

7th

Urban Mobility India
Conference & Expo 2014
Sustainable Transport for Sustainable Cities

I.C.L.E.I.
Local
Governments
for Sustainability

SAFETY & SECURITY ISSUES IN URBAN MOBILITY



India is urbanising...

India's cities have expanded rapidly over the last few decades and are likely to grow faster in the future. Urban India is expected to contribute 70 per cent of India's GDP by 2030.



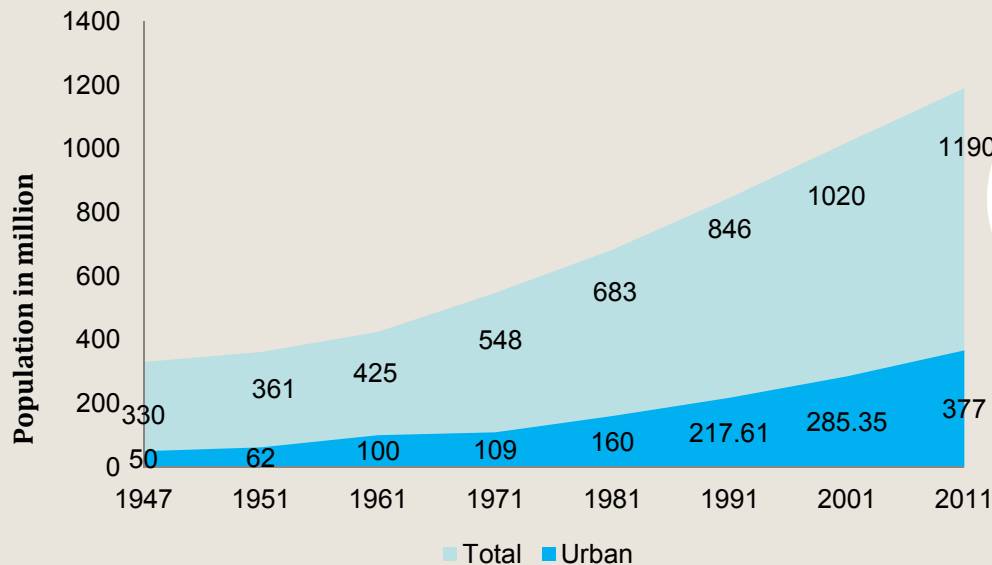
World's **2nd largest urban system** (367 million in 2011) after China



7935 cities and towns in 2011, up from 5161 in 2001
About **8 Mega cities**

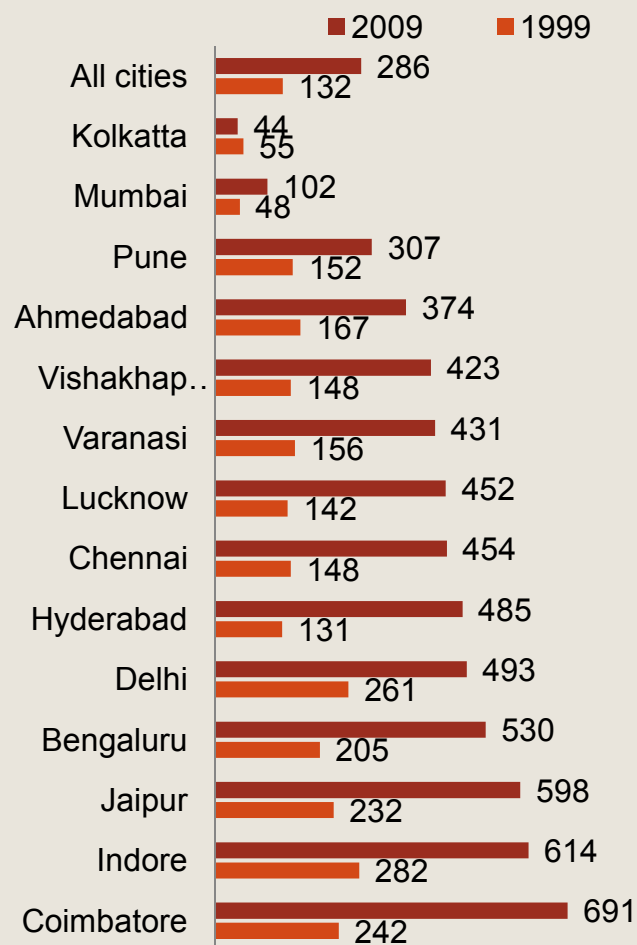


200 cities >2,00,000 population
Expected Urban population **473 million** (2021) and 820 million (2051)

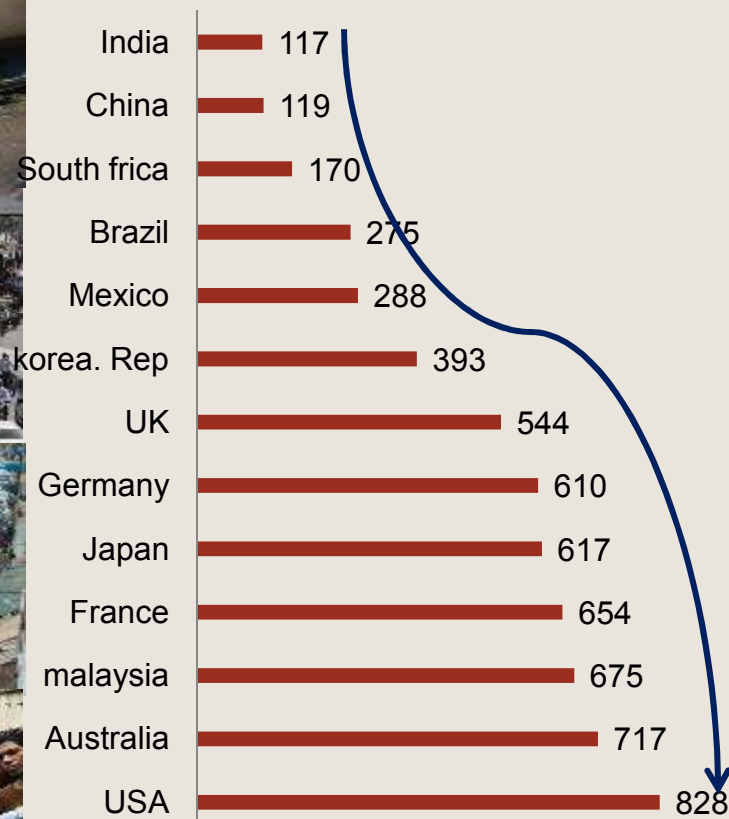


Source: World bank report 2004 and <http://censusindia.gov.in/>, Mickensy report on India Urbanization, 2010, and World bank report 2004

