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469A Bukit Timah Road
#07-01, Tower Block, Singapore 259770
Tel: 6516 6179 / 6516 4239
Fax: 6776 7505 / 6314 5447
Email: isasijie@nus.edu.sg
Website: www.isas.nus.edu.sg

Institute of South Asian Studies

NUS National University of Singapore

Brief Conceptual Note: Development of the Delhi-Mumbai Industrial Corridor[1]

S. Narayan[2]

The Freight Corridors

The Government of India has announced a dedicated freight corridor network between Delhi and Mumbai as well as between Ludhiana to Kolkata. The Delhi-Mumbai Industrial Corridor (DMIC) covers an overall length of 1,515 kilometres and passes through the states of Uttar Pradesh, the National Capital Region (NCR) of Delhi,[3] Haryana, Rajasthan, Gujarat and Maharashtra, with end terminals at Dadri in the NCR of Delhi and Jawaharlal Nehru Port near Mumbai.

Each of the corridors will be dedicated to long-haul, fast movement of freight, at speeds up to 100 kilometres per hour, and would free existing track space for short-haul freight as well as passenger traffic. The East-West corridor is expected to cater primarily to the movement of bulk commodities, particularly coal and steel, where there is substantial movement between the coalfields and the steel plants in the East to the power stations and industries in the West and North. As such, it is envisaged that this freight corridor would use open wagons with electric locomotives for traction. It would entail an expenditure of approximately Rs12,000 crore.[4]

The North-West corridor, on the other hand, seeks to cater to industry, manufacturing and exports and, as such, would handle container traffic. The Indian Railways and the Indian government have opted for flat wagons that can carry double stack containers. This is the first time that such an alternative is being tried anywhere in the world. The only other two places that haul double stack containers by rail either use well-shaped wagons with electric traction (China) or flat wagons with diesel traction (United States). The attempt to use flat wagons with electric traction is, thus, an experiment, and pilot testing has started this week on this technology. The total cost of the project is estimated to be around Rs16,000 crore (though the Japan International Cooperation Agency [JICA] estimates are considerably higher at

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1 The paper is prepared based on discussions with Mr Ajay Dua, Adviser, DMIC; and JICA reports.

2 Dr S. Narayan is a Visiting Senior Research Fellow and Head of Research at the Institute of South Asian Studies, an autonomous research institute within the National University of Singapore. He is the former economic adviser to the Prime Minister of India. He can be reached at snarayan43@gmail.com.

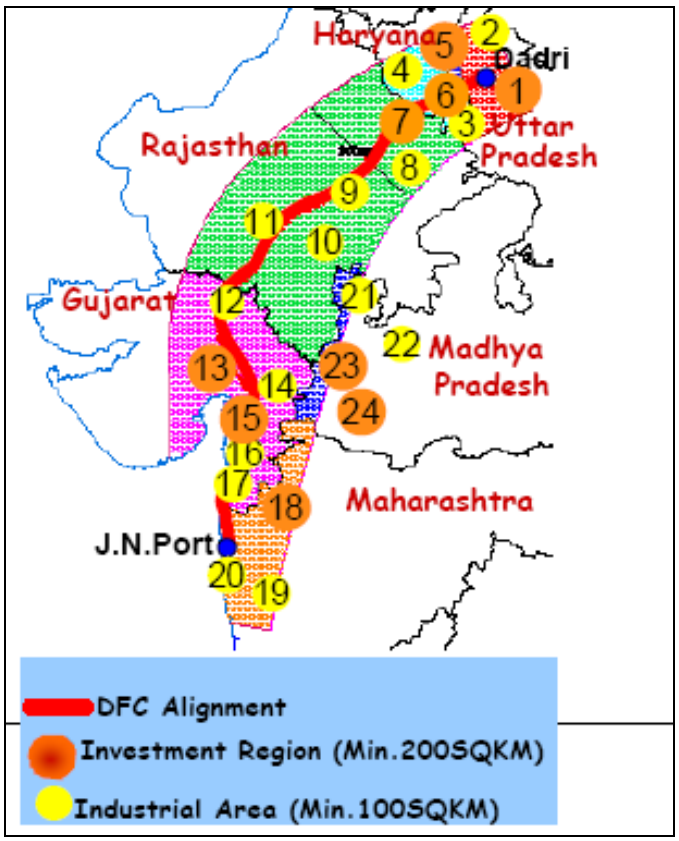
3 The NCR is the metropolitan area of Delhi which encompasses satellite cities like Faridabad, Gurgaon, Ghaziabad and Noida.

