SEOUL METROPOLITAN GOVERNMENT

Seoul's Smart Urban Solutions

SEOUL METROPOLITAN GOVERNMENT
SUSA
Seoul Urban Solutions Agency

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Seoul Urban Solutions Agency

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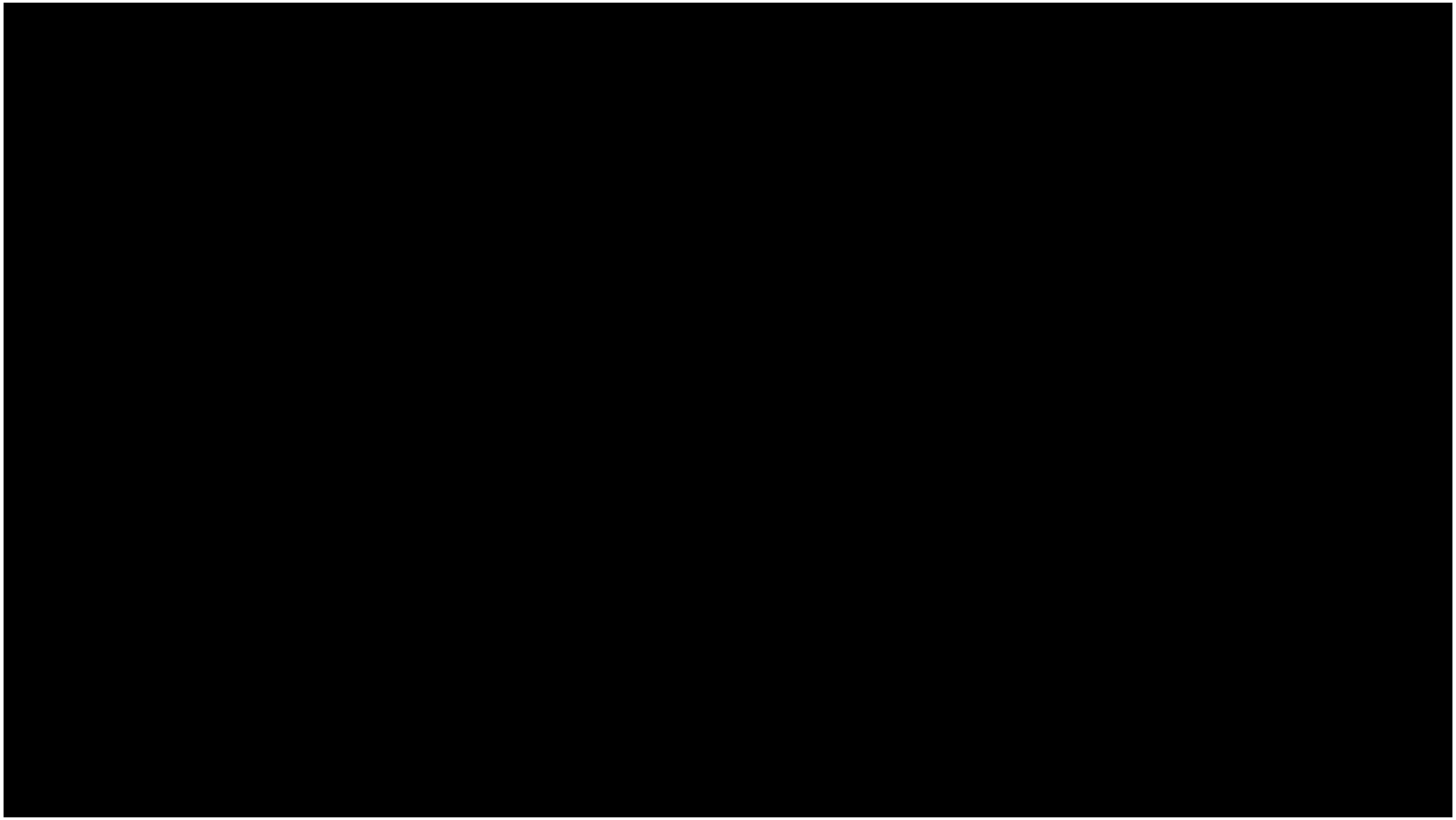
The Seoul Advantage

Seoul, the best partner for urban development

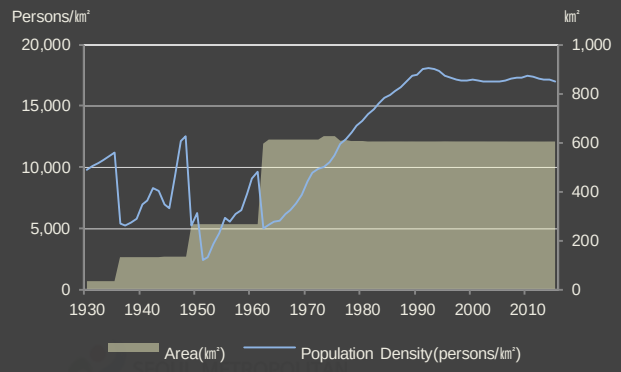


SEOUL METROPOLITAN GOVERNMENT

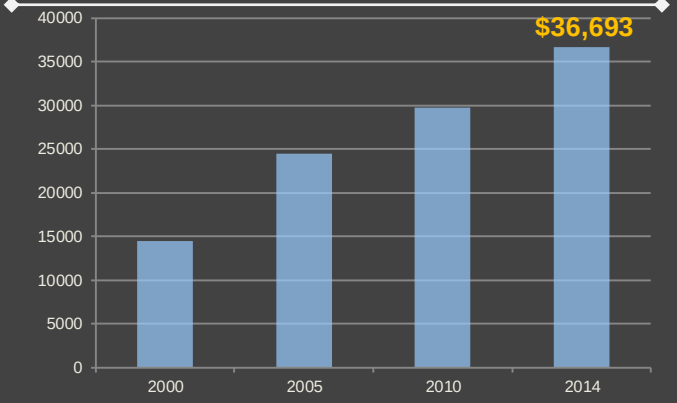
The Seoul Advantage

Seoul's journey from ruins in the 1950s to a smart metropolis

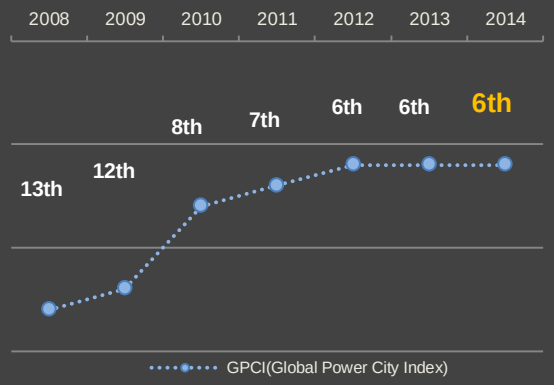
Population and Area Growth



Seoul's Gross Regional Product

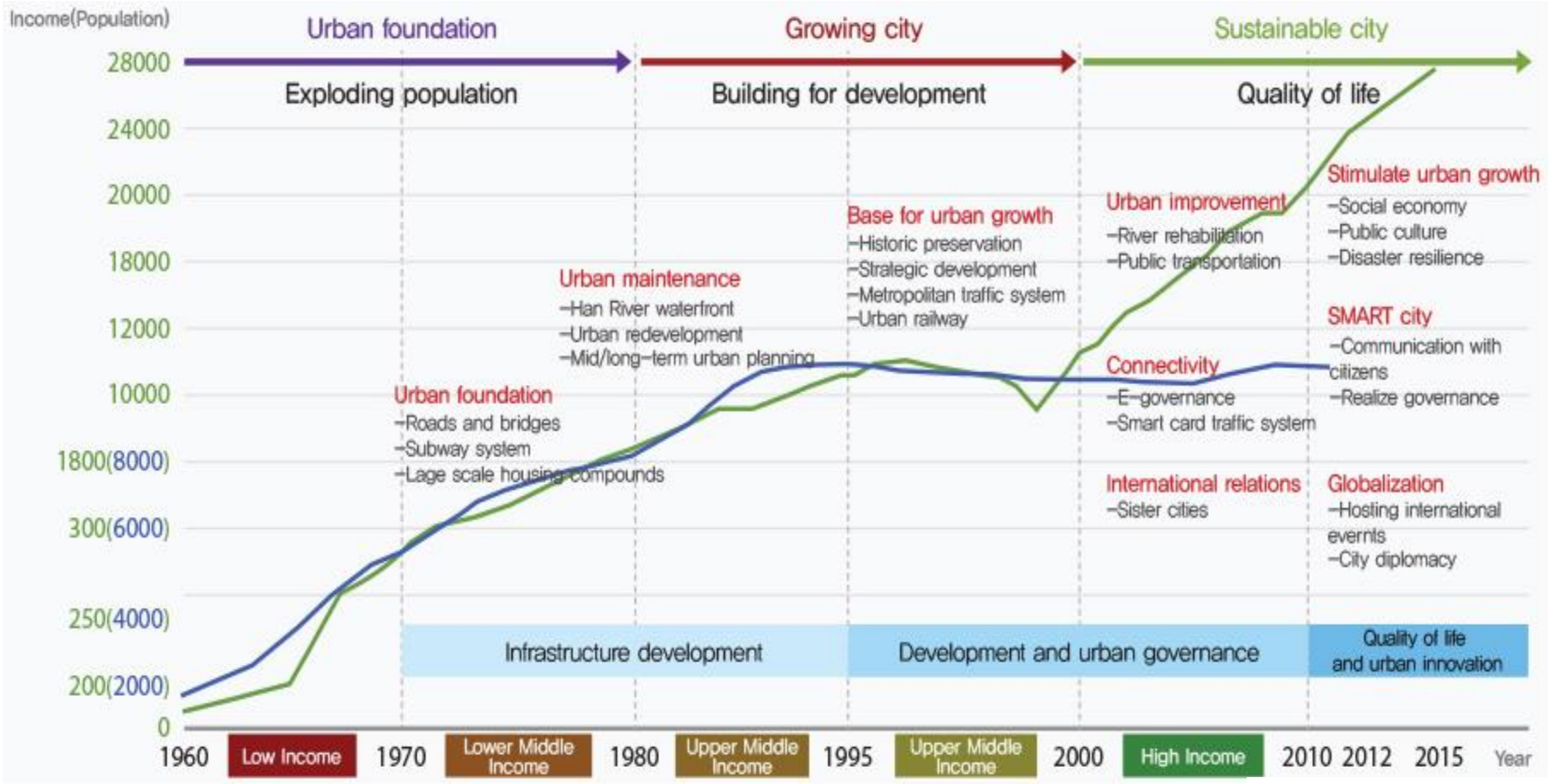


GPCI(Global Power City Index)



Seoul's Growth Trajectory

Transformation of Seoul's urban development



Source: seoulsolution.kr

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GNI per capita [$]
Population ('000)

Seoul's Growth Trajectory

Growth of the city

1950-53 Korean War

1988 Seoul Olympic

2002 World Cup

	1950	1960	1970	19	1990	000	2010
	Aftermath of the Korean War: Destruction of Seoul's urban foundation and identity	Rapid post-war reconstruction to establish urban foundation	Expansion of city center to accommodate economic and population growth	Han river rejuvenation in preparation for global events – Seoul 1988 Olympics	Large scale urban regeneration project and new town developments	In[illegible]llations of physical features to facilitate enhanced quality of life for Seoulites	Transforming to a city with a historical heritage, culture and identity
Water Purification	• 1941: Guui water center • 1948: Seoul Tap Water Bureau • Five water purification plants • Installation of tap water pipes			• 1981: Office of water works established • 1984: Water pipes replaced • 1991: 100% water supply			Six water purification plants
Waste Water Management	• Sewers 225km * No treatment facilities		• 1976: First Sewage Treatment Plant (Jungrang) • 1972~1976: 4 Septic Soil Sanitary Disposable Plants • 1987: Han River Sewage Mgmt		• Four water reclamation centers		• Advanced treatment installed
Solid Waste Management		• Five dump sites (no designated landfills)	• 1978: Nanji Landfill opened • 1992: Sudokwon Landfill opened • 1993: Nanji Landfill closed • 1996: First Resource Recovery C. opened				Four R.R.C under operation
Transportation		• 1965: Express buses • 1968: Tram ops suspended	• 1974: Subway line 1 • 1984~5: Subway lines 2~4 • 1989: Launched TSM • 1996: Bus Card • 2004: Public Trans. Reform/BRT				
e-Government					• Computerization • Online connection • Network formation • Smart govt' + city + society		

