

Workshop on Road Safety in Context of Smart City & Management" on 26-27 June 2016 **Workshop Recommendations**

Traffic safety is an important component of sustainable smart city plans. India has the highest number of traffic crashes in the world (~146000 deaths annually) and about 40% of traffic deaths occur in cities. Therefore creating safe cities through appropriate planning and design of urban streets becomes a prerequisite for smart cities.

Implementation of plans and design for safe streets require acceptance of proposed solutions both by the users and city authorities. The current process is often top down process where solutions for perceived problems of safety and sustainability are proposed without the supporting data and analysis. The available street design guidelines from Institute of Urban Transport, India<sup>1</sup> (IUT ) and Indian Road Congress (IRC )<sup>2</sup> need to be adapted for the local context, and city municipalities require expert guidance for the same.

In Road safety and SMART city workshop discussions were held with officials and community members from the city to discuss traffic safety issues. Following aspects were highlighted:

- Improve pedestrian paths, street parking for rickshaws, three wheelers and space for street vendors.
- All major intersections on National Highway (NH) in the city should have double the lumen level of lights using solar panels.
- Enforce helmets for driver as well as pillion riders.
- Campaign to encourage two wheeler drivers to keep head lights on in daytime also.

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<sup>1</sup> *The Institute of Urban Transport India (IUT) was established in May, 1997 as a professional body under the purview of the Ministry of Urban Development Government of India (MOUD) as a premier professional non-profit organization and registered under the Societies Registration Act. The objective of the institute is to promote, encourage and coordinate the state-of-the-art urban transport including planning, development, operation, education, research and management.*

<sup>2</sup> *Indian Roads Congress (IRC) was set up by the Government of India in December, 1934 for promoting and encouraging science for building and maintenance of roads. It also provides a national forum for sharing knowledge and pooling experience on the entire range of subjects dealing with construction and maintenance of roads and bridges*

Bhagalpur SMART city plan must prioritize creating safe and efficient infrastructure for all road users and specifically pedestrians, bicycles, and cycle rickshaws. Simple systems can be created to improve collection, use and analysis of traffic crash data and use it to identify and prioritize areas for interventions.

There is also no institutional structure available in the State of Bihar to deal with road safety issue. It is call of the day to set up the institutional structure in form of a nodal institution for Traffic Crash Data analysis, technological Solution, information dissemination on all issue of traffic safety. It would be responsive, credible and efficient in communication; reliable, competent in solving problems and sensitive to road safety issue with backup support and linkage with IUT ( India).

Following projects can be initiated with the involvement of Bhagalpur College of Engineering (BCE), Bhagalpur :

1. Traffic Crash Data analysis: Traffic crash data files are maintained by the police/traffic police. Photo copies of last four year cases can be shared with BCE research team. The research team can locate crashes on GIS map and do spatial analysis of fatal crashes. This project can lead to long term collaboration between the police, municipality and BCE faculty. Municipal officers can identify areas requiring immediate attention. The impact of interventions can be monitored over time. The proposed safety measures will be less ambitious and based on specific locations so that the local administration has the possibility of implementing them. This can be included in the smart city proposal.
2. Preparation of a NMT (Non Motorized Traffic) master plan for Bhagalpur can be initiated with the support from municipality. This can include detailed design suggestions for modifying a NH section in the city, an

arterial road segment and a collector/local road segment. The document will also have detailed guidelines for improving pedestrian and NMT facilities, street parking for rickshaws, three wheelers and buses and other vehicles. BCE students and faculty can be involved in this project along with some consultants.

3. While all eyes are on the construction of permanent facilities during construction of a smart city, temporary structures (enabling structures) so vital for the construction of permanent structures often get neglected. This results in poor quality and a number of fatal accidents besides a lot of major and minor injuries. In the workshop it was shown that temporary structures do need emphasis during construction stage to avoid accidents. Following recommendations emerged during the workshop for the construction stage:
  - a. Safety audit be made part and parcel during construction stage.
  - b. The contractor shall use standard built up frames for scaffolding.
  - c. The temporary structure (formwork in case of RCC Construction) design should show the access arrangement. They must be well designed and should have provisions for ramp, walkway, access and approach at the work locations.
  - d. The temporary structure design and drawings must be vetted by third party. A certificate to this effect must be available for inspection.