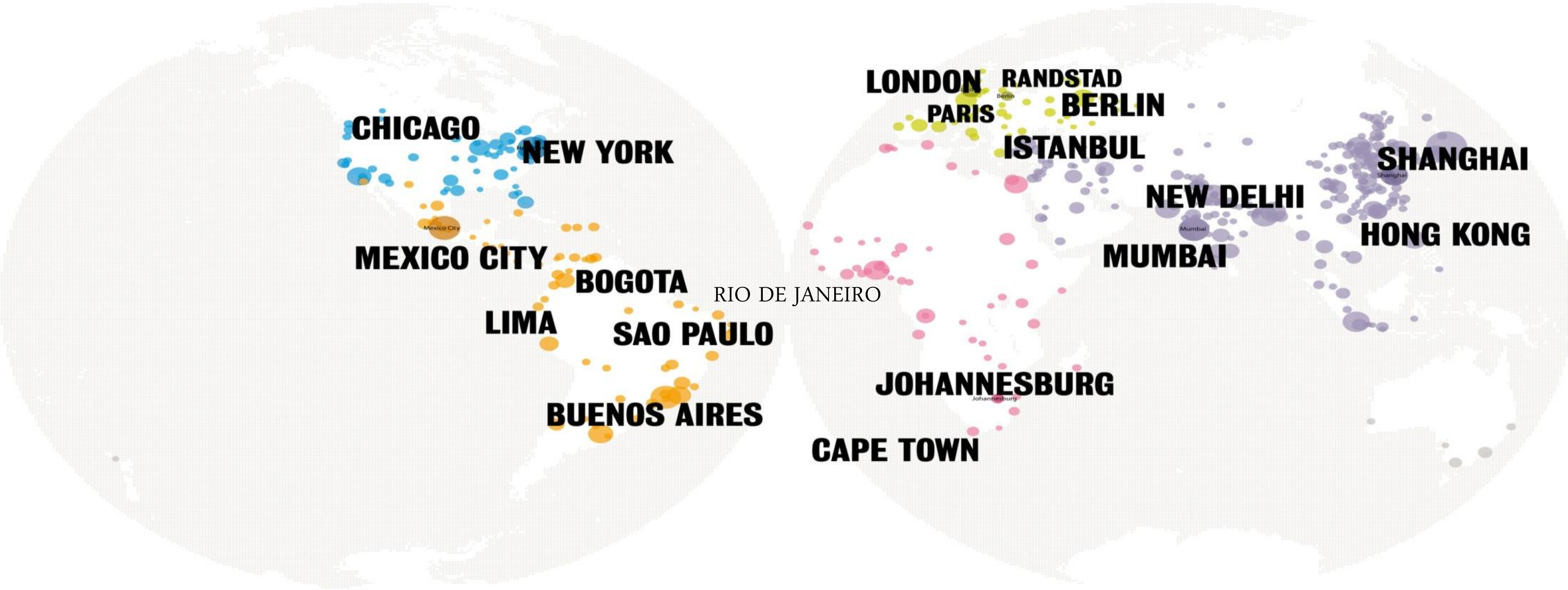
CITIES AND URBANISATION

LSE ASIA FORUM

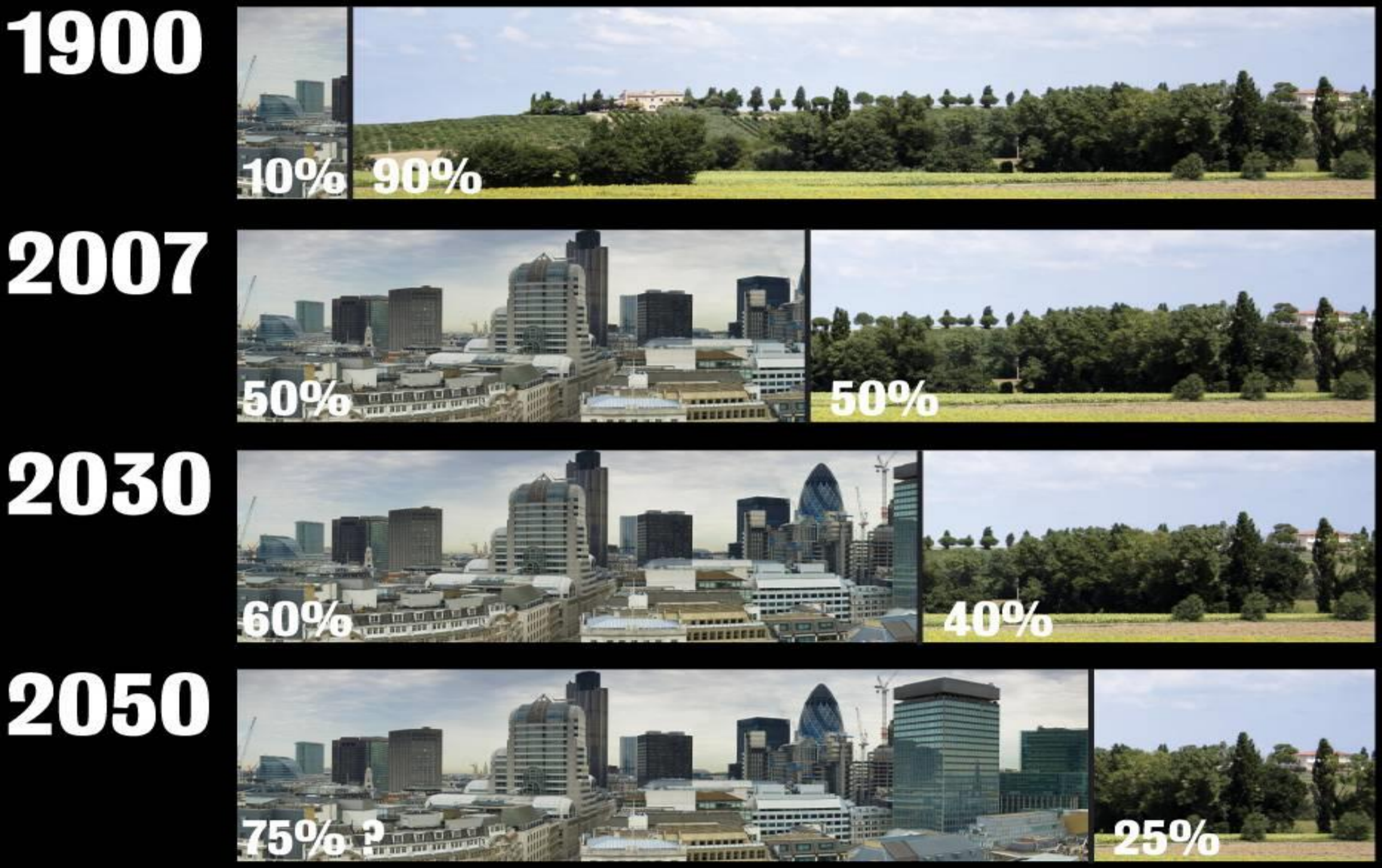
PROFESSOR RICKY BURDETT
LSE CITIES
LONDON SCHOOL OF ECONOMICS



LSE Cities

AN INTERNATIONAL CENTRE SUPPORTED BY DEUTSCHE BANK

URBAN AGE ELECTRIC CITY CONFERENCE, LONDON

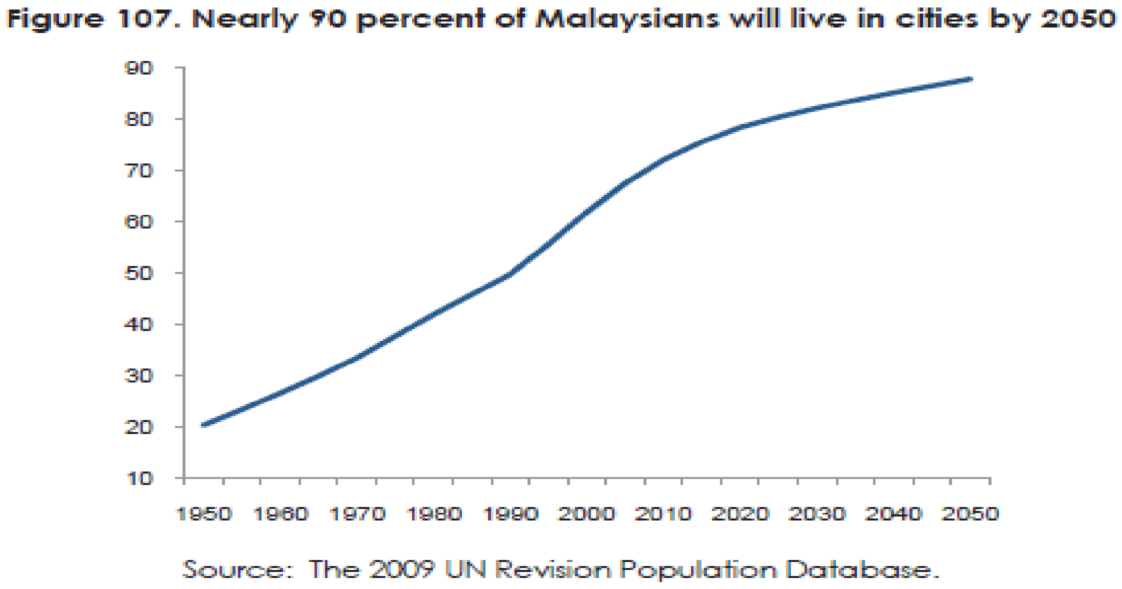

1900
10%
90%
2007
50%
50%
2030
60%
40%
2050
75% ?
25%

MEXICO CITY – ENDLESS CITY, ENDLESS SPRAWL

HONG KONG - HYPERDENSITY

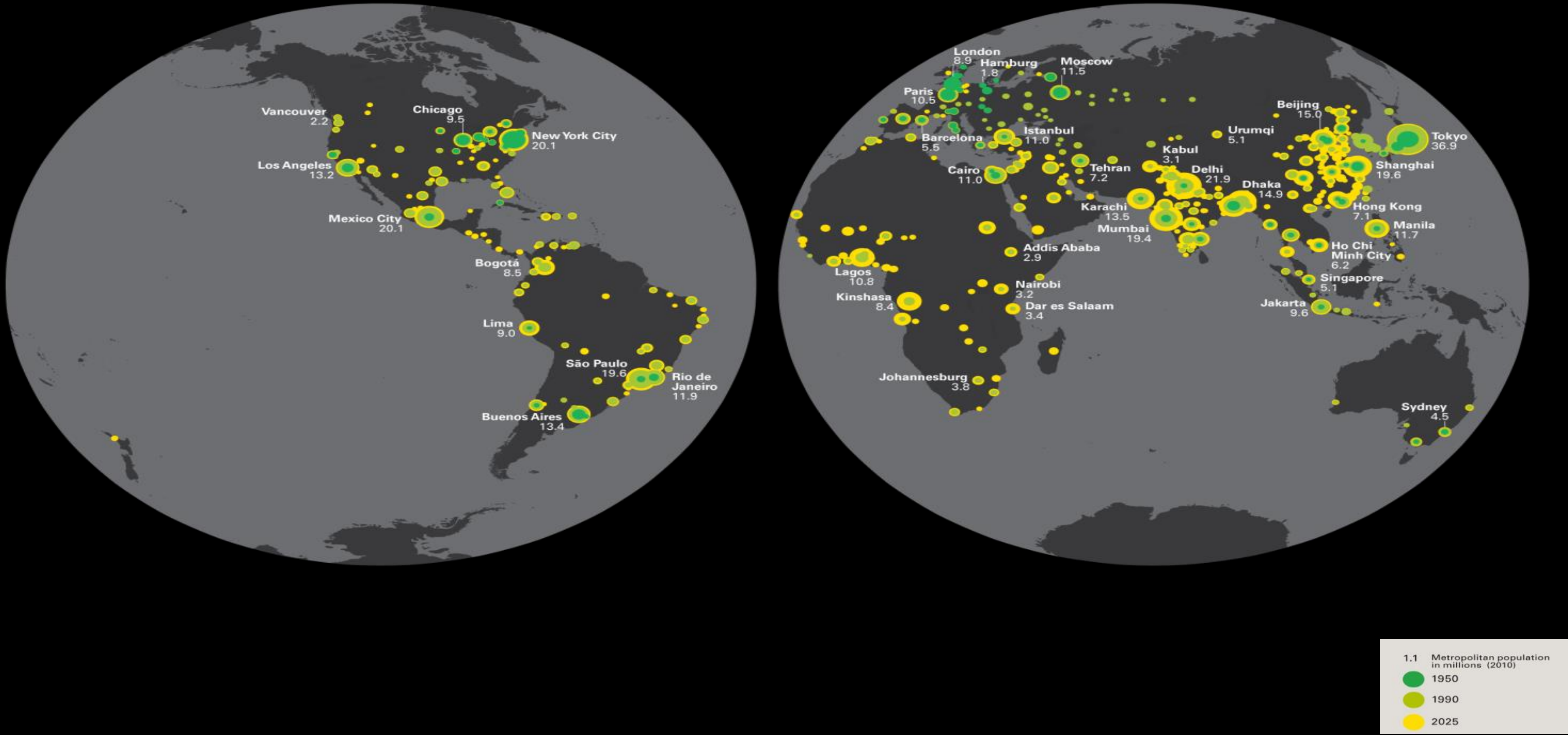
KUALA LUMPUR

Rate of urbanisation Malaysia



Source: Malaysia Economic Monitor – Smart Cities (World Bank 2011)


2000%
rate of Mumbai's population growth since 1900



Vancouver
2.2
Chicago
9.5
New York City
20.1
Los Angeles
13.2
Mexico City
20.1
Bogotá
8.5
Lima
9.0
São Paulo
19.6
Rio de Janeiro
11.9
Buenos Aires
13.4
London
8.9
Hamburg
1.8
Moscow
11.5
Paris
10.5
Barcelona
5.5
Istanbul
11.0
Cairo
11.0
Tehran
7.2
Kabul
3.1
Urumqi
5.1
Beijing
15.0
Tokyo
36.9
Shanghai
19.6
Delhi
21.9
Dhaka
14.9
Karachi
13.5
Mumbai
19.4
Hong Kong
7.1
Manila
11.7
Addis Ababa
2.9
Ho Chi Minh City
6.2
Lagos
10.8
Nairobi
3.2
Singapore
5.1
Kinshasa
8.4
Dar es Salaam
3.4
Jakarta
9.6
Johannesburg
3.8
Sydney
4.5
1.1 Metropolitan population in millions (2010)
1950
1990
2025