Seoul's Growth Trajectory

Transforming the city

Fast development

Hardware based

Transformation

Pursuit of high quality life

Environmentally conscious

Sangam Digital Media City

New media cluster and park on a former landfill

Cheonggyecheon Restoration

Rebirth of water landscape in downtown

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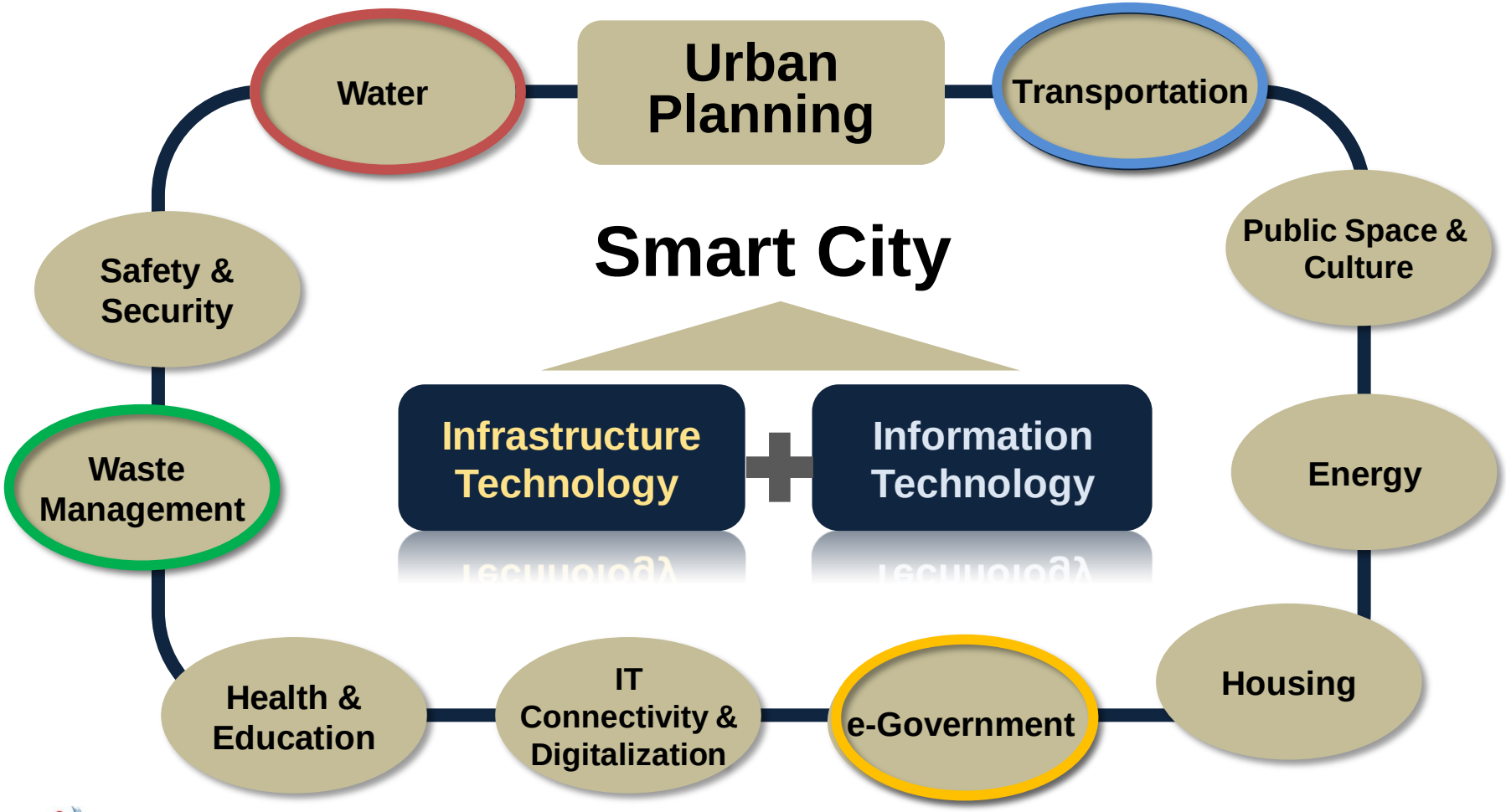
Integrated Smart Solutions

Smart City urban planning – Focus areas



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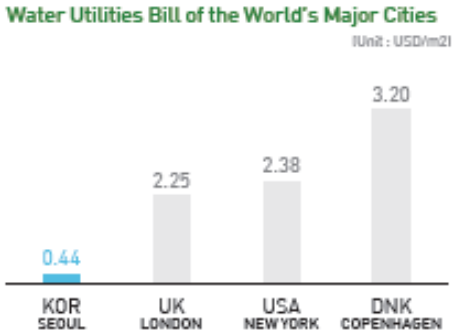
1. Smart Water Management

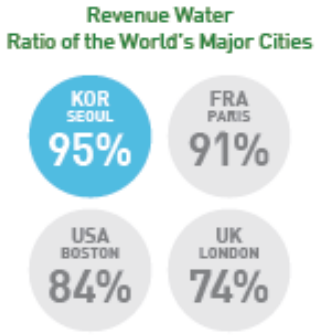
Arisu – quality tap water

[Overview]

- 10 million : Population served
- 3.2 million m² : Average daily production
- 4.35 million m² : Daily production capacity
- 13,846 km : Tap water piping network
- 94% : Rate of water flow

[Inexpensive & 24/7 Supply]





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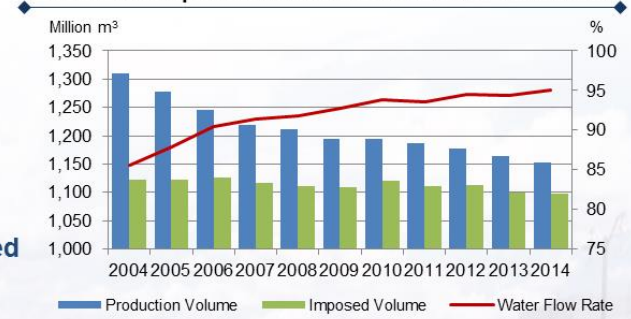
100%
water supply

95.1%
water maintained

Production/Impose Volume & Rate of Water Maintained

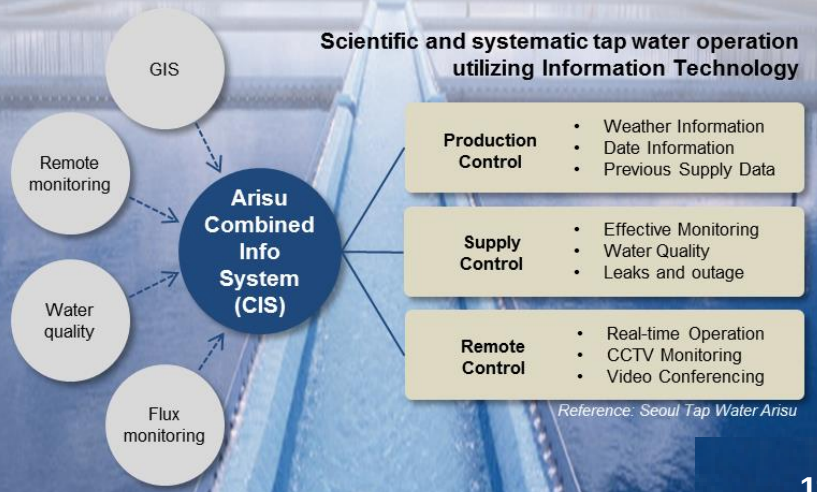


163
items tested

Number of Water Quality Items Tested

Location	WHO	Seoul	USA	Japan	France	Australia
# of Items tested	163	163	102	121	63	199

Scientific and systematic tap water operation utilizing Information Technology



Reference: Seoul Tap Water Arisu

1. Smart Water Management

Waste water management

Size	Population	Sewer	Sewage Treatment Rate	Treated Sewage Amount	Level of Treatment
605.33km²	10.38million	10,392km²	100%	Sewage 4.98 million㎥/day Excreta 10,500㎥/day Food Waste Water 900㎥/day	Sewage BOD 130~170mg/L → Less than 10mg/L

Before 1960	1960s ~ 1970s	1980s ~ 1990s	2000 ~ Present
▪ GNI: USD 80/capita ▪ Area: 268km² ▪ Pop.: 2.4 mil.	▪ GNI: USD 1,645 ▪ Area: 605km² ▪ Pop.: 8.3 mil.	▪ GNI: USD 10,841 ▪ Area: 605km² ▪ Pop.: 10.3 mil.	▪ GNI: USD 20,250 (2010) ▪ Area: 605km² ▪ Pop.: 10.17 mil.
▪ No treatment plants ▪ Sewage and night soil discharged into streams and Han River	Streams in Seoul severely contaminated ▪ All 36 streams dangerous ▪ 24 streams covered up	Increase in sewage volume → serious pollution	▪ Greater demand to improve environment ▪ Mandatory onshore treatment of sludge ▪ Strengthened sewage treatment standards
Reconstruction and extension of sewers (225km)	1. Institutional arrangements and organization reform 2. Construction of 5,940km sewers 3. Open sewers were covered up 4. Construction of two sewage treatment facilities	1. Master plan for sewage and drainage in Seoul (1983) 2. Expansion of sewage treatment facilities 3. Introduction of separate pipes to separate rain and waste water 4. Rehabilitation of existing pipes 5. Introduction of Trenchless Pipe Lining in pipe maintenance (1995)	1. Construct sludge treatment facilities 2. Introduce advanced sewage treatment facilities 3. Transform into a facility that produces new and renewable energy 4. Ensure transparent management of the sewage treatment facilities 5. Eliminate sewer plant odor and build parks for citizens

● Level of Han River (where waste water is released after treatment) contamination

