

Presentation

Mr. Hong Wan-Shik

Director of Transportation Planning Division, Pusan City

Mr. Hong Wan-Shik (PUSAN)

Ladies and Gentleman, I am pleased to meet you. My name is Hong Wan-Shik and I am Director of the Pusan City Government Transportation Planning Section. We have only just finished eating a delicious lunch, but after seeing the mouthwatering Fukuoka food on that video I feel ready to eat again.



Well, getting down to business I would like to talk about Pusan's traffic. It gives me great pleasure to see that the Working Level Conference on Transportation Issues whose resolution was unanimously adopted at the inaugural Asian-Pacific City Summit in September last year, has been held here in beautiful Fukuoka. At last year's conference we at Pusan City advocated this conference. If today's conference contributes to the resolution of problems, particularly traffic problems being experienced by the 21 participating cities from the Asia Pacific region, then I strongly believe it will provide very substantial support to the City Summit. Just as traffic problems are not limited to a single city, so technology and information relating to traffic should not be monopolized. I hope that today at this Working Level Conference we can learn, exchange information and that it will be of benefit not just to our respective cities' development but will contribute to the Asia Pacific region's development as well. Using the overhead projector I would like to give a brief outline of Pusan City's traffic policy and problems and in particular touch upon the main policies we are pursuing in anticipation of the 2002 Asian Games to be held in Pusan.

If you look over the pamphlet entitled Pusan Tour City Guide Book that we have handed out, it gives you a general outline of the city so please use it as a reference. Using the overhead projector I would like to first of all give you an outline of Pusan. Pusan City is located on the southernmost part of the Korean Peninsula. It has an area of 749 square kilometers and a population of four million. With 95% of Korea's container freight passing through it, Pusan is Korea's largest port city and it is the fifth largest port city in the world. Pusan City Government's finances amount to US\$ 5 billion of which US\$ 600 million is given over to a traffic related budget. However, in order to solve the traffic problems we are faced with, we actually spend 70% or more of this budget on these problems. Next slide please.

Pusan's most fundamental problem is the rapid increase in motor vehicles. As you

can see from this graph, in financial year 1985 there were no more than 100,000 registered vehicles, however as of July 1995 the number was 580,000 or nearly 600,000 vehicles. In the last five years in particular, the number of registered vehicles has increased by 2.5 times and in the 10 years between 1985 and 1995, numbers have gone up by 600 %. As you can see, Pusan has a traffic problem related to the rapid increase in traffic demand.

Pusan has 1,945 kilometers of road but because 43 % of the area is mountainous we are presented with a very difficult structure for building roads. The city is situated right on the harbor and because vehicles carrying container freight enter right into the heart of the city, the traffic problem is further aggravated. The car parking space supply rate is 52.7% and the fact that we do not have sufficient parking space for the rapidly growing number of cars is one of the bottlenecks of our traffic problem. Currently there is one subway line of 32.5 kilometers, and a second 39.1 kilometer line which is expected to be completed in 1998, is under construction. Construction of a third 29.5 kilometer line which we have called the Asiad Line will begin in earnest next year and we anticipate it being finished in 2001.

Next I would like to briefly talk about the forms of transportation in Pusan. As I mentioned earlier, private vehicles are increasing at the annual rate of 20 % which means that there are 65,000 more cars each year which is equivalent to 200 per day. The current subway fare is quite cheap at 350 won or roughly US 60c per sector and, depending on the sector, 400 won or US 46c for two sectors. I think comparing these prices with those of Guangzhou City is illustrative of this. Currently there are 44 bus companies operating 2,763 buses in Pusan City and all are privately owned. Similarly, all 22,857 taxis are privately owned. One unusual aspect of these taxis is that 11,633 of them are operated by individuals and are known as Individual Taxis. The percentage of people using taxis, buses, subway and passenger car are 38.3 % bus, 18.7 % taxi, 8.6 % subway, 21.1 % passenger car, and 13.3 % others. This graph explains this. May I have the graph again, please. One feature of public transport in Pusan is the large degree of bus traffic and another is the relatively low degree of subway traffic. With respect to this pattern of transport usage, it is forecast that use of buses and the subway will decline in accordance with the continuous increase in passenger car numbers.

