STAFF REPORT
INFORMATION ONLY

The Importance of Streetcars in the TTC's Integrated Transit Network

Date:	July 11, 2016
To:	TTC Board
From:	Chief Executive Officer

Summary

Street level transit in the core of Toronto is delivered, almost exclusively, by streetcar routes that have existed for more than 100 years. Streetcars are hugely efficient and move large numbers of customers safely and quickly. How streetcars work on downtown streets and their efficient operations are critical to meeting the goals of the TOCore work.

The attached presentation outlines the importance of streetcars to the TTC's integrated network.

Staff are available to present if requested.

Contact

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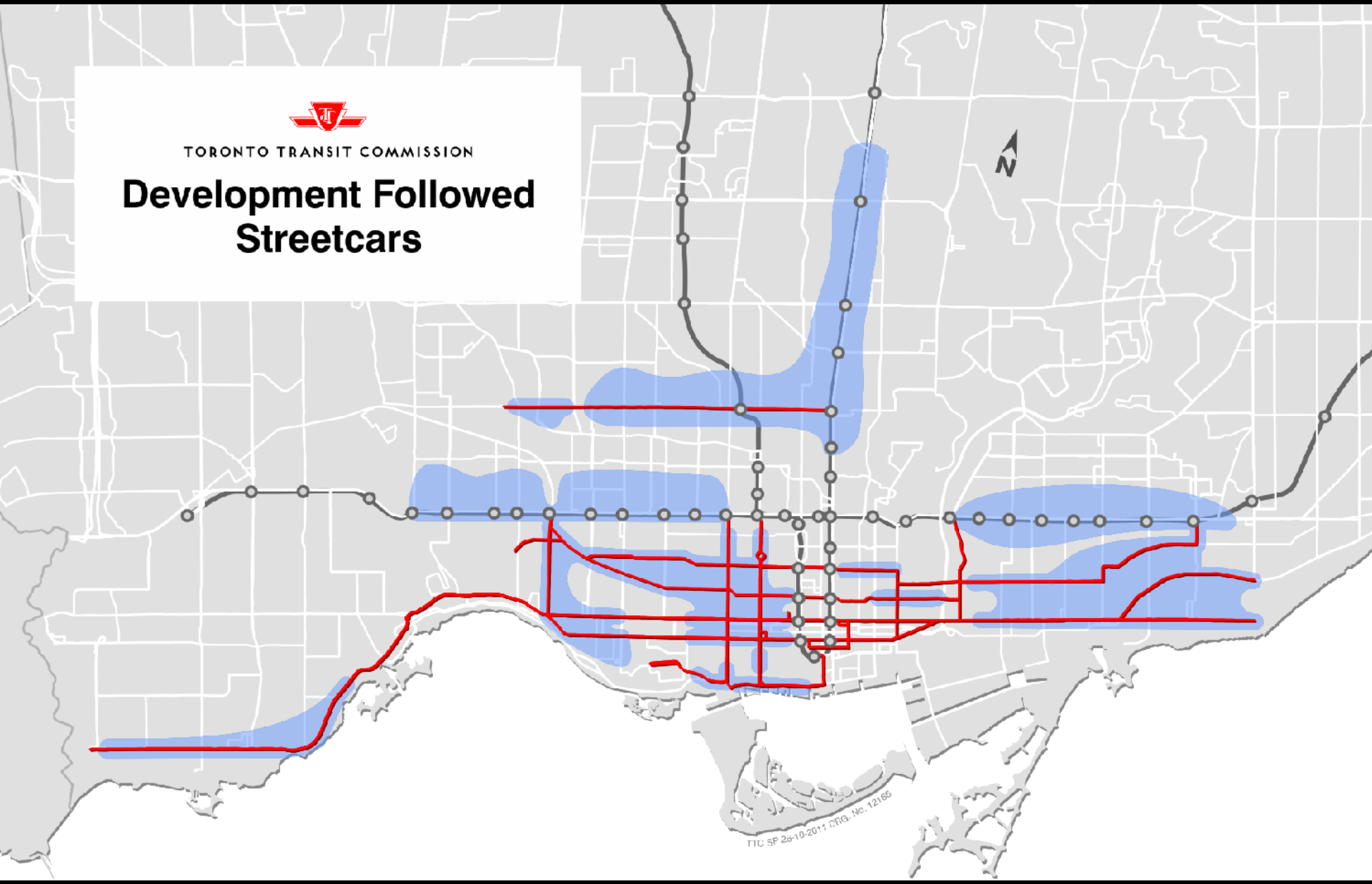
Attachments

Presentation

The Importance of Streetcars in the TTC's Integrated Transit Network

July 11, 2016


GARY COOPER
LUPE
AND
ICE CRE M
Diana S eets
TEA RO M


TORONTO TRANSIT COMMISSION
Development Followed Streetcars
N
TTC SP 26-10-2011 ORG. No. 12165


