

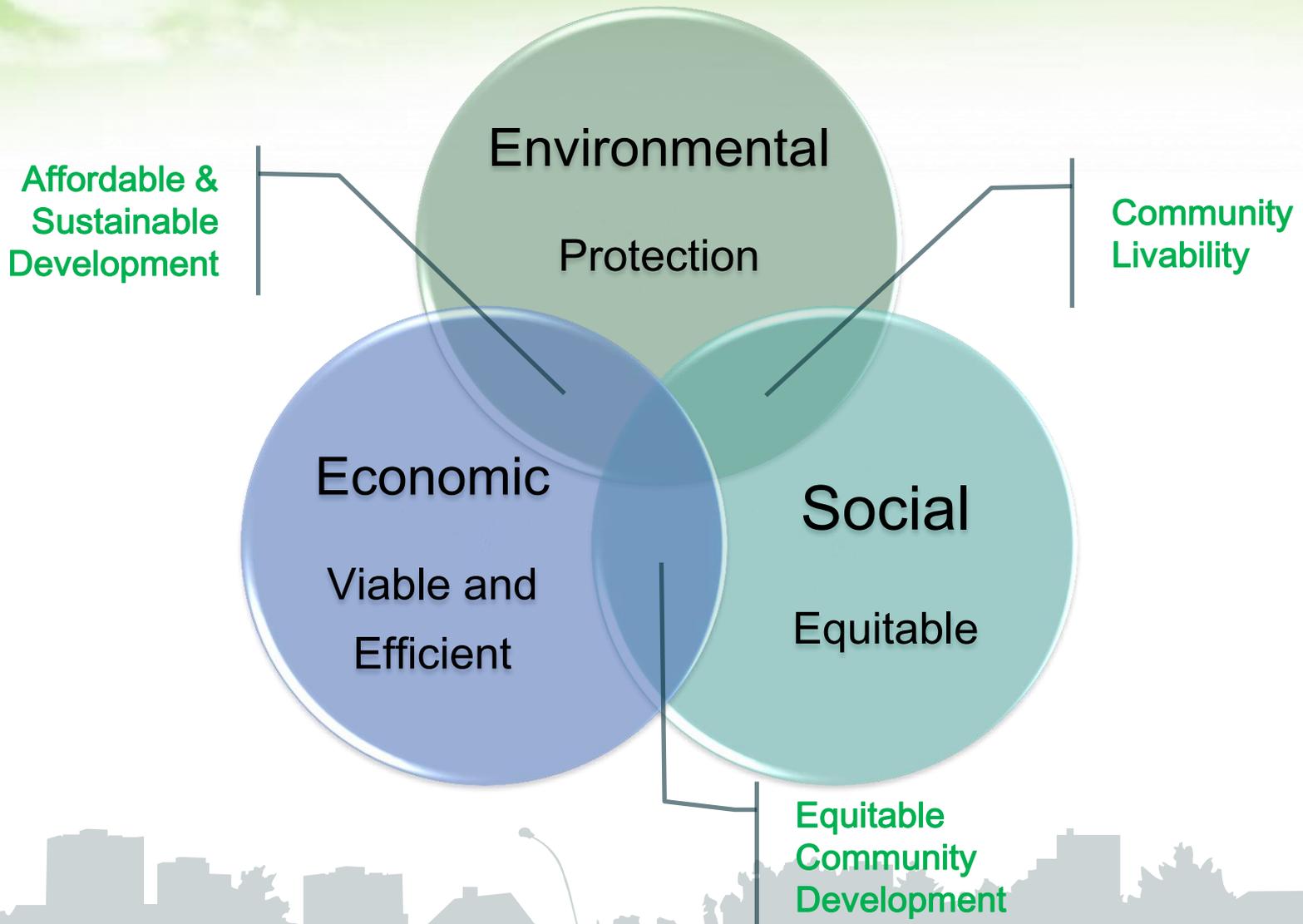
Greenway Initiatives in Korea: Towards Building 21st Century Cities

Youngkook Kim
The Korea Transport Institute

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- I Introduction
- II History of Korea Urban Transport
- III Urban Sprawl and Transport Policy
- IV Human and Environmental Friendly Transport
- V Recommendations for Sustainable Transport System

Three Pillars of Sustainability



Why Public Transit?

Space Required to Transport Same Number of Passengers

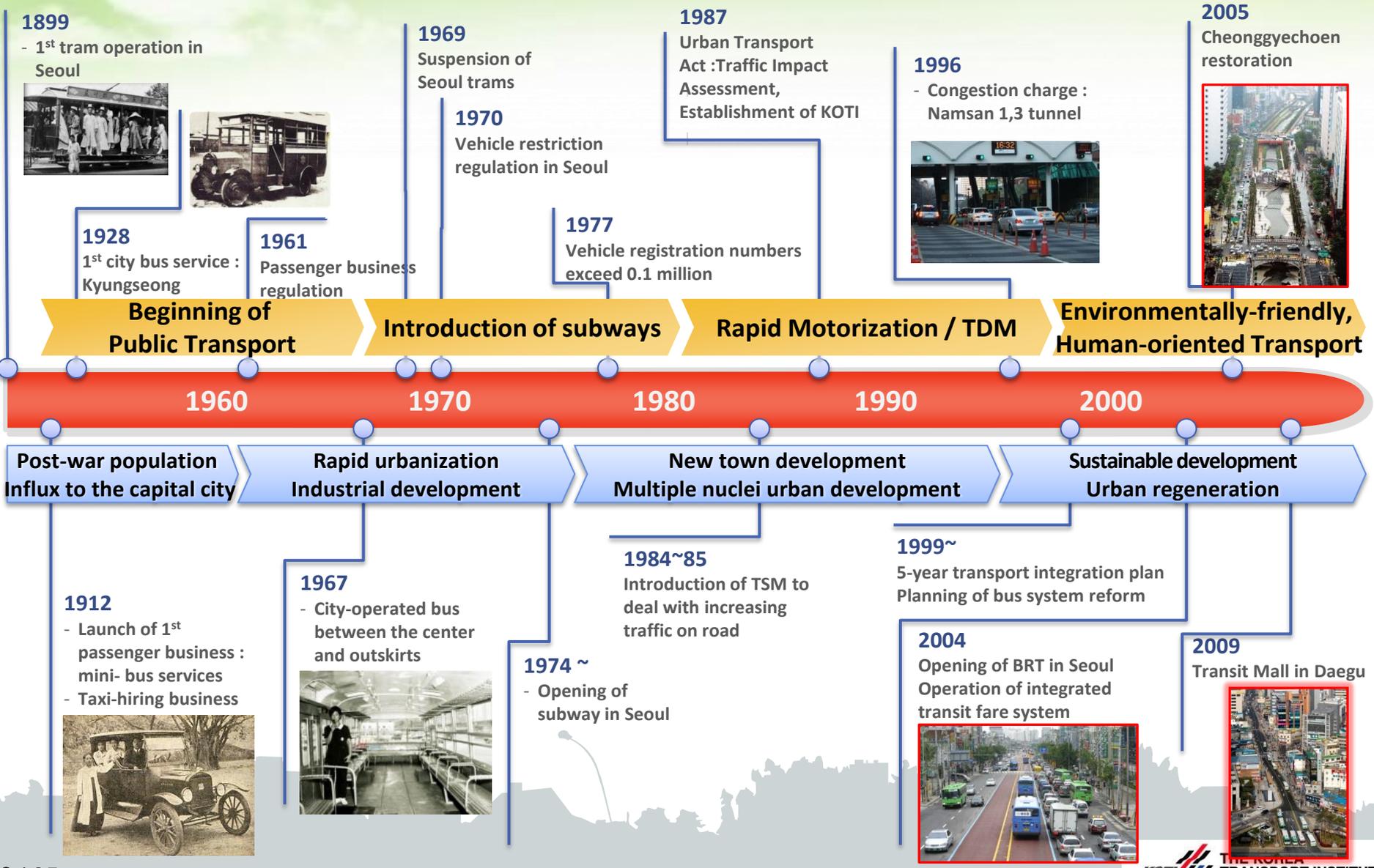


Source: GTZ (2009), Sustainable Urban Transport: A Sourcebook for Policy-makers in South Asian Cities

