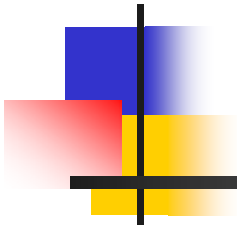


The Bicycle in Delhi: its use and barriers to use



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Structure of Presentation

- 1. Objectives of study and sampling methodology – IDS**
- 2. A brief overview of survey results– TRIPP**
- 3. An illustrative understanding of the lives of the bicycle users– IDS**



Background

- Positive correlation between accessibility, job employment and income security
- Increasing urbanization in the third world countries - increase in the number of service providers
- Transport infrastructure investments do not provide for pedestrians or bicyclists.
- This study is an effort to understand the role of the bicycle in the urban life, its usage on the urban streets and socio-economic and infrastructural constraints which make the bicycle an undesirable mode of transport for its users.



Objective

The objective of the study is two-fold

- To study the socio-economic profile of bicycle users and non users in Delhi, to understand their life, problems and barriers to the use of the bicycle
- To understand the perception of the community about bicycle, both from the perspective of the users and the non-users, to understand how the bicycle can be re-integrated into the urban life

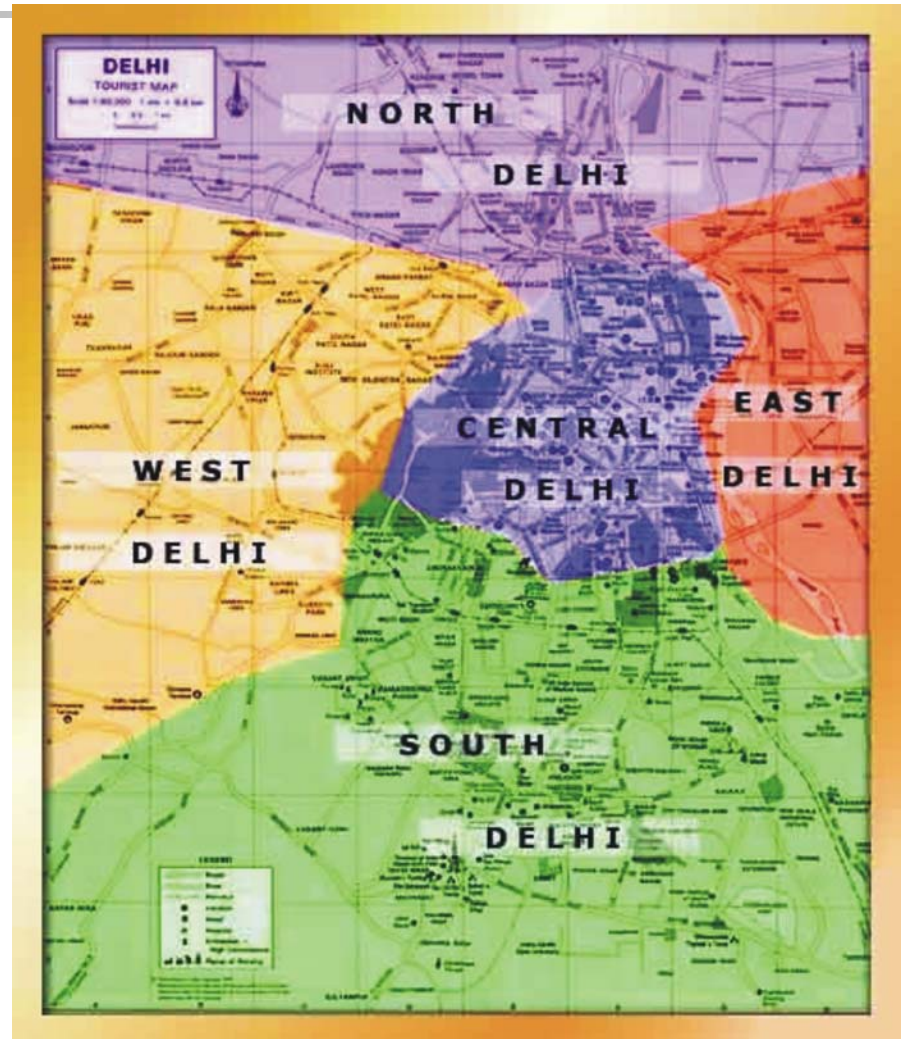


Methodology

- Geographic zones defined in the city
- Group meeting with social scientists to discuss questionnaire design and sample distribution
- The distribution of the sample amongst the different target groups was decided based upon the geographic area and actual numbers
- Separate questionnaires were designed for the identified target groups
- A pilot survey of all the target groups was conducted and the questionnaires were updated and streamlined based on the feedback
- A workshop was conducted at IIT with the TRIPP faculty and experts from other CBOs to discuss the questionnaire
- The questionnaire was then converted to a codable format for the ease in the interview and subsequent data entry process with the help of experts in social statistics
- The interviews were then conducted across the city

Research Area

A perusal of the government listings showed that the most common way of dividing the National Capital Territory (NCT) of Delhi into geographic zones was the 5 zone definition of North, South, East, West and Central zones. The lists of schools, colleges, industries etc were also based on this division





Target Groups

- Students of educational institutions and their parents
- Working class in the city, both in the organized and unorganized sectors.

Pilot Survey

A pilot survey was conducted amongst all the target groups identified. During this process the survey team realized not only the complicated logistics of conducting a survey in the entire city but it also brought to fore the diversity of the different types of cycle users and the extent of invisibility of these service providers in our city. This enabled us to expand out sample over a more diverse group.



Sample Size

- School/ college going children = 500
- Parents of school/college going children = 500
- Urban working class = 1000

- Also some detailed interviews were conducted amongst persons who depend on the bicycle for their livelihood to understand their life and problems faced. These were recorded as narratives rather than data to ensure that the qualitative aspects of our study are not disregarded.



Sampling Methodology

- Sample Distribution for 500 students of educational institutions
- Sample Distribution for 500 parents of students
- Sample Distribution for 1000 working class persons



Sample Distribution for 500 students of educational institutions

Educational Institutions Existing (Source Government data)

Type	Central		North		South		East		West		Total	%
	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.		
Schools	60	84	279	85	173	136	213	48	230	173	1481	94
Colleges											89	6
Total institutions											1570	100

Sample Distribution of Educational Institutions

Assuming 10 students/institution to be surveyed in interest of logistics= 50 institutions

Type	Total	%	Sample (indicative)	Sample * (rounded off)
Schools	1481	94	47	45
Colleges	89	6	3	5
Total institutions	1570	100	50	50

*Assuming minimum of 5 colleges to be taken, i.e. 1 from each zone, then 45 schools to be taken



Sample for Schools

Distribution of number of schools for each zone

Type	Central		North		South		East		West		Total
	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	
Total Schools	60	84	279	85	173	136	213	48	230	173	1481
Sample size	2	3	8	3	5	4	6	2	7	5	45

Sampling method $1481/45 = 33$ hence chose every 34th institution in the lists
Based on this calculation, a list of target schools (distributed zone-wise) was made

Sample for Colleges

Zone	College
Central	Matreyi College, Chanakyapuri
North	Indraprastha College, Shamnath Marg
South	Sri Venkateswara College, Benito Juarez Road
East	Shyamlal College, Shahadra
West	Rajdhani College, Raja Garden



Sample Distribution for 500 parents of students

In accordance with the number of students interviewed in each zone, the same sample size was used to interview parents. They were however, selected at random in areas in the vicinity of the targeted educational institutions.

Distribution of total sample of 1000 persons over Zones identified

Type	Central		North		South		East		West		Total	Sample
	Conf	Non	Conf	Non	Conf	Non	Conf	Non	Conf	Non		
Industrial	0	3	13	10	6	5	4	3	7	15	66	25
Other												25
Total areas												50



Industrial workers

Distribution of sample in proportion to number of industrial areas for each zone

Type	Central		North		South		East		West		Total
	Conf	Non	Conf	Non	Conf	Non	Conf	Non	Conf	Non	
Total Industrial areas	0	3	13	10	6	5	4	3	7	15	66
Sample size		1	5	4	2	2	2	1	3	5	25

Sampling method

$66/25 = 3$ hence chose every 4th area in the lists

Sample for industrial workers

Sampling method: $66/25 = 3$ hence chose every 4th area in the lists.

