

# Avoiding car use

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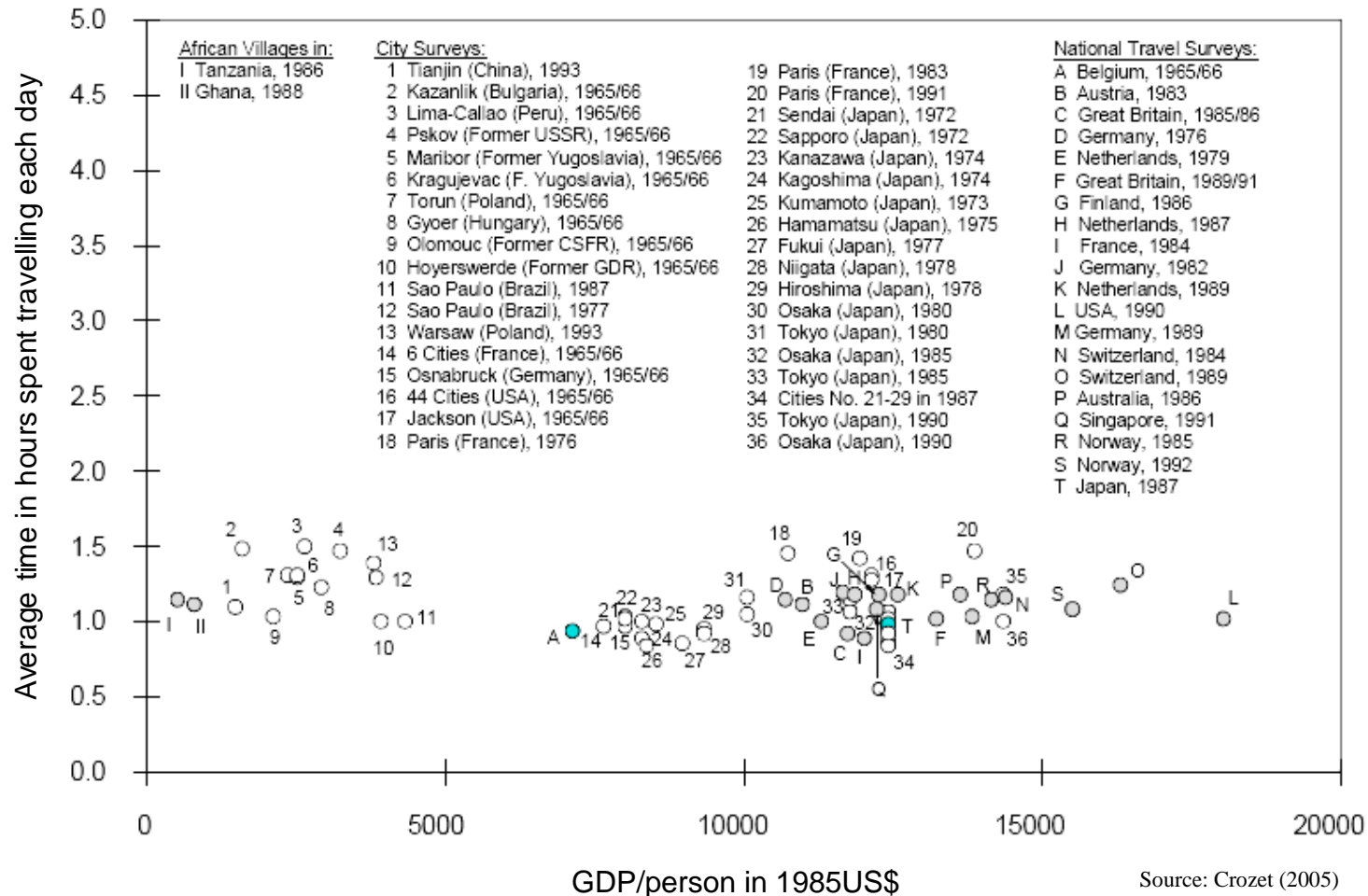
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## Essential truths about local transport