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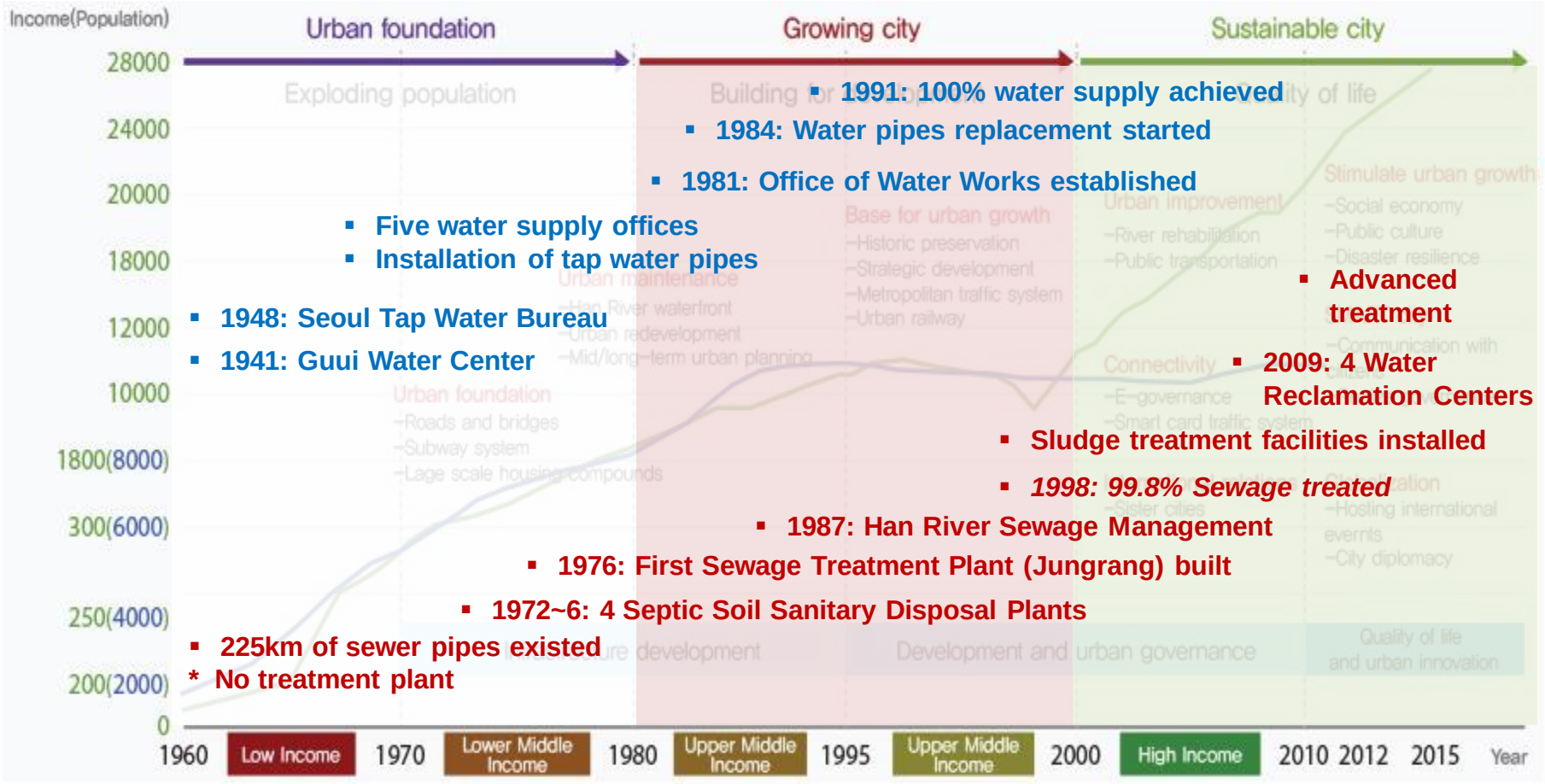
1. Smart Water Management

Development of water related policies and infrastructure



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BLUE: Tap Water

RED: Waste Water

2. Smart Solid Waste Management

Waste Management Hierarchy

Seoul's adoption and improvement of national policy on solid waste management.

1. ***Waste reduction at source***
2. ***Utilization of waste***
   (recovery of material and renewable energy)

Seoul currently operates…

- Four resource recovery centers (incinerators) and
- One landfill shared by the entire Seoul metropolitan area.

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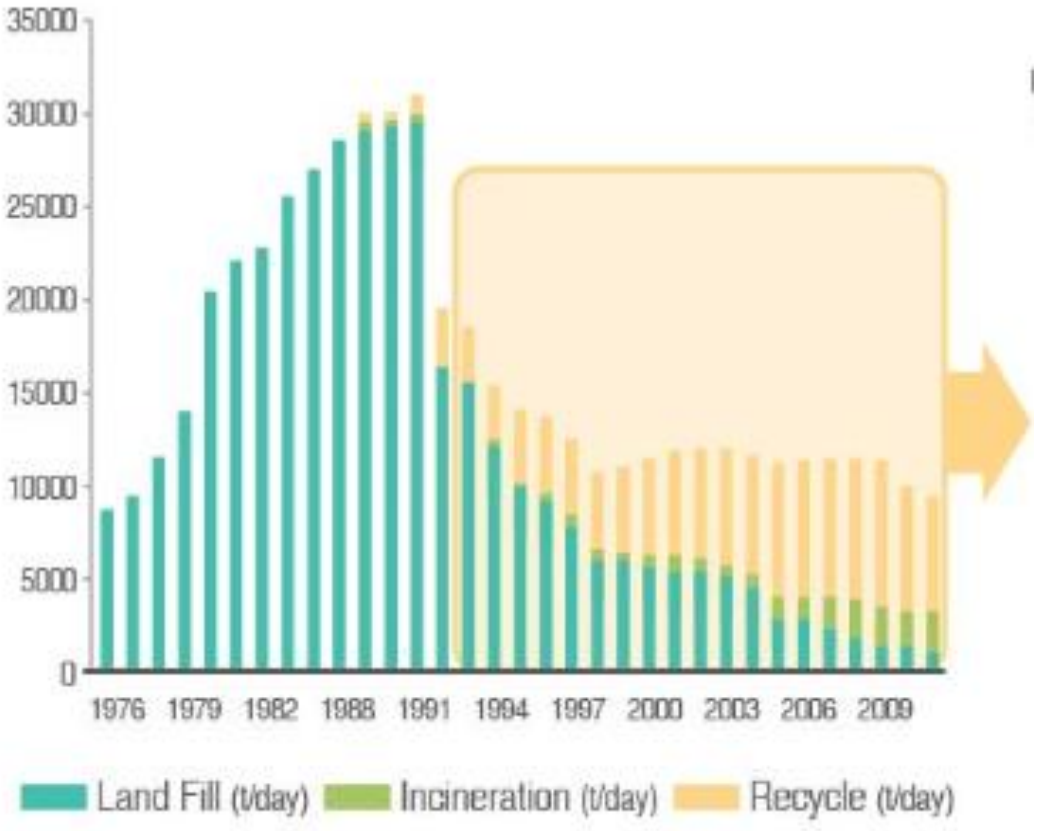
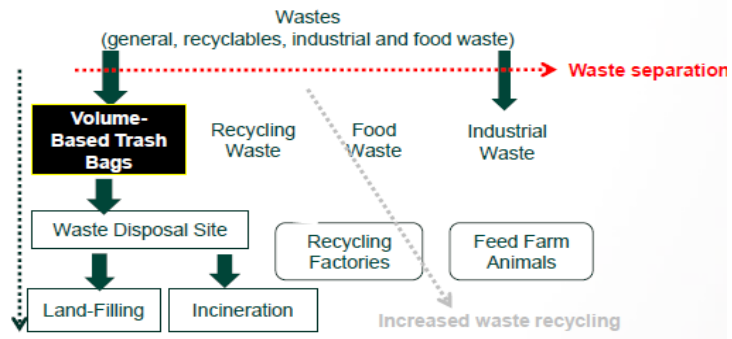
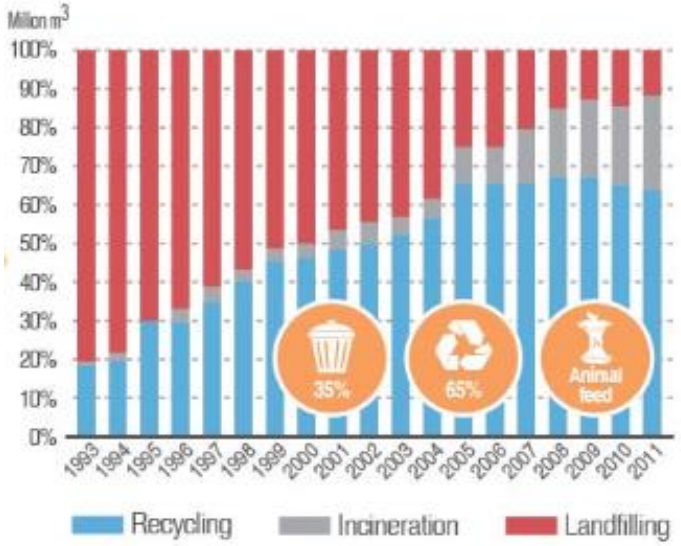
2. Smart Solid Waste Management

From maximum treatment to minimum waste



Volume –based Waste Fee System





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2. Smart Solid Waste Management

Waste as resource: Yielding *Economic* + *Environmental* benefits

4+1
Centers
Number of resource recovery centers in Seoul + 1 landfill site for the Metro area

$30 M
USD
Worth of electricity generated to provide for **43,000 residents** by burning landfill gas

850,000
CO2 tons
Decreased due to CDM technology and generating eco-friendly energy

Landfill Gas Power Plant Overview

Reference : Sudokwon Landfill Site Management Corporation www.slc.or.kr

2. Smart Solid Waste Management

Resource Recovery Centers

Nowon Resource Recovery Center

1997; 800 tons/day; SK Construction/~USD68M

Mapo Resource Recovery Center

2005; 750 tons/day; GS Construction/~USD150M

Yangcheon Resource Recovery Center

1996; 400 tons/day; SK Construction/~USD28M

Gangnam Resource Recovery Center

2001; 900 tons/day; SK Construction/~USD90M

- Gangnam Resource Recovery Center Coverage Area
- Mapo Resource Recovery Center Coverage Area
- Nowon Resource Recovery Center Coverage Area
- Yangcheon Resource Recovery Center Coverage Area

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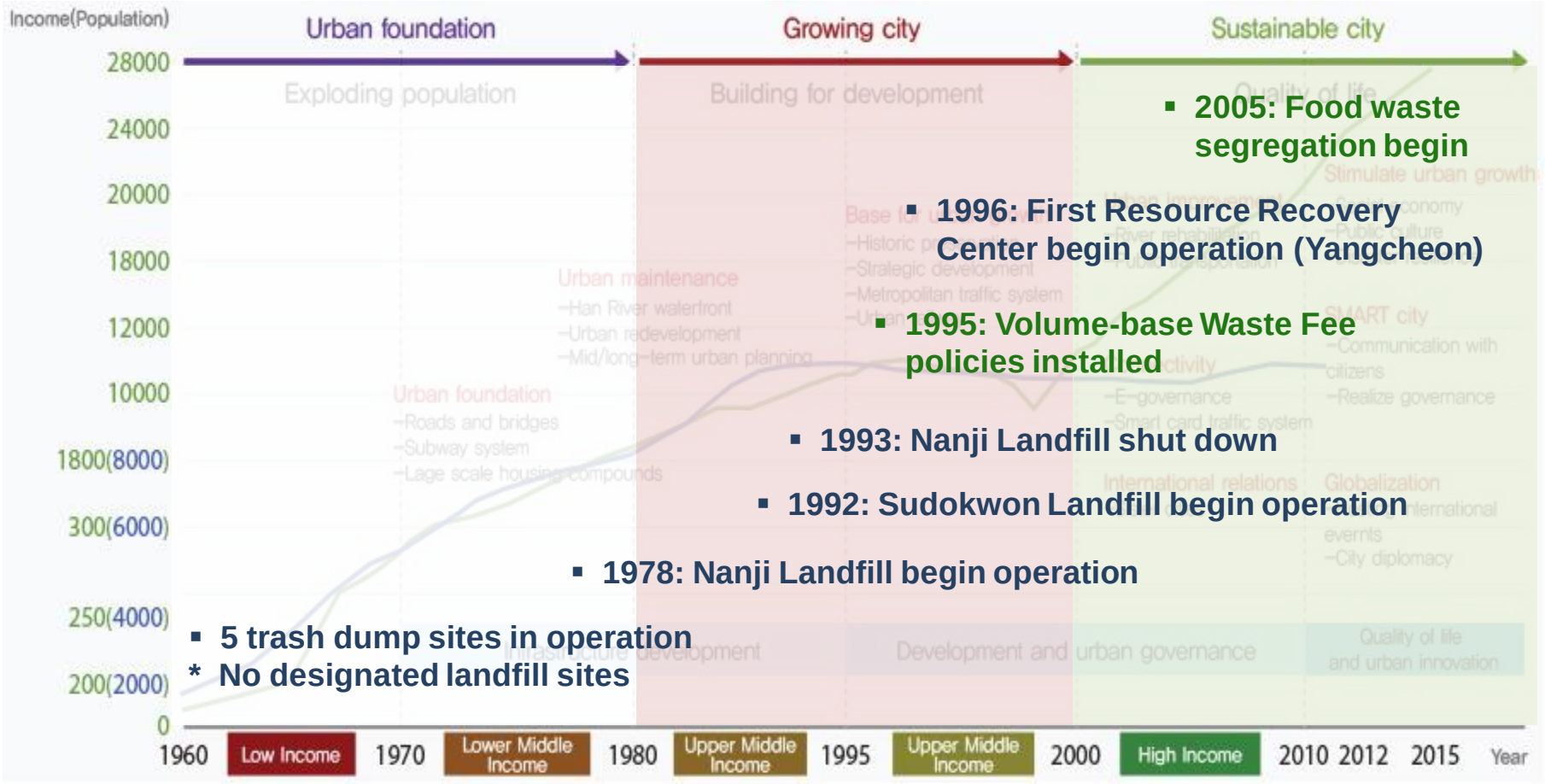
Mapo Resource Recovery Center Introductory Video

