Avoiding car use

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Essential truths about local transport

- Travelling up to about 1 hr/day is tolerable, even desirable; more is mostly not
- If people have cars they will use them
- Extent of ownership depends on (a) income, and (b) density
- More transit helps reduce car ownership and use, BUT raising density (or reducing income) is the only truly effective way

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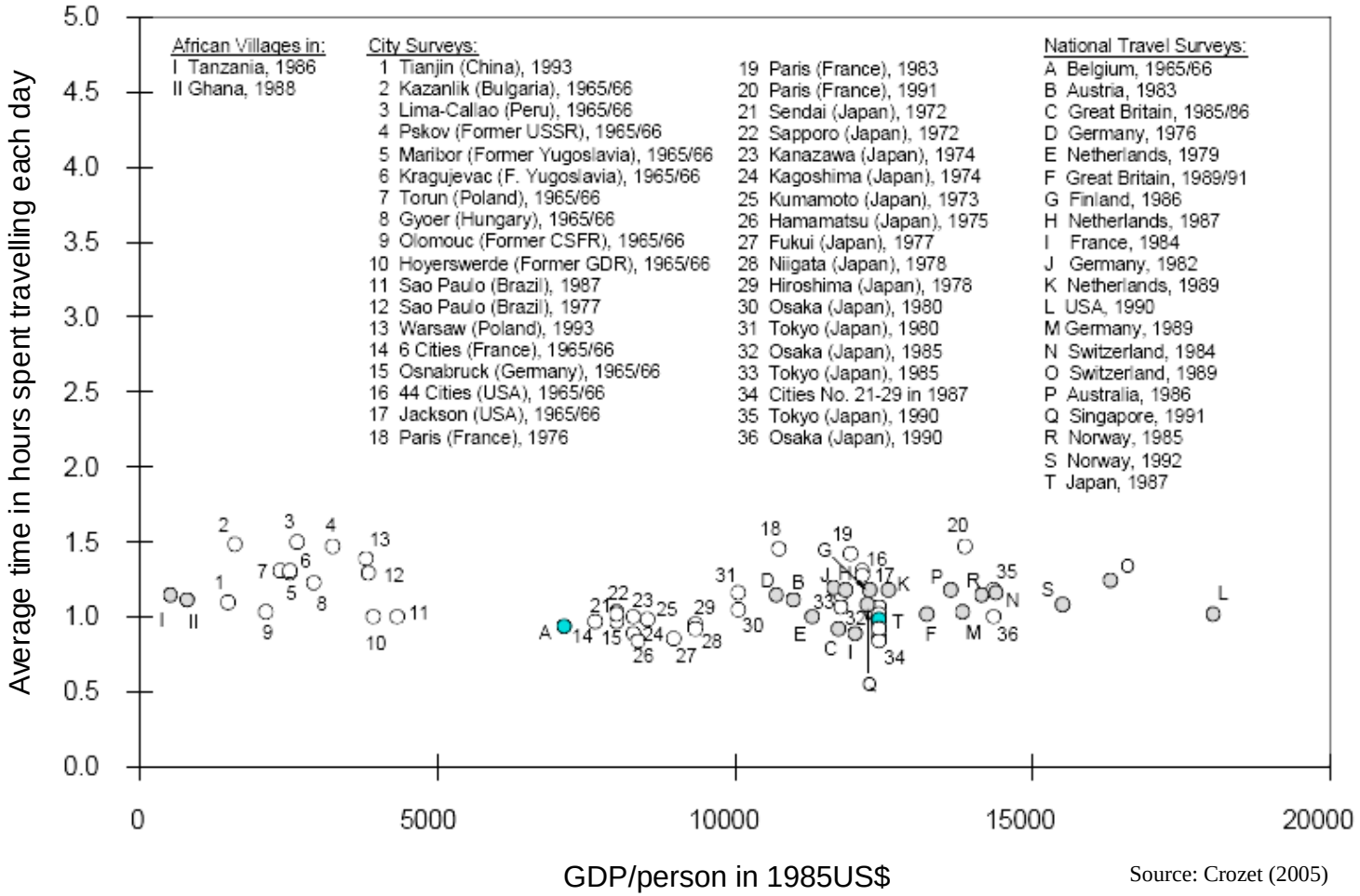
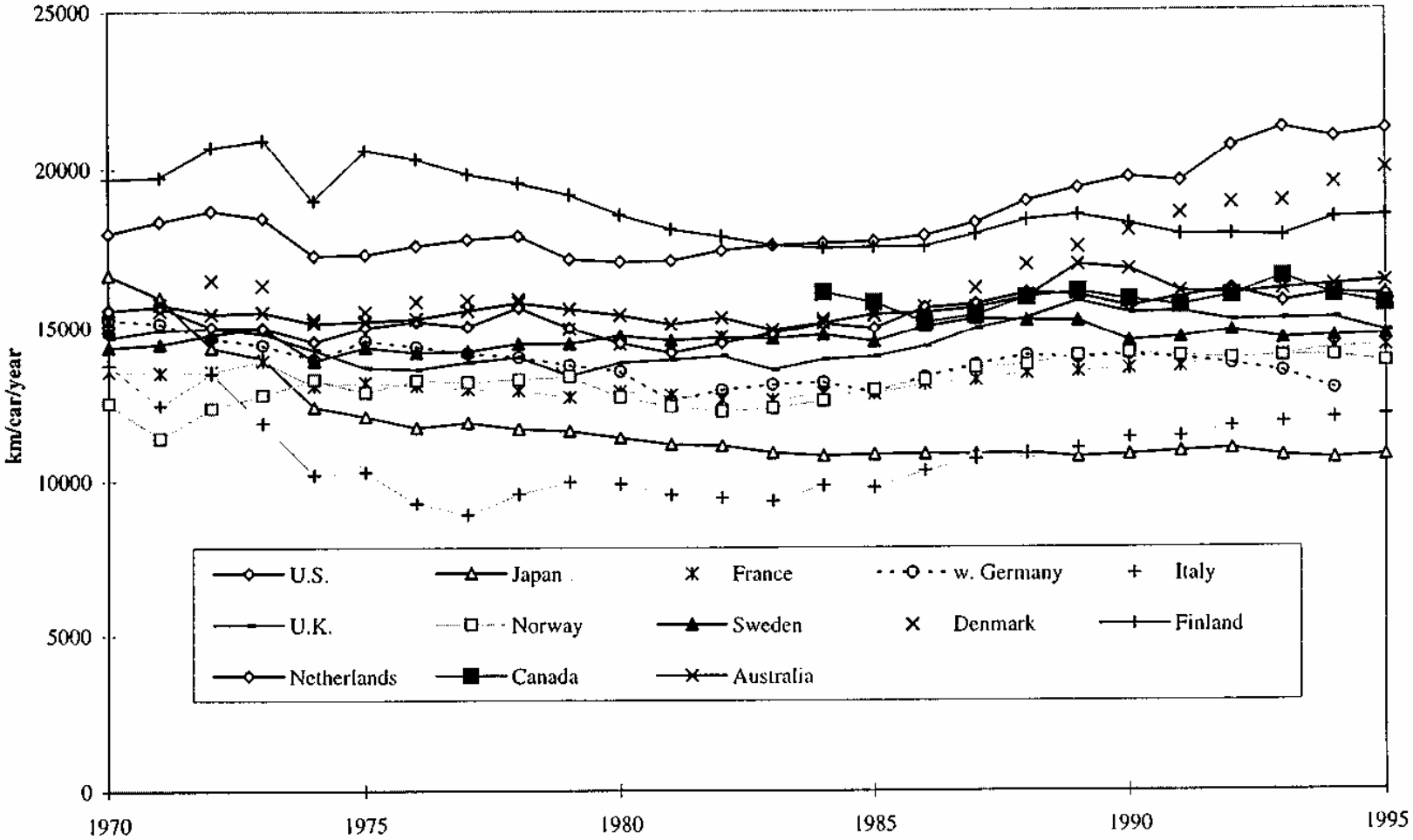