PENALTY FOR
ILLEGAL ENTRY
TO SUBWAY STATION
$50.00
KEEP
OUT
STOP
RACES
WOODBINE
4467


Yonge St


504 BROADVIEW STN VIA


DELSAN
DEMOLITION SERVICES
416-494-9898
www.delsan-aim.com

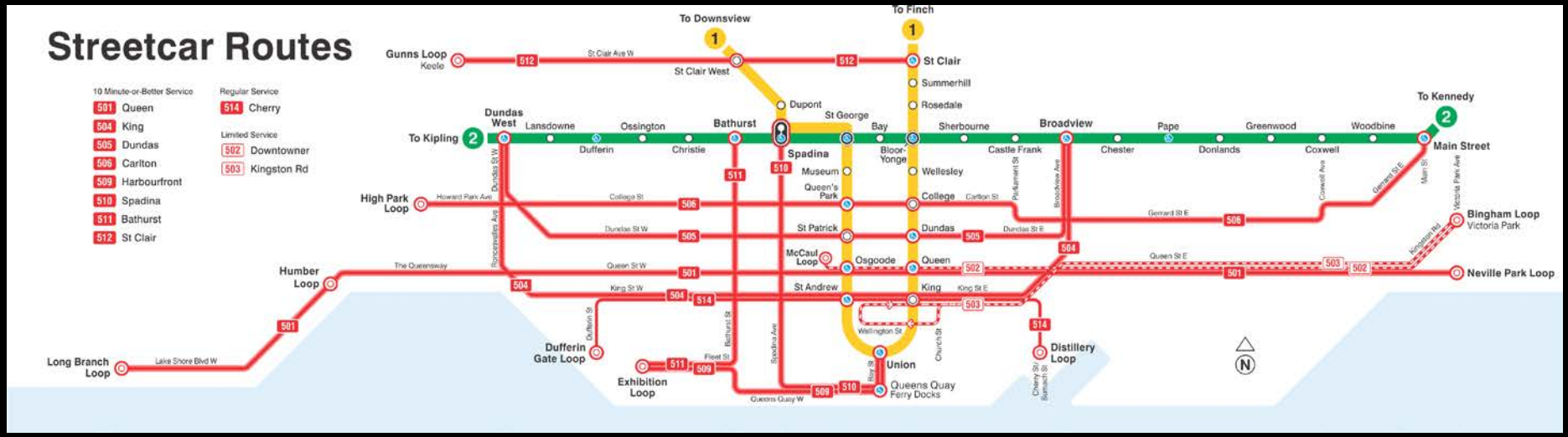

TO STREET
TO TRAINS


504
ST
JAC'S
MILK
Bell
Bell

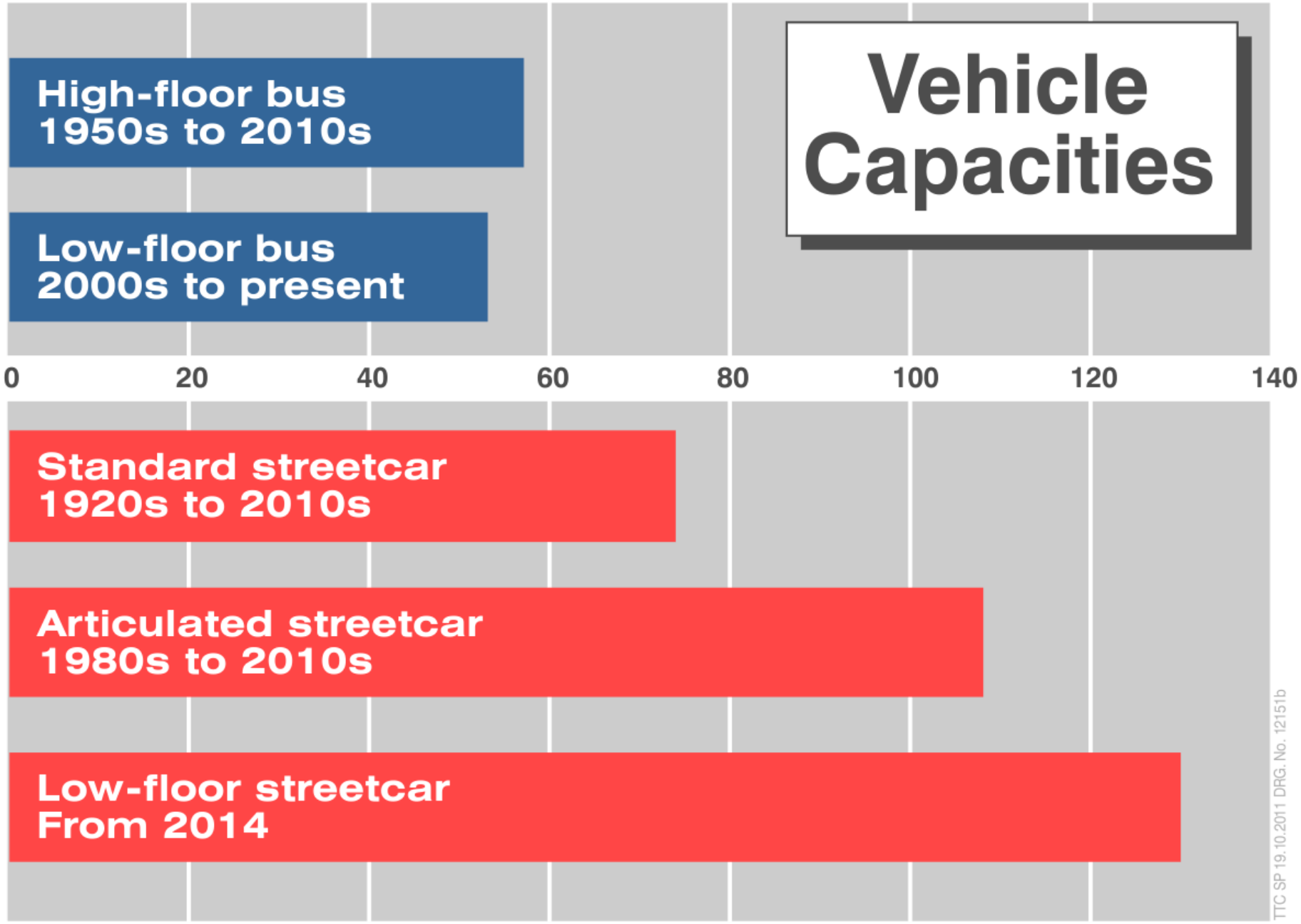
City of Toronto Archives, Series 1465, File 620, Item 6