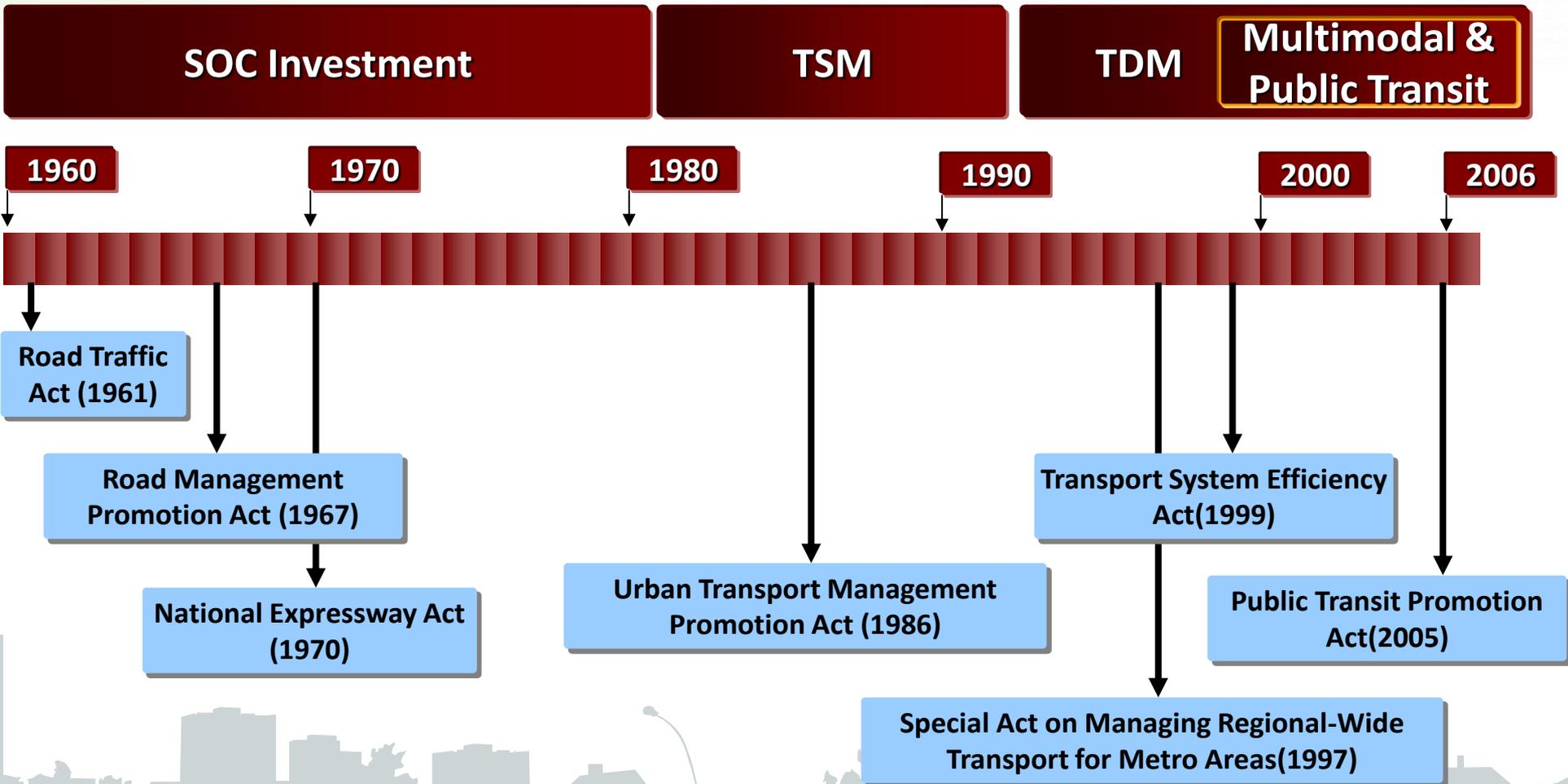
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Korea's Urban Transport Pathway



History of Urban Transport Policies

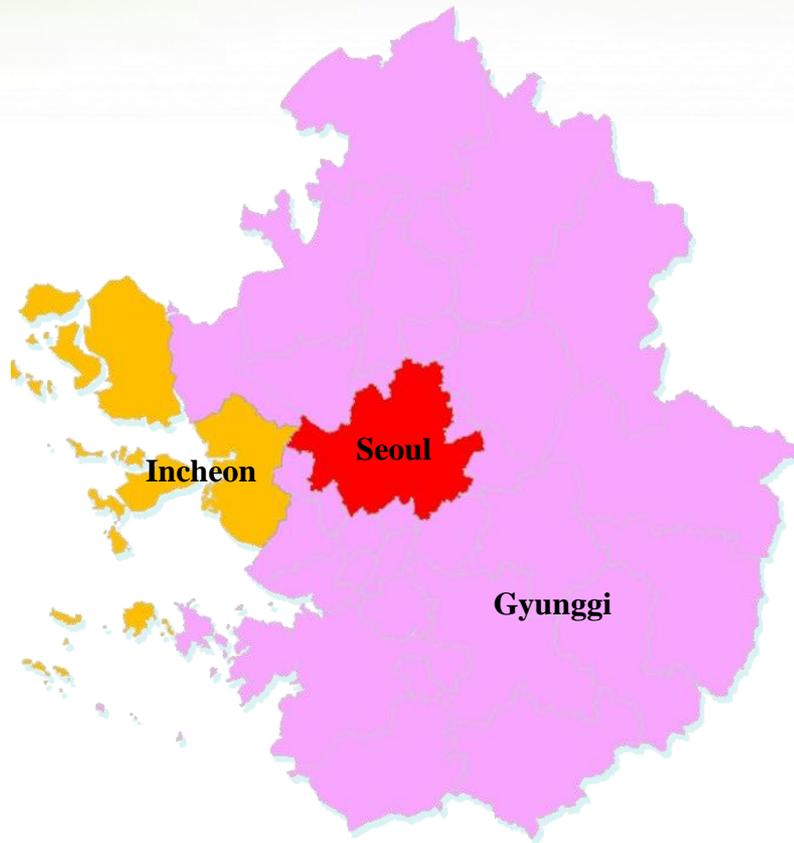


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Urban Sprawl and Transport Policy

SMA



Area

11,730.38km²
(11.8%)

Population

Year 2010
23,836,272
persons (49.1%)

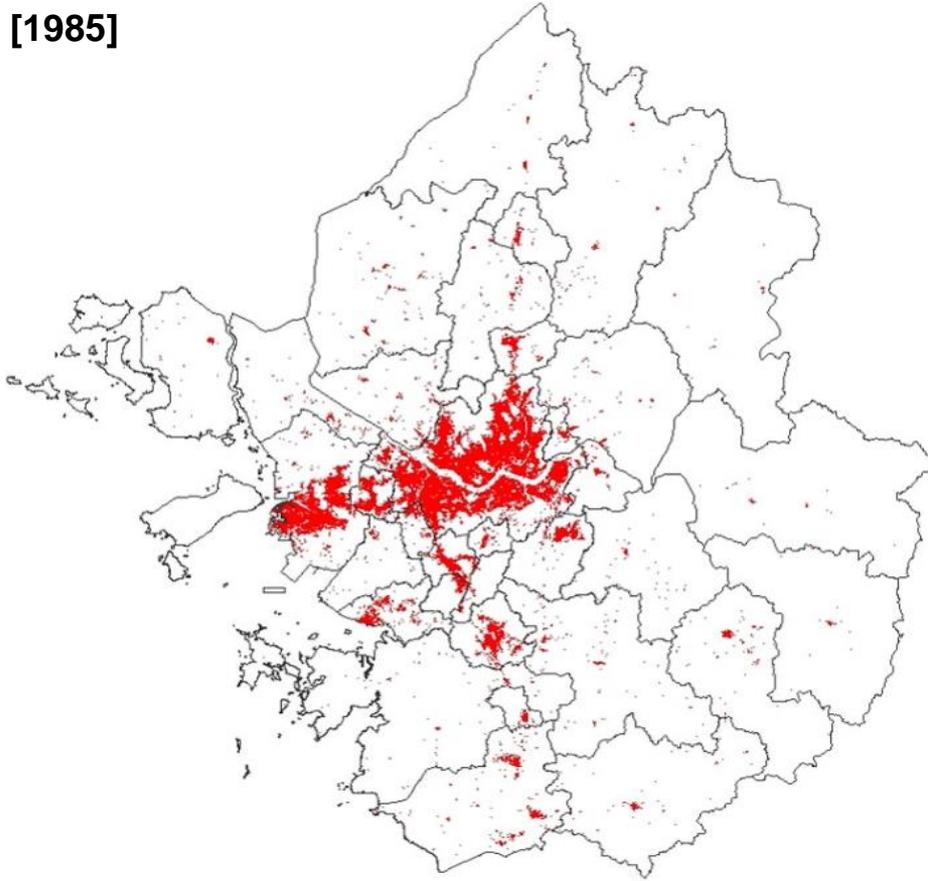
GRDP

Year 2010
414,824 Billion
Korean won(52.2%)

