

Look to NEW Transit Metropolises



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Summary

Old Transit Cities, Traffic Saturated Cities
and New Transit Cities

When did New Transit Metropolises get
their mass transit systems?

What actions took New Transit Cities
from traffic saturation to transit-
orientation?

OLD TRANSIT CITIES, TRAFFIC SATURATED CITIES AND NEW TRANSIT CITIES

OLD Transit Cities

Tokyo, Osaka, Paris and London for example

Had large traffic-immune mass transit systems BEFORE mass motorization started



Tokyo

OLD Transit Cities

Public transport kept a crucial
central role despite rise of cars

Often after a political struggle

Useful lessons but not
always relevant for India's
cities?



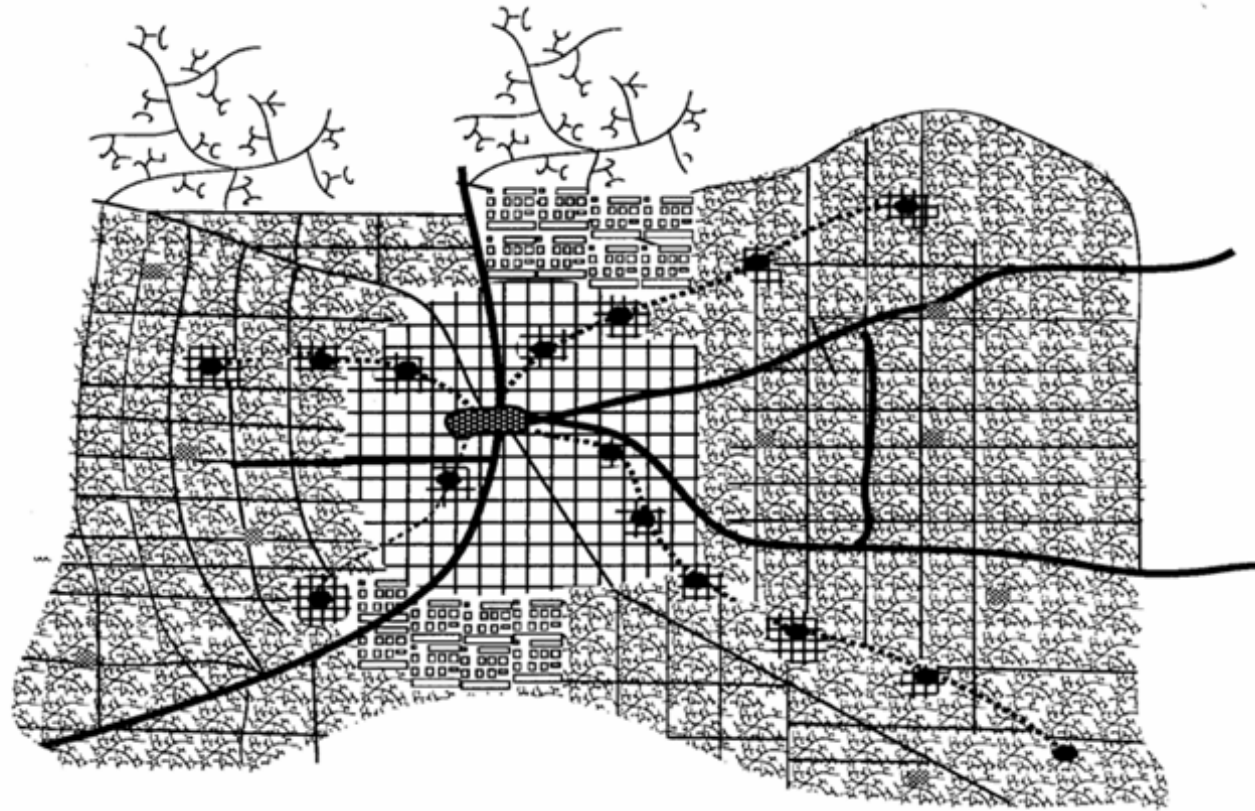
Paris 'mobilien' bus priority system. Photo from <http://www.streetsblog.org/2006/08/11/traffic-continues-to-disappear-in-paris/>

Former Old Transit Cities

Many large cities in the West

Transit-oriented cores but now car-oriented over wide area

Struggles in many to reduce car-dependence and regain a liveable core



- High Density Commercial Use Core
- Commercial, Retail and Industrial Land Use separated and dispersed throughout metropolitan area
- Long distance origin and destination patterns highly dispersed throughout the metropolitan area

Traffic Saturated Cities

Most large Southeast Asian cities,
most large Latin American cities
many large Chinese cities,
India's Metros and 2nd Tier Cities!

Lacked mass transit that was
traffic-immune at start of:

- economic surge
- big urban expansions and
- (potential) mass motorization



Traffic Saturated Cities

Vehicle flood creates congestion and harms alternatives creating vicious cycles that escalate quickly in large, dense cities without mass transit

Bangkok



Image Source: GIZ-SUTP



Traffic Saturated Cities

Early responses to traffic saturation crises?

Many attempt initially to accommodate cars:

- Road capacity focus
- Planning for dispersal and capped densities
- Car-oriented planning norms
(including street widths, setbacks, parking norms, etc.)

Kuala Lumpur



NEW Transit Cities

Also little or no traffic-immune mass transit at start of this pivotal era but reacted differently

Includes Singapore, Hong Kong
Seoul, Taipei, Shanghai
Curitiba, Bogotá

Also includes some moderately transit-oriented cities in Europe
(such as Munich, Stockholm and others)



Singapore

Archives and Oral History Department Singapore



Singapore

NEW Transit Cities

Traffic saturation crises

Key responses resisted not welcomed cars

Private mobility still increased but at slower rate

Public transport mobility increased too,
in some cities faster than private!

A change of path

Pathways for cities that enter mass-motorization era without significant mass transit

Low mobility

Newly motorizing cities
without much traffic-immune mass transit

Rapidly rising car ownership
Low transport investment

Some cities act early to change mindsets and policies on cars

Avoid car subsidies and restrain growth of car ownership and/or use

Improve public transport institutions, investment, capacity and quality

Transit-oriented land-use planning and development

Others react later

Restrain car use, invest in public transport & NMT
But how late is too late?

Traffic-saturated cities

Continued rapid motorization

Low transport investment

Some muddle on

Some increase their efforts to welcome cars

Motorization; very high road investment, suburbanization ?

Car dependence "built in"

Automobile dependent cities

A spectrum between the extremes (depending on priority for cars versus alternatives)

NEW TRANSIT CITIES

High mobility

NEW Transit Cities

Responses to traffic saturation crises

- Cars as luxury not necessity
- Public transport investments
AND effort on institutions
AND spatial priority
- Transit-oriented planning
- Walkability and
“placemaking” (places worth
saving from traffic!)

Hong Kong's New Territories



Seoul

NEW Transit Cities

Political struggles that changed
mindsets NOT just policies

Repeated struggles to overcome
objections to these policies
“but I need my car!”

