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Planning and Design for Pedestrian Safety

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Introduction

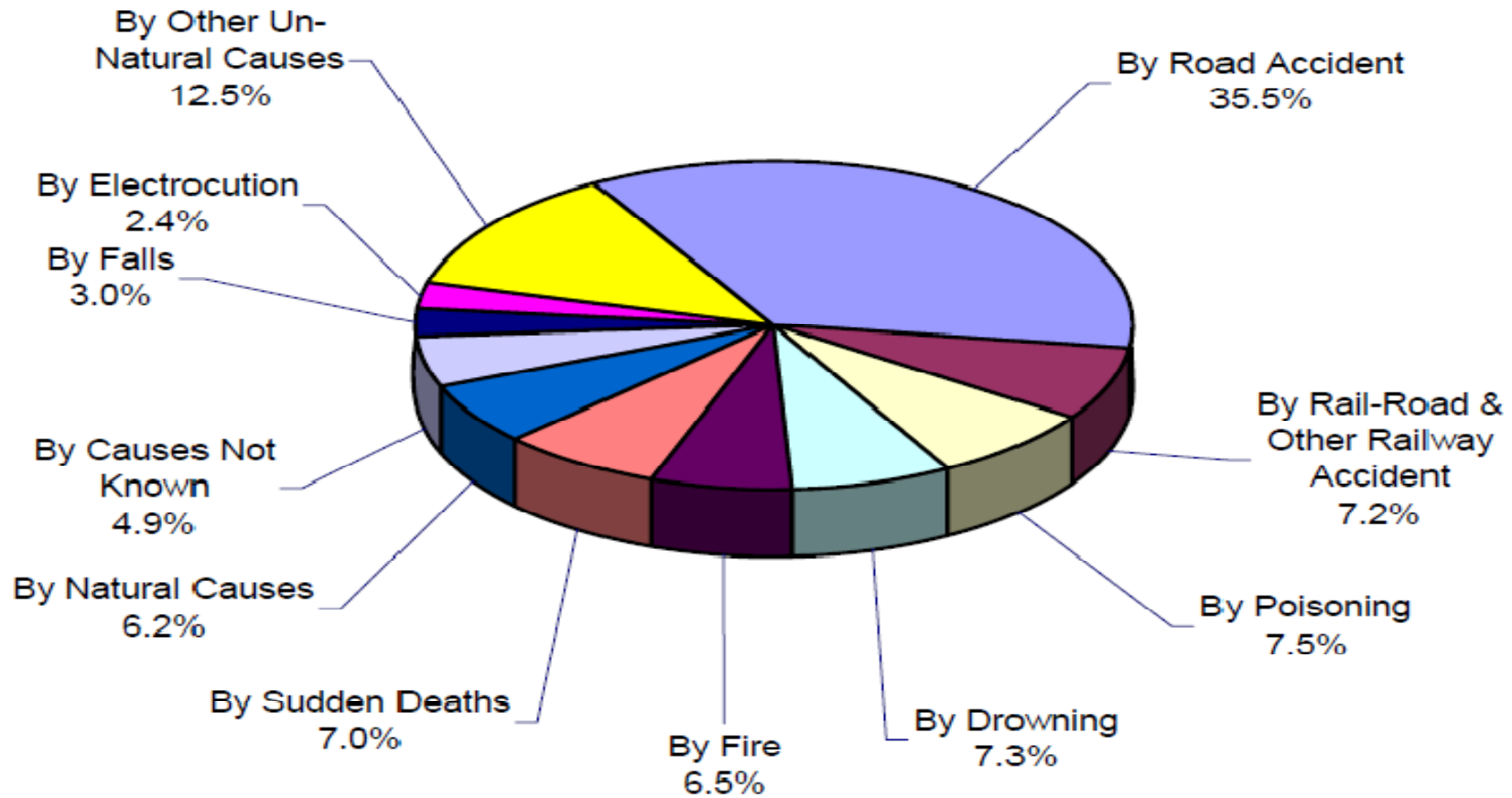
- Pedestrian (walking) is access and egress mode of any journey chain.
- Pedestrian is perhaps the most neglected category of trip .
- A significant amount of travel among the majority of the population including children, old aged persons, women, etc is made on foot but.....their needs are not catered to in transport planning.