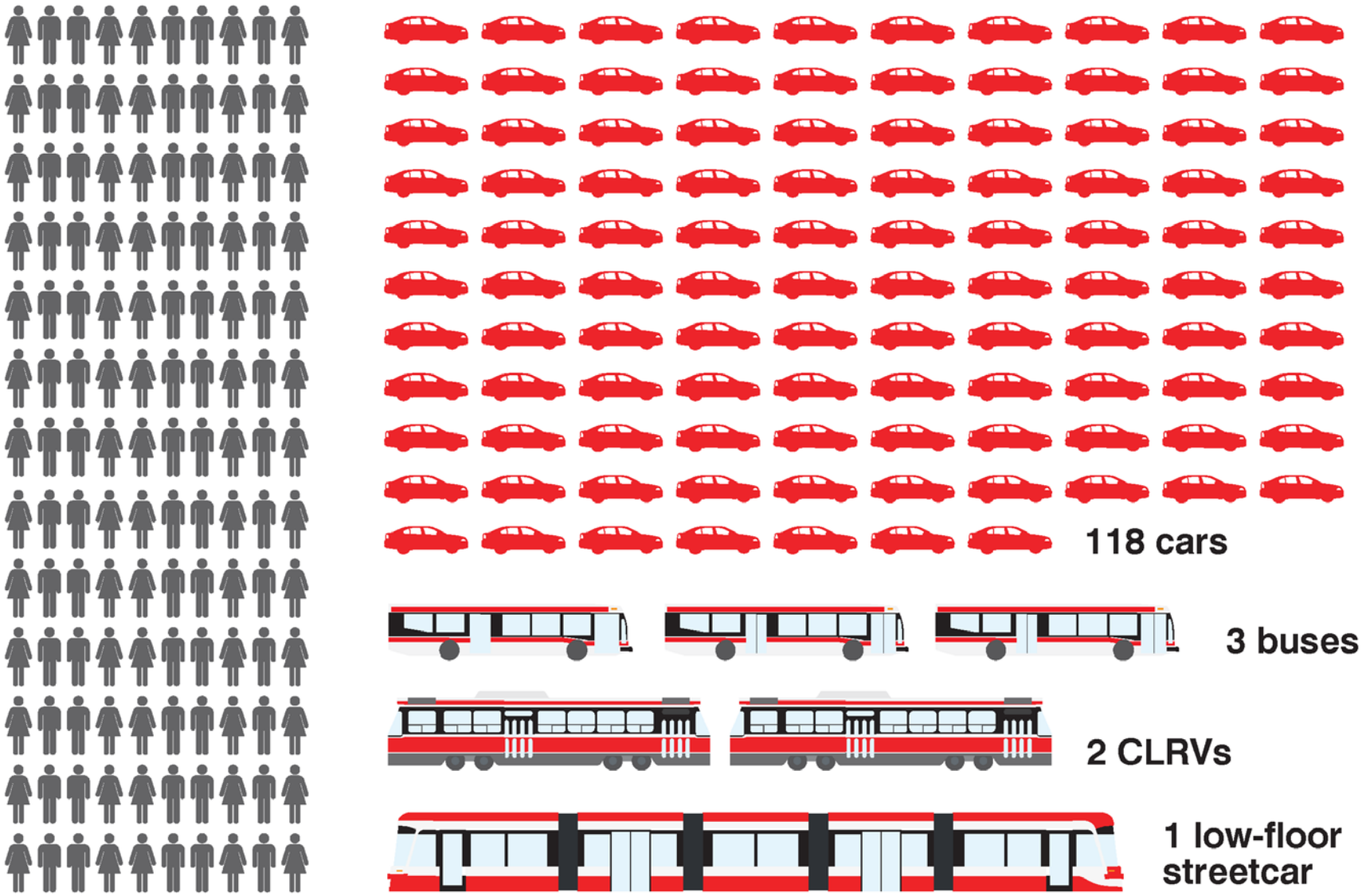

EQ3
EQ3
Silverbourne
OFF

Streetcar Routes



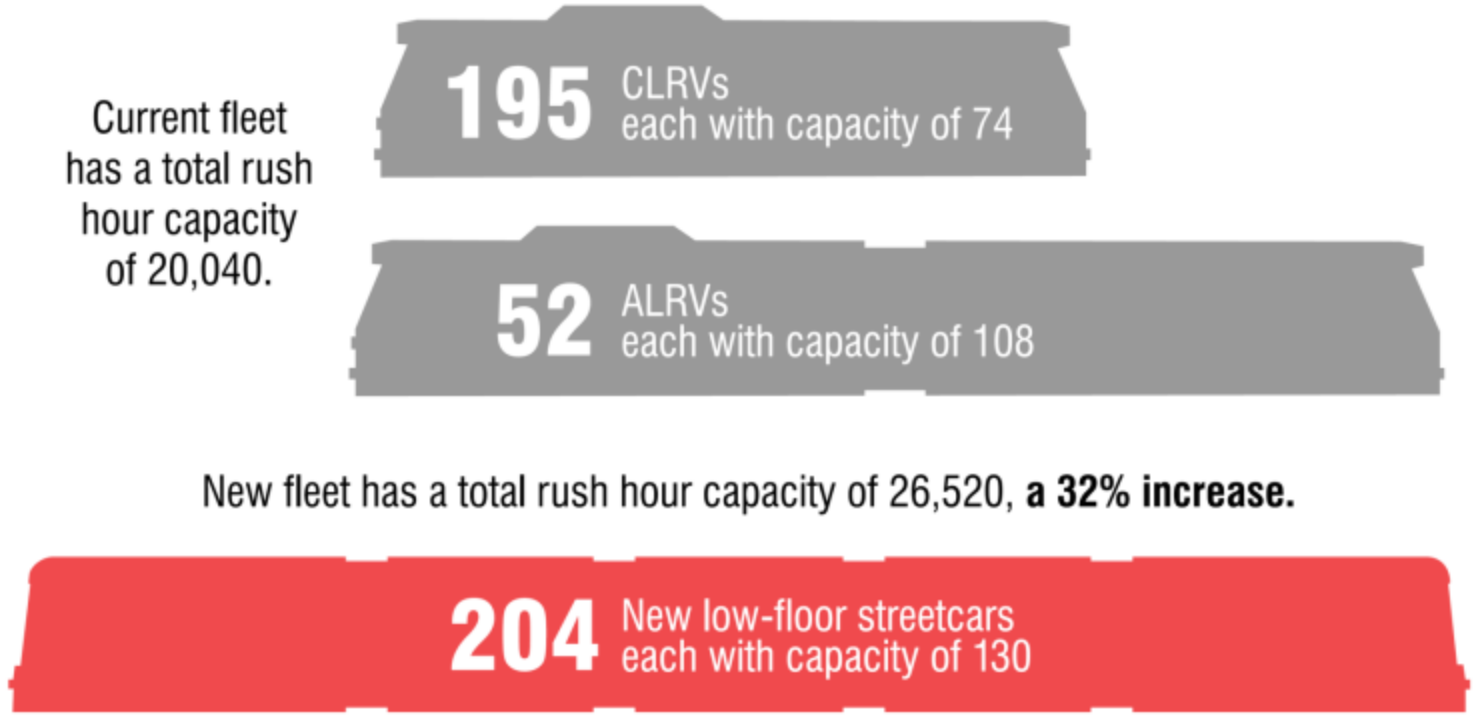
Blue Night Streetcar Routes

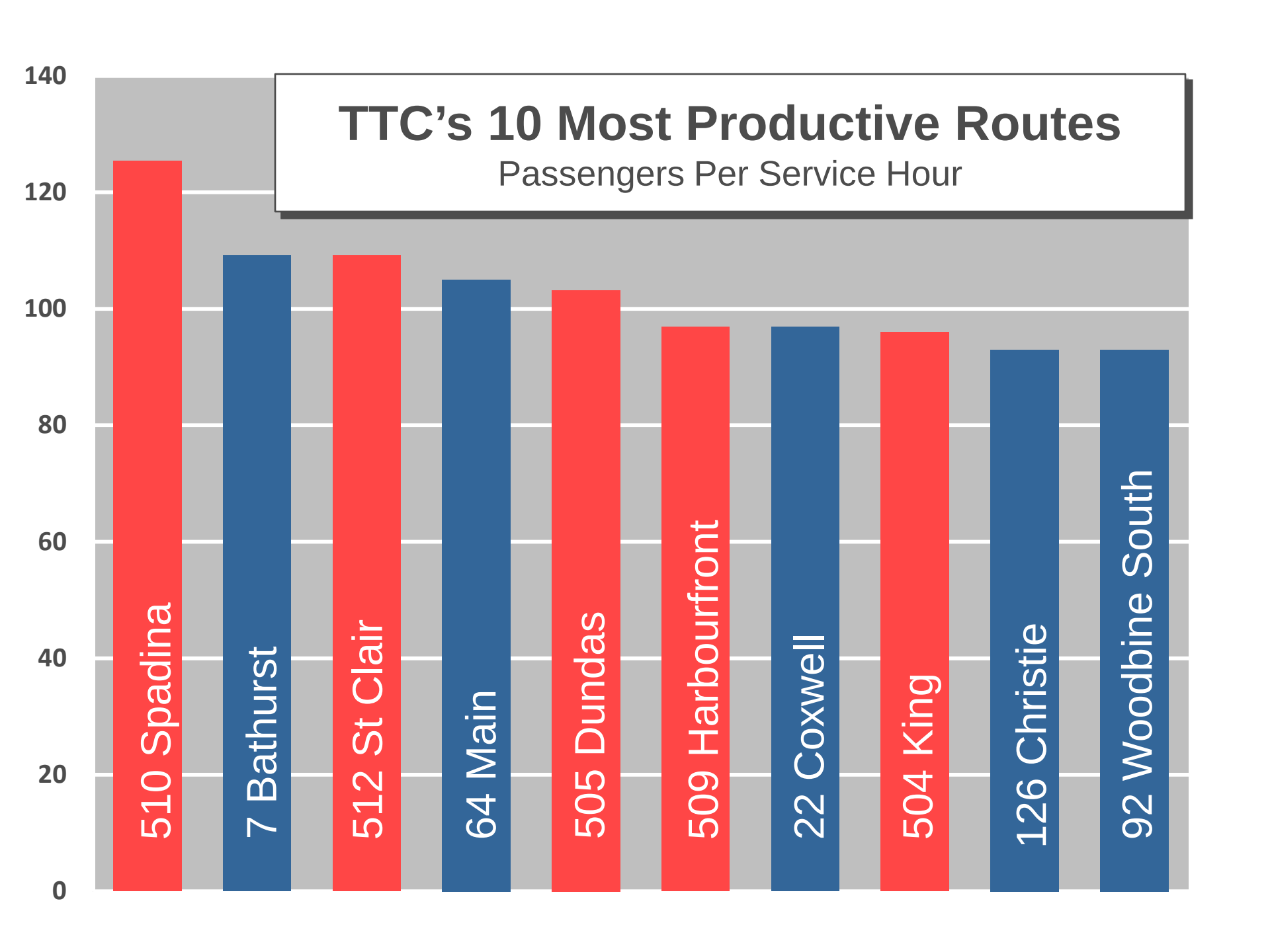

Vehicle Capacities
High-floor bus
1950s to 2010s
Low-floor bus
2000s to present
0
20
40
60
80
100
120
140
Standard streetcar
1920s to 2010s
Articulated streetcar
1980s to 2010s
Low-floor streetcar
From 2014
TTC SP 19.10.2011 DRG. No. 12151b


118 cars
3 buses
2 CLRVs
1 low-floor streetcar

Fleet Capacity

The new streetcars will increase the total capacity of the TTC's streetcar fleet and on the fastest-growing routes in the TTC system.




TTC's 10 Most Productive Routes
Passengers Per Service Hour
140
120
100
80
60
40
20
0
510 Spadina
7 Bathurst
512 St Clair
64 Main
505 Dundas
509 Harbourfront
22 Coxwell
504 King
126 Christie
92 Woodbine South

Toronto's Streetcars Today

- 96 million riders per year
  - 10% of total system route kilometres
  - 14% of total system operating hours
  - 19% of total TTC passengers


SHORT TURN
4136
Flickr: Kat Northern Lights Man


STARBUCKS COFFEE
P
SUN
AVFV 413

Growth in Shoulder Areas

- Ridership grew 80% between 2004 and 2014 on King Street in shoulder areas:
  - Dufferin-Bathurst
  - Sherbourne-DVP