Cars are optional! Need to work hard
to make sure this stays true
(at least for most people, across much of the city)

Europe's new *moderately* transit-oriented cities

Motorization, economic boom and urban growth in NW Europe from 1950s and most **initially** welcomed cars

But traffic saturation then badly hit medium-sized tram-based cities (worse than large Old Transit Cities)

Some resisted car-dependence better than most (examples: Munich and Stockholm)

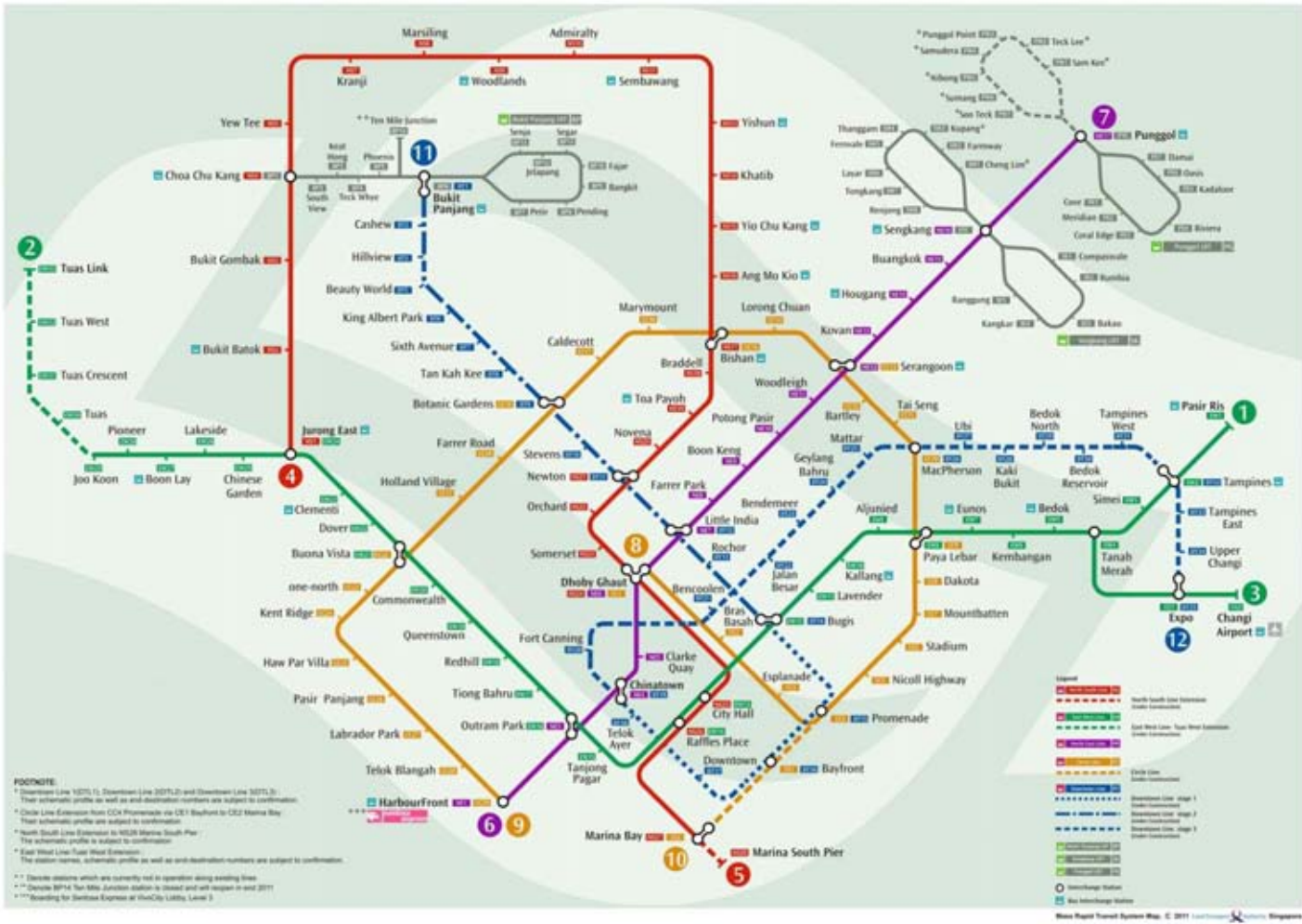
Vienna



**WHEN DID NEW TRANSIT CITIES GET
THEIR MASS TRANSIT SYSTEMS?**

Singapore

MRT initial system opened **1987**



Hong Kong

MTR lines from 1979;

Kowloon-Canton Railway (KCR) double-track & electric only from **1983**

Hong Kong rail system 2009 (via Wikimedia Commons user Sameboat)

