

Central Institute of Road Transport

Excellence in Transport

Consultancy Competences



Consultancy Team

Central Institute of Road Transport

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About CIRT

The Central Institute of Road Transport is a unit of the Association of State Road Transport Undertakings (ASRTU), New Delhi. CIRT was formed on the joint initiative of the Association of State Road Transport Undertakings (ASRTU) and the then Ministry of Shipping and Road Transport, Government of India in 1967. The major activities in the institute are as follows:

- (a) **Consultancy & Research:** CIRT undertakes assignments on transport policy, transportation planning, traffic management, maintenance management, materials management, human resource management, intelligent transport systems, bid process management and management information systems.
- (b) **Training:** CIRT offers management development programmes covering general management, transport operations and maintenance engineering for practicing managers in STUs, other organizations operating transport services besides road transport officials.
- (c) **Vehicle Certification & Testing:** CIRT undertakes assignments through its sophisticated automobile component testing laboratories, recognized by the Bureau of Indian Standards (BIS) for testing a wide range of automobile components.

CIRT also assists the Ministry of Road Transport & Highways on several projects related to public transport and road safety under various schemes as a Technical Evaluating & Monitoring Agency. CIRT officials are members of various Expert Committees on Public Transport, Road Safety, Motor Vehicle Legislation & ITS. CIRT has been nominated as the Technical Secretariat for the Working Party (WP. 1) on Road Traffic Safety of the United Nations Economic Commission for Europe.

CIRT Competences:

Transportation Planning

➤ **Comprehensive Mobility Plan for City**

The concept of Comprehensive Mobility Plan (CMP) is to have a long-term vision for desirable accessibility and mobility pattern for people and goods in the urban agglomeration. It focuses on the mobility of people to address urban transport

problems and promote better use of existing infrastructure (i.e., improvement of public transport, pedestrian and NMT facilities). Which as such leads to the integration of land use and transport development and is essential to building smart cities.



➤ **Comprehensive Traffic & Transportation Studies**

The objectives of such a study are:

- To understand the present changed travel demands & characteristics
- To forecasting future demands & characteristics
- To work out a comprehensive traffic & transportation plan for the metropolitan area

This will also help in formulating long term development strategies and investment plans for the metropolitan area. Besides, the study will also help in the capacity-building of organizations in the region.



➤ **Transportation Master Plan**

A transport planning process typically includes the following steps:

- Monitor existing conditions.
- Forecast future population and employment growth, and identify major growth corridors.
- Identify current and projected future transport problems and needs, and various projects and strategies to address those needs.



- Evaluate and prioritize potential improvement projects and strategies.

- Develop long-range plans and short-range programs identifying specific capital projects and operational strategies

➤ **Multi-Model Integration Plan**

Multi-modal planning refers to planning that considers various modes (walking, cycling, automobile, public transit, etc.) and connections among modes.



✚ **Traffic Engineering/Management**

➤ **Traffic Management Plan**

Preparing Traffic Management Plan with following objectives:

- Improve traffic movement in critical areas within region and ensure smooth traffic flow
- Provide safe, efficient, and convenient pedestrian movement
- Ensuring minimal conflict for traffic & pedestrian circulation
- Suggest operation strategies for provision of Public Transport and Intermediate Public Transport within the study area



➤ **Junction Design**

Designing Junction with following Objectives:

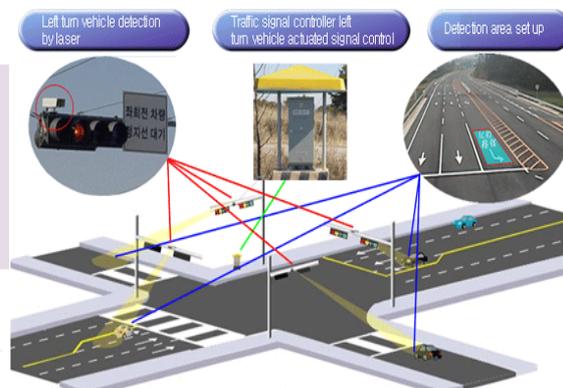
- minimising accident risk, particularly for vulnerable users
- minimising accident severity;

