

Perspectives for integrating housing location considerations and transport planning as a means to face social exclusion in Indian cities

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ROUNDTABLE ON INEQUALITY, SOCIAL INCLUSION AND MOBILITY

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21st Century Urbanisation

- the informal sector is providing most of the new employment and housing in environments that have come to be known as informal settlements, where more than half of the population in many cities and towns of developing countries are currently living and working (UNHABITAT 2003)
- A large number of dwellers of informal settlements are poor and earn their living from informal sector, located within or outside their settlements, and often, extending the services to the rest of the city (UNHABITAT 2003).

21st Century Urbanisation

- Accessibility to employment is the right of every citizen and providing this to all is one of the most important criteria of urban planning.
- urban poor face the problems of access in terms of long travel times in unsafe and inconvenient environment.
- many of the urban poor retain fair level of access, in spite of their disadvantaged mobility, by residing close to employment and other income generating opportunities, even if it means living in precarious sites that are rife with problems of security of tenure (Barter 2002).

21st Century Urbanisation in India

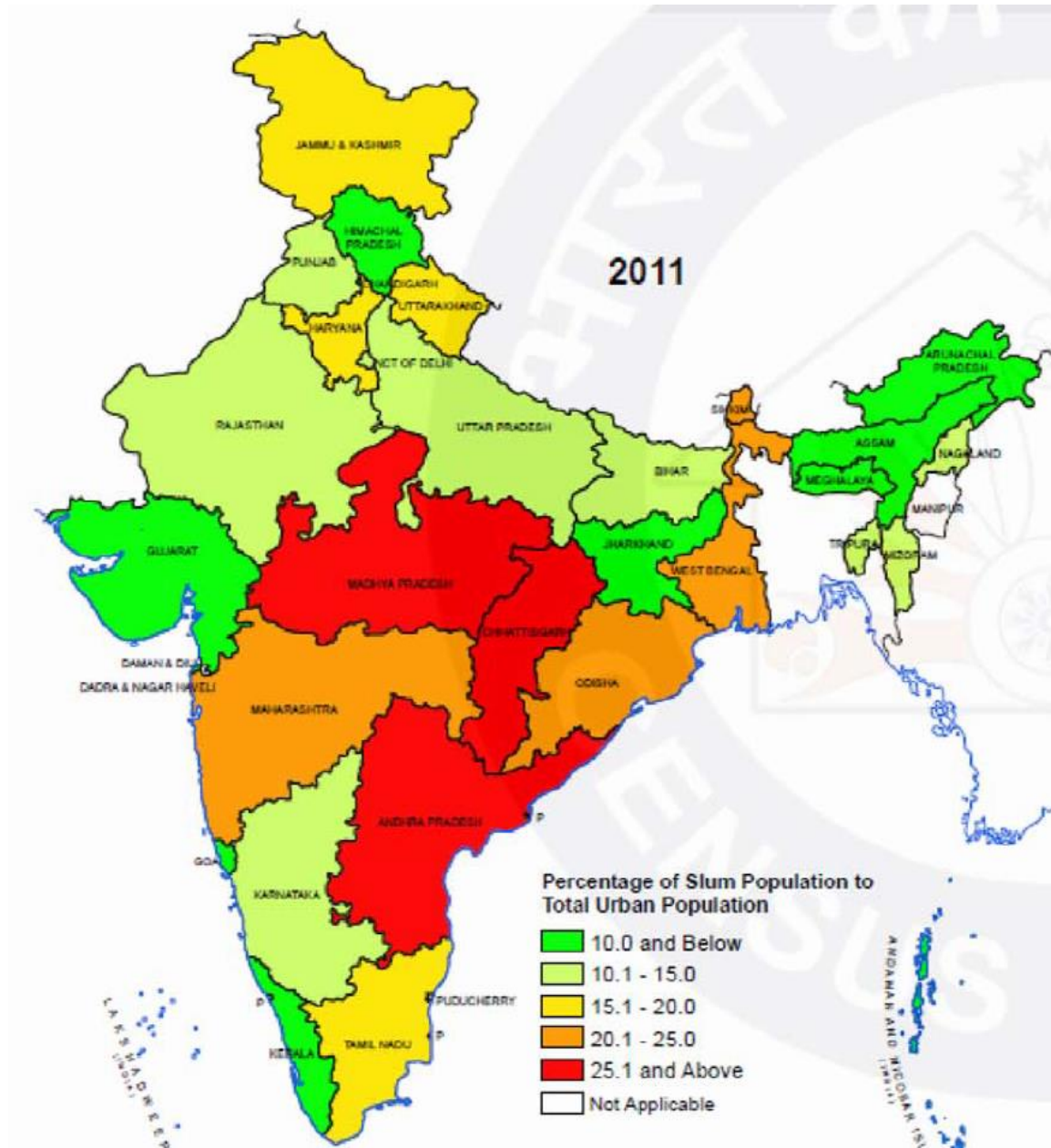
Slum - an urban phenomena

INDIA



- Under Section-3 of the Slum Area Improvement and Clearance Act, 1956, slums have been defined as mainly those residential areas where dwellings are in any respect unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and designs of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light, sanitation facilities or any combination of these factors which are detrimental to safety, health and morals.
- As per UN Habitat a slum is characterized by lack of durable housing, insufficient living area, lack of access to clean water, inadequate sanitation and insecure tenure.
- The slum population in India has increased during 2001-11.