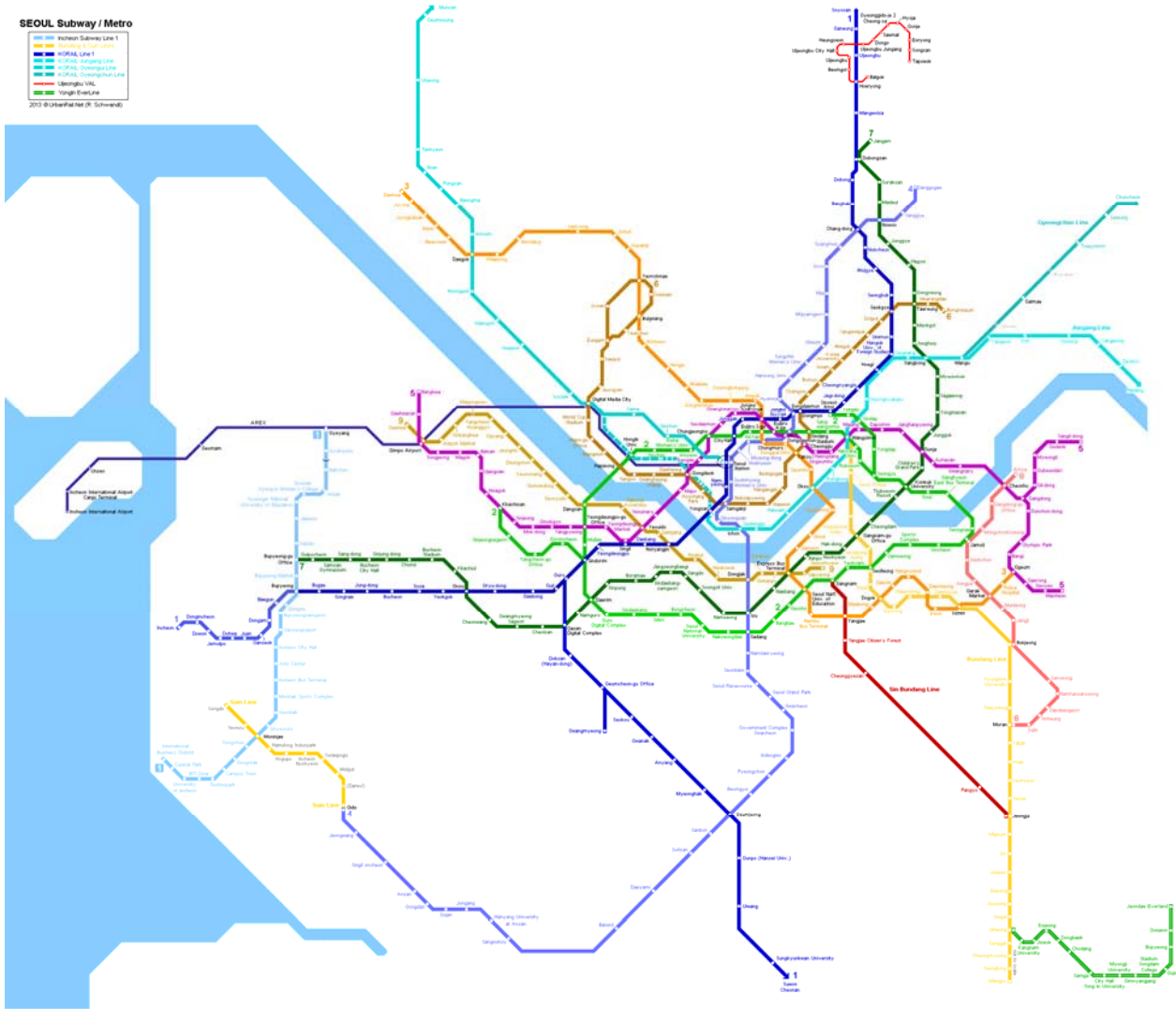


Seoul

Suburban rail line
upgrading from **1970s**

First subway line **1974**,
2nd, 3rd and 4th in 1984-85

Seoul metropolitan area urban rail lines
including Seoul Subway Lines, Incheon subway, and Korean Rail suburban lines

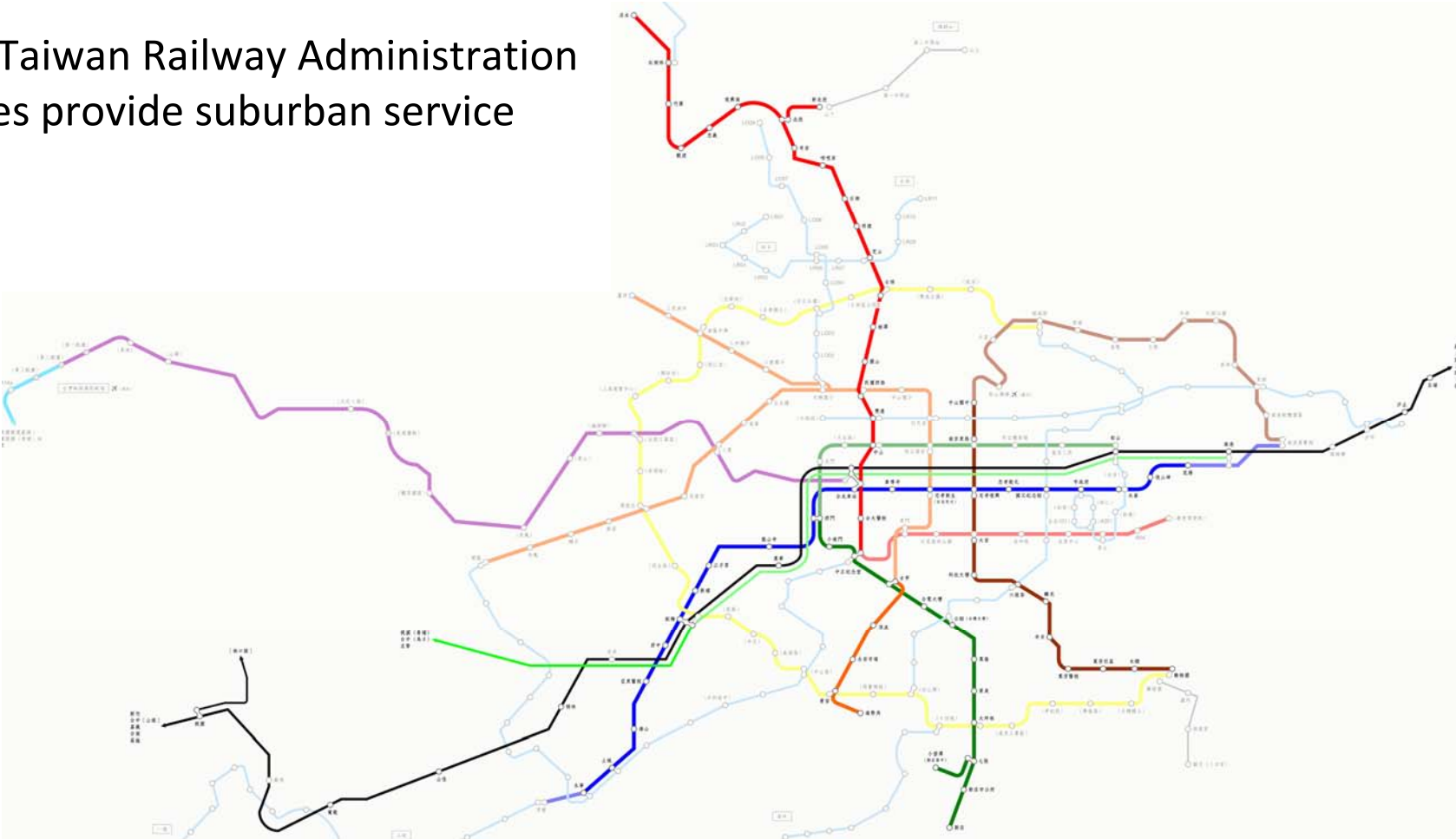


Taipei

Taipei metropolitan area urban rail 2006 (via Wikimedia Commons user [_____](#))

