Andrés Villaveces MD PhD
UNC - Injury Prevention Research Center
Research Assistant Professor
Department of Epidemiology
Carolina School of Public Health

Thirteen years of policies to control injuries: The experience of Bogotá, Colombia

Injury prevention and control

- Context
- Principles
- Violence prevention strategies
- Transport injury reduction strategies
- Future directions

Context

Altitude: 2,640 mts (8,661 feet)
Average temperature: 14°C (57°F)
Population: 7,185,889
Per capita GDP: US$ 3,300
Area: 300 km² (116 sq mi)
Pop. Density: 21,000/km² (54,380.9/sq mi)
Pre-1900: Small, colonial, concentric

1900-1930: Linear expansion tramways

April 1948: Political violence

1930-1970: Bus and car development, huge demographic growth

Political and community violence

1970-1999: Growth persists, increased density, insecurity, traffic congestion.

Considerable increase in political violence, narcotraffic, and community violence.

1990's Bogotá was choked with:

- Institutional corruption
- Rapid urbanization
- 5% annual increase in population
- Disorganized institutions
- Lack of information
- Lawless traffic
- Severe problems of security
- Inadequate city planning
- Increased population demands
• Four city administrations
• Adequate fiscal management
• Change in individual and institutional culture
• Development of city infrastructure

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Principles

• Respect for life
• Egalitarianism
• Use of non-violent strategies
• Promotion of community control
• Development of collective leadership
• Sustainable, efficient, local solutions
Program approach - 1

“Educate the city”
- Culture of citizenship
- Public space
- Environment
- Social progress
- Urban productivity
- Institutional legitimacy

Program approach - 2

“For the Bogotá we want”
- De-marginalization
- Social integration
- City on a human scale
- Mobility
- Urbanism and services
- Security and harmony
- Institutional efficiency

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Initial strategy

Political:
• Majors from non-traditional parties (more freedom)
• Strong public demand for change

Economic:
• Increase in revenue (doubling)
  • Simplifying taxes
  • Increase in gasoline taxes
  • Enforcement of tax evasion (real estate tax reviews)
  • Increase in real estate taxes based on urban improvements
  • Readjustment of public service tariffs
  • Co-pay from national government
  • Asking people to volunteer more tax $$ (65,000 responded)

Initial strategy

• Constitutional re-definition of security (less punitive)

• Strengthening of metropolitan police
  - Resources
  - Education (Human rights, peaceful coexistence, developers of citizens.)
  - Housing and insurance
  - Community participation

• Justice system: (Family courts, mediation units, police stations, “Justice houses” (HR), improvement of detention centers

• Improvement of services to vulnerable groups (homeless, sexual workers, addicts)

Initial strategy

• Prevention of risk factors of injuries (weapons, EtOH, change in attitudes and behavior of population, restrictions of fireworks, traffic policies.

• Emergency preparedness

• Institutional coordination:
  - District security council
  - Committee of surveillance of external causes of injuries
  - Local security councils
Information system

- Improvement of Legal Medicine Surveillance system
- Improvement of police surveillance system
- Standardization of key variables within systems
- Integration to government secretariat (from 3 people to whole unit)
- Use in security councils and incorporated as core element of governance

Description of situation

Injury-related mortality rates per 100,000, 1960-1993

- High mortality due to violence
- Mostly among young men
- 80% related to weapons

Interventions

- Voluntary disarmament
- Gun buy-back program (church key partner)
- Reduction of functioning hours for bars – « hora zanahoria »
- Stricter controls of alcohol sales
- Ban of concealed firearms in selected time periods
- Evidence based policies at short- medium- and long-term
Interventions

- Strategy to seize weapons applied citywide using police checkpoints, and traffic stops.
- Strategy applied from Fridays at 18:00 hrs until Mondays at 06:00 hrs in the selected weekends.
- Data collected from January 1995 to August 1997

Evaluation of interventions

- 79% of the homicides were due to firearms. Remaining % mainly knives or other cutting and piercing instruments.
- Two thirds Males b/w 15-34 yrs.
- 67% Occurred b/w 18:00-06:00 hrs.
- 14% reduction in homicide rates when ban implemented

Behavioral modifications

- Non-aggressive behaviors through rule of law (Enforcement cards)
- 420 mimes: “Twice disarmed”
- Actors dressed as monks reflection on noise pollution
- Mass initiatives to promote tax payments
- Observatory of Urban Culture
Links to other injury problems

Modification of aggressive behaviors
- In transport (road rage)
- Towards institutions
- Towards other citizens

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Transport

- 876,000 private vehicles (16% use 95% of network)
- 77,000 public service (22,000 buses, 55,000 taxis)
- Average speed: 8.7 mph
- 2-3 hrs commutes
- 11 million trips/day
- 8% unpaved
Transportation: Objectives