Percentage of slum population in Indian States



Population distribution in different city sizes, India

Category	Groups	Population (million)	Total no. of cities	Percentage Population	Total population
1	Small	0.1 – 0.5	372	28%	73,930,414
2	Medium	0.5 – 1.0	43	11%	30,235,593
3		1.0 – 2.0	34	18%	46,686,245
4		2.0 – 4.0	10	9%	24,265,267
5	Large	4.0 – 8.0	4	9%	23,736,923
6	Mega	> 8.0	5	25%	66,037,071
Total			468		264,891,513

Informal settlements in selected india cities

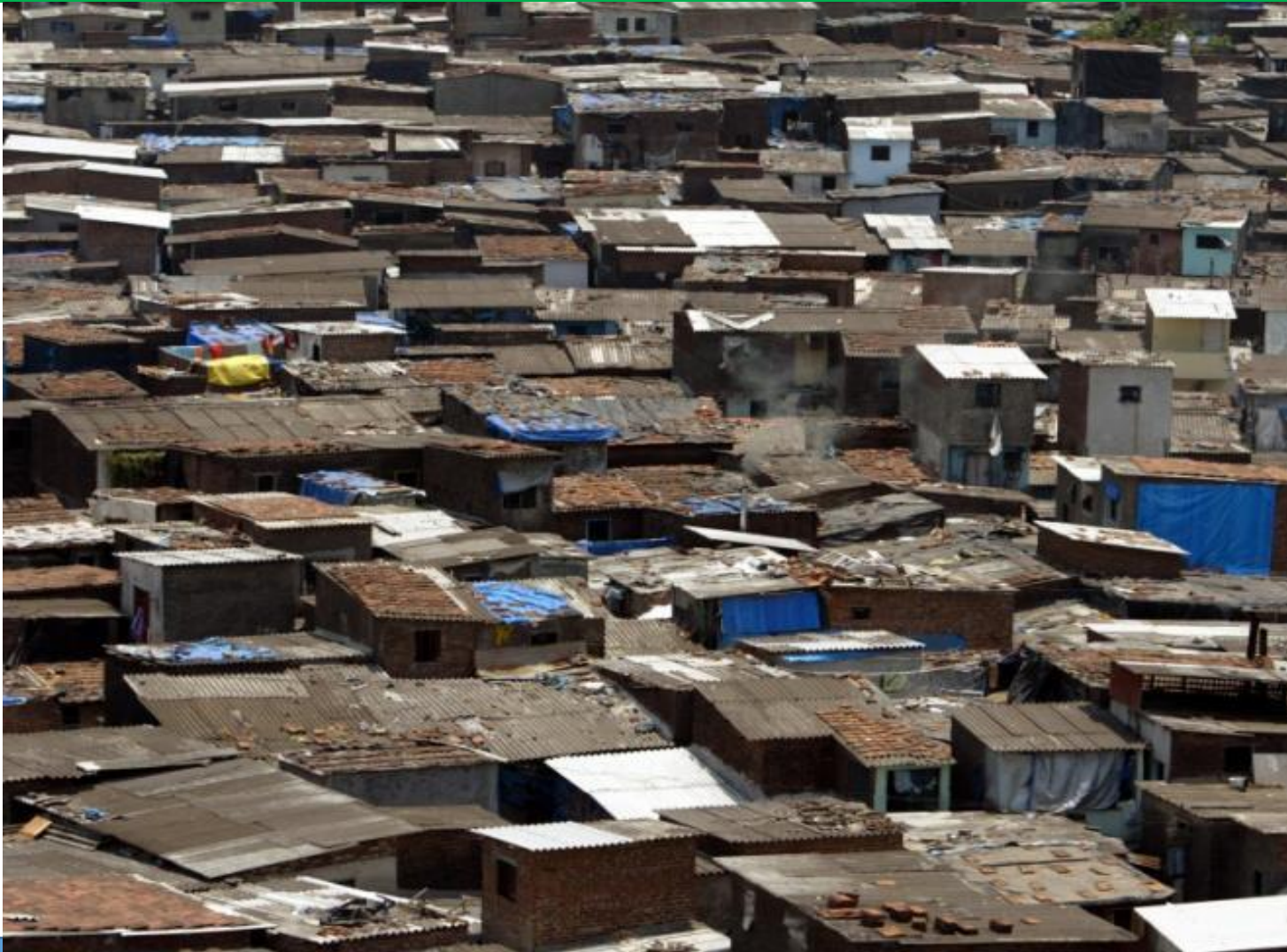
Million Plus Cities	Percentage of slum households (informal /low income) of total urban households (%)
Greater Mumbai	41.3
Kolkata	29.6
Chennai	28.5
Delhi	14.6
Bengaluru	8.5

Source: Census of India, GoI (2011)