Mode Share of Pedestrian (Walking) in Indian Cities, 2007

S.N.	Cities classified according to Population	% of Walking
i.	Less than 5 lakh Population (Plain Terrain)	34
ii.	Less than 5 lakh Population (Hill Terrain)	57
iii.	5-10 lakh Population	32
iv.	10-20 lakh Population	24
v.	20-40 lakh Population	25
vi.	40-80 lakh Population	25
vii.	More than 80 lakh Population	22

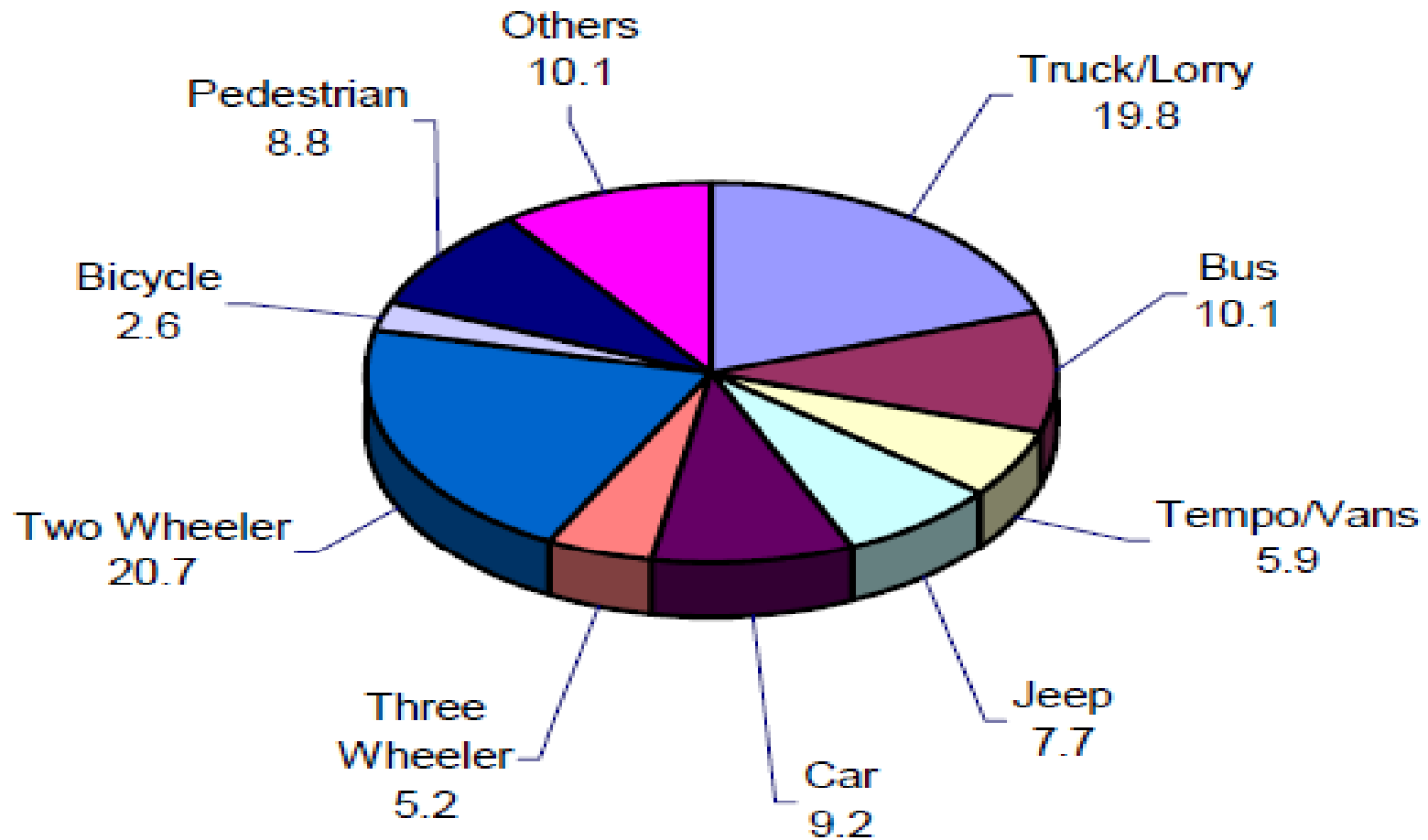
Source: Wilbur Smith Associates & the Ministry of Urban Development, Govt. of India, New Delhi .

