SOCIAL AND ENVIRONMENTAL SUSTAINABILITY IN CITIES
Over the next 25 years, developing world urban population will increase by almost 2 billion inhabitants.
Urban growth will be much higher than population growth.
The battle for the environment will be won or lost in the developing world and primarily in its cities.
Developing world cities can learn from advanced world cities and avoid their mistakes.
BOGOTÁ: A Third World City
BOGOTÁ: A Third World City

- 6.8 million inhabitants
- 2,600 meters above sea level
- 34,000 hectares
BOGOTÁ: A Third World City

• 210 inhabitants per hectare

• About half of the city has grown illegally

• The streets in the neighborhoods where nearly 20% of the population live have no pavement.
The most important and difficult urban challenge is to create a VISION.
We cannot design an urban transport system unless we know what kind of a city we want.
CITY VISION
The friendlier to cars a city is, the less humane it becomes.
The friendlier to cars a city is, the more it excludes the poor and other vulnerable people.
The friendlier to cars a city is, less resources are left to the needs of the poor: housing, nurseries, schools, libraries, parks, transport.
If public funds are not devoured by investments in road infrastructure:
URBAN LAND REFORM
PRIORITIZING THE POOR

Water treatment plant
PRIORITIZING THE POOR

Before

After
PRIORITIZING THE POOR

Santa Marta Nursery
PRIORITIZING THE POOR
PRIORITIZING THE POOR

Before

After
PRIORITIZING THE POOR

Santiago de las Atalayas School
PRIORITIZING THE POOR
PRIORITIZING THE POOR
PRIORITIZING THE POOR
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PUBLIC SPACE
Is quality public pedestrian space a frivolity in a poor underdeveloped city? Or is it important for equality?
It is during leisure times that income differences are felt more acutely.
High quality pedestrian public space begins at least to compensate for inequality.
In public space we meet as equals, regardless of our hierarchies.
For 5,000 years all city streets were pedestrian
URBAN LIFE IN THE PAST
URBAN LIFE IN THE PAST
URBAN LIFE IN THE PAST
Once cars arrived they terrorized children away from the street the way wolves kept them away from forests in the Middle Age.
Over the last 80 years we have been making cities much more for cars mobility than for children’s happiness.
When cars appeared we should have started to build a parallel road network: One for cars and the other exclusively pedestrian.
Why not create all new cities around a pedestrian-and-bicycle-only road network?
EL PORVENIR PROMENADE
Through poor areas and where the city has not yet been built
PUBLIC SPACE AND EQUALITY
PUBLIC SPACE
Sidewalks are not simply for getting from one place to another. They are for walking aimlessly, talking, playing, kissing, enjoying the city.
To say that a sidewalk is wide enough to carve out parking bays as well as for people to walk by, is equivalent to saying that a city’s main plaza or park can be turned into an open air parking lot, just as long as enough space is left between cars for people to walk by.
We could survive inside an apartment just as a bird inside a cage.
ROADS DID NOT HAVE SIDEWALKS
NEW ROADS
The ideal environment for a living creature is that most propitious for the realization of its potential: its HAPPINESS.
Before anything else, the environmental quality of a city is defined by its capacity to facilitate human happiness. Parks and sports fields are thus as environmentally necessary as clean water or clean air.
PUBLIC SPACE
PUBLIC SPACE
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PUBLIC SPACE
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PUBLIC SPACE
PUBLIC SPACE
PUBLIC SPACE
PUBLIC SPACE
Parque Público
MARGARITAS

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REGISTRO DAMA 1081
300 hectares (NY Central Park) : $ 9 million
When shopping Malls replace public space as a meeting place for people, it is a symptom that a city is ill.
PUBLIC SPACE: The City Center
A DRAINAGE CANAL BYPRODUCT
A DRAINAGE CANAL BYPRODUCT
Roads are not just for motorcars to go from one city to another. They are the local pathways to go to school or to work in the fields.
Canals Before
A JICA study had proposed an 8 lane highway along the Juan Amarillo creek: We created a 35 kms greenway.
JUAN AMARILLO GREENWAY
JUAN AMARILLO GREENWAY
CICLOVÍAS
CICLOVICÍAS EN BOGOTÁ
JUAN AMARILLO GREENWAY
JUAN AMARILLO GREENWAY
JUAN AMARILLO GREENWAY
JUAN AMARILLO GREENWAY
TRANSPORT
Road infrastructure investments lead to lower population densities and do not solve traffic jams.
Different from other challenges such as health or education, urban transport does not improve with economic development.
One truth about urban transport: It does not matter what is done, traffic jams will become worse; unless a radically new model is adopted.
Transport is more than a technical, a political issue. Who benefits from policies adopted?
Which is the objective of our transport policy?

