

An aerial photograph of a city street intersection. The street is paved with asphalt and has white lane markings, including a 'ONE WAY' sign with an arrow pointing right. Several pedestrians are walking across the street. There are palm trees and other greenery around the street. A green banner is overlaid on the top left of the image.

# Sustainable Mobility & Public Spaces

## Creating Vibrant & Healthy Cities for ALL

Gil Penalosa - MBA, PhDc  
Executive Director  
**8 80 Cities**  
Penalosa\_G  
[www.8-80cities.org](http://www.8-80cities.org)  
Honolulu, Hawaii - USA  
November 22<sup>nd</sup>, 2014

























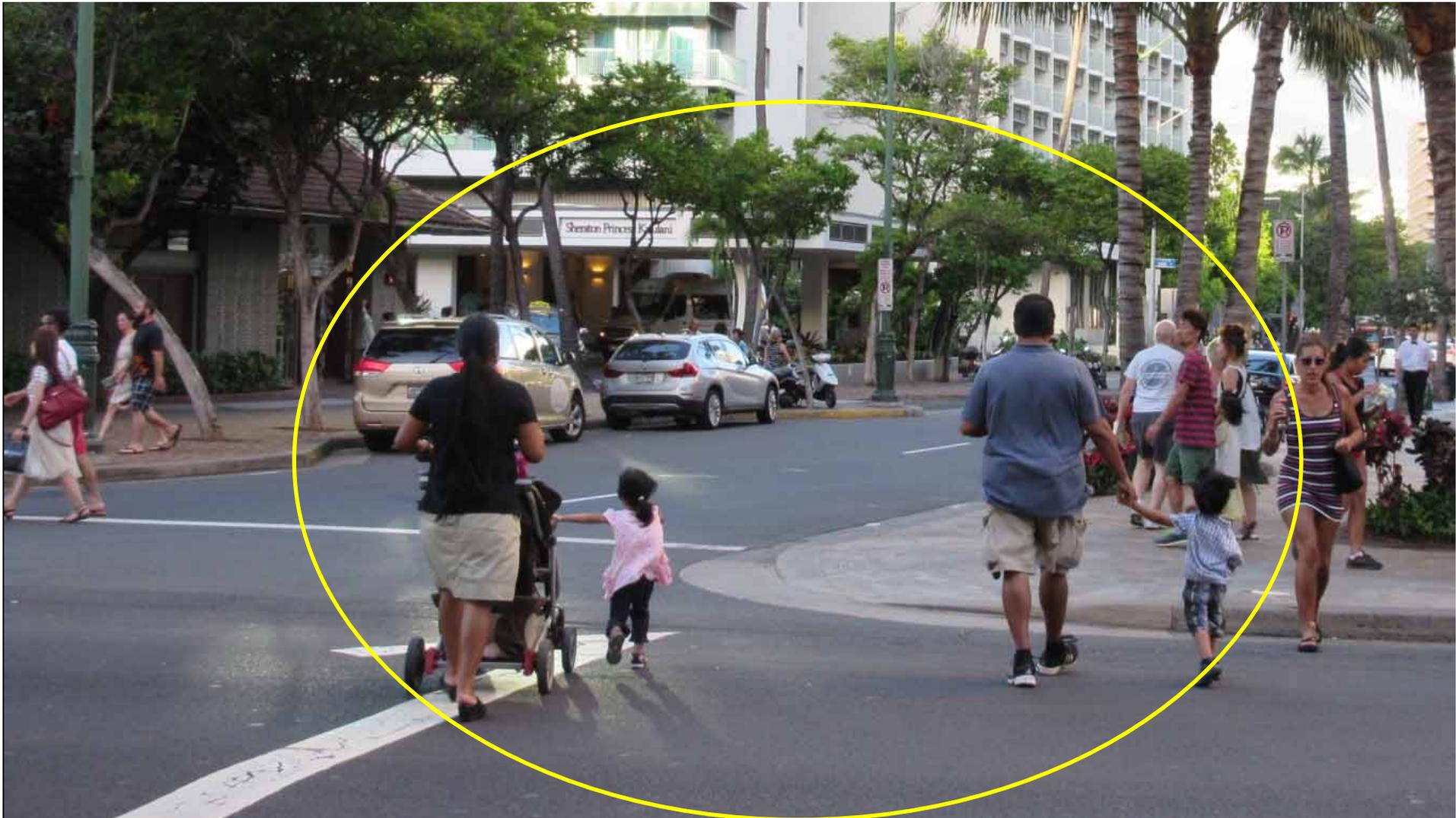




















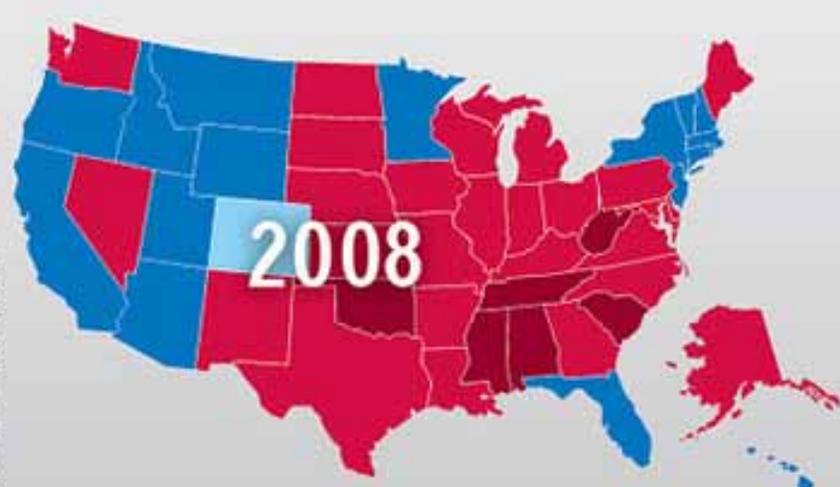




**WHAT IF**



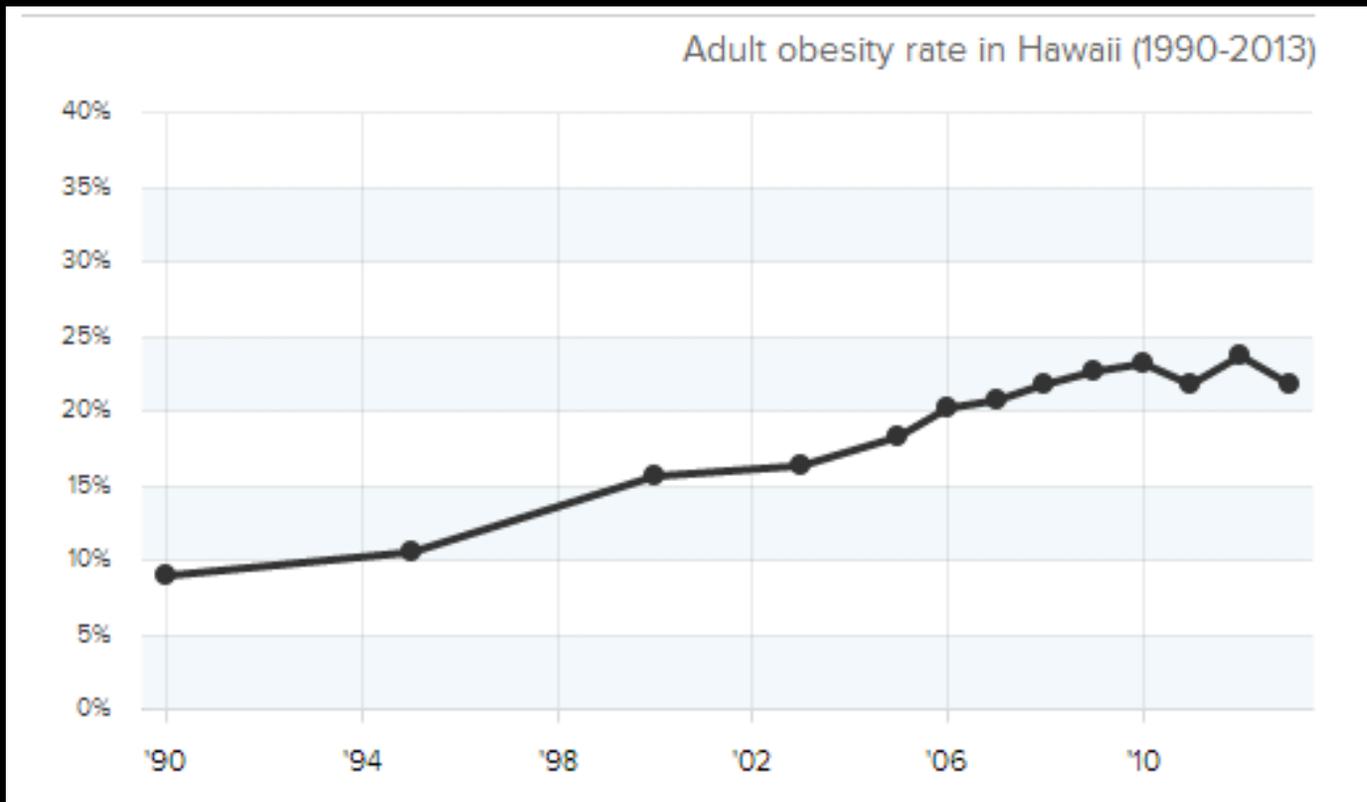
**SUBSTANTIALLY DECREASE OBESITY**



*% of obesity  
by state*

- 10-14%
- 15-19%
- 20-24%
- 25-29%
- 30%+

Source: Centers for Disease Control



# OBESITY IN HAWAII



# “CHILD & YOUTH MOBILITY”

Sherbrook, Canada



Sherbrook, Canada

US\$8,880 to be spend



Two car households in USA:  
\$1 of \$4 income  
spent in mobility.



South Texas, USA

2014 Driving Costs 		
<b>Operating costs</b> 	gas	13.0¢/mile
	maintenance	5.06¢/mile
	tires	0.97¢/mile
	<b>Total</b>	<b>19.0¢/mile</b>
<b>Ownership costs</b> 	insurance	\$1,023/year
	license, taxes	\$641/year
	depreciation	\$3,510/year
	finance charge	\$847/year
	<b>Total</b>	<b>\$6,021/year</b> <b>\$16.50/day</b>
Total cost per mile based on 15,000 miles per year: <b>59.2¢</b>		

AAA cost of small car for one year is \$8,880



10,000 less cars = \$88M Local Economy



Portland, USA



**SUSTAINABLE**  
**MOBILITY**

**WHAT IF**



**Everyone Welcome**



**Totally FREE = 0 Cost**





**Sense of Belonging**

# Health Care / NOT Sick Care





**Injected \$ into Local Economy**



**SUSTAINABLE HAPPINESS**

**Parks**

# Parks

# Renaissance





**HEALTHY PARKS**

**HEALTHY PEOPLE**

**HEALTHY COMMUNITY**

**Parks :**

**Are they**

**important?**



“Go do some fundraising”



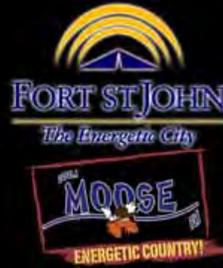




Action 4  
NEWS



Let's save  
Vehicles this  
Spring







**Streets :**

**15 – 25% CITIES**

**Streets :**

**75 – 90% PUBLIC SPACES**

# How to transport 72 people?



City of Münster, Germany Planning Dept. Comparison of amount of space required

**Pedestrians, Cyclists, and Buses take up  
much less space than cars!!**

**SUSTAINABLE**  
**MOBILITY**

**WALKING**





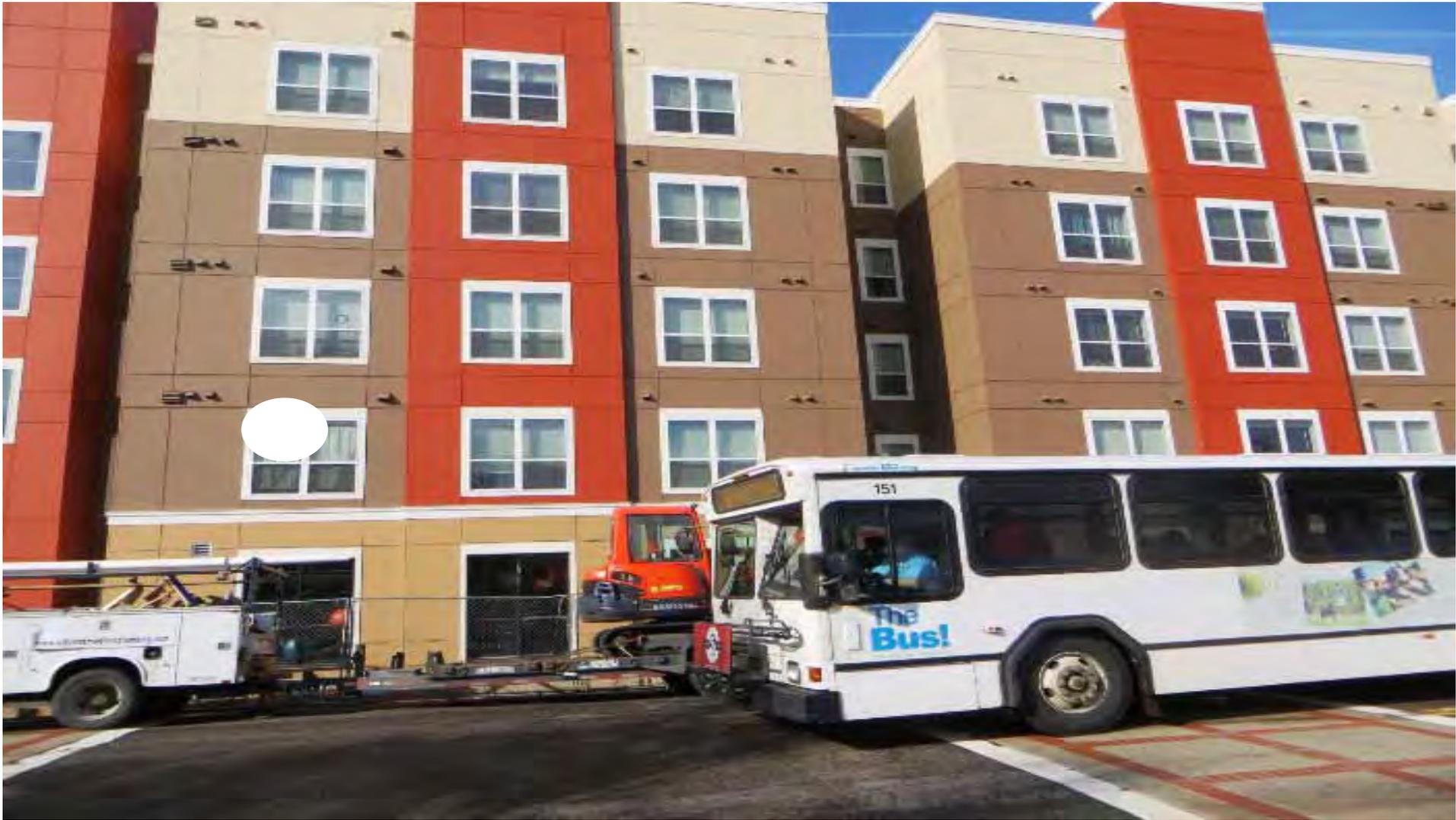




**CYCLING**



**PUBLIC  
TRANSIT**







Skånetrafiken

Malmö, Sweden

RMF 436



**Walking   Cycling   Public Transit  
Must be BEST FRIENDS**

NOT the end of the car industry...







