INSTITUTE OF CURRENT WORLD AFFAIRS

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Getting Around Seoul: Take Two

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Dear Peter,

I sent a report to you nearly a year ago poking some fun at the perils of driving about Seoul. But in the process of gathering material for my work on the development of the city, I discovered that the city's transportation problems are turning out to be far less amusing than that report would have indicated. (After all, one can always master the skills of driving like a maniac.) Unless the experts are very wrong, in the space of a few years, Seoul will be tied in knots by the crush of one of its newest industries: automobile manufacturing.

Seoul has always had a transportation problem. But it has not had much of a traffic problem to worry about until very recently. That is an unwelcome stepchild of Korea's double-digit economic growth. The hundreds of thousands of new middle class families who live in the vast stretches of high-rise apartments south of the Han River are gradually discovering that they can afford to buy a car. Some are finding that they have to if they want to get to work on time. And if you have to sit piled up in traffic waiting to cross the bridges that inadequately serve the area, far better to be sitting in your own air-conditioned comfort, listening to stereo music, than standing shoulder to shoulder on a bus, freezing or boiling according to the season. As one resident of the Hyundai Apartment complex in Apkujongdong, one of the most prestigious in the city, said, "When I moved in several years ago the parking lots were nearly empty at night. Now if the cars arrive too late at night, there is no place to park."

The surge of new car sales, which began to accelerate sharply in 1983 following the economic recovery, has intensified what is likely to be Seoul's worst long-term problem: traffic congestion. As one government traffic specialist put it, "Success will be achieved if we manage to prevent the problem from deteriorating. But," he added, "I'm pessimistic."

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His pessimism is born out by projections on the increase in traffic volume prepared by the Korean Advanced Institute of Science and Technology (KAIST). Based on a 1982 survey, the study says that transportation needs in the city based on total number of trips will nearly double by 1996, but traffic volume alone is expected to increase a full three and a half times, most of that coming from the expected eight-fold increase in passenger cars. Already, however, projections in the study have been overtaken by the brisk sales of automobiles, leading one expert to make a grim prediction for the 1990s: gridlock.

Critics say that economic planners, much less city planners, never took into consideration the transportation implications of promoting the production and sale of automobiles, which use road space very inefficiently. According to William Thornhill, consulting traffic engineer who prepared a traffic study of Seoul for KAIST, "The most important transportation decision in Korea's modern history was made for reasons that have nothing to do with transportation." Koreans, however, tend to shrug their shoulders at this kind of criticism, saying that it was inevitable that as standards of living went up Koreans would buy private automobiles. And who would deny hard-working Koreans "the last great freedom?"

Inevitable or not, the numbers offer a frightening vision of Seoul's future. Currently buses handle about 60% of the transportation load in the city, yet they account for only 25% of the volume of traffic, even taking into account their size. That is a very efficient use of Seoul's limited road space. It is not the buses that cause Seoul's traffic problems, as is commonly assumed in Seoul. Instead it is the proliferation of passenger cars carrying just a few riders. If only three or four bus riders buy cars and commute to work, they take up as much road space as a full bus.

Even now many of the city's busier intersections are operating over 90% capacity during peak hours (defined as 800 vehicles per hour per lane). At that high volume of traffic, a mere 3% increase in traffic can easily triple the time spent sitting in traffic jams. With traffic volume expected to increase so sharply over the coming years, some of the busier intersections will be forced to operate at over double their capacity, leading to wrenching delays, and, in the end, probably, gridlock.

The subway, of course, will provide some relief as lines three and four open in 1985. The city government has said that the new lines will lead to a dramatic reduction of traffic congestion downtown ("like magic," says one official), and will eventually handle 37.2% of the city's total transportation load, dropping the load handled by buses to 32.8%.

Traffic Volume Projections in Seoul

Unit: 1,000 PCUs. PCU, or Passenger Car Unit, is a standard unit of measurement, taking into account different sizes of the vehicles, used by traffic engineers to measure traffic volume.