Non-industrial workers

The types of non-industrial workers in the city were listed. The sample of 500 was distributed over the 5 zones, i.e. 100, in each zone and an effort was made to capture the diversity of the non-industrial, primarily service sector, occupations that support the city today. The different types of service sector occupations using the bicycle are listed



List of non-industrial occupations

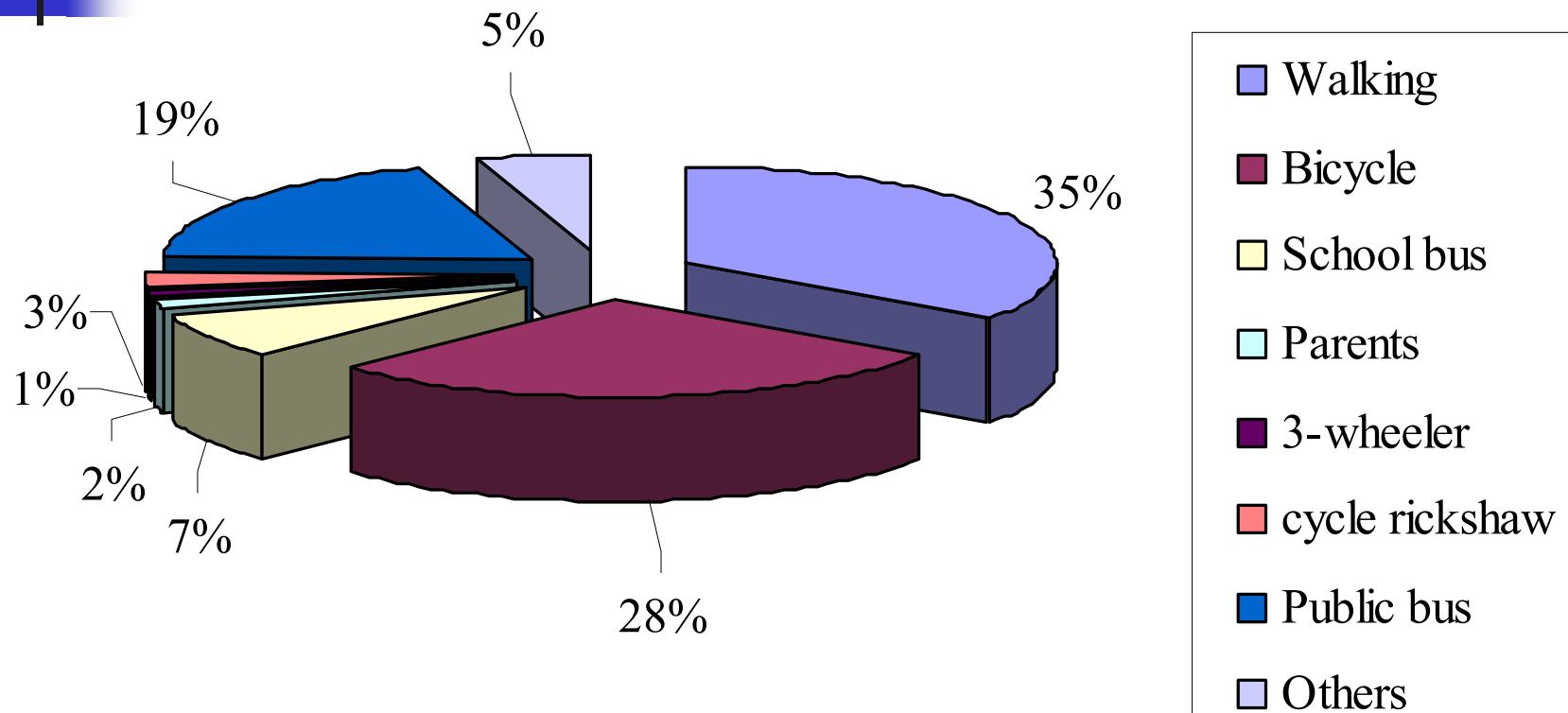
- Postman
- Telegraph
- Malaria dept.
- Telephone
- Electric dept.
- Jal board dept.
- Gardner (park / residences)
- M.C.D. Sweeper
- Rag Picker
- Sweeper (Govt. and Pvt.)
- Chole kulche vendor
- Stationary supplier
- General store item
- Cylinder wala
- Mat maker
- Milk man
- Stove-Cooker Repairing
- Courier delivery
- Drug supplier
- Cloth Supplier
- Sanitary worker
- Private Electrician
- Carpenter
- Factory labor
- Mason
- Key maker
- Shop helper
- Cycle rickshaw mechanic
- Fruit vendor
- Condiments vendor
- Manihari items
- Surgery cotton supplier
- Bidi / Cigarette supplier
- Domestic workers
- General workers



