CURITIBA, BRAZIL

A case study on Urban Planning and Management for Sustainability

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UN-Habitat

claudio.acioly@unhabitat.org
What does a city need to have in order to be successful in producing quality of life?

- Mandate and legal instruments
- Financial resources
- Vision & creativity
- Strategy to Implement
- A plan
- Institutional capacity
- Information and data to support decision
<table>
<thead>
<tr>
<th>Well Below Average</th>
<th>Below Average</th>
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<tbody>
<tr>
<td>Guadalajara</td>
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<td>Monterrey</td>
<td>Brasília</td>
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<td>Porto Alegre</td>
<td>Quito</td>
<td>Santiago</td>
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17 CITIES
Siemens Green Cities Index
## Quantitative Indicators: Curitiba

<table>
<thead>
<tr>
<th>Energy and CO₂</th>
<th>Average</th>
<th>Curitiba</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions from electricity consumption per person (kg/person)</td>
<td>202.2</td>
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<td>Electricity consumption per US$ GDP (megajoules per thousand US$ GDP)</td>
<td>760.7</td>
<td>743.5</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Land use and Buildings</th>
<th>Average</th>
<th>Curitiba</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density (persons/km²)</td>
<td>4,503.0</td>
<td>4,296.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td>Green spaces per person (m²/person)</td>
<td>254.6</td>
<td>51.5</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport</th>
<th>Average</th>
<th>Curitiba</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>Length of mass transport network (km/km²)</td>
<td>5.0</td>
<td>8.5</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
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<tr>
<td>Superior public transport networks (km/km²)</td>
<td>0.13</td>
<td>0.19</td>
<td>2010</td>
<td>URBS Curitiba</td>
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<tr>
<td>Stock of cars and motorcycles (vehicles/person)</td>
<td>0.30</td>
<td>0.50</td>
<td>2010</td>
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<thead>
<tr>
<th>Waste</th>
<th>Average</th>
<th>Curitiba</th>
<th>Year</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>Share of waste collected and adequately disposed (%)</td>
<td>96.2</td>
<td>100.0</td>
<td>2007</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
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<tr>
<td>Waste generated per person (kg/person/year)</td>
<td>465.0</td>
<td>473.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
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<tbody>
<tr>
<td>Water consumption per person (litres per person per day)</td>
<td>264.3</td>
<td>150.0</td>
<td>2010</td>
<td>SANEPAR - Companhia de Saneamento do Paraná</td>
</tr>
<tr>
<td>Water system leakages (%)</td>
<td>34.6</td>
<td>39.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
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<tr>
<td>Share of population with access to potable water (%)</td>
<td>97.5</td>
<td>100.0</td>
<td>2009</td>
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<td>Population with access to sanitation (%)</td>
<td>93.7</td>
<td>92.5</td>
<td>2010</td>
<td>SANEPAR - Companhia de Saneamento do Paraná</td>
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<td>Share of wastewater treated (%)</td>
<td>51.5</td>
<td>98.3</td>
<td>2010</td>
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<tr>
<th>Air Quality</th>
<th>Average</th>
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<tr>
<td>Daily nitrogen dioxide levels (ug/m³)</td>
<td>37.8</td>
<td>22.5</td>
<td>2007</td>
<td>Secretaria de Estado do Meio Ambiente - Relatório de Qualidade do Ar Curitiba e RMC</td>
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<td>Daily sulphur dioxide levels (ug/m³)</td>
<td>11.4</td>
<td>6.6</td>
<td>2007</td>
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<td>Daily suspended particulate matter levels (ug/m³)</td>
<td>48.0</td>
<td>25.9</td>
<td>2007</td>
<td>Secretaria de Estado do Meio Ambiente - Relatório de Qualidade do Ar Curitiba e RMC</td>
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* Where data from different years were used only the year of the main indicator is listed. a) EIU Estimate. b) Based on City of Curitiba. c) Based on City of Curitiba 2012. d) Based on City of Curitiba 2013. e) Based on City of Curitiba 2014.
## Performance

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<td>Environmental Governance</td>
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</table>

**Overall Results**

The order of the dots within the performance bands has no bearing on the cities’ results.

Source: Latin American Green City Index. Assessing the environmental performance of Latin American Cities. A research conducted by the Economist Intelligence Unit, sponsored by Siemens.
What policies have resulted into this performance?
1

Having the Right Mandate and Authority
Local Governments in Brazil

- Complete political autonomy
- Mayors and municipal councils chosen in local election
- Unrestricted, constitutionally-mandated shares of principal taxes levied by Federal and State Governments
- Power to impose variety of local taxes, with unrestricted rates (and 5 major taxes under its control)
- Control of their own civil service
- Power to set salaries and administrative structure
SUMMARY OF KEY TASKS & RESPONSIBILITIES OF BRAZILIAN MUNICIPALITIES

direct responsibility, management or regulation of:

1. Urban planning
2. Land Acquisition
3. Public Transport
4. Basic Education (pre-school + primary)
5. Road construction
6. Street lighting
7. Cleaning of public spaces
8. Solid waste collection & disposal
9. Environmental control

1. Public health & sanitary Conditions
2. Markets
3. Abattoirs (slaughter) houses
4. Welfare of children & Handicapped
5. Recreation
6. Housing & Squatter Settlements Improvement
7. Basic public health
2

Having the Adequate Concepts and Understanding
How do we understand Planning?

- deliberated action.
- sequence of choices
- means and ends
- process
- problem solving
- forecast
- future & present.
STRATEGY

A pattern of *intentions*, *policies*, *programs*, *actions*, and *decisions* or allocation of *resources* that define what an organization is, what it does and why it does.
3

Having the Adequate Means and Resources
Having a PLAN, the adequate STRATEGY and the right INSTITUTIONS to implement it.
THE 1965 MASTER PLAN

DISORGANIZED GROWTH

ORGANIZED GROWTH

STRUCTURAL AXES

CENTRAL DISTRICT
URBAN STRUCTURE OF CURITIBA
Urban Development Strategies

1. National competition to develop urban development plan (master plan) in 1964;
2. Pre-condition: direct involvement of local staff right from scratch;
3. Establishment of a semi-autonomous municipal institution to guide and manage the implementation of the master plan;
4. Transformation and consolidation of this institution into a Planning and Research Institute (think tank / IPPUC);
5. Up-front compulsory land acquisition by local government;
Cidade de Curitiba
Urban Development Strategies 2

1. Broad discussion of the plan with stakeholders and civil society;
2. Decongest the inner city & revitalization of the urban and architectural heritage;
3. Shift the radial concentric city growth to a linear growth pattern (protect the environmental resources) by introducing north-south axis of circulation, transportation and urbanization;
4. Strategic involvement of private sector;
5. Establishment of a continuous monitoring and plan implementation appraisal mechanisms.
Radial Structure of Growth, 1942, Agache Plan

Linear Structure of Growth, 1966 Master Plan
DRAWING THE CITIES...

Source: Jaime Lerner
5

Having the Most Appropriate Policies and Land Management Instruments
Changing the Urban Form of Curitiba, Brazil

From Radial to Linear Growth Pattern

Urban Development Strategy - SCHEMATIC VIEW

“Pedestrianization”

Structural Axis for Bus Network

Inter-neighborhood routes

Pass-through terminals

Claudio Acioly
1. INNER CITY REVITALIZATION

a. Car-free and pro-pedestrian public space creation
b. Preservation and re-utilization of architectural heritage
c. More activities in city center: 24 hour street
d. Better connectivity with the rest of the city
Changing the Urban Form of Curitiba, Brazil
From Radial to Linear Growth Pattern
Urban Development Strategy - SCHEMATIC VIEW

Structural Sector
High Density Development
Compulsory land acquisition

Densities = 600 persons/ha
STRUCTURAL CORRIDORS
Curitiba Integrated Transport Network

Trinary System and the Structural Axis of Curitiba

1. One way traffic towards the inner city.

2. One way traffic outwards the inner city.

3. Structural axis with exclusive bus lane and parallel local traffic roads.

A-B. Structural sector

Density = 600 inhab/ha

FAR = 6

Source: Acioly & Davidson, 1996; 1998.
2. PUBLIC TRANSPORT CORRIDORS

a. Compulsory land acquisition for future growth
b. ‘Structural corridors’ for mass bus rapid transit system
c. Urban planning guidelines: FAR=6 along the corridors
Curitiba Integrated Transport Network
Trinary System and the Structural Axis of Curitiba

Source: Acioly & Davidson, 1996; 1998.

Claudio Acioly
Transfer of Development Rights (building rights)

Existing or Potential Building rights transferred to available land **within property** on market price basis.

Existing or Potential Building rights transferred to available land **elsewhere** on market price basis.

Owner

Property set for preservation

Land-use Plan Freezes FAR (Architectural & Heritage Preservation)
SOLO CRIADO

PARÂMETROS DA ZONA

ACRÉSCIMO COM INCENTIVO CONSTRUTIVO

AFASTAMENTOS MAIORES DAS DIVISAS

R$ OU TERRENO AO FUNDO MUNICIPAL DA HABITAÇÃO

IMPLANTAÇÃO DE PROGRAMAS HABITACIONAIS
Transfer & Sell of Development Rights (building rights)

Land use zone determines FAR & land use regulations

Revenues from TDR trade is allocated to Social Housing Fund

Addition FAR sold at market prices

Owner
LOW INCOME HOUSING / VILLAGE OF ALL TRADES
3. Urban Planning Strategy

a. Urban Density: densification and optimal use of land & infrastructure
b. Land Use: mixed use and increasing FAR along public transport corridors
c. Increase FAR: selling air rights/development rights for generating revenues
d. Public space: more space for pedestrians and public transport
Cidade de Curitiba
Comparative Population Densities

Portland 13 p/ha
Curitiba 60 p/ha
Barcelona 175 p/ha

Source: "Order Without Design" Alain Bertaud, 2000

2/26/2014
Tim Campbell, PhD.
Urban Age Institute
Having an integrative view of urban development.

Housing - Land Use - Transportation
INTEGRATED TRANSPORTATION NETWORK
Evolução da Rede Integrada de Transporte - RIT - 1974/1995
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<th>no de linhas</th>
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<th>pass./dia útil</th>
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<td>Circular Centro</td>
<td>2</td>
<td>7</td>
<td>4.251</td>
<td>4.251</td>
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<tr>
<td>Convencional</td>
<td>84</td>
<td>302</td>
<td>278.387</td>
<td>278.382</td>
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<td>Alimentador</td>
<td>115</td>
<td>358</td>
<td>396.456</td>
<td>214.312</td>
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<td>Interbairros Padron</td>
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<td>102</td>
<td>173.169</td>
<td>89.494</td>
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<td>7.751</td>
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<tr>
<td>Linha Direta</td>
<td>12</td>
<td>180</td>
<td>252.375</td>
<td>85.842</td>
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<td>Expresso Padron</td>
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<td>93</td>
<td>120.548</td>
<td>80.889</td>
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<td>43</td>
<td>97.515</td>
<td>60.665</td>
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<tr>
<td>Expresso Biarticulado</td>
<td>4</td>
<td>95</td>
<td>322.537</td>
<td>195.477</td>
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<td><strong>TOTAIS</strong></td>
<td><strong>235</strong></td>
<td><strong>1.205</strong></td>
<td><strong>1.660.238</strong></td>
<td><strong>1.017.063</strong></td>
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</table>
The Biarticulated bus line, a new project
Comprimento: 24.520 m
Largura: 2.500 m
Altura: 3.415 m
Cor: Vermelho
Spread of BRT

Involving key stakeholders in the implementation of the vision.
Curitiba Integrated Transport Network

URBS - Curitiba’s Municipal Transportation Agency

*TASK: planning and management of the public transport system*

- Calculation of bus timetables & frequencies
- Development of new bus routes
- Assessment of needs for new buses
- Monitoring the performance of the system
- Training drivers & conductors
- Management of taxi system
- Bus terminals
- Responding to user’s complaints & suggestions
- Public parking
- Community paving programs
Curitiba Integrated Transport Network

Principles

PUBLIC SECTOR

PRIVATE SECTOR

Negotiation
Transparency
Political will
Enabling
Technical Monitoring

Ensures quality &
Private Sector Accountability
Curitiba Integrated Transport Network
based on the payment per kilometer & flat fare

<table>
<thead>
<tr>
<th>PUBLIC SECTOR</th>
<th>PRIVATE SECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. regulates the quality of the service</td>
<td>1. operates lines</td>
</tr>
<tr>
<td>2. regulates the bus fare and tariffs</td>
<td>2. take care of the investments</td>
</tr>
<tr>
<td>3. management &amp; monitoring of the system</td>
<td>3. financial risks are minimized</td>
</tr>
</tbody>
</table>

Calculation & collection of the fare is transparent
technical & political negotiation

Ensures quality &
Private Sector Accountability
Curitiba Integrated Transport Network
based on the payment per kilometer & flat fare/tariff

TWO PARAMETERS:

1. Number of passengers (daily readings of sealed turnstiles).

2. Number of kilometers (length of routes, odometer readings, on-off surveys, 24-hour garage in/out surveillance).

SETTING THE BUS FARE

The result is a social fare!

URBAN EQUITY

RATE OF RETURN

Rate of return = 1% of capital invested in the fleet

Profit = 3% of administrative cost for equipment & infrastructure

Total return = 11.39% of fare
Curitiba Integrated Transport Network

**URBS – Local Government**

- Gives concession to private sector to operate lines
- Sets the standards and norms of the system
- Manages the daily revenues from the system
- Pays the private sector after every 10 days

**PRIVATE SECTOR**

- Receives licenses to operate specific routes
- Obey to regulations and standards settled by URBS and IPPUC
- Deposits daily revenue in a specific bank account
- Receives payments per kilometer run
TO METRONIZE THE BUS

Source: Jaime Lerner, 2010
Terminal for Integration

Exclusive bus route for mass transportation

Intermediary Station

Continuous flow of individual transport
Public transport
Curitiba Integrated Transport Network

Some Results from the ITN:

1. City possess an urban skyline that gives its own identity & image;

2. Despite of having the second largest car ownership ratio in Brazil, the city’s public transport system carries 1.3 million passengers/day out of 1.6 million city population;

3. Efficiency of the bus network is equivalent to metro systems but at much lower costs;

4. Curitiba has the newest bus fleet in Brazil as a result of PPP;

5. The city saves 30% in energy consumption when compared to other Brazilian cities;

6. Local government policies receives unanimous popular approval.
8

Urban Environmental Management Vision:
Become a sustainable city
51,50m² of green area per inhabitant
THE WIRE OPERA
"LIÇO QUE NÃO É LIÇO"
CÂMBIO VERDE

O LIÇO QUE NÃO É CÂMBIO VERDE
“LIÇA QUE NÃO É LIÇO”
CÂMBIO VERDE
Sistema de Unidades de Conservação

51,50m² de área verde por habitante.
Decentralising City Management and bringing citizens closer to municipal administration
STREETS OF CITIZENSHIP

A.R. SANTA FELICIDADE 159.036
A.R. MATRIZ 202.266
A.R. PORTÃO 285.267
A.R. PINHEIRINHO 154.554
A.R. BOQUEIRÃO 177.254
A.R. BOA VISTA 209.421
A.R. CAJURU 172.886
A.R. BAIRRO NOVO 115.569

EXISTING
PLANNED
STREET OF CITIZENSHIP
CURITIBA IN THE THIRD MILLENIUM

TOWARDS A GLOBAL REGION
GREATER CURITIBA
Having A Vision and the Political Will to Realize it.
1. The city has to be environmentally correct. It must squander the minimum and spare the maximum.