Informal settlement in Chennai



Informal settlement in- Mumbai



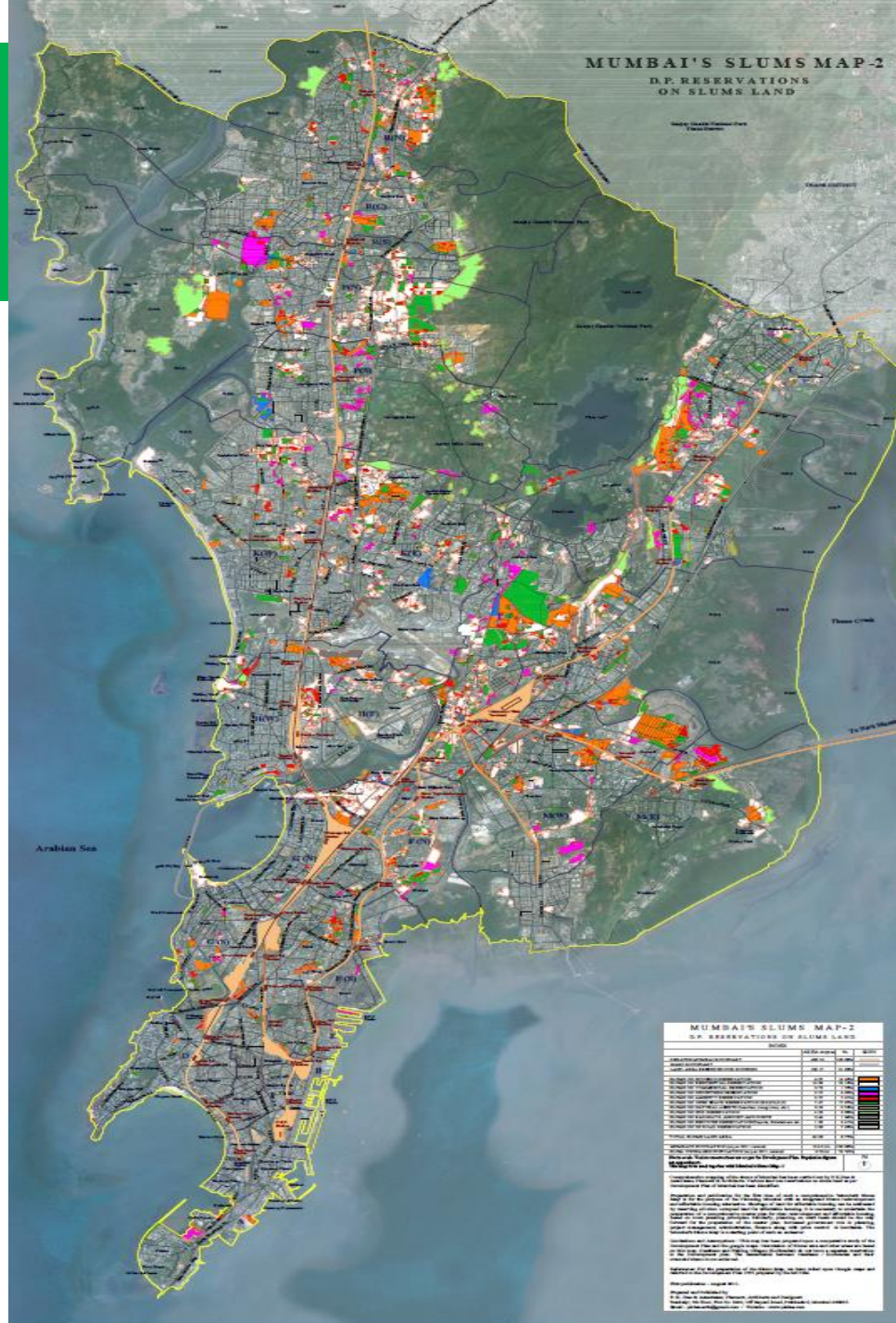
Informal settlement in-Delhi



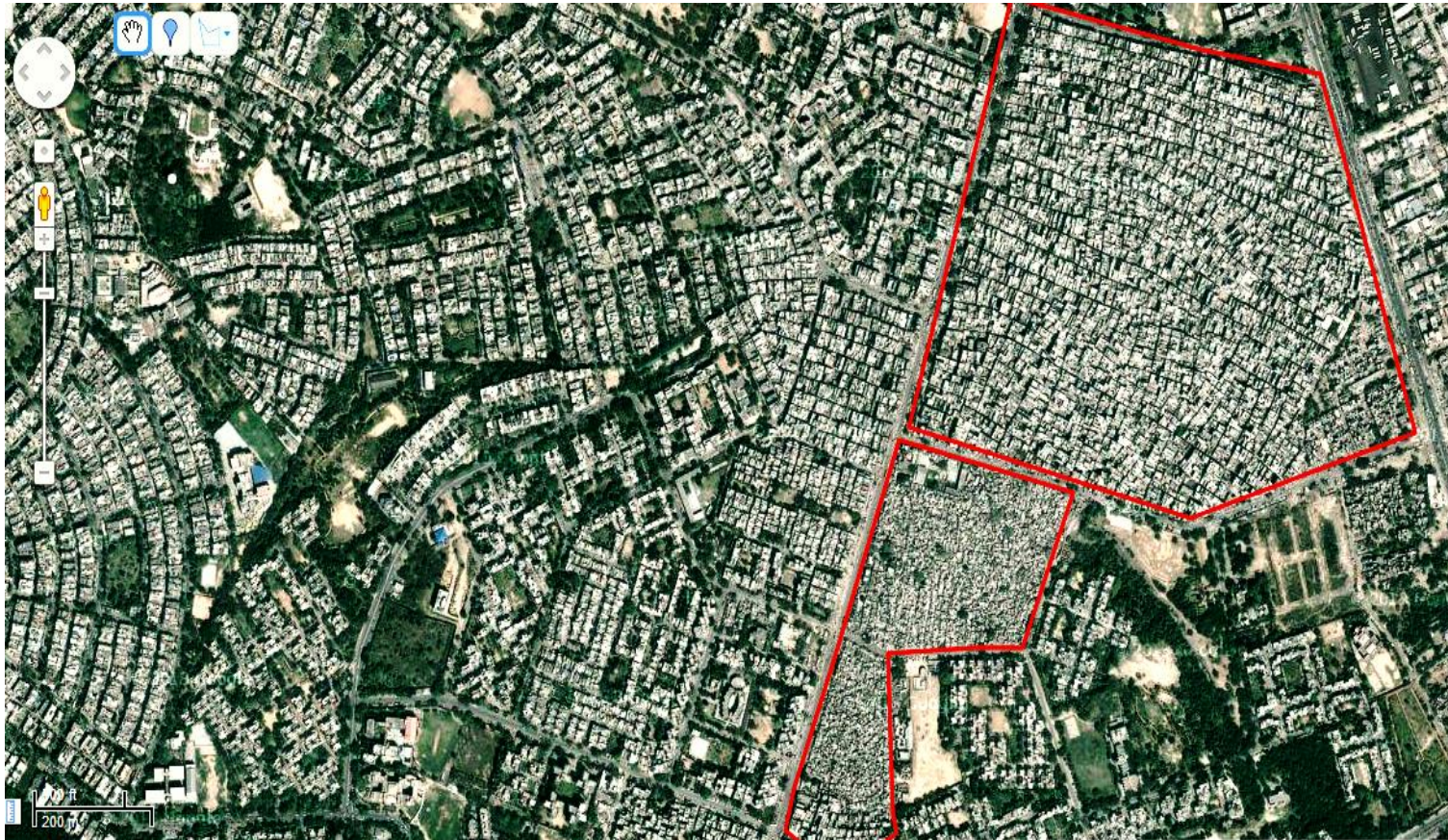
Location of Delhi Slums



Slum locations Mumbai



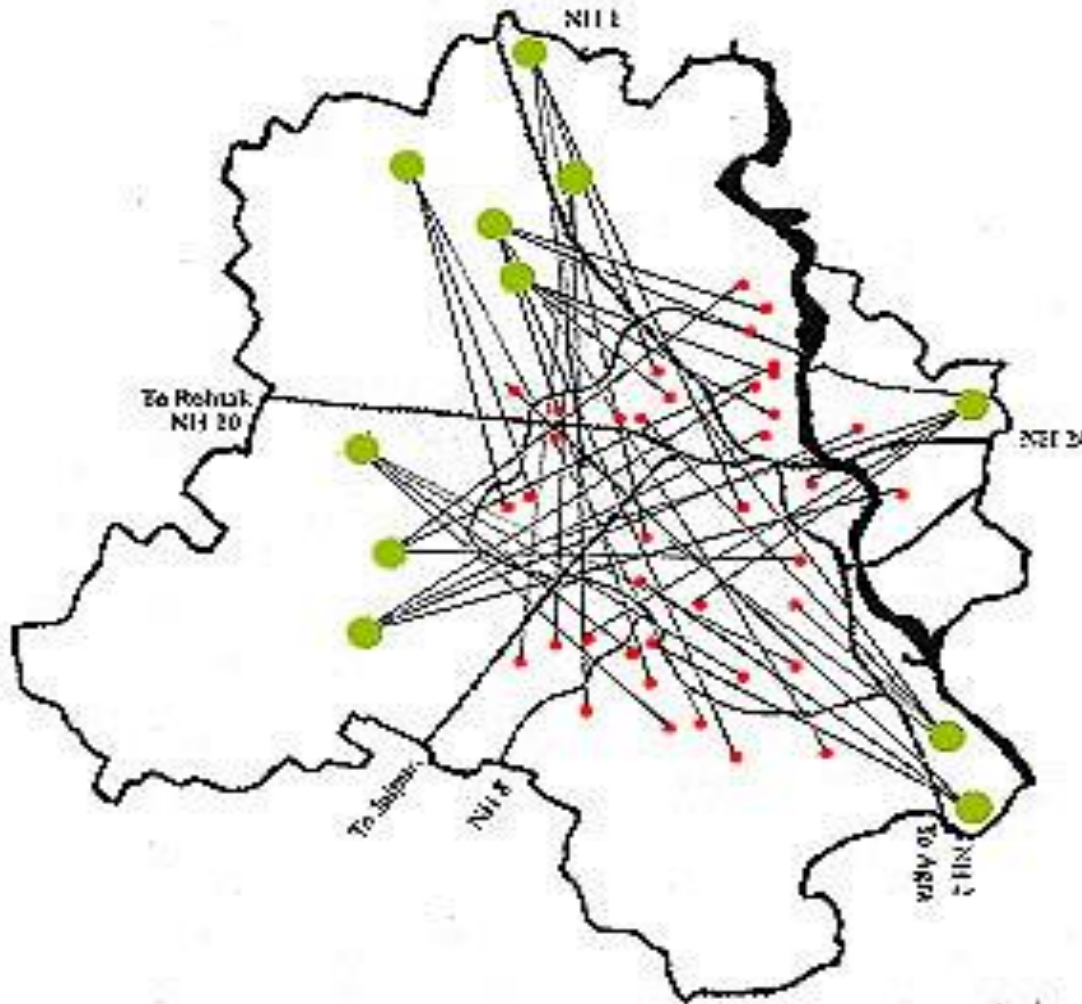
Contiguous development of low-density, high income and high-density, low-income colonies (enclosed within red boundary) in southern part of Delhi



Informal settlements density vs planned density



Location of informal settlements self planned - ● vs expert planned- ●



Informal settlements relocated by planners in Delhi 2001-2006 15-20 kms away from the original location

Resettlement delinked with access to employment

2 Continual banishment of Poor to Outskirts of the City needs to STOP.

Context

Map 2: Location of Resettlement Colonies in the National Capital Territory of Delhi (2007)

Source: Sun and Jhuggi, Jhuggi Department, Municipal Corporation of Delhi.
Sabir Ali Slums within Slums: A Study of Resettlement Colonies in Delhi, Council for Social Development, New Delhi, 1990.



Slum improvement Policy Interventions 1950-2000

1950s- Housing
for LIGs

Needs of slums,
rehabilitation and
resettlement(1970s
)

Community
development programs
and NGOs involvement
(1980s)
Housing banks for
finance availability

Role of State
from provider
to enabler

Private sector
participation
encouraged
(2000 onwards)

Policy Impact

Land and housing

Rent control act and urban land ceiling Act

Deteriorating housing stock

Clearance and eviction

Remove slums from urban areas –no mention of resettlement of evicted households

New slums are formed

Upgradation and redevelopment

Slum redevelopment and rehabilitation schemes-renewable lease provided to slum cooperatives, basic amenities and loan @12%, slums on cent govt. and pvt Land, not eligible