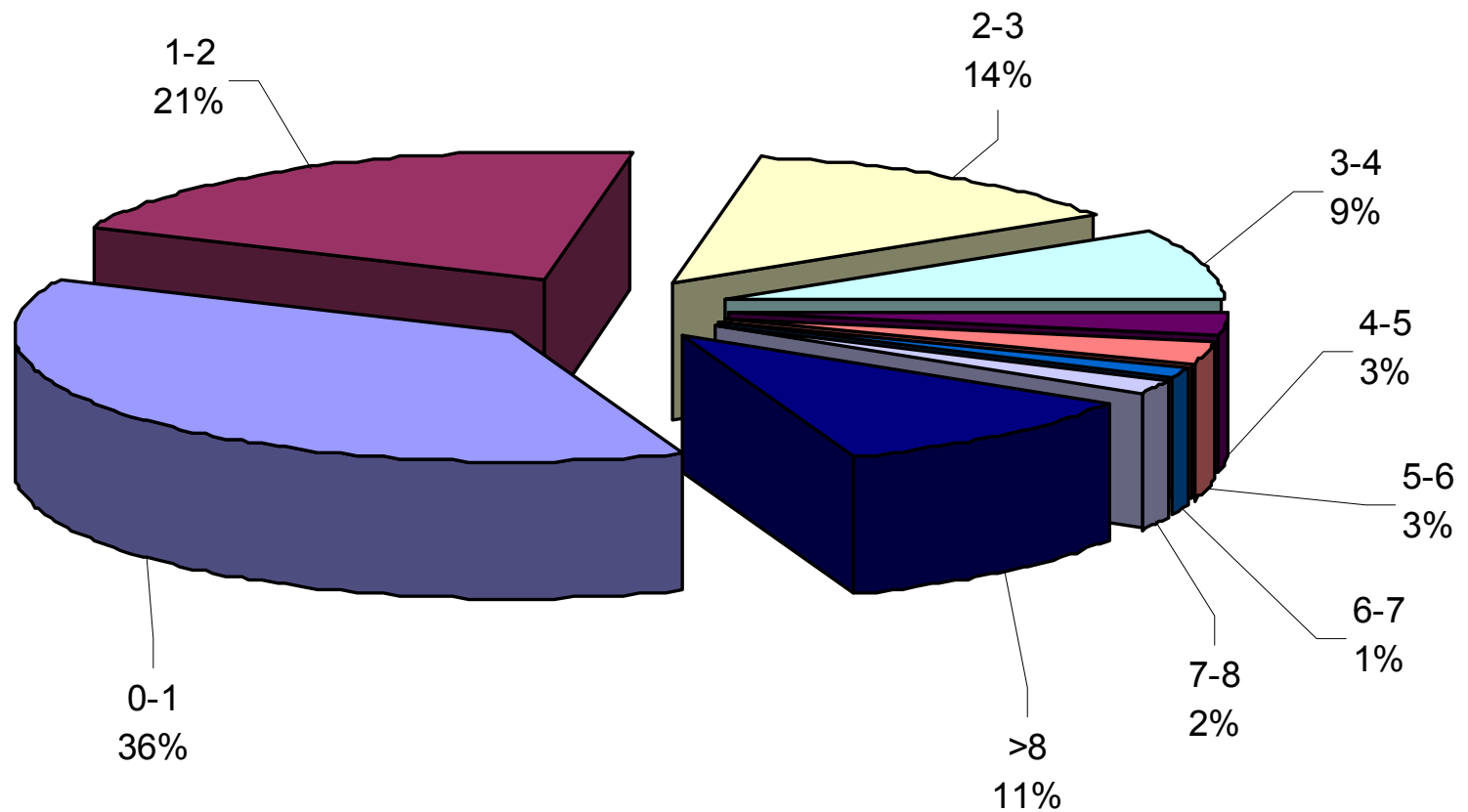
A brief overview of survey results



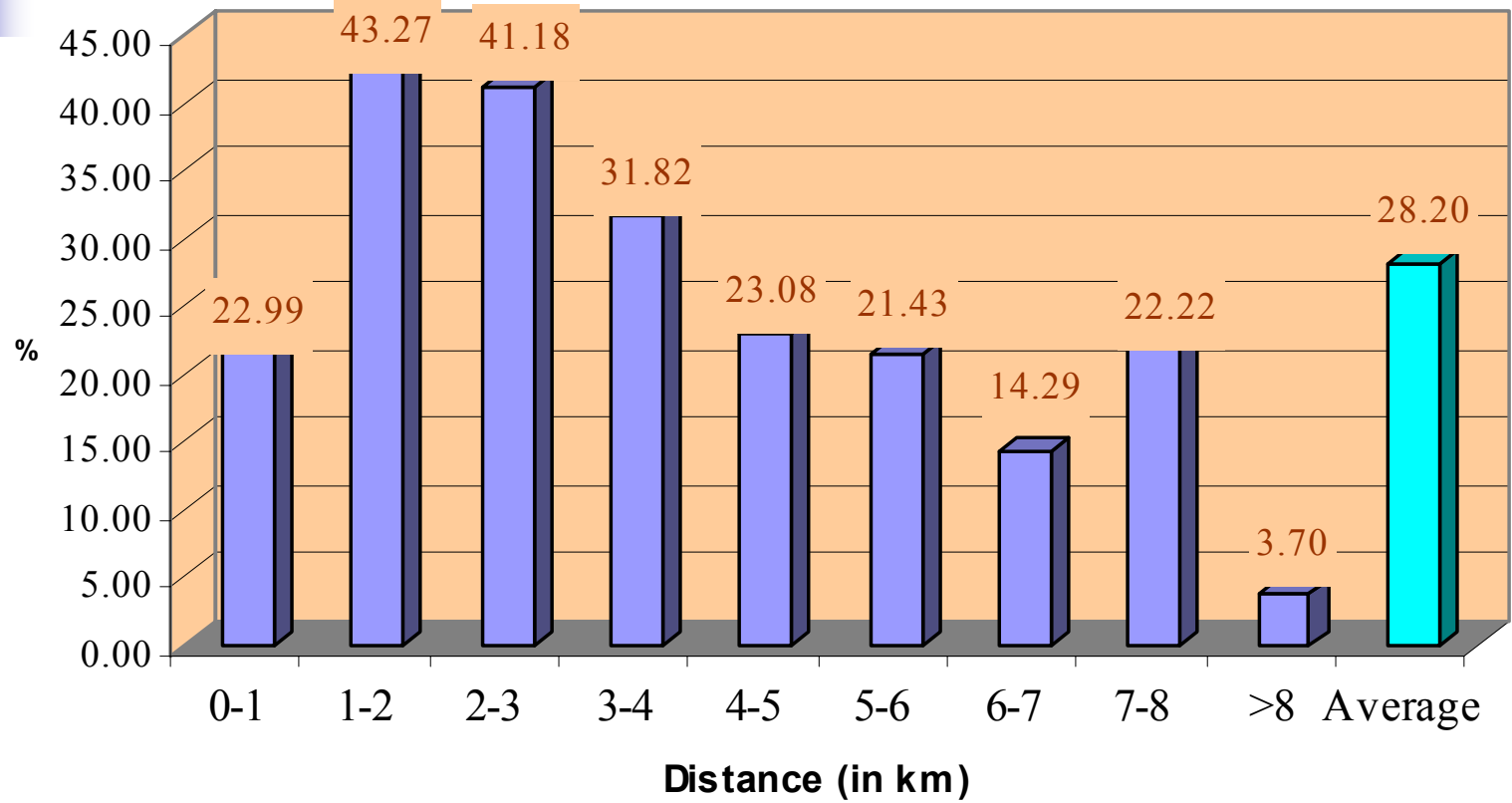
Modes of travel for all students



Distance (in KM) from academic institutes for all students

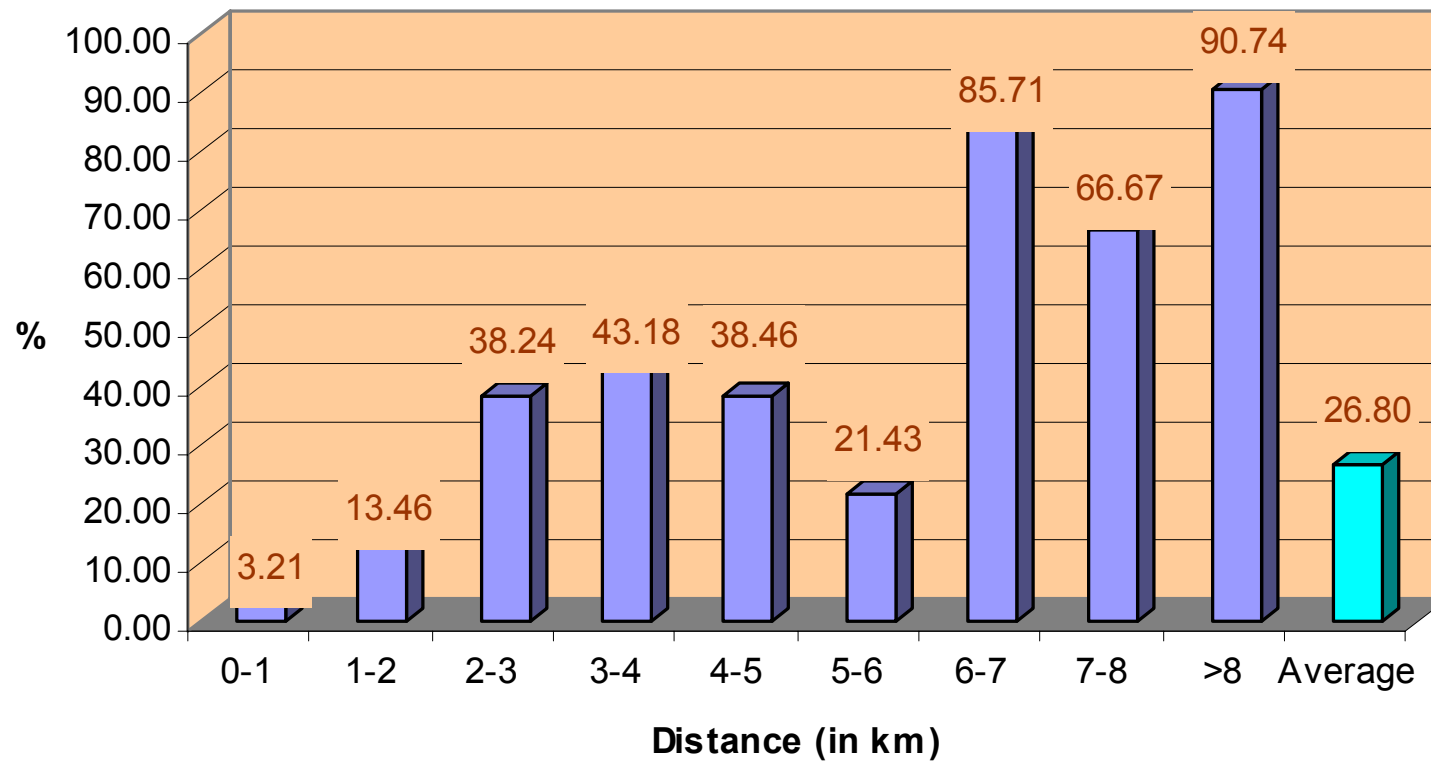


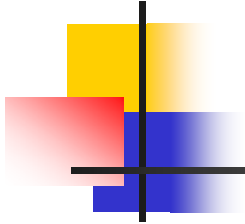
Cyclists in different distance categories



