

SEOUL PUBLIC



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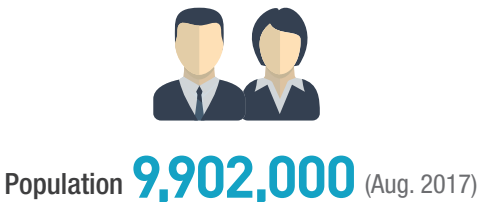
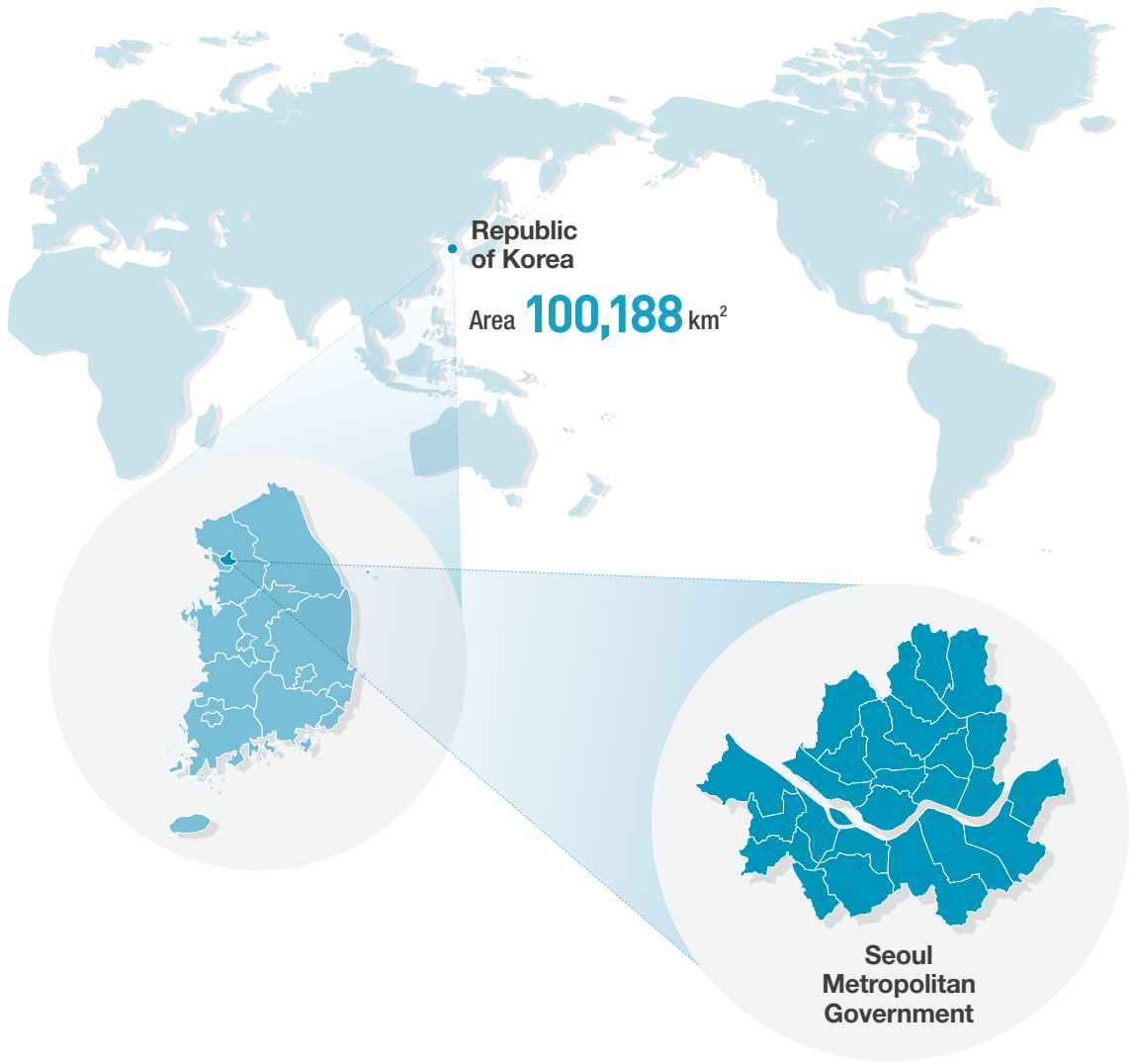
HUMAN-CENTERED TRANSPORTATION IN SEOUL

Seoul Metropolitan Government places top priority on Human. Seoul aims to become a city where residents can live safely and conveniently without owning cars. Based on cutting-edge IT technology and information, Seoul works continuously to predict changes in transportation demand and prevent accidents. Seoul Metropolitan Government's main goal is to create a pleasant and convenient public transportation system for all citizens, and it is now diligently working toward realizing that goal.

Introduction to Seoul Metropolitan Government |
Status of transportation in Seoul

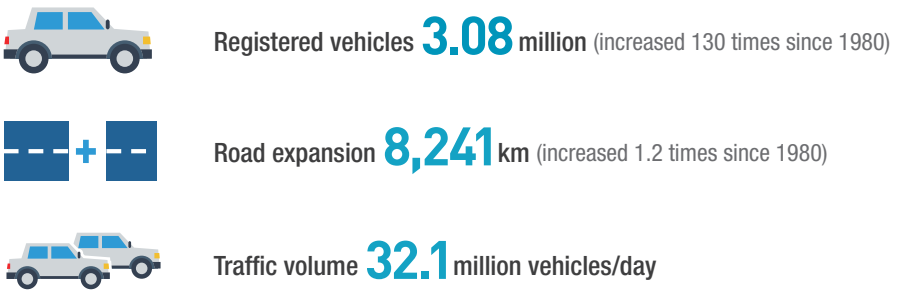
Introduction to Seoul

Seoul is a hub of administration, culture, and transportation that is home to 19 percent of the population and 3.08 million of all registered vehicles in the Republic of Korea, as of December 2016.

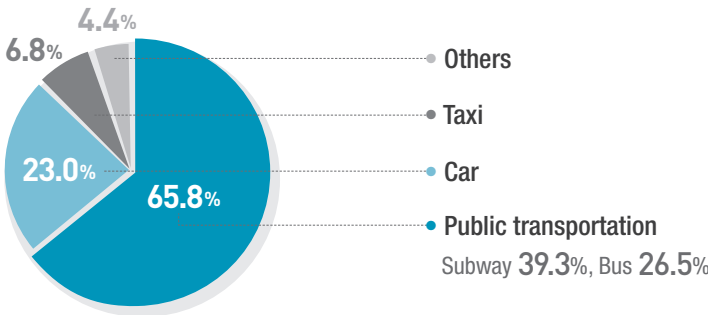


01. Status of transportation in Seoul

As incomes have risen since the 1980s, car ownership in Seoul has increased dramatically. By 2014, the number of vehicles had increased by 130 times, while the length of roads had expanded by only 1.2 times, leading to traffic congestion. As a result, public transportation and bicycles are now proving to be more convenient and safer means of transportation than cars.



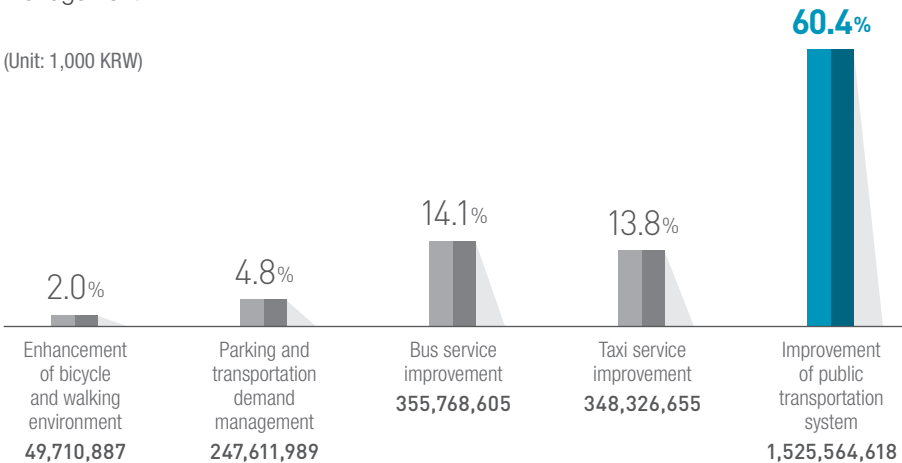
Share by mode of transportation (2015)



02. Budget

As of 2017, Seoul Metropolitan Government operates a budget of KRW 2.53trillion(USD 2,246 million) , with which it works to improve the public transportation system, taxi service, bicycle and walking environments, and parking and transportation demand management.

(Unit: 1,000 KRW)



03. Transportation policy and vision of Seoul

Changes in policy

Seoul Metropolitan Government is shifting the focus of its transportation system from cars (expansion of road network and pedestrian overpasses) to public transportation and pedestrians. The city is building a convenient and safe transit infrastructure that prioritizes people over vehicles, enabling more citizens to live without owning cars.

 Safety

Building a transportation system where the top priority is safety

- Establish a preventive safety control system for public transportation facilities
- Reduce the incidence of traffic accidents and number of traffic-related deaths to levels on par with those of major cities of developed countries
- Repair transportation facilities to make them safe and convenient for mobility disadvantaged people

 Human

Creating a city for pedestrians and walking

- Shift the focus of the transportation system from cars to people by expanding pedestrian walkways
- Promote specialized roads and festivals for walking and riding bicycles

 Future

Envisioning the future of sustainable transportation in Seoul

- Foster an eco-friendly transportation environment where walking and cycling are encouraged
- Build a stable public transportation network that is accessible from every part of the city
- Improve the mass transit service to make it more convenient than driving a car
- Manage transportation demand to create a pleasant, safe, and comfortable city

Applications of Seoul Metropolitan Government's transportation policy to overseas

 2006 China (Beijing) AFC	 2007 Kazakhstan (Almaty) AFC	 2008 New Zealand (Wellington, Auckland) AFC
 2008 Mongolia (Ulaanbaatar) Signal System, Transport Center	 2010 Malaysia (Kuala Lumpur) AFC	 2011 Azerbaijan(Baku) Established transportation information center
 2015 Mongolia (Ulaanbaatar) AFC, BIS	 2015, Colombia(Bogota) Established and repaired AFC system in Bogota, Colombia	 2015, Vietnam(Ho Chi Minh) Designed tracks for Metropolitan Railway No. 1
 2015, Cote d'Ivoire (Abidjan) Launched AFC system for buses and supplied terminals	 2016, Thailand(Bangkok) Consulted on the construction of urban transportation system	 2016, Ghana(Accra) Established urban transport master plan
 2016, Greece(Athens) Built e-ticketing system	 2016, Vietnam(Da Nang) Conducted study on establishment of a metropolitan transportation network	 2016, Indonesia(Bandung) Consulted on transport infrastructure support policy
 2017, Egypt(Cairo) Consulted on AFC of metropolitan transit system	 2017, Colombia Consulted on policy to develop a national public transit system	

SAFE AND CONVENIENT PUBLIC TRANSPORTATION INFRASTRUCTURE

Seoul's mass transit system prioritizes the safety and convenience of citizens and is planned and operated in a way that reflects the unique characteristics and strengths of each mode of transportation and ensures sustainable development.