Percentage Share of Various Causes of Accidental Deaths during 2009 (Natural and Un-Natural Causes)



Source: National Crime Records Bureau, MoHA, Govt. of India

Road Accident Deaths by Type of Vehicles (Percentage Share)



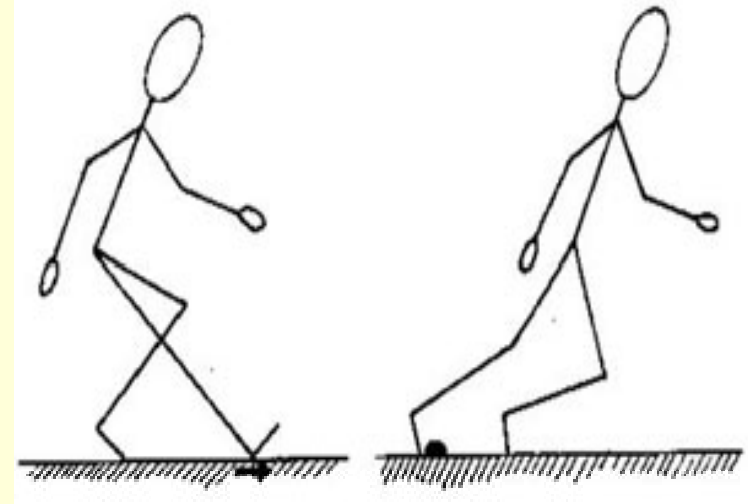
Source: National Crime Records Bureau, MoHA, Govt. of India, 2009

Pedestrian safety is a multi-dimension approach which covers the following big ticket items:

i. Man (M1)

Human factors : Human body dimensions / locomotion characteristics, sight, vision, disability, etc.

Human Behavior: Psychological preferences to understand space requirement, pedestrian traffic relationship, etc.



Machines (M2)

Machinery to Pedestrian Safety : Escalators, moving walks, pedestrian skywalks, elevated & underground pedestrian networks, etc.

Pedestrian safety: 2 more traffic signals at India Gate

Indrani Basu | TNN

Mohammed Ilyas

New Delhi: Gear up for two more traffic signals at the India Gate roundabout. If Delhi traffic police has its way, it will install two additional signals to the three existing ones to provide safe transit to pedestrians. Traffic police have started a trial run with a mobile traffic signal post at Zakir Hussain Marg-C Hexagon junction to check whether placing a signal will adversely affect the peak hour traffic timings.

Senior traffic cops said that they were mulling the option of placing traffic signals at India Gate C-Hexagon at Zakir Hussain Marg and Kasturba Gandhi Marg junctions. "We want to provide a safe crossover to a large number of pedestrians who cross the roundabout to go to India Gate, especially in the evening. Results of the trial at Zakir Hussain Marg have turned out to be quite satisfactory. Tuesday evening onwards, the mobile traffic signal will be placed at KG Marg junction to check its effect on the traffic pattern," said special commissioner of police (traffic) BS Bassi.

Till August 31 this year, 619 pedestrians have died on Delhi's roads. This is over 46 per cent of those killed in fatal accidents last year. With over a lakh people visiting India Gate daily, pedestrian crossing is a crucial concern here.

These traffic signals, if placed, will work in synchronization with the three existing signals at Rajpath, Tilak Marg and Shahjahan Road. "There will be a 30-second signal for pedestrians to cross the C-Hexagon every 150 seconds. Cur-



AVERTING MISHAPS: A mobile traffic signal post has been placed at Zakir Hussain Marg crossing on a trial basis

rently, it takes less than three minutes on an average to cross the entire C-Hexagon. It is unlikely that a motorist will have to stop at more than one signal even if all five signals are placed. We are testing the procedure to ensure there is no disruption in traffic flow," said joint commissioner of police (traffic) Satyendra Garg.