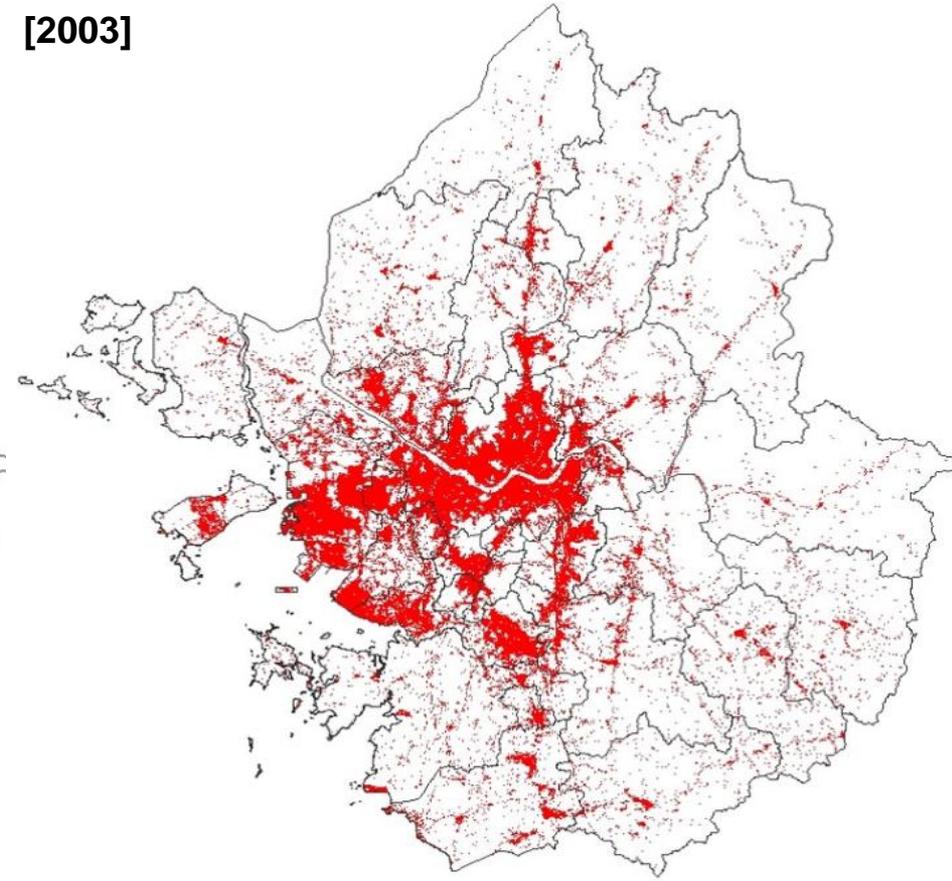
SMA: Seoul Metropolitan Area(Korean Capital Region)

Urban Sprawl: The Case of Seoul, Korea

[1985]



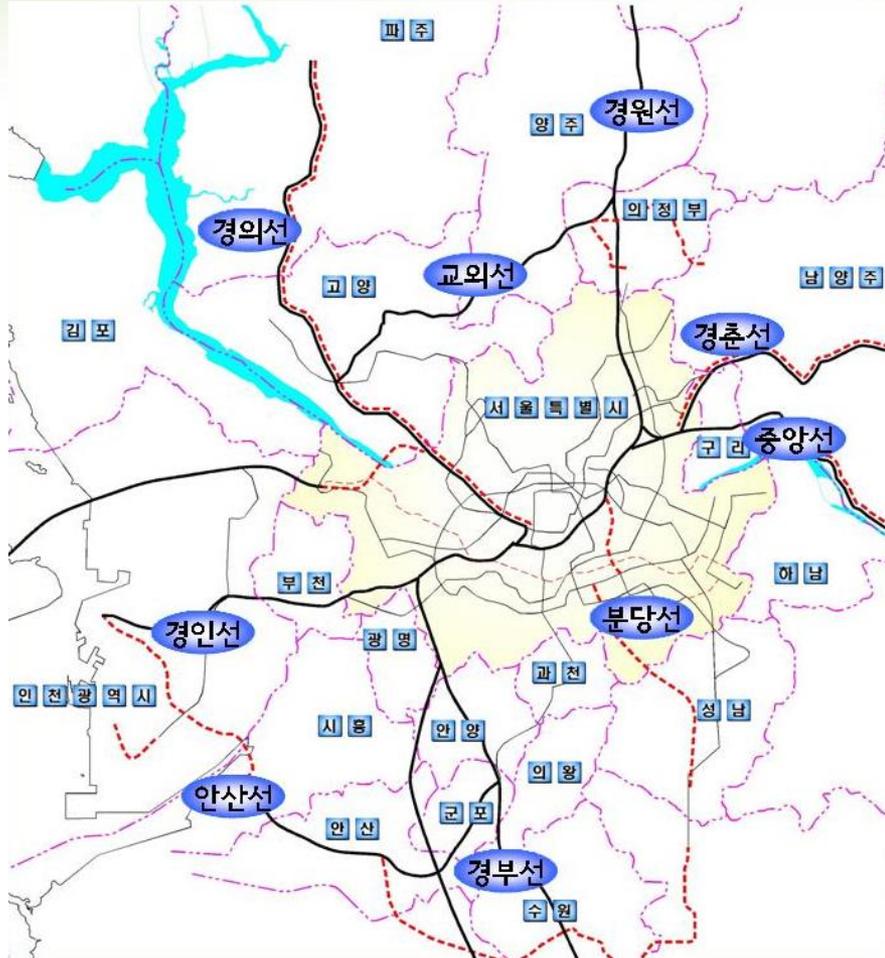
[2003]



Source: Seoul Metropolitan Government(2009)