Existing Vehicular Population in Indian Cities



Vehicle Intensity per 1000 people for different Indian Cities



Vehicle Intensity per 1000 people for different Nations 2009

Transport demand is inflating....

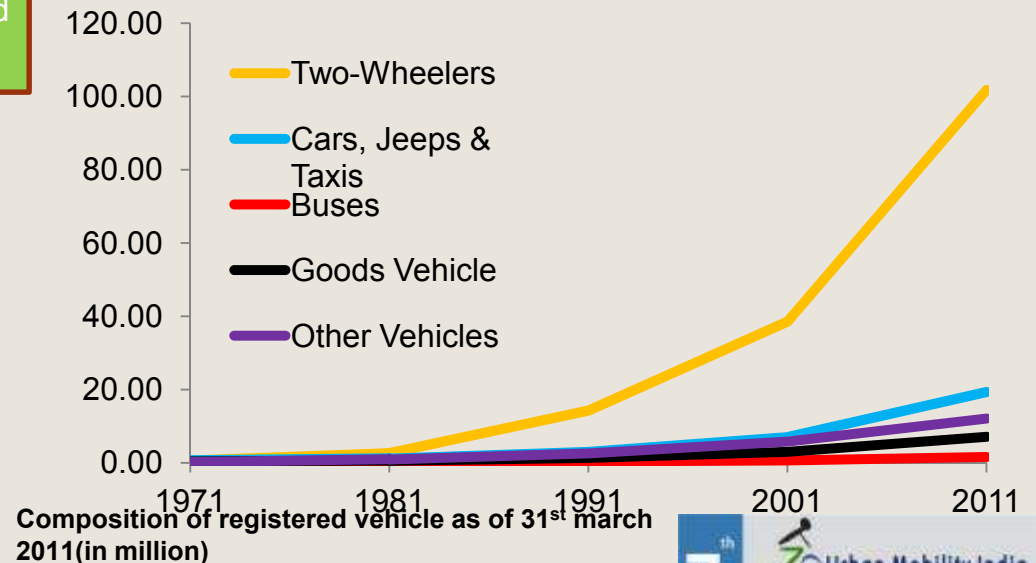
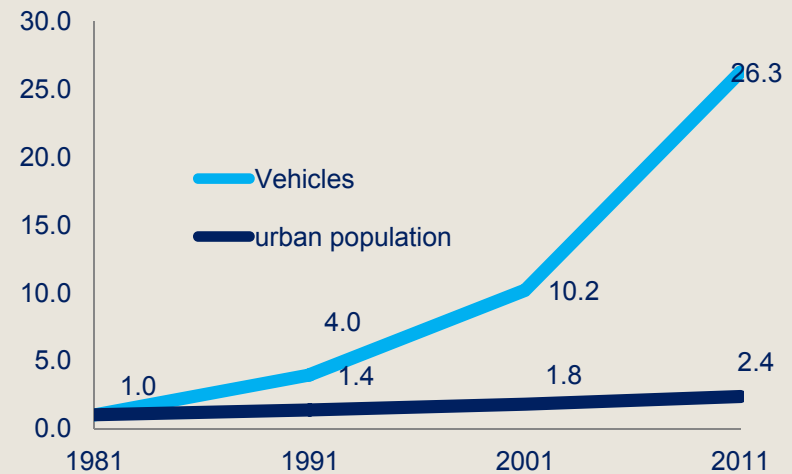
➤ Growth in last 3 decades

- Population **2.4 times**
- Vehicles **26 times**
- Number of Traffic fatalities **5 times**

- Only **20 out of 85 cities** have a **city bus service** (population > 0.5 million ,2009)
- But not many institutions to think on how cities and transportation can go in an organic and integrated fashion.

