

Ottawa's Transitway

A unique rapid transit network
based on buses



Urban Land Institute
Minneapolis, December 15th 2009

Today's presentation

- Some history
- How it works
- What it looks like
- Has it spurred development?
- What will happen to it

History

Ottawa Electric
Railway
streetcars,
1891-1957



History

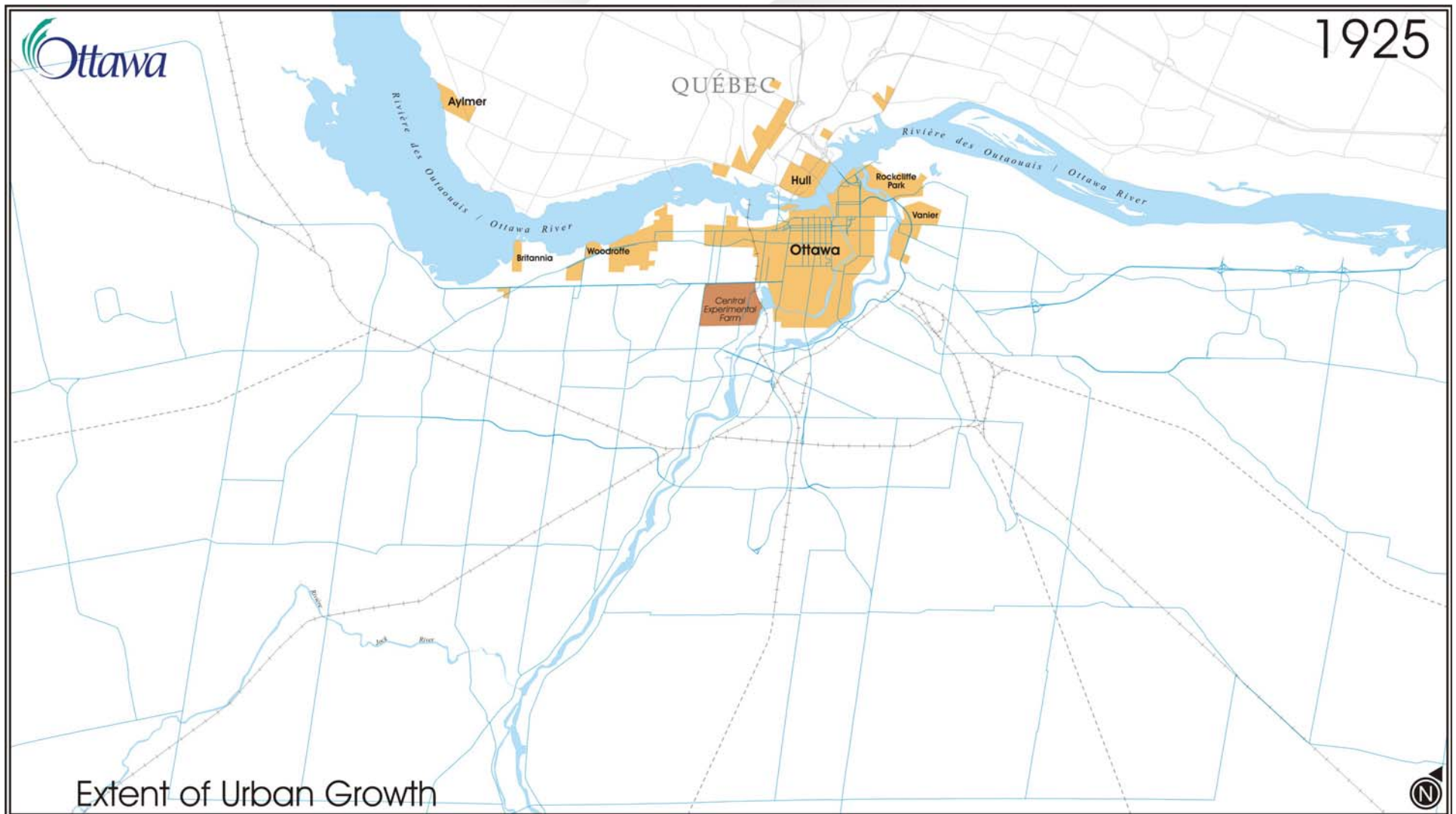


Ottawa Electric Railway streetcars, 1891-1957

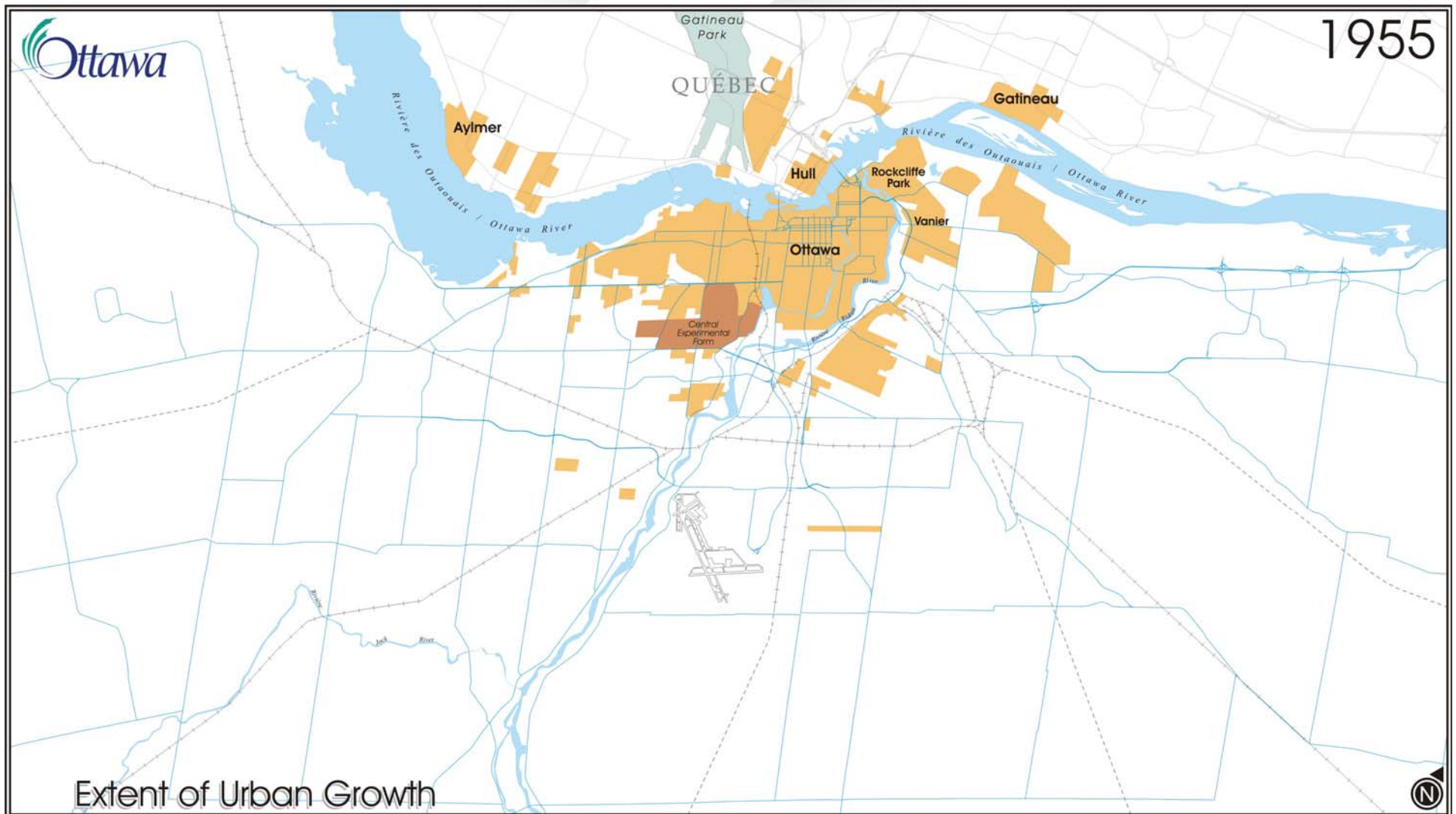
Urban expansion



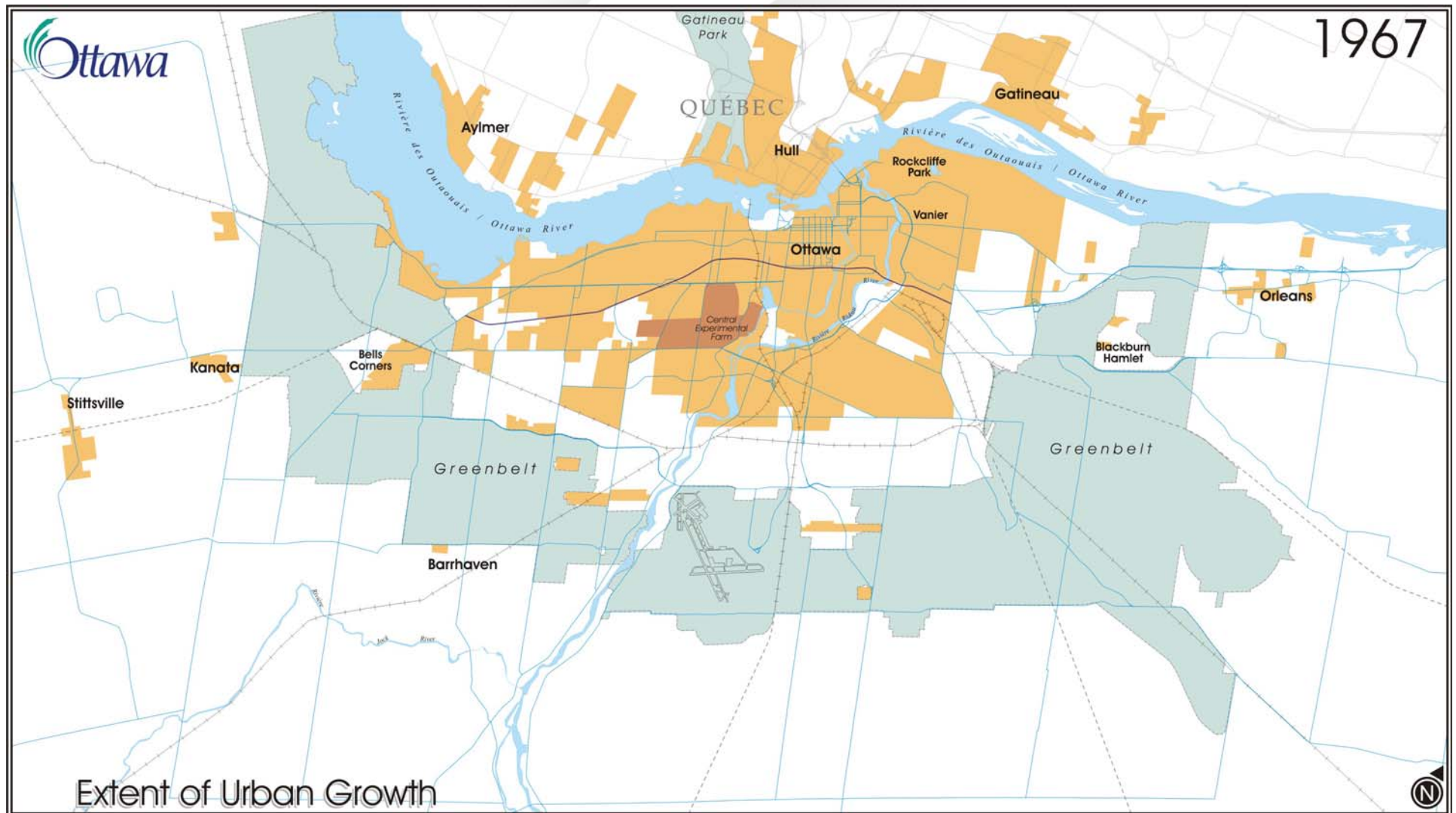
Urban expansion



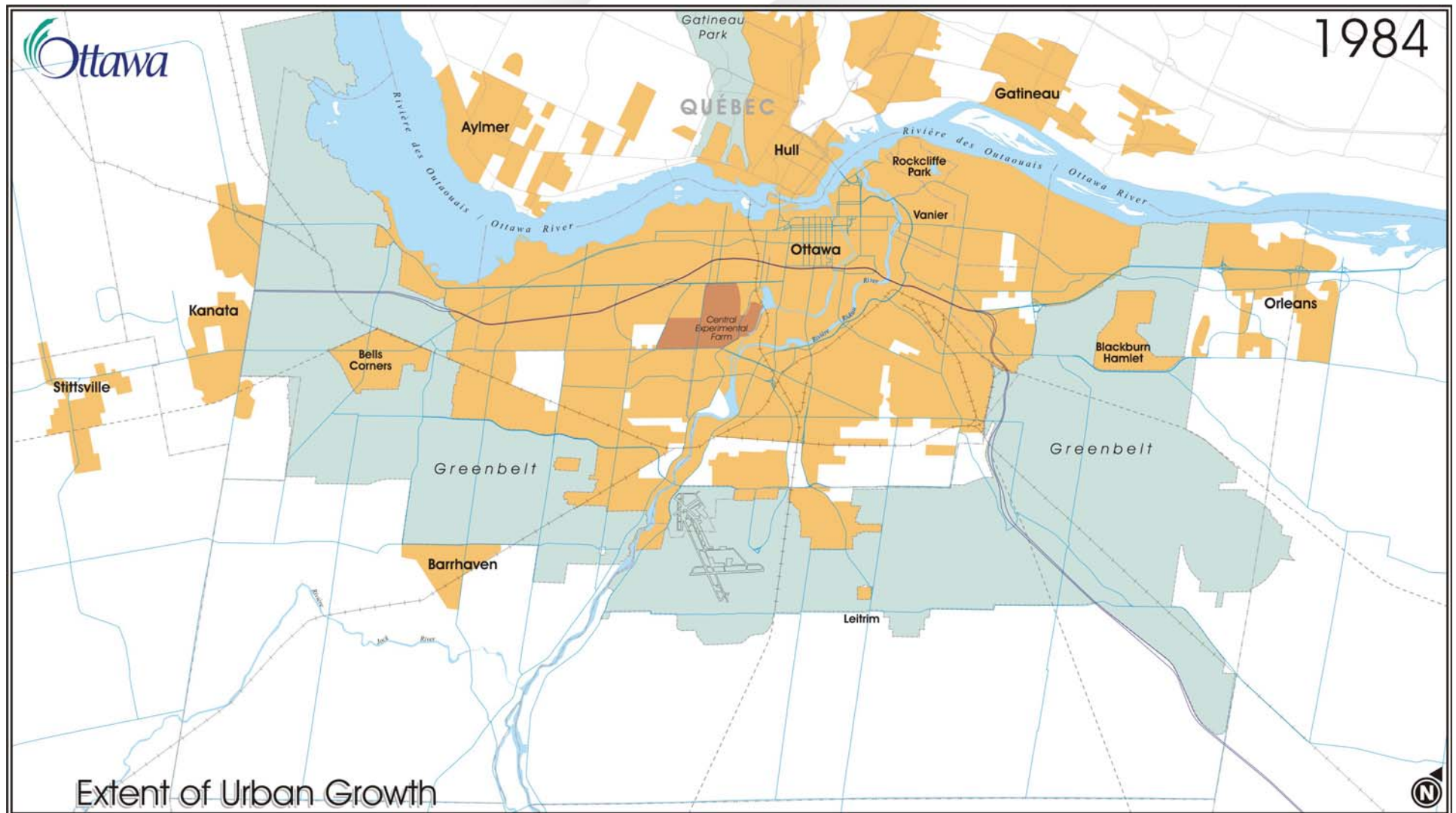
Urban expansion



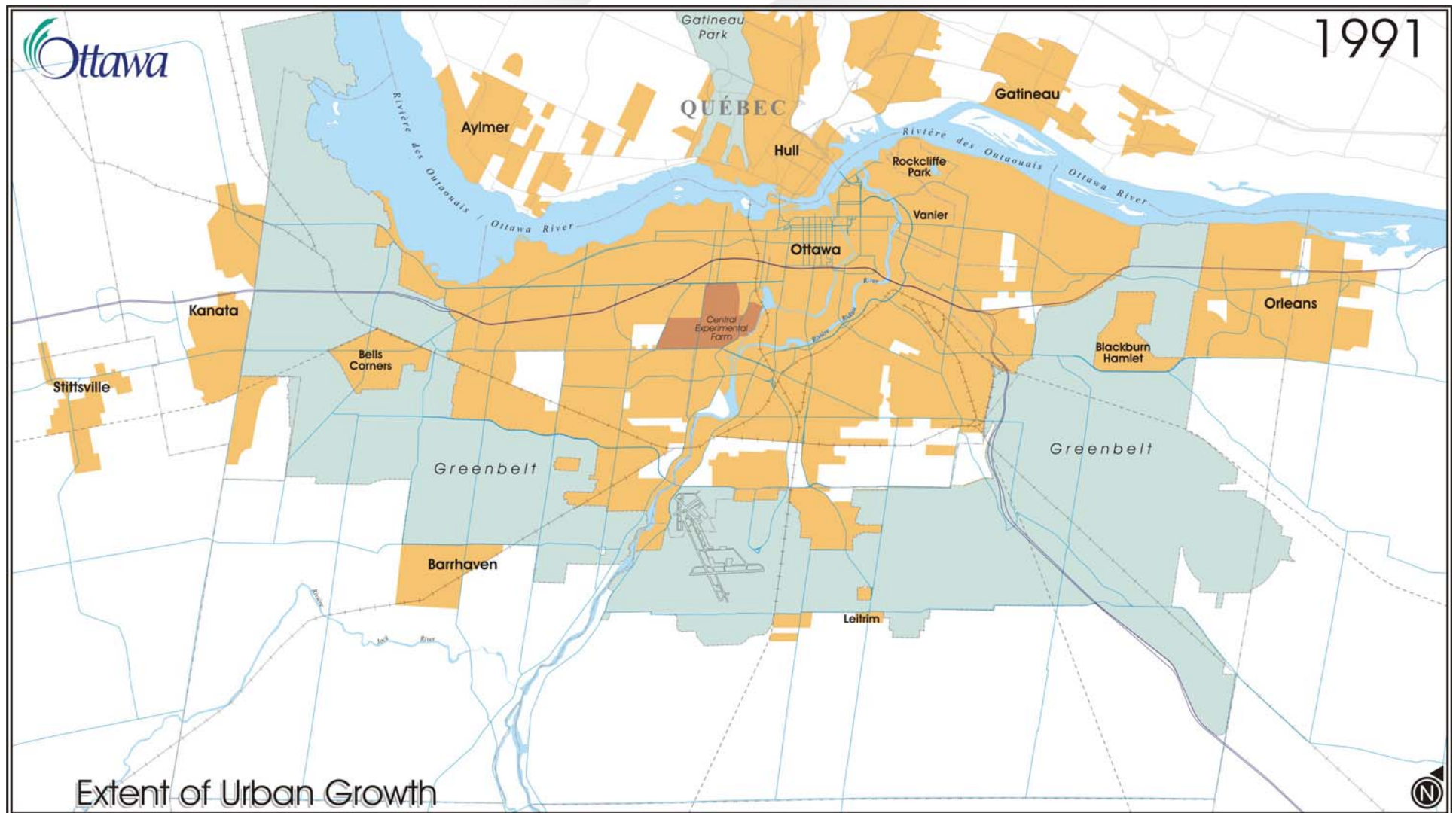
Urban expansion