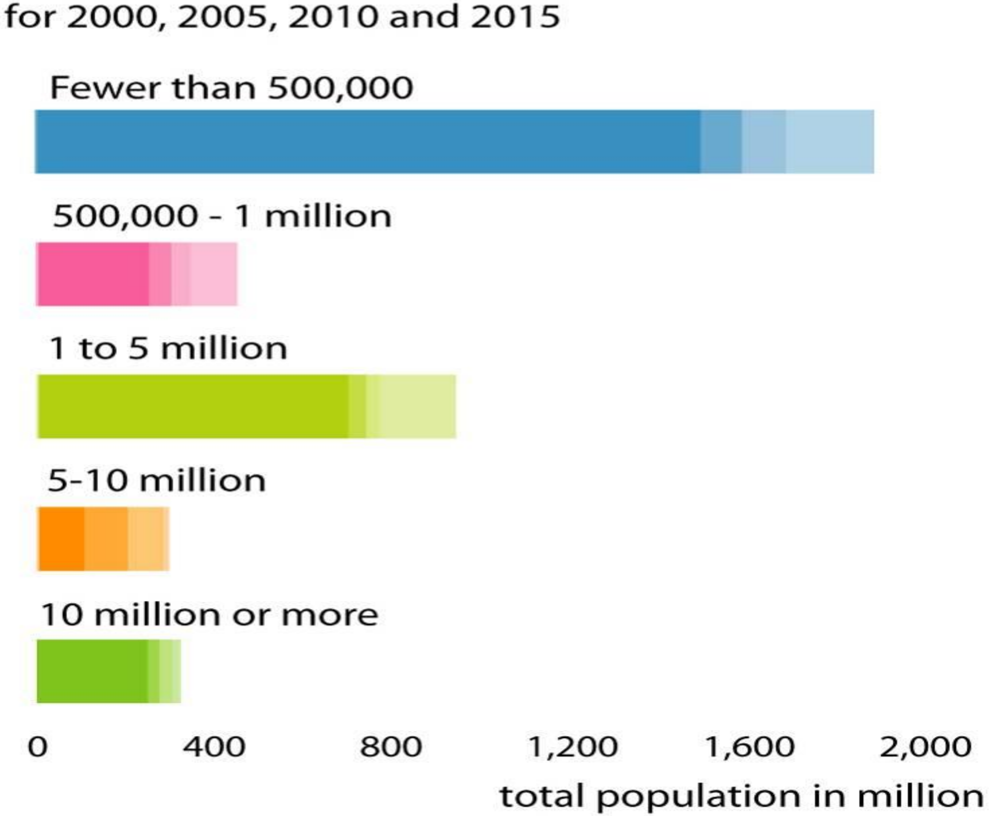
HOW CITIES ARE GROWING

City	Country	Projected annual population growth 2010-2025 (%)	(Total)	Annual population growth 1995-2010 (%)	(Total)	Metro population 2010	Projected average annual real GPD growth 2008-2025*	National median age 2010	Projected national median age 2025
Nairobi	Kenya	6.0%	193,752	5.6%	98,744	3,236,589	6.4%	18.5	20.5
Lagos	Nigeria	5.0%	537,890	5.4%	320,375	10,788,300	6.4%	17.9	18.1
Kinshasha	Congo, DRC	4.8%	408,002	5.8%	261,502	8,415,198	6.3%	17.1	18.7
Kabul	Afghanistan	4.5%	138,261	5.9%	95,756	3,052,000	6.5%	15.6	20.8
Addis Ababa	Ethiopia	4.1%	119,103	2.4%	51,626	2,918,669	6.8%	17.5	21.4
Ho Chi Minh City	Vietnam	3.8%	233,940	4.6%	168,773	6,189,423	7.0%	28.5	35.7
Dhaka	Bangladesh	3.6%	531,780	5.3%	439,812	14,929,647	6.2%	24.0	29.7
Beijing	China	3.4%	508,880	5.4%	446,293	14,999,554	6.7%	34.6	39.6
Delhi	India	3.3%	733,325	5.1%	635,185	21,935,142	6.4%	25.5	29.9
Karachi	Pakistan	3.3%	446,040	4.0%	335,484	13,499,702	5.5%	21.6	26.4
Shanghai	China	3.0%	589,989	5.8%	606,968	19,554,059	6.6%	34.6	39.6
Manila	Philippines	2.6%	308,262	1.6%	150,170	11,653,810	4.7%	22.3	25.7
Mumbai	India	2.4%	475,659	2.4%	340,809	19,421,983	6.3%	25.5	29.9
Istanbul	Turkey	2.4%	262,923	2.9%	219,170	10,952,950	4.2%	28.3	33.9
Bogotá	Colombia	2.2%	191,113	3.7%	200,570	8,502,405	3.9%	26.8	31.7
Cairo	Egypt	2.2%	247,253	0.9%	88,325	11,031,494	5.0%	24.4	28.0
Jakarta	Indonesia	2.2%	212,796	1.0%	87,205	9,629,953	5.5%	26.9	31.0
Johannesburg	South Africa	1.7%	64,625	4.4%	99,865	3,763,095	3.5%	25.2	28.4
Mexico City	Mexico	1.5%	295,907	1.3%	222,107	20,142,334	3.9%	25.9	31.5
Chicago	USA	1.3%	125,943	1.5%	113,732	9,544,691	2.2%	37.1	38.9
Barcelona	Spain	1.2%	68,181	1.7%	73,033	5,487,878	2.0%	40.2	46.7
Los Angeles	USA	1.2%	164,263	1.1%	125,609	13,223,023	1.6%	37.1	38.9
São Paulo	Brazil	1.2%	235,025	1.5%	246,761	19,649,366	4.2%	29.0	35.3
New York	USA	1.1%	231,188	1.2%	210,773	20,104,369	1.8%	37.1	38.9
Hong Kong	China	1.0%	73,817	1.0%	60,592	7,053,189	2.7%	41.1	47.2
London	United Kingdom	1.0%	88,817	0.9%	67,673	8,923,000	2.2%	39.8	41.6
Rio de Janeiro	Brazil	1.0%	116,937	1.1%	112,849	11,867,236	4.2%	29.0	35.3
Hamburg	Germany	0.6%	10,268	0.3%	5,306	1,786,468	1.3%	44.3	48.4
Berlin	Germany	0.4%	14,576	0.0%	-1,421	3,450,076	1.3%	44.3	48.4
Tokyo	Japan	0.3%	115,241	0.7%	223,080	36,932,780	1.7%	44.9	50.2

* Pricewaterhouse Coopers projection using UN urban agglomeration definitions and population estimates.
Data published in 2009 and may not fully reflect the impact of the global economic recession on GDP growth trends.

	Metro Population 2010	Projected Growth 2010-2025 (People per hour)	Projected Growth 2010-2015 (%)
Kuala Lumpur	1,524,000	5	2.9%
Hong Kong	7,053,189	8	1%
London	8,923,000	10	1.1%
Rio de Janeiro	11,867,236	13	1%
Mumbai	19,421,983	54	2.4%
New York	20,104,369	26	1%