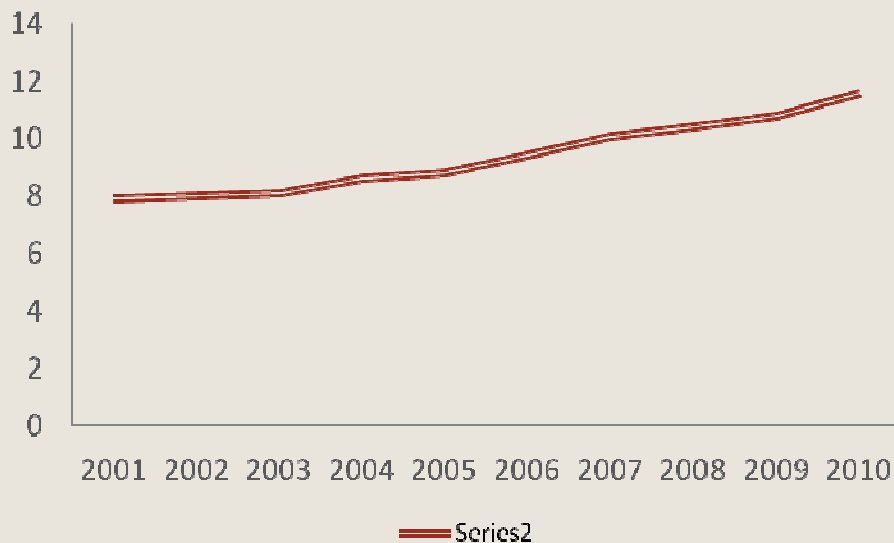


Comparison of vehicle growth rate with Population :1981-2011

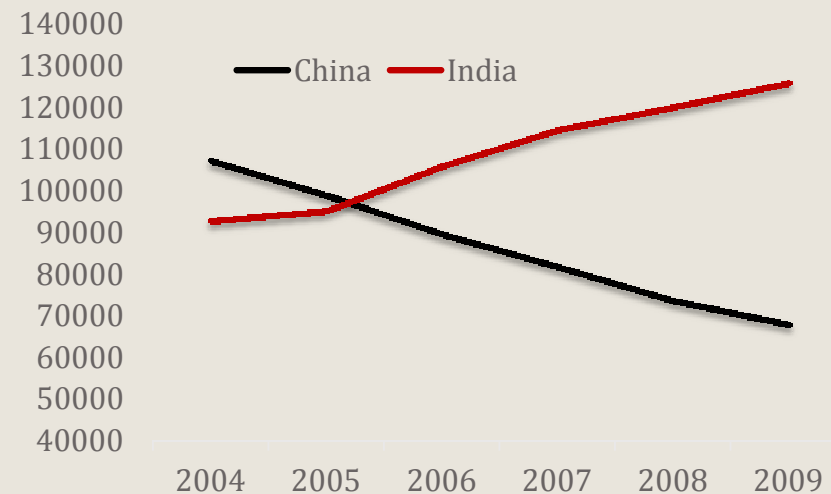


Source :Road accidents in India 2012 (ministry of road transport & highways transport research wing)

Road safety :India's major emerging challenge



Trends in Road accident deaths : India



Trends in Road accident deaths : India vs China

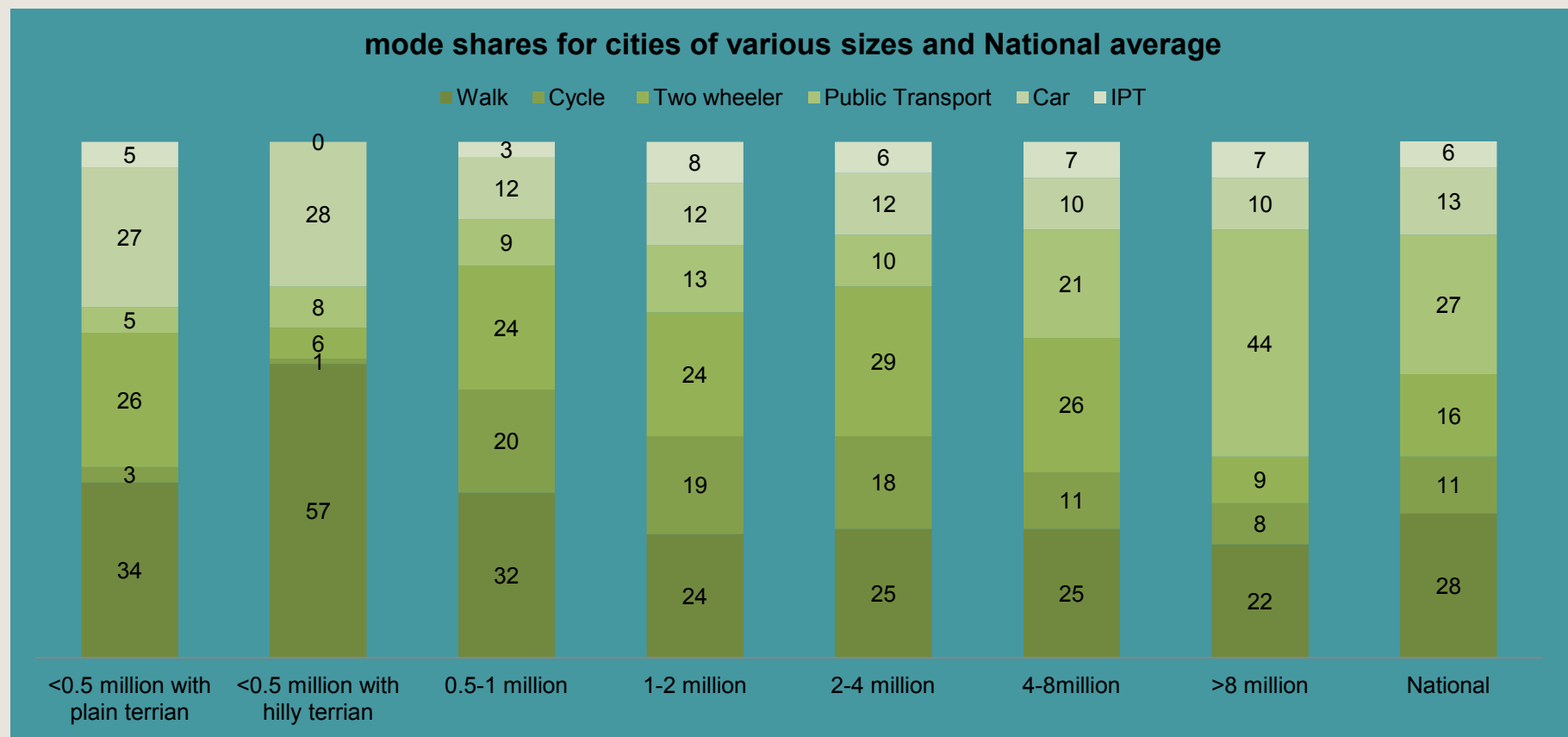
India has:

- Only 1 % of world vehicle
- 6 % of the accidents
- 10 % fatalities)

Total economic loss to society on account of road accidents is estimated to up to 3% GDP per annum. (National Transport Development Policy Committee,2012)

