

Sustainable Urban Mobility

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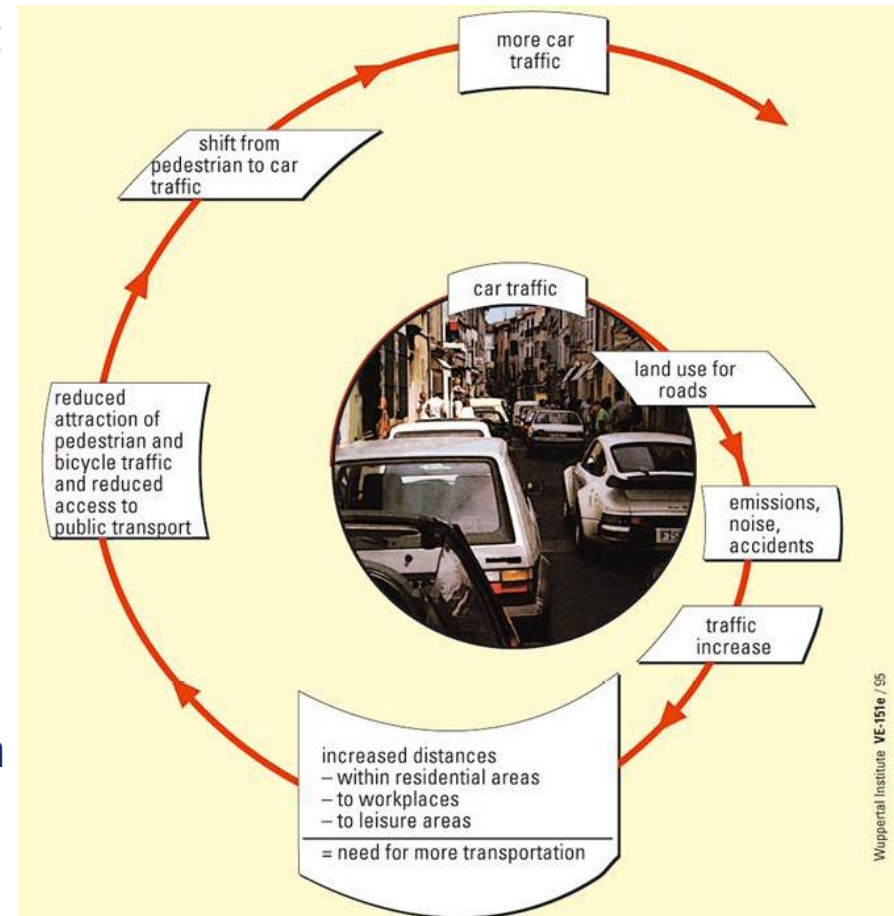


Pedestrians + As Many as 20 Types of Vehicles



The problem in our urban areas

- Ongoing and clear modal shift from the non-pollution modes of walking, cycling and cycle taxis to polluting motorised two and three wheelers and cars.
- Increasing motorization leading to congestion and pollution. Since the perceived problem of congestion was lack of space for cars, the transport engineering solution has been to provide more space to cars. A maybe unintended but inevitable effect is that this 'solution' is encouraging more car use



Who is Walking?



ELITE 3rd FLOOR
Next level of fitness PH : 990002743

SETWIN SERVICE

STOP ON REQUEST

AP09 1135





Pedestrian Crossing







Who is Cycling?













Where are they on the road?











भारतीय राष्ट्रीय बस सेवा
8 8103



HONDA

Prime Honda
Capital Cars Pvt. Ltd.

PG BOYS
HOSTEL
931-001-5934

DLSCC2419

DLSCA

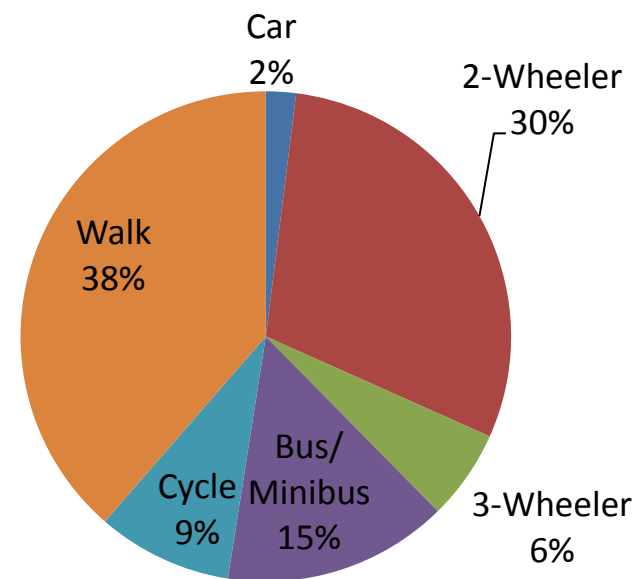
How many are they?