2. Smart Solid Waste Management

Development of solid waste related policies and infrastructure



- 2005: Food waste segregation begin
- 1996: First Resource Recovery Center begin operation (Yangcheon)
- 1995: Volume-base Waste Fee policies installed
- 1993: Nanji Landfill shut down
- 1992: Sudokwon Landfill begin operation
- 1978: Nanji Landfill begin operation
- 5 trash dump sites in operation

* No designated landfill sites

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NAVY: Infrastructure GREEN: Policies

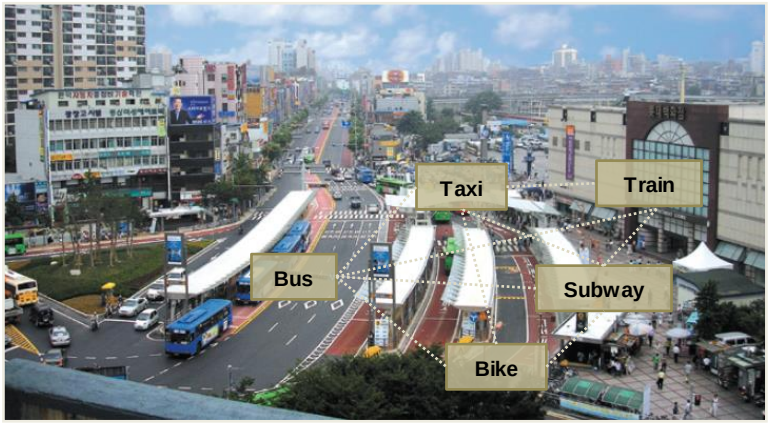
3. Smart Integrated Transportation

Transportation infrastructure – convenient mobility

Public transportations and roads in Seoul

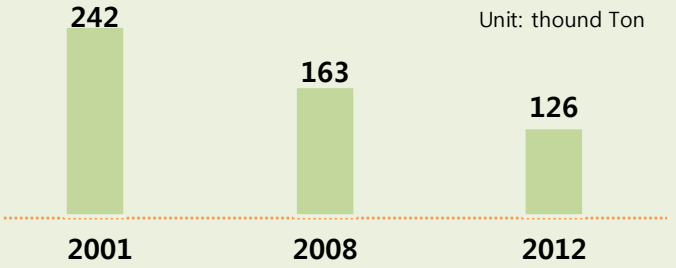
331.6km	7,430	72,065	9.5%	22.43%
for subway	buses	taxis	of roads for bike	of land area for roads

Seamless Integration: Transfer Center connects various transportations in one place



Mode share

Amount of mobile source emissions



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3. Smart Integrated Transportation

Transportation Reform 2004

Issues

1. Worsening traffic conditions with increased number of personal vehicles
2. Weakened bus industry competitiveness
3. Decreased bus service quality related to bus driver's job insecurity
4. Increased passenger dissatisfaction
   - Irregular bus interval
   - Aggressive driving
   - Passing bus stop

Bus Routing & Operating Systems

- Semi-public bus operation
- Trunk & Feeder lines
- Scientific operation management

Infrastructure

- Median bus lanes
- Transfer center improvements
- Bus fleet improvements

Supporting Systems

- Integrated transit fare system
- Enhanced ICT

Social Consensus via Citizen Committee

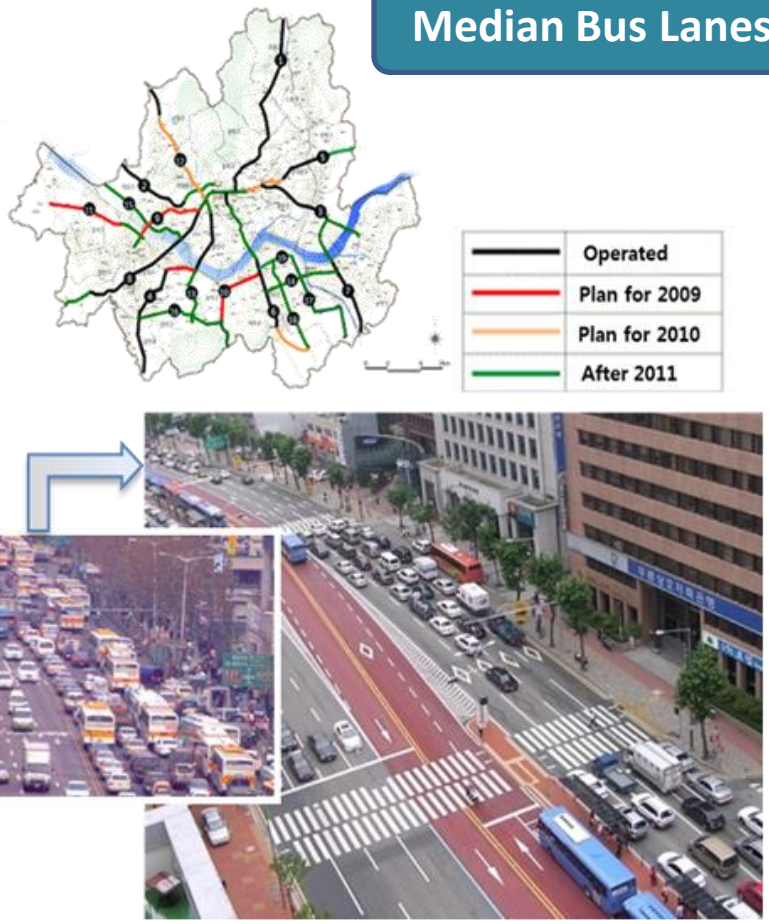
Outcome

1. Increased bus ridership (14% from pre-reform in 2004)
2. 11% increase in public transportation ridership from 2004 to 2014
3. Increased usage of transit card (99% for bus & subway; 55% for taxis)
4. Increased satisfaction level especially on easy transfer between bus and subway

3. Smart Integrated Transportation

Optimized Bus Rapid Transit with Seamless Transfer Centers

Median Bus Lanes



Transfer Center

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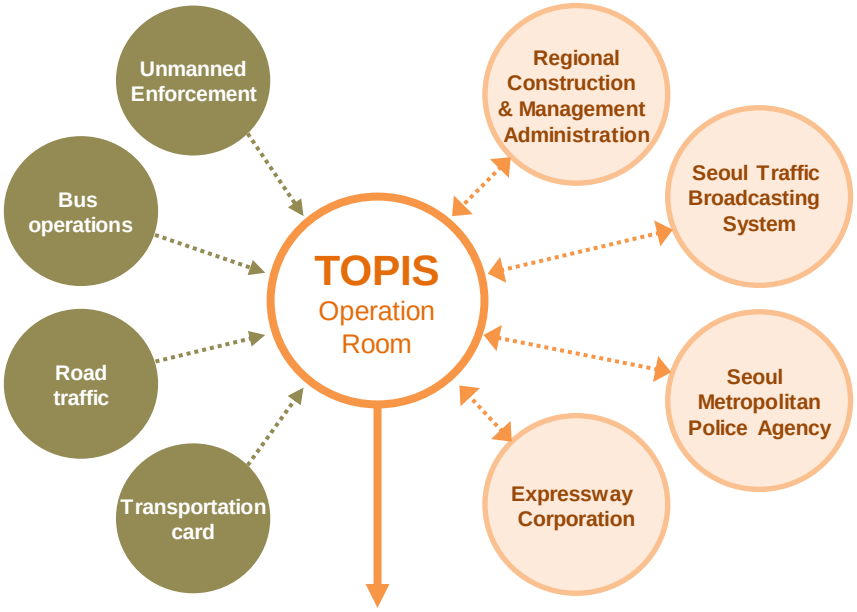
3. Smart Integrated Transportation

Intelligent Transportation System – TOPIS

[Transport Operation and Information Service (TOPIS)]



Reference: Seoul Public Transportation

[Smart Card]

Integrated distance-based transit fare system

- Free transfer between bus-bus and bus-subway, within 30 min. (max 4 times)
- Introduction of “smart card”

[ITS Units]

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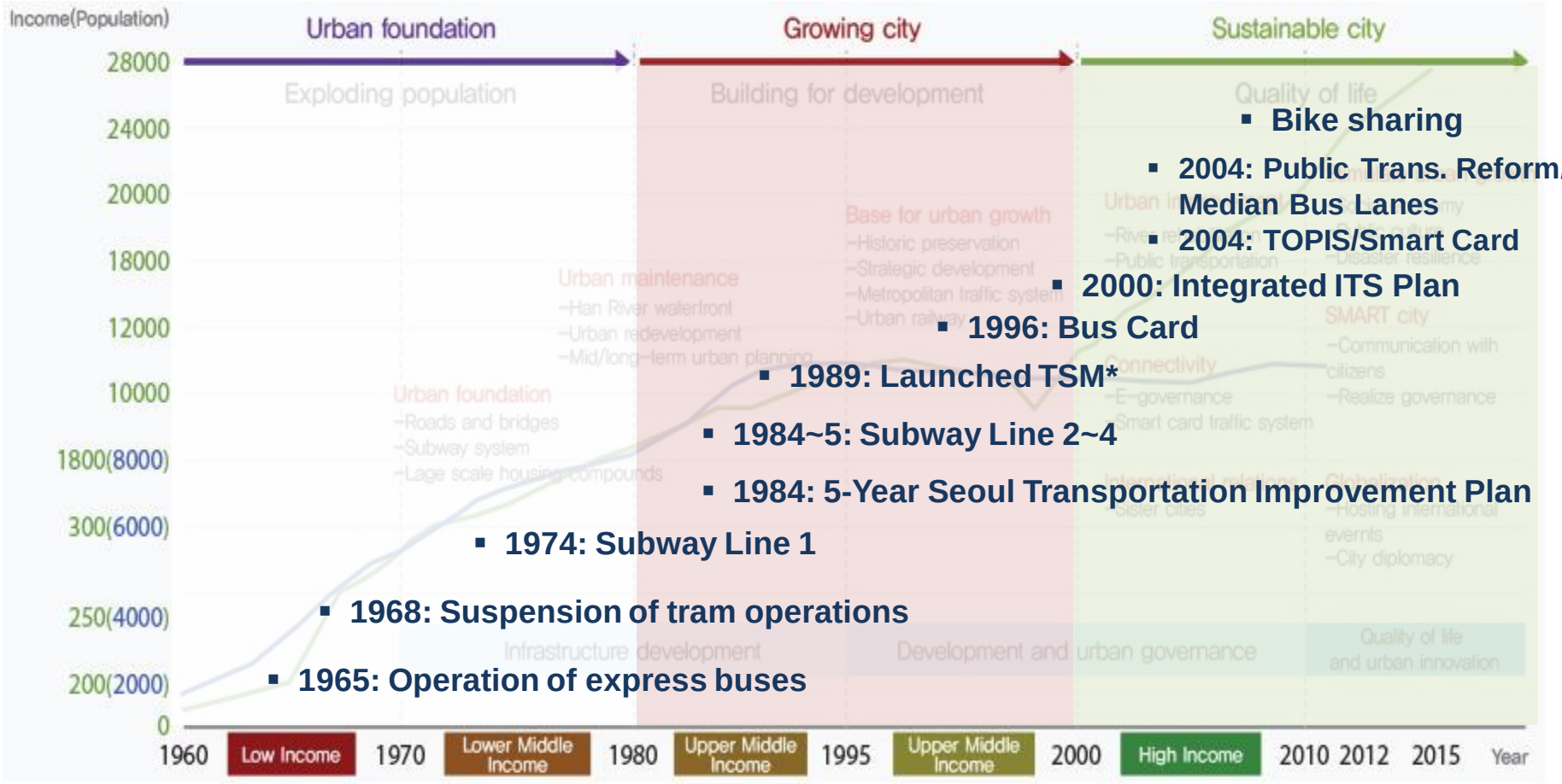
3. Smart Integrated Transportation