URBAN POPULATION BY CITY SIZ



150 METROS SHARE OF GLOBAL GDP

75%

of global economic output in urban areas

60%

to 80% of energy consumption in urban areas

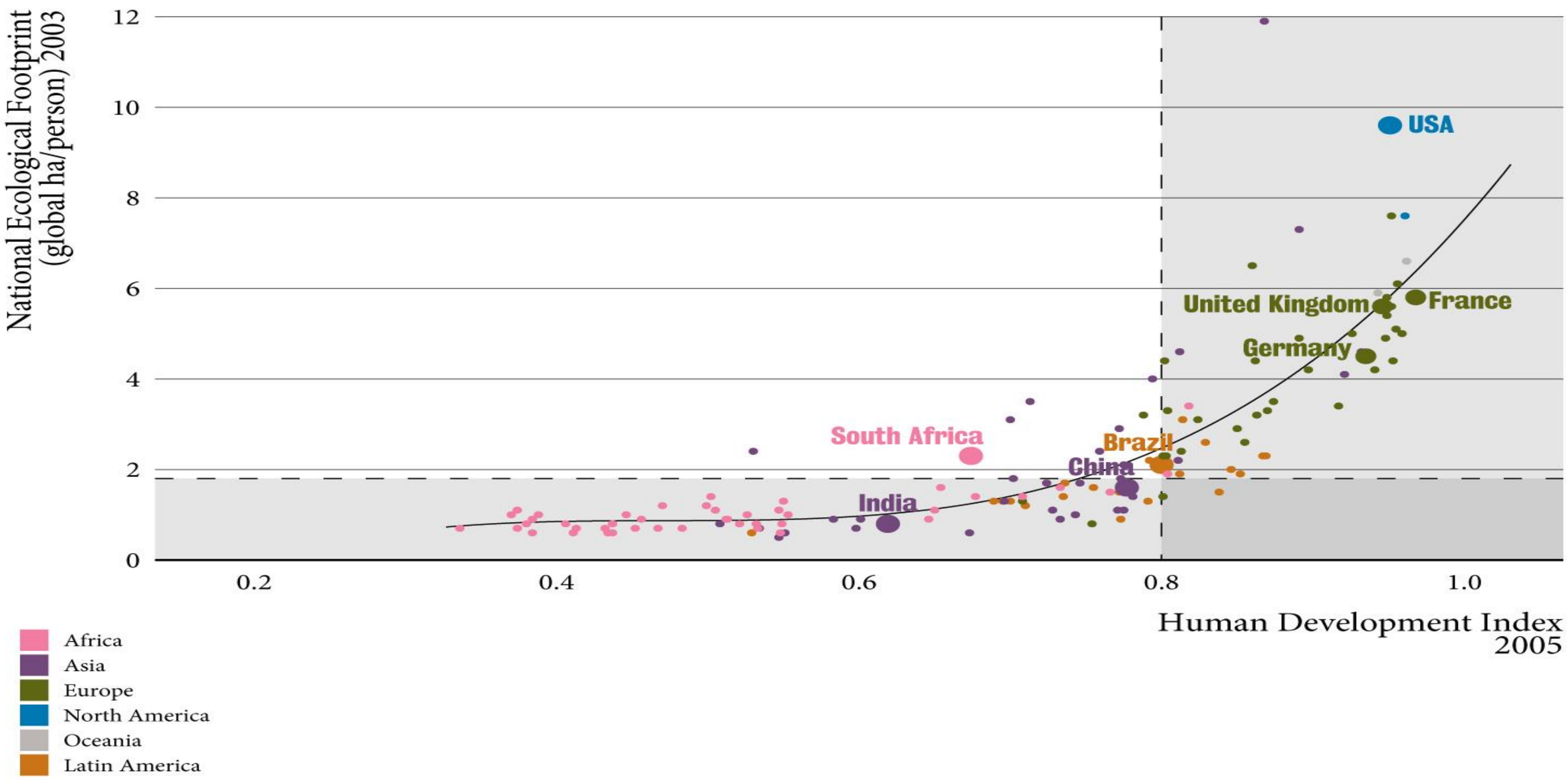
75%

of the world's CO_2 emissions are produced by cities

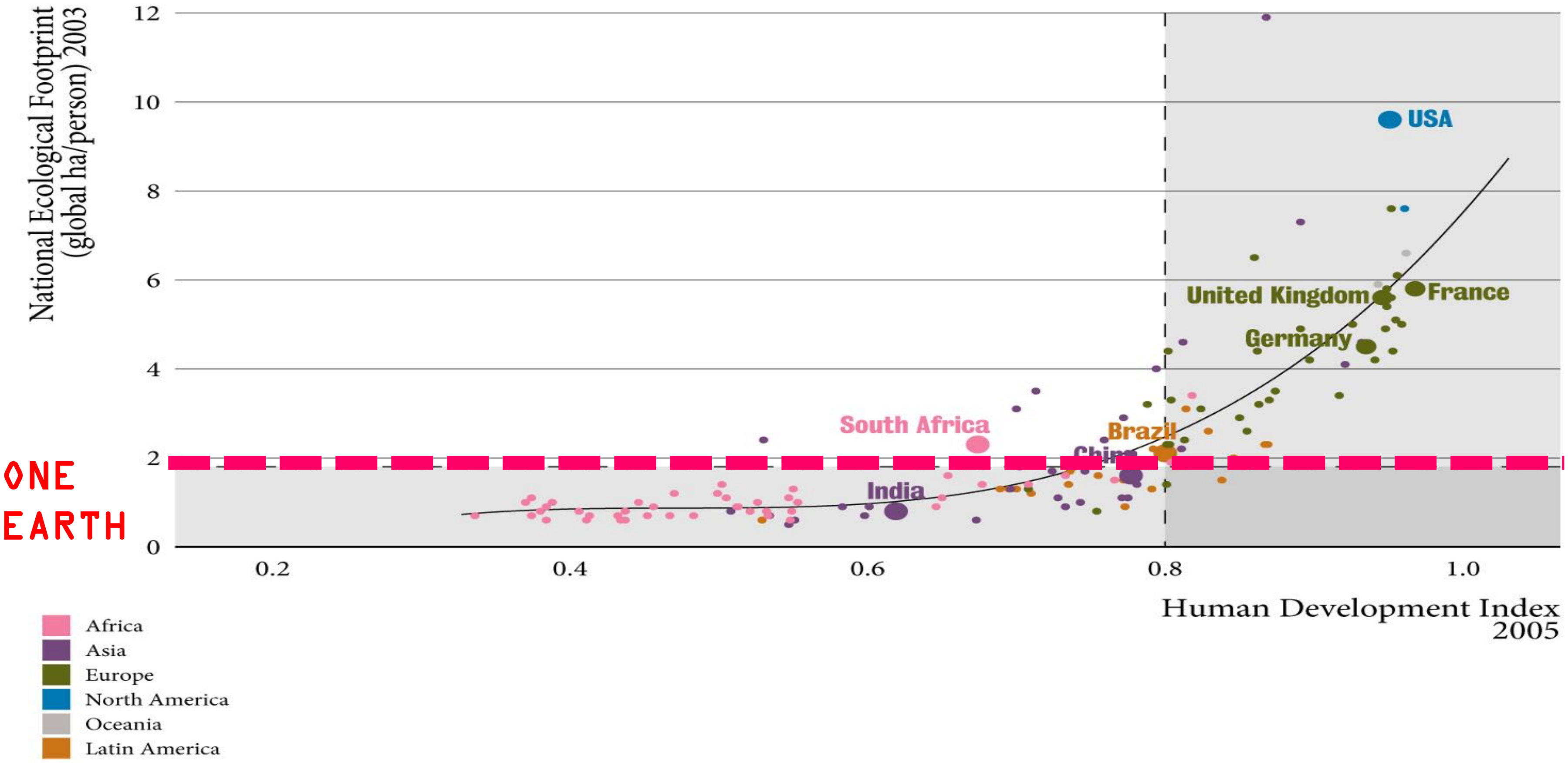
33%

of city dwellers live in slums

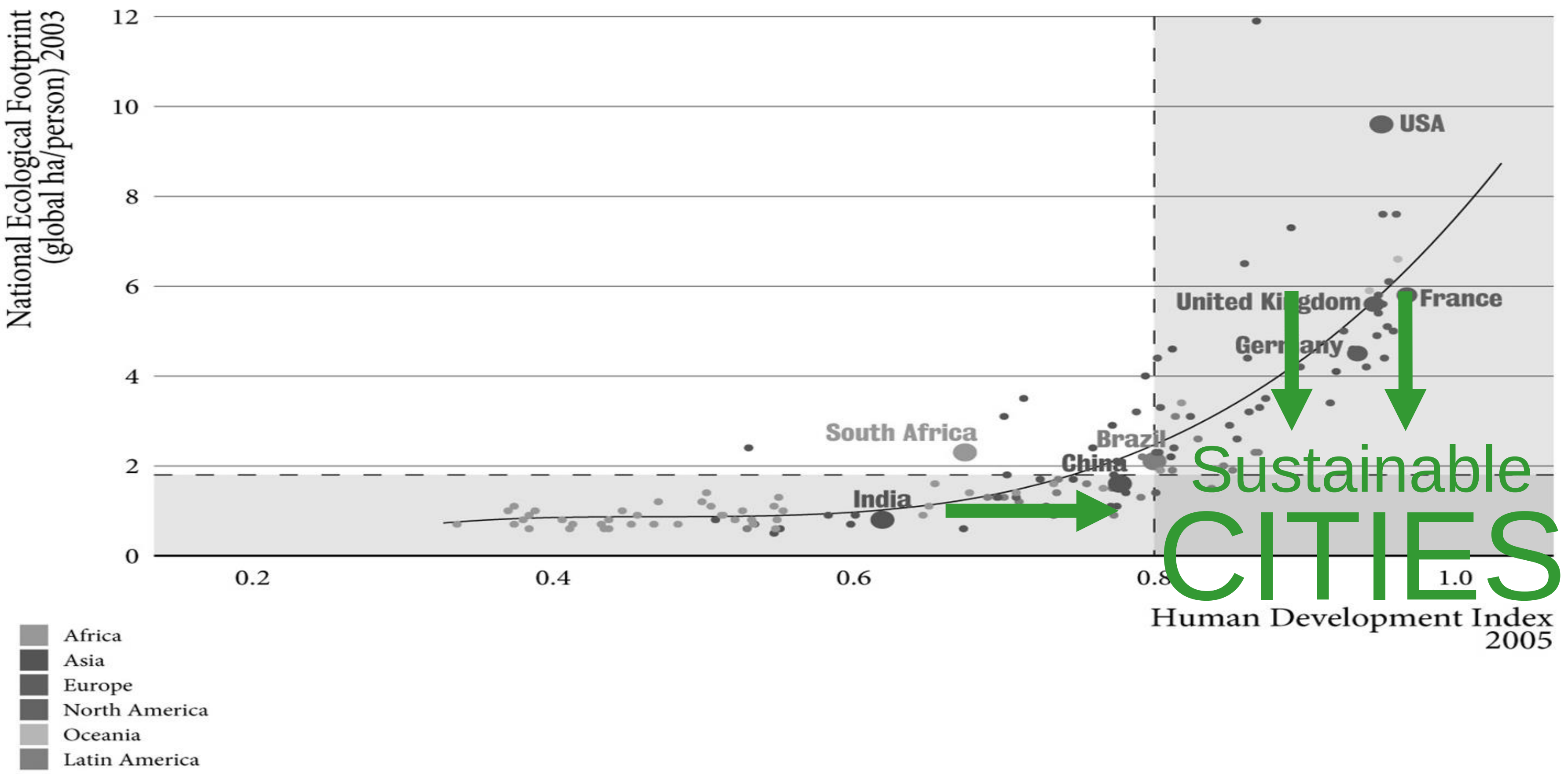
HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT



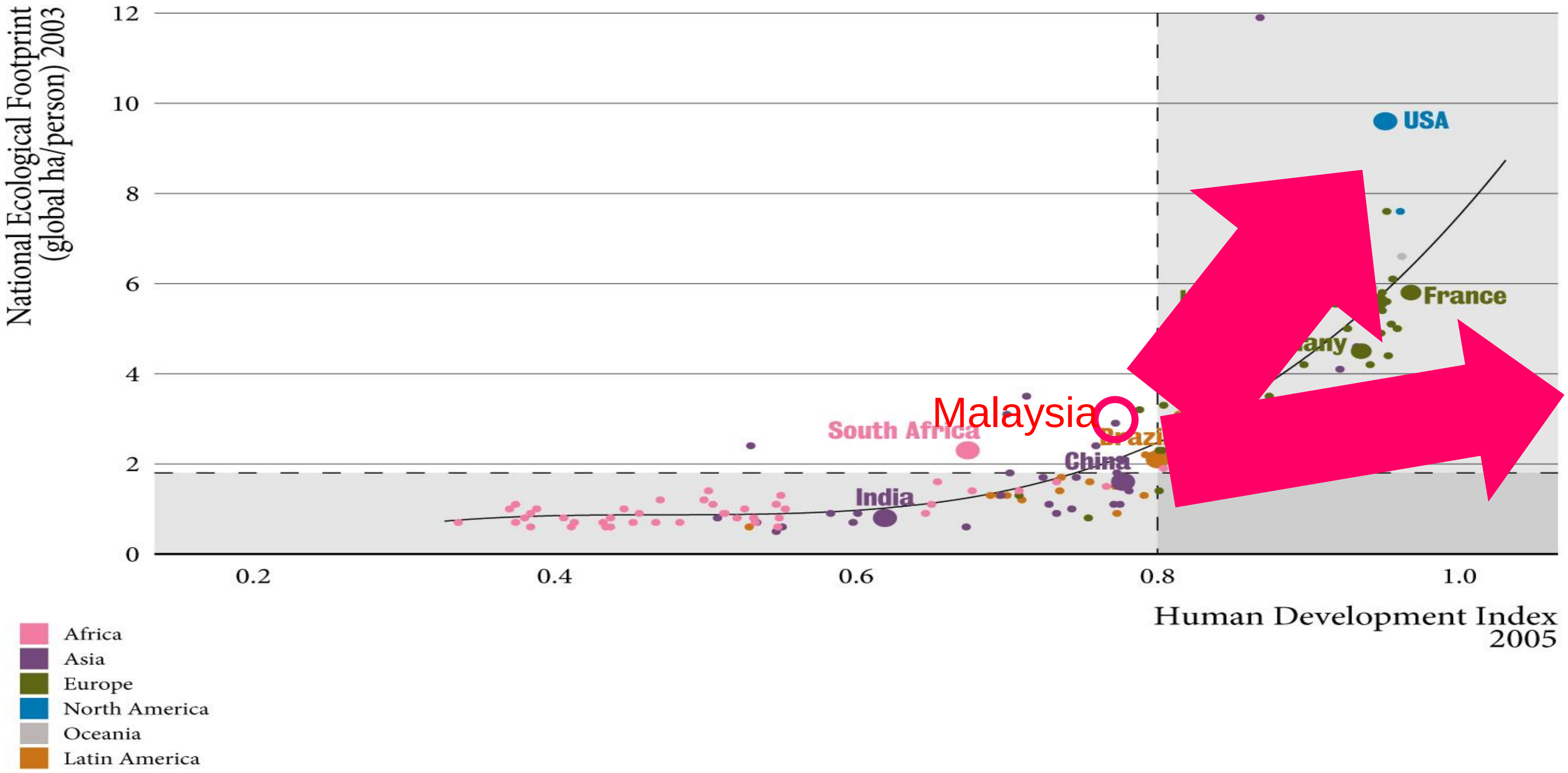
HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT



HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT



HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT



SAO PAULO


SAO PAULO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BANDRA WORLI SEA LINK, MUMBAI
‘A SHORT-CUT TO THE NEXT TRAFFIC JAM’

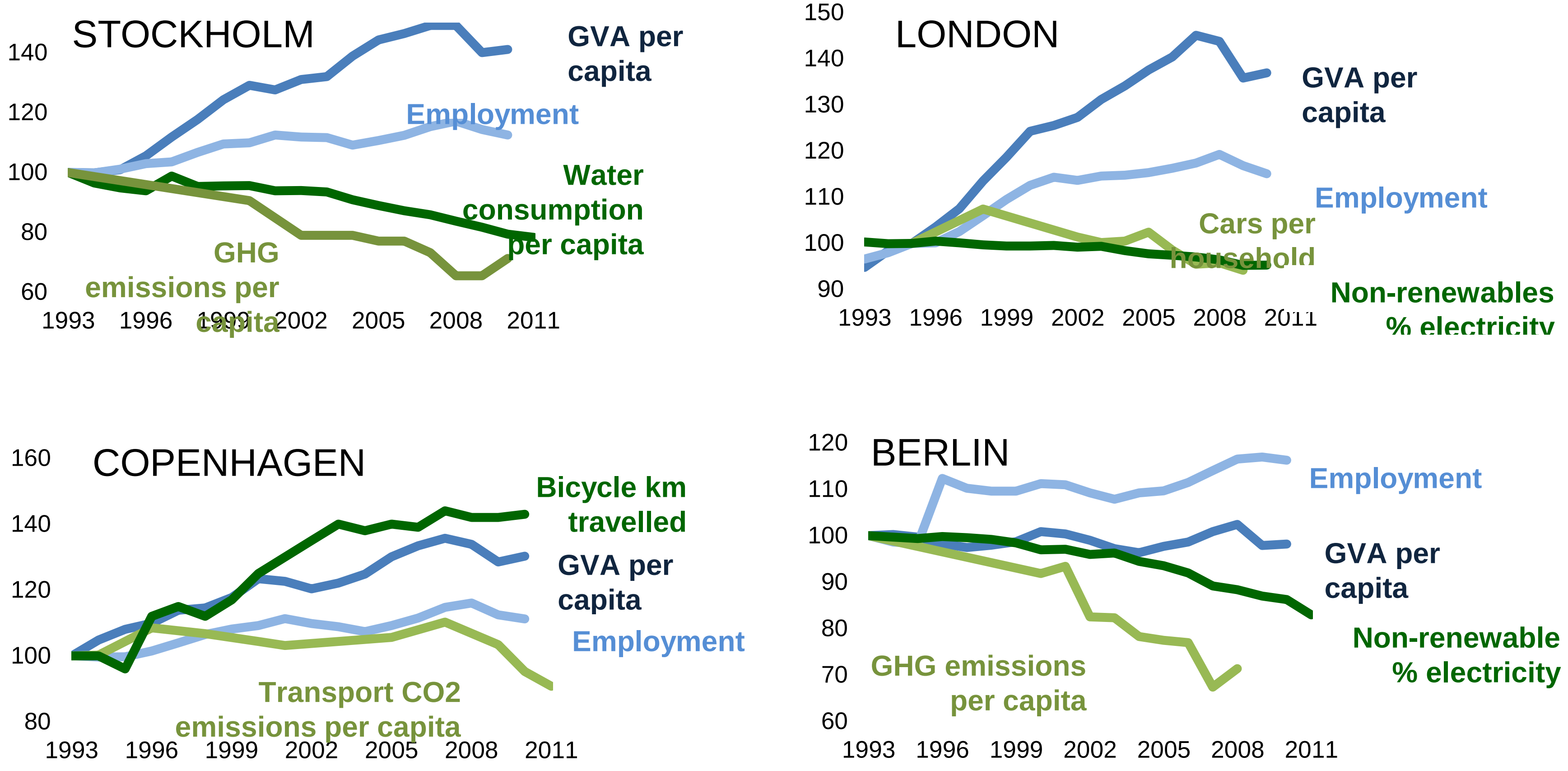
BOGOTA TRANSMILENIO BUS RAPID TRANSIT SYSTEM (BRT)

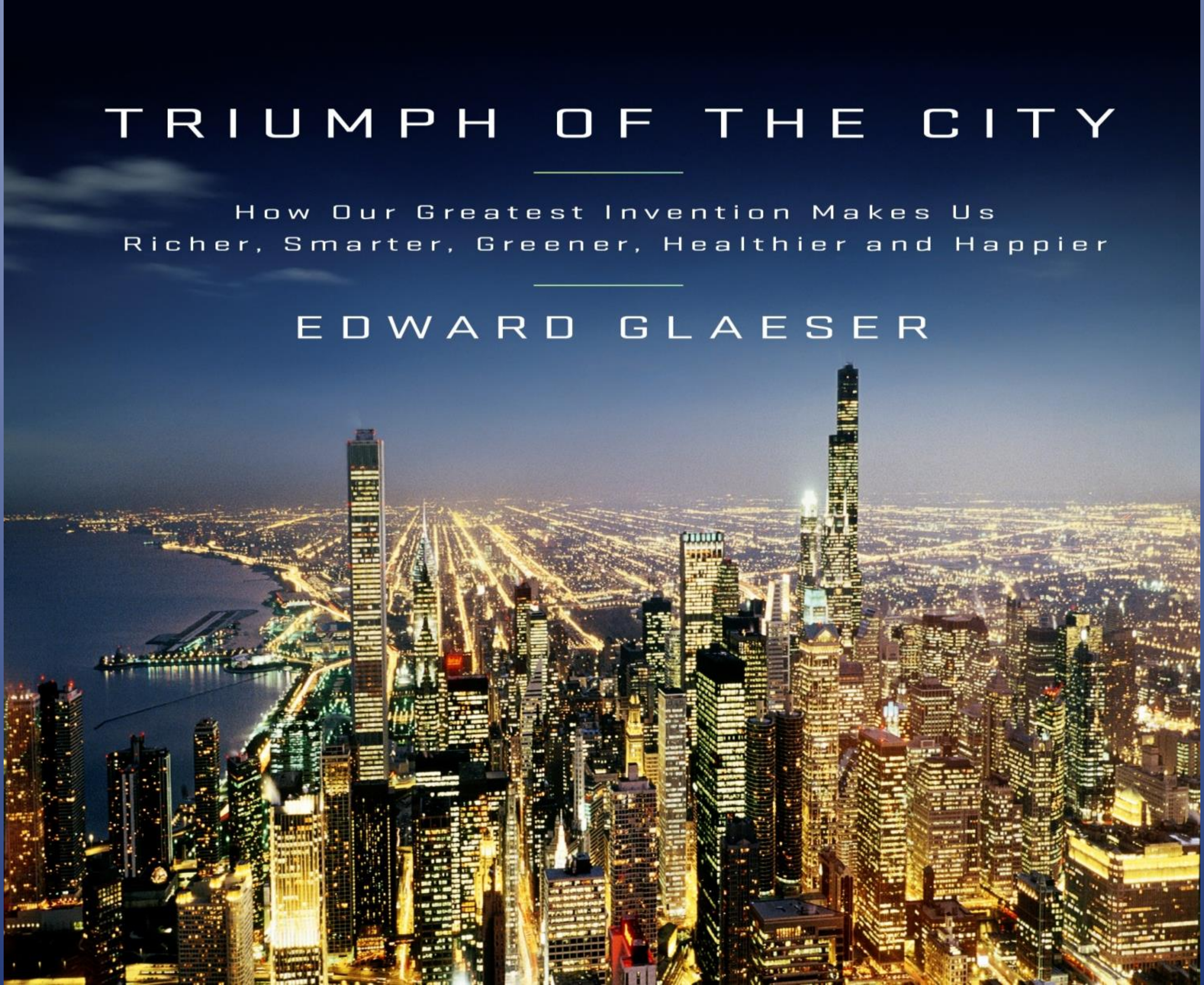
93% reduction in traffic fatalities; 40% drop in air pollution; 32% shorter commuting times; 88% passenger acceptance

