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I. Past
1. Past

Car-oriented infra  Road facilities for Car  Traffic system for Car

[Overpass]  [Covered Stream Road]  [Main road linked signal]

[Underpass]  [Flyover]

Car-Oriented Policy
2. Background of the car-oriented policy...

Period of development basic urban infrastructure

Increasing traffic demand

Increasing

Supporting urban development and traffic demand
3. Side Effect... (Environment, Energy)

**Transport**
- Share of energy consumption (Seoul): 31%

**Co2 emission of private**
- 7 times of Bus, 15 Times of Metro

**Mode share of Private car**: 25.9%
- Share of energy expenditure: 55.7%

**61.5% of air pollution from Vehicles**

Energy consumption structure, Excessive emission of pollutant
3. Side Effect... (Economy/Urban Planning)

Spending 11 times cost public transportation instead of a private car

Lack of space of constructing road, Spending 78% of constructing budget for Compensation expenses

Increasing traffic congestion cost

Causing inefficiency

- Private car’s dimension of parking lot = 20 times of Bus
- Private car’s dimension of Road = 8.5 times of Bus

Economical and Spatial inefficiency

* 2009년 전국 교통혼잡비용 추정과 추이 분석 (한국교통연구원, 2012)

자료: City of Muenster Planning Office, 2001/8)
3. Side Effect... (Local Communication/Control Traffic Demand)

Dismantling of Community

- Dismantling of Community due to car-oriented system
- Possible of Fatality: City pedestrian-oriented city = 4 times of Car-oriented

Traffic fatality by cities

Solution for traffic congestion
- Constructing road ➤ extreme traffic congestion
  - Brass paradox

Construction and Expansion
Of the road ➤ Increased trip speed

Traffic congestion ➤ Increased Trip demand

상세 텍스트는 아래와 같습니다:

II. New Challenge
1. Demands for an Improved Quality of Life

Changes in Citizens’ values of ‘Quality of life’

- **Restored Humanity**: Demanding a people-centered transportation system which overcomes human alienation
- **Communication**: Demanding a transportation system that communicates with citizens and their viewpoint
- **Society Integration**: Demanding an equitable transportation system for everyone
- **Public Domain**: Demanding a shared transportation system (public transportation, car pools, etc.)
- **Health**: Demanding a healthy transportation system (well-being, LOHAS)

Need for a transportation system that values people, communication, equality, sharing, and health
2. Energy/Climate Change Crisis

Excessive oil use

- 5th in global oil consumption per head
- 2nd in oil consumption per head among non-oil nations
- An advent in oil production peak in 2020

Source: Italian Oil Company (Eni) Report, 2006

Possibility of being added to ‘emission reduction nations’ according to the Climatic Change Agreement

- Federal government announces greenhouse gas emission reduction goals
  - national: 30% reduction compared with BAU in 2020
  - transportation section: 34.3% reduction compared with BAU in 2020

Need to switch to a transportation system that deviates from fossil fuel dependence

<table>
<thead>
<tr>
<th>예측 기관/ 전문가</th>
<th>피크 오일(년도)</th>
<th>추정량</th>
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<tbody>
<tr>
<td>바크타리(Aspo)</td>
<td>2006~2007</td>
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<td>클립 캐比利(Aspo)</td>
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<td>Center for Alternative Technology*</td>
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<td>피크오일연구협회*</td>
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<td>파에르 레비 보커(Aspo)</td>
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<td>al liquids</td>
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<tr>
<td>TOTAL</td>
<td>2025</td>
<td>-</td>
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<td>IEA</td>
<td>-</td>
<td>자연석 석유, 공극매장량 2조 6,260억 배럴</td>
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<tr>
<td>DOE</td>
<td>2020</td>
<td>-</td>
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<td>피터 R. 오월</td>
<td>2060</td>
<td>al liquids, 공극 매장량 6조 배럴 이상</td>
</tr>
</tbody>
</table>