**New**

**Use of Cars**



**URGENCY**

As health predictor...

Zip Code matters more than genetic code

# Where? What countries?

Hough:  
Life expectancy  
**64 years**

Lindhurst:  
Life expectancy  
**90 years**

# Cleveland, OH USA



Hough:  
Life expectancy **64 years**

Lindhurst:  
Life expectancy **90 years**



6 miles apart...

25 Years...a Lifetime

More symptoms for

**URGENCY**

27% of trips in North America are  
**less than 1 mile**

**48% are**  
**less than 3 miles**

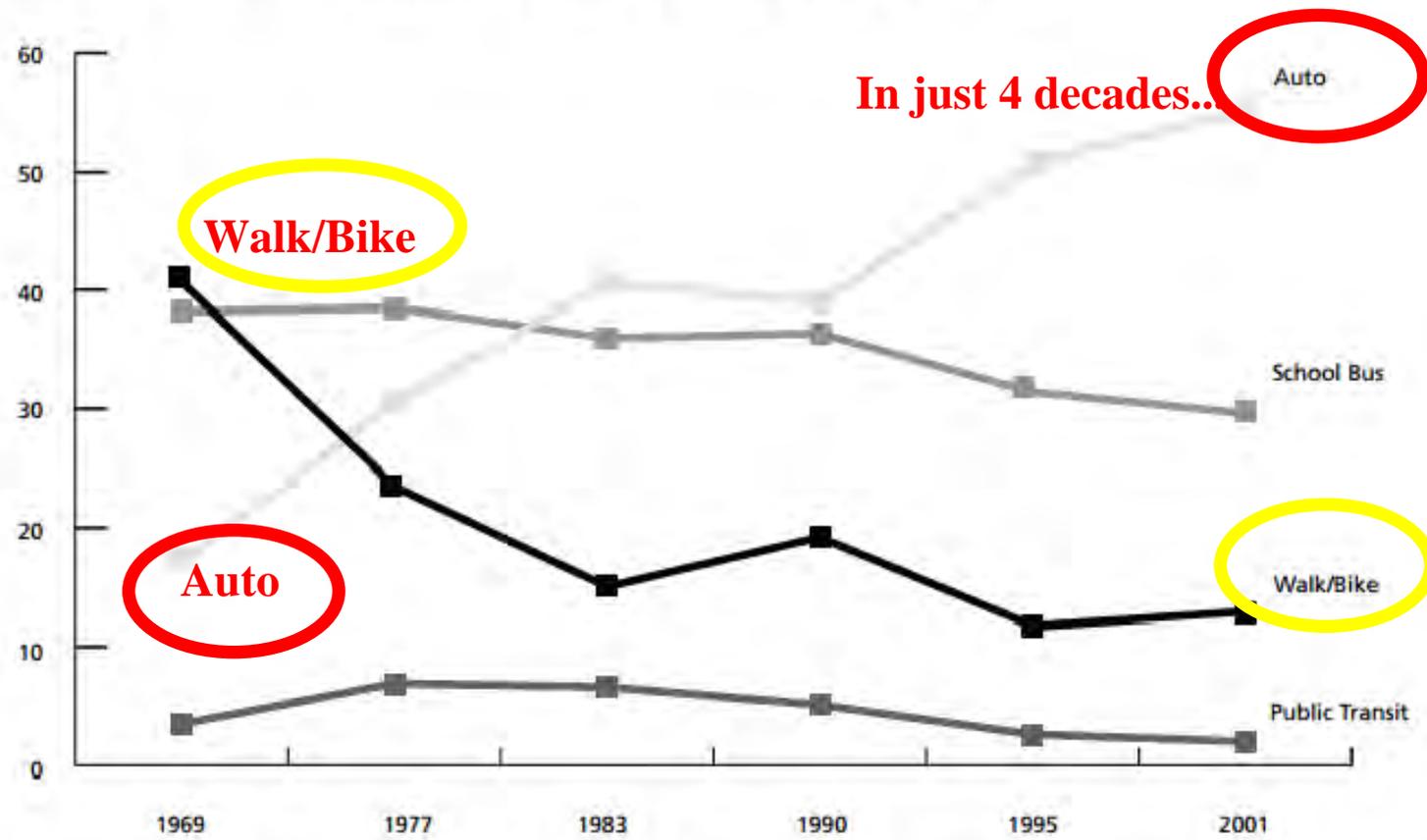
$\frac{1}{2}$  of trips in North America are within  
**20 minute bicycle ride**

$\frac{1}{3}$  of trips in North America are within  
**20 minute walk**

Very few are actually done

Walking or Cycling

Figure 5. *Trends in Mode of Travel to School in United States, 1969-2001* <sup>24</sup>



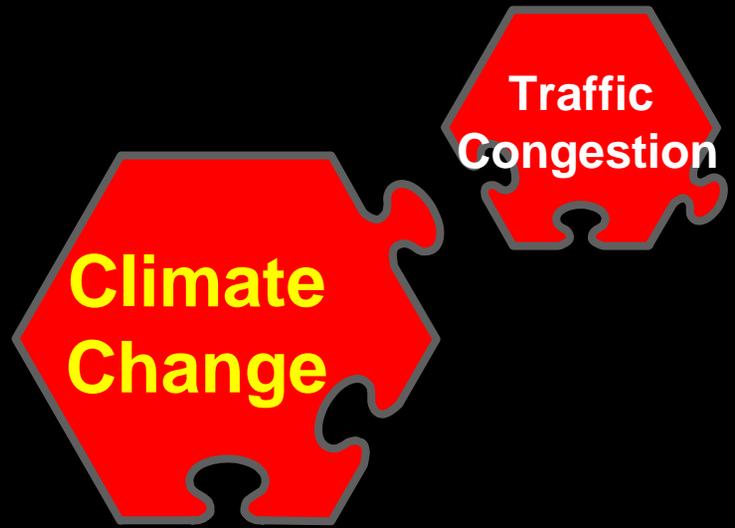
Source: N. C. McDonald, "Active Transportation to School," 2007.

**PERFECT**

**STORM**

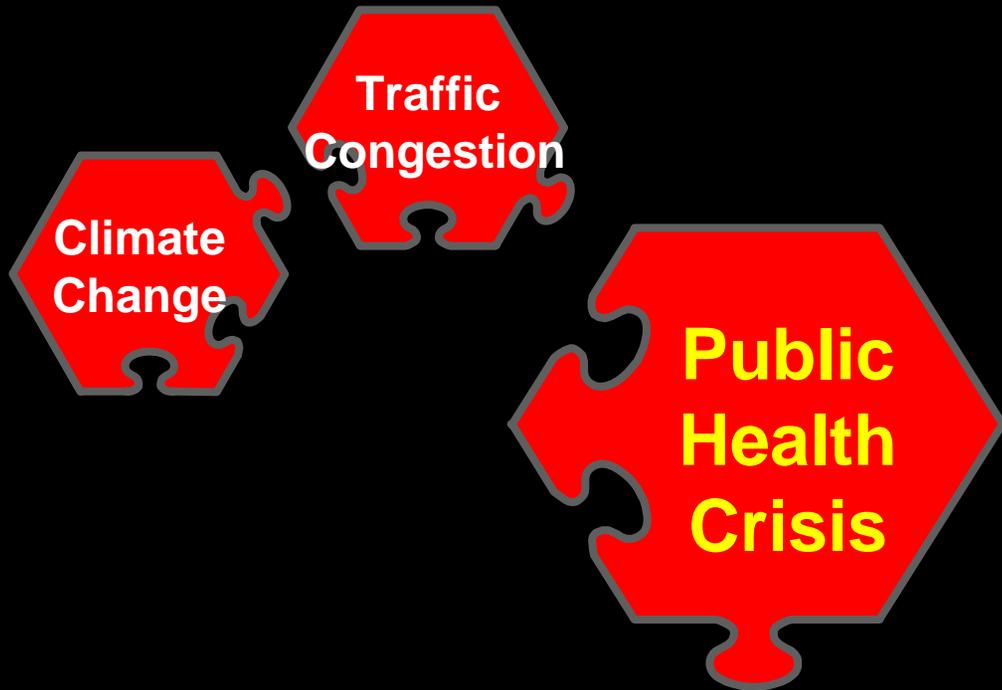
A red puzzle piece with a grey outline is centered on a black background. The piece has a notch on its left side and a bump on its right side. The words "Traffic" and "Congestion" are written in yellow, bold, sans-serif font, stacked vertically in the center of the piece.