Modal Shares in Delhi

MODE	% of PERSON TRIPS		
	WITH WALK TRIPS (2007-08)		
•CAR/TAXI	9.09	23	Motorized Private Transport
•2W	14.07		
•AUTO RICKSHAW	2.36	33	Public/ Para-Transport
•BUS	27.12		
•METRO	2.66		
•TRAIN (IR)	0.42		
•BICYCLE	4.46	44	Non-motorized Public/ Private Transport
•CYCLE RICKSHAW	5.16		
•WALK	34.67		
TOTAL	100		
TOTAL TRIPS/DAY	219.87 LAKH	100	

Hyderabad Mode Shares



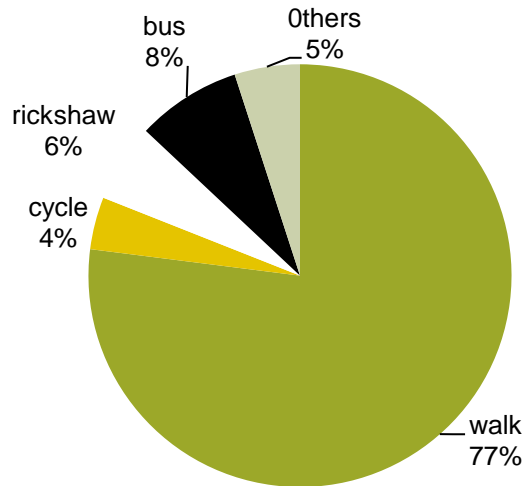
Source: MMTS Study, L&T



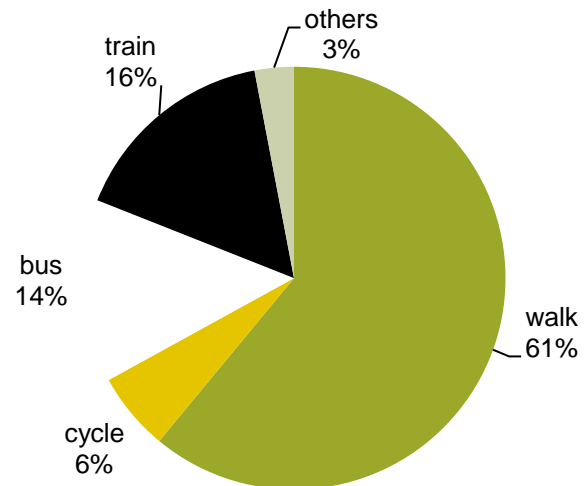
35% own bicycles – 4.5% use them! Why?

Transport Modes of the Urban Poor

Modal Share for the poor - Delhi



Modal Share for the poor - Mumbai



Road Safety situation



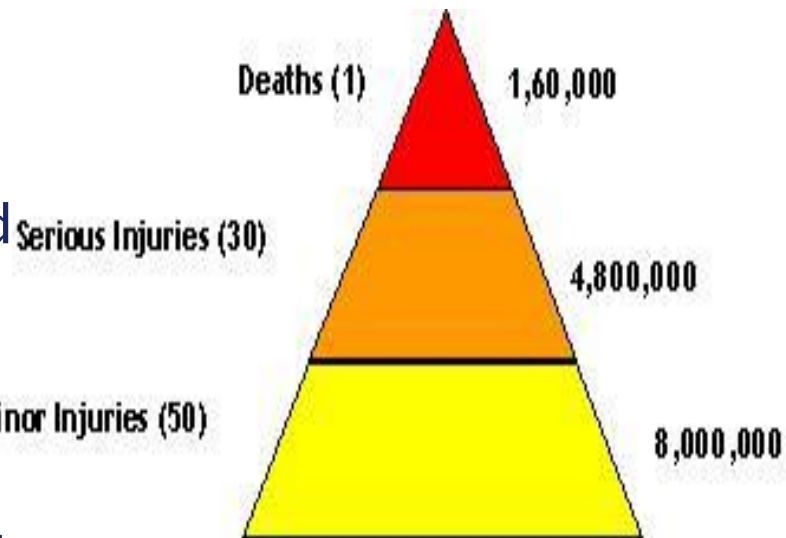
Estimated fatalities and Injuries due to Road Traffic Crashes

Fatalities are ~ 5% under reported

Injuries are 4-5 times under reported

For every death nearly 30-40 persons are injured and hospitalized for varying durations.