Subway · Bus · Taxi · Transfer and parking facilities

Seoul Metro, moving 8 million citizens a day

Seoul Metro operates 10 lines connecting the CBD to the surrounding metropolitan areas. Seoul Metropolitan Government plans to extend these existing lines and expand the Seoul Light Rail Transit (LRT) in order to create a dense urban railway network, spanning 441 kilometers, and bring the combined mode share of its mass transit system up to 75%.

Lines 1 to 8

Seoul Metro operates a subway system spanning a total length of 300 kilometers with 277 stations.

Seoul Metro

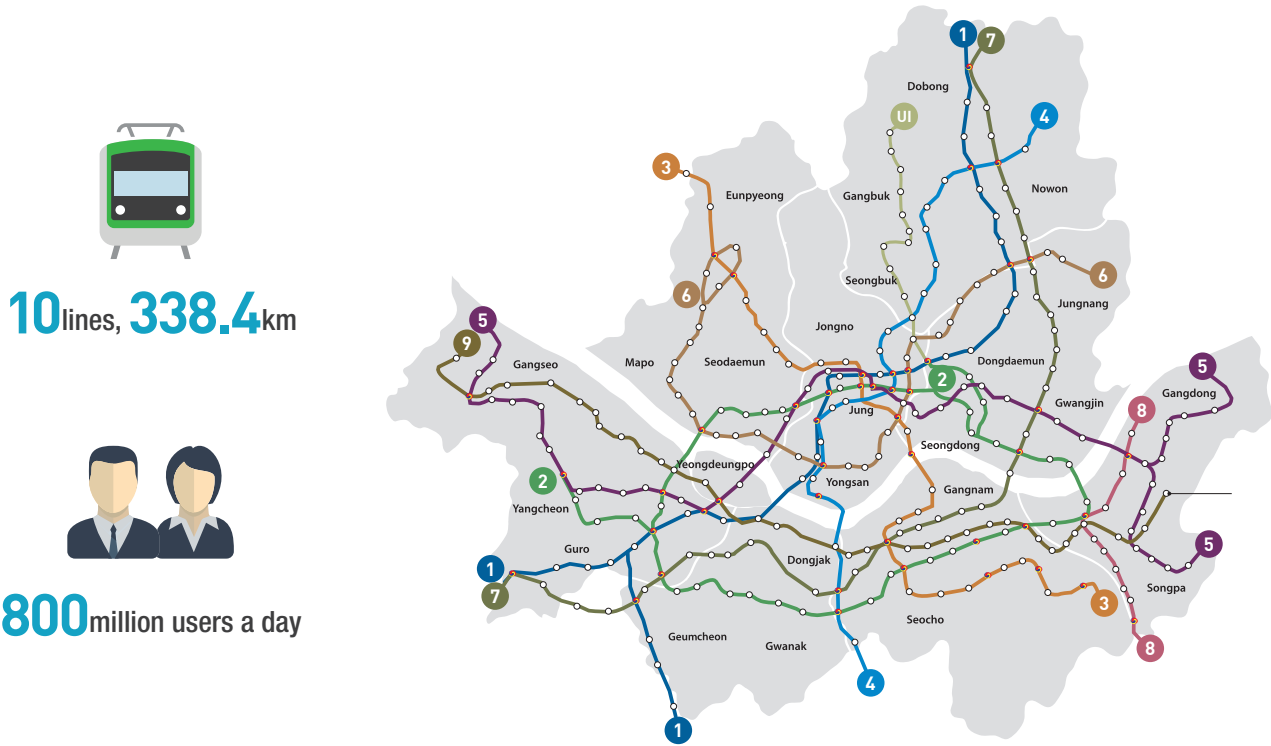
Seoul Metro, the operator of Subway Lines 1 to 4, merged with Seoul Mass Rail Transit, the operator of Subway Lines 5 to 8, creating the largest subway operator Korea has seen in 23 years.

Lines 9

Operated by Seoul Metro Line 9 Corporation, Subway Line 9 stretches a total of 27 kilometers across 25 stations

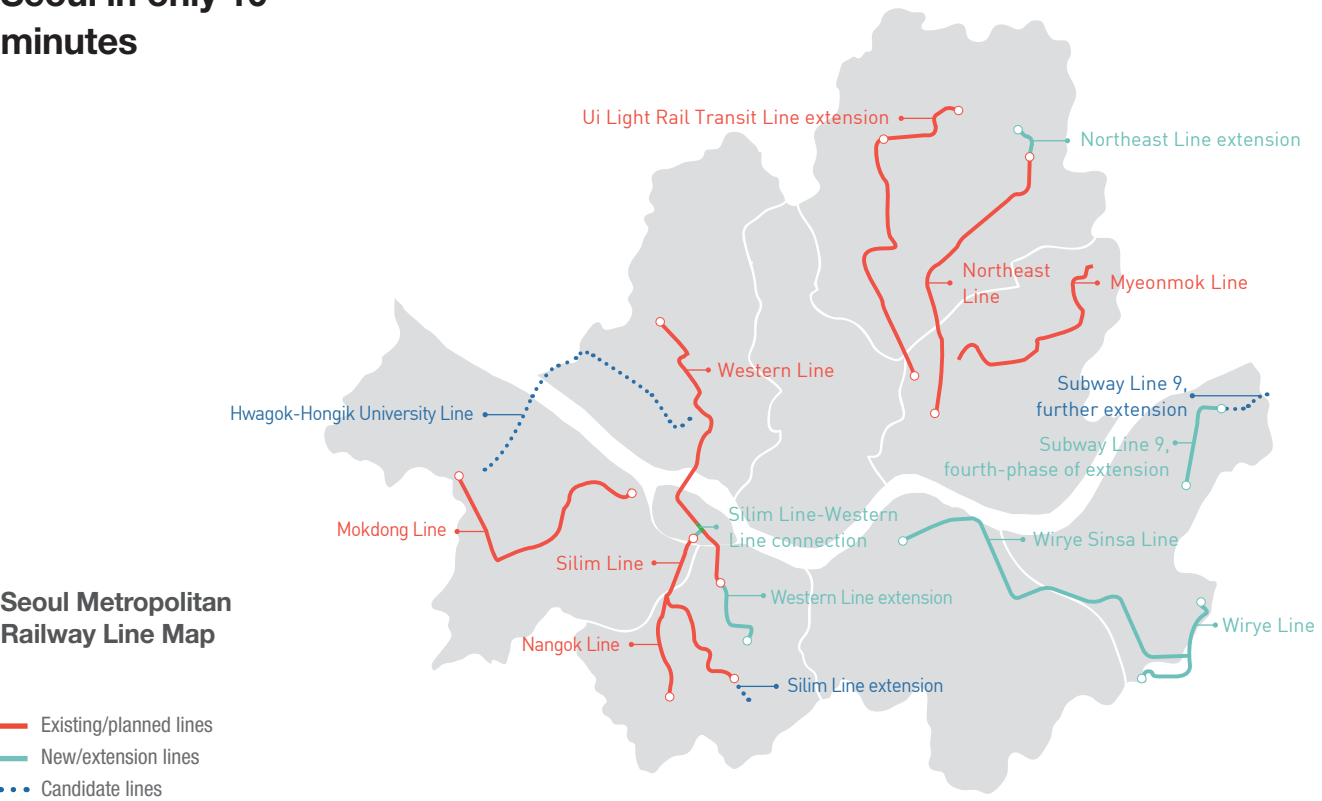
Ui Light Rail Transit Line

Opened in 2017, the Ui Light Rail Transit Line, the nation's first underground light railway, stretches a total length of 11.4 kilometers with 13 stations. It is operated by the Ui Light Rail Transit Corporation.



01. Constructing a metropolitan rail network accessible from anywhere in Seoul in only 10 minutes

Seoul Metropolitan Government is building an expansive metropolitan rail network that offers easy access to public transportation for citizens throughout the entire city. By 2020, Seoul plans to build 10 light rail transit (LRT) lines and extend existing lines in order to create a broad transportation network covering the Seoul metropolitan area.



Benefits of Seoul's
metropolitan
railway network



-6.2 minutes (20%) ↓
Decrease in average travel time: 31.6 minutes > 25.4 minutes



-KRW 1.2 trillion (15%) ↓
Decrease in cost of traffic congestion (2011): KRW 8 trillion > 6.8 trillion



+16% ↑
Increase in the number of areas offering access to the SLRT in only 10 minutes: 62% > 72%

02.

Service that reflects the demands of citizens (Amenities)

Human-centered services are offered at all stages, from entry to a station to departure from the destination station.



Facilities for children have been installed and expanded to all subway stations.

Elevators and escalators have been installed in all subway stations (320 stations), providing easy access for people with disabilities, senior citizens, and pregnant women.



Seating for pregnant women

Pink-colored priority seats for pregnant women, in addition to the existing priority seats for the elderly, have been installed in all cars of Seoul Metro Lines 1 to 9.

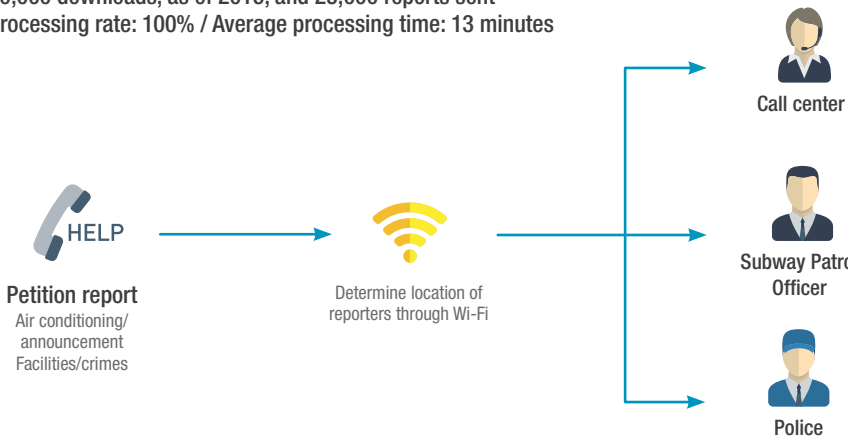
Free Wi-Fi service

Free Wi-Fi is available in all subway stations and inside all train cars. All passengers can enjoy surfing the Internet on their smartphones or tablets free of charge.