4017
ST. MICHAEL'S HOSPITAL
Yonge St

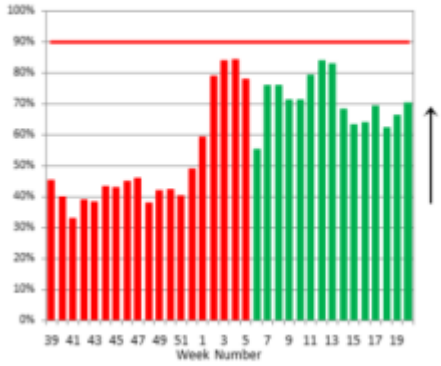

TTC
EXCEPTED
504
7744

504 KING

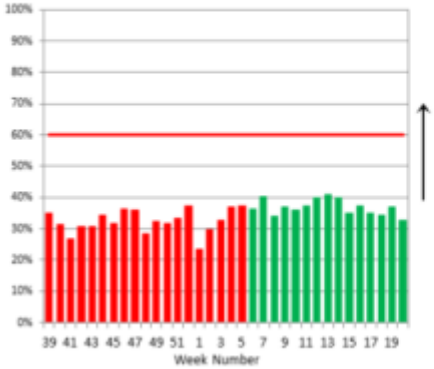
504 King

Week 20

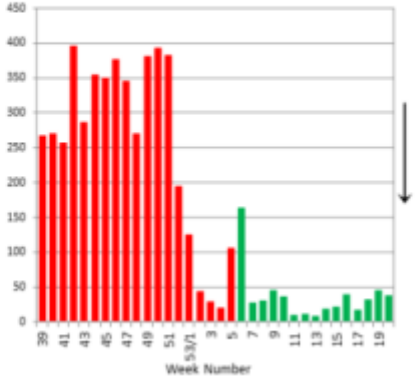
On Time Departures



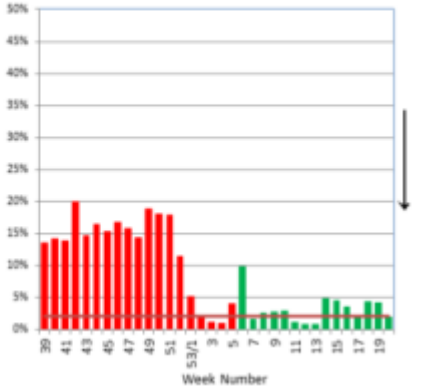
On Time Arrivals



Short Turns

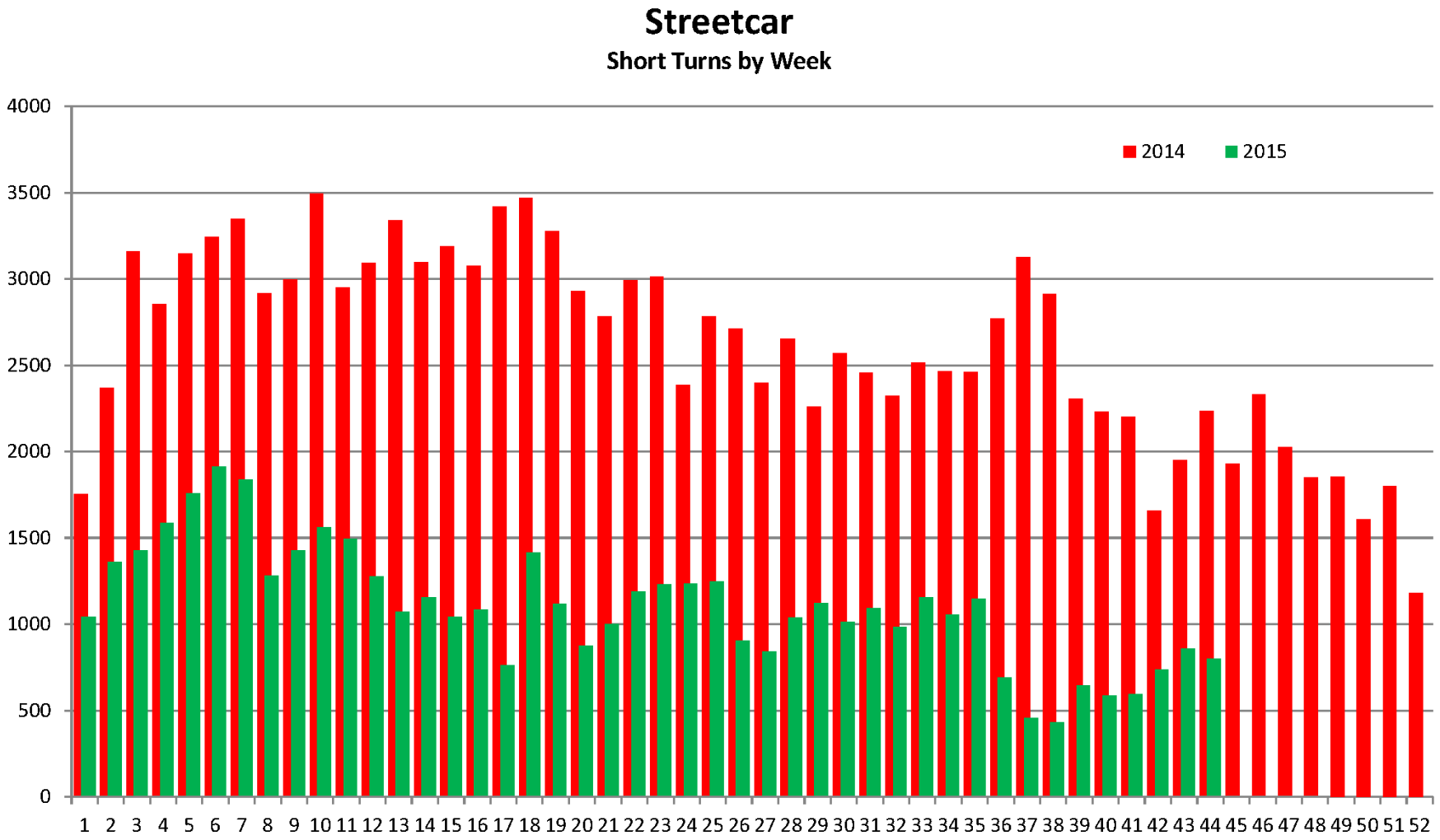


Missed Trips



Improved Reliability

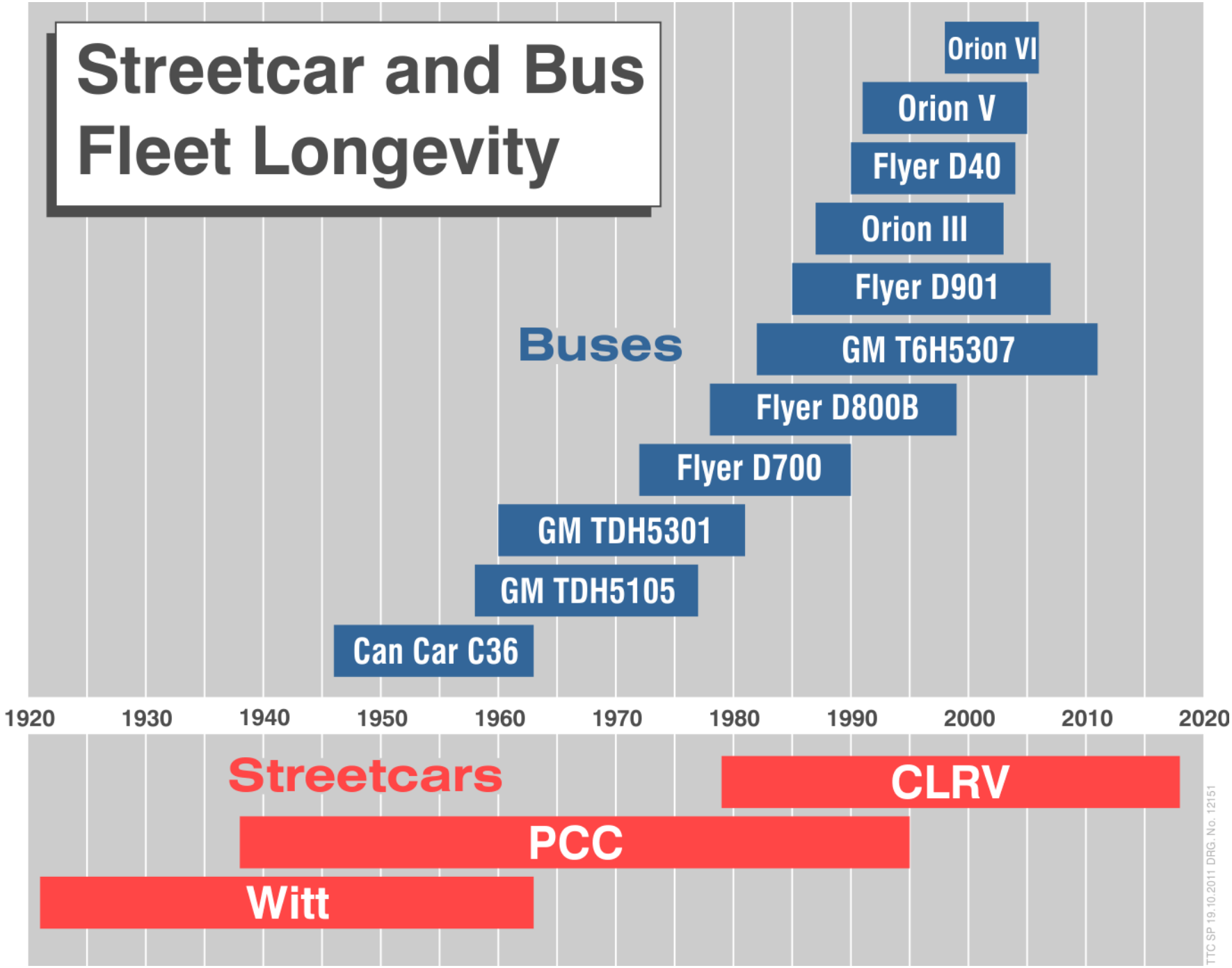
SHORT TURNS – 2014 VS 2015



Streetcars are durable, rugged

- Streetcars – 30 years typical life
- Buses – 18 years or less

- Over 90 years:
  - 4 streetcar series
  - 20+ bus series


Streetcar and Bus Fleet Longevity