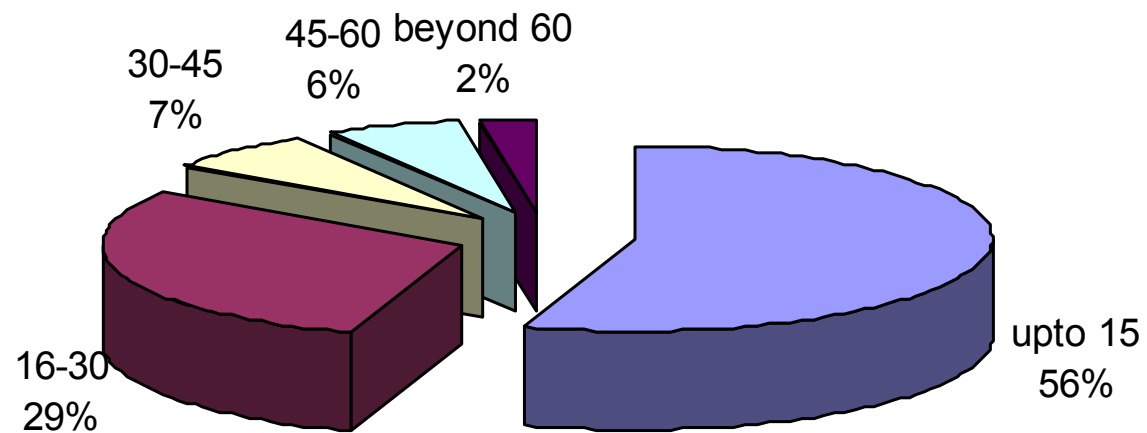


Bus users in different distance categories



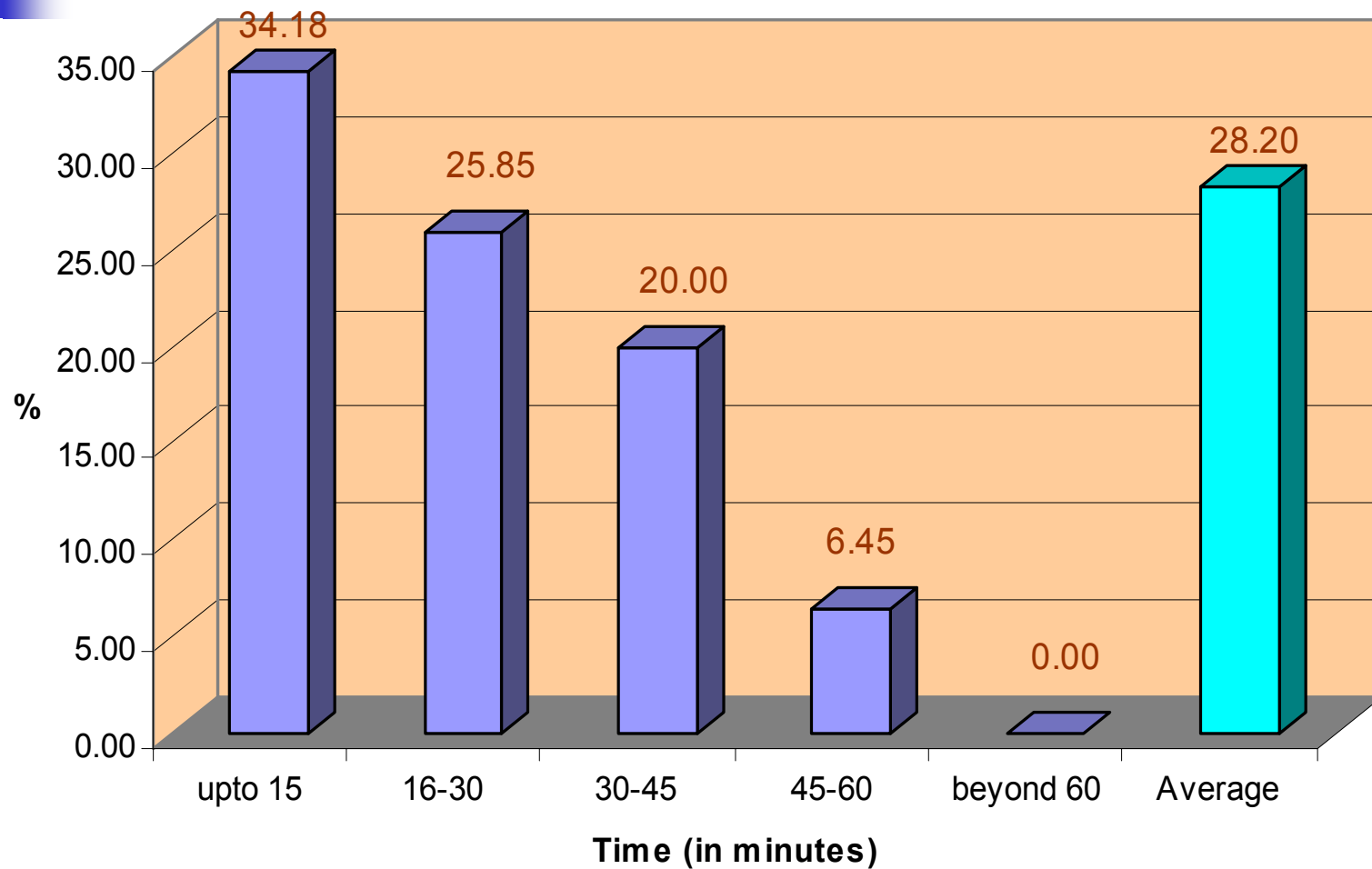


Time taken to reach academic institutes for all students

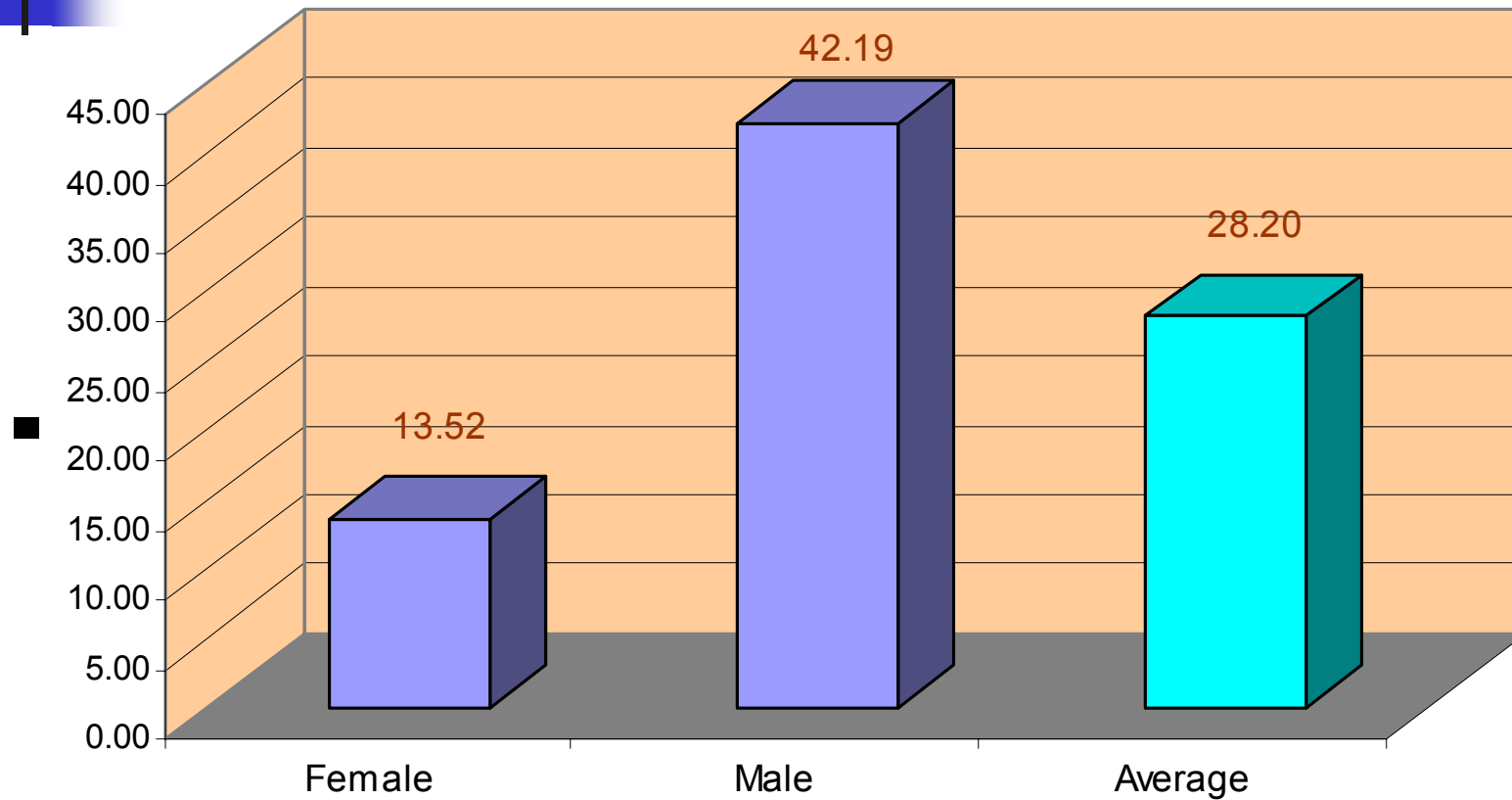




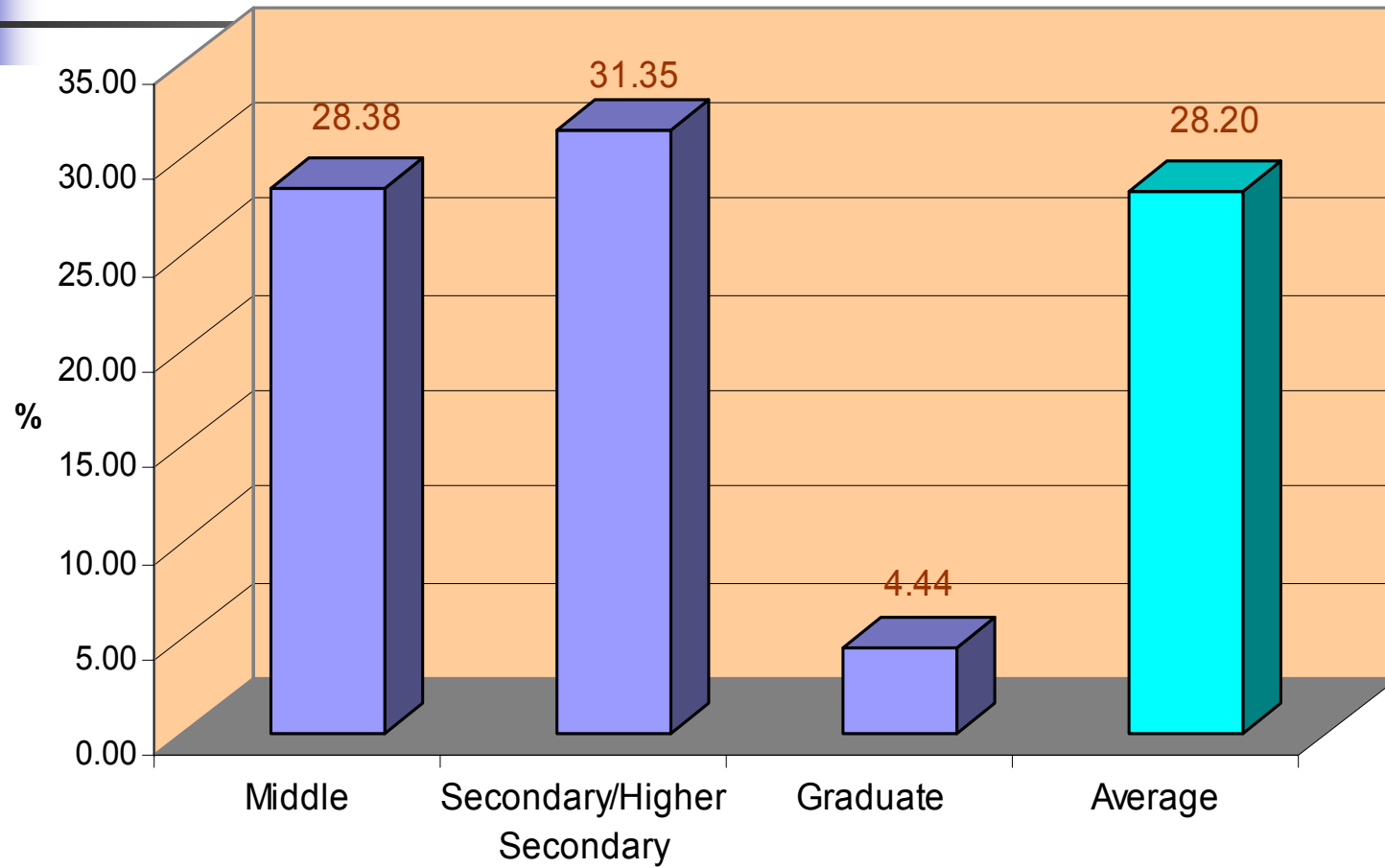
Cyclists in different travel time categories



