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Government of India
Ministry of Urban Development
(UT Division)

Nirman Bhawan, New Delhi,
01st November, 2006

To

The All Chief Secretaries,
All Principal Secretaries (Urban Development)
All Principal Secretaries (Transport)

Sub: Guidelines for preparation of Detailed Project Report for Integrated Mass Transit System development plans (Bus based/Rail based).

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Sir,

Recognizing the problem of Urban Transport a number of cities are coming up with Mass Transit System proposals(Bus Based/Rail Based) to be funded under Jawaharlal Nehru National Urban Renewal Mission, Viability Gap funding or budgetary support from Government of India. While going through the Detailed Project Reports of various proposals, it has been noticed that in the absence of proper guidelines, Project Reports are being prepared which are not in line with the National Urban Transport Policy, approved by the Government of India in April, 2006.

2. It has also been noticed that the individual proposals are not part of an overall transport/mobility plan. This should be an integrated transport and land use plan. In view of all this, a common set of guidelines have been prepared addressing all the important issues related to preparation of Detailed Project Reports for Mass Transit System proposals (Bus based/Rail based). These guidelines shall not only help in preparation of proposals, but also in more objective appraisal of these proposals. Since number of cities are coming up for BRT proposals, these guidelines are explicitly worded for BRT proposals. However, the structure listed in the guidelines is broad based and will be applicable for any Mass Transit proposal by suitably substituting BRTS by Metro/LRT/Mono Rail etc.

3. It is expected that all the DPRs for Mass Transit Systems seeking assistance from Government of India under JNNURM or any other scheme shall be prepared on the prescribed format which is enclosed. Any suggestions for improvement of these guidelines are welcome and may kindly be forwarded within 15 days by email/FAX.

Yours faithfully,

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Guidelines for preparation of Detailed Project Report for Integrated Mass Transit System development plans (Bus based/Rail Based)

Recognizing the problem of Urban Transport a number of cities are coming up with Mass Transit System proposals(Bus Based/Rail Based) to be funded under Jawaharlal Nehru National Urban Renewal Mission, Viability Gap funding or budgetary support from Government of India. While going through the Detailed Project Reports of various proposals, it has been noticed that in the absence of proper guidelines, Project Reports are being prepared which are not in line with the National Urban Transport Policy, approved by the Government of India in April, 2006.

2. The National Urban Transport Policy primarily focuses on “Mobility of people” rather than “Mobility of Vehicles” and encourages implementation of sustainable transport solutions in cities of various sizes. It seeks to do this by encouraging improvements in public transport and facilities for the use of non-motorized modes. It suggests greater involvement of the private sector and innovative financing mechanisms to enhance efficiency and reduce the impact on the public budget. It seeks to reduce travel demand by encouraging a better integration of land use and transport planning. It seeks to encourage the use of cleaner technologies. It also seeks to create better awareness amongst the people so that there is support for the initiatives that need to be taken and some compromises that people may need to make.

3. Apart from this, the city is required to prepare overall transport / mobility plan. This should be an integrated transport and land use plan and should spell out the projected mobility needs and also the manner in which such mobility needs are proposed to be met. An integrated land use and transport plan is a pre-requisite to receiving funds from Government of India for any major transport projects.

4. In view of all this, a need was felt for having a common set of guidelines for preparation as well as appraisal of Detailed Project Reports for Mass Transit System proposals (Bus Based/Rail Based) so that all the important issues are properly addressed. Since number of cities are coming up for BRT proposals, these guidelines are explicitly worded for BRT proposals. However, the structure listed in the guidelines is broad based and will be applicable for any Mass Transit proposal by suitably substituting BRTS by Metro/LRT/Mono Rail etc.

5. The guidelines list the various Chapters and sub-topics which are to be included in the DPR along with an explanatory memorandum wherever required. The DPR itself is planned to be prepared in two phases, DPR-I relating to feasibility report, project identification, concept description and development. DPR-II shall be more in the nature of design reports required at the stage of implementation.

6. It is expected that all the DPRs for Mass Transit Systems seeking assistance from Government of India under JNNURM or any other scheme shall be prepared on the prescribed format. DPR-I shall form the basis for appraisal and sanction of the project. Release of Central grant at various stages shall be linked to fulfilling various conditions relating to planning, design and implementation. For this, separate check list would be issued subsequently. Based on the plan outline, projects are to be detailed out,

conceptually designed, costs worked out, financial and economical feasibility examined and environmental and social impacts analysed and mitigation measures planned. This would include overall funding plan, including risk analysis. Institutional framework and implementation plan would also form a part of this report. The various Chapters and sub-headings in the report shall be as detailed in the subsequent pages. Any suggestions for modifications/improvement on these guidelines are welcome.