160000 persons would have died in road crashes during 2010 with hospitalisations of about 6 million and minor injuries among 16 million people.



India RTI pyramid

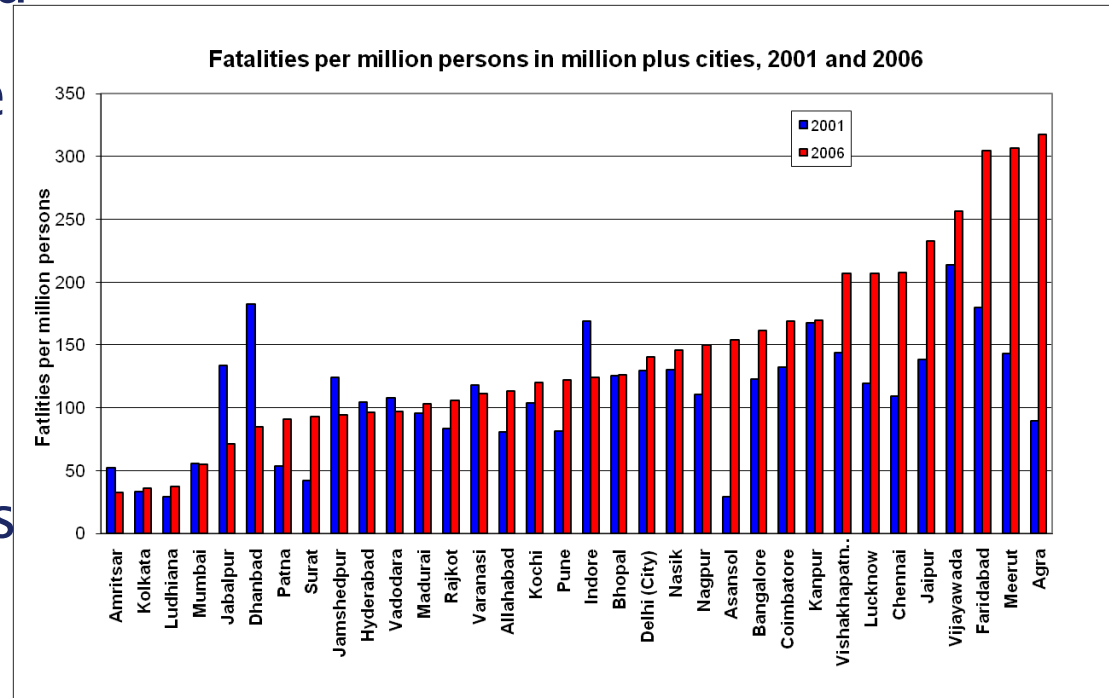
Estimated economic losses ~3% of GDP per year (MORTH, 2009)

Road Traffic Injuries in Urban areas

15% of RTI deaths in the country occurred in cities with a population of more than a million

~ transport infrastructure investment accompanied with increase in fatalities rate

