Sustainable Urban Transport in Less Motorised Countries: Research and Training
Transportation Research and Injury Prevention Programme

- An interdisciplinary programme focussing on the reduction of adverse health effects of road transport
- TRIPP attempts to integrate all issues concerned with transportation in order to promote safety, cleaner air, and energy conservation

- Transportation planning and traffic flow analysis for optimising access and minimising road traffic injuries and pollution
- Vehicle crash modeling, road safety studies, safer vehicle and helmet design
- Studies related to public transport, traffic management, road design and land use planning
- Epidemiology of factors associated with road traffic injuries, injury analysis and pre hospital care
TRIPP attempts to integrate expertise in transportation planning, road safety, computer sciences, biomechanics, epidemiology, medicine, social sciences and econometrics for work on transportation issues
SUSTAINABLE URBAN TRANSPORT IN LESS MOTORISED COUNTRIES: RESEARCH AND TRAINING

EDUCATION
- Student projects
- Masters Programme
- Ph.D. Scholars

NETWORKING
- Community Meetings
- Annual training course
- Visiting scholars
- Seminars/workshops

TRANSPORTATION RESEARCH PROJECTS
- Vehicle Emission
- Crash modeling
- Route Optimization
- High Capacity Bus system
- Injury Epidemiology
- Helmet design

Research Data Resource
- Injury data
- Community database
- Traffic data

Research dissemination/Publication Unit
- Community transport-health monitor
- Journal
- Scientific papers

IIT Delhi 21 April
Global warming, transport and CO2

Scenarios for GHG emissions from 2000 to 2100 (in the absence of additional climate policies) and projections of surface temperatures
Access and mobility vs technological fixes

How do we

- Reduce trip lengths?
- Reduce number of trips?
- Reduce motor vehicle use?
- Increase walking and bicycling?
- Increase public transport use?
- Select public transport technology?

Technological fixes alone may not provide solutions
Consequences of change

- Air-conditioned, comfortable, safe and quiet travel in cars with music in hot and tropical climates cannot be matched by public transport:
  - Public transport closer to home, small walking distances, very predictable - favour high density networks, lower capacity, surface transport systems, predictable arrival and departure times aided by ITS information systems

- Availability of m/c reduces middle class demand for public transport, pegged the fare levels for public transport:
  - Need for very cost efficient public transport systems that match motorcycle operating cost

- New cities do not have dense and attractive central business districts
  - Radial lines into the city do not attract very high ridership. Capacities above 20,000 pphpd generally not necessary – dense surface middle capacity networks adequate
## Conundrum – Public transport

<table>
<thead>
<tr>
<th>City</th>
<th>Car + MTW</th>
<th>Public Transport</th>
<th>Walking and bicycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol, UK</td>
<td>65</td>
<td>12</td>
<td>23</td>
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<td>Leeds, UK</td>
<td>61</td>
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<td>Nantes, France</td>
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<td>Helsinki, Finland</td>
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<tr>
<td>Amsterdam, Neth's</td>
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<td>16</td>
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</tr>
</tbody>
</table>

MTW - motorized two-wheeler, PT – Public transport
W&C – Walking and cycling
Urban form, infrastructure and life style greater impact than technologies?
Fatality risk in traffic crashes in US cities
City structure, safety & public transport

- Actual area devoted to road space may not vary much
- Residential block/development size can vary in size
- Width of roads are different across cities

Large blocks → Wide arterial roads → More fatalities
Large blocks → Long walk to bus → Less use

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>Pedestrians (msk)</th>
<th>Motor Vehicles (msk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>116,278</td>
<td>5.16</td>
<td>16.63</td>
</tr>
<tr>
<td>Ann Arbor</td>
<td>114,024</td>
<td>0</td>
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DELHI BRT CORRIDOR - BEFORE
JCK: Buses ply on the road as commuters are stuck in a traffic jam on the BRT corridor stretch in New Delhi on Sunday. (AFP)
‘Experts’ order serial rape of Delhi roads
Mindless HCBS plan derails traffic, destroys greenery, leaves city gasping
A Pooney Investigation

It is only too ordained—‘Hindu fatalism’ that has presented a public revolt against a harebrained road transit project in Delhi that has caused untold misery to commuters along one of the city’s principal arterial corridors. For the last 18 months or more, a frantic plan to introduce the so-called High Capacity Bus System (HCBS) between ISBT in the north and Ambedkar Nagar (Khampur) on Mehrauli-RadhaKrishnapur Road in the south, has resulted in inexcusable traffic snarls and a sharp rise in road accidents.

But the word is yet to come. Once this denoted project is completed, one of the Capital’s longest traffic corridors will be in a shambles forever. Already the journey time of 15 minutes from ITO to Khampur, a distance of 11 km, takes two hours at peak time. This despite the fact that the dedicated bus lanes are incomplete and all traffic currently uses the under-construction bus corridor, separated from the rest of the road by concrete dividers. When the project is finally implemented and the bus corridor comes into operation for other vehicles, the congestion is in the narrow lanes left for them can only be imagined.

Branchchild of IIT Professor Dinesh Mohan who has never concealed his bias for private cars and flyovers, besides romantically pro-liberalisation, China’s dependence on bicycles as the principal mode of urban transport, HCBS is only at its inception stage. If such experts have their way, 13 other arterial corridors spanning the entire city shall be subjected to gangplage by greedy contractors with the benign blessings of exalted ‘experts’ and aspiring officials.

Four more have already been finalised although work is yet to begin on three. Although the political leadership is not blameless, it was probably tricked into approving this ludicrous idea meted by the ‘experts’ in the name of ‘more viable, rather than progressively promoting it.

If you have to travel from the Mukhyamantri Chowk along Tol Tito Marg and further to Khampur down the ITO-Ambadkar Marg, any time during the last one and a half years you must have been a harrowing experience. But what about people who live in high congestion residential colonies like Shakti Nila, Pushpit Vihar, Madangir, Dukhia Pur or the much-maligned Saihlim Park? Here go a typical example:

You opt to drive along the divider-demarcated single lane after descending from the Mukhyamantri Chowk because the narrow strip on the left is already choked with traffic. After negotiating a treacherous path which is barely four feet wide and with incomprehensible oncoming, taking care to gingerly follow out from three-wheelers delivering vans and unloading trolley bots (for there is no way you can contain them with such a narrow opening), you confront complete chaos at the Anand Vihar crossing. Everybody uses the break from the

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IIT dept behind BRT gets funds from bus makers
25 Apr 2008, 0123 hrs IST, Abantika Ghosh, TNN

NEW DELHI: As questions are being raised vigorously by citizens’ groups, traffic experts and MPs across party lines over the controversial BRT corridor, what seems to have slipped notice is that the patrons of the IIT-Delhi department behind the concept include bus manufacturing majors Volvo and Tata.

The BRT project, which has turned the lives of thousands of south Delhi commuters into a nightmare of nerve-wracking jams, pedestrian chaos, and cycle and two-wheeler back-ups, is essentially meant to segregate traffic in a manner that provides a dedicated corridor to buses. The road space for non-bus motorized traffic has been reduced by about half.

What makes the decision of the city government to appoint Dinesh Mohan and Geetam Tiwari from IIT-D’s Transport Research and Injury Prevention Programme as independent experts for the project curious is that the department’s patrons include Volvo Education Research Foundations (VERF) and Ford Motor Company. The experts deny any conflict of interests.
Collaborations – networking – lessons from organic and self organizing systems

- Need to understand role of approaches other than technological fixes
- Forces against development of sustainable futures?
- Safety issues up front
- Researchers on sabbatical leave
- Research student exchange
- Short term visits: