

# CENTRE OF EXCELLENCE IN URBAN TRANSPORT

## Department of Civil Engineering

### IIT Madras News



QUARTERLY REPORT OF ACTIVITIES AT CENTRE OF EXCELLENCE IN URBAN TRANSPORT

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#### **Message by**

Transportation engineering affects the day- to- day life of the people and is becoming more and more important with the increase in the need for the mobility of people. The focus has shifted from the mere addition of infrastructure to the areas such as Intelligent Transportation System (ITS), Urban Transportation System Planning, Congestion management and Road Safety and Urban Transportation Infrastructure Management to serve the growing need for mobility. The situation demands inter- disciplinary and inter-institutional approach to solve these issues. A close interaction between the academicians, industrials and bureaucrats is required for which the centre aims to serve as a platform. With these, the centre aims to provide solutions to the problems faced by the nation in this area, thereby propelling the faster growth of the nation.

#### **About the Centre:**

The centre of Excellence in Urban Transport has been recently established at IIT Madras. The centre will undertake cutting-edge research and development activities for solving Urban Transport's most pressing problems and challenges. The centre is located in the Department of Civil Engineering at IIT Madras, and is coordinated by a group of faculty from the Transportation Engineering Division.

#### **Multi-institutional and Multi-disciplinary Research Team**

- IIT Madras
- NIT Tiruchirapalli
- NIT Calicut
- BMS College of Engineering
- VIT University
- Osmania University
- Anna University College of Engineering, Thiruvananthapuram

## **Objectives**

- Create laboratory infrastructure for ITS
- Develop talent pool of trained personnel for meeting urban transportation needs
- Share the expertise of team members and participating agencies in creating, expanding, providing and disseminating knowledge
- Undertake research and development activities in urban transport sector
- Promote development and application of scientific, practical technologies and tools
- Provide technical assistance and advise to the Ministry of Urban Development (MoUD) and other user agencies
- Undertake training activities to strengthen the capacities of state and urban local bodies and private sector officials

## **Research Areas**

- Intelligent Transportation Systems (ITS) in Urban areas
- Advanced Urban Transportation Systems Planning
- Urban Transportation Infrastructure Management
- Congestion Management and Road Safety

## **Ongoing and Proposed Activities**

- ITS applications in urban areas
- ITS Lab/Traffic Monitoring Centre
- ITS for Urban Public Transport
- Dynamic Network Modeling under Mixed-Traffic
- Urban Congestion Mitigation
- Tools for Transportation Planning
- Urban Pavement Management Systems (PMS)
- Urban Safety Management

## **ITS LAB cum TRAFFIC MONITORING CENTRE**

ITS Lab cum Traffic Monitoring Centre is being established in the department of Civil Engineering as part of the Centre of Excellence. This will be the first of its kind in the country. The lab will showcase advanced ITS technologies and enable real-time traffic monitoring and evaluation.

### **Features**

The centre will have

- Advanced traffic detection technologies; video, radar, infra-red, GPS and inductive loops
- Software for video detection, network and traffic modeling, simulation and optimization
- Real-time communication, data transfer and information dissemination
- Advanced hardware traffic controllers, workstations and display devices
- Data archiving capabilities including storage servers, storage media and portable systems

# FIRST MEETING OF GOVERNING COUNCIL

The First meeting of the Governing Council was held on 30<sup>th</sup> January 2010 at the Conference Room , 5<sup>th</sup> floor of the Administration Block.

Dr. Job Kurian, Professor & Dean, IC&SR and Chairman of Governing Council gave a welcome address to the members.



Shri. S.K. Lohia, OSD (MRTS) MoUD presented an overview of Centers of Excellence in Urban Transport set-up by MoUD at Department of Civil Engineering IIT Madras, CEPT University, Ahmedabad, NIT Warangal and IIT Delhi.

Prof. R. Sivanandan, Coordinator, gave an overview of CoE at IIT Madras and presented a progress report on various issues like Transportation Problems in Indian Cities, Urban Transport Features and Needs, Motivation, Objectives, All India Activities, Focus Areas, Proposed Projects, Key Education Activities, ITS Lab / Traffic Monitoring Centre, Progress Made, Technical Activities etc. He also gave an account about various equipment being procured.

He also explained about INDO-US Workshop on Emergent Trends in ITS being held between 11<sup>th</sup> & 13<sup>th</sup> February 2010. The members of the Governing Council have discussed in detail the issues concerning Transportation Engineering. After Shri. S.K. Lohia made closing remarks, the meeting ended with a vote of thanks by Prof. Sivanandan.

## TWO-DAY SEMINAR ON ROAD SAFETY 'CHEN SAFE-2010'

### Inaugural session of a two-day seminar on road user safety 'Chen Safe' on 05.01.2010

Mr. Atulya Misra, Transport Secretary was speaking at the inaugural session of a two-day seminar on road user safety „Chen Safe“ jointly organised by the Alumni Association, College of Engineering, Anna University, and the Division of Transportation Engineering, CEG. He was stressing that public transportation modes such as buses must take lead in bringing down the number of fatal road accidents and said that all 20000 buses in the state will be GPS enabled in a phased manner . A committee had been formed to introduce speed governors in all buses.

Dr. P. Mannar Jawahar, Vice-Chancellor, Anna University said road safety must become a part of the core curriculum since workshops only had a short-term effect.