Next, in the time that has been allocated to me I would like to talk in earnest about our traffic policies. The basic aim of the Pusan City Government's traffic policy is to establish a traffic culture that is both kind to people and the environment. We will continue to provide traffic facilities while at the same time reducing traffic demand. Our goal is to create a traffic system not for vehicles but rather, one

that focuses on people and is environmentally friendly. At present the ratio of traffic supply policy to traffic demand management is about 80 : 20 but by the year 2000 we plan to have lifted the ratio to 50 : 50. This is our traffic facilities construction plan. As I mentioned earlier the second subway line is expected to be complete by 1998 and construction is in progress. The third line should be built by 2001. We have also established plans for fourth and fifth lines and are in the process of developing these plans. This morning we heard about the construction of Naha City's New City Monorail. At present we have completed the basic plan for a light-weight electric rail line between Pusan and the neighbouring city of Kimhae and will begin full fledged construction next year. We also have plans to construct an additional new urban rail system throughout the city. Because Pusan is distinguished by the large number of mountains it has, many passengers must be transported by skirting around the mountains. In addition, as I mentioned before, Pusan has to handle sea freight, in other words containers, and so our plan between 1992 and 2001 is to construct roads at the rear of the harbour in 10 sections as well as a road along the waterfront which will enable traffic to better circulate. Furthermore, because Pusan has a lot of mountains we are currently constructing tunnels in four locations and have plans to construct 12 more in the future. Next slide please.

In addition to such traffic supply facilities, in Pusan City we are consolidating reform measures to the traffic administration system known as Traffic Administration System Management. Firstly, in order to induce passenger car users to use public transport, as is the case in other cities, we have set up bus only traffic lanes. In Pusan we have bus lanes in 10 sections covering 60 kilometers. Also, and this is quite interesting, we are attempting to introduce a traffic fee payment system which is called the "Hanaro Transportation Card." This card takes the form of a "Smart Card" which can be used to pay for everyday necessities such as bus, taxi and subway fares as well as functioning as a prepaid shopping and telephone card. Furthermore, in order to diversify and upgrade the bus system we are increasing the number of reserved seating direct buses, instituting shuttle buses, expanding airport limousines and generally making the system more convenient for the public. One of Pusan's traffic problems is that the traffic light system has room for improvement. Old style traffic lights are in particular the cause of traffic congestion at intersections. I am hoping that the representatives from Singapore and other participating cities will be able to provide us with guidance regarding this problem. Pusan City has established reversible traffic lanes, built parking lots around subway stations and is reducing traffic entry into the city as part of our efforts.

In addition to these traffic policy improvement projects we are implementing another

important kind of policy known as Traffic Demand Management (TDM). We have already heard how Naha City is putting effort into such policies but in Pusan we have developed unique policy measures in the field of TDM which are not found in other cities. In the speech given by the representative from Guangzhou City we heard that traffic and order are somewhat chaotic and that there are problems with traffic culture. At present in Pusan we are taking steps to bring about a new traffic culture. In the other pamphlet in the envelope which we handed out, you will find the Green Traffic Culture Charter. The Green Traffic Movement aims to link traffic and the environment and it was established as part of the effort to solve traffic problems. We call this the GT Movement-GT is an abbreviation of Green Traffic.

On Monday, the day before we came to Fukuoka, in order to solve the traffic problem four million of Pusan's citizens made a public declaration of their intention to create a green traffic culture that takes into account people and the environment. There is no denying that the car is a necessary and civilized convenience for our daily lives but through excess use the air becomes polluted, traffic jams occur and conversely the motor car may have damaging effects on our lives. Above and beyond this, the public is fully conscious of the number of lives lost in road accidents. Based on this we have defined five types of traffic behavior that citizens must conform to in order to free us of the dangers and damage associated with cars and create a pleasant and beautiful city. The pamphlet is written in Korean so you probably won't be able to read it but the five points basically encourage use of public transport wherever possible and unlike Guangzhou City, we encourage people to make use of bicycles. Naturally traffic circumstances vary from city to city and therefore so do traffic policies.