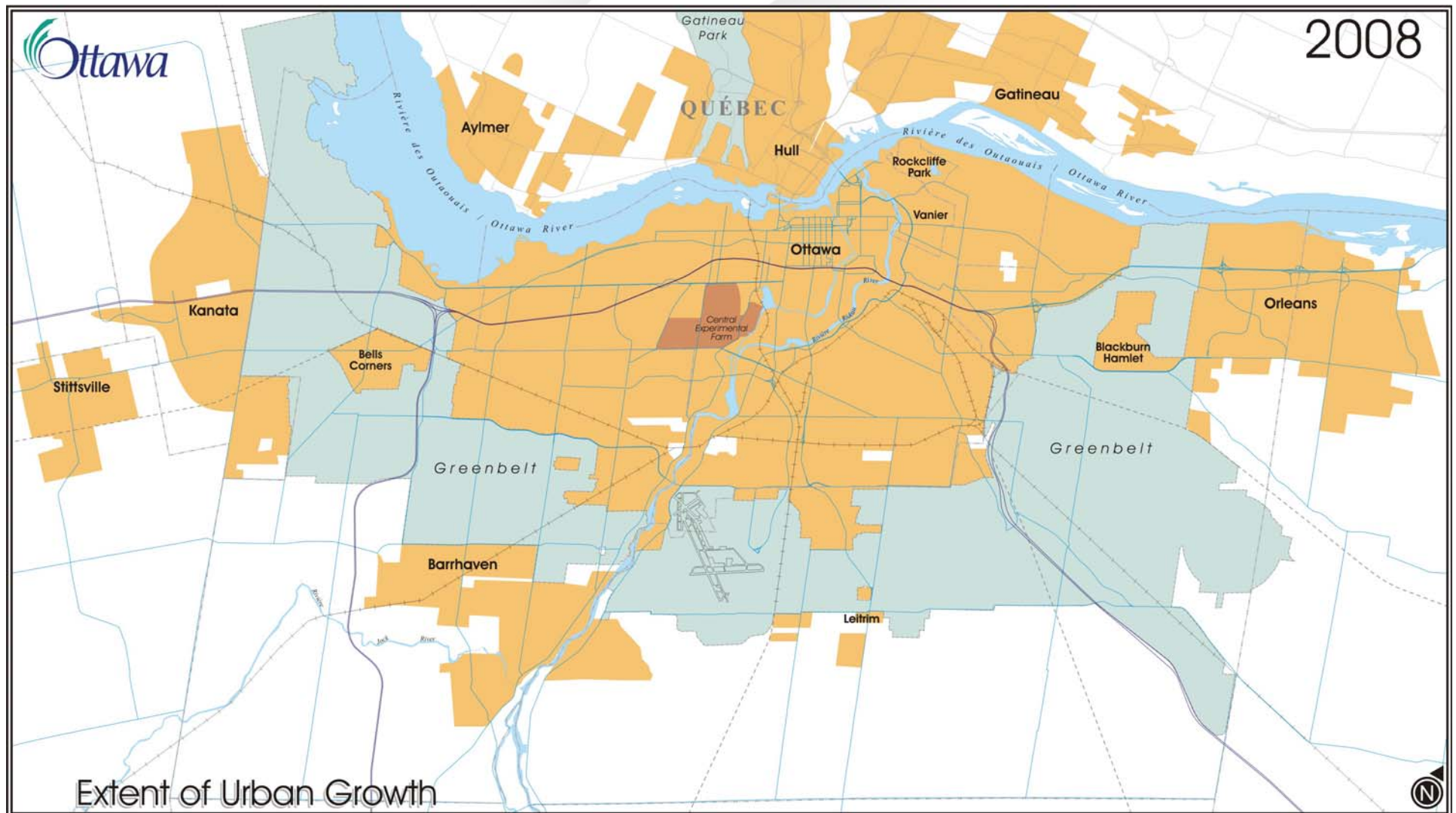
Urban expansion



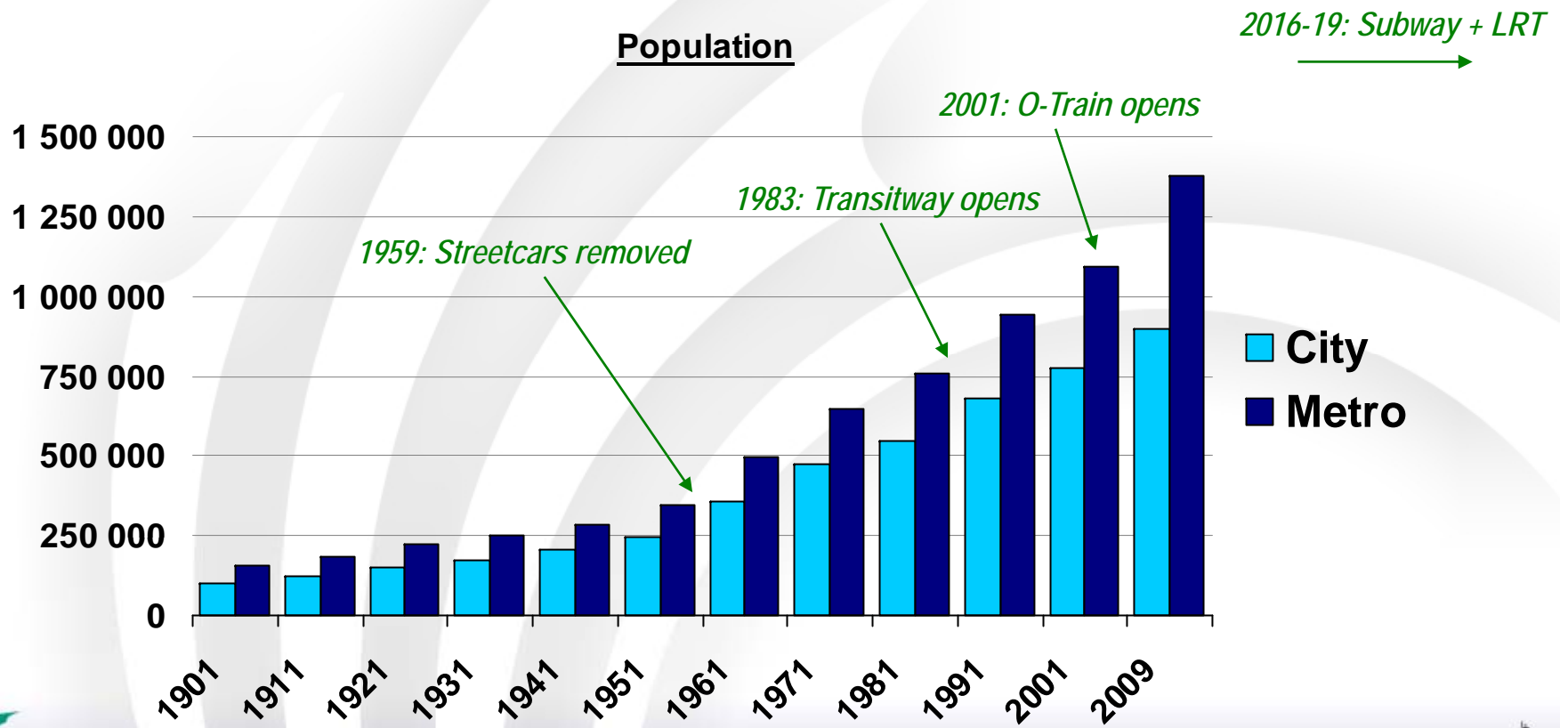
Urban expansion



Urban expansion



History



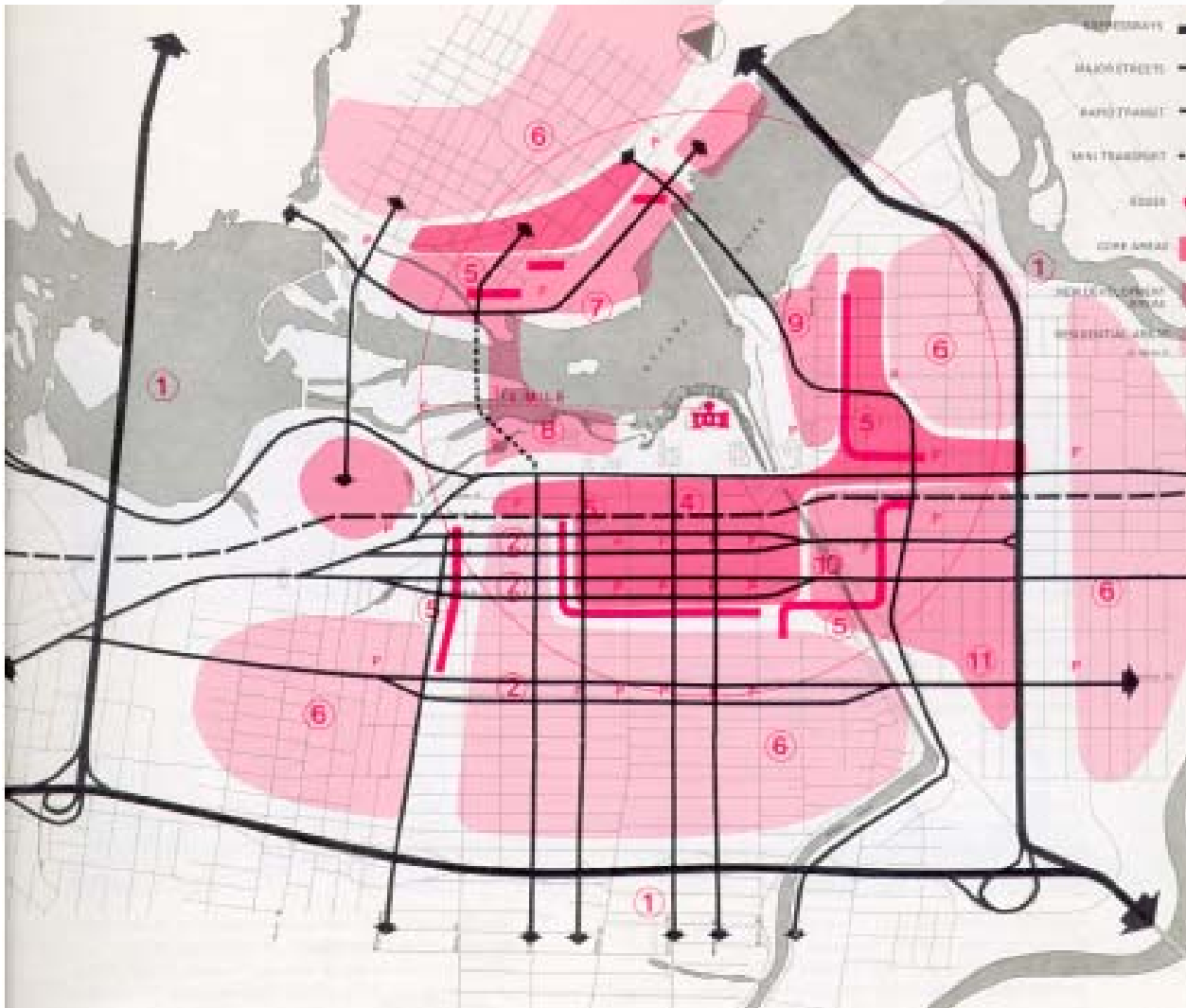
History



All-bus system, 1957-2001



Hammer Report, 1969



- Two new freeways into downtown
- Subway across downtown
- Based on 1.5m population in 1996

Hammer Report, 1969



BUT...

- Feds issued lower pop. projection
- Subway deemed too costly
- Insufficient ridership
- Freeway revolts

Back to the drawing board

- Need for rapid transit
- Grade-separated
- High-capacity, but not as high as subway
- Boost transit ridership, reduce auto modal split
- “Groom” the city for rail rapid transit