Source: Crozet (2005)

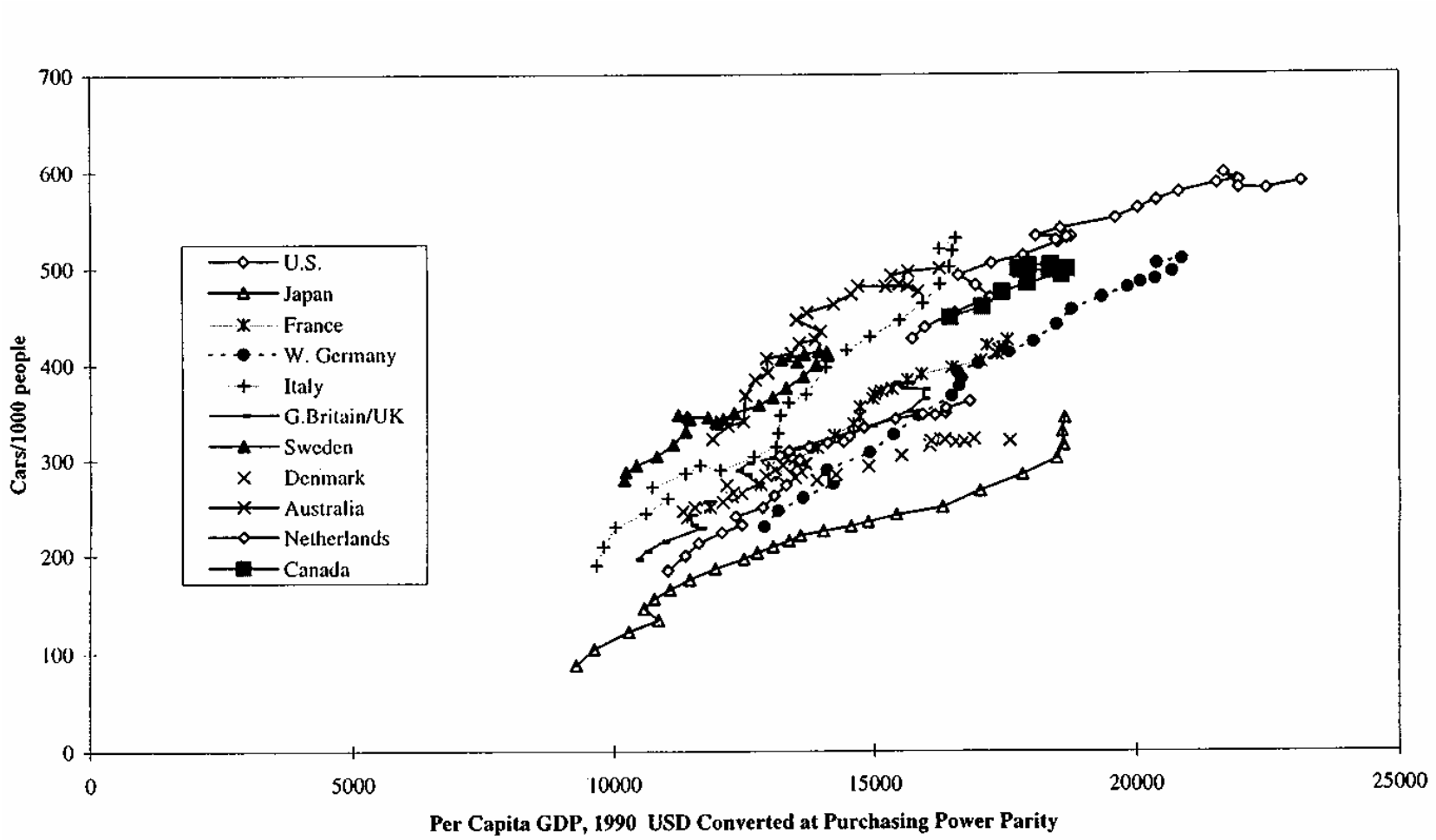
People travel about an hour a day in a wide range of milieu. Thus, sprawling cities need fast transport