Subway Safety Keeper 'Mobile Application'

This free mobile application has been created to help subway users report various inconveniences, such as heating or cooling issues, and emergencies, including medical emergencies. Upon receiving such reports, subway patrol officers and policemen can identify the location of the reporter immediately, allowing for the prompt dispatch of response personnel.

90,000 downloads, as of 2016, and 25,000 reports sent
Processing rate: 100% / Average processing time: 13 minutes



03.

Service that reflects the demands of citizens Making Seoul Subways Safer

Seoul has created a system for preventing accidents and inconveniences, allowing all citizens to use the subway safely, securely, and comfortably.



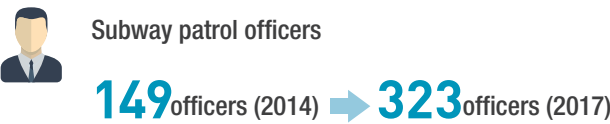
Platform Screen doors on subway platforms

Platform screen doors on all subway station platforms eliminates the risk of passengers falling onto the tracks and reduces noise.



Subway patrol officers

Patrol officers work to maintain law and order in the subway system and minimize passenger discomfort by cracking down on vendors, beggars, and public disturbances in the cars.



Safety-related facilities

CCTVs, as well as some 9,000 emergency phones, have been installed in all subway stations to help prevent accidents and reduce passenger inconvenience.



Safe Zones

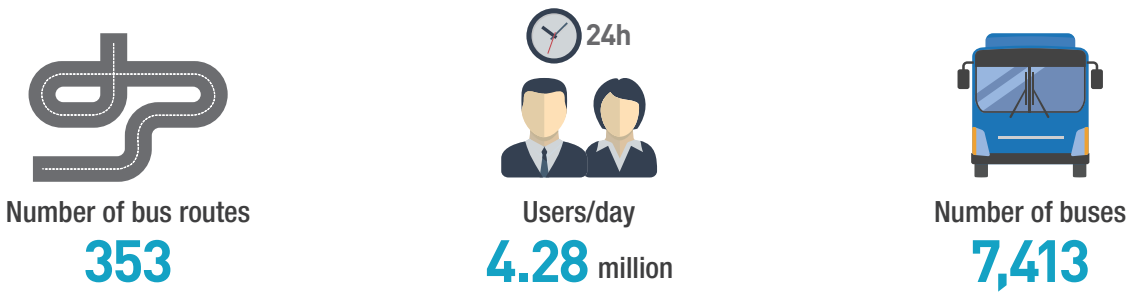
To ensure security and safety in subway stations at night, Safe Zones, featuring brighter lights and CCTV cameras for heightened surveillance, have been designated in subway stations near entertainment districts.



Bus system

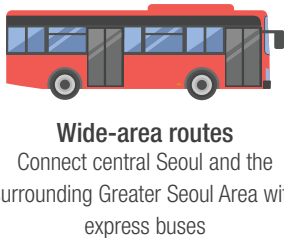
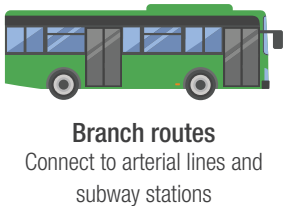
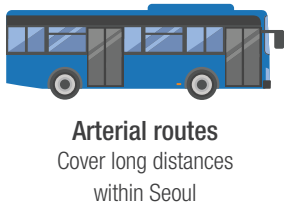
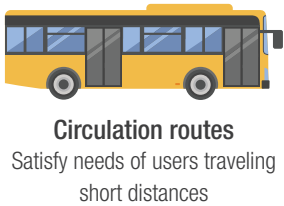
that is faster and more convenient than driving a car

The bus system was reformed in 2004 with the aim of transforming Seoul, which suffers from serious traffic congestion due to high car ownership, into a city focused on public transportation. With the introduction of a semi-public bus system, the overall operation of the bus system, including bus intervals, and the arrival information service are now being managed more efficiently. Moreover, exclusive median bus lanes(BRT) have been introduced to offer better, faster, and more convenient bus service for citizens.



Bus system

In general, the bus system is divided into two types of routes: arterial/wide-area bus routes that connect downtown Seoul with the outskirts of the city and circulation/branch routes that are operated within particular districts. Night bus (Owl Bus service) and village bus routes, connecting residential areas to subway stations or shopping centers, are operated as well.



01.

Demand-responsive Bus

Demand-responsive bus services are offered to help passengers during rush hours or late at night, when public transport is unavailable.



Owl Bus (late-night bus)

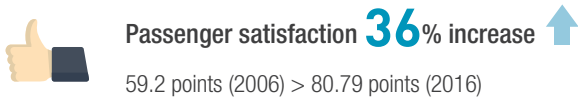
Owl Buses are run from midnight to dawn (23:30-06:00), and optimal routes are identified based on analyses of big data, such as data on late-night mobile phone usage and call taxi usage.

Squirrel Bus (short, customized bus routes during rush hours)

Squirrel Buses are operated periodically along routes with high volumes of commuters and high traffic congestion during rush hours.

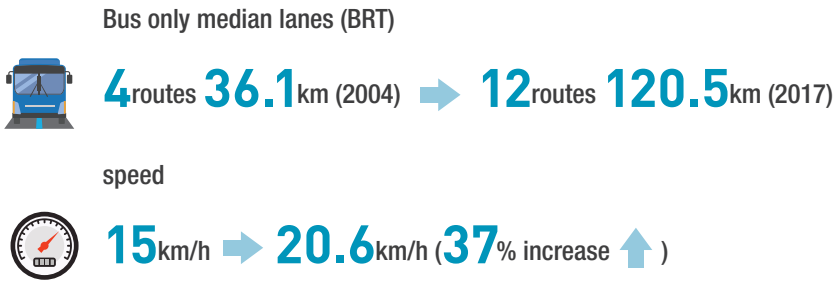
Semi-Public Bus Operation System

Since 2004, Seoul Metropolitan Government has operated the Semi-Public Bus Operation System, which jointly manages the profits of bus companies to increase the quality of the mass transit system and enhance the operational efficiency of the private transport sector. The system has helped reduce traffic accidents, increased the number and satisfaction level of users, and drastically improved the welfare of bus operator employees.



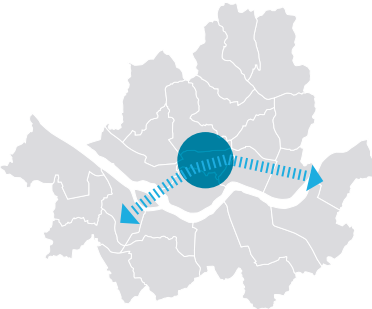
02. Bus-Only median lanes (BRT)

With the introduction of Bus only median lanes(BRT) on routes connecting the city center to surrounding areas, it is now often faster to take a bus than drive a private cars

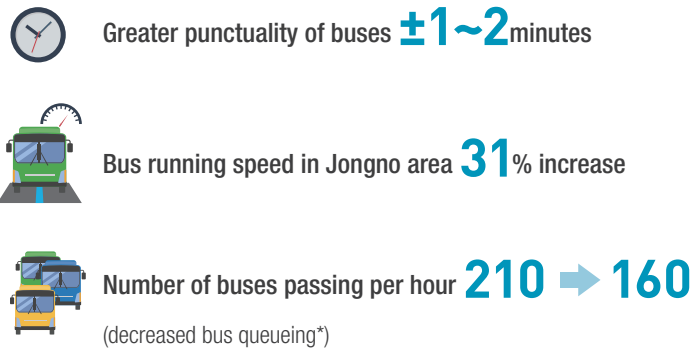


Installation of Bus only median lanes(BRT) in Jongno completes east-west connectivity

Curbside bus lanes in the Jongno area, the only area of the east-west corridor that did not have exclusive median bus lanes, have been relocated to create median bus lanes, drastically improving the punctuality of the bus system, raising the overall traffic speed, and increasing safety by avoiding excessive mixing of buses and cars on the road. With the installation of exclusive median bus lanes to facilitate traffic flows from Gyeongin and Mapo-ro in western Seoul, through the downtown area, and extending to Mangwu and Wangsan-ro in eastern Seoul, complete connectivity between the eastern and western parts of the capital city has been realized.



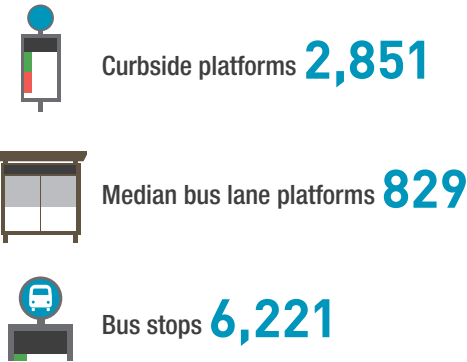
Gyeongin, Mapo-ro  Jongno, (through downtown)  Mangwu, and Wangsan-ro



* A phenomenon where buses line up bumper to bumper at a bus stop, blocking traffic flow.

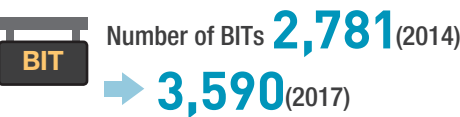
03. Convenient and comfortable bus transport environment

Platforms at bus stops are now equipped with route maps and heated seatings for the convenience of users while waiting, and electronic bus information terminals show bus operation information, such as estimated wait time, bus type (low-floor bus), and scheduled time of last bus, on a real-time basis.



Bus Information Terminal (BIT), providing real-time bus information at a glance

BISs installed at bus stops show estimated bus arrival times and seat availability. The information can also be accessed via smartphones.



