



Lessons from the Olympic Line

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June 22, 2010

Research Question

- What can we learn from the Olympic Streetcar demonstration?
 - Demographics
 - Use Patterns
 - Experience
 - Sustainability
 - Connectivity
 - Accessibility

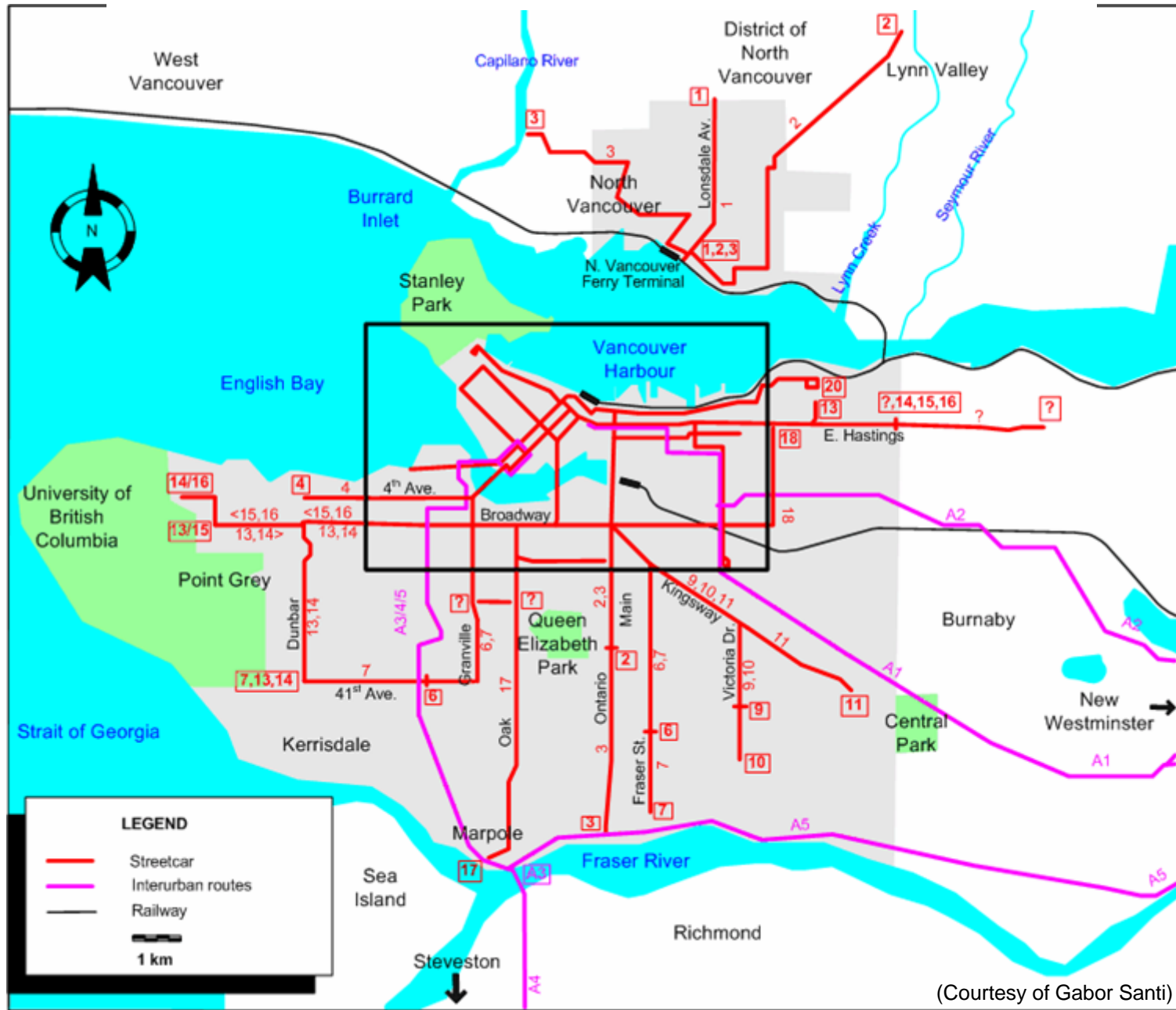
Topics

- Context
- Methodology
- Results
- Conclusions



Photo: Citycaucus

Streetcar Routes in 1940



(Courtesy of Gabor Santi)