Vehicle Type	1982	1986	1991	1996
Passenger cars	131.2	258.0	460.8	797.7
Taxi	111.5	135.5	181.3	240.3
Bus	151.6	236.8	309.5	426.0
Truck	99.7	142.8	187.5	265.4
Total	494.0	737.1	1,139.1	1,729.4
Index	100	156.5	230.6	350.1

Source: KAIST

But the city's projections are far more optimistic than those prepared by KAIST. KAIST traffic specialists say the city assumed, when it drew up its calculations, that full trains would run at three-minute intervals during all operating hours--a highly unrealistic assumption that ignores fluctuations in traffic volume. The KAIST study says that the subway will eventually handle only about 20% of the total load volume. That is just twice the ratio currently handled by the lines already opened, and will absorb only two years of the annual 5% increase in trip volume. During those same years, though, as more people buy automobiles, there will not be any noticable improvements out on the streets.

The city has proposed a variety of "park-and-ride" schemes to divert city buses to subway stations and have people ride the trains downtown. But they are not likely to work. Because the city only built two tracks on all the lines, it will not be able to add on express trains to take care of the rush hour crush. For all intents and purposes, the lines that are already open are running at capacity. And a good illustration of why the subway system will not put the buses out of business is the case of Chungno--"Bell Street," the main east-west avenue. The street carries the heaviest bus traffic of any in the city, yet right underneath it runs the longest-operating subway line.

The problem is that, unlike many cities in the West where subway systems shaped the pattern of development of residential areas, Seoul has developed before the lines went in. The even distribution of residential neighborhoods throughout the city means that the subway system would have to go far more places to attract people away from the buses. And in order to do that, the city would have to build many more subway lines.

Critics also say that the subway stations are poorly designed to facilitate easy transfer among the lines. At one of the busiest transfer points, for example, passengers must file toward the front end of the train and all exit through a single door to transfer to a line running perpendicular. When the trains are full during rush hour, that can take a long time.

The effect of these shortcomings is that if you happen to live on a subway line and want to go downtown, it is a fine system. But it is nothing you can rely on to get all around the city as you could in New York, Tokyo, or London. That might not be so important, but in view of what is likely to be taking place out on the streets, it is very worrisome.

Traffic analysts frequently point out that Seoul's ratio of road space to city area, at just 15.6%, is far below other major cities. While true, traffic engineer Thornhill says that this factor has been far overemphasized. As a consequence, city planners have tried to solve traffic problems principally by expanding road area. But widening the roads has often just helped traffic flow more efficiently to the really troublesome bottlenecks. The city's roadways have developed into a jumble of disconnected systems that frequently have to empty into octypus intersections like the tangle in front of city hall, which has no fewer than seven feeder roads. The city doesn't have any major highways that cut through a major swatch of the city's far flung districts.

There are things that can be done short of leveling the city and starting from scratch. To start with, a system of one-way streets in the central business district could in principle double the capacity of the roads and give the city a ten-year breathing space. Government officials who have studied it, however, say that they would run into terrible bottlenecks at the edges of the system, forcing them to spend enormous sums of money redesigning intersections and building complicated systems of flyovers and underpasses.

In fact, the principle problem is just that: money. One proposal called for a complicated flyover system at the city's worst bottleneck rotary, to the south of the central business district, but with a price tag of over 20 million dollars, it was a proposal the city government could sit on.

Seoul's traffic problems could be completely solved by thoroughly redesigning bottleneck intersections, and constructing a system of high-speed urban thruways. But one rough calculation of the cost of completing a series of projects that might fundamentally improve the traffic situation came to a startling 1.5 trillion won (US$1.85 billion). With the city's revenues tied up in building the subway and preparing for the 1988 Olympics, a project of that magnitude is out of the question for the coming years.

Can anything be done? William Thornhill had some advice: "Don't accept a work assignment in downtown Seoul after 1986 unless it comes with an apartment on the roof of your office."

Best,

Steven B. Butler

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