- providing adequate capacity for vehicular traffic,
- providing safe and convenient passage for cyclists and pedestrians,
- Minimising conflicts between traffic activity at the junction and existing and planned roadside development in the vicinity



➤ Signal Management Measures

Due to mixed nature of traffic it becomes very difficult to accommodate the traffic on road particularly at intersection. The loss of time and fuel due to delay and traffic congestion on urban road is phenomenon. Traffic congestion is a severe problem at an intersection in urban, having create many critical problems like traffic jam, delay, pollution, accidents etc. It challenges in major and most populated cities around the world. Which can be solved by applying traffic signal management measures like:



- Redesigning Signal cycle length
- Signal Synchronization
- Implementation of Vehicle Actuated Signal

✚ Road Safety Audit

Conducting road safety study for the critical Junction/Road Stretch (Accident Prone, heavily Congested) junctions of the city addressing mainly the existing traffic movement and road safety measures. The objective s of the study are as follows:

- Improve road safety and ensure smooth traffic flow

- Provision of safety to vulnerable road users such as pedestrians and cyclists
- Reduction in black spots through adoption of suitable and effective measures
- Reduction in congestion by eliminating bottlenecks and traffic conflict points.



Public Transport

Public transportation services play a predominant role amongst the services extended to the people in any area. Public transportation is an operation which is realised with the help of huge manpower and transport vehicles with certain geographical and administrative restrictions in any territory. The stakeholders involved in public transport operations and management include users, particularly passengers from low-income households, providers and operators of services (drivers and conductors), and regulatory agencies. A properly organised and affordable public transport system is essential to ensure the sustainable economic well being of the community. We deal with following Assignments in Public Transport



- **Route Rationalization**
- **Performance Improvement Measures**
- **Organizational Restructuring**
- **Layout Plans for Bus Terminals**
- **Depots & Workshops, Up gradation of Facilities at Bus Terminals**

- **Application of Intelligent Transportation System (ITS)**
- **Public Transport Planning and Management**
- **Strategic Planning for Sustainable Development**
- **Assessment of Customer Satisfaction**

+ Parking Space Management Plan

Conduct study with following objectives:

- Ensuring effective utilization of existing parking space.
- Reduction in congestion due to parking
- Determining parking usage characteristics
- Identifying strategies that should be used to make parking more efficient
- Projecting future parking needs
- Producing a management plan which addresses existing and future parking needs.



+ Pedestrian/Non-Motorized Master Plan

Conduct study with following objectives:

- Develop a comprehensive, rational, and equitable bikeway and walkway system connecting residential neighbourhoods with parks, schools, Central Business District, transit, and existing and future employment
- Create a safe bicycle and pedestrian environment
- Develop school and commuter bikeways and walkways that are easily recognized and accessible from residential areas



- Improve bicycle and pedestrian amenities

Intelligent Transport System

Managing traffic in urban areas is a complex, multi-layered and multi-functional process generally involving a range of diverse agencies. In a successful traffic management system each partner will have a clearly defined role, which is distinct yet complementary to those of other partners. ITS can play a key role in supporting and facilitating each partner whilst also being a key technological tool in delivering core output of coordinated traffic management policies and projects. Nowadays, there are a number of challenges lying ahead of the transport system Smart technologies and Intelligent Transport Systems (ITS), in particular, have a role to play in achieving the aforementioned goals. ITS can significantly contribute to a cleaner, safer and more efficient transport system, especially in urban areas. We deal with following Assignments in ITS



- **Vehicle Tracking Systems**
- **Cameras for Surveillance**
- **Traffic management:**
 - Intersection control -At intersections,
 - Deciding the total signal cycle and the split of green times among different flows

Institute of Driver Training Center (IDTR)

Road safety has become an issue of vital importance today in view of the rising increase in road accidents and driver behaviour is attributed as one of the major causes of reported road accidents. In a sector where performance of drivers has a great impact on the lives of general public, the quality of drivers is of high importance. In this reference MoRTH has asked for proposals from various states in India. The objective to establish IDTR/Regional Diver Training Institute (RDTC) is as following

- To conduct training course for Trainers or Training Instructors.