Source: Korea Energy Agency
3. Change in City Environment

Change in Population

- Stagnation and reduction in total population
- Above age 65: 1 out of 5 people (22.9%)
- Single households: 1 out of 5 households (21.2%)

Change in City Structure

City expansion and conurbation

Change in Transportation Demand

- Car: 5.2%(past 20 years) vs. 1.6%(future 20 years)
- Traffic: 1.1%(past 10 years) vs. 0.4%(future 20 years)

Need to switch to a management-centered transportation policy rather than a growth centered policy.
4. Development of advanced technology

Vehicle and communication technology
- Infrastructure and constant intravehicular communication (V2I, V2V)
- Rear delivery of obstacle information
- Prevention of collision and lane deviation

Data and positioning technology
- Advanced computer process performance (cloud, big data)
- Accuracy enhancement of determination technology and sensing technology
- Supply of smart devices

Fuel and energy technology
- Commercialize vehicles that use new fuels
- Increase efficiency of solar energy
- Commercialize wireless charging system

Source: Presidential Council on National Competitiveness, ITS Developemental Strategies
Source: the Korea Transport Institute, share base plan of transportation system
Source: Global Insight

Needs an efficient transportation system supported by advanced technology
5. Awareness of pedestrian values

- Secure public transportation completion
- Cope with environment and energy crisis

Walking as a mode of transportation
- A space as a mode of intermediation
- Short moving distance and residence time
- Efficiency, functionality, homogeneity, unicity, unity, modernity

Walking as a mean of purpose
- A space to stay
- Various experience, recognition, preference
- Complexity, diversity, non-dailies, creativity, irrationality, postmodernism

Establishment of human, community, and health values

Moving space

Living space

Awareness of Walking Values

Needs a pedestrian policy that considers completion of traffic and enhanced quality of life
III. Evolution
A central movement from a policy that prioritizes ‘social value’ to ‘personal convenience’

Past] Personal Transportation

Supply infrastructure centered in private transportation

Public transportation

Private transportation (car)

Present] Public Transportation

Supply infrastructure centered in public transportation

Public transportation

Private transportation (car)

Future] Human-Centered Transportation

Supply infrastructure centered in human

Active demand management

Public transportation

Private transportation (car)
1. Paradigm Shift

Toward paradigm shift

<table>
<thead>
<tr>
<th>Present</th>
<th>Future</th>
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</thead>
<tbody>
<tr>
<td>Car</td>
<td>Human</td>
</tr>
<tr>
<td>Mobility</td>
<td>Accessibility</td>
</tr>
<tr>
<td>Restricted Mobility</td>
<td>Universal Mobility</td>
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<tr>
<td>Owning</td>
<td>Sharing</td>
</tr>
<tr>
<td>Divided modality</td>
<td>Inter-modality</td>
</tr>
<tr>
<td>Top-down</td>
<td>Bottom-up</td>
</tr>
<tr>
<td>Hardware</td>
<td>Software</td>
</tr>
<tr>
<td>Efficiency only</td>
<td>Equity+Sustainability+Economic</td>
</tr>
</tbody>
</table>
2. Vision

**VISION**

*Livable Seoul without relying on Vehicles*

- Human-oriented
  - Promoting walking and cycling
  - Improving neighborhood streets
  - Securing mobility for the transportation vulnerable

- Sharing together
  - Establishing transit oriented-transport system
  - Promoting sharing transportation
  - Converting car-oriented road space

- Considering environment
  - Encouraging rational use of cars
  - Saving energy with efficient traffic operations
  - Introducing eco-friendly transport modes

6 principles for implementation

- Safety
- Diversity
- Agreement
- Design
- Technology
- User-Pay
3. Vision

- **Green transport mode share**: 80%
  - 2010: 70%
  - 2020: 75%
  - 2030: 80%

  ※ Green transport mode: transit, walk, bicycle, zero emission vehicles

- **Reduction in transport GHG emissions**: by 0.3t/year per capita
  - 2010: 1.2t\(\text{CO}_2\)/person·year
  - 2020: 1.1t\(\text{CO}_2\)/person·year
  - 2030: 0.9t\(\text{CO}_2\)/person·year

