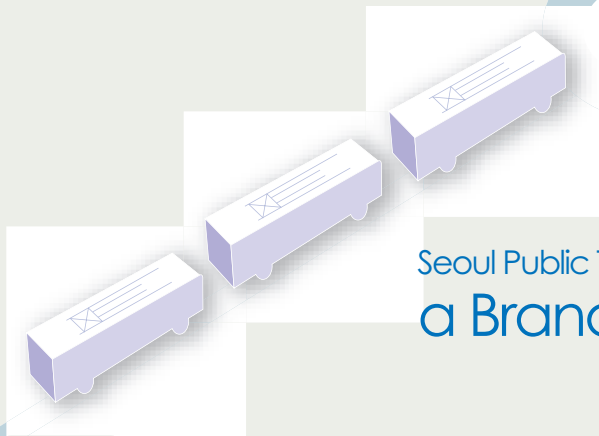

Seoul Public Transportation Reform a Brand New Seoul



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[Chapter 1]

Seoul Public Transportation Reform Brings Wind of Change



1. Worldwide Recognition of Seoul's Public Transportation Reform / Strong Response from Overseas

Seoul, the capital of Korea, has caught the world's attention. Since July 1, 2004, when the city implemented innovative public transportation reforms, touted as the first bus system reform since the country was founded, transport related authorities from around the world have been talking about the new system, which is ground-breaking and rational and has few precedents in the world.

A month after the reforms, many transport related figures visited Seoul to inspect the restructured system. Following a visit from Japanese transport officials, the FAZ group of journalists from Germany, Vietnam Hanoi transport authorities, journalists from Southeast Asia, and authorities from Hong Kong all came to Seoul. And on October 19, representatives from the House of Commons of Britain, which is recognized for its advanced public transportation system, also visited and showed great interest in its reform.

Seoul's public transportation reform was publicized to all major city governments at the 4th International Association of Public Transport (UITP) Asia-Pacific Congress held in Brisbane, Australia, in October 2004. The Seoul Metropolitan Government's presentation on the reforms was highly acclaimed by those taking part. Afterwards,



Seoul's public transportation reform wins a UITP award for outstanding urban project

many cities around the world started taking an interest in Seoul's new system and city officials grew busy as they were invited to make presentations at public transport conferences in Beijing, Rome, Berlin, and Washington.

Representatives from civil organizations also visited Seoul where they were surprised by what they saw, giving the reform effort high marks. In the two years since implementing the reform Seoul has participated in many international conferences including the 2005 UITP World Congress in Rome, the 2004 UITP Asia-Pacific Congress in Brisbane, and the 2005 World Congress of Metropolis in Berlin. Through these meetings it gained international recognition for its reform efforts, winning the Metropolis Award in 2005 and praise from the UITP Peer Review Team.



Members of Britain's House of Commons visit Seoul for benchmarking of its public transportation reform.



4th UITP Asia-Pacific Congress (Brisbane, Australia)

2. Key Contents of Public Transportation Reform and Major Achievements

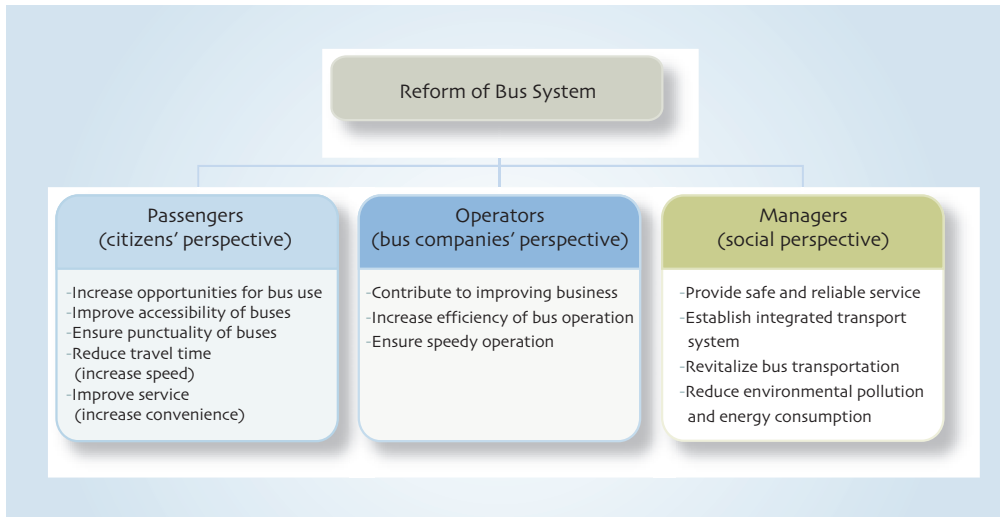
(1) Key Contents of Reform

The major factor behind the success of Seoul's public transportation reform was the radical idea of changing the privately run bus service to a so-called "quasi-public operation system," thereby increasing public responsibility and control of the bus service. At first there was much conflict of interest between bus companies and bus driver unions, but with great determination Seoul pushed forward with the quasi-public operation system and succeeded in redesigning the bus route network with emphasis on passenger convenience. As a result buses now reach into outlying areas that private bus firms had avoided because they were unprofitable, and the system enables quick changes to be made reflecting passenger demands regarding inconvenience.

The bus route network was redesigned on the principle of seamless integration between buses and subway networks, allowing for uninterrupted travel. Basically the buses were divided into those traveling trunk lines and those traveling feeder lines, thus dealing with problems such as long, circuitous and overlapping routes. As a result, unnecessary operation on circuitous routes was cut and new routes were expanded, leading to greater speed and convenience and ultimately increasing bus ridership. The public transportation transfer rate has also increased as feeder line buses support the network of trunk line buses and subways.

The integrated public transport fare system resolved the problem of unfair transfer fees for those who transferred often on short distances. In addition, the new public transportation card system and integrated Bus Management System (BMS) have laid the foundation for scientific operation and management of public transport using the latest information technology.

With just one travel card, passengers can transfer freely between buses and subway networks, and as the fare is based on distance traveled, passengers are allowed five free transfers within a total distance of 10km. Fare collection is controlled by the transportation card fare settlement center and individual bus companies are reimbursed according to distances traveled. Consequently, transparency in public transport fares has been secured, and the unfair additional fare burden for those living



in outlying areas with less access to public transport has been eased.

The Bus Management System (BMS) enables real time management of bus operation information, ensuring that buses run on time and thereby reducing instances of reckless driving. The Transport Operation and Information Service (TOPIS) collects and processes all transportation information from the BMS, transportation card system, automatic violation enforcement system, Seoul Traffic Broadcasting System, National Police Agency, and Korea Highway Corporation. It functions as an integrated transport management system and the TOPIS office is the first place that transport-related officials from overseas want to visit.

Along with the basic operation system, in order to expand necessary basic infrastructure the Seoul Metropolitan Government expanded and upgraded the system of exclusive bus median lanes. As a result bus speeds have almost doubled and travel through traditional bottleneck areas has been greatly improved. Thanks to the BMS and median bus lanes, the two greatest problems for passengers, reckless driving and non-punctual operation, have been solved.

In addition, Seoul is continuing to upgrade the quality of buses with the introduction of state-of-the-art low-floor buses, CNG (compressed natural gas) buses, and articulated buses. It is reported that the introduction of environment-friendly buses running on CNG has significantly reduced air pollution in Seoul.

(2) People-Oriented Public Transportation System

Thanks to the reforms, making transfers has become easier and a growing number of people are using Seoul's buses and subways, thus revitalizing the city's public transport service.

To go into detail, first, the number of bus and subway passengers has risen. Seoul Metropolitan Government attributes this to the integrated bus and subway network.

According to a city government report, the number of public transport passengers fell 2.1 percent in the first half of 2004 compared to the same period the year before. But after the reform was implemented the figure began to rise so that in the year from July 2004 to June 2005, the daily average number of passengers rose by 511,000 (5.5%) from 9.32 million to 9.83 million.

Thanks to the increase in bus ridership, from July to September 2005 the daily average number of public transport passengers rose by 842,000 (9.2%) over the same period the year before, just after the reform had been implemented.

The increase in bus passengers is a particularly notable achievement. Bus ridership had been on a downward trend with an annual average drop of 5.4 percent; but since the reform the number of passengers has shown an increase of 6 percent. Local bus passengers have risen by as much as 26.4 percent. On a daily average, the number of city bus passengers in September 2005 hit 4.49 million, a year-on-year increase of 522,000 (13.2%) from 3.96 million, which means bus ridership has risen significantly compared to the period immediately following the reforms.

Second, bus and subway revenues have risen. According to a study by Seoul Metropolitan Government, in the year following the reform (July 2004 to June 2005) daily transport revenues reached an average of 6.3 billion won, a rise of 580 million won (10.3%) over the year before. In the second half of 2005 the figure rose 3.5 percent year-on-year, driven mainly by an increase in bus revenues.

The rise in bus and subway passengers and public transport revenues has led to better profitability. For example, it is estimated that subway operation losses have been decreased by an annual 17.53 billion won as a result of the new distance-based fare system.

Third, the speed of both bus and car traffic has increased. According to a study by Seoul city, traffic in median bus lanes and passenger car traffic has been moving at a

good pace since the reform. Compared to the second half of 2004, traffic speed in bus lanes has increased by as much as 33.1 percent (Gangnamdaero) to 50 percent (Dobong-Mia), while average traffic speed on ordinary roads has increased by a small margin in all sections.

Expansion of bus-only median lanes will serve to change the focus of traffic policies from passenger cars to bus-based public transport. The new median bus lanes on Dobong-Miuro, Susaek-Seongsanro, and Gangnamdaero, have ensured that buses run faster and on time, consequently reducing travel time for passengers.

Fourth, the foundations have been laid for scientific public transport management. Establishing the Transportation Card System and the Bus Management System has enabled systematic management of bus operation through the collected or related data such as distance traveled per bus, and bus allocation and running intervals. Information from the transportation card such as number of passengers per route and per bus, passenger traffic O/D, and ridership at different times of the day, enable flexible adjustment of routes according to demand.

Fifth, unfairness has been removed in fare payment. The integrated public transport fare system allows for unlimited free transfers, which means lower fares for passengers living in areas with lower accessibility to bus and subway services. When the reform was implemented the basic bus fare was raised from 650 won to 800 won, but because of the free transfers and distance-based fare system the average cost of each trip fell by 29 won, from 674 won to 645 won, in the year from July 2004 to June 2005. In other words, Seoul citizens now pay less to travel by bus. In addition, the distance-based fare system has made fares more reasonable all round and the introduction of season tickets has made subway travel cheaper, especially for long-distance commuters.

Sixth, the air quality and urban landscape of Seoul have been enhanced. Replacing the old diesel buses, which discharged high amounts of exhaust fumes, with environment friendly CNG buses has radically improved air quality in the city. According to a study by Seoul city, increased use of environment-friendly buses and redesign of bus routes has brought the pollution particle count down to 58 micrograms per square meter (1 microgram is the 1 millionth part of a gram) in 2005, the lowest level since 1995 when such measurements were first taken.

In addition, the buses have been color-coded in four different colors according to the routes that they travel (blue for trunk lines, green for feeder lines, red for inter-regional routes, and yellow for city circulating routes), and some 5,100 bus shelters have been replaced with sophisticated modern shelters that help enhance the appearance of the city.

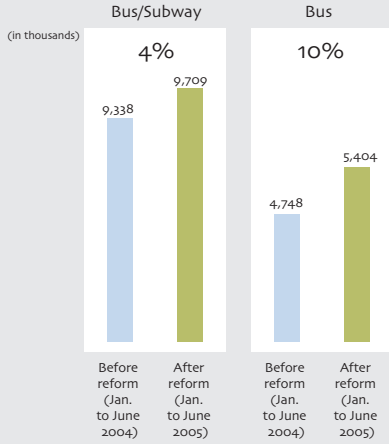
Seventh, social benefits and hidden economic benefits have been increased. From the planning stage, one of the major objectives of the public transportation reform was to increase social benefits and create a public transportation system that truly serves the comfort of the citizens. In this respect, the results have been very encouraging. A study on the public transportation reform carried out in 2005 by Seoul Development Institute shows that economic benefits include cost savings resulting from reduced running times (annual 1,990 billion won), vehicle operation (annual 307 billion won), traffic accidents (annual 46.6 billion won), and air pollution (annual 41.1 billion won), making a total of 2,386 billion won per year.

Moreover, the outstanding success of Seoul's public transportation reform has been widely introduced overseas and led to public sector export of administration services. Daewoo Bus Corporation and Hyundai Motor Co. have exported more than 7,000 CNG buses to Southeast Asia, South America, and the Middle East. Representatives from more than 20 countries have visited Seoul to learn about the city's high-tech public transportation system, and many cities around the world are planning to introduce Korea's smart card system, "T-money." Kuala Lumpur, Malaysia, has already installed card terminals in 1,000 buses for pilot operation.