Taipei metro since **1996**

Some Taiwan Railway Administration services provide suburban service



Shanghai

Shanghai metro first line opened in 1993

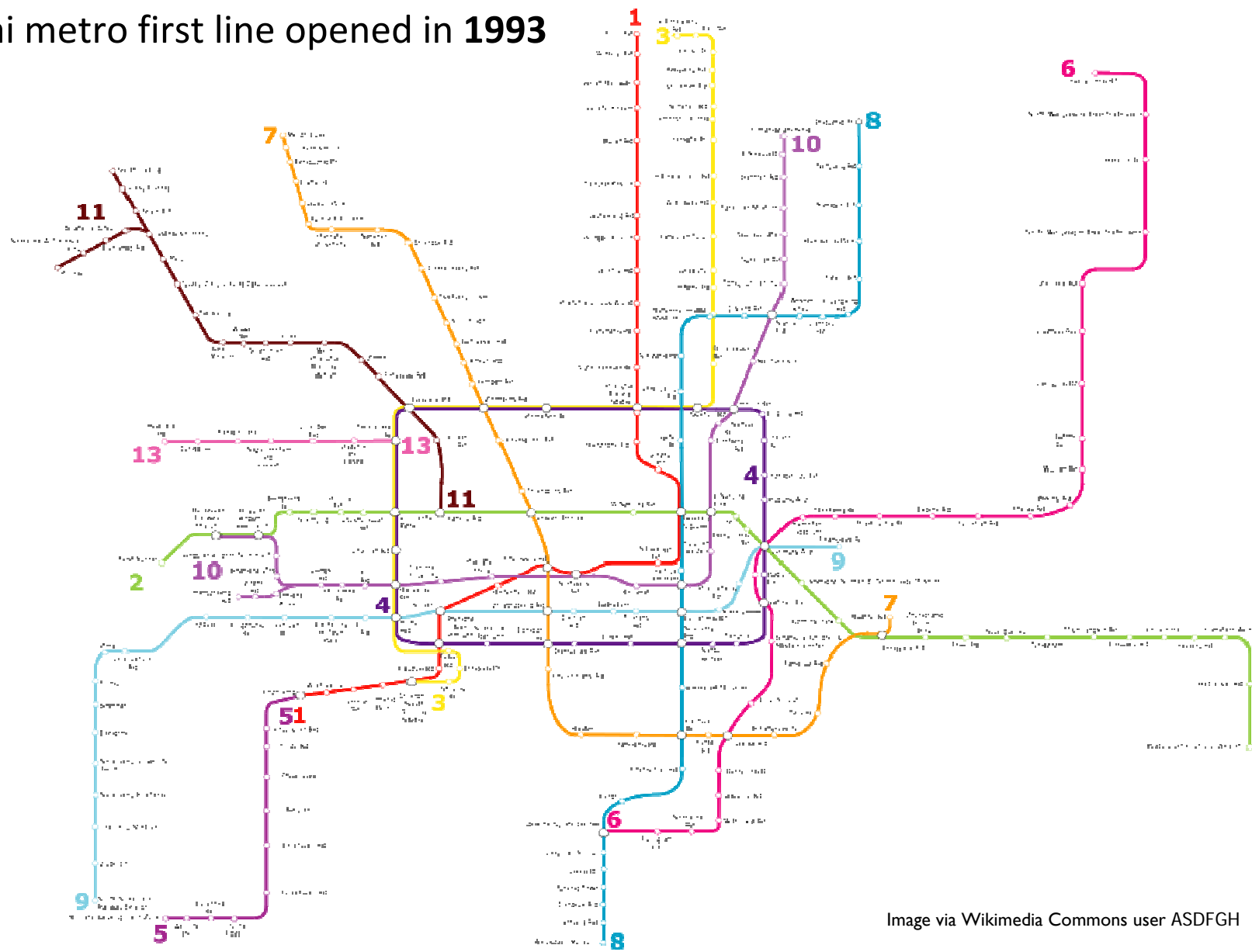


Image via Wikimedia Commons user ASDFGH

Curitiba

opened in 1974

The map illustrates the Curitiba Metro system, which is a radial system with a central hub and several lines radiating outwards. The lines are color-coded: orange for the main radial lines, green for the Circular Sul line, and blue for the Circular Norte line. Key stations include Terminal Camp. do Siqueira, Terminal Capão da Imbuia, Terminal Oficinas, Terminal Centenário, Terminal Carmo, Terminal Boqueirão, Terminal Sítio Cercado, Terminal Pinheirinho, Terminal Capão Raso, Terminal Portão, Terminal Hauer, Terminal Cabral, and Terminal Carlos Gomes. The map also shows the names of various neighborhoods and landmarks along the routes, such as Praça Rui Barbosa, Praça Carlos Gomes, and Praça Oswaldo Cruz. Line numbers 301, 302, 303, 502, 503, 602, and 603 are indicated at various points along the routes.

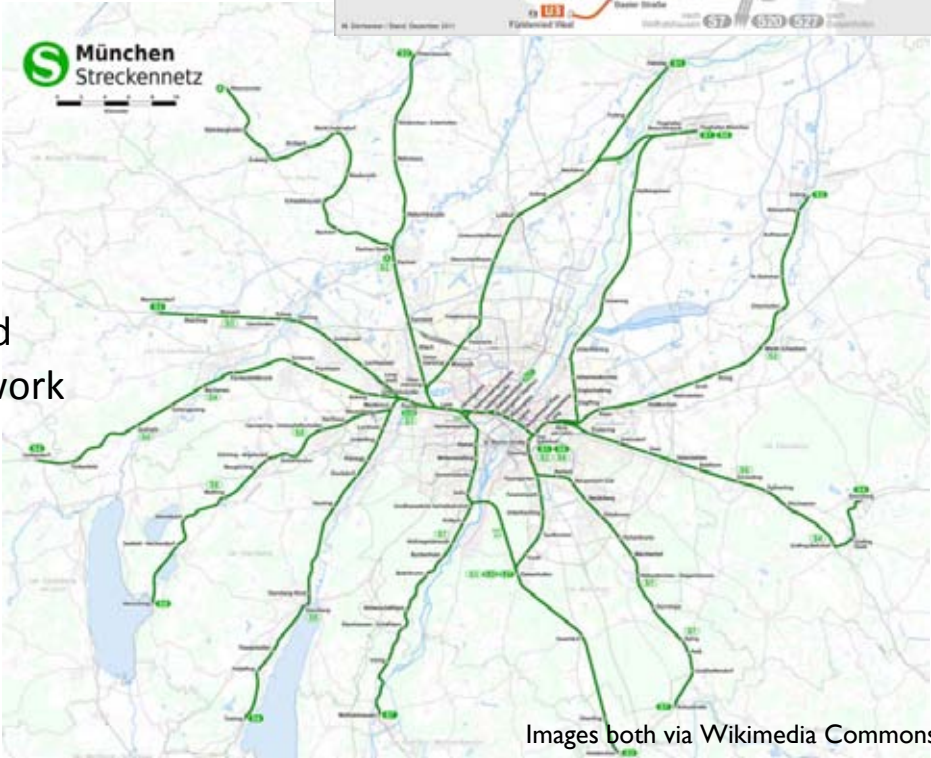
Bogotá

Bogotá's Transmilenio BRT system first phase opened in 2000



Munich

U-bahn built from **1965**



S-bahn (regional lines turned into strong suburban rail network only since **1971**)

Stockholm

Metro first line **1950**

Commuter rail small with poor service until major improvements from **1970s** and especially in 80s and 90s

