



Traffic Calming in Vancouver

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Conseil régional de l'environnement de Montréal, 1 juin 2007

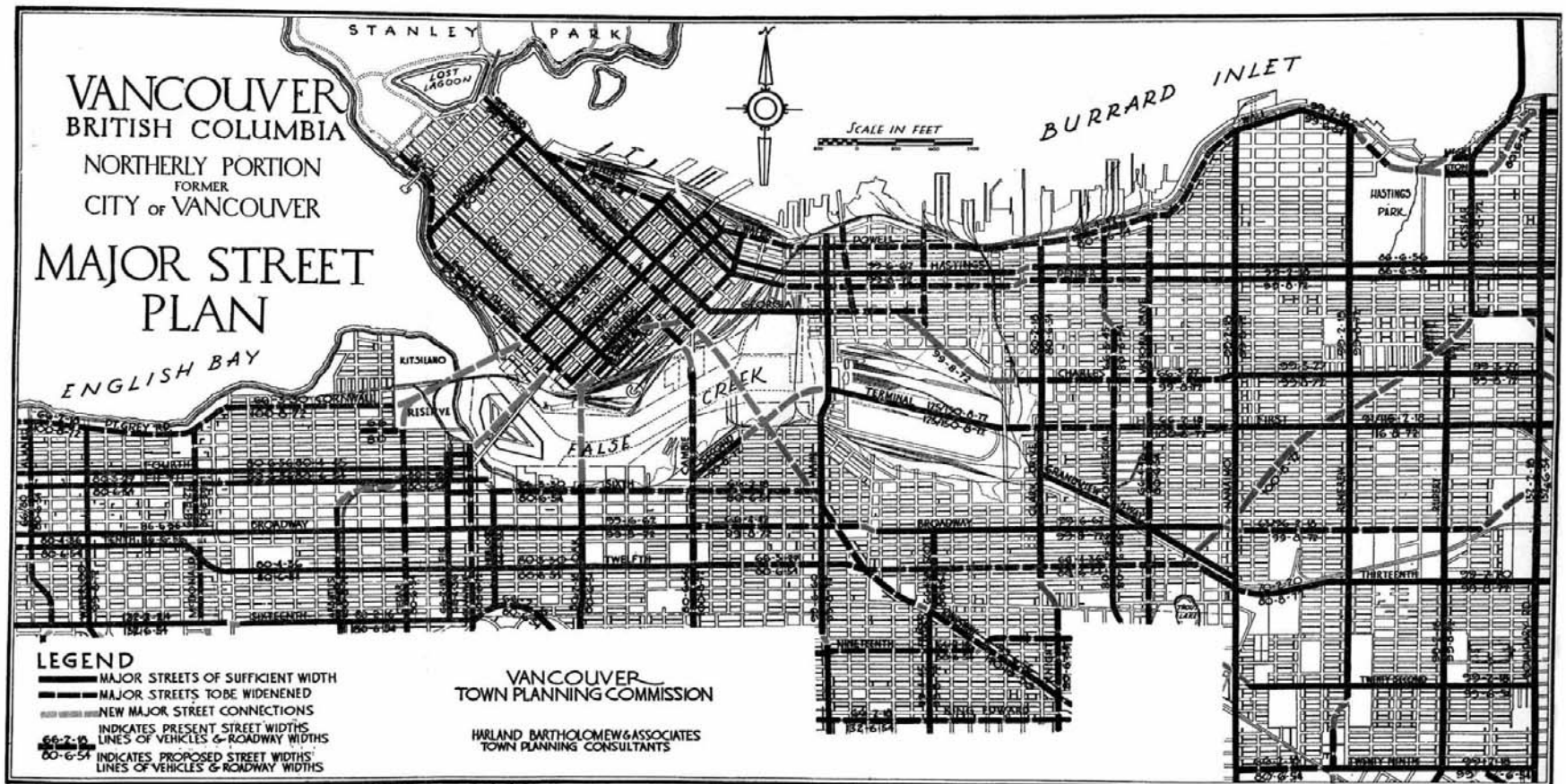
Introduction

- Geography, History and Transportation in Vancouver
- 1997 Vancouver Transportation Plan
- Traffic Calming in Vancouver
 - Definition
 - Measures
 - Neighbourhood Programs
 - On Bikeways
 - Speed Hump Program
- Conclusion

Fraser Valley



A Plan for the City of Vancouver, 1930



1968 Downtown Freeway Plan



1968 Downtown Freeway Plan







West End Traffic Calming, 1973

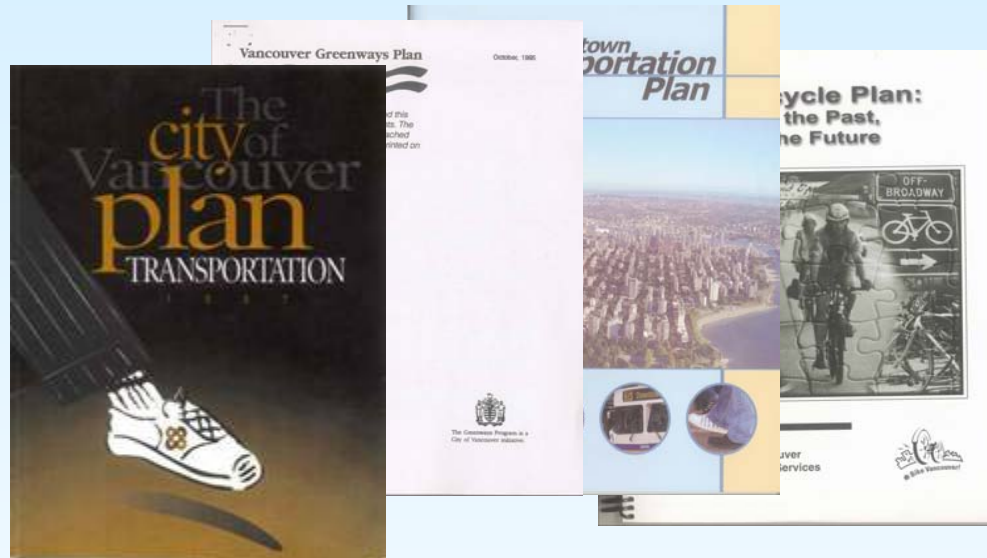


"Sorry, lady...we at city works department don't know nothin' about a stupid plan to barricade West End streets to discourage through traffic"

West End Traffic Calming, 2004



Plans & Policies

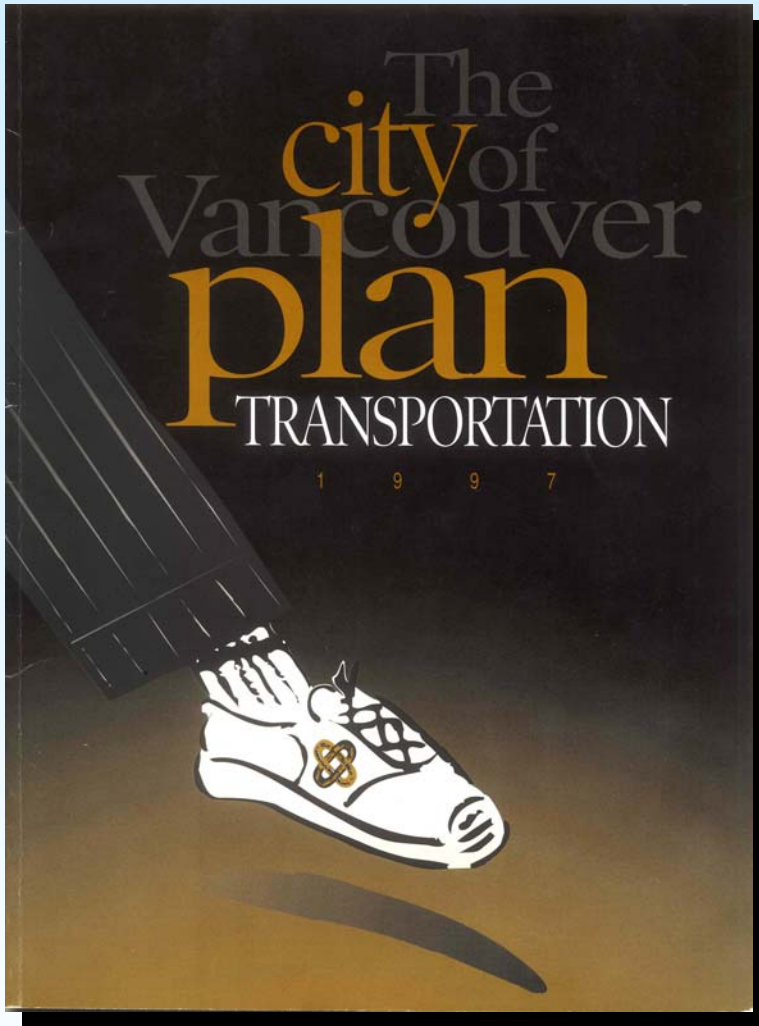


City of Vancouver Transportation Plan (1997)

Downtown Transportation Plan (2002)

Bicycle Plan (1999)

Greenways Plan (1995)