- To conduct induction and refresher training course in driving of Heavy Motor Vehicles.
- To conduct induction training course in driving of Light Motor Vehicles.
- To conduct induction training course in driving of motorized 2-wheelers.
- To conduct Refresher and Orientation Training Courses for the drivers who are in service.
- To organize road safety awareness campaigns for school children and other vulnerable groups.



CIRT plays various roles at each level for establishment of IDTR as described below:

- **Role of CIRT as Evaluation Agency**

CIRT plays the role of evaluation agency in connection with IDTR projects on the behalf of Ministry of Road Transport & Highways. As part of the evaluation agency,



CIRT evaluate and scrutinize the DPR and provide observations about detailed costing, layout plans of buildings and track design etc. CIRT evaluate the proposal with reference to infrastructure and facilities to be provided as per guidelines of MoRTH.

- **Role of CIRT as Project Monitoring Agency**

CIRT plays the role of monitoring agency in connection with IDTR projects being setting up in various states. As part of the monitoring role, CIRT currently offers technical assistance to the state governments in establishing the IDTRs, undertakes physical inspection after every 6 months of the project progress and submits its report

before the release of funds and gathers information on the training activities once the institutes are established and when required by the funding agency. The monitoring services will be valid up to 5 years from the date of the project execution. It is proposed that CIRT would be paid about 0.05% of the total project cost in order to meet the expenses for carrying out monitoring activity and to ensure that the project is in line with the guidelines provided by the MoRTH

✚ Automated Inspection & Certification Center (I&C)

Road accidents are resulting in the untimely and needless death and injuries of many persons every year. With the driver & Vehicle being responsible for a significant share of road accidents, many of these casualties would have been avoided with right attitude of drivers & proper maintenance of vehicles. Road safety has greatly been improved through the utilisation of effective technologies. An effective vehicle inspection system can alone



help all the stakeholders in improving road safety, pollution levels and road worthiness



of in-use vehicles. In this regard, the Ministry of Road Transport and Highways (MORTH) is setting up model Inspection and Certification (I&C) Centers in the various states in India proposing a feasible solution by setting up a network of Automated Vehicle

Inspection and Certification Centers. Objective to setup Inspection and certification centers is listed below:

- Scientifically test the road worthiness of in-service transport vehicles as per Rule 62 of CMVR as against visual examination in vogue
- Ensure safety and security of the vehicles to reduce accidents.
- Less pollution, cleaner environment and reduce the vehicle operating cost.
- Facilitate in establishing end of life of vehicles, presently missing in the rules and introduce concept of scrapping of old vehicles running on roads

Role of CIRT

PHASE I

- Demand assessment surveys shall be taken up by CIRT in order to identify the suitable locations for the proposed I&C Center(s) in every district/region/ state and finalize the same in consultation with State Government.
- Selection of locations and finalization of inspection lanes for setting up of I&C Centers by conducting a feasibility study of the vehicle population and future projections, proximity to the city and road network and availability of land at reasonable cost.
- Preparation of Request for Proposal (RFP) document for Selection of Vendor(s).
- Bid Process Management
 - Conduct pre-bid conference
 - Techno-bid evaluation of bid documents
 - Prepare evaluation report of the submitted bids
- Preparation of agreement documents to be signed with the selected vendor(s)
- Preparation of block layout diagrams of the inspection lanes in consultation with the Architect and equipment vendor(s).
- Project management consultancy by supervising the procurement, installation and commissioning of equipment.

PHASE II

Periodical audits and checks to authenticate the inspection process ensuring that proper control mechanism is in place to ensure that I&C Centers are carrying out the tasks as per regulations of the respective State Government.

- Monthly audit during the first six months after commissioning of I&C Centres.
- Quarterly audit after six months of commissioning of the I&C Centres.
- Calibration of I&C Centre equipment on an annual basis.