Highest increase in cities close to the National highways

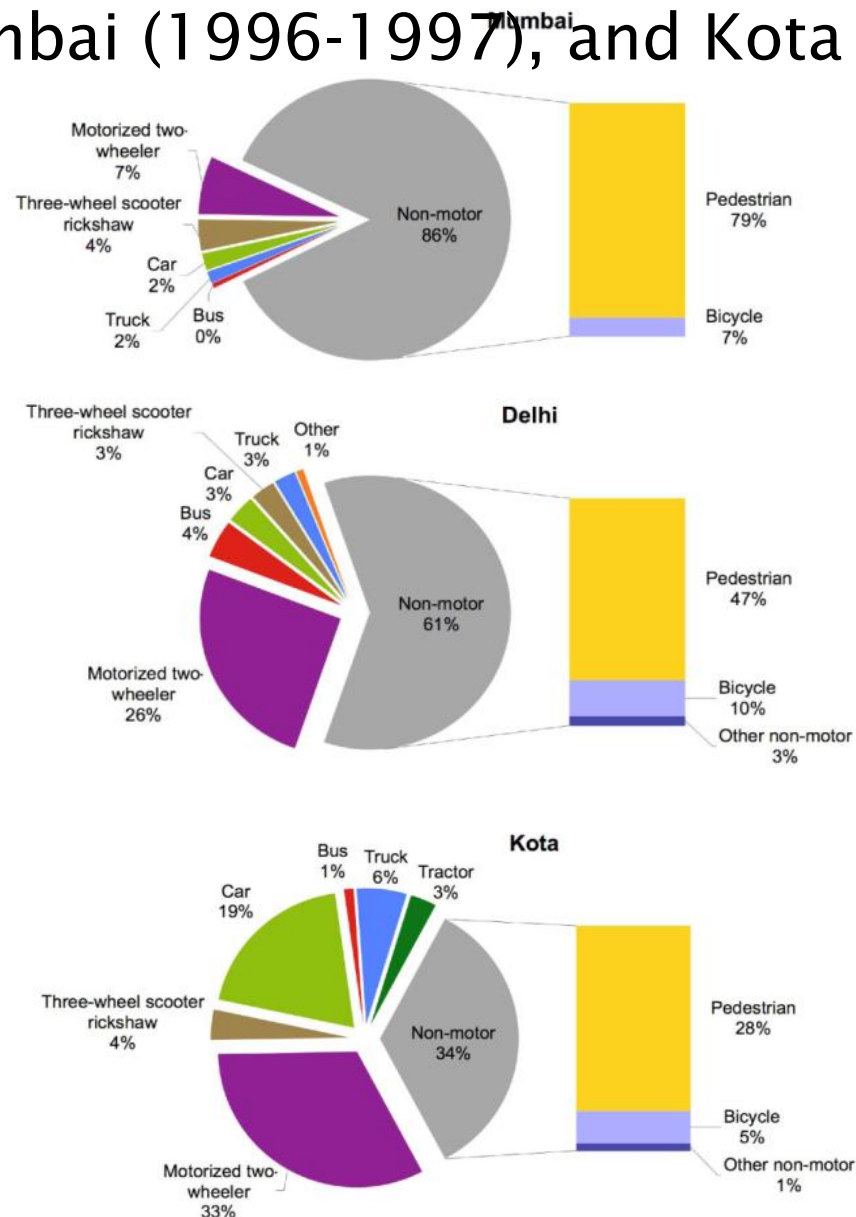


Who are the victims in Road Crashes

(Delhi (2001-2005), Mumbai (1996-1997), and Kota (2007))

Pedestrians are the largest no. of victims followed by motorised two wheeler riders

NMV victims are more than 60% in large cities





Victim and Impacting vehicles

Mode used	Fatalities per 100,000 users of the mode
Car	0.14
2-Wheeler	0.21
Bus	0.01
3-Wheeler	0.08
Walk	0.07
Bicycle	0.16

2-Wheelers and Cyclists have the maximum fatalities in proportion to their usage

Trucks and Cars cause the maximum damage. Contrary to public perception, fatalities caused by 2-Wheelers and autos are much smaller

Mode	Fatalities caused per 100,000 users of the mode
Car	0.28
2-Wheeler	0.03
Bus	0.02
3-W	0.03
Truck	0.90

Infrastructure for NMT – the status









soft.com

HONDA

यादवलि
9818156732
9717661958

98-91-72-32-00
001-59-34 98-91-72-32-00
OPDS & GRS
JASCO
SAC
TIMBER'S
DR. P. BHASKAR
CA-FINAL
FINANCIAL EXPERTS
MCC

WORLD TODAY
SARABATE
FREE H... CAMP

लिह वकी लेटर





Dark stretches a haven for criminals

DANGER AHEAD Police identify 1,300-odd roads in national Capital

UNSAFE HABITAT



- The Ridge Road (above) is one of the unsafe spots for women in the city.
SANJEEV VERMA/ HT FILE
- The police said poorly-lit stretches are directly linked to anti-social activities, especially crime against women
- The police had carried out a survey which lasted for two months
- According to the survey, there are 1,363 poorly-lit stretches, almost double of those identified last year. A total of 650 such stretches were identified in 2011









Average **Peak Hour Speed** - 5-10Km/Hr



Average **Off-Peak Hour Speed** - 100Km/Hr



More infrastructure investments – less safety!