Bus Congestion



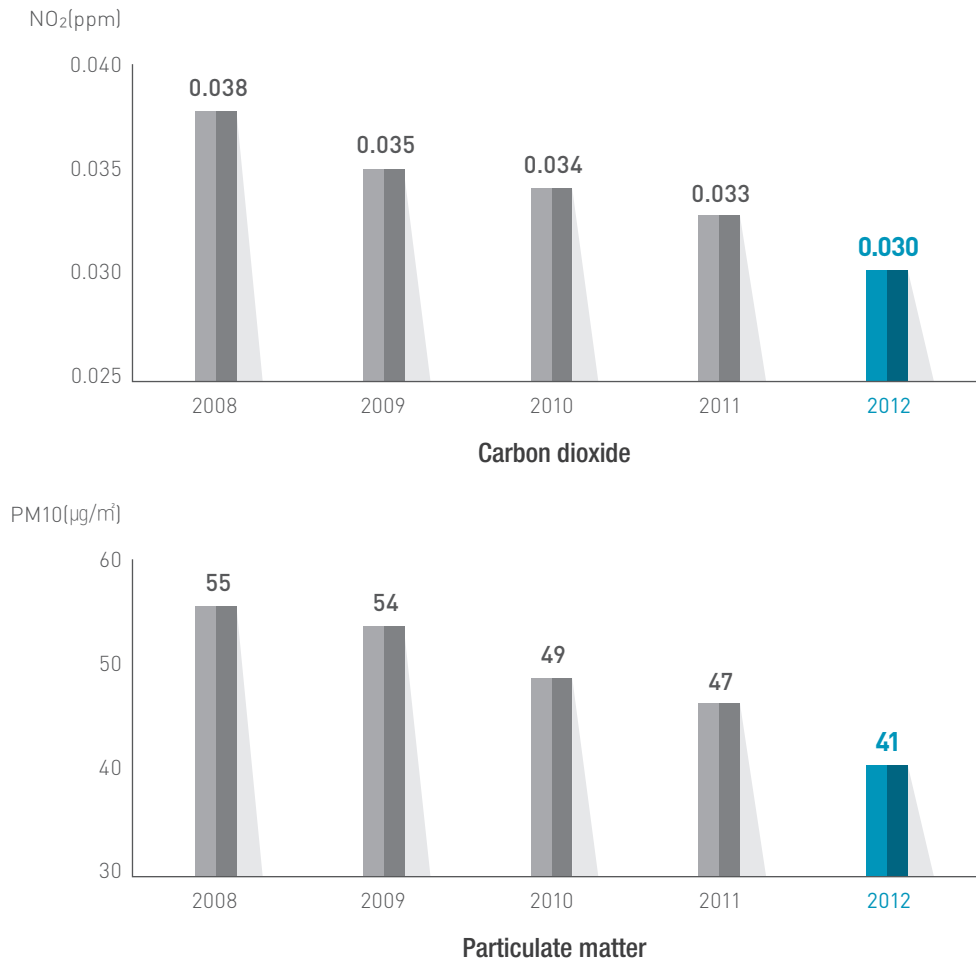
04.
A bus system
that protects the
environment and
caters to the needs
of the mobility
disadvantaged in
Seoul

Diesel buses, which are a major source of airborne particulate matter, have been replaced by natural gas (CNG) buses, and low-floor buses for mobility disadvantaged people, such as wheelchair users, and accessible, barrier-free bus stops are now being introduced.



Zero-emission eco-friendly
buses

All city buses operating in Seoul are either CNG or electric buses, both of which emit no exhaust gases.



Fuel-saving device
for buses

By installing fuel enhancers on city buses with manual transmissions, fuel costs have been reduced by 12.5 percent.



Expansion of low-floor bus

Seoul plans to continuously increase the number of low-floor buses, which are accessible to wheelchairs and strollers. As of September 2017, low-floor buses account for 42.7 percent of all buses in Seoul.



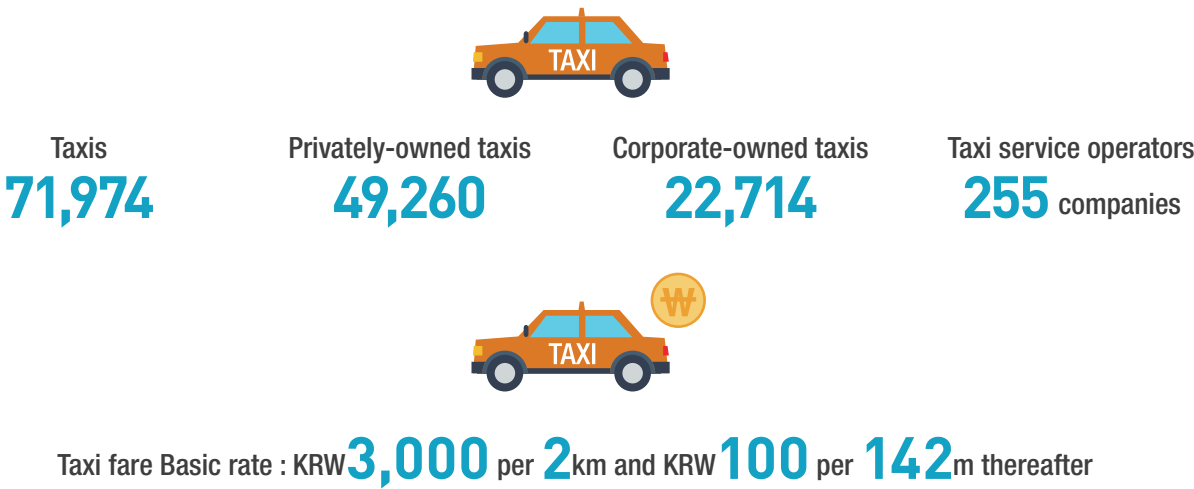
Barrier-free bus stops

The number of barrier-free bus stops, which feature a universal design and cater to the needs of mobility disadvantaged people, such as wheelchair users, is being increased.

- Removal of barriers near platforms
- Creation of spaces for wheelchair users to wait
- Installation of tactile paving blocks
- Audio announcements of bus arrival times

Taxis that are safe and secure

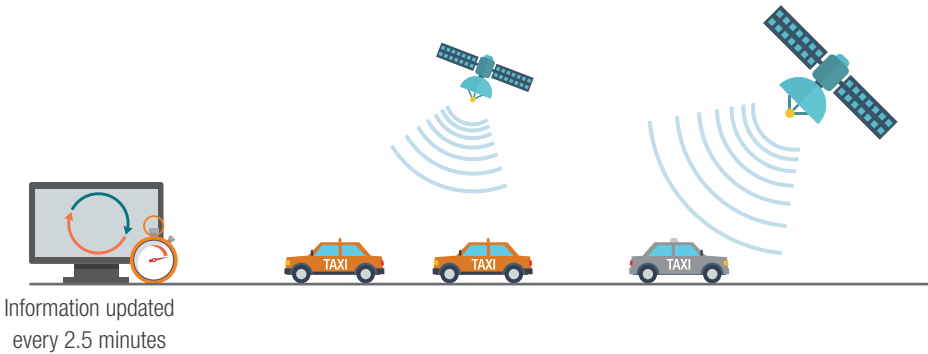
Based on the collection and analysis of data on the operation of over 70,000 taxis, a taxi policy that serves to increase the convenience and satisfaction of taxi service users has been implemented.



Seoul Taxi Information System

Based on the collection and analysis of data on the operation of all taxis in Seoul, including taxi location, speed, passengers, and fares, a reasonable taxi policy has been established and implemented.

- Outcomes
- Data collected as basic resource for the establishment of taxi policy
 - Taxi operation controlled through real-time monitoring system
 - Traffic status updated through GPS-based speed analysis



01. Seven out of ten taxi passengers pay fare with credit card or Transport card

All taxis in Seoul are equipped with payment terminals that enable passengers to pay their fares with transportation cards or credit cards. (Ratio of card use : around 70%)



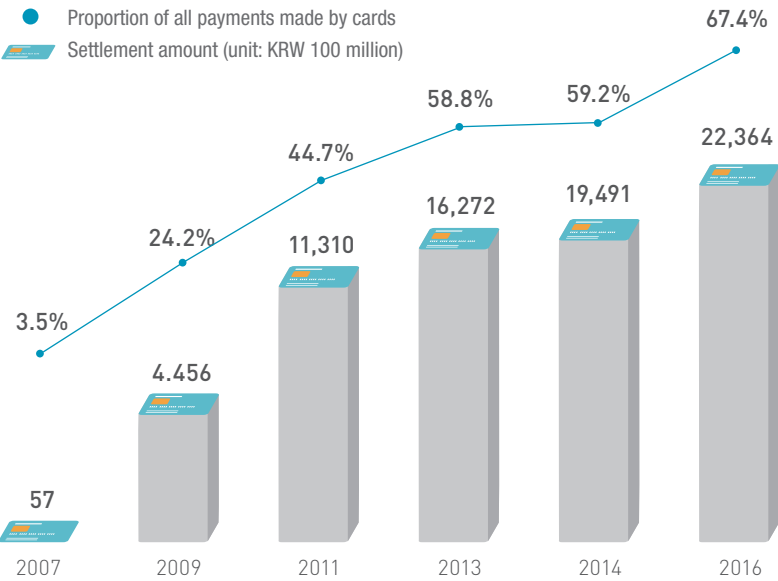
Offline card payment authorization system that eliminates concerns over system errors

Even in the event of an online payment system failure, the payment terminals have a built-in offline system that enables payment settlement.

Effect of taxi fare payment with cards

- Allows extra services, such as return of lost articles
- Increases transparency in taxi revenue
- Makes payment more convenient

Status of taxi fare payment by cards



02.

Various convenient taxi services

To offer greater convenience and safety for taxi passengers, taxi services have been improved significantly.



Top-rate service certification mark (AAA)

The “Best Service Certification Mark (AAA)” is affixed to the windshields and roof lights of taxis to make it easier for citizens to choose taxis that are operated by companies with excellent services and good management.

Smart taxi stands

Smart taxi stands have been installed near areas with large numbers of tourists and businesses. Here, people can call taxis simply by pushing a button. The stands also offer free Wi-Fi, mobile phone charging dock, and information on fares, traffic status and tourist attractions.

Call taxis for the disabled

Since 2003, call taxis for those with severe disabilities have been operating in Seoul, 12 surrounding cities, and Incheon International Airport.



100 taxis (2003) ➔ 437 taxis (2017)

1,251,300 trips (2016)

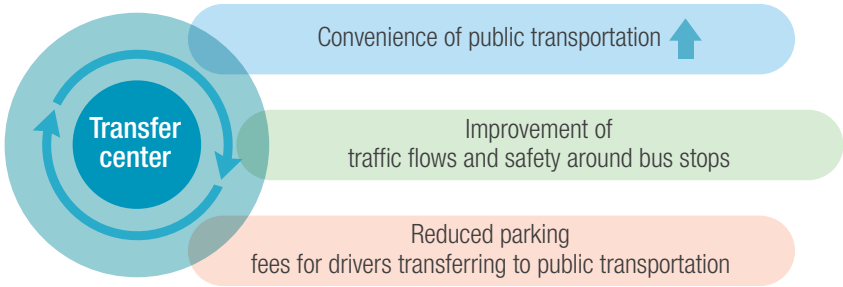
Expansion of transportation infrastructure to promote public transportation and relieve parking difficulties

To reduce the number of cars entering the city center from the outskirts of the city, transfer centers serving broad areas have been installed in locations along the boundaries of the city.