BOGOTA

COPENHAGEN

DE-COUPLING IN CITIES

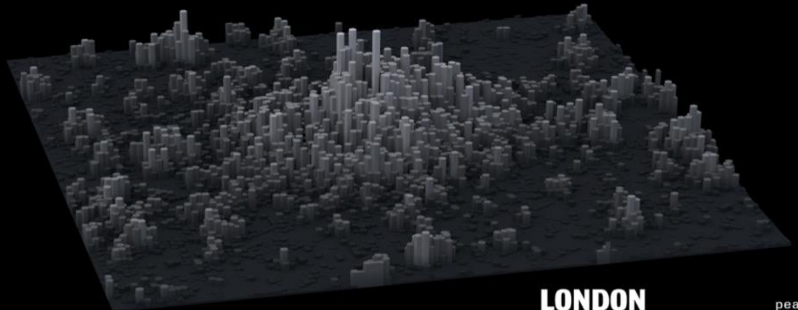



TRIUMPH OF THE CITY
How Our Greatest Invention Makes Us
Richer, Smarter, Greener, Healthier and Happier
EDWARD GLAESER

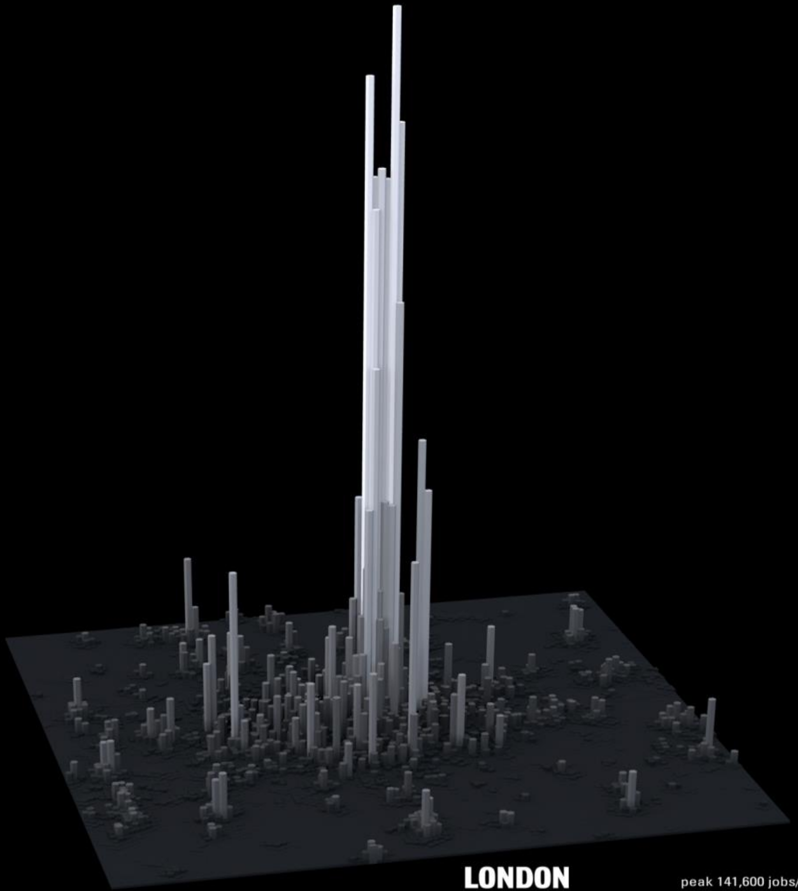

LONDON

NEW YORK

HONG KONG

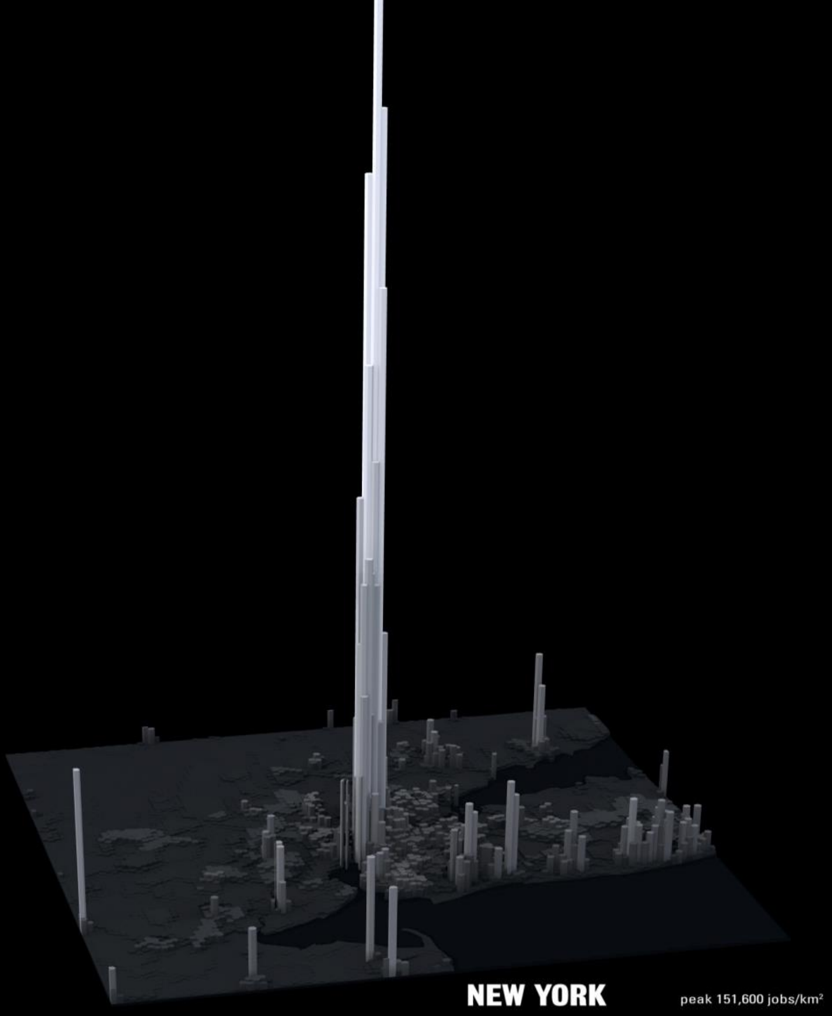


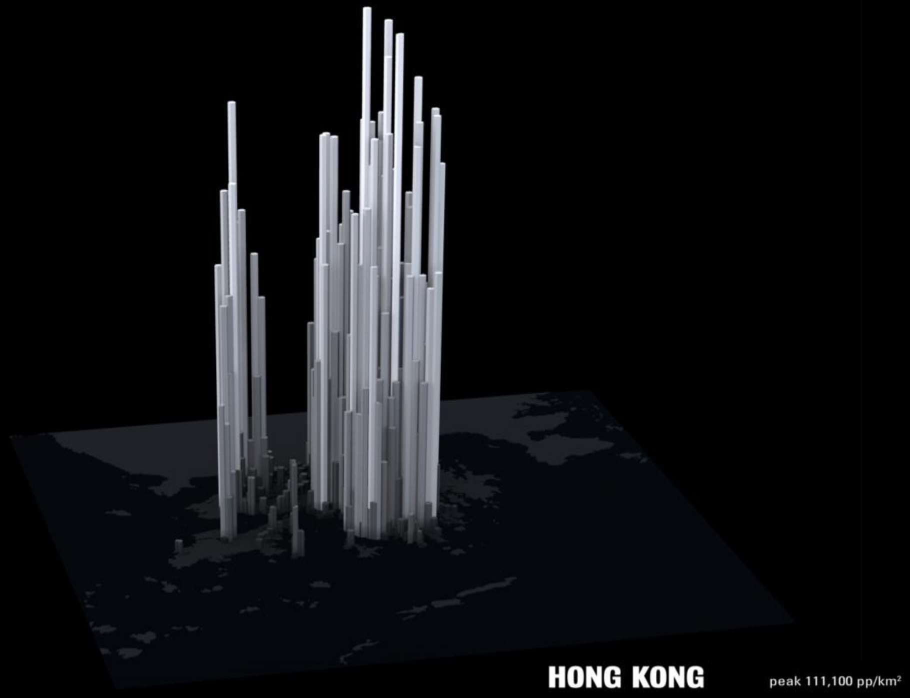
LONDON peak 27,100 pp/km^2

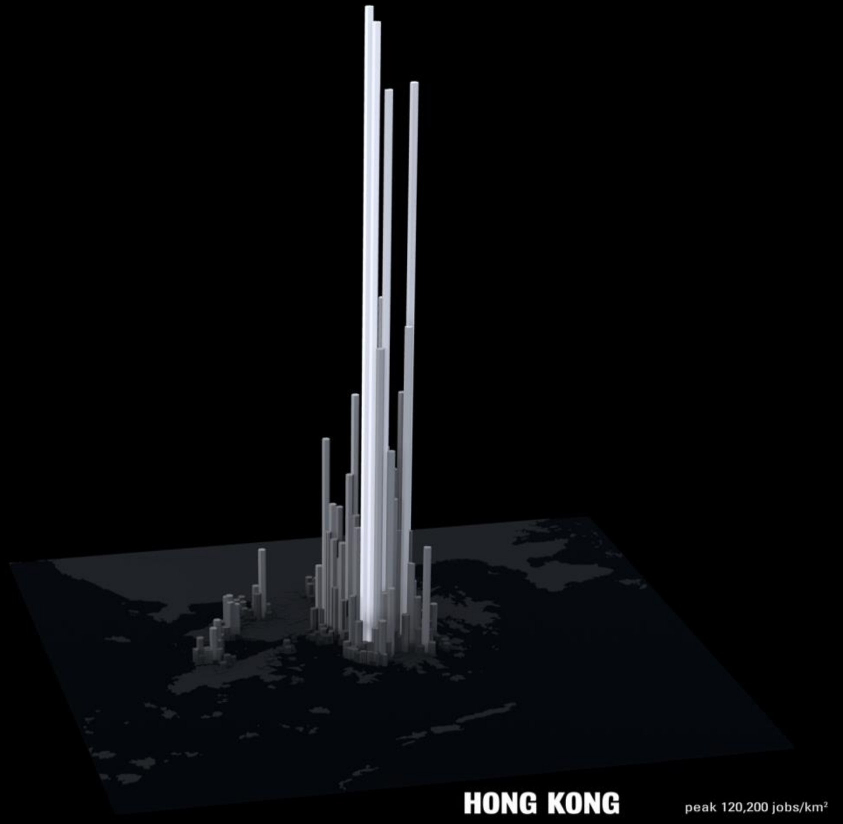


LONDON peak 141,600 jobs/km^2

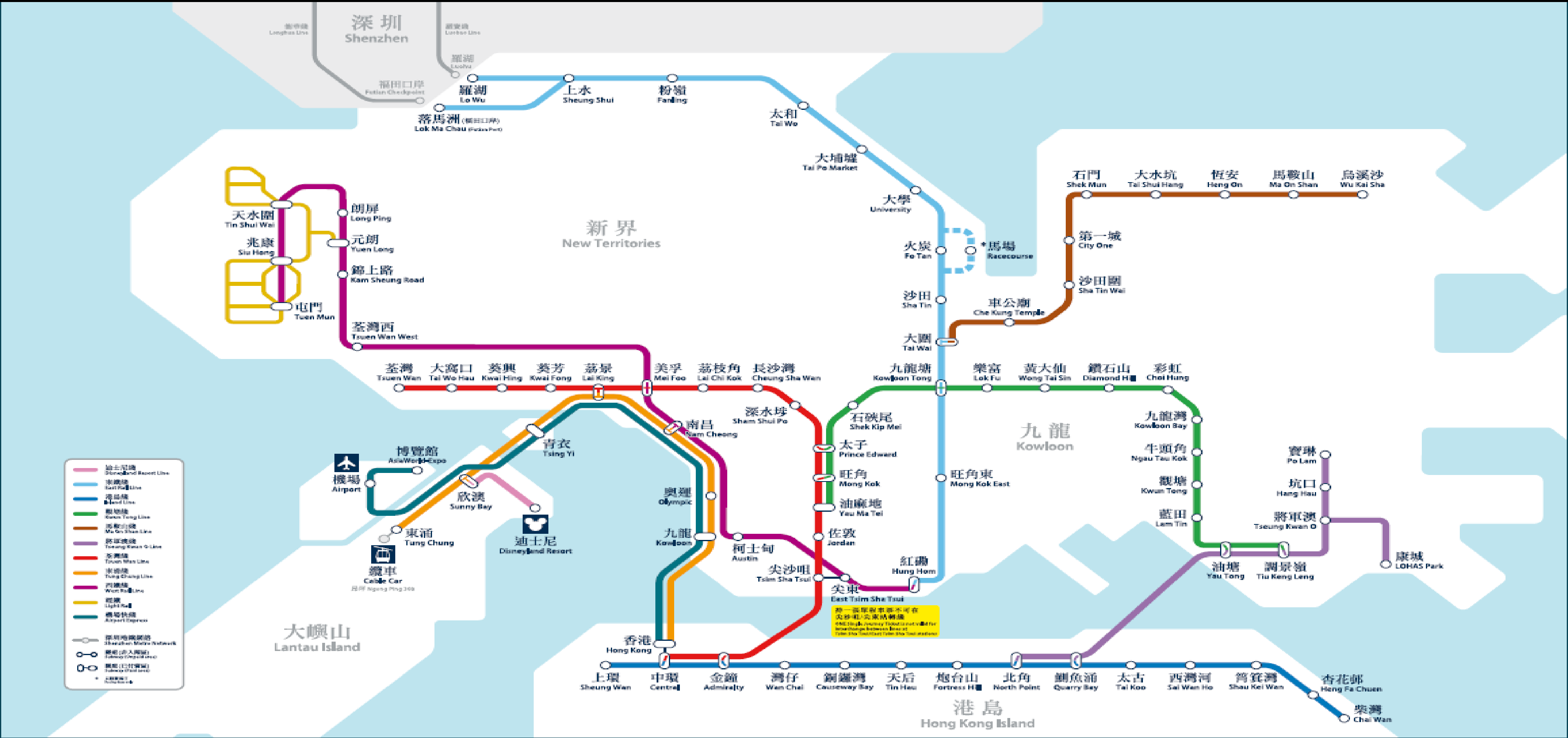

NEW YORK
peak 59,150 pp/km²


NEW YORK
peak 151,600 jobs/km²

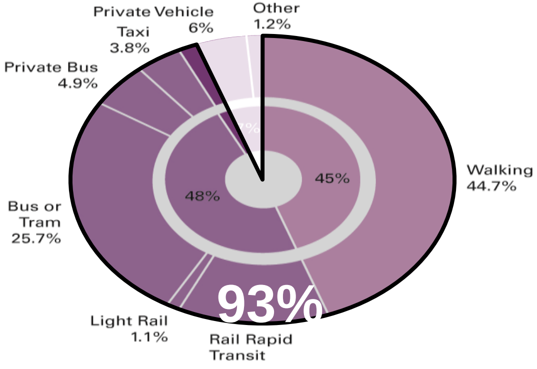

HONG KONG
peak 111,100 pp/km²


HONG KONG
peak 120,200 jobs/km²

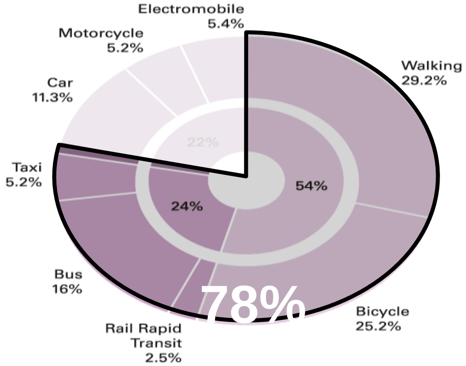
HONG KONG MTR NETWORK



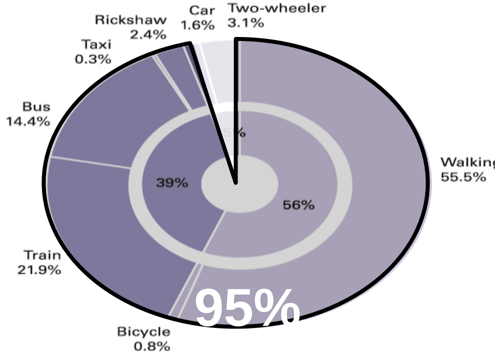
MODAL SPLITS



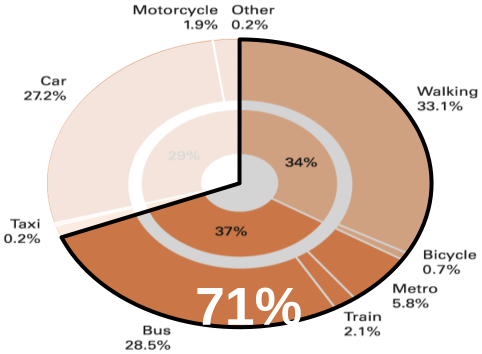
HONG KONG



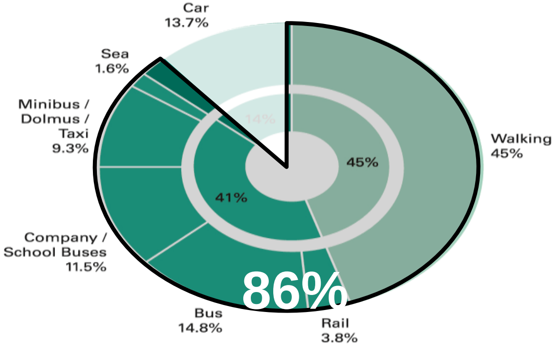
SHANGHAI



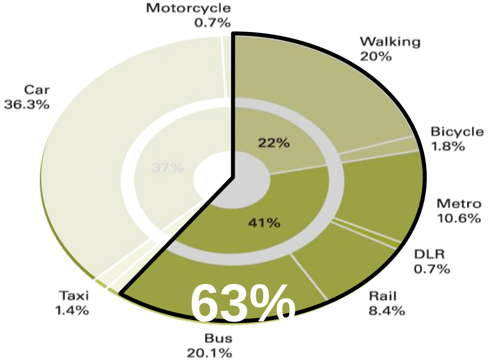
MUMBAI



SÃO PAULO

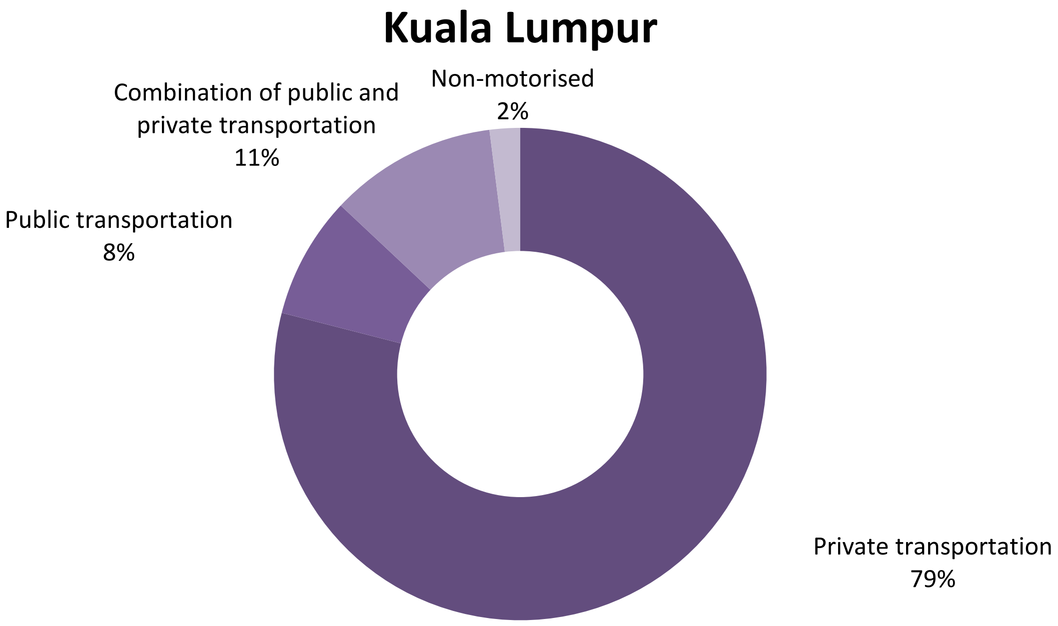


ISTANBUL



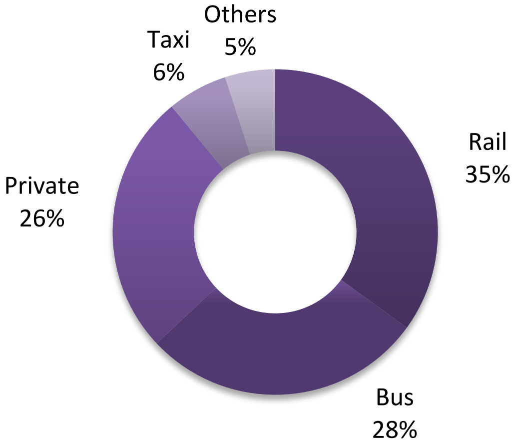
