

ANNEXES TO PREFACE

ANNEX P.1

CONSTITUTION & TERMS OF REFERENCE OF THE COMMITTEE

F. No. 571/2/3/2010-Cab.III
Government of India
Cabinet Secretariat
Rashtrapati Bhawan

New Delhi, the 11th February, 2010

OFFICE MEMORANDUM

Subject: Setting up of the National Transport Development Policy Committee as a High Level Committee.

It has been decided to constitute a High Level Committee, the National Transport Development Policy Committee (NTDPC) under the chairmanship of Shri Rakesh Mohan who will hold this assignment in an Honorary capacity with the status of a Minister of State.

2. The Terms of Reference of the Committee will be as under: -

- (i) To assess the transport requirements of the economy for the next two decades in the context of economic, demographic and technological trends at local, national and global levels.
- (ii) To recommend a comprehensive and sustainable policy for meeting the transport requirements keeping in view the comparative resource cost advantages of various modes of transport i.e. road, rail, air, shipping and inland water transport with a special focus on the modes that have developed less than economically desirable and the need to:
 - (a) encourage a rational mix of various modes of transport in order to minimize the overall resource cost to the economy,
 - (b) ensure balance between the ability of transport to serve economic development and to conserve energy, protect the environment, promote safety, and sustain future quality of life,
 - (c) ensure universal rural connectivity,
 - (d) address the special problems of remote and difficult areas on the one hand and of urban and metropolitan areas on the other, and

- (e) adopt and evolve suitable technologies for cost effective creation, economical maintenance and efficient utilization of transport assets.
- (iii) To assess the investment requirements of the transport sector and to identify the roles of state and private sector in meeting these investment needs and to suggest measures for greater commercial orientation of transport services. In this context the Committee should pay particular attention to reviewing the experience with the PPP approach or suggest ways of modifying it further.
- (iv) To examine the laws, rules and regulations pertaining to various modes of transport and traffic and to suggest measures for strengthening their enforcement in the interest of the community and streamlining the procedures and processes in line with the needs of a fast growing modern economy.
- (v) To identify areas where data base needs to be improved in order to formulate and implement policy measures recommended by the Committee.
- (vi) To suggest measures to improve the capacity to evolve and implement projects.
- (vii) To suggest measures for implementing various components of the recommended policy within a specified time frame.
- (viii) To recommend any other measure which the Committee consider relevant to the items (i) and (vii) above.

3. The Committee may get special studies carried out by expert bodies. The Headquarters of the Committee will be at New Delhi. The Committee may visit such places and consult such stakeholders and experts as may be considered necessary for its work. The tenure of the Committee shall be 18 months.

4. The Committee will be serviced by the Planning Commission.

5. The composition of the NTDPDC shall be as under: To

Chairman

Shri Rakesh Mohan
(in Honorary capacity, with status of MoS).

Members:

Chairman, Railway Board
Secretary, Ministry of Urban Development
Secretary, Ministry of RT&H
Secretary, Ministry of Civil Aviation
Secretary, Ministry of Shipping
Secretary, Department of Financial Services
Secretary, Ministry of Coal
Secretary, Ministry of Power
Secretary, Ministry of Petroleum & Natural Gas
Adviser to DCH, Planning Commission
Chairman, RITES

Asian Institute of Transport Development
Shri K.L. Thapar, Chairman,

Former Chairman, Railway Board
Shri M. Ravindra

Former Secretary, Transport & Shipping
Shri S. Sundar

Former DG, Ministry of Road Transport & Highways
Shri D.P. Gupta

Indian Institute of Technology, Delhi
Prof. Dinesh Mohan

M.D., Great Eastern Shipping
Shri Bharat Sheth

MD, IDFC
Shri Rajiv B Lall,

Infosys Technology
Shri Mohandas Pai

AFL Group
Shri Cyrus Guzder, Chairman

Member Secretary
Shri B.N. Puri

Sd/-

(Puneet Agarwal)
Deputy Secretary
Tele : 23016576

Chairman and Members of the Committee

Copy forwarded to:-

(1) Smt. Sudha Pillai, Secretary, Planning Commission.

(2) Shri Davinder P.S. Sandhu, Director, Prime Minister's Office with Reference to their U.O. No. 430/31/C/12/2010-ES.I, dated 9.2.2010.

Sd./-

(Puneet Agarwal)

Deputy Secretary

Tele : 23016576

ANNEX P.2

WORKING GROUPS

1. RAILWAYS

No.-3/1/2010-Tpt
GOVERNMENT OF INDIA
Planning Commission
National Transport Development Policy Committee (NTDPC)

Capital Court, Olof Palme Marg
Munirka, New Delhi-110067
Dated: 19th July, 2010

Subject: Working Group on Railways for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Railways Sector. The Composition and Terms of references of the Working Group are as under:

1. Composition

- 1 Chairman, Railway Board - Chairman
- 2 Shri K.L. Thapar, Member, NTDPDC
- 3 Shri M. Ravindra, Member, NTDPDC
- 4 Member Secretary/Co-ordinator, NTDPDC
- 5 Ms. Sowmya Raghavan, Financial Commissioner of Railways.
- 6 Member Traffic, Railway Board
- 7 Adviser (Infrastructure), Railway Board
- 8 MD, Container Corporation of India (CONCOR)
- 9 Professor S. Sriraman, Walchand Hirachand Professor of Transport Economics, University of Mumbai
- 10 Dr. Ram Singh, Associate Professor, Delhi School of Economics, New Delhi.

- 11 Shri S.K.N. Nair, Sr. Consultant, National Council for Applied Economic Research (NCAER), New Delhi
- 12 Shri Saurabh Srivastava, Chairman, CA Group
- 13 Shri R. Gopalakrishnan, Executive Director, Tatasons.
- 14 Representative of financial sector (nominated by Secretary, Department of Financial Services)
- 15 Representative of IT Sector
- 16 Shri S.K. Mishra, Executive Director/Traffic/PPP- Convenor

2. Terms of Reference

1. Determine the role of railways in meeting transport requirements of the Indian economy over the next two decades, keeping in view the need to
 - a. Conserve energy and protect the environment,
 - b. Promote safety, sustain future quality of life and reduce logistics costs,
 - c. Create an optimal intermodal mix.

The group may also keep in view the recommendations of various committees including those of National Transport Policy Committee, 1980, and the Expert Group on Railways, 2001.

2. Estimate the share of railways in total transport in 2020 and 2030 consistent with the role envisaged for Railways and the projected macro-economic scenario.

3. Estimate:

- a. Passenger traffic for the year 2020 and 2030 along with broad break-up of passenger traffic in terms of long distance (1000 km and above), overnight, intercity (250 km to 1000 km), local and suburban in both premium and value segments.
- b. Freight traffic for the year 2020 and 2030 including expected composition in terms of specific segments and leads.

4. Consistent with the above, assess the current capacity and recommend the magnitude and type of capacity creation/augmentation/modernization required in the railway system. The following aspects may also be kept in view while assessing the requirements:

- a. Special problems of remote and underdeveloped areas including the north-east region.
- b. Rail connectivity with power plants, water fronts and mines.
- c. Rail connectivity with neighbouring countries.
- d. Development of regional and international railway corridors.

5. In light of the above,

- a. Assess the investment required to achieve the projected traffic growth.
- b. Identify sources of funding and assess fund requirements from budgetary, non-budgetary and private sources for different areas in rail infrastructure.
- c. Identify areas for PPP and the requirement of private and public funding in these areas.
- d. Examine the existing PPP policy framework and policy initiatives including regulatory and institutional framework and suggest changes necessary to attract greater private investment.
- e. Suggest measures for greater commercial orientation of railways.

6. Assess the full costs of rail transport, including the costs of externalities, and suggest appropriate pricing regimes for various transport products in both passenger and freight traffic, including institutional arrangements for rational pricing.

7. To suggest policy framework for provision of rail connectivity to remote areas and under developed areas.

8. Estimate the energy requirements necessary for rail infrastructure and suggest measures to put the railways sector on a sustainable low carbon path and promote energy efficiency, emission reduction and environment protection.

9. Suggest the role of railways in promoting the development and growth of integrated logistics solutions and reduction in intermodal interface impedances. This would include the development of sustainable integrated rail/road, rail/air, and rail/port transport systems.

10. Assess the availability of human resources for the railways and suggest measures for skill development and institutional capacity building for various stakeholders.

11. Suggest measures for promotion of research and development and technology upgradation in the railways, including institutional development.

12. Indicate broad areas and investment for IT in the railways to improve customer interface/satisfaction and internal efficiency.

13. Examine the issue of land availability as a critical resource and technological solutions to reduce potential land requirements. Also, suggest measures for speedy acquisition of land for railway infrastructure, along with rehabilitation and resettlement of persons affected.

14. Identify data deficiencies in railway sector and suggest measures for improving, maintaining and updating the database, including institutional measures.

15. Suggest broad areas for business process re-engineering in railways to improve its customer and business orientation as well as project execution capability.

16. Study and evaluate the international experience in rail transport with particular stress on institutional design, business strategies and freight and passenger transport products (heavy haul high speed and customer focused services), quality of service (reliability, speed, elimination of accidents), productivity and technology and development of competitive world class rail equipment industry and its relevance to IR.

3. Additional guidance for the Working Group

- a. The Group may get special studies carried out by experts.
- b. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.
- c. The Group may examine the laws, rules and regulations pertaining to roads in connection with the TOR above and suggest legal, organizational, institutional and procedural reforms as necessary.

4. The Chairman may co-opt up to two additional members.

5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Railways.

6. The Working Group shall submit its report within nine months.

7. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDPC. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to

1. Chairman, NTDPC
2. All the Members of the Working Group

2. ROADS

No.-3/1/2010-Tpt.
GOVERNMENT OF INDIA
Planning Commission
National Transport Development Policy Committee (NTDPC)

Capital Court, Olof Palme Marg
Munirka, New Delhi-110067

Dated: 19th July, 2010

Subject: Working Group on Roads for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Roads Sector. The Composition and Terms of references of the Working Group are as under:

1. Composition

- 1 Secretary (Road Transport & Highways)-Chairman
- 2 Shri S. Sundar, Member, NTDPC
- 3 Shri D.P. Gupta, Member, NTDPC
- 4 Member Secretary/Co-ordinator, NTDPC
- 5 Chairman, National Highway Authority of India (NHAI)
- 6 Director General, Roads, Ministry of Road Transport & Highways
- 7 Principal Secretary (Transport), Government of Andhra Pradesh
- 8 Principal Secretary (PWD), Government of Assam
- 9 Joint Secretary (Road Transport), Ministry of Road Transport & Highways.
- 10 Joint Secretary (Rural Roads), Ministry of Rural Development
- 11 Professor Geetam Tiwari, Indian Institute of Technology, Delhi
- 12 Shri Partha Mukhopadhyay, Centre for Policy Research, New Delhi.
- 13 Shri Athar Shahab, Dy. MD, IDFC Projects and Chairman, CII Roads Committee
- 14 Shri O.B. Raju, MD, GMR Highways Pvt. Ltd., Bengaluru.
- 15 Shri Parvesh Minocha, MD, Transportation Division, Feedback Ventures
- 16 Representative of financial sector (nominated by Secretary, Department of Financial Services)
- 17 Representative of IT sector
- 18 Adviser (Transport Research), Ministry of Road Transport & Highways - Convenor.

2. Terms of Reference

1. Determine the role of road transport in meeting transport requirements of the economy over the next two decades, keeping in view the need to
 - a. Conserve energy and protect the environment,
 - b. Promote development of remote and inaccessible areas through universal connectivity,
 - c. Promote safety and sustain future quality of life,
 - d. Create an optimal intermodal mix.
2. Estimate the growth in road traffic, passenger and freight, by 2020 and 2030 in the context of economic, demographic and technological trends at local, national and global levels.
3. Consistent with the above, assess the current capacity and required capacity in future, of the physical road infrastructure. The requirements may be grouped into different categories:
 - a. Expressways
 - b. National Highways
 - c. State Highways and Major District Roads
 - d. Rural Roads – both PMGSY and non-PMGSY (urban road requirements would be addressed by the working group on urban transport).

The following aspects may also be kept in view while assessing the requirements:

- a. Universal rural connectivity.
 - b. Special problems of remote, difficult and border areas including the north-east region.
 - c. Road connectivity with ports, power plants, water fronts.
 - d. Road connectivity with neighbouring countries.
 - e. Development of regional and international road corridors.
4. In light of the above,
 - a. Assess the investment required to achieve the projected road traffic growth.
 - b. Identify sources of funding and assess fund requirements from budgetary, non-budgetary and private sources for different areas in road infrastructure.
 - c. Identify areas for PPP and the requirement of private and public funding in these areas.
 - d. Examine the existing PPP policy framework and policy initiatives including the regulatory and institutional framework, and suggest changes necessary to attract greater private investment.
 - e. Suggest measures for greater commercial orientation of road transport services.
 5. Assess the full costs of road transport, including the costs of externalities, and suggest appropriate pricing regimes, both direct and indirect,

including institutional arrangements for rational pricing.

6. Estimate the energy requirements necessary for road infrastructure and suggest measures to put the road construction and road transport sector on a sustainable low carbon path, promoting energy efficiency, emission reduction and environment protection.
7. Review status of road quality and safety measures and ways to ameliorate road accidents and make roads more user friendly.
8. Assess the availability of human resources for the road sector and suggest measures for skill development and institutional capacity building for various stakeholders.
9. Suggest measures for promotion of research and development and technology upgradation in the road transport sector, including institutional development.
10. Indicate broad areas and investment for IT in road transport to improve customer interface/satisfaction and internal efficiency.
11. Suggest measures for speedy acquisition of land for roads, along with rehabilitation and resettlement of persons affected.
12. Identify data deficiencies in road transport and suggest measures for improving, maintaining and updating the database, including institutional measures.
13. Assess the current industry structure, including the role played by the public and private sectors and suggest policies to promote adequate competition in road transport with the objective of enhancing access and affordability.
14. Examine the barriers to free flow of road freight traffic and suggest measures to promote seamless movement of road freight across India, including in particular the use of IT.
15. Suggest measures towards consolidation and preservation of road assets.
16. Identify social disconnects arising out of construction of roads and suggest measures for their mitigation.
17. Suggest measures for upgrading and modernizing the trucking industry.

3. Additional guidance for the Working Group

1. The Group may get special studies carried out by experts.
2. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.
3. The Group may examine the laws, rules and regulations pertaining to roads in connection with the TOR above and suggest legal, organizational, institutional and procedural reforms as necessary.
4. The Chairman may co-opt up to two additional members.
5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Road Transport and Highways.
6. The Working Group shall submit its report within nine months.
7. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDPC. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to

1. Chairman, NTDPC
2. All the Members of the Working Group

3. CIVIL AVIATION

No. 3/1/2010-Tpt.
GOVERNMENT OF INDIA
Planning Commission
National Transport Development Policy Committee
(NTDPC)

Capital Court, Olof Palme Marg
Munirka, New Delhi-110067
Dated: 19th July, 2010

Subject: Working Group on Civil Aviation for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Civil Aviation Sector. The Composition and Terms of references of the Working Group are as under:

1. Composition
 - 1 Secretary, Ministry of Civil Aviation — Chairman
 - 2 Shri K.L. Thapar, Member, NTDPC
 - 3 Shri Cyrus Guzder, Member, NTDPC
 - 4 Member Secretary/ Co-ordinator, NTDPC
 - 5 Managing Director, National Aviation Company of India Limited
 - 6 Director General, Civil Aviation
 - 7 Chairman, Airports Authority of India
 - 8 Dr. Shashanka Bhide, Senior Fellow, National Council for Applied Economic Research (NCAER), New Delhi.
 - 9 Shri Rakesh Gangwal, Former Chairman and CEO, US
 - 10 Capt. G.R. Gopinath, CMD, Deccan 360.
 - 11 Shri Sanat Kaul, Chairman, International Foundation for Aviation and Aerospace Development.
 - 12 Shri Sanjay Reddy, MD, GVK, Mumbai & Bengaluru International Airports.
 - 13 Representative of financial sector (nominated by Secretary, Department of Financial Services)
 - 14 Shri U.G. Krishna, GM, ECTI, Wipro Limited.
 - 15 Joint Secretary, Ministry of Civil Aviation-Convenor
2. Terms of Reference
 1. Determine the role of air transport in meeting transport requirements of the economy over the next two decades, keeping in view the need to
 - a. Conserve energy and protect the environment,
 - b. Promote development of remote and inaccessible areas,
 - c. Promote safety and sustain future quality of life,
 - d. Create an optimal intermodal mix.