I would like to explain another aspect of the TDM policy that we are actively pursuing. According to an investigation we made, the number of cars being driven without a passenger in the morning and evening commuting periods is 73%. We have set a TDM policy target of reducing this figure to 50% and like Naha City's "No Car Day" policy we have come up with a unique policy known as the 10 Day Operation System for Cars. According to this system if the last number on your car's number plate is the same as the calendar date you don't drive on that day. For example, if your number plate ends in three you don't drive on the 3rd, 13th or 23rd. Although I don't really know much about Guangzhou's system, one difference between our system and theirs is that we haven't opted to make it compulsory but instead rely on citizens' groups and the citizens themselves to promote it. However, it is a fact that despite participation from a large number of citizens, there are those who do not actively participate.

Therefore, while we don't reward those who participate in the 10 Day Operation System, for those who do not cooperate, car parking fees are twice as high and access to municipal offices is restricted. In this way we have developed many approaches to advancing the 10 Day Operation System which is one part of the TDM policy. In conjunction with this system we have also established a Carpool System such as those which exist in many cities in the United States.

We are also making efforts to eliminate traffic congestion in the city center through car parking management. This policy is one whereby we limit the construction of parking facilities in the city center wherever possible and construct spaces in the suburbs instead. The fees for the parking facilities in the suburbs are set relatively cheaply and the idea is for people to leave their cars outside the city and commute into the city center on public transport such as bus or subway. Currently in Pusan City we are developing the Traffic Congestion Five Year Management Plan which encompasses all the TDM policies I have described so far although is far more detailed, scientific and analytical. This five year plan will operate from 1996 until 2001 and will be carried out on the basis of a loan agreement from the World Bank. This plan will take into consideration the changes we can expect in the five years from now concerning city planning, subway construction, and the pattern of public transport use and will be established to determine how we should best manage traffic congestion in the future. The policy currently being implemented in Singapore whereby vehicles entering the city center are charged an entry tax is included in the matters to be researched in this policy plan.

Finally, in anticipation of the 2002 Asian Games which are to be held in Pusan, we have set up a seven year plan which is designed to make Pusan into a new green traffic city. From now on we are putting effort into the construction of a cutting edge New High-tech Transportation Network. In Pusan City we believe that in order to solve our traffic problems it is essential to increase public transport facilities and restrict use of passenger vehicles wherever possible. On the basis of these beliefs we are making the maximum effort to advance the traffic policies which I have outlined here today. On that note I will end my address. Thank you very much. (Applause)

Discussion

Chairman

Thank you Mr.Hong of Pusan City. Your explanation of the current state of Pusan City and the traffic policies there simultaneously touched upon the "hard" aspects of the consolidation of waterfront roads and trunk roads as well as such "soft"

aspects of traffic management as The Green Traffic Movement. What drew my attention in particular was the application of the 10 Day Operation System for Cars. We also heard a description of the Traffic Congestion Five Year Management Plan which will be designed with future structural reforms in mind. The Asian Games will be held in Pusan in 2002 and with this as your target I hope you will vigorously pursue your Seven Year New Traffic City Plan.

Next I would like to open the floor to questions. Anyone with a question please first give your city's name followed by your own name. The representative from Nagasaki City please ask your question.

Mr. Akio Sakamoto (NAGASAKI)

I am the Director of the Nagasaki City Government City Planning Department and my name is Sakamoto. In Nagasaki City we also face severe road traffic problems so I was extremely interested to hear how you have established car pool teams in Pusan. As I understand it, the idea is that during morning and evening commuting, cars are shared and 3, 4 or sometimes 5 people ride in the same car as they go from door to door and it is convenient. Now, what I would like to know is that even if this system is successful for morning commuting, when it comes to going home in the evening, people's schedules might change and because it's a car sharing system I expect that there would be privacy related problems. Is this the case? My second question is that in the case that an accident where people are injured or die occurs, what is the system of responsibility relating to the driver and the passenger who they are sharing with?

