# Improvement of Safety of School Trips and Traffic Management around Schools in Urban Areas: Kolkata as a Pilot Study

#### **Broad Area**

- Planning and Policy
- Habitation and Maintenance
- Governance

## **Need for the Study in the Context of Future of Cities**

The vehicular volume in urban India is growing steadily due to rapid urbanization and consequent growth of private vehicle ownership and usage. However, the augmentation of road capacity in urban India is often restricted by physical constraints. The imbalance between demand and supply has aggravated traffic congestion and pollution in urban India. Over years, a large number of schools which were established in open areas with low traffic intensity have gradually become parts of dense urban development and alongside busy traffic corridors.

The three most significant modes used in the transfer of school children are school bus, pool-cars and private vehicles. Among the three modes, a significant portion of school trips are now made using private vehicles. The reason behind such modal preferences may primarily be attributed to the poor quality and security concerns associated with pool-cars and school buses. In the recent years, several incidents have been reported regarding the safety and security of school going children. Accordingly, transfer of school children has inevitably become a very sensitive issue in metropolitan areas.

Due to increasing use of private vehicles, the roads in the influence zone of the schools are severely affected during the school opening and closing hours. Consequently, this is aggravating the traffic congestion, emission and safety problems around schools. Hence, there is an urgent need to improve the safety and security of school going children, understand the present traffic situation around schools and develop efficient traffic management strategies in the congested influence areas of schools. It is also necessary to formulate measures for discouraging the use of private vehicles in favour of carpools and school buses as a demand management strategy. Considering the special requirements of school trips, it is required to initiate further training to drivers of pool cars and school buses, and convey safety awareness/ training to school children.

### **Objective and Scope of work**

The broad objectives are:

- 1. Investigating issues related to safety and security of school trips and formulating measures for improvement
- 2. Understanding present modal share and formulating measures for discouraging the use of private vehicles in favour of carpools and school buses as a demand management strategy
- 3. Reviewing traffic operations around schools in urban areas and recommending suitable traffic management plans including dynamic speed management
- 4. Identifying gaps in terms of training needs for drivers and suggesting suitable training programme for improving the driving performance for school trips
- 5. Identifying gaps in terms of safety awareness of school children and suggesting suitable measures for improvement

The work will be demonstrated with reference to 5 to 10 schools in the Kolkata city.

## **Methodology**

The methodology for the project is summarized below with the help of various Tasks.

Task 1: Review of Literature

Task 1A: Safe Practices related to School Trips

Task 1B: Factors influencing Mode Choice for School

Task 1C: Behavioural Data, Experiment Design and Modelling

Task 1D: Traffic Management Strategies

Task 1E: Education and Training for Drivers and School

Task 1F: Legislative & Policy Aspects

Task 2: Review of Current Scenario and Gap Analysis related to School Trips

Task 2A: Safety and Security:
Access to Transfer Point,
Transfer Facility and In-Vehicle
Travel

Task 2B: Availability and Convenience: Access to Transfer Point, Transfer Facility and In-Vehicle Travel Task 2C: Legislative & Policy Framework: Safety, Security, Availability and Convenience

Task 3: Measures for Encouraging use of School Bus and Pool Cars

Task 3A: Alternative Measures for Improvement

Task 3B: User Cost Model

Task 3C: Mode Choice

Task 3D: Evaluation of Alternative Measures: User Benefit and Mode Choice

Task 4: Traffic Management Plan for the congested Network around Schools

Task 4A: Current Scenario in the Influence area of Schools

Task 4B: Alternative Traffic Management Strategies for the congested Network around Schools Task 4C: Strategy for implementation of Dynamic Speed Management

Task 4D: Evaluation of Traffic Management Strategies based on Micro-simulation

Task 5: Drivers' Training Manual for School Trips and Training Module for Safety Awareness of School Children

Task 6: Regulatory Framework for Implementation of Recommended Improvement Strategies

Task 7: Implementation and Evaluation of Recommended Strategies in Selected Study Areas

#### **Outcome/Deliverables**

The expected major outcomes from the research work are as follows:

- a) Recommendations and action plan for improving safety and security of school going children in the Kolkata city and other urban areas
- b) Demand management strategies and action plan for achieving higher usage of 'carpool and bus' for school trips in the Kolkata city and other urban areas
- c) Traffic management planfor improving the safety of road users and efficiency of traffic movements around few schools in the Kolkata city
- d) Training Manual for drivers of Pool Cars and School Buses
- e) Training module for improving safety awareness of school children
- f) Recommendations related to regulatory issues
- g) Implementation of recommended measures with the help of Kolkata Police/State Government and Evaluation

### **Team Composition**

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Co-Investigators	
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