2. The local problems are responsible for 80-90 % of the global problems.

3. We live in the whole world under the syndrome of the tragedy which is present in the imobility of the First World and in the perplexity of the Third World.

4. The country needs more government... It is not the neo-liberal state that will guarantee the satisfaction of the basic needs of the population. We, in the municipality of Curitiba, do all the management and deliver the execution works to the private initiative. The solution of the basic problems of the population can not be delegated to the private initiative.
• **Respect** leads to self respect leads to citizenship
• **People** + Planet + Prosperity + spatial quality
• Trends are not your **destination**
• You cannot have answers beforehand, **just start**
• Mark your success
• Be creative
• The city has to reconcile with nature and their inhabitants

**Mayor Arq. Jaime Lerner**

• A city needs to be an open structure, a living organism offering space, relationships and opportunities for all
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17 CITIES
“I will argue that good urban planning can be of great value for places and their branding efforts. Cities with good urban planning get noticed. This is important, especially for relatively unknown non-capital cities in Latin America, Africa or Asia. Such cities often have millions of inhabitants and have much to offer to people and investors, but are barely known outside their region. One such a city is Curitiba, located in the south of Brazil”. Hans Pul, 14/03/2012.

http://blog.inpolis.com/2012/03/14/curiciba-latin-americas-green-city/
Quantitative Indicators: Curitiba

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<td><strong>Land use and Buildings</strong></td>
<td>Population density (persons/km²)</td>
<td>4,503.0</td>
<td>4,296.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td></td>
<td>Green spaces per person (m²/person)</td>
<td>254.6</td>
<td>51.5</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td>Length of mass transport network (km/km²)</td>
<td>5.0</td>
<td>8.5</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td></td>
<td>Superior public transport networks (km/km²)</td>
<td>0.13</td>
<td>0.19</td>
<td>2010</td>
<td>URBS Curitiba</td>
</tr>
<tr>
<td></td>
<td>Stock of cars and motorcycles (vehicles/person)</td>
<td>0.30</td>
<td>0.50</td>
<td>2010</td>
<td>Denatran</td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td>Share of waste collected and adequately disposed (%)</td>
<td>96.2</td>
<td>100.0</td>
<td>2007</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td></td>
<td>Waste generated per person (kg/person/year)</td>
<td>465.0</td>
<td>473.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Water consumption per person (litres per person per day)</td>
<td>264.3</td>
<td>150.0</td>
<td>2010</td>
<td>SANEPAR - Companhia de Saneamento do Paraná</td>
</tr>
<tr>
<td></td>
<td>Water system leakages (%)</td>
<td>34.6</td>
<td>39.2</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td></td>
<td>Share of population with access to potable water (%)</td>
<td>97.5</td>
<td>100.0</td>
<td>2009</td>
<td>Agência Curitiba; Curitiba, Prefeitura da Cidade</td>
</tr>
<tr>
<td><strong>Sanitation</strong></td>
<td>Population with access to sanitation (%)</td>
<td>93.7</td>
<td>92.5</td>
<td>2010</td>
<td>SANEPAR - Companhia de Saneamento do Paraná</td>
</tr>
<tr>
<td></td>
<td>Share of wastewater treated (%)</td>
<td>51.5</td>
<td>98.3</td>
<td>2010</td>
<td>SANEPAR - Companhia de Saneamento do Paraná</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td>Daily nitrogen dioxide levels (ug/m³)</td>
<td>37.8</td>
<td>22.5</td>
<td>2007</td>
<td>Secretaria de Estado do Meio Ambiente - Relatório de Qualidade do Ar Curitiba e RMC</td>
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<td></td>
<td>Daily sulphur dioxide levels (ug/m³)</td>
<td>11.4</td>
<td>6.6</td>
<td>2007</td>
<td>Secretaria de Estado do Meio Ambiente - Relatório de Qualidade do Ar Curitiba e RMC</td>
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<td></td>
<td>Daily suspended particulate matter levels (ug/m³)</td>
<td>48.0</td>
<td>25.9</td>
<td>2007</td>
<td>Secretaria de Estado do Meio Ambiente - Relatório de Qualidade do Ar Curitiba e RMC</td>
</tr>
</tbody>
</table>