Mr. Hong Wan-Shik (PUSAN)

You seem interested in the Carpool System. When we first announced the system, similar questions were asked by citizens and scholars of traffic. As you point out, the car pool system is not such an easy system. Currently Carpool Systems are operating quite actively in Los Angeles and Washington. To expand this system you would employ such measures as limiting it to multiple passenger vehicles, but we are pursuing this project aimed at passenger cars. At present we have implemented certain economically advantageous measures for car pool vehicles. In Pusan there are two city expressways and for car pool cars the toll is totally waived. However, this is for cars with three or more people only. In the US it applies to cars with two or more people. Also, for car pool cars, the parking rate at public parking lots in the city center is reduced by 50%. Car pool cars must have an identification mark on them and this is issued at Pusan City's smallest administrative level, the ward office. In addition we instruct private firms to allot 10% of their car parking

space to car pool cars. At subway stations 5% or more of car parking space is set aside for car pool vehicles. However, despite all these measures, as the gentleman from Nagasaki City suggested, the system is a success in the mornings but at night, particularly among men, a lot of people go drinking just as we saw in the video of Fukuoka City. Consequently the car pool is not really functioning at nights. In the case that an accident resulting in death occurs, we at Pusan City have developed a solution. For registered car pool vehicles the central and regional governments have agreed that 100% of the insurance money should be approved. As for the basic aim of the car pool system, I think that it should be interpreted not as a statement of our intention to provide a panacea for the traffic problem, but rather as a person friendly traffic policy which attempts to break down amongst co-worker and neighbors the individualism that is all too common in our city, and in the process creates a kinder society. Thank you.

Mr. Akira Takamine (NAHA)

My name is Takamine and I am from Naha City. My question is about the equilibrium between traffic and the environment. For example, when public transport facilities are being made, in a way, the burden for public projects relating to the problem of environmental assessment grows. There is this burden and, in the case of road construction, there are problems of the people living immediately next to the construction which stand out. Do you consider such difficult problems when you think about the "environment and traffic"?

Mr. Hong Wan-Shik (PUSAN)

This is a very interesting question from Mr. Takamine of Naha City. Naturally before we construct roads, bridges, subways, light electric rail lines and so forth environmental impact studies are carried out. However, in Pusan City since the inception of local autonomy and the rise in economic standards, we have seen the occurrence of the so called Ninby phenomenon where citizens only advocate their own interests. Fukuoka has probably experienced this problem and I am sure many of the cities participating today have this problem. Under these circumstances, in the case of subway line number one, due to citizens' protests the anticipated commencement of construction was delayed 3 or 4 years and it took a considerably long time to complete. In the case of subway line number two, such protests are continuing everyday and we have a situation where the confrontation between citizens and the administration is producing a bottleneck outside the construction process. In order to reach a resolution we are appealing for understanding and trying to persuade the citizens not just through the city assembly but also through ward, city and

county offices, and through meetings with citizens. We are also making efforts financially by awarding adequate compensation. But despite this, the citizens' greed is deep and there are many cases where they are not satisfied with adequate compensation. Thank you.

Mr. Leong Siew Mun (KUALA LUMPUR)

I have a question related to your implementation of "Smart Card" in integrating the various public transport services. I noticed that you have various bus companies providing the service, amounting to 44 different companies, and you also have about 110 different providers of taxi services and I think the government pick up the provision of subsidies. In view of these various public transportation operators, and in the use of the Smart Card, you may need to have a clearinghouse to carry on the transactions. I wonder what is their mechanism whereby you can coordinate all these transactions on the Smart Card. Thank you.