Commercial interests overriding other interests

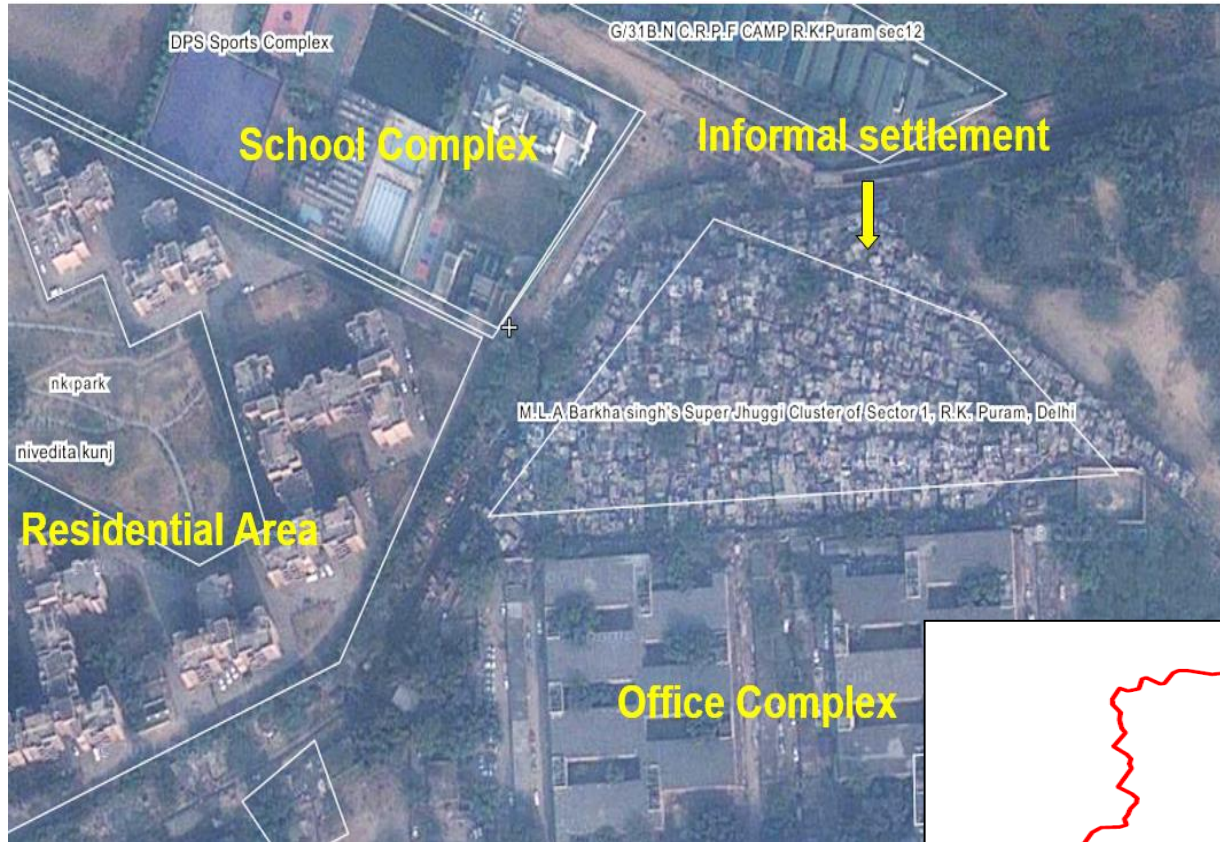
Recent initiatives

Rajiv Awas Yojana and Cluster development

2014 on wards

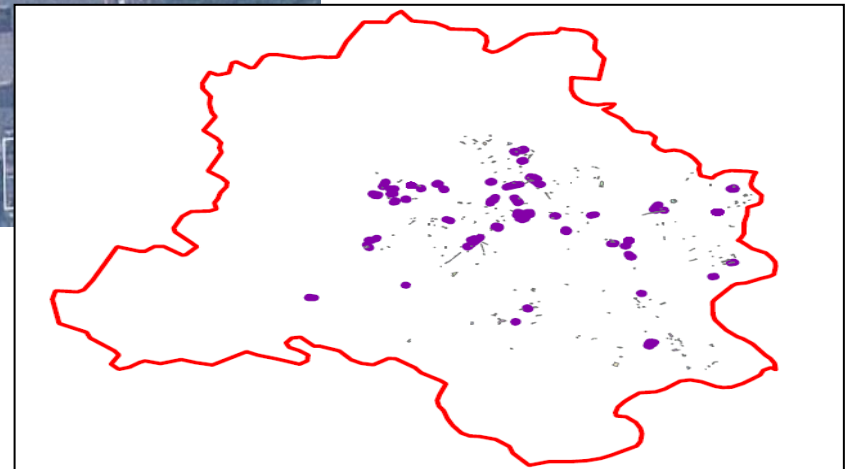
SMART city???

Travel patterns, activity patterns and mode choice

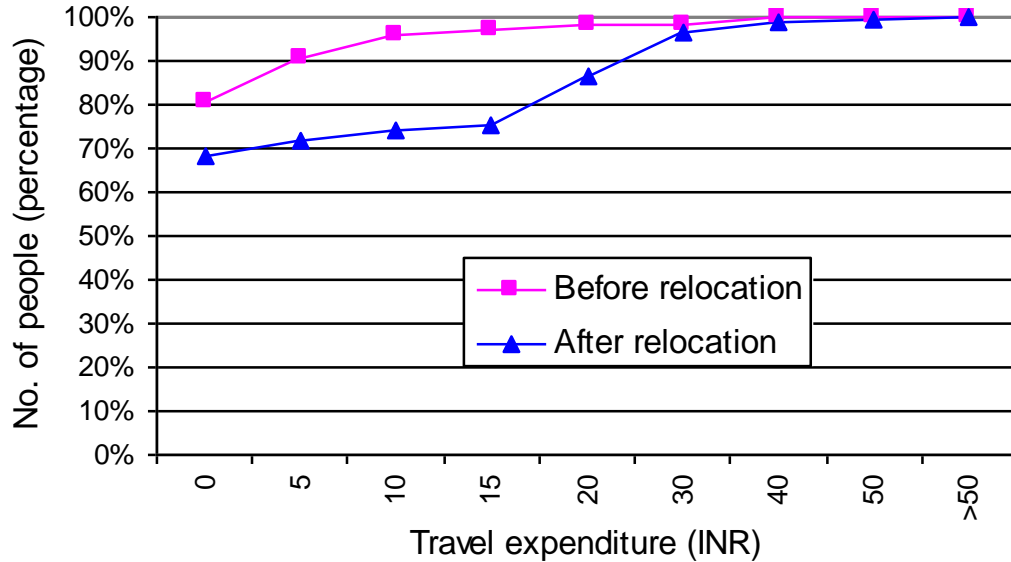


Pedestrian streets
vs streets covered
by parked cars

Common social activities, 50% residents know 25% of the people living in their settlements