*Transportation Secretary Mr. Atulya Misra, releasing the conference souvenir of 'Chen Safe' and handing over a copy to Anna University Vice-Chancellor Dr. P. Mannar Jawahar in Chennai. Alumini Association of CEG president Shri. G.G. Jaiprakash Narain and head of the Division of Transportation Engineering IIT-M Dr. V. Thamizh Arasan are in the picture.*

Prof. A. Veeraraghavan, Transportation Engineering Division while delivering the T.Muthian endowment lecture said that accidents involving pedestrians, cyclists and two wheeler riders form 83% of the total number of accidents. He further added that unless they are considered as an element of traffic planning and road design, real change will never happen in spite of strict enforcement.

### Valedictory session of a two-day seminar on road user safety 'Chen Safe' on 06.01.2010

Mr. M. Subramanian, Mayor, Chennai Corporation while speaking at the valedictory session of two-day seminar, pointed out that the explosive growth in the number of vehicles has made it extremely difficult for the Chennai Corporation to keep pace by providing adequate infrastructure. He added that existing facilities including ROBs were not being utilized. Infrastructure facilities along with proper public participation only can provide lasting solutions. As a result of the deliberations which took place at the seminar, 12 proposals for improving safety and traffic management in the city were submitted the mayor.



*Mayor Shri. M. Subramanian inspecting a modified helmet designed by students of Anna University at "Chen Safe" in Chennai on Tuesday, CMDA Member Secretary Shri. Vikram Kapur and College of Engineering, Guindy, Dean Shri. M. Sekar are in the picture.*

## INDO-US WORKSHOP on Emerging Trends in Intelligent Transportation Systems 11-13, February, 2010

Indo-US workshop on Emerging Trends in Intelligent Transportation Systems was inaugurated by Prof. S Santhakumar, Dean of Academic Courses, IIT Madras.



Dr. Laurence R Rilett, UNL and Dr. Lelitha Devi V, IIT Madras were addressing during the introductory session



An Indo-US workshop on Emerging Trends in Intelligent Transportation Systems (ETITS) sponsored by the Indo-US science and technology forum was conducted. The main participating institutions were IIT Madras and University of Nebraska Lincoln with Dr. Lelitha Devi and Dr. Laurence Rilett as the principal coordinators. The workshop was [organized](#) by the Centre of Excellence in Urban Transport and the Transportation Division of IIT Madras from 11<sup>th</sup> to 13<sup>th</sup> of February 2010. The workshop attracted eminent speakers from India and USA who had immense experience in this area over the past many years. The workshop was attended by more than 50 delegates from across the nation from academia, industry and bureaucracy working in the area of ITS and shared their experiences and expectations in the area of ITS for India. More than 75 students also participated from all over the country.

## Talks delivered by the CoE Faculty and Awards Received



1. 2<sup>nd</sup> URBAN MOBILITY INDIA CONFERENCE 3 – 5 December 2009 at New Delhi Prof. R Sivanandan was invited to give a presentation on “ITS Application in India- Issues and Challenges”, at the Urban Mobility India Conference and Exhibition held at New Delhi
2. Gitakrishnan Ramadurai, won the First place in 2009 TSL Dissertation Prize awarded by Transportation Science and Logistics Society at the Institute for Operations Research and Management Science Conference in October 2009, at San Diego, California, USA.
3. Prof. R. Sivanandan participated as a member in the Advisory Board meeting of Directorate of Urban Land Transport (DULT), Govt. of Karnataka, at Bangalore on 3<sup>rd</sup> March, 2010.
4. Prof. R Sivanandan participated in the council meeting of the Centre of Excellence at CEPT, Ahmedabad on 27<sup>th</sup> March, 2010.
5. Prof. A Veeraragvan, served as the advisor and delivered the keynote address on “Safe Mobility in Chennai” in CHENSAFE 2010- Towards Road User Safety” , seminar organized by the Alumni Association, College of Engineering, Guindy, Anna University, Chennai, 3<sup>rd</sup> – 5<sup>th</sup> of January, 2010
6. Prof. R. Sivanandan served as the sub- committee member of the seminar “on “CHENSAFE- 2010- Towards Road User Safety”, at Anna University, Chennai, 3<sup>rd</sup>- 5<sup>th</sup> January, 2010.

National Workshop on  
Intelligent Transportation System  
25-26 June 2010

Workshop was organized by Centre for Development of Advanced Computing (CDAC), Thiruvananthapuram in Association with IIT Madras, IIT Bombay and IIT Calcutta.

This workshop focuses on the need for indigenous development and integration of Intelligent Transportation System (ITS) for sustainable transport in India. It aims highlighting the activities initiated by the Department of Information Technology (DIT, Ministry of Communications and Information Technology (MCIT), Government of India in collaboration with leading research and academic institutes.

It also aims to discuss the ITS implementation experiences in India by various agencies. Technological innovations focusing traffic management systems for highly heterogeneous traffic and simulation tools for the planners and designers, traffic enforcement systems for the enforcement agencies, advance traveler information system and trip planner for the general public are other highlights of the workshop. A clean, green travel in urban areas that contribute to a healthy society with high quality of life and huge savings in fuel and money for the nation are envisaged by optimizing the existing road and parking infrastructure.

This workshop is aimed to make awareness among the transportation professionals working in research institutes, academia and general public about the ongoing research and development activities in ITS domain by leading research and academic institutes under the sponsorship of DIT.

Advanced Traveler Information System (ATIS) for Indian Cities was given by Prof. R. Sivanandan and Dr. Karthik K. Srinivasan, Department of Civil Engineering, IIT Madras.



## List of Faculty associated in Centre



Prof. R.Sivanandan



Prof. A.Veeraraghavan



Dr. Karthik. K. Srinivasan



Dr. V. Lelitha Devi



Dr. Gitakrishnan Ramadurai

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