2030

**Triple 30**

- **Car trip reduction** by 30%
- **Transit commute travel time reduction** by 30%
- **Green space ratio in downtown**
  - From 10% to 30%
4. Action Plan

- Building pedestrian-oriented environment
- Encouraging the wide use of bicycles
- Making an accident free city
- Removing barriers for the transportation vulnerable
- Establishing rail-oriented public transit system
- Making public transit faster and more convenient
- Encouraging shared transport
- Reducing unnecessary trips
- Introducing environmentally friendly transportation modes
- Making cars on the road flow smoothly
- Improving the citizen’s awareness of the better transport culture
**Human-Oriented Transportation**

- Building pedestrian-oriented environment
- Encouraging the wide use of bicycles
- Making an accident free city
- Removing barriers for the transportation vulnerable

**Double expansion of sidewalk and bike paths**

- 1m → 2m, 8% → 16%

**Reducing traffic fatality by under 1/6**

- (430 → 70)

**100% implementation of transportation vulnerable support facility**

- 75% → 100%

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What is the establishment rate of transportation vulnerable support facility? (=a suitable installation rate of transportation vulnerable travel convenience facility)

- Traffic convenience facilities are appropriately installed according to the subsection standards of the 'Law on Movability Improvement for Traffic Vulnerables' - An average of transportation methods (bus, city rails), passenger infrastructure (city rail station, railway station, bus stop, terminal), road (sidewalk, pedestrian environment)
Human-Oriented Transportation

01 Building Pedestrian-Oriented Environment

Expansion of pedestrian prioritized space and time
Evaluation of SMG’s pedestrian level of service and improving the standard

Space where pedestrians can roam about freely

- Expansion of pedestrian prioritized space
  - Expansion of pedestrian prioritized permanent space
  - Construction of 30 transit malls
  - Construction of promenade
- Vulnerable protected area (Senior, Children, Disable)
  - Hourly vehicles entering restricted, 
    operations integration / association
- Evaluation of SMG’s pedestrian level of service
  and improving the standard
- Levying garage option on car buyers
- Building underground city center pedestrian network
- Creating a vehicle-free town

No more waiting or detouring due to traffic

- Expansion of pedestrian prioritized road facilities
  - Installation of a pedestrian friendly crosswalk: diagonal 
    or double width crosswalk
- Demolition of pedestrian overpass facilities
- Implementation of Pedestrian prioritized traffic signal
  - Interlocking pedestrian traffic signal, extending pedestrian 
    crosswalk time
- Installing pedestrian operated traffic signs
- Providing pedestrian only direction guidance service
  - Implementing pedestrian route guidance system
  - Building pedestrian electronic map
Human-Oriented Transportation

- Improvement of pedestrian environment
  - Reduction space of road and expansion of pedestrian space in CBD – 18 route 20.02 km
    - 1st phase: 6 routes (4.45km), 2nd phase: 6 routes (10.64km), 3rd phase: 6 routes (4.84km)
✓ Pedestrian prioritized zone

• Sejongno Pedestrian prioritized zone
  - Operation section: 550m
  - Operation hour: 2day/m(Sunday)
  - Visitor: 430,000 persons

• Deoksugung Pedestrian prioritized zone
  - Operation section: 310m
  - Operation hour: 11:30~13:30(every day)
# Open City happy Street on every wednesday
✓ Seoul station flyover **covert into Pedestrian prioritized zone**
   - Constructing in Y1970 and regeneration in Y2017
   - 17 Pedestrian prioritized zone at 17m high
   - **Integrated Regeneration of Areas near Seoul Station and the Seoul Station Overpass Expected to Revive Local Economy**
Human-Oriented Transportation

- Sinchon Transit mall
  - Improving pedestrian environment for walking and entertaining
  - Creating a cultural street for reviving local economy

