

AusRAIL PLUS 2019

Speech Script

Slide 1

Opening

Good morning.

Thank you for the introduction. My name is Masafumi Shukuri. I am very happy to be able to give a talk at AusRAIL PLUS 2019 in Sydney which I understand is the largest AusRAIL conference in history. In September last year, I met with Mr. Danny Broad, the CEO of ARA who is hosting the conference. At that time, he invited me to attend the conference and that has enabled me to be here today. I would therefore like to express my gratitude to Mr. Danny Broad and to the ARA.

In Australia, I was told I have to begin with a joke. But in Japan, we always have to begin with humility and an apology. So I am sorry I am going to speak in my poor English.

2nd slide

First –please take a look at this map. Countries in Blue are those already operating High-Speed Rail (or HSR), and countries in yellow, are those currently under consideration for HSR development. As you can see, Europe, China and Japan have already developed HSR, and many Southeast Asian countries, India and the US are considering or in actual development phase. Now, what about Australia?

3rd slide

Take a look at this. In Sydney and Melbourne, the population is already around five million each, and is expected to grow more in

each city as the center of business and social lives. Inter-city travel between the two metropolitan areas is congested, and I hear that flight route between Sydney and Melbourne is one of the busiest in the world. If you want to travel between Sydney and Melbourne, how many means of transportation are there? You could go on a walk about, but I see that airplanes and cars are the main means of transportation. Airport slots are already full, and roads take a long time. There is a need for a third means of transportation that can integrate these two world cities and carry many people safely on time. Today, I propose that Australia should begin serious consideration on the development of a High-speed rail that saves time, safe, reliable, environmentally friendly, 1/12 of CO2 emission compared to airplane, and efficient in transporting large numbers of people and that will bring about major changes in the economy and society.

4th slide

Why now? Please see this slide. The figure above represents Australia's future population projections, and the figure below represents the construction process of High-Speed Rail. The High-Speed Rail would be a large scale project that would take at least 20 years from the consideration and decision to construct, to the actual construction, and to the stabilization of revenues. In other words, if Australia starts considering now, the operation will start around 2040. Australia's population is projected to double in 50 years, and problems such as traffic congestion and soaring housing prices will increase. High-Speed Rail will provide the optimal solution to such problems by transporting large numbers of people safely, frequently and reliably across longer distances. This means you could live on

a property near Canberra with kangaroos in your backyard and commute to Sydney every day. High-speed rail is not only transportation. Its explicit performance will have a tremendous effect on Australia's economic growth as its population grows. The High-speed rail is a project that should be considered now for the next 50 years of this country.

5th slide

Another reason to consider "now." I have heard that Sydney and Melbourne already have urban railway development plans for the future. New stations and routes will be constructed, making the cities more convenient. As I mentioned earlier, what about the connection between Sydney and Melbourne? The High-speed rail connecting these major cities will have the greatest effect by combining it with the planned future urban railway network. And if they are to be combined, we need to consider now where and how to most efficiently combine them so as to optimize future planning. Failure to do so will only increase cost and congestion.

6th slide

Let me explain the effects of High-speed rails from examples in Japan. There is an example of Shinagawa Station in Tokyo. Since Japan's modernization, urban railway networks have been formed as strategic nodes for transportation, and this station has developed as a terminal station where a number of routes gather. Here's how Shinagawa station looked in 1995. In 2003, the Shinkansen line was linked to this station.

7th slide

You can see how drastically the city changed, due to the development brought by the Shinkansen. The inauguration of the Shinkansen further improved the function of Shinagawa station as a terminal and led to dramatic growth surrounding the station.

8th slide

The impact of bringing Shinkansen continues. As you can see here, a further large-scale development is under construction including the opening of a new station early next year.

9th slide

Now, I think you have understood the importance of considering a High-speed rail at this time. But I also want to emphasize how Shinkansen-like systems can transform people's lifestyles leading to significant changes in the country's economy and society. High-speed rail will increase inter-urban travel triggering the development of cities and regions along railway corridors.

10th slide

There are two types of High Speed Rail system in the world. The first type is based on the principle of interoperability, which is the mainstream in Europe. By expanding existing conventional railway networks, high-speed rail is able to run on the same line as conventional railway lines. In Europe where a great network of conventional railway was already formed, and the distances between major cities are short, you can see how interoperating conventional and high-speed railways on the same tracks could be efficient and optimal.

11th slide

The second type is a system based on the principle of "Crash Avoidance" using dedicated lines. The Japanese "Shinkansen" corresponds here. A dedicated line for high-speed passenger rail and the use of an Automatic Train Control system or ATC that completely eliminates the risk of collision leads to safe and highly frequent mass transportation. This is the optimal system for a country that will construct new lines to connect two cities of large population with frequent and efficient service.

12th slide

Well, I think it's hard to imagine it even if I explain it verbally, and I think everyone is getting sleepy, so please take a look at our short movie that summarizes the features of High-speed rail based on the principle of Crash Avoidance.