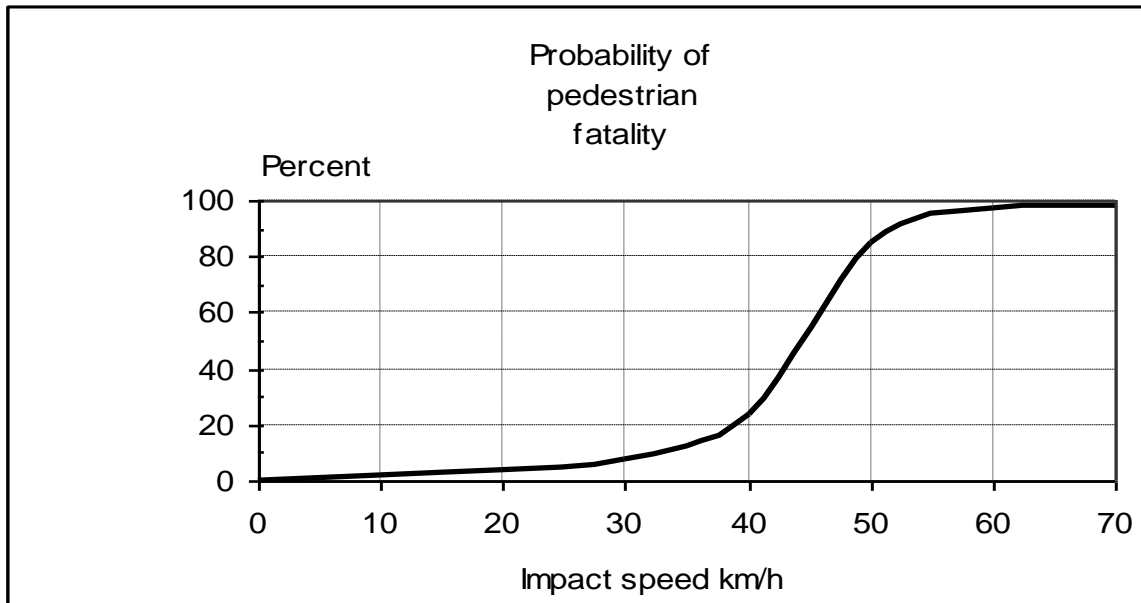
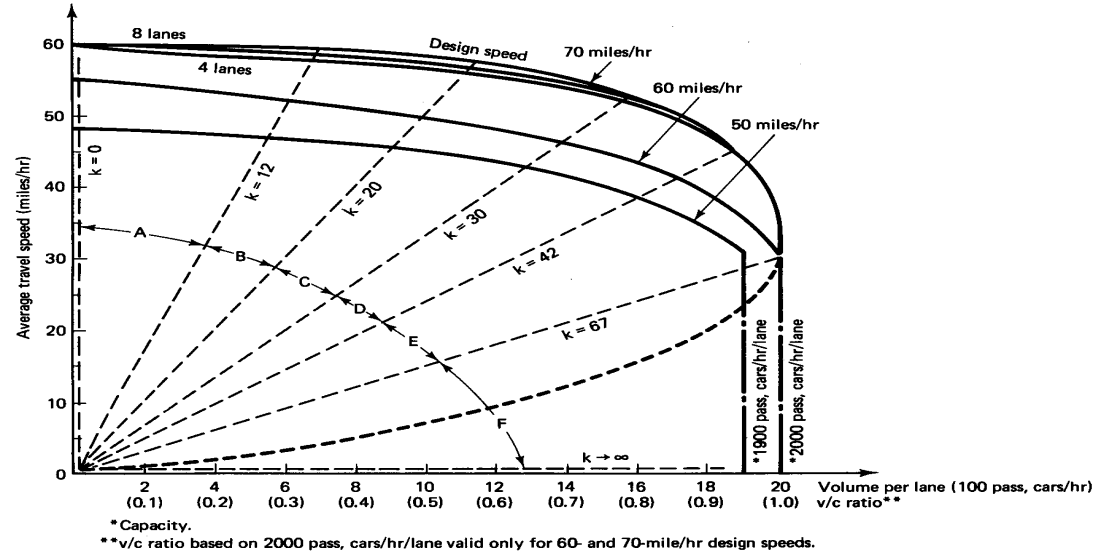
Transport infrastructure improvement has included road expansion, road widening, grade separated junctions and signal free corridors. Results:

- Reducing access of pedestrians because crossing roads become more difficult,
- Public transport users have longer distances for changing bus routes because distances between public transport nodes increase
- Signal free junctions increase risk to pedestrians
- Pedestrian foot over bridges and subway increase crossing distances for pedestrians



Conflict between safety and mobility

- Higher level of service implies higher speeds- i.e. higher probability of fatality



Grade Separation is not the answer

- Increases walking distance by 100-200 m
- Discourages use of Public transport
- More motorcycles and cars leading to congestion and high risk in off peak hours



Pedestrian Crossing near subway



Students waiting to jump over the railing. On many occasions the lights in the subway are out of order and most students find it unsafe for use at that time.

Signal free for Cars?
Or
Barrier free for people?



Zero Fatality Vision

A Social concern

An Economic necessity

A Democratic obligation

A symbol of Development



Thank you