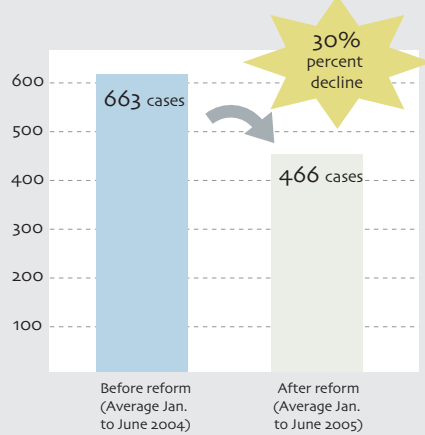
As the benefits of Seoul's rational and scientific operation and management of public transport gradually become apparent, the city's citizens have shown high satisfaction with the reform. In a survey by the Korean Association for Local Government Studies (KALGS) six out of every ten respondents said reform of the public transportation system was the factor making the greatest contribution to improving the quality of life in Seoul.

Also, another survey of 2,000 Seoul citizens carried out by the KALGS in April 2006 showed that of 13 key projects pursued by Seoul Metropolitan Government related to improving the quality of life, the reform of the bus routes and operation system received the highest marks.

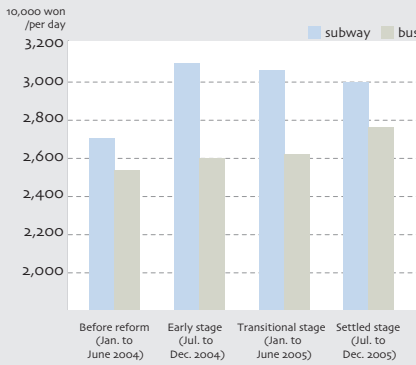
Increase in Daily Public Transport Passengers



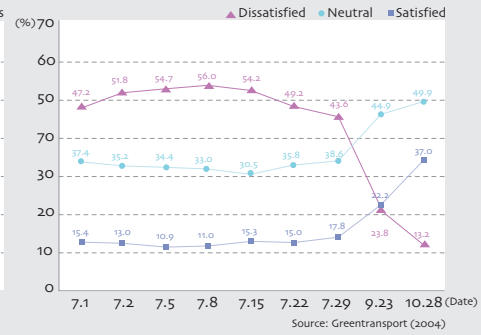
Decline in Bus Accidents



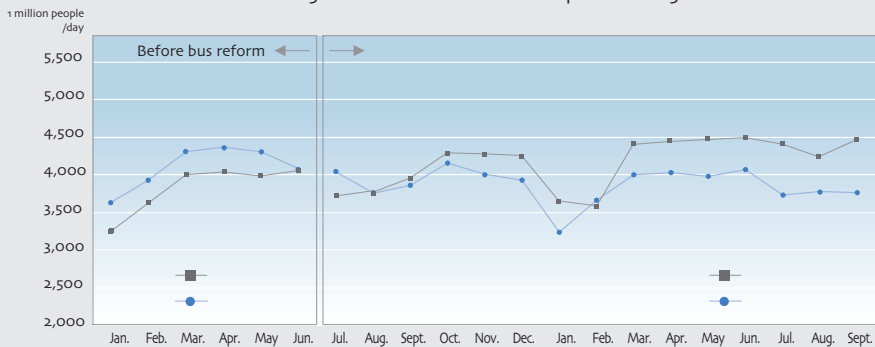
Increase in Fare Revenues

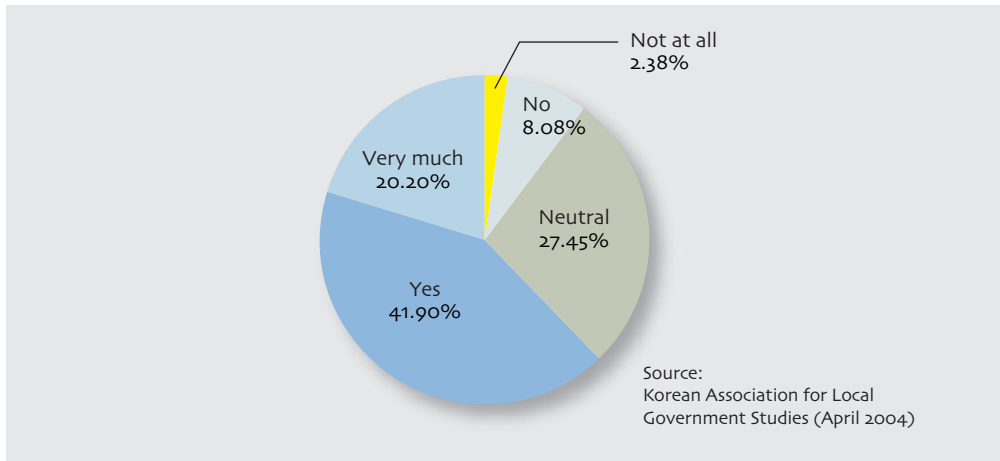


Increase in Passenger Satisfaction



Change in Number of Public Transport Passengers





Contribution of reform of bus routes and operation system on quality of life for Seoul citizens

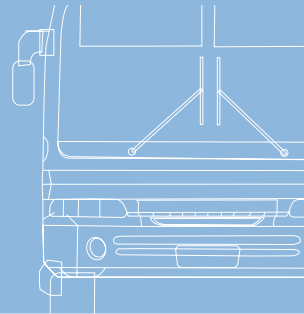
To the question on whether or not the transportation reform contributed to the quality of life in Seoul, 390 (20.2%) answered “very much” and 809 (41.9%) answered “yes,” which means over 60 percent responded positively.

These results show that thanks to the transportation reform the convenience and safety of public transport is greatly increasing.

The two or more years that Seoul Metropolitan Government invested in making such a public transportation system were so tough and riddled with problems that the results are truly “a triumph of human willpower.”

[Chapter 2]

Background to the Public Transportation Reform



When Seoul was pursuing public transportation reform in 2003, the bus business was a dying industry and the number of bus companies, which had reached 103 in 1997, had fallen to 57. Bus companies were engaged in overheated competition for the most profitable routes and routes in unprofitable areas suddenly disappeared, as the bus companies were not able to think about passenger convenience. Service grew worse as time went on. Bus drivers would squeeze as many passengers as possible onto the bus, drive recklessly, avoid picking up elderly and disabled passengers and at times run through stops.

Public transport being such, more people sought to buy their own cars even if it meant stretching the budget, and the number of cars on the road continued to grow, causing serious traffic congestion. Traffic congestion reduced the punctuality and speed of buses and people began to avoid traveling on buses if possible. The share of buses in total trips by mode of transport fell from 30.7 percent in 1996 to 26.7 percent in 2002, declining each year. This led to management problems for bus companies and repeated fare increases and a weaker bus service, creating a vicious cycle.

As the mayoral candidate, Seoul Mayor Lee Myung-bak, who was later elected by popular vote, promised to improve the problem-ridden public transportation system. From the day he was inaugurated on July 1, 2002, he sought reform policies toward this end. A weekly transport policy meeting continued to be held until implementation



Transport policy meetings have been held all through Mayor Lee Myung-bak's term in office.

of the reform in 2004, and Lee took part without fail, unless there was a special reason. This policy meeting and the reports of regular meetings of the “public transport promotion task force” were important forums that generated countless ideas that would provide the blueprint for Seoul’s public transportation reform.

The public transport promotion task force was formed in August 2002 with the head of Seoul Traffic Information Center in charge. The task force was an on-site administration team where each member was assigned an area of specialty that required research tasks and solutions. Then in October, the “public transport reform support team” was formed based around researchers at Seoul Development Institute (SDI), who took up office at City Hall and collected opinions from the civil servants to produce research plans on the public transportation system. In this way, the administration team and research team worked closely together to come up with viable reforms.

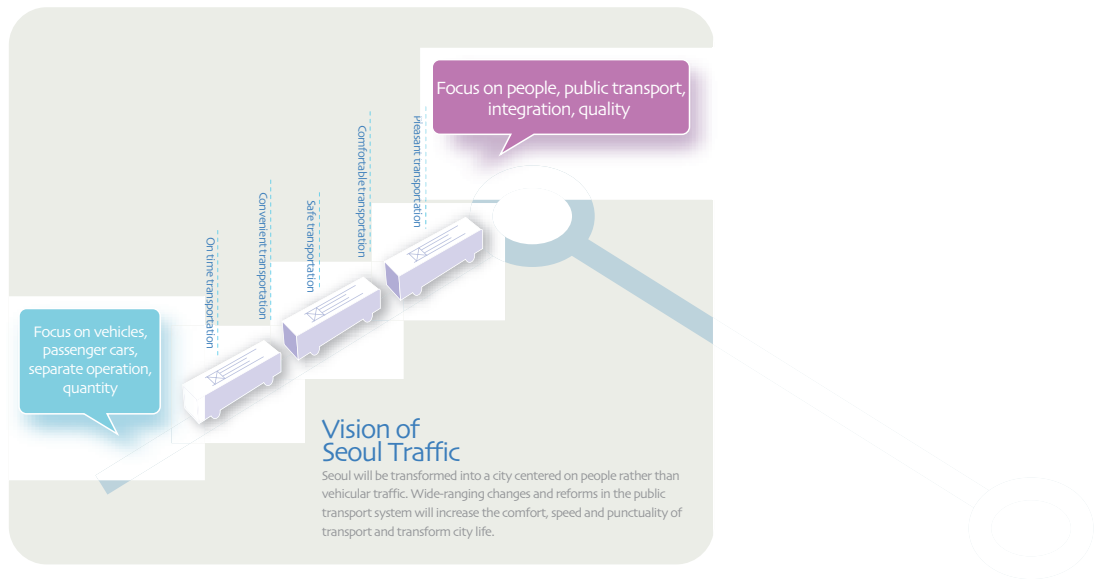
The main direction envisioned by the public transport promotion task force was to make an integrated transportation system that would bring together all the transport related facilities in the city of Seoul. That is, the idea was to build a transport management system that would link all the separate resources such as the different modes of transport, bus routes, fare system, transportation card, and high-tech transport information systems. State-of-the-art buses were to be introduced and median bus lanes created.

The first task was to redesign the bus routes so that there was seamless connection between trunk lines, feeder lines and the subway, and to create an integrated fare system based on distance traveled so that the fares would be collected in one system, no matter how many times a passenger transferred between bus and rail within a certain distance. The ultimate goal was to create an integrated public transport management system that would allow passengers to use any form of public transport within Seoul with one transportation card, and introduce advanced information technology to the transportation card system, the BMS, and traffic facilities such as the violation enforcement system using automatic cameras.

Methods suggested to secure basic infrastructure included introduction of median bus lanes, construction of transportation centers for easy transfer, and upgrading of buses. Other plans were to build new public bus depots, in the works since 1997, which would include transfer terminals.

According to this blueprint, it was decided to begin trial service in the Dobong-Mia area in northeastern Seoul, where heavy traffic congestion was expected due to the restoration of Cheonggyecheon Stream. July 1, 2003, was set as the starting date and on March 26, 2003, a briefing session on the new bus service was held for the head of the bus drivers' union and the heads of bus companies operating in the district concerned. But this proved to be the beginning of a long, hard battle.

Bus companies' opposition to trial service in the northeastern district was expected. The district was one of the most flourishing, containing some of the most competitive routes. But when Seoul Metropolitan Government announced that it would turn the private bus system into a quasi-public operation system and reorganize routes, the companies showed strong resistance, saying, "Why is the city interfering when we're doing fine?" The Seoul Bus Association, composed of the heads of bus companies



concerned, joined with bus drivers to hold daily demonstrations against the planned new system in front of City Hall and the Seoul Metropolitan Council building. The bus drivers' stance was that increased bus speeds due to the median bus lanes would decrease the number of buses needed and therefore the number of drivers. That is, where 100 buses were in operation before, only 70 would be needed after the reform.

Serious opposition came from the National Police Agency and local residents also. The police argued that measures must be devised to deal with safety issues and civil petitions in the case of implementing median bus lanes, and said that the local residents must be won over first. The residents' opposition was based on concerns for the livelihood of merchants. If bus stops were moved from the curbside in front of shops to the middle of the street, then the pavement would become narrower and more congested and consequently the shops would lose customers, they argued. Some lawmakers from the district and local councilmen sided with the opposing residents, starting a petition and protest rallies. From the end of March demonstrations against the transportation reform spread.