Mr. Hong Wan-Shik (PUSAN)

I've heard that Kuala Lumpur is using a smart card system at some of its toll gates and I believe the technology for this came from Japan. The technology for this card was developed in Europe, Sweden, Norway and Australia. The traffic payment system smart card known as the Hanaro Card that Pusan City will introduce is quite different from the bus cards that are used here in Fukuoka City. It is not a pre-paid type card which you purchase with money. It is a direct debit card that you carry with you and use by transferring funds into it from your savings account. We refer to it in English as an electronic pass. If you transfer money to this card, so long as you have a machine that can read it, you can use it on subways, buses, taxis and virtually anywhere. It has also been developed for telephones and so can be applied in this way as well. However the problem is that it costs a lot of money to set up the machines to read the cards. The bus companies aren't publicly owned, they're private, and so are the taxis. The bus companies were skeptical about the merit of investing money into installing expensive machines. When we told the taxi and bus companies that it would be to their own benefit in the long-run to spend this amount of money to achieve customer satisfaction, fortunately they responded favorably to our proposal and now they are right behind it. At present the system is at the stage where we've developed the machines and we've installed some on a trial basis in taxis and buses with the view to operating the system by the end of the year. In the second half of next year, in the autumn, we intend to have machines installed on buses, taxis and at all subway stations

so that Pusan's citizens can pay for these services with the card. That is a basic summary of the Hanaro Card. Thank you very much.

Mr. Ross Rutherford (AUCKLAND)

I'm very interested in the congestion charge that you're thinking of introducing in Pusan. Auckland also has a policy of looking at the movement of people rather than vehicles and strongly supports that idea. But we find that the idea of a toll, or a congestion charge, is extremely controversial, and it's going to be very difficult, I think, to introduce it later on. I was wondering what you are doing to change public opinion on that. What will happen to the possibly substantial income you would get from the congestion tolls? And I guess that the last question is, does Pusan have just one city center, or do you have a number? If you put a toll around a city center, will you drive development elsewhere and simply transfer your problem to somewhere else?

Mr. Hong Wan-Shik (PUSAN)

I didn't understand the question fully so I would like to confirm what it was that you asked. You said that you thought the various ideas we have for methods to reduce traffic congestion, including the levy of a congestion charge are good and you then asked if the citizens approved of the congestion charge. Is that right?

Mr. Ross Rutherford (AUCKLAND)

I see that you say you are looking at congestion charging as I understand it. I'm asking whether you think that will be acceptable to the public and what research have you done on the effects of congestion charging on the economy, and in particular, do you think that would drive development away from the city center to other areas and possibly move your congestion to somewhere else in the city.

Mr. Hong Wan-Shik (PUSAN)

I think you may have misunderstood slightly what I said in my speech earlier. I believe that Singapore at present imposes a congestion tax on vehicles entering the city center. Is that right Singapore?

Mr. Lam Chuen Fong (SINGAPORE)

Yes, it is.

Mr. Hong Wan-Shik (PUSAN)

Singapore has said 'yes' to that. In Seoul, the capital of Korea, they will probably

introduce a traffic congestion tax next year but when we tried to do this in Pusan there was an outcry from the public. Those people living near subway lines wouldn't face much of an economic burden but on the other hand, those in places where subway lines haven't been constructed would bear a considerable burden. Therefore we decided that it would be better to wait until at least the second subway line is complete and then introduce this type of system. Until this time arrives we will investigate the problems associated with such a tax as well as public opinion on the matter.

Mr. Bubung Burhana (JAKARTA)

I am Bubung Burhana from Jakarta. I experiences difficulties in the traffic system. When the intersection is flooded, has high traffic density. Sometimes the queuing from one intersection to another intersection that make the traffic jam in area. What is the solution in your experience here?

Mr. Hong Wan-Shik (PUSAN)