**Traffic  
Congestion**

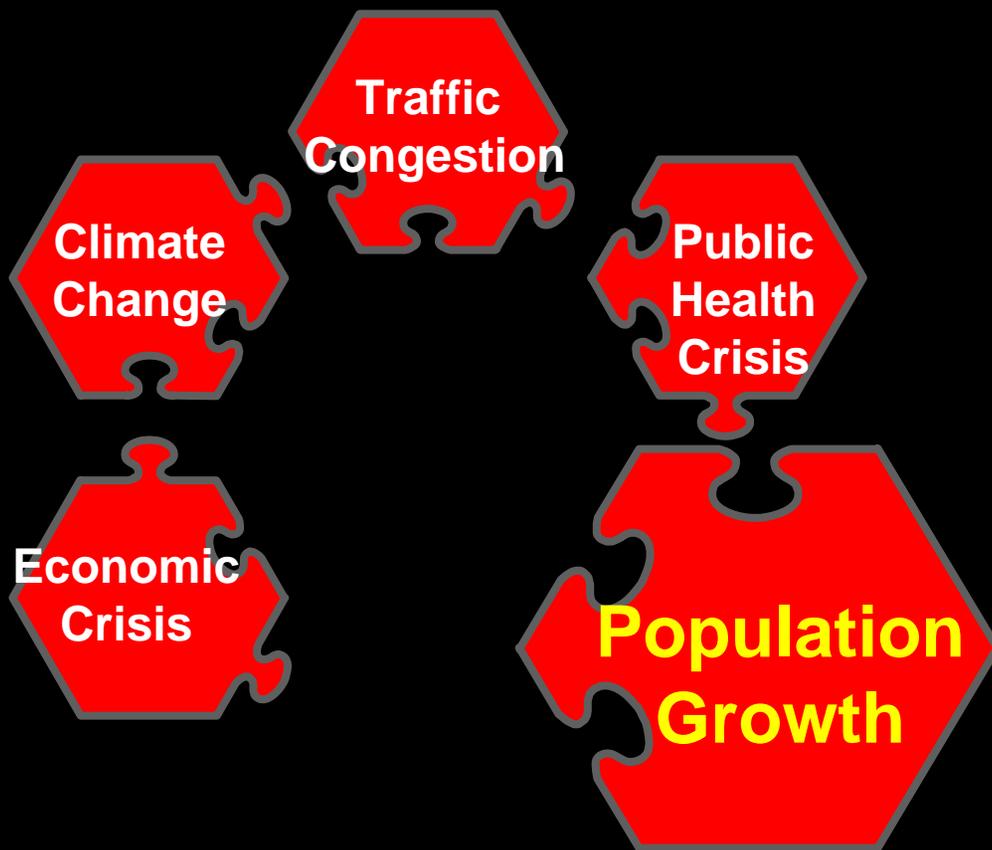


**Climate  
Change**

**Traffic  
Congestion**









**POPULATION**

**GROWTH**

# WORLD POPULATION

1830

1 BILLION

2014

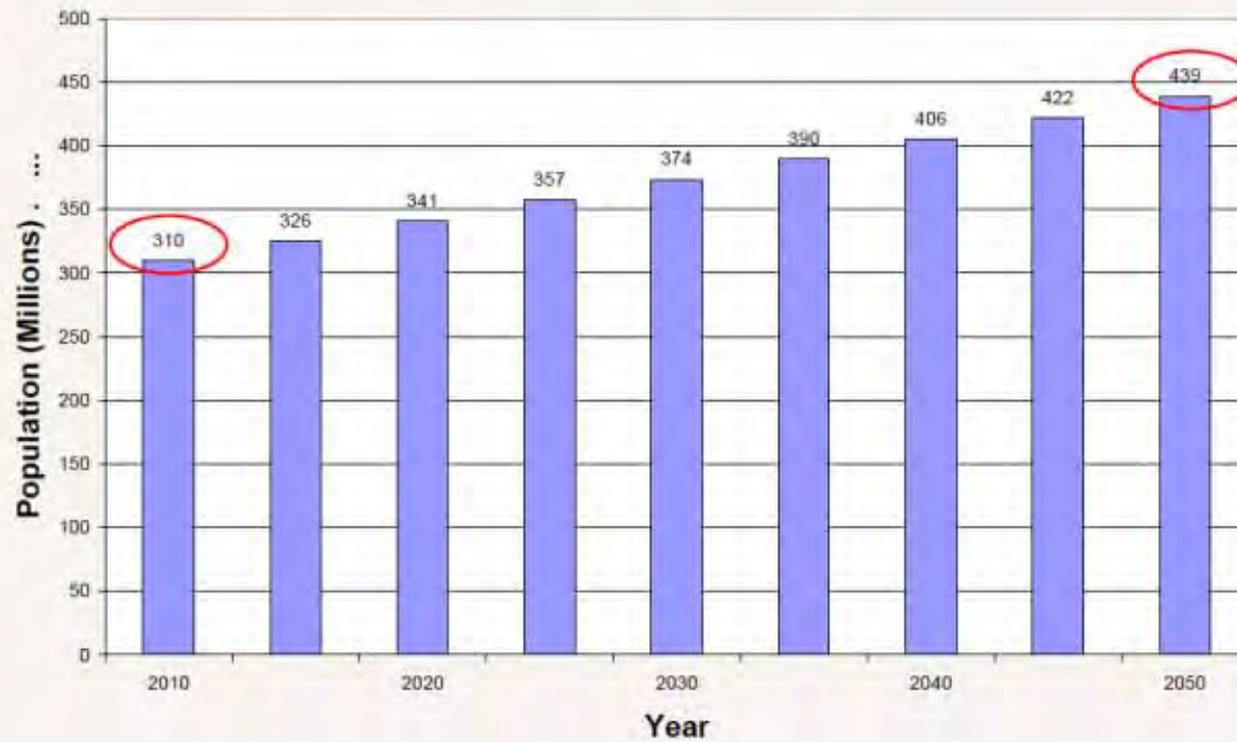
7 BILLION

2050

9.5 BILLION

# US Population Projections

Total United States Population



# USA POPULATION

100 – 130 Million MORE

35 YEARS

**USA:**

**40 Million HOMES**

**35 YEARS**

**Population :**

**Living Longer**

**Living in Cities**

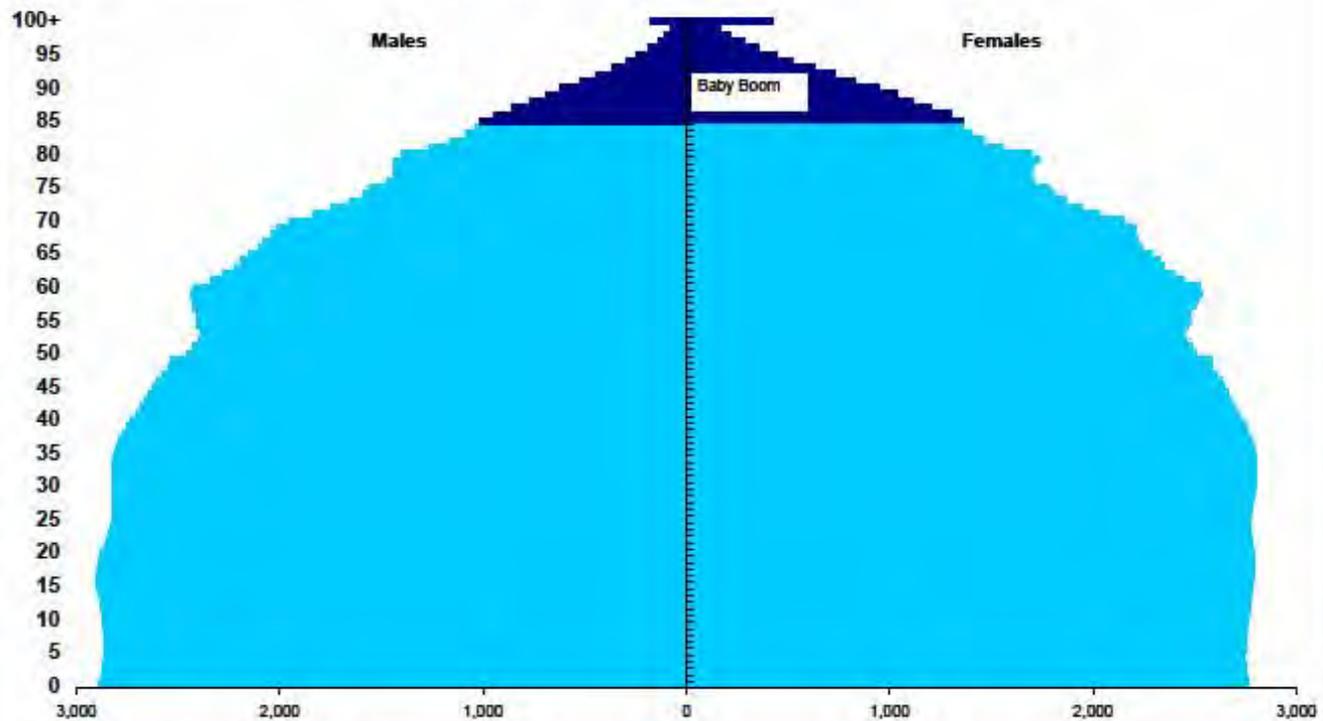


## USA Population 60+ years old:

Year	%
1900	6%
2000	16%
2030	25%
2050	26%

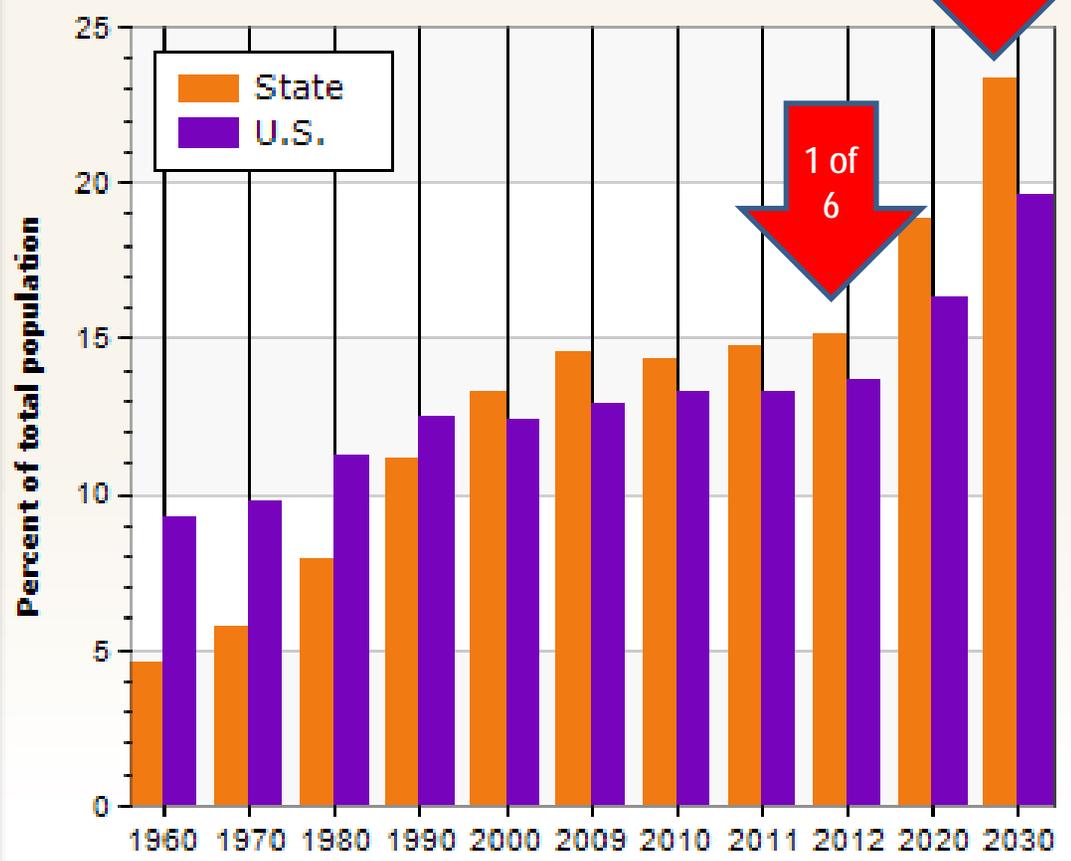
### Projected U.S. Population by Age and Sex: 2050

(In thousands)