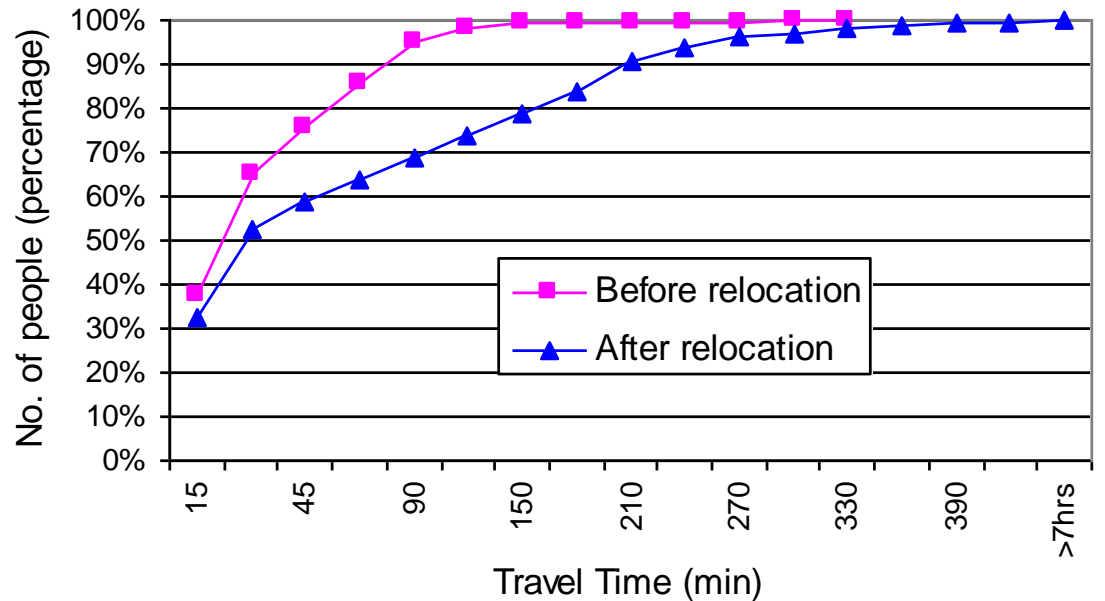


Daily Travel Expenditure per person (cumulative)



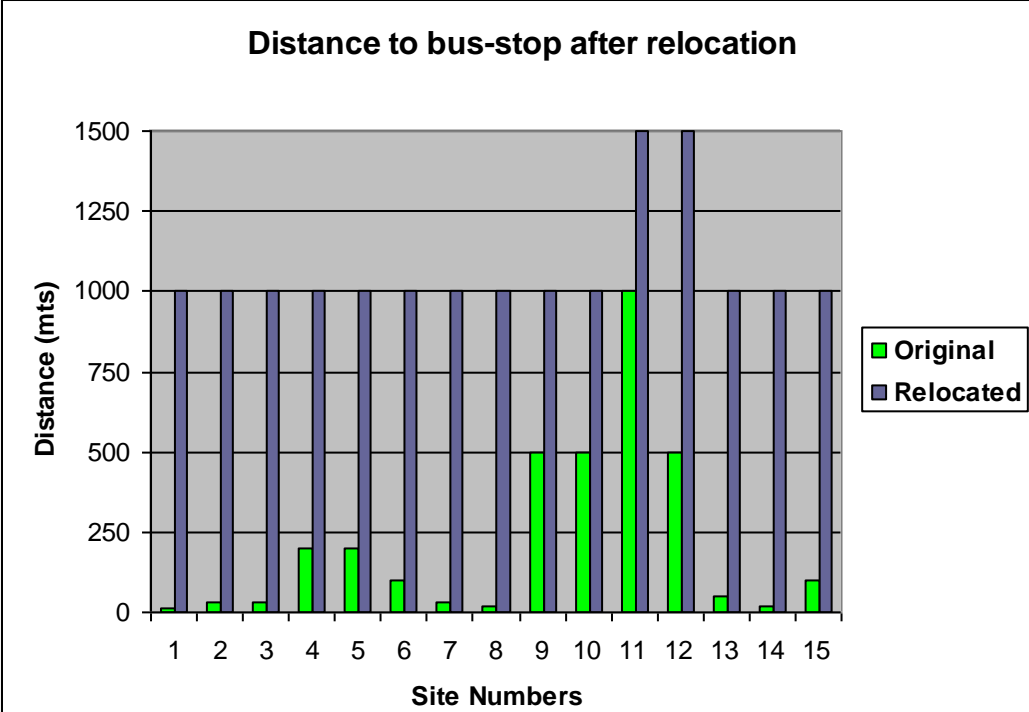
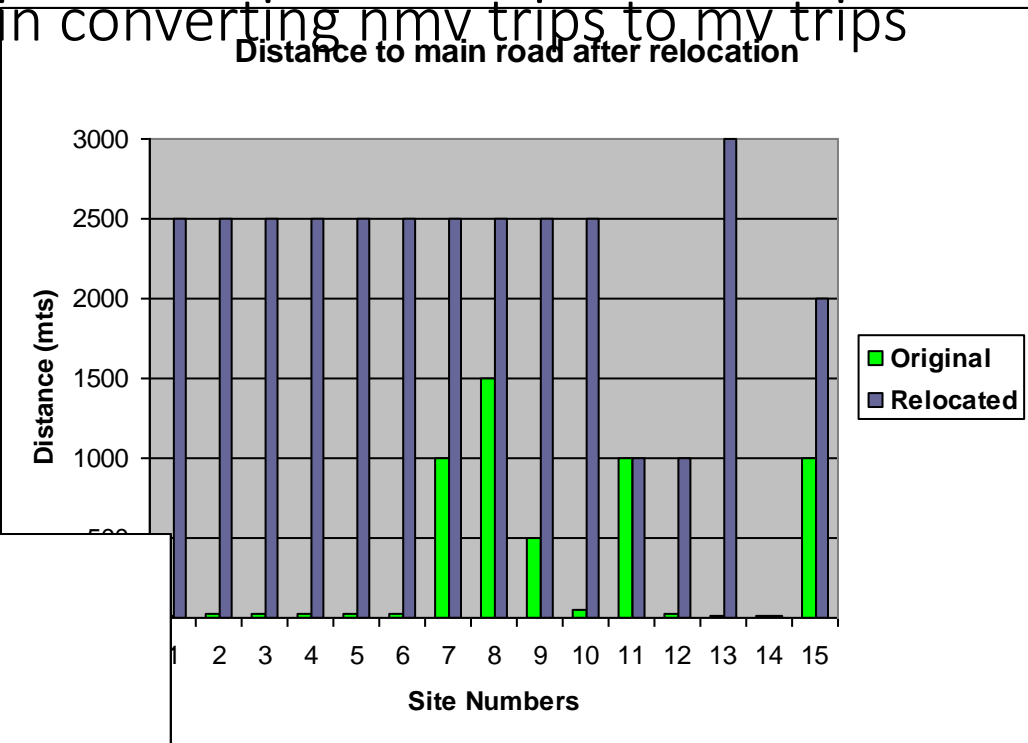
Increase in travel cost and travel time