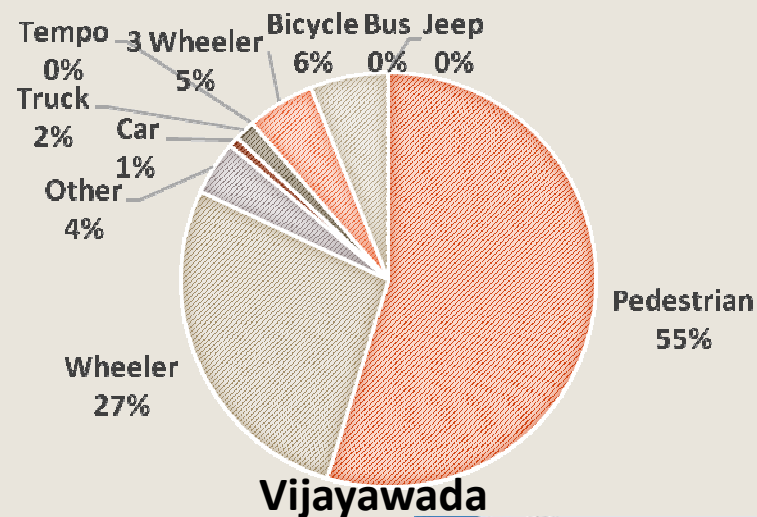
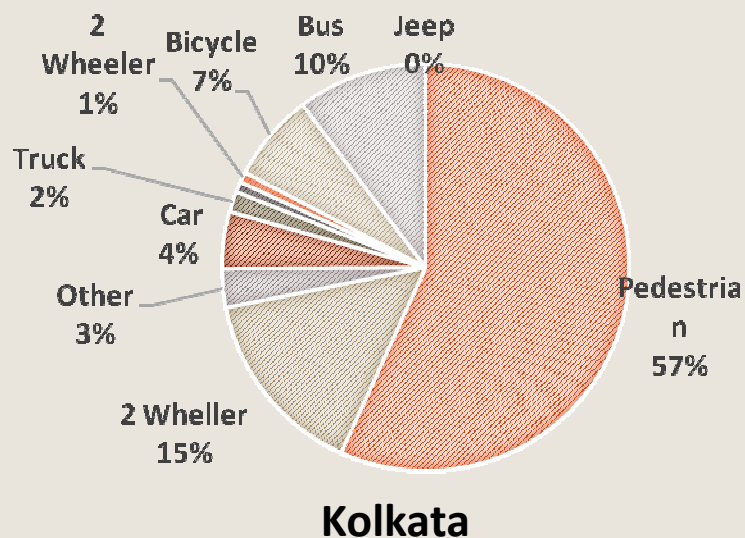
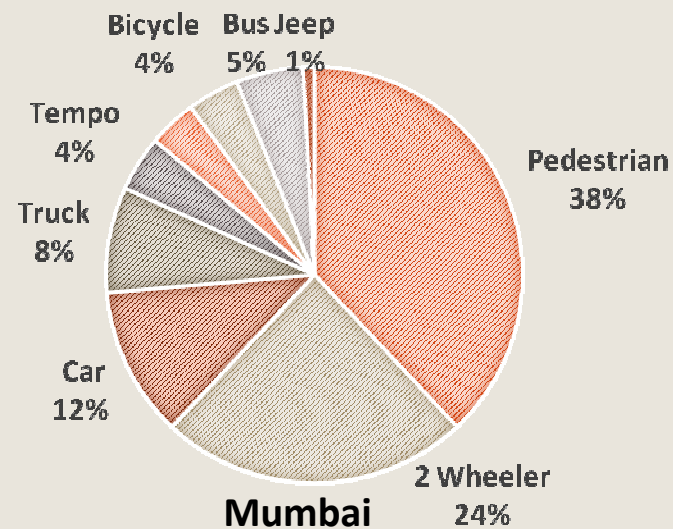
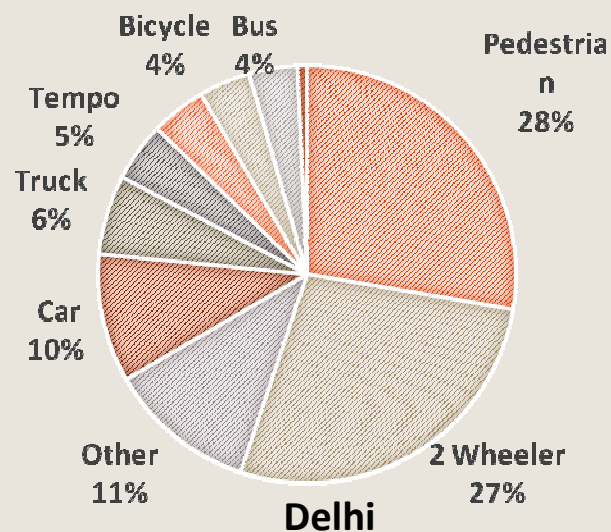
Urban Transport in India

- Increase in dependence of private modes
- Despite of basic facilities walk stands as predominant mode



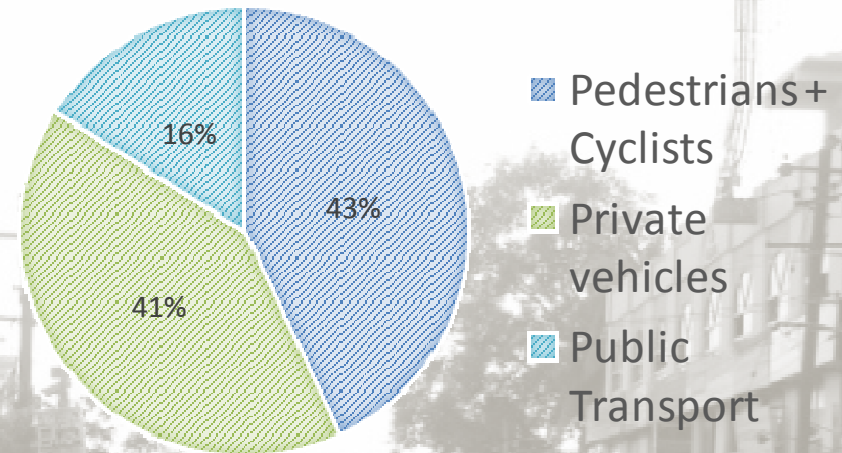
Pedestrian questions: More pedestrians killed