Finally, on May 20 the Seoul Bus Drivers' Union came up with an opposition plan that included a bus strike in the northeastern district in the first phase, and all out strike

across Seoul in the second phase. When the situation reached this point, Mayor Lee decided that the reform could not be implemented by force. So on May 26 he visited the bus drivers' union and the bus operators' association and told them of his decision to postpone trial service. "We will give up the plan of starting trial service in the northeastern district in July," he said. "Instead, after gathering the opinions of everyone concerned, the bus companies, bus drivers, and civic groups, we will begin trial service across Seoul one year later." As a result, the unions called off their strikes and changed their stance. They began to cooperate with the government, and together with bus companies began to take the lead in campaigning for revitalization of the Seoul public transportation system.

Consequently, some civic groups and sectors of society started to come round, responding positively to the planned reform. Seven civic groups, judging that the city government had been thwarted in its plans to do something that was in the best interests of the citizens, announced their position June 11, 2003, at the City Hall pressroom, saying, "Reform of the bus system is an urgent matter than can no longer be delayed." Refusing to allow the opposition of some bus operators to set back a policy designed for the public good, the civic groups offered to take the lead in gaining the consensus of the citizens and gathering public opinion. Thus the Bus Reform Citizens Committee was born. Inaugurated on August 26, 2003, the committee was composed of four members from civic groups, three from bus-related businesses, and five from the city council and related organizations, as well as eight experts and scholars. It was a truly independent committee bringing together all those most directly involved in the bus system reform: bus companies, bus unions, and civic groups. The committee discussed all problems that could be raised and provided great support for Seoul Metropolitan Government's plans to reform the bus system.

The wheels were set in motion for implementation of the reform on July 1, 2004. The most important task was to persuade the bus drivers. Toward this end, the city government sent letters to 16,000 bus drivers explaining the validity of the reform measures. From August 21 to September 24, 2003, it held 27 special briefings for the drivers. The mayor and vice-mayor attended these sessions where they addressed the drivers and promised to protect their rights. As the government tried to persuade them by promising better treatment through such means as establishing a superannuation



Signing ceremony for an agreement between Seoul Metropolitan Government and Seoul Bus Association

fund, increasing wages, and providing welfare facilities, the drivers began to come round and finally agreed to cooperate.

The next item on the agenda was to reach an agreement with the bus companies on the proposed quasi-public operation system. In mid-October 2003 the Seoul government's public transportation reform team and bus company representatives participated in a two-day workshop in Sokcho where both sides discussed the issue and exchanged opinions. The bus operators expressed their worries: "I've spent my whole life growing my company. What if the company goes bankrupt under the new operation system? Do you know how many people I have working for me?" Seoul city officials stood firm and answered: "The routes will be tendered at reasonable prices. And routes won't disappear. They'll be reorganized into a system of trunk and feeder lines, so there's no reason for you to go bankrupt." Afterwards the bus operators gradually began to let down their barriers.

Seoul Metropolitan Government and bus operators eventually came to an understanding. When the bus operators consented to collective management of fare revenues, the negotiation process began and finally, on February 4, 2004, the two sides signed an agreement on implementation of the bus system reform.

Through continued dialogue, differences were narrowed with the National Police Agency also, and meetings were held with the local residents to explain why reform was needed.

One of the major obstacles, however, was the difficulty in reaching an agreement with Gyeonggi-do province on overhauling the fare system. To implement an integrated fare system, all buses operating between Seoul and Gyeonggi-do had to run on the same fare system, but the two sides were split on the issue of where subsidies to make up for operating shortfall would come from. In the end, the new bus system was inaugurated on July 1, 2004, using the integrated fare system in Seoul alone. On the other hand, an agreement was easily reached with the city of Incheon, which had already implemented an integrated fare system before Seoul.

Dealing with Korea Railroad was also problematic. To implement the new fare system, raising the basic fare was unavoidable. Korea Railroad argued that doing so would reduce profits. But after continued persuasion, it finally agreed to the measure designed for the good of the citizens at the risk of losing money.

Though the process was painful and difficult, reform of the bus system began to show progress thanks to the cooperation of many parties: the Bus Reform Citizens Committee, which helped to raise consensus from a neutral stance; the bus drivers, who decided to have faith in the city government; Korea Railroad, which made the difficult decision to cooperate; and the National Police Agency and residents.

Finally, July 1 arrived, the day the public transportation reform went into effect.

But four hours before the start, while the citizens of Seoul were quietly sleeping, a grand operation involving government and private organizations was under way. Because of delayed agreements and a much too short preparation period, there was still much to be done. To minimize confusion, buses were run on the old routes until June 30 and in the four hours before July 1, the numbers for 8,000 buses on 400 routes, signs and operating programs had to be changed, and 700 transportation card system calculating machines and 2,500 terminals had to be replaced. In other words, four

hours was all the time available to change or replace 10,000 machines, terminals and signs. Consequently, there was great confusion in the early days after implementing the reform.

Reform of Seoul's public transportation system, centering on the bus system, was a full-scale operation. The buses were painted different colors, the fare payment system was changed and the city bus number system and routes were completely changed also. As such, it was impossible for passengers to switch overnight from a system they had become accustomed to over the past 40 years.

A month before the starting day, Seoul Metropolitan Government had begun an extensive public relations campaign through newspapers and community groups and distributed millions of bus route guides, but the effects were limited.

By nature, a bus system is operated on a daily basis and therefore changes in routes cannot be put to trial operation beforehand. Bus companies had received repeated instruction on operation of the new bus routes, but when the time came some of the drivers had trouble finding the new bus stops and some passengers waited at the old ones. In addition, the regular traffic lanes were more congested than anticipated, and contrary to original intentions, buses did not arrive at regular intervals.



Bus reform control room (left) and transport policy meeting (right)

Complaints poured in from passengers about transportation cards not working on the first day, confusion over new bus stops and routes, and the difficulty of recognizing new bus numbers. To make things worse, trunk line buses and feeder line buses as well as city circulating buses stopped in median bus lanes, creating a long line of buses that was deridingly called the “bus-train.”

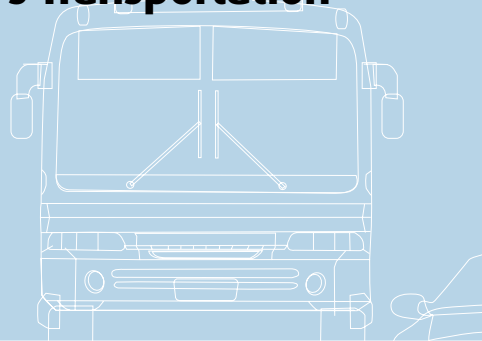
The people in charge spent the next month running around fixing the problems, staying up night after night and enduring harsh public criticism. Mayor Lee, supreme commander of operations, visited Gangnamdaero to check the situation and began to tackle the problems with his special ability to get things done. Seoul Metropolitan Government began its own inspections. The mayor visited Korea Smart Card Co. to find out what the problems were and had all city government employees go round to make sure that card terminals were working. He also initiated expanded daily transport policy meetings held at 10 a.m. and received reports on the issues for the day, thus dealing with civil complaints hands on. This kind of daily battle continued for almost two months before the system began to settle in.

Around this time the success of Seoul’s public transportation reform became known around the country and overseas as well. Many transport related officials visited Seoul, and the new system was acclaimed as a “high-tech integrated public transportation system” without precedent in the world.

There are several factors behind the success: first, Mayor Lee’s awareness of the transportation problem and his strong leadership, which enabled the project to go ahead despite opposition; second, the civil servants’ on-site know-how and devotion to their work, which enabled them to plan measures and implement them at the same time; third, the citizens’ consensus that reform of the public transportation system based on buses was the only way to solve Seoul’s traffic problems. Success was possible because the three parties worked together toward the same goal.

[Chapter 3]

Key Contents of Seoul's Transportation Reform



1. From Private Operation to Quasi-Public Operation System

When planning reform of the bus system, the first issue that Seoul Metropolitan Government considered was the introduction of a quasi-public operation system. In 2002 when the reform project got under way, bus operation was a sunset industry. Because of permanent licenses, rights to routes had become privatized making it difficult to adjust routes according to passenger demands, and there was high overlapping of service on the most profitable runs. Bus companies avoided operation in unprofitable areas and service on the most profitable routes deteriorated because of heated competition between operators. Naturally, people avoided the buses, resulting in chronic deficits for bus companies.

To solve the problem, the buses were divided by function into trunk line buses and feeder line buses, and the reform was based on the concept of quasi-public operation on the trunk lines as a way to increase public responsibility for the system. The methods chosen to make this work included a tender system for routes, and a revenue pool management system including subsidies for bus companies.

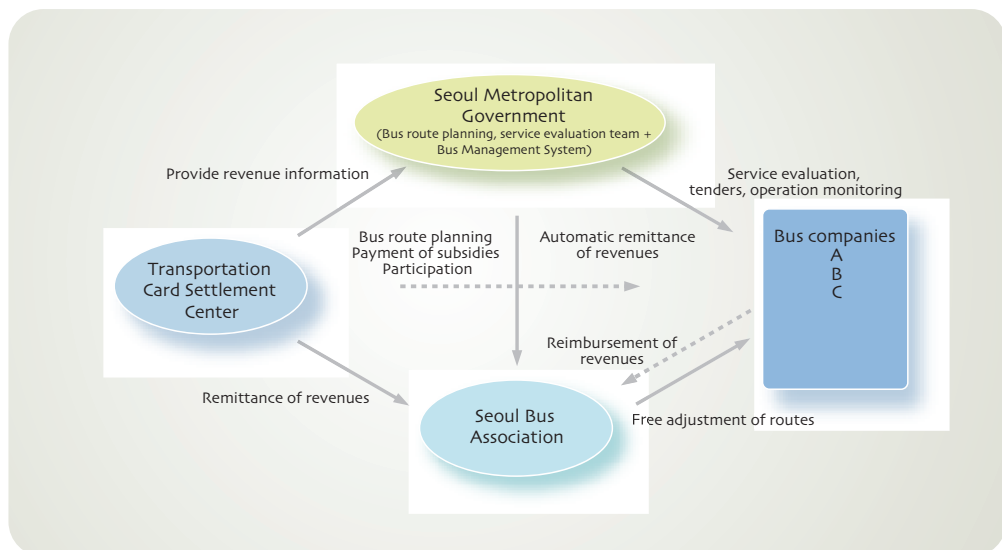
Under the revenue pool management system, all bus revenues are collected and handled at a single account by a designated organization, and bus operators are reimbursed according to the total distance of service per vehicle. Shortfalls are

subsidized by the city to make sure operators do not run deficits and continue to provide steady service.

The bus route tender system was a measure to increase the efficiency of city transport by putting bus routes to tender and sub-contracting operation to bus companies for a set period of time. Private bus companies operating trunk routes were chosen through tender to encourage efficient management of bus fleets and drivers and thereby reduce costs, while Seoul Metropolitan Government manages all routes in the city, making it possible to adjust routes according to passenger demand.

The bus route tender system works on division of the greater metropolitan area into four zones centering on the public bus depots, comprising 10 major axes and 19 routes, and selection of private companies to operate the routes in each zone through tender. The operators formed consortiums of 4 or 5 companies each. As a result, 38 companies formed 8 consortiums, and 2 tendered bids in each zone. The consortiums were evaluated on their operating costs, service, and operation plans, and the final four were selected to operate the tendered trunk lines for a set period of six years.

To improve bus service, the most important issue was providing better treatment for the drivers who operate the buses and are in direct contact with the passengers, and encouraging them to develop a service-oriented mindset. Therefore, the drivers' wages



Scheme of revenue pool management system

were raised to match the average level of others working in the transport industry with promised yearly increases, and welfare measures were strengthened by establishing a superannuation fund, providing accident and effects coverage, and reducing working hours. In addition, service training sessions were held for 18,000 bus drivers.

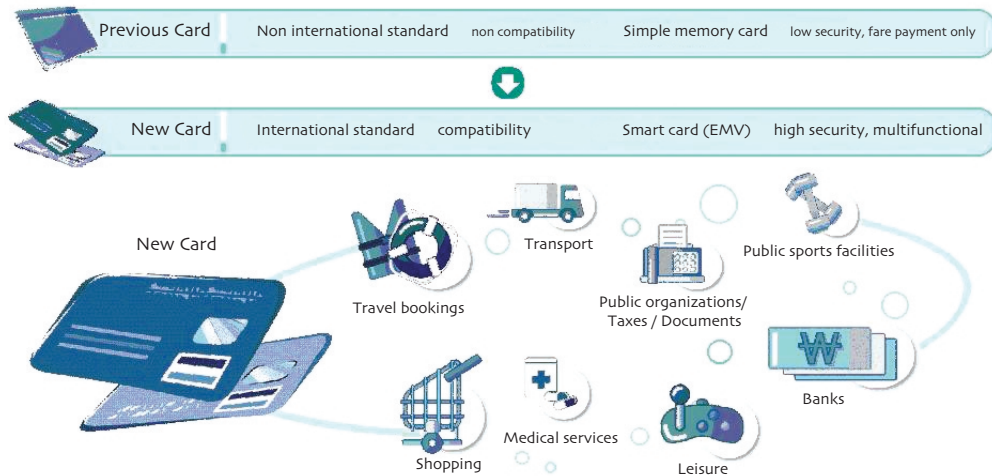
After a tough negotiation process, Seoul Metropolitan Government and bus companies signed an agreement in February 2004. The companies selected through a tender to run the trunk lines were granted a one-time six-year operating license, thus preventing privatization of bus routes as happened through the old system of granting permanent operating licenses, and enabling the city government to adjust routes as needed. Bus routes were also extended into areas that were under-serviced by public transport. Introduction of the revenue pool management system and a new transportation card has relieved bus companies from the problem of chronic deficits. Service has improved because overheated competition between operators has disappeared, revenues are distributed according to distance of service, and bus drivers' welfare benefits have been increased. Thus the quasi-public operation system has laid the foundation for success of the public transportation reform, and has also been or will soon be introduced in other metropolitan cities such as Incheon, Daejeon and Daegu.