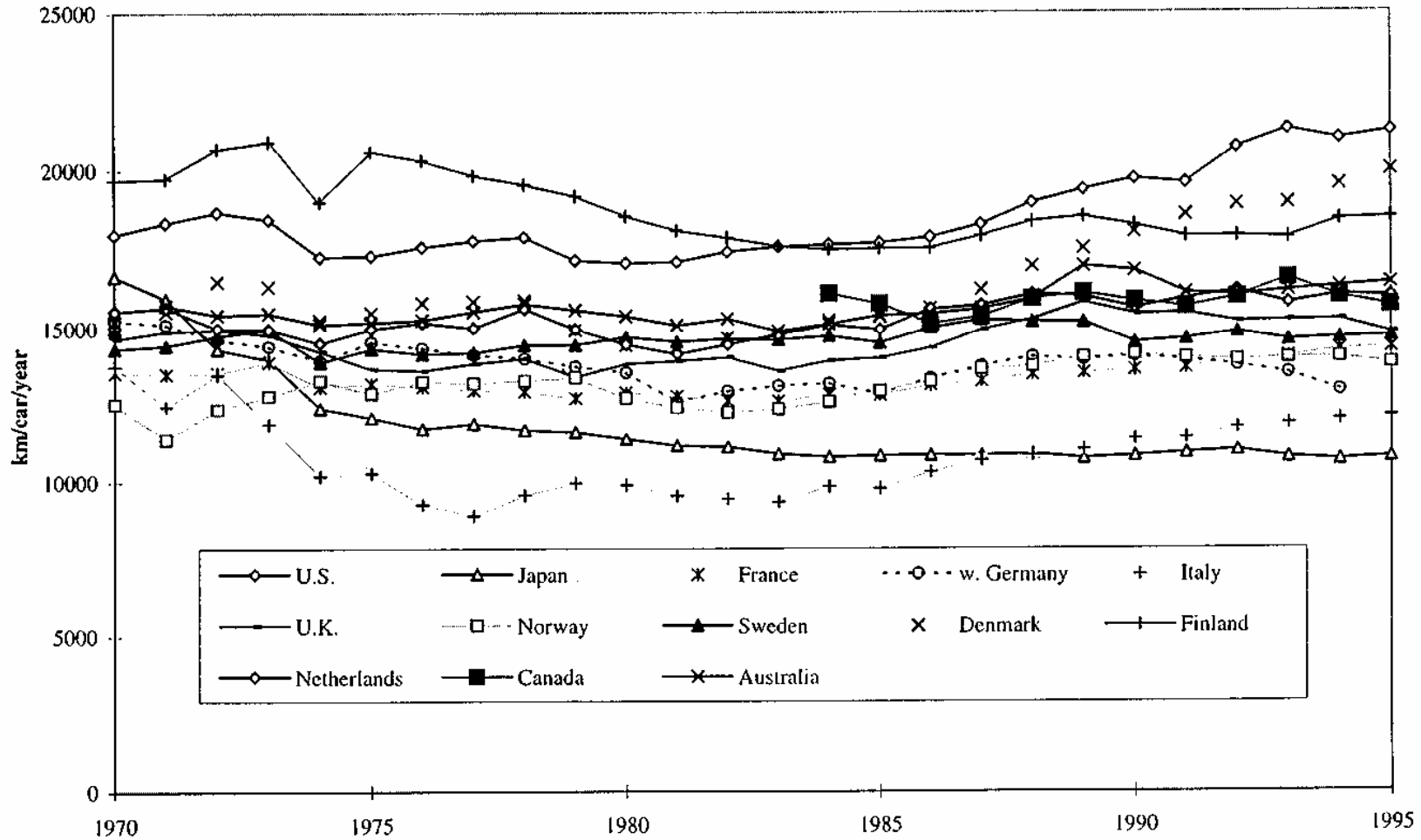
- Travelling up to about 1 hr/day is tolerable, even desirable; more is mostly not
- If people have cars they will use them
- Extent of ownership depends on (a) income, and (b) density
- More transit helps reduce car ownership and use, BUT raising density (or reducing income) is the only truly effective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