Development of transportation related policies and infrastructure



* TSM: Transportation System Management

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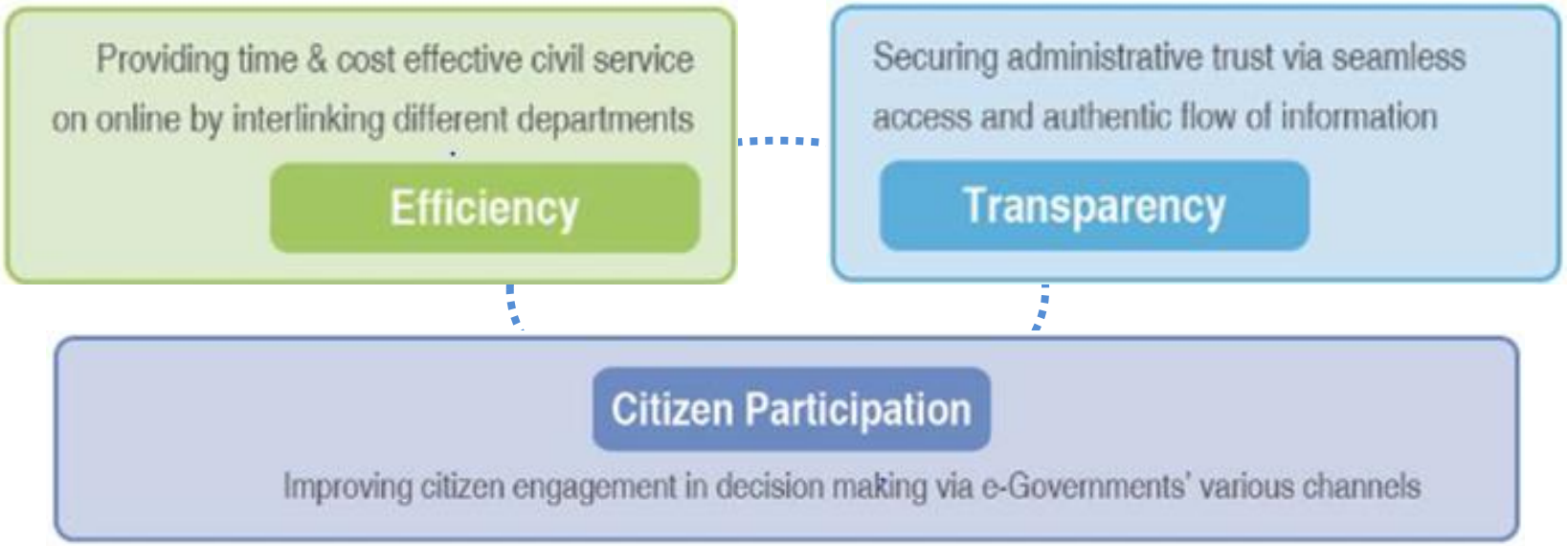
4. Smart e-Government

Three objectives



[Key Elements of e-Government]

IT Infrastructure	Citizen Services	Citizen Participation
■ IT Super Highway ■ Public WiFi	■ Public smartphone charging station ■ Seoul website ■ Information Communication Plaza	■ Oasis of 10 Million Imagination ■ m-Voting ■ Smart complaint report

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4. Smart e-Government

Facilitating citizen convenience and promoting citizen participation

Eung-dap-so
Civil complaint and proposal integrated system

mVoting
"Simply ask and all can vote"

120 Dasan Call Center
Quick QnA: Citizen-centered call center

Oasis of 10 Million Imagination
Bringing ideas into reality

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4. Smart e-Government

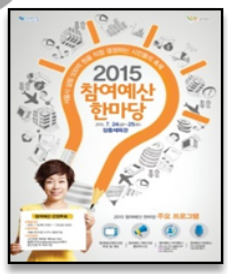
A Day of Seoulites with Smart e-Government

In the morning,
Check the e-mail
with smart devices

On the way to work,
Get the bus arrival information
at a bus stop or online
(http://topis.seoul.go.kr)

At work,
Get messages about delivery
information of parcels from a
client (https://parcel.epost.go.kr)

During lunch time, Pay taxes on the internet
(https://www.hometax.go.kr)



During a break,
Cast a vote on
Participatory
budgeting System
with smart devices

At night,
Check and pay taxes
imposed on overseas
direct purchase

Receiving real-time
responses to any
inconveniences from
Complaint Center

120 다산콜센터

Make a call 120 Dasan Call Center
for inquiring any questions about
Seoul city life
(http://120dasan.seoul.go.kr)

On the way home,
Issue Civil Documents
At a subway station

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e-Government Development Phases

Toward Smart City

1990 | 1999 | 2007 | 2011 | 2016

Industrial Society Paradigm

Information Society Paradigm

Smart Society Paradigm

Phase 1	Phase 2	Phase 3	Phase 4
Computerization	Online Connection	Network Formation	Smart Government
• Build database • Developed website	• Online civil complaint system • Integrated government resources • Expanded e-government service	• Started mobile service • Open platform for public info • Online participation	• Customized spatial service based on citizen needs • Two-way citizen participation through SNS • Smart decision-making and communication based on data

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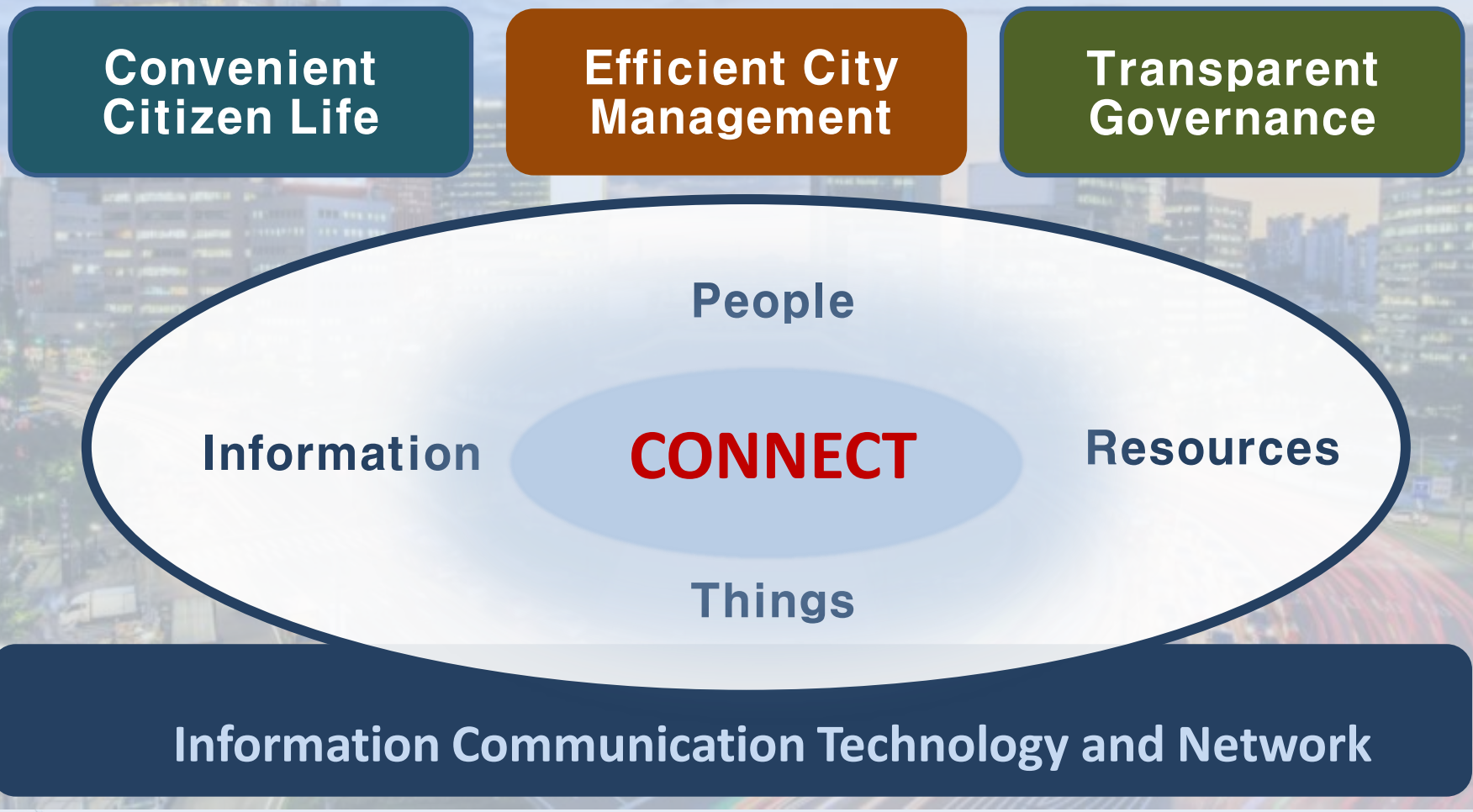
Smart City: Meaningful Connections

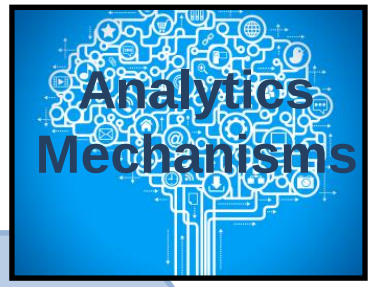
Leverage technology to serve its citizens and make cities more liveable



Smart City Foundation: Network & Data

Building Smart City in the period of exponential growth – a virtuous circle

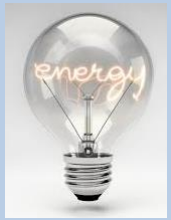
Big Data



Data Collection

- Analyze
- Judge
- Command

ICT



Smart City

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Connections that Generate Data

Seoul's sample illustration of data that are captured at various sources

Category	Data Source	Types of Data	Usage
Solid Waste Management	Incineration facilities	Volume and type of waste generated, waste composition, energy generated	Efficient City Management • Resource forecasting and planning • Water/energy supply chain management • Disaster management • Early warning system Augment Policy Design • Changes in existing policies • Traffic light system rearrangements • Public transportation (re)routing New Policy Introduction • Based on enhanced understanding of pain points New, Convenient Citizen Applications • Mobile ITS services • Safer public spaces
Transportation	TOPIS (ITS)	Public transport, fleets, traffic speed	
	CCTV	Traffic, parking violations	
	Smart Card	No. of passengers, OD info., transfers, distance travelled	
Water Management	Water quality monitoring system	Source water quality, volume, substance	
	Water purification facilities	Water quality, volume, supply, production	
	Pipe leakage monitoring	Leaking pipes by region	
Energy	Energy meter	Production, supply, consumption	
e-Government	Voice of citizens	Citizen needs, complaints, infrastructure issues	

Big Data Applications

Collected big data pool is cleansed, analyzed, communicated and utilized

Convenient Citizen Life

- Applications that makes better use of time and resources
- Safer public spaces
- Healthier city

Efficient City Management

- Optimized use of resources
- Consumption based production
- Timely execution

Intelligent Policy Solutions

- Better knowledge of citizens' pain points and needs through big data analysis
- Intelligence-based solutions and implementation

Transparent City Governance

- Open data
- Public participation

SEOUL METROPOLITAN GOVERNMENT

Global Digital Seoul 2020 (SMG 2016)

Vision: New Connection, Different Experiences

Social City
11 Action Plans

Citizen Participation and Communication

- Citizen-led digital governance
- Strengthen citizen communication
- Align cooperation with private sector
- Vitalize public-private open data platform

Diginomics
6 Action Plans

Stimulate Economic Growth

- Vitalize start-ups and incubate ventures
- Digital economy integrated platform
- Converge digital with existing industries
- Support innovation start-ups utilizing Seoul's big data

