronto.ca/wps/portal/con...)

Toronto, Ontario, Canada

TWEETS  
2,072

FOLLOWERS  
427

Tweets

Tweets & replies



**TO Main Roads** @TO\_MainRoads · 59s

Emergency Closure: Updated: ANNETTE ST At HIGH PARK AVE. Update: Eastbound lanes now blocked at Quebec Ave.... [tinyurl.com/kbnmry6](http://tinyurl.com/kbnmry6)





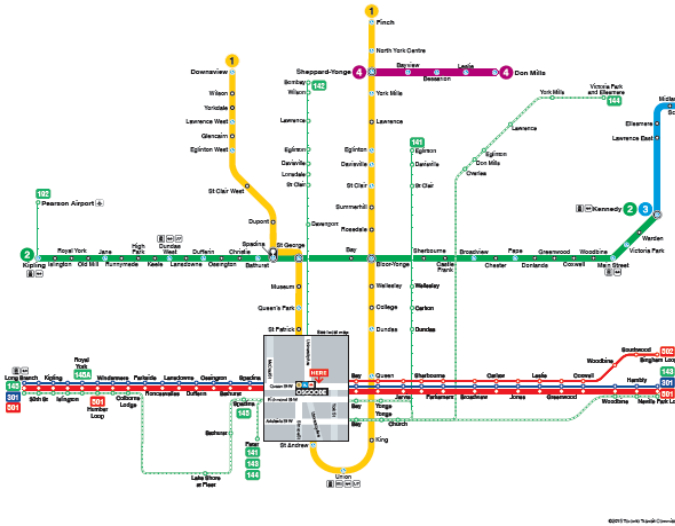
# Improving Surface Transit: Better Communication

## Osgoode Station

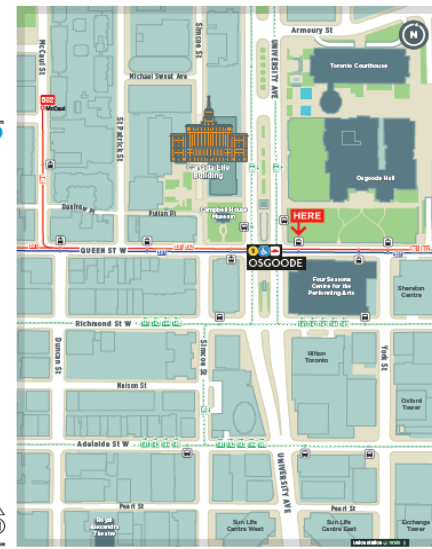
Queen St W at University Ave

Stop  
**6859**

Local transit network



Local area map



**TTC route frequency**

Service	Monday to Friday	Saturday	Sunday
<b>Frequent service</b>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>
<b>Regular service</b>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>	<ul style="list-style-type: none"> <li>511 Queen: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> <li>522 Downtown: 6:00, 6:30, 7:00, 7:30, 8:00, 8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 1:00, 1:30, 2:00, 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, 5:30</li> </ul>
<b>Subway service</b>	<ul style="list-style-type: none"> <li>Subway lines run every 3-5 minutes Monday to Saturday from 6 am to 1:30 am and every 5-7 minutes Sunday from 9 am to 1:30 am.</li> </ul>		
<b>Blue Night Service</b>	<ul style="list-style-type: none"> <li>Monday to Friday: 1:00 am to 5:00 am</li> <li>Saturday: 1:00 am to 5:00 am</li> <li>Sunday: 1:00 am to 5:00 am</li> </ul>		

**Legend**

Line	Service	Frequency
Blue	Blue Line	10 min or better service, Monday to 11:00 pm, Weekends 6 am to 7:00 pm.
Orange	Orange Line	10 min or better service, Monday to 11:00 pm, Weekends 6 am to 7:00 pm.
Green	Green Line	10 min or better service, Monday to 11:00 pm, Weekends 6 am to 7:00 pm.
Red	Red Line	10 min or better service, Monday to 11:00 pm, Weekends 6 am to 7:00 pm.
Yellow	Yellow Line	10 min or better service, Monday to 11:00 pm, Weekends 6 am to 7:00 pm.
Blue	Blue Night Service	1:00 am to 5:00 am, Monday to Sunday.

**Next vehicle arrival times**

Text stop no. 02268 to 898882 for bus and streetcar arrival times.

**Get POP**  
Proof-of-Payment  
Pay your fare and get a transfer

**Download the apps**

TTC Connect app: Scan QR code to get the app and pay your fare.

TTC Next Stop app: Scan QR code to get the app and pay your fare.



# Moving Forward

- Look at ways to continue to improve travel times
  - Look at ways to improve RELIABILITY
  - Create a work plan expand corridor reviews
  - Consider ways in which we can use our traffic signal systems to help TTC better manage its surface operations
  - Continue to improve inter-organizational coordination
  - Continue to improve inter-organizational communication
- 
- Need to build capacity; dedicated resources



# TTC/Transportation Services Improving Surface Transit Operations

TTC Board Meeting | May 27, 2015