- Operation Section: Yeonse-ro (550m) and Myeongmul street (450m)
  ('14.1.6 first transit mall at Yeonse-ro)
- Contents: Expanded walkway (3~4m->7~8m), constructing a square
- Allowed Vehicles: Vans carrying 16 or more, vehicles for emergency use, at all time, Taxi (00~04), Messenger bike (10~11, 15~16)
- Process: Interested group participation project

※ No vehicles day (Sat. 14:00 ~ Sun. 22:00)
Establish a bicycle friendly town
Expansion of public bicycles at life zone and linked operation

Contract bicycle paths all around Seoul
- Establish a bicycle friendly town
  - Expand life zone bicycle paths, parking facilities, repair centers
- Establish a bicycle trunk network
  - Expand linked network among life zones
  - Create bicycle trunk network (Han River, bicycle priority lanes)

Rent bicycles anywhere, anytime
- Expansion of public bicycles at life zone
  - (short term): CBD, life zone
  => (Long term) the Seoul Metropolitan area
- Linked operation of Public bicycle rental service in city, district, and Han River

Provide safer bicycle usage
- Operate a bicycle theft prevention system
  - Bicycle registration, theft prevention parking system, reinforced punishment standards
- Reinforce public transportation transfer support
  - Expand boarding with bicycles
  - Reinforce public transportation transfer
- Vitalize bicycle usage
  - Expand bicycle bus lines and Campaigning for road share

Human-Oriented Transportation

02 Encouraging the wide use of bicycles
Human-Oriented Transportation

03 Making an accident free city

Limit all life zone speed limit to 30km/h
Operate enforcement management system ‘Seoul EYE’

Reduce conflicts with vehicles in life zones
- Integrated maintenance of life zone transportation environment
  - Limit all life zone speed limit to 30km/h, restrict passing traffic
  - Reinforce speed limit to 20km/h at preserved area
- Implement proof system of garage in life zones

Strengthened traffic safety standards on trunk roads
- Reinforce speed limits in city main roads (60→50km)
- Maintaining all traffic safety facilities
- Create an immediate response system for all traffic fatalities
  - Establish accident response system and TF team

Safer use of public transportation
- Improve public traffic safety
  - Implement constant surveillance system in urban railways based on in-vehicle video surveillance (cctv)
  - Reinforce management of transportation practitioners, implement speed limit equipment
  - Reduce persisting period in vehicles and facilities
- Reinforce public traffic security (crime prevention)
  - Introduce call-Bus
  - Introduce late-night safe rides for female passengers

Safer Seoul traffic with advanced traffic safety management system
- Operate enforcement management system ‘Seoul EYE’
  - Surveillance of public vehicle traffic offence
    (bus, taxi, public organization vehicles)
- Operate a 24 hour Seoul Safety integrated situation room
  - Response and information sharing system of traffic, firefighting, disaster situations
04 Removing barriers for the transportation vulnerable

100% of city buses change to low-floor buses
Install integrated transportation support center for the transportation vulnerable

Convenient public transportation for the transportation vulnerable

- 100% of city buses change to low-floor buses
- Establish a support system for the transportation vulnerable in all city railway stations
  - Secure travel paths only for the transportation vulnerable

Removal of obstacles for the transportation vulnerable

- Establish a pedestrian environment without obstacles
  - Expand effective sidewalk width, install bump crosswalks
- Transportation designed based on the transportation vulnerable (Universal Design)
  - Systemize modes of transportation so that the design would consider the transportation vulnerable before construction

Expansion of transportation system for the transportation vulnerable

- Expand call-taxi services for the disabled
  - Increase the number of call taxis for the disabled (taxis must be able to board wheelchairs)
  - Make practical use of regular taxis to provide call-taxi services for the disabled (non-wheelchair disabled persons)
- Introduce welfare(emergency) taxi
  - Automated phone connection for the elderly and the infirm, especially for those who live alone
- Install integrated transportation support center for the transportation vulnerable
  - Provide linked services for modes of transportation, moving route, and facilities
# Human-Oriented Transportation