Digital Innovation
21 Action Plans

Improve Citizen Life thru Innovative Solution

- Solve urban challenges through digital solutions
- Enhance quality of life through digital technologies
- Recommend policy solutions based on in-depth data analysis

Global Digital Leader

Provide Exemplary Practices

- Early adoption of cutting-edge digital technology
- Build state-of-the-art digital infrastructure
- Build capacity to grow digital business
- Share experiences with the world

SEOUL METROPOLITAN GOVERNMENT

Making of Seoul as a Smart City

1. Understand my city (Big Data)
2. Efficient city management (Smart ICT on infrastructure)
3. Connections that make city more liveable (IoT Living Lab)
4. Platform to stimulate economic growth
5. Intelligent policy making through Big Data Analysis

Efficient City Management

Smart ICT on Infrastructure

Water

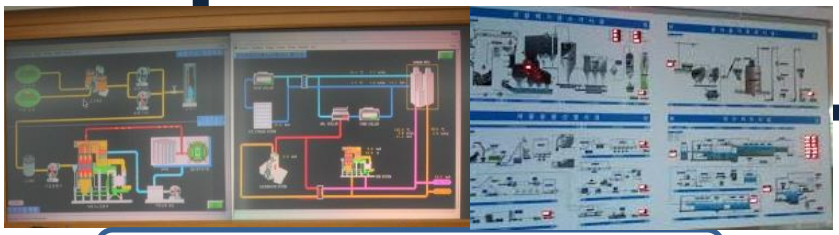
SEOUL TOPIS

Transportation

Smart City

Infrastructure Technology + Information Technology

e-Government



Waste Management

Connections that Make Cities More Liveable

Seoul's IoT Living Lab: Solve urban challenges thru application of IoT in Bukchon

Problems in Bukchon

Residents

- Living inconvenience due to increasing tourists (noise, safety, littering, transportation issues, etc.)
- Limited development to preserve traditional Korean houses

Small/Mid-size Business

- Insufficient business vitalization
  - Accommodations
  - Food
  - Shopping
  - Souvenirs and crafts

Tourists

- No Free WiFi
- Lack of tourist information
  - Info on things to see, do and eat
- Difficulty in maneuvering the old neighborhood

Connections that Make Cities More Liveable

Connecting people, things and places thru concerted public-private efforts

City of Seoul

- Free public Wi-Fi
- CCTV cameras
- Multilingual contents & audio
- Open API for spatial information (Open platform for private sector to develop IoT solutions)

Private Sector

- Tourist solutions
- Resident solutions
- Community solutions

Smart garbage bins

Smart tourism

Parking lot sharing

Auto indoor temp. regulation

Children location tracker

Elderly care service

Fire prevention

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Seoul's Policy using Big Data Analytics

Big Data Application Strategy

Communicate with Citizens and Find Urban Solutions

Big data-based Policies & Services

Solving urban challenges with policies based on big data

Transportation

Welfare

Economy

* Analysis performed for 25 projects, starting from Night Owl Bus in 2013

Provision of Analysis Service on Platforms

Established big data sharing platforms

Integrated data storage

Improved analysis System

Strategic project identification and analysis

Realization of Social Innovation Ecosystem with Public-Private-Industry-Academia Cooperation

Operating Big Data Campus

Identifying and analyzing cooperative governance

Sharing Data Analysis Result

Creating Seoul Data Mix Zone

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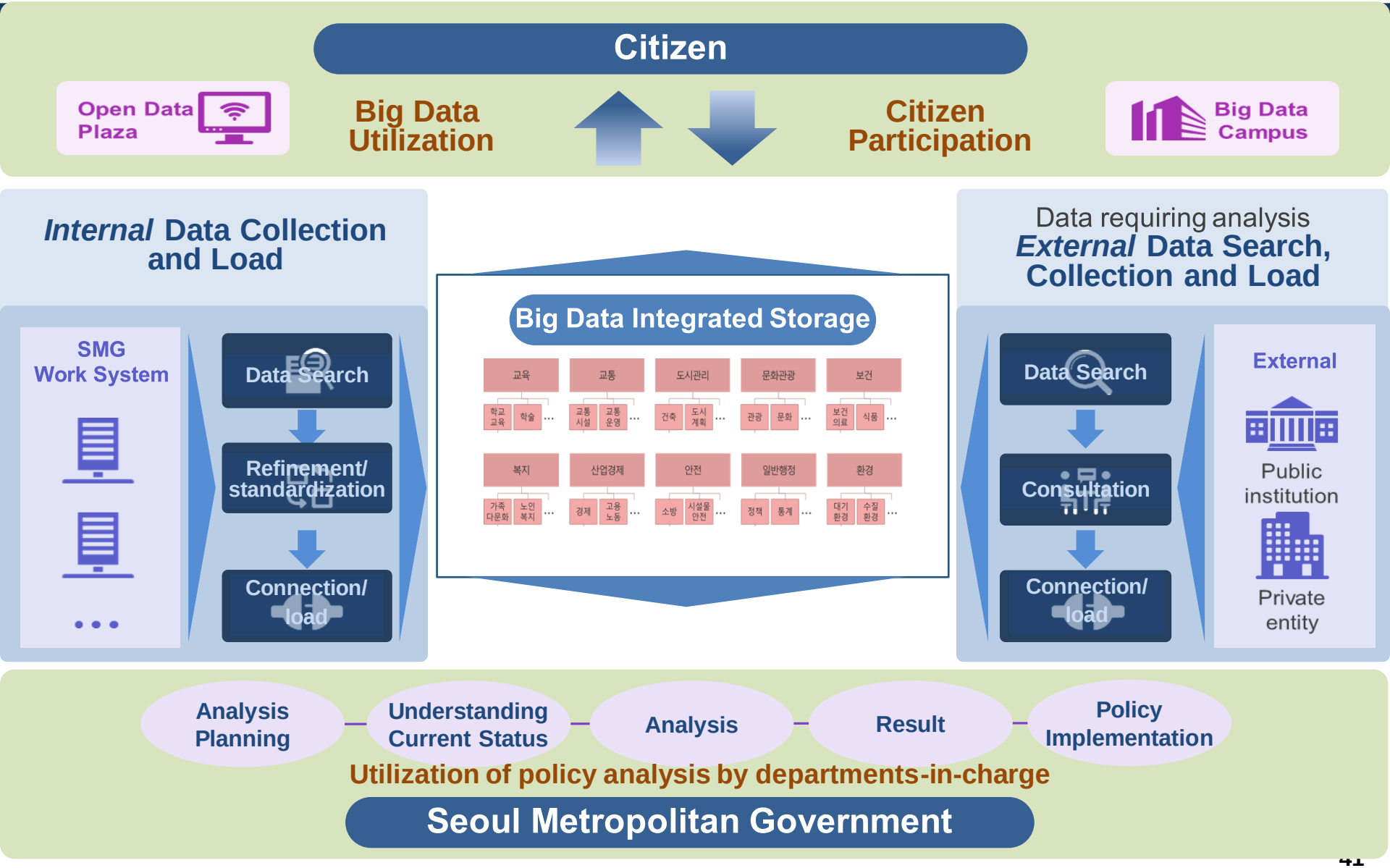
Big Data Platform



Big Data Platform

Demand based Project identification and analytics system

[Capture Citizens' Voice]

Project Selection

- Relevant Data Search
- Big Data Analysis
- Draw Insights
- Offer Policy Recommendation

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*NPO: Non-profit organization

Big Data Campus

Objectives

Share Useful Data
with Citizen

Provide Big Data Analysis
through
Public-private-industry-academia
cooperation

Create
New Social Values
with Citizen Participation

Realize
Social Innovation
with Citizens

Sangam Campus

Gaepo Campus

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Big Data Campus

Services provided

Partnership

Free Sourcing

* Paid sourcing minimized but decided on needs basis

BIG DATA CAMPUS

Public Space

Public Data	Open Data	Open Data Plaza	Raw data
	Browsing Data	SDW	Unit of Collection
Private Data	Third Party Right	BDW	Derived Statistics
	Open Data	Enterprise	Raw data

Local Business District

- 42 data sets
- Real estate
- Floating population
- Statistics on the use of public transportation

Spatial Data Warehouse (SDW)

- 473 types
- Spatial information
- Policy map

Open Data Plaza

- More than 4,000 data sets
- Locations
- Current status of Seoul administrative office
- Facilities and transportation
- http://data.seoul.go.kr/

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Big Data Campus

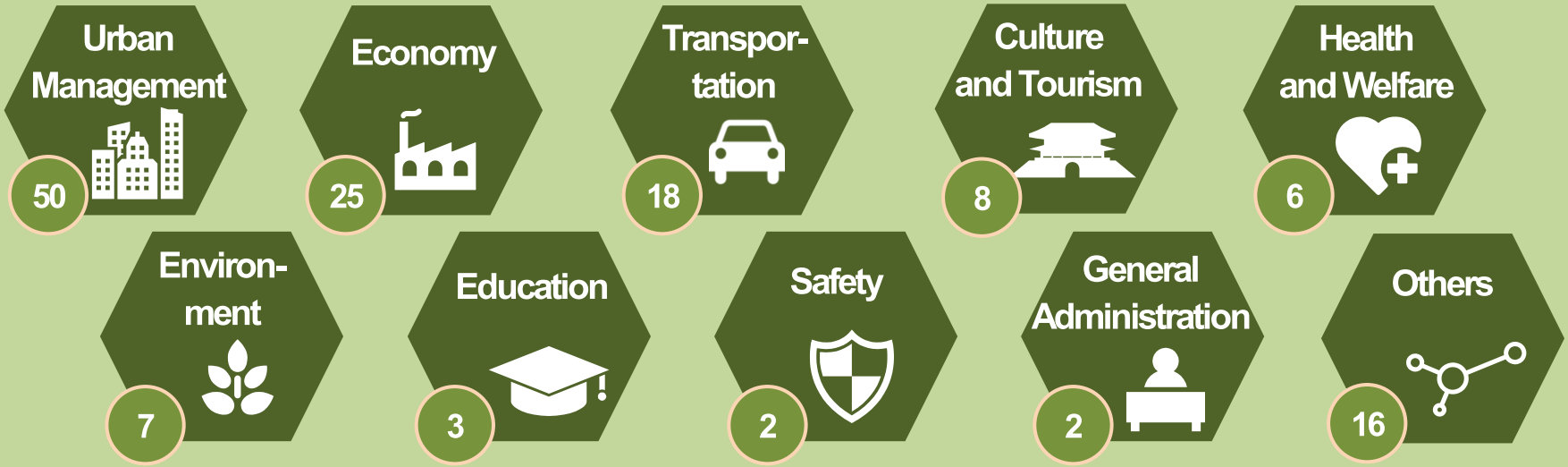
Current status of operation

207 Teams

344 Participants

137 projects covering 10 sectors

(Unit: project, as of 2017. 1. 31)



Seoul's Big Data based Services

25 projects in 4 sectors (2013~2016)

Transportation

- Night bus optimal route analysis
- Taxi operation data analysis
- Optimization of local bus routes
- Analysis on road accident blackspots
- Analysis on parking problems
- Impact analysis on traffic signs
- Location analysis for Taxi station

Welfare

- Location analysis for life/job planning for retired people
- Location analysis for senior leisure and welfare center
- Traffic accidents analysis for transportation vulnerable
- Tuberculosis trait analysis
- Operation of taxi service for disabled
- Analysis of moving range of disabled
- Location analysis for installing braille block
- Adjustment for free shuttle bus for transportation vulnerable

Economy

- Local business district analysis service
- Public Wi-Fi Locational Analysis
- Application of social data for crime investigation
- Shinchon Water Gun Festival analysis
- Local festival analysis
- Tourist consumption pattern analysis

Administration

- Public Wi-Fi optimal locational analysis
- Location analysis for E-Civil Service
- Gentrification Analysis
- Location analysis for city publicity material

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Analysis Method: Location Analysis, Demand Forecast, Effect Analysis, Unstructured Data Analysis

Case 1: Night-owl Bus

Capturing and responding to the citizens' demand through Big Data analysis

Late-night bus routes

올빼미 버스

Why Late-night bus?