## Travelling about 1 hr/day is tolerable (even desirable); much more is mostly not



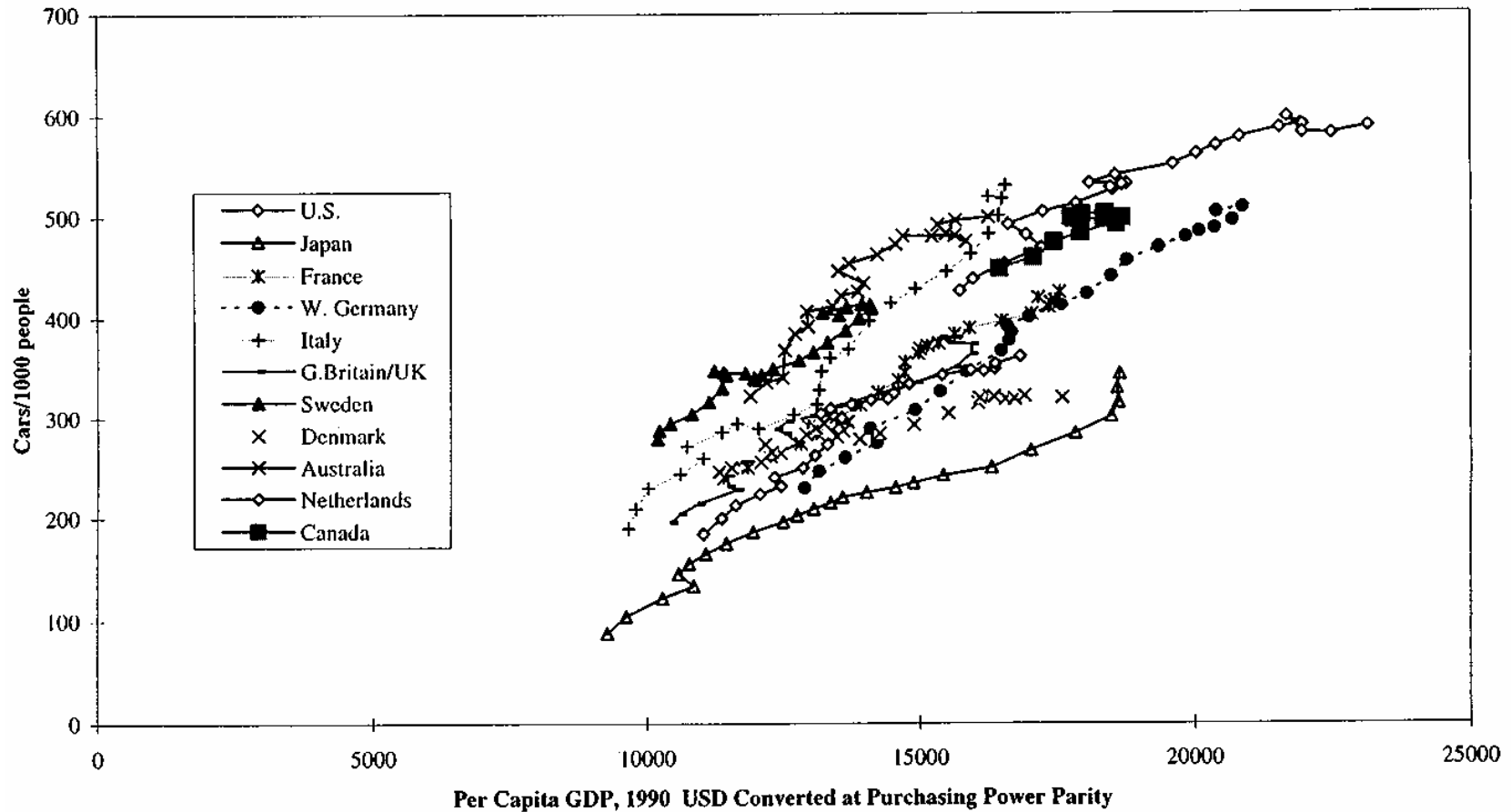
People travel about an hour a day in a wide range of milieu. Thus, sprawling cities need fast transport