Operation of transfer centers at key locations in Seoul

By integrating groups of multiple individual bus stops according to their destinations, the city has increased the convenience of its public transportation transfer system.

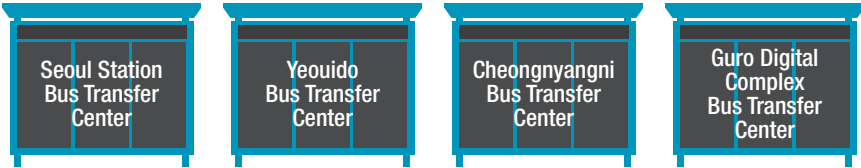


Jamsil Transfer Center, underground public transport terminal

An underground terminal-type transfer center, the first of its kind in the country, was built in 2016 in Jamsil, one of Seoul's key hubs of public transportation

Bus transfer center

An LED media façade has been installed to enhance the nighttime visibility of the information displayed, including bus station locations, bus route directions, and bus numbers.



Relieving parking issue in city center through the concerted efforts of citizens, corporations, and organizations

Seoul Metro operates 10 lines connecting the CBD to the surrounding metropolitan areas. Seoul Metropolitan Government plans to extend these existing lines and expand the Seoul Light Rail Transit (LRT) in order to create a dense urban railway network, spanning 441 kilometers, and bring the combined mode share of its mass transit system up to 75%.

Green Parking project

The Green Parking system, was implemented by Seoul Metropolitan Government in 2004 and expanded across the nation in 2006. To ensure that all vehicle owners in residential areas have access to parking space, doors and walls of houses have been removed to establish parking lots equipped with security cameras.



Before improvement



After improvement

Parking space sharing

To relieve the parking issue in high-density residential areas, the city is receiving applications from private building owners (schools, commercial facilities, etc.) who are willing to keep their parking lots open at night for public use. If selected, they can receive financial support for the installation of parking spaces and earn profit by collecting parking fees.



Seoul Parking Information system

Information on parking spaces in the neighborhood (hours of operation and fees) and available parking spaces are posted in real-time on the Internet and made available through a mobile application.



SUSTAINABLE TRANSPORTATION IN SEOUL

As the number of privately owned vehicles decreases, the spaces for people in the city will become larger and safer. By promoting eco-friendly means of transportation such as walking, bicycles, and public transportation, Seoul Metropolitan Government is planning to create a sustainable transportation environment.

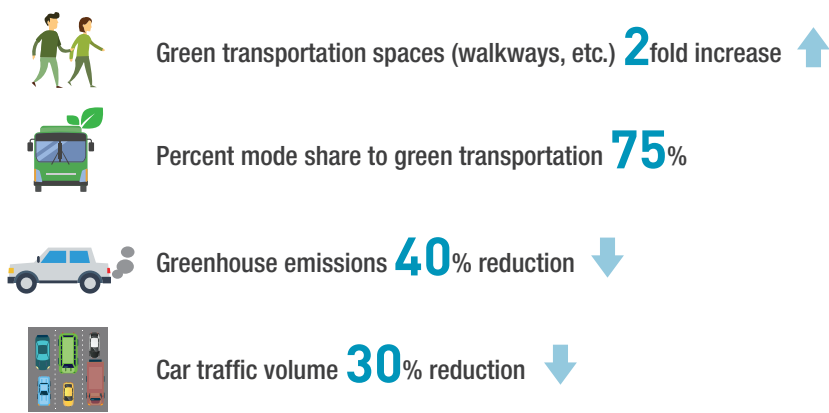
Transportation demand control | Walking environment improvement | Cycling convenience enhancement | Safe and orderly transportation environment

Transportation demand management to reduce traffic congestion and vehicle emissions

With the aim of transforming Seoul into a metropolitan city that is convenient, safe, and livable, even for people who do not own cars, Seoul Metropolitan Government is taking firm measures to reduce the number of vehicles entering the downtown area and remove facilities that cause traffic congestion. Through “Nanum Car,” a public car rental service in Seoul, people’s perception of cars is changing from something that is owned to something that is shared.

Eco-friend / Mosility zone

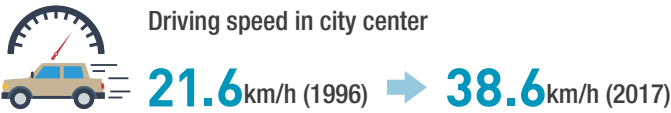
To make Seoul a safe, convenient, pleasant, and people-centered city, even for people who do not own cars, Seoul Metropolitan Government designated 16.7 square kilometers of the city center as the nation’s first “Green Transportation Promotion Area” in 2017. By restructuring road spaces in the downtown area, the city is curbing the demand for cars and making the city center more accessible to people who walk, ride bikes, and use public transportation.



Congestion charges to reduce number of vehicles entering CBD

Congestion charges are levied on vehicles entering the downtown area in order to reduce traffic congestion in the city center.

- Charging points: Namsan Tunnels Nos. 1 and 3
- KRW 2,000 for a vehicle with 10 or fewer seats carrying two or fewer passengers

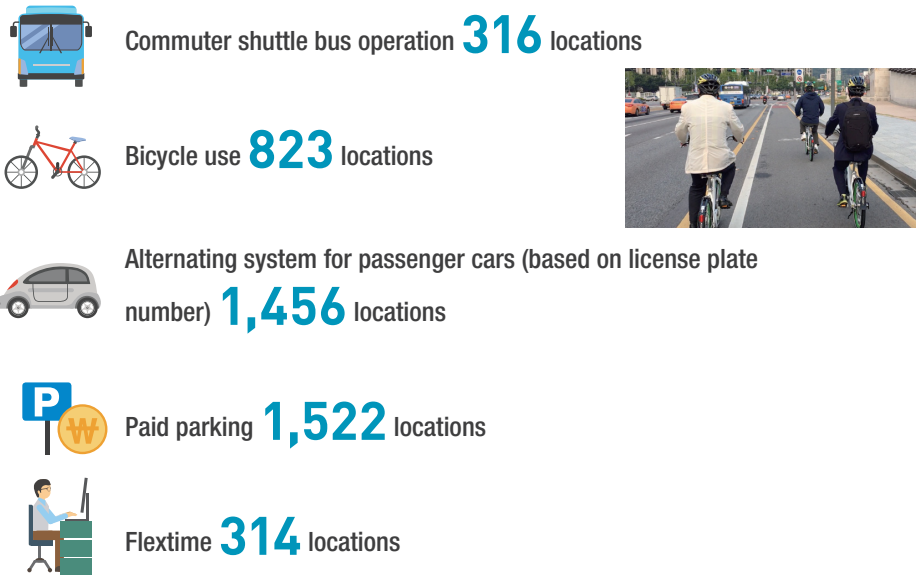


Imposition of traffic congestion charges on facilities and installations causing traffic

Charges are levied on large department stores, hotels, and other commercial facilities. Depending on the extent of their participation in the traffic volume reduction program, these charges may be reduced.

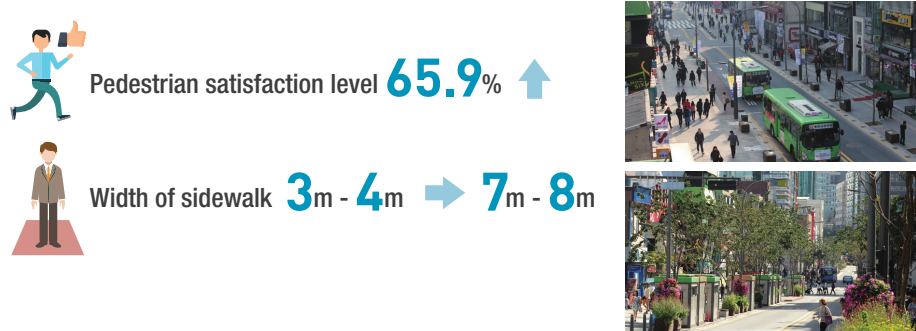
- Traffic congestion charges: KRW 700 to 1,200 per square meter (differential charges imposed based on occupancy, as of 2017)
- List of companies participating in traffic demand control
- 1,867 companies (2008) → 3,276 companies (2016)
- Status of participation in traffic volume reduction program
- 3,759 programs (2008) → 5,322 programs (2016) – each company participated in 1.6 programs on average

Participation by type of program



Dedicated Public Transportation District designated in Sinchon transit mall

The width of sidewalks along sections of Yonsei-ro (550 meters) and Myeongmul Street (450 meters) have been expanded. During weekdays, only public transportation vehicles, such as buses, are permitted entry. On weekends, only pedestrians are allowed on the streets. Such efforts to improve the walking environment are contributing to the promotion of local businesses in the district.



01.
Car sharing instead of
owning them

Car sharing services allow citizens to rent cars at a cost lower than that of buying them. After registering as a member on the Nanum Car website, users can find the locations of nearby Nanum Car stations.

 Members **1.81**million, **1,349** Nanum Car stations,
4,316 Nanum Cars in operation (as of Aug 2017)

- Entire process, from reservation to payment, can be done via smartphone
- Users charged for every 10 minutes, with a minimum of 30 minutes
- Discount offered for those who use public transportation to get to the Nanum Car station.



Impact of operation, with total
of 1,816 cars (as of 2014)

Congestion charges are levied on vehicles entering the downtown area in order to reduce traffic congestion in the city center.

 One Nanum Car reduces car use by **8.5** cars ↓

 Household expenditure reduced by RW**28.9** billion annually

 Greenhouse gas emissions reduced by **486** tons annually ↓

Building a transportation environment
that is safer and more convenient for pedestrians and
mobility disadvantaged people

Seoul Metropolitan Government is expanding sidewalks for pedestrians and supplying bicycles as an eco-friendly mode of transportation, based on the belief that pedestrians should take priority over cars.

Building a people-centered
transportation environment
that promotes movement with
“two feet and two wheels”

Increasing spaces for pedestrain based on the recognition that the streets belong to the people

 Pedestrian-only streets **107**locations
Walking environment improvement districts **8**locations
Pedestrian-priority streets **43**locations



Putting the streets on a “diet”
by widening sidewalks and
narrowing streets

Creating an accessible, comfortable, and safe walking environment by reducing the space on roads for vehicles, widening sidewalks, and increasing the signal time at crosswalks



Increase safe spaces

Increase safe spaces for mobility disadvantaged people, such as children, seniors, and people with disabilities

Safe areas for children

 **1,690**locations (2014) → **1,730**locations (2016)

Safe spaces for seniors and
people with disabilities

 **73**locations (2014) → **107**locations (2016)

Introduction of diagonal crosswalks at intersections

Diagonal crosswalks allow pedestrians to cross the street at intersections in any direction, including diagonally, at the same time. “□” and “▢” type crosswalks in dense urban areas have been changed to “▢” type crosswalks. Also, the signal time has been extended to give mobility disadvantaged people enough time to cross the street safely.