Cyclists in different Genders

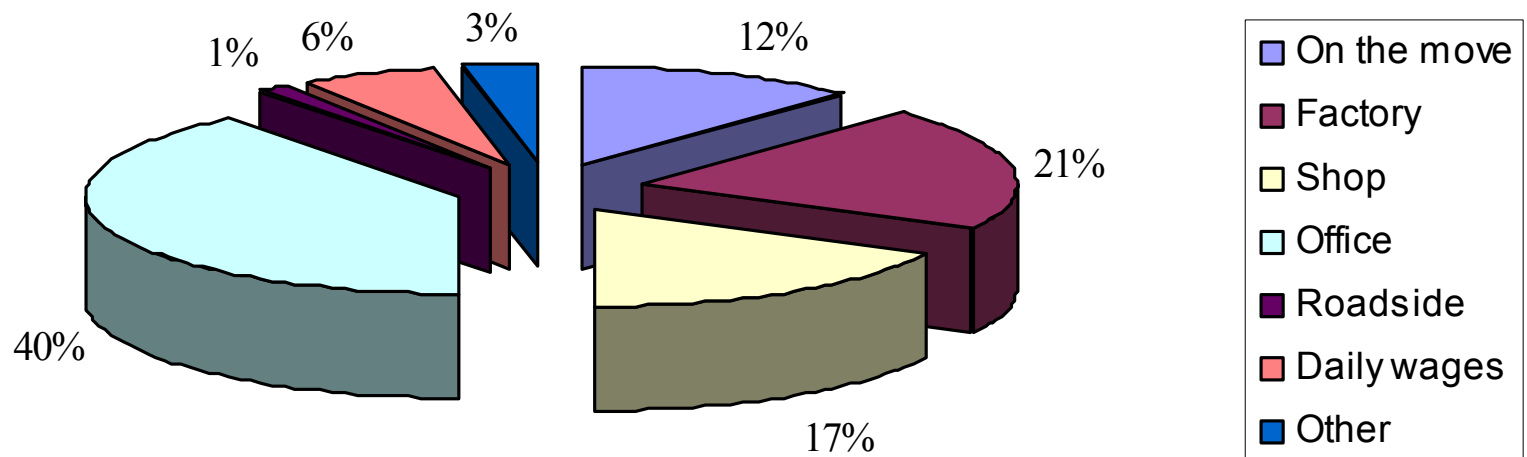


Cyclists in different education levels

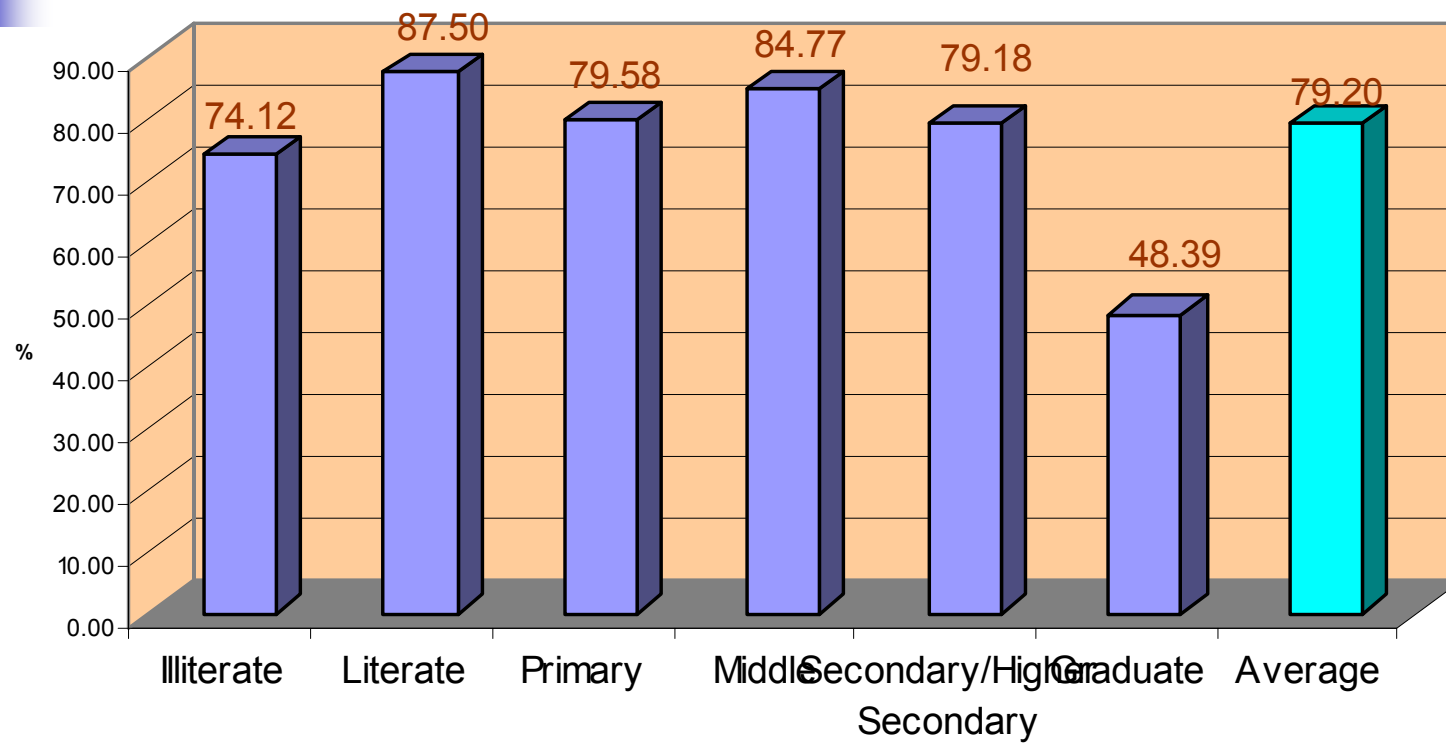


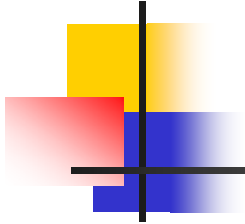


Workplace of all working class persons

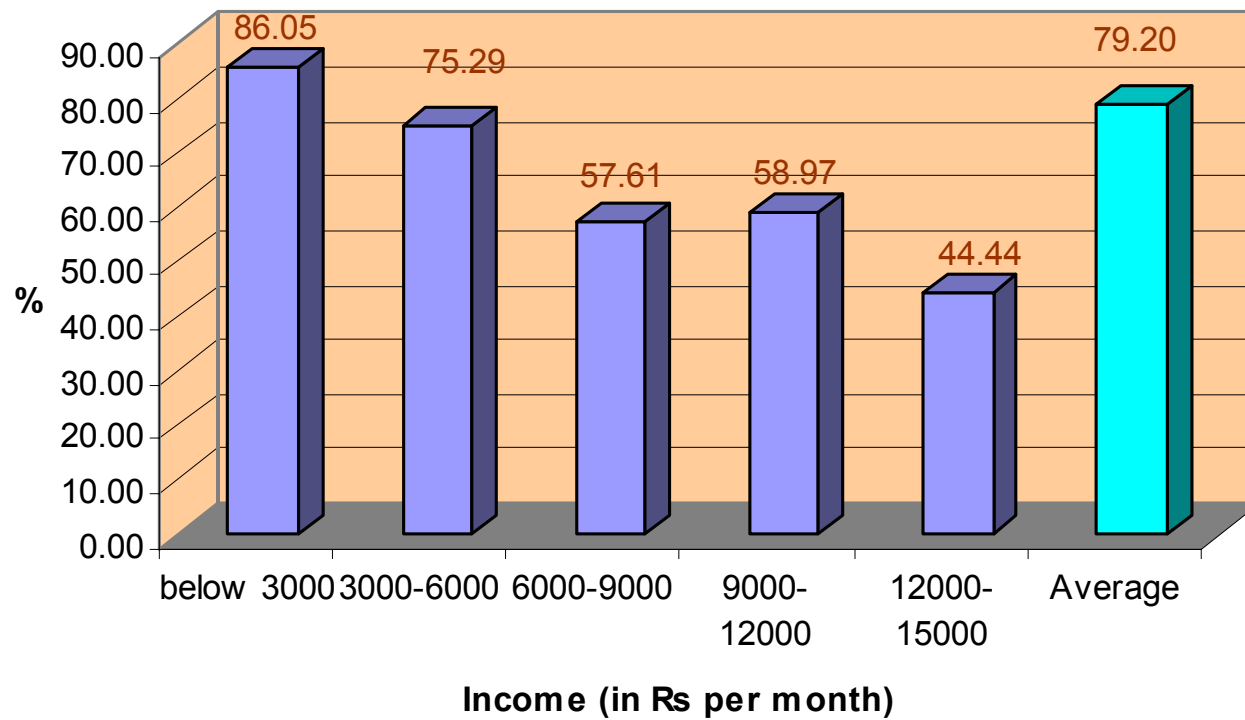


Cyclists in different education levels