On busy streets, pedestrians and motorcyclists are vulnerable to road traffic injuries

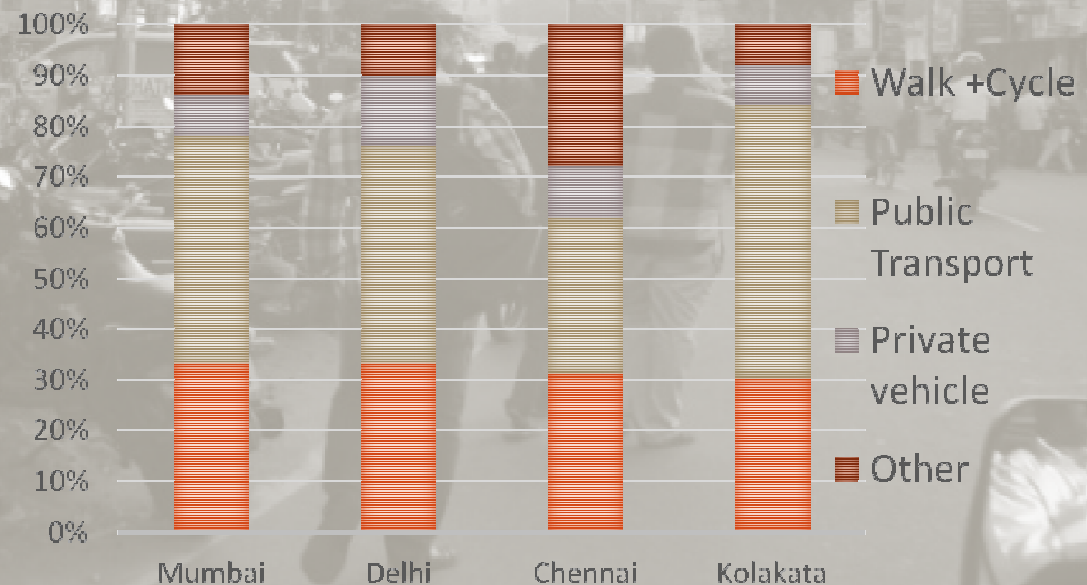


Safety and security: Road user group

- **Various Road user Group :**
 - Pedestrian
 - Bicycle users
 - Public transport users
 - Private vehicle
 - Others
- Pedestrians dominates the modes share in Indian cities
- Roads are engineered for cars
 - **transport less than 13%** of Delhi's daily commuters
 - **Occupies 90 %** of the road space.