The Transitway solution

- Between 1970 and 1975, transit ridership almost doubled.
- Per-capita transit use back at levels from early 1950's
- Peak transit use in 1975 Ottawa was similar to several European cities
- **1976: Rapid Transit Appraisal Study**

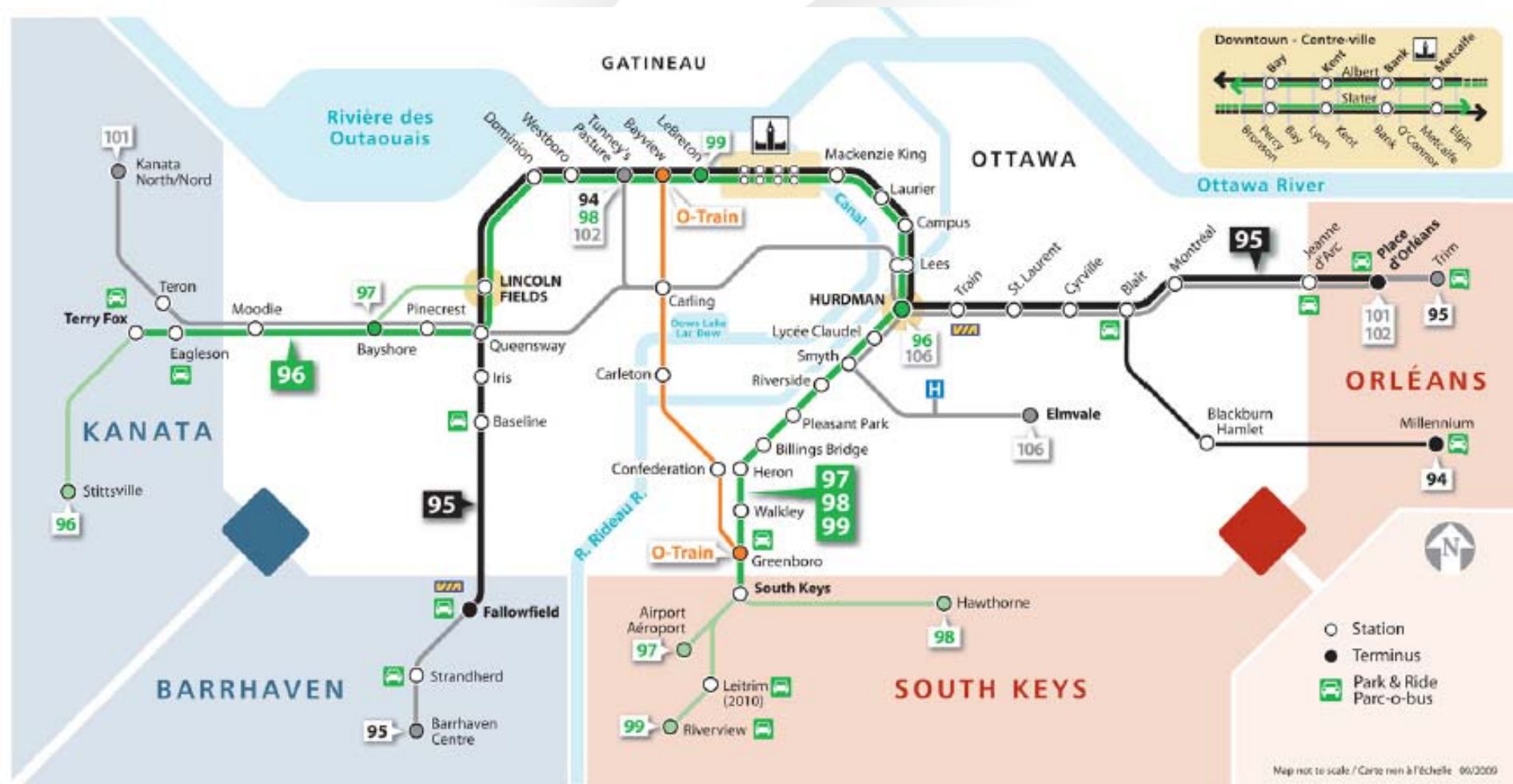
The Transitway solution

IMPERATIVES

- Maintain high level of service (=speed) as population and congestion grow
- **High-capacity** system (but less than subway)
- Flexible, **transfer-free** service
- **Cost-effective** in relation to ridership
- Implement useable **segments** one at a time
- Design to allow **conversion** to LRT & upgrade to heavy rail