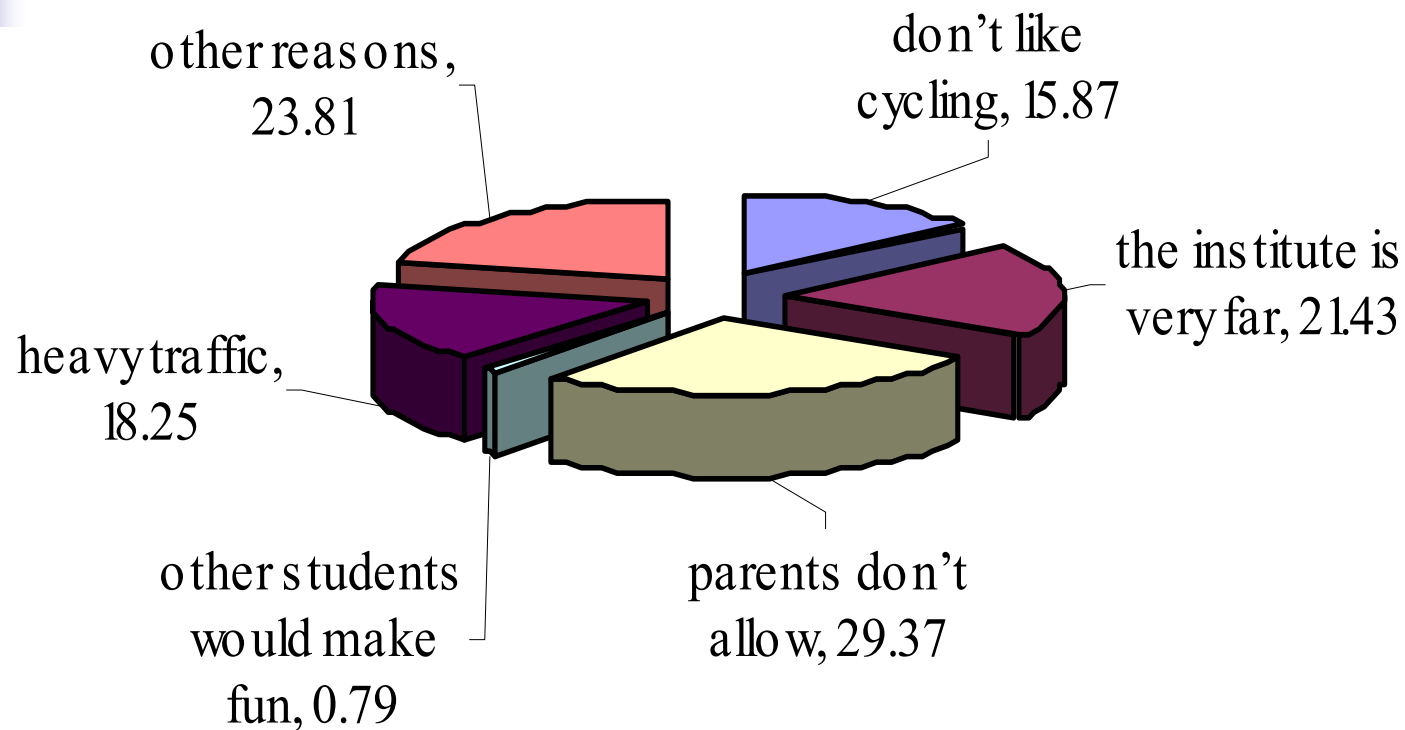




Cyclists in different Income groups

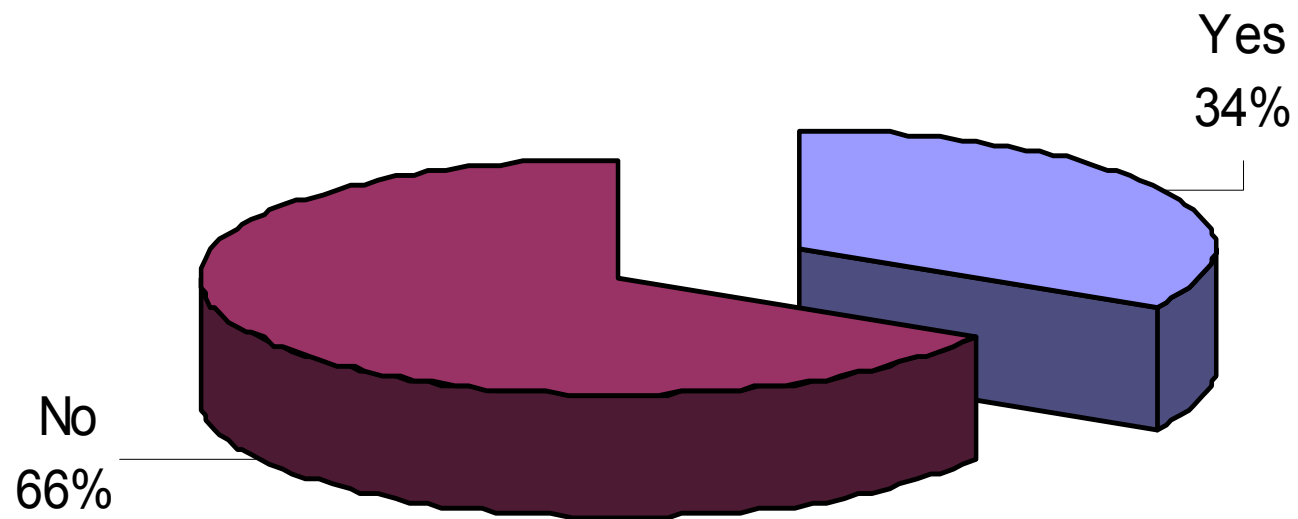


Why don't you go to academic institutes by bicycle?

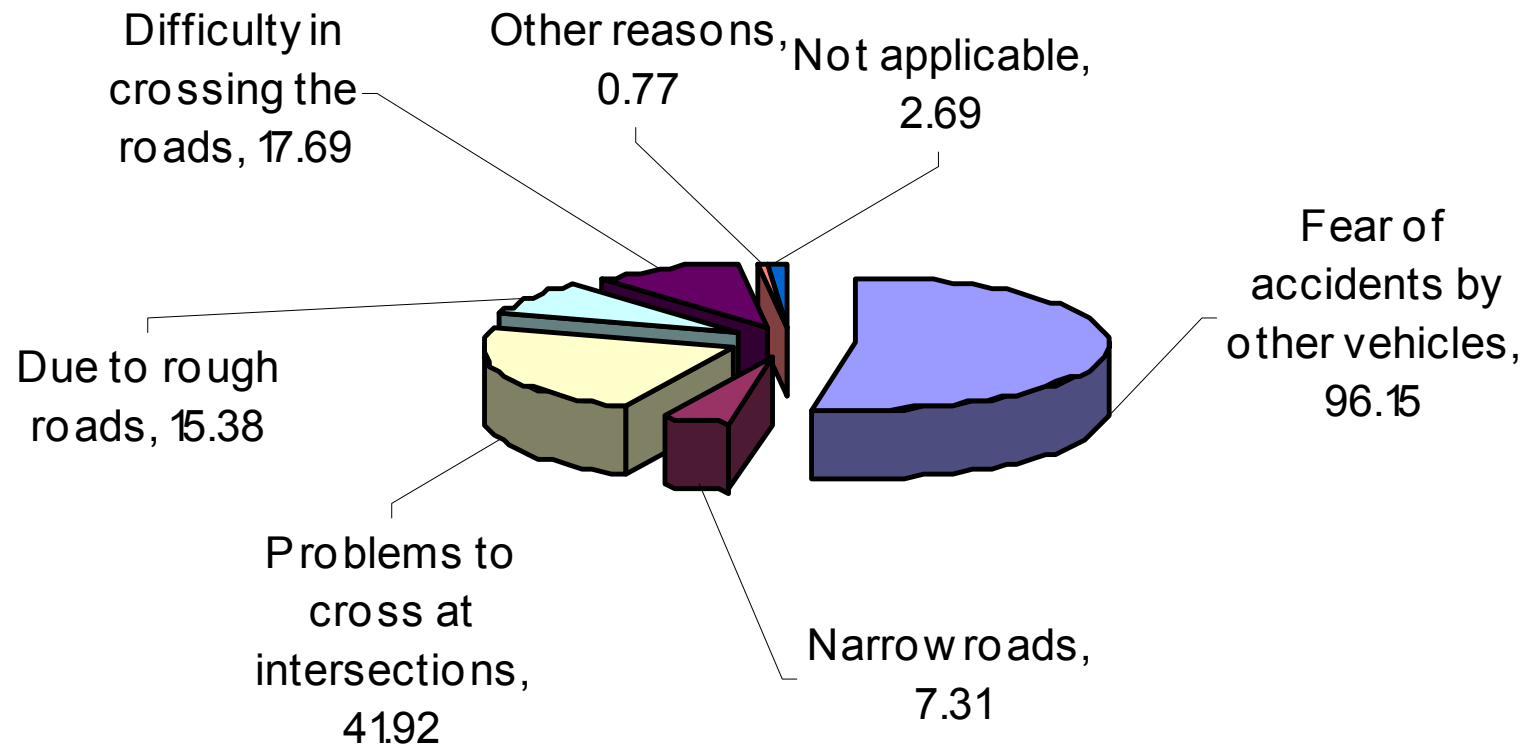


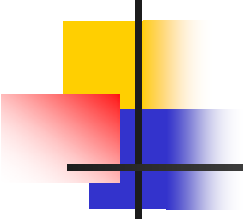


Feel safe on roads while cycling?