<table>
<thead>
<tr>
<th>Human-oriented</th>
<th>Short (~’16)</th>
<th>Mid (~’21)</th>
<th>Long (~’31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green transport mode share (now 70%)</td>
<td>72%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>Dimension of walkway per person (now 1.0m²)</td>
<td>1.2m²</td>
<td>1.5m²</td>
<td>2.0m²</td>
</tr>
<tr>
<td>Ratio of bicycle way (now 8.3%)</td>
<td>8.8%</td>
<td>11.7%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Traffic death (Y2015 372/y)</td>
<td>340 person / Year</td>
<td>200 Person/Year</td>
<td>100 Person/Year</td>
</tr>
<tr>
<td>Ratio of facility for transportation vulnerable (now 75%)</td>
<td>82%</td>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- **Pedestrian prioritized zone (Transit mall, No Vehicle zone)**
- **Master plan**
- **Managing transportation vulnerable zone**
- **Evaluating pedestrian level of service and improving the standard**
- **Levying garage**
- **Underground walking network**
- **Bike-friendly town**
- **Life zone linked network**
- **Expansion of public bike (CBD & Life)**
- **Radial shape bike network**
- **Expansion of Public bike (Seoul Metropolitan area)**
- **Life Zone: Speed limit 30km/h**
- **Integrated maintenance of village level life zone**
- **An immediate response system for all traffic fatalities**
- **Operate enforcement management system 'Seoul EYE’**
- **city buses change to low-floor buses**
- **Expansion of call taxi for disable**
- **Expansion of taxi service for vulnerable**
- **Install integrated transportation support center for the transportation vulnerable**
Sharing Transportation

Establishing rail-oriented public transit system

Making public transit faster and more convenient

Encouraging shared transport

- 10 minute access to the subway station despite location
- 25km/h median bus lane speed limit (20.1km/h → 25km/h)
- 3 Car-sharing service branches per region (292 → 1,200)

Current subway isolated area 38%

Per 10km drive 30minutes → 24minutes

Assuming car sharing occurs within 5 minutes
01 Establishing rail-oriented public transit system

Expansion of LRT and inter-city metro
Reform subway supporting trunk/feeder bus

Constant improvement and expansion of city railway

- Expansion of metro rail transit and light rail transit
  - Reinforce GTX functionality that links Seoul and the metro area
  - Improve light rail lines for areas without railway services
- Improve subway congestion
  - Establish a prediction system for inner vehicle congestion,
    Reduction of interval time at rush hour
- Maintain and replace older city rails
  - Regular replacement of older vehicles and facilities, improve earthquake proof function
- Integrated management of metro rail in the capital area and city

Removal of public transportation blind spots through bus system reformation

- Reform subway supporting trunk/feeder bus
  - Reform bus line system for feeder lines (links city rail and trunk bus)
  - Circular bus linked with public transportation
    (city center, areas without rail service)
  - city circulation bus
  - Bus station liked metro
- Remove time-based blind spots of public transit service
  - Expand mode of transportation in response to late-night transit demands
    (late-night bus, on demand safe ride taxi service)
02 Making public transit faster and more convenient

Expanding city railway express service
Operating Transfer supporting structure (No-Tag, Non-Stop, All-Pass)

- Increased operation speed of public transit
  - Expanding city railway express service
  - Radial and ring median bus lane
    - Radial road (liked main road) + Ring road (connected three point)
    - Expansion of BRT (Bus Rapid Transit)
  - Operate a median bus only lane and bus-oriented traffic signal
  - Introducing a demand response model of trunk express bus
  - M BUS (Express Bus)

- Shortened transfer time and distance
  - Creating a transfer supporting system
    - Establish a No-Tag, Non-Stop, All-pass system
    - Provide integrated transfer information
  - Expansion of systemized functional transfer facility
    - wide area base: wide area transfer center in the city skirts (car ↔ public transit)
    - Inner city base: public transit transfer center (urban railway ↔ bus)
  - Project for linked between bus and metro station
  - Operating city railway reshuffling
Sharing Transportation