Plan de transport

Vision et objectifs



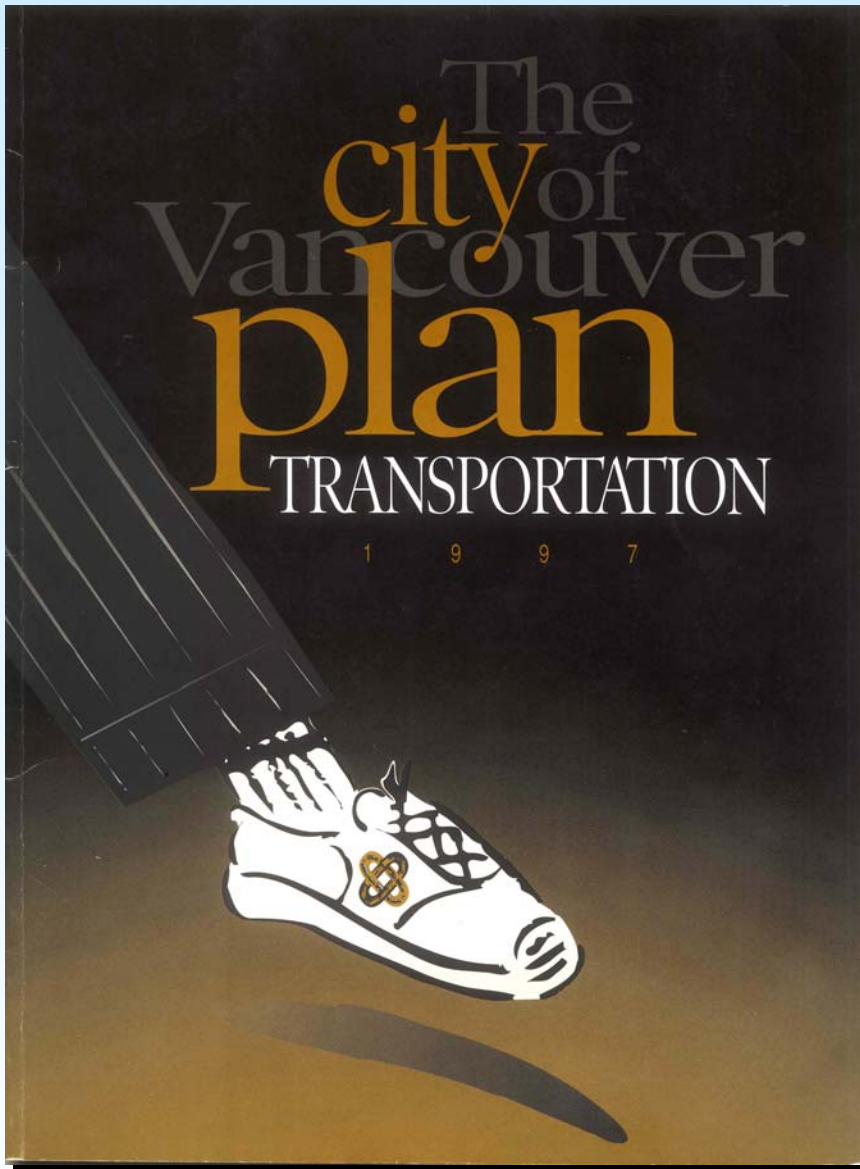
Montréal 

Plan de transport 2007
Document de consultation

Réinventer
Montréal



Montréal 



- Limiting overall road capacity to the 1997 level
- Providing more comfortable walking and biking environments
- Increasing the provision and use of transit
- Maintaining an efficient network for goods movement
- **Calming Traffic in Neighbourhoods**

Transportation Priorities

- Walking
- Cycling
- Transit
- Goods Movement



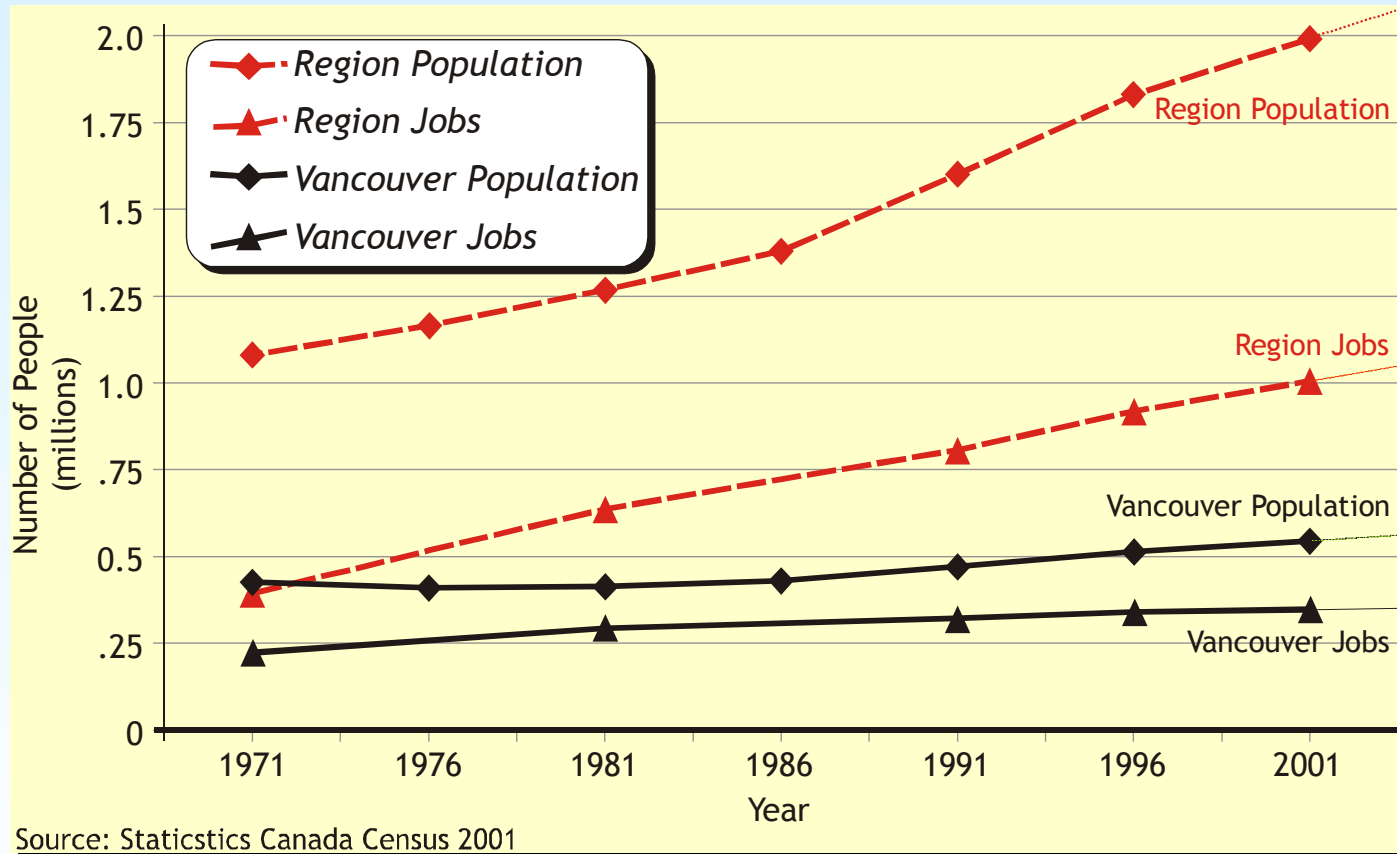
Transportation Priorities

- Walking
- Cycling
- Transit
- Goods movement

Transportation Trends



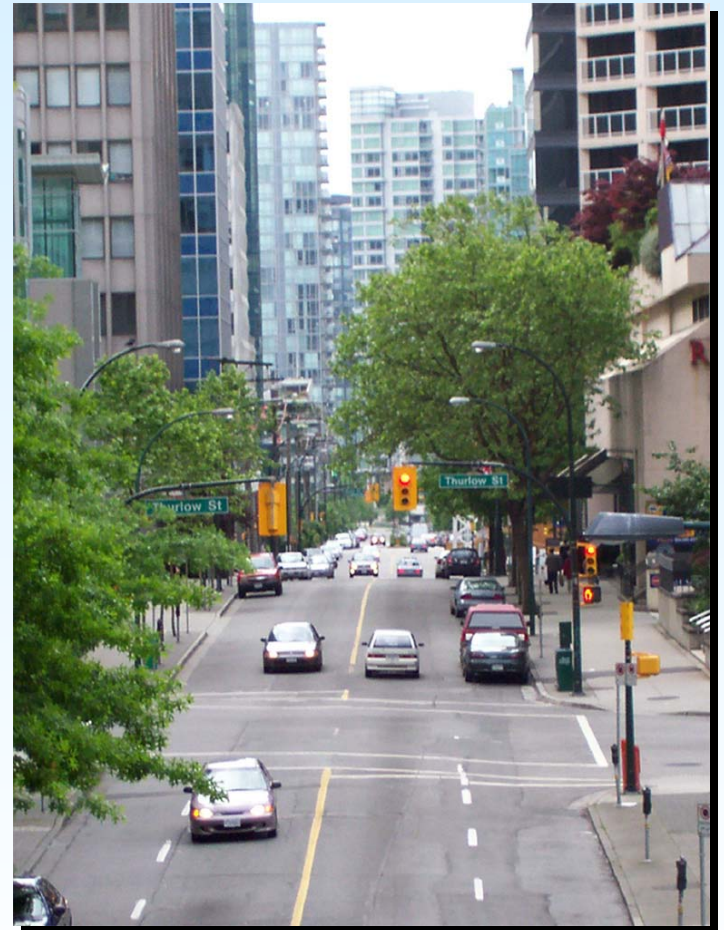
Population Growth (1996-2005)



Trips Up, Vehicle Count Down

In ten years...

- Trips are up 23%.
- Vehicle use is stable and in some areas declining.
- Distance driven by Vancouver registered vehicles is down (-29%).



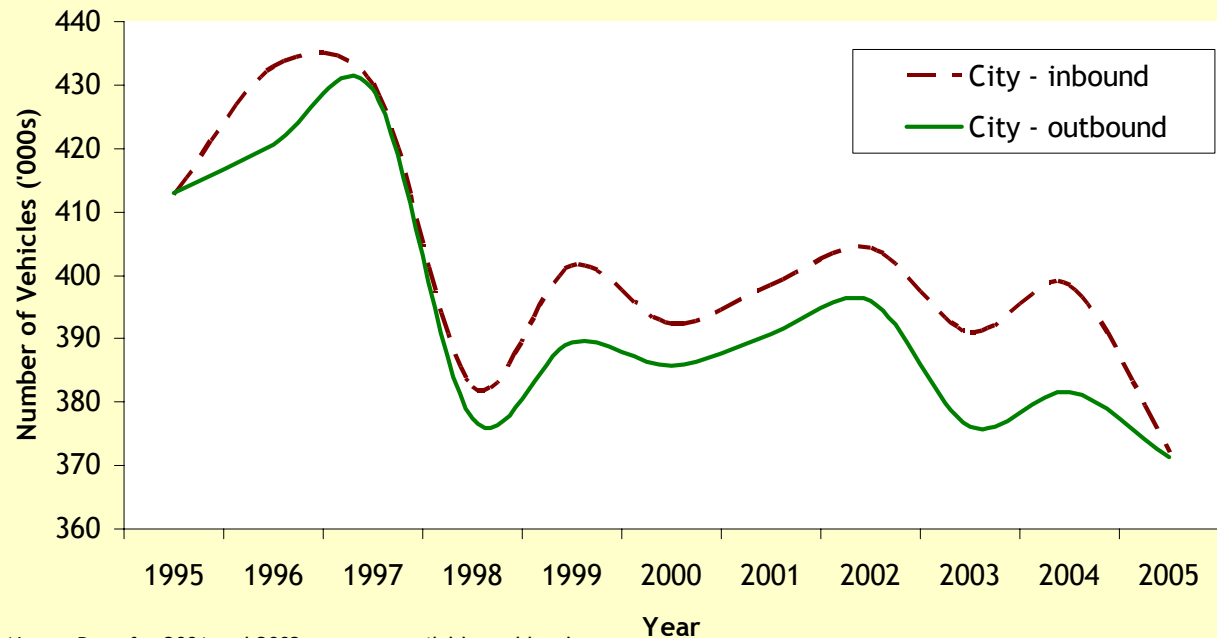
Trips Up, Vehicle Count Down

- Vehicle trips to Vancouver are declining.

trips by all modes
+23%

vehicles entering Vancouver
-10%

Vehicles entering/leaving the City in a 24 hr period



Note: Data for 2001 and 2002 was not available and has been extrapolated.