LONDON

Modal Share Kuala Lumpur

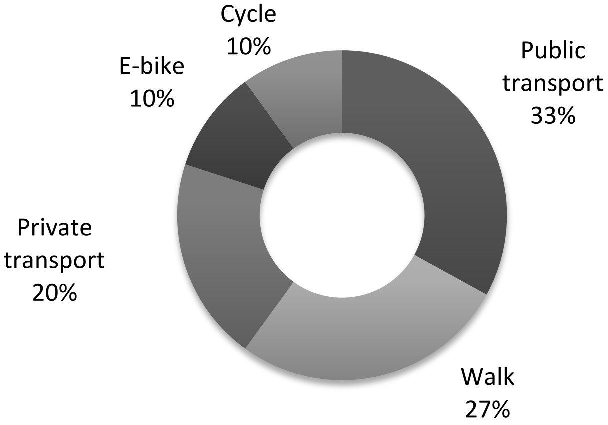


Frost and Sullivan, 2014

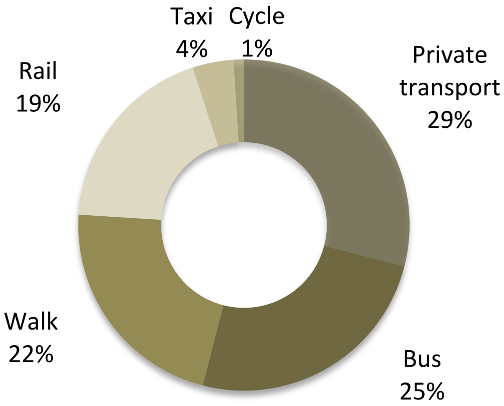
Seoul



Shanghai

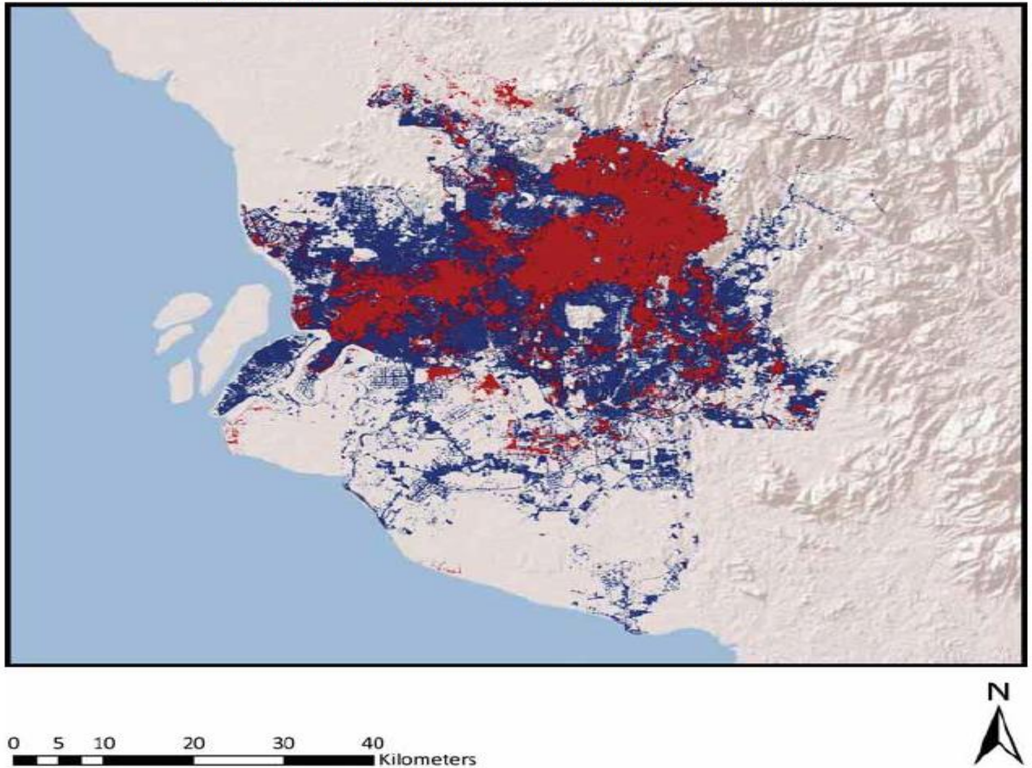


Singapore



Source: Government of Singapore Nov 2011
http://ltaacademy.gov.sg/doc/J11Nov-p60PassengerTransportModeSHares.pdf

Figure 96. Urban Growth in the Greater Kuala Lumpur Area, 1990-2009



	1990	2009	Compound Annual Growth Rate (%)
Population	3,079,200	5,969,300	3.55
Urban Area (sq km)	621.01	1555.23	4.95
Population Density	4,958	3,838	-1.34

Key

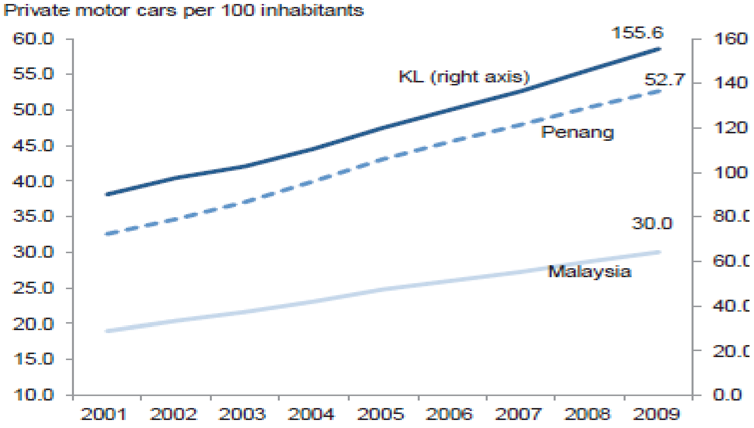
- Built-Up Area, 1990
- Built-Up Area, 2009

Sources: Classification of urban area: World Bank analysis, based on Landsat imagery; Population data: Department of Statistics, Malaysia.

Urban Growth in the Greater Kuala Lumpur Area 1990/2009

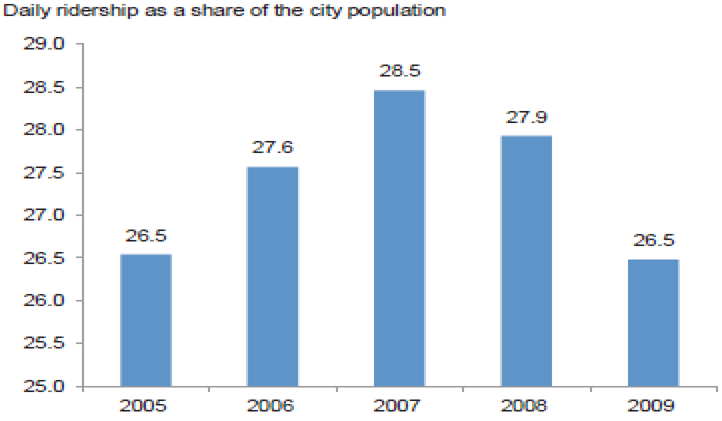
Source: Malaysia Economic Monitor – Smart Cities (World Bank 2011)

Figure 88. The number of cars in Malaysia has soared…



Source: Department of Statistics.