Mode share in Indian cities



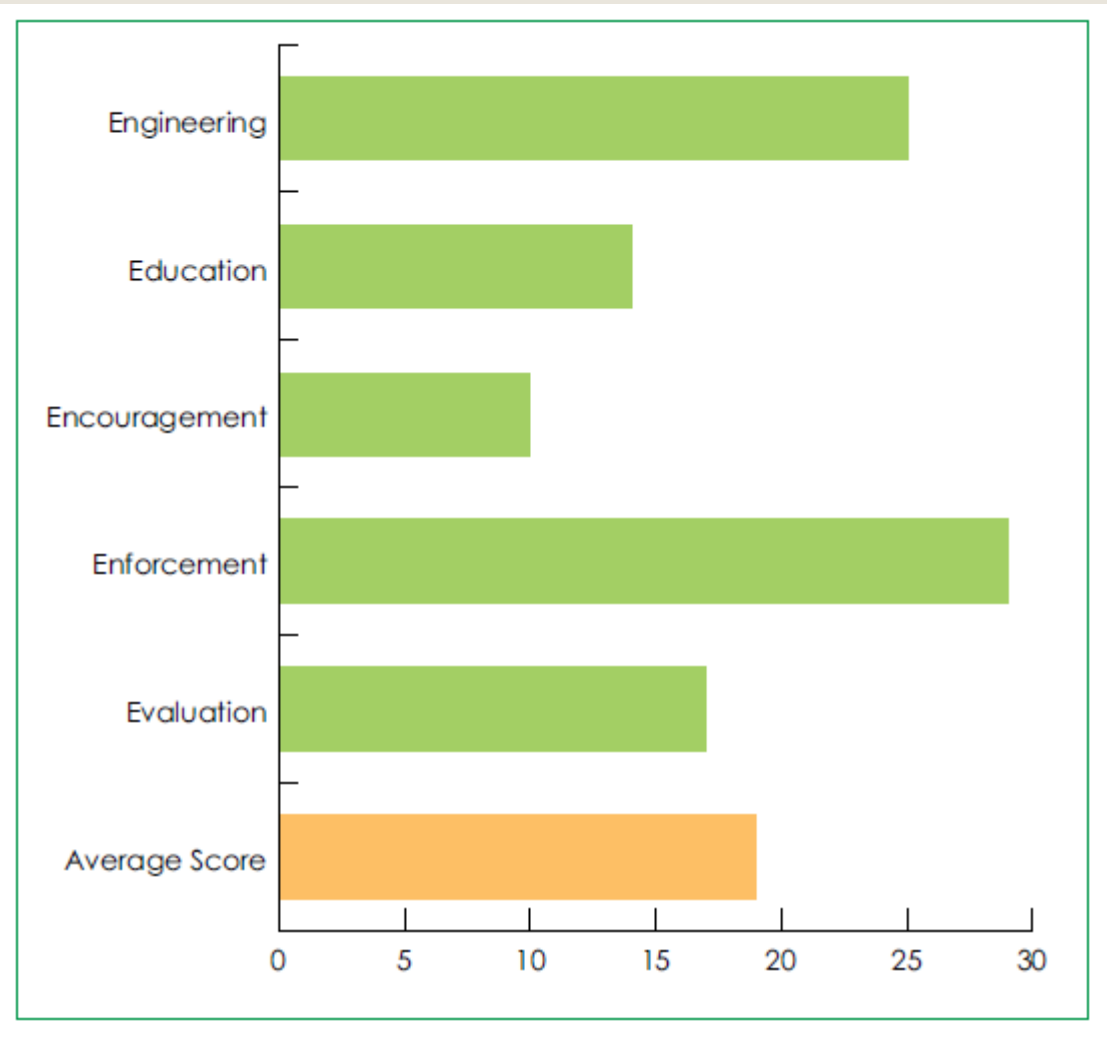
Mode share in Metro cities

Cyclists and pedestrians account for over half of all road fatalities



Where does cities stand

- Majority of Indian cities show strong commitment towards enforcement of traffic rules as there is legislative back up and traffic police as separate entity.
- Road safety week and days are observed all over nation during first week of year.
- 28 cities NMT assessment observed despite of lack in facilities enforcement plays major role in controlling the road accidents.
- Footpath and cycle tracks are not covered under present MV act thus traffic police cannot enforce the encroachment
- Lack of proposer coordination between engineering and enforcement authority



City readiness score for 28 cities assessment, ICLEI-SA

What We need to do : Prevent Accidents

- Make walking and cycling safe
 - **Pedestrian and cyclists lanes** that have a **protective barrier**
- Safer roads reduce crash likelihood and severity
 - Road designs are generally associated with increasing the mobility of motorized vehicles but **safety of pedestrians is hardly considered**.
- Design vehicles safer for non-car road users.
 - Vehicle safety standards are one means of protecting those outside the vehicle.
 - emphasis on protecting those within the vehicles
 - there is a global standard for pedestrian safety, as well as innovative technologies such as bonnet airbags and crash avoidance that offer the prospect of **improved safety for vulnerable road users**.



What We need to do :Manage Accidents

Emergency healthcare

- Improvement of emergency service response time
- Strategic positioning of emergency service centres (first aid stations at fuel stations)
- Provision of first aid training
- Creation of a mechanism to cover costs of expenses in bringing injured persons to the hospital

Response Mechanism /Policies

- Policy regarding Emergency medical services (Gujarat has EMS act 2007)
- Setting up an emergency medical services committee
- Protect citizens who help accident victims before police arrives from harassment in Police stations and courts
- Promote health training regarding emergency in school syllabus
- Train agencies to deal with post trauma situations.



What We need to do :Health Impacts

- As per World Health Organization study(WHO):
 - **13 of the polluted 20 cities** worldwide in India.
- Pollutants from Urban (motorised) Transport activities
 - Suspended particulate matter
 - sulphur dioxide,
 - oxides of nitrogen,
 - carbon monoxide,
 - volatile organic compounds,
 - Lead
- Government need to strictly enforce vehicle emission norms (Bharat stage 4 or HIGHER norms)
- promote NMT and other form of sustainable transport
- Clean vehicle technology have to be readily available for cities to adopt



Security in Urban Transport

Personal security engaged in transport activity is an increasing problem throughout the Indian Cities. **CLASSIFIED INTO FOUR MAIN TYPES** (as per WHO)

- **THEFT BY STEALTH**, which is largely during crowding on public transport vehicles, also involve the unattended parking of bicycles and other vehicles.
- **THEFT BY FORCE**, which can occur in crowded places but is more likely to occur in situations where the victim is relatively isolated. Theft by force includes vandalism and violent physical attack.
- **SEXUAL HARASSMENT**, which with different degrees of violence can occur in either crowded or **isolated situations**.
- **POLITICAL AND SOCIAL VIOLENCE**, for which the public transport vehicle may simply be an **opportune location**.



Mumbai train blasts 'kill 160'

Staff and agencies
theguardian.com, Tuesday 11 July 2006 20:09 BST



One of the trains targeted in a series of attacks on the Mumbai rail network. Photograph: Indrani Mukherjee/AP Photo Images

At least 160 people were killed today after seven explosions tore through packed commuter trains in Mumbai, India's financial centre, police say. The blasts - suspected to be caused by bombs - ripped through passenger compartments in choreographed terrorist attacks on several different trains at separate sites.

Alert cops at traffic light nab 5 for robbery on DTC bus

Press Trust of India | New Delhi October 07, 2014 Last Updated at 22:05 IST

Five persons, including a juvenile, were nabbed by alert policemen as they were trying to flee after robbing the driver on a moving DTC bus in south-east Delhi's Kapashera area.

Apart from apprehending the juvenile accused, police have arrested Sonu (22), Lakhan (20), Rock and Jafar (both 18) in the case.

"The incident took place at around 5 P.M. On Sunday when the driver of a DTC bus on route No.543A raised an alarm after five persons robbed him of his mobile phone and cash worth Rs 2,000 at the Kapashera red light," police said.

Two policemen who were present at the traffic signal chased the robbers and managed to nab four of them. Their interrogation thereafter led police to the fifth accused.

Police has recovered the stolen phone and the cash from the alleged robbers. An FIR has been registered in the matter and inquiries are on, police said.