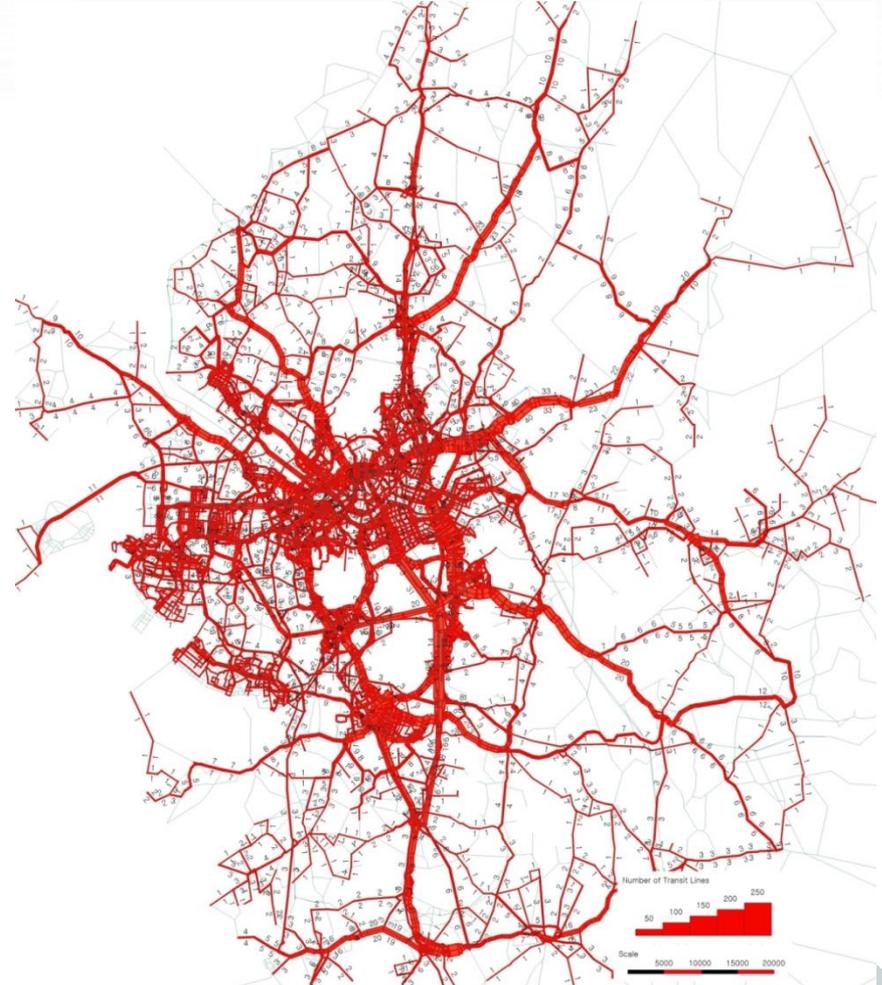
Public Transit System in Seoul

Subway & Rail Network



Source: Seoul Metropolitan Government(2009)

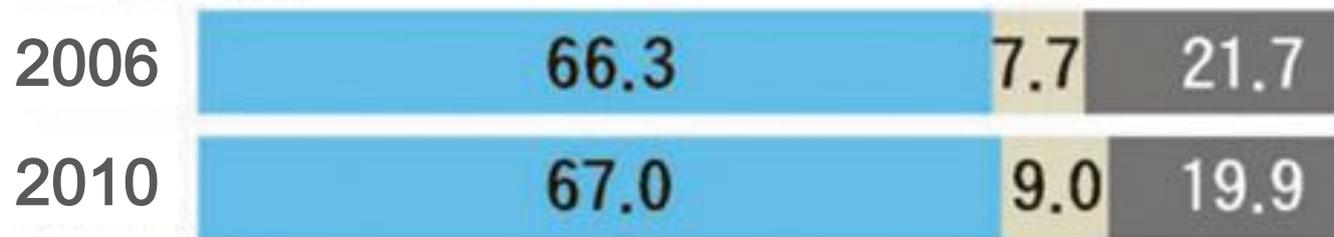
Bus Network and Capacity



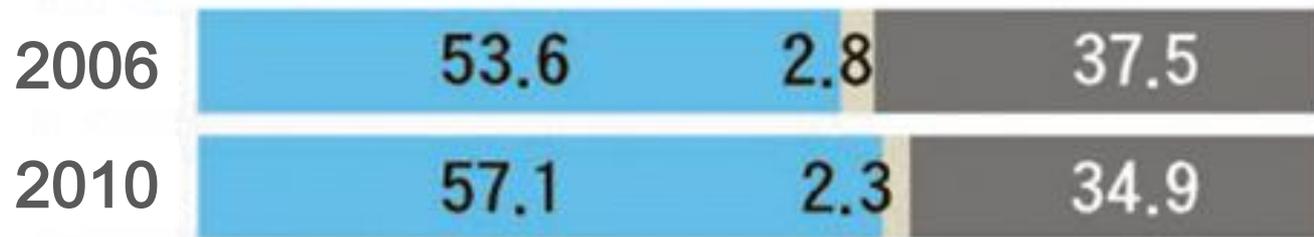
Mode Share Change in SMA

Public Transport(Subway and Bus) Taxi Auto

● Inside Seoul City



● Seoul and Neighboring Cities



Source: 2010 Survey on Household Travel in Seoul Metropolitan Area

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Walkable Street Projects in Seoul

Title	Duration and Size	Overview
Car Free Street	Started in 1996; 24 streets (all days: 5; time-restricted: 6; weekends: 13)	Preventing automobiles by day, time, or weekends only; pedestrian-exclusive streets; traffic safety facilities; street environment renovation
Cultural Street	21 projects by 2007 (Daehangro, Insa-dong, etc.)	Part of the country's cultural policy; tourism activities, including various cultural events
Green Street	Started in 1997; the name was changed to Greenway Establishment Project in 2007	Promoting pedestrians' rest and safety through a pedestrian-automobile coexistence road structure
Walkable Street	From the representatives who obtained the second highest number of votes; progressed to the third phase (23 zones of local pilot streets)	Addressing three pedestrian inconveniences (walking difficulty, unease, and disadvantage)
Historic and Cultural-Visit Street	8 zones from 1994 to 2002	Easy access to Seoul's historic and cultural zones for citizens and tourists

Pedestrian-oriented Street in Deoksu Palace



Pedestrian-oriented Policies



Transit Mall

Traffic Congestion & Economic Recession

- ▶ JoongAng Street: Main and Historic Street in Daegu
- ▶ Traffic congestion, Poor pedestrian condition, Downtown recession



Uncomfortable

- Uncomfortable walking conditions



Congestion

- Unnecessary through traffic
- Illegal parking, travel speed < 10.9km/h

Transit Mall

Transit Mall Project Overview

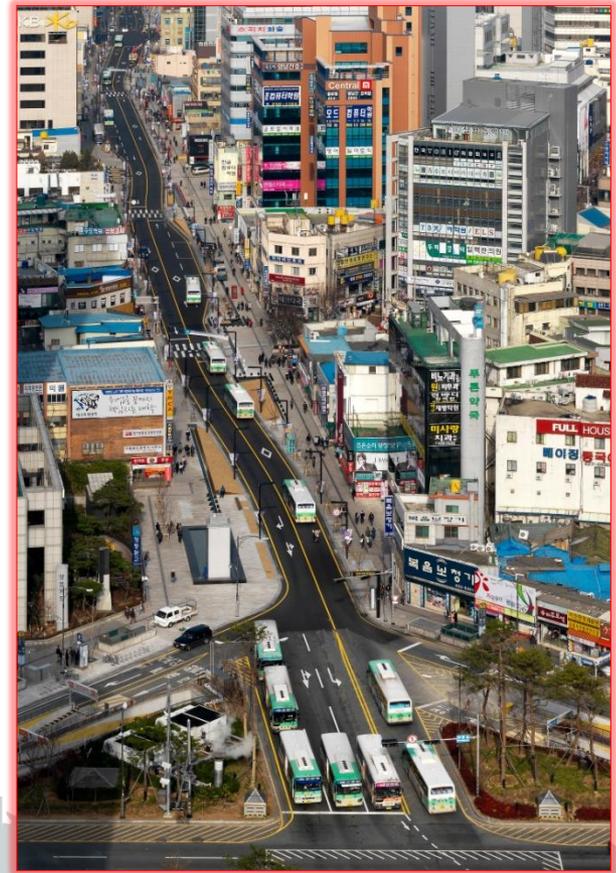
- 
- ▶ Length : 1.05km, JoongAng Street(Daegu station ~ Banwol rotary)
 - ▶ Period : 2008~2009('08 plan, '09 construction, '09. 12 .1 operation)
 - ▶ Budget : 9.8billion won(around \$87 million, 30% Central gov. subsidy)
 - ▶ Project brief
 - Transit Mall
 - Decrease road lanes: 4 lanes → 2 lanes
 - Increase pedestrian walkway: 4 m → 12 m
 - Increase cross walk: 3 → 9
 - Install pedestrian facilities : Benches, Green space,
 - Install transit related facilities : Shelters, Bus information board

Transit Mall

Traffic Calming: Human Friendly

S-shaped street with width 8m

- Traffic Calming : S shape street
– width 8m
- Travel speed 30km/h
– Pedestrian safety & comfortable walkable condition
- Cross walk(3 → 9)
– Increase connections of walking network