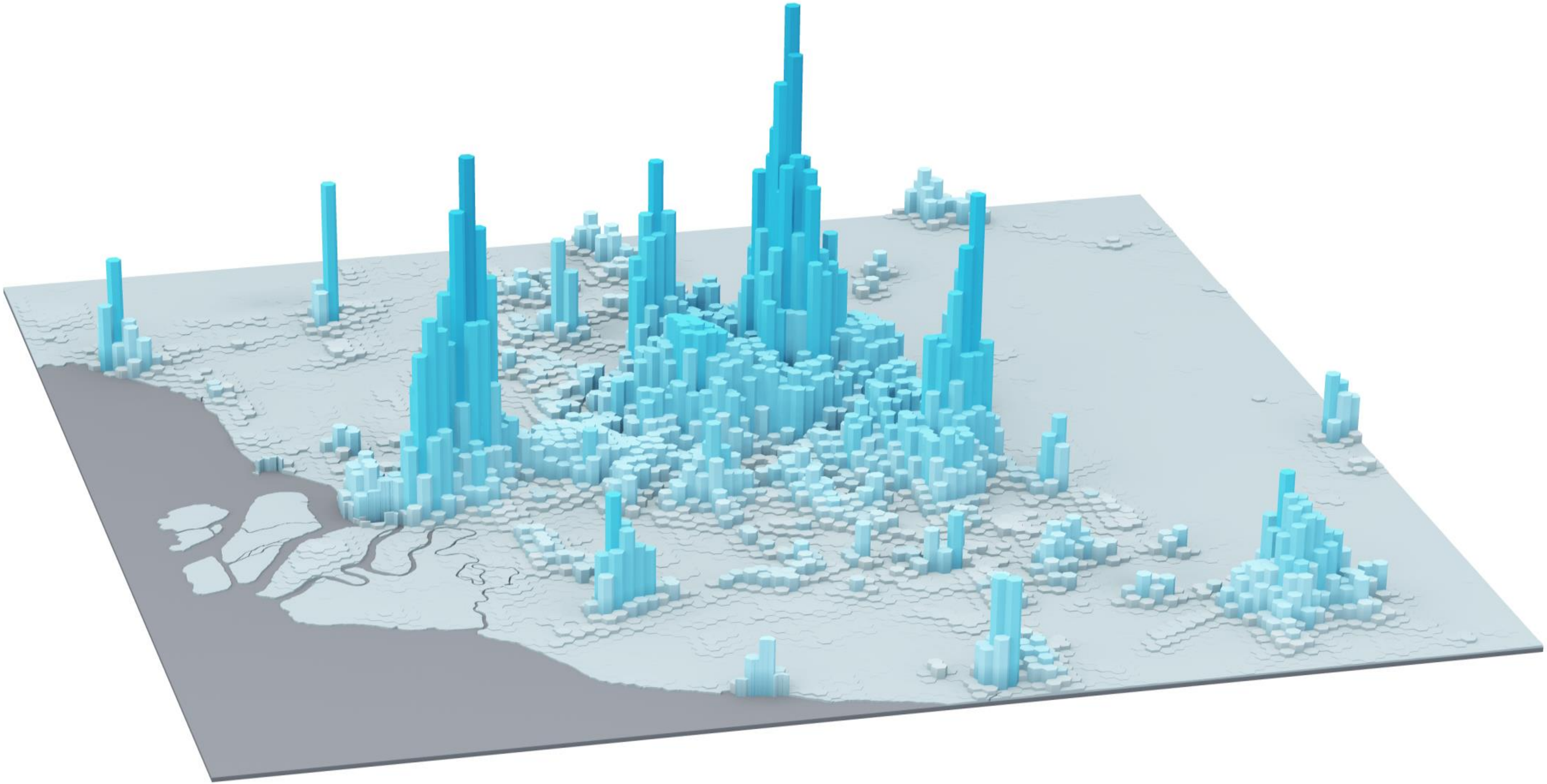
Figure 89. … while ridership of public transportation stagnated



Source: Department of Statistics.

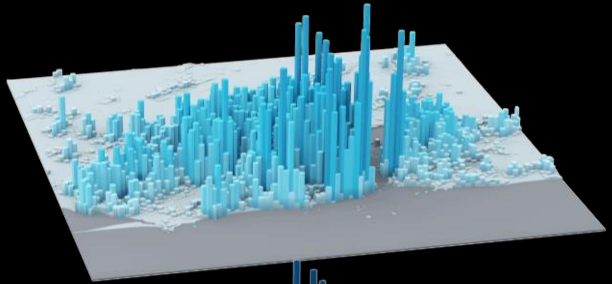
Source: Malaysia Economic Monitor – Smart Cities (World Bank 2011)

Kuala Lumpur

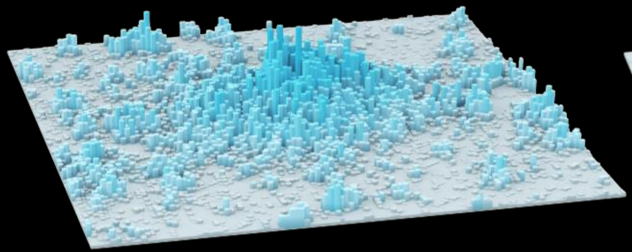


RESIDENTIAL DENSITY

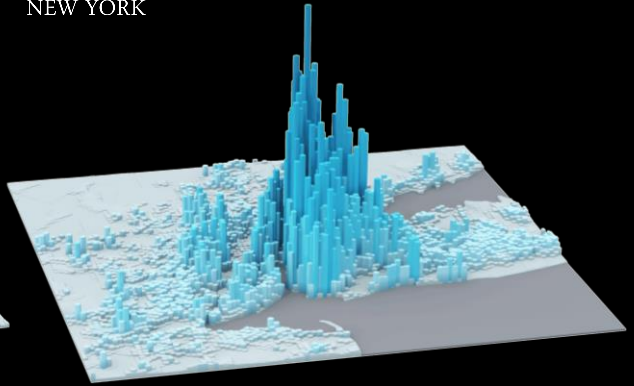
RIO DE JANEIRO



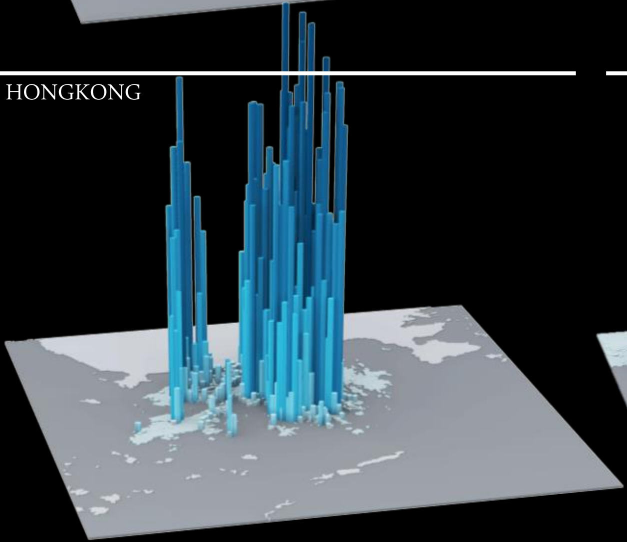
LONDON



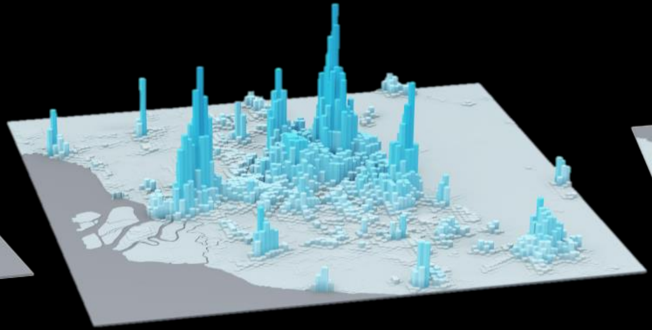
NEW YORK



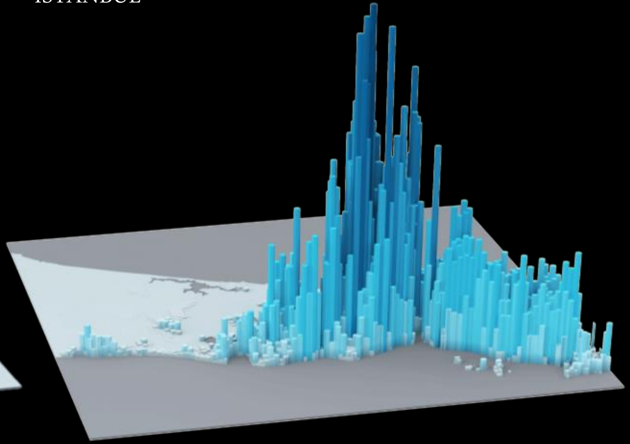
HONGKONG



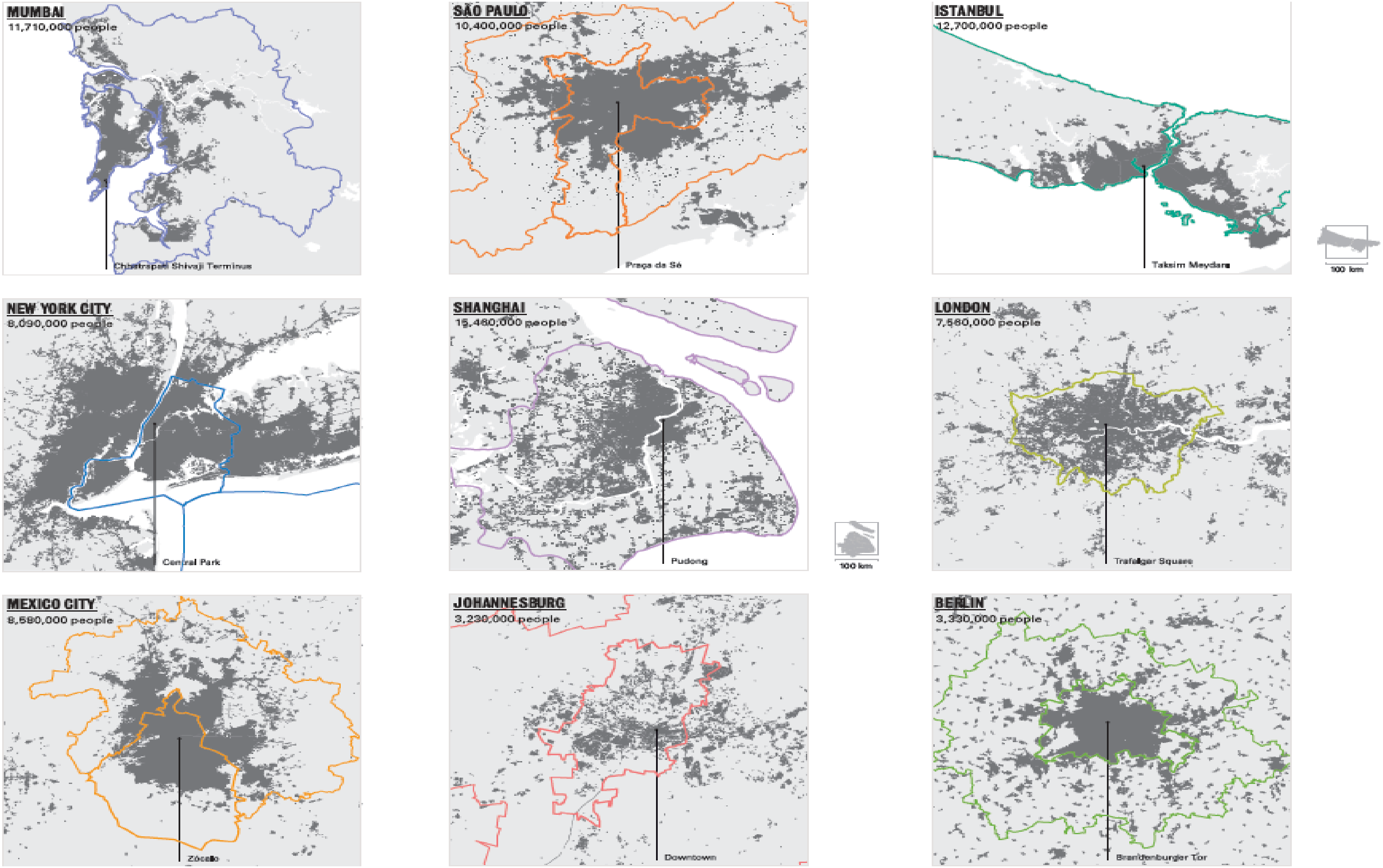
KUALA LUMPUR



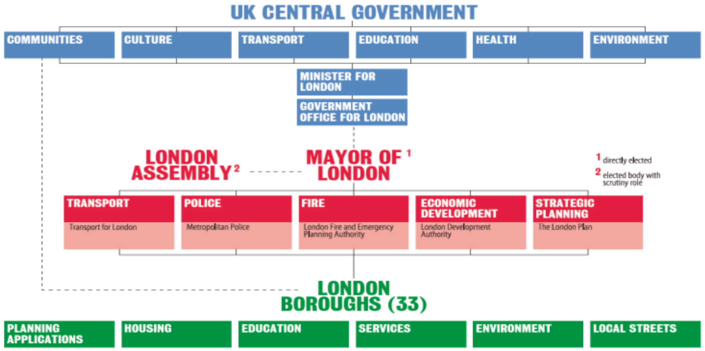
ISTANBUL

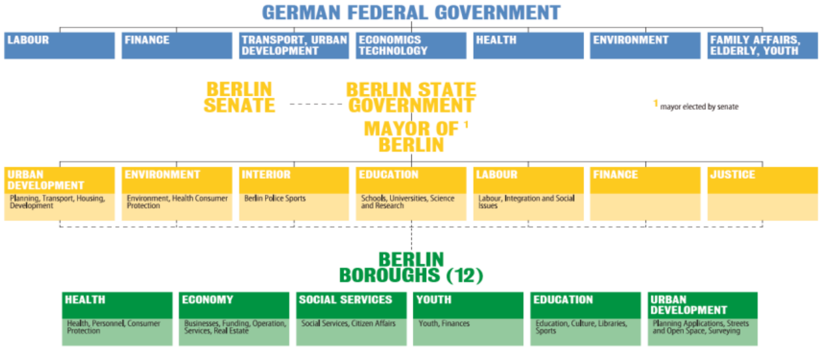


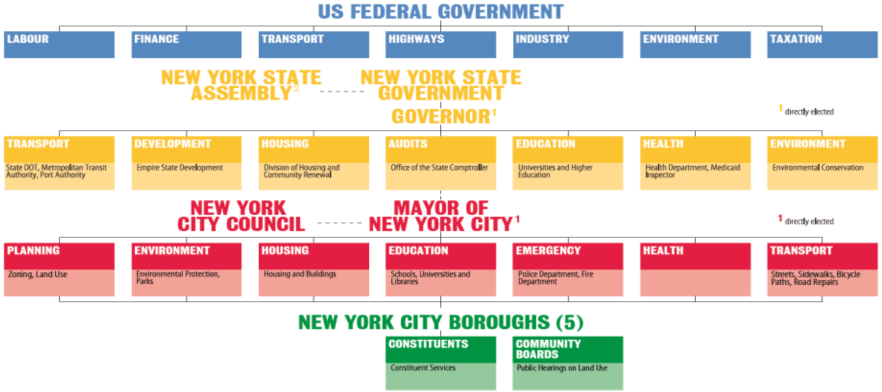

LETTER
BOX

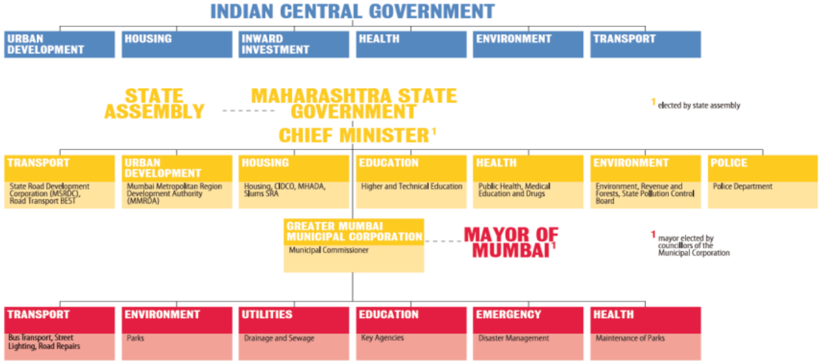

MUMBAI
11,710,000 people
Chhatrapati Shivaji Terminus
SÃO PAULO
10,400,000 people
Praça da Sé
ISTANBUL
12,700,000 people
Taksim Meydanı
100 km
NEW YORK CITY
8,090,000 people
Central Park
SHANGHAI
15,460,000 people
Pudong
100 km
LONDON
7,560,000 people
Trafalgar Square
MEXICO CITY
8,580,000 people
Zócalo
JOHANNESBURG
3,230,000 people
Downtown
BERLIN
3,330,000 people
Brandenburger Tor