4 Rs.1 crore is approximately US$240 million.

Rs28,000 crore). Tracks would be constructed for 25 tonne axle load and the project involves 745 road crossings, 200 new roads under bridges and 505 new roads over bridges. There would be nine junctions and three terminal stations along the route, and the ports of Mumbai, Navi Mumbai, Pipavav, Kandla, Dholera, Navlakhi, Dahej, Mundra, Mandvi, Mahuva, Rewas and Dighi would be served by this corridor.

The Japanese government has been involved from the beginning in the planning and feasibility studies, and has also come forward with concessional financing through its government-to-government programmes to assist this project. Japanese assistance for the portion in Rajasthan (Rewari to Palanpur) has already been assured, and the start and tail portion funding is under discussion. Some portion of the assistance would be tied to sourcing of locomotives and signaling equipment from Japan.

The Indian government has also decided to push ahead with the East-West corridor simultaneously, and some tenders have already been floated. The additional land involved for the project, over a 1,515 kilometre line, is only about 5,300 hectares, and not much difficulty is anticipated in putting this together.

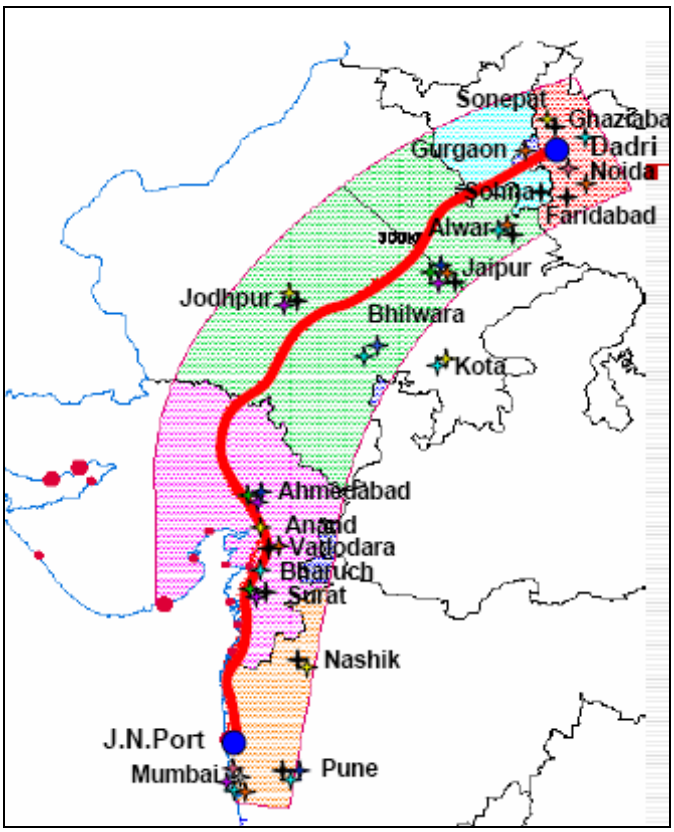


DMIC Industrial Corridor

A memorandum of agreement was signed between the Indian Ministry of Commerce and Industry and the Japanese Ministry of Trade and Industry in December 2006 for the development of an industrial corridor along the freight corridor between Delhi and Mumbai. An inter-ministerial group was set up to work out the project outline and an Indo-Japanese taskforce was set up to guide the process. The taskforce, after several meetings, came up with a concept paper for the development of an area of 150 kilometres on either side of the freight

corridor. The concept paper envisages the creation of a strong manufacturing and trading hub supported by world-class infrastructure.