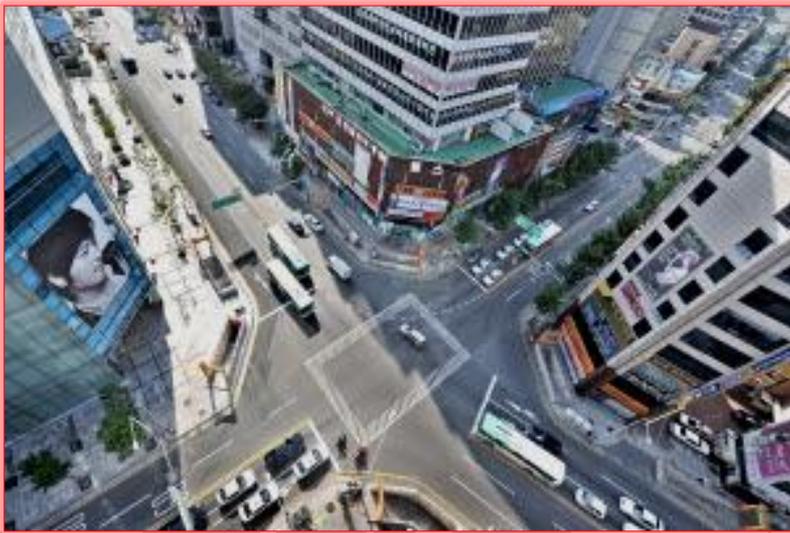


Transit Mall

Installation of Cross Walk

Intersection in the middle of transit mall

- Underground shopping mall(Daehyun Free Mall, 231 stores)
 - Concerns about decreasing pedestrian and sales
- Solution : Enhancement of entrance(Installation of Escalators)



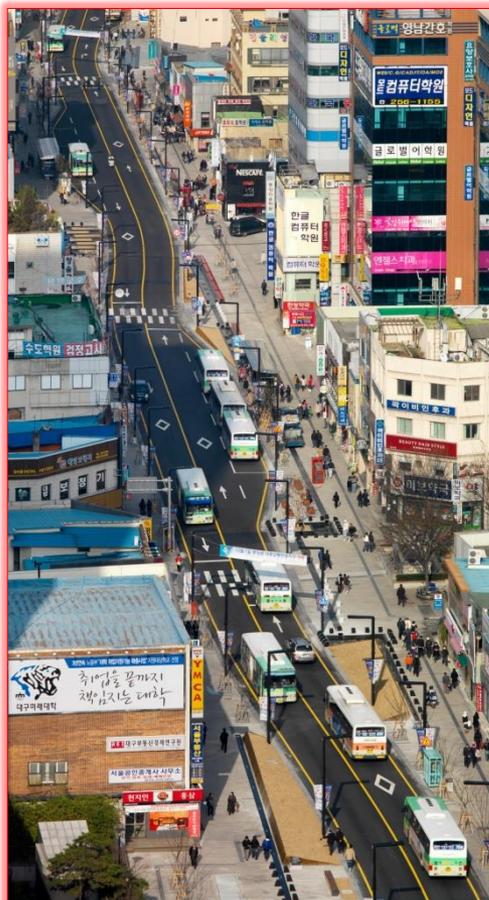
Transit Mall

Before and After

Before



After



Transit Mall

Improvement of Pedestrian Way



Transit Mall

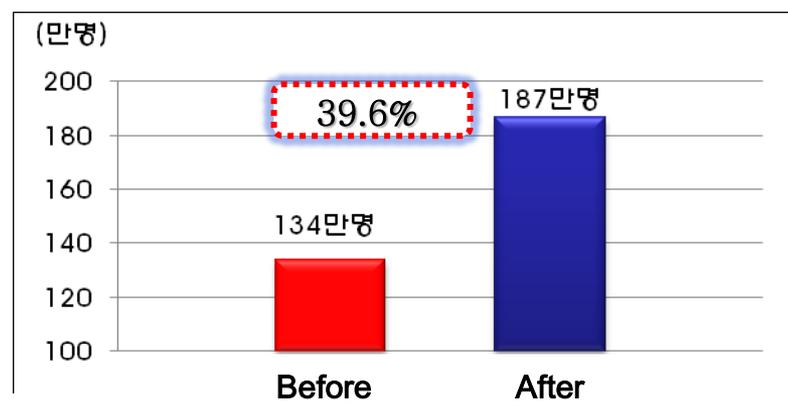
Increase Bus Riders

- ▶ Increase bus riders **22.9%** (4.89→6.01 mil./year)
- ▶ Increase transfer **39.6%** (1.34→1.87 mil.)

Bus passenger



Transfer demands



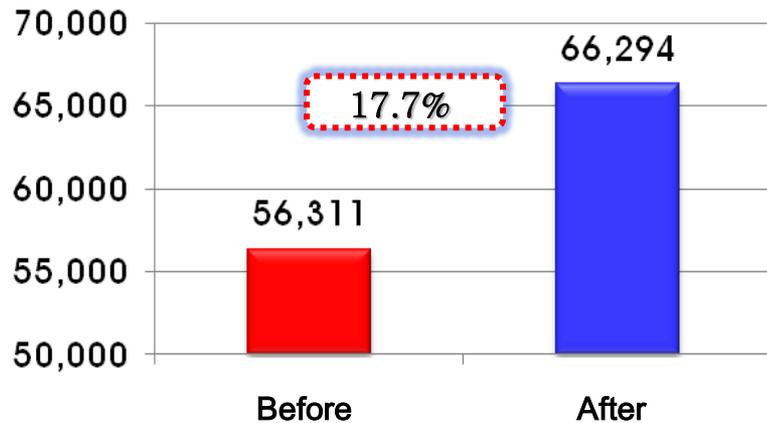
Transit Mall

Increase Pedestrian

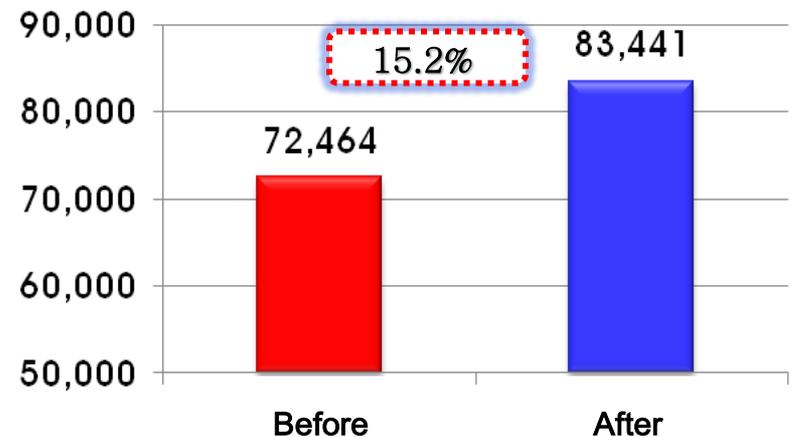
► Improvement of walking conditions

- weekday : 56,311 → 66,294/12h(Increase 17.7%)
- weekend : 72,464 → 83,441/12h(Increase 15.2%)