Stockholm's urban rail network

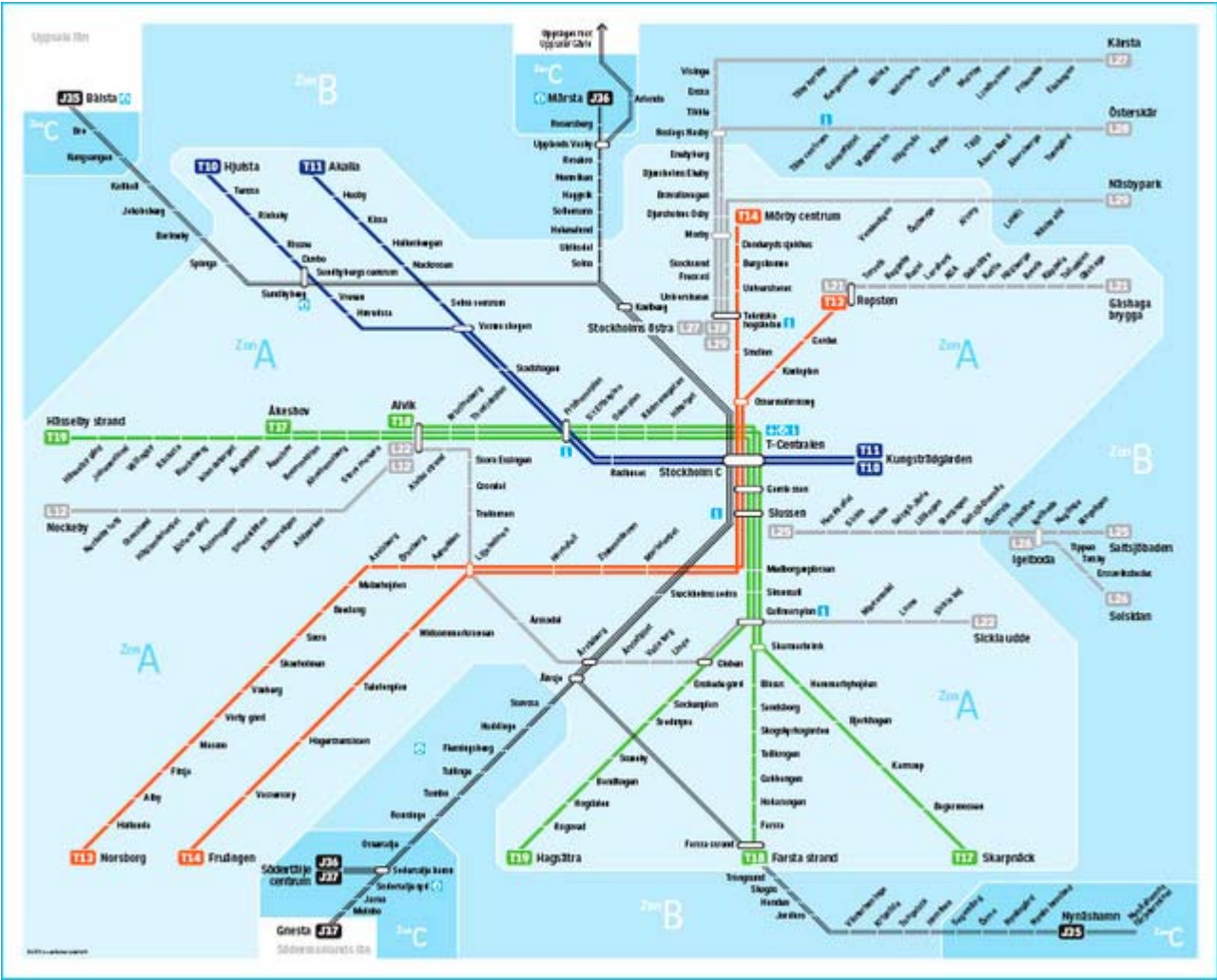


Image via <http://www.skyscrapercity.com/showthread.php?t=1354709>

WHAT ACTIONS TOOK NEW TRANSIT CITIES FROM TRAFFIC SATURATION TO TRANSIT- ORIENTATION?

Private cars treated as luxury not necessity: local fuel surcharges

Bogotá:

Colombian cities have a 20% surcharge on all gasoline sales

Half of Bogotá's fuel surcharge goes to TransMilenio infrastructure

Seoul has also
long had an
urban fuel
surcharge



Transmilenio in the city centre

Private cars treated as luxury not necessity: vehicle quotas

Singapore's Vehicle Quota System (VQS) with its Certificates of Entitlement (COEs) since 1989

Shanghai vehicle quota with 'vehicle license auction' since 2002

Beijing new vehicle quota uses lottery not an auction

Several other Chinese cities likely to soon follow



Singapore's vehicle quota is more powerful than its congestion pricing



Private cars treated as luxury not necessity: parking supply restraint in city centres

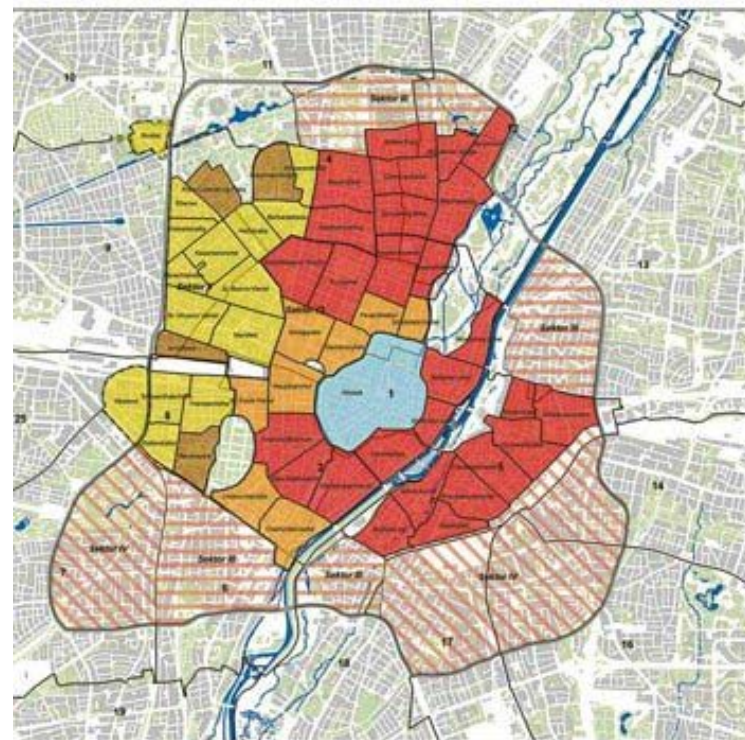
Seoul business districts: parking supply restricted; on-street prices highest band

Many European cities also strongly restrict central parking supply (see ITDP's European Parking U-Turn)