Orion VI
Orion V
Flyer D40
Orion III
Flyer D901
Buses
GM T6H5307
Flyer D800B
Flyer D700
GM TDH5301
GM TDH5105
Can Car C36
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
Streetcars
CLRV
PCC
Witt
TTC SP 19.10.2011 DRG. No. 12151

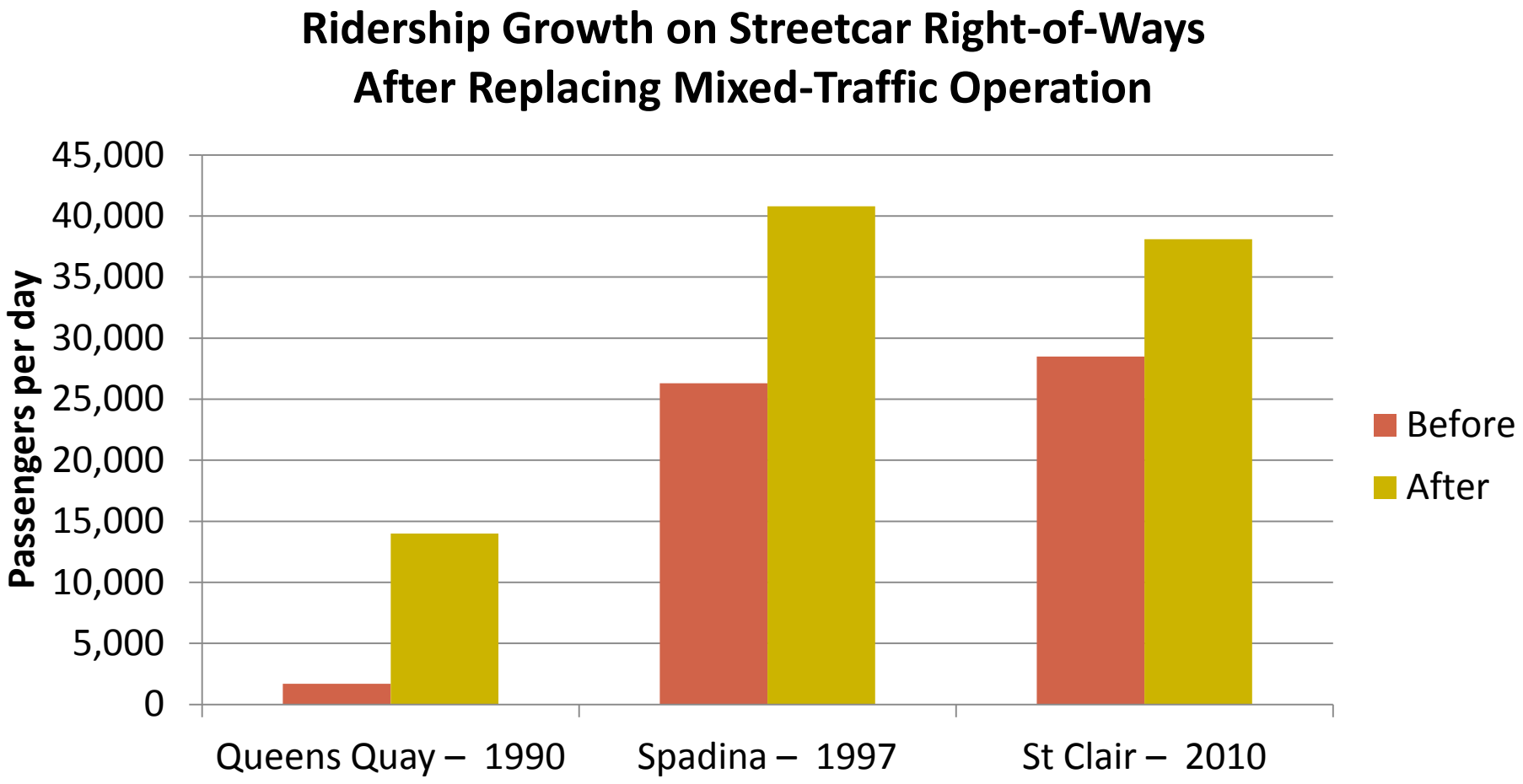

506 EXHIBITION


4107
510 UNION STATION
LEFT TURN SIGNAL
TRANSIT SIGNAL


Fort York Blvd
LEFT TURN SIGNAL
TRANSIT SIGNAL
TTC VEHICLES EXCEPTED


LEFT TURN SIGNAL
TRANSIT SIGNAL
PARK

Streetcar Improvements Increase Ridership




U-TURN
PERMITTED


THE REVOLUTION OF

Lessons Learned – Spadina/Harbourfront

Harbourfront (1990) / Spadina (1997)