- Recovery of public space
- Development of a Mass Transit System
- Improvement of technology for traffic management
- Development of alternative means of transport (i.e. Bicycles)
- Reduction of use of private automobiles
- Improvement of road network

Public space and safety

- High concentration of people who recycle garbage
- Extremely poor living conditions
- High level of homelessness
- Poor health outcomes
- Highest rates of violent crime in the city
- Drug and weapon trafficking

Public space and safety

| 1998 | 1999 | 2001 |
• Construction of the world’s longest pedestrian-only street – 17 km (10.2 miles)
• Hundreds of miles of sidewalks in poorest neighborhoods

Pedestrians and public space

Recovery of space for pedestrians

BRT systems in the world:
Adelaide, AU
Essen, DE
Rouen, FR
Miami, FL
Curitiba, BR
BRT systems in the world:

Bogotá, CO

Economic strategy

- Economically viable
- US$ 3.3 billion master plan
  - Previous proposals LRT (16 miles)
  - BRT selected (241 miles)
- Taxes, loans, negotiation with usual providers

A world-class Bus Rapid Transit (BRT) system of dedicated bus lanes called TransMilenio
Characteristics

- Dedicated lanes
- Fixed stations (every 800mts)
- High frequency
- Same level access
- Electronic payment
- GPS location of buses

Network

Feeder routes to Trunk routes
Commuting times

In some areas up to 50% reduction in commuting time

Source: Tito Yepez, World Bank on TransMilenio SA.

Replication

• Replication of system in six other Colombian cities
• Interest in Bogotá model among other countries including:
  • Santiago, CL
  • Panama City, PA
  • Lima, PE
  • Mexico DF, MX
  • Cape Town, Pretoria, Johannesburg, ZA
  • New Delhi, IN
  • Jakarta, Yogyakarta, Surabaya, ID
  • Guangzhou, Hong Kong, CN
  • USA

Additional measures

• DUI checks
• Traffic calming measures
• Legislation – « Pico y Placa »
Community involvement

• Proposition 1: Annual Car Free Day
  The institution of an annual Car Free Day for the city, building on an award winning experience (24 February 2000).

• Proposition 2: Pico y Placa – 2015
  Creation of a firm legal framework to support the phased elimination of all peak hour car traffic in the city, building in increments on the existing Pico y Placa scheme and to be completed as of 2015.

Results of the 29 October Consultation*

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<td>Annual Car Free Day:</td>
<td>63.1%</td>
<td>26.3%</td>
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<td>Pico y Placa - 2015</td>
<td>51.2%</td>
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* Valid votes cast 1,253,053

“Bikeways”

• Started in the 80’s
• Partial closure of road network on Sundays and holidays
• Promotion of sport and recreation

Bike routes: City-wide network

• Latin America’s largest network of bicycle routes, 150 miles long (250 km)
Bike routes: Integrated system

Integration with BRT

1997: 0.5% use bikes
2001: 5% use bikes

Massive increase in sales of bicycles

Car-Free Day

The planet’s biggest Car-Free Day, during which private vehicles are not allowed to enter the entire city of 135 square miles (35,000 hectares) - (Every first Thursday of February)
Prevention

- Establishment of safety and design codes
- Focus on long-term primary prevention
- Separation of users within network

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Improved social services

- Relocation of people to places with better services
- Improvement of utility coverage and services
- Creation of spaces for leisure
- Creation of library system
Injury-related mortality rates per 100,000, 1960-2006

- Continued conflict within country
- Increased demand for enforcement
- Vandalism of city property
- Legislative hurdles
- Alcohol consumption
- Use of firearms
Transport:
• Six phase expansion of transport system
• Increased demand vs. system collapse?
• Competition with other providers
• Automobile industry and motorization
• Legislative hurdles – vehicular restrictions
• Speed limit enforcement
• DUI enforcement
• Helmet use among bicycle riders
• Vehicle safety standards

Future directions

Legislative and economic:
• Restriction of weapons
• Alcohol sales
• Cultural attitudes
• Permanent restriction of cars during peak times
• Continuous financing of the system (maintenance and expansion)
• Mobility and productivity


UNC – Department of City and Regional Planning
Still a long way to go…

Conclusion

• Integrated approach
• Technical expertise (capacity building)
• Community participation and culture of citizenship
• Evidence based
• Application of principles of prevention and health promotion
• Sustainable strategy adapted to local needs

Photographs

Photographs courtesy of:
1 – Instituto de Desarrollo Urbano, Bogotá
2 – Bogotá-dc.com
3 – Alcaldía Mayor de Bogotá
4 – TransMilenio, S.A.
5 – Periódico El Tiempo
7 – Darío Hidalgo, Foto Akiris and FPPQQ in Integrated policies for sustainable transportation: The Bogotá Experience, World Bank, Washington, DC.
8 – Rafael Guerrero, Terra.com, 1995
9 – National BRT Institute, FL, USA.