



# GUJARAT TECHNOLOGICAL UNIVERSITY



Center for Infrastructure, Transportation  
and Water Management (CITWM)

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## Report: Expert talk on High Speed Rail in India – What, When, Where, Why & How



GTU Research Center for Infrastructure, Transportation & Water Management organized an expert talk by Shri Gaurav Agarwal, Director, Railway Board, Ministry of Railways on High Speed Rail in India – What, When, Where, Why & How on 31<sup>st</sup> July, 2014 at GTU, Chandkheda, Ahmedabad. Faculties & Research Scholars working in the field of transportation, Electrical, Mechanical, IT & innovations participated in large numbers at this event.

Shri Naresh Jadeja, Dy. Director, GTU welcomed participants and expert speaker followed by a floral welcome of Shri Gaurav Agarwal by Registrar of GTU – Dr. G.

P. Vadodaria. In his introductory speech, Dr. Vadodaria mentioned about the announcement of Government to establish Railway University and discussed about the need of industry-academia interaction and joint research projects between GTU and Indian Railways.

Shri Gaurav Agarwal started his presentation with a remark that this is a very relevant topic in Gujarat as possibility of Ahmedabad getting High speed rail is highest among other focused corridors of Indian Railway. Proposal for Ahmedabad-Mumbai high speed rail is already submitted to the government.

He said that in the Report of Mckinsey Global Institute (MGI) projections, it is mentioned that by 2030, 40 % of India's projected population will be urbanized. Thus there will be a growing demand of intercity transport – between Metro city and 2<sup>nd</sup>/3<sup>rd</sup> tier city. In the absence of HSR, traffic segment of airlines/cars is growing at 15-20% per year. Indian Railway is the biggest railway network under a single employer, transports 2 crore passengers & 4 MT freight every day a total of 9 semi-high speed trains are planned in 2014-15. The speed of the semi-high speed trains will be 140 Km/hr (intermittent) to 160 KMPH (continuous).

Shri Gaurav Agarwal mentioned that Ministry of Railways has four mission areas – Metro Rail Project, High Speed Rail, Dedicated Fright Corridors and IT. He presented the analysis of why High Speed rail is economically viable compared to Road Transport with aspect such as High Speed rail will need 15 Metre space compared to 35 Metre space required by six lane road and other parameters such as no. of people transport/hour and fuel consumption etc.



He discussed challenges for implementation of High Speed Rail in India namely – Fund, Policy Frame Work, Land acquisitions, Political Will, Social-economic viability, Selection of Technology, Selection of corridors etc before presenting High speed rail technologies implemented around the world.

Shri Gaurav Agarwal discussed fundamental technologies behind Aerotrain, TGV, Meglav, Shinkansen, Transrapid & High Speed tilting trains.

He opened few research topics where academia can contribute and take up those problems as academic research projects. He mentioned Indian Railways Fellowship programs for the research relevant to Indian Railways and asked

participants to think about out of the Box solutions which can bring big change to the existing system of Indian Railways.

Shri Agarwal said that a proposal for Ahmedabad – Mumbai corridor is submitted and if everything goes according to plan, we can reach from Mumbai to Ahmedabad in one hour, 52 minutes by High Speed Railway (HSR) and the High Speed Railway can be on horizon by the year 2021. The HSR will cover 176 km in Maharashtra, while 6 km in Dadra-Nagar-Haveli, while it will cover 364 km in Gujarat. Thus total 546 Km will be covered by High Speed Train of Mumbai-Ahmedabad corridor. The route will have terminals at Mumbai & Ahmedabad. It will have intermediate stations at Navi Mumbai, Surat & Vadodara and Depot in



Ahmedabad (Geratpur). Expected operational speed of the trains may be 350 km/hr and expected commercial speed may be 286 km/hr. It is also mentioned in the proposal report that if speed to be kept 300 Km/Hr then it will take 12 minutes more, but can save 27 % energy, Mr. Agarwal said.

Session ended with Question & Answer Session where researchers discussed their research problems and requested to facilitate visit of resources available with Indian Railways.

During a meeting of Shri Gaurav Agarwal with Honorable Vice Chancellor of GTU in presence of Registrar Dr. G. P. Vadodaria and Deputy Director Mr. Naresh Jadeja, it was decided to form Research Group for Indian Railways under Center for Infrastructure, Transportation & Water Management to increase research activities of GTU relevant to needs of Indian Railways.