Movie (5:00)

13th slide

Ladies and gentlemen, how was the video? I think you've seen that High-speed rail based on the principle of Crash Avoidance can bring about significant changes in society, the economy, and people's lifestyles. Now, I would like to briefly review the features of the Shinkansen system expressed in the video. The biggest characteristic of the Shinkansen system is that it is able to realize high speed, large volume, and high frequency without delay, while at the same time ensuring absolute safety. Since the inauguration of the Shinkansen bullet train, there have never been any fatal train accidents involving passengers. In addition to its absolute safety, they operate at 3 minute intervals and the average delay time is less

than 1 minute, allowing it to transport more than 1,300 people in one service. I believe that only the Shinkansen system can realize this.

14th slide

The reason Shinkansen system realizes absolute safety and mass and high-frequency transportation capacity is because it is based on the principle of Crash Avoidance. The principle of crash avoidance consists of three elements. A dedicated line, the use of an ATC system, and a total system approach. Dedicated lines for high-speed passenger railways are those that completely separate the tracks from freight railways that are driven by heavy locomotives and conventional passenger railways. This eliminates the risk of collision with freight trains and conventional passenger trains. There is no level crossing at all, which eliminates the risk of collisions with all kinds of road traffic. In addition, the ATC system enables control of all trains, which prevents collisions and speed overruns.

15th slide

Not only the hardware aspects of the completed system, but also the "Total System Approach," enables the Shinkansen to achieve absolute safety, reliability, and mass, high-frequency transport capabilities. The Total System Approach optimizes the integration of software elements and hardware, such as operations, maintenance, and human resource development.

16th slide

We tend to focus on hardware, but software is important as well.

17th slide

When safe, reliable and frequent High Speed Rail is realized, it will make it easier for people to travel on a day trip and to contact business face to face. HSR will vitalize their economies. It will allow families from far away to see each other conveniently, and will

contribute significantly to local and international tourism.

18th slide

Now, I would like to introduce which countries are considering or have begun to deploy the Shinkansen system. First of all, Japan. More than 55 years have passed since the opening of the Tokaido Shinkansen line in 1964, and it has grown through various evolutions. Before the opening of the Shinkansen line, 550km between Tokyo and Osaka took 6.5 hours. However, thanks to the opening of the Shinkansen line and the subsequent technological development and increase of speed, Tokyo and Osaka are now connected in two hours and 22 minutes. Furthermore, the construction of the Chuo Shinkansen using the Superconducting Maglev technology has begun, and two cities will be connected in an hour in the near future. There are currently seven Shinkansen lines in operation, and if we include the ongoing extension works of Shinkansen and the construction of the Chuo Shinkansen, we will eventually complete a Shinkansen network with a length of approximately 4,000km.

The expansion and enhancement of the Shinkansen network have been implemented stage by stage according to priority, based on the Nationwide Shinkansen Railway Development Act established in 1970 and the Development Plan made in 1973.

19th slide

You may think that the Shinkansen is successful only in the case of Japan, but that is not true. In 2007, a Shinkansen connecting Taipei, Taichung, and Kaohsiung, the three largest cities in Taiwan, was opened. Since its inauguration, passengers have increased year by year, and this has had a major impact, and it has now become an indispensable core network supporting Taiwan's economy and society. I think it is a good example of how Shinkansen brought

"Transformation" to a nation's society and economy.

20th slide

Next is India. In India, which is experiencing remarkable population growth and economic development, it is said that traffic congestion between major cities has a significant negative impact on their economic activities and the environment. In order to solve these problems, the Government of India decided to introduce a Shinkansen system with high frequency and mass transportation performance that is safe and environmentally friendly. Construction is currently underway between their two highly dense city pair: Mumbai and Ahmedabad.

21st slide

There is also a Shinkansen project in United States that is making steady progress. A plan to link Houston and Dallas, Texas's biggest cities, where significant population and economic growth are anticipated. The time when Shinkansen trains will whizz through the land of United States is getting closer.

22nd slide

There are more countries around the globe that are currently considering the introduction of High-speed rails. This is because high speed rail can bring economic and social transformation to those countries as well as provide an effective measure against the worsening global environment challenges. Now, I'll ask you all once again. When should Australia start creating a full-fledged plan premised on realization? That's right. You need to start "now."

23rd slide

Finally, I would like to convey my message to you all once again. The High-speed rail is not the immediate future of today and tomorrow, but a project that must be considered with a time span of

50 years. I believe that Australia, which is experiencing remarkable population growth, has more potential for economic development than ever before. The delay in the decision to construct High-Speed Rail would be a great loss to future economic development. Now that the urban railway initiative is taking shape, it is also necessary to consider the location of future HSR stations and right of way.

Let's get prepared NOW for a brighter future.

24th slide

Thank you for your kind attention. I would be happy to respond to your questions.