2. Estimate the growth in air traffic by 2020 and 2030 in terms of both passengers and freight by:
 - a. Total volume of traffic, domestic and international.
 - b. Domestic origin – destination pairs.
 3. Consistent with the above, assess the current and the required capacity in future, of civil aviation sector:
 - a. Aircraft fleet
 - b. Infrastructure in terms of
 - i. On the ground, including airport terminals, runway capacity, apron – parking space, access to terminal buildings etc.
 - ii. Airspace and air traffic control.
 - iii. Creation of additional/greenfield airport infrastructure and its role in promoting regional development.
 4. In light of the above,
 - a. Assess the investment required to achieve the projected air transport traffic growth.
 - b. Identify sources of funding and assess fund requirements from budgetary, non-budgetary and private sources for different areas in air transport.
 - c. Identify areas for PPP and the requirement of private and public funding in these areas.
 - d. Examine the existing PPP policy framework and policy initiatives including the regulatory and institutional.
 5. Assess the full costs of air transport, including the costs of externalities, and suggest appropriate pricing regimes, both direct and indirect, including institutional arrangements for rational pricing.
 6. Estimate the energy requirements necessary for air transport infrastructure and suggest measures to put air transport sector on a sustainable low carbon path and promote energy efficiency, emission reduction and environment protection.
 7. Review the impact of ongoing developments of international air transport in the world and India and suggest changes in policy for India in following areas:
 - a. Licensing of airlines for scheduled, non-scheduled and cargo services.
 - b. Safety, security, economic and environmental issues, keeping in view the recommendations of ICAO, international practices and the conditions in India.
 - c. Taxation policy affecting various sub-sectors of civil aviation, including taxes on aviation turbine fuel.
 8. Assess the current industry structure, including the role played by public and private sector and suggest policies to promote adequate competition in air transport with the objective of enhancing access and affordability.
 9. Assess the availability of human resources for the air transport sector and suggest measures for skill development and institutional capacity building for various stakeholders.
 10. Measures for promotion of research and development and technology upgradation in air transport, including institutional development.
 11. Identify data deficiencies in air transport and suggest measures for improving, maintaining and updating the database, including institutional measures.
3. Additional guidance for the Working Group
 1. The Group may get special studies carried out by experts.
 2. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.
 3. The Group may examine the laws, rules and regulations pertaining to air transport in connection with the TOR above and suggest legal, organizational, institutional and procedural reforms as necessary.
 4. The Chairman may co-opt up to two additional members.
 5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Civil Aviation.
 6. The Working Group shall submit its report within nine months.
 7. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDP. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to

1. Chairman, NTDP
2. All the Members of the Working Group

4. PORTS AND SHIPPING

No.-3/1/2010-Tpt.
GOVERNMENT OF INDIA
Planning Commission
National Transport Development Policy Committee
(NTDPC)

Capital Court, Olof Palme Marg
Munirka, New Delhi-110067
Dated: 19th July, 2010

Subject: Working Group on Ports and Shipping for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Ports and Shipping Sector. The Composition and Terms of references of the Working Group are as under:

1. Composition

- 1 Secretary (Shipping) - Chairman
- 2 Shri Bharat Sheth, Member, NTDPC
- 3 Shri Gajendra Haldea, Member, NTDPC
- 4 Member Secretary/ Co-ordinator, NTDPC
- 5 Director General, Shipping
- 6 Director General, Foreign Trade (DGFT), M/o Commerce & Industry
- 7 Additional Member, Planning, Railway Board)
- 8 CMD, Shipping Corporation of India
- 9 Joint Secretary, Ports
- 10 CEO, Gujarat Maritime Board
- 11 MD, Container Corporation of India
- 12 Chief Engineer, Planning, Ministry of Road Transport & Highways
- 13 External Academic Expert
- 14 External Academic Expert
- 15 Shri Jimmy Sarbh, Sarbh Consultancy
- 16 Shri Krishna Kotak, Managing Director, J.M. Baxi & Company
- 17 Shri Thomas Netzer, Director, McKinsey & Company.
- 18 Representative of financial sector (nominated by Secretary, Department of Financial Services)
- 19 Representative of IT Sector
- 20 Adviser, (Transport Research) - Convenor

2. Terms of Reference

1. Review and determine the role of the maritime sector in meeting transport requirements of the economy over the next two decades, keeping in view the need to
 - a. Conserve energy and protect the environment,
 - b. Promote safety and sustain future quality of life,
 - c. Create an optimal intermodal mix.

2. Estimate the potential growth in waterborne traffic by 2020 and 2030 in terms of both passengers and freight by
 - a. Sea borne, Coastal and Inland Water.
 - b. Major ports and non-major ports.
3. Consistent with the above, assess the current capacity and the required capacity in future, maritime infrastructure, including:
 - a. Port infrastructure.
 - b. Shipping.
 - c. Creation of additional port infrastructure or the creation of ports at new, greenfield sites, and their role in promoting regional development.
4. In light of the above,
 - a. Assess the investment required to achieve the projected maritime infrastructure capacity.
 - b. Identify sources of funding and assess fund requirements from budgetary, non-budgetary and private sources for different areas in maritime infrastructure.
 - c. Identify areas for PPP and the requirement of private and public funding in these areas.
 - d. Examine the existing PPP policy framework and policy initiatives including regulatory and institutional framework and suggest changes necessary to attract greater private investment.
5. Examine the regulatory issues including the role of the Tariff Authority for Major Ports (TAMP) and suggest changes in policies concerning ports and shipping.
6. Review the relative role of major and non-major ports and suggest measures for integrated development of the ports sector, including a review of the current legislative provisions.
7. Estimate the energy requirements necessary for port infrastructure and shipping and suggest measures to put water transport sector on a sustainable low carbon path and promote energy efficiency, emission reduction and environment protection.
8. Review the status of rail-road connectivity of ports to the hinterland and make recommendations for development of multi-modal transport systems.
9. Assess the availability of human resources for the maritime sector and suggest measures for skill development and institutional capacity building for various stakeholders.
10. Suggest measures for promotion of research and development and technology upgradation in the

water transport sector, including evaluation of technology trends in global shipping.

11. Indicate broad areas and investment for IT in water transport to improve customer interface/satisfaction and internal efficiency.

12. Identify data deficiencies in water transport and suggest measures for improving, maintaining and updating the database, including institutional measures.

13. Review the processes, productivity and efficiency of ports and shipping development and operations and make appropriate recommendations for their improvement.

3. Additional guidance for the Working Group

1. The Group may get special studies carried out by experts.

2. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.

3. The Group may examine the laws, rules and regulations pertaining to maritime sector in connection with the TOR above and suggest legal, organizational, institutional and procedural reforms as necessary.

4. The Chairman may co-opt up to two additional members.

5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Shipping.

6. The Working Group shall submit its report within nine months.

7. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDP. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to

1. Chairman, NTDP
2. All the Members of the Working Group

5. URBAN TRANSPORT

No. 3/1/2010-Tpt.

GOVERNMENT OF INDIA

Planning Commission

National Transport Development Policy Committee (NTDPC)

Capital Court, Olof Palme Marg

Munirka, New Delhi-110067

Dated: 19th July, 2010

Subject: Working Group on Urban Transport for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Urban Transport Sector. The Composition and Terms of references of the Working Group are as under:

1. Composition

- 1 Secretary, Ministry Urban Development - Chairman
- 2 Prof. Dinesh Mohan, Member, NTDP
- 3 Shri S. Sundar, Member, NTDP
- 4 Member Secretary/ Co-ordinator, NTDP
- 5 Secretary, Urban Development Department, Government of Maharashtra
- 6 Representative from Railways (urban/suburban/metro transport)
- 7 Shri P. S. Kharola, Commissioner, Department of Commercial Taxes, Bengaluru.
- 8 Shri S. N. Sahai, Managing Director and Chief Executive Officer, Delhi Integrated Multi Modal Transit System Ltd. (DIMTS)
- 9 Professor Sudhir Chella Rajan, Indian Institute of Technology, Madras, Chennai.
- 10 Professor Geetam Tiwari, Research and Injury Prevention Programme, Indian Institute of Technology, Delhi.
- 11 Dr Ashwin Mahesh, Indian Institute of Management, Bangalore.
- 12 Shri K. Ramchand, Director, IL&FS Transport Network
- 13 Shri Vinayak Chatterji, MD & CEO, Feedback Ventures.
- 14 Representative of financial sector (nominated by Secretary, Department of Financial Services)
- 15 Shri C.N. Raghupathi, Vice President, Infosys.
- 16 OSD/Director, Ministry of Urban Development- Convenor

2. Terms of Reference

1. Determine the role of urban transport in meeting transport requirements of the economy over the next two decades and develop a rolling plan for 2030 in consonance with the National Urban Transport Policy. The plan should cover urban

- agglomerations as well as satellite towns, including integrated suburban rail based systems, and should be based on the following considerations:
- a. Promote access of all citizens to jobs, education and recreation at affordable costs and within reasonable time.
 - b. Minimise overall production of green house gases and pollution (well to wheel) per passenger km.
 - c. Minimise financial costs of transportation.
 - d. Minimise overall demand for transportation.
 - e. Achieve minimum service level benchmarks.
 - f. Aim towards zero traffic fatalities.
2. Estimate the growth in passenger traffic by 2020 and 2030 in the context of economic, demographic and technological trends at local, national and global levels.
 3. Consistent with the above, assess the current capacity and recommend the magnitude and type of capacity creation/augmentation/modernization required in urban transport.
 4. In light of the above,
 - a. Assess the investment required to achieve the projected urban transport capacity.
 - b. Identify sources of funding and assess fund requirements from budgetary, non-budgetary and private sources for different areas in urban transport.
 5. Identify the roles of state, the private sector and the financial sector in meeting the investment needs of the urban transport sector. This would include examination of the current modes of financing urban transport and review of the Public Private Partnership (PPP) experience, which is designed to attract greater private participation.
 6. Assess the full costs of urban transport, including the costs of externalities. Suggest appropriate pricing regimes including appropriate taxation measures, that would achieve the desired mode mix keeping in view affordability and access.
 7. Estimate the energy requirements necessary for urban transport and suggest measures to put the urban transport sector on a sustainable low carbon path and promote energy efficiency, emission reduction and environment protection.
 8. Assess the availability of human resources for urban transport and suggest measures for skill development and institutional capacity building for various stakeholders.
 9. Suggest measures for promotion of research and development and technology upgradation in urban transport sector, including institutional development.
 10. Indicate broad areas and investment for IT in urban transport to improve customer interface/satisfaction and internal efficiency.
 11. Identify data deficiencies in urban transport sector and suggest measures for improving, maintaining and updating the database, including institutional measures.
 12. Review status of quality and safety measures and ways to ameliorate accidents and make urban transport more user friendly.
3. Additional guidance for the Working Group
 1. The Group may get special studies carried out by experts.
 2. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.
 3. The Group may examine the laws, rules and regulations pertaining to roads in connection with the TOR above and suggest legal, organizational, institutional and procedural reforms as necessary.
 4. The Chairman may co-opt up to two additional members.
 5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Urban Development.
 6. The Working Group shall submit its report within nine months.
 7. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDPC. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to

1. Chairman, NTDPC
2. All the Members of the Working Group

6. NORTH EAST

No. 5/1/2010-NTDPC
GOVERNMENT OF INDIA
Planning Commission
National Transport Development Policy Committee
(NTDPC)

Capital Court, Olof Palme Marg
Munirka, New Delhi-110067
Dated: 8th August, 2011

Subject: Working Group on Improvement and Development of Transport Infrastructure in the North East for the National Transport Development Policy Committee (NTDPC).

It has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Improvement and Development of Transport Infrastructure in the North East. The Composition and Terms of references of the Working Group are as under:

1. Composition:

- 1 Shri Vivek Sahai, former Chairman, Railway Board, Chairman
- 2 Shri B.N. Puri, Member Secretary, NTDPC, Member
- 3 Chairman Inland Waterways Authority of India (IWAI) or her representative, Member
- 4 Director General, Roads, Ministry of Road Transport & Highways, Member
- 5 Director General, Boarder Roads Organisation (BRO), Member
- 6 Shri Rohit Nandan, Joint Secretary, Ministry of Civil Aviation, Member
- 7 Joint Secretary (BSM), Ministry of External Affairs, Member
- 8 Executive Director (Projects), Railway Board, Member
- 9 Prof. Mahendra P. Lama, Vice Chancellor, University of Sikkim, Member
- 10 Representative of North East Council (NEC), Member
- 11 Representative of Planning Commission, Transport Division, Member
- 12 Representative of Customs & Excise Board, Member
- 13 Representative of Asian Institute of Transport Development (AITD), Member
- 14 Ms. Jayashree Mukherjee, Joint Secretary, DONER, Convenor

2. Terms of Reference:

- 1) To assess the Transport Infrastructure Deficit in the North East Region.

- 2) To assess the role of each mode of transport for improving the accessibility and mobility of both people and goods.
 - 3) To make recommendations for provision of transport infrastructure and facilities keeping in view:
 - (a) the role of each mode of transport
 - (b) the requirement of traffic demand, particularly, that relating to movement of essential commodities
 - (c) need to ensure balance between the ability of transport to serve economic development of the region and to conserve energy, protect environment, promote safety and sustain good quality of life.
 - (d) Need to adopt and evolve suitable technology for cost effective creation, economical maintenance and efficient utilisation of transport assets.
 - 4) To assess transport infrastructure, requirement of providing connectivity with the neighbouring countries with a view to enabling trade between North Eastern Region and neighbouring countries.
 - 5) To assess the investment requirement of Transport sector and to recommend measures to fund the projected investment.
 - 6) To suggest measures to improve the capacity to evolve and implement projects in North East.
3. The Chairman may co-opt up to two additional members.
 4. The representatives of the North Eastern States will be special invitee to the meeting of the Working Group.
 5. The Working Group shall submit its report within three months.
 6. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDPC. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPC)

Copy to:-

1. Chairman, NTDPC
2. All the Members of the Working Group

7. TRANSPORTATION OF ENERGY COMMODITIES

No. 3/1/2010-Tpt.
Government of India
Planning Commission
National Transport Development Policy Committee
(NTDPC)

6th Floor, Capital Court,
Olof Palme Marg, Munirka,
New Delhi-110 067.
Dated: 5th April, 2011.

Subject: Working Group on Integrated Strategy for Bulk Transport of Energy and Related Commodities in India.

The surge in economic growth witnessed in recent years in India has strained the capacity of its transport system as well as energy supply, particularly electric power. The government's ambitious development targets and plans as well as popular discourse attest to importance of addressing such binding infrastructure constraints in a decisive manner over the next decade in order to sustain high levels of economic growth and to make it more inclusive.

Movement of bulk commodities is a major role of India's transportation system. For example, coal accounts for almost half the freight volume on Indian Railways which is a major supplier of transport services to the electric power and steel industries. Indeed, the congestion caused by inadequate expansion in transport capacity to date, especially on crucial links and corridors underlies many issues such as security of supply chains, inventory of raw materials, port-handling, etc. affecting industry.