Source: Population Division, U.S. Census Bureau  
Released: August 14, 2008

### Elderly Population as Proportion of Total Hawai`i vs. U.S.



# World URBAN Population

1900

200 MILLION

20%

2014

3.5 BILLION

50%

2100

7.6 BILLION

80%



**2005**

**600 MILLION**

**2014**

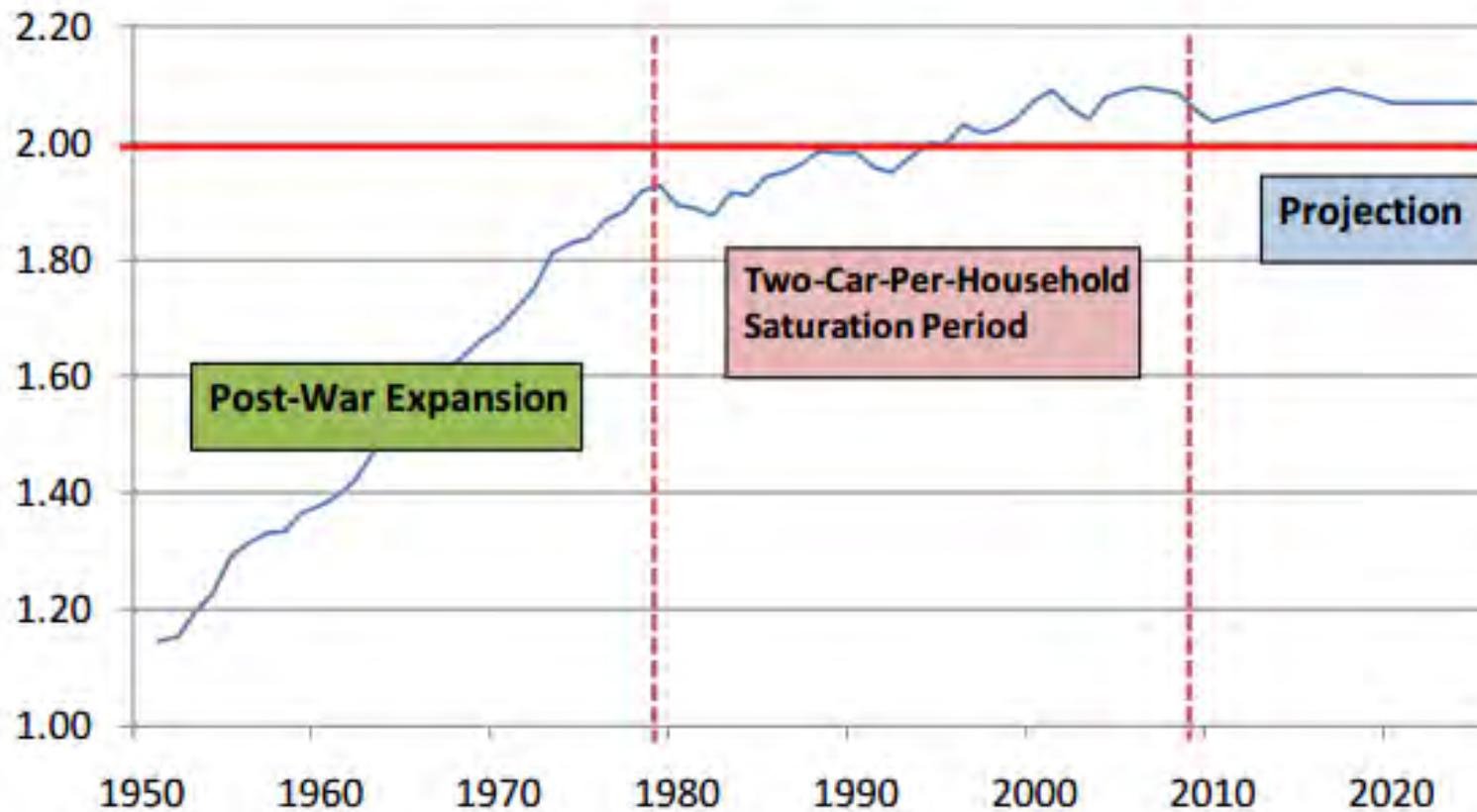
**1 BILLION**

**2050**

**3 BILLION**

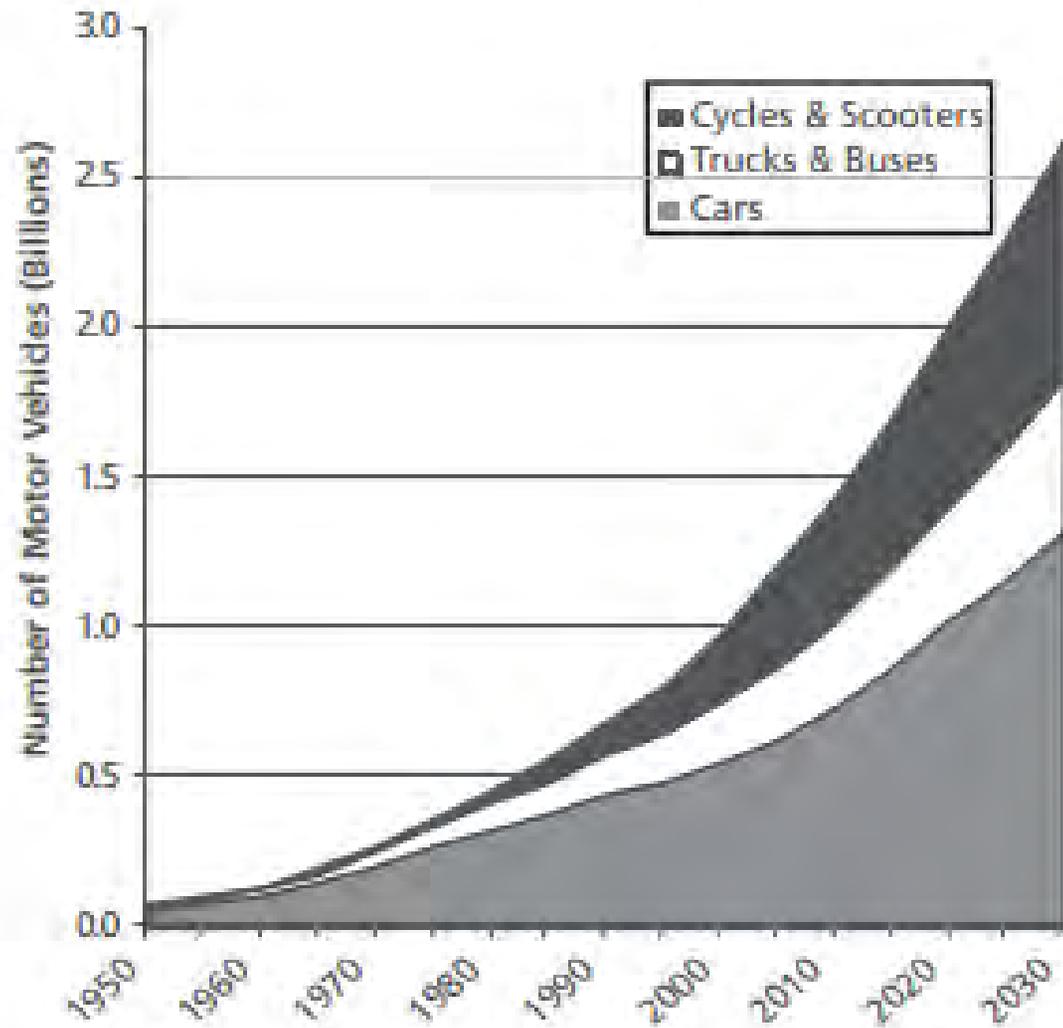
**2 BILLION +**

Figure 1: Vehicles per Household

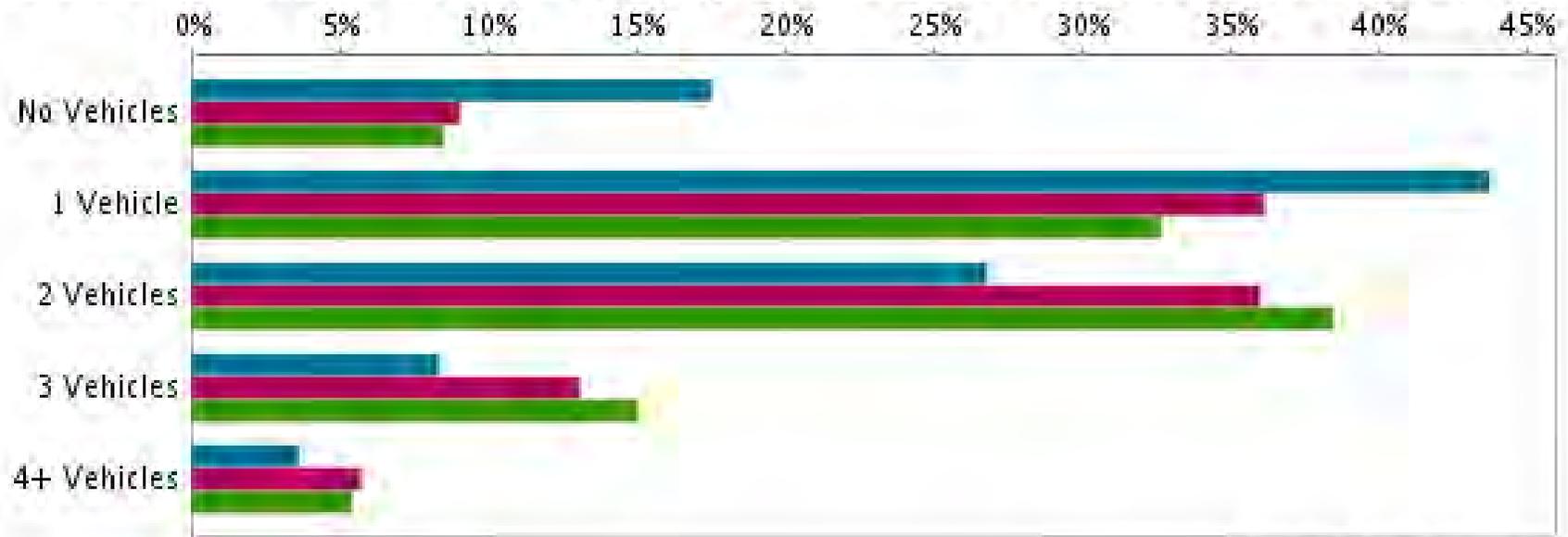


Source: U.S. Census Bureau, Current; R.L. Polk.

**FIGURE 1** Historical and projected increases in global motor vehicle population, 1950–2030 (1).



## 2010 Number of Vehicles per Household for Honolulu, HI



Provided by: CLRSearch.com

■ Honolulu, HI ■ Hawaii ■ United States

## HAWAI'I'S REGISTERED VEHICLES

Here's a breakdown of vehicle registrations by county.

VEHICLE TYPE	MAUI		KAUAI		HAWAI'I		HONOLULU		TOTAL	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
Passenger	148,404	146,467	71,088	69,917	152,883	156,077	656,211	658,852	1,028,586	1,031,313
Truck	8,685	9,444	2,983	3,248	12,967	14,013	41,743	43,266	66,378	69,971
Motorcycle	3,188	3,430	1,490	1,569	3,546	3,696	16,650	17,488	24,874	26,183
Trailer	4,109	4,355	2,950	3,137	9,128	9,633	13,378	14,664	29,565	31,789
<b>Totals</b>	<b>164,386</b>	<b>163,696</b>	<b>78,511</b>	<b>77,871</b>	<b>178,524</b>	<b>183,419</b>	<b>727,982</b>	<b>734,270</b>	<b>1,149,403</b>	<b>1,159,256</b>

Source: Hawai'i Division of Motor Vehicles

The Honolulu Advertiser

# 1.1 Million

## REGISTRATIONS BY TYPE (2006)

Motorcycle 26,183  
Truck 69,971

Trailer 31,789

SUVs are considered multi-use vehicles so they can be registered as either a passenger vehicle or a truck.



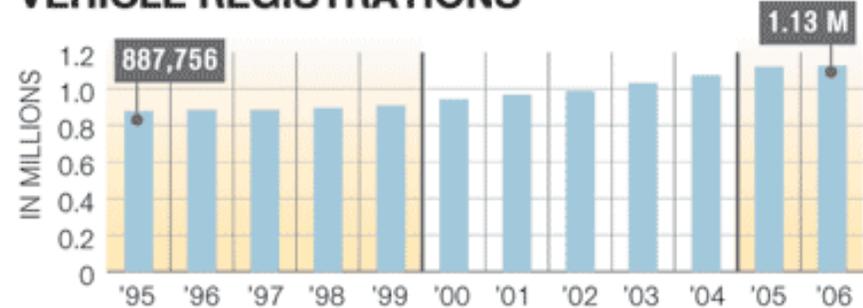
\*Includes buses and ambulances (2,395)

INCREASE FROM 2005

Passenger	2,727
Truck	3,593
Motorcycle	1,309
Trailer	2,224
<b>Total</b>	<b>9,853</b>

Sources: State Department of Transportation, Motor Vehicle Safety Office

## VEHICLE REGISTRATIONS\*



\*Excludes trailers and semi-trailers

The Honolulu Advertiser

# 243,000 +

243,000 +

6 x 16 feet **TO PARK**

**119 Miles OAHU loop**

**6.3 loops TO PARK**

**BOLD**

**DOERS**







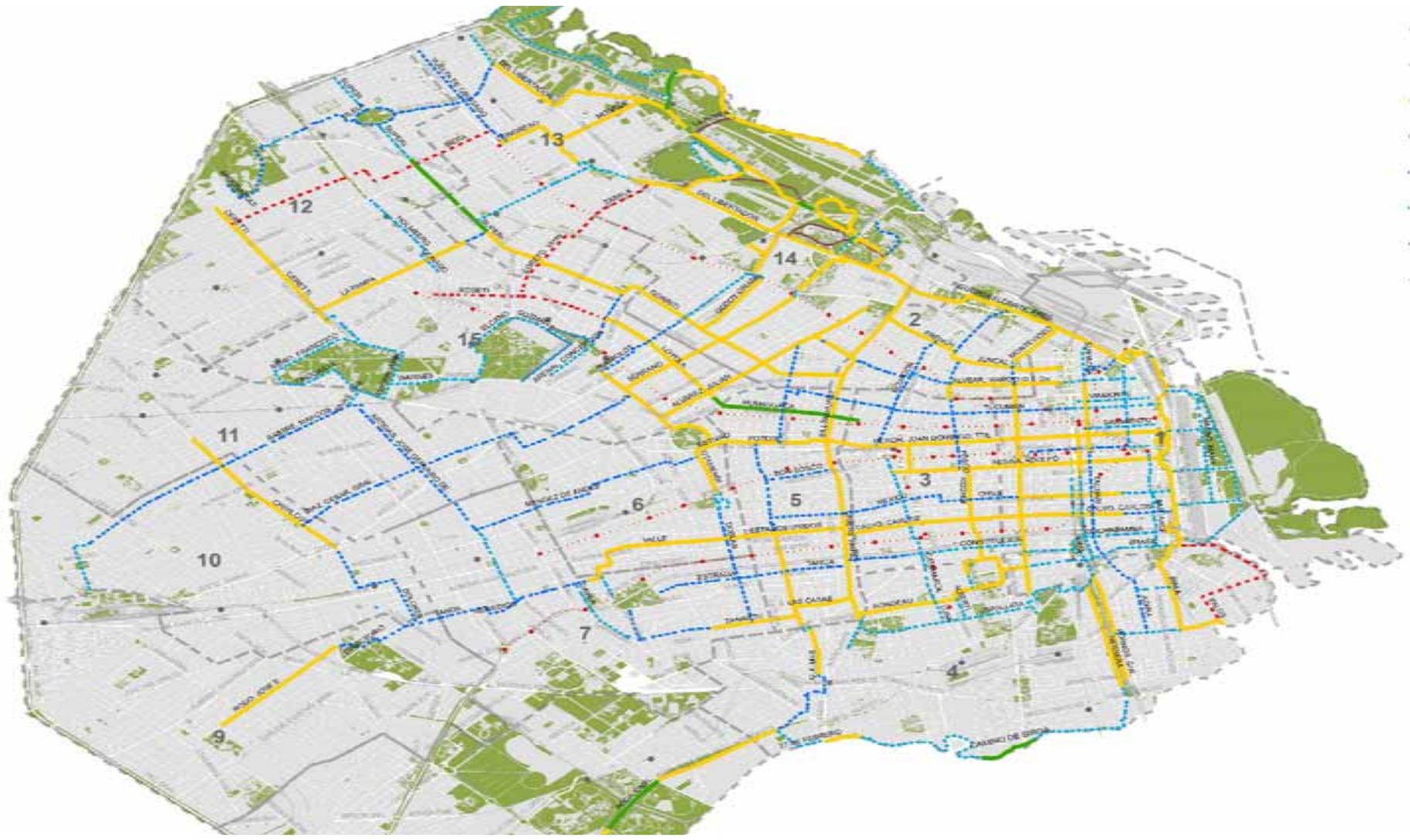














# Bicycles everywhere... Paris, France



Mayor of  
Paris  
Bertrand  
Delanoë

**City bike schemes** *Update*

La ville est plus belle à vélo

www.velib.paris.fr

MAIRIE DE PARIS

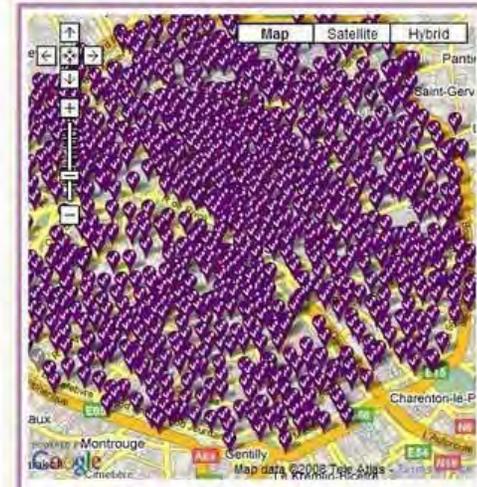
La ville est plus belle à vélo

The graphic features the text 'City bike schemes' in a large, bold, purple font, with 'Update' in a smaller, italicized font to its right. Below this, the slogan 'la ville est plus belle à vélo' is written in a colorful, lowercase font. To the right is a stylized illustration of a city street with buildings, trees, and several people riding bicycles. In the top right corner, there is a graphic of a Velib' bicycle rack or sign, which includes the Velib' logo (the word 'velib' in colorful letters), the text 'MAIRIE DE PARIS' with a red heart icon, and the slogan 'La ville est plus belle à vélo' with a small bicycle icon. The website address 'www.velib.paris.fr' is also visible at the bottom left of this graphic.