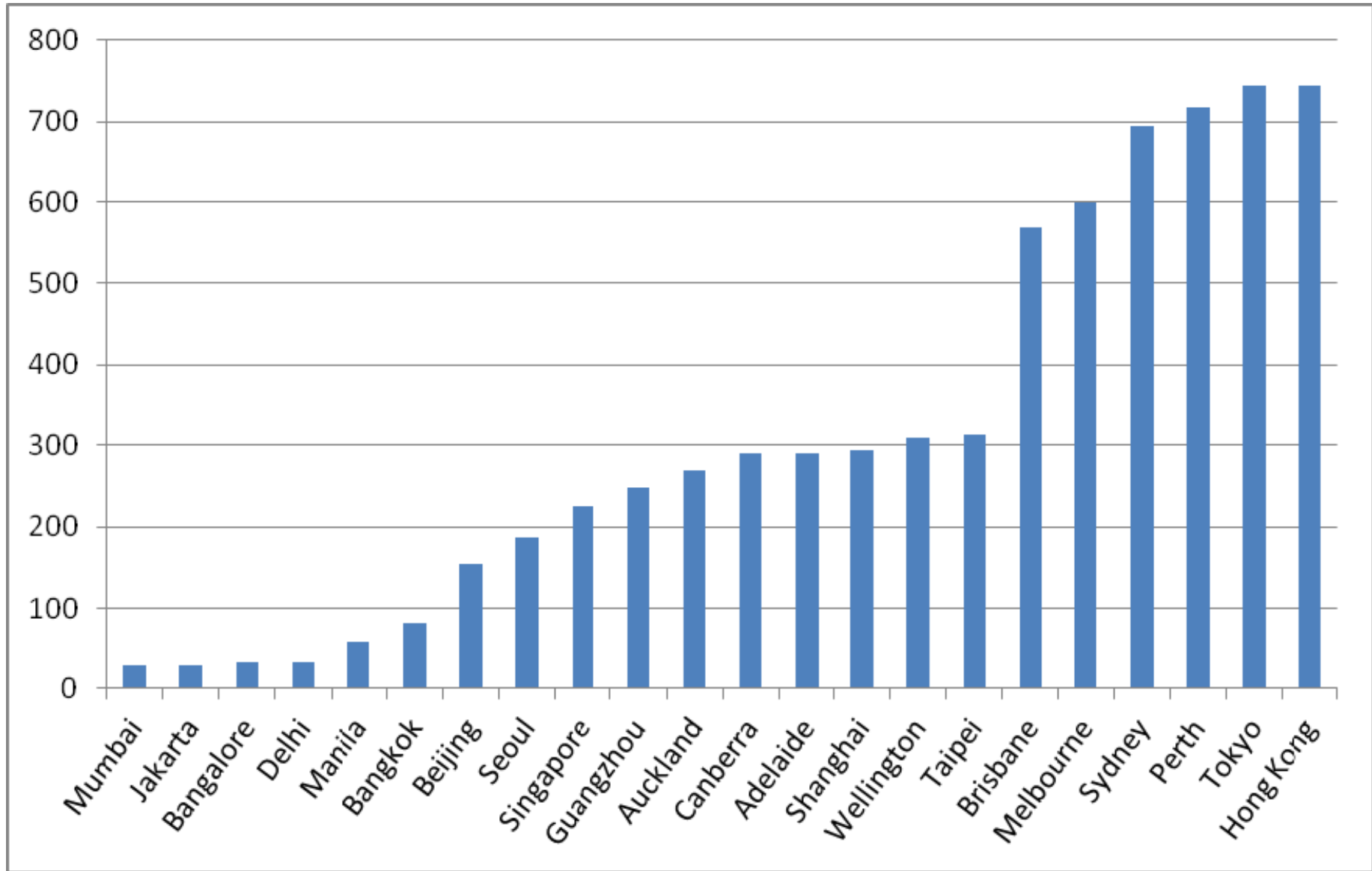
Singapore: CBD parking supply limited (in different ways over the years)

Hong Kong: low parking norms and high market prices charged, even for government parking lots

Munich parking management zones system (source: GIZ-SUTP)



Median monthly unreserved CBD parking price (US\$)



Private cars treated as luxury not necessity: parking policy and car ownership

Hong Kong: tightly restricted parking with housing until 1981

Singapore public housing and most Hong Kong housing: parking charges are unbundled from the price of housing

In most New Transit Cities: limited parking supply and strengthening on-street parking management is de-facto constraint on car-ownership in older, inner-city areas

Parking in Singapore public housing



Residents pay at least S\$60 (Rs3000) per month. Visitors pay S\$1 (Rs50) per hour

Effort on public transport: ... AND organization/institutions

Hong Kong and Singapore: bus regulation strengthened in 1970s.
Area Franchises with service standards

Bus regulatory options (diagram by Paul Barter)

*Government takes
much responsibility
for outcomes*



*Government
takes little
responsibility for
outcomes*



*Compatible with
ambitious integration*



*Incompatible
with integration*



Competition for the market possible

*Competition in
the market*

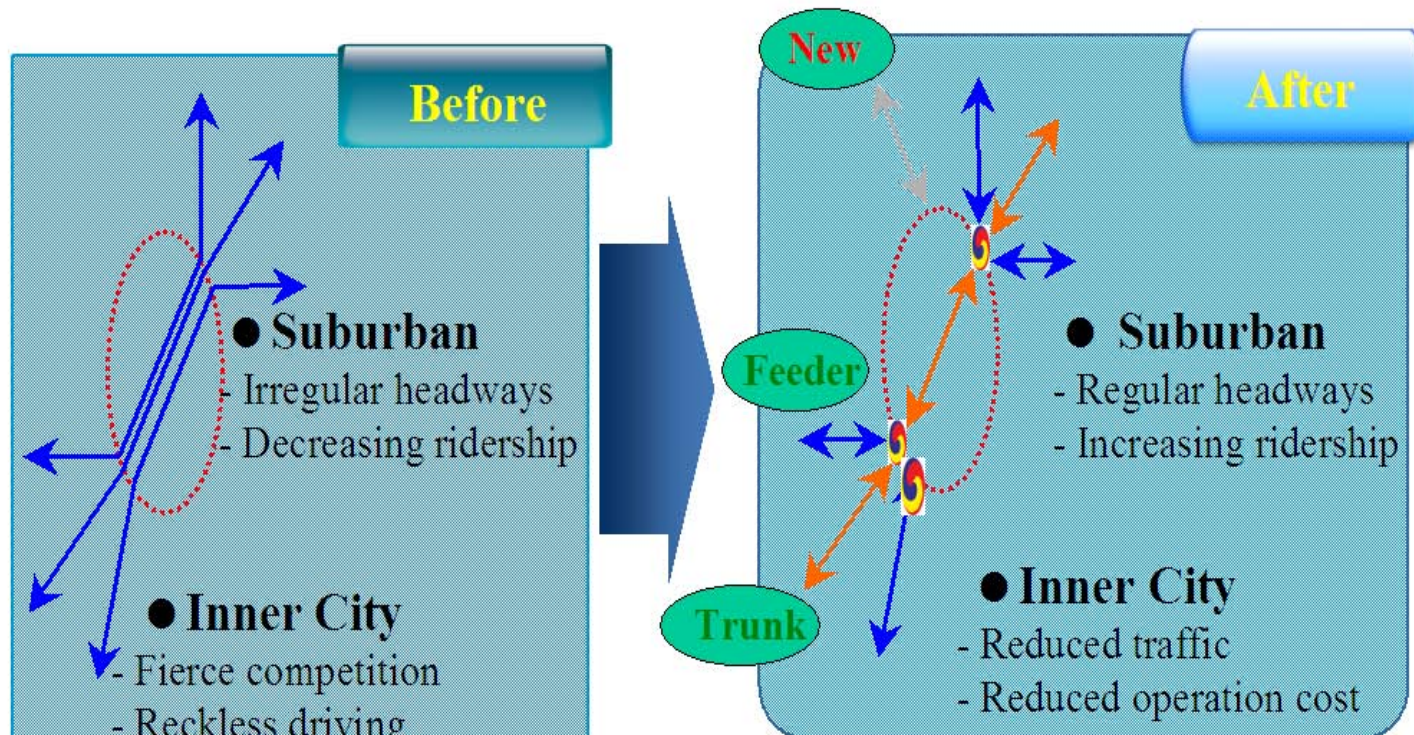
Effort on public transport: organization/institutions