The future poses more profound challenges. Even if ambitious aims to improve energy intensity of the Indian economy are achieved, sustaining economic growth at 8-10% per annum over the next two decades will require massive increases in power generation and transportation of bulk commodities such as coal, iron and steel. The Integrated Energy Policy foresees generation capacity increasing six-fold to 960 GW by 2031-32 and coal requirements expanding commensurately to 2-3 BT p.a. Out of this requirement, approximately 10 to 15% will be imported coal. The task ahead is also rendered more difficult by the evolving economic geography and structural changes in the energy system, such as the increasing role of natural gas and growing imports of coal that will impose major new demands on the transport networks. Current projections for coal imports in 2031-32 and LNG imports in 2029-30 for example, are 930 million tones and 162 MMSCMD respectively.

Finally, there is increasing recognition of the adverse environmental impacts, including not just local pollution and damage to habitats and/or livelihood of vulnerable groups but also global climate change that need to be addressed in an economically efficient, equitable and effective manner.

Development plans from the key ministries of the government as well as initiatives and investment proposals from the private sector seek to address the issues alluded to above. However, the needs are vast and multifaceted, while resources are necessarily limited and more importantly the issues are intimately interrelated and the viability of solutions is interdependent both in terms of the nature of the investment (e.g. transport coal or transmit power) as well as the timing and duration of execution. Hence a piecemeal approach to planning could be severely suboptimal leading to colossal wastage of resources and lost time.

Keeping in view what is stated above, it has been decided by the National Transport Development Policy Committee (NTDPC) to constitute a Working Group on Integrated Strategy for Bulk Transport of Energy and Related Commodities in India. The composition and Terms of Reference of the Working Group are as under:-

1. Composition

1. Shri P. Uma Shankar, Secretary, Ministry of Power — Chairman
2. Shri B.N. Puri, Member – Secretary, NTDPC
3. Shri Pradeep Bhatnagar, Additional Member (Traffic), Railway Board
4. Representative* of Ministry of Coal
5. Representative* of Ministry of Shipping
6. Representative* of Ministry of Steel.
7. Representative* of Ministry of Petroleum & Natural Gas
8. Representative* of Ministry of Road, Transport & Highways
9. Representative* of Ministry of Environment and Forest
10. Representative of State Govt.
11. Representative of State Govt.
12. Representative of CEA
13. Private Sector Representative, Power
14. Private Sector Representative, Gas
15. Private Sector Representative, Steel
16. Dr. Anupam Khanna, Principal Adviser, NTDPC — Convener

** Not below the rank of Joint Secretary.*

The Chairman of Working Group may co-opt/invite representative, special experts, functionaries including that of Central Public Sector.

2. Terms of Reference

1. Develop demand scenarios for electric power and natural gas and steel for final consumption at 5-year intervals (2017, 2022, 2027 and 2032) disaggregated into a suitable number of spatial locations (transmission nodes) and consumer type.
 2. Identify production locations (existing and potential) for the following:
 - a. Electric Power Generation, separating out current and potential hydro- and nuclear power plants.
 - b. Iron & Steel plants
 - c. Coal Mines (differentiated by type of coal and ash content)
 3. Indicate current and potential port terminals for
 - a. Coal
 - b. LNG
 - c. Landing site for offshore natural gas
 4. Indicate current and potential transport links
 - a. Railway corridors
 - b. Road Corridors
 - c. Inland Waterways
 - d. Possible Coal Slurry pipelines
 - e. Natural Gas pipelines
 - f. Coastal Shipping options for coal
 5. Study the economics of transmission of energy vs. transportation of fuel (coal, natural gas) within a coherent and analytically tractable framework.
 6. Make recommendation for rationalization of coal linkage by optimizing the distance of coal transportation from source of coal supply to power station taking into account economic and environmentally significant variables such as calorific values, ash and sulfur content, carbon emissions, etc.
 7. Estimate the rail, road and port capacities required and associated investment to meet the demand.
 8. Develop estimates of both environmental externalities as well as economic cost of shortage of energy and transport services.
 9. Examine laws, rules and regulations pertaining to transport in connection with the ToR above and suggest legal, organizational, institutional and procedural reforms needed to achieve the objectives of the integrated strategy.
3. The report of the Working Group should pay due regard to the uncertainties inherent in the development of such a complex system over a long period of twenty years. Thus it is necessary to distinguish what is clearly known now and what the Group believes needs to be known through suitable analyses. The aim should be to set robust directions for the long-term that can be adapted as events unfold but also recommend immediate concrete actions that address critical bottlenecks and identify promising options (e.g. for new corridors, dedicated facilities) in order to begin planning investments in a timely manner.
4. The Group may get special studies carried out by experts.
 5. The expenditure on studies commissioned by the Working Group would be borne by the Ministry of Power.
 6. The Group may visit such places and consult such stakeholders, key users and experts as may be considered necessary for its work.
 7. The Chairman may co-opt up to two additional members.
 8. The Working Group shall submit its report in July, 2011.
 9. The non-official members of the Working Group will be paid TA/DA in accordance with the guidelines of NTDPCC. The official Members will be paid TA/DA as per their entitlement by concerned Ministry/Departments where they are working.

Sd/-
(B.N. Puri)
Member Secretary
(NTDPCC)

Copy to

1. Chairman, NTDPCC
2. All the Members of the Working Group

ANNEX P.3

COMPOSITION OF THE WORKING GROUPS AND SUB-GROUPS

1. RAILWAYS

WORKING GROUP

Chair: Chairman, Railway Board. Shri K.L.Thapar, Member, NTDPCC & Chairman AITD. Shri M. Ravindra, Member, NTDPCC, Shri B.N.Puri, Member Secretary/Co-ordinator, Shri R.Gopal Krishnan, Executive Director, Tatasons, Professor S.Sriraman, Walchand Hirachand Professor of Transport Economics, Dr.Ram Singh, Associate Professor, Delhi School of Economics, Shri S.K.N. Nair, Sr.Consultant, National Council for Applied Economic Research (NCAER), Shri Saurabh Srivastava, Chairman, CA Group, Shri Anil Kumar Gupta, MD, CONCOR, Representative of the Department of Financial Services, Representative of the Ministry of Power, Shri R.K.Jain, CAO/FOIS, Dr. Badrinarayan, GM/UTS, CRIS, MD/RITES

SUB-GROUPS

External/Policy Environment Market Analysis and Demand assessment: Chair: Shri S.K.N.Nair. Sr. Consultant, NCAER Shri Sanjeevan Kapashe, CCE/WCR, Shri Jatin Sarkar, GGM/RITES), Representative of Planning Commission, Shri Manoj Singh, Dy.COM, South Eastern Railway, Shri S.K.Das, ED/TT/F, Ms.Suhash Kumar, Adv/FM, Railway Board, Shri M.K.Reddy, EDPM, Railway Board, Shri Mukesh Nigam, ED/Coaching, Railway Board, Shri Naveen Kumar Shukla, ED/PP- Convener.

Survey of International Experience & Railway Reforms: Chair: Shri M.Ravindra, Former Chairman, Railway Board . Shri Raghu Dayal, AITD, Shri Jit Sondhi, Shri Rajiv Memani, Managing Director, Ernst & Young, Shri.Adil Zainulbhai, MD, Mc Kinsey & Company India, Shri S.K.Mishra, ED/T/PPP, Shri Naveen Kumar Shukla, ED/PP – Convener, Special Invitee: Representative of Country-Head, World Bank.

Capacity Planning and Resource Mobilization: Chair: Shri S.B.Ghosh Dastidar, Former Member Traffic, Railway Board. Shri R.K.Sinha, Director (Finance), DFCCIL, Shri TCA Srinivas Raghavan, Shri Amrit Pandurangi, Price Waterhouse Coopers, Dr.Ram Singh, Professor, Delhi School of Economics, Shri Vinay Singh, ED/Works, Railway Board, Shri Naveen Kumar Shukla, ED/PP, Shri Cherian Thomas, IDFC, Representative of Finance Directorate, Railway Board, Representative of Planning Commission and Ministries of Finance, Shipping

and Rural Development, Shri M.Madhusudan Rao, ED/Planning – Convener.

Strategic Planning, Organisational & HR Challenges: Chair: Shri R.Gopal Krishnan, ED, Tata & Sons. Shri R.K. Jain, CAO/FOIS, Prof. Sekhar Chaudhury, Director, IIM, Kolkata, Prof. S. Mani Kutty, IIM, Ahmedabad, Shri R.Mukundan, ED(E)N, Railway Board, Shri S.K. Mishra/ED/T/PPP – Convener.

Technology and High Speed Rail: Chair: Shri M. Ravindra, Former Chairman, Railway Board. Shri R.R.Bhandari, Ex.Member, Mechanical, Railway Board, Adv/Mech/Project, Railway Board, Shri R.M.Lal, AM/Electrical, Railway Board, Shri Rajeev Jyoti, CEO/Bombardier, India, TTCI, USA- Britto Raj Kumar, Shri S.K.Jain, CAO/Const, WR, Representative of DRDO, Shri Jit Sondhi, Shri A.K.Gupta, Advisor(T&E)/RITES, Shri Sumant Chak,, Shri Madhusudan Rao, ED/P, ED/E&R- Convener.

Information Technology: Chair: Shri Saurabh Srivastava. Shri R.K.Jain, CAO/FOIS, Representative of Chairman, ISRO/or Mr.Pai of Infosys, Ms.Achla Sinha, ED/Statistics & Economics, MD, CRIS, Shri Gopal Krishnan, Sr.DCM, Western Railway, Mumbai, R.B Das, ED/C&IS - Convener

Determination of full- costs, Accounting System and Tariff: Chair: Professor S.Sriraman, University of Mumbai . Adv/Rates, Railway Board, Adv/TT/M, Railway Board, Ms.Achla Sinha, ED/Statistics and Economics, Shri Raghu Dayal, AITD, Representative of Ministry of Finance, Representative of Finance Directorate of Railway Board, Dr.R. Badri Narain, GM/UTS, CRIS - Convener

Multi-modal & Non-Bulk Traffic: Chair: Shri R.N.Agha, Former Member Traffic. Shri Anil Kumar Gupta, MD, CONCOR, Association of Container Train Operators (ACTO), Representatives of Ministry of Shipping, Commerce, Road Transport and Highways and Planning Commission, Ms. Suhash Kumar, Adv/FM, Shri H.D.Gujarati, ED/TT/S – Convener.

International rail linkage: Chair: Shri Raghu Dayal, AITD. Shri Sumant Chak, AITD, MD/CONCOR, Shri Naveen Kumar Shukla, EDPP, S.K.Das, ED/TT/F- Convener

Land use optimization: Chair: Shri Sudhir Chandra, Former Member Staff. Shri S.K.Jain, CAO/C/WR, Ms. Samantha Bastian, ED/L&A-I (Convener)

2. ROADS

WORKING GROUP

Chair: Secretary, Ministry of Road Transport and Highways. Shri S. Sundar, Member, NTDPCC, Shri

D.P. Gupta, Member, NTDPC, Shri B.N. Puri, Member Secretary, NTDPC, Chairman, National Highways Authority of India, Director General (Roads), Ministry of Road Transport and Highways, Principal Secretary (Transport), Government of Andhra Pradesh, Principal Secretary (PWD), Government of Assam, Joint Secretary (Road Transport), Ministry of Road Transport and Highways, Joint Secretary (Rural Roads), Ministry of Rural Development, Professor Geetam Tiwari, Indian Institute of Technology, Delhi, Shri Partha Mukhopadhyay, Centre for Policy Research, New Delhi, Shri Athar Shahab, Dy. MD, IDFC Projects and Chairman, CII Roads Committee, Shri O.B. Raju, MD, GMR Highways Pvt Ltd, Bengaluru, Shri Parvesh Minocha, MD, Transportation Division, Feedback Ventures, Representative of the Department of Financial Services, Representative of IT Sector, Advisor (Transport Research), Ministry of Road Transport and Highways – Convener

SUB-GROUPS

Estimate the growth in road freight /passenger traffic by 2020 and 2030 and Intermodality issues:

Chair: Shri B.N. Puri, Member Secretary, NTDPC. Shri M.M. Hasija, Adviser (Statistics), Ministry of Road Transport & Highways, Transport Research Wing, Dr. Anupam Khanna, Principal Adviser, NTDPC, Shri Jatin Sarkar, General Manager (Economics & Transport), RITES, Convener.

Road capacity (National/State Highways, Expressway) upto 2020 and 2030; Investment requirement; Mode of financing; Road Pricing (Tolling); PPP policy framework; Implementation Issues; Land acquisition and rehabilitation and; Consolidation and preservation of road assets.

Chair: Shri A.V. Sinha, Director General (Roads Development) & Special Secretary, Ministry of Road Transport and Highways. Shri D.P. Gupta (Retd. DG, Roads), Director Roads & Highways, Shri Athar Shahab, Deputy Managing Director, IDFC, Projects, Shri O.B. Raju, MD, GMR Highways Ltd., Shri R.J. Chand, Ernst & Young Pvt. Ltd., Shri Vinayak Chatterjee, Chairman, CII Urbanisation & Future Cities Council, Shri Parvesh Minocha, MD, Transportation Division, Feedback Ventures, Shri V.L. Patankar, Member (Projects), NHAI, Shri J.N. Singh, Member (Finance), NHAI-Convener.

Energy, environment, technology, modernization of trucking industry and R&D and sustainable transport:

Chair: Dr. Surajit Mitra, Additional Chief Secretary (PWD & Water Resources), Government of Assam. Prof. Geetam Tiwari, TRIPP, IIT, Delhi, Shri Anupam Khanna, Principal Adviser, NTDPC, Shri R. Balasubramanian, Director, Central Institute of Road Transport, Pune-Nashik Road, Pune, Shri Partha Mukhopadhyay, Centre for Policy Research, Shri S.R. Marathe, Director, Automotive Research Association of India (ARAI).

Road Safety and HRD: Chair: Shri S.K. Puri, Additional Director General (RD), Ministry of Road Transport & Highways. Shri Saroj K. Dash, Joint Secretary (T&A), Ministry of Road Transport and Highways, Shri S.P. Singh, Principal Secretary (Transport Department), Govt. of Andhra Pradesh, Prof. Geetam Tiwari, TRIPP, IIT, Delhi, Shri Arvind Kumar-Convener, Adviser (TR), Transport Research Wing, Shri D.P. Gupta (Retd. DG, Roads), Director Roads & Highways, Shri Kamlesh Kumar, Chief Engineer-Convener, Ministry of Road Transport and Highways.

IT and Data Issues: Chair: Shri Arvind Kumar-Convener, Adviser (TR), Transport Research Wing, Ministry of Road Transport and Highways. Shri Mahesh Chandra, Deputy Director General, National Informatics Centre (NIC), Shri A.S. Verma General Manager (IT & data issues), NHAI, Shri K. Sen Sarma, Director (TRW), Convener, Ministry of Road Transport & Highways, Transport Research Wing

Public Transportation and Seamless Freight and Passenger Movement:

Chair: Shri Saroj K Dash, Joint Secretary (T&A), Ministry of Road Transport and Highways. Shri S.P. Singh, Principal Secretary (Transport Department), Govt. of Andhra Pradesh, Shri Arvind Kumar-Convener, Adviser (TR), Transport Research Wing, Ministry of Road Transport and Highways, Shri Partha Mukhopadhyay, Centre for Policy Research, Shri H.M. Naqvi, Head Research & Consulting Division, Central Institute of Road Transport, Pune-Nashik Road, Pune, Shri K. Sen Sarma, Director (TRW), Convener, Ministry of Road Transport & Highways, Transport Research Wing

Rural Roads: Chair: Dr. P.K. Anand, Joint Secretary, Ministry of Rural Development. Representative from State Governments/NRRDA, Convener: Director, (Projects), National Rural Road Development Agency

3. CIVIL AVIATION

WORKING GROUP

Chair: Secretary, Civil Aviation. Shri M Kannan, Economic Adviser, Ministry of Civil Aviation, Convener, Shri K. L. Thapar, Chairman, AITD, Shri Cyrus Guzder, Chairman, AFL Group, Shri B. N. Puri, Member-Secretary, NTDPC, Shri Arvind Jadhav, Managing Director, Air India Limited, Shri E. K. Bharat Bhushan, Director General, Directorate General of Civil Aviation, Shri V. P. Agarwal, Chairman, Airports Authority of India, Dr. Shashanka Bhide, Senior Fellow, National Council for Applied Economic Research (NCAER), Shri Rakesh Gangwal, Former Chairman and CEO, US Airways Group, M/s. Inter-Globe Aviation Ltd., Capt. G. R. Gopinath, CMD, M/s.