Streetcar Technology

- Streetcar is a specific application of LRT
- Frequent stops, slower speeds, integrated
- Higher capacity than bus, shorter distances than SkyTrain
- Can promote development (still!)
- May fill gap in services

Comparison of Transit Services

	Max. Capacity	Min. Stop Distance (Metres)	Min. Peak Frequency
Community Shuttle	20	flexible	90 min
Bus	60	250	30 min
Express Bus	85	500-1500	10 min
Streetcar	178	flexible	flexible
Skytrain	260-650	1000-4000	5 min

Planning Context

- Downtown Vancouver Streetcar Plan
- Regional Growth Strategy
- Transport 2040
- Surrey and UBC Rapid Transit Studies



Methodology

- Instrument designed in consultation with City of Vancouver, TransLink and the UBC Active Transportation Lab.
- Distributed for time of day and day of week
- 455 Surveys collected in 8 survey periods
- Does not have even samples for Olympic, Paralympic, and Transition periods

Day	Date	Start	End	Staff 1	Staff 2
Sun	14-Feb	12:30	14:30	Joanna	Alisha
Mon	15-Feb	8:00	12:30	Joanna	Stacy
Thu	18-Feb	16:30	20:30	Alisha	Stacy
Sat	20-Feb	15:00	17:00	Joanna	Stacy
Sun	7-Mar	9:00	13:00	Alisha	Silas
Thu	18-Mar	6:30	8:30	Alisha	Silas
Thu	18-Mar	16:00*	19:00*	Joanna	Silas
Fri	19-Mar	13:45	16:45	Joanna	Alisha

Strengths and Limitations

- Only data set examining who was riding
- Very good response rate
- Examines many questions
- Good sample distribution across time of day and day of week
- Sample is not proportional to ridership
- Does not control for the effects of the Olympics
- Affected by weather and interruptions
- Indiscrete variables (purpose of trip, origin, destination, age range)

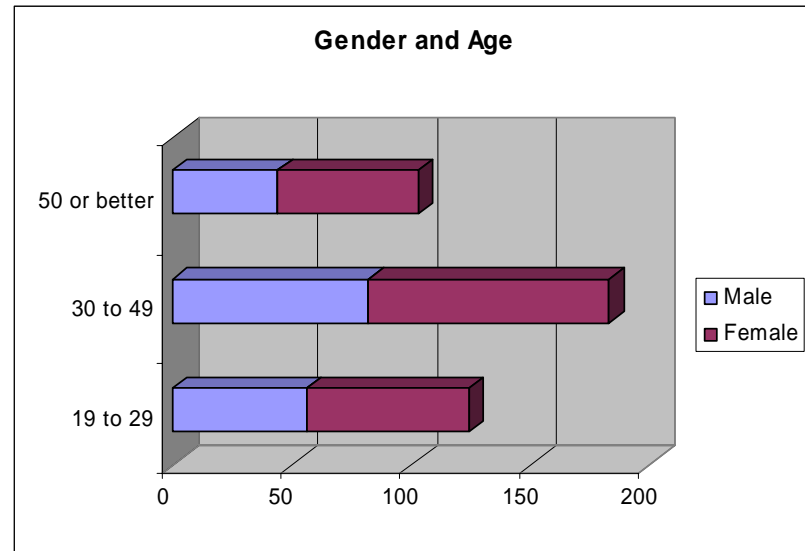
Questions asked

1. **Before?**
2. **Participated?**
3. **Trips?**
4. **Destination?**
5. **Origin?**
6. **Why trip?**
7. **No streetcar?**
8. **Alternate mode?**
9. **Board?**
10. **Alight?**
11. **Reason?**
12. **Hold Fare?**
13. **Fare type?**
14. **Adults? Kids?**
15. **Find out?**
16. **City?**
17. **Postal code?**
18. **Impression?**
19. **Gender?**
20. **Age group?**