Traffic cops have been conducting trial runs at Zakir Hussain Marg for the last 15 days and are happy with the results. Trials will soon be conducted

on KG Marg. If the traffic signals are placed on these two junctions, jaywalkers will be prosecuted.

"We will deploy traffic wardens, student volunteers and public-spirited individuals at these junctions at the beginning to educate pedestrians. Thereafter, we will start prosecuting jaywalkers. A fine of Rs 20 will be levied on them under Delhi Police Act. This will help in ensuring the safety of pedestrians," said a senior traffic official.

Methods (M3)

- The term “**Pedestrian**” is used to recognize the fact that the pedestrian (pathways) design approach is as scientific and systematic as Highway design and development.
- **Walkable Pedestrian Design:** Zoning regulations, pedestrian planning in transport terminals, stations, etc.

Fazilika Town as Pedestrian City

- Fazilika (a small town) in Firozpur district of Punjab on the India-Pakistan border.
- Population = 68,000 and Vehicles= 45,000 on its narrow lanes.
- On 21 November 2009, it has removed one source of congestion i.e. cars.



- Fazilika has created “ Car free Zone” at Ghanta Ghar Market from 10 am-7 pm.
- Vendors in the area are happy as the sales have soared.
- Customers are more relaxed, as they do not have to jostle with parked vehicles.



- A town spanning 10.29 sq km, Fazilka can easily become a pedestrian's city with vehicles used only to transport goods.
- Cycle rickshaws have become eco-cabs in car free Fazilka.
- **It has also become the first town in the world to have a dial-a-rickshaw facility.**



Materials (M4)

Engineering in Pedestrian Safety: Use of appropriate materials, techniques, pavement design, maintenance, etc.

Case Study:

- “The Network and Walkable Improvement Project” under Centrally Govt. funded Jawaharlal Nehru National Urban Renewal Mission (*JnNURM*) programme was conceived in 2006.
- Nanded is one of the Mission cities and Nanded Municipality and private firm have taken up this project.

- The pedestrian way has been planned in a way that space is allotted to
 - pedestrians,
 - cyclists and
 - multiuse zone.
- Even the entry & exit of the adjacent buildings have been changed to make it little bit more pedestrians friendly, a taste of new urbanism.

Road No. 32 - Chhatrapati Nagar to Sangavi Naka Length



Money (M5 : Finance/Budget)

- Sufficient budget has been allocated for road construction but it is important that road design must attach primacy to pedestrians and public transport.



- Hence, public transport plans need linkage with pedestrian plans for better connectivity and security of the commuters.



Side Walk/Footpath Leading to Metro Station



- It is also important that approval and clearness of all road/MRTS projects should make adherence to pedestrian guidelines mandatory.

A junction of chaos

The traffic signal lights at Udayagiri Circle on Mahadevapura Road near Bank of India are not functioning for several months. There are no traffic policemen also. Pedestrians find it risky to cross the road. Both vehicular and pedestrian traffic here is increasing day

THIS WON'T DO

by day. This junction also connects to many extensions like Gayathripuram, Rajiv Nagar, Kalyangiri Nagar and State Bank Colony. — Syed Abdulla Munawar
Udayagiri

nothing. Mindless widening of roads to ease vehicle congestion is counterproductive. Pedestrians and vehicles competing for the same road space would worsen traffic congestion and defeat the very purpose of widening roads. This has already happened at Temple Road in Vani Vilas Mohalla and Sayyaji Rao Road in Bamboo Bazaar. It is sad that the Mysore City Corporation has not learnt from those experiences.

On Temple Road in Vani Vilas Mohalla, the widened portion of the road is used for parking vehicles. Since there is no proper footpath, pedestrians have to walk between parked vehicles and moving traffic.

— Syed Tanveeruddin
Mysore Grahakara Parishat

Widening traffic problems

The work is in progress to widen Vinaya Marga in Siddharthana-
gar. It is the second time the road is being widened. But after the present widening, the footpath on this street will be reduced to almost



Missing footpaths

There are many underbridges in Mysore, which allow roads to cross under railway lines. A common feature of these underbridges is that they shrink the road, affecting the smooth flow of traffic. When they do not even permit the full width of the road, where will they find space for footpaths?