2. New Transportation Card System Using Information Technology

When the quasi-public operation system was introduced, Seoul also established an unprecedented new transportation card system.

Use of the transportation card had grown steadily since it was first introduced in 1996. The card was used to pay fares on city buses, local buses, and the subway, but as each mode of transport operated its own fare system there was no compatibility between them. The fares being tallied separately, there was no transparency in the bus companies' revenues, which meant the government was often paying unnecessarily high subsidies.

The decision to introduce an integrated fare system and new transportation card was made in the process of preparing transport reforms. Different to the existing system,



Features of the new transportation card

the new system uses a card embedded with an IC micro-chip that has been awarded ISO14443 recognition, and enables implementation of various policies such as distance-based fares and free transfers. Passengers can use all bus and rail services with the one card.

A private business was selected to operate the integrated card system. It produced a new prepaid smart card called “T-money.”

The payment principle of T-money is as follows. As soon as the passenger places the T-money smart card on the terminal installed in buses, the terminal exchanges information on location and transfers with a satellite before payment is deducted from the card. When the bus comes within a certain distance of the bus depot, fare transaction information is transmitted to a wireless access point (AP) and fare tally computers. Information on the number of passengers carried stored in terminals on buses and at subway stations is electronically transmitted to the central transportation card payment system. From 2 a.m. the following day reimbursements are sent to each separate bus company and settlement is finished by 7 a.m. On a daily basis the system handles around 22 million units of passenger data from buses, subways and national railways. It is an amazing system made possible by Korea’s strong capabilities in

information technology.

Compared to the previous transportation card, first, T-money adopts international standards, which means its use is not limited to a set region. Second, because the previous card had limited memory, when the number of users surpassed the 5 million mark it was impossible to process the information; but T-money has a very large memory, so passengers have no problems using the card. Third, the previous card only had a simple memory function which made it weak in terms of security, and its use was limited to payment of fares. In contrast, T-money is a multifunctional card made with new technology, so it is secure and can be used to make payments at other places such as amusement parks or concert halls.

For passengers the new card offers much greater convenience. They can store value (up to several hundred thousand won) or receive refunds at convenience stores, museums, cinemas, parking stations, and automatic terminals. The card can be used on all forms of public transport and it also offers mileage benefits. On the part of the Seoul government, analysis of the data from the varied forms of transportation facilitates planning of effective traffic and transportation policies.

Currently the T-money card system has been implemented in six cities around the country including Jeju, Pohang, Tongyeong, Geoje and Incheon, and there are plans to apply the system to taxis also. The card comes in various forms, the basic card, a youth card, and a children's card, and can be used not only to pay public transport fares but also make small payments at 3,600 partner businesses—2,200 convenience stores and 1,400 web sites. To provide even greater convenience for users, the number of partner businesses will be increased.

3. Scientific Operation Management with TOPIS

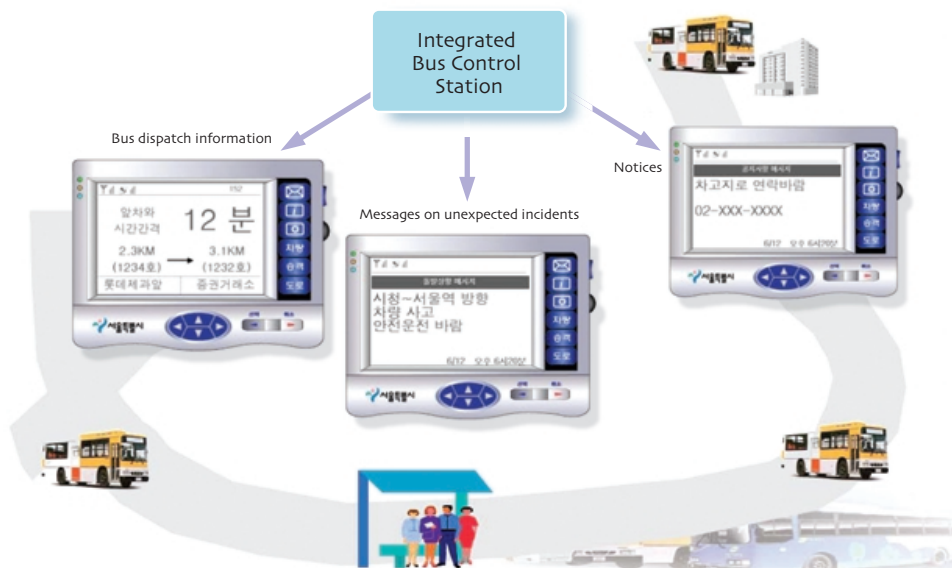
Seoul Transport Operation and Information Service (TOPIS) is a traffic and transport information management center that supervises, operates and manages the overall transportation situation in Seoul on the basis of information collected from related organizations such as the Bus Management System, the transportation card system, automatic violation enforcement system, Seoul Traffic Broadcasting System, the



Seoul TOPIS Control Room

National Police Agency and Korea Highway Corporation.

Seoul TOPIS, collecting information from a global positioning system (GPS), wireless communication network, and the terminals installed in buses, is a “one-stop service



Scheme of Bus Management System



Information sharing scheme of Seoul TOPIS

center” for integrated transportation administration. It coordinates traffic volume, bus routes and bottleneck areas, and also provides real-time information to passengers, drivers, bus companies and other related organizations. TOPIS lets passengers waiting at bus stops know when to expect the next bus, based on real-time positioning of buses and traffic flow on the roads, and makes automatic announcements about the next stop for passengers on board.

In addition, based on real-time information on how buses are running, TOPIS helps maximize efficiency of bus dispatch from the depots so that buses run to schedule as much as possible.

Service on buses is getting better as drivers caught passing through stops, braking suddenly, accelerating suddenly, overtaking or driving recklessly are given a warning as a way to ensure passenger safety. Bus companies’ punctuality of operation, safe driving and service are taken as evaluation criteria for incentives when sharing out revenues.

Seoul TOPIS also evaluates how well bus companies stick to their schedules, and tallies running time on each section, average stopping time at bus stops, and bus

density and traffic congestion in each section. This information is sent to Seoul Metropolitan Government, which uses it to formulate bus-related policies.

This scientific integrated transportation management system is boosting Seoul's fame as an information technology power. For this reason, the first place foreign officials visit is Seoul TOPIS and when they get there they are amazed at what they see. As of the end of 2005, a total of 2,797 people have visited TOPIS. The system is likely to be exported and regional cities will be given support so that they can also upgrade their public transport.

4. Bus Priority System

(1) Expansion of Median Bus Lanes

In 2002 there were 64 sets of bus lanes in Seoul, with a total length of 219.1km. Most of them were curbside lanes and median lanes accounted for only 4.5km of total length. However, the curbside bus lanes were slow because of illegally parked cars and accident prone because of frequent clashes with cars coming in and out of roads behind.

In planning the public transportation reform, Seoul Metropolitan Government believed that it was urgent to expand median bus lanes in order to speed up traffic flow on the roads. The logic was that if buses ran faster and came on time, more people would take the bus instead of driving their own cars.

So in May 2004 a 1.1km median bus lane was opened on Samilro. Three more lines were opened July 1 the same year in the first phase of the project: Dobong-Miuro (15.8km), Susaek-Seongsanro (9.9km), and Gangnamdaero (10.4km). A year later in July 2005 the Manguro (4.8km) and



Demolition of Samilro elevated road



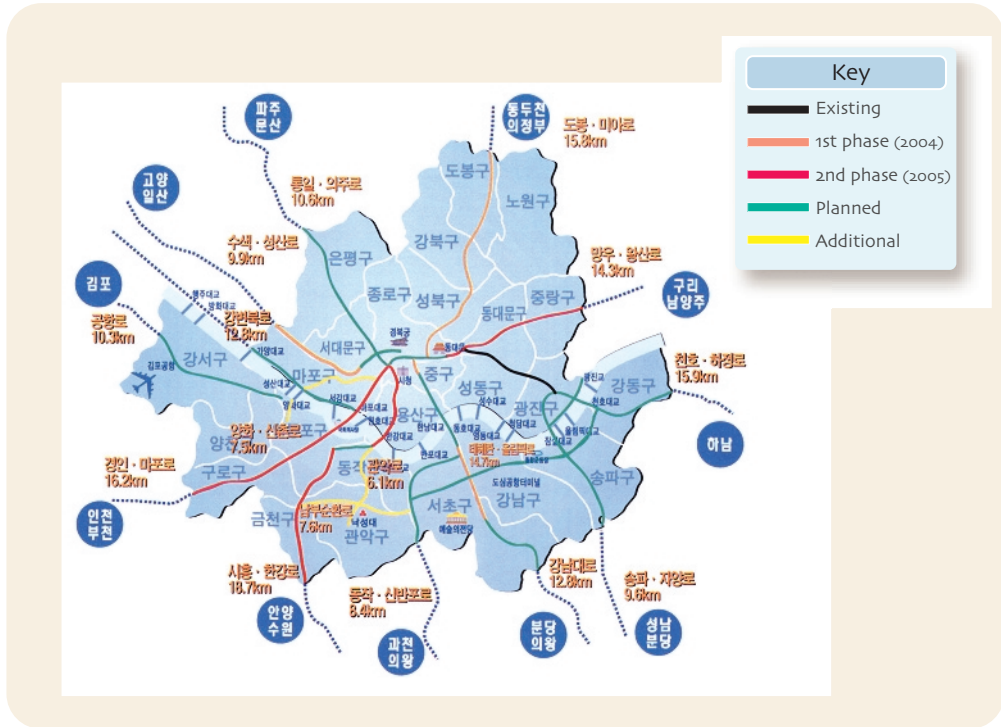
Median bus lane on Gangnamdaero

Gyeonginro lanes were opened, and in December the same year the Siheung-Daebangro lane (9.8km) was opened.

The median bus lanes have ensured fast and on time arrival. In the evening rush hour, bus speed in the Dobong-Miari lane has doubled, and has become an average of 1.5 times faster in the Susaek-Seongsanro and Gangnamdaero lanes as well. Consequently, the number of people using public transport is steadily rising and the number of cars decreasing, which means traffic flow is better on most roads in general.

Currently the average aberration in bus arrival times is converged to two minutes. Thanks to this punctuality, passengers can take the bus and still get to their appointments on time. The median bus lanes have made the ride smoother and offer passengers better views of the cityscape, making the journey much more pleasant.

The Seoul government plans to open median bus lanes on the remaining 10 of 16 trunk and feeder lines (191.km) by 2008. Seoul's bus reform will continue to the day that buses run without interruption, connecting the city center and the greater



Expansion of median bus lanes

metropolitan area.

(2) Building Transportation Centers to Promote Transit Use

Before the public transportation reform, traffic in the city was growing more and more congested because of buses and cars entering the city from outlying areas. Seoul Metropolitan Government believed that if people traveling into the city center from outer areas switched to other buses and trains at a certain place then the traffic situation in the city would improve considerably. In addition, if the distances from bus stops to subway stations and vice versa were made shorter then more people would be encouraged to use public transport.

After studying and analyzing the traffic situation in Seoul, the city government selected 22 locations for construction of transportation centers—3 in the city center, 8 in sub-centers, 7 in outlying areas, and 4 in the wider area.



Planned construction of transportation centers

Designated Locations for Transportation Centers

City center (3): Seoul Station, Dongdaemun Stadium, in front of Sejong Center for the Performing Arts

Sub-centers (8): Cheongnyangni, Yeouido, Dongsan Station, Jamsil Station, Guro Digital Complex Station, Express Bus Terminal, Sindorim, Sadang

Outlying areas (7): Dobongsan, Gupabal, Yangjae, Godeok, Susaek, Bokjeong Station

Wider area (4): Gwangmun Junction, Gyomun Junction, Siheung Junction, Seoksu Interchange

The transportation centers at Seoul Station and Bokjeong Station are up and running, but in future the Seoul Station center will be further improved in connection with reform of the traffic system around the station area.