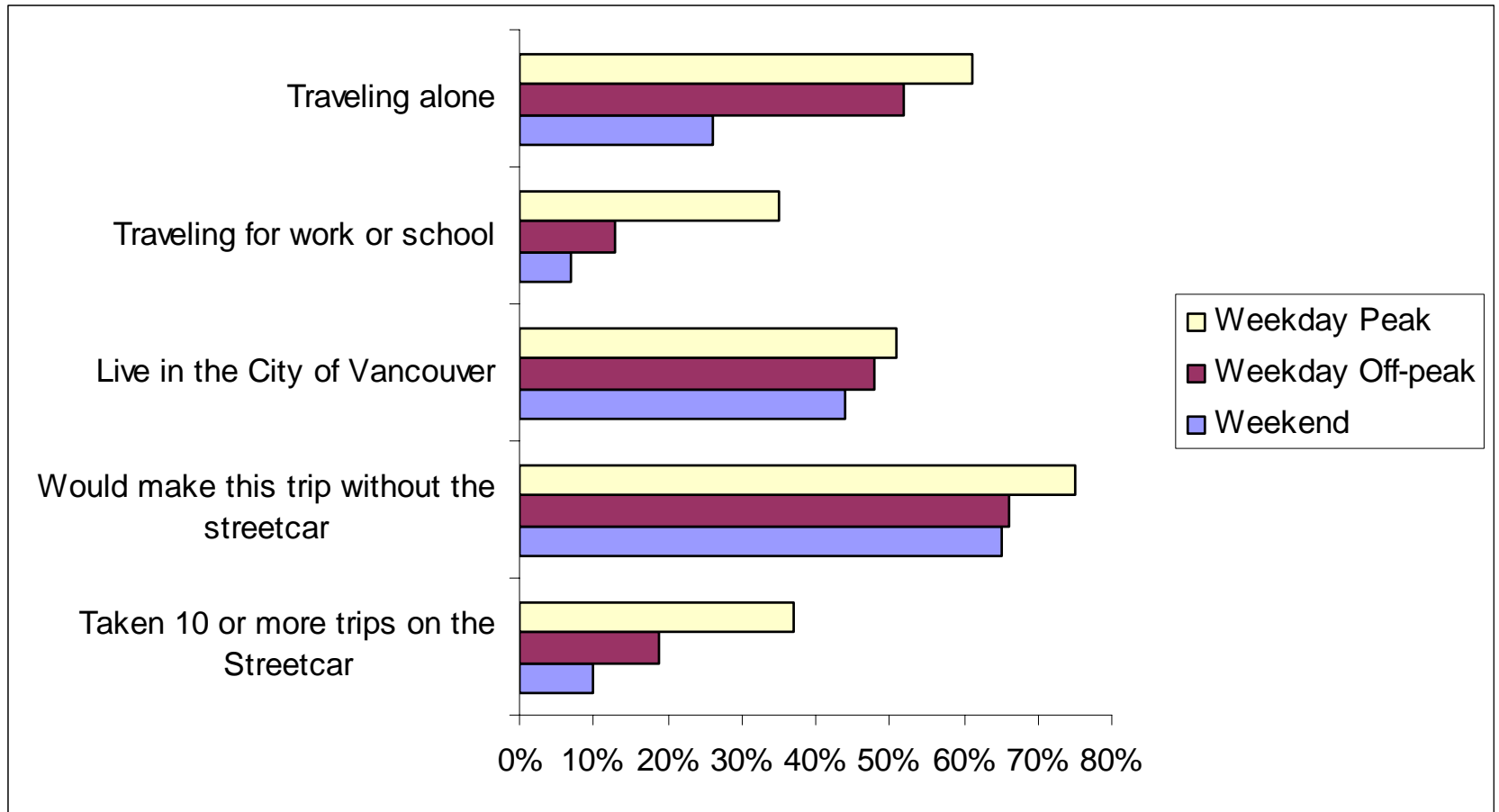
Demographics

- 55% Female
- 45% appeared 30-49 years old
- The average party size was two



- 18% had children with them
- 82% live in the greater Vancouver region

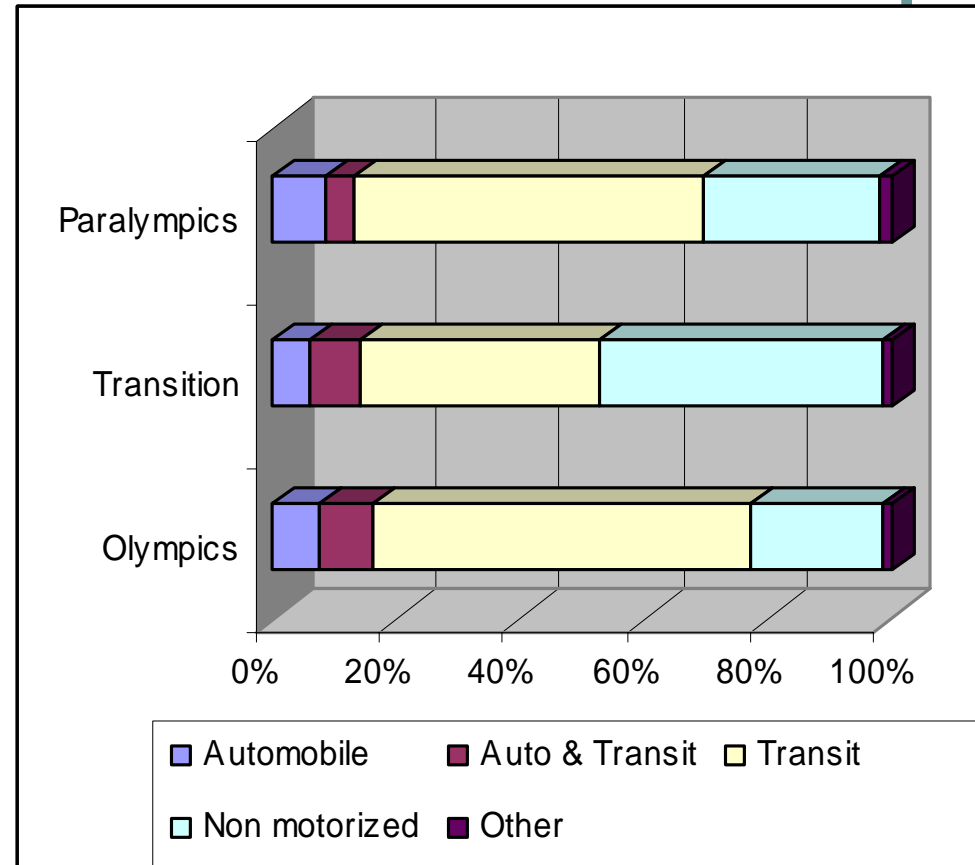
Use patterns



Olympic Impact

- Not completely comparative data!

Visitors	
Olympic	25% (52)
Transition	19% (13)
Paralympic	8% (16)



Sustainability and Health

- Over 27,000 Cars trips avoided
- 20,277 Kg CO₂ emission savings
- Avoided many cold-start trips
- 28% walked or cycled