Seoullo 7017, Korea’s first pedestrian-only street, was created by renovating an old highway overpass.

The highway was originally built to connect Manrijae-ro, in Mapo-gu, with Toegye-ro, in Jung-gu, in 1970. Since then, however, it had fallen into disuse and disrepair. In 2017, an overpass on the highway was transformed into a 17-meter-high structure with 17 sidewalks, 645 round flowerpots, performance stages, and exhibition facilities. As the nation’s first pedestrian-only street, Seoullo 7017 is a safe, convenient, and comfortable space for citizens.



Before improvement



After improvement

01. Pedestrian-only streets

Pedestrian-only streets, where pedestrians can walk freely and safely, are operated by blocking vehicle access at specific times on certain weekdays. With the variety of festivals that are now being held on these streets, the perception that people are more important than cars is beginning to spread.



Sejong-daero pedestrian-only street: space for holding local festivals and marketplaces to promote the prosperity of cities and farms

- Vehicle access restricted in an area 550 meters in front of the Gwanghwamun Gate
- 09:00-18:00, first and third Sundays of the month (spring and fall)

DDP (Dongdaemun Design Plaza) pedestrian-only street: space for world cultures

- Vehicle access restricted in an area 310 meters along Jangchungdan-ro in front of the DDP
- 09:00-20:00 on the third Sundays of the month (spring and fall)

Deoksugung-gil pedestrian-only street: street for taking a stroll while enjoying music

- Vehicle access restricted in an area 310 meters along Deoksugung-gil
- 11:00-14:00 on weekdays, 10:00-17:00 on Saturdays (throughout the year)

Cheonggyecheon Stream pedestrian-only street: street for walking and enjoying

- Vehicle access restricted in an area 880 meters along Cheonggyecheon-ro
- 14:00-22:00 on Saturdays, 10:00-22:00 on public holidays (throughout the year)

Pedestrian-only (car-free) streets operated by district offices of Seoul: 103 locations



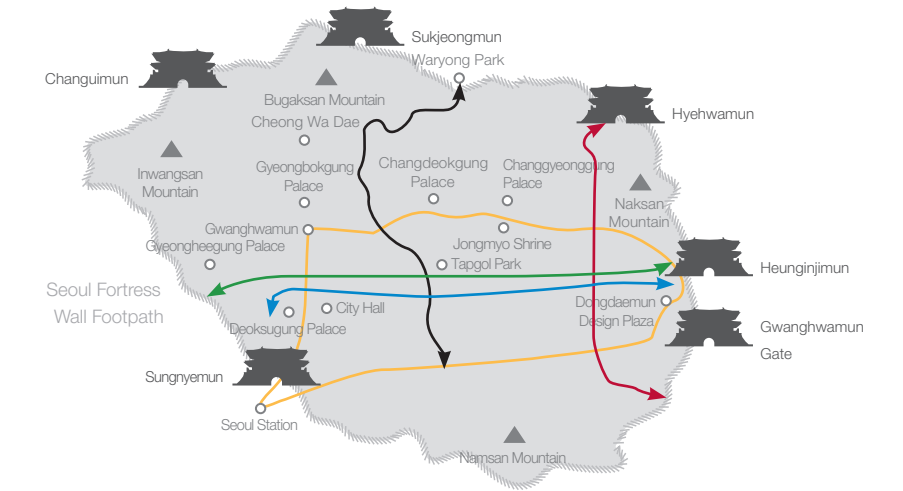
103locations

02. Pleasant downtown pedestrian walkways in areas rich in history

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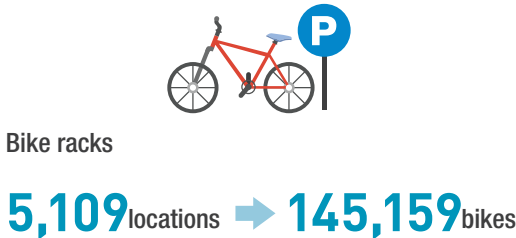
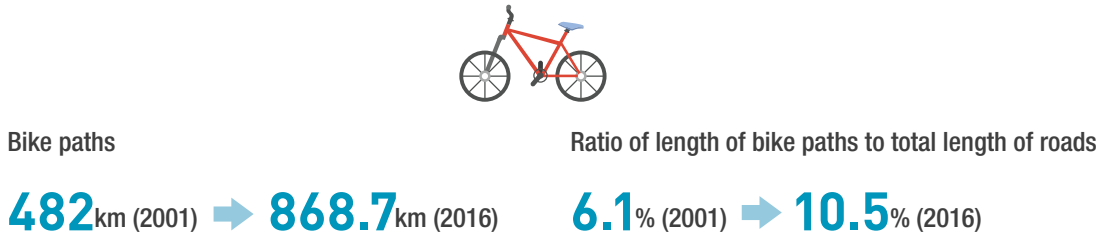
Five pedestrian walkways in the downtown area



- Yieum-gil**
(9.5km) Seoul Station – Gwanghwamun Gate – Insa-dong – Heunginjimun Gate – Myeong-dong – Seoul Station
- Yetpunggyeong-gil**
(4.5km) Waryong Park – Unhyeongung Palace – Toegye-ro 2-ga Intersection
- Neulcheongchun-gil**
(3.8km) Hyehwamun Gate – Daehak-ro – Dongguk University Entrance
- Jongnounjong-gil**
(4.0km) Seodaemun Station – Jongno – Dongdaemun Gate
- Cheonggyemul-gil**
(3.6km) Former NTS annex building – Cheonggyecheon-ro – DDP

Improving environment for bike riding, eco-friendly mode of transportation

To promote bike riding and its safety, festivals and forums are being held and certifications and customized education provided



Seoul Bicycle Festival and forum

By hosting bicycle festivals and forums in which citizens and domestic and international bike specialists participate, Seoul Metropolitan Government is working to change citizens' perceptions of bike riding and promote its safety.



ike riding tests and licenses for kids

To promote safety when riding bikes, the Seoul mayor is issuing bike riding licenses for children through a multiple-choice exam and real-world cycling test (four courses and 10 riding courses) to ensure that they have the skills they need to cycle safely.



Customized bicycle education

The city provides bike safety education tailored to adults, students, and children, as well as weekend sessions for office workers and special training for people with hearing impairments. A bicycle maintenance class and bike instructor training course are also offered.



01.
Ttareungyi: public bike rental service promoting riding bikes in Seoul

Since its launch in 2015, Ttareungyi, Seoul's public bike rental service, has been expanded to cover the entire city. Thanks to the service's simplified rental procedure, foreigners are able to use the service without going through the member registration process. Operated through a smartphone application, Ttareungyi is an unmanned, around-the-clock bike rental system that allows users to return the bikes to any rental station.

1 day	1 week	1 month	1 year
KRW1,000 (1 hour) KRW2,000 (2 hour) (KRW 1,000 for each additional 30 minute)	KRW 3,000	KRW 5,000	KRW 30,000

1 2015 (150 stations, 2,000 bikes)
Provided means of transportation to key locations



7 districts, 5 key locations
8 bikes per 10,000 people

2 2016 (450 stations, 5,600 bikes)
Increased key locations → mode of transport for use in people's daily lives



11 districts
15 bikes per 10,000 people

3 2017 (1,500 stations, 20,000 bikes)
Expanded across entire city



25 districts
20 bikes per 10,000 people



Seoul's public transit system, the best in the world and the safest in Korea

Seoul's traffic accident fatality rate (per 100,000 people) is the lowest among all cities and provinces of the nation, with its road traffic death rate falling as low as 0.97 deaths per 10,000 vehicles.



Least traffic accident fatalities in the nation: 3.54 deaths per 100,000 people (2016)
Number of road traffic deaths per 10,000 vehicles: 4.2 people (1994) → 0.97 people (2016)



Speed limit: 50/30

To prevent pedestrian traffic accidents, the speed limit in Seoul was lowered to 50km/h for arterial roads and 30km/h for side roads, beginning with key locations in the city.

Lanes marked in pink at intersections

At non-standard intersections and crossroads, where the directions drivers can follow are unclear, lanes are now marked in pink to ensure that all drivers including novice ones are able to navigate safely.

- Lane changes at intersections: 21% decrease ↓
- Lane changes 40 meters before stop line: 63% increase ↑

“Yellow Carpets” installed to increase safety of children crossing roads on their way to and from school

The walls and ground at intersections near schools have been painted in yellow and lamps installed that turn on when people pass by at night in order to make children walking to school more visible to drivers.

- Increase in visibility with installation of yellow carpets : 34% → 5~95% increase ↑
- Yellow carpets have been installed in 107 locations in Seoul (as of end of 2016).

Creating a safe and orderly traffic environment together with citizens

Penalties for violations of parking regulations and bike lanes are now being enforced to ensure safety and order on the streets of Seoul. Thanks to cutting-edge IT technology, citizens are also participating in and monitoring the status of this effort.

Seoul Smart Reporting Mobile Application

Citizens can send reports by taking pictures of vehicles parked illegally at crossroads, intersections, or sidewalks and vehicles violating bus lanes.



Monitoring system

Vehicle owners can check any penalties applied to their vehicles and make statements or file objections over the Internet.



Bicycle patrol squad

A 16-member bicycle patrol squad actively cracks down on pedestrians violating bike lanes and drivers violating traffic laws on heavily congested roads.



Team dedicated to reducing transportation inconveniences for foreign tourists

A team of 13 members from multicultural families or foreign language speakers monitor and work to reduce transportation inconveniences for foreign travelers.



CUTTING-EDGE SMART TRANSPORTATION TECHNOLOGY



Seoul TOPIS (Seoul Transport Operation and Information Service) is a smart city management hub that conducts round-the-clock monitoring of emergency situations, including traffic accidents, disasters, and wars. The implementation of the smart transportation card system and Metropolitan Unity Fare (MUF) system has increased citizens' use of the public transit system.

