Mobility in Seoul
Pedestrian & Bicycle Friendly City

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3. Bicycle Oriented Policy
4. Challenge and Opportunity
Seoul Transportation Overview

- **Area**
  - Seoul: 605.2 km²
  - Metropolitan Area: 11,818 km²

- **Population**
  - Seoul: 10.1 Million
  - Metropolitan Area: 25.5 Million

- **Vehicle**
  - Car: 3.1 Million veh
  - Bus: 7,421 veh
  - Taxi: 71,968 veh

- **Road**
  - 8 Urban Expressway (189 km)
  - 26 Major Arterial (426 km)
  - 144 Minor Arterial (602 km)

- **Subway**
  - Seoul: 10 Lines (343 km)
  - Metropolitan: 23 Lines (1,180 km)
  - Construction: 9 Lines (222.3 km)
  - Planning: 10 Lines (186.54 km)
**Public Transit Friendly City, Seoul**

**Bus Station Coverage**
- 300m, 6,240 Stations.

**BRT System**
- 12 Axis (121.1 km), 282 Routes

**Transfer System**
- 5 Major Transfer Centers
  - Free Transfer within 30 min (Bus↔Bus, Bus↔Subway)

**Walking to Subway**
- Average 10.1 min

**Total Trips per day**

- **Subway**: 12.6 Mil/day (38.8%)
- **Bus**: 8.8 Mil/day (27.1%)
- **Car**: 7.4 Mil/day (22.9%)
- **Taxi**: 6.8%
- **Bicycle**: 4.4%

**Transit Share rate**
- 65.9%
- 21.4 Mil/day
Seoul Transportation Policies over Time

**No. of Vehicle**
- 1980: 3.1 mil
- 2017: 8,240 km
- Increasing of 15 times

**Road Length**
- 1980: 8,240 km
- 2017: 8,240 km
- Increasing of 1.2 times

**Congestion Cost in Seoul**
- Billion Dollar
- Year
- Increasing of 1.6 times for 10 years

**1950-1970**
- Improving Mobility
- Congestion in CBD

**1970-1980**
- Policies in support of cars
- Focusing on public transport

**1980-1990**
- Integrated transportation system

**1990-2000**
- People-centered transport

**2000-2010**
- Pedestrian & Bicycle oriented Projects

**2010-**

**Congestion in CBD**

**Integrated transportation system**

**Policies in support of cars**

**Focusing on public transport**

**People-centered transport**

**Pedestrian & Bicycle oriented Projects**
## Pedestrian Oriented Projects

### 1) Pedestrian Zone in Myeongdong

**Process: Street Improvement in the Myeongdong Special Tourism District**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Duration</th>
<th>Activities</th>
</tr>
</thead>
</table>
- Install street lighting  
- Floor Fountains, etc |
| Phase 2 | [2007.03-2009.06] | - Improve sidewalk/road  
- Install plants on walls  
- Street lighting  
- Improve facilities |
| Phase 3 | [2009.03-2010.04] | - Pave Sidewalk  
- Improve facilities |
| Phase 4 | [2010.04-2010.08] | - Improve sidewalk/road  
- Improve sewers, power cables, and other underground facilities |

[Street improvements in the Myeongdong Special Tourism District map]
Pedestrian Oriented Projects

1) Pedestrian Zone in Myeongdong

Road in front of Myeongdong Cathedral (Before)

Road in front of Myeongdong Cathedral (After)

Myeongdong-gil (Before)

Myeongdong-gil (After)

Photo: Press release, the City of Seoul (Apr 7, 2010) "Myeongdong, Upgrading to Walkable Streets"
Pedestrian Oriented Projects

1) Pedestrian Zone in Myeongdong
Pedestrian Oriented Projects

1) Pedestrian Zone in Myeongdong

Outcome

• No curb between sidewalk and road, making it easier for wheelchairs and baby strollers.
• High heels no longer caught in grooves between paving blocks or in manhole covers.

* Pedestrian-only zones to be expanded, starting with Myeongdong-gil and Gwancheoldong-gil.
## Pedestrian Oriented Projects