If people have cars they will use them



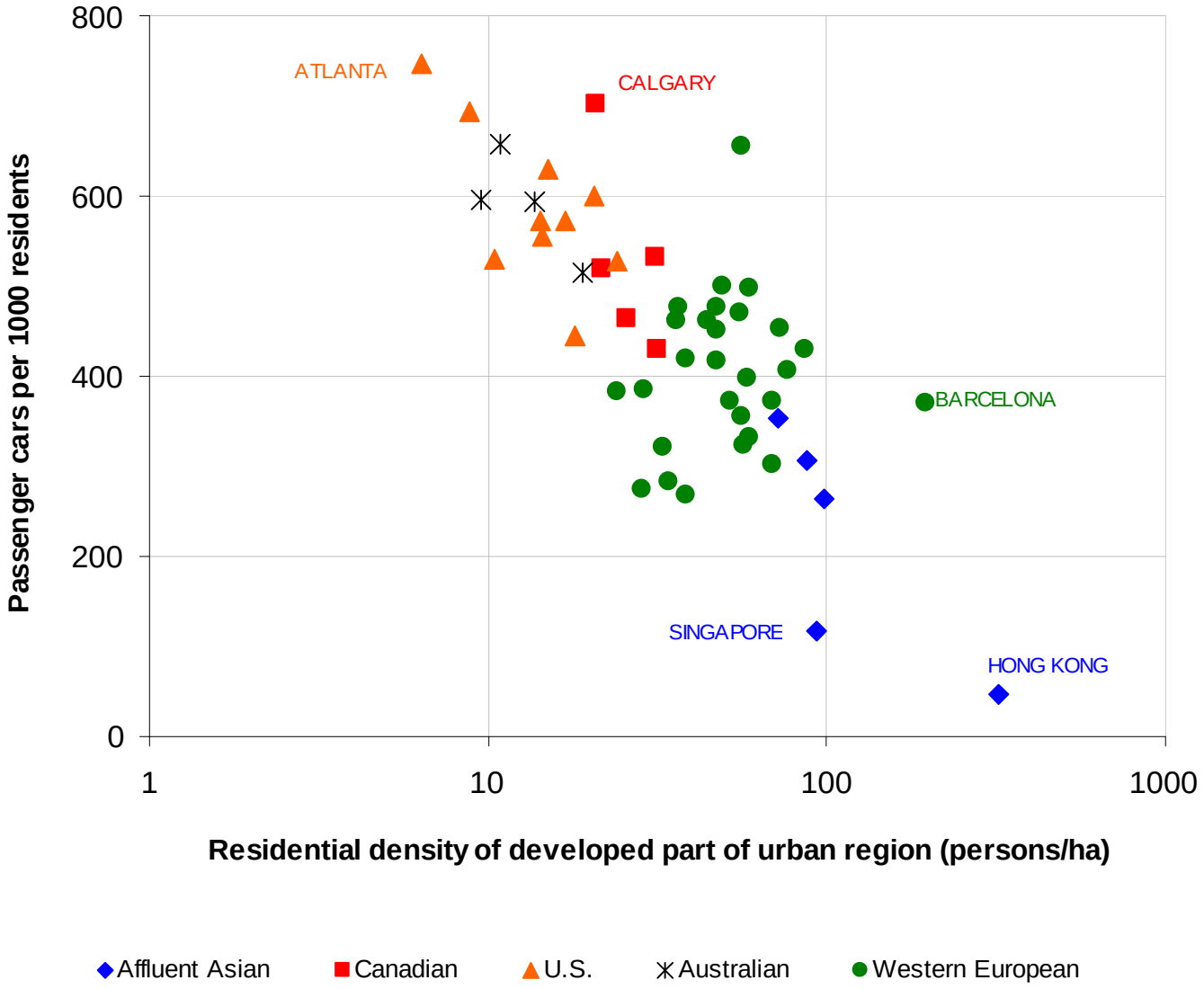
The annual distance moved by each car on average is remarkably constant within countries

Extent of ownership depends on income



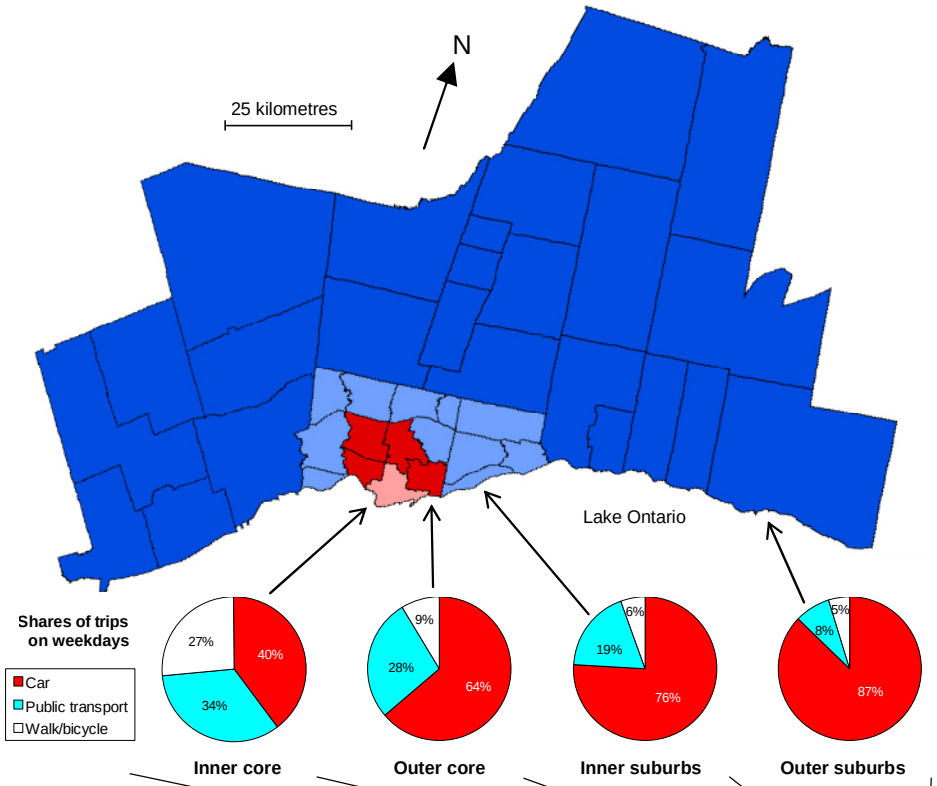
Car ownership rises with wealth; richer countries own more