The Cheongnyangni transportation center was opened July 3, 2005, at the same time as the Manguro median bus lane, and on July 10 the Yeouido transportation center was opened at the same time as the Gyeongin median bus lane. Then on December 18 the same year the transportation center at Guro Digital Complex Station was opened along with the Gyeongin median bus lane.



Cheongnyangni Transportation Center



Yeouido Transportation Center

Though each transportation center functions a little differently, since the centers have opened passenger convenience has been increased, encouraging greater use of the public transportation system.

(3) Red Zones

Red zones are sections of road covered in red rather than black asphalt to distinguish curbside bus stops. They are designed to facilitate entry to bus stops and to prevent cars and taxis from stopping or parking near them. Signage is painted on that part of the road comprising a red zone to ensure safe approach and exit from bus stops, and fences have been installed curbside so that passengers can board and alight safely.

The first red zone installed on a trial basis near Hongik University Station in December 2004 was well received and the project got under way properly in 2005. That year, the goal was to create 428 red zones on 39 routes starting with the Jongno section in April. As of 2005, 440 red zones have been created on 41 routes.

The red zones have increased bus speeds and lowered the rate of accidents, thereby improving driving practices in the city.



Red zone in curbside bus lane

(4) Automatic Violation Enforcement System

To regulate traffic violations inside dedicated bus lanes, Seoul TOPIS has established a fully automatic violation enforcement system, the first in the world that automatically detects illegally parked cars and is equipped with an automatic vehicle recognition system. This multifunctional system catches and monitors parking and bus lane violations, and in the future will be able to detect traffic volume and traffic speeds.

Automatic traffic control camera systems began operation in July 2004, and as of October 2005 there are 36 units in bus-only lanes and 84 for catching illegally parked cars. The camera units include a moving image detection device that analyzes and photographs the roadside traffic situation, enabling real-time analysis at Seoul Metropolitan Government's traffic control room.

If a car stops or parks illegally, a warning announcement is made, and if the car remains still after 7 minutes the system photographs the number plate of the car and



Real-time traffic control camera



Real-time monitoring at Seoul TOPIS

adds the information to its database. The database of violating cars is sent to each district office, which sends out the fine notices. In areas where parking and stopping violations are frequent, a police officer in charge is immediately contacted to deal with the matter and ensure that traffic continues to move smoothly.

Bus speed in areas where the automatic violation enforcement system has been installed has risen by 15-20 percent compared to other areas. Seoul Metropolitan Government plans to continue installment of such systems to deal with the problem of illegal parking and stopping on the trunk routes.

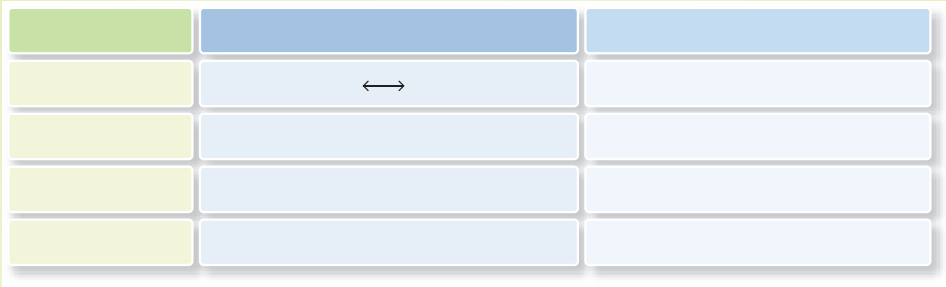
5. Redesign of Bus Routes and Expansion of Basic Facilities for Passenger Convenience

(1) Reorganization of Bus Routes into Trunk and Feeder Lines

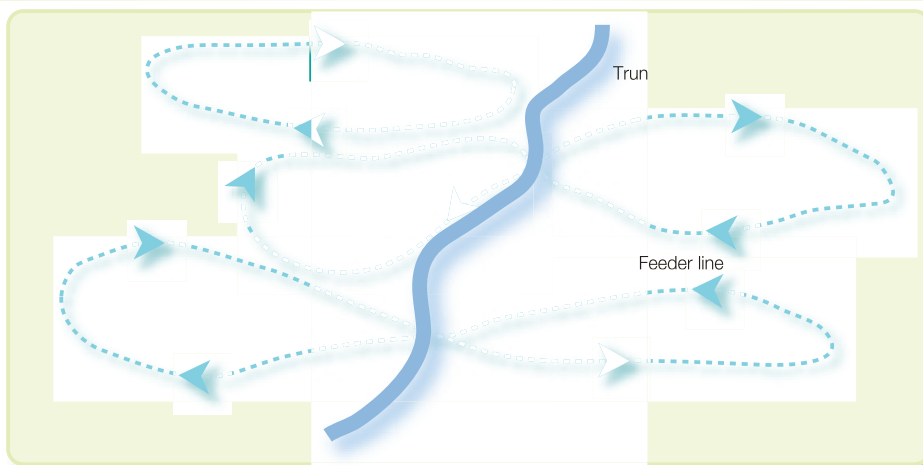
Before the reform, the number of bus passengers had fallen greatly because routes were long and circuitous and there was heavy overlapping of buses on the most profitable routes. To solve these problems Seoul introduced the quasi-public operation system and radically redesigned the bus routes.

The key to redesigning the routes was to divide them into a system of trunk lines and feeder lines. The trunk lines directly connect suburban areas with the city center, the city center with city sub-centers, and city sub-centers with other sub-centers. On

■ Trunk Line, Feeder Line System







■ Functional division into trunk, feeder lines



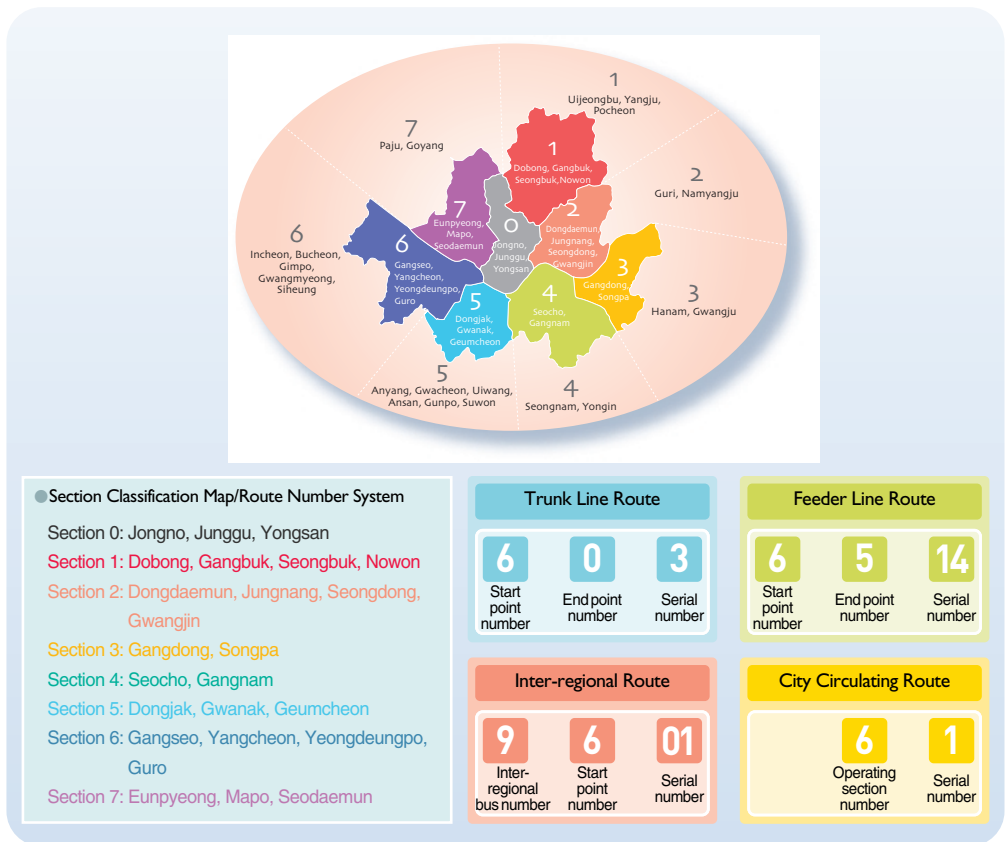
the feeder lines buses circulate within a local traffic district, creating a system of transfer connections between trunk lines and subway stations.

Trunk line buses and inter-regional buses operate on the trunk lines, and feeder line buses and city circulating buses operate on the feeder lines. The trunk line buses travel direct between the city center and city sub-centers, and between city sub-centers, while inter-regional buses connect suburban areas with the city center. Feeder line buses connect trunk lines with subway stations, making it easy for people in outlying areas to use both bus and rail. City circulating buses travel short routes between the city center and sub-centers, handling distances that might otherwise be covered on foot or by taxi.

When the routes were reorganized, the bus colors and number system were changed also. The buses are color-coded according to the lines they travel, and are numbered in such a way that passengers can easily recognize where a bus has departed from and

			
Red Bus	Blue Bus	Green Bus	Yellow Bus
Fast connection between metropolitan area and city sub-centers, absorbing vehicle traffic into and out of the city	Fast and on time connection between suburban areas, city center and sub-centers	Transfer connection between trunk lines and the subway, handling local demand and increasing accessibility	Handles demand in city center, sub-centers and shopping areas, flexible according to demand

Color-coded buses according to function



Section-based number system

where it is going to.

When the reform was first implemented, passengers were highly dissatisfied as they were not used to the new route system or the number system. They complained that they had to change buses several times on routes they had previously traveled direct,

and that the new number system was too complex. But now the new route network provides seamless public transport connections anywhere in Seoul and sufficient transport in areas where it was limited before. Passengers are also happy with the number system as they can tell just from the number whether a bus goes to their neighborhood or not.

Despite the confusion of the early days, the Seoul bus route system has become well established. The system allows for quick changes whenever complaints are received about the routes, and is thereby playing a role in upgrading the whole bus service.

(5) Bus Shelters

When median bus lanes were opened, bus shelters were installed at stops in the middle of the road to protect waiting passengers from rain and snow and to provide a place to affix route maps. To save money on installing the shelters, advertising companies seeking outdoor ad space were invited to take part in an international tender for their construction. Through the tender, IP Deco, a company that builds taxi shelters, was selected to build and operate the new bus shelters. It will be building 372 shelters for median bus lanes.

The revenue from advertising is used for management and maintenance of the shelters, so passengers can take advantage of world-class bus shelters without paying for them out of their own pockets. The shelters are a good example of how one good



Median bus lane shelter (Nonhyeon Station)

idea can cut costs and increase passenger convenience.

(6) Introducing Environment-Friendly Buses

While implementing the reform a great deal of thought was put into the upgrading of buses, to make buses “more comfortable than cars.” Low-floor buses and articulated buses were introduced to improve passenger convenience, and environment friendly CNG buses to cut fuel costs and reduce air pollution. Low-floor buses have no steps, which makes it easier for the elderly and disabled to get on and off. Articulated buses are the length of two buses joined together, which means they can carry twice the number of passengers, thus increasing operating efficiency, cutting costs and ultimately increasing bus companies' profitability.



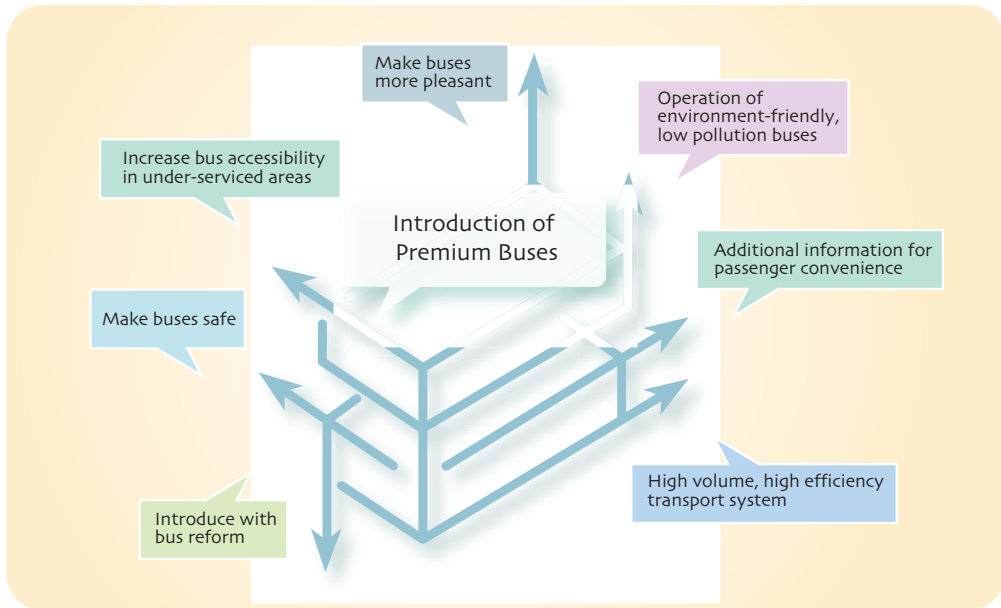
Low-floor bus for the convenience of disabled and elderly passengers



Operation efficient articulated bus

Seoul Metropolitan Government has made plans for the introduction of premium class buses on an annual basis, and as of May 2006, there are 2,849 new buses in service—20 articulated buses, 141 low-floor buses, and 2,688 CNG buses. The remaining existing buses have been fitted with diesel particulate filter traps in an effort to reduce air pollution. In the future all Seoul buses will eventually be replaced with premium buses, and this project is expected to contribute to the development of bus manufacturing technology and exports.