Deccan Cargo & Express Logistics Pvt. Ltd., Shri Sanat Kaul, Chairman, International Foundation for Aviation and Aerospace Development, Shri Sanjay Reddy, MD, (GVK, Mumbai & Bengaluru International Airports), The Secretary, Department of Financial Services, Shri U. G. Krishna, GM, ECTI, Wipro Limited, Shri Kapil Kaul, CEO- Indian Subcontinent & Middle East, Centre for Asia Pacific Aviation (CAPA), Dr Rajat Kathuria, International Management Institute, Shri G. K. Malhi, CoSCA, BCAS

SUB-GROUPS

I. Economic Advisor, Ministry of Civil Aviation, Smt. Savitri, Director, DGCA, New Delhi, Shri S. Raheja, Member, Airports Authority of India, Shri Kapil Kaul, CEO- Indian Subcontinent & Middle East, Centre for Asia Pacific (CAPA), Shri Amitabh Khosla, International Air Transport Association, Dr. Rajat Kathuria, International Management Institute, Shri Arvind Jadhav, Managing Director, Air India Limited, Prof. P. S. Senguttuvan, M/s. Delhi International Airport Limited (DIAL).

II. Director (P), Ministry of Civil Aviation, Director (S), Ministry of Civil Aviation, Shri Lalit Gupta, Director, DGCA, New Delhi, Shri Cyrus Guzder, Chairman, AFL Group, ALF House, Dr. Rajat Kathuria, International Management Institute (IMI).

III. AS&FA, Ministry of Civil Aviation, Joint Secretary (N), Ministry of Civil Aviation, Shri R. P. Sahi, JOG (Retch), DGCA, New Delhi, ED (Training), Airports Authority of India, Shri Arvind Jadhav, Managing Director, Air India Limited, Dr. T. S. Shaikh, J. R. D. Institute of Aviation Management, Shri Tomar, M/s. Kingfisher Airlines Ltd.

IV. Joint Secretary (P), Ministry of Civil Aviation, Dr. Anupam Khanna, Consultant, NTDP, Dr. Kota. Harinarayanan, Emiritus, Professor, National Aerospace Laboratories, Bangalore, Dr. A. R. Jpadhya, Director, National Aerospace Laboratories, Bangalore, Dr. Prodipto Ghosh, The Energy and Resource Institute (TERI), Shri Somasundaram, Member, Airports Authority of India, Shri Amitabh Khosla, International Air Transport Association, Ms. Harpreet Singh, Air India Ltd

V. Joint Secretary (N), Ministry of Civil Aviation, Shri G. K. Malhi, CoSCA, BCAS, Shri M. S. Bali, Spl. DG (CISF), CGO Complex, Lodhi Road, New Delhi, Shri Arvind Deep, Joint Director IB (MHA), S. Shri D. S. Mathur, Director (Security), Air India Ltd., Shri Gyaneshwar Singh, GM (Security), Airports Authority of India, Shri S. I. S. Ahmed, Security Head, M/s. Delhi International Airport Limited (DIAL), Shri Rajiv Jain, President, M/s Mumbai International Airport Limited.

VI. Joint Secretary (S), Ministry of Civil Aviation, Shri E.K. Bharat Bhushan, Director General of Civil

Aviation, Shri G.S. Malhi, CoSCA, BCAS, Shri V.P. Agarwal, Chairman, Airport Authority of India, Air Marshall V.K. Verma (Retd.), Director, Indira Gandhi Rastriya Uran Academy (IGRUA), Shri R.P. Sahi, JDG (Retd.), Director General of Civil Aviation.

4. PORTS AND SHIPPING

WORKING GROUP

Chair: Shri K.Mohandas, Secretary, Ministry of Shipping. Shri Bharat Sheth, Chairman, Great Eastern Shipping Company, Shri B.N. Puri, Member Secretary, NTDP, Dr. S.B. Agnihotri, DG(Shipping), Dr. Anup K. Pujari, Director General Foreign Trade, Additional Member (Planning), Rail Bhavan, Shri S. Hajara, Chairman & Managing Director, The Shipping Corporation of India Ltd., Shri Rakesh Srivastava, Joint Secretary (Ports) Ministry of Shipping, Shri B.K. Sinha, Chairman & CEO, Gujarat Maritime Board, Shri Anil K. Gupta, Managing Director, Container Corporation of India, Shri S.K. Puri, Additional Director General (Roads), Ministry of Road Transport & Highways, Shri Jimmy Sarbh, Sarbh Consultancy, Mr. Krishna Kotak, G.M. Bakshi & Co., Shri Thomas Netzer, Director, McKinsey & Company Inc., Shri Arvind Kumar-Convenor, Adviser (TR), Transport Research Wing, Additional Co-opted members were Shri R. Kishore, President, Indian Private Ports & Terminal operators Association, CEO & Director, Vizag Seaport Pvt Ltd., Shri Mark S. Fernandes, Chairman, Shipping & Aviation Committee, Indian Merchant Chamber, Prof. G. Raghuram, Indian Institute of Management, Ahmedabad, Prof. S.C. Mishra, Director, National Ship Design & Research Centre (NSDRC), Shri Suresh Kumar Kantholy, General Manager (ODC), Crimson Logic India Pvt.Ltd, Shri Pradeep Roy, Financial expert, Smt Bhupendra Prasad, Chairperson, Inland Water Authority of India (IWAI), Shri A. Janardhan Rao, Managing Director, Indian Ports Association.

SUB-GROUPS

Cargo Traffic, Port Capacity, Investment requirements and review of processes and operation in the Port sector: Chair: Shri Rakesh Srivastava, Joint Secretary (Ports), Ministry of Shipping. Shri Arvind Kumar, Adviser (TR), Transport Research Wing, Dr. Archana Mathur, Economic Adviser, Ministry of Petroleum and Natural Gas, Shri A. Janardhan Rao, Managing Director, Indian Ports Association, Representative of Ministry of Power, Shri R. Kishore, President, Indian Private Ports & Terminal operators Association, CEO & Director, Vizag Seaport Pvt Ltd., Capt. S.C. Mathur, Chief Nautical Officer, Gujarat Maritime Board, Shri Jatin Sarkar, General Manager (Economics & Transport), RITES, Shri M.M. Hasija, Adviser (Statistics)-Convenor, Ministry of Road Transport & Highways, Transport Research Wing

Rail Road Connectivity with Ports to look into current status of Port Connectivity, contain-

er/freight traffic flows and future connectivity requirements. Chair: Additional Member (Planning), Railway Board. Shri S.K. Puri, Additional Director General (Roads), Ministry of Road Transport & Highways, Shri Anil K. Gupta, Managing Director, Container Corporation of India, Shri A. Janardhan Rao, Managing Director, Indian Ports Association, Shri B. Poiyaamozhi DA (Ports) –Convenor, Ministry of Shipping.

Data: Chair: Shri Arvind Kumar, Adviser (TR), Transport Research Wing. Shri A. Janardhan Rao, Managing Director, Indian Ports Association, Shri Suresh Kumar Kantholy, General Manager (ODC), Crimson Logic India Pvt.Ltd, Shri J.Murgadas, GM(ERP), Shipping Corporation of India Ltd., Shri M.M.Hasija, Adviser (Statistics)-Convenor, Ministry of Road Transport & Highways, Transport Research Wing

R&D and Technology evolution in Shipping, energy requirements and initiatives to put the shipping sector on a sustainable low carbon path and promote energy efficiency, emission reduction and environment protection: Chair: Prof. S.C.Mishra, Director, National Ship Design & Research Centre (NSDR). Shri Suresh Kumar, Chief Ship Surveyor, DG, Shipping, Mumbai, Shri J.V.S. Rao, Executive Director, Shipping Corporation of India (SCI), Shri D.J.Basu, Deputy Director, Development Adviser Ports Wing-Convenor, Ministry of Shipping

IT to examine broad areas of IT investment and interface with users: Chair: Shri Janardhan Rao, MD, IPA. Shri J.Murgadas, GM(ERP), Shipping Corporation of India Ltd., Shri Suresh Kumar Kantholy, General Manager (ODC), Crimson Logic India Pvt. Ltd, Shri Rajiev Puri, Deputy Director, IPA –Convenor

Existing framework of PPP, Private financing and bench marking of Indian Shipping and Port operations/practices and efficiency parameters. Chair: Shri Thomas Netzer, Director, McKinsey & Company Inc. Shri Pradeep Roy, Prof G. Raghuram, Indian Institute of Management, Ahmedabad, Shri A. Janardhan Rao, Managing Director, Indian Ports Association, Smt. Geetu Joshi, Director, Ministry of Shipping, Shri C.S. Venkatraman, Secretary, TAMP-Convenor, Tariff Authority For Major Ports

Status of shipping and requirement, review of processes and operation in shipping, human resource requirement of the maritime sector and related policy issues and regulations: Chair: Dr. S.B. Agnihotri, DG(Shipping), Directorate General of Shipping. Shri S. Hajara, Chairman & Managing Director, The Shipping Corporation of India Ltd, Director General Foreign Trade, Ministry of Commerce, Shri Arvind Kumar, Adviser (TR), Transport Research Wing, Shri Jimmy Sarbh, Sarbh Consultan-

cy, Mr. Krishna Kotak, G.M. Bakshi & Co. Sapt Building, Shri Mark S. Fernandes, Chairman, Shipping & Aviation Committee, Indian Merchant Chamber, Shri Bharat Seth, Chairman, Great Eastern Shipping Company, Shri V.K.Sharma, Chief Controller Chartering, Ministry of Shipping, Shri C. Rathina Das, Deputy Director General, DG Shipping, Directorate General of Shipping –Convenor.

Inland Waterways to look into status, growth in cargo traffic and its composition, future scenario; infrastructure; technical and regulatory issues related to its operation and potential. Chair: Smt Bhupendra Prasad, Chairperson, Inland Water Authority of India (IWAI). Shri Sunil Kumar, Vice Chairman, IWAI-Convenor, Inland Waterways Authority of India, Shri Jimmy Sarbh, Sarbh Consultancy, Shri Krishna Kotak, G.M. Bakshi & Co., Shri Suresh Kumar, Chief Ship Surveyor, DG, Shipping, Mumbai, Shri G.S.Bhalla, Sr Vice President, The Shipping Corporation of India Ltd

5. URBAN TRANSPORT

WORKING GROUP

Chair: Dr. Sudhir Krishna, Secretary, Ministry of Urban Development, Government of India. Shri B. N. Puri, Member Secretary, NTDP, Planning Commission, Shri R. Gopalan, Secretary, Deptt. of Financial Services, Shri Manu Kumar Srivastava, Principal Secretary, Urban Development, Govt. of Maharashtra, Shri Rajiv Chaudhry, Executive Director (WP), Ministry of Railway, Shri P. S. Kharola, Commissioner, Department of Commercial Taxes, Karnataka, Shri S. Sunder, Distinguished Fellow, The Energy and Resource Institute (TERI), Shri B.I. Singal, Director General, IUT, Prof. Dinesh Mohan, Transportation Research & Injury Prevention Programme (TRIPP), Indian Institute of Technology, New Delhi, Prof. Sudhir Chella Rajan, Department of Civil Engineering, India Institute of Technology, New Delhi, Prof. CSRK Prasad, Head Transport Division, NIT, Warangal (AP), Prof. Geetam Tiwari, Associate professor – TRIPP, Indian Institute of Technology, New Delhi, Prof. H. M. Shivanand Swamy, Professor and Associate Director, Centre for Environmental Planning & Technology (CEPT) University, Ahmedabad, Dr. Ashwin Mahesh, Indian Institute of Management, Bengaluru, Shri S. N. Sahai, MD & Chief Executive Officer, DIMMTS Ltd., Shri K. Ramchand, Director, M/s ILFS, Shri Vinayak Chatterjee, MD & CEO, M/s Feedback Ventures, Shri Ajai Mathur, MD, UMTC, Shri C. N. Raghupati, Vice President, M/s Infosys, Shri. S. K. Lohia, Convenor, OSD (UT) and EO Joint Secretary, Ministry of Urban Development, Government of India

SUB-GROUPS

Need Assessment: Prof. Shivanand Swamy, CEPT, Shri S.Sunder, TERI, Prof. Dinesh Mohan, IIT Delhi,

Prof. Geetam Tiwari, IIT Delhi, Shri Ajai Mathur, MD, Urban Mass Transit Company, Prof. C.S.R.K Prasad, NIT, Warangal, and Prof. Sudhir Chella Rajan, IIT, Madras.

Financing mechanism for UT needs: Shri Vinayak Chatterjee, MD, M/s Feed Back Ventures, Shri K. Ramachandaran, MD, ITNL, Shri S.N. Sahai, MD, DIMTS, Prof. Shivanad Swamy, CEPT, Ahemdabad, and Shri P.S.Kharola, Commissioner, DoCT, Bangalore.

Energy & Environment: Shri S.Sunder, TERI, Prof. Sudhir Chella Rajan, IIT, Madras.

Capacity Building: Prof. Ashwin Mahesh, IIM, Bangalore, Prof. Dinesh Mohan, IIT, Delhi, Prof.C.S.R.K Prasad, NIT, Warangal, and Prof. Ashwin Mahesh, IIM, Bangalore.

IT Applications: Prof. Ashwin Mahesh, IIM, Bangalore, Shri C.N.Raghupathi, Infosys, Prof. R. Shivanandan, IIT, Madras, and Shri S.N.Sahai, MD, DIMTS.

Accessibility, Safety & Security. Prof. Geetam Tiwari, IIT, Delhi, Shri B.I.Singal, DG, IUT, Prof. C.S.R.K Prasad, NIT, Warangal, Prof. Dinesh Mohan, IIT Delhi, and Shri E. Sreedharan, MD, DMRC.

Institutional Framework: Shri S. Sunder, TERI, Shri Ajai Mathur, MD, UMTC, Shri S. N. Sahai, MD, DIMTS, Prof. Shivanand, CEPT, Ahemdabad, and Shri P. S. Kharola, Commissioner, DoCT, Bangalore.

6. NORTH EAST

WORKING GROUP

Chair: Shri Vivek Sahai, former Chairman, Railway Board. Chairman, Inland Waterways Authority of India, Director General (Roads), Ministry of Road Transport and Highways, Lt. Gen. M.C. Badhani, VSM, DG, BRO, Shri Rohit Nandan, Joint Secretary, Ministry of Civil Aviation, Shri Harsh Vardhan Shringla, Joint Secretary (BSM), Ministry of External Affairs, Executive Director (Projects), Rail way Board, Prof. Mahendra P. Lama, Vice Chancellor, University of Sikkim, Shri U.K. Sangma, Secretary, North Eastern Council, Dr. Manoj Singh, Advisor, Transport, Planning Commission, Representative of Central Board of Excise and Customs, Representative of Asian Institute of Transport Development

7. INTEGRATED STRATEGY FOR BULK TRANSPORT OF ENERGY AND RELATED COMMODITIES IN INDIA

WORKING GROUP

Chair: Shri P. Uma Shankar, Secretary, Ministry of Power. Shri Pradeep Bhatnagar, Additional Member (Traffic), Railway Board, Shri H.D. Gujarati, Executive Director, Railway Board, Shri Shailesh Kumar Singh, Joint Secretary, Ministry of Coal, Shri Arvind Kumar, Economic Advisor, Ministry of Shipping, Shri Udai Pratap Singh, Joint Secretary, Ministry of Steel, Dr. (Ms) Archana S. Mathur, Eco-

conomic Advisor, Ministry of Petroleum and Natural Gas, Shri Nitin Gokarn, Joint Secretary, Ministry of Road Transport and Highways, Dr. Nalini Bhat, Advisor, Ministry of Environment and Forests, Shri Manoj Ahuja, Principal Secretary, State Government of Orissa, Shri S. Bhattacharya, Principal Secretary, State Government of Andhra Pradesh, Shri Navneet Sehgal, Principal Secretary, State Government of Uttar Pradesh, Ms Neerja Mathur, Chief Engineer, Central Electricity Authority, Shri Harry Dhaul, DG, IPPAI, Shri S S Ramgarhia, Director, Petrofed, Shri Dileep Bhat, President, Jindal Steel Ltd, Shri Major Singh, CEA, Dr. Anupam Khanna, Principal Advisor, NTDP, Convener and Shri Sudhir Kumar, Joint Secretary, Ministry of Power, Co-Convener.