- Motorist/streetcar physical separation
- Automobile turns only at signalised intersections

Lessons Learned – St Clair

St Clair

- Implemented lessons learned from Spadina
- Centre of road right-of-way most effective
- Good transit signal priority required
- Competition for scarce road space forces compromises

Lessons Learned – Queens Quay West (2012-2014)

- Driven by public realm and urban design issues
- Resulted in side of road transit right-of-way
  - Requires signals at every access
  - Limits effectiveness of transit signal priority


MAXIMUM
40
TRANSIT
SIGNAL

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- Physical separation with cars but not others
- Increases friction with other street users


Lower Simcoe St
TRANSIT SIGNAL

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- Different/confusing for motorists

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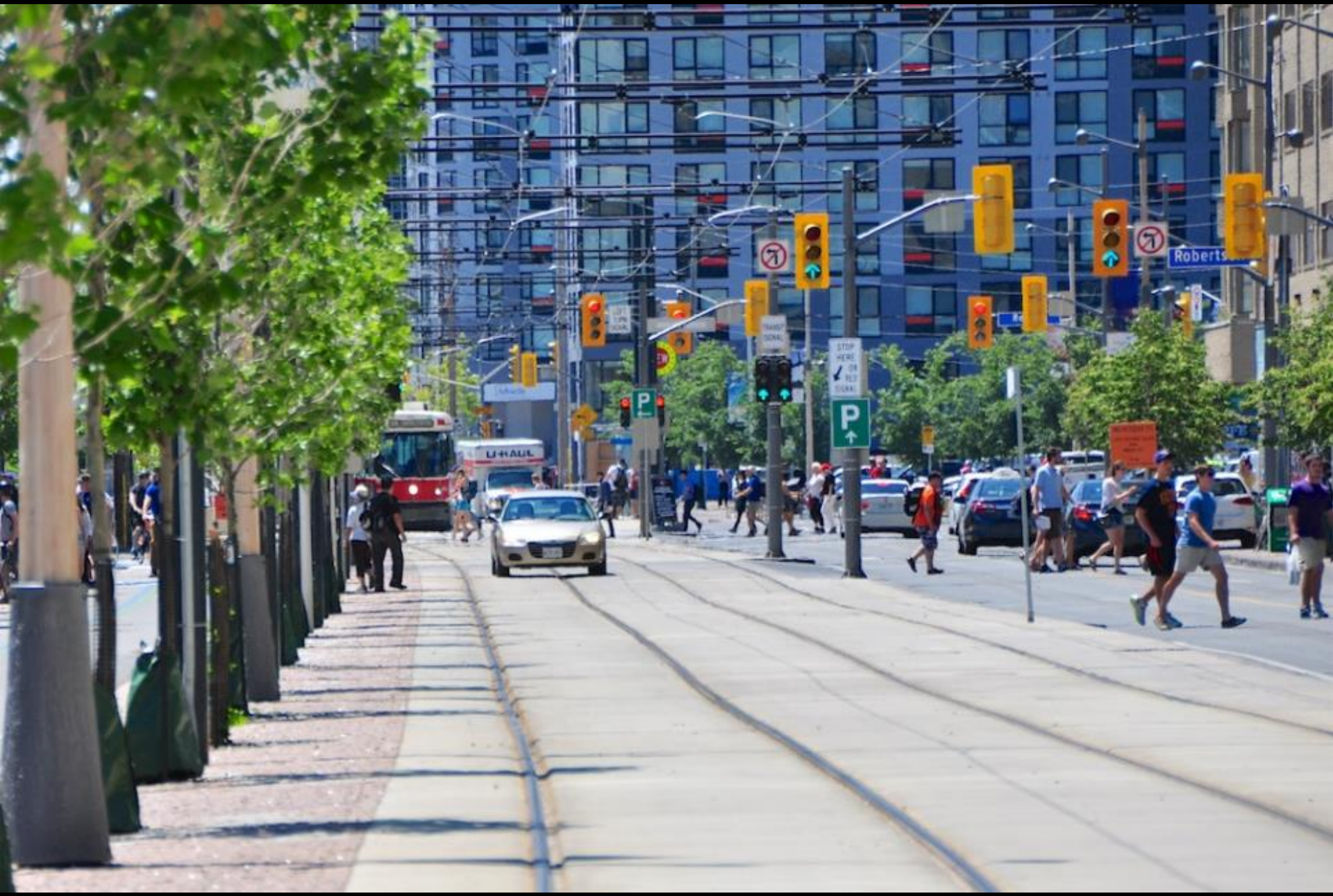
U-HAUL
Roberts
STOP HERE ON RED SIGNAL
P
P

Lessons learned – Queens Quay/Waterfront Toronto

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- Physical separation with cars but not others
- Increases friction with other street users
- Different/confusing for motorists
- Speed restriction to mitigate safety issues
- Slower service than pre-construction


TRANSIT
SIGNAL

Lessons learned – Mixed traffic

Mixed traffic

- Curbside management – cabs, deliveries
- Development access – vehicle access / turns
- Car parking times
- Left turns

Roncesvalles is a successful mixed-traffic example

PLANNING A GREAT CITY
TOGETHER

Waterfront Transit "Reset"

Phase 1 Study

Coordinated Transit Consultation Program
Public Information & Consultation Meeting
May 25 & 26 2016

Port Lands and South of Eastern Transportation and Servicing Master Plan

A NEW RELIEF LINE IN TORONTO

Linking the Network Together

TORONTO

THE PROJECT CURRENT WORK GET INVOLVED NEWS CONTACT US

NEW TRANSIT LINE.

