Ottawa’s Transitway

A unique rapid transit network based on buses
Today’s presentation

- Some history
- How it works
- What it looks like
- Has it spurred development?
- What will happen to it
Ottawa Electric Railway streetcars, 1891-1957
History

Ottawa Electric Railway streetcars, 1891-1957
Urban expansion

Extent of Urban Growth
Urban expansion
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Extent of Urban Growth
History

Population

1901: Streetcars removed
1983: Transitway opens
2001: O-Train opens
2016-19: Subway + LRT


City
Metro
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 usable **segments** one at a time
- Design to allow **conversion** to LRT & upgrade to heavy rail
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
Out-of-town transit companies also use the Transitway
How it looks, how people use it
HOW IT LOOKS
OC Transpo Only
This Lane
Comment trouver un agent immobilier exceptionnel.
HOW IT LOOKS
HOW IT LOOKS
HOW IT LOOKS
Tunney’s Station
Tunney’s Station
WHERE IT ALL BREAKS DOWN
WHERE IT ALL BREAKS DOWN
WHERE IT ALL BREAKS DOWN
1.5 billionth Transitway rider in 2008
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.

Diagram:
- Passenger: $172,700,000; 54%
- Municipal: $129,500,000; 41%
- Gas Tax: $16,200,000; 5%
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
Tar: 200,000
24%

24%

76%

Auto Transit: 23% → 30%
Auto: 77% → 70%
Transit: 23% → 30%

Ottawa
Three families of alignment options developed:
- Two single tunnels under two parallel streets (e.g., Albert/Sather)
- 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 broadened curvatures, but has to pass under building foundations and parking garages.

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

**Downtown East**
- Access to tourist and capital events favours a more northern station.
- Deep building foundations and major underground utilities influence the station placement.

**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.
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

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

Thank you for your attention.