Stockholm, Munich and Seoul regions:

mixes of public-sector and private operators

now under gross cost contracts with incentives

improved integrated, planned and scheduled by public agency



Effort on public transport: organization/institutions

Bogotá: Transmilenio public infrastructure/private operations
(under competitively tendered gross-cost contracts with incentives)



Effort on public transport: spatial priority

Singapore and Hong Kong: traditional bus lanes with quite strong enforcement since 1970s

Munich: program of on-road tram priority yielding 30% operating speed increase

Singapore has both all-day (as here) and peak-only bus lanes



Effort on public transport: spatial priority

Taipei 1990s effort on
bus priority throughout
inner city

Using median bus lanes

(yes these ARE almost always better then
kerbside lanes)



Effort on public transport: spatial priority



Amsterdam



Bogotá

Image credit Flickr user [mariordo59](#)



Seoul (by Kim, GC 2007 with permission)

Transit-oriented, not auto-oriented planning

Intensification of key transit-oriented
business districts



Singapore



Shanghai

Image credit Flickr user Andy*Enero

Transit-oriented, not auto-oriented planning

Allow dense development

Below is a LOW density area in Singapore:

- FAR (FSI) 1.4 for private 'landed properties'
- The HDB public housing is 2.8 or 3.0 in this area
- A condominium area is 3.5



MASTER PLAN LEGEND MASTER PLAN 2008

	RESIDENTIAL		RAILWAY
	RESIDENTIAL WITH COMMERCIAL AT 1ST STOREY		MASS RAPID TRANSIT
	COMMERCIAL & RESIDENTIAL		LIGHT RAPID TRANSIT
	COMMERCIAL		UTILITY
	HOTEL		CEMETERY
	WHITE		AGRICULTURE
	BUSINESS 1		PORT / AIRPORT
	BUSINESS 1 - WHITE		RESERVE SITE
	BUSINESS 2		SPECIAL USE
	BUSINESS 2 - WHITE		PARK CONNECTOR
	BUSINESS PARK		PLANNING AREA BOUNDARY
	BUSINESS PARK - WHITE		PLOT RATIO BOUNDARY
	RESIDENTIAL / INSTITUTION		UNDERGROUND ROAD / INFRASTRUCTURE TUNNEL
	HEALTH & MEDICAL CARE		MAXIMUM PERMISSIBLE PLOT RATIO
	EDUCATIONAL INSTITUTION		BASE PLOT RATIO

Transit-oriented, not auto-oriented planning

Allow dense development

By early 1990s, Taipei was saturated with cars and especially 2-wheelers

But stayed dense and compact with intense infill and little sprawl

Fertile ground for change of approach in mid-1990s



Transit-oriented, not auto-oriented planning

Avoid car-oriented street width and set back standards



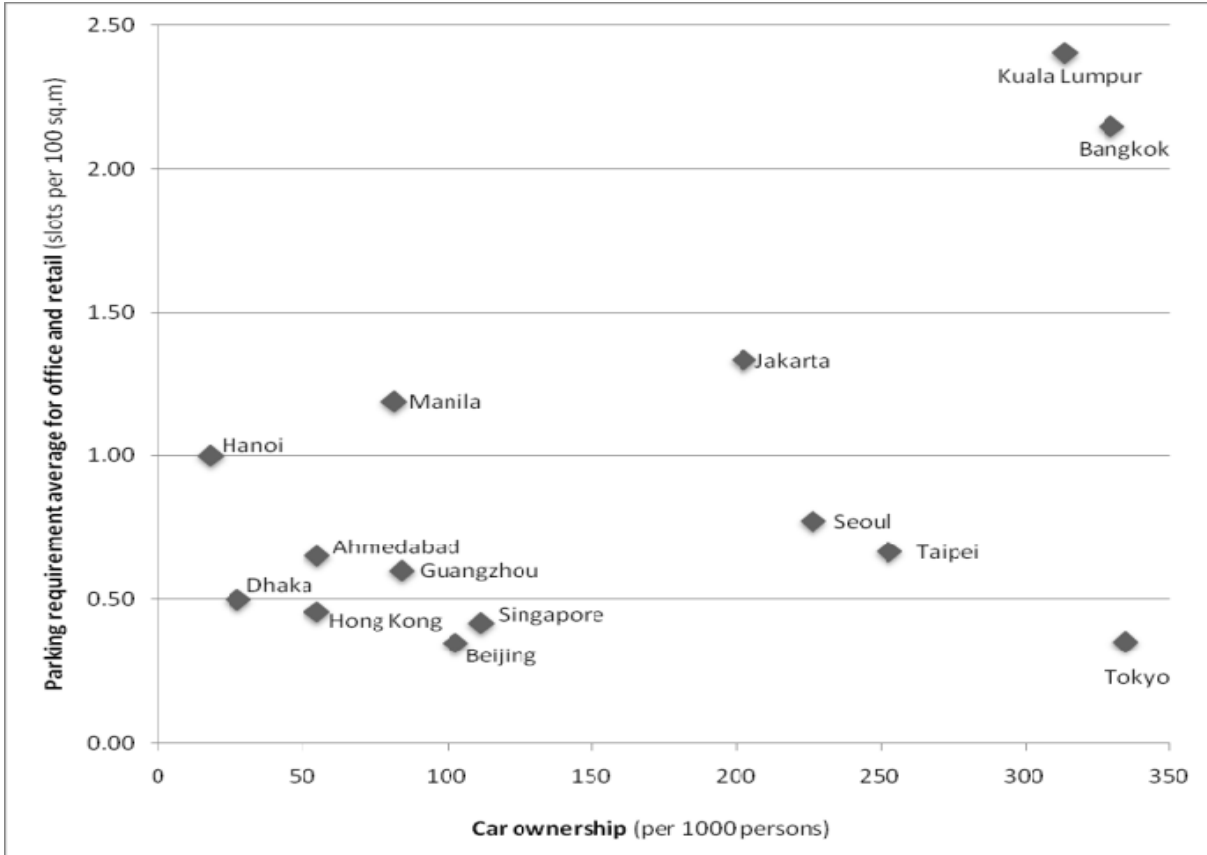
Transit-oriented, not auto-oriented planning

Parking standards/norms/minimums:

Keep at low levels (Seoul, HK, Singapore, Shanghai, Taipei, Bogotá); make flexible (Stockholm); switch to maximums (Seoul CBDs, Munich inner city)

Wilson Parking 收費表		
PARKING RATES 時租		
Private Car/Van 私家車/客貨車	07:00-23:00 早上七時至晚上十一時	Per Hour 每小時 \$22
	23:00-07:00 晚上十一時至早上七時	Per Hour 每小時 \$13
Day/Night Park 日泊/夜泊		
Private Car/Van 私家車/客貨車	Day Park 08:00-24:00 星期一至五公眾假期(早上八時至午夜十二時)	\$90
Motorcycle 電單車	Day Park 08:00-23:00 早上八時至晚上十一時	\$20
	Night Park 23:00-08:00 晚上十一時至翌日早上八時	\$8
Monthly Parking 月租		
Private Car/Van 私家車/客貨車	Non-reserved 非指定車位	\$4100
	Reserved 指定車位	\$4700
Taxi 的士		\$4700

