Moving into a New Phase

Abel Mejía, Environment Sector Manager for Latin America and the Caribbean
World Bank
Washington, DC, August 18, 2005
Presentation guide

1. What is the link between growth, air pollution, and GHG emissions in urban centers
2. What are the air pollution impacts?
3. How can we address them?
4. What has been the role of the Clean Air Initiative?
5. CAI-LAC’s evolution and status
6. Launching of CAI Center
7. Next future
Connection - Transport and Air Quality

- Urban growth
- Urban sprawl
- Growing motorization
- Increased emissions
- Worsening Air Quality

Economic development
The facts…

🌟 Most highly urbanized region in the developing world

🌟 In 1950, 42% of the region’s population living in urban areas, by 1990 it was 72%, by 2000 it was 75.3%

🌟 Projected to grow to 89% by 2030

Source: UNHABITAT, 2001
## Where are the big cities?

<table>
<thead>
<tr>
<th>Inhabitants</th>
<th>No of cities</th>
<th>Host countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 500,000</td>
<td>100</td>
<td>Almost entire continent</td>
</tr>
<tr>
<td>Over 800,000</td>
<td>57</td>
<td>(17) AR, BR, CI, CO, EC, PE, BL, VE, UY, MX, GT, NU, HO, DR, CU, HA</td>
</tr>
<tr>
<td>Over 1 million</td>
<td>45</td>
<td>(17) AR, BR, CI, CO, EC, PE, BL, VE, UY, MX, GT, UN, HO, DR, CU, HA</td>
</tr>
<tr>
<td>Over 2 million</td>
<td>18</td>
<td>(10) AR, BR, CI, CO, EC, PE, VE, MX, DR, CU</td>
</tr>
<tr>
<td>Over 5 million</td>
<td>8</td>
<td>(6) AR, BR, CI, CO, PE, MX</td>
</tr>
<tr>
<td>Over 8 million</td>
<td>3</td>
<td>AR, BR, MX</td>
</tr>
</tbody>
</table>

Source: The World Gazeteer
### Common Trends in Urban Areas

- Economic and population growth
- Expansion of city limits
- Increasing Motorization
- Increasing car ownership and use
- Lack of coordination of urban planning and transport
- High travel costs
- Decreased mobility and accessibility for poorest
- Traffic congestion
- Higher levels of emissions and exposure
- Increasing episodes of air pollution related health problems
Urban Growth

- Urban sprawl
- Motorization
- Emissions
Cities Share of National GDP 2000

Source: UNEP GEO Cities 2003
Projected growth in vehicle ownership

Santiago de Chile: Transport Modal Share

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Trips</th>
<th>Other</th>
<th>Taxi</th>
<th>Metro</th>
<th>Bus</th>
<th>Cars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>5,996,118</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>10,147,247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Air pollution in urban centers

Metropolitan Area of Mexico
Emission Inventory for Santiago (2000)

Transit responsible for a substantial share of PM10 and NOx (ozone precursor), which are the two most worrying contaminants in the area.
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Urban Air Pollution Dynamics

- Emissions: CO, NOx, SOx, CO2
- Dispersion
- Reactions
- Concentrations: CO, NOx, SOx, CO2, O3, PM2.5
- Exposure
Air Quality Problems

- Mobile sources are main emitters in LAC
- Vulnerable populations most affected
  - children especially
- Main Pollutants:
  - Particles main problem (especially PM$_{2.5}$): health impacts
  - Ozone concentrations
- Many sources, sectors and stakeholders
- Long-term strategies needed
Air Quality & Health Link

✶ In Mexico City, for every increase in Ozone of 10 parts per billion, a 0.6% increase of acute mortality and 1% increase in premature mortality can occur.

✶ In Santiago, 4,000 people die prematurely every year from causes related to air pollution. Approximately 1,700 of which are due to prolonged exposure to suspended particles.