1.451 bike stations

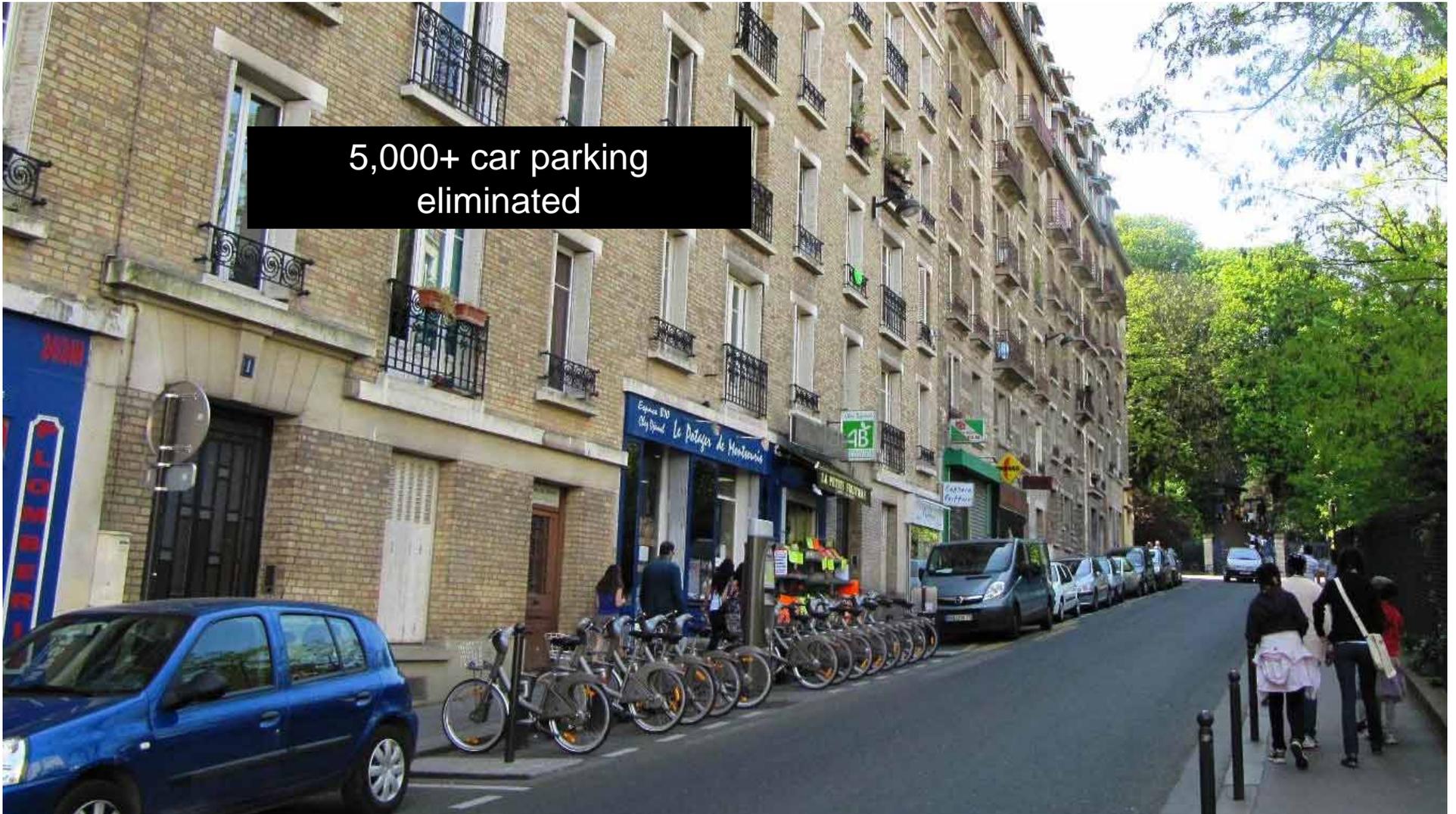


Trouver une station



5,000 car parking  
were eliminated

5,000+ car parking  
eliminated



Pour circuler en toute... **liberté**

Prendre un vélo avec sa carte d'abonnement



1 jour 1 an



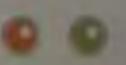
1 jour 1 an



1 jour 1 an

Prendre un vélo avec son ticket 1 jour ou 7 jours





Raccrocher son vélo ((bip))

L'ALBUM  
 SORTIE LE 5 NOV. 2007

velib' Tarifs de location






20,400 public bicycles in Paris

400 mechanics





20 repair shops  
Including one on the Seine





180,000 bike rides daily



Bogotá:

“Separated” Bicycle path network:  
174 miles / 280K in 3 years

**Bike use:**

**From 0.4% to 5%+**

**From 28,000 to 350,000+**



















**It was  
decided  
NOT to do it**



















1000s years PEOPLE

Last 80 for cars...

**PEDESTRIANS  
SHOULD BE  
PRIORITY**









**5 MILLION**

**INJURIES**

**270,000**

**DEATHS**

**NOT**

**“ACCIDENTS”**

In the USA, past 10 years

**47,000 killed by car drivers**

while walking in public space

47,000 killed by car drivers

**16 times number of people who died  
in natural disasters**

In the USA last year:  
Over 76,000 people hit by car  
drivers while walking in the  
PUBLIC space

**HAWAII**

**#1 State in the USA**

**Pedestrians over 65 Killed**

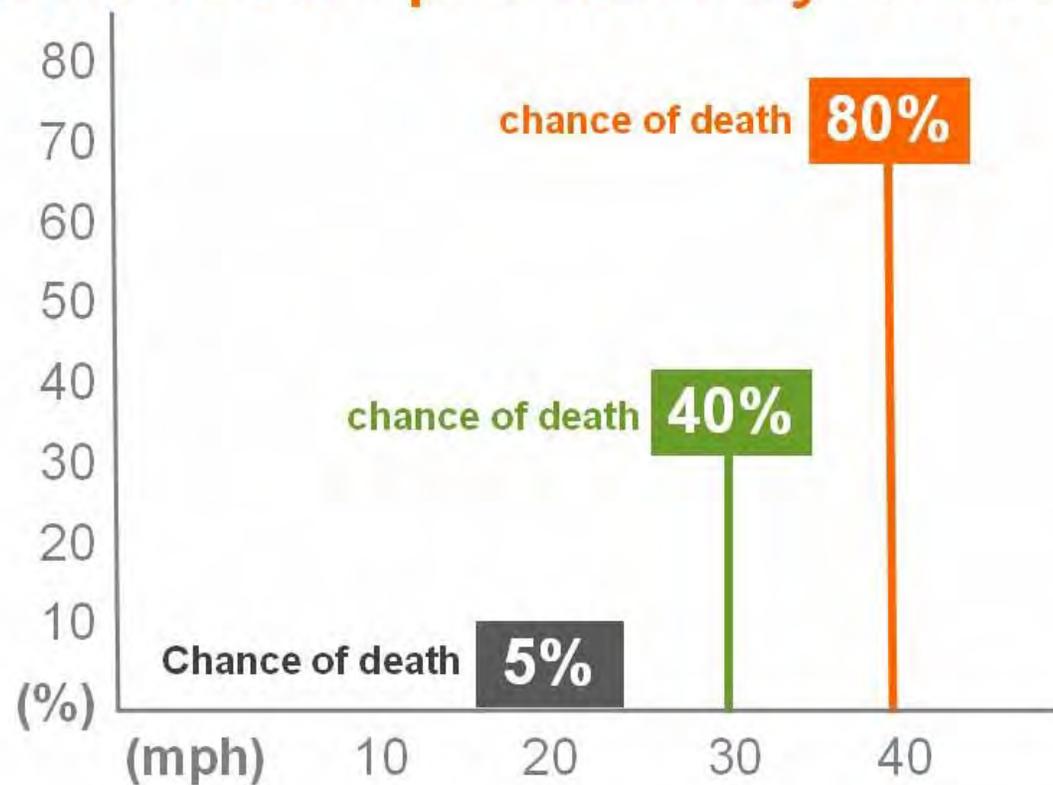
**TO IMPROVE**

**WALKABILITY**

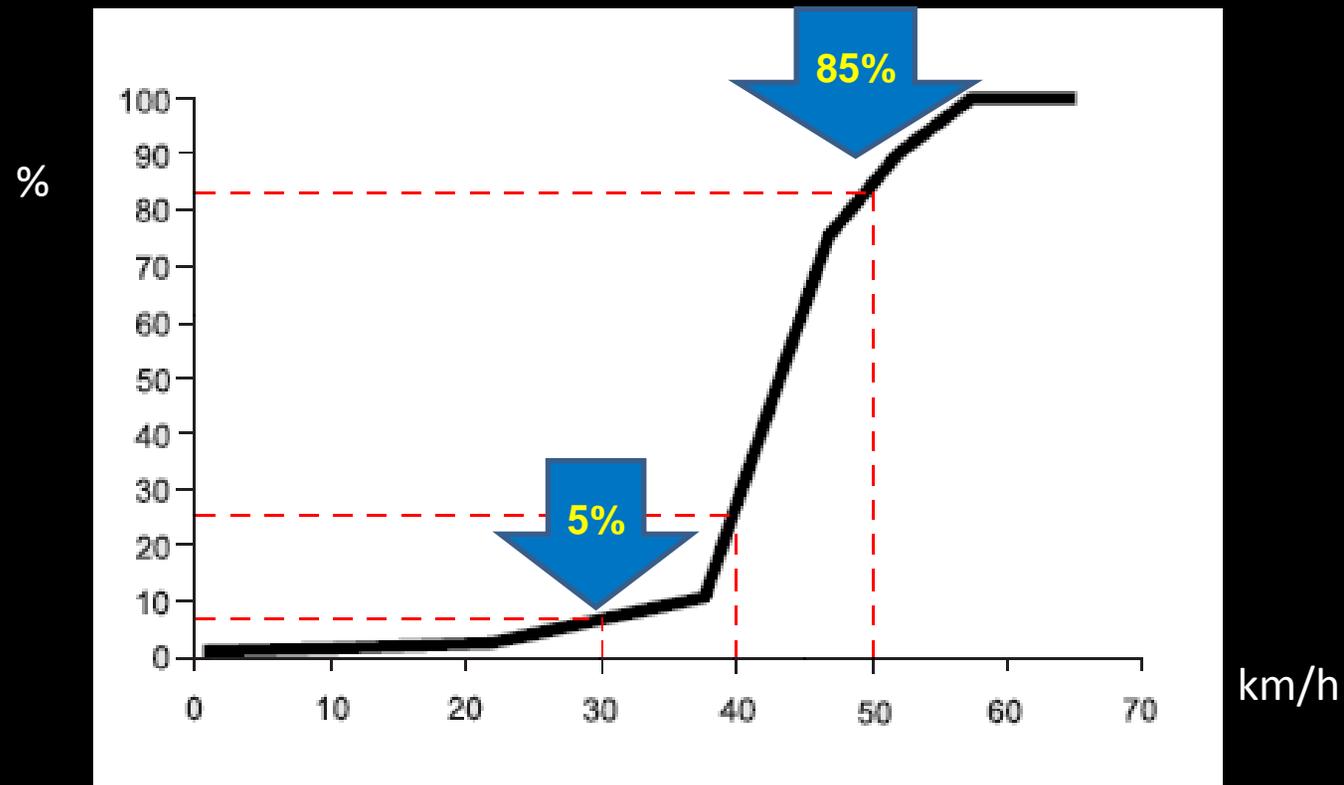


# Speed kills

## pedestrian probability of death

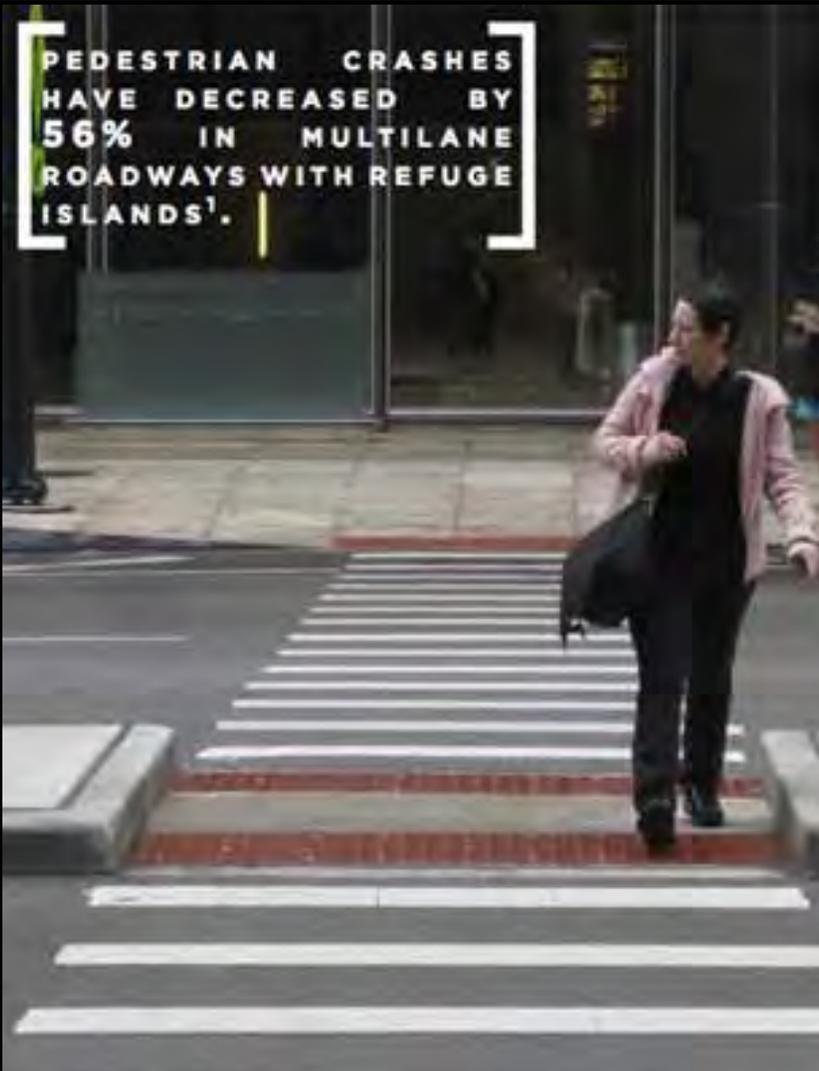


# Probability of pedestrian fatality by impact speed





PEDESTRIAN CRASHES  
HAVE DECREASED BY  
56% IN MULTILANE  
ROADWAYS WITH REFUGE  
ISLANDS<sup>1</sup>.



**TO IMPROVE**

**BIKE-ABILITY**

Governors Highway  
Safety Association

2010 – 2012 Increase of deaths people

riding bicycles in USA: **16%**

Same period increase killed in motor vehicles: **1%**

**Many cities are**  
trying to do things right...

**But are NOT doing**  
**the right things**

Nice to have

Must Have

Nice to have

Do not get many additional people cycling





← PLACE PURCHASED  
TICKET ON DASH



POSTED FOR \$125  
500 GET 100 FREE  
**YOUR  
AD  
HERE**  
CITY POSTERING 416-832-1675  
CITY POSTERING  
416-832-1675









# 2012 Can-BIKE Summer Camp

## Ride around this Summer!

Enjoy all the camp activities you love (swimming, sports, crafts, games) and get around on your bike. During this 2-week camp, you will be taught traffic theory, how to be visible & communicate with drivers, how to avoid hazards, and enhance your bike handling skills. Can-bike Level 1 will be awarded.

