Transport as a Tool for Urban Design

- Transport and Land Uses
- Problems
- Solutions
- Best Practices
Transport and Land Uses

- Let us design a new freeway…
  - Present traffic on existing roads?
  - Design speed? Desired LOS? Budget?
- But…
  - How many new dwellings will be built nearby?
  - How many office bldgs? Technology parks?
  - How many parking places are needed?
  - What size for the new shopping center?
  - ……..??
- From road builders to urban planners!
Thanks to J. Kenworthy and F. Laube – “The Millennium Cities. Data base for Sustainable Transport” sponsored by the UITP, we know that some parameters are very critical.
Urban Density is critical...
The higher the density, the higher...

... the percentage of sustainable modes
Job density is also a critical parameter

As Joel Garreau says (The Edge Cities), when the president moves to the suburbs, he takes the office along.
Percentage of non-motorized trips

... correlated with density and mixed uses

Source: ISTP-UITP
The automobile will govern if…

*Percentage of motorised private modes over all trips

World Regions

Source: ISTP-UITP
Economic efficiency

Total passenger transport cost as percentage of metropolitan GDP

Source: ISTP-UITP
The cost of a balanced system

Economic sustainability
The high price of road fatalities

Modal Choice (% public transport + cycling + walking) vs Fatalities

U.S.A.

Western Europe.
Problems

- Triggers:
  - Housing density
  - Suburban job centers
  - Segregation of land uses
  - Parking availability and cost

- Results:
  - Unbalanced modal split
  - Increased economic, environmental and social costs
Better Processes

Transport projects opportunities:

- Development (macro):
  - Strategic and long-term
  - Examples like Curitiba, Toronto, Stockholm…
  - Self-containment vs dispersal
  - Urban growth along axes through zoning and land-use incentives

- Rehabilitation (micro):
  - Tactical, short term but also effective
  - In-fill development vs new demand management
Better Processes

- Development (macro):
  - Curitiba as an example
Better Processes

- Rehabilitation (micro):
  - It can be implemented rather quickly
  - Local actions spilling over the metropolitan scale
  - Zürich’s per capita transit trips above Curitiba’s

- Any transport project – however minor – can be approached as an improvement opportunity, for instance:
  - Improving a traffic intersection and…
  - The excuse of a new Light Rail
A traffic intersection

Town of Amorebieta, Basque Country, Spain
Again, nothing like simulation!

- Although traffic analyses per se will not stop traffic growth
A traffic intersection

Espacios existentes
Espacios peatonales ganados (1.600 M2)

ESPACIOS PEATONALES

Day 6
Opportunity for urban rehabilitation
The power of a LRT project
New public spaces around the LRT
A true success story, thanks to full priority, strict parking policies and pedestrian schemes
The power of a LRT project
The power of a LRT project
The power of a LRT project
Or simply just closing off a street...

Courtesy of Jan Gehl
mit

... or removing some parking spots

Courtesy of Jan Gehl
The benefits of a few extra turns for the cars

City Hall in Copenhagen

Courtesy of Jan Gehl
Transport Solutions

- Car Parking:
  - Critical for modal split
  - To be seen in a wider context than just on-site provision
  - Complementary measures (pedestrian improvements, transit...) a must
  - On-site parking to distinguish between shoppers and commuters
Transport Solutions

- Park-Ride facilities:
  - Visible, well signed and secure
  - Again to be seen in a larger context
  - It should not preclude high-density development near rail stations
  - Price should be lower than downtown
  - Shuttle service of prime quality: frequent service, priority to reach downtown faster than by car (similar to an airport car rental shuttle)
Transport Solutions

- Traffic Management:
  - Traffic Calming a first step:
    - It fosters more convivial public spaces
    - It triggers a new relationship between pedestrians and cars
    - It facilitates biking
  - Other steps:
    - To divert through traffic
    - Priority for bus or LRT service
Transport Solutions

- Pedestrians and Cyclists:
  - O-D pathing
  - Road crossings
  - Street furniture
  - Traffic calming
  - Balanced activities throughout the day
  - Public activities
Best Practices

The Netherlands ABC location policy:

Locations:
- A: main transit hub - few parking - downtown
- B: district center or small town bus junction
- C: Not served by transit

Activities:
- A: People intensive land uses
- B: Commercial and service activities with low turnout (e.g.: car sales, furniture dealers...)
- C: Goods intensive uses
Best practices

- West Midlands Regional Planning Guidance:
  - Development within existing urban fabric
  - Maximize re-use of vacant and derelict sites
  - Maximize use of existing infrastructure
  - Strong support for public transport
  - Measures to control car congestion in town centers
  - Coordination of strategic parking requirements
  - Strong support for pedestrian and cyclists facilities
Best practices

The priorities of the City of York Council:

- Pedestrians
- People with disabilities
- Cyclists
- Public Transport passengers
- Commercial and business vehicles
- Car-borne shoppers
- Coach-borne visitors
- Car-borne long-stay commuters
The resulting measures in the City of York:

- Strict parking policy
- 5 park-and-ride sites
- Reallocation of road space among buses, cyclists and pedestrians
- Traffic calming measures: 30 mph on major radials and 20 mph, elsewhere
- Safe and continuous cycle network
- Implementation of a pedestrian route network throughout the city
Best Practices

- Global Vision, Local Action...
  - Don’t let the global vision rob you from opportunities for local change
  - Local change, however limited, is important:
    - We need early winners to jumpstart a new process
    - Small changes may become showcases
    - Don’t forget we need a new model...
  - To start a process… more effective than relying only on end-state planning
Upon starting a process, remember Jane Jacob’s “Systems of Survival”

- **Commercial** Syndrome
  - Shun force
  - Come to voluntary agreements
  - Be honest
  - Collaborate easily with strangers and aliens
  - Compete
  - Respect contracts
  - Use initiative and enterprise
  - Be open to inventiveness and novelty
  - Be efficient
  - Promote comfort and convenience
  - Dissent for the sake of the task
  - Invest for productive purposes
  - Be industrious
  - Be thrifty
  - Be optimistic

- **Guardian** Syndrome
  - Shun trading
  - Exert prowess
  - Be obedient and disciplined
  - Adhere to tradition
  - Respect hierarchy
  - Be loyal
  - Take vengeance
  - Deceive for the sake of the task
  - Make rich use of leisure
  - Be ostentatious
  - Dispense largesse
  - Be exclusive
  - Show fortitude
  - Be fatalistic
  - Treasure honor
A Closing Thought

Do we have to resign ourselves to the role of the frog\textsuperscript{1}? Or, can we act now?

\textsuperscript{1} See MIT’s Peter Senge “The Fifth Discipline”