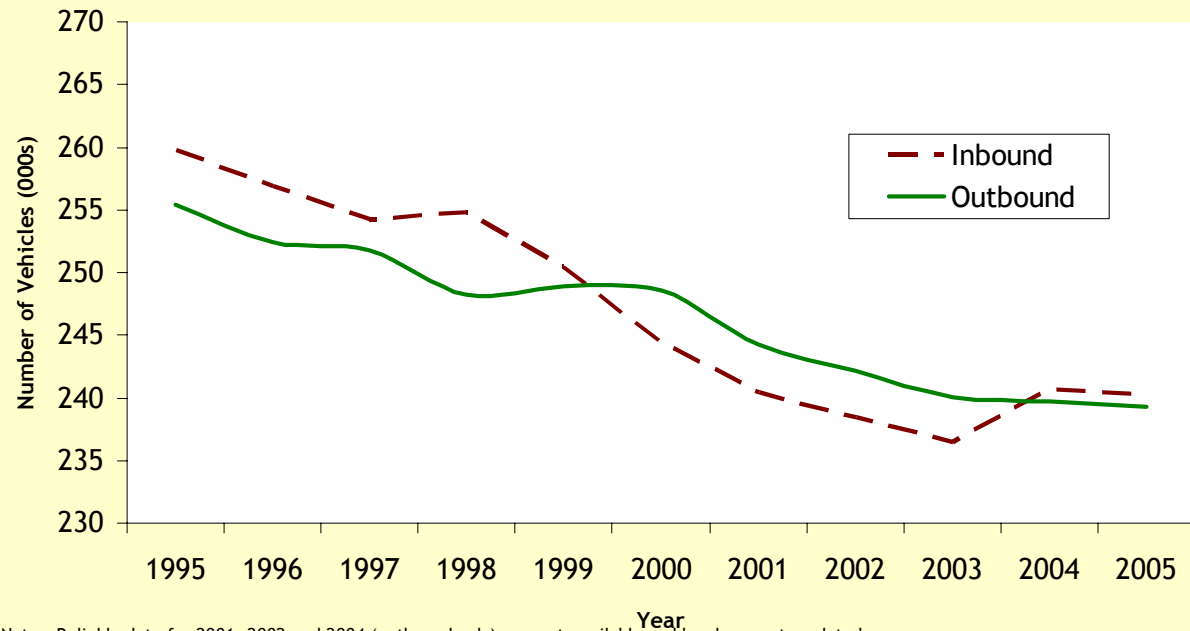
Trips Up, Vehicle Count Down

- Vehicle trips to CBD are declining.

trips by all modes
+22%

vehicles entering CBD
-7%

Vehicles entering/leaving Central Business District (CBD) in a 24 hour period

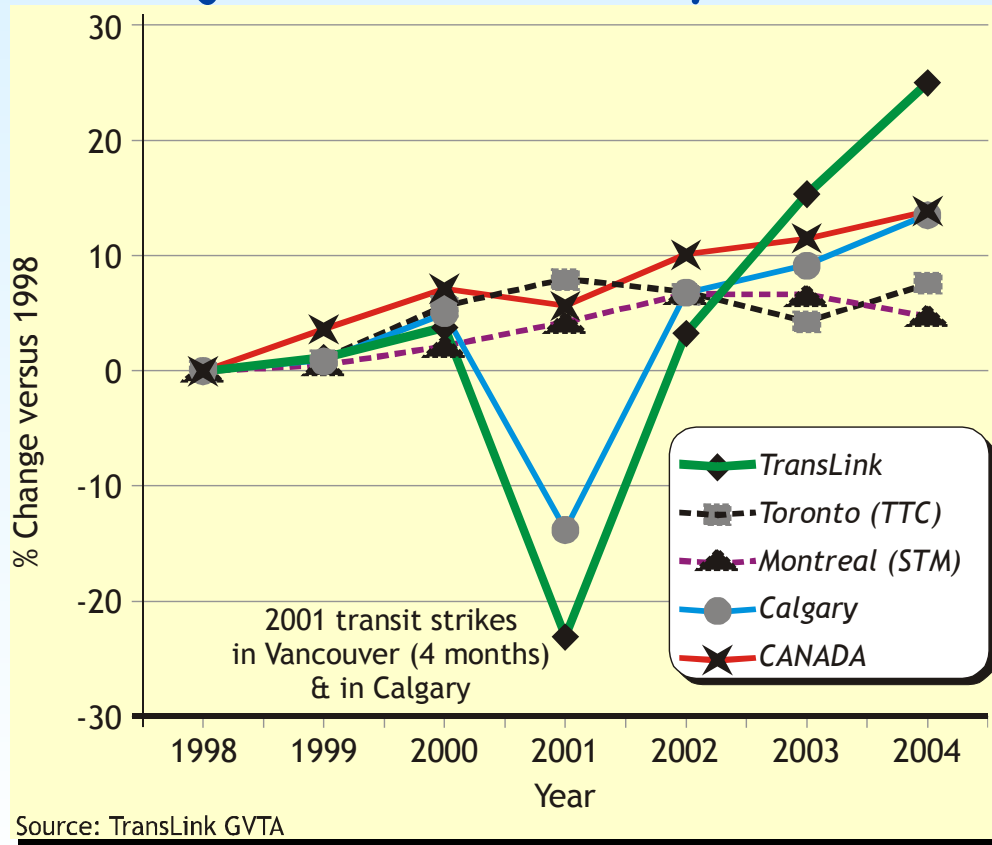


Note: Reliable data for 2001, 2002 and 2004 (outbound only) was not available and has been extrapolated.

Source: City of Vancouver Annual Cordon Count Program

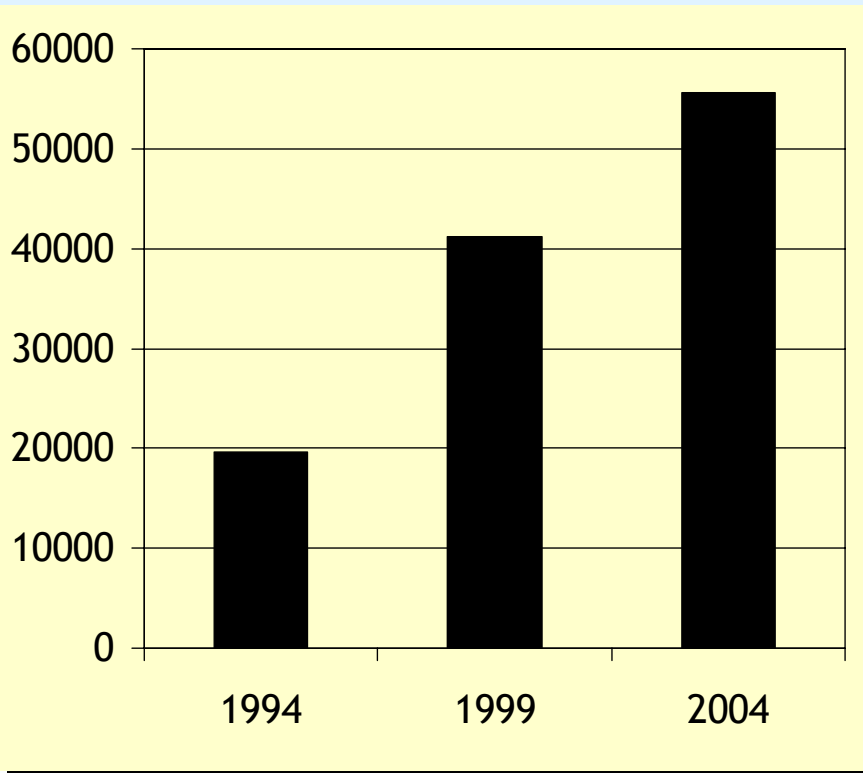
Transit Ridership Growing

- Transit ridership trends - TransLink & other major Canadian systems.



Bike Trips Growing Fastest

- Bike trips to & within Vancouver (24 hour).