- **Night bus (owl bus)**
  - Developing the route using the floating population at night and verification of concentration
  - Setting the route based on big data analysis (using call volume)
  - Most innovative policy in Y2013 selected by Citizen

- **Route**: 8 routes
- **Hours**: 24:00~05:00
- **Fare**: 2,150KRW (T-Money card)
- **Interval**: 40~45 minutes
Sharing Transportation

- Tayo bus and Lava train (Animation character)
03 Encouraging shared transport

Establishing Shared Road
Promote private car sharing (P2P)

- Constructing shared road
  - A shared road without boundaries between sidewalks and roads for pedestrians

- Expanding road diet
  - Expand sidewalks and bicycle paths through reduction of existing roads

- Introducing parking lot sharing
  - A time based distinction between public and private parking lot ownership
  - Implement parking reservation

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Effective use of transportation resources

- Commercialization of car sharing service
  - Expand service branches (community center, public parking lot)
  - Promote private car sharing (P2P)

- Implementing bus sharing
  - Operate shuttle buses using excess vehicles (for commuting or welfare purposes)

- Expanding bicycle sharing (public bicycles)

- Institution for supporting sharing transportation
  - Integrated sharing transportation information system
  - Sharing transportation card (integrated public, car sharing, bike)
Sharing Transportation

- **Nanum car (Car sharing) service**
  - Non-car owners are available to anyone anywhere at any time
  - Reduction of traffic demand, Saving energy

Number of members (person)

15 times increase between February 2013 ~ December 2015

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</thead>
<tbody>
<tr>
<td>Members</td>
<td>58,869</td>
<td>153,725</td>
<td>216,566</td>
<td>373,513</td>
<td>596,487</td>
<td>897,662</td>
</tr>
</tbody>
</table>

Number of users on daily average (person)

12 times increase between February 2013 ~ December 2015

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</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>349</td>
<td>719</td>
<td>1,818</td>
<td>2,794</td>
<td>3,620</td>
<td>4,208</td>
</tr>
</tbody>
</table>
# Sharing Transportation

<table>
<thead>
<tr>
<th>Sharing Transportation</th>
<th>Short (~’16)</th>
<th>Mid (~’21)</th>
<th>Long (~’31)</th>
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</thead>
<tbody>
<tr>
<td>Green transport mode share (now 70%)</td>
<td>72.5%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>Ratio of Walk to the nearest metro station* (Now 62%)</td>
<td>64%</td>
<td>67%</td>
<td>71%</td>
</tr>
<tr>
<td>Speed of Median bus lane (Now 20.1km/h)</td>
<td>20.5km/h</td>
<td>22.0km/h</td>
<td>25.0km/h</td>
</tr>
<tr>
<td>Car sharing outlet (Now 292 outlets) (0.7/village)</td>
<td>1 outlet/village (430 outlets)</td>
<td>2 outlets/village (830 outlets)</td>
<td>5 outlets/village (2,000 outlets)</td>
</tr>
</tbody>
</table>

### Expansion of LRT and inter-city metro
- Reduction of interval time at rush hour
- Integrated managing Metro subway
- Reform subway supporting bus

### Expansion of express train service
- Expansion of BRT
- Demand response model of trunk express bus
- Expansion of systemized functional transfer facility

### Operating Transfer supporting structure
- Reshuffling

### Shared road
- Parking lot sharing
- Car sharing
- Sharing transportation
Eco-friendly transportation

- Reducing unnecessary trips
- Introducing environmentally friendly transportation models
- Making cars on the road flow smoothly
- Improving the citizens’ awareness of the better transport culture

- Inner city car modal share rate 10% (18% → 10%)
- Rate of emission free public transportation vehicles 100% (0.2% → 100%)
- Rate of trunk road congestion 10% (19% → 10%)