Detailed Project Report- I

| Chapter | Content |
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| | Executive Summary |
| | As the name suggests, this should contain overall summary of the project, giving all the salient features of the project. This should include a brief explanation of the city growth, existing transportation situation, land use – transport trends, alternative strategies, choice of strategy and its justification, brief description of the proposed network and how the proposal will help the current situation. While some figures may be used to make a point, all extra details must be avoided. |
| 1.0 | A Profile Of The City A brief overview of the city in terms of its growth, economy, spatial structure and trends are analysed and perspectives on the future growth are presented. |
| 1.1 | General/historical background |
| 1.2 | Location, climate, physical setting, regional linkages |
| 1.3 | Demographic and socio economic profile: population growth, density, migration patterns, spatial patterns of growth, projections for next 20 years |
| 1.4 | Urban Land Use Structure / Activity Distribution Planning study areas and existing plans, existing land use distribution, review of zoning Regulations (zoning and FSI pattern and its appropriateness), employment distribution by Traffic Zones, activity locations (Business areas, University, Hospitals, Transport Terminals,..), land use plan proposals (Master Plan & CDP strategy), road network pattern, evaluation w.r.t land use-Transport Integration |
| 2.0 | Existing Transportation System In The City Describes the components of urban transport system in terms of status, trends and gaps. |
| 2.1 | Introduction |
| 2.2 | Vehicular growth and composition |
| 2.3 | Roadnetwork Characteristics Network Inventory including length, width, Bridges, Robs, Flyovers, Network pattern, missing links, issues |
| 2.4 | Major Transportation nodes e.g. Railway. Station, ISBT, Airport And Traffic handled |
| 2.5 | Pedestrian and NMV facilities |
| 2.6 | Traffic Management Including Parking Management |
| 2.7 | Traffic Characteristics Volume, traffic composition, speed and delays, pedestrian and NMV movement |

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| 2.8 | Traffic Safety |
| 2.9 | Intermediate Public Transit System: Composition, Status and Role |
| 2.10 | Public Transportation System Type, status and trends in terms size, service, routing, fare, patronage, financial performance, institutional framework, responsible agency & Act, constraints, past proposals |
| 2.11 | Issues And Prospects |
| 3.0 | Travel Characteristics Based on primary survey data present travel patterns and forecast the future travel demand. |
| 3.1 | Details of various traffic and transportation studies undertaken for the city: Study Area, Zoning, Land Use Surveys, Transportation Surveys: Classified volume counts, road side interviews, OD Surveys, Willingness to pay/use Surveys, Traffic Surveys, Speed-Delay Surveys, Parking Surveys (Survey Details in terms of sample framework, survey design, formats etc., to be attached as Annexure) |
| 3.2 | Socio-Economic Characteristics Age Wise Distribution of Population, Activity Status (Work, Education, ..), Income Distribution, Vehicle Ownership Travel Characteristics Trip Rate, Trip Purpose, Mode Choice, Trip Length, Monthly Expenditure On Travel, Spatial Pattern of Passenger Movement, Mobility Patterns and Needs of Women, Old Aged, Physically Challenged |
| 3.3 | Travel Demand Analysis Model Framework, Model Calibration, Summary of Travel Demand Patterns |
| 4.0 | Comprehensive Mobility Plan Developing an integrated plan is the theme of this chapter. Integrated plan would imply integration wrt landuse and transport, integration of various modes (fares, routes, facilities) and institutional framework for coordination |
| 4.1 | Future Travel Demand Scenarios |
| 4.2 | Challenges and opportunities, goals and objectives |
| 4.3 | Alternative Analysis Evaluation of various alternative technologies to solve the existing problems with cost benefit analysis, technical feasibility including evaluation of lowest cost options like Traffic Management, Rationalization etc., rationale for choosing a particular Technology / system concept |
| 4.4 | Stake holder consultations including Workshops held if any |
| 4.5 | Transport Master Plan It should focus on moving people and not vehicles. It should integrate land use with transport plan including mass transit systems connectivity to all new/ future Satellite Townships/emerging activity centres (SEZ's), main network and Feeder network including pedestrian & NVSSs, phasing of implementation |
| 4.6 | Integration of Master Transport Plan into the Master Plan of the city enclose soft & hard copy of approved Master Plan of the city and if not approved, provide time limits for approval. |
| 5.0 | BRT System Design – Network & Roadway |