SUB-GROUPS

Demand Scenarios: Chair: Shri Major Singh, Chief Engineer. Shri D.N. Prasad, Director, Ministry of Coal, Shri Sukhvir Singh, Director, Ministry of Petroleum & Natural Gas, Shri A.S. Firoz, Chief Economist, ERU, Ministry of Steel, Shri Rama Rao, Director, GRID, Govt. of Andhra Pradesh, Shri S.K. Agarwal, Director Finance, Department of Energy Government of Uttar Pradesh, Dr. Ritu Mathur, Associate Director, Modelling & Economic Analysis Division, The Energy and Resources Institute (TERI), Shri Bibhu Biswal, Independent Power Producers Association of India (IPPAI), Dr. Anoop Singh, Associate Professor, Energy, Infra. & Finance, IIT Kanpur, Shri Vikas Singhal, Head-Power & Fuel, ICF International.

Location of Production Facilities & Transfer Sites: Chair; Ms. Neerja Mathur, Chief Engineer, IRP Division, Central Electricity Authority. Shri D.N. Prasad, Director, Ministry of Coal, Shri N.R. Dash, Director, Ministry of Steel, Shri Arvind Kumar, Adviser (Transport), IDA Building, Shri P.L. Ahujarai, Director (PLA), Ministry of Environment & Forests, Shri Raghavendra Upadhyay, Senior Vice President, Independent Power Producers Association of India (IPPAI), Shri S.K. Chand, Senior Fellow, The Energy and Resources Institute (TERI), Dr. Anoop Singh, Associate Professor, Energy, Infra. & Finance, IIT Kanpur, Shri A.K. Varshney, Director, P&C (Parliament work), Ministry of New and Renewable Energy, Shri Vikas Singhal, Head-Power & Fuel, ICF International

Optimizing Fuel and Electricity Delivery System Networks: Chair: Shri Ranjan Jain, Adviser (Infrastructure), Railway Board, Ministry of Railways. Shri M.M. Hasija, Adviser (Transport), Ministry of Shipping, Shri Nitin Gokaran, Joint Secretary, Transport Bhawan, Ministry of Road Transport & Highways, Shri Manoj Ahuja, Commissioner-cum-Secretary, Department of Steel & Mines, Government of Orissa, Shri D.J. Pandian, Principal Secretary, Energy, Government of Gujarat, Shri Ramesh Kumar Khanna, Principal Secretary, Department of Energy, Government of Tamil Nadu, Shri Pradeep

Jindal, Director, System Planning & Project Appraisal, Central Electricity Authority, Shri D.N. Prasad. Director, Ministry of Coal, Professor Yogesh K. Agarwal, Chairman, Decision Science, IIM Lucknow, Shri Vikas Singhal, Head-Power & Fuel, ICF International

Oil & Gas Pipelines & Terminals: Chair: Shri Vivek Kumar, Joint Secretary, Ministry of Petroleum & Natural Gas. Shri M.M. Hasija, Adviser (Transport), Ministry of Shipping, Shri Ajay Mishra, Pr. Secretary, Infrastructure & Investment Department, Government of Andhra Pradesh, Shri Anil Jain, Special Commissioner, Government of Madhya Pradesh, Shri Sukhbir Singh, Director, Ministry of Petroleum & Natural Gas, Shri S.P. Gupta, Director (Finance)/(I/C), Petroleum Planning & Analysis Cell (PPAC), Ministry of Petroleum & Natural Gas, Government of India, Prof. Priyadarshi Shukla, IIM, Ahmedabad, Shri P.K. Pal, Executive Director (Project Development), GAIL India Limited, Shri Rakesh Jain, Associate Director, Feedback Infrastructure Services Private Limited, Shri P. Raghvendra, Reliance Industries Limited, Shri S.N. Sukhwal, Deputy General Manager (Corporate Planning & Economic Studies), Shri Rahul Gautam, Dy. General Manager (Project Development), GAIL India Limited, Shri S.K. Jha, Chief Projects Manager (System), Pipelines, Shri Prabal Ghosh, Research Analyst, Integrated Research and Action for Development (IRADe)

Material Transport Needs of the Iron & Steel Industry: Chair: Shri Udai Pratap Singh, Joint Secretary, Ministry of Steel. Sanjay Misra, Adviser (Transport & Economics), RITES, Shri Arvind Kumar, Adviser (Transport), Ministry of Road Transport and Highways, Shri D.N. Prasad. Director, Ministry of Coal, Shri Dileep Bhatt, President, Corporate Affairs, Jindal Steel Limited, Shri Chanakya Choudhary, Tata Steel

ANNEX P.4

WORLD BANK TECHNICAL ASSISTANCE

1. LIST OF PAPERS SUBMITTED BY THE WORLD BANK

Railways (Mr. Paul Amos):

Summary Paper on Railways

1. Freight Railways Governance, Organizations and Management: An International Round-up
2. Passenger Railway Institutions and Financing: China, Germany, Japan and Russian Federation

Highways (Mr. Clell Harral)

Summary Paper on Highways by Kumares C. Sinha and Samuel Labi (Purdue University) and

Clell Harral (Harral Winner Thomson Sharp Klein, Inc.)

1. Road Asset Management by Clell Harral, Graham Smith and William D.O. Paterson.
2. Government Policies to Encourage Energy-Efficient Vehicles on Roads by Kumares C. Sinha, Mohammad H. Arman, and Samuel Labi
3. Cost-Effective Standards for Different Types of Roads by Kumares C. Sinha, Samuel Labi and Menna Noureldin.
4. Intelligent Transportation Systems: Kumares C. Sinha, Samuel Labi, and Eleni Bardaka
5. Institutional and Regulatory Frameworks for Free Movement of Commercial Highway Vehicles Across States/Provinces by Kumares C. Sinha, Samuel Labi, and Bismark R.D.K. Agbelie
6. Traffic-Based Benchmarks for Widening Of National Highways versus Construction of Expressways by Kumares C. Sinha, Samuel Labi, and Qiang Bai
7. Direct Charging Mechanisms for Highway Use by Kumares C. Sinha, Samuel Labi, and Mohammad Arman
8. National Transportation Planning: Lessons from the U.S. Interstate Highways by Marlon G. Boarnet, Departments of Planning Policy, and Design and Economics, University of California, Irvine, and School of Policy, Planning, and Development, University of Southern California
9. Improving Road Safety Performance: Lessons From International Experience by Tony Bliss and Jeanne Breen
10. PPP in Transport: An Evaluation And Lessons From Twenty Years Of Experience-by Jose Luis Guasch

Ports & Shipping (Mr. Marten van den Bossche):

1. India Port Sector Policy Review Study: Policy papers, case study and capita selecta draft report by Marten van den Bossche, Eric van Drunen, Katrien Dusseldorp, Johan Gille and Hans Vogelhaar

Urban Transport (Mr. Ken Gwilliam)

Summary Paper on Urban Transport

1. Overview Paper-The Issues for India
2. Financing Urban Transport
3. Costs of Externalities
4. Energy Efficiency in Urban transport
5. Developing public transport
6. Institutions for urban transport
7. Intelligent Transport Systems-Applications in urban areas
8. Case Studies in Urban Transport Development

2. DETAILS OF INTERNATIONAL CONFERENCES

February 6-8, 2012: Practitioners' Workshop: National Transport Development Policy Committee (NTDPC)

MONDAY, FEBRUARY 6, 2012

8:30-9:30 Registration & Coffee

Plenary Session:

Chair: Dr. Rakesh Mohan, Chairman, NTDP

9:30-9:45 Opening remarks
Dr. Rakesh Mohan,
Chairman, NTDP

9:45-10:00 Welcome address
Mr. Hubert Nove Jossierand, Operations
Adviser, World Bank

10:00-10:20 Key Note Speaker : Developing Sustainable Transport Infrastructure in India
Mr. B. K. Chaturvedi, Member, Planning Commission

10:20-10:50 Overview of Integrated Transportation Planning - EU TENT experience
Mr. Mathew Arndt, Head of Division of Road and Rail, European Investment Bank

10:50-11:00 Vote of Thanks
Mr. B. N. Puri, Member Secretary, NTDPC

11:00-11:30 Coffee Break

Session on Highways, PPPs and Safety:

Chair: Mr. S. Sundar, Member, NTDP, Co-Chair: Mr. D.P. Gupta, Member NTDP, Facilitator: Dr. Kumaresh C. Sinha and Mr. Anil Bhandari

11:30-12:30 Presentation on Highways: International Lessons and comment on the resource papers presented by the Bank
Mr. Nazir Alli, CEO, South Africa National Road Agency Limited & Mr. William Dachs, Ex Head of PPP Unit, National Treasury, South Africa

12:30-1:30 Lunch Break

1:30- 1:45 Highlighting the key issues relevant for long term planning in the highway sector India – presentation by the Bank Consultants
Dr. Kumares C. Sinha, Director, Joint Transportation Research Program of Purdue University and the Indiana Department of Transportation & Mr. Anil Bhandari, Ex Highway Advisor, World Bank

1:45-1:55 Highlighting the key issues relevant for Road safety in India – presentation by the Bank Consultant
Mr. Tony Bliss, Ex Lead Road Safety Specialist, The World Bank

1:55-2:05 Highlighting the Key Aspects of Regulatory Framework for Developing Highway Infrastructure through PPPs in

India – presentation by the Bank Consultant/Staff

Mr. Jose Louis Guasch, Senior Regional Adviser in the LAC region, The World Bank

2:05-4:30 Open Forum – Discussion on Key Issues in the Highway Sector
Session (Moderated by the Chair)

TUESDAY, FEBRUARY 7, 2012

Session on Urban Transport

Chair: Secretary, Urban Development Ministry, Co-Chair: Prof. Dinesh Mohan, Member, NTDP, Facilitator: Mr. Ken Gwilliam

9:30-9:50 Key Note Speaker: Issues and Challenges in Urban Transport Sector in India
Mr. Arun Maira, Member, Planning Commission

9:50 – 10:30 Presentation on Urban Transport International Lessons and comment on the resource papers presented by the Bank
Mr. Dayo Mobereola, Director, Lagos Metropolitan Transport Authority, Nigeria

10:30 – 11:00 Presentation on Urban Transport International Perspectives
Mr. F.Q. Partida, Project Manager, Mass Transport, National Development Bank of Infrastructure, Mexico

11:00-11:15 Highlighting the key issues relevant for long term planning for the urban transport sector India – presentation by the Bank Consultant
Mr. Kenneth Gwilliam, Visiting Professor at the Institute for Transport Studies, University of Leeds

11:15-11:30 Coffee Break

11:30-1:00 Open Forum – Discussion on Key Issues in the Urban Transport Sector
Session (Moderated by the Chair)

1:00-2:00 Lunch Break

Session on Railways

Chair: Chairman, Railway Board, Co-Chair: Mr. M. Ravindra, Member NTDP, Facilitator: Mr. Paul Amos

2:00-3:00 Presentation on Passenger and Freight Railways: International Experience and comment on the resource papers presented by the Bank
Mr. John Thomas, Rail Regulation Specialist, Arcadia, United Kingdom

3:00 – 3:15 Highlighting the key issues relevant for long term planning in India – Freight and Passenger Railways - Presentation by the Bank Consultant
Mr. Paul Amos, Consultant to the World Bank

3:15-3:30 Coffee Break

3:30-5:00 Open Forum – Discussion on Key Issues in the Railway Sector
Session (Moderated by the Chair)

5:30 onwards Informal Reception

WEDNESDAY, FEBRUARY 8, 2012

Session on Ports

Chair: Ms. Rani Jadhav, Chairperson, TAMP, Co-

Chair: Mr. K. L. Thapar, Member NTDP, Facili-

tator: Mr. Marten Van Der Bossche

9:30-10:15 Presentation on Port Regulation – International perspective
Mr. Christiaan Van Krimpen, International Legal Counsel

10:15 – 10:45 Presentation on Ports: International Perspective on long term Port Planning
Mr. John DM Koppies, Koppies and Stevens BV, Nederland

10:45-11:00 Highlighting the key issues relevant for long term Port planning in India – Presentation by the Bank Consultant
Mr. Marten Van Der Bossche, Chairman, ECORYS, Nederland

11:00-11:30 Coffee Break

11:30-1:00 Open Forum – Discussion on Key Issues in the Port Sector
Session (Moderated by the Chair)

1:00-2:00 Lunch Break

Session on Intermodal transport and Concluding Session

Chair: Dr. Rakesh Mohan, Chairman, NTDP

2:00-2:45 Presentation on Intermodal Coordination: International Best Practices
Mr. Stephen Perkins, Head of Research Centre, International Transport Forum (ITF)

2:45- 3:30 Presentation on Intermodal-Coordination, US Experience
Mr. Rakesh Tripathi, Director of Transportation Planning, Texas DOT, USA

3:30-4:30 Presentation of Key findings from the workshop and Way Forward -
Dr. Rakesh Mohan, Chairman, NTDP
Mr. Ben L. J. Eijbergen, Lead Transport Specialist, World Bank
Members/Member Secretary, NTDP

4:30-4:45 Concluding Remarks
Mr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission

JUNE 15, 2012

Workshop on “Developing Integrated Strategy for Bulk Transport of Energy and other Key Commodities in India”: National Transport Development Policy Committee (NTDP)

Venue: Multi-Purpose Room, India International Centre (Main)

Agenda

FRIDAY, JUNE 15, 2012

9:00-9:30 Registration & Coffee

Plenary Session:

Chair: Mr P. Uma Shankar, Secretary , Ministry of Power

9:30-9:45 Opening remarks

Mr. P. Uma Shankar, Secretary, Ministry of Power

9:45 – 10:00 Welcome address

Mr. Hubert NoveJosserand, Operations Adviser, World Bank

10:00-10:45 Setting the Context – Medium- and Long-Term Issues in Transport of Energy & Bulk Commodities in India
Dr. Anupam Khanna, Chief Economist, NASSCOM and Convener, Working Group on Bulk Transport, NTDP

10:45-11:00 Coffee Break

Session on International Experiences in Integrated Transportation Planning for Bulk Commodities - I:

Chair: Mr S.K. Srivastava, Secretary, Ministry of Coal; Discussant: Mr Ranjan Jain, Advisor (Infrastructure), Railway Board

11:00-11:45 Presentation on International Lessons in Bulk Transport of Energy and Related Commodities from the United Kingdom

11:45-12:00 Questions & Answers
Mr. Paul McMahan, Office of Rail Regulation, UK

12:00-12:45 Presentation on International Comparison of Bulk Transport by Rail
Questions & Answers

12:45- 1:00 Mr. Ralph Jahncke, Chairman, Transcare AG, Germany

1:00-2:00 Lunch Break

Session on International Experiences in Integrated Transportation Planning for Bulk Commodities - II:

Chair: Mr. A.S. Bakshi, Chairman, Central Electricity Authority; Discussant: Mr H.D. Gujrati, Executive Director (TTS), Railway Board

2:00-2:45 Presentation on International Lessons in Bulk Transport of Energy and Related Commodities from China

2:45-3:00 Questions & Answers
Dr. Zhaoguang Hu, Vice President, State Grid Energy Research Institute, Republic of China

3:00-3:15 Coffee Break (During Session)