Sources: UNEP, WRI
## Mexico City: Benefit of Pollution Reduction

### Summary of Benefits from Different PM10 and Ozone Emission Reduction Scenarios for 2010

<table>
<thead>
<tr>
<th></th>
<th>10%</th>
<th>20%</th>
<th>AQS1*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>1,607</td>
<td>3,184</td>
<td>3,952</td>
</tr>
<tr>
<td><strong>Central</strong></td>
<td>759</td>
<td>1,489</td>
<td>1,928</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>154</td>
<td>275</td>
<td>368</td>
</tr>
</tbody>
</table>

(1999 US$ Millions)

* - Compliance with air quality standards.

Source: World Bank, 2002
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The vicious circle of urban transport

- **INCREASED POLLUTION, ACCIDENTS and CONGESTION.**
- **MORE CONGESTION AND DELAYS**
- **CARS MORE ATTRACTIVE: GROWING MOTORIZATION**
- **POVERTY AND SOCIAL EXCLUSION**
- **LOW DENSITY URBAN EXPANSION**
- **MORE CONGESTION AND DELAYS**
- **PUBLIC TRANSPORTATION SLOWER AND LESS ATTRACTIVE**
- **LESS DEMAND, DECREASING REVENUE, HIGHER COST PER PASS.**
- **CREASED FARES, REDUCED FREQUENCIES**
- **POSSIBLE SUBSIDIES NEEDED**
- **TRANSPORT OPERATORS IN FINANCIAL CRISIS.**
- **RISE OF INFORMAL TRANSPORTATION**
- **INCREASED POPULATION, ACCIDENTS and CONGESTION.**
- **LESS DEMAND, DECREASING REVENUE, HIGHER COST PER PASS.**
How can we break the vicious circle?

Integrated Pollution Control Strategy

<table>
<thead>
<tr>
<th>Reduction in number of Veh-km</th>
<th>Control of Emissions per Veh-km</th>
</tr>
</thead>
<tbody>
<tr>
<td>✶ Urban Transport Planning</td>
<td>✶ Inspection &amp; Maintenance Program</td>
</tr>
<tr>
<td>✶ Public Transport Priority</td>
<td>✶ Standards for New Vehicles</td>
</tr>
<tr>
<td>✶ High-Density / Key-site Development</td>
<td>✶ Fuel Quality Standards</td>
</tr>
<tr>
<td>✶ Mixed-Use Development</td>
<td>✶ High-Use Fleet Upgrading Programs</td>
</tr>
<tr>
<td>✶ Integration of transport modes</td>
<td>✶ Bus Route Licensing Schemes</td>
</tr>
<tr>
<td>✶ Road Pricing, Fuel Taxes</td>
<td>✶ Tax Incentives for Clean Vehicles and Fuels</td>
</tr>
</tbody>
</table>
Emission Control Measures

- Vehicle technology
- Fuel quality
- Inspection
- Maintenance
Integrated transport, land use and air quality strategies

- Promote high-density land use along public transport corridors
- Prevent urban sprawl
- Revitalize urban centers
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Improve public transportation
- Reorganize network layout
- High capacity modes on trunk corridors
- Intra- & inter-modal service integration
Travel demand management

- Congestion pricing
- Traffic calming
- Parking policies
Promotion of non-motorized transport

- Promote bike use
- Finance bikeways and pedestrian facilities
- Promote intermodality NMT & public transport
INICIATIVA DE AIRE LIMPIO en Ciudades de América Latina

How can we break the vicious circle?

Transporte de carga mas eficiente
- Centros de transferencia de carga
- Estandares de flota
- Regulacion clara sobre circulacion de camiones
Bank-GEF Sustainable Transport and Air Quality

- **Promotion of use of bicycles** (Santiago, Lima, Bogota, Sao Paulo)
  - Infrastructure
  - Safety and promotion
- **Modernization of bus system** (Santiago, Lima, Mexico, Colombia, Sao Paulo)
  - Field and laboratory test of technologies (hybrid, gas, diesel)
  - Framework support for brts (operators, business)
  - Fleet renewal
  - Bus system restructuring
- **Freight management** (Sao Paulo, Colombia)

- **Integration of land-use policies** (Santiago, Sao Paulo, Colombia)
  - Densification of central ring
  - School location
  - Housing policies
  - Corridor re-development
- **Travel demand management** (Sao Paulo, Santiago)
  - Congestion pricing
  - Parking, traffic cells
  - Travel demand optimization
  - ITS
- **Decontamination Bonds** (Santiago, Sao Paulo)
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The Start

* CAI-LAC launched at World Bank in December 1998

* Mission: “To improve air quality in Latin American cities to protect the health of their inhabitants and to mitigate global pollution through partnerships.”