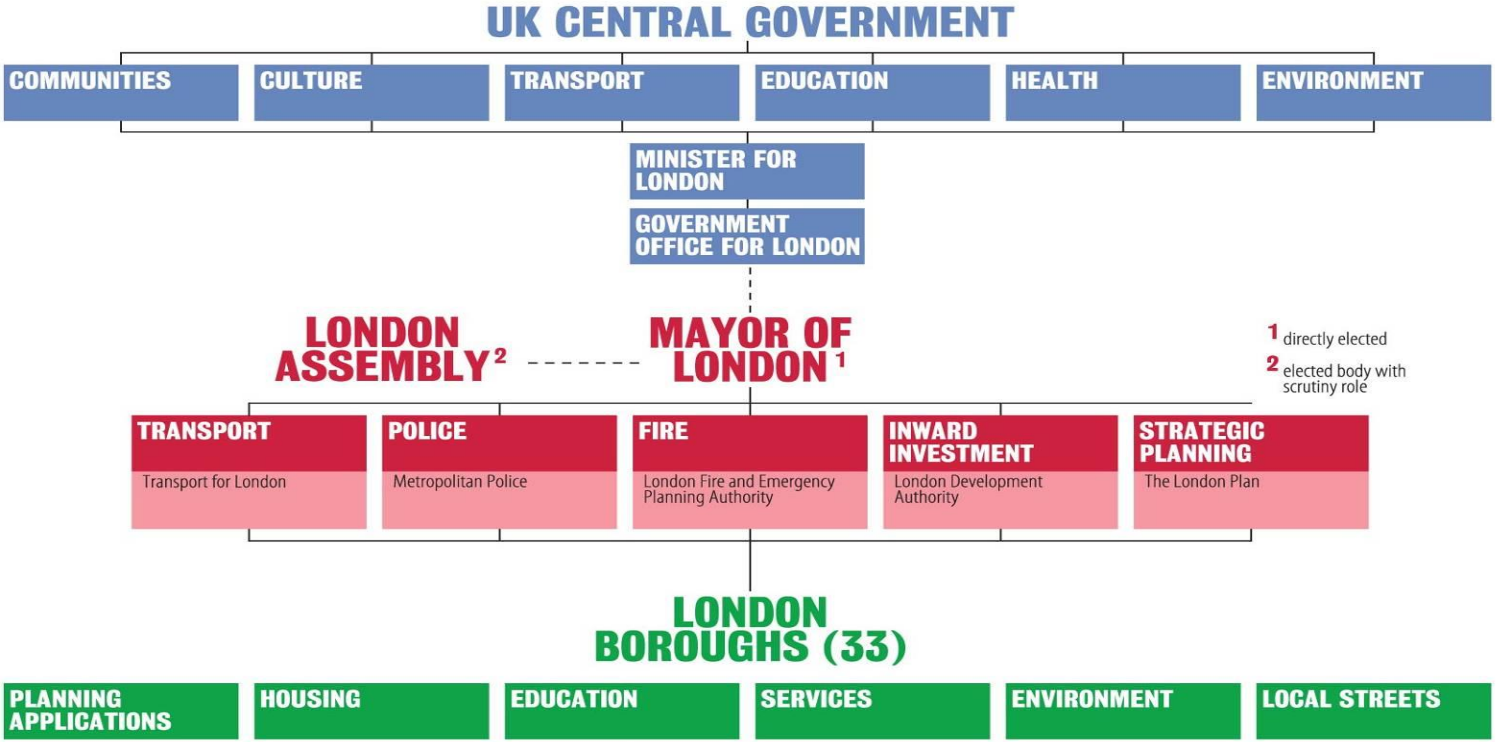
GOVERNANCE


UK CENTRAL GOVERNMENT
COMMUNITIES
CULTURE
TRANSPORT
EDUCATION
HEALTH
ENVIRONMENT
MINISTER FOR LONDON
GOVERNMENT OFFICE FOR LONDON
LONDON ASSEMBLY 2
MAYOR OF LONDON 1
1 directly elected
2 elected body with scrutiny role
TRANSPORT
Transport for London
POLICE
Metropolitan Police
FIRE
London Fire and Emergency Planning Authority
ECONOMIC DEVELOPMENT
London Development Authority
STRATEGIC PLANNING
The London Plan
LONDON BOROUGHS (33)
PLANNING APPLICATIONS
HOUSING
EDUCATION
SERVICES
ENVIRONMENT
LOCAL STREETS


GERMAN FEDERAL GOVERNMENT
LABOUR
FINANCE
TRANSPORT, URBAN DEVELOPMENT
ECONOMICS TECHNOLOGY
HEALTH
ENVIRONMENT
FAMILY AFFAIRS, ELDERLY, YOUTH
BERLIN SENATE
BERLIN STATE GOVERNMENT
MAYOR OF BERLIN 1
1 mayor elected by senate
URBAN DEVELOPMENT
Planning, Transport, Housing, Development
ENVIRONMENT
Environment, Health Consumer Protection
INTERIOR
Berlin Police Sports
EDUCATION
Schools, Universities, Science and Research
LABOUR
Labour, Integration and Social Issues
FINANCE
JUSTICE
BERLIN BOROUGHS (12)
HEALTH
Health, Personnel, Consumer Protection
ECONOMY
Businesses, Funding, Operation, Services, Real Estate
SOCIAL SERVICES
Social Services, Citizen Affairs
YOUTH
Youth, Finances
EDUCATION
Education, Culture, Libraries, Sports
URBAN DEVELOPMENT
Planning Applications, Streets and Open Space, Surveying


US FEDERAL GOVERNMENT
LABOUR
FINANCE
TRANSPORT
HIGHWAYS
INDUSTRY
ENVIRONMENT
TAXATION
NEW YORK STATE ASSEMBLY
NEW YORK STATE GOVERNMENT
GOVERNOR 1
1 directly elected
TRANSPORT
State DOT, Metropolitan Transit Authority, Port Authority
DEVELOPMENT
Empire State Development
HOUSING
Division of Housing and Community Renewal
AUDITS
Office of the State Comptroller
EDUCATION
Universities and Higher Education
HEALTH
Health Department, Medicaid Inspector
ENVIRONMENT
Environmental Conservation
NEW YORK CITY COUNCIL
MAYOR OF NEW YORK CITY 1
1 directly elected
PLANNING
Zoning, Land Use
ENVIRONMENT
Environmental Protection, Parks
HOUSING
Housing and Buildings
EDUCATION
Schools, Universities and Libraries
EMERGENCY
Police Department, Fire Department
HEALTH
TRANSPORT
Streets, Sidewalks, Bicycle Paths, Road Repairs
NEW YORK CITY BOROUGHS (5)
CONSTITUENTS
Constituent Services
COMMUNITY BOARDS
Public Hearings on Land Use


INDIAN CENTRAL GOVERNMENT
URBAN DEVELOPMENT
HOUSING
INWARD INVESTMENT
HEALTH
ENVIRONMENT
TRANSPORT
STATE ASSEMBLY
MAHARASHTRA STATE GOVERNMENT
CHIEF MINISTER 1
1 elected by state assembly
TRANSPORT
State Road Development Corporation (MSRDC), Road Transport BEST
URBAN DEVELOPMENT
Mumbai Metropolitan Region Development Authority (MMRDA)
HOUSING
Housing, CIDCO, MHADA, Slums SRA
EDUCATION
Higher and Technical Education
HEALTH
Public Health, Medical Education and Drugs
ENVIRONMENT
Environment, Revenue and Forests, State Pollution Control Board
POLICE
Police Department
GREATER MUMBAI MUNICIPAL CORPORATION
Municipal Commissioner
MAYOR OF MUMBAI 1
1 mayor elected by councillors of the Municipal Corporation
TRANSPORT
Bus Transport, Street Lighting, Road Repairs
ENVIRONMENT
Parks
UTILITIES
Drainage and Sewage
EDUCATION
Key Agencies
EMERGENCY
Disaster Management
HEALTH
Maintenance of Parks


UK CENTRAL GOVERNMENT
COMMUNITIES
CULTURE
TRANSPORT
EDUCATION
HEALTH
ENVIRONMENT
MINISTER FOR LONDON
GOVERNMENT OFFICE FOR LONDON
LONDON ASSEMBLY 2
MAYOR OF LONDON 1
1 directly elected
2 elected body with scrutiny role
TRANSPORT
Transport for London
POLICE
Metropolitan Police
FIRE
London Fire and Emergency Planning Authority
INWARD INVESTMENT
London Development Authority
STRATEGIC PLANNING
The London Plan
LONDON BOROUGHS (33)
PLANNING APPLICATIONS
HOUSING
EDUCATION
SERVICES
ENVIRONMENT
LOCAL STREETS

Ken Livingstone

Mayor of London

2000-2008

I don't!