* Where data from different years were used, only the year of the main indicator is listed.  
  1. Based on the city of Curitiba.  
  2. Based on city of Curitiba.  
  3. Based on the city of Curitiba.
## Performance

<table>
<thead>
<tr>
<th></th>
<th>Curitiba</th>
<th>Other cities</th>
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<tr>
<td></td>
<td>well below average</td>
<td>below average</td>
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<tr>
<td>Energy and CO₂</td>
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<td>Land Use and Buildings</td>
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<td>Transport</td>
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<td>Waste</td>
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<td>Water</td>
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<td>Sanitation</td>
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<tr>
<td>Air Quality</td>
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<tr>
<td>Environmental Governance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Results**

The order of the dots within the performance bands has no bearing on the cities’ results.

Source: Latin American Green City Index. Assessing the environmental performance of Latin American Cities. A research conducted by the Economist Intelligence Unit, sponsored by Siemens.
CURITIBBA
Green City Index

What policies have resulted into this performance?
WHY IS CURITIBA AN EXAMPLE OF SUCCESS? WHAT ARE THE PRE-CONDITIONS?

1. Continuity of municipal policies and staff;
2. Full engagement of local planning team - a vision and knowledge of local specificities;
3. Planning responding to aspirations and expectations of population;
4. Simple, locally based and responsive planning theories rather than exported ideas (CIAM, postmodernism, etc);
5. Very powerful and centralized planning in the hands of a semi-autonomous municipal institute - IPPUC but with transparency and accountability;
6. Coordinated and action orientated planning
7. Consolidated and popularly accepted approach towards city planning and consequently high acceptance of regulations and standards;
1. Political bargain in favour of comprehensive control of city growth;
2. Continuous reviews of plans and guidelines previously approved;
3. Capacity to reinforce plans, guidelines and regulations;
4. Accurate physical, social, economic cadastre supported by advanced information technology;
5. Creativity and stimulating working processes, encouraging experimentation;
6. Dynamic management and local autonomy;
7. Responsive private sector;
8. Political will and strong mayor acting as doer and driving force.
1. Having the Right Mandate and Authority
2. Having the Adequate Concepts and Understanding
3. Having the Adequate Means and Resources
4. Having a PLAN, the adequate STRATEGY and the right INSTITUTIONS to implement it.
5. Having the Most Appropriate Policies and Land Management Instruments
6. Having an integrative view of urban development: Housing - Land Use - Transportation
7. Involving key stakeholders in the implementation of the vision.
8. Decentralising City Management and bringing citizens closer to municipal administration
9. Having A Vision and the Political Will to Realize it.
I arrived early in Curitiba after a late night in Porto Alegre. It was definitely a wild card for me. I had never even heard of the place before its announcement as a host city for the World Cup. My curiosity was piqued, though. What were three million people doing on this plateau in Southern Brazil? Right off the bat I was extremely impressed with the atypically comfortable and spacious FIFA Fan Zone in the airport, replete with a "chill out" section for taking naps. I was more than tempted to test out the crate-and-mattress setup, but instead headed into the city center to explore what I found out is one of the most sustainably developed cities in Brazil, if not the world.

What Curitiba did have was efficient public transportation, pedestrian and bike friendly streets, widespread urban green spaces, and an overall high quality of life. UNESCO even suggested Curitiba as a model for rebuilding cities in Afghanistan. It is not known whether they included the 40,000-seat Arena da Baixada in that recommendation.

THE END