a. Provide efficient mobility for all.

b. Minimize traffic jams for the higher income groups.
Investments in infrastructure for reducing peak-hour traffic jams are regressive.
In developing country cities, flyovers, elevated highways and other infrastructure aimed at reducing traffic jams are evidence not of progress, but of inequality.
Trying to solve traffic jams by building more road infrastructure is like trying to put out a fire with gasoline.
COUNTER-INTUITIVE TRUTHS:

- The Earth circles around the sun
- High interest rates drive down inflation
- More road infrastructure brings about more traffic jams
It would take the typical developing country city more than 100 years to have a road infrastructure like that of Atlanta. Yet in Atlanta time lost in traffic jams increases every year.
Governments must make an explicit decision: No additional investments are to be made in order to alleviate peak-hour traffic jams. Instead funds will go to public transport.
The only solution is public transport, but not for those with lower incomes, but for everybody.
Urban Transport solutions differ from most other challenges: More than funds, they require changes in the way we live.
Quality public transport is necessary but not sufficient. Car use must be restricted.
Severe car use restrictions are the only effective means to achieve:

- Public transport use
- Population density
Bogotá Experience: TRANSPORT

« Peak hour and Tag » (« Pico y Placa »)

93% population support
Traffic jams without public transport are relatively useless; so is public transport without traffic jams or some other form of automobile use restriction.
Bogotá Experience: Ciclovía
Bogotá Experience: Ciclovía
Our night Christmas “ciclovía” is annual RITUAL for citizens to collectively conquer the night, conquer fear and feel togetherness. It significantly improves the perception of security.
While cars tend to be a means of social differentiation, bicycles integrate people.
447 bicyclists were killed in Colombia in 2004.
Is it democratic that only citizens with a motor-vehicle have the right to safe mobility?

Unfortunately this is the case in the developing world today.
There was not one meter of bike-ways and rider-ship was insignificant. Today more than 400,000 people ride to work daily.
When bicycling is the only possible means of mobility, well protected bicycle paths are not something nice to have, but a BASIC HUMAN RIGHT.
More than sidewalks or bicycle paths, we built SYMBOLS of equality and respect for human dignity.
Bogotá: BIKE PATHS
In Bogotá bicycling to work can save between 13% and 26% of a minimum wage earner’s income.
Bogotá: BIKE PATHS
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Bogotá: BIKE PATHS
Bogotá: CAR FREE DAY

During 13 hours all citizens meet as equals in public transport, bicycles or walking. It builds community
People enjoyed the adventure. Afterwards in the referendum of October 2000, nearly 64% of voters approved establishing a car free the first Thursday of February every year.
Render of proposed elevated highway in the Colombian Press
If car use is to be restricted, there must be good public transport...
THE OLD SYSTEM
TRANSMILENIO: Inspired by Curitiba
TRANSMILENIO
It is economically impossible to serve a whole city transportation demand with rail systems. TransMilenio is moving more passenger per hour/mile than 90% of rail systems; at 5% the cost; similar speeds; and a US $0.40 (profitable) price per ticket.
If a few lanes are given exclusively to public transport, it is possible to structure mass transit systems, with similar speed and capacities as rail systems, at much lower costs.
85% of the area of the city will be within 500 meters of the trunk system. The rest will be covered by short distance feeder systems.
While TransMilenio is an improved version of Curitiba’s system, it has become a model. Six Colombian cities and many more worldwide are implementing similar systems. More than 240 missions from 42 countries have visited Bogotá.
TRANSJAKARTA
Although it did not reach the 33.3% participation level required for it to become mandatory, a referendum asking whether they wanted ALL cars off the streets every week-day between 6 AM and 9 AM and between 4:30 PM and 7:30 PM from January 2015 onwards was voted positively.
In terms of transport, a civilized city is not one with highways, but rather, one where a child on a tricycle can safely go anywhere.