"Buses don't run by the time I get off work. I don't have a car. I hope there will be buses available at late night..!!"

*@gu*****

No public transportation
in 01:00 AM ~ 05:00 AM

Subway Bus Taxi

Response of the City

올빼미버스

Let's set-up Late night bus routes

Facing Problems

1.Limited resources – bus, drivers, budget
2.Where are the passengers in mid-night?
3. Where do they want to go?

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Case 1: Night-owl Bus

Background and data used

Background

Pilot Operation of Night Bus (‘13.4.~) → **Increased ridership** → **Expansion of Night Bus Service** → **Selection of 8 Routes** → **Enhanced Usage of Bus Routes (demand data analysis)**

Data Used

KT Floating Population Data

Period 1 mo. (3/1~3/31) Usage 100M call/day

*O:Origin, D:Destination)

Taxi Ride Information

Period 1 week(3/18~3/24) Usage 0.6~0.8M ride/day

*O:Origin, D:Destination)

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Case 1: Night-owl Bus

Analysis methodology used

[Primary Analysis of Demand based on Taxi Ride Information]

1 Taxi ride data by date of week

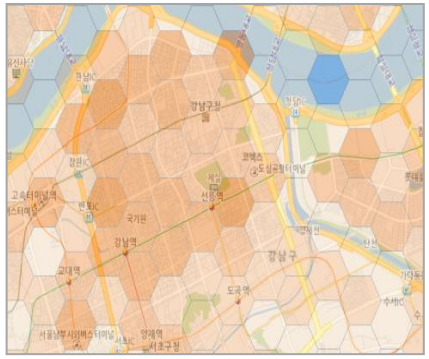
2 Building layers based on taxi ride locations

Table

TAXI_SATURDAY_Statistics

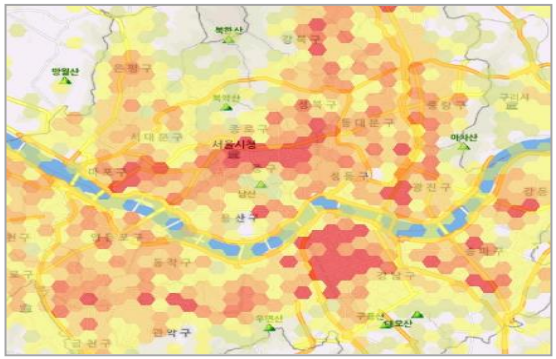
OBJECTID *	hexagonID *	DEMAND
1	2381	1
2	2752	1
3	2862	1
4	2962	2
5	3059	1
6	4510	1
7	4800	1
8	4999	1
9	5187	2
10	5188	1
11	5505	1
12	5575	2
13	5977	1

3 Summarized statistics on number of taxi ride

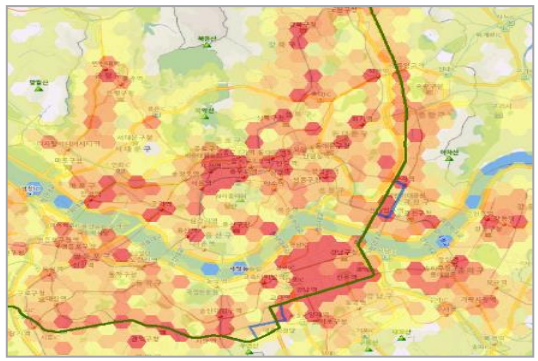


4 Mapping on hexagon
→ Used as Predicted Demand

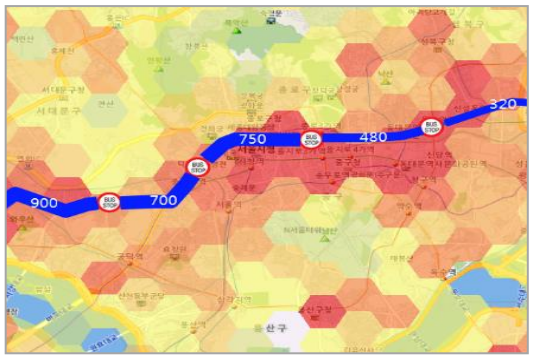
[Adjustment of Route and Dispatch Timetables by Floating Population Pattern Analysis]



Floating Population Density Analysis



Optimization of Routes based on Floating Population



Adjustment of Dispatch Timetable based on Floating Population

Case 1: Night-owl Bus

Revised bus routes by reflecting results from big data analysis

Late night owl bus routes

N16번 : 도봉산~온수동

N10번 : 우이동~서울역

N13번 : 상계동~송파차고지

Bus route changes
thru big data analysis

N30번 : 강동차고지~서울역

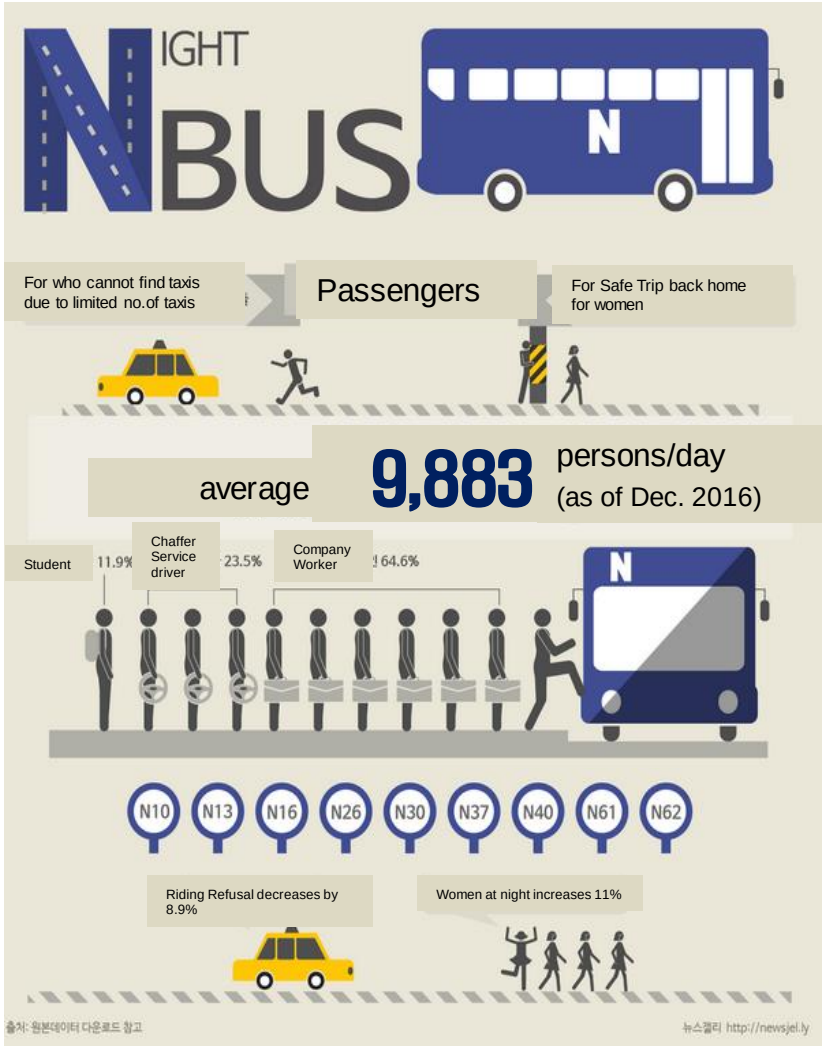
N62번 : 양천차고지~면목동

N61번 : 양천차고지~노원역

N40번 : 사당동~서울역

Case 1: Night-owl Bus

Results



For administrative aspect

- ✓Communication channel for conflict resolution
- ✓10% increase of ridership without additional routes
- ✓Covers 42% of Seoul residents

For citizen's benefit

- ✓(Enhancing customer satisfaction) 8.9% decrease in taxi refusing a passenger
- ✓(More jobs and safety) 11% increase in women's activities at night
- ✓Ranked 1st among the top 10 Seoul news in 2013

Case 2: Local (Golmok) Business District Analysis Service

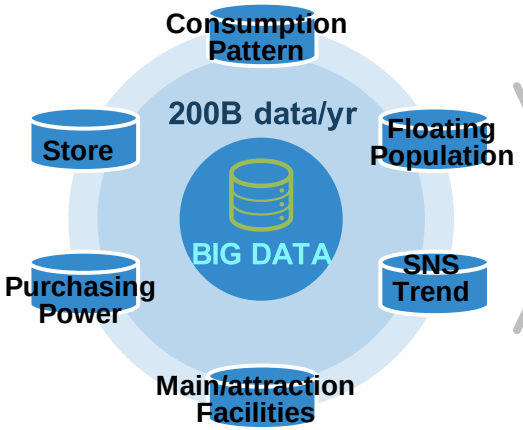
Background & Data Used

Increase of Subsistence Self-employed

Demand for Golmok Business District Information

Need for Market Stabilization through Market Change Outlook

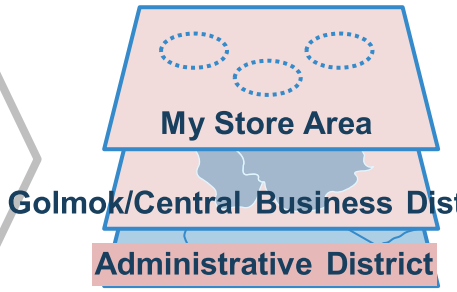
Market-related Data



Provision of Market Info

- Start-up Risk Index
- Type of Business Index
- Sales Trend
- Competition Index
- Customer/Population Data
- Hinterland Information

Various Unit of Info



Self-employed

Policymaker

Professional

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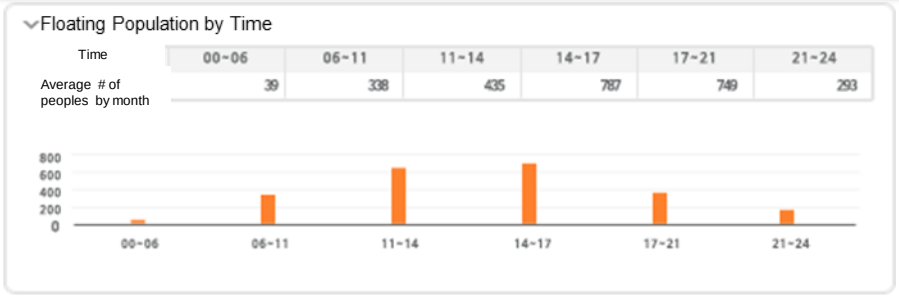
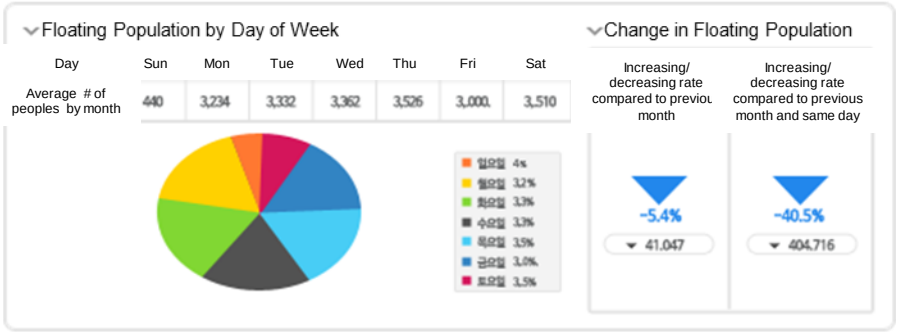
Case 2: Local (Golmok) Business District Analysis Service

Provides various indices such as store records, rent/lease price, degree of competition

Business DistrictType: Semi-residential Area	Business DistrictType: Semi-residential Area
Business DistrictArea: 20.103㎡	Business DistrictArea: 38.311㎡
Selected StoreType: Restaurants > Korean	Selected StoreType: Restaurants > Korean
Overcrowding Scale	Overcrowding Scale
Business Activity Index	Business Activity Index
Business Growth Index	Business Growth Index
Business Stability Index	Business Stability Index