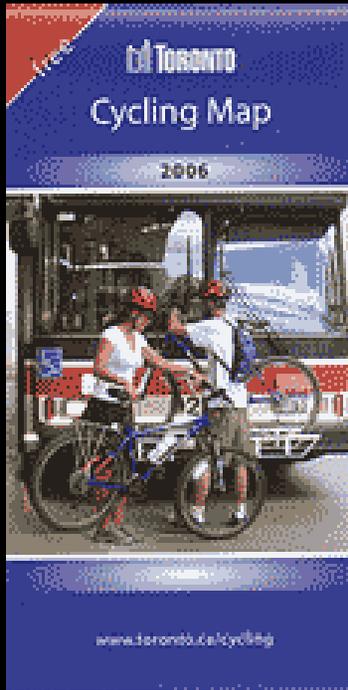
All campers must provide their own bicycle, CSA approved bike helmet, bike lock, and already be able to ride a bicycle. Campers should also bring a lunch, 2 snacks, bathing suit, sun hat and running shoes.

**Camp hours are 9 am to 4 pm, Monday through Friday, extended care hours available before and after camp for an additional fee.**

To register for these programs call Parks Forestry & Recreation at 416-338-4FUN (4386) or go to [toronto.ca/parks/torontofun](http://toronto.ca/parks/torontofun)



Call **3-1-1**









Feel good actions...

even if well intentioned

Think of a person who  
**does NOT ride a bicycle**  
because he/she feels it's  
too dangerous  
to ride on the city roads

Would this person start cycling on the streets if you...

- Signage
- Cycling maps
- Parking rings
- Parking lockers
- Bike racks on buses
- Sharrows painted on the pavement
- Bike lanes painted on the pavement

Which are the two must have?

**Must have**

Substantially increase  
people cycling

## Must have:

1- Lower the speed where people live;

**ALL neighbourhood streets**

**2- GRID** of protected bikeways











  
**BIKE VANCOUVER**  
[VANCOUVER.CA/BIKEVANCOUVER](http://VANCOUVER.CA/BIKEVANCOUVER)

# Do NOT waste your energy

- Signage
- Cycling maps
- Parking rings
- Parking lockers
- Bike racks on buses
- Sharrows painted on the pavement
- Bike lanes painted on the pavement

# Focus on must have:

1- Lower the speed where people live;

**ALL neighbourhood streets**

2- **GRID** of protected bikeways

**#minimumGRID**



Road Department

City of Copenhagen  
Technical Director

**CONNECTIVITY:** KEY ELEMENT FOR SUCCESS



# CONNECTIVITY: KEY ELEMENT FOR SUCCESS

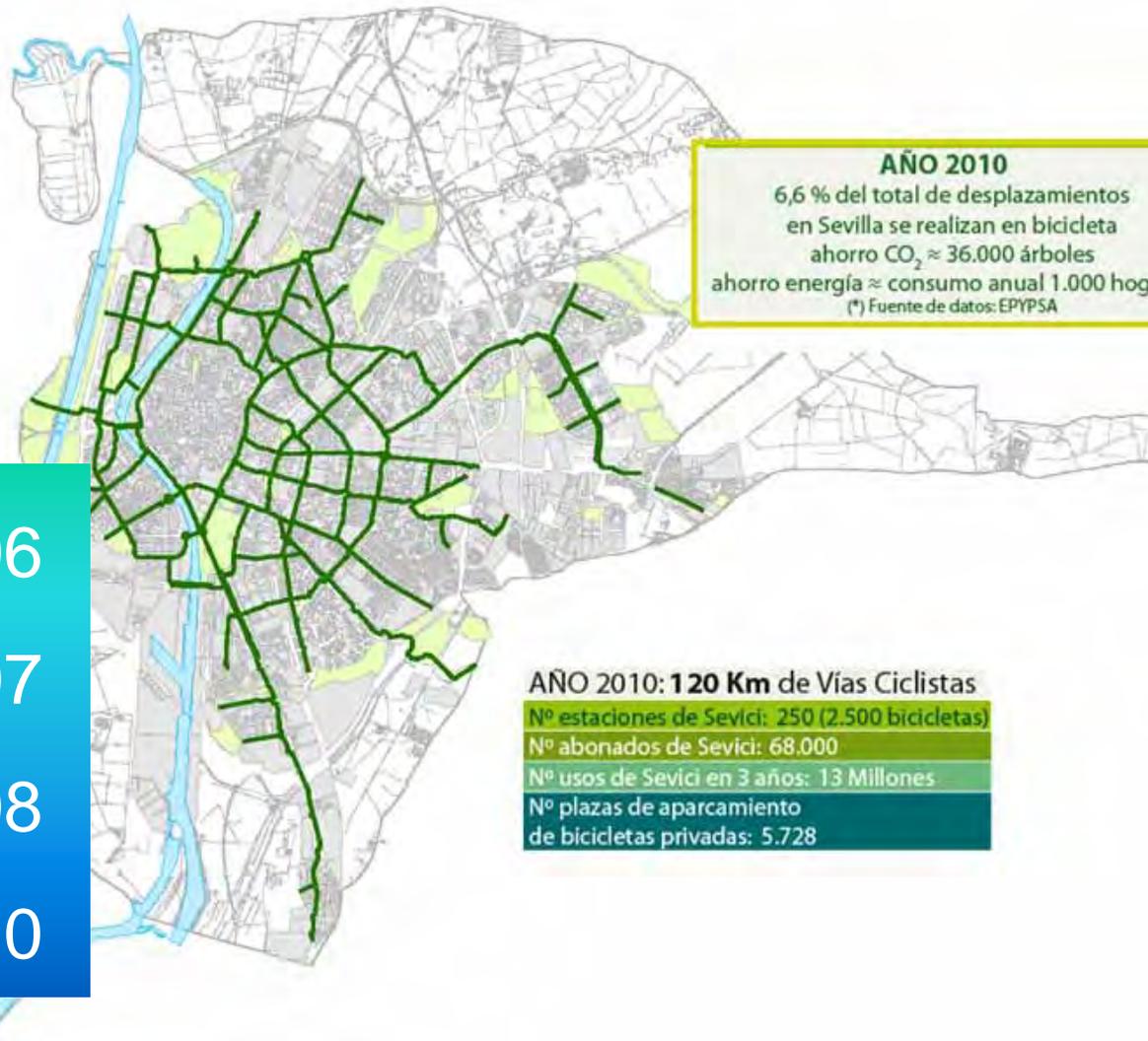


2006

2007

2008

2010







[#MinimumGRID](#)

## Cycle track network should be tried as whole, says Nenshi

Individual lanes aren't enough of a gauge, Calgary mayor says as city set to unveil plans

CBC News Posted: Apr 06, 2014 6:12 AM MT | Last Updated: Apr 06, 2014 6:12 AM MT



Dedicated two-way bicycle lanes, called a cycle track, opened last summer in Calgary on Seventh Street S.W. between the Bow River pathway and Eighth Avenue. (CBC)

Facebook 31  
 Twitter 0  
 Reddit  
 +1 3  
 Share 31  
 Email

### Related Stories

- 1st Street cycle track decision delayed by council
- 2nd downtown cycle track is 'madness,' says councillor
- Calgary cycle network plans revealed

Calgary's mayor says he wants to see a downtown cycle track network tried in whole rather than piecemeal to judge whether it will work.

The city is set to unveil its revised plans for a downtown cycle track network on Tuesday morning.

- 1st Street cycle track decision delayed by council
- 2nd downtown cycle track is 'madness,' says councillor
- 1st Street cycle track plan rejected by city committee

Plans for a bike lane along First Street S.E. have been controversial, with opponents saying it's too much money for too few cyclists and will cause too much congestion.

Mayor Naheed Nenshi says he supports temporarily trying the entire network and then seeing if people use it, rather than accept the argument there are too few cyclists downtown.

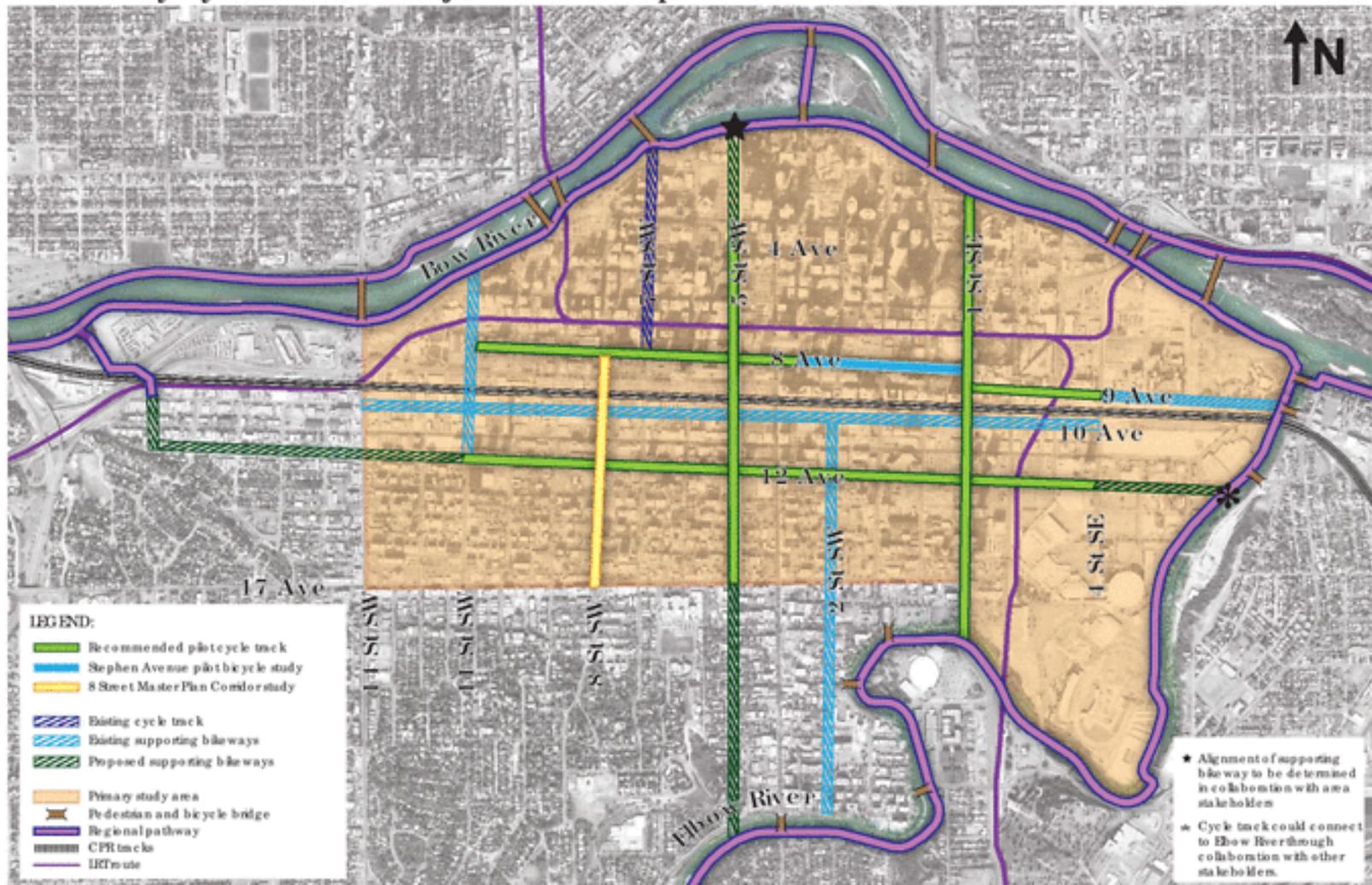
"Of course the numbers are low because there's no cycle track network," said Nenshi.

Stay Connected with CBC News

“Of course the numbers are low because there’s no cycle track network”

Mayor Nenshi, Calgary

# Centre City Cycle Track Pilot Project Network Map



Mike



# BRIDGE CONSTRUCTOR



How many people swim across the river  
to justify building a bridge?





Cities build the bridge based on latent demand

Walking and Cycling  
is NOT a frivolity

Walking and Cycling  
is NOT a joke

Walking and Cycling is...

The only individual mode of mobility  
for most people

The only individual mode of mobility...

For ALL Children & Youth  
around the world

Walking and Cycling

should be a **Right**

**The right to SAFE mobility**

Unless you believe that only those...