(including sidewalk and bike paths)
01 Reducing unnecessary trips

Congestion fee and tax based on driving distance
Operating Zero Emission Zone

<table>
<thead>
<tr>
<th>Reasonable car usage</th>
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</thead>
<tbody>
<tr>
<td>Reinforce principles of private vehicle usage and the driver's burden</td>
</tr>
<tr>
<td>Implement congestion fee based on driving distance</td>
</tr>
<tr>
<td>Substantialize business management of traffic demands</td>
</tr>
<tr>
<td>Introduce management of parking demands per block</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reducing commute related pressure through TOD</th>
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<tbody>
<tr>
<td>City maintenance and management in consideration of public transit quantity and expandability of the city</td>
</tr>
<tr>
<td>Prepare transportation infrastructure installment policy in case of city planning</td>
</tr>
<tr>
<td>Vitalize TOD centered transportation node</td>
</tr>
<tr>
<td>Expanding flexible workplace</td>
</tr>
<tr>
<td>Reinforce flexible hours such as telecommuting (time based attendance, part time working hours)</td>
</tr>
<tr>
<td>Expand smart work center through public ownership of private facilities (public: 50, private: 150)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>A pleasant city with less vehicles</th>
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</thead>
<tbody>
<tr>
<td>Operating Zero Emission Zone</td>
</tr>
<tr>
<td>Restriction of air contaminant emitting vehicles</td>
</tr>
<tr>
<td>Reinforcing large scale traffic-causing infra management</td>
</tr>
<tr>
<td>Designation and management of congestion managed region/facility</td>
</tr>
<tr>
<td>Reinforcing downtown parking demand management policies</td>
</tr>
<tr>
<td>Implement zero large parking infrastructure</td>
</tr>
<tr>
<td>Expanding policies limiting installment of attached parking lots</td>
</tr>
<tr>
<td>Reform a urban transportation structure</td>
</tr>
</tbody>
</table>
Eco-friendly transportation

Collect congestion fee (Namsan tunnel 1&3)

- Facilities: Namsan tunnel 1&3
- Collection hours: 7 ~ 21 (Weekday)
- Fee: 2,000 KRW (discount 50%: Small car, self car-free day, low-emission car)
- Collection way: Card or Cash
- Target: Below 10 seater-private car that board less than two people
- Fine: 10,000 KRW (Small car: 5,000 KRW)

Effect

- Private traffic: 70,877 (before) → 46,468 (10) → 45,110 unit/day (15)
- Bus traffic: 2,877 (before) → 7,067 (10) → 6,498 unit/day (15)
- Taxi traffic: 7,052 (before) → 23,322 (10) → 22,075 unit/day (15)
Eco-friendly transportation

- Expanding policies limiting installment of attached parking lots
  - Traffic demand control policy for CBD and secondary central business district
  - Before: CBD → Expansion of expected traffic congestion area considering change of urban structure and metro station and transfer center
    - Readjustment of 7 trial area
    - Expansion new town that predict traffic congestion (Mok-dong, Young-san, Mapo, Mia)
    - Designation special management area for congestion near metro station

Area for limiting parking lot
02 Introducing environmentally friendly transportation models

Zero Emission of public transportation
Road power plant: Installation Solar Way 200km

Reduced emission of contaminants from vehicles
- Carrying out environmental friendly modes
  - Commercialize emission free vehicles
  - Environmental friendly modes for regular
  - Implement city type environmental friendly transportation mode (tram, segway, etc)
- Creating a management and infrastructure for environmental friendly operation
  - Supply eco driving device for bus and taxi and strengthen education
  - Expanded eco-friendly vehicle charging infrastructure
  - Installation obligation of DPF
  - Implement a monitoring system for traffic volume and air quality

Energy produced and pollutants purified on the road
- Construction of Solar Way
  - Constructing solar way (solar battery)
  - Road, Bus station, soundproof wall
- Constructing an environmental friendly road environment
  - Air contaminant · rainwater absorbent pavement, self-cured asphalt pavement
- Plantation tree for purification of pollution
**Eco-friendly transportation**

03 Making cars on the road flow smoothly

- Operate express lane
- Establishing transportation alert system

**Improving communication between village by proper maintaining and expanding road**

- Undergrounding road for improving relation between community
  - Undergrounding west and east urban expressway
  - Undergrounding main road for strengthen eco-friendly