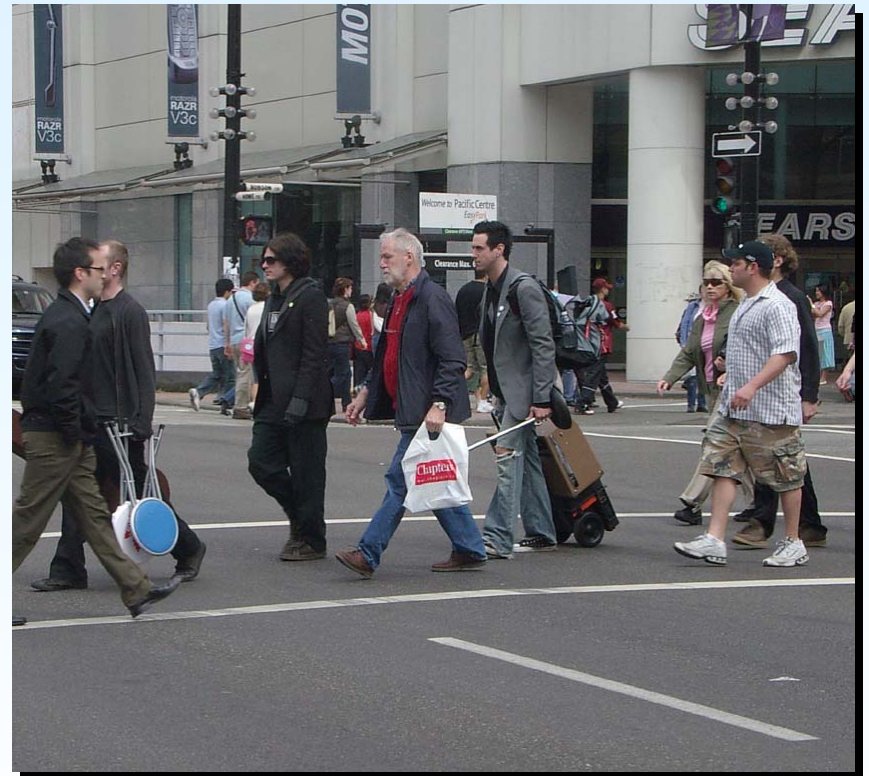
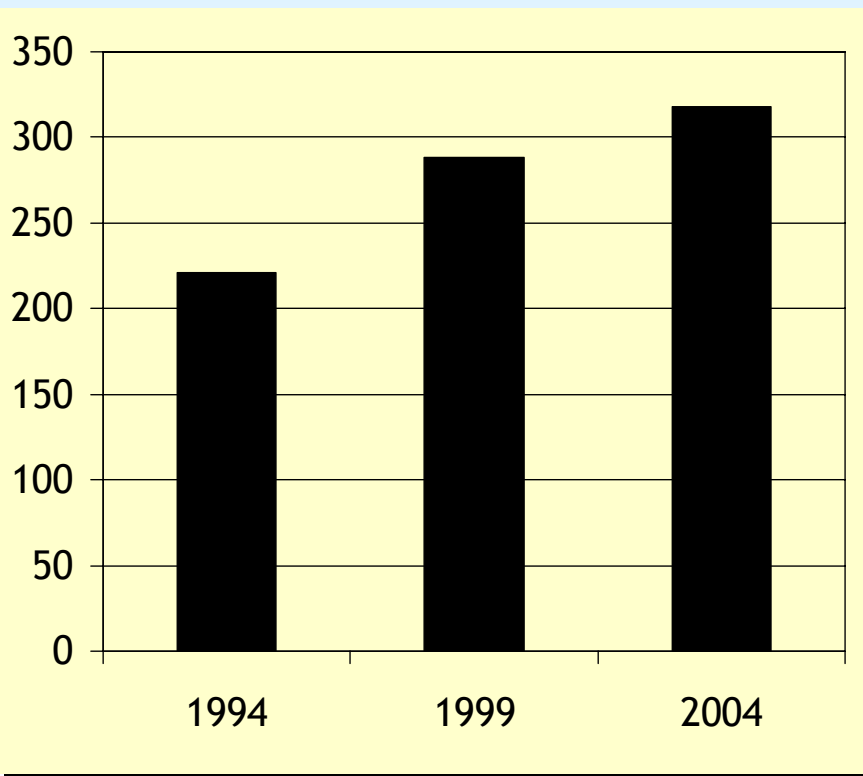


Source: TransLink Trip Diary



Walk Trips Growing

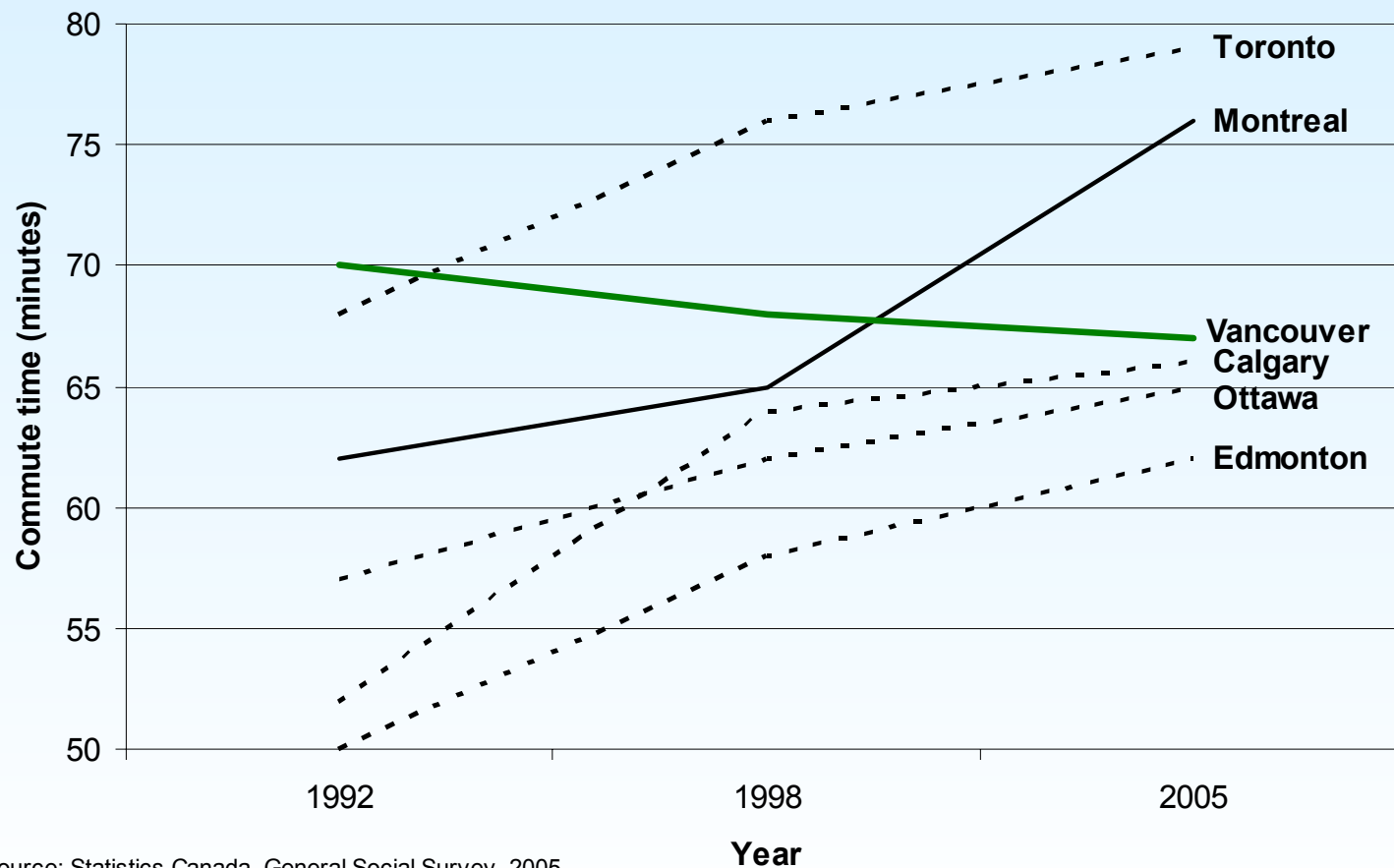
- Walk trips to & within Vancouver (24 hour).
(thousands per day)

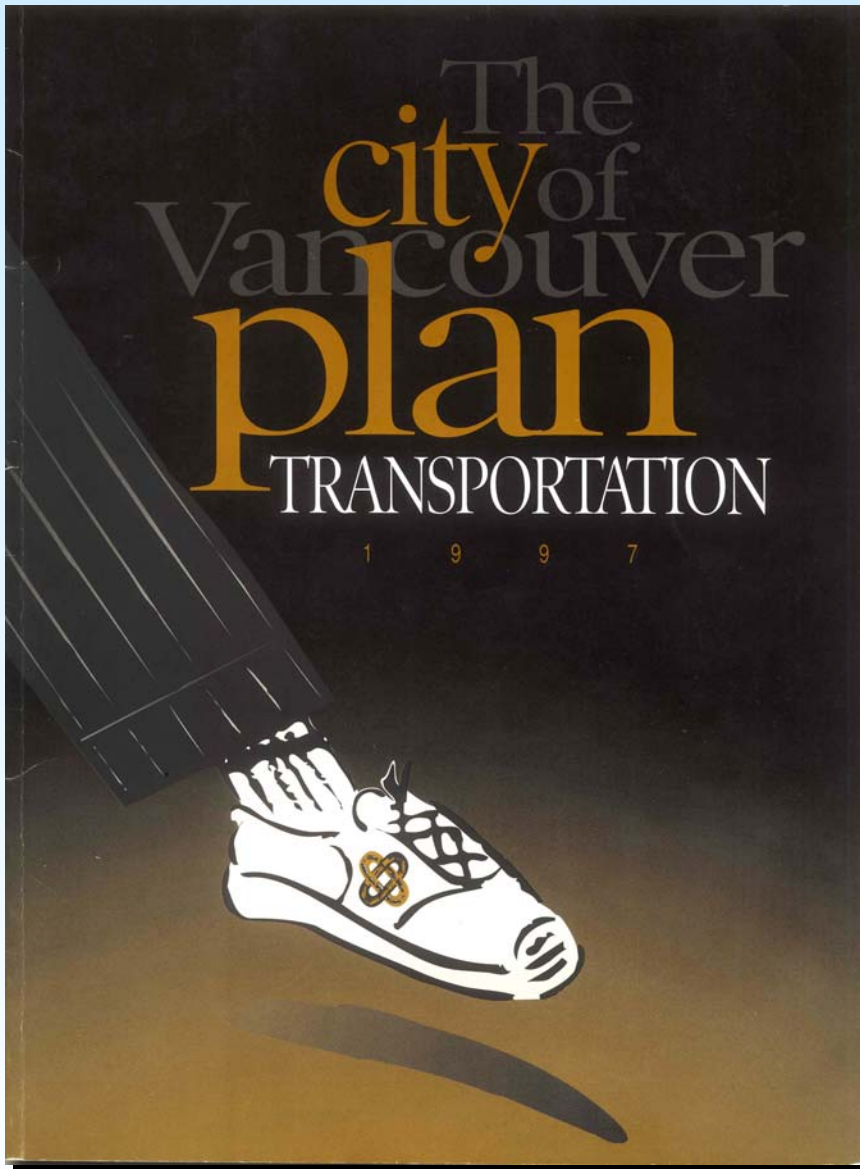


Source: TransLink Trip Diary

Time spent commuting

Average round-trip home-to-work commute times
in major Canadian cities (1992-2005)