### 2) Shinchon Transit Mall on Yonsei-ro

<table>
<thead>
<tr>
<th>Background</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background: The district was declining without a unique culture, poor environment for pedestrians and transit users, local demand for revitalization of the area.</td>
<td><strong>Existing Traffic</strong>&lt;br&gt;• Created new intersection, improved traffic signals&lt;br&gt;• Additional crosswalk in front of Yonsei University and connected with bus stops on central lane for better pedestrian access</td>
</tr>
<tr>
<td><strong>Use of Space</strong>&lt;br&gt;• Two-lane (each direction) road (10 m) reduced to the minimum (3.5m) to allow sidewalk to be expanded&lt;br&gt;• No access for vehicles at the intersection between Yonsei-ro and tourism street; a square and small parks along the way</td>
<td><strong>Road improvements</strong>&lt;br&gt;• Sidewalk and road on the same elevation (trees and landscaping separate the pedestrian walk)&lt;br&gt;• A pedestrian-only option may be considered in the long term</td>
</tr>
<tr>
<td><strong>Conflict management</strong>&lt;br&gt;• Effective communication and dispute resolution between the city and local residents&lt;br&gt;• A committee provides opportunity for interested parties in the local community to participate and share their opinions&lt;br&gt;• Local residents persuaded by objective research and analytical data&lt;br&gt;• Mutually acceptable alternatives proposed for many demands</td>
<td></td>
</tr>
</tbody>
</table>
Pedestrian Oriented Projects

2) Shinchon Transit Mall on Yonsei-ro

Before

University

Station

After

Photo: LEE Su-jin (Jun 2015)  "Making Seoul a Walkable City by Promoting the Use of Public Transport"
Pedestrian Oriented Projects

2) Shinchon Transit Mall on Yonsei-ro

Before

After

Photo: Press release, the City of Seoul (Jan 1, 2014) *Seoul’s first transit mall opened on Yonsei-ro, Sinchon (8th, MOK)*
Pedestrian Oriented Projects

2) Shinchon Transit Mall on Yonsei-ro

Outcome

- **Citizen satisfaction: from 12% to 70%**
  Many (80.2%) say that safety has improved over when the narrow road was shared by people and vehicles.
  - Based on responses from 1,000 residents and 300 visitors to Yonsei-ro (City of Seoul)

- **Visitors increased up to 28%**
  Store revenues up (transactions up 10.6%, revenues up 4.2%)
  - Based on transactions made at 1,000 BC credit card member stores in the transit mall

- **Traffic accidents down by 34%**
  Traffics accidents on roadside down by 22%
  Traffic accidents on the main road down by 54.5%
3) Gyeongui Line Forest Park

**Background**

- **Opened in 1905, the Gyeongui-Line connected Seoul to Shinuiju (North Korea).** After the Korean War, the railroad was used to service Seoul and northwest Gyeonggi Province.

- **In 2005, the Gyeongui-Line went underground.** Discussions were held to make use of the above-ground space.

During discussions and collection of ideas on use of the above-ground space, the **construction of a park** was suggested.
### Process

- **Apr 2012 Forest Park Phase 1 completed**
  - Section length: 760 m
  - Walking, bicycle trails
  - 68,000 trees planted for shaded areas to relax

- **Jun 2015 Forest Park Phase 2 completed**
  - 3 Sections, length of 2,046 m

- **May 2016 Forest Park Phase 3 completed**
  - 3 Sections, length of 1,086 m

- After Phase 1, the park was enhanced by input from experts and residents
  - Walking trails, rest areas and children’s playground, etc.
  - Separating bicycle and walking paths due to safety
  - Parking issues resolved

**Photograph:** Press release, the City of Seoul (Jun 25, 2015) Transformation of the 2 km Closed Gyeongui Railroad over Yeonnam-dong, Yeonmi-dong and Seochang-gogae
3) Gyeongui Line Forest Park

**Outcome**

- Ranked 2\textsuperscript{nd} on “Seoul’s Top 10 News in 2015” as selected by citizens
- The Yeonnam-dong segment is referred to as Yeontral Park (‘Yeon’nam-dong + Cen’tral’Park in New York), making it one of the hottest attractions in the Hongik University areas
- The greenway connects the green areas of the city * Han River - World Cup Park - Hyochang Park - Yongsan Park
4) Seoul Station 7017 Project

**Background**

- **Seoul Station Overpass**: a 2-lane elevated way to the north of Seoul Station
  
  Daily average of 46,000 vehicles: 60% going through the area without stopping.
  
  It is a symbolic structure, the face of Seoul that people from other areas see first when they arrive at Seoul Station.

- **Deteriorating, hazardous – Demolition proposed**
  
  
  2014 (Jan)    Structural safety; demolition reviewed ahead of original schedule

- **Decision to restore rather than demolish, to revive its historical value**
  
  2014 (Apr)    Reviewed options to utilize the Seoul Station overpass
  
  2014 (May)    Selected as one of the mayor’s campaign promises (the 6th popular administration)

- **Start of ‘Seoul Station 7017 Project’ (Jan 2015)**

  7017 refers to……
  
  - Originally built in the 1970s and reborn in 2017
  
  - From an old 1970s road for cars to 17 trails for people
  
  - An old 1970s overpass built 17m high
Pedestrian Oriented Projects

4) Seoul Station 7017 Project

Process

- The Seoul Station 7017 Project International Ideas Competition announced winners (May 2015):
  → ‘The Seoul Arboretum’ by Winy Maas (The Netherlands)

(Concept) The overpass is conceptualized as large and native trees planted in alphabetical order.
Lighting is conceptualized as branches. Seoul’s 17 walking trails are organically connected by the garden.