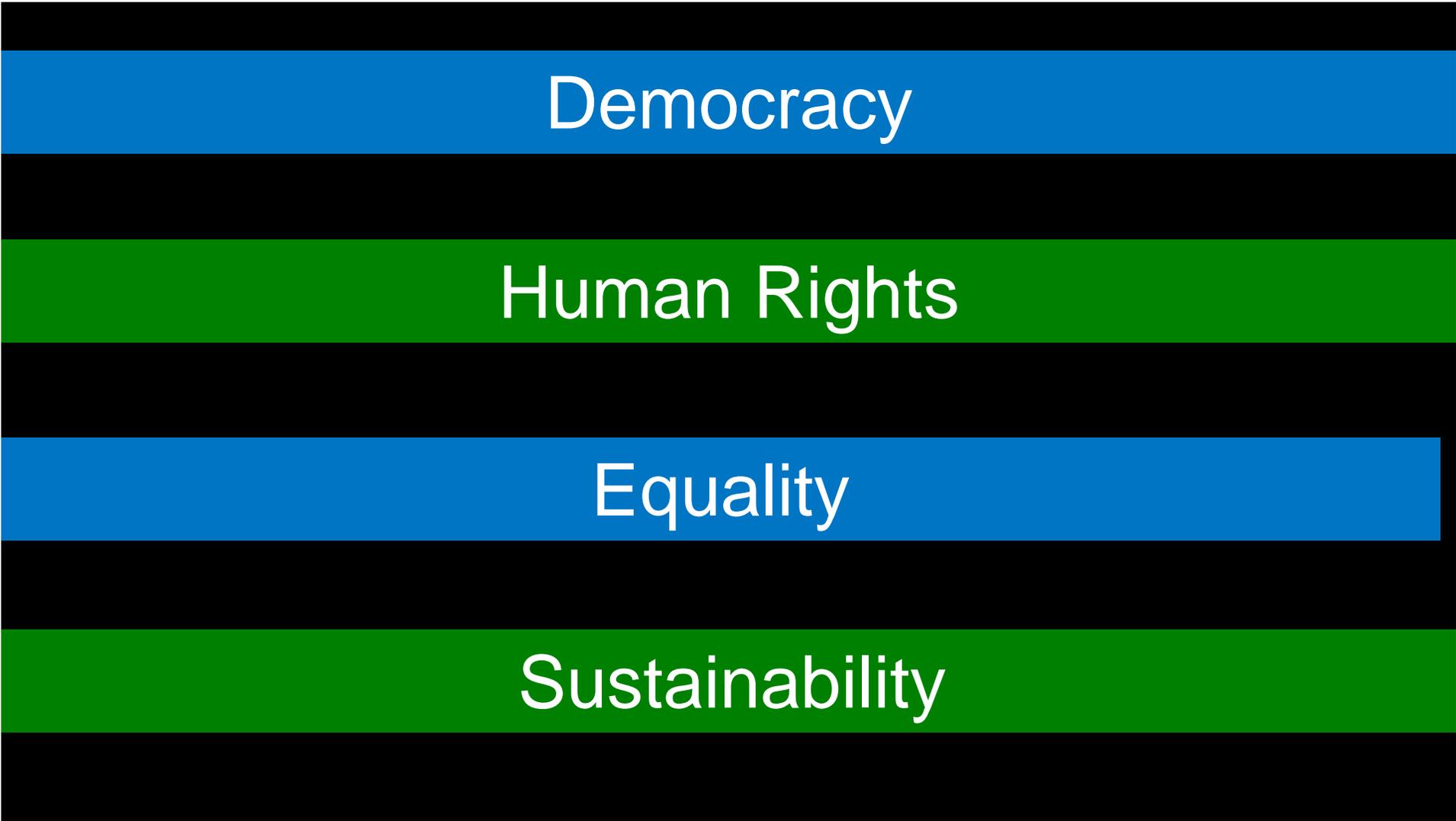
who have the money, age and desire  
to drive cars

have a right to **individual mobility**

who have the money, age and desire  
to drive cars

have a right to individual mobility

Walking, Cycling and **Public Transit**  
should be a Right



Democracy

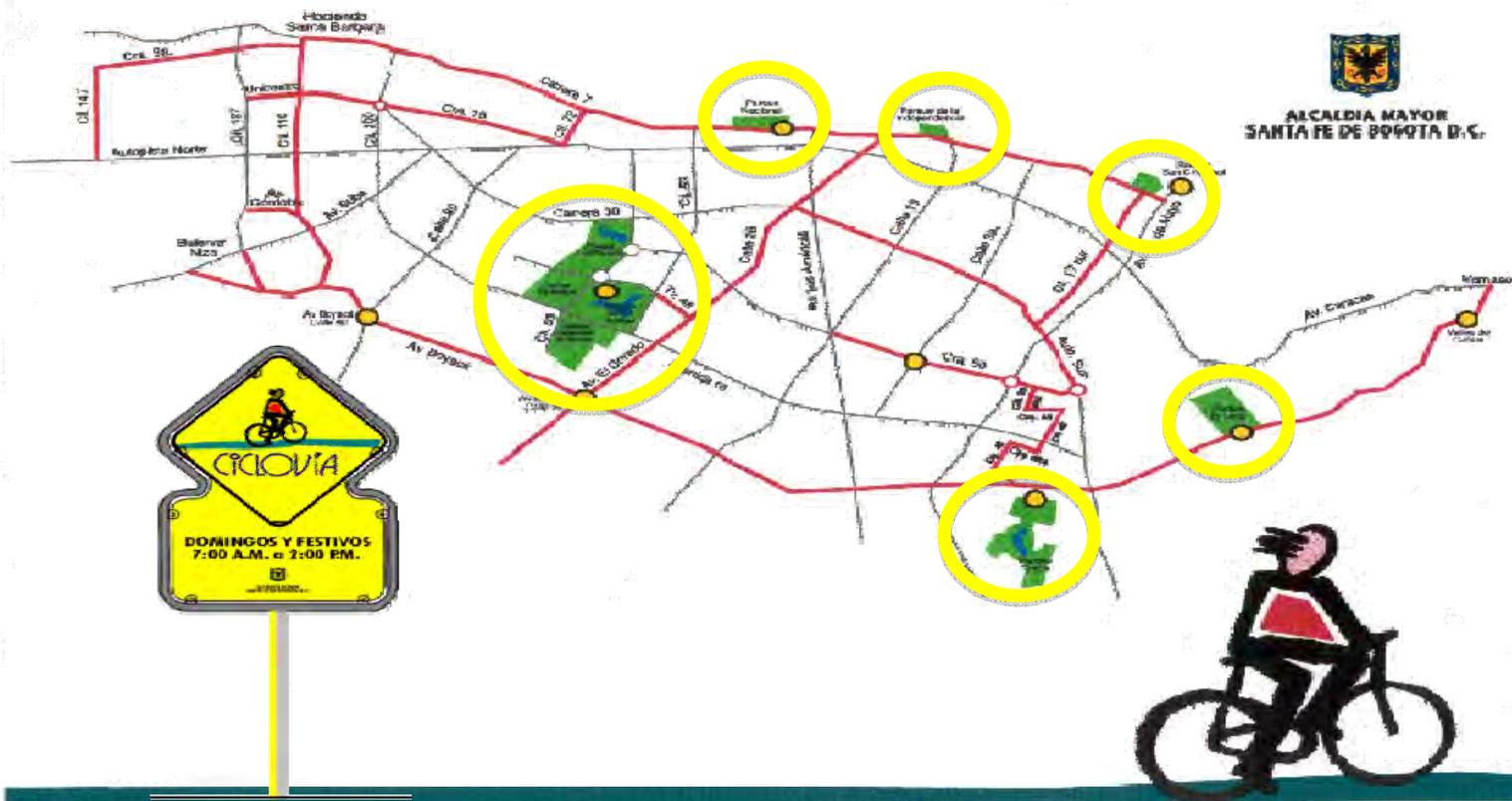
Human Rights

Equality

Sustainability







  
**ALCALDIA MAYOR**  
**SANTA FE DE BOGOTÁ D.C.**

  
**CICLOVIA**  
**DOMINGOS Y FESTIVOS**  
**7:00 A.M. a 2:00 P.M.**







NYC Transportation Commissioner  
**Janette Sadik-Khan**

NYC Planning  
Commissioner  
**Amanda Burden**



















Times Square  
after





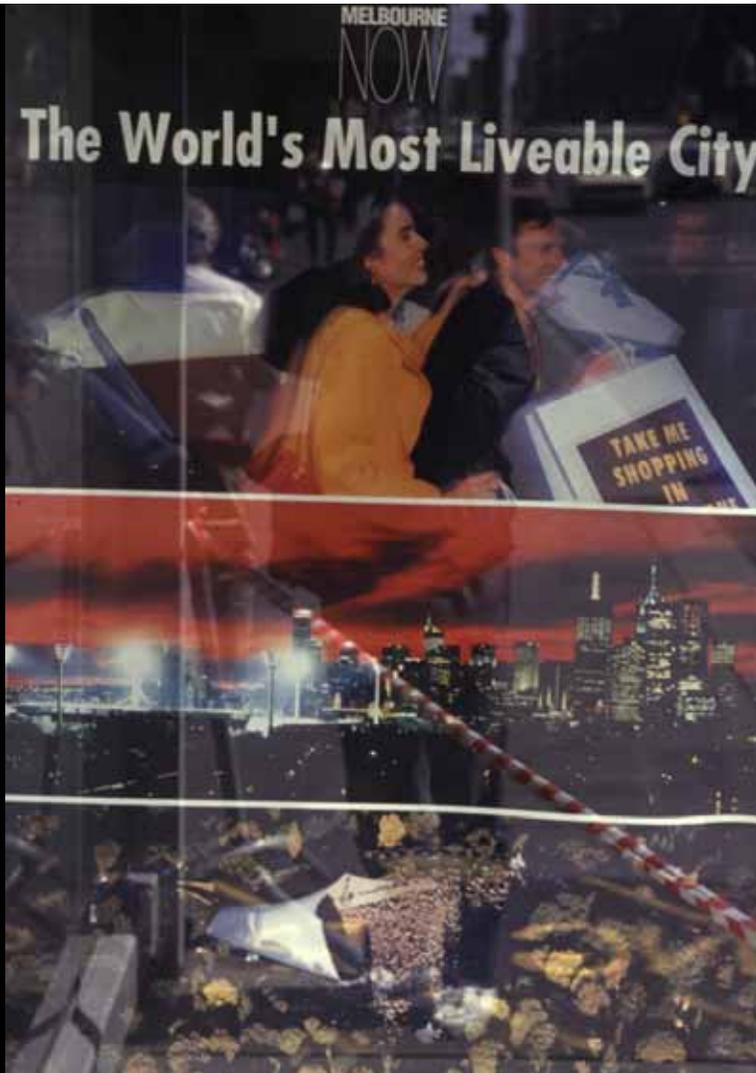




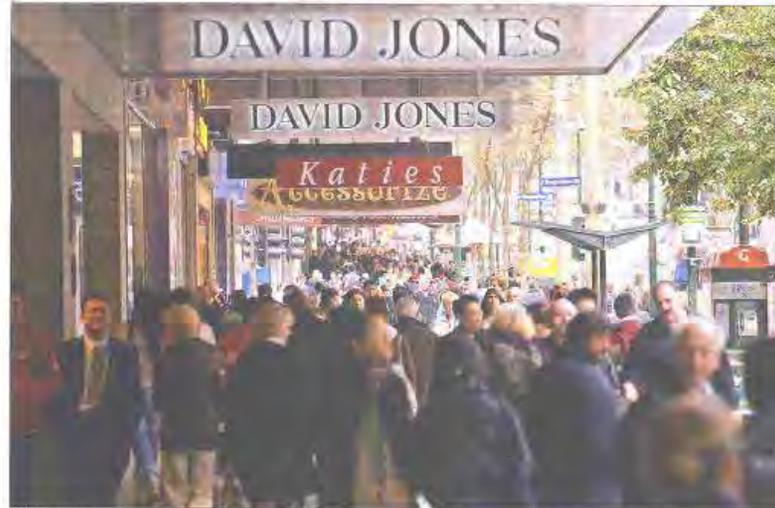


MELBOURNE  
NOW

# The World's Most Liveable City



## The most liveable city has more life and more living there



Central Melbourne now has more workers and apartment dwellers, and there is a renaissance in shops and bars.

PICTURE: IGA/ANSA

## Our revived urban heart has new beat

By **ROYCE MILLAR**  
and **MARTIN BOULTON**

MELBOURNE'S heart is revived and pumping, with new figures painting a picture of a city reasserting itself as a residential, shopping and social mecca.

Twenty years after planners warned that the CBD was in terminal decline, Melbourne City Council's latest land-use and floorspace census shows that new apartments, shops, bars and jobs are underpinning a renaissance.

The census, compiled every two years, tracks the use of land and buildings across the Melbourne municipality and CBD.

The 2004 census, released today, reports that there are 12,693 apartments in the CBD, up from just 375 in 1992.

The CBD includes the Flinders grid plus the area north to Victoria Parade and south to the

Yarra River. It does not include Docklands or Southbank.

There are now more city workers than ever before, but full-time and male employment is declining. Increasingly city workers are female and part-time, casual or contracting.

After the economic slump of the early to mid-1990s, the city is growing. Total city floorspace has expanded by about 70 per cent in the 20 years to 2004.

Lord Mayor John So welcomed the findings and said he was especially pleased by figures showing that more than 4000 jobs had been added since the last census in 2002.

"Melbourne has been undergoing a phenomenal change. We may not even notice it here all the time, but people who visit us regularly (from overseas) are amazed at the development and the changes," he said.

Retail growth continues with

the QV, former GPO and Melbourne Central redevelopments, but the census shows the retail construction boom is more of a regeneration, returning the city's shopping floorspace to late-1990s levels.

Notable is the shift in the type of retail activity: department stores are losing space — Daimaru's closure had a big impact — as are postal services and banks. But bars and pubs, cafes and restaurants are flourishing. Supermarkets, grocery stores, sports facilities and specialised food shops are also on the increase.

Office vacancies have risen since 2002 following a flurry of commercial construction but are a long way short of the recession days of the early '90s.

And the city's hombites have reduced, with key sites including the former Southern Cross and Queen Victoria

Hospital sites now spoken for. Long-time CBD watcher Bill McFlang, chairman of Colliers International (Victoria), said the CBD rejuvenation was due in part to its increasing popularity as a residential destination.

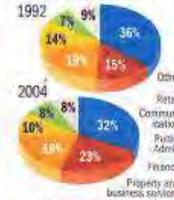
"The city has a marketing plan, a vision and a dynamic city council. It's a more interesting city than it was 15 years ago and its evolving in front of us," he said.

But not everyone is swept up in the excitement. David Zeiner's father opened the Job Warehouse fabric store at the top end of Bourke Street more than 50 years ago. Little has changed since.

He said business is now quieter than 20 to 30 years ago and depends on long-time regular customers. "This part of the city has more restaurants and cafes than retail shops now," he said.