- Limiting overall road capacity to the 1997 level
- Providing more comfortable walking and biking environments
- Increasing the provision and use of transit
- Maintaining an efficient network for goods movement
- **Calming Traffic in Neighbourhoods**

Definition of Traffic Calming

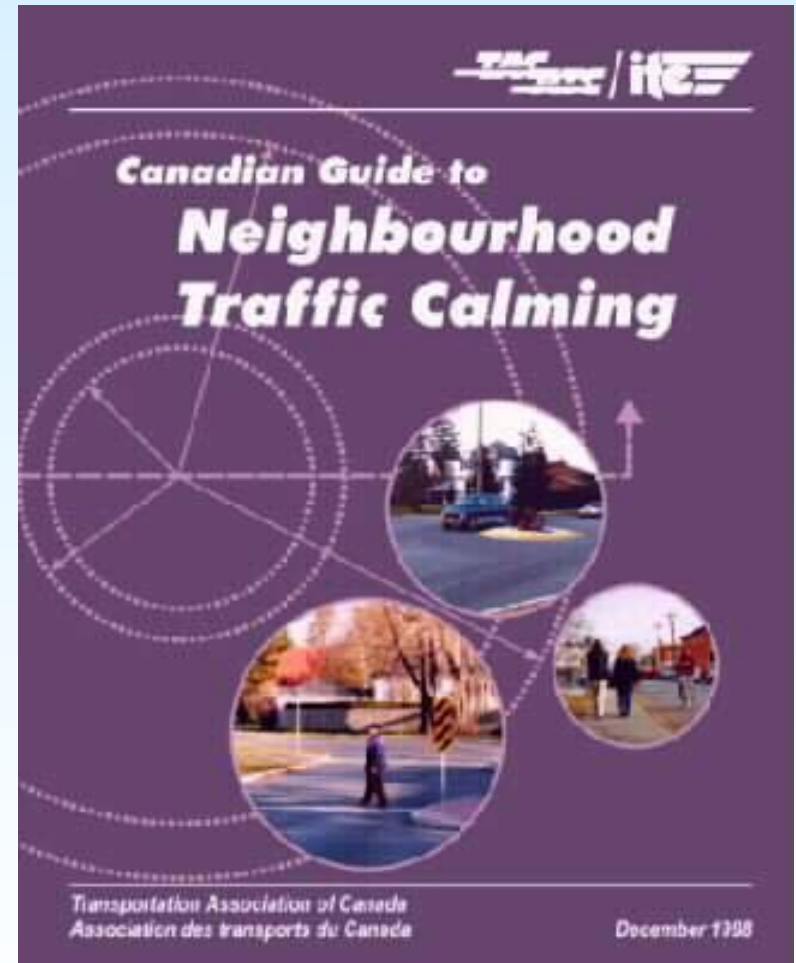
Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.

Définition de l'apaisement de la circulation

L'apaisement de la circulation consiste en une combinaison de mesures principalement physiques visant à atténuer les effets nuisibles de l'utilisation de l'automobile, de modifier le comportement des conducteurs et d'améliorer l'environnement des utilisateurs non-motorisés.

Purpose of Traffic Calming

- Reduce vehicular speeds.
- Discourage through traffic.
- Minimize conflicts between road users.
- Improve the neighborhood environment.



Traffic Calming Measures

1. To slow traffic and discourage short-cutting (non-diversionary)
2. To prevent short-cutting (diversionary)

Traffic Calming Measures

1. Traffic Calming
(non-diversionary)
2. Traffic Diversion

Speed Humps



Corner Bulges (i.e. Bulb-outs, Curb Extensions)



Traffic Circles



Photos: Richard Drdul

Medians



Narrow Local Street (2-way traffic)