3:15-4:00 Presentation on Lessons for India from Other Major Coal Transporting Countries
Questions & Answers

4:00-4:15 Mr. Ralph Jahncke, Chairman, Transcare AG, Germany

Concluding Session:

Chair: Dr Rakesh Mohan, Chairman, NTDP

SOUTH-SOUTH TOUR TO SOUTH AFRICA

NTDPC - South-South tour to South Africa		
Schedule - March 19 to March 28, 2012		
Time	Official/Dept. to be met	Venue
	Team	
	Monday March 19, 2012	
	Fly to Addis from New Delhi by Ethiopian Airlines ET 689, leaving 0245 AM, Reaching Johannesburg at 13:20 PM, stay in Sheraton Pretoria Hotel	
	Tuesday March 20,	
3:00 PM	Meeting with Deputy Minister, Ministry of Transport	Ministry of Transport, Pretoria
7:00 PM	Dinner Hosted by SANRAL	
	Wednesday, March 21, 2012	
9:00 AM	Meeting with SANRAL Management Team	SANRAL Office, Johannesburg
11:00 AM	Visit to SANRAL Overload Control Center	SANRAL Overload Control Center
12:30 PM	SANRAL multi-lane toll system and ITS, Working	SANRAL Central Corridor Station
4:00 PM	Back to Pretoria	
	Thursday, March 22, 2012	
7:00 AM	Travel to Expressway N4, proceed to Malelane and visit Kruger National Park, stay the night in Nelspruit	Leaveslodge Hotel
	Friday, March 23, 2012	
8:00 AM	Meet CEO MCLI (and officials from	MCLI office, Nelspruit
9:00 AM	Proceed to Maputo, Working Lunch	
3:00 PM	Return to Nelspruit	Stay the night in Nelspruit in Leaveslodge Hotel
	Saturday, March 24, 2012	
	Return to Johannesburg by Road, Fly to Capetown by SA 347, stay in Taj Hotel Cape Town , departure 15:05 PM, Arrival in CT 1715	
	Sunday, March 25, 2012	
	Monday, March 26,	
9:00 AM	Meeting with CEO, Port Regulator	Indian Delegation
11:00 AM	Visit to cape Town Port	Indian Delegation
	Tuesday, March 27, 2012	
	Fly to Johannesburg by SA 316 Departing from Capetown at 08:50 a.m., arriving in Johannesburg at 10:50	
	Fly to New Delhi via Addis, ET 808, departing J'burg 14: 20 PM	
	Wednesday, March 28, 2012	
	Arriving in Delhi at 9:10 AM	

ANNEX P.6

LIST OF PARTICIPANTS AT CONSULTATIONS WITH STATE GOVERNMENTS**1. STATE CONSULTATION AT PATNA ON OCTOBER 8 - 9, 2012**

NAME OF THE OFFICER	DESIGNATION	MINISTRY/DEPARTMENT/ ORGANISATION
NTDPC		
Shri K.L. Thapar	Member	NTDPC
Shri D.P. Gupta	Member	NTDPC
Shri B.N. Puri	Member Secretary	NTDPC
Shri M.M. Hasija	Adviser	Ministry of Shipping
Shri Shri R.K. Pandey	Chief Engineer	Ministry of Road Transport & Highways
Shri Davendra Singh	Director	Ministry of Railways
Shri Dipankar Khasnabish		Infosys
Dr. Krishna Dev	Consultant	NTDPC
Ms. Shruti Jain	Consultant	NTDPC
Government of Bihar		
Shri Vrishin Patel	Hon'ble Transport Minister	
Shri R.K. Mahajan	Pr. Secretary, Transport Govt. of Bihar	
Shri Pratyaya Amrit	Secretary	Road Construction Deptt., Bihar
Shri Udai Kumawat	Administrator	BSRTC
Shri N.P. Yadav	Joint Secretary	Transport Department, Patna
Md. Reyazuddin	Executive Engineer	BRRDA, Rural Works Department, Bihar, Patna
Shri Chandra Shekhar		Road Construction Deptt., Bihar
Shri Babban Ram		Road Deptt., Bihar
Dr. Neena Jha	ADPRO	Govt. of Bihar, Patna
Government of Chhattisgarh		
Shri Sanjay Singh	Jt. Tpt. Commissioner	Chhattisgarh, Raipur
Government of Jharkhand		
Shri A.K. Sinha	Secretary to Transport Commissioner	
C.B. Sahu	Programme-cum	
Government of Odisha		
Shri S. Mahapatra	Commissioner & Spl. Secretary, C&T Deptt.	
Ministry of Railways		
Shri Neeraj Ambastha	Chief Transport Planning Manager	
Ministry of Civil Aviation		
Shri Arvind Dubey	Director, AAI	
Ministry of Shipping		
Shri Gurmukh Singh	Director	IWAI, Patna
Shri K.K. Sahoo		IWAI, Patna
Urban Development Department, Bihar		
Shri S. Siddharth	Secretary	Urban Development Department
Shri A.K. Singh	Joint Secretary	UD & HD
Stakeholders from State of Bihar		
Shri T.K. Sinha	Hony. Secretary	Automobile Association of Eastern India, Patna
Shri Anand K. Sinha	Hony. Joint Secretary	-do-
Shri Amit Mukherjee	Member	-do-
Shri Jagannath Singh		Bihar Motor Transport Federation, Patna
Shri Dharendra Bhati		Bihar Motor Transport Federation, Patna
Shri Prabhat P. Ghosh	Director	Asian Development Research Institute, Patna
Shri Bhanu Shekhar Prasad Singh	President	Bihar Truck Owner's Association, Patna
Shri Shashi Shekhar	Member	-do-
Shri Arun Kumar	Principal	NINI (IWAI)
Shri Uday Shankar Singh	President	-do-
Shri Irfan Alam	Founder	Sammaan Foundation

2. STATE CONSULTATION AT MUMBAI ON FEBRUARY 4 - 5, 2013

NAME OF THE OFFICER	DESIGNATION	MINISTRY/DEPARTMENT/ ORGANISATION
NTDPC		
Shri B.N. Puri	Member Secretary	NTDPC
Shri D.P. Gupta	Member	NTDPC
Shri Vivek Sahai	Member	
Shri Cyrus Guzdar	Member	NTDPC
Shri SK Lohia	OSD (UT)	M/o Urban Development
Shri M.M. Hasija	Adviser	Ministry of Shipping
Shri Anil Devli	CEO	INSA
Shri Kripakaran		Infosys
Dr. Krishna Dev	Consultant	NTDPC
Shri Honey Gupta	Consultant	NTDPC
Government of Maharashtra		
Shri Gulabrao Deokar	Hon'ble Transport Minister	
Shri JK Banthia	Chief Secretary	Government of Maharashtra
Dr. SK Sharma	Pr. Transport Secretary	Government of Maharashtra
Shri VN More	Transport Commissioner	Government of Maharashtra
Ms. K Vijaya Laxmi	Addl. Chief	MMRDA
Government of Madhya Pradesh		
1. Shri Anthony Desa	Addl. Chief Secretary	Government of MP
4. Government of Goa		
1. Shri Arun Desai	Director (Transport)	
Government of Gujarat		
1. Shri JP Gupta	Transport Commissioner	
UT of Dadra & Nagar Haveli and Daman & Diu		
1. Shri KT Parmar	Assistant Director, Transport	
Stakeholders from State of Maharashtra		
1. Shri Nitin Dossa	Executive Chairman	Western India Automobile Association
2. Shri Shirish Deshpande	President	Mumbai Grahak Panchayat
3. Shri Malkit Singh Bal	President	All India Motor Transport Congress
4. Shri Shashank Rao	President	Mumbai Autorickshawmens Union
5. Shri AL Quadros	General Secretary	Mumbai Taximen's Union
6. Shri Anil Garg	President	Bus Owners Association
7. Shri Prem Singh	President	Mumbai Taxi Association
8. Shri Ashok Datar	Chairman	Mumbai Environment Social Network
9. Shri Akshay Mani	Project Manager, Urban Transport	Embarq India
10. Shri Madhav Pai	Director	Embarq India
11. Shri Bhavesh Patel		Manavata
12. Shri Shailesh Goyal	Member Zonal Railway	
13. Shri Sudhir Badami	Transport Consultant	
14. Shri Daljeet Singh	President	Maharashtra Transporter's Welfare Association
15. Shri DS Naik	Secretary	School Bus Owner Association
16. Brahma Kumaris	Transport & Travel Wing	Brahma Kumaris

3. STATE CONSULTATION AT UT OF CHANDIGARH ON MAY 27, 2013

NTDPC

Shri K.L. Thapar	Member	NTDPC
Shri B.N. Puri	Member Secretary	NTDPC
Shri D.P. Gupta	Member	NTDPC
Shri M.M. Hasija	Adviser	Ministry of Shipping
Shri OP Shemar	Adviser	M/o Road Transport & Highways
Shri Devendra Singh	Ed/Planning	Ministry of Railways
Dr. Krishna Dev	Consultant	NTDPC
Shri Honey Gupta	Consultant	NTDPC

NAME OF THE OFFICER	DESIGNATION	MINISTRY/DEPARTMENT/ ORGANISATION
Government of UT of Chandigarh		
Shri Ajoy Sharma	Special Secretary (Tpt.)	Govt. of Chandigarh
2. Shri MM Sabharwal	Joint Secy. (Transport)	Govt. of Chandigarh
3. Shri Balbir Singh Dhol	Secy, STA	Govt. of Chandigarh
4. Shri Sanjay Gaur	Executive Engg.	M/oRT&H Regional Office, Chandigarh
5. Shri Mahesh Kumar	EIC, PW(B&R)	Govt. of Chandigarh
6. Shri SP Parmar	GM, CTU, Chd	Govt. of Chandigarh
Government of Haryana		
1. Shri Bhupendra Singh	Addl. Transport Commissioner	Govt. of Haryana
2. Shri NK Garg	Chief Engg,	ULB, Govt. of Haryana
3. Shri AK Bhardwaj	DSP Traffic, Highways (Karnal)	Govt. of Haryana
4. Shri Rakesh Sharma	Traffic & Highways, Karnal	Govt. of Haryana
5. Shri Gurmeet Singh		Govt. of Haryana
6. Shri Mandeep		Govt. of Haryana
7. Shri Jitender Singh	Sr. Town Planner	T&CP Deptt., Govt. of Haryana
8. Dr. Parveen K. Garg	Director, Health Service	Govt. of Haryana
9. Shri Deepak Bhardwaj	Chief Ground Instructor (HICA)	Haryana Institute of Civil Aviation
10. Capt. Kamal Kishor	Executive Director	Haryana Institute of Civil Aviation
11. Shri Naresh Kumar	Admn. Officer	Haryana Institute of Civil Aviation
12. Shri SB Boora	CE,	PWD, Govt. of Haryana
13. Shri Satish Kumar Ruhil	Jt. State Transport Controller	State Tpt., Haryana
Government of Himachal Pradesh		
1. Ms. Shubhra Tiwari	Addl. Secy. (Transport)	Govt. of Himachal Pradesh
Government of Jammu and Kashmir		
1. Shri MM Kakroo, IAS	Secretary, Transport	Govt. of J&K
2. Shri JS Tandon	MD, J&K SRTC	Govt. of J&K
Government of Punjab		
1. Shri A. Venu Prasad	Secretary, Civil Aviation, Punjab	Govt. of Punjab
2. Shri Amarपाल Singh	Addl. Secretary, Transport	Govt. of Punjab
3. Shri Harmail Singh	Addl State Tpt Commissioner	Govt. of Punjab

4. STATE CONSULTATION AT JAIPUR, RAJASTHAN ON AUGUST 1, 2013

NTDPC

Shri K.L. Thapar	Member	NTDPC
Shri B.N. Puri	Member Secretary	NTDPC
Shri S Sundar	Member	NTDPC
Shri DP Gupta	Member	NTDPC
Prof Dinesh Mohan	Member	NTDPC
Dr. Krishna Dev	Consultant	NTDPC
Shri Honey Gupta	Consultant	NTDPC
Shri Kripakaran		Infosys

Government of Delhi

Shri Raj Kumar Singh	Addl Transport Commissioner	Govt of Delhi
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Government of Rajasthan

Shri RP Khandelwal	Secretary,	PWD
Shri Naresh Pal Gangwar	CMD	RSRTC
Shri GL Rao	CE (R)	PWD
Shri GP Meena	CTPM/NWR	Railways
Shri SP Mishra	Addl Transport Commissioner	Govt of Rajasthan
Shri JC Mohanty	Pr Secretary	PWD
Shri Viswas Jain	MD, CEG	
Shri Vishram Meena	ED	RSRTC
Shri Mukul Raj	Addl Transport Commissioner	Govt of Rajasthan
Shri Gormmal	PRO	Govt of Rajasthan
Dr UN Pandey	MS	RSPCB

NAME OF THE OFFICER	DESIGNATION	MINISTRY/DEPARTMENT/ ORGANISATION
Shri RRD Kirori	CEG Limited	
Ms Preeti Mathur	OSD, JSTSL	
Ms Suchi Sharma	MD	JCTSL
Shri Suresh Singhal	FA, Transport Deptt	Govt of Rajasthan
Shri Ravindra Yadav	Dy. Transport Commissioner (Modernisation)	Govt of Rajasthan
Shri RC Yadav	Dy. Transport Commissioner (Tax)	Govt of Rajasthan
Shri Satveer Yadav	Dy. Transport Commissioner	Govt of Rajasthan
Ms Nidhi Singh	Dy. Transport Commissioner	Govt of Rajasthan
Shri DS Rathore	Addl Transport Commissioner	Govt of Rajasthan
Shri Ravindra Joshi	Addl. Transport Commissioner	Govt of Rajasthan
Government of Uttar Pradesh		
Shri BS Bhullar	Pr. Secretary, Transport	Govt. of Uttar Pradesh
Shri Rajnish Gupta	Transport Commissioner	
Government of Uttarakhand		
Shri SK Singh	Dy. Transport Commissioner	Govt of Uttrakhand

5. STATE CONSULTATION AT BANGALORE, KARNATAKA ON AUGUST 26, 2013

NTDPC

Shri S Sundar	Member	NTDPC
Shri B.N. Puri	Member Secretary	NTDPC
Shri D.P. Gupta	Member	NTDPC
Shri Vivek Sahai	Former Chairman	Railway Board
Prof Dinesh Mohan	Member	NTDPC
Ms Archana Srivastava	ED/Plg/LRDSS	
Shri Raj Kumar Singh	Director (UT)	Ministry of Urban Development
Shri OP Shemar	Adviser	M/o Road Transport & Highways
Shri Devendra Singh	ED/Planning	Ministry of Railways
Dr. Krishna Dev	Consultant	NTDPC
Ms Shruti Jain	Consultant	NTDPC
Shri Dipankar Khasnabish		Infosys
Shri Kripakaran		Infosys
Shri Ramesh K Sharma	AAO	NTDPC

Government of Andhra Pradesh

1 Shri G. Anantha Ramu	Commissioner (Transport)	Govt of Andhra Pradesh
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Government of Karnataka

Shri SV Ranganath	Chief Secretary	Govt of Karnataka
Shri Rajkumar Khatri	Pr Secretary, IDD	Govt of Karnataka
Shri SK Pavithra	Superintendent Engg.	Office of KRDC, Bangalore
Shri B. Chandapur	Under Secretary (EAP)	PWD
Shri Shivananda	Dy Chief Engineer	BMRCL
Shri C. Jayaram	Director (Project)	BARL
Shri Shailendra Singh	Special Officer, DLLT	UDD
Ms V Manjula	Pr Secretary, Planning	Govt of Karnataka
Shri NRN Sinha	KSIDC	
Shri Anjum Parwez	MD	BMTC
Shri MB Burji	Addl Secretary	KPWD
Shri PS Kharola	MD	BMRCL
Shri Rabi Satav	PPP (E) in IDD	ADB
Shri Manivannam P	CPO	Karnataka State Highway Improvement Project
Shri SN Srivastava	CS, HMRDC	K-RIDE
Shri G. Sreedhar Rao	Consultant	K-RIDE
Shri Pon. Semhalmathan	Assistant Secretary	State Transport Authority

Government of Kerala

Shri Alex Paul	Joint Transport Commissioner	Govt of Kerala
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Government of Tamil Nadu

Shri R Radhakrishnana	Joint Transport Commissioner	Govt of Tamil Nadu
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CONSULTATIONS WITH THE STATE GOVERNMENTS

REGIONAL CONSULTATIONS

States have a crucial role in assuring a healthy, comprehensive, and integrated transportation system in India. Therefore, the NTDPCC organized 5 state level regional meetings in Patna, Mumbai, Chandigarh, Jaipur and Bengaluru, with the objective of building a common understanding on issues, interests, and concerns and to solicit inputs from the State Governments and other stakeholders on the formulation and implementation of the policy framework.