Daily Travel Time per person (cumulative)



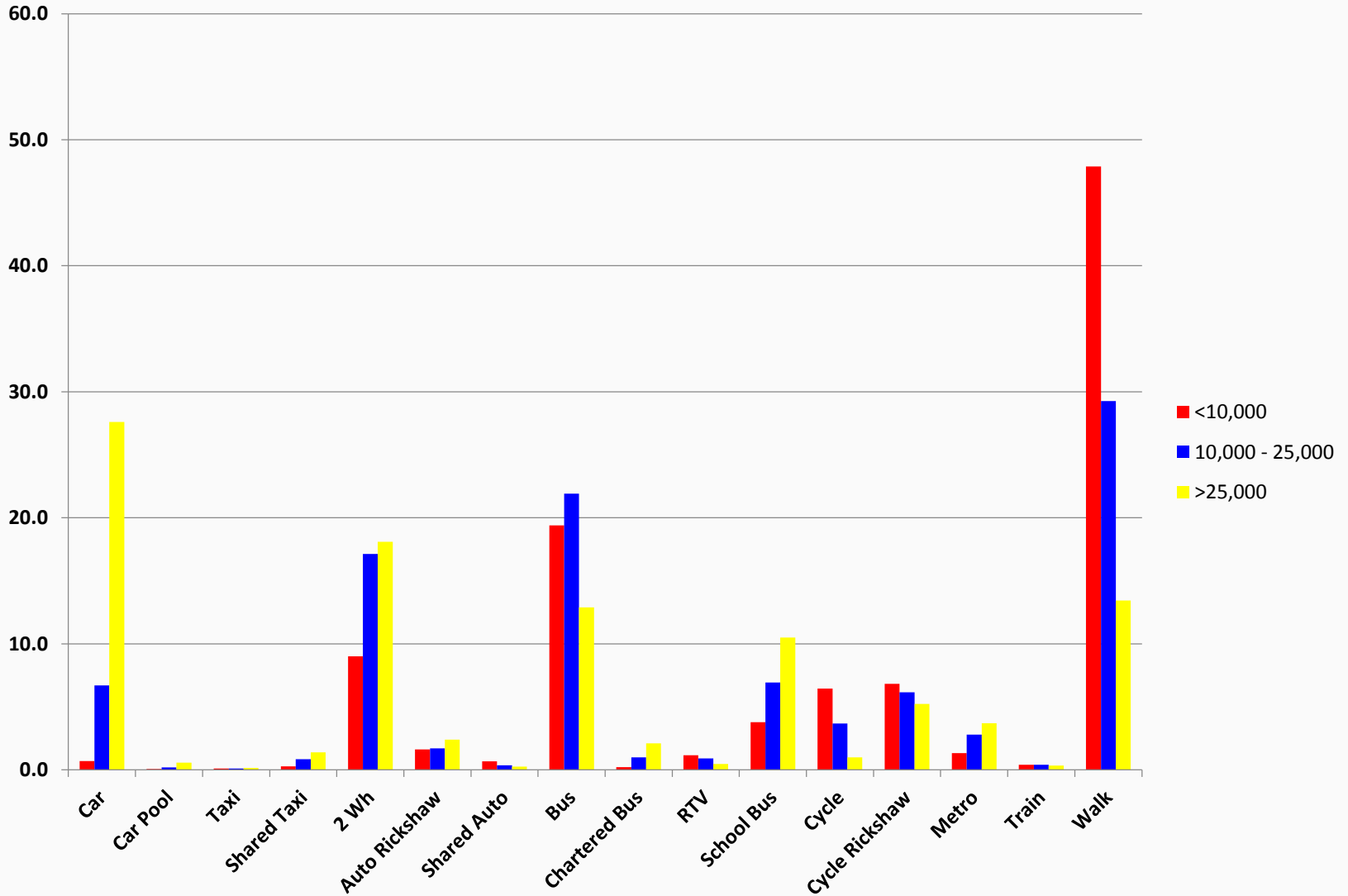
• Rehabilitation of slums results in converting nmy trips to my trips

- avg. distance to main road before relocation < .5 km.
- avg. distance to main road after relocation > 2 kmn



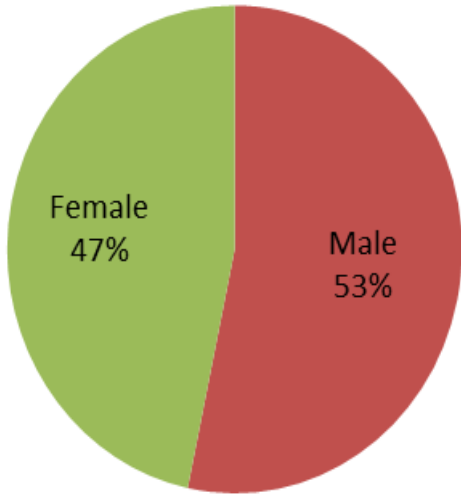
- Avg. distance to bus stop 200 m before relocation
- Avg. distance to bus stop 1 km after relocation
- Minimum distance to bus stop before 10m, after 1km