* Members

  * Largest urban centers: Bogota, Buenos Aires, Lima-Callao, Mexico, Rio de Janeiro, Santiago, Sao Paulo
  * International development agencies: World Bank, IADB, GTZ, Environment Canada, US EPA
  * Private sector companies: CNN, Renault, Daimler-Chrysler, Volvo, Shell
  * Industry associations: ARPEL/IPIECA
Achievements

- City specific action plan workshops
- Distance learning course
- Public announcement videos
- Tri-lingual website:

- Brochures
- Develop or enhance city clean air action plans
- Enhance scientific knowledge and understanding of urban air quality and health impacts
- Tools for assessing policy options
Contribution from partners

 Renault’s support to air quality modeling in Rio de Janeiro

 Swisscontact support to air quality plan for Lima-Callao

 Environment Canada support to emissions inventory in Buenos Aires

 World Bank’s sustainable transport projects:
  - Integrating urban transport, land use and environment policies
  - Promoting cleaner vehicles and fuels
  - Helping manage travel demand
  - Introducing innovative financing schemes
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Challenges for CAI-LAC

- Expand the membership to all interested cities in Latin America and the Caribbean.
- Diversify membership: environment, transport, and energy, as well as NGOs, academic institutions, and individuals.
- Achieve financial sustainability, by attracting funds from a wider range of potential donors and partners.
- Catalyze private sector investments and operations in air quality and related fields.
Evolution

🌟 Mission and goals remain unchanged!
🌟 Become regional reference for knowledge and expertise on air quality
🌟 Self Sustainable NGO based in DC, but addressing LAC
  ✰ Facilitate tax-exempt contributions from donors
  ✰ Potential for regional sub-chapters
🌟 Expanded Membership
  ✰ Other Government Agencies, Individuals, Honorary Members
🌟 Creation of independent Clean Air Initiative Center: CAI Center
🌟 Outsource to regional centers of excellence
  ✰ universities, consultants, experts, etc.
🌟 Potential to expand globally
Looking back

Decisions of last Steering Committee (July 2004):

- Keep mission
- Open to all cities
- Expand membership and engage productive sectors
- Financially self-sustainable
- DC-based, non-for-profit Center
- New governance structure
- PRIORITY TOPIC: Sustainable Transport
Recent Developments

- Creation of the CAI Center
- Preparing Business Plan and Marketing Strategy
- Assessing potential donors (EU & US)
- Legal spin-off
  - Independent organization (tax exempt)
  - Legal status
- Devising Hosting arrangements
- Composing Board of Directors
- Fundraising
Think Tank

- Conference
  - Sponsors
  - Fees
  - Exhibits
  - Side Events
- Annual Publication
  - Technical
  - Annual specific topic
  - Rely on Centers of Excellence
- Self sustainable
  - Cost Recovery
  - Fund Raising

- Reference for policy makers
- Reference for technical material
- Forum for exchange of views and findings
- Sustainable point of reference on air quality management
Business Plan Development

**PA Consulting**
- General lay-out
- Marketing Strategy
- Early screening
- Hosting arrangements

**ARCA Consulting**
- Screening
- Marketing Strategy
Institutional Arrangements

- Creation of Clean Air Initiative Center
  - Publication and physical reference
- Executive Secretary
  - Work Plan
  - Autonomy and responsibility
- Representative Board of Directors
  - Visibility for donors/members
  - Technical orientation
  - Stakeholder representation
Institutional Framework

- Executive Director selected: Sergio Sanchez
  - Two year ETC contract with WB
  - Manage CAI Center

