Session 4: Mr. Nakorn Chantasorn

Presentation entitled: What are the Fundamental Needs for Having or Implementing High Speed Rail?

Biographic Data of Speaker

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Mr. Nakorn Chantasorn has over 30 years experience working in the State Railway of Thailand (SRT), in the positions of Engineer i/c Locomotive Technical Division, Mechanical Engineering Department; Chief, General Training Division, Training and Development Bureau; Chief, Policy and Planning Bureau; and Director, Special Programme Development Department respectively. He has been appointed as the Deputy Governor (Electrification System Project Management) since 2006, responsible for the Special Project and Construction Engineering as well as the Electrification System Management of the SRT. After retired from SRT on 30th October 2010, he assumes the position as advisor to the President of NSTDA since 1st September 2010.

Mr. Nakorn Chantasorn graduated with the Bachelor of Engineering (Mechanical) from Chulalongkorn University, Bangkok, Thailand. He received the Master of Science in Management Science from Cranfield Institute of Technology, United Kingdom.

WHAT ARE THE FUNDAMENTAL NEEDS FOR HAVING OR IMPLEMENTING HISH SPEED RAIL?

There are 2 points to raise, first the socio-economic point of view and second the engineering point of view. As far as the socio-economic point of view is concerned, to the fact that transport demand is derived demand, the determining parameters for a success of high speed train is the way in which land use and human settlement have been made in the past. The implementation of high speed train, if the land use and human settlement is supporting i.e. rail-oriented development with high density cluster land use, can be successful by satisfactorily high ridership from the early day of service. With that, the following consequences will be more favorable. Through proper arrangement of investment funding, train operation can be profitable and future expansion of high speed train network can be made logical.

On the other hands, if land use and human settlement is not supporting i.e. scattered low density land use, train operation in the early day of service will be suffering from low ridership. By any alternative funding arrangement, the system will be running at loss and would need subsidy otherwise service provider would financially be suffer and system somehow could be operationally unsafe lacking proper handling-maintenance for example. The system would require time for ridership to grow and in the mean time, in order to develop a favorable land use and human settlement, might need intensive care in 2 aspects. First, a directive policy for future rail-oriented development and second, a directive policy for land use and human settlement reform favoring rail transport. In general, investment on high speed train rested on non rail-oriented development will be facing unfavorable fortune.

Mostly, the densely human settlement corridors justifying high speed train implementation possesses a few prominent characteristics such as high percentage of urban population, proper distance between major clusters (cities) and availability of integration with other public transport networks.

As per the engineering point of view, higher speed means higher risk for safety. A number of high speed train accidents in the past demonstrated how much damage would occur. Derailment at high speed is not merely an accident, it is disaster! Maintenance philosophy of high speed train to ensure safety is therefore strict and very costly. High maintenance cost results the fair which is comparable to that of airline ticket. Buying power of the people may be another socio-economic factor which is important to HST project implementation.

Engineering wise, a small mistake in the operation of HST can cause big accident. In order to guarantee safety therefore, standard and good engineering practice would be needed. A firm foundation for safe operation of HST needs elaborated training and requires time to establish a sense of safety precaution among every level of staff concerned. Japan an example of a successful HST project implementation claims that there is no single passenger killed over 50 years of operation. It took 37 years to raise maximum speed from 210 to 300 km/hr.

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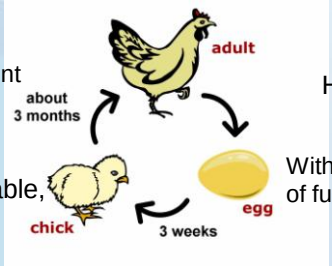
Nakorn Chantasorn
NSTDA

What are the Fundamental Needs for Having or Implementing High Speed Rail?

Socio-economic point of view

Land use and Human settlement support

Directive for rail-oriented
Land use & human settlement



High Ridership

New investment comfortable,
Network expand

With a certain arrangement
of funding, can be profitable

Fund (and credit) accumulation

Chicken and Egg Problem

Transport demand is derived demand

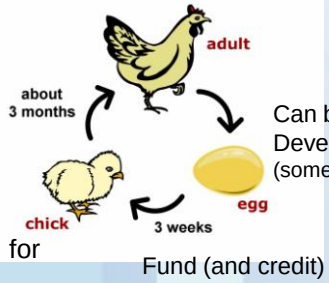
What are the Fundamental Needs for Having or Implementing High Speed Rail?

Socio-economic point of view

Running at loss: need subsidy (otherwise unsafe or cease service)
Need care: Time for ridership to grow
: Strong directive policy for rail-oriented development
: Directive policy for land use & human settlement reform

Low Ridership

Land use and Human settlement not support



Can by itself direct rail-oriented Development in the long run. (somebody pay in the mean time)

By all means, fund raising for new investment is difficult

Fund (and credit) accumulation difficult

Chicken and Egg Problem

Transport demand is derived demand

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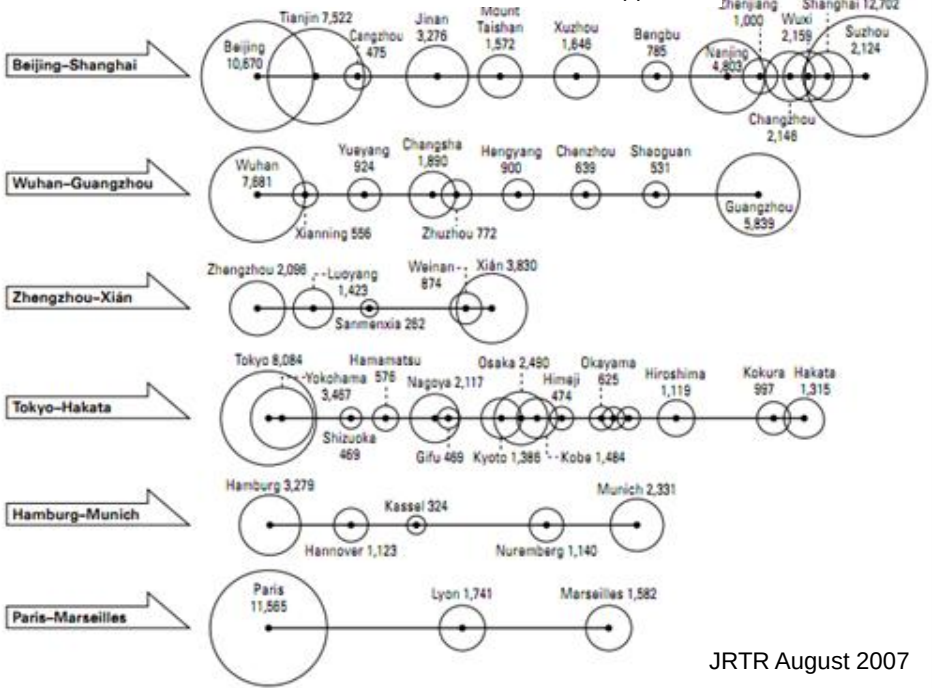
The corridors where land use and human settlement support



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Engineering point of view

- High Technology involvement
- Small mistake can cause big trouble
- Derailment is disaster
- Need standard and good engineering practice
- Need time to establish foundation for safety

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THANK YOU

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