Seoul TOPIS | Smart Transportation Card | Metropolitan Integrated Transfer Discount System

Seoul TOPIS

(Seoul Transport Operation and Information Service)

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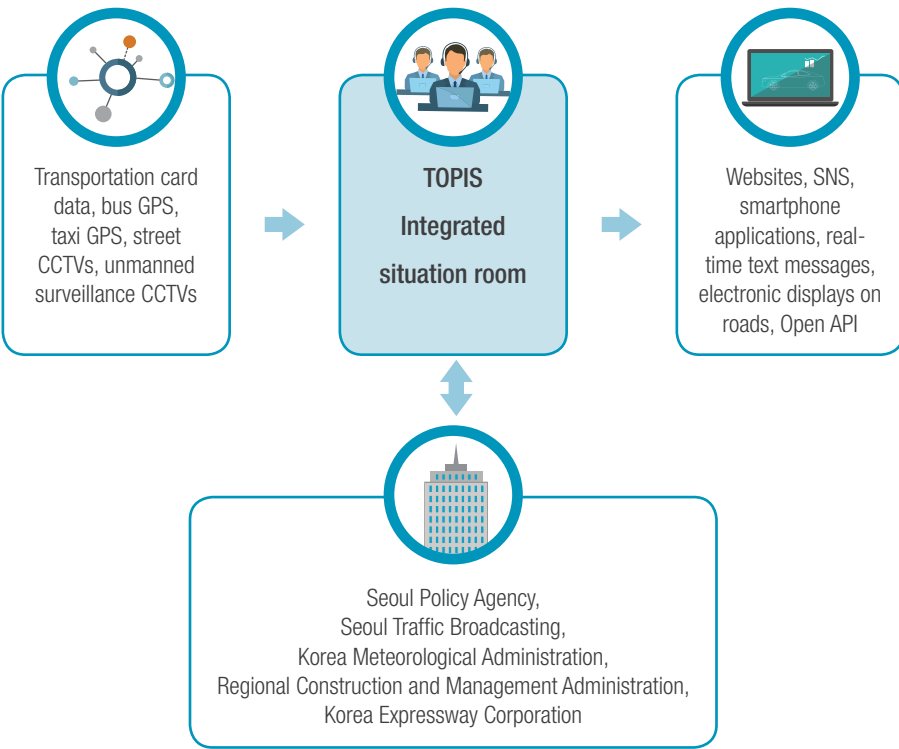
01.

TOPIS 3.0, a city management hub drawing worldwide attention

Launched in 2013, TOPIS 3.0 is a smart metropolitan city management hub that manages transportation, disasters, and other security-related events in an integrated manner. It is an advanced transportation information system that allows prompt judgements and responses to be made in times of emergency and predicts and prevents transportation problems before they occur through big data analysis. TOPIS 3.0 has gained significant recognition overseas, leading to its export to Azerbaijan and Mongolia and drawing over 1,500 visitors, including representatives of foreign governments and transportation specialists, to Korea on an annual basis.



Information flow chart



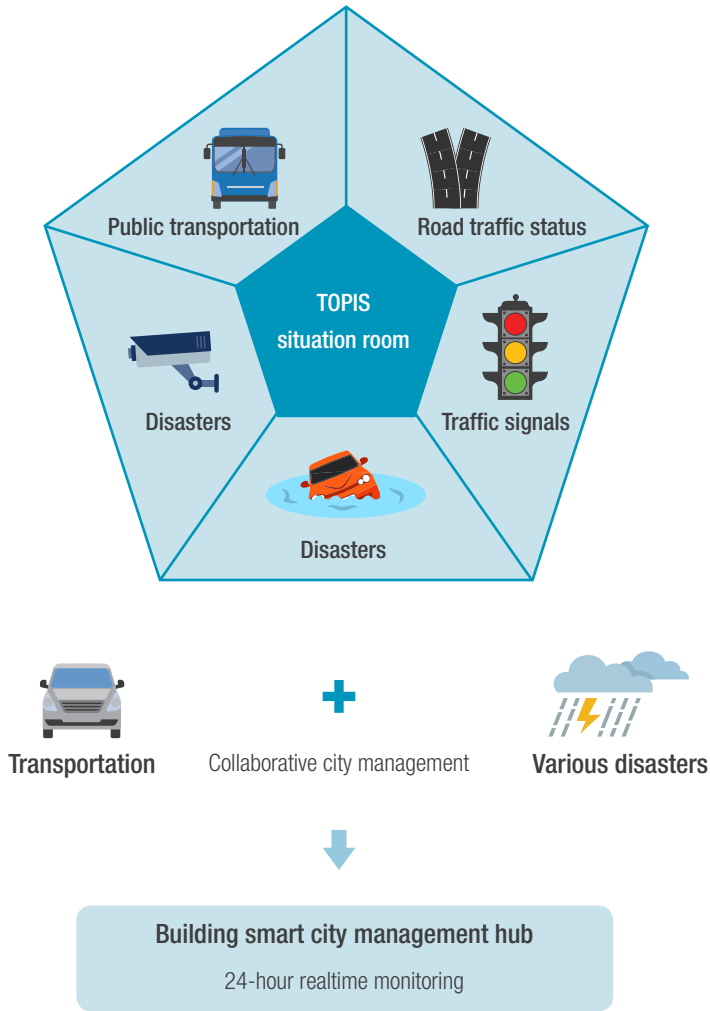
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Functions of TOPIS



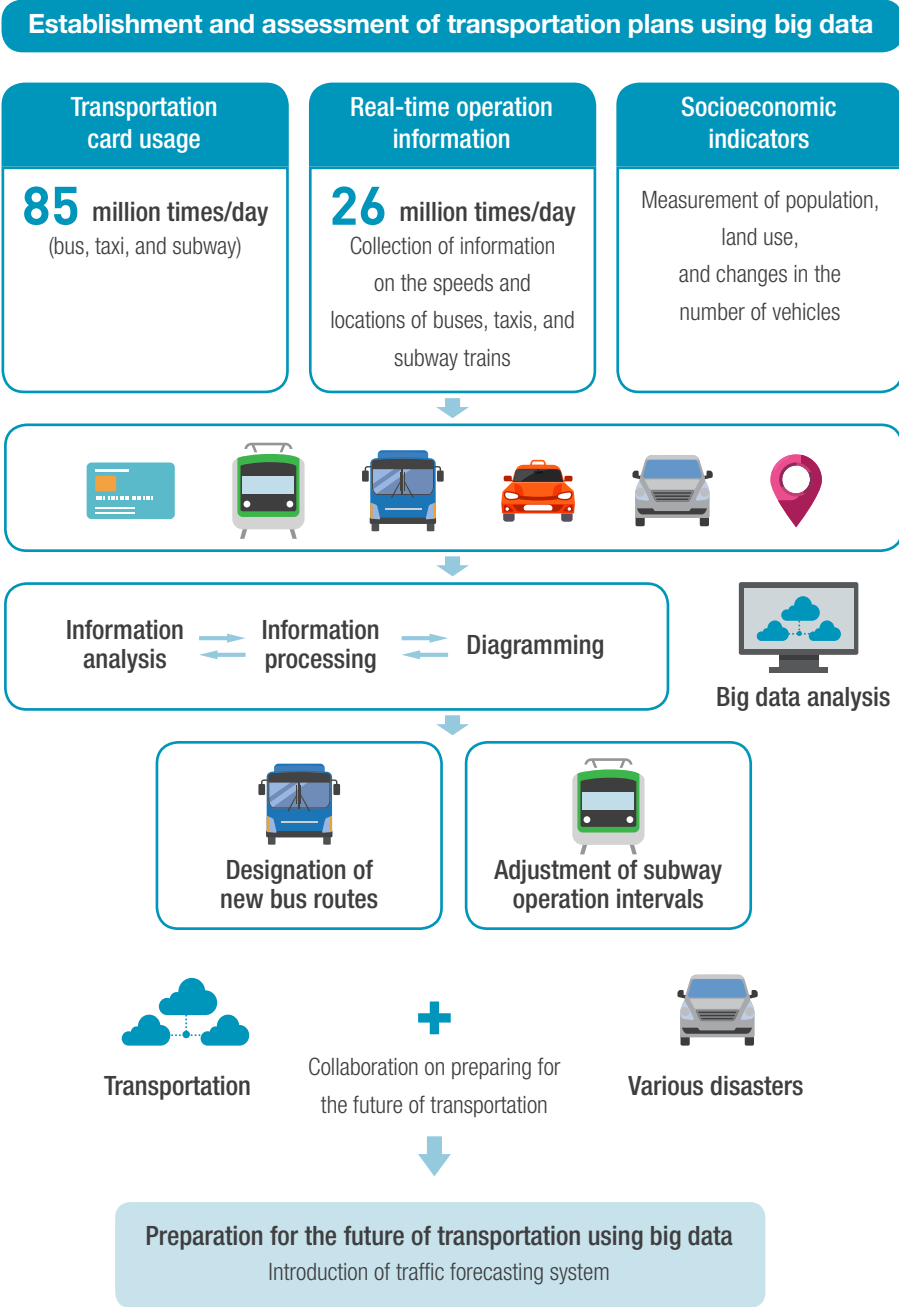
Round-the-clock integrated management of transportation, disasters, and security situations

Using cutting-edge equipment and devices, TOPIS monitors indicators related to Seoul's transportation system, disasters, and security situations on a 24-hour basis throughout the year and allows prompt responses, thereby minimizing any potential damages.



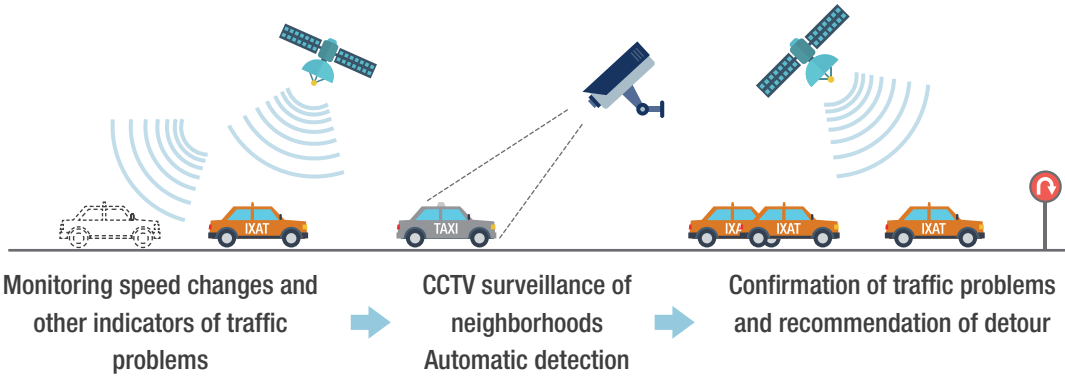
Establishment of transportation policy based on big data analysis

Big data analysis supports the development of more scientific operation plans for road traffic and public transportation and is used to find solutions for areas with high traffic congestion and create or adjust public transportation routes.