ISSUES HIGHLIGHTED AND THE WAY FORWARD:

A Roads Transport

CURRENT IMPEDIMENTS:

- a) Environmental, forest & wildlife clearances: Many projects face substantial delays in receiving environmental, forest or wild life clearances and permission to cut trees.
- b) Need for a Regulator: India's Roads & Highways sector needs a regulator. Current arrangements at the centre and states (MORTH, NHAI, MPRDC, PWD etc.) can result in conflict of interest as the rule making body is also the implementing body and there is no independent assessment of its performance. Key functions of the proposed regulator can include tariff setting, regulation of service quality, assessment of concessionaire claims, collection and dissemination of sector information, setting service-level benchmarks, etc..
- c) Tolling Issues relating to Private Parties: Leakages in toll collections because of presence of alternate routes to various stretches is a major issue.
- d) Tolling Issues relating to Users: In 6-laning projects, users are required to pay the full toll rates applicable for 4/6 lane roads even during the upgradation, despite significant deterioration in the quality of service during that time.
- e) Financing of Projects: An underdeveloped bond market has forced PPP road projects to mainly depend on debt from commercial banks.
- f) Land Acquisition: Land acquisition is a long-drawn out process. There is no framework that outlines the role of a state government in providing assistance to NHAI in acquiring land.
- g) Lack of consolidation and preservation of road assets: Lack of regular maintenance and repair, has qualitatively impaired the road network.
- h) Institutionalization of a database system: The current data collection system for the road sector on topics like the road inventory, bridge inventory, condition of roads, bridges and other structures, road cost, traffic carried and accidents etc. is mainly ad-hoc. This hampers decisions-making processes in planning for road development and its regular maintenance.

- i) Inter-disciplinary coordination: There is lack of synergy between the planning authorities, implementation authorities, and authorities responsible for monitoring projects.
- j) Inadequate road network coverage: The National Highways constitute only 2% of the road network of India, but carry nearly 40% of the total traffic, leading to severe congestion. Thus, freight travels only a third of the distance in India as compared to the developed countries.
- k) Poor road quality: It is estimated that less than 10% of the road network is motorable. Large stretches of National Highways are two-laned which reduces their traffic-handling capacity.
- l) Human resources: The construction and ongoing maintenance of Indian roads is severely limited by a shortage of skilled professionals. Hardly any ITIs or training centers impart training to workers, equipment operators and work supervisors.

THE WAY FORWARD:

- a) Toll pricing: Fixation of user fees should be based on the additional benefits accruing to the users due to construction/upgradation of the infrastructure. A study should also be done to assign costs of building and maintaining roads to different types of vehicles.
The existing policy of fixation of toll rates needs to be reviewed. The policy of reduction in the rate of tolling after the recovery of capital cost for public funded projects or after the expiry of the concession period for private investment projects needs to be reviewed.
The tolling system should be standardized by using RFID based tolling for electronic toll collection and by allowing a single toll card for toll payment across major toll plazas. Electronic Toll collection (ETC) system needs to be progressively introduced.
A "Congestion Pricing" policy may be adopted for levying additional toll, especially for Heavy Goods Vehicles (HGVs), depending upon the number of axles and emission class.
- b) Alternate revenue mechanisms: These include: a) advertisement rights, b) Real estate development along the Highway Corridor, c) Way side amenities, and d) fees from Right of Way (ROW) users like optical fiber, mobile towers etc.
- c) Capacity Development: Enhance cross-functional understanding of implementation agencies through training and development programs; develop capacity in NHAI to raise resources, vendor management, concessionaire management and project implementation; training policy to focus on training at entry and on job site, and provide periodic refresher courses; encourage engineering and technical institutions to attract students in highway engineering profession.
- d) Faster Implementation of Projects can be done by using technological solutions for real-time

project monitoring, taking timely necessary corrective actions, faster decision making, etc.

- e) Advanced Traffic Management System (ATMS) can be introduced progressively, especially on 4-lane National Highways and National Expressways, to enhance safety and comfort of road users.
- f) Environmental Aspects: A rational timeline should be prescribed for processing and finalizing the various mandatory clearances. MoEF may consider enhancing the powers of its Regional Offices for granting forest clearance. Conditions for forest clearance should be standardized. Resurfacing, strengthening and widening should be allowed on the existing roads where no diversion is involved. Once approval is granted for doing surveys on an alignment, the proposal should not be rejected subsequently on other grounds.
- g) Rehabilitation & Resettlement (R&R) of project affected people: A uniform R&R policy should be evolved for all types of projects, applicable both for the Central Sector and the State Sector. For green-field expressway projects a separate framework is required considering the vast socio-economic implications, land severance issues, land use changes, environmental issues etc. The project-affected people can also be involved as stake holders in such projects.
- h) Consolidation and preservation of Road assets by involving the Private Sector is required. "Pavement Preservation Strategy" has to be evolved on priority. "Pavement Management System" (PMS) and "Bridge Management System" (BMS) also need to be developed.
- i) Maintenance of database: An integrated Road Information System (RIS) should be established and periodically updated both at the Central and the State levels.
- j) A Comprehensive Master Plan should be developed for network development of NH, SH, MDR & ODRs of 20-25 years with a nodal department for development of each component.

BARRIERS TO ROAD FREIGHT MOVEMENT

- a) Multiple check points: Truck operators deal with a number of different agencies (including Sales Tax, Regional Transport Officer, and Excise) for either obtaining clearances for carrying goods or paying certain charges. These checks are generally conducted at different points resulting in more than one detention, which contributes to lower average speed and higher fuel consumption. This adversely affects inter-state road transport as compared to freight/cargo transport by the railways, aviation and even inland transport, which do not face such rigorous en route checking. This has also thwarted the formation of single common market in India.
- b) Road transport sector is subject to myriad levies/taxes (both Central and State) with no provision

of set-offs in many taxes/levies. These levies/taxes include: (i) taxes on vehicle purchase, (ii) taxes on operation of motor vehicles, fuel taxes, motor parts, tyres and tubes, etc., (iii) Sales tax/VAT, (iv) Registration and Transfer fees, license/permit fees, etc. High incidence of these fees/taxes erodes the competitiveness of domestic manufactures.

SUGGESTED MEASURES TO OVERCOME BARRIERS IN FLOW OF ROAD FREIGHT MOVEMENT

- a) Integrate Tax administration with inter-State road freight and passenger movement through online communication network system at national, regional and local levels. This will help move towards border-less and paper-less movement of freight traffic across borders. Checking / verification work can be done through electronic surveillance and computerization.
- b) Adopt the concept of "Green Channel", currently being implemented in Gujarat. Freight with single destination accounts for a large proportion of consignment and this proportion is likely to increase with increasing containerization. Such road cargo could be accorded "Green Channel" treatment provided necessary papers are prepared and sent to the check post in advance. Introduction of smart cards for vehicle registered ("Vahan") and driving license ("Sarathi") will be a pre-requisite. Development of National Registers for vehicles and the traders, who are frequent users of Check Posts, will also be required.
- c) Adopt "Single Window Clearance System" for all authorized charges/clearances both at origin and at Check Posts. The Andhra Pradesh approach for computerization of the Inter-State Check Posts (ICPs) may be adopted. Use of a common software has ushered in a Single Window Checking Facility covering 8 major departments at 5 ICPs on National Highways (NHs) bordering adjoining States.
- d) Freight agents and brokers are important actors in the trucking industry. They have now been brought under the purview of legislation, Carriage by Road Act, 2007. This provides for registration/accreditation of brokers and freight agents.
- e) Abolish requirement of a transit pass.
- f) Amend MV Act, removing penalty payment clause and retaining only removal excess load from the trucks. Install WIM (Weigh-in-Motion) to identify violators. The colour of truck number plate of inter-State vehicles should be different from the intra-State vehicles to help segregate goods vehicles and reduce the intermediate checking of inter-State freight movement.

ISSUES CONCERNING SEAMLESS ROAD PASSENGER MOVEMENT

- a) Lack of uniformity in motor vehicle taxation including taxation for various passenger trans-

port vehicles like tourist taxis, maxi cabs, All-India tourist buses, etc.

- b) Problems faced by private service vehicles and educational institutional buses transporting workers and students respectively between neighbouring States.
- c) Issue of Inter-State Agreements for Stage Carriage buses.
- d) Absence of holistic transport planning including non-availability of benchmarks for bus operations in India, assessment of passenger and goods travelled demand on a regular basis.
- e) Absence of inter-modal integration in terms of common ticketing, transfer stations, etc.
- f) Problems affecting State Road Transport Undertaking (SRTUs) including recurrent losses resulting from various internal and extraneous factors.

RECOMMENDATIONS/SUGGESTIONS FOR IMPROVING THE SYSTEM

- a) Rationalization of tax structure in passenger transport: Taxation on different categories of vehicles should be harmonized to achieve uniformity in the taxation rates.
- b) Inter-modal integration: For greater efficiency of the transport network, proper integration of different modes such as rail, bus, and other para-transit modes is essential with regard to: (i) transfer station(s), (ii) ticketing (iii) harmonization of arrival/ departure schedule, etc.
- c) Guidelines for Inter-State Agreements: Entering into inter-State agreements, as required under Section 88 of the MV Act, is a long-drawn process and hampers smooth movement of passenger buses between States. Government of India could frame basic guidelines in this matter to facilitate speedy finalization of such agreements.
- d) Seamless movement of passenger transport vehicles in line with the New National Permit System for goods vehicles: It is essential that All India Tourist Taxi Cabs, Maxi- Cabs, All India Tourist Buses and buses covered by Special Permits under Section 88(3) of MV Act, 1988 should also be subjected to uniform fees for free movement throughout the country.
- e) Scientific assessment of passenger and goods travel demand: Traffic studies for major transport corridors can help assess demand for both passengers and goods. This can assist in a making a proper assessment of the requirement of bus fleet, bus frequency, augmentation of routes, and for building infrastructure for goods transport such as parking facilities, rest facilities for operators, weighing bridges, fuel stations, etc..
- f) Framework for Competitive Public Bus Passenger Transport Services should be prepared, and should encourage: (a) competition in the market: this occurs where there is no restriction on entry, and (b) competition for the market: where entry is restricted, it is possible to increase competition for the right to service individual routes, for the

sole right to provide a whole network or to undertake particular functions as a subcontractor to a monopolist operator.

- g) Electronic toll collection (ETC) system can improve throughput at toll centers by 3 to 4 times, thereby significantly reducing waiting times and fuel consumption. Toll operators also benefit from lower personnel requirements and reduced leakages.
- h) Para-Transit policy framework should be evolved.
- i) Enforcement of higher fuel efficiency norms for vehicles could help address the twin problems of energy security and environmental pollution.
- j) Fleet Modernization by replacing older vehicles with newer ones (with better technology and lower emissions) needs serious consideration. This can be done by giving incentives to owners of commercial vehicles older than 15 years to modernize their fleet, encourage owners of private vehicles older than 15 years to replace their vehicles through a suitable tax regime, a vehicle recycling policy, and improvement in the inspection and certification regime.
- k) Encourage use of multi axle vehicles (MAV): MAV (gross tonnage including weight of truck of over 16.2 tonnes) are cheaper to operate compared to smaller trucks i.e. medium commercial vehicles and light commercial vehicles, by over 25%. The incremental cost of a MAV can be recovered in less than three years. Measures to promote the use of MAVs could be considered including excise duty reductions for MAVs similar to small and fuel efficient cars, stringent monitoring of overloaded trucks and enforcing pollution and safety norms.
- l) Vehicle Safety Standards, Inspection & Certification: Mandatory checks are presently required only for commercial vehicles. Private vehicles are also required to be checked for fitness once in 15 years. All vehicles should be required to be tested for emissions at least once in six months. There should be a regular audit of pollution checking Centres. A Vehicle Inspection & Certification system should be put in place in a phased manner under PPP with strict supervision. Private vehicles also need to be brought into the regular fitness regime. A third party vehicle inspection programme can be considered, and the State Road Transport Authority could monitor and audit the system.
- m) Ensuring passenger safety requires strict enforcement of road safety regulations focusing on proper driver selection, training and regulating their driving conditions and hours of work. There is a need to identify unregulated service providers like shared autos and set certain core standards. Smaller vehicles like three-wheelers should ideally serve as a complementary system or render feeder service to the public transport instead of supplementing it.

B. Railways

MAJOR ISSUES CONFRONTING RAILWAYS

- a) Capacity constraints: Indian Railways has suffered a steady decline in its share in freight and passenger traffic as its network is plagued by infrastructural and carrying-capacity constraints.
- b) Investment Planning: Investment in Indian Railways has to be sharply focused and directed towards removing capacity constraints and improving operations. Investment should be focused on total capacity creation including rolling stock, asset renewal, technology induction etc. This should be quantifiable in terms of incremental tonne kms.
- c) Project Execution: IR does not have good track record on funding and execution of projects. Available funds are spread thinly on numerous projects which are then left incomplete.
- d) Safety & Reliability of Operations: Failure of equipment and disruption to traffic on account of accidents continues to be a problem and affects operational reliability.
- e) Social and commercial objectives: For long-term sustainability, IR has to strike a balance between the commercial and the social parts of the business, which have to be kept distinct and separate and managed appropriately.
- f) Financial issues (cost, tariff and accounting): In the short run, most of the costs incurred by IR are fixed and therefore, the only option left is to expand volumes on a large scale.
- g) Tariffs: Passenger tariff-setting has to be made rational and attuned to business growth requirement. Freight tariff needs to be based on differentiation linked to type and quality of service offered. Setting fares for freight and passenger should consider the competition from other modes, provision of subsidy, and need for generation of surpluses for reinvestment.
- h) Accounting System: The present system of accounting does not assist decision making. For example, it gives little information on how to control costs, as accounts are kept on "heads of account" rather than on the basis of activities. There is no satisfactory way to figure out, for example, which are the paying lines and which are not; which trains yield how much; what is the cost of a marshalling operation, or the cost of overhaul of locomotives at each depot.
- i) Productivity: The wage costs are high and the productivity of employees as measured in terms of transport output (million of passenger-kms and freight-ton-kms per employee) is relatively low compared to USA, Japan, Russia and China. Similarly, NTKMs per wagon per day and transport output per route kms is low compared to Chinese and Russian Railways.
- j) Human Resource: HR functions in Indian Railways have traditionally evolved in the context of its being in the government. There is no mecha-

nism for attuning recruitment and training to the job requirements through rewards and incentives. Multiplicity of departments and services would need to be reviewed.

- k) Organization Structure: Railway is organized in terms of several functional departments. The staffing pattern does not match the skills required to build a technologically sophisticated, responsive and customer-focused organization. IR also performs a wide range of activities from manufacturing of coaches/locomotives to running of schools/hospitals. Each one of these activities needs to be examined afresh from the perspective of either retention or hiving off based on operational need for integration, and "make or buy" decision. There is also a need to empower heads of Zonal Railways to a higher degree and hold them accountable for not only operational, but also financial results.
- l) Research & Development: Indian Railways has not been in the frontier of developing or innovating railway technologies. The gap between the state-of-the-art and technology adopted in construction, maintenance and operation on IR needs to be bridged.