✚ Automated Driving License Issuing Center (DLIC)

The current state of affairs in issuing driving licenses is also not very encouraging as it fails to objectively test the driving skills of the license applicants. In the absence of a fool proof scientific evaluation of driving skills, the current system is bound to be biased and not transparent

In order to address the serious issue of road safety in the current scenario, CIRT is planning to assist the state Government in establishing Modern Driving License Issuing Centers on PPP basis. CIRT envisages to set up a



network of Driver Testing Centers all over the state where all the two wheelers and LMV drivers can be tested for their driving skills. These Driving License Issuing Centers will be beneficial for all the stakeholders like the Ministry of Road Transport and Highways, Transport Departments of State Government, Commercial Vehicle Owners, General Public at large, etc. These centers shall support the conduction of skill evaluation of two wheeler & LMV license applicants for permanent license. The centers can be established either in the premises of Transport department offices or any other location acquired by the department. The centre shall have the following facilities:

- Ophthalmic and Reaction time test centre
- Computer centre for Learning License

- Test track for 2 wheelers & LMVs

Role of CIRT

Phase I: Preparation of DPR

- Demand assessment surveys in order to identify the number of centers in every district/region/ state and finalize the same in consultation with State Government
- Finalizing the requirement of Centers by conducting feasibility study of the vehicle population & future projections and licenses issued & renewed
- Preparation of a standard template for establishment of Centers
- Finalisation of specifications for testing and office equipment
- Driving Skill Evaluation Testing System
 - Preparation of Technical Specifications
 - Identify service level agreements / performance parameters
- Preparing a framework for PPP model by identifying the selection criteria for the PPP vendor
- Finalising the implementation mechanism
- Conducting cost benefit analysis to assess the return on investment
- Identification of contract tenure for the PPP vendor(s)
- Review/ Study the functioning of motor driving schools in the State and proposals for strengthening the driving schools
- Bid Process Management for selection of vendor
 - Tender Documentation
 - Conduct pre-bid conference

Phase II: Project Execution

- Demand assessment surveys in order to identify the suitable locations for the proposed Center in every district/region/ state and finalize the same in consultation with State Government.
- Finalizing the location of Centers by conducting feasibility study of proximity to the city & road network and availability of land at reasonable cost.
- Bid Process Management for selection of vendor
 - Techno-Financial evaluation of bid documents

- Prepare evaluation report of the submitted bids
- Provide driver testing track dimensions
- Guide the Architect in preparing customised layout plans for the following infrastructure facilities for each centre based on present and futuristic demand.
 - Test tracks
 - Computer Center
 - Parking
 - Waiting areas
- Preparation of agreement documents to be signed with the selected vendor
- Periodic Inspection during construction for quality for 12 months
- Supervising the installation and commissioning of equipment.
- SOPs shall be created for management of driving schools and driving license issuing centers to bring in accountability
- Hardware Inspection during installation and commissioning of IDTS
- Testing of Deliverables

Phase III: Monitoring Audits

Periodical quarterly audits and checks to authenticate the testing process ensuring that proper control mechanism is in place to ensure that the Centers are carrying out the tasks as per regulations of the State Government.

Projects Handled:

A list of the projects undertaken by the institute is given below:

Sl. No.	Project	Client
1	Road Safety Study & Training for Pepsico Plant at Ranjangaon	Pepsico India Holdings Pvt. Ltd.
2	Traffic Management and Road Safety in JNPT Area	Jawaharlal Nehru Port Trust
3	Mode DPR for ITS Applications in SRTUs	Ministry of Road Transport & Highways