Before the public transportation reform, articulated buses were not made in Korea and had to be imported through international tender. But when Seoul's plans for upgrading buses became fixed, Hyundai Motor Co. developed the technology and has been producing articulated buses since March 2005. In addition, with Seoul's steady introduction of CNG buses Hyundai Motor Co. and GM Daewoo have developed the



Introduction of premium buses

necessary technology and now produce and export large numbers of CNG buses to Southeast Asia and other countries.

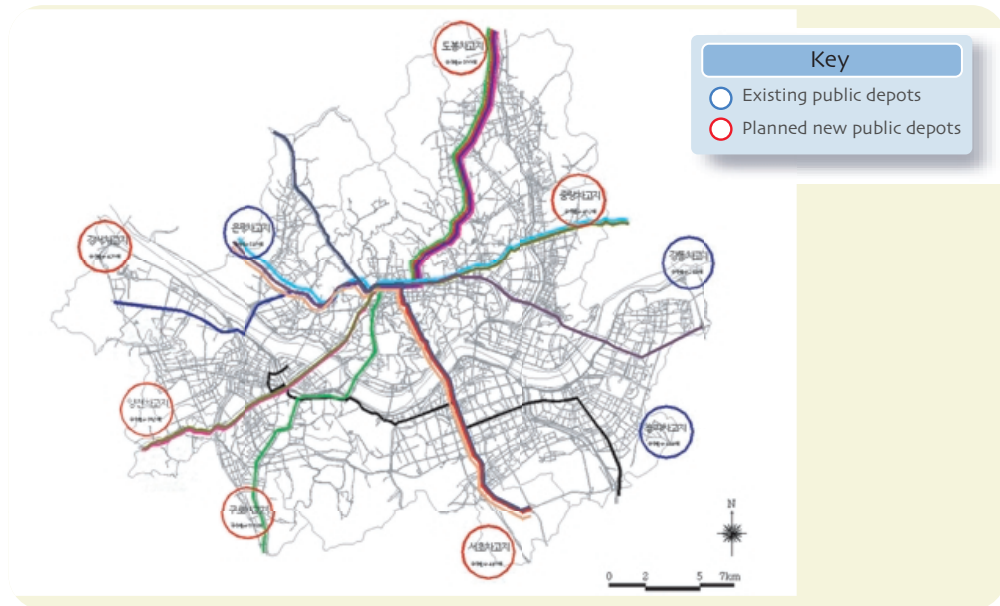
(7) Public Bus Depots for Smooth Bus Operation

Bus depots are basic facilities necessary for bus operation. Drivers need a place to rest and change shifts, and buses need a place to be washed and repaired. Also, CNG filling stations and other facilities need to be installed for articulated and CNG buses.

This being the case, public bus depots are being established. New depots with advanced facilities are being built and old depots renovated. Bus companies will no longer be required to have their own separate depots as the Seoul government plans to divide the city into north, south, east and west sections and remodel four existing depots and build new depots so that there are public



Songpa Public Bus Depot, which has been subcontracted to a private operator



Public bus depots in nine sections

depots in nine sections altogether.

Currently operation of public depots in the Eunpyeong, Gangdong and Songpa sections has been sub-contracted to private companies, and a new depot was completed in the Yangpyeong section on December 31, 2005. Work is proceeding on the remaining five depots.










6. Improved Integrated Fare System

Before the reform, the bus and subway fare systems were operated separately, which meant a heavier financial burden for passengers. So, to correct the problem of inequality among districts, Seoul Metropolitan Government implemented an integrated public transport fare system, which charges no or drastically discounted additional fares when passengers transfer from bus to bus, bus to subway, and vice versa. Under the new system, which allows for unlimited free transfers within a certain distance (10km), residents in districts less well-served by public transport have been able to sharply reduce their transportation expenses.

Previously, those living in districts on the outskirts of Seoul where the subway system is not in service were greatly disadvantaged, as they were required to pay the basic rate every time they changed from bus to bus and from bus to subway. The recent reform, however, granted the substantial benefit of fare discounts to suburban residents by integrating the bus and subway fare systems, thereby helping to achieve greater social equality. The discount benefit was especially welcomed by students and young people, who travel frequently and over a wide area.

The integrated fare system is a distance-based system, under which the flat rate is charged as before on a single bus trip, but when transferring to another bus the basic rate is charged once within 10km of travel and an extra 100 won for every additional 5km. When using the subway, transfers for up to 12km are free of charge with an extra 100 won charged for every additional 6km.

When transferring between different modes of transport, that is, from subway to bus or vice versa, only the basic rate is charged for up to 10km and transfers are free. When the travel distance exceeds 10km, an extra 100 won is charged for every additional 5km. There is also a regulation stipulating that no matter how far one travels, the fares should not go over the sum of each mode of transport. For instance, a trip of 60km taking two buses used to cost 1,800 won (twice basic rate of 800 won plus additional unit fares of 1,000 won). But under the new regulation the same trip costs only 1,600 won, the sum of the basic rate for two bus rides.

Method of fare calculation  bus  subway	Before reform	After reform
  5km (by bus) + 4km (by bus)	800 800 = 1,600 won	800 won (basic rate within 10km)
  5km (by bus) + 7km (by subway)	800 800 = 1,600 won	Basic rate + 100 won (additional fares for 10km to 15km) = 900 won
   6km (by bus) + 8km (by subway) + 4km (by bus)	800 800 800 = 2,400 won	Basic rate + 200 won (additional fares for 10km to 20km) = 1,000 won

* (800 won=approx. 0.84 USD, as of June 9, 2006)

Method of fare calculation

The distance-based fare system, however, disadvantaged long-distance commuters. To solve the problem, the Seoul government introduced the “season subway ticket,” which allows for 60 subway trips over 30 days at the low cost of 35,200 won a month. The ticket price differs slightly according to travel distance for passengers commuting from Seoul to a nearby metropolitan area.

The integrated fare system is a landmark system that minimizes the financial burden of passengers by unifying the fare systems of all modes of public transport. Currently, the system is in force in Seoul, Gyeonggi-do, Cheonan, Onyang and, most lately, Deokso. Even now, the Seoul government is sparing no effort in developing scenarios for constant reform of the public transport fare system to benefit as many citizens as possible.

7. People-Oriented Traffic Environment

(1) Seoul Plaza Reborn as Rest and Cultural Space

The plaza in front of the City Hall building, where traffic is very heavy and complex due to vehicles converging from all directions, was formerly the scene of frequent traffic accidents. In 2001, a total of 70 traffic accidents occurred with 67 people killed or wounded, making it the second most accident prone area in Seoul. To shed the stigma and transform the place into a people-friendly park, the Seoul city government demolished the big fountain that had stood in front of City Hall for about 40 years, renovated the area, and opened Seoul Plaza on May 1, 2004.



Previous view of the plaza in front of City Hall



Present view of Seoul Plaza, reborn as a rest and cultural space for Seoul citizens



View of Namdaemun Gate before the creation of pedestrian-only roads



View of Namdaemun Gate after the establishment of the urban parking belt

Since the plaza's transformation into a park, many people have been going there to rest and enjoy a variety of cultural performances and events. At first, some were concerned that the creation of Seoul Plaza might further aggravate traffic congestion in the area. But on the contrary, the project has produced such amazing outcomes as smoother traffic flow, improved pedestrian environment and decreased traffic accidents.

(2) Namdaemun Area Transformed into Downtown Park

Designated as National Treasure No. 1, Namdaemun (also called Sungnyemun) is the biggest ancient gate in Korea and an important monument in the history of Korean architecture. But the profound history of Namdaemun has been rather overlooked, because public access to the gate was banned for the sake of smooth traffic flow.

Thus, Seoul Metropolitan Government drew up a plan to enable people to appreciate the historic site close-up by improving the pedestrian environment, that is, by creating pedestrian passages that do not hamper traffic flow.

Following the renovation of Seoul Plaza, Seoul embarked on a project to create an urban parking belt leading from Seoul Plaza to Sungnyemun Plaza and the Bank of Korea (BOK) in central Seoul in an effort to improve the pedestrian environment around Namdaemun. Now in the final stages, construction work has been underway since March 18, 2006, to create a pedestrian crossing and a fountain park in front of the BOK building.

The intersection in front of BOK, which is to be turned into a space for pedestrians,



Gwanghwamun Sidewalk



Gwanghwamun Junction after creating the sidewalk

holds significant cultural and symbolic meaning as it is surrounded by buildings representing the pre-modern and modern history of Korea, including the central bank, Korea First Bank (now Standard Chartered Bank), and the main store of Shinsegae Department Store.

When it is completed, the pedestrian crossing in front of BOK is also expected to revitalize Namdaemun Market, the representative Korean traditional market, as the focal point of a wide pedestrian network connecting Myeong-dong and Namdaemun.

(3) Improved Pedestrian Environment in Korea's Major Administrative District

Gwanghwamun is where the major government offices, known as “yukjo,” were located during the Joseon Dynasty. Even today, the area passes for Korea's No. 1 administrative district as many government offices, including Cheongwadae (the Blue House), are located there. For this reason, the area was always congested with heavy traffic, and pedestrians were asked to use underground passages for fear that they might obstruct traffic.

However, in May 2005, Seoul managed the great task of shifting the focus of the area from automobiles to pedestrians by completing a pedestrian-centered beltway starting from Gwanghwamun, going through Seoul Plaza and Namdaemun, and leading to Seoul Station. Traffic signals are adjusted so that they do not disturb traffic flow, so the area, which formerly suffered from serious traffic jams, has smooth traffic movement and a better pedestrian environment. Thanks to the project, Gwanghwamun intersection has been returned to the public 38 years after the Gwanghwamun



Before the creation of Green Parking

After the creation of Green Parking

underpass opened in 1967.

The Gwanghwamun Pedestrian Belt, a new space for walking and resting, has brought back the right of way for pedestrians and also greatly improved the image and landscape of the urban center.

(4) Green Parking Project to Secure Parking Space and Improve Residential Environment

The lack of parking space in residential areas is one of the chronic problems of Seoul. City officials once considered using facilities such as school playgrounds as common parking lots but failed to implement the plan due to the opposition of residents. Then the government enforced the resident-priority parking system, but this also had shortcomings such as the difficulty in securing parking lots and deterioration of the residential environment. Against this background, the Green Parking project was proposed as an alternative measure.

The Green Parking project is a new policy that encourages local residents to design and manage their own neighborhoods by themselves as a way to solve the chronic parking problem. It is based on voluntary participation and cooperation and some financial support from Seoul Metropolitan Government.

One major sub-area of the Green Parking project is the “fence-demolishing project,” which encourages residents to secure parking spaces by taking on the entire cost of breaking down fences and making parking spaces in front of houses where this is possible. Compared to foreign countries, Korean fences are high and entirely cut the

house off from the outside for security purposes. Sometimes they are rather like castle walls. But through the fence-demolishing campaign, the city is seeing positive effects such as improved residential environment and more parking spaces.

In areas where parking space is severely lacking, the city government is opening public parking lots and school playgrounds to local residents' for nighttime parking. In addition, within the boundaries of not disturbing the neighborhood landscape, the government is establishing small-scale ground-level public parking lots.

Thanks to the project, a large number of parking spaces have been secured at low cost. Moreover, residents have been able to improve their neighborhoods by pulling down fences and creating gardens, thereby restoring a sense of community. The Green Parking project is thus expected to produce more positive effects in the future.

8. Bus Reform Citizens Committee

The most difficult part of the city-led project to reform the public transportation system was the process of drawing agreement among all parties concerned, including district offices, local residents, bus companies, related public agencies and municipal councils. The city government had already suffered a setback in its plan to conduct a pilot bus reform project in northeastern Seoul on July 1, 2003, due to the strong opposition of the bus industry and the resistance of local residents.