As a result, pedestrians find it extremely dangerous to walk on these under bridges. Even the newer under bridges (like the one near Jawa) have

“Road Safety Is No Accident” was a theme for World Health Day on 7th April 2004 organized by WHO, Geneva.

Role of Major Stakeholders

- **Government:** Make road safety a political priority.
- **Public Health Department :** Formulation of policies based on integration of health and safety concerns into transport policies.
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- **Vehicle Manufacturers :** Meet minimum safety standards including the provision of seat belts and other basic safety equipment in all motor vehicles.
- **Individual, Civil society and Communities:** Demand safety features in cars and other vehicles; advocate strong and swift punishment for traffic offenders; Behave as an alert drivers and a responsible road users.

Concluding Remarks

- *Jn*NURM and Urban Infrastructure Development for Small and Medium towns (UIDSMMT) provide funds for development of infrastructure including roads.
- Hence, Urban Local Bodies must come forward to develop infrastructure projects particularly pedestrian oriented in all towns/cities .

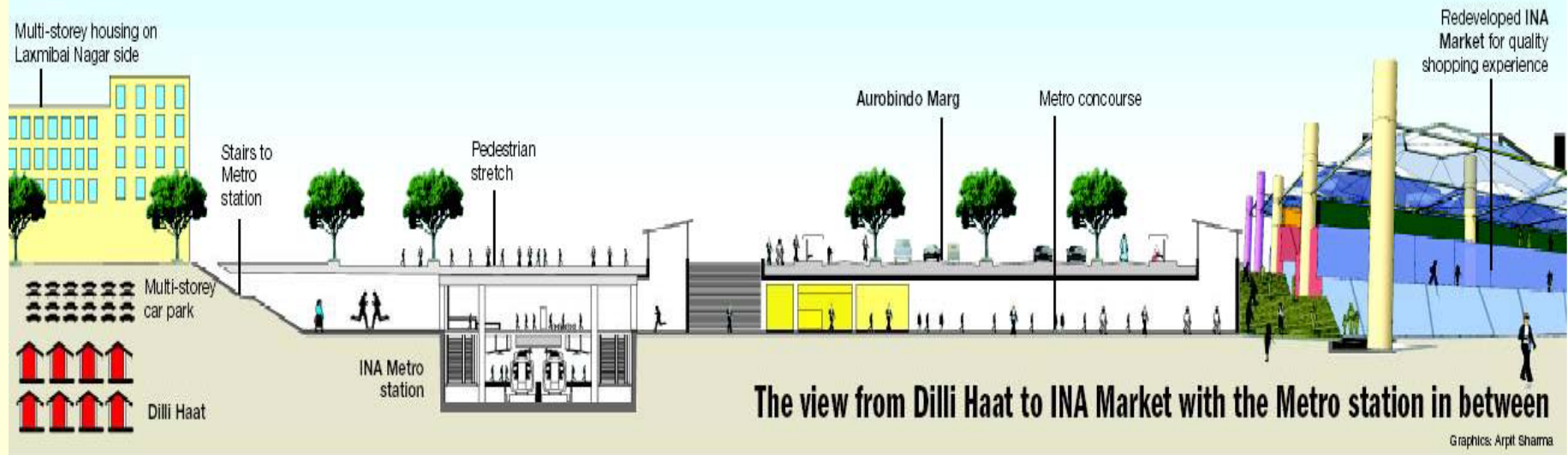
- **Pedestrians Planning** at

- transport terminals,

- metro stations,

- Interchange Point between
metro and bus

requires both **space** and **design** for walkable pedestrian for better and safe access to the public transport.



Source : skyscrapercity.com

- **Pedestrian Facilities** are relatively less costly and may be proposed as a separate project on priority basis in area wise in public interest.
- These type of projects may be as a part of other projects such as
 - Terminal Improvement**
 - Bus Stand Renovation Project**
 - Traffic Management Packages, etc.**

**thank you
for
kind attention**