DESIRABLE PLAN OF ACTION

- a) Investment: Prioritization is needed in many areas viz. dedicated freight corridors, high capacity rolling stock, last mile rail linkages & improved port connectivity. Operationally urgent and quick pay-off projects that can ease capacity constraints the fastest need to be prioritized for full funding and time-bound execution.
- b) Development of logistics parks would also need to be taken up on priority to create matching terminal and handling capacity and facilitate integration of rail with other modes.
- c) Enhancing Project execution capabilities is critical for speedy capacity creation and improving returns on investments.
- d) Capacity constraints: The planning framework needs to change to ensure creation of capacity ahead of demand. In addition to removing bottlenecks that already exist, planning for future must be based on an in-depth analysis of the market trends. Planning should consider the service delivery strategy, prioritization of projects, requirement and mobilization of the resources and strengthening the organizational capacity for project execution.
- e) Replacement and renewal of assets: The present ad hoc approach in respect of appropriation to Depreciation Reserve Fund needs to be replaced by a rule-based approach.
- f) Safety and Reliability of operations: A comprehensive and holistic approach to planning and operation is needed to attain a state-of-zero accident as stated in Vision 2020.
- g) Social and commercial objectives: The commercial and social roles of IR should be kept distinct

and separate. The commercial part of the business has to be run with a clear set of objectives and judged by commonly accepted financial measures such as revenue, profit, return on capital and productivity of assets. The social part of the business would need to meet different goals and judged by parameters such as improvement in connectivity, service level, and efficiency of delivery/provision of projects/services.

- h) Cost structure: Viability in the short run dictates that the volumes expand at viable tariff levels. As larger volumes bring down unit cost of operations, it could lead to a virtuous cycle of even larger volumes. This, however, presupposes that capacity is not a constraint and that the services offered create value for the customers.
- i) Accounting System must be revamped to accurately reflect the cost of various activities.
- j) Productivity: Increase in axle load, better payload to tare ratio, higher trailing load and improvement in headway etc. could improve productivity relatively quickly.
- k) HR: To attract, nurture and retain talent in large numbers for growth in future, IR has to take a close look at its HR policies and practices. Recruitment of highly qualified PhDs from IIMs/IITs and lateral recruitment from market at suitable compensation should be considered.
- l) Research & Development: R&D projects need to be identified based on operational needs and potential financial returns. These need to be supported through allocation of the adequate resources along with clear-cut accountability for their completion. An annual performance audit of RDSO and the R&D projects needs to be instituted.
- m) Organizational Reforms: IR has to undertake a number of internal organizational reforms to speed up decision-making and bring about result-orientation even while retaining the departmental structure. This includes reorganization on business lines, separation of policy making and operational responsibilities at the Railway Board level, outsourcing/hiving off of certain activities, empowerment of Zonal Railways along with accountability, investment planning, increasing project execution capability, accounting separation on business lines, business process re-engineering, setting up independent tariff-setting and dispute resolution mechanisms for PPPs, etc.
- n) Information Technology: Business processes need to be reviewed and reengineered, wherever needed, before adoption of IT tools. Use of existing IT infrastructure needs to be optimized and adoption of relevant emerging technologies like cloud computing and crowd sourcing, systematically planned. There is a need for a comprehensive IT security system and change in management practices to take advantages of the investment in IT.

C. Civil Aviation

ISSUES FOR CONSIDERATION

- a) Route Dispersal Guidelines of 1994 serves a social need, but economically it results in losses for India's domestic airlines, since they must allocate their scarce resource, aircraft, to service routes that experience light passenger traffic. This also adversely impacts the entry of potential carriers, and creates a disincentive to further expand an airline's fleet and service. It skews the market towards large firms.
- b) Slot Allocation Policy: The rules of the slot allocation policy create barriers to entry for new entrants, thus limiting the number and range of air carrier service providers. Application of the grandfather rule, freeing-up of underutilized slots only every six months, the same carrier controlling slots that are utilized 80% or more during the following season, and banning trading of slots between carriers aggravate the anti-competitive results of this policy.
- c) Fleet and Equity Requirements for Domestic Passenger Air Service: These regulations also raise barriers to entry, limiting both the number and size of new market entrants.
- d) Airport Infrastructure: Poor airport facilities stand in the way of the development of the air transport sector and hinder overall economic growth.
- e) Anticompetitive Behavior and Pricing: Abnormally low fares are affecting the financial viability of the airlines. While a cartel erects barriers to entry into the market place, predatory pricing itself makes it unprofitable for new entrants and thus limits competition. In either case the long term viability of the industry is harmed to the detriment of consumers.
- f) Taxation and Pricing of Air Turbine Fuel (ATF): High fuel costs make it difficult for incumbent Indian airlines to grow and for new airlines to enter the market.
- g) Human Resource Development: Indian aviation needs to recruit and train people in large numbers. As other countries are competing for the same talent pool, this presents a problem.

KEY ENABLERS

- a) Development of heliports is important to support the growth of general aviation in India, especially in areas that cannot have runways for financial or terrain related challenges. There is a need to develop standardized route operating procedures for helicopters and a PPP policy for the development of heliports.
- b) Support infrastructure at airports in Tier 2/3 cities needs to be developed. This includes night-landing facilities, enhancement of passenger amenities and state support in statutory services (like security) to boost the GA industry. GA facilities at metro airports also need an upgrade in terms of separate terminal, parking space, etc.

- c) Upgradation of non-operational air-strips: Non-operational air strips need to be upgraded in places of economic significance such as ports, tourist places and industrial clusters.
- d) Regulatory framework for equitable treatment to General Aircraft (GA) operators: With the current traffic load of scheduled flights at metro airports, GA aircrafts, at times, get a lower priority compared to scheduled operators. MoCA and DGCA should hold consultations to review the existing regulatory and operational framework.
- e) Training Institutions should be set up for training of airport managers, air traffic controllers, navigation and communication engineers, airport security and fire-fighting personnel and they should be licensed by the Government.
- f) Regional airlines that connect areas from big business centres like Central and State capitals to other commercial centres should be promoted.
- g) Policy on air connectivity should be formulated. A plan to develop and construct landing strips at various places should be framed and implemented with State or Centre support.
- h) Burden of taxes and fees on regional airlines should be kept as low as possible for initial period of operations in order to make their operations financially viable. The possibility of granting tax holiday to new regional airlines should be considered. Central Government should consider launching incentive schemes to attract such airlines.
- i) Introduction of seaplanes for achieving air connectivity to remote and inaccessible areas that are suitable for landing of seaplanes should be considered.
- j) PPP model for the development/modernization of airports would be a very viable and practical model. Government should however retain an active stake and control, especially in policy matters, to make sure the public interest is not upstaged by commercial considerations.
- k) Development of Back-end Capabilities and Technologies: Private industrial manufacturers may be awarded product development programs. New technologies – for e.g. development of aluminum alloy sheets, bar-stock, extrusions, forgings – should be developed.

D. Shipping and Inland Water Transport

IMPEDIMENTS FACED BY THE PORTS, SHIPPING AND IWT SECTOR

- a) Inspections and Audits by the Navigational Safety in Ports Committee (NSPC) should be completed in a time, preferably within 60 days of port declaring its readiness for such audit.
- b) Rail-Road Connectivity for Ports is an important concern. State Highways/ Zilla Parishad roads need to be upgraded to NH standards.
- c) Inland Waterway Transport (IWT) sector needs to be encouraged for hinterland cargo movement.

Promote coastal shipping to connect entire coast-line.

- d) Inter port and intra port competition: Inter-port competition is constrained by hinterland economic activity, connectivity & inland transit costs. Intra-port competition can serve to mitigate the pricing power, but it may be constrained if ownership is concentrated.
- e) Financing of port infrastructure is a problem due to the long gestation period (15 years) for green field port projects.
- f) Land acquisition and environmental clearance involves significant delays.
- g) Scale of operations at Indian Ports is quite fragmented and small as compared to China.
- h) Draft limitations restrict large vessels accessing Indian ports which results in higher number of ship calls, increasing the congestion and the demand for berthing.

KEY RECOMMENDATIONS FOR THE PORTS SECTOR

- a) Capacity Creation: It may not always be possible to adhere to the recommended minimum gap of 30% between the installed capacity and the traffic to allow for proper maintenance of berths, equipment etc. A smaller gap does imply a short-term efficiency gain, but it would be better if the ports create capacity in excess of 30% of actual traffic over a period of time.
- b) Massive Mechanization: With the kind and size of vessels with higher parcel sizes calling at Indian ports, massive world-class mechanization is the need of the hour. Each berth should be equipped adequately with high capacity versatile Cranes, Conveyer Systems, Silos, Harbour Mobile Cranes, Grab Unloaders and Gantry Cranes.
- c) Development of Adequate Storage Areas is important for speedy clearance of cargo from the wharf to/from some other plot. Storage areas near a port allow the cargo to be cleared from the port faster and help achieve lower turnaround time. Provision of warehousing space near ports is also an incentive to attract traffic.
- d) Hinterland connectivity: Improvements in logistics network outside the port is important for improving the competitiveness of Indian ports. For example, for European ports, cargo is transported throughout Europe in an uninterrupted and smooth fashion. Indian Ports should have a minimum 4-lane road connectivity as well as double line rail connectivity.
- e) Cost Efficiency: Shipping lines charge that port charges at Indian ports are very high as compared to international ports. However, the factual position is that vessel related charges are perhaps higher in India, but cargo related charges are much lower.

KEY RECOMMENDATIONS FOR IWT

- a) Integration of waterways with other modes of transportation to form an efficient multimodal

transport network is the key to achieve sustainable development of IWT sector. This requires detailed mapping of waterways and industrial clusters and analysis of origin and destination of cargo to undertake development of suitable waterways as well as multimodal transport hubs in IWT corridors. b)

- P u b l i c investment in development of waterways could serve as an important economic lifeline for development of North Eastern (NE) region as its water resources are ideal for IWT.
- c) Policy support for creation of floating infrastructure i.e. barges/inland vessels is critical to attract private capital for development of IWT sector. An institutional arrangement wherein the risk on investment is shared through a PPP mode could be effective.
 - d) Extending mandatory intermodal share for cargo movements (currently mandated to all PSUs by PMO) to all public limited companies and creation of a suitable tradable instrument on the lines of Renewable Energy Certificate (REC) can serve as a significant policy support.
 - e) An institutional framework to appraise critical projects is needed for timely implementation.
 - f) For effective resolution of policy and administrative issues, setting up State Level Coordination Committees (SLCC) of various State Government agencies and IWAI under the State Chief Secretaries is of critical importance. Every riverine/coastal State should set up an IWT organization and to frame a long-term strategy for the IWT development.
 - g) Creation of adequate education and training facilities is necessary. IWT training facilities in the country are limited, and need to be expanded. The National Inland Navigation Institute (NINI) can function as the apex level training institute and Regional Crew Training Centers (RCTCs) can be set up at the State level.
 - h) Private Sector Participation in the development, maintenance and regulation of some stretches of rivers for inland water transport may be looked into. Power utilities should bear cost of construction and O&M of material handling at power plant end, as is the case with the facilities for unloading of railway wagon.
 - i) Dredging of Rivers would help develop the IWT.
 - j) Installation of world class mooring buoys is needed to facilitate imports/exports operations on a large scale at the anchorage.
 - k) Centrally sponsored schemes for the development of infrastructure should be started to promote IWT and for development of minor ports.

E. Urban Transport

KEY ISSUES IN THE URBAN TRANSPORT SECTOR

- a) Vehicular Emission: Metropolitan cities are facing serious environmental problem due to growing air pollution caused by fuels used in vehicles.
- b) Congestion: Traffic congestion in cities results in delays and higher pollution levels. High average age and poor maintenance of vehicles compounds the problem.
- c) Road Safety Issues: Pedestrians, bicyclists, motorcyclists, and non-motorized vehicle occupants are often the most vulnerable in Indian cities.
- d) Parking Problems: Haphazard parking contributes to higher levels of traffic congestion.
- e) Inadequate public transport: Public transport systems in India are generally inefficient, due to outdated technology, incompetent management, corruption, overstaffing, and low worker productivity. They also require increasingly large subsidies.

WAY FORWARD

- a) Promoting regional economies and compact townships: Regional economies that reduce the need for long-distance travel should be promoted. Similarly, building self-sufficient compact townships would reduce the need for short-distance travel within the cities.
- b) Focusing on public transport particularly bus transport: Passenger mobility in urban India relies heavily on roads. Rail based mass transport system should be planned in all cities with population more than 2 million. Urban transport plans should also emphasize setting up a modern and efficient bus transport system.
- c) Introducing variety of bus transport services: Segmentation of supply of bus transport system to provide different services for different people is required.
- d) Adopting optimal pricing strategies for transport services could effectively be used to encourage the public transport and restrict the use of private vehicles. Today, the operating cost of using the private vehicles is far less than the marginal social costs: this encourages people to use private vehicles. Government policies artificially lower not only the cost of vehicle ownership (through very low one time registration fee, low sales tax, etc.) but also the vehicle usage. Market based instruments such as annual registration fee, parking fee, road tax, fuel tax, congestion charges, etc. could be used to increase the (actual) marginal cost of private vehicle use to equal the marginal social costs of the same. Public transport could be promoted by abolishing annual motor vehicle tax and passenger tax on public vehicles.
- e) Enhancing transport coordination: To encourage people to use public transport, the transportation system should be seamlessly integrated across all modes. An authority to coordinate the operations of various modes is required with the objective of improving the efficiency of service delivery and comfort for commuters. A single ticket system, where commuters can buy a transport ticket that is valid throughout the public transport network

within the coordinating authority's jurisdiction, should also be developed and promoted.

- f) Demand side management measures, such as parking fee, fuel tax, congestion pricing, etc., should be implemented in conjunction with other transport planning, supply side management, and transport pricing measures.
- g) Supply side management measures, such as one way traffic system, improvement of signals, traffic engineering improvement measures for road network and inter-sections, bus priority lane, etc., could be used as short-term measures to ease traffic congestion. Medium-term measures like new road alignments, hierarchy of roads, provision of service roads, bye passes, ring roads, bus bays, wide medians, intersection improvements, construction and repair of footpaths and roads, removal of encroachments, etc. should be introduced at least in million plus cities. Long-term measures include technology upgradation and introduction of high speed, high capacity public transport system along high-density traffic corridors, etc.
- h) Encouraging green modes: Transport policy should encourage the need for developing green modes like bicycles, cycle rickshaws, pedestrians, etc. The safety concerns of cyclists and pedestrians have to be addressed adequately, by having a segregated right of way for bicycles and pedestrians. This will also help in improving traffic flow, increasing the average speed of traffic, and reducing emissions resulting from low vehicle speed.
- i) Strengthening urban institutions: The functional responsibilities for urban transport are fragmented among central, state and local level governments. Central government provides sub-

urban rail service through Indian Railways in four mega cities. MoRTH is responsible for the national highways, including the stretches within urban areas. State governments control local land use policies, motor vehicle and sales tax rates, bus transport systems, policies for private sector participation, etc. Most of the Urban Local Bodies (ULBs) rely heavily on capital grants from the states for almost all infrastructure projects as their own revenues are barely sufficient for meeting their current expenditures. Therefore, insufficient funds are available for operation and maintenance of existing assets which badly affects the service delivery. ULBs should be empowered to raise funds for developmental projects. They may also be authorized, through legislation, for overall coordination of activities relating to provision of transport infrastructure by various government agencies in urban areas.

- j) Innovative financing mechanisms using land as a resource: Alternative methods of financing need to be explored. The Central Government could encourage the levy of dedicated taxes to be credited to an urban transport fund and used exclusively to meet urban transport needs within the State. Such dedicated taxes could be in the form of a supplement to the petrol and diesel taxes, betterment levy on land owners or even an employment tax on employers. Revenues from a betterment levy along new high capacity public transport corridors could be included as a component of the financing plan for such new public transport systems. The commercial utilization of land resources, available with public transport service providers, is also recommended to raise additional resources.