I think all cities face problems related to intersections. In September last year, right here in Fukuoka, the Mayor of Guangzhou and I gave speeches at a workshop on the same topic "Cities and Traffic". The Mayor of Guangzhou talked about an idea that they are advancing as part of their traffic policies and it was really quite interesting. He said that because serious traffic jams occur at intersections, their policy is to avoid intersections altogether by constructing overhead passes. In Pusan we already have congestion problems at intersections in the city center and so readily accepted this idea. As far as our finances permit we are putting effort into construction of such overhead passes and construction is actually underway. However the problem is that the construction cost is 20 billion won which is equivalent to 3 billion yen. This is no small sum of money. Therefore we are utilizing another method, the TSM method in order to solve the intersection problem. I have received information that at present, in a city in Washington State, I don't remember the exact name of the city but I think it's Watton City, they have newly developed TSM techniques relating to intersections and have applied these to great effect. This technique is known as CFS-Continuous Flowing System-and because it is not costly we are considering researching its feasibility for use in Pusan City as part of the 5 year plan I mentioned to you earlier. During today's meeting I hope that new information can be exchanged and that we can obtain ideas and policies that enable us to solve traffic problems in the most economical way possible. That's all.

Mr. Boonyawat Tiptus (BANGKOK)

My name is Boonyawat Tiptus from Bangkok. In Bangkok, we have problem about parents sending their kids to popular school, and picking them back to home in the afternoon. My question is do you have the problem the same as Bangkok or not. If you have, how to solve the problem about the school bus. Thank you.

Mr. Hong Wan-Shik (PUSAN)

What methods did you use in Bangkok to solve this problem?

Mr. Boonyawat Tiptus (BANGKOK)

We try to make a school bus, but can't do it because the parents try to send their kids with a private car and popular school is separate in the area, and anyone that have, you know, with it all by school. When they have the school closed, the traffic in Bangkok is so good. That is our problem.

Mr. Hong Wan-Shik (PUSAN)

Mr. Chairman, I don't think this is limited to Bangkok. What about Japan? Do many people strive to enter famous schools?

Mr. Shigetaka Nose (FUKUOKA)

I'm not exactly sure about schools' rankings, but in the case of Universities students commute from quite a wide area. But for compulsory education the schools' intake districts are set and so students walk or ride bicycles to public schools. There are private schools which, as was discussed today, have buses. Because students are taken to school under these circumstances, I am not really sure how many school buses there are but I don't think they represent a high proportion of the traffic. This is probably the case in any city throughout Japan. I'm not really sure if it is the case in Bangkok that there are no buses to go to school on or if there is no public transport.

Mr. Hong Wan-Shik (PUSAN)

Do you mean that there are too many cars traveling to schools and so the amount of traffic is increasing?

Mr. Boonyawat Tiptus (BANGKOK)

Yeah!

Mr. Hong Wan-Shik (PUSAN)

The reason that I repeated this question is that, although Japan is fortunately free of this problem, it seems to me that the conditions in Bangkok resemble Pusan. In our country parents go to great pains to send their children to a good school. So even if a school is far away parents will send their children there and as a result traffic increases. My child is going to junior high but because the school was too far away we moved house. In school winter and summer vacation periods the traffic congestion problem in Pusan is alleviated to some extent. In order to tackle this problem seriously we are making ceaseless efforts in conjunction with the department of education. In particular we are constantly trying to prevent students coming to school by car and urge parents to send them to school on public transport. It's a bit strange to say we are "teaching" them but at any rate this is how we are appealing to people. I hope Bangkok will maintain its efforts.

Chairman

Thank you. I would now like to move on as we are out of time. Thank you for your opinions.(Applause)

Presentation |||

Mr. Lam Chuen Fong

1 Assistant Chief, Transportation Engineer, Infrastructure Division, Singapore

Chairman

Next, we will have a presentation from Singapore. I believe Singapore is a very advanced city in the field of traffic management. Before the presentation I would like to hand out some extra materials. I will now hand the floor over to Mr. Lam of Singapore.



Mr. Lam Chuen Fong (SINGAPORE)

Mr. Chairman, fellow delegates, ladies and gentlemen, I'm honored to be with you here to share our experience in tackling transportation issues in Singapore. And before this presentation, I shall talk about the strategy we have adopted and various measures we have taken and the recent development that has taken place. But first of all, I would like to give a little background information about my country. Singapore is located some 137 kilometers north of the equator. It comprises the southern tip of the Malayan Peninsula. It is a small island republic measuring 42 kilometers in the east west direction, and 23 kilometers in the northsouth direction. It has a total land area of 641 square kilometers. In 1993, we had a population