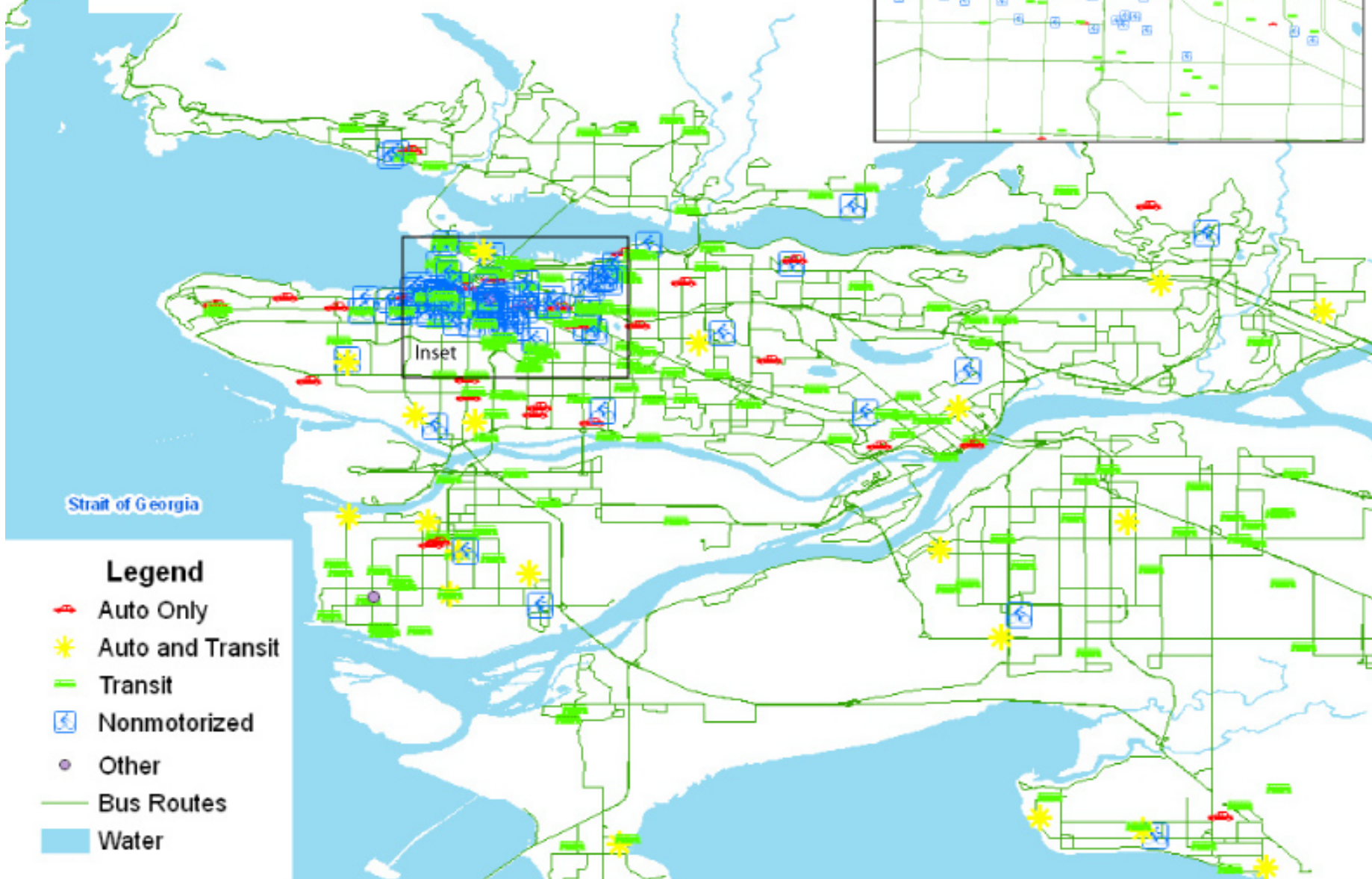


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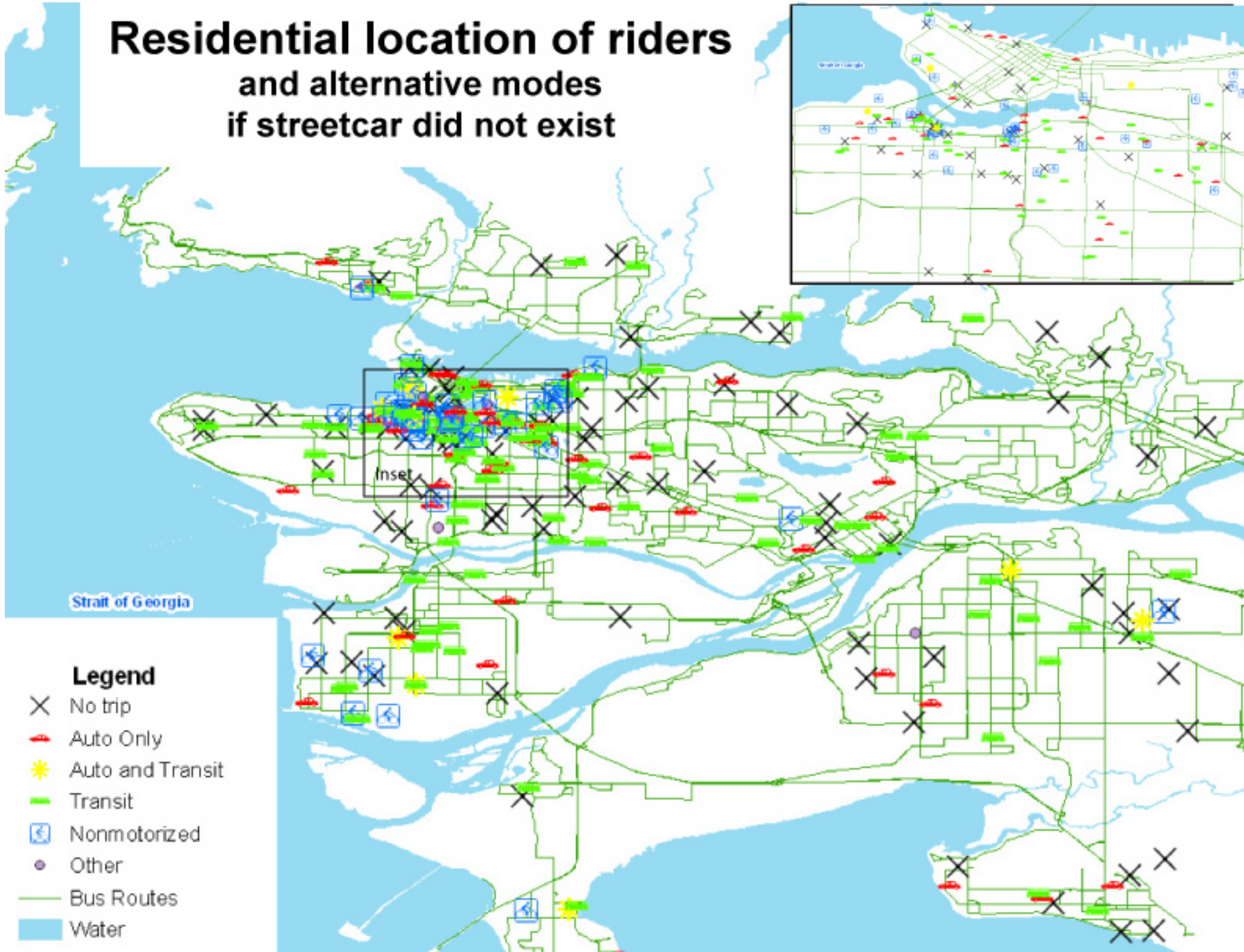
Connections

- 46% of passengers saved time or found the streetcar more convenient than another mode
- Over 20% took the streetcar 10 or more times
- 64% had fare for TransLink system
- 18% used to go to school or work