It was against this background that the Bus Reform Citizens Committee came into being. After the pilot project in northeastern Seoul was frustrated, seven leading civic groups gathered at the pressroom of City Hall and issued a statement on bus reform. The seven groups were the Citizens Coalition for Economic Justice, Center of Space Culture, Networks for Greentransport, Green Consumer Network, Urban Action Network, Seoul Young Men's Christian Association and the Citizens' Movement for Environmental Justice. "Reforming the bus system is a matter of urgency that can't be delayed any longer. Therefore, we oppose postponement of bus reform by a setback in government policy," they argued in the statement, proposing the organization of a body tentatively called the "Bus Reform Citizens Committee." The city government willingly accepted the proposal and inaugurated the Bus Reform Citizens Committee

consisting of civic groups, traffic experts and others concerned.

Praised as a case of “new governance” that presents a new paradigm for administration, the Bus Reform Citizens Committee has made many distinguished achievements such as drawing agreement among the many parties concerned and producing reform proposals focusing on the convenience of citizens since its inauguration on August 26, 2003, until the implementation of the transportation reform in 2004.

Even after the transportation reform was implemented, the committee has continued to operate. Convening a couple of times a month, the committee has discussed measures to minimize confusion in the early stage of reform and stabilize the new system. Up to now, about 40 meetings have been held to come up with new scenarios for public transportation reform.

The committee also played a decisive role in the process of Seoul’s consultations with Incheon Metropolitan City and Gyeonggi-do on expansion of the subway season ticket and the integrated public transportation fare system. By encouraging the participation of officials from Gyeonggi-do, Incheon and Korea Railroad in consultative meetings with Seoul Metropolitan Government, the committee induced a final agreement, and the integrated public transportation fare system between Seoul and Incheon was put in force in October 2005.

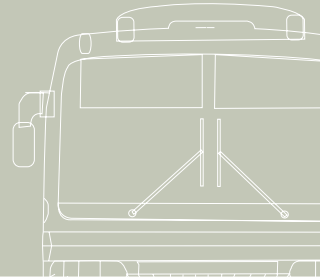
In July 2005, the committee organized and operated a temporary subcommittee for the calculation of and consultation on new standard cost prices of public transport, and coordinated opinions between the Seoul government and bus companies.

Besides, the committee has offered considerable assistance in smooth operation of the bus reform by reviewing and discussing a variety of issues from the citizens’ perspective, including the expansion of median bus lanes, introduction of articulated buses, offering of information on city-bus operation and designation of new identification numbers for city-bus stops.

An administrative experiment, the Bus Reform Citizens Committee is now taking firm root as the new controlling body of Seoul’s public transportation reform, and is regarded as an exemplary case of new governance. The committee will continue working until the day Seoul is reborn as a city with a world-class public transportation system.

[Chapter 4]

World-Recognized Seoul Public Transportation Reform



1. Seoul Public Transportation Reform Wins International Awards

As the excellence of Seoul's public transportation reform became known worldwide, the city government has received awards from a variety of international conferences and organizations.

Seoul first received the Metropolis Award for outstanding urban project in connection with its public transportation reform at the eighth World Congress of Metropolis, held in Berlin on May 14, 2005. The World Congress of Metropolis was founded in Montreal, Canada, on April 18, 1985, for the purpose of exploring issues and concerns common to all big cities, and promoting urban development through international cooperation and exchanges. Currently, the organization consists of 84 cities as regular members, 33 institutions, groups and individuals as associate members, and 9 honorary members.

The Metropolis Award was first presented at the seventh World Congress of Metropolis in Seoul in 2002. The prize is awarded to member cities which have contributed to improving the quality of life through exemplary projects relating to environment, education, health, housing, public transport and job creation. Seoul's winning of the Metropolis Award indicates that the whole world, including Asia, has recognized the city's public transportation reform as a successful administrative project.

In July 2005, Seoul also had the honor of receiving a certificate of recognition for the



UITP certificate of recognition for outstanding urban project



Metropolis Award

city's success in developing the new public transportation system from the International Association of Public Transport (UITP) at the International Forum on Public Transportation Reform held in Seoul. The UITP is a global network of public transport professionals which works to enhance mobility for people all over the world by exchanging information on public transport through diverse programs such as a world congress, exhibitions, conferences and workshops. Founded in 1885, the UITP is one of the world's two biggest transport associations along with the American Public Transport Association (APTA), and represents about 2,500 urban, local, regional and national mobility actors from 80 countries, covering all modes of public transport including bus, subway, light rail and waterborne transport.

Presenting the certificate of recognition for outstanding urban project, the UITP Peer Review Team unanimously agreed that Seoul's public transportation reform project has been a success and the outcomes will be a very important foundation for the development of a sustainable urban transportation system. The award from the prestigious international organization also demonstrates the superiority of Seoul's new public transportation system.

On August 31, 2005, Abe Seiji, executive director of international affairs at the Association for the Research of Transportation Problems and Human Rights in Japan, visited the Transportation Bureau at Seoul Metropolitan Government and to grant the Special Award for Social Contribution. The Association for the Research of Transportation Problems and Human Rights in Japan was established in 1986 with some 350 members including transportation scholars, lawyers, civic activists and

laborers. Upon its founding, the association declared the Charter for Transportation Rights, specifying that “every citizen has the right to move freely and safely without any obstacles.”

The Association highly evaluated the fact that Seoul’s transportation reform has been carried out to improve citizens’ accessibility to public transport and in a very environment-friendly way. Winning the award promoted worldwide the fact that Seoul’s environment-friendly transportation reform has become a model case even for Japan, which boasts an advanced public transportation system.

Then on November 15, 2005, Seoul won the 2005 World Technology Environment Award at the World Technology Network’s (WTN) awards ceremony held in San Francisco. Founded in 1997, the WTN is a think tank in the field of science and technology consisting of some 1,000 scientists and entrepreneurs from 60 countries. The World Technology Awards are presented each year to individuals and groups who show the most outstanding and innovative performance in 20 sectors such as science, art and the environment.

Seoul won the award in the field of the environment against six other candidate groups which had been carefully selected through a ballot by WTN judges. The prize was the result of worldwide recognition of the innovativeness and excellence of Seoul’s urban development projects such as the restoration of Cheonggyecheon Stream, public transportation reform and the creation of Digital Media City. The awards ceremony took place at San Francisco City Hall and the presentation was followed by a video



2005 WTN award ceremony (video speech by Seoul Mayor)



2006 IDTP STA Award

congratulatory message by Seoul Mayor Lee Myung-bak.

Most recently, Seoul participated in the 2006 Sustainable Transportation Award ceremony hosted by the Institute for Transportation and Development Policy (ITDP) in Washington D.C. on January 22, 2006, and had the honor of being selected as the winner with the strong support of some 150 participants.

The ITDP was founded in 1985 to counteract the promotion of environment-damaging, high-cost and low-efficiency transportation systems in developing countries through environmentally sustainable and equitable transportation policies and projects worldwide. The Sustainable Transportation Award is given annually to recognize a city that best exemplifies practices that reduce fuel use, emissions, and traffic accidents, improve mobility for the poor, and enhance the quality of space for pedestrians and bicyclists. Winning the award was a very proud and meaningful event that promoted the capital city of Korea worldwide.

Seoul Metropolitan Government officials in charge of public transportation reform have worked through all sorts of problems for the reform project and their efforts have been rewarded with various prizes. Above all, however, they are happiest when Seoul citizens express their appreciation of the new bus system, which is more convenient and comfortable. With the strong approval of the citizens and international support, Seoul's public transportation system will be able to take major strides into the future.

International Awards for Seoul Public Transportation Reform

Date	Awarding Organization or Conference	Award Title
May 14, 2005	8th World Congress of Metropolis	Metropolis Award
July 8, 2005	International Forum on Public Transportation Reform in Seoul, International Association of Public Transport (UITP)	Certificate of recognition for outstanding urban project
Aug 31, 2005	The Association for the Research of Transportation Problems and Human Rights in Japan	Special Award for Social Contribution
Nov 15, 2005	World Technology Network (WTN)	2005 World Technology Environment Award (Organization)
Jan 22, 2006	Institute for Transportation and Development Policy (ITDP)	2006 Sustainable Transportation Award (STA)



Inspection tours of Seoul's public transportation reform

2. World Transportation Officials Visit Seoul for Benchmarking

After implementation of the public transportation reform on July 1, 2004, Seoul came under the international spotlight.

Following the visit by Prof. Niita and 22 other members from Japan's Transportation Rights Association on August 26, 2004, 16 officials from Hanoi City's Transportation and Urban Public Works Service visited on September 17 to benchmark Seoul's experiences and technology. It was the first time foreign countries' had begun benchmarking of transportation policies in Korea's public sector rather than private sector.

Journalists from many countries also began visiting Seoul to cover the city's public transportation reform. On September 21, 2004, a Southeast Asian press group consisting of eight journalists from India, China, the Philippines, Indonesia and Taiwan arrived in Seoul to cover the city's innovative transportation management system. Throughout the inspection tour, the journalists expressed deep admiration for the reformed system.



Gwyneth Dunwoody, chairwoman of the British Commons Transport Select Committee

A most notable visit was that of Rep. Gwyneth Dunwoody, chairwoman of the British Commons Transport Select Committee, who came to inspect Seoul's public transportation system on October 19, 2004. Britain implemented a reform program to turn its formerly state-run bus industry into a quasi-public operation system over 10 years.



Round-table meeting of the International Forum on Public Transportation Reform

But Korea successfully incorporated private bus companies into a quasi-public operation system in just two years and let citizens have their hand in deciding bus routes. Seoul's public transportation reform was an amazing achievement even from Britain's perspective.

On December 20, 2004, a professor of Osaka University and nine members of the Urban Transport Research Institute in Japan came and visited places such as the Bus

Management System Center, Seoul Plaza and median bus lanes in Seoul, and highly praised the city's transportation system as being rational and systematic.



Istanbul Mayor visits Seoul to inspect the public transportation system

On June 12, 2005, a delegation from the Beijing Municipal Transportation Committee and a press group from TV stations in Beijing arrived in Korea as a follow-up exchange to the memorandum of understanding



The UITP Peer Review Team on a visit to Seoul TOPIS

(MOU) on cooperation in the field of transportation that was signed between Seoul and Beijing in March the same year. The 15 Chinese visitors stayed in Seoul for ten days and made an inspection tour of the city's public transportation system. During their stay they expressed hopes for more active cooperation and exchanges between Seoul and Beijing, and wishes to benchmark Seoul's public transportation reform.

On July 7, 2005, a 4-member public transport expert team and a 23-member inspection team from the UITP came and looked over Seoul's major public transport facilities as part of the International Forum on Public Transportation Reform in Seoul. During the forum, 31 public transport-related officials from 23 cities including Sydney, Paris, Beijing, Shanghai, Hanoi, Tehran, Jakarta, Taipei and Ulan Bator also inspected Seoul's reformed public transportation system. It was also at this forum that the UITP presented the certificate of recognition for outstanding urban project.

Moreover, as word of the city's superior public transportation system spread worldwide, more and more foreign cities attempted to benchmark the Seoul experience. On August 23, 2005, a 20-member delegation from Istanbul, led by Mayor Kadir Topbas, visited Seoul for three days.

On October 1, 2005, a team from the World Mayors Forum (WMF) also visited. The team consisted of all six members including the mayor of Wellington, the deputy mayor of Caracas, the director of Bangkok Municipal Government's international cooperation division, and three other high-ranking city government officials. The WMF delegation was also accompanied by nine journalists from the United States, France, Germany, Argentina, Sudan and China.

Other visitors from foreign cities include the deputy chief and 7 other officials from Guangzhou City Construction Committee, the deputy mayor and 15 other officials from

Shenzhen, both in China, and the director of finance at Transport for London (TFL), who visited Seoul in February and March 2006, respectively.

The number of countries seeking to inspect Seoul's public transportation system for benchmarking is constantly rising. With this momentum, Seoul Metropolitan Government plans to accelerate exports of related technology and infrastructure, and furthermore, enhance the international status of Seoul as a city with an advanced public transportation system.

3. Seoul Opens Era of Public Transport Exports

The unimaginable is now happening in Seoul: the public sector is leading overseas exports.

Generally, exports are led by the private sector and exporting administrative services in the public sector is regarded as very rare. At present, however, a host of foreign countries are benchmarking Seoul's public transportation reform and, accordingly, Korean information technology enterprises involved in the public transport sector are expected to see increased exports. As a great many transportation-related officials from around the world visit Seoul and inspect its new transportation facilities, it is also estimated that they spend a considerable amount of money here. Seoul is now receiving positive feedback that the export of its administrative services is boosting the business of private companies, whose profits are then re-invested in the bus system reform project.