HOW IT WORKS

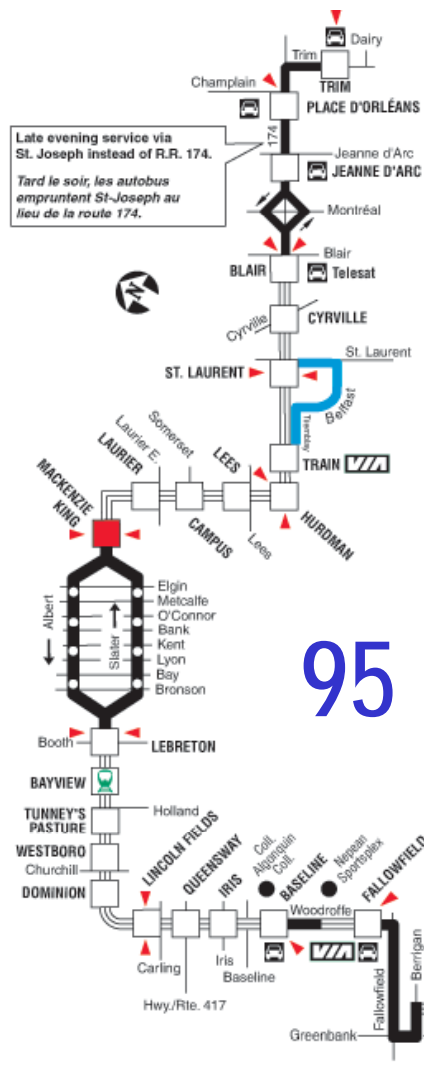


Legend
Légende

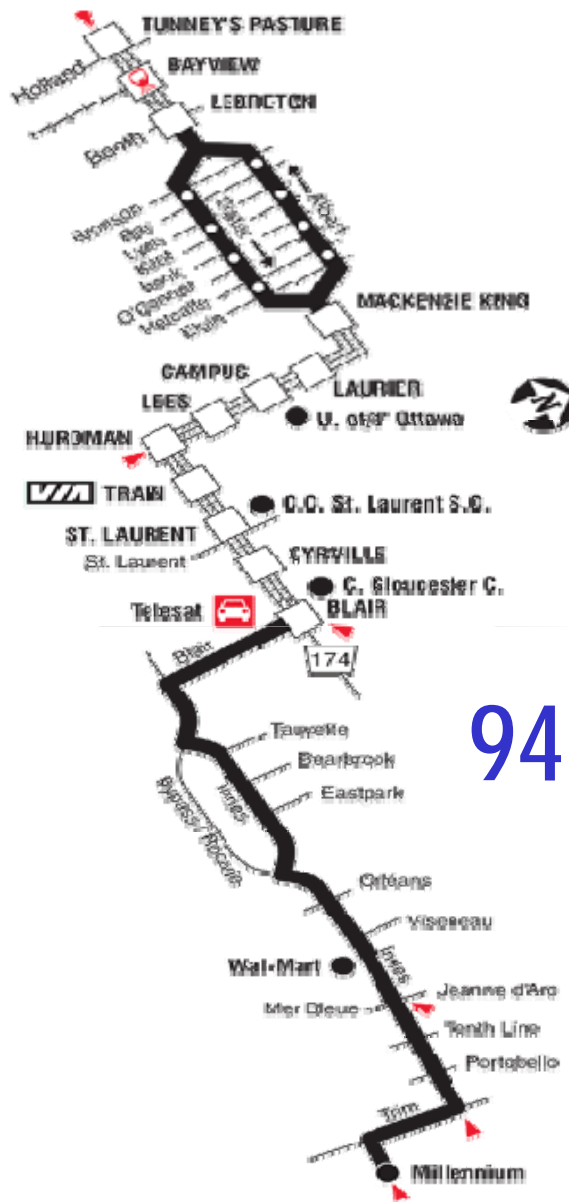
94 — 95 98 — 99 — 106
96 — 97 101 — 102 — O-Train

HOW IT WORKS

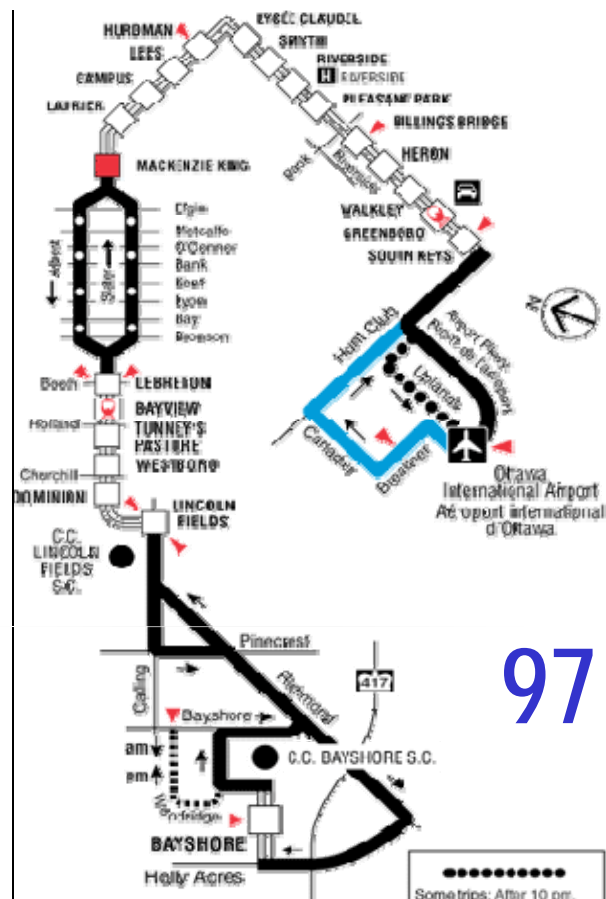
- **9 lines** provide Transitway-only service, 22 or 24 hours a day, max. headway 20 minutes
- **O-Train** runs 18 hours a day
- **Express** bus routes round people up in various suburbs then get on the Transitway
- **Local** bus routes feed stations
- **8 other transit companies** + Intercity buses use the Transitway



95

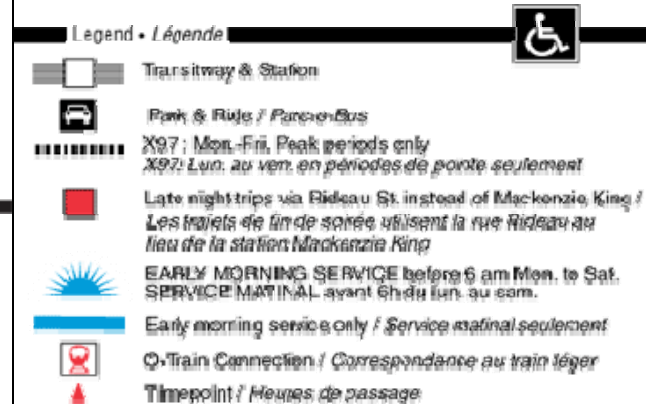
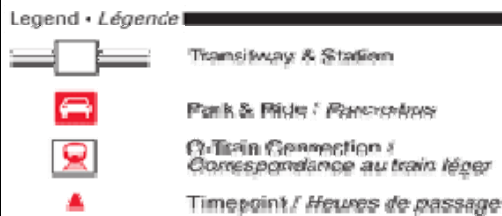


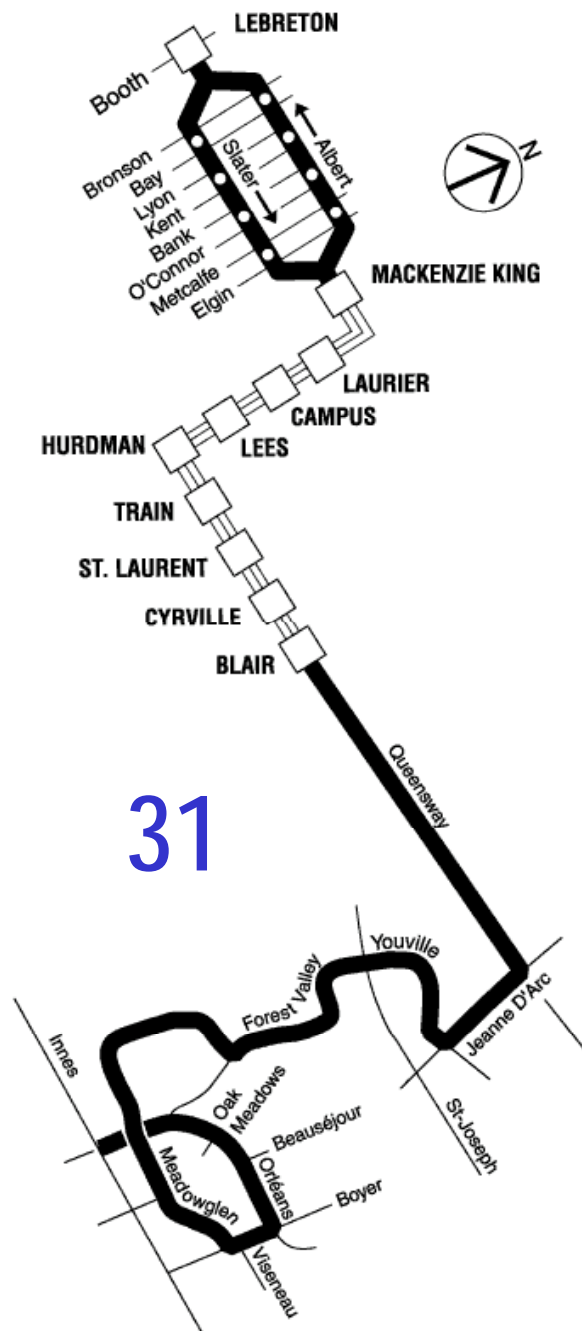
94



97

Some trips: After 10 pm, southbound buses travel via Uplands.
Quelques trajets: Les autobus en direction sud circulent via Uplands après 22h.