weekday



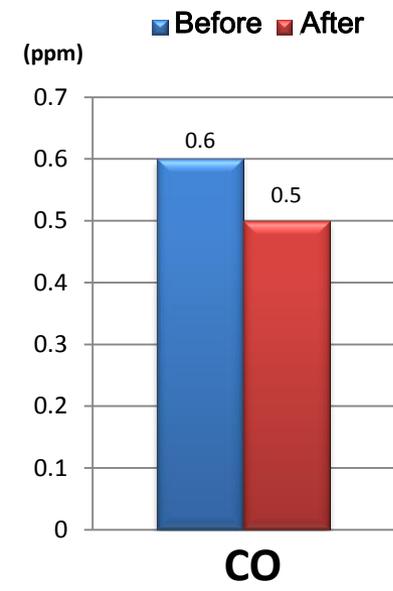
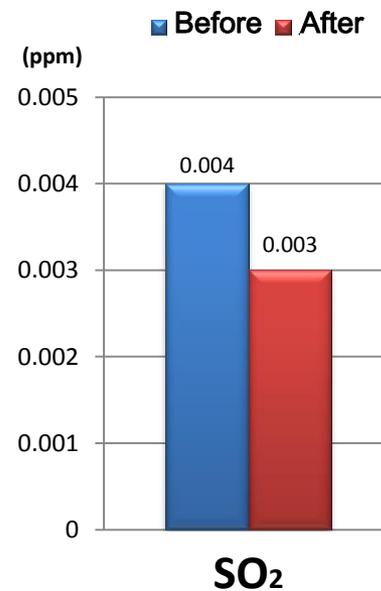
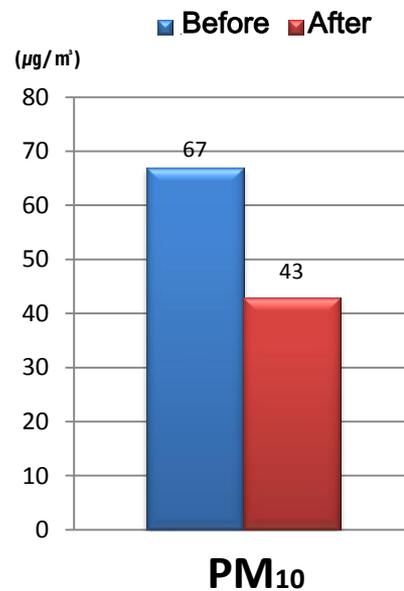
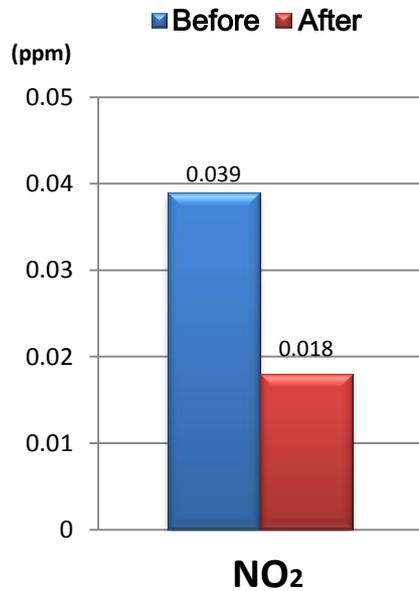
weekend



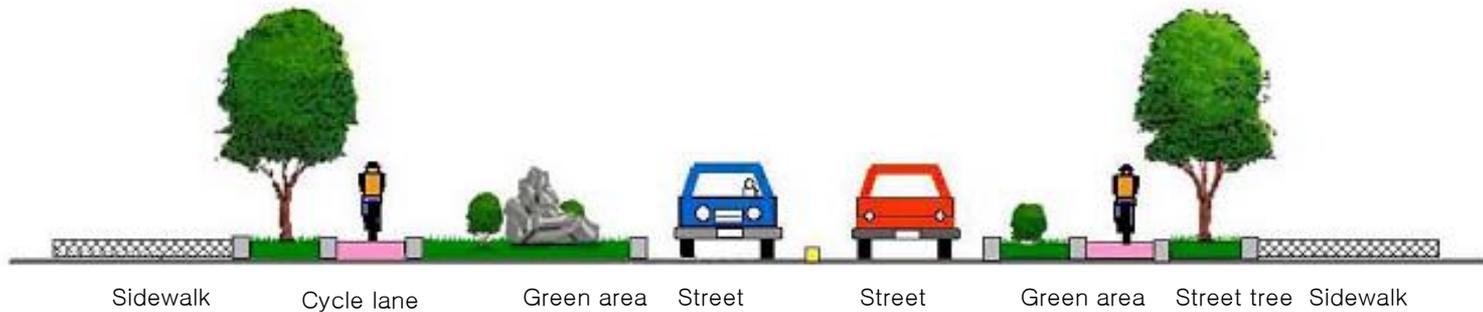
Transit Mall

Air Quality Improvement

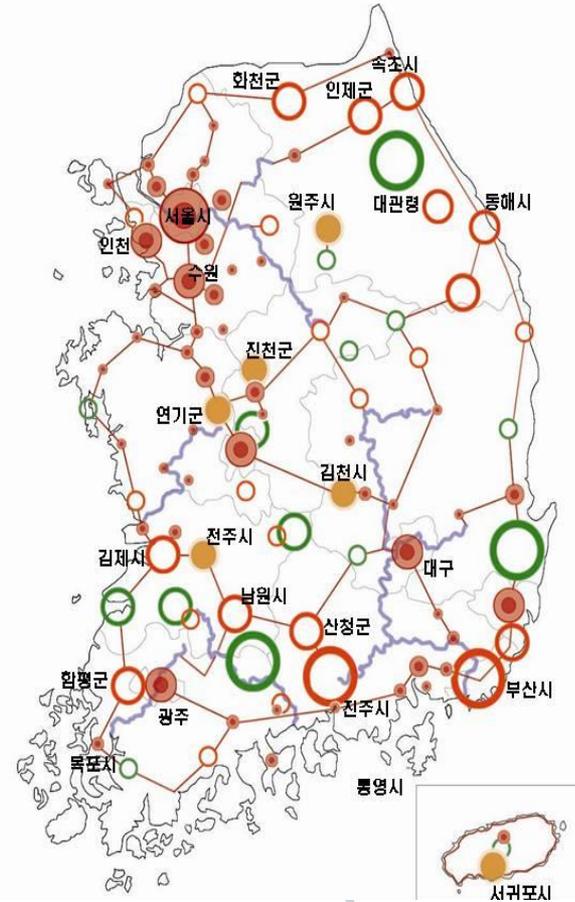
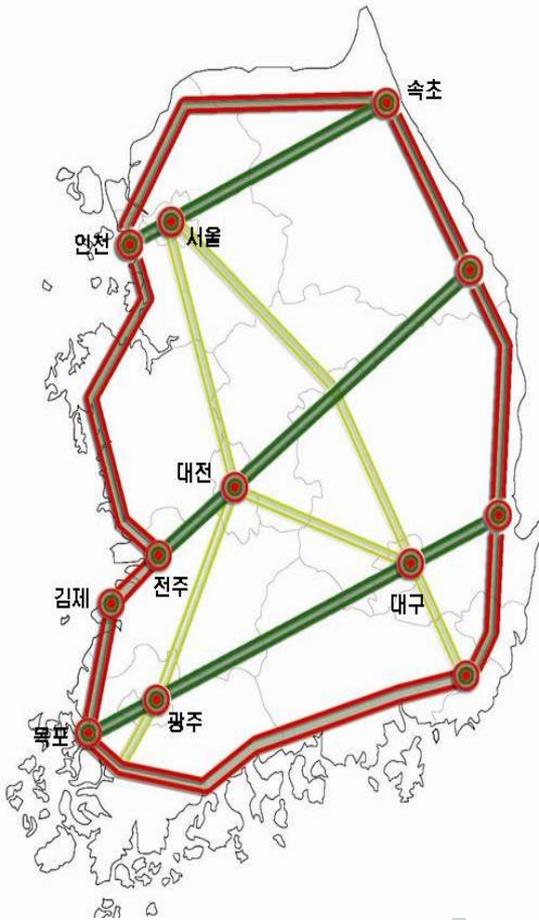
- Decrease : NO₂ 54%, PM₁₀ 36%, SO₂ 25%