### A CITY REVISITED

#### JOBS BY INDUSTRY



#### SPACE USERS PROPORTION OF OVERALL RETAIL



#### RESIDENTIAL CBD APARTMENTS



#### OFFICE VACANCIES (sq m)



#### CBD EMPLOYMENT



#### BARs & PUBS BY CAPACITY



# More street trees







1992



2005







**1983**

● = 5 dwellings

**GEHL ARCHITECTS**  
URBAN QUALITY CONSULTANTS

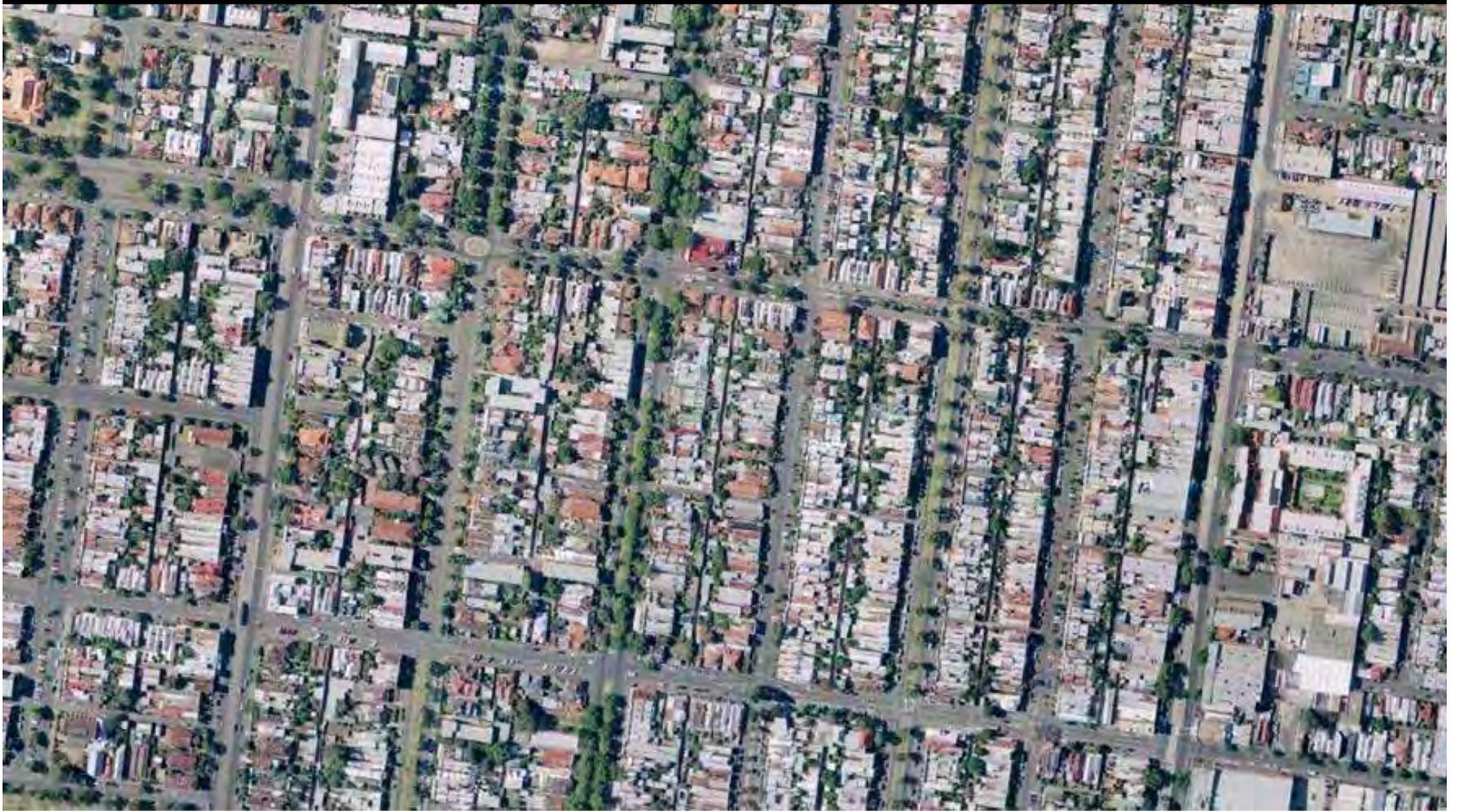


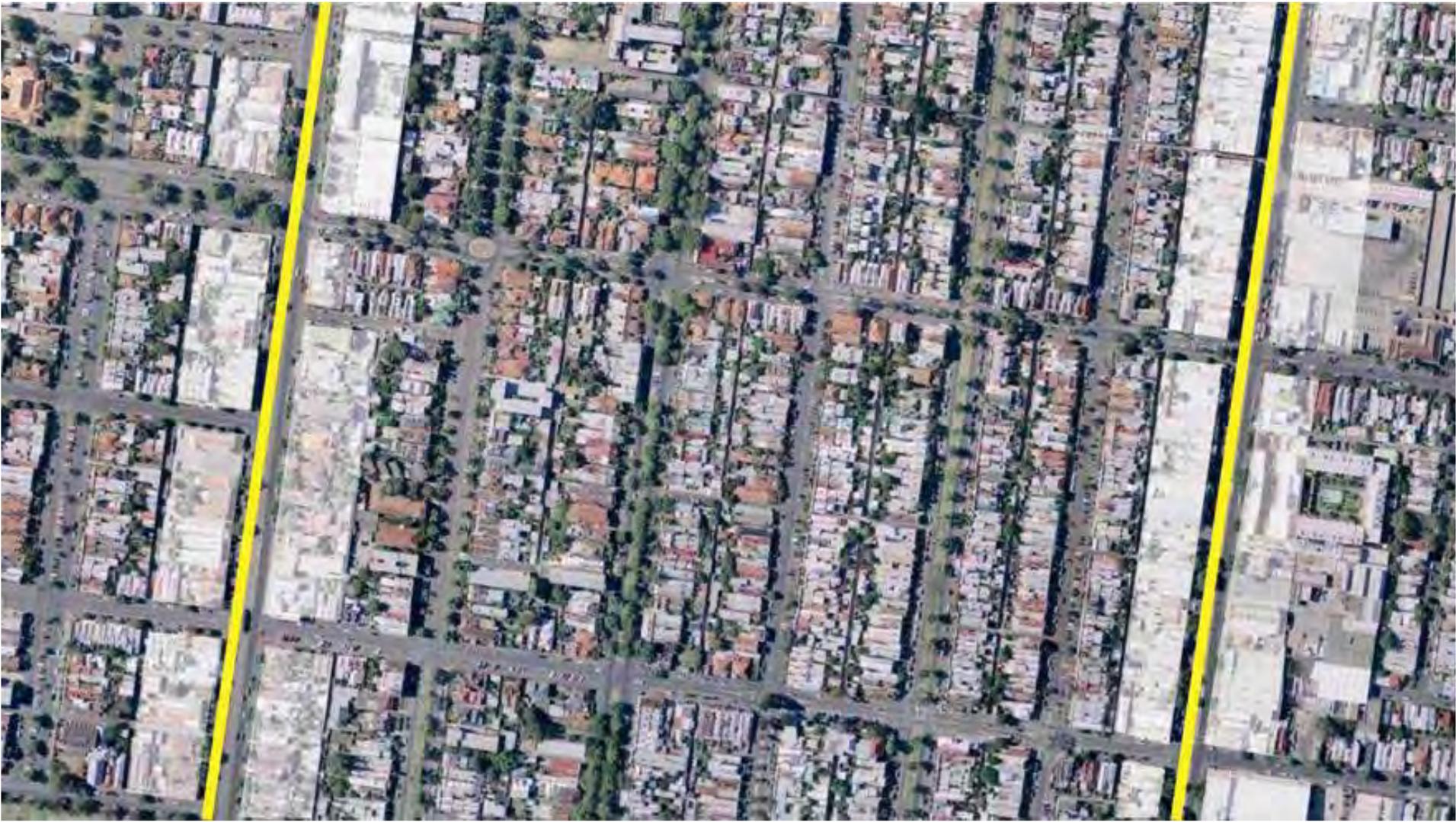


2002

• = 5 dwellings

GEHL ARCHITECTS  
URBAN QUALITY CONSULTANTS





**PUBLIC TRANSIT & LAND USE**

**2 SIDES OF THE SAME COIN**

NOW



Johnston Street, Abbotsford - looking east



**POSSIBLE FUTURE**

Johnston Street, Abbotsford - artists impression





# WHY



# SUCCESSFUL CITIES





**HEALTHY  
COMMUNITIES**

# SUSTAINABLE HAPPINESS





# STEP 1: 8 YEAR OLD CHILD









**STEP 2:  
80 YEAR OLD PERSON**





**STEP 3**

If you would,  
it is safe enough.  
If you would not,  
it is NOT

What if...

Everything we did in

Honolulu's

Streets, Side-walks,

Parks, other Public Spaces

had to be fantastic for

the 8 and the 80 year olds?

We'd probably end up with  
great cities for ALL

From 0 to 100+

We need to **STOP** building  
cities as if everyone was  
30 year old and athletic

**GREAT CITIES**

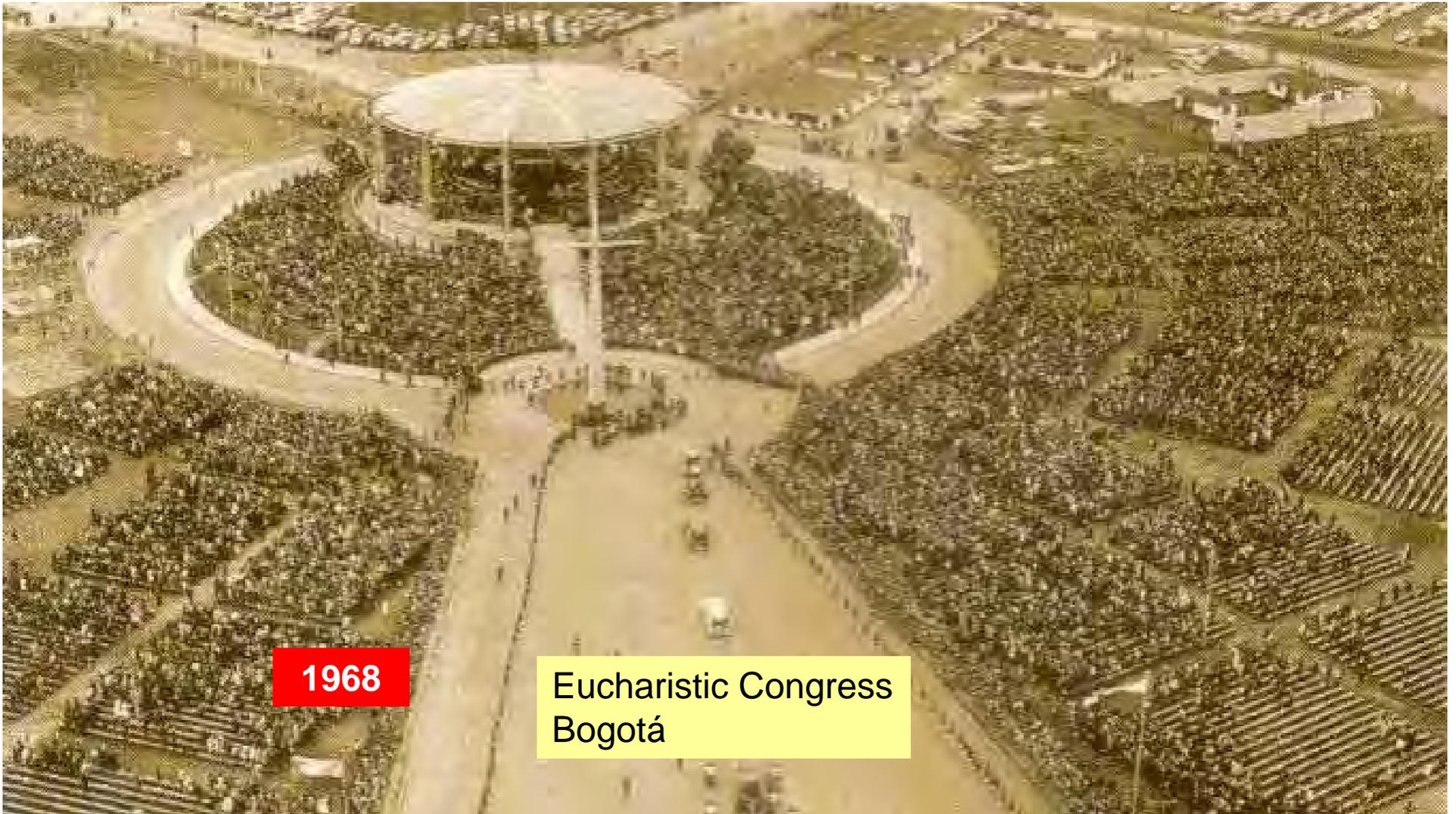
**FOR ALL**



Parque Central Simón Bolívar  
113 hectares / 279 acres in the Heart of the City

**Before**





1968

Eucharistic Congress  
Bogotá



1980

Site future Simon Bolivar Park  
Bogotá, 1980

Citizens pay us every other week  
to get things **DONE**  
not to have 20 “reasons why things  
cannot be done”



**Before**

Parque Central Simón Bolívar  
113 hectares / 279 acres in the Heart of the City

After



## Parque Central Simón Bolívar























**BROAD  
ALLIANCES**

# ALLIANCES

PRIVATE

PUBLIC

NGO

# ALLIANCES

ELECTED OFFICIALS

PUBLIC STAFF

COMMUNITY

**NOT ABOUT**

**WALKING**

**RIDING BICYCLES**

**USING PUBLIC TRANSIT**

**NOT ABOUT**

**PARKS**

**STREETS**

**PUBLIC SPACES**

**IT'S ABOUT...**

CREATING

**SUCCESSFUL CITIES  
HEALTHY COMMUNITIES  
PEOPLE LIVE HAPPIER**



**Thanks!**

## PRIVATE CONTENT

This presentation includes some photos and slides provided by various third party organizations. Both the images and the content is private and **CAN NOT** be used or posted anywhere on the internet without prior authorization.

In order to be able to use all or part of it in a different manner than stipulated, including any of the photos, you will need written authorization from 8-80 Cities.

Further information write to [info@8-80cities.org](mailto:info@8-80cities.org)

Thanks!