Real-time road traffic control

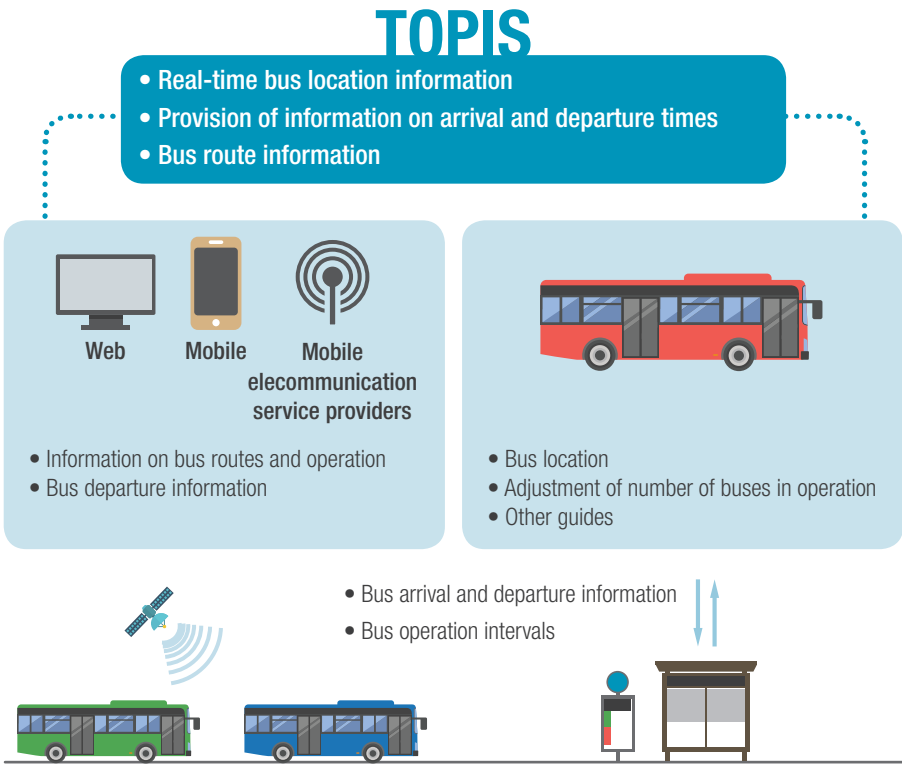
With the establishment of a transportation information collection system that spans all roads in Seoul, it is now possible to provide road traffic information on a real-time basis. After automatically identifying and analyzing traffic problems, such as speed changes or road congestion, the system recommends a detour so that the user can avoid traffic jams.



Real-time bus operation management



Based on data collected from GPS-equipped buses and transportation cards, bus operation intervals and detours are planned and managed. Through the Bus Information Terminals (BITs) installed at bus stops and available via websites or smartphone applications, passengers can obtain information on the location of a specific bus as well as its estimated arrival time and seating availability. road congestion, the system recommends a detour so that the user can avoid traffic jams.

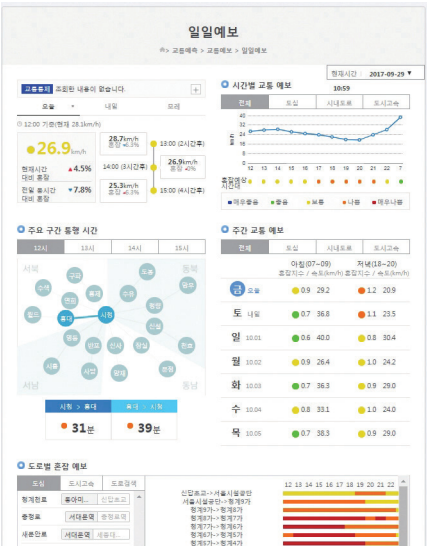
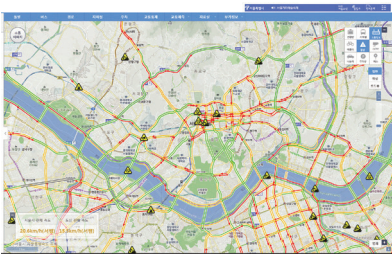
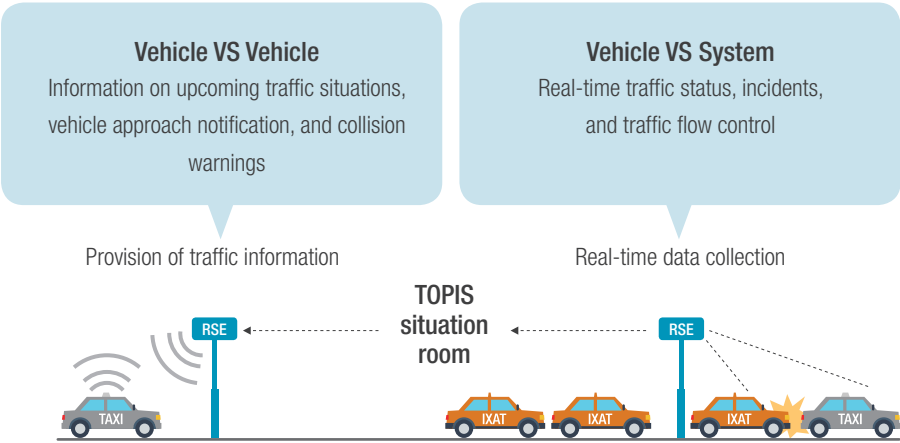


Cutting-edge, unmanned, traffic violation monitoring system

Unmanned CCTVs detect vehicles violating bus lanes or bike lanes or vehicles parked illegally and issues notices regarding fines through an automated process.

Transportation forecasting using big data

Based on an analysis of big data on traffic speeds and volumes over a 10-year period, future road traffic situations are being predicted and announced. To plan optimal routes and departure times, citizens can refer to the traffic forecasts posted on the TOPIS website or mobile application. Private companies are also using such data to create maps and navigation services.



Smart transportation card, the cornerstone of a cutting-edge, IT-based transportation system

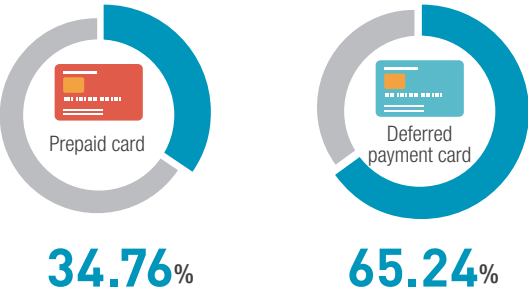
Currently, transportation cards are being used 13.90 million times a day to pay KRW 225.2 billion in transportation fares, and cities worldwide are showing strong interest in Seoul's experience with operating its smart transportation card system and related technology.



Transportation card usage by mode of transportation(2016)



Transportation card usage by card type(2016)



Number of transactions and amount per day(2016)



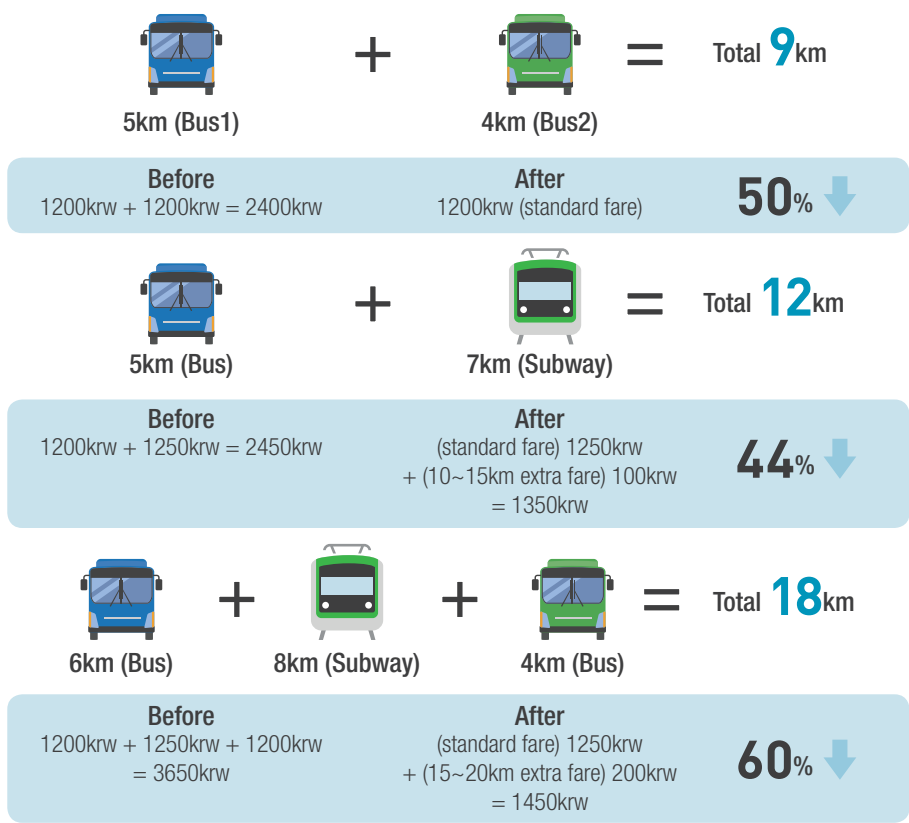
Metropolitan Unity Fare, increasing the convenience and efficiency of transportation in the Greater Seoul Area

The Metropolitan Unity Fare system allows passengers with transportation cards to pay the basic fare only once and extra charges depending on distance thereafter. The system was launched in Seoul in 2004 and was extended to Gyeonggi Province and Incheon Metropolitan City in 2009, benefitting 25 million people in the Greater Seoul Area

Comparison of fare systems

	Transportation Card		Cash
	Individual fare system	Metropolitan Unity Fare (since July 2004)	
Adults	Pay fares per mode of transportation	Basic fare: up to 10km (free transfers) Extra charge: KRW 100 for every 5km traveled after initial 10km	Not applied
Youths	20% discount on adult fare		
Children	50% discount on adult fare		

Before and After

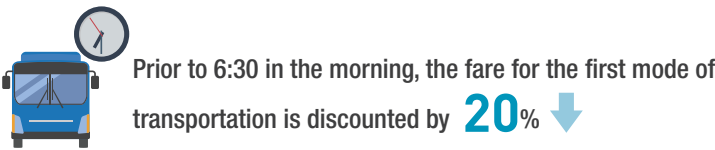


01. Diverse fare discounts

To reduce the burden of transportation costs on citizens and promote public transportation, various fare discounts are offered.

Early morning reduced fares

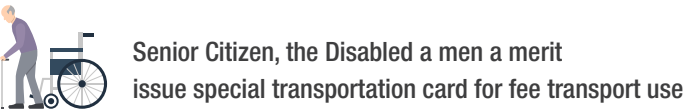
In 2015, Seoul introduced the first early morning discounts in the nation's public transportation system.



Subway commuter pass



No fare for senior citizens and people with disabilities



Youth discount