Complete Street

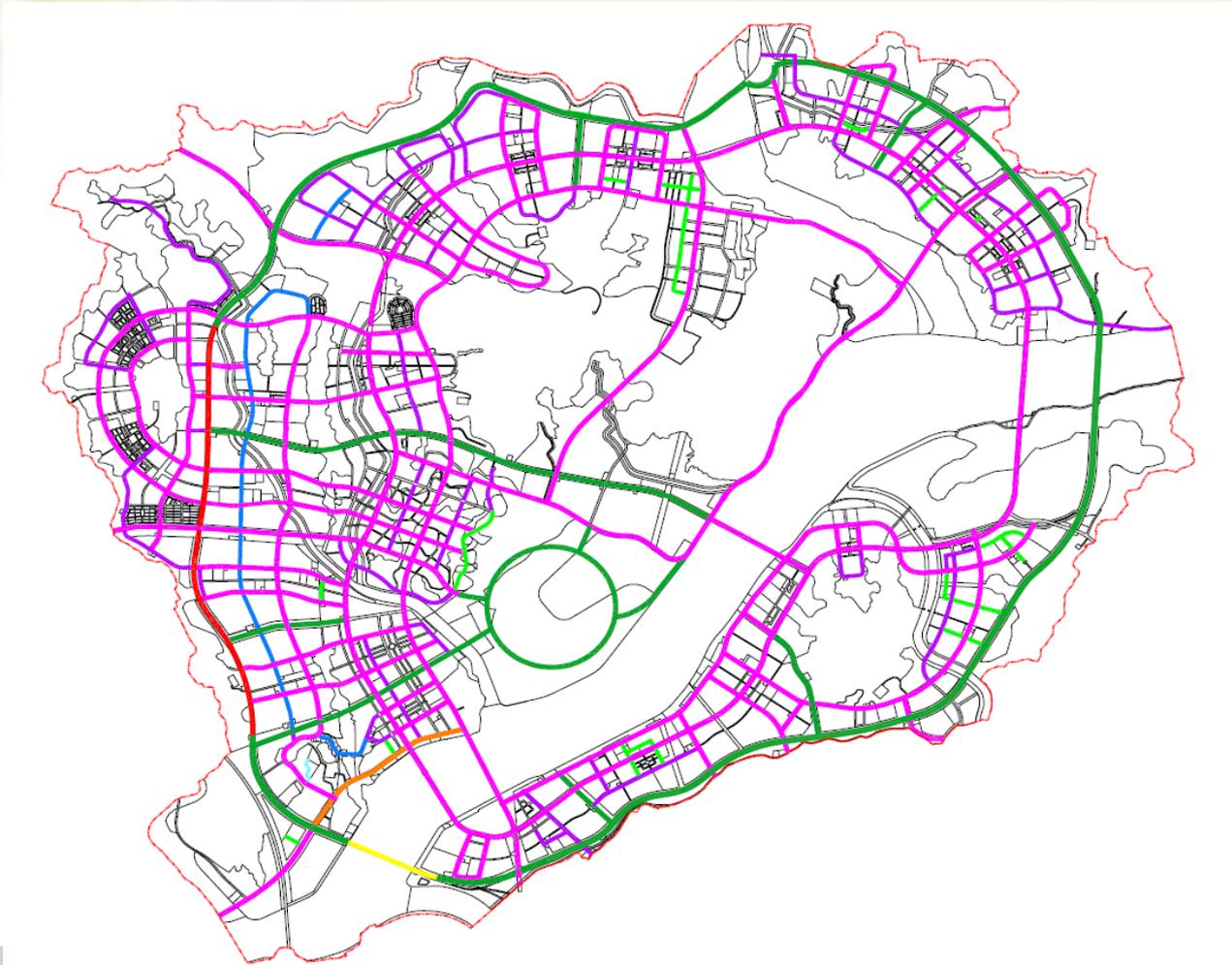


National Bike Network Plan



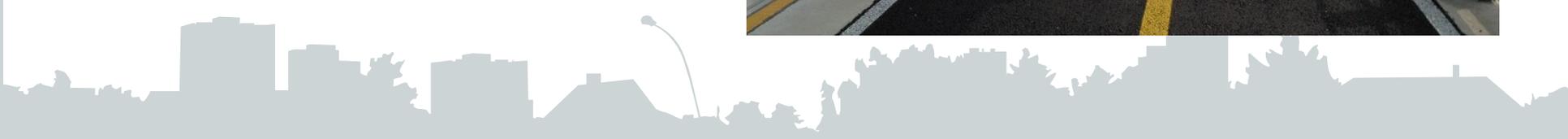
Data: *General Plan for the National Bicycling Roads*, Ministry of Public Administration and Security

Bike Road Layout in Sejong City

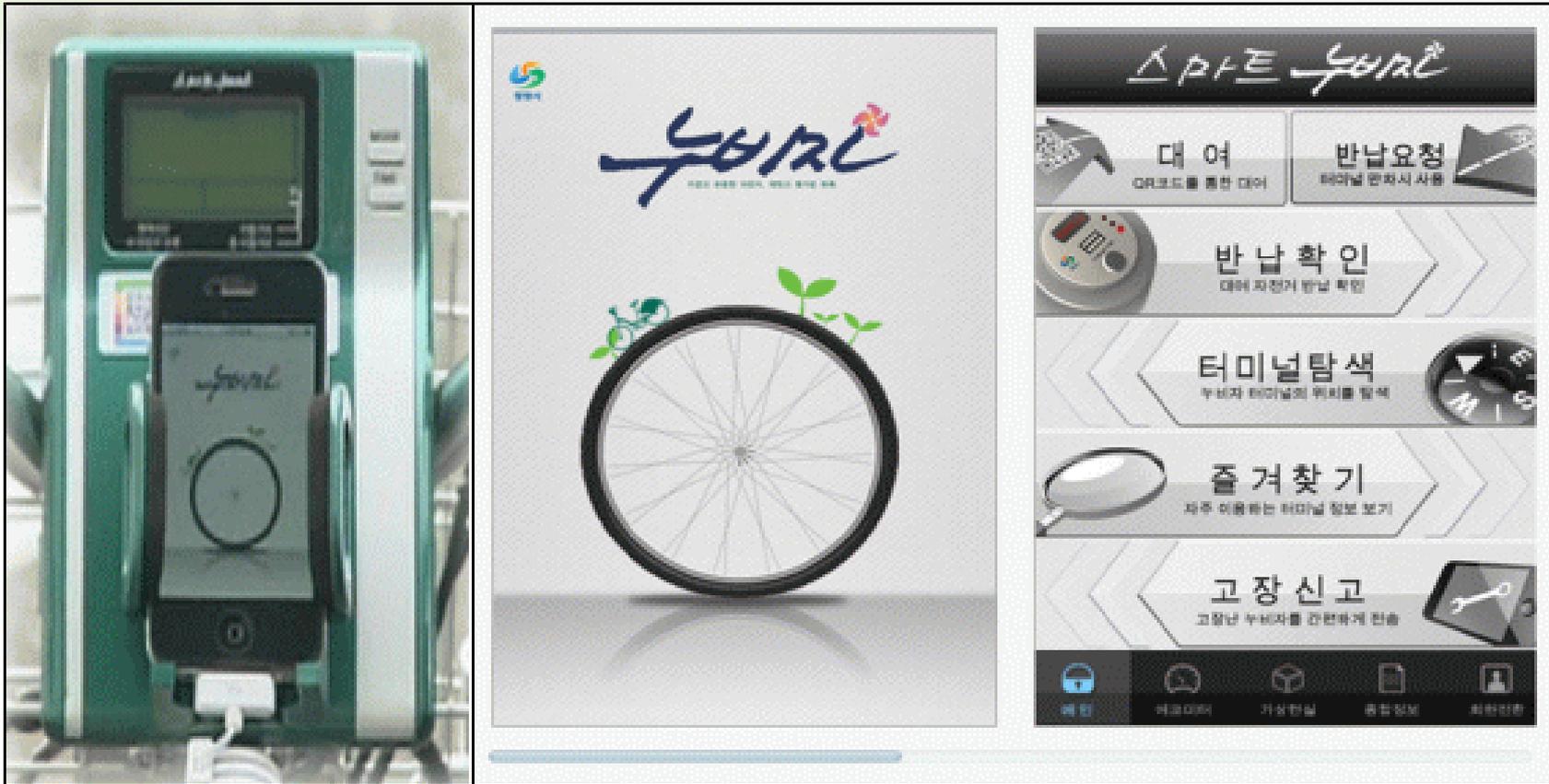


Data: *Regional-wide Transportation Improvement Plan and Establishment of Public Transportation Plan*,
Construction Agency of New Administry Capital City (2011)