Urban transport and legal context

Central

- **The Road Transport Corporations Act 1950**
- The motor Transport workers Act 1961
- **The Motor Vehicle Act, 1988**
- The Central Motor Vehicle Rules 1989
- Rent a cab scheme, 1989
- Rules of the road Regulations 1989
- The Central Road Fund Act 2000
- **National urban Transport policy ,2006**
- The Central Road fund (State Roads) Rules 2007
- **The Metro railway act 2009**
- National mission for sustainable habitat
- National Electric Mobility mission plan

State

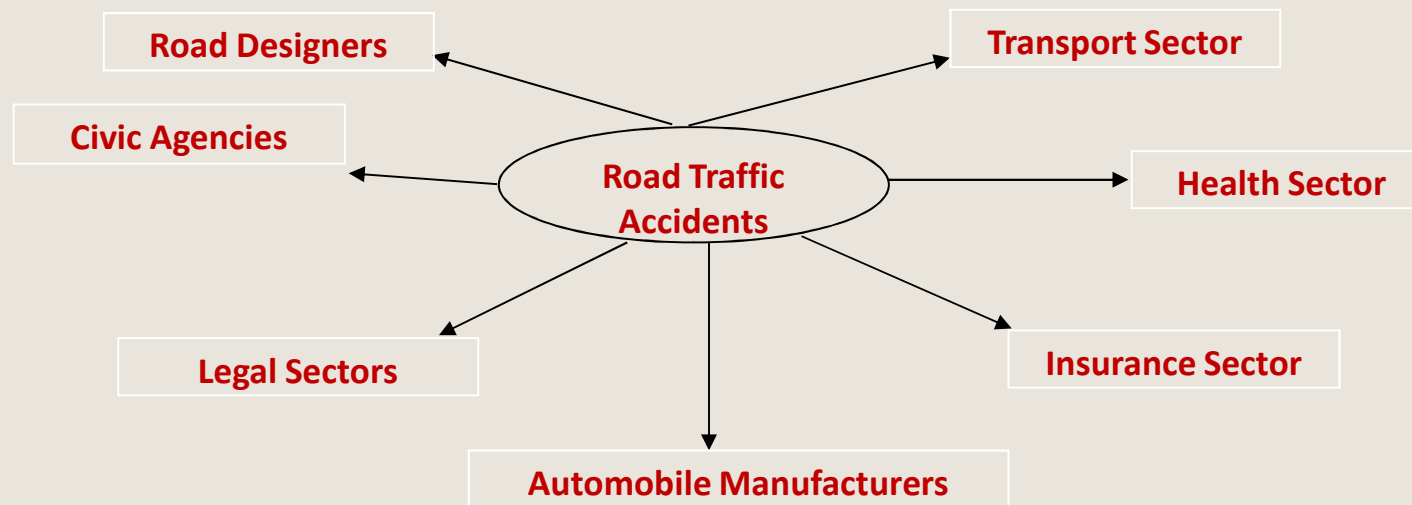
- State Urbanization policy (Karnataka)
- Policy paper on urban development (Tamil Nadu)
- State transport policy (Kerala and Tripura)
- State motor vehicle rules
- Town and Country planning act
- Directorate of Town and Country Planning

Local

- Non-motorized transport policy(Chennai)
- Unified metropolitan transport authority (Hyderabad, Mysore, Chennai)
- Transit oriented development guidelines (Delhi)
- City mobility plans and development plans
- Statutory master plans

- Road safety bill should emphasize on special guidelines for urban areas
- Pedestrian and cycle facilities should come under the purview of road safety bill for better enforcement of encroachments and over riding.

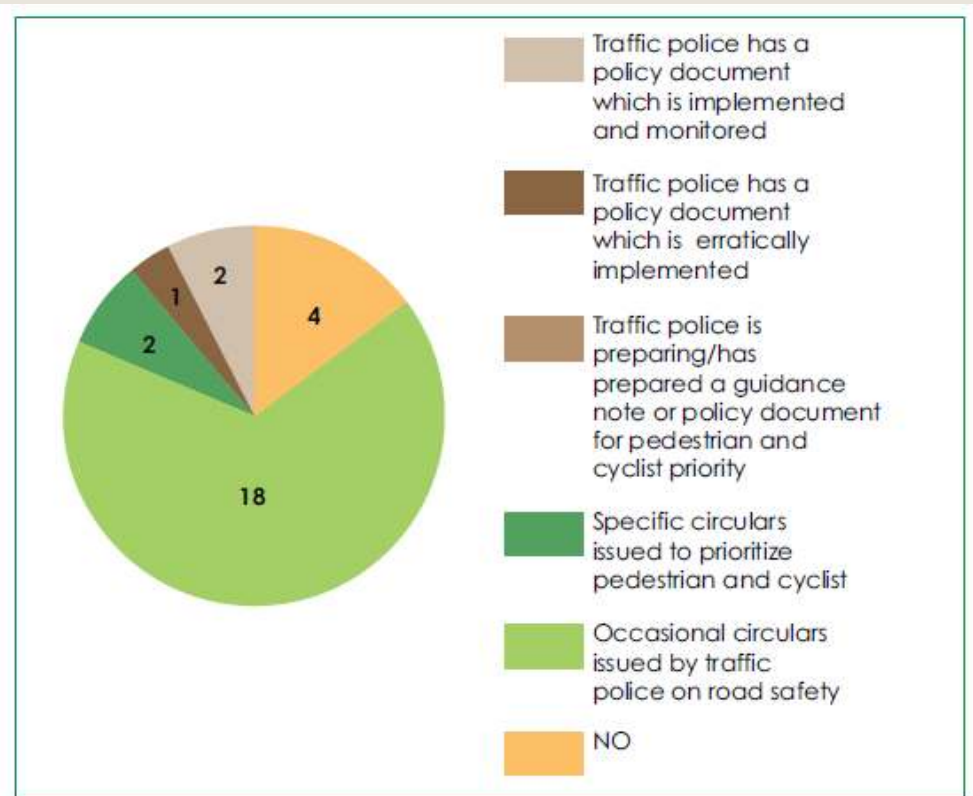
Road Accidents: Multi-sectorial Involvement



Complete co-ordination in all these sectors is needed for the rescue, transportation, relief, investigation and compilation of data to achieve total road safety in the interest of road users.