High impact/market driven nodes-integrated Investment Regions (IRs) and Industrial Areas (IAs) have been identified within the corridor to provide transparent and investment-friendly facility regimes. These regions are proposed to be self-sustained industrial townships, with world-class infrastructure, road and rail connectivity for freight movement to and from ports and logistics hubs, served by domestic and international air connectivity, reliable power, quality social infrastructure, and they provide a globally-competitive environment conducive for setting up businesses. An IR would be a specifically delineated industrial region with a minimum area of over 200 square kilometres (20,000 hectares), while an IA would be developed with a minimum area of over 100 square kilometres (10,000 hectares). Twenty four such nodes – nine IRs and 15 IAs spanning across six states – have been identified after wide consultations with the stakeholders, that is, the state governments and the concerned central ministries. It is proposed that six IRs and six IAs would be taken up for implementation in the first phase during 2008-2012 and the rest of the development would be phased out in the next four years.



There are already several industrial belts along this region. These are:

a) Uttar Pradesh: Noida/Greater Noida and Ghaziabad (General Manufacturing);
b) Haryana: Gurgaon, Faridabad and Sonepat (Automobile, Electronics and Handloom);
c) Rajasthan: Jaipur, Alwar, Kota, Bhilwara and Jodhpur (Marble, Leather and Textile);
d) Gujarat: Ahmedabad, Vadodara, Anand, Bharuch and Surat (Engineering, Gems and Jewelry, Chemicals); and
e) Maharashtra: Mumbai and Pune, Nashik (Auto/Auto Component, Textile, Pharma and Aluminum).

The development strategy of the DMIC is based on the competitiveness of each of the DMIC states. In this zone, several industrial regions, as well as industrial areas, have been identified for the first phase of development. The difference between the zones and the areas is that the latter is a smaller, more closely knit agglomeration of industrial units which is planned, while the former would represent a broader (approximately 200 square kilometres) area development concept.

The identified IRs are:

a) Dadri-Noida-Ghaziabad (Uttar Pradesh);
b) Manesar-Bawal (Haryana);
c) Khushkhera-Bhiwadi-Neemrana (Rajasthan);
d) Ahmedabad-Dholera (Gujarat);
e) Igatpuri-Nashik-Sinnar (Maharashtra); and
f) Pitampura-Dhar-Mhow (Madhya Pradesh).

The identified industrial areas are:

a) Meerut- Muzaffarpur (Uttar Pradesh);
b) Faridabad-Palwal (Haryana);
c) Ajmer-Kishangarh (Rajasthan);
d) Vadodara-Ankaleshwar (Gujarat);
e) Dighi Port (Maharashtra); and
f) Neemuch-Nayagaon (Madhya Pradesh).

Within these selected nodes, the activities would include developing new industrial clusters; upgrading existing industrial estates and clusters; and providing for efficient infrastructure and logistics. This would include road and rail connectivity to ports and markets; the development of new ports and port infrastructure; upgrading and modernising airports; power generation and transmission; and the development of integrated townships. An estimate of US$90 billion has been arrived at as the investment expectations of Phases I and II. The development is envisaged through public-private partnership models, and the large regions are sought to be developed as industrial hubs to make private infrastructure projects viable.

Organisational Structure and Project Implementation Framework

A four-tier system, as institutional framework, has been set up for the implementation of the DMIC. It is as follows:

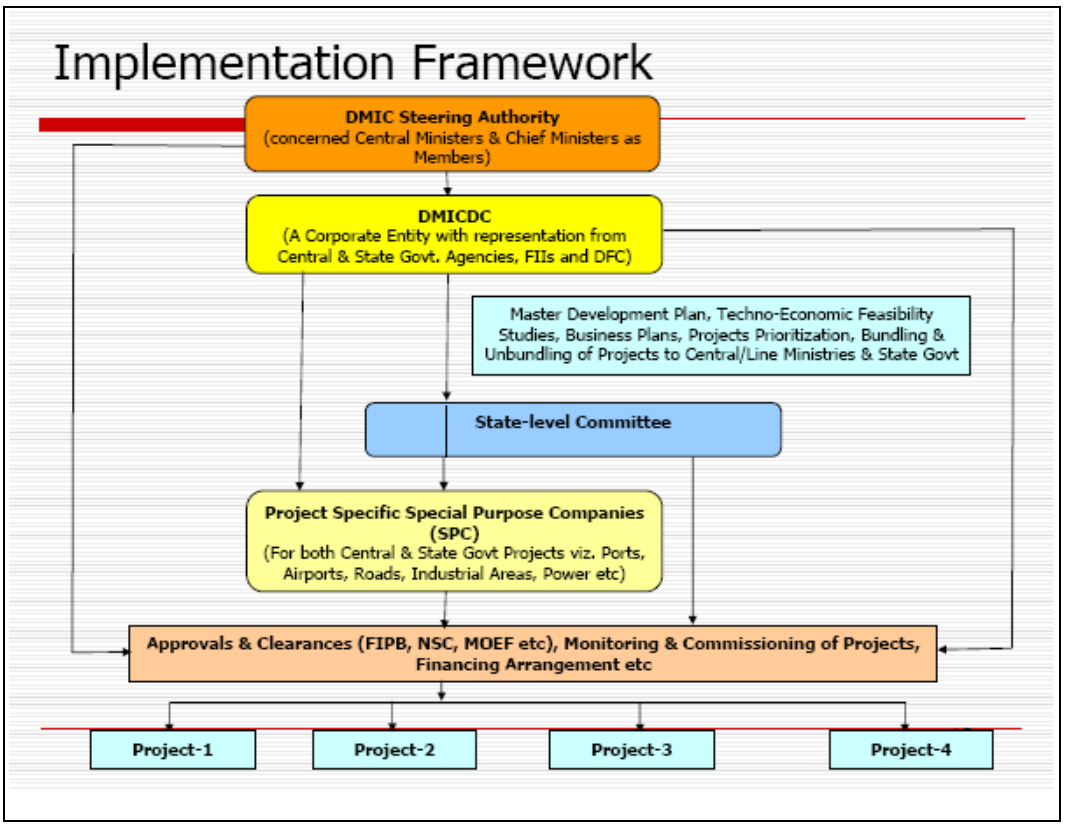
a) An apex body, headed by the Finance Minister with concerned central ministers and chief ministers of the respective DMIC states as members for overall guidance, planning, and approvals;

b) A corporate entity, Delhi Mumbai Industrial Corridor Development Corporation (DMICDC), specially envisaged to coordinate project development, finance and implementation, headed by a full-time Chairman/Managing Director (CMD) and having representation from the central government, state governments and financial institutions;

c) A state-level coordination entity/nodal agency responsible for coordination between the DMICDC and various state government entities and the project implementing agencies/special purpose vehicles (SPVs); and

d) Project-specific SPVs would actually implement the projects. These SPVs can be owned by the state governments in terms of governance structure, Board of Directors, etc. Some of these SPVs can also be formed by central/state governments and their agencies.

The apex authority has already been constituted under the chairmanship of the Finance Minister with the concerned central ministers and chief ministers of the DMIC states as members. The DMICDC has been incorporated with 49 percent equity to the central government, 41 percent to the Infrastructure Leasing and Finance Corporation (ILFS) and 10 percent to the Industrial Development Finance Corporation. The ILFS has been appointed as the project management consultant. Enquiries have been floated for the appointment of consultants for one hub in each state. The Indian government has provided a budget grant of Rs.50 crore in 2008-09.



The implementation of the DMIC involves the DMICDC undertaking project development activity for various central government projects and also to assist the state governments, wherever desired. The DMICDC will be responsible for assisting state governments in raising finances on the basis of a sovereign guarantee. It will also act as a pass through entity for specific projects and raise a Project Development Fund (PDF). This will be used as a revolving fund and would specifically be used for undertaking project development activities viz. identification of projects, preparation of feasibility reports, detailed project reports, etc., and its cost would be recovered from successful bidders. Creating a PDF will also ensure uninterrupted availability of funds for project preparatory activities. The representatives of

the respective state governments and the DFC implementing agency could be represented as Directors on the Board of the DMICDC.

