The average American family spends 1/6 of its total budget on transportation... more than on food, clothing, or healthcare.
The American government spends 50% less on public transportation today than it did 15 years ago.
**Linear metabolism** cities consume and pollute at a high rate.

**Circular metabolism** cities minimise new inputs and maximise recycling.

**World population growth**
- 1900: Rural 1, Urban 0.2
- 2000: Rural 3.5, Urban 7.3
- 2050: Rural 6.0, Urban 10.3

**Light Traffic**
- 3.0 friends per person
- 6.3 acquaintances

**Moderate Traffic**
- 1.3 friends per person
- 4.1 acquaintances

**Heavy Traffic**
- 0.9 friends per person
- 3.1 acquaintances
A third of all internet users in the world are in America (135m of 375m)
Traditional city:
meeting place, marketplace and traffic
Single-use city
Abandoned city
urban form → processes of urbanization
new type of urban site
increased mobility and access
cities as dynamic systems
the urban surface
The map shows the vast network of underground pipework that secretly links Houston and the Texas oil fields to the entire national urban economy.
Central Park, New York
Central Park, Olmsted, 1868
The Emerald Necklace, Boston, 1894-1902

Boston, 1894. Plan of the Emerald Necklace. (Courtesy of the National Park Service, Frederick Law Olmsted National Historic Site)

Boston, 1866. Back Bay from Parker Hill in Roxbury prior to its transformation into a public park. (Courtesy)
THICKENING OF THE URBAN SURFACE
Theater Square, Rotterdam
Design: 1990–1992
Size: 12,250 sqm
Commissioner: City of Rotterdam
Anatomy
1. Cinema
2. Lightmasts and ventilation towers
3. Square surface
4. Structure
5. Roof
6. Parking
Dundas Square,
Brown & Storey Architects,
Toronto, 2002
Parc de la Villette, Tschumi, Paris
Parc de la Villette, OMA, 1982-83
MOVEMENT IN THE URBAN SURFACE
Ronda de Dalt, Bernardo da Sola, Barcelona, 1992
Fase inicial de la construcción.
Initial phase of construction.

Ronda del Mig.
Sección transversal.
The Ronda del Mig.
Cross section.
FOLDING OF THE URBAN SURFACE
International Port Terminal, Foreign Office Architects, Yokohama, 1996
13 RESTAURANTS, CAFETERIA
12 ENTRY TO EXHIBITION GALLERY AND SALON OF CIVIC EXCHANGE
11 ENTRY TO EXHIBITION GALLERY
10 ENTRY TO RESTAURANTS, SHOPPING SPACE
9 BIFURCATION: CRUISE DECK/VISITOR'S DECK
8 VISITOR'S DECK
7 BIFURCATION: ARRIVAL AND DEPARTURE HALL
6 DEPARTURE AND ARRIVAL HALL
5 ENTRY TO RESTAURANTS, SHOPPING SPACE
4 ENTRY TO EXHIBITION GALLERY AND SALON OF CIVIC EXCHANGE
3 CRUISE DECK
2 CRUISE SHIP
1 BIFURCATED SEQUENCES