Low income population is pedestrian and PT users

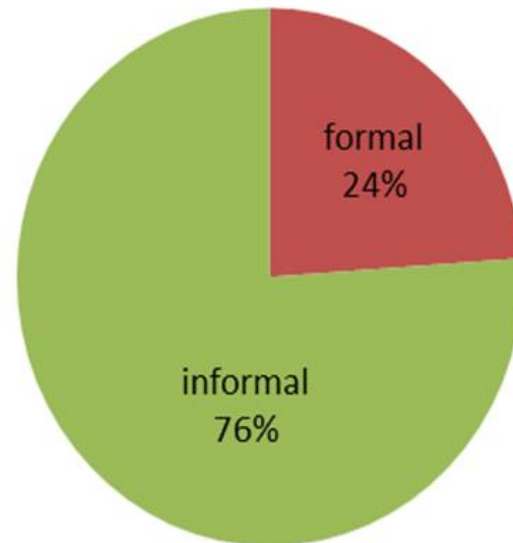


Source: Transport Demand Forecast Study by RITES, 2008

POPULATION BY GENDER

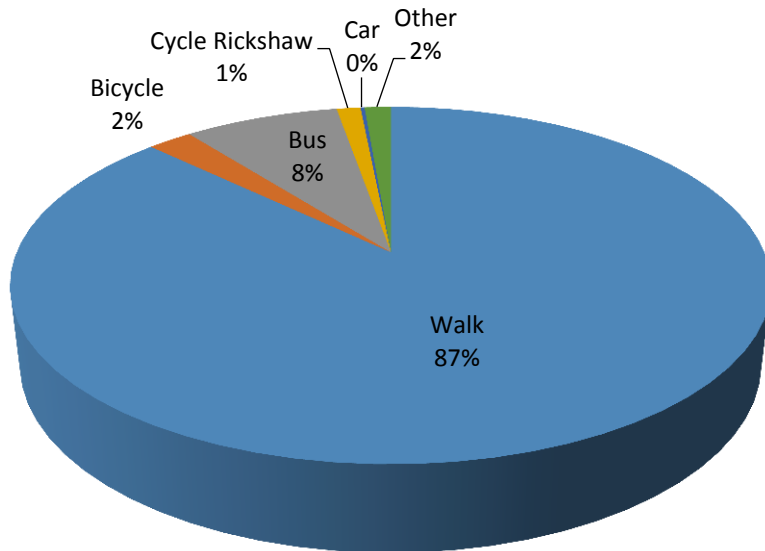


NATURE OF EMPLOYMENT



Travel patterns of Urban poor

Delhi low income households(2011), Employed and Unemployed

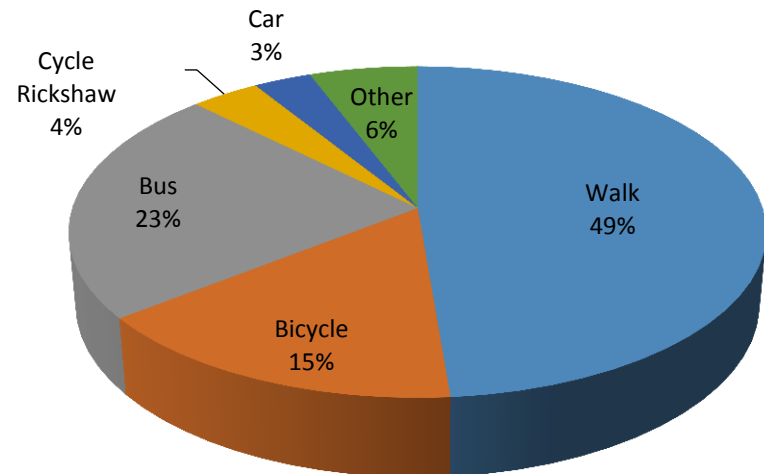


Unemployed persons

Walk 87%

Bus 8%

Bicycle 2%



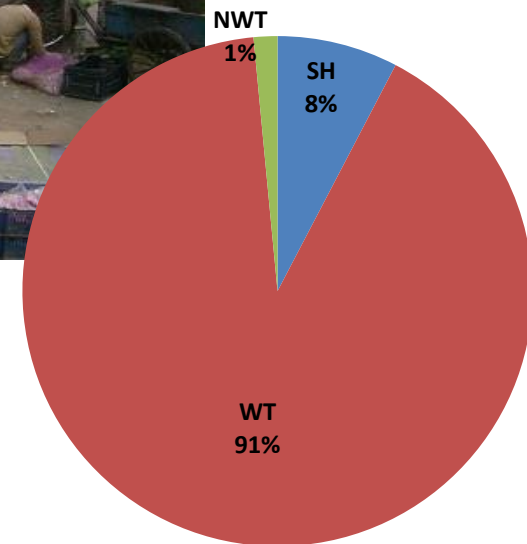
Employed persons

Walk 49%

Bus 23%

Bicycle 15%

Activities and travel patterns



Travel characteristics

Type of Employment	Average PT distance (Km)	Average PT travel time (Minute)	Average PT travel cost (INR)
Formal	14.4	70	28.3
Informal	9.7	62	12.3
Student	3.3	29	1.7
Total	7.1	47	8.9

Travel distances


Type of Employee	Percentage of employees by tour distance (km)					
	0	0.4-2.0	2.1-5.0	5.1-10	>10	Total
Formal	1.0%	2.1%	1.9%	3.1%	3.9%	12.0%
Informal	5.7%	7.6%	7.7%	8.1%	9.0%	38.2%
Student	14.8%	23.0%	9.4%	1.0%	1.6%	49.8%
Total	21.6%	32.8%	19.0%	12.1%	14.5%	100%

Characteristics of Informal settlements

- **Self organized, organic growth, outside the formal process**
- **Lack of formal services(water, sewage, electricity)**
- **Poor quality housing**

Density, Diversity, human scale

Location(access to employment)



Use of land “reclaimed” through eviction (Bhan et al. 2014)

- 24% vacant land
- 19% roads, parking
- 14% Parks and playgrounds
- 9% government infrastructure
- 7% new slums



Landuse –transport integration for 'unplanned' sector implies:

- **Density** : High rise buildings vs small houses (12-18sqm)
- **Structure** :Monocentric/polycentric vs street vendors
- **Diversity**:mixed landuse vs informal markets
- **Local Design**: short car trips vs walking/bicycling trips



Key questions

- Can subsidized transport improve accessibility?
 - Travel time is more important than mode of transport
- Destination of low income households is very often “planned formal” residential settlements of high and middle income households
- Proximity to work is more important for women for multitasking



Landuse-Transport integration for sustainable cities

- Link between livelihood-housing and mobility(location)
- Multiple use of space (diversity)
- Community living and use of public spaces

Mixed land use should include mixing of different income groups

Best option includes access by non motorized modes