Diagonal Diverters



Diagonal Diverters



Street Closures



Partial Closures



Photo: Richard Drdul

Right-in/Right-out Diverter



Arterial Medians



Signs

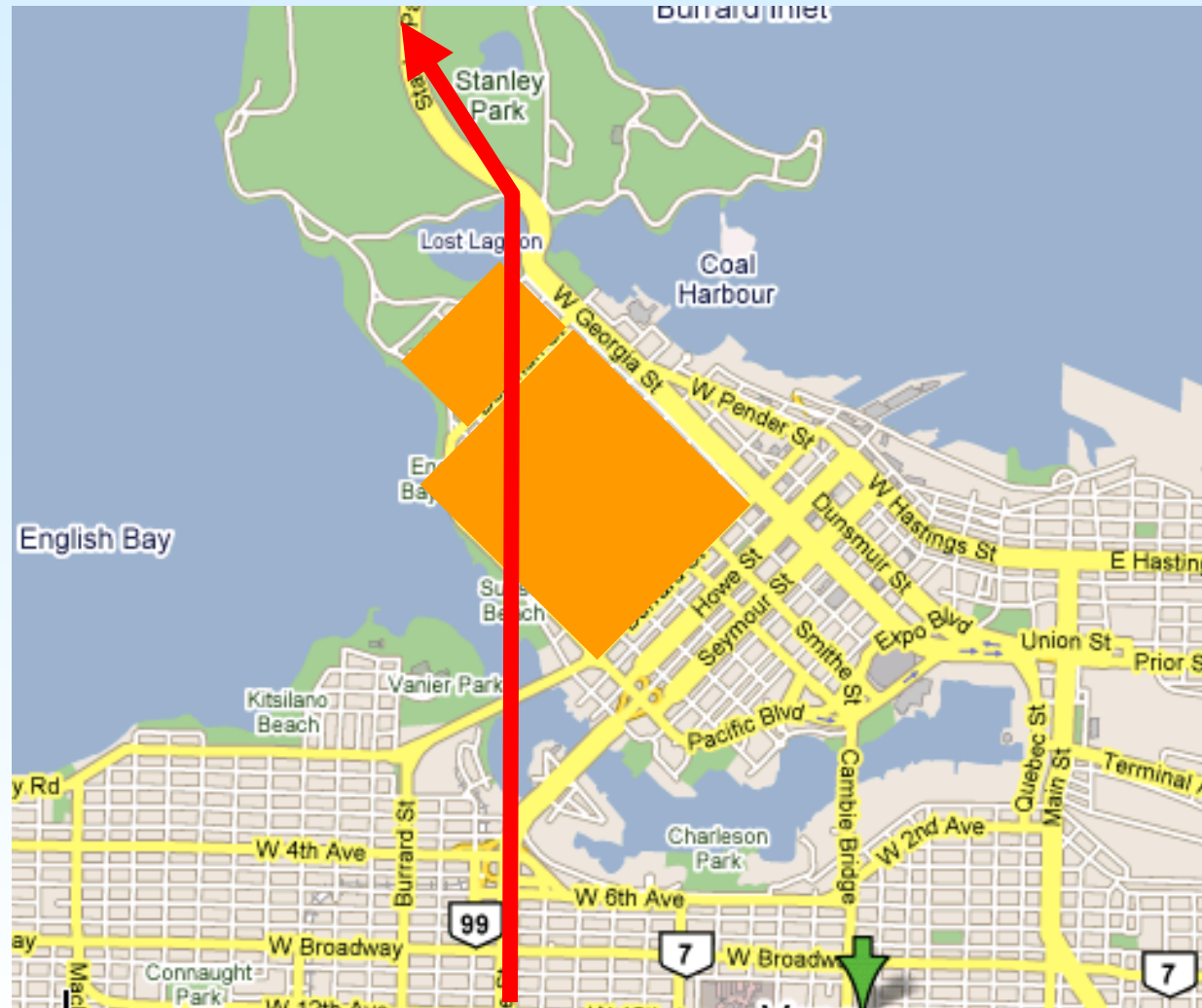


Neighbourhood Traffic Calming Plans

Case Studies

- West End
- Mount Pleasant
- West Broadway
- Grandview - Woodlands

Case Study: West End



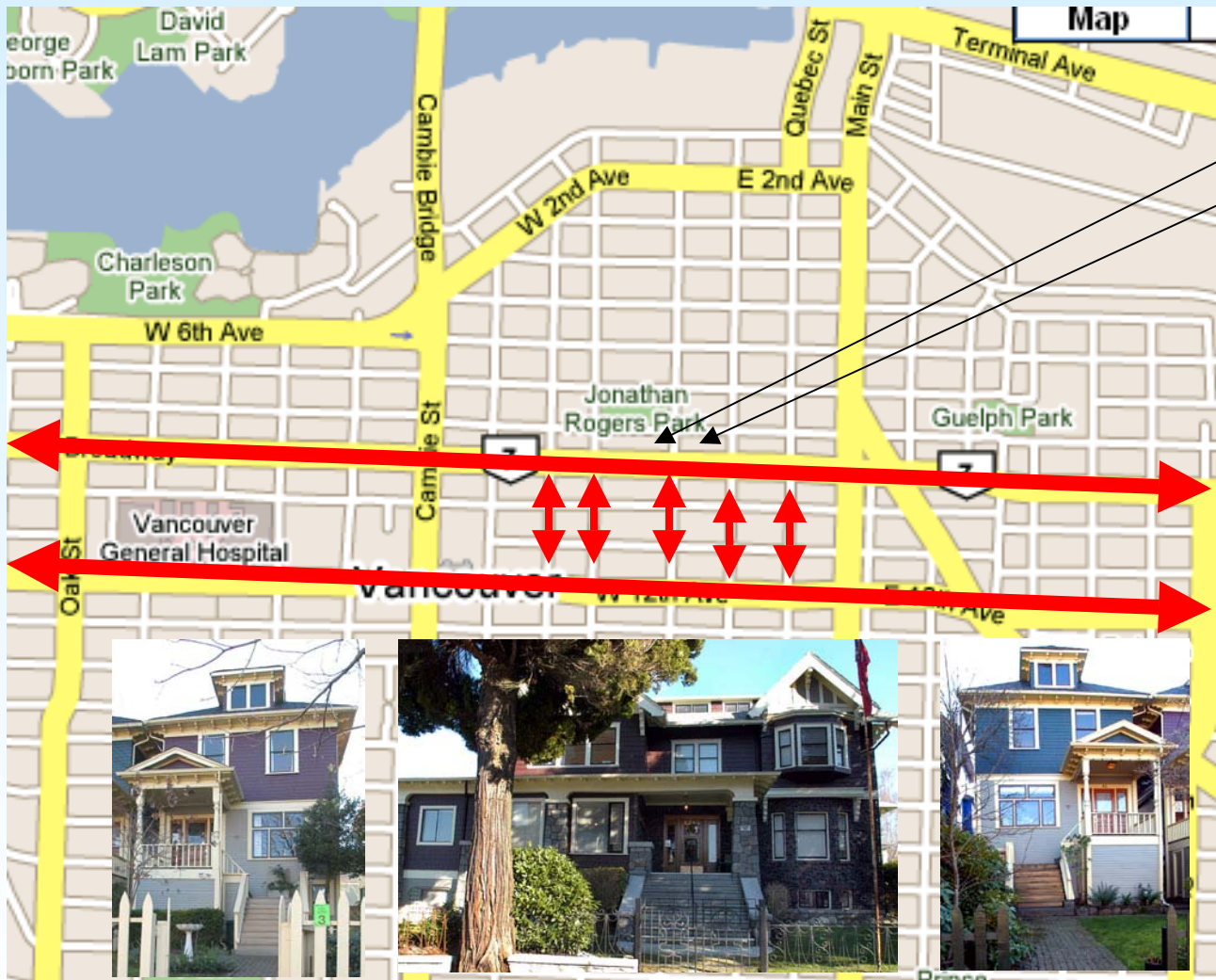
Case Study: West End



Case Study: West End



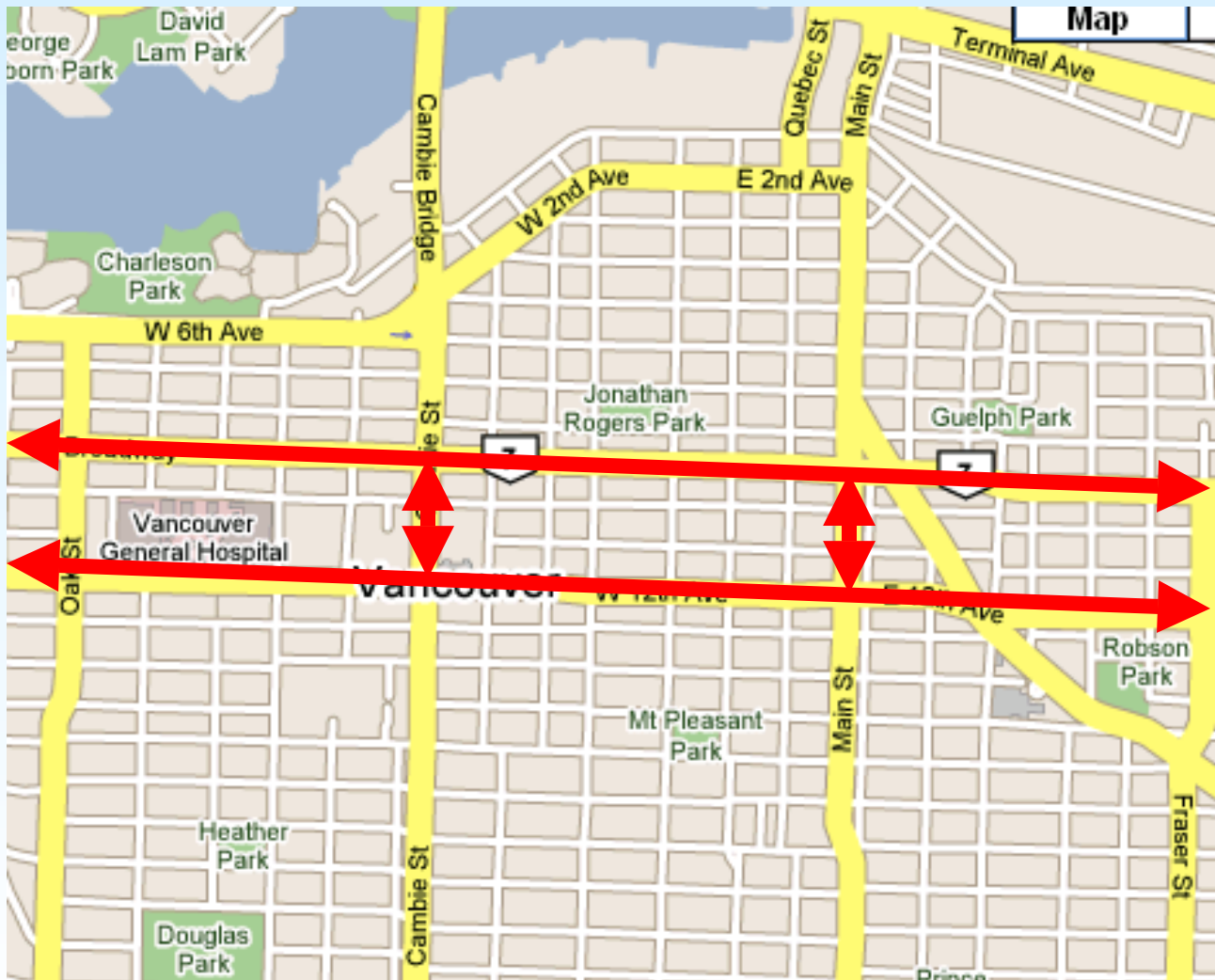
Case Study: Mount Pleasant



Case Study: Mount Pleasant



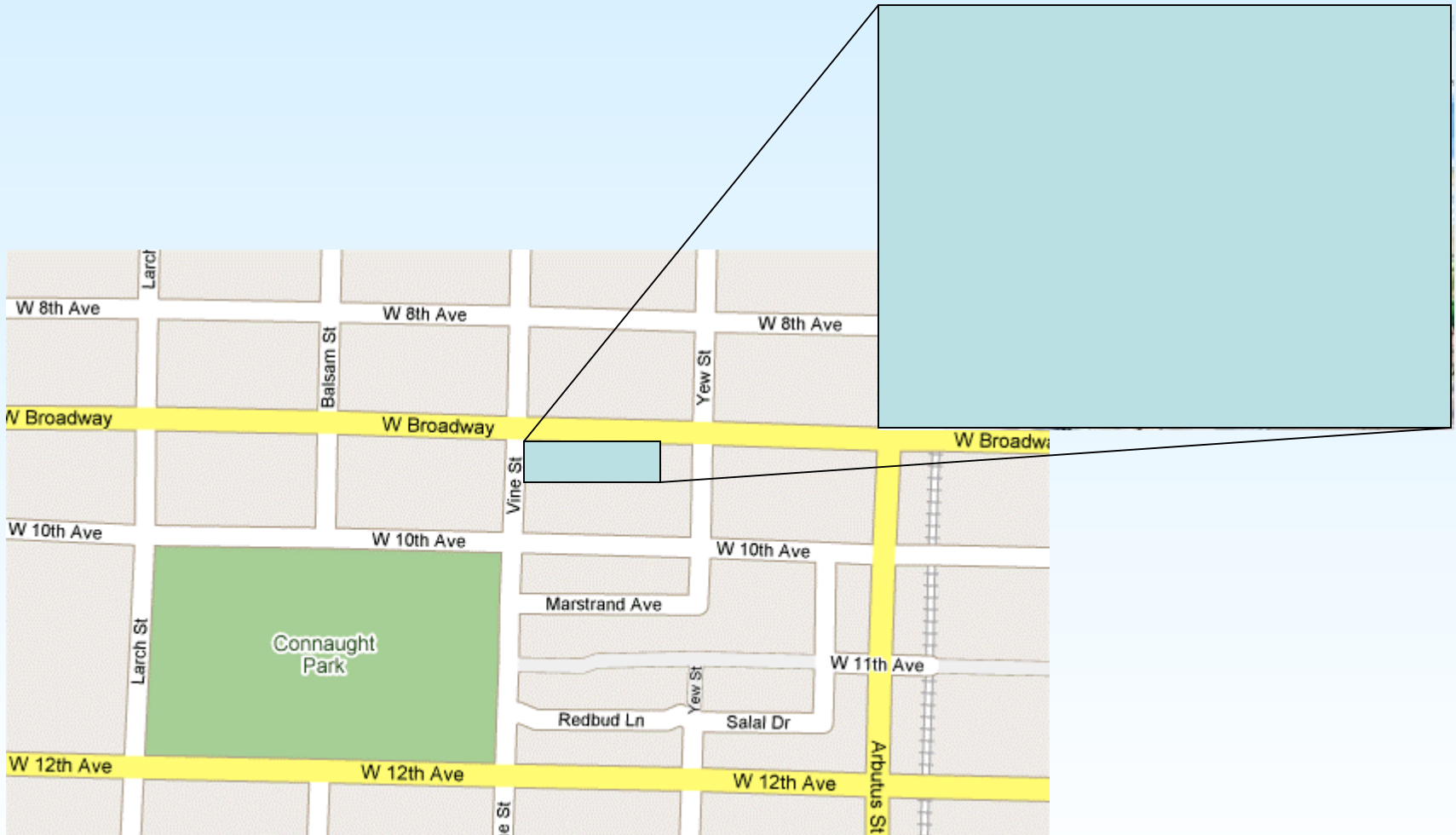
Case Study: Mount Pleasant



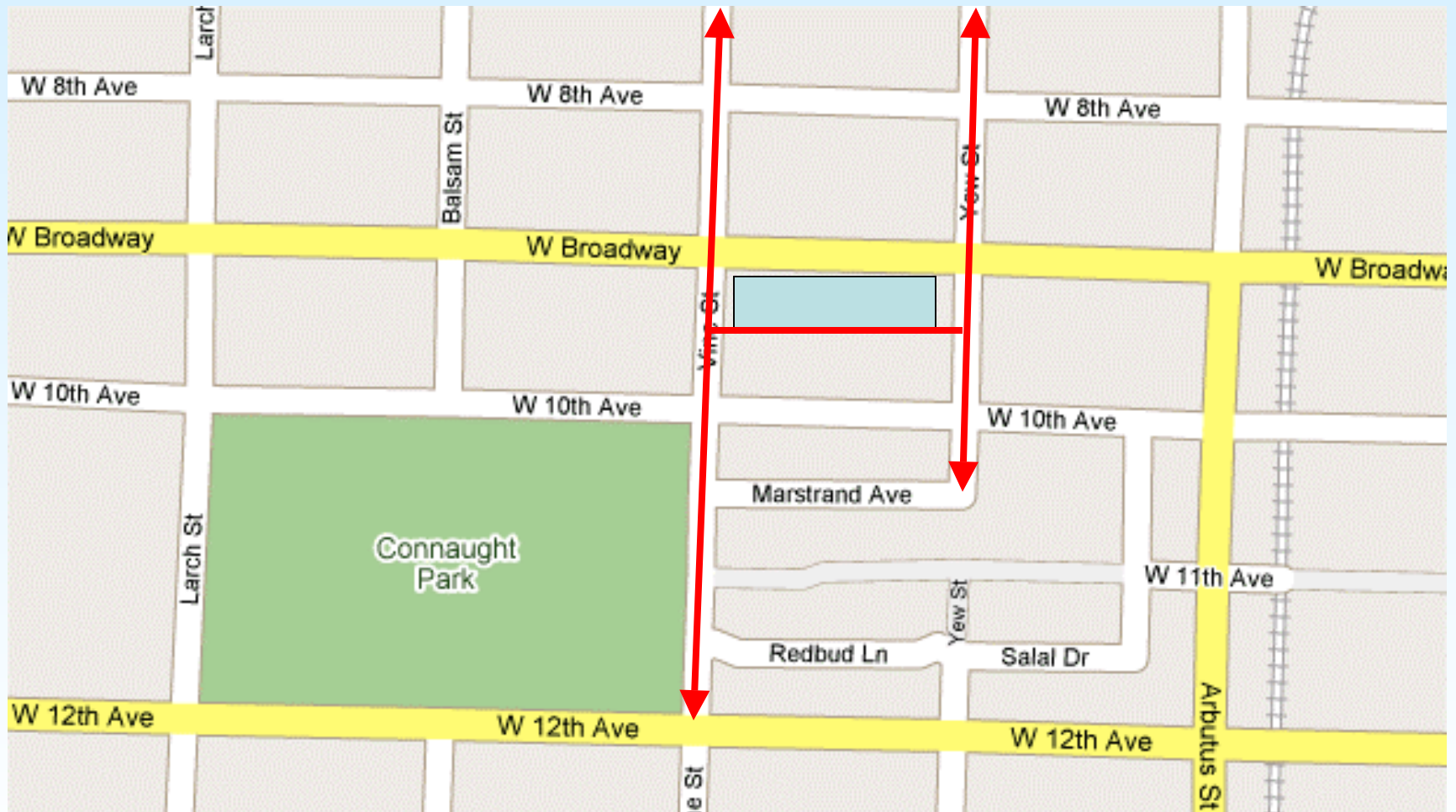
Case Study: West Broadway



Case Study: West Broadway



Case Study: West Broadway