- Efficient management of road network
  - Lane Balance
  - Construction of new urban express IC for connectivity (12 ICs)

**Congestion is relieved through efficient road operation**

- Operate express lane
  - carpool lane

- Expanding state-of-the-art transportation operation and management
  - Operate intelligent intersection and real-time traffic
  - Expand trunk metering, variable lanes, variable speed
  - Expansion of changeable vehicular road and alleviation speed limit

- Establishing transportation alert system
  - Predict the traffic flow and provide the information
04 Improving the citizens’ awareness of the better transport culture

Running citizen participation committee
Establish master plan for advanced transportation culture

Policies are made and managed by citizens

- Establishing policy governance system with citizens and professionals
- Strengthen citizen’s policy monitoring
  - Seoul Transport Poll application, community mapping, SNS

Developed transportation culture

- Providing development plans for transportation culture
  - Develop suitable education program
- Implementing transportation facility design
- Suitable maintenance of law/policy
  - Revise laws regarding public manners and transportation safety
## Eco-friendly transportation

<table>
<thead>
<tr>
<th>Eco-friendly transportation</th>
<th>Short (~’16)</th>
<th>Mid (~’21)</th>
<th>Long (~’31)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co2 emission</strong> (now 1.19t/p · y)</td>
<td>1.15t/p · y</td>
<td>0.95t/p · y</td>
<td>0.78t/p · y</td>
</tr>
<tr>
<td><strong>Energy consumption</strong> (now 0.52TOE/p · y)</td>
<td>0.50TOE/p · y</td>
<td>0.42TOE/p · y</td>
<td>0.34TOE/p · y</td>
</tr>
<tr>
<td><strong>Mode share of car</strong> (Now 18.4%)</td>
<td>17.5%</td>
<td>14.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td><strong>zero emission of vehicle</strong> (Now 0.2%)</td>
<td>5%</td>
<td>40%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Ratio of Main road congestion</strong> (Now 19%)</td>
<td>18%</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Designated traffic congestion special zone**

**Operating Zero Emission Zone**

**FirmTDM**

**Reinforce Parking demand management**

**Adopt eco-friendly mode**

**Introduce and convert eco-friendly mode**

**Creating a management and infrastructure for environmental friendly operation**

**Construction of Solar Way**

**Expansion of feeder line**

**Improvement of disconnect road**

**Operation of urban express road**

**Traffic forecasting system**

**Running citizen participation committee**

**Establish master plan for advanced transportation culture**
IV. Changing view of Seoul
1. CBD ①

- Solar street lamps
- Median bus lane
- Speed limit 50km/h
- Separated bicycle way
- Improving pedestrian space (Expansion of walkway)
1. CBD ②

- Pedestrian friendly commercial walkway
- Expansion physical walkway
- Internalization of metro station
- Space application side and walkway
- Expansion of walkway by arranging shop

Myung-dong
1. CBD ③

Ujeongungungno

- Adjustment of illegal parking space
- Reduction of road
- Separated bicycle way

Speed limit 40km/h
2. Life zone

- **Outer road**
  - Road diet
  - Bicycle way

- **Inner road (1)**
  - Shared road

**Outer road – Road diet and bicycle way**

- Underground parking space
- Speed limit 30km/h
- Expansion of pedestrian space
- Bicycle parking space
- Road diet → Double shift road → Bike way

**Inner road (1) – Shared road**

- Illegal parking space
- Maintaining walkway
- Rest area
- Shared road (car and People)
2. Life-zone ②

- Inner road(2) → S-shaped road
- School zone → Car free zone (time limit)
- Alley → Fun and safe
- Speed limit: 20km/h
- Car free zone (time limit)
- Pedestrian safe way
- Leisure space
- Providing information by map
- Green parking
- Sign for protection zone
- Sign for car-free zone
- CCTV
- Maintaining street and illegal parking
- Underground transmission line
- Providing information by map

Inner road(2) – S-shaped road

Alley – Fun and safe