# If people have cars they will use them



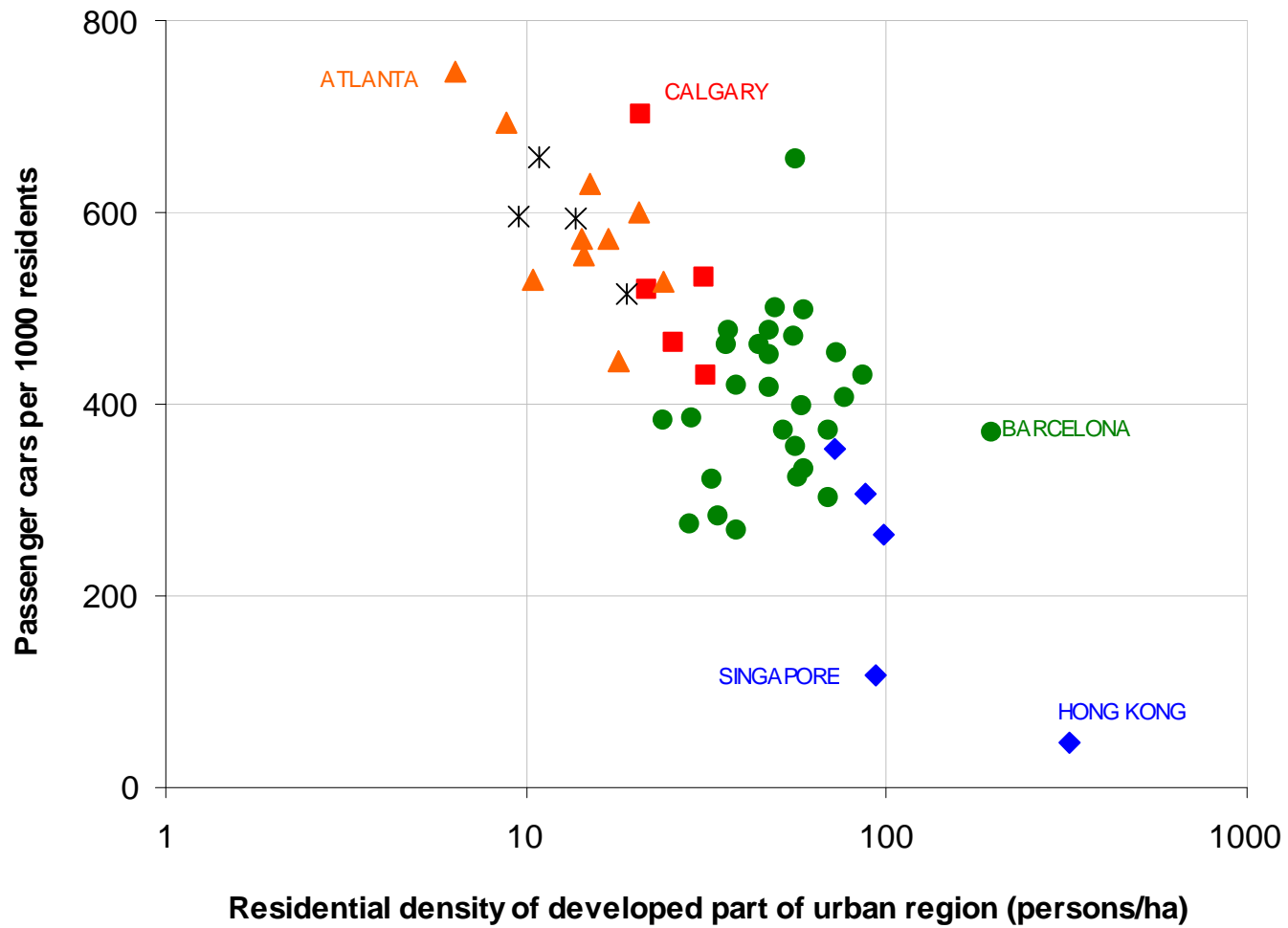
The annual distance moved by each car on average is remarkably constant within countries

## Extent of ownership depends on income



Car ownership rises with wealth; richer countries own more

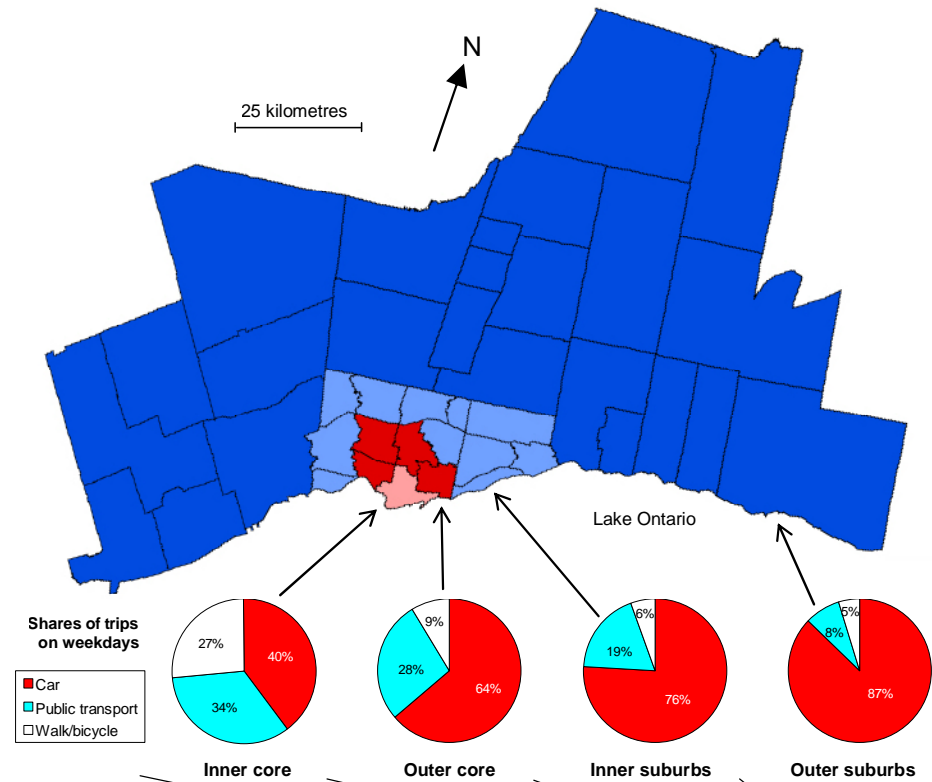
## Extent of ownership depends on density



◆ Affluent Asian    ■ Canadian    ▲ U.S.    ✖ Australian    ● Western European

# 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  $>2\frac{1}{2}$  times as much energy for transport



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