Case Study: West Broadway

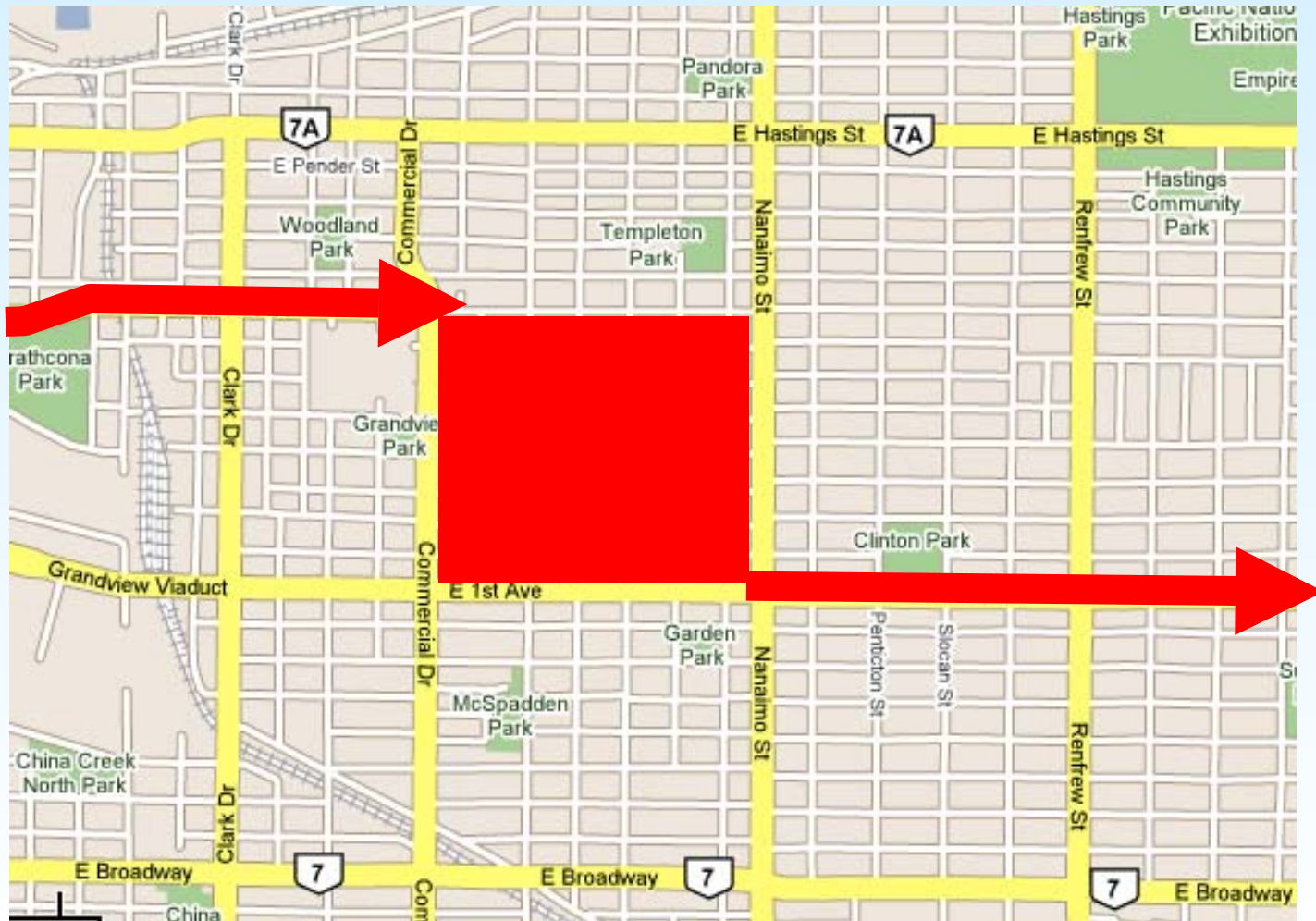
A Public Consultation Success

- 1) Focus group of city staff (engineering and planning) and local residents developed two options
- 2) At a Public Open House, city staff presented two options and attendees preferred one (79%)
- 3) Survey of entire neighbourhood supported the preferred option (72%)

Grandview Woodlands



Grandview Woodlands



Grandview Woodlands

- 1988: some local street traffic volumes over 3000 per day
- Napier Street 800/day
- 1989: temporary measures installed and volume were then all below 1000
- All measures made permanent, except on Napier
- Volumes on Napier then over 2000
- Consultation continues



Traffic Calming on Local Street Bikeways (Bike Boulevards)