Extent of ownership depends on density



Travel and energy use differences in the GTA

Most households in the core do not own a car; 95% of households in outer suburbs have one or more cars; latter use >2½ times as much energy for transport



	Inner core	Outer core	Inner suburbs	Outer suburbs
Number of motorized trips per person	2.08	2.31	2.34	2.67
Distance travelled by public transport (km/person)	4.4	4.5	4.5	3.3
Distance travelled by car (km/person)	7.5	11.6	15.3	24.8
Households with one or more cars	49%	71%	83%	95%
Annual energy use for local transport (MJ/person)	12,300	17,600	22,300	33,600
Residential density (persons/sq km. of urbanized area)	9,900	6,100	3,100	2,500
Population (2001)	150,000	500,000	1.5 million	1.9 million

The case of Hong Kong, 1

- Among the wealthiest cities in the world
- Has the lowest car ownership and use
- Ownership is costly and inconvenient
- "Carrying things" is the main reason for purchase
- The few car owners use their cars for everything

The case of Hong Kong, 2

- Among the densest of cities
- With astonishingly good public transport
- A major transport hub (airport and seaport)
- Good local transport is a business issue
- Accessibility makes business efficient
- Dense, steamy Hong Kong is a healthy place

EANO Planning Principle
EANO = Equal Advantage for Non-Ownership

Every part of an urban region should be developed and maintained so that the advantages of not owning a car are at least equal to the advantages of owning a car

Amenities and services for living without a car, 1

- safe and enticing routes along which to walk or ride a bicycle
- proximity: schools, stores, and recreational and cultural facilities within a walk, a bicycle ride or a short public transport journey
- good public transport, which in lower-density areas will include demand-driven service to the door or to nearby pick-up and set-down points

Amenities and services for living without a car, 2

- ready access to places of employment and to the services that support home-based employment
- car-sharing services for longer or special trips
- delivery services for the carriage of purchased goods and for other purposes
- excellent information about all of the above.

The economics of no car ownership

- No imports of into urban areas of fuel and cars
- No massive infrastructure for roads and parking
- No infrastructure costs for sprawl
- No health costs from car pollution
- No working one or two days a week for a car

Some solutions for the GTA, 1

- Densify, densify, densify
- Planning goal could be to reduce the number of cars: e.g., 2-car households will have only one; 1-car households become car-free
- Apply EANO: focus on making life without a car as advantageous as life with a car

Some solutions for the GTA, 2

- Put in new transit only if fares will cover all costs; usually requires higher-than-expected or higher-than-acceptable densities

- Rule-of-thumb numbers of residents or jobs required up to 600 m around stops to cover capital and operating costs:
  - Heavy rail: 40,000 (tunnel) !!, 15,000 (surface)
  - Light rail/BRT: 5-10,000 (surface)
  - Regular bus: 3-5,000

- As gas prices rise, these numbers fall a little, but not much

Some solutions for the GTA, 3

- Add Spadina extension *if* there is sufficient density
- Extend Bloor-Danforth line, east and west, and Yonge line north, *if* there is sufficient density
- Add LRT—or BRT then LRT—as much as possible *where* there is sufficient density
- Well-empowered development corporations may be required to deliver density required for no-cost transit