Prices in a Hong Kong government-owned parking structure. HK\$22 per hour = Rs170



Transit-oriented, not auto-oriented planning

Market-based transit-oriented development

Needs excellent transit of course

AND for planning regulations to not stand in the way

In Bangkok, where planning is very weak, Skytrain has begun to strongly influence real estate development

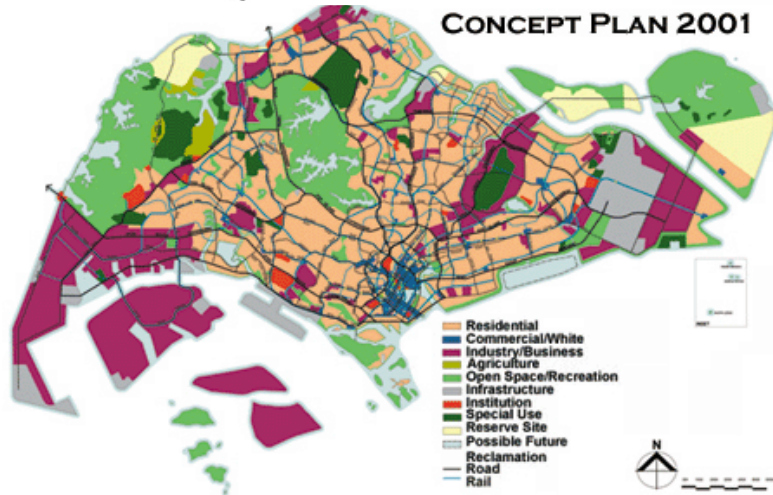
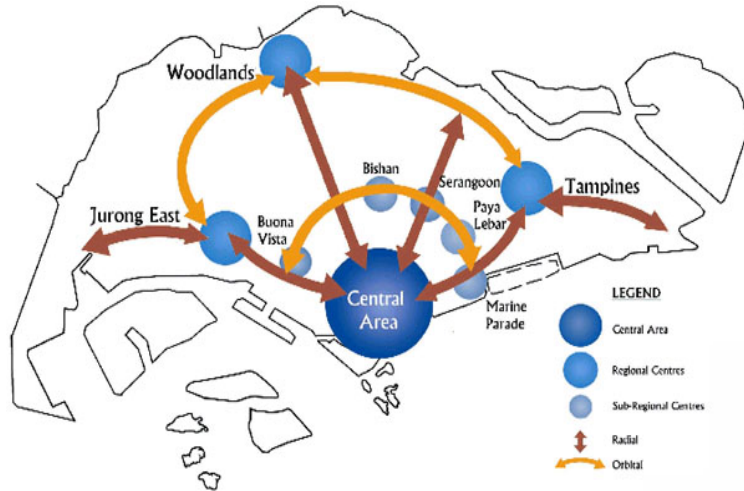
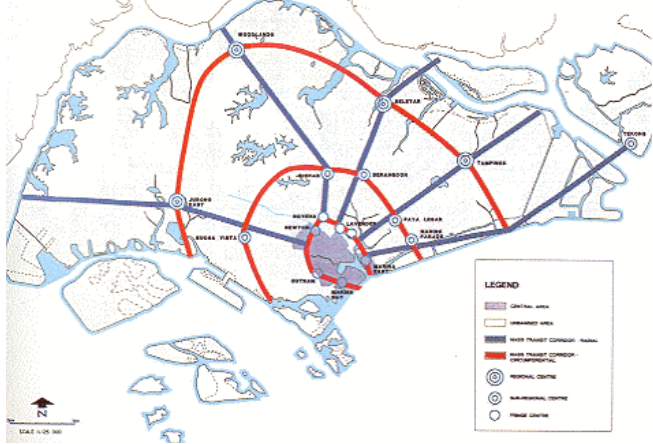
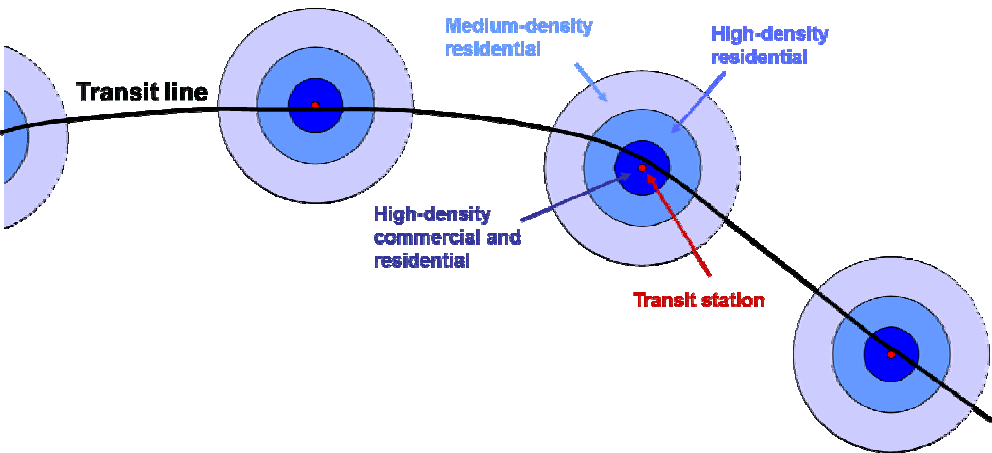


An advertisement for NUSASIRI Sukhumvit-Ekamai. At the top, there is a photograph of a train's open doors. Below this, the text reads "NEXT STATION... NUSASIRI SUKHUMVIT-EKAMAI". Underneath, it says "Where the BTS skytrain walkway is directly connected". The advertisement includes several small images: a person sitting on a train, a person relaxing on a sofa, a person swimming in a pool, and a person walking. At the bottom, there is a phone number "0 2713 5555" and the NUSASIRI logo.

Transit-oriented, not auto-oriented planning

Planning led transit-oriented development

For example, Singapore's metropolitan-scale transit-oriented planning since 1971



Walkability, “placemaking” and liveable streets

Fill the city with great places to be!

Reward for the ‘sacrifice’ and often a key part of the politics

Europe’s new transit cities are strong on this

Chinese cities increasingly taking this seriously



Shanghai

Walkability, “placemaking” and liveable streets

Seoul

Elevated highway demolished for return of waterway (*Cheonggyecheon*)

Reinstated ground-level crossings

Pedestrian zones, expanded footways, traffic calming, placemaking



Walkability, “placemaking” and liveable streets

Bogotá parking reforms reclaimed public space for people

See Reinventing Parking Blog “Bogotá’s Parking Revolution”

Calle 5 in Bogotá, Before and After



Key Messages

NEW Transit Cities seem especially relevant for India's cities

Were faced with challenging circumstances similar to those facing India's cities today

Resisted the **idea** that cars are a necessity and **acted** to make sure cars remained optional