Looking at the cost of various projects likely to be implemented in Phases I and Phase II, it was estimated that US$2-2.5 billion might be required for project preparation alone. Taking 10 percent of it as initial seed money, a reasonable size of project development fund would be US$250 million.

To start the entire process of project development, it is essential to undertake the preparation of detailed project reports along with master planning of nodes. Considering the importance of undertaking studies and meeting timelines and considering the fact that such resources from the state governments may take time to flow, the Indian government suggested that the Japanese side might consider special dispensation towards contributing 50 percent of the initial requirement, that is, US$125 million to the PDF even if it might require deviations and special consideration in the existing arrangement of financing. It was, therefore, agreed that, looking at the importance of the project, a grant of an untied Japan Bank for International Cooperation loan to the DMICDC would be favourably considered by the Japanese government, which would like to consider building up partnership in the project from the very beginning.

It is envisaged that the funding for the DMIC project could be either through nodal agencies (budgetary/extra budgetary provisions) or through viability gap funding/long-term soft loans extended to the project SPVs. The DMICDC would facilitate this process by using a sovereign guarantee provided by the central government. Moreover, the SPVs could also borrow on their own balance sheets or project recourse basis.

Key Issues in Project Implementation

The complexity of implementing the DMIC would require rigorous detailing of all aspects of the project prior to implementation, including engineering, environmental, social and financial issues. Given that there would be the involvement of several ministries and multiple state governments, an effective framework for coordination is essential.

The DMIC involves an investment of US$90 billion spread over 60 projects. An a priori strategy for the mobilisation of finances to cover each phase of the project is critical. The funding would need to be accessed from state and central governments, Indian and foreign investors, and bilateral and multilateral institutions.

It is a first of its kind project in India, and the record of inter-ministerial coordination and project execution by state agencies in the past has been one of project delays and cost overruns. Quite apart from the financing and physical execution schedules, there are a lot of processes that involve interface with public concerns. These include land acquisition, rehabilitation of people and environmental safeguards. It is, therefore, likely that the pace of the implementation may be slower than envisaged.

At the same time, the construction of the freight corridor, which would happen within the next five years, would act a fillip to the industrialisation and development of this area, and one is likely to see a lot of initiative in the development of these industrial regions and areas. It is likely that the development of infrastructure and demand push would give a fillip to the execution of the projects.

Annexure
Infrastructure Activities Required in the Corridor

- Twenty new/upgraded rail links, a total of 1,950 kilometres.
- Five metro/suburban railway systems with route length of 330 kilometres for inter-city connectivity.
- Twenty seven road links covering 1,840 kilometres to be built by state governments.
- Eleven road links covering 1,650 kilometres to be constructed by the National Highways Authority of India.
- Eight multi-modal logistic parks, about 400 hectares in size, with railway sidings to be developed for the DMIC at Dadri, Rewari, Palanpur, Ahmedabad, Gandhidham, Vapi, Navi Mumbai and Ludhiana.
- New ports at Dholera, Navlakhi, Dahej, Mandvi, Mahuva, Rewas and Dighi to be developed in Gujarat and Maharashtra.
- Existing ports at Mumbai, Jawaharlal Nehru Port, Khandl, Pipavav, Mundra and Bhavnagar to be enlarged and modernised.
- Nineteen rail links and 26 road links to improve port connectivity.
- Seven non-metro airports Agra, Jaipur, Udaipur, Indore, Ahmedabad, Vadodra and Pune to be up graded.
- Four new international airports proposed at Jewar (near Delhi), Navi Mumbai, Chakan (between Mumbai and Pune) and near Ahmedabad.
- 492 kilometres between Mumbai and Ahmedabad identified for high speed rail linkage.
- Development of electric power to meet the shortage of 75 billion units (kwH) in 2014.

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