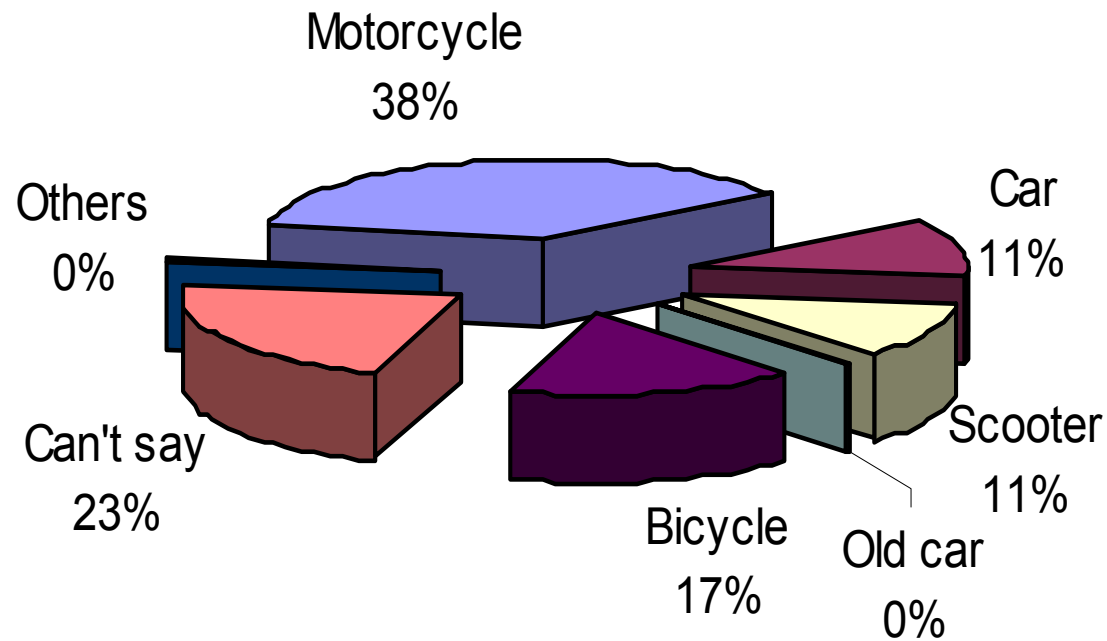


Why not feeling safe on roads?



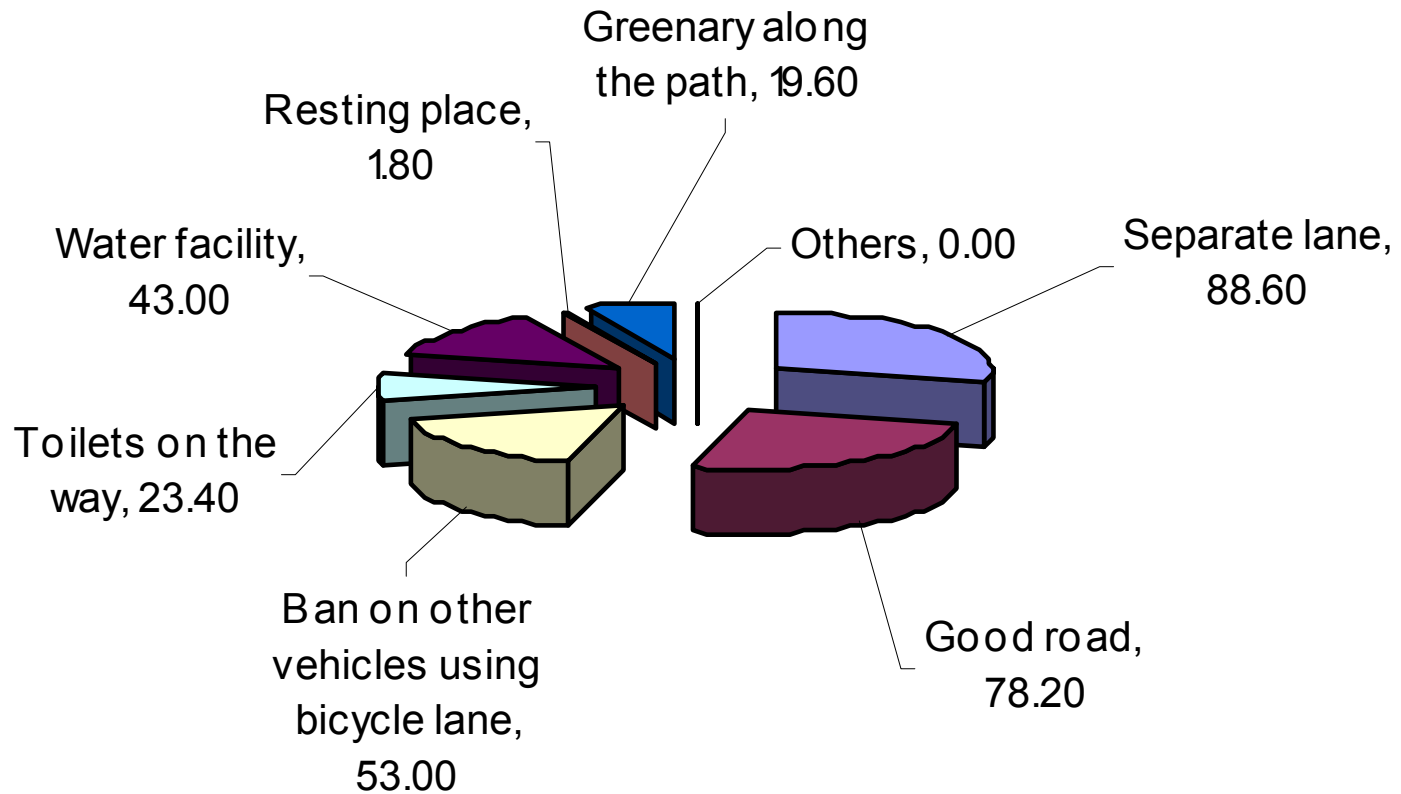


Given the choice...which vehicle would you like to buy?





To improve the roads....

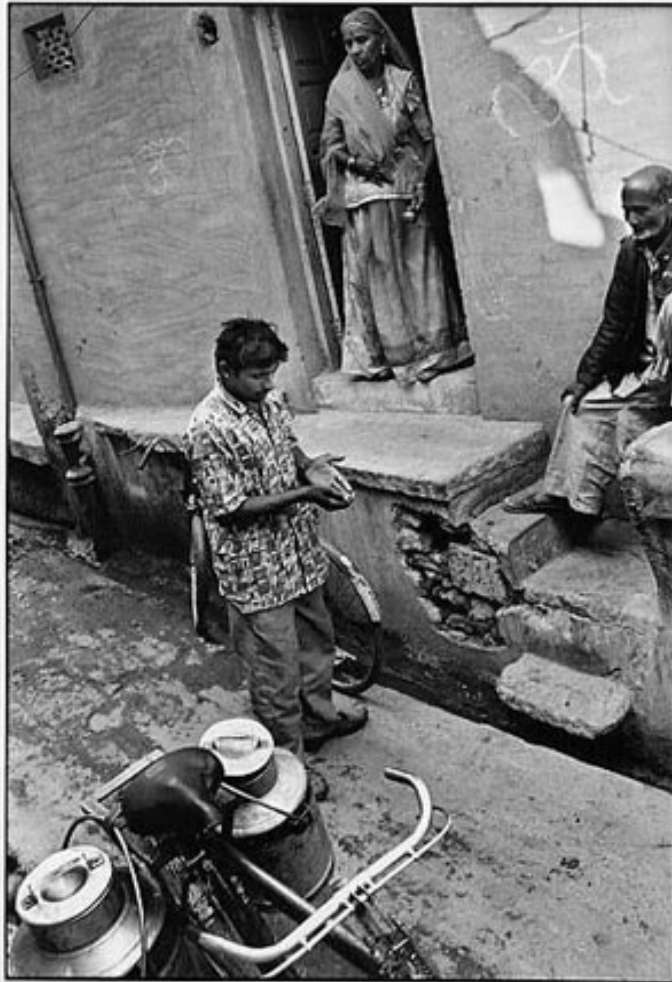


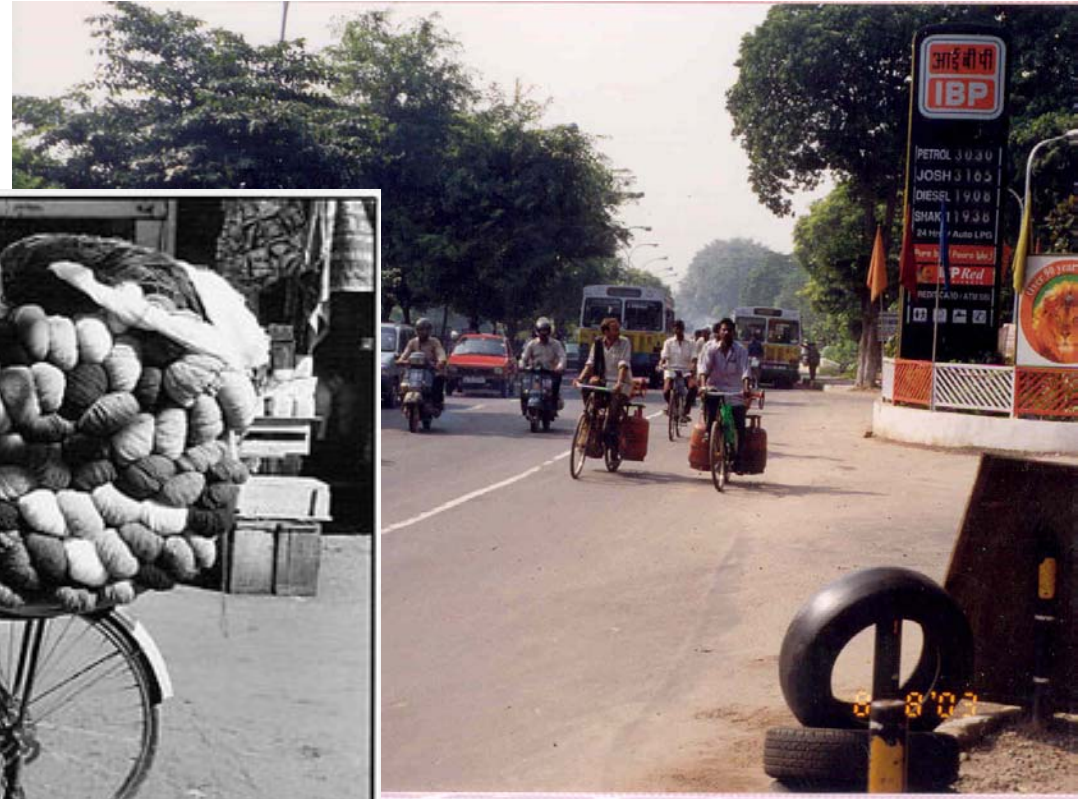
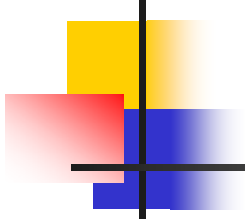


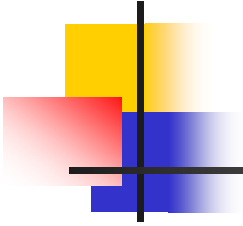
An illustrative understanding of the lives of the bicycle users



Bicycle use - Images









Narrative Case Studies

Qualitative surveys were conducted to collect narratives of the lives of some people whose livelihoods are integrally dependent on the bicycles. They selected people who were interviewed over the day to understand their daily activity profile.