Residential location of riders and modes used to connect to Streetcar



Residential location of riders and alternative modes if streetcar did not exist

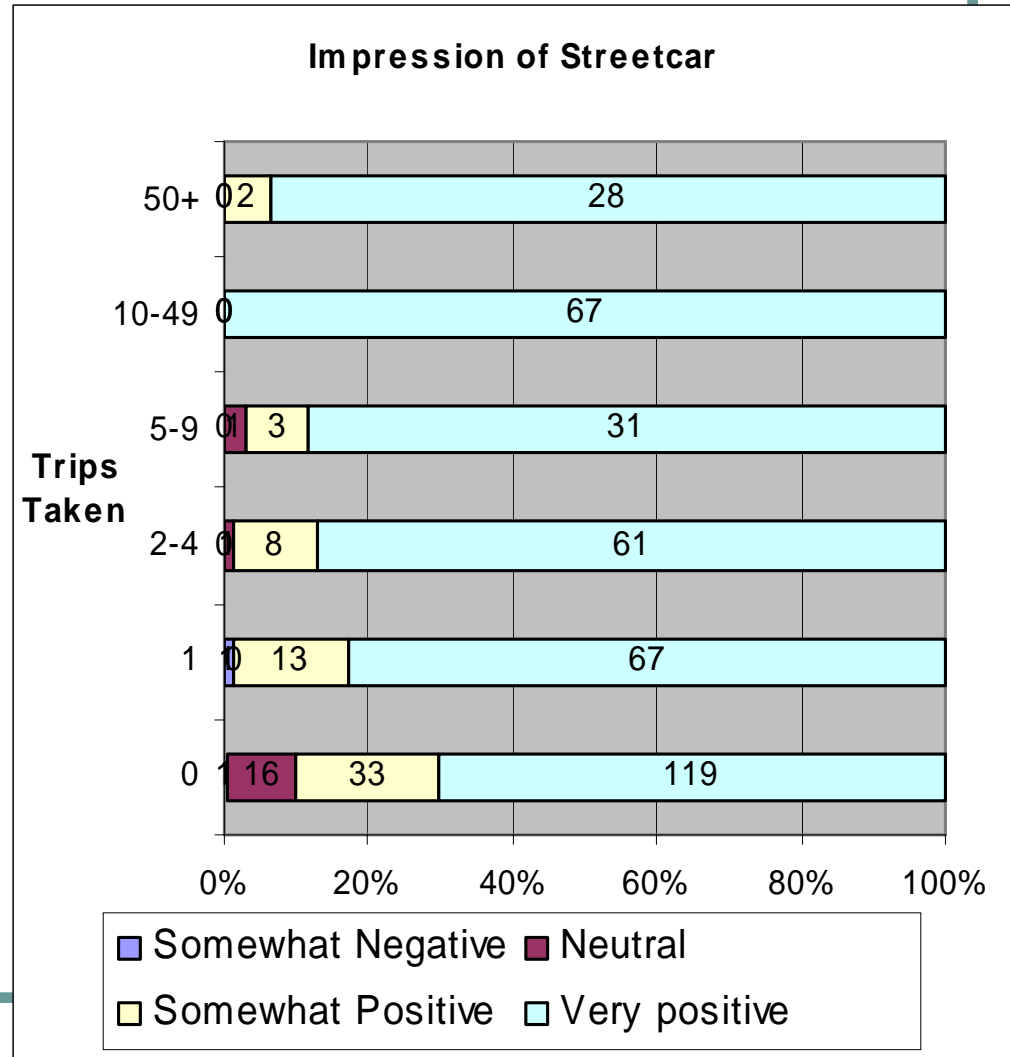


Accessibility

- Demographic variety good indicator of safety
- Fully accessible, but few wheelchairs
- Almost one stroller for every streetcar trip!
- 30% of trips would not happen without streetcar

Streetcar Experience

- At least 15% took round trip without getting off
- 44% taking streetcar for the experience
- Only 5% said they took it because it was free
- 50 (over 10%) requested that streetcar stay – and we did not ask for comments!



Comments and Feedback

- “I would take it even if it wasn’t free”
- “The access is very nice – it increases mobility. I would like to see it all over the city.” [wheelchair user]
- “Two thumbs up! I would go to Granville Island less frequently without it. I have no car. I would like to see it expanded.”
- “This saves 20 minutes on my commute. It would be crazy not to keep it.”

Comments and Feedback

- “I hope they continue the service. If they don’t, shame on them.”
- “This was a factor in booking my hotel. I can use transit, I do not need a car while in Vancouver.”
- “Little segments like this enable the use of the rest of the system.”
- “It was too short. It needs to go more places!”

Media Response

The Olympic Line streetcar was in over 450 news stories in Vancouver, across Canada and international print media

Featured in Metro and 24 Hours, photo feature in the Province, stories in the Vancouver Sun and Globe & Mail, and multiple stories on all regional broadcast news outlets such as Global, CTV, CBC, CKNW and News1130.

New Media

More than 50 unique blog posts, mentions and multiple comments and discussions on popular blogs such as Miss 604, Re:Place, the Tyee, Stephen Rees, Price Tags (Gordon Price), City Caucus, VanCity Buzz, TheTransitFan and Vancouver Observer.

More than 55 people posted videos of their own experience riding the Olympic Line, which were viewed hundreds of times

Conclusions

- Olympics greatly impacted volume but (perhaps) not quality of demand
- Attractive and accessible mode
- Dedicated riders and support for permanent system
- May be missing link in system



Future Research

- Study of expected development as a result of streetcar investment
- A study of mode use before and after the arrival of a streetcar route
- Study of relative appeal of streetcars vs. alternative modes (bus, automobile, etc)

Thank you!

- Advisor: **Dr. Lawrence Frank**
- Second Reader: **Eric Mital**
- Photos: **Susanne Gittens, Gabor Santi, Michael Francis McCarthy, Citycaucus.com**