Sl. No.	Project	Client
4	DPR for Procurement of Buses under JNNURM - Delhi	Delhi Transport Corporation
5	DPR for Integrated Depot Management System & ITS Applications	PEPSU Road Transport Corporation
6	Scrutiny of DPR's pertaining to Central Assistance for strengthening Public Transport in the Country	Ministry of Road Transport & Highways
7	DPRs for Procurement of Buses under JNNURM by NEKRTC for the following cities: <ul style="list-style-type: none"> • Gulbarga • Bidar • Bijapur • Bellary • Hospet 	North Eastern Karnataka Road Transport Corporation
8	Monitoring of Institute of Driving Training & Research TIER I Projects	Ministry of Road Transport & Highways
9	Bid Process Management for Purchase of 1100 CNG Propelled Buses	Delhi Transport Corporation
10	Study for Evaluation for Road Safety Programmes conducted by NGO	Ministry of Road Transport & Highways
11	DPR for Setting up and Maintaining a Database on Urban Transportation	Institute of Urban Transport, New Delhi
12	DPR for Integrated Depot Management System and Electronic Ticketing Systems	North Western Karnataka Road Transport Corporation
13	Master Plan for Bus Rapid Transit System integrated with Bicycle Network in Pune	Pune Municipal Corporation, Pune
14	DPR for Procurement of Buses under JNNURM - Gangtok	Sikkim Nationalised Transport
15	DPR for Integrated Depot Management System and Electronic Ticketing Systems	PUNBUS
16	Preparation of Tender Documents for Procurement of Buses by KDMTU	Kalyan Dombivli Municipal Transport Undertaking, Kalyan
17	DPR for Procurement of Buses under JNNURM - Kohima	Transport Department, Government of Nagaland

Sl. No.	Project	Client
18	Route Rationalization of PMPML Routes	Pune Mahanagar Parivahan Mahamandal Limited (PMPML), Pune
19	DPR for Procurement of Buses under JNNURM - Gangtok	Transport Department, Government of Sikkim
20	DPR for Procurement of Buses under JNNURM - Shillong	Meghalaya Transport Corporation, Shillong
21	DPR Phase II for Purchase of Buses under JNNURM - Aizawl	Transport Department, Government of Mizoram
22	DPR for Procurement of Buses under JNNURM – Kalyan Dombivli	Kalyan Dombivli Municipal Transport Undertaking
23	Public Transport Demand Estimation Study for Andaman & Nicobar Islands	Directorate of Transport, Andaman & Nicobar Administration
24	Performance Improvement Measures for Sikkim Nationalised Transport	Transport Department, Government of Sikkim
25	Master Plan for Bus Rapid Transit System integrated with Bicycle Network in Pimpri Chinchwad	Pimpri Chinchwad Municipal Corporation, Pune
26	Quantify – Quantifying the Climate Impact of Global and European Transport Systems	European Commission and Coordinated by DLR Institute of Atmospheric Physics, Germany
27	DPR for Intelligent Transport System & Ethanol Diesel in KSRTC, Mysore	Karnataka State Road Transport Corporation
28	DPR for Integrated Depot Management System in PRTC	PEPSU Road Transport Corporation
29	DPR for Computerisation in Sikkim Nationalised Transport	Sikkim Nationalised Transport
30	Preparation of Corporate Plan for UPSRTC	Uttar Pradesh Road Transport Corporation
31	PMPML Staffing Requirements	Pune Mahanagar Parivahan Mahamandal Limited (PMPML), Pune

Sl. No.	Project	Client
32	Success Story of Volvo Buses in BMTC	Volvo Bus India Limited
33	Study on the Performance of Volvo Intercity Bus Operations	Volvo Bus India Limited
34	Service Quality Management for RSRTC Operations	Rajasthan State Road Transport Corporation
35	Development of Demand Graph for BMTC	Bangalore Metropolitan Transport Corporation
36	Surface Transport Master Plan for Bhutan	Royal Government of Bhutan
37	Monitoring of Driving Training Institutes	Ministry of Road Transport & Highways
38	Innovative Driving Testing System using RFID Technology	Transport Department, Government of Odisha
39	Estimation of Impact of Daily Passes	Bangalore Metropolitan Transport Corporation
40	Engine Performance with the Use of B-100 Bio-Diesel	Petroleum Conservation Research Association
41	Evaluation of DPRs submitted by States for Implementing ITS Projects in	Ministry of Road Transport & Highways
42	Innovative Driving Testing System using RFID Technology	Transport Department, Government of Andhra Pradesh
43	Innovative Driving Testing System using RFID Technology	PEPSU
44	Traffic & Transportation master plan study for Chakan - Talegaon region	Maharashtra Industrial Development Corporation
45	Establishment of Integrated Toll Plaza	Transport Department, Haryana
46	Innovative Driving Testing System using Digital Image Processing	Ministry of Road Transport & Highways