Many big cities around the world have well-furbished public transportation systems, cities such as New York, San Francisco, London and Paris where most of the citizens use public transport. But in most cities the fares are high. Transferring several times, the travel cost easily exceeds \$10. However, Seoul citizens can transfer up to five times without paying additional fares within a certain distance (10km). On top of that, they can use all modes of public transport with the one transportation card. It is this card that is attracting an increasing number of foreign cities to benchmark Seoul's public transportation system. This type of transportation card can be found nowhere in the world but Korea, which is known for its advanced information technology.

Thus, Kuala Lumpur in Malaysia requested the participation of Seoul Metropolitan Government in its pilot project to introduce the transportation card system when the city renewed its bus ticketing service. Seoul signed a contract worth 4 billion won to establish the system, which is now being installed. After a certain period of operation, the Kuala Lumpur city government will evaluate the system and expand it across the city.

According to reports, Beijing is also considering introduction of Seoul's transportation card system as part of its own public transportation reform ahead of the 2008 Olympic Games. However, given that the system requires the adjustment of routes for efficient transfers and establishment of information and communications infrastructure, the Beijing project is expected to take quite a long time.

Other than Kuala Lumpur and Beijing, cities such as Istanbul, Cape Town and Lima are now holding consultations with technical experts in Seoul to introduce the card system as well.

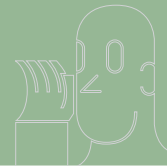
As part of the public transportation reform, Seoul Metropolitan Government also pushed ahead with the project to upgrade the quality of city buses. As a result, the technology of domestic bus manufacturing companies has improved and exports of premium buses, such as CNG buses, have sharply increased. According to official statistics, Daewoo Bus Corporation has exported 5,025 premium buses to China, Taiwan, the Philippines, Indonesia and Malaysia, while Hyundai Motor Co. has exported about 5,000 units to Colombia, Iran, Kazakhstan, Vietnam and Saudi Arabia. A stream of export inquiries continues to come in.

Meanwhile, in response to the request by the International Bank of Reconstruction and Development (IBRD) for specific case studies on Seoul's public transportation reform and the wish of many foreign cities to benchmark the Korean experience, Seoul Metropolitan Government has decided to host the 2006 UITP Asia-Pacific Congress. To be held at COEX, the UITP conference will bring together about 500 transportation experts, entrepreneurs and government officials from 30 or so countries.

All these achievements are attributable to the strong response Seoul's public transportation reform has been gaining around the world. The city of Seoul's efforts will continue unabated toward the day its public transportation system can be found in operation in all corners of the globe.

[Chapter 5]

Establishing a Fast and Convenient Public Transportation System



1. Toward More Convenient Public Transport

(1) Economical and Environment Friendly New Modes of Transport

Seoul's existing subway system is also called "heavy rail transit" (HRT). The HRT construction project will be finalized with the completion of Subway Line No. 9. However, traffic conditions in districts on the outskirts of Seoul are not likely to be much better after the rail system is completed. In these districts, subway demand is not high enough to warrant the construction of new subway stations, which requires a huge budget, and road conditions are not good enough to make median bus lanes.

To solve this problem, the city government decided to introduce new modes of public transport that have about half the capacity of the subway system, run on exclusive roads on highways, underground and above ground, and have low floors for ease of alighting and disembarking.

When they are finally introduced, these new modes of transport are expected to boost the convenience of residents in areas not well served by public transport by providing high-quality services at low prices. In addition, they are likely to invigorate local economies and support the growth and exports of related domestic industries.

These new modes of transport include light rail transit (LRT), guided rapid transit (GRT) and the monorail. The LRT is an urban train system that runs on exclusive roads created above ground, on high-rise structures, or under the ground, allowing



Design of GRT, new mode of public transport

passengers to get on and off the train on the same level as the train floor. With a carrying capacity halfway between the bus and the subway, the LRT system is much less costly to construct and operate than the subway system.

The underground LRT is scheduled to open on the Ui-Sinseol section by 2011. Once open, it is expected to provide high-quality public transportation service for 370,000 citizens within a radius of 1km who are currently unable to use the subway. In addition, it is expected to dramatically improve traffic conditions in northeastern Seoul by shortening the travel time from SK Mt. Bukhan City Apartment in Mia-dong, northern Seoul, to Sungshin Women's University Station, from over 35 minutes to less than 8 minutes, and by easing the congestion on Subway Line No. 4 by dispersing demand. The average road speed is also estimated to increase by more than 4km per hour.

While LRT trains run on iron rails, the GRT uses the surface of an existing road and runs on an exclusive path with cutoff walls to prevent entry by other vehicles.

The first area in Seoul to benefit from the introduction of GRT is Nangok, one of the city's major hillside slums. Seoul Metropolitan Government plans to



Bird's-eye view of LRT station on the Ui-Sinseol section

finalize the design for the Nangok GRT project and begin construction by July 2006, aiming to launch the service in July 2008. When the GRT system opens, the travel time between Nanyang Elementary School and Sindaebang Subway Station during rush hours will be cut from the present 20 to 30 minutes, to 7 to 8 minutes, and the average road speed is also expected to increase. As a result, the traffic situation in Nangok, Gwanak-gu, will significantly improve.

On the other hand, the monorail runs on high-rise rails. Pillars are erected on the road and a one-track railway set on top of them.

The wheels of a monorail train car run by holding the rail on both sides.

Presently, Seoul is considering the introduction of a monorail in Gangnam connecting Hangyeoul, Cheongdam and Sinsa, and one in Yeouido running from Singil to Yeouido and Noryangjin. Recently, a plan to build a monorail in Gwanak linking Seoul National University with Yeouido via Boramae Park has also come under review.

(2) High-Quality Bus Rapid Transit

Bus rapid transit (BRT) refers to a system of constructing median bus lanes on arterial roads, using low-floor buses or articulated buses, and establishing dependable and high-speed bus service in conjunction with the BMS Center. This is an epochal system aimed at persuading passenger-car drivers to use public transport by setting up a bus-priority traffic signal system and convenient transfer facilities.

Also named the “subway on the ground,” the BRT is a new kind of public transport that dramatically improves the bus operating system in terms of punctuality, speed and carrying capacity.

Seoul Metropolitan Government plans to introduce the BRT system on sections between Seoul and Hanam (14.8km), and Hwagok and Hyoseong (12.3km) in a pilot



Route map of Ui-Sinseol section

inter-regional project, and then gradually expand the system to 22 other routes. Currently, the basic plan for the pilot BRT project is being drawn up under the supervision of the Metropolitan Transportation Association with the goal of launching the service in 2008.

Once it is introduced to metropolitan areas, the BRT system will establish a fast and convenient inter-regional transportation system in connection with Seoul's median bus lanes, thereby greatly contributing to easing traffic congestion.

(3) Ubiquitous Traffic Master Plan

In the coming decade, Seoul's transportation environment is expected to "evolve" greatly. As the city government pushes ahead with the "U-Seoul" project, which is aimed at constructing a ubiquitous system (an environment in which people can use various information and communications networks such as the Internet at any place and any time) all over society, citizens will be able to obtain a variety of information on more convenient and safer public transport.

On April 4, 2006, the city government made public a mid- and long-term master plan for objectives and service models in six fields including transport, welfare, culture, environment, industry and administration/urban management. In addition, the city has decided to promote the application of ubiquitous technology to Seoul TOPIS, new towns, Cheonggyecheon and libraries scheduled for construction as one of its four major projects, and set up specific action plans.

Action plans in the "U-transport" field include connection of international and inter-regional traffic information by offering public transport information in Seoul through Seoul TOPIS and operating an "air shuttle" from Gimpo Airport to downtown Seoul for the support of international business. At the same time, the city will establish the infrastructure for providing real-time road and traffic information through a variety of channels to facilitate fast and convenient traffic movement. Particularly, the enhancement of TOPIS's ability to collect, analyze and process and deliver traffic information will be promoted as a key project.

Another major project is the realization of "U-TOPIS, the center of Seoul traffic information," which will provide information about optimum travel routes including transfers between bus and subway, and various information about bus operation such

as routes and arrival times at bus stops. The function of TOPIS will be strengthened so that Seoul residents will be able to get necessary traffic information through mobile gadgets such as PDAs and cell phones. The city also plans to create a “U-Transport Free Zone” at major traffic contact points with high people traffic, where citizens can obtain real-time traffic information or use wireless Internet.

2. Citizens’ Support Needed to Sustain Public Transport

A Day in the Life of Mr. K: Seoul as Dreamed of Becomes Reality

Mr. K, a salesman living in Singok-dong, Uijeongbu, works at an insurance company in Daehangno, Seoul. He leaves home at 8 o’clock in the morning and takes a branch-line bus. In just five minutes, he arrives at Uijeongbu Intercity Bus Terminal and takes a BRT bus.

Mr. K feels good whenever he takes a BRT bus. As it runs at intervals of 10 minutes, he does not have to wait long if he arrives at the terminal on time, nor does it take long to get on and off a BRT bus because he punches the ticket in advance, just like when he uses the subway. As it has a low floor, the bus is very comfortable, and as it is articulated, there is plenty of room. In 15 minutes he arrives at the transportation center at Mt. Dobong Station. Here, he changes to a bus headed for Daehangno and arrives at Hyehwa Station in 20 minutes. Even if the walking time is taken into account, he can get to the office at five before nine exactly.

After attending a conference and doing some telemarketing in the morning, Mr. K leaves his office at 1:20 p.m. to visit the home of a client in Mia-dong at 2 p.m. This time, he decides to use the subway. Since the opening of the LRT on the Ui-Sinseol section in 2011, he can get to SK Mt. Bukhan City Apartment in Mia-dong in 30 minutes by going to Sungshin Women’s University Station by subway and then transferring to an LRT train. Given that the trip from Sungshin to the apartments took nearly 40 minutes before the LRT, the shorted travel time is almost like a dream. Previously, Mr. K had to leave the office before the end of his lunch hour at 1 p.m. to make a 2 p.m. appointment.

Today, Mr. K visits the client exactly at the appointed time and wins a contract without much difficulty after explaining his company's products in detail, with a friendly smile. Then, at 3:30 p.m. Mr. K leaves the client's house to visit the office of another client near Hangnyeoul Station. To get there, he takes a LRT train bound for Sungshin Women's University Station, where he changes to a bus to Sinsa Station. From there, he goes to Hangnyeoul using the Gangnam monorail that opened to traffic last year. The monorail, set on pillars 15 meters high, is like an amusement park ride through the Gangnam (southern Seoul) area. Sometimes, Mr. K finds it quite refreshing to ride the monorail. The sky of Seoul is free from air pollution and so blue since all buses in the city were replaced by eco-friendly CNG buses.

At 4:30 p.m. Mr. K arrives at the client's office. Traveling between two points in Seoul does not take more than one hour, no matter how many times you transfer. Just 10 years ago, it was even unthinkable for Mr. K to visit two clients in the afternoon without using a car. So, Mr. K, who was always pressed for time, dearly cherishes the present leeway. After explaining for about an hour he obtained two more contracts and returned to his office in 40 minutes using the monorail and subway.

Mr. K is so happy, not just because he won three contracts in one day, but also because he still has time to wrap up his day's work. He finishes up any remaining business and leaves the office at 6 p.m. He arrives home in an hour using a BRT bus that runs on a median bus lane. Mr. K's wife has dinner ready for exactly the time that he arrives home, and his two children are anticipating spending a happy evening with their father. Mr. K is very proud that he is a citizen of Seoul, "the city with the world's best transportation system," which allows him to live and work comfortably without using a car.

The car he purchased three years ago is as good as new because he rarely uses it. Tomorrow is the weekend and he plans to take his family to visit his parents living in Yongin. Thanks to much-improved road conditions with the expansion of median bus lanes and BRT, traffic jams are uncommon now. Since the public transportation system is so convenient these days, few people use their cars even on weekends and holidays unless they are making family trips.

"Are we learning to think differently by living in what is reputed to be the world's No. 1 transport city? Mr. K asks himself.

Such a day that Mr. K may experience 10 years from now will remain only a dream? Not so. After the reform of Seoul's public transportation system, which has produced remarkable results in just two years, Seoul Metropolitan Government has drawn up plans connecting the city and the greater metropolitan area that may seem infeasible at the present stage. Not only the metropolitan cities but also many local cities and provinces are benchmarking Seoul's public transportation reform and striving to develop Korea into an advanced transport country.

A green city free from air pollution and comfortable to live in, a city of new modes of transport and conveniently connected median bus lanes with no vulnerable districts in terms of transport, and a city giving priority to pedestrians rather than automobiles. To establish such a city, citizens need greater awareness. Only when all Seoul citizens join hands will the beautiful dreams of Seoul come closer to reality.