Local Street Bikeways

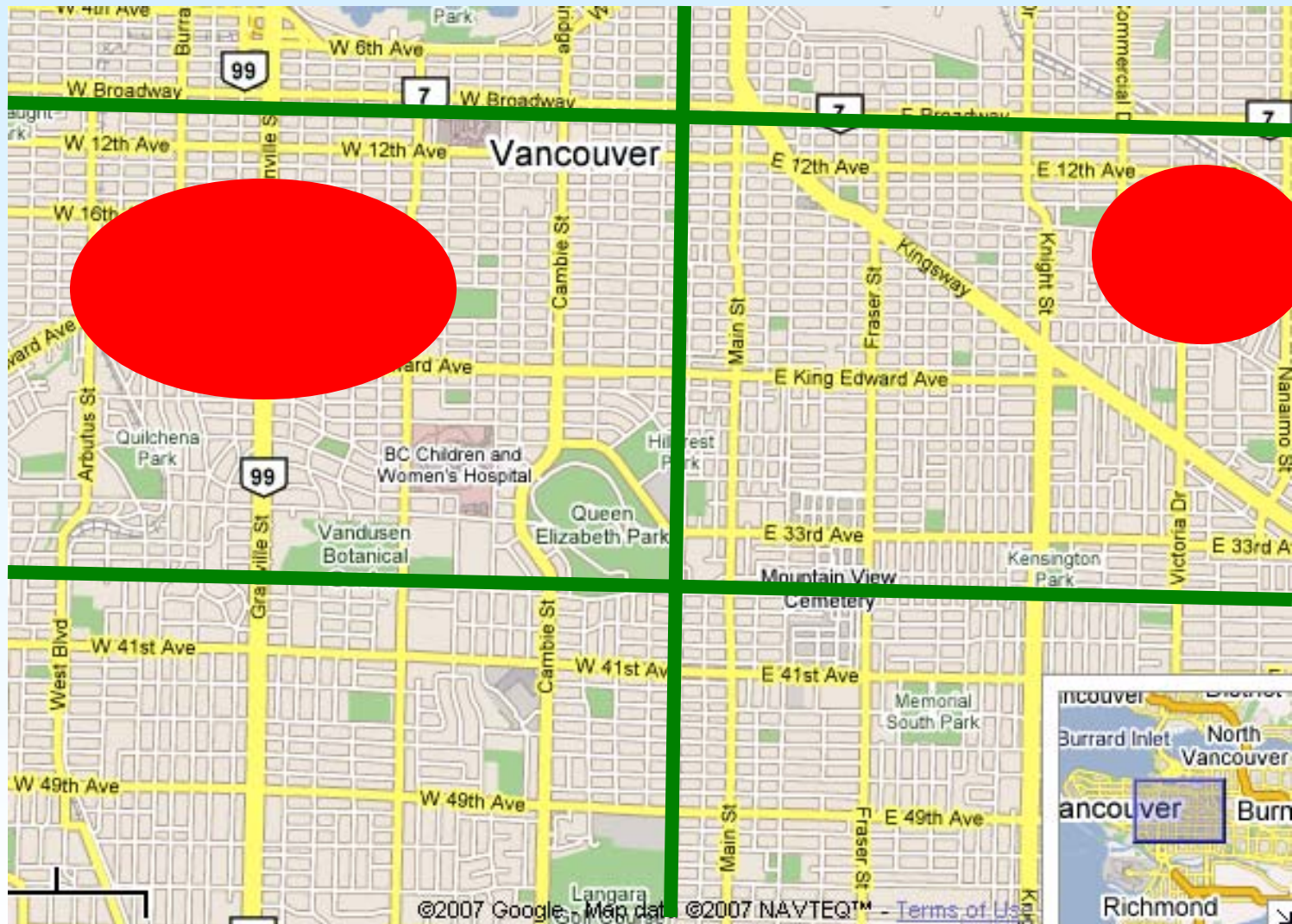




Photo: Richard Drdul



Photo: Richard Drdul





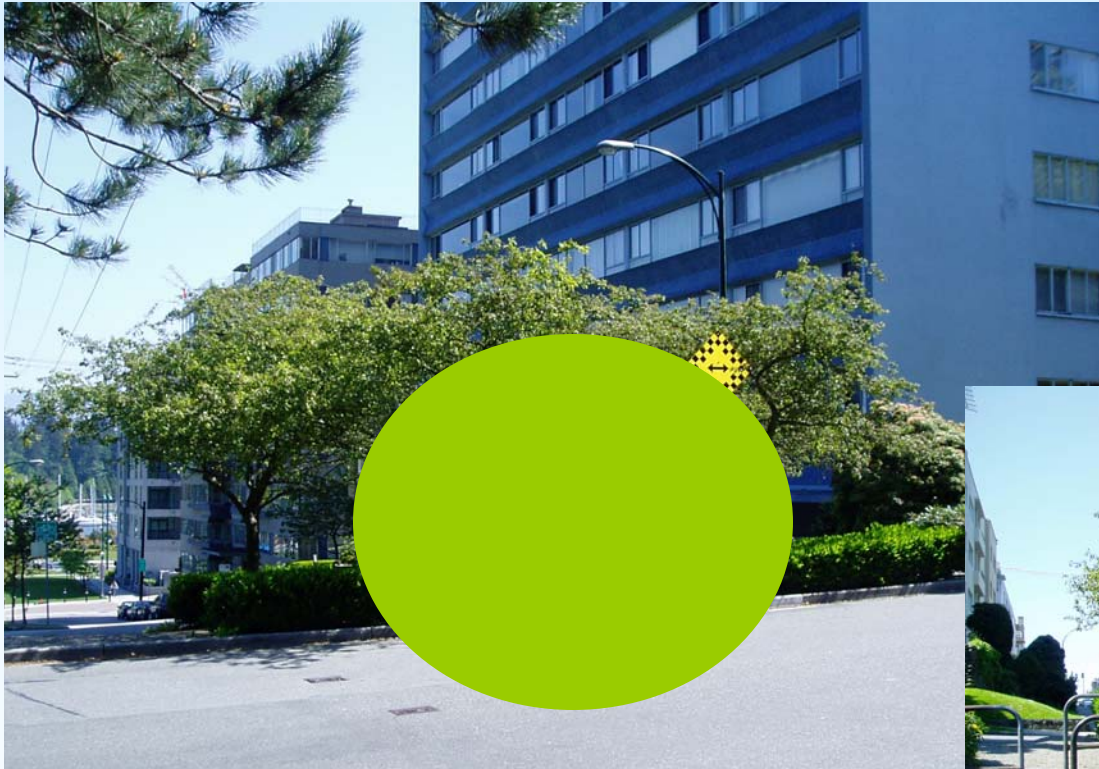


Photo: Richard Drdul

Retrofitting 1st Generation Traffic Calming



Retrofitting 1st Generation Traffic Calming



Retrofitting 1st Generation Traffic Calming



Speed Hump Program



What is a Speed Hump?

Speed Hump



Use on local
residential streets

Speed Bump



NOT for use on
streets

What is a Speed Hump?

- "raised area of a roadway, which deflects the wheels and frame of a vehicle" TAC Traffic Calming Guide
- slows vehicles to design speeds, 30km/h or 40 km/h
- is comfortable below design speeds, and uncomfortable above
- is not the same as a speed bump

What Can Speed Humps Do?

Speed Humps Do:

- slow traffic on the treated street
- quiet traffic

Speed Humps Don't:

- reduce traffic volume
- divert traffic
- affect cyclists
- affect traffic on adjacent streets

How Do We Choose Locations?

1. Request from residents, schools, etc. (explain process)
2. Traffic Study
 - Traffic speed and volume
 - Street features
 - speed limit (30 km/h or 50km/h)
 - sidewalks
 - bike route, etc.

How Do We Choose Locations?

3. Score Points for:

- Speed (85th percentile and excessive speed)
- Volume
- School Zone
- Greenway
- Bikeway
- Pedestrian Activity

4. Rank Street Segments

- Over 1300 in data base

How Do We Choose Locations?

5. Annual Program Reviews Worst 40-50 Street Segments

- Transit Routes
- Emergency Response Routes
- Topography
- Other Traffic Calming

6. Approximately 30 Locations Recommended to Council

How Do We Choose Locations?

7. Resident Survey

- requires 30% response & 50% approval
- typical response rates = 40% to 70%
- typical approval rates = 70% to 100%

What traffic conditions lead to speed hump installation?

In 2001, a typical recommended street:

- was a 30 km/h school or playground zone
- had an 85th percentile speed of 60 km/h
- had high traffic volumes

In 2006, a typical recommended street:

- is a 30 km/h school or playground zone
- has an 85th percentile speed of 45 km/h
- has **moderate to high** traffic volumes

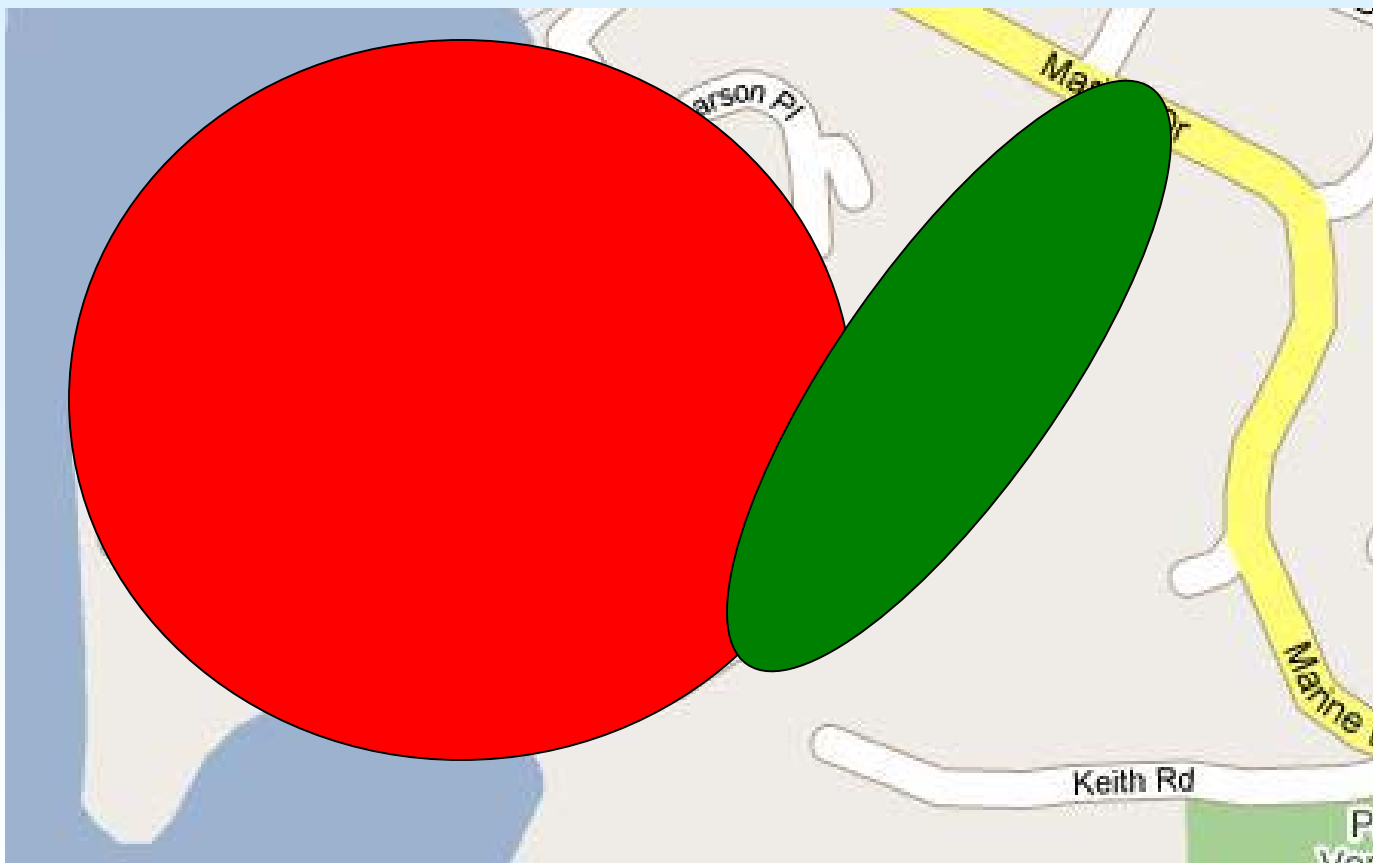
Why are Speed Humps Successful (in Vancouver) ?

- Only installed where speeding is proven
- Beneficiaries and those affected are the same (grid network)
- Little or no traffic diversion
- Nearly all humps installed beside schools or playgrounds

Why are Speed Humps Successful (in Vancouver) ?



Why do Speed Humps fail elsewhere ?



Speed Humps & Bikes



Photo: Richard Drdul

Local Improvements

Property Owners can purchase:

- Traffic circles
- Corner bulges
- Curbs
- Sidewalks
- Street lighting
- Lane paving

Conclusion

Successful Traffic Calming has:

- Realistic expectations
- Transparency
- Consultation
- Objectivity
- Alignment of community decision makers, beneficiaries and those affected

Questions?

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www.vancouver.ca/trafficcalming

www.vancouver.ca/getinvolved

www.ite.org/traffic/tcdevices.htm