The representative occupations selected for this are listed below

- **Barber**
- **Milkman**
- **Newspaper Delivery man**
- **Gardner**
- **Factory worker**
- **Rag-picker**
- **Postman**
- **Telephone**
- **Domestic Worker**



Kartar Singh - the barber

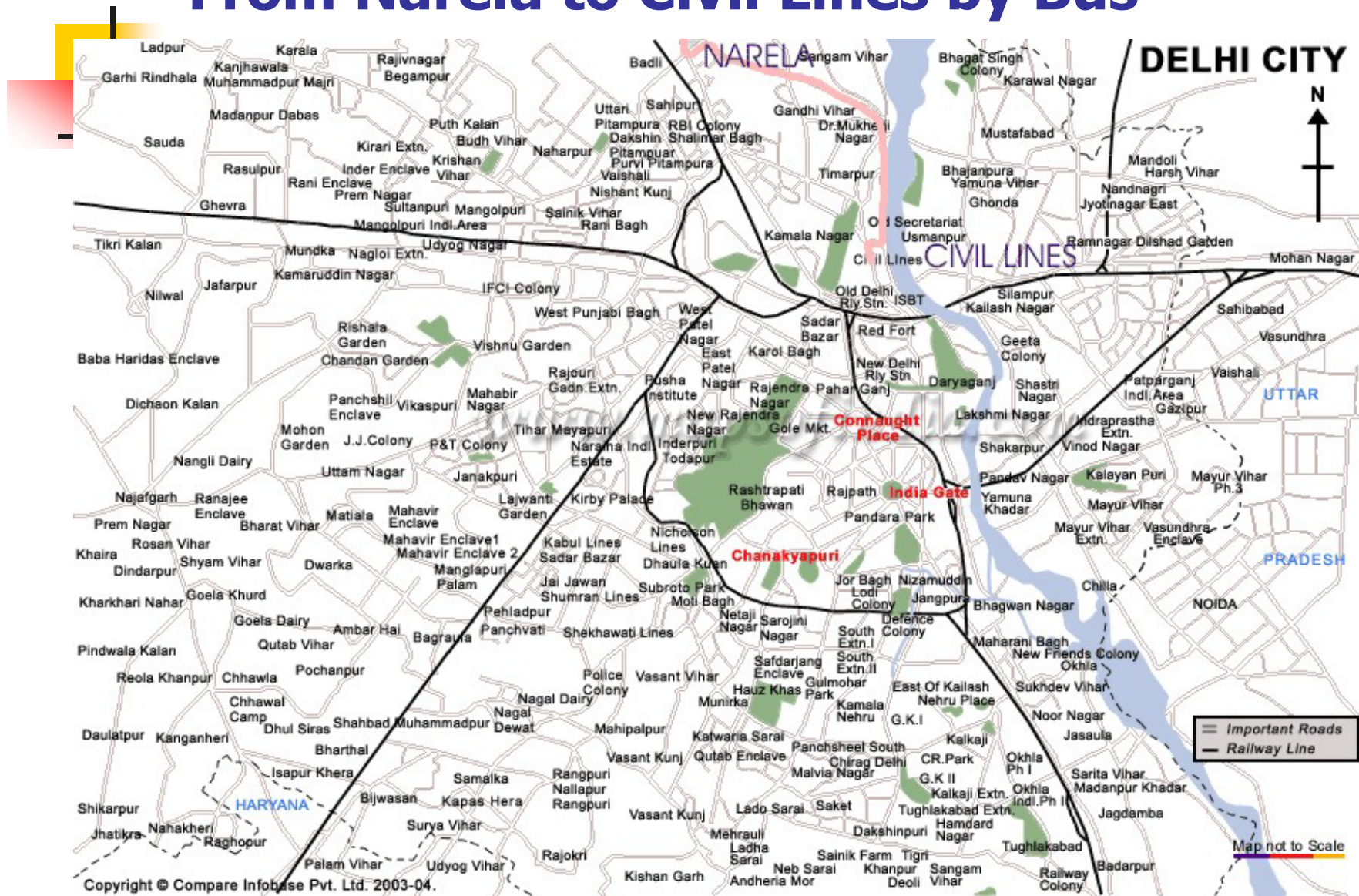
Kartar Singh is a 82 yr old barber plying his trade on his bicycle since 1944

He comes from his home in Narela to his place of work in Civil lines by bus – traveling a distance of 25 km

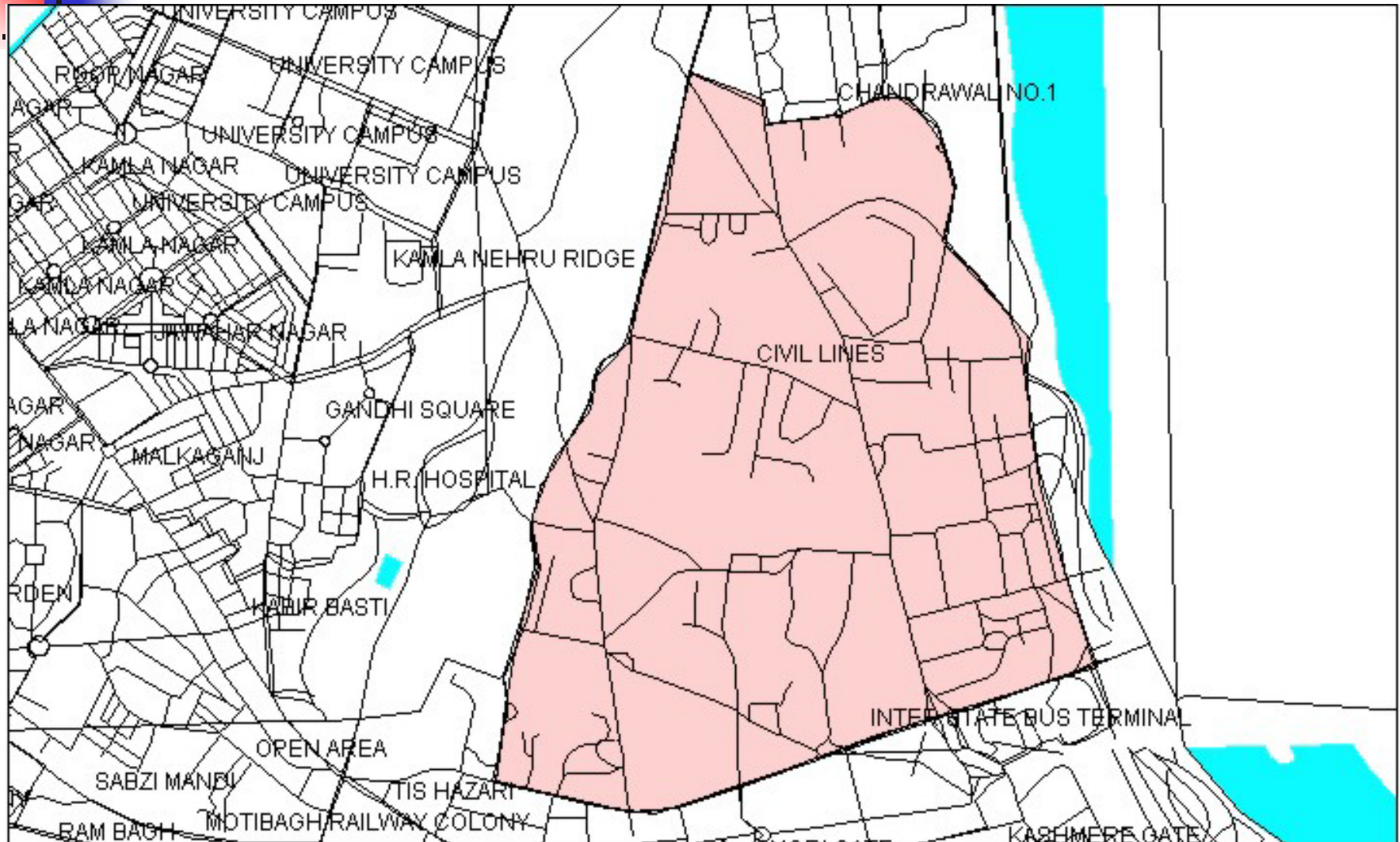
In Civil Lines, he picks his bicycle up from his friend's place and rides to his various destinations from 6 AM to 9 AM

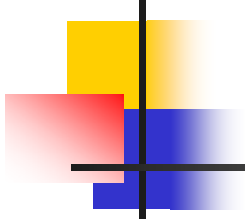
His area of work is spread over 5 square Km and his customers are fixed for every day of the week

From Narela to Civil Lines by Bus



His area of work – on his bicycle





Thank You All