Result

- Intuitively grasp start-up risk and district selection

- Existing self-employed can search potential customers

Case 3: Traffic Accidents Analysis for Transportation Vulnerable

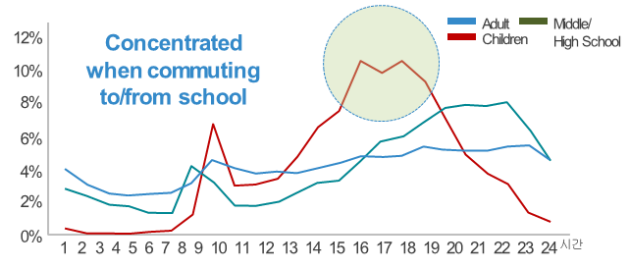
Objective: Prevent traffic accidents of transportation vulnerable by finding accident patterns

Data Used

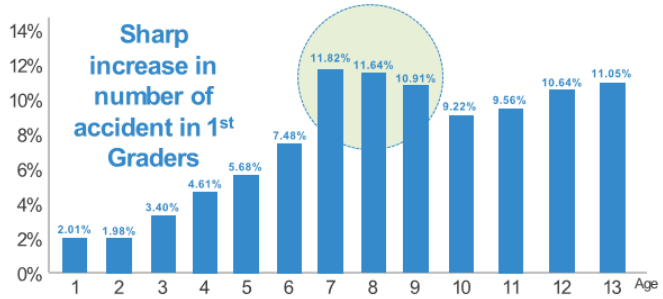
- affic Accide History
- raffic Safety Facilities
- Taxi DTG
- Car Speed
- Floating Pop
- Weather
- Bus Stop Location

Results

Children

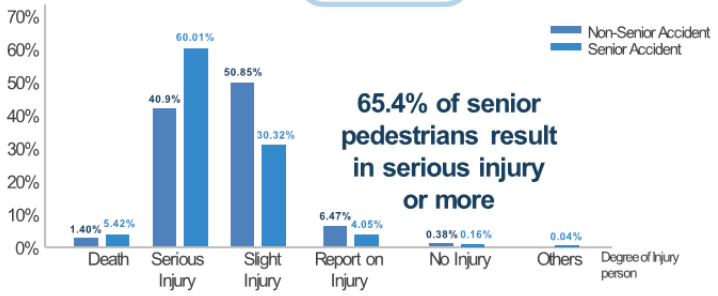


Child and Teenager Pedestrian Traffic Accident by Time

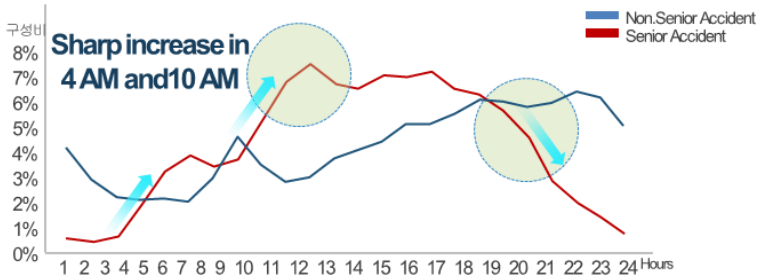


Child Pedestrian Traffic Accident by Age

Senior



Senior/Non-Senior Pedestrian Accident by Degree of Injury



Senior/Non-Senior Pedestrian Accident by Time

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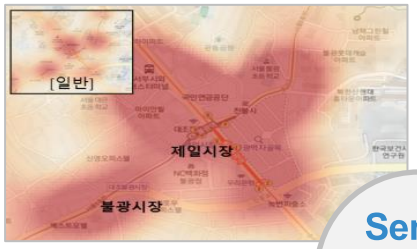
Case 3: Traffic Accidents Analysis for Transportation Vulnerable

Results

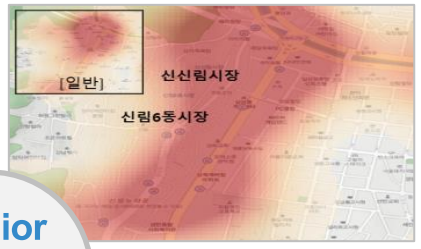
[Derived Focal Area within Children Protection Zone]

Frequent accident occurred where lacking speed bump
➡ Need to install speed bump at blackspot

[Designated additional Senior Zones]



▲ Vicinity of Bulgwang Sta.



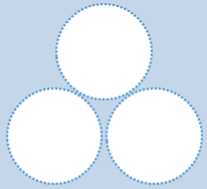
▲ Vicinity of Shin Shilim Market

Senior Pedestrian Accident

▲ Vicinity of Cheongnyangni Sta.

▲ Vicinity of Wolgok Sta.

Current Senior Zone



Concentrated around welfare/senior centers

Centered around blackspot

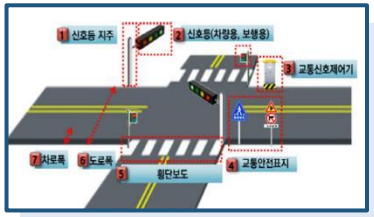
Additional Senior Zone

Case 3: Traffic Accidents Analysis for Transportation Vulnerable

Initiated traffic safety policies for transportation vulnerables

• Installed speed bumps for road safety

- Analyzed blackspots, traffic safety facilities for installation



• Road safety training for lower graders

- Produced educational materials with video clips

• Improved facilities around blackspots

- Installed barriers to prevent jaywalking
- Installed Accessible Pedestrian Signal for pilot

• Customized Training for Seniors

- Operated Participatory 3D Road Safety Training

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How can we apply the big data based policies to DMCs ?

SUSA's knowledge transfer references to other cities

1. **Buenos Aires City** : "Golmok"(neighborhood) Market Places Analysis
   - For supporting and boom up old market and small merchants

2. **World Bank** : Production of Mobile based ITS Guidebook which includes "Seoul Late Night Bus"
   - Mobile based ITS services for developing countries
   - Pilot Services

3. **Kiev City** : Big Data Based Transportation System Improvement Project
   - Feasibility Study for building data based scientific decision making system

How can we apply the big data in DMCs ?

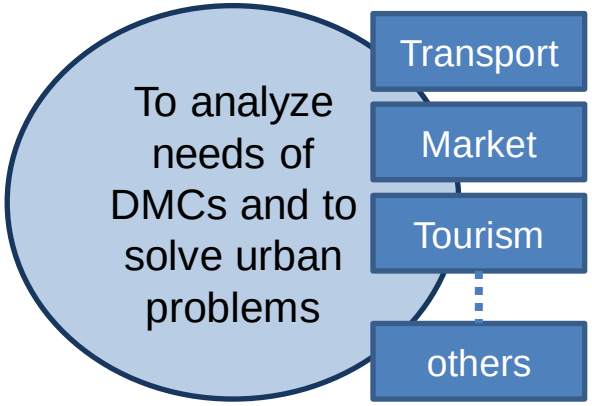
Projects for Consideration

Outcomes	Outputs	Activities
PROPOSAL Applicable projects for DMCs	**TARGET SYSTEM** Building the data based decision making support system	**FEASIBILITY STUDY** for DMCs in demand

1. Transportation
   - Public transportation optimization
   - Parking problem mitigation
   - Road accident prevention
2. Industries
   - Business District (market place) Identification for Startups
3. Tourism/Festival promotion
4. Etc.

1. Data Center
2. Big-data Platform
3. Smart City and policy decision support system
4. Urban Transportation Optimization and Surveillance system
5. Others base on big data platform

1. Environmental Analysis (Data availability & quality)
2. Needs Analysis
3. Prioritized projects list
4. Pilot study
5. Capacity Building



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Smart Execution: Seoul Urban Solutions Agency

What we do

[Overseas Project Process]

[Areas We Work In]

[Services We Provide]

- Study Visits
- Training Program
- Advisory/Consulting
- Project Implementation
- Public-Private Partnership Projects

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Smart Execution: Seoul Urban Solutions Agency

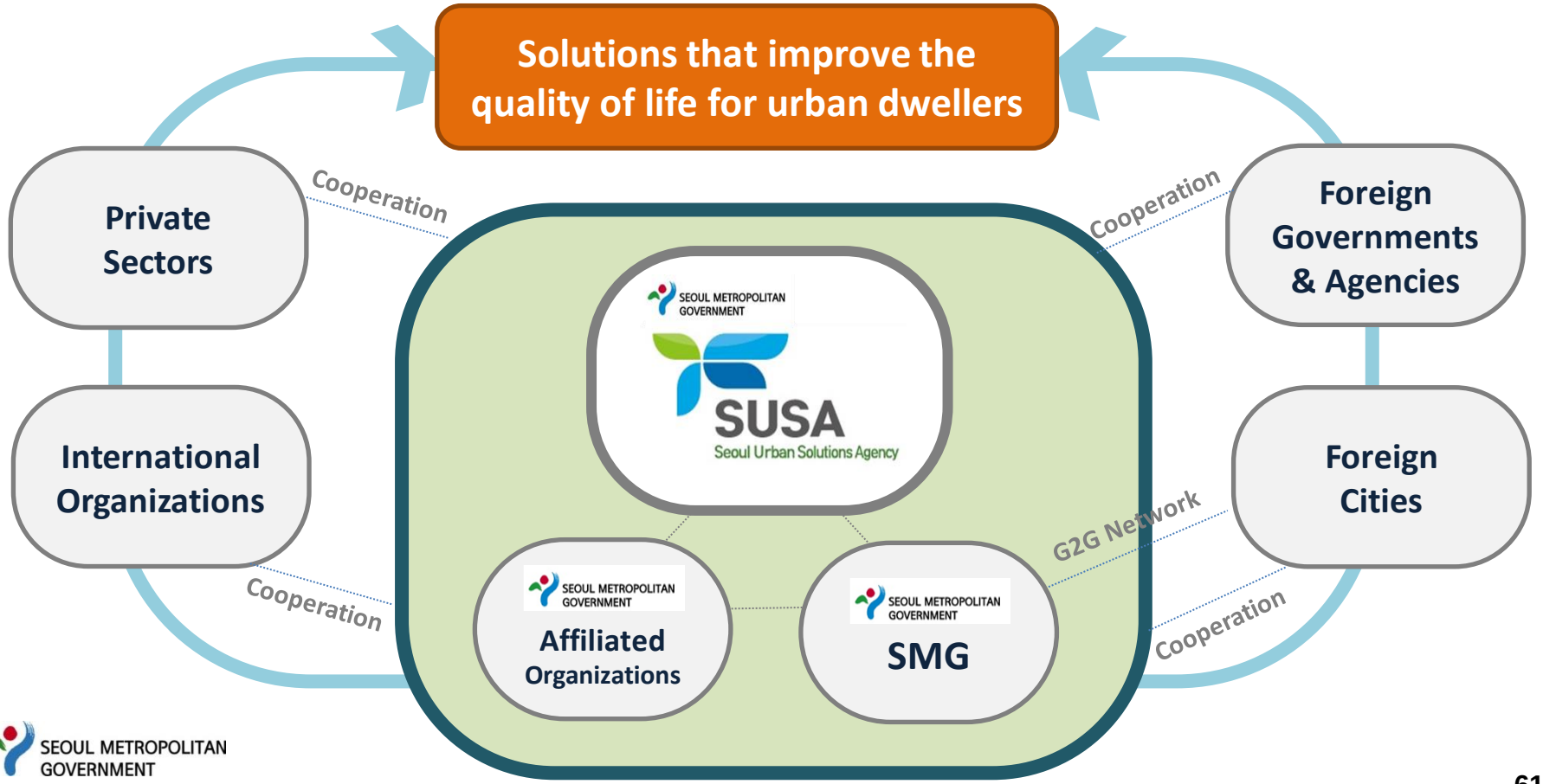
How we work – provide integrated solution

[Policy Solution + Business Solution]

Smart Execution: Seoul Urban Solutions Agency

How we work – SUSA as a agent in delivering the integrated solution

SUSA works as the agent that bridges various players with keen understanding of the role and stake each part has in accomplishing the mission.



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Thank You

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