- General membership
  - New cities/members going to be invited

- Board of Directors:
  - Prefeito Serra, Sao Paulo (chair)
  - Bob Watson, World Bank
  - Myrta Roses, PAHO
  - Jose Felix Garcia, ARPEL
  - Jaime Lerner, Ex-Mayor of Curitiba, Ex-Governor Parana
  - Mario Molina, Nobel Laureate
  - Axel Friedrich, Environment and Transport Expert
  - Ex-Administrator EPA (candidates: Browner, Whitman, Reilly)
  - Representative from Private Sector (to define)
Creation of CAI Center

-The Center will continue serving as a vehicle for channeling information, strengthening capacity at cities, and providing training through its partners.

-Also, it will help broker between partners for specific programmatic support. For instance, the Center will help leverage demand from interested cities in the region to participate at a World Bank/ GEF regional program on sustainable development.
CAI Center Activities

Knowledge Management
Training & Capacity Building
Studies & Publications

GEF Supported Activities
Private Sector
Donors
TA to Loan Prep
CDM Fund

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Example of Programmatic Role of CAI-Center

🌟 Help World Bank prepare and implement Regional Project on Sustainable Transport and Air Quality

🌟 Dissemination of information about fund (generate demand)

🌟 Receive requests and screen potential cities

🌟 Assist in preparation of proposals (formats, procedures)

🌟 Liaison between the World Bank and cities

🌟 Dissemination of lessons learned (website, training, workshops)
Selection Process

CAI-LAC

Advisory Panel

World Bank

Selected Cities

LAC Cities

CAI-Center

Screening Preparation Commitment

Proposal City info Commitment

Final Selection
Legal studies

- Incorporation as non-for-profit organization
- Forms and requirements to obtain tax-exempt status before IRS
- Problems: transition arrangements, timing, funding
Fundraising

- World Bank funds
  - ESMAP
  - Mainstreaming Funds
  - Own resources and staff
- GEF
  - Pay fee for services provided
- Other possible donors (Blue Moon?)
Hosting Arrangements

- Ensure independence of the CAI Center
  - Board of Directors
- Fiduciary role for tax exempt status
  - Accounting and IRS filing
- Provide administrative and fundraising support
- Selection process: Criteria, TOR, RFP, Panel
- Pre-selected host: Breakthrough Technologies Institute
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Objectives

- To launch the new Clean Air Initiative Center;
- To celebrate the first meeting of the Board of Directors for the Center;
- To endorse the Business Plan for the Center;
- To endorse the appointment of the Center’s Executive Secretary;
- To adopt the Center’s Annual Work Plan for 2005-2006;
- To endorse the Memorandum of Understanding between the Center and the Host institution; and
- To adopt the Rules of Procedure for the new Board of Directors.
Agenda

08:30 – 09:00 Registration and coffee
09:00 – 09:30 Opening Remarks
  Ken Newcombe, WB
  Ulrich Zachau, WB
  Representative from Sao Paulo
09:30 – 10:00 The Clean Air Initiative Center: status and order for the day
  Abel Mejia, WB
10:00 – 10:45 Board of Directors: presentation and Rules of Procedure
  Presentation of members
  Rules of procedure adopted
10:45 – 11:00 Coffee break
11:00 – 12:00 Presentation of Executive Secretary and adoption of Work Plan
12:00 – 12:30 Message from representatives of Member Cities.
12:30 – 13:00 Summary of Decisions and Closure

LUNCH SERVED in MC DINING ROOMS
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At the new CAI-LAC age

Two major events for first year:

- International Conference
  - Format: large, 600 attendants, website, exhibits, sponsors, publication
  - Topic: Sustainable Transport and Air Quality
  - Venue: Sao Paulo?
  - Objectives: promote sustainable transport, launch CAI Center, launch first publication, major Fundraising event
  - When: Spring (April 2006)

- First CAI Center Publication
  - Topic: Sustainable Transport and Air Quality
  - Format: compilation of papers? New research
  - For discussion: comparative analysis LAC, Europe, North America (Policies, impacts, trends)
Thank You!