► The overpass is turned into a sky garden.

(Judge’s Comment) “The vision and strategy of allowing nature to breathe life into the concrete structure is innovative and futuristic.”
Outcome

- **Visitors increased up to 48.6%**
  Weekday +28.5%, Weekend+ 48.6%

- **Economic activity increased**
  Credit card usage + 42%, Number of business +140%

- **Citizen Satisfaction 69%**
  Pedestrian facilities, Culture space get high score
  Need to improve facilities for transportation vulnerable.
## Pedestrian Oriented Projects

### 5) Small Projects

<table>
<thead>
<tr>
<th>Pedestrian Environment Improvement Projects</th>
<th>Pedestrian First Projects</th>
<th>Road Diet Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sidewalk Widening</td>
<td>• Pavement Improvement</td>
<td>• Lane Reduction</td>
</tr>
<tr>
<td>• Crosswalk Widening</td>
<td>• Repair Road Facilities</td>
<td>• Sidewalk Widening</td>
</tr>
<tr>
<td>• Auto-restricted Zone</td>
<td>• Improvement for high-</td>
<td>• Rest Area Installation</td>
</tr>
<tr>
<td>• Pavement Improvement</td>
<td>accident Area</td>
<td></td>
</tr>
</tbody>
</table>

![Before](image1.png) ![After](image2.png)

![Before](image3.png) ![After](image4.png)

![Before](image5.png) ![After](image6.png)
Pedestrian Oriented Projects

5) Small Projects

Mobility Right for Everyone

Before

After

‘Yellow Carpet’ Projects near Elementary School

Walkable City, Seoul

Urban Pedestrian Road

Connect tourist attractions in the city center with 5 roads

81 areas in 2016
141 areas in 2018

Walking Street for Children

Road Diet

More than 20 roads will be improved in December 2016

As of September 2016, 5,600 Seoul Bikes “Ddareungi”
450 Bike Rental Stations

Seoul Bike “Ddareungi”

Read more ☞
Bicycle Oriented Policy

Bicycle Infrastructure, Safety

- Bicycle Infrastructure increases
- Bicycle related accidents decrease
- The mode share of bicycle is less than 3%
  - People usually ride a bicycle for leisure, not for transportation.
Bicycle Oriented Policy

Public Bike System

<table>
<thead>
<tr>
<th>Type</th>
<th>2010</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Operation (2010)</td>
<td>2 District 440 Bike</td>
<td>2 District 967 Bike 150 Station</td>
<td>5 District 2,000 Bike 450 Station</td>
<td>25 District (All) 16,000 Bike 1,290 Station</td>
<td>25 District (All) 25,000 Bike 1,540 Station</td>
</tr>
<tr>
<td>Expansion (1) (2015)</td>
<td></td>
<td></td>
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<tr>
<td>Expansion (2) (2016)</td>
<td></td>
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<td>Full-scale Operation (2017)</td>
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<td>NOW (2020)</td>
<td></td>
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</tbody>
</table>

Usage per day

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,415</td>
<td>13,784</td>
<td>27,566</td>
<td>52,144</td>
</tr>
</tbody>
</table>

Increasing of 12 times

1st Place of “Most Beloved Policies of Seoul” in 2017, 2018 and 2019
Construction of **Bicycle Highways (CRT)** connecting Seoul in all directions

**Cycle Rapid Transportation**

Breaking away from creating bike lanes that are part of roadways, we will build standing bike lanes tailored to each space, including the top of BRT. What enables riders to pass through the arteries of Seoul on bicycles is **CRT**, a bike-only highway of revolutionary concept and form.

**Bicycle Highways (CRT)**
Obstacle-free, safe, quick, and comfortable

- CRT - type 1: Sidewalk-type
- CRT - type 2: Canopy-type CRT
- CRT - type 3: Tube-type CRT
- CRT - type 4: Green carpet-type CRT
Challenge and Opportunity

Smart Mobility to Resolve Upcoming Problems

<Subway Passenger in Jan 28 – Feb 02>

46 Mil 2019

- 15.3%

38 Mil 2020

Fear of Diseases

Commuting Pattern Change

Personal Car Increasing?

Walking

Bicycle (+ 67% in 2020)

Smart Mobility (Robot Delivery)

World Cup Park

Namsan Mt.

Children’s Park

Dream Forest

Seoul Botanic Park

Yeouido Park

Olympic Park

Yongsan Park

National Cemetery

Citizen’s Park

Green Network

Seoul Forest

Dream Forest

Namsan Mt.
Thank you!