Boris Johnson

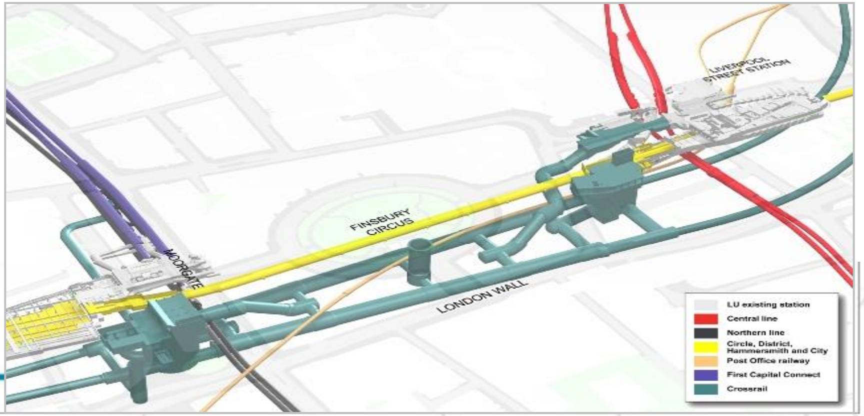
Mayor of London

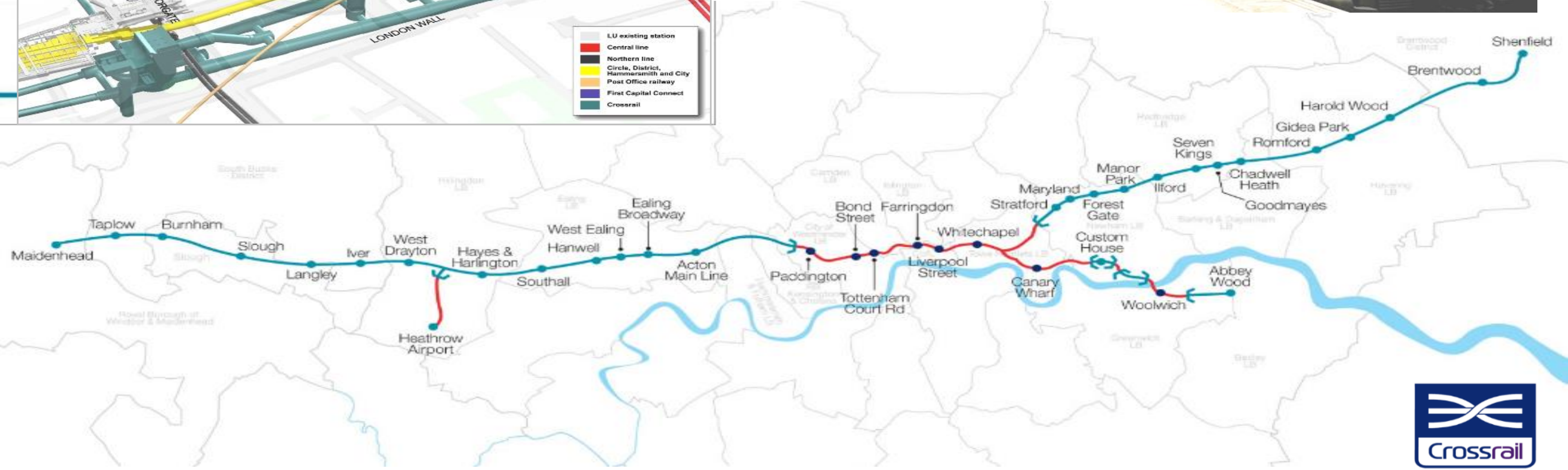

Transport for London
Congestion charging
Central ZONE
Mon - Fri
7 am - 6 pm

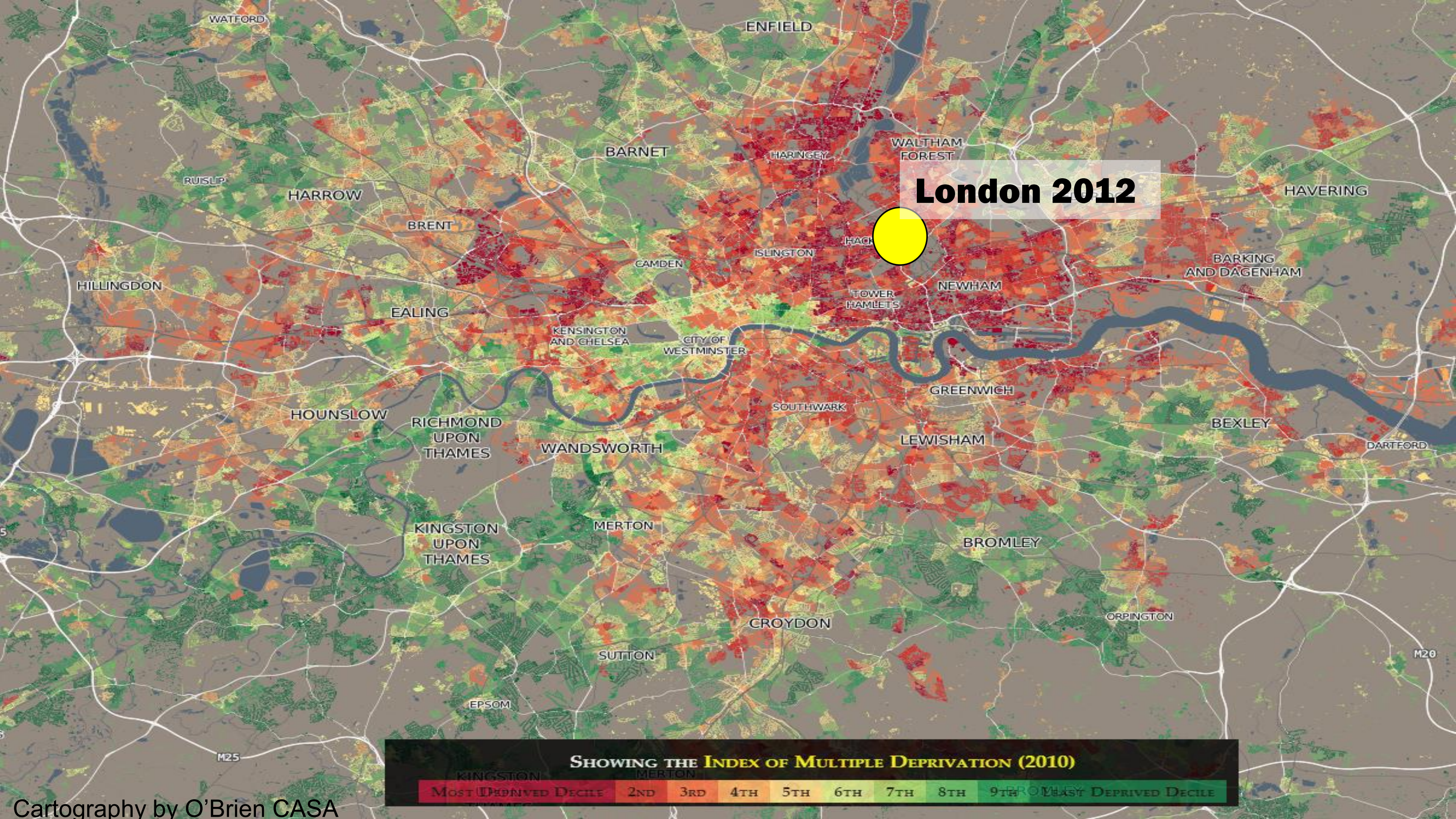

HSBC
242
ARRIVA
BARCLAYS
CYCLE HIRE

CROSS RAIL

LONDON

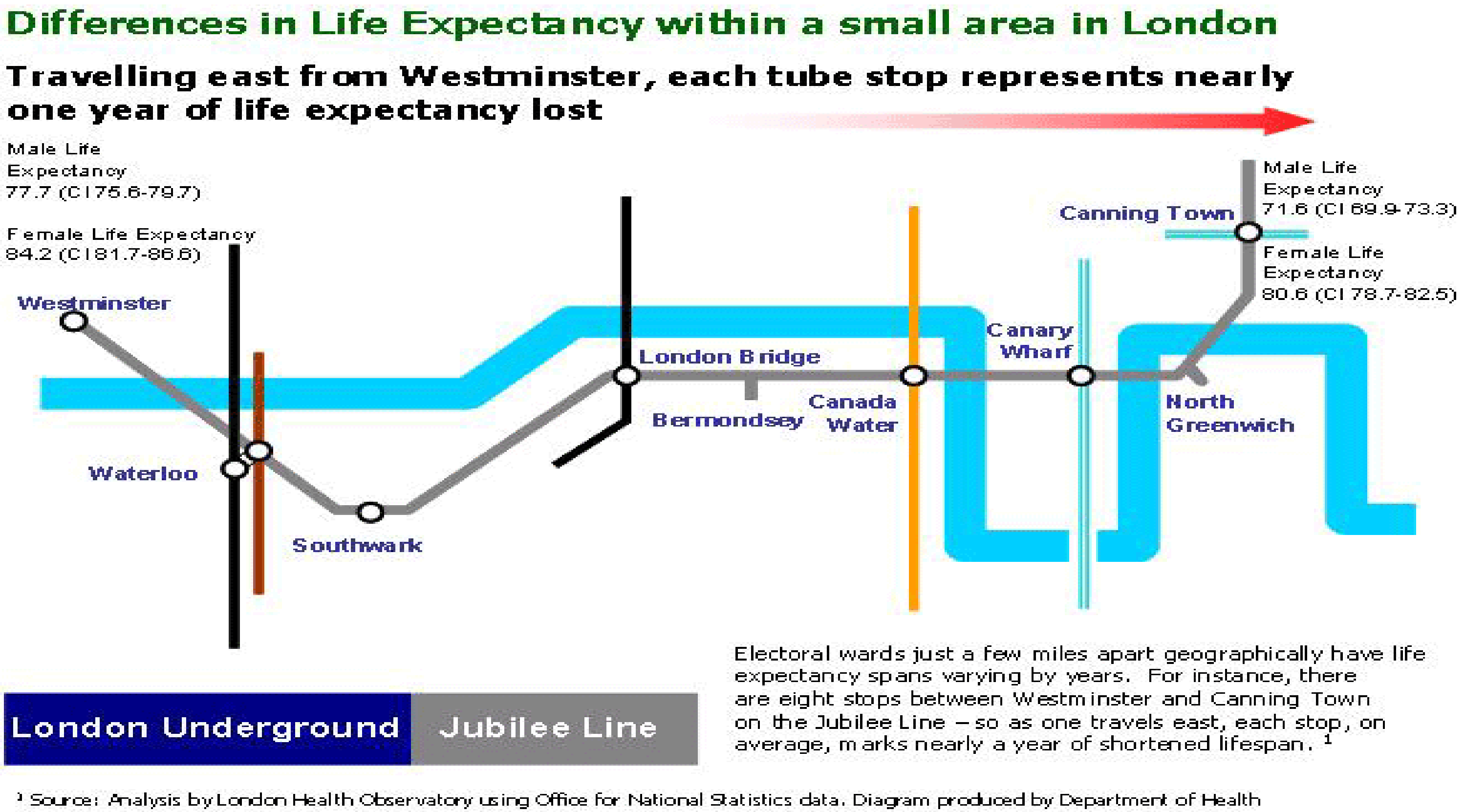






Cartography by O'Brien CASA

Health Inequalities in London

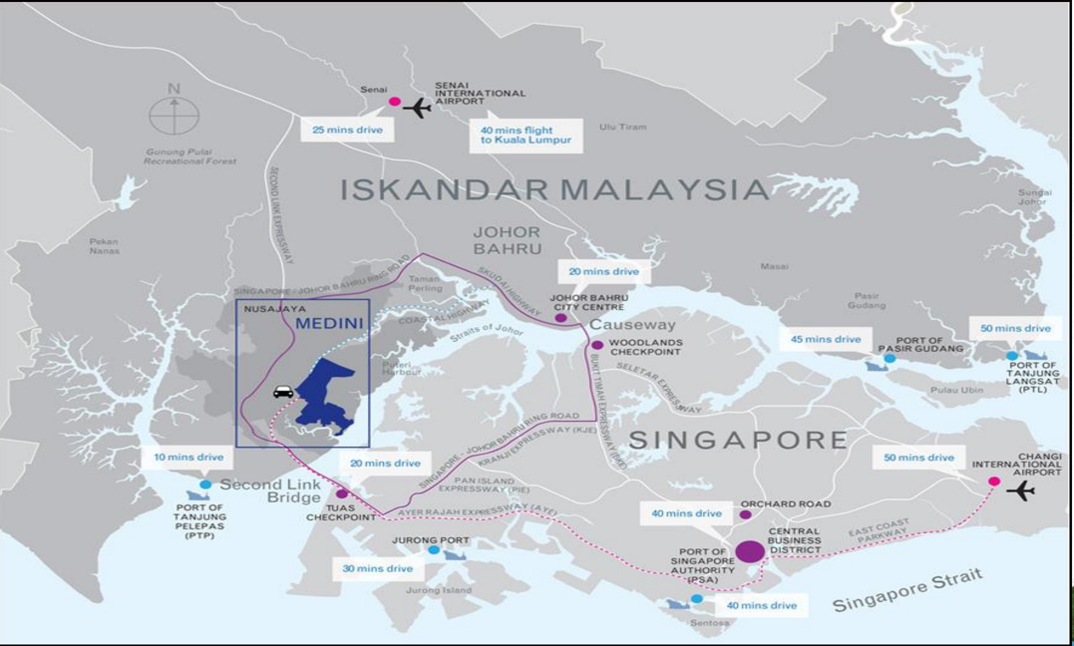



2005


2012

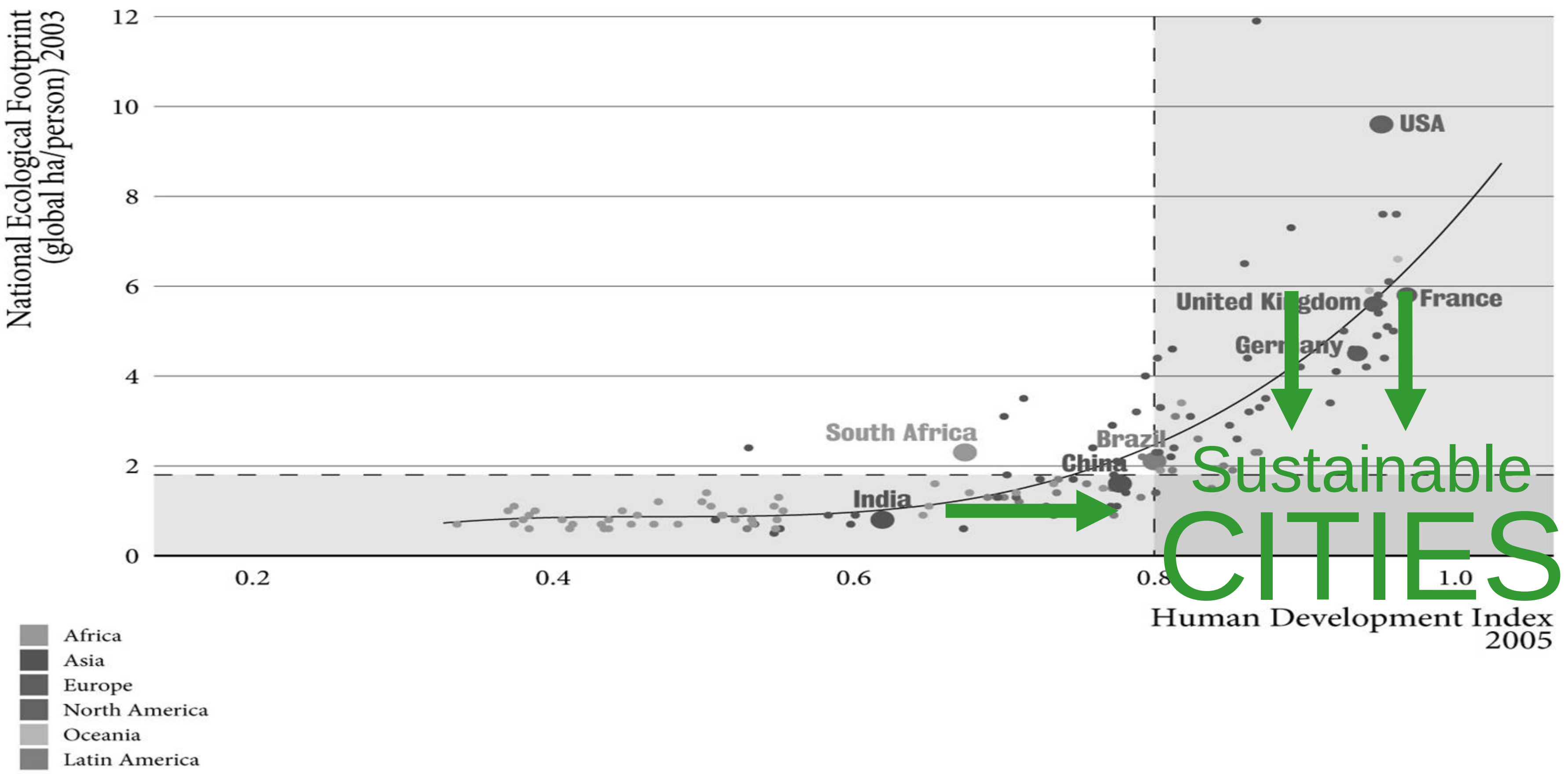

2025

Chobham Manor


N
Senai
SENAI INTERNATIONAL AIRPORT
25 mins drive
40 mins flight to Kuala Lumpur
Ulu Tiram
Gunung Pulai Recreational Forest
SECOND LINK EXPRESSWAY
ISKANDAR MALAYSIA
Sungai Johor
Pekan Nanas
JOHOR BAHRU
20 mins drive
Masai
SINGAPORE - JOHOR BAHRU RING ROAD
Taman Perling
SKUDAI HIGHWAY
JOHOR BAHRU CITY CENTRE
Pasir Gudang
NUSAJAYA
MEDINI
COASTAL HIGHWAY
Causeway
WOODLANDS CHECKPOINT
45 mins drive
PORT OF PASIR GUDANG
50 mins drive
PORT OF TANJUNG LANGSAT (PTL)
Straits of Johor
Puteri Harbour
BUKIT TIMAH EXPRESSWAY (BKE)
SELETAR EXPRESSWAY
Pulau Ubin
SINGAPORE - JOHOR BAHRU RING ROAD
KRANJI EXPRESSWAY (KJE)
SINGAPORE
10 mins drive
20 mins drive
50 mins drive
CHANGI INTERNATIONAL AIRPORT
Second Link Bridge
PAN ISLAND EXPRESSWAY (PIE)
PORT OF TANJUNG PELEPAS (PTP)
TUAS CHECKPOINT
AYER RAJAH EXPRESSWAY (AYE)
ORCHARD ROAD
40 mins drive
CENTRAL BUSINESS DISTRICT
EAST COAST PARKWAY
JURONG PORT
PORT OF SINGAPORE AUTHORITY (PSA)
30 mins drive
Jurong Island
40 mins drive
Singapore Strait
Sentosa

Skala = 1:5,000
LINEAR PARK
Ke Johor Bahru
LIFESTYLE
BUSINESS
LIVING
Ke Link Kedua
Sg. Pendas
SELAT JOHOR (STRAITS OF JOHORE)

HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT



HUMAN DEVELOPMENT AND ECOLOGICAL FOOTPRINT