Bike Arterial Road Between Sejong and Daejeon



Public Bike System in Changwon

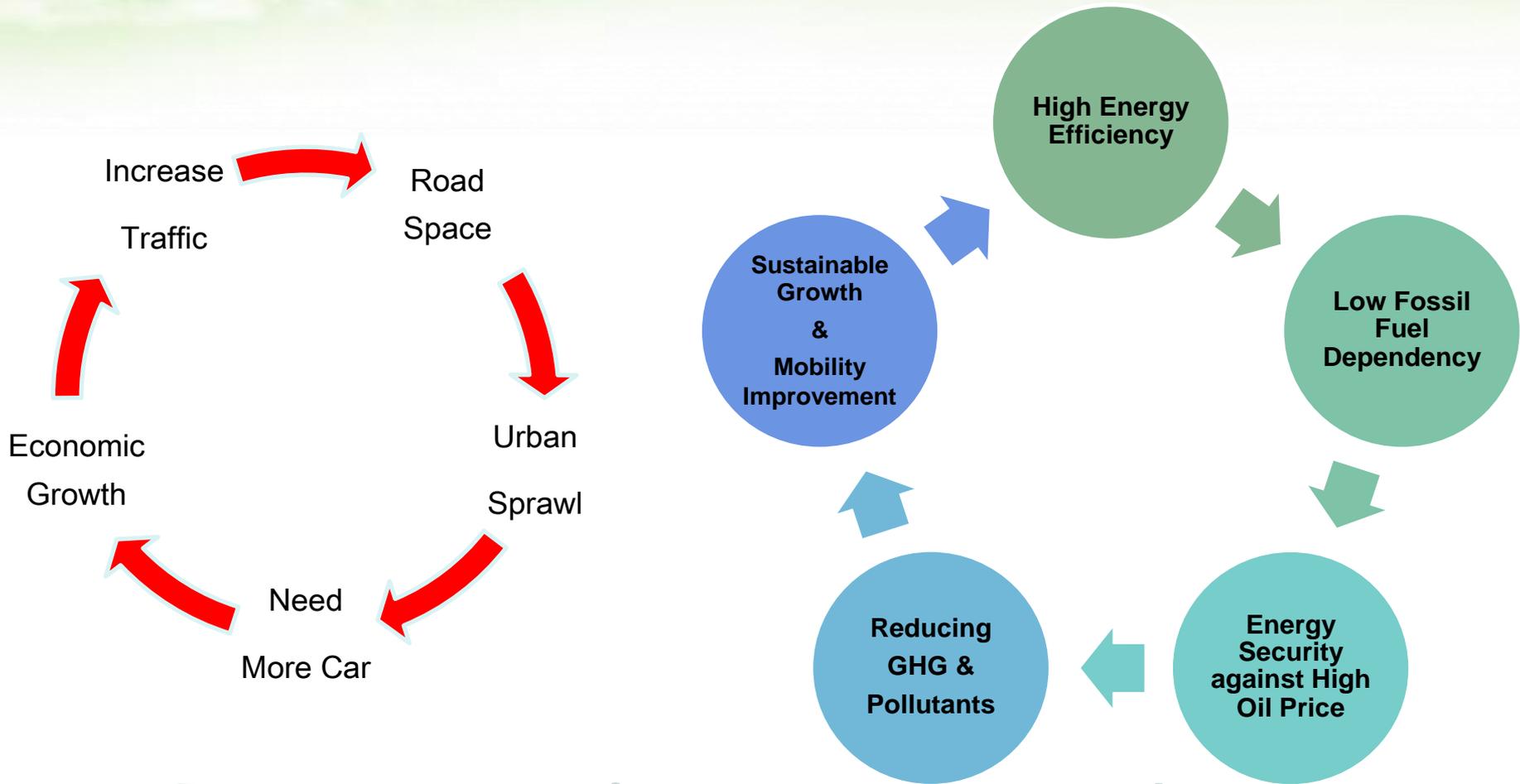


Data: <http://www.1mobile.com>(changwon-smartnubija)

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Vicious Cycle vs. Virtuous Cycle



Slowness vs. Speediness

Slow mobility in community (livable, safe, environmental friendly)
Speedy mobility for transit service and regional transport

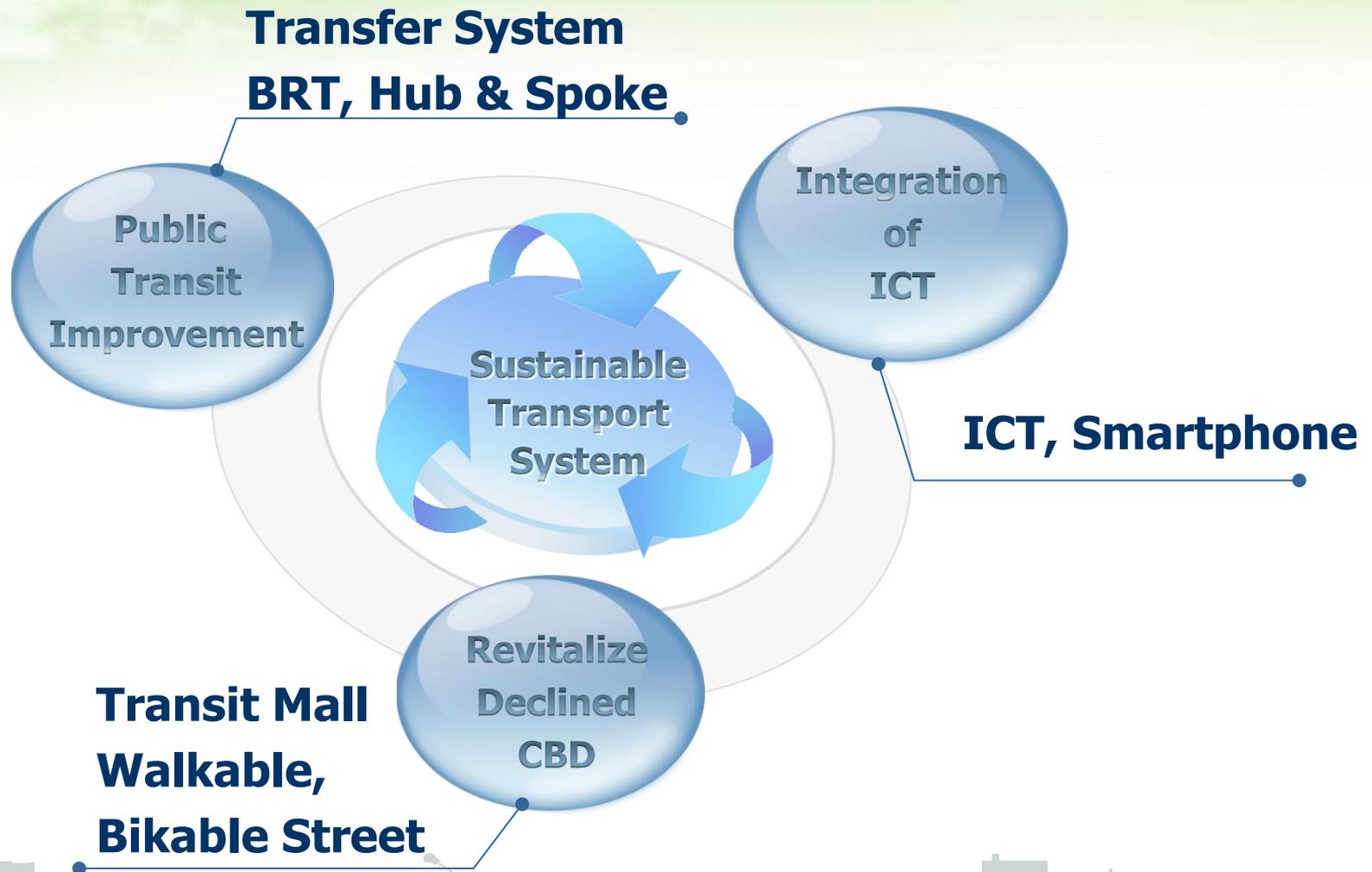
Slow Mobility

- Walkable and Bikable Community
- Car-free zones
- Integration between transport modes (Transit with Walking and Biking)

Speedy Mobility

- Bus Rapid Transit(BRT)
- Massive Rail Transport
- High Speed Rail
- Multi-modal stations

Sustainable Urban Transportation System



Thank you

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Creating a prosperous future through the harmony
of **humans, environment and transport**