Factors affecting Road Accidents

- Types of roads and road users.
- **Quality of Infrastructure**
- **Enforcement** of Traffic rules and safety regulations
- Composition and **flow of road traffic**.
- Unsafe **driving behavior**.
- Increased use of **private vehicles**
- Lack of valid driving license and existence of large percentage of **fake driving licenses**
- **Institutional** arrangements and **accountability**
- Lack of adequate resources and latest technology in Traffic **management**.



ICLEI-South Asia 28 cities NMT assessment reveal that majority of cities have strong enforcement capacity due to the presence of clean motor vehicle act, however it is observed that this is very limited to enforce all types of road users in the city

Initiatives Taken

- Draft Road transport and safety bill 2014
- Proposal to build and re-strengthen existing **public private partnerships** to enhance road safety.
- The National Road Safety Policy, 2010 recommends to setup **National Road Safety and Traffic Management Board** responsible for:
 - Road-related measures,
 - Vehicle related measures,
 - Road-safety research,
 - Traffic laws, operations, and management,
 - Capacity building,
 - Road-user behaviour strategies,
 - Public awareness, and education,



Absence of universal safety :Weak policy

Not binding by law :In a 2008 consultation paper, the Law Commission of India observed that in the absence of a Central legislation, it is left to the states to legislate on road safety.

- The National Urban Transport Policy is **weak on safety of road users**, especially pedestrians and cyclists.
- The **safety of differently abled road users** is not ensured.
- Guidelines for **pedestrian facilities and street design** exist, but these are **voluntary**
- The National Road Safety and Traffic Management Board Bill 2010 is pending in Parliament.
- The National Road Safety Policy, 2010 not really an **effective policy**. For its implementation, the government has to set up a National Road Safety Board and a National Road Safety Fund to finance road activities.



Absence of universal safety :No separate regulations for urban Roads

Safety regulations for management of traffic are issued by the Ministry of Road Transport and Highways, Government of India as per Motor Vehicle Act of India.

Our cities do not have specific codes for designing pedestrian-friendly roads. Instead, road engineers use the Indian Road Congress (known for its work in highway) codes for construction.

Urban road codes published recently by MoUD yet to be disseminated and implemented effectively.



Absence of universal safety :Letting Car Dictate City Design

- Equity in road space is easy to talk about but hard to enforce
- If you ever noticed the footpath. Does it even exist?
- Walking is the predominant mode as last mile connectivity in all Indian cities, they outnumber vehicular composition on majority of core areas
- City plans have no space for pedestrians, nor do urban roads.



Kolkata ban cyclists on 173 roads, majorly arterial



Actions Required for safe Mobility

Adopt legislative change

- Adoption of comprehensive legislation relating to key risk factors for road traffic injuries.

Enforcement of strong road safety laws

- Sufficient resources to support enforcement of road safety laws social marketing campaigns can play an important role

Speed limits and controls

- It is powerful instruments to reduce the severity of accidents.
- increased attention to improving the safety of pedestrians, cyclists. Half of all road traffic deaths occur among these road users

Consideration of the needs of pedestrians and cyclists



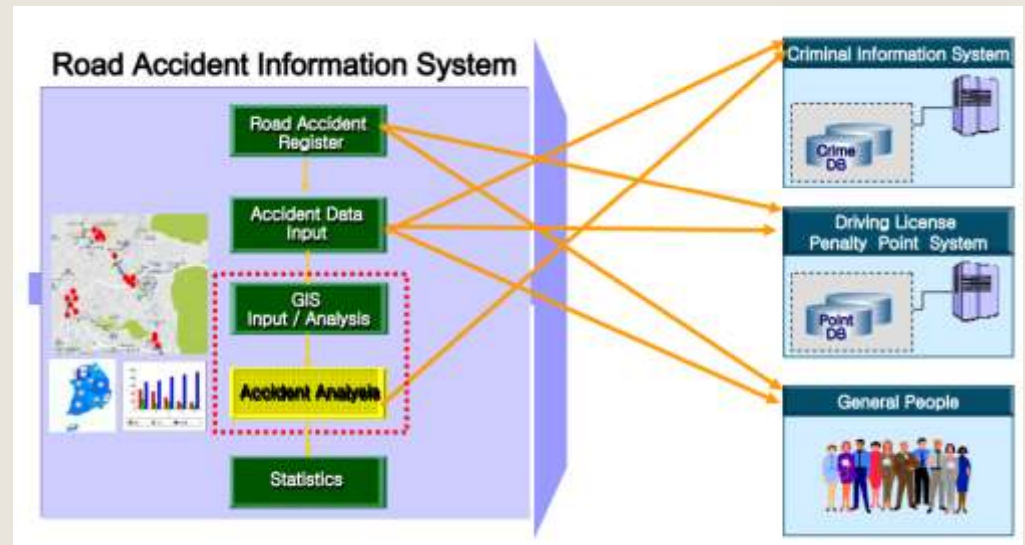
Prioritize every user on road



Photo: Hangzhou, China

Safe Mobility : Necessity of Information

- A national database and statistical analysis systems
- Professional staff for designing and Implementing data collection systems
- Compatibility of data formats between different government users
- Easy availability of data to non government users for research
- Establish Multidisciplinary safety research centre at academic institutions in all states .
- Establish safety department to review enforcement of safety rules and regulations .



<http://www.unescap.org/sites/default/files/5.3.KOTI-DATA.pdf>

Institutional responsibility : for Universal Road safety

Local	State	Central	International
Include road safety professionals in Road Construction Departments, ULB Set appropriate speed limits for safety of universal user group. Promote Rights of all road users using local media and civil society	State Road Safety and Traffic Management Board (SRSTMB) on similar lines with appropriate coordination mechanism with NRSTMB Train traffic police for emergency rescue of Road victims	National Road Safety and Traffic Management Board which is multidisciplinary with sufficient autonomy and funds. Promote Research and development on Road safety	Best practise regarding post accidents response ,train NGO's, and citizens organisation regarding safety measures , increase awareness among Road users , Compare standards

Thank you

About us @ www.iclei.org/sa