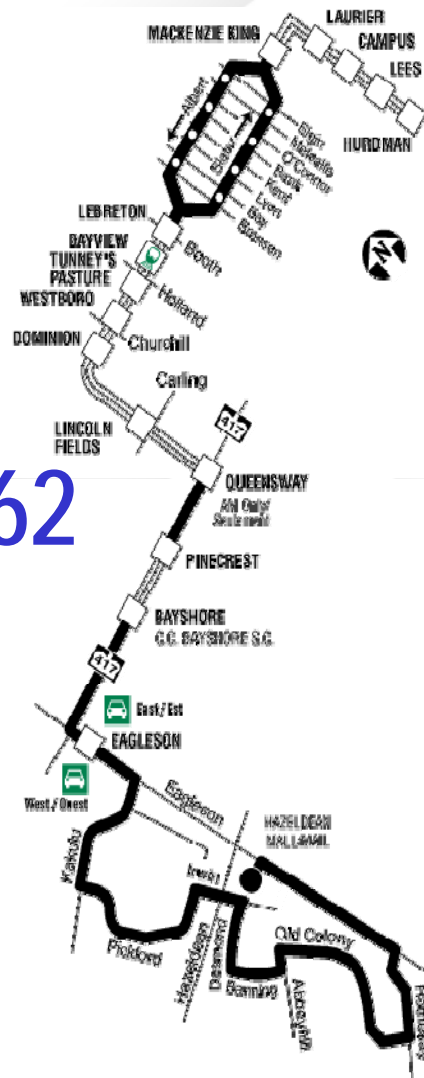


Legend • Légende



Transitway & Station

62



Legend • Légende



Transitway & Station



Light Rail Connection
Correspondance au train léger



Park & Ride / Parc-o-Bus

232



Legend • Légende



Transitway & Station



O-Train Connection / Correspondance au train léger

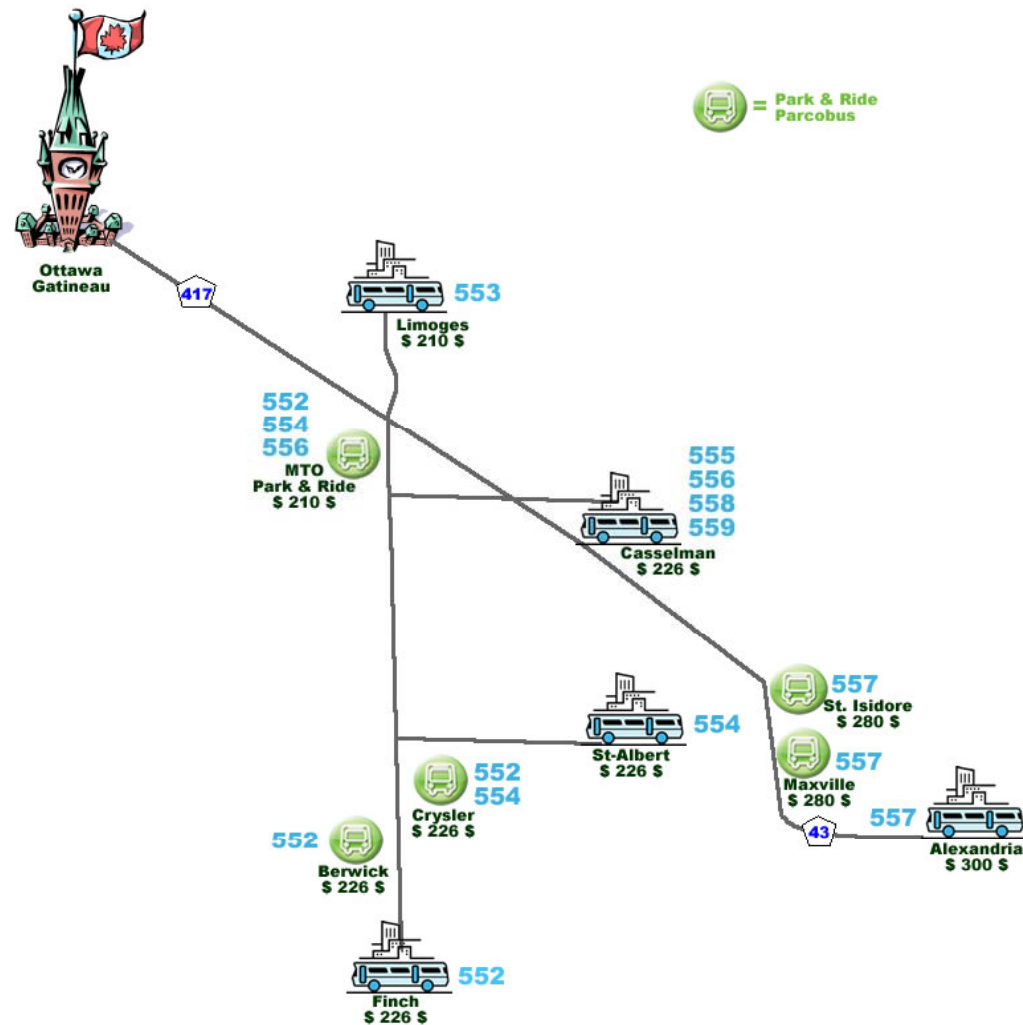


Park & Ride / Parc-o-Bus

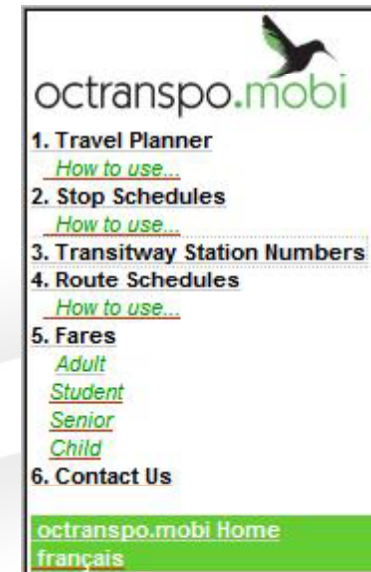


Fare Zone Boundary / Limite de zone tarifaire

Out-of-town transit companies also use the Transitway



How it looks, how people use it













Trim

NO TALKING
OR LISTENING TO
MUSIC OR RECORDING
DEVICES
ON BOARD
OR IN THE STATION

24h
Phone

NOTICE / AVIS
Millennium Park & Ride
Opens in Orleans East
On Monday, November 30, a new Park
& Ride lot will open near Jones and
Trim. The Millennium
Park & Ride will
accommodate 158
vehicles and will be
served by Routes 22,
94 and 122.





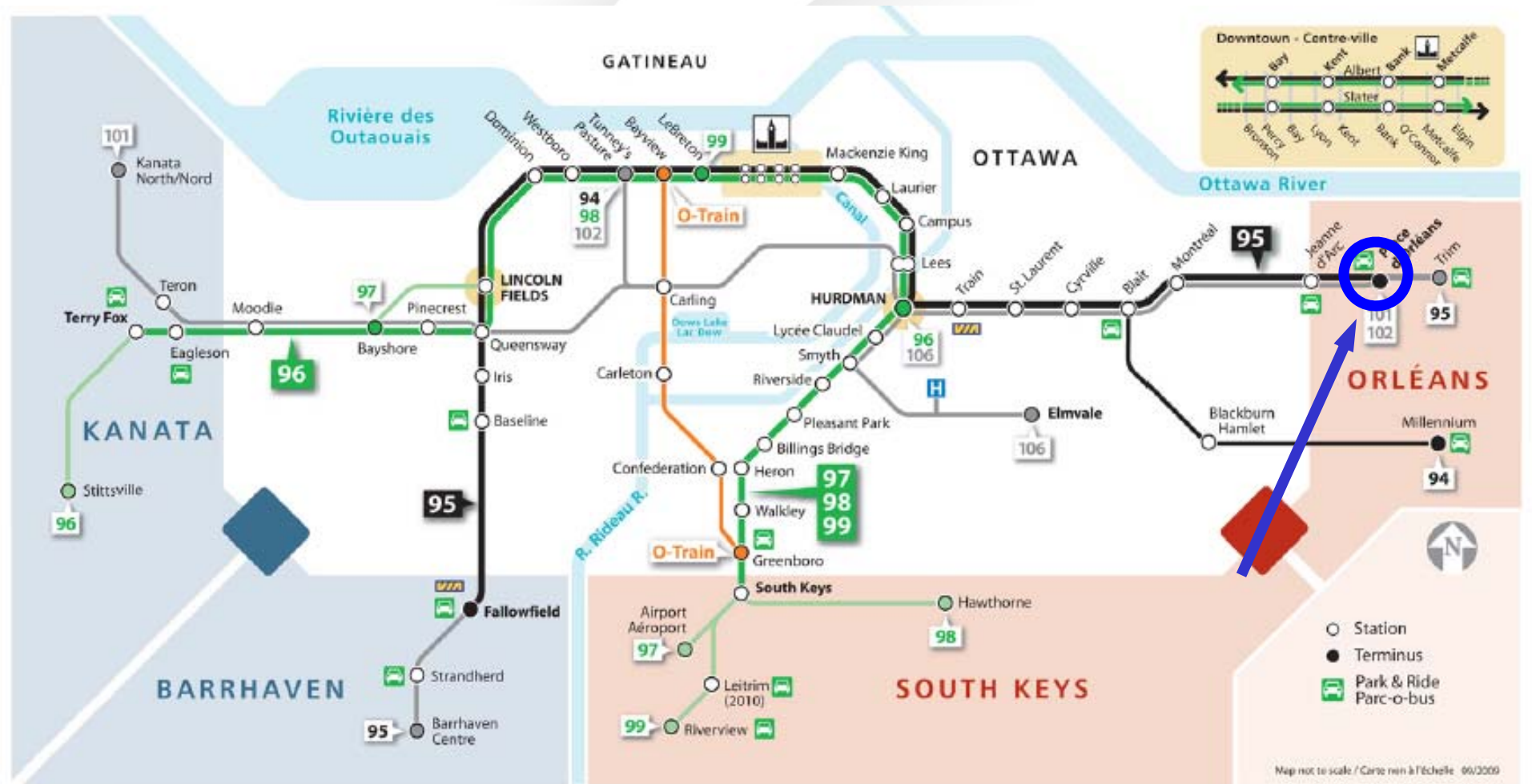
OC
TRANSPO
ONLY



THIS
LANE



HOW IT LOOKS





Park & Ride

Foot bridge

Station

Champlain St

17

174

84

Place d'Orleans Dr

Place d'Orleans Dr

Place d'Orleans Dr

Place d'Orleans Dr

Place d'Orleans Shopping Centre

© 2009 Microsoft Corporation





Donald Aubé

Park & Ride

Parc-o-bus



PLACE D'ORLÉANS













Orléans Town Centre

Now 25 years old









Shenkman Arts Centre





Kevin J. Carruthers
613-830-5252
OPEN 3 NIGHTS UNTIL 8:00 pm
(Tuesday, Wednesday, Thursday)
OPEN SATURDAY UNTIL 2:30 pm
Providing Insurance and Financial Services



Running Room LTD



ALL INSURANCE
ONTARIO
613-860-6008

260





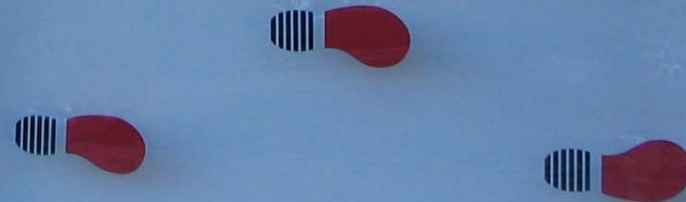


PAGE ROYAL LE PAGE

www.ro

Comment
trouver un
agent
immobilier
exceptionnel.

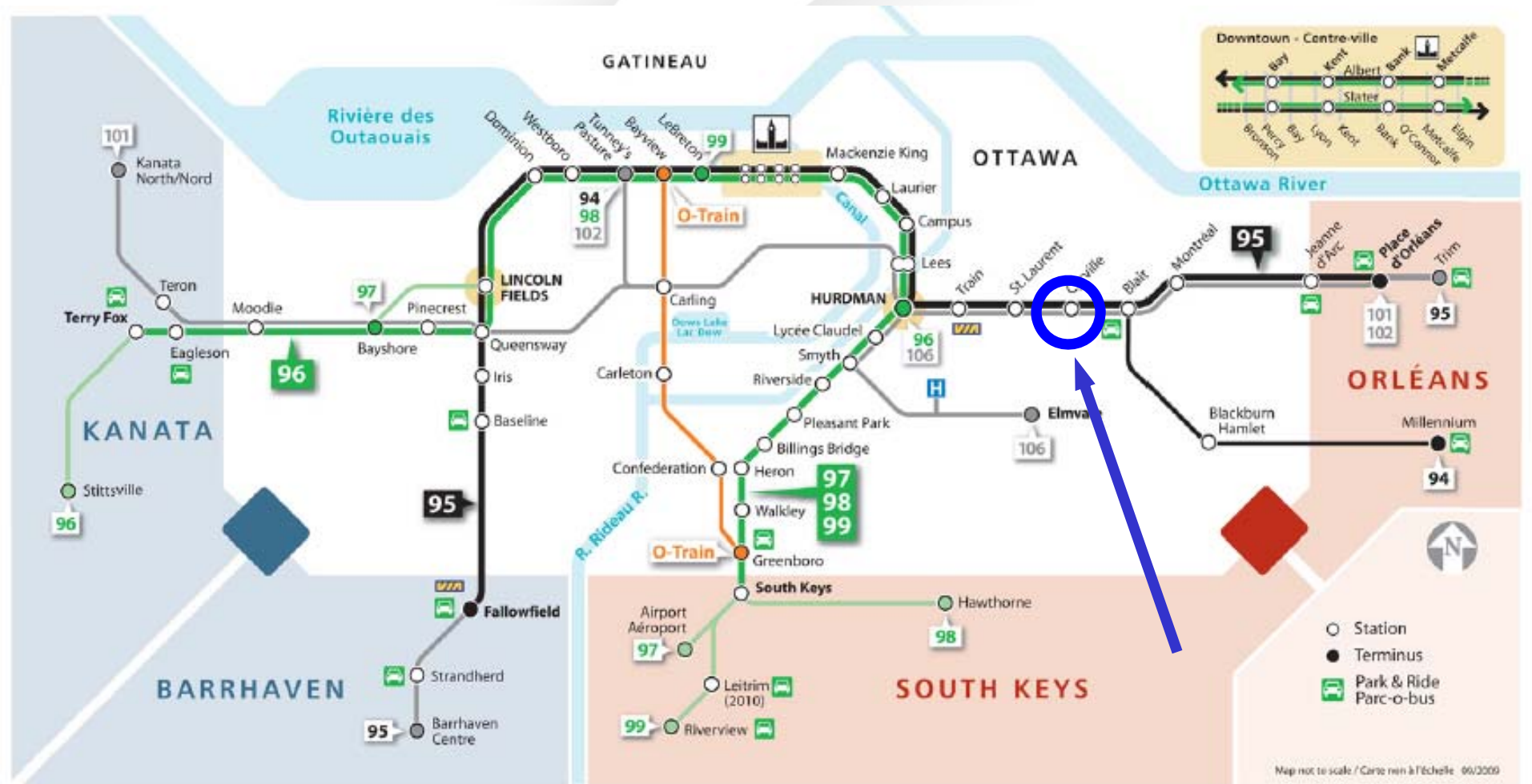
ENTRANCE LOCATED
AT FRONT
OF BUILDING







HOW IT LOOKS











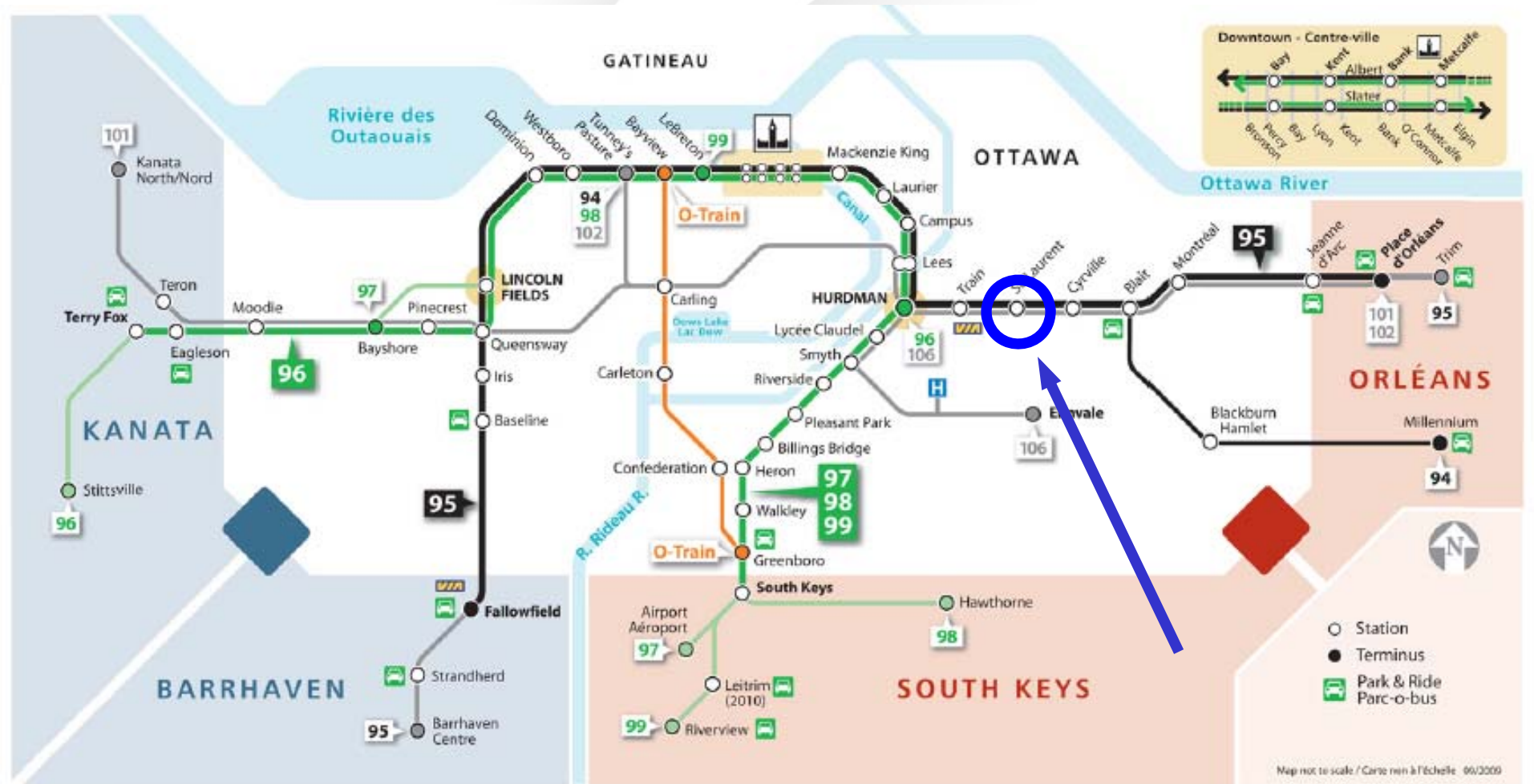








HOW IT LOOKS



Legend
Légende

94	95	98	99	106
96	97	101	102	O-Train

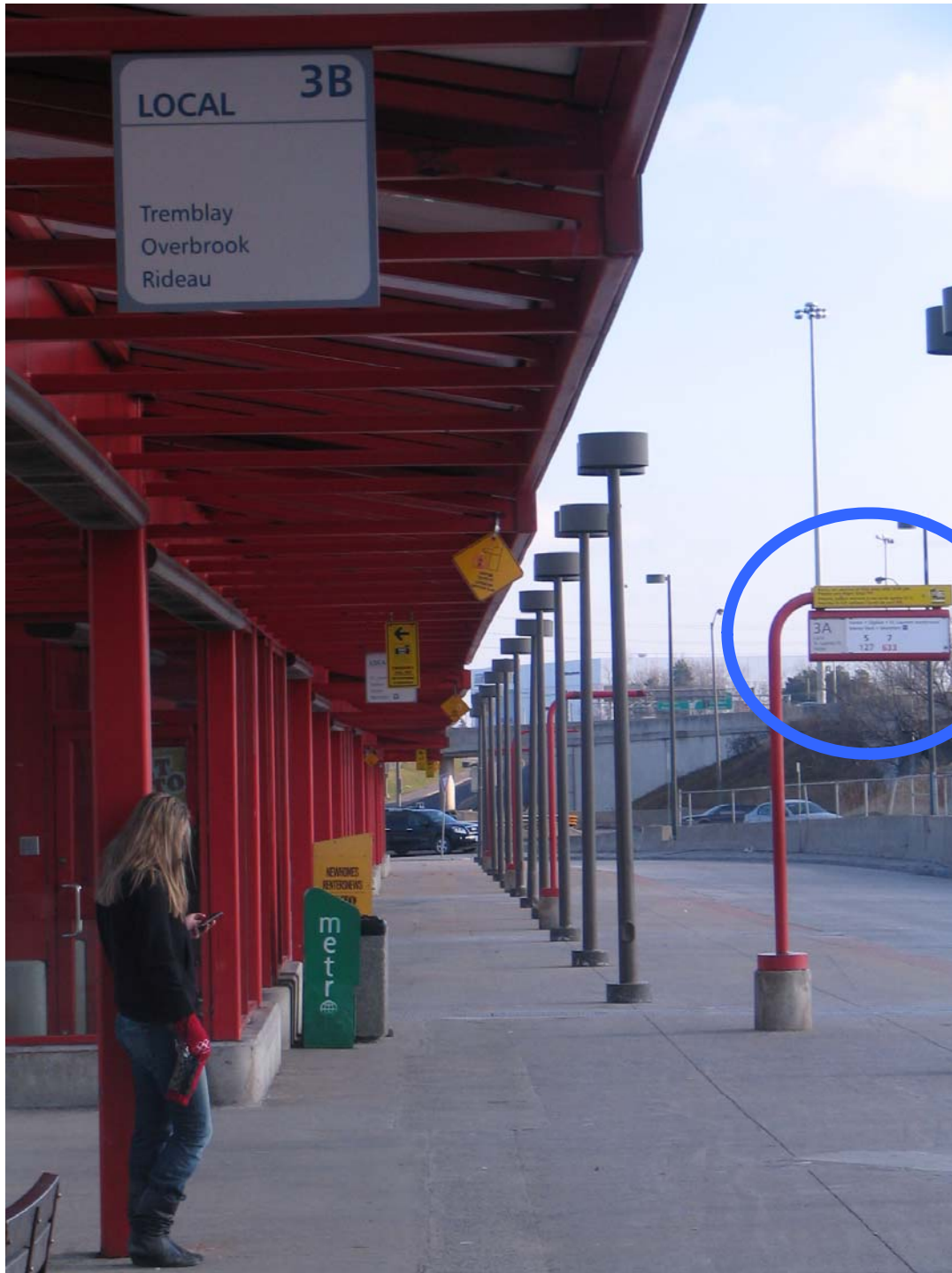












St. Laurent

↑
ALL SERVICE
TOUT SERVICE

↑
PASSES, TICKETS
LAISSER-PASSEZ
BILLETTS

↑
EMERGENCY
CALL BOX
INTERPHONE
D'URGENCE

NO SMOKING
SMOKE FREE
PROPERTY
SANS FUMÉE
BIEN
7155



OC Transpo

**COURTESY AND RESPECT
...IT'S A TWO WAY STREET**

- Our commitment to employees and customers is a two way street.
- Aggressive behaviour and abusive language will not be tolerated. (It does not go either way.)

Thank you for your cooperation.

**LA COURTOISIE ET LE RESPECT
...C'EST RÉCIPROQUE**

- Nous nous engageons à maintenir un environnement sécuritaire et exempt de harcèlement pour nos employés et nos clients.
- Les comportements agressifs et le langage vulgaire sont interdits (de façon mutuelle).

Merci pour votre collaboration.

CASH & TICKETS / COMPTANT ET BILLET

ADULT - ADULTE	YOUTH - JEUNE	SENIOR - VIEUX
\$3.00	\$2.00	\$2.00
10-15 min	10-15 min	10-15 min
\$4.00	\$3.00	\$3.00
20-30 min	20-30 min	20-30 min
\$5.00	\$4.00	\$4.00
30-45 min	30-45 min	30-45 min
\$6.00	\$5.00	\$5.00
45-60 min	45-60 min	45-60 min
\$7.00	\$6.00	\$6.00
60-90 min	60-90 min	60-90 min
\$8.00	\$7.00	\$7.00
90-120 min	90-120 min	90-120 min
\$9.00	\$8.00	\$8.00
120-150 min	120-150 min	120-150 min
\$10.00	\$9.00	\$9.00
150-180 min	150-180 min	150-180 min
\$11.00	\$10.00	\$10.00
180-210 min	180-210 min	180-210 min
\$12.00	\$11.00	\$11.00
210-240 min	210-240 min	210-240 min
\$13.00	\$12.00	\$12.00
240-270 min	240-270 min	240-270 min
\$14.00	\$13.00	\$13.00
270-300 min	270-300 min	270-300 min
\$15.00	\$14.00	\$14.00

For more information, visit www.ottawa-transpo.com

Transit Map OC Transpo Carte du réseau

2009

Hours of Operation • Heures de service

Transit Map OC Transpo Carte du réseau

2009

Hours of Operation • Heures de service

Transit Map OC Transpo Carte du réseau

2009

Hours of Operation • Heures de service

**St. Laurent Station Bus Routes
Circuits d'autobus de la station St-Laurent**

3B Departures • départs

Effective November 2010, 2010 • En vigueur le 18 novembre 2010

14 Circuits	18 Circuits
<p>14-101: St. Laurent - Downtown</p> <p>14-102: St. Laurent - Downtown</p> <p>14-103: St. Laurent - Downtown</p> <p>14-104: St. Laurent - Downtown</p> <p>14-105: St. Laurent - Downtown</p> <p>14-106: St. Laurent - Downtown</p> <p>14-107: St. Laurent - Downtown</p> <p>14-108: St. Laurent - Downtown</p> <p>14-109: St. Laurent - Downtown</p> <p>14-110: St. Laurent - Downtown</p> <p>14-111: St. Laurent - Downtown</p> <p>14-112: St. Laurent - Downtown</p> <p>14-113: St. Laurent - Downtown</p> <p>14-114: St. Laurent - Downtown</p> <p>14-115: St. Laurent - Downtown</p> <p>14-116: St. Laurent - Downtown</p> <p>14-117: St. Laurent - Downtown</p> <p>14-118: St. Laurent - Downtown</p> <p>14-119: St. Laurent - Downtown</p> <p>14-120: St. Laurent - Downtown</p>	<p>18-101: St. Laurent - Downtown</p> <p>18-102: St. Laurent - Downtown</p> <p>18-103: St. Laurent - Downtown</p> <p>18-104: St. Laurent - Downtown</p> <p>18-105: St. Laurent - Downtown</p> <p>18-106: St. Laurent - Downtown</p> <p>18-107: St. Laurent - Downtown</p> <p>18-108: St. Laurent - Downtown</p> <p>18-109: St. Laurent - Downtown</p> <p>18-110: St. Laurent - Downtown</p> <p>18-111: St. Laurent - Downtown</p> <p>18-112: St. Laurent - Downtown</p> <p>18-113: St. Laurent - Downtown</p> <p>18-114: St. Laurent - Downtown</p> <p>18-115: St. Laurent - Downtown</p> <p>18-116: St. Laurent - Downtown</p> <p>18-117: St. Laurent - Downtown</p> <p>18-118: St. Laurent - Downtown</p> <p>18-119: St. Laurent - Downtown</p> <p>18-120: St. Laurent - Downtown</p>