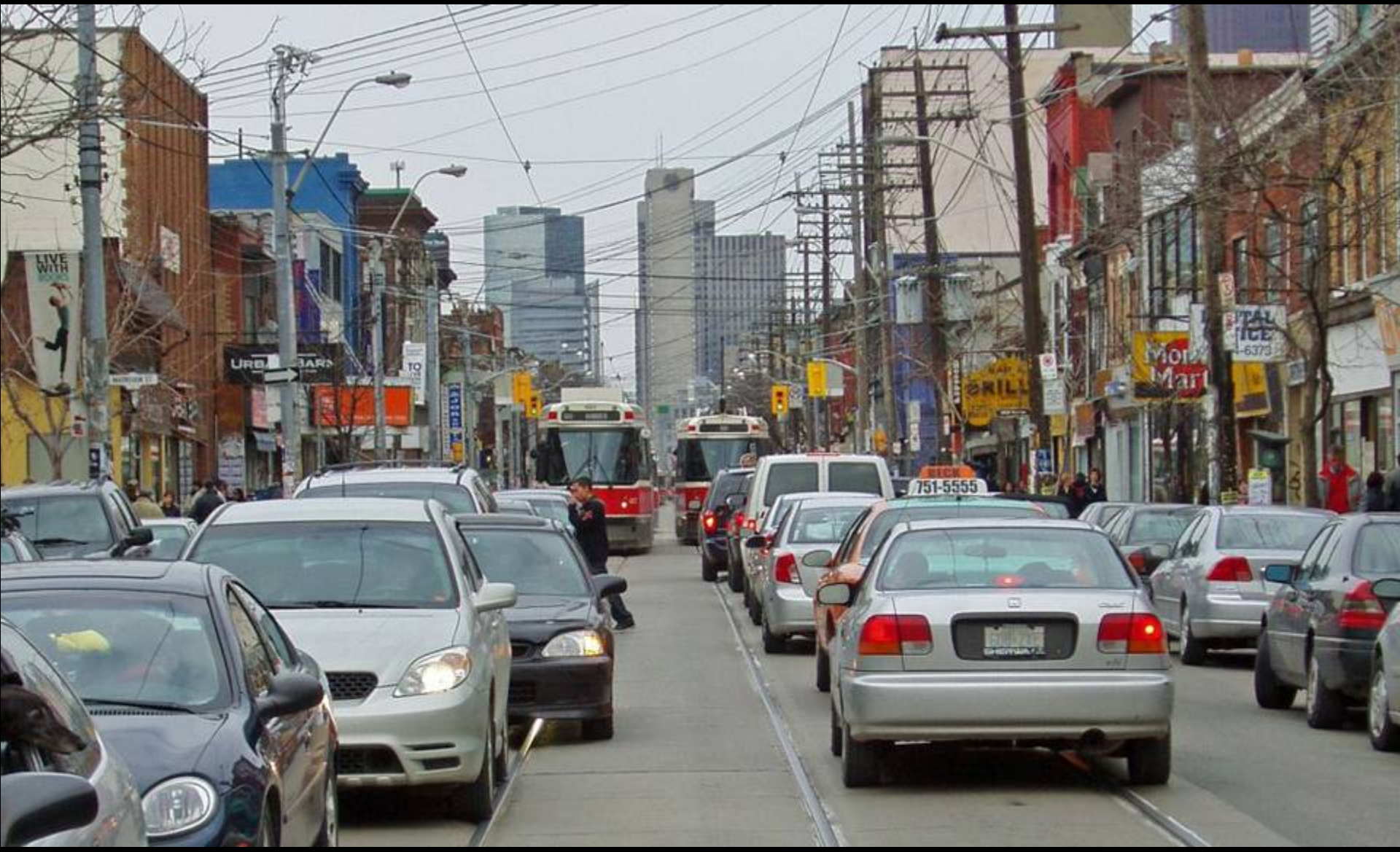
The City of Toronto and the TTC are beginning to study a new rapid transit line connecting downtown Toronto to the Bloor-Danforth Subway east of the Don River.

LEARN MORE ABOUT THE RELIEF LINE ›

Lessons learned

- Transit operational details are important
- Public realm improvements must still permit transit to work effectively and safely
- Separation/spacing from automobiles, cyclists, pedestrians necessary for rights-of-way
- Effective transit signal priority is an integral component of a successful redesign


504 BROADVIEW STN VIA KING
4073
Unlimited
TALK TEXT


751-5555


514

TOcore Planning Downtown

KING STREET VISIONING STUDY

Reimagining our Busiest Surface Transit Corridor

The City and TTC are developing a bold, transformational vision for King Street that will:

- MOVE PEOPLE MORE EFFICIENTLY
- IMPROVE THE PUBLIC REALM
- $$$ SUPPORT ECONOMIC PROSPERITY

The study will focus on where there has been significant recent and anticipated residential and job growth -- from Dufferin Street in the west to River Street in the east.

The City has hired a consultant team to help with the study and to bring experience and lessons learned from other international cities around the world. The team is led by Public Work, with support from Gehl Studios, Sam Schwartz Engineering and Swerhun Facilitation.

We want to engage Torontonians in exploring a range of design options that consider the unique, local context and character of the various neighbourhoods along the corridor.

PHASE 1 Develop Vision Options (WE ARE HERE) → PHASE 2 Evaluate Vision Options → PHASE 3 Pilot Project & Next Steps

Public & Stakeholder Engagement

Ongoing TTC/Trans. Services Operational Improvements

Tell us what you think!

What's YOUR vision for King Street?

Why King Street?

- Busiest surface transit route in city: 65,000+ daily riders.
- Operational challenges running streetcars in mixed traffic.
- Potential increased ridership from latent demand and future growth.
- Important Downtown east-west spine for housing, employment, culture, entertainment & retail.
- Surface Transit Priority Route in the City's Official Plan.
- Connectivity with existing and planned rapid transit network.
- Downtown residents are driving less: 75% walk, cycle or take transit.
- Increasing demand for quality public spaces
- BIAs are re-thinking about the economic value of streets and the public realm.
- Other cities are successfully transforming their streetcar streets: Portland, Melbourne, and others.
- Allocation of space on King Street has not changed in 100 years.

King Street, then and now

Getting to a Pilot Project

The visioning work will lead to a pilot project planned for mid-2017 on key segments of the King Street corridor. A pilot project will allow the City to:

- Demonstrate and test out tangible solutions
- Seek feedback from the public and other stakeholders
- Evaluate options and make choices with real-world data
- Refine or remove if required

It will be important to use a broad and balanced range of quantitative and qualitative metrics to measure the impacts and benefits before, during, and after the pilot project. To help understand some of the traffic and transit operational metrics, the City will be conducting a microsimulation modelling study along the King Street and surrounding corridors.

Lessons From Other Cities

Other cities around the world, like Melbourne (top) and San Francisco, (middle) and even Toronto (bottom, Roncesvalles Ave.) have redesigned and transformed their streetcar streets into incredibly vibrant and successful places. What lessons can we learn from these places?

toronto.ca/tocore #TOcore #DTadvice

TORONTO

Item Revised | February 2006

TORONTO TRANSIT COMMISSION
REPORT NO.

MEETING DATE: MARCH 21, 2007

SUBJECT: IMPROVEMENTS TO THE 504 KING STREETCAR SERVICE

TIONS

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ection of King Street
6, using the

TOcore Planning Downtown

King Street Visioning Study

TORONTO