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| | Discusses various policy issues related to roadway design and presents a conceptual design to include all elements for the entire BRT network |
| 5.1 | Network/Corridor Assessment, Selection Existing Right of way, DP/Master Plan of road , BRT Roadway concepts number of junctions along each corridor, Existing no. of lanes, Location and Number of existing Bus/Para Transit stoppages, Access to Bus Stop, Number and frequency of Bus, Para Transit routes serving the corridors, number of pedestrians and NMV trips being carried by these corridors |
| 5.2 | Land Ownership of the Corridor |
| 5.3 | Roadway and service design concept: median vs side lanes, open vs closed system, exclusive/dedicated vs mixed corridor |
| 5.4 | Geometric design of Corridor including design for NMVs & pedestrians evolving alternative cross sections including NMVs tracks, pedestrian facilities, plan/profile for typical sections |
| 5.5 | Pavement design consideration like design period, traffic, sub grade strength design, drainage arrangement |
| 5.6 | Street Lighting, Furniture |
| 5.7 | Relocation of existing services/utilities |
| 5.8 | Bus Stops Proposed Provide sample design of proposed Bus Stops Based on Ridership demands & projections |
| 5.9 | Block cost estimates for roadway development |
| 6.0 | BRT System Design – Vehicle, Services And Operations Presents choice of bus technology and designs services and operation systems. |
| 6.1 | Bus Types And Detailed Specifications Vehicle Length, Width, Low/Semi-Low/High Floor, Door Width & Location, Fuel etc. Include rationale for choosing any particular type & specifications |
| 6.2 | BRTS Service Types All Stops, Limited Stops, A.C/Non-A.C |
| 6.3 | Routine & Frequency |
| 6.4 | Fleet Requirement |
| 6.5 | System of Procurement |
| 6.6 | Feeder Services |
| 6.7 | Ticketing and Passes System |
| 6.8 | Vehicle Tracking & Monitoring |
| 6.9 | Integration Of BRT With Other Transit Services – Physical And Ticket Integration |
| 6.10 | Setting up of Common Utility Offices at Terminals/Major Interchange Points, eg: Submission of Bills, Taxes Etc. |
| 6.11 | Fare Fixation And Collection System |
| 6.12 | Cost Estimates |
| 7.0 | BRT System Design: Feeder Network & Infrastructure Feeder services are designed. Integrating vending within the street is explored. |

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| 7.1 | Feeder Services Planned |
| 7.2 | Parking For Para Transit Facilities |
| 7.3 | Hawkers & Vendors Reorganization Space for hawkers and vendors has to be provided in such a manner that they do not encroach upon the right of way meant for uninterrupted movement of vehicles. Include sample designs for parking areas as well as for space meant for hawkers and vendors, provide rationale for amount and location of space being provided for both functions |
| 7.4 | Cost Estimates |
| 8.0. | Integrating Land Use & Transportation and Using Land as a Resource Actions to achieve Transit Oriented Landuse Structure are contemplated. While doing so opportunities for using land as a resource for mass transit development are also explored. |
| 8.1 | Inventory (Within 500 M either side) And Overall Activity Pattern Also Include List Of All The Vacant Surplus Govt. Land, Existing Govt. Buildings With Their Areas Along Each Identified Corridor |
| 8.2 | Assessment Of Development Potential List Land/Buildings amenable for change in near future e.g. vacant land, Low rise development relocation etc., Use type, Densification of corridor by increasing FSI |
| 8.3 | Land value assessment & Revenue potential |
| 8.4 | PPP Potential |
| 8.5 | Impact assessment Traffic & Other Services Desired |
| 8.6 | Implementation Mechanisms |
| 9.0 | Terminals and Parking Planning, design, costing and mode of development and operation of BRT terminals and parking facilities along the corridor are presented. |
| 9.1 | Locations & Area |
| 9.2 | Parking Policy – Existing and Proposed |
| 9.3 | Block Cost Estimates |
| 9.4 | PPP Potential |
| 10.0 | ITS and Passenger Information System, Traffic Information Centre ITS is used to provide user information, monitor system operations, compliance to schedules and service quality, minimize revenue leakages, reduce costs, enhance safety and also to generate valuation traffic information for fine-tuning mobility plans. Planning and design of ITS applications is presented in this chapter. |
| 10.1 | Roadway Applications Design |
| 10.2 | Bus Applications Design |
| 10.3 | Bus Station Applications Design |
| 10.4 | Fare Collection System |
| 10.5 | Traffic Information Centres |
| 10.6 | System Integration |
| 10.7 | Other Information Systems (Signage, Time Tables, Posters etc.,) |
| 10.8 | System Management Plan |

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| 10.9 | Physical and IT Infrastructure Development and Operations' Costs & Revenue Generation |
| 11.0 | Proposed Phasing Of Entire Project Various identified corridors making up the complete network need to be prioritized using appropriate rationale. Provide a brief on all factors that were looked into, to determine priority list and explain the method that was used. |
| 12.0 | Agency/Agencies For Implementation, Operation And Maintenance Detail their structure, role, functions & setting up of UMTA |
| 13.0 | Financial Planning And Cost Estimates |
| 13.1 | Costing of entire project and for each of the phases detailed cost estimates to be attached as Annexure |
| 13.2 | Revenue From Different Sources Fare box, advertisement, route bidding etc., taxes and property development etc. |
| 13.3 | FIRR & EIRR With – 15 Yrs Time Horizon Detail all the assumptions made to arrive at final figures |
| 13.4 | Financial Structuring Of The Project Explore All Possible Ways Of Funding The Project Using Different Approaches Like PPP, BOT, Developer Finance Model Etc. And Proposed Funding Model. |
| 14.0 | Sustainability Analysis Of The System For both Infrastructure and the Rolling Stock. Detailed risk analysis at various stages of the project to be analysed and mitigation strategies suggested. |

Note: Maps and other forms of visuals are to be used appropriately.