Holidays • Jours fériés

560-1000

Plus 3025





↑
ORLÉANS
East / est

↑
ELMVALE
South / sud

↘
**HURDMAN
DOWNTOWN / CENTRE-VILLE**
West / ouest









ROUTE/CIRCUIT		10:58:54 MINUTES
127	Place d'Orleans	2A
	A To Blair	
5	Billings Bridge	7 & 37
7	Carleton	13 & 45
14	Carlington	7 & 37
18	Downtown/Centreville	1 & 31
94	Tunneys	14 & 43 & 58
94	Millenium	1 & 28 & 43
95	Orleans	4 & 7 & 15
95	Barrhaven	8 & 12 & 27
114	Greenboro	13A & 28 & 43A
	A To Elmvalle Terminal	
121	Hurdmas	7 & 37

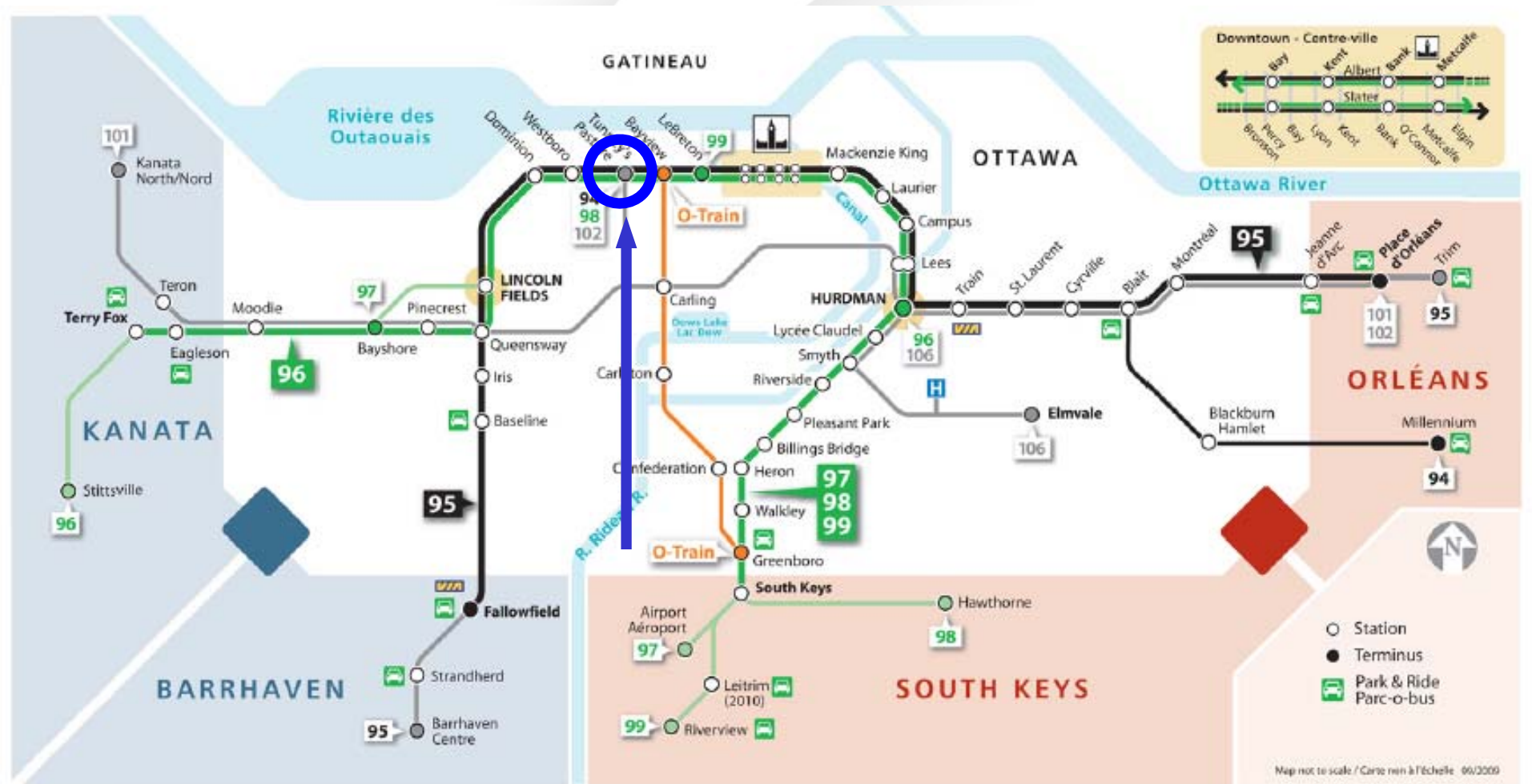
Regular fare \$3.40 - tickets
 good for 100 minutes
 2007083066F







HOW IT LOOKS



Legend
Légende

94	95	98	99	106
96	97	101	102	O-Train



TRANSITWAY

Tunney's Pasture
cc Transpo



Tunney's Pasture









ATTENTION
CAMERA
SURVEILLANCE

SURVEILLANCE
PAR CAMÉRA

←
1B

↑↓
Elevator
Ascenseur

↑
Car

↑
3A
3B

→
1A

No Smoking
No Fumes
No Open Flames
No Smoking
No Fumes
No Open Flames

NEWSPAPER
VENDING
MACHINE
NEWSPAPER
VENDING
MACHINE



Tunney's Station



Tunney's Station



WHERE IT ALL BREAKS DOWN



WHERE IT ALL BREAKS DOWN



WHERE IT ALL BREAKS DOWN



FLEET



FLEET



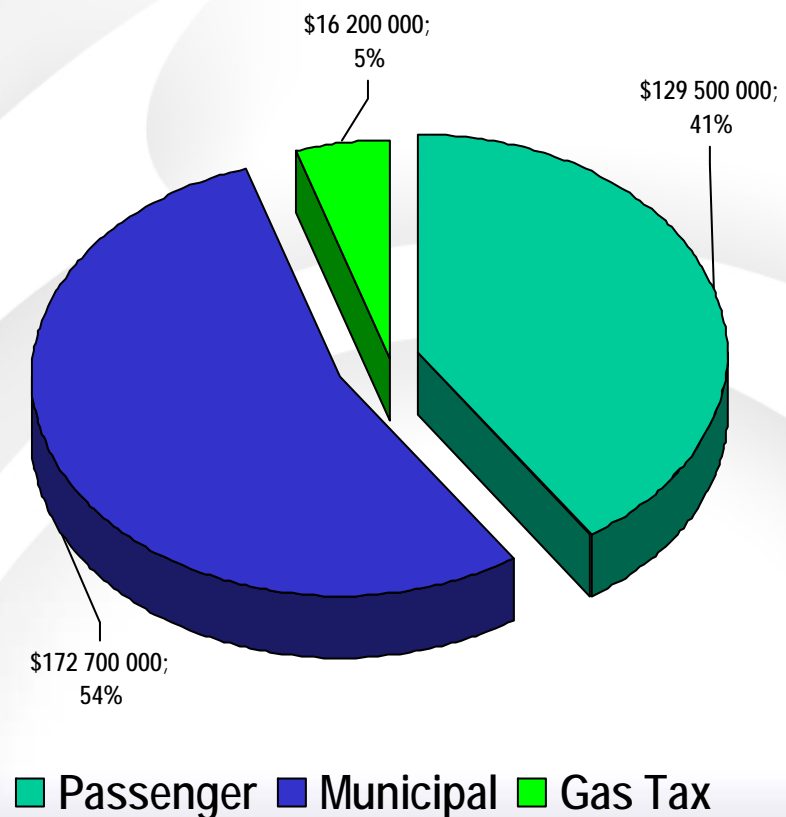
1.5 *billionth* Transitway rider in 2008



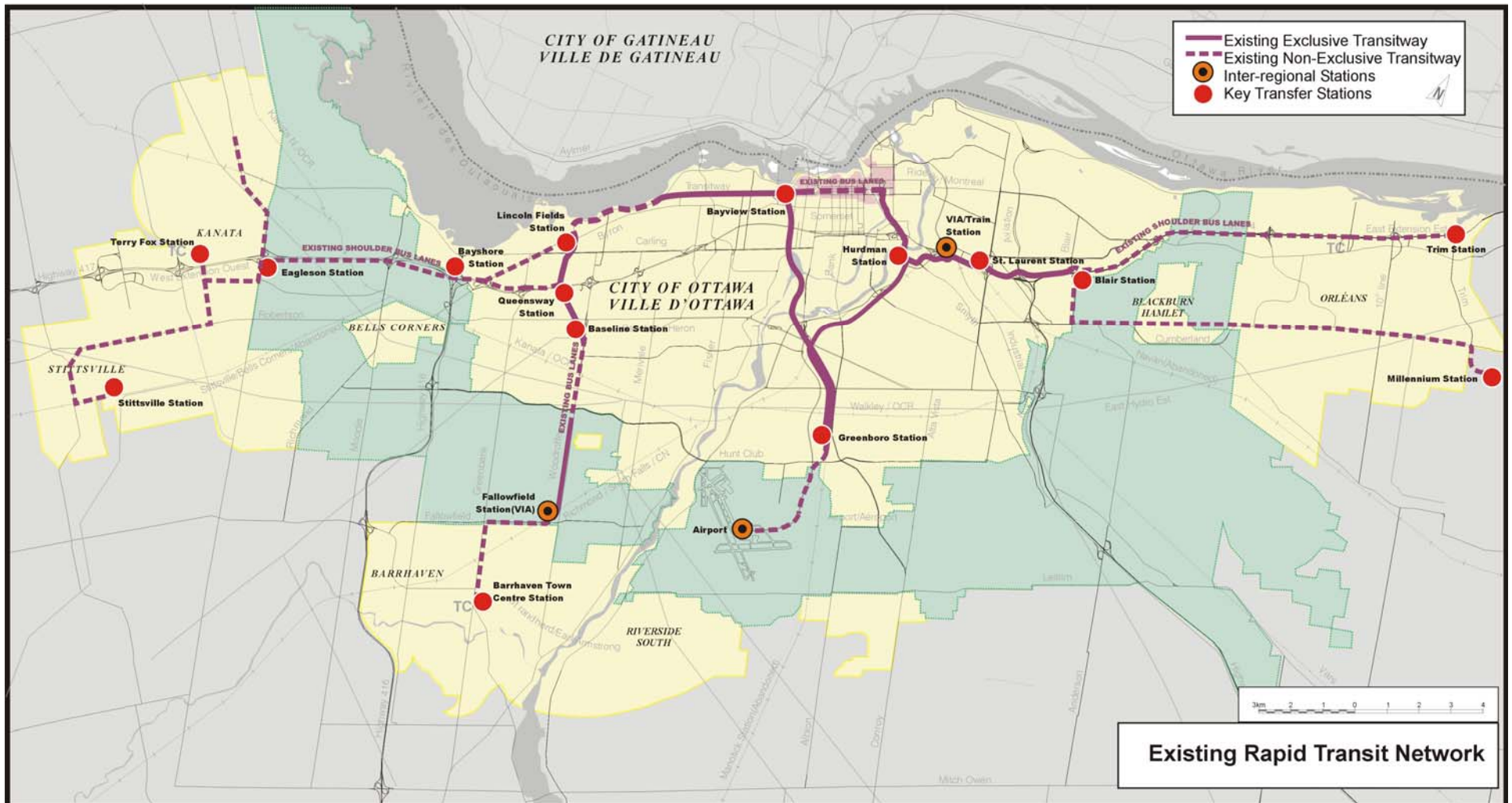
Wag the Blog | Ottawa

System Funding

- 2008: **\$318.4 m**
- Canada is unique in the G8 by the fact that its municipalities are practically on their own to fund transit



FUTURE PLANS

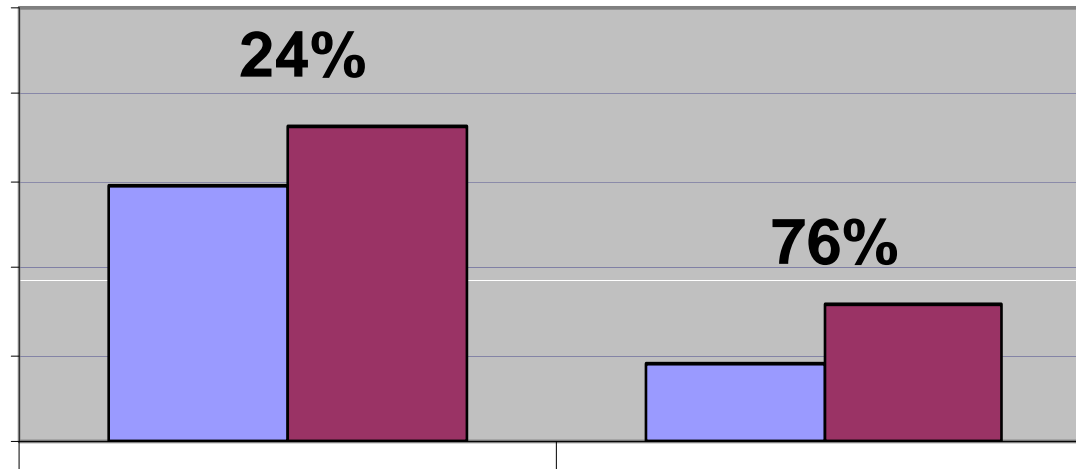


Existing Transit Infrastructure

- 50 km of Transitway (BRT) , 8 km of LRT track
- 40 transit stations; 19 Park & Ride Lots (6,400 total spaces)
- 1,135 buses (844 in operation AM Peak; 334 midday)
- 2 Bombardier Talent Trains (+ 1 spare)
- 100 M annual transit trips (380,000 daily)
- Interprovincial transit service coordination (STO)
- 22% of home-to-work trips – highest of Cdn cities without subway
- Direct Service – no or minimal transfers



Targets



Auto:

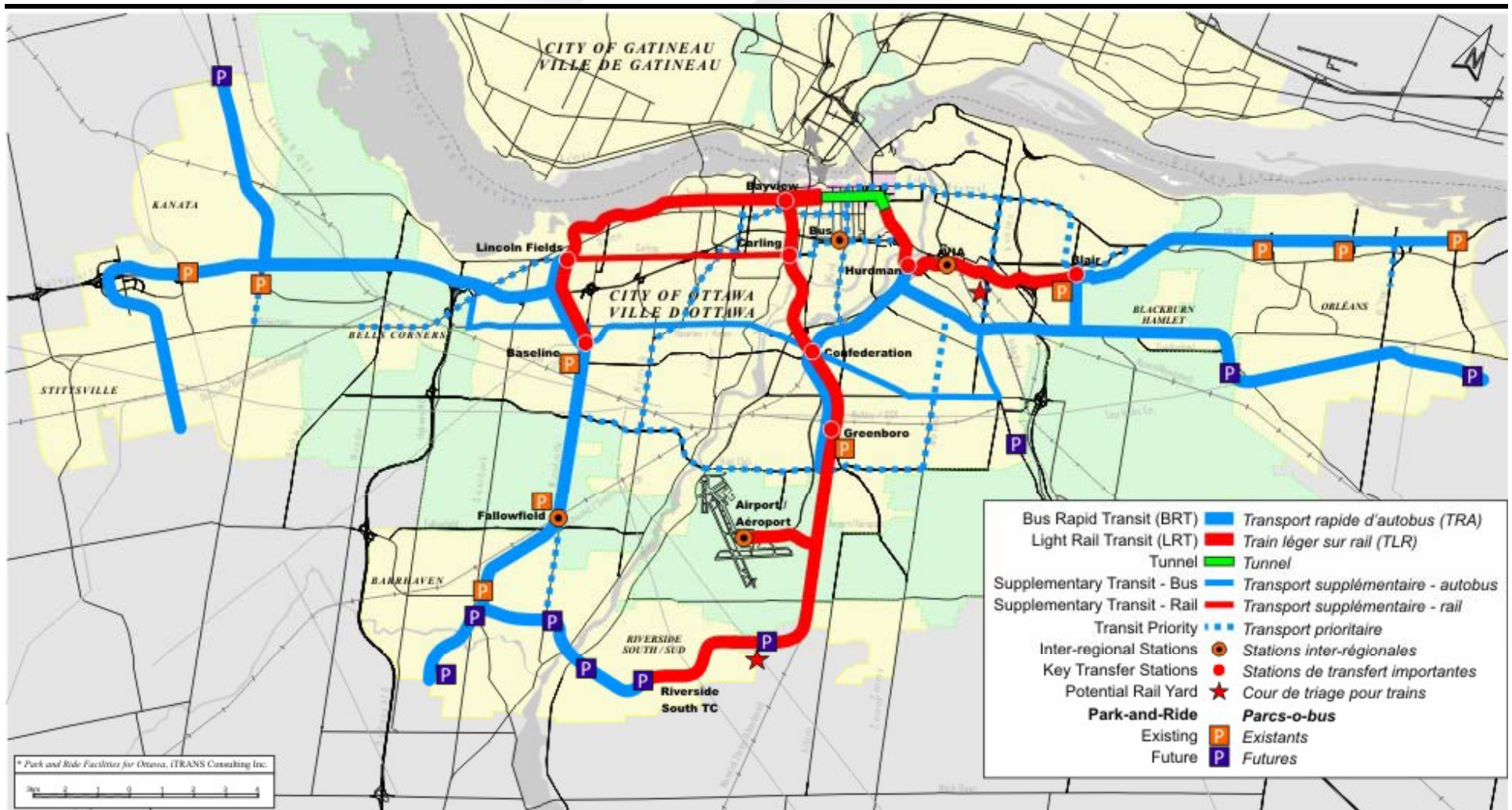
77% → 70%

Transit:

23% → 30%



RAPID TRANSIT NETWORK, 2031



Downtown Overview

- Three families of alignment options developed:
 - Two single tunnels under two parallel streets (e.g. Albert/Slater)
 - Two single tunnels or one larger tunnel under a single street
 - Cross-country route with either two single tunnels or one larger tunnel
- The first two families focus on keeping the tunnel under public streets as much as possible
- The cross-country route makes the most direct connections using a sweeping route with smoother curves, but has to pass under building foundations and parking garages

4 Downtown West

- Existing and future density is towards the south in this part of downtown
- Significant residential development already exists

5 Downtown East

- Access to tourist and capital events favours a more northerly station
- Deep building foundations and major underground utilities influence the station placement

Building Below the City

- Tunnel and stations have to be built:
 - Well below existing foundations
 - In the bedrock
 - Below utilities
- Most newer buildings downtown have parking garages and will not need to go further down, so the tunnels can run under buildings as easily as under the streets

6 Rideau Centre (east of the Rideau Canal)

- Needs to serve
 - Local and regional transit connections
 - Rideau Centre, Byward Market and other businesses
- Has to balance public, government and commercial interests

Tunnel Construction Methods

- Two primary tunnel construction methods
 - Cut and Cover
 - Tunnel Boring Machine (TBM)
- Depth of tunnel and rock conditions suggest boring technique is most suitable for tunnel construction
- Underground stations likely mined out to reduce surface disruption

Entrances

- Two are required for each underground station

Connections

- Will be made using stairs, elevators and escalators

Station entry buildings will likely be built into buildings as the roads and sidewalks are too narrow. This also reduces impacts on the services and utilities located under the roads

LeBreton Station

Campus Station

downtown street

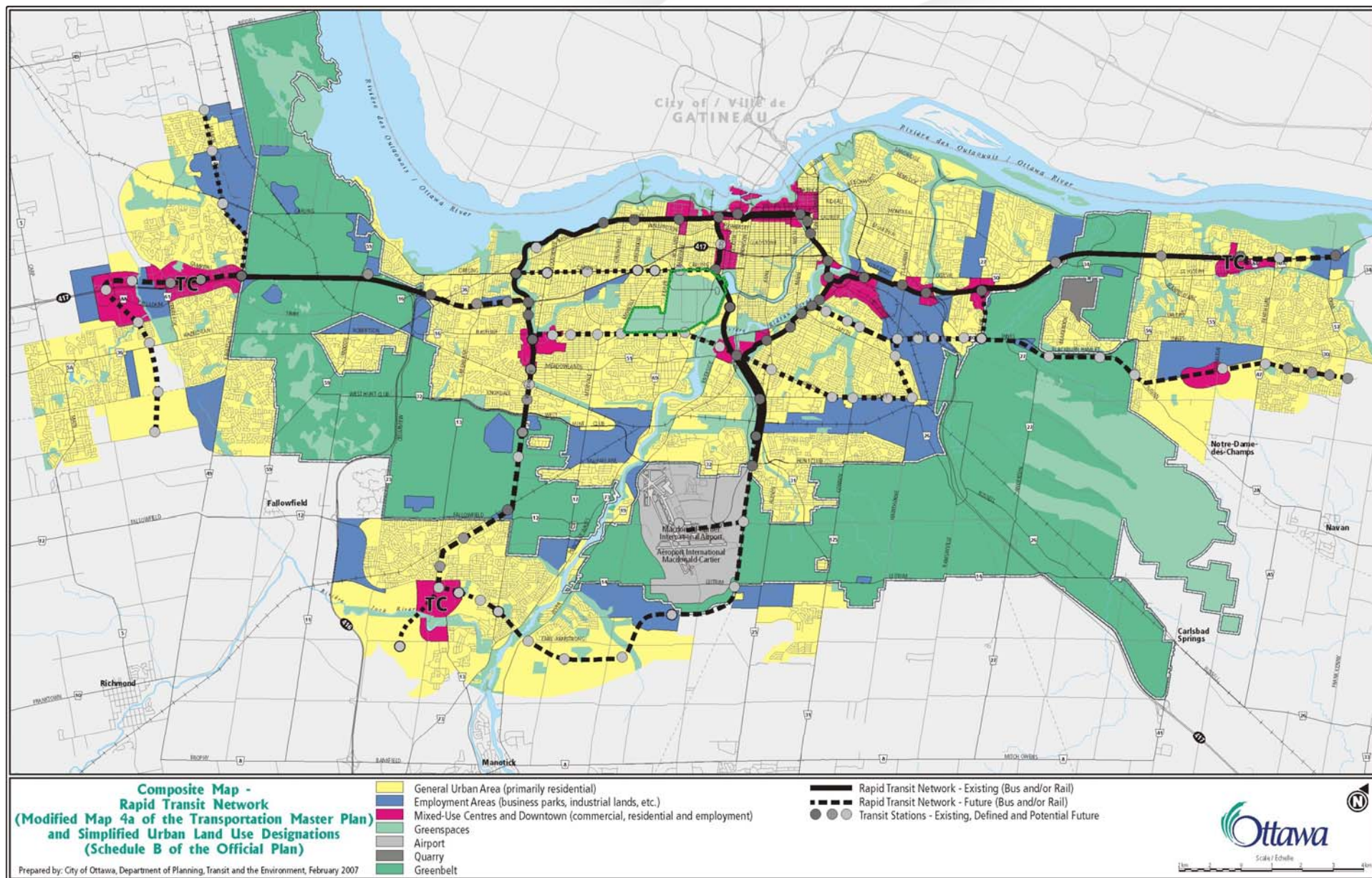
Ground Level

Parking

tare collection level



TRANSIT CORRIDORS & LAND USE



OFFICIAL PLAN TARGETS

- 40% of new urban dwellings to 2031 through intensification
- **Intensification Targets** for Traditional Mainstreets (minimum # of dwelling units per street)
- **Minimum Density** at all other target areas
- Minimum density requirements override parking requirements
- **Parking maximums** for employment hubs

Required Minimum Densities

INTENSIFICATION TARGET AREAS	Minimum Density (people + jobs/ha)
Downtown	500
Major Mixed Use Centres (i.e. employment hubs)	250
Mixed Use Centres at Key Transfer Stations	200
Target Arterial Mainstreets	
Planned for streetcar	200
Groomed for streetcar	120
Emerging Mixed Use Centres	120
Suburban Town Centres	120

Questions?

Thank you for your attention.