

ROUNDTABLE DISCUSSION

LOW-CARBON, AFFORDABLE, AND INCLUSIVE TRANSPORT IN PERI-URBAN AND RURAL AREAS IN RAJASTHAN

DECEMBER 18, 2024
JAIPUR

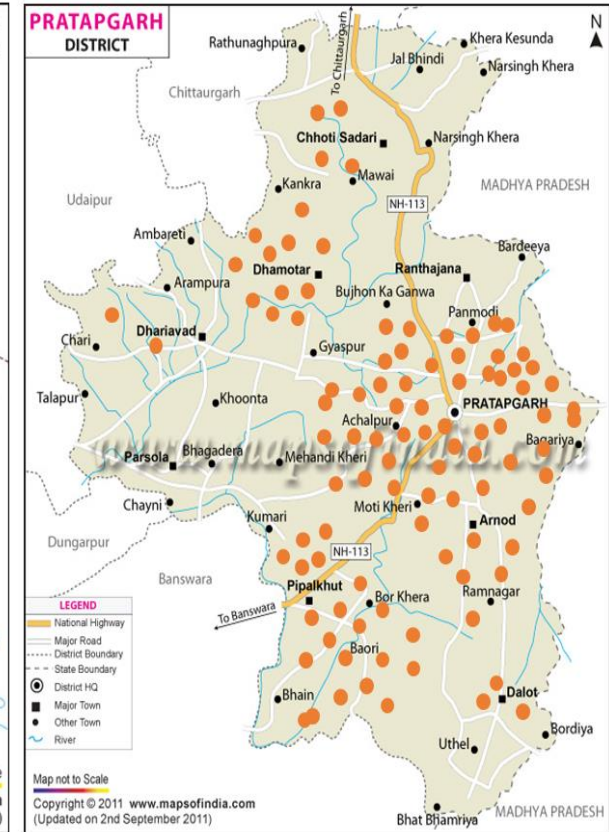
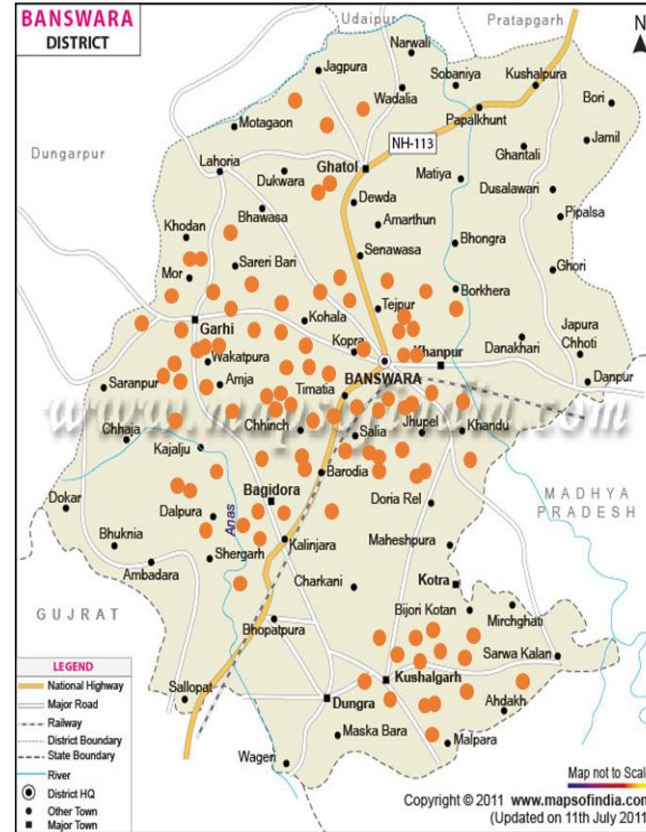


INTRODUCTION

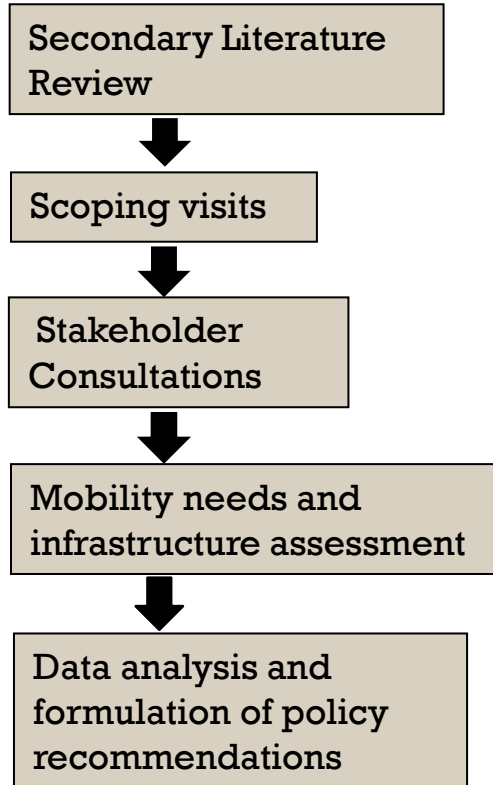
- Challenges in the rural and peri-urban mobility in India
- Emerging electric vehicle (EV) market and the rural-urban gap
- Inclusive and equitable transport system
- A case study from Rajasthan: Banswara and Pratapgarh
- Selection criteria: (1) high rural density (2) low per capita income (3) a robust conventional vehicle market (4) low EV adoption rates and (5) underdeveloped social infrastructure

District	Rural to urban population	EV two-wheeler to petrol	EV two-wheeler to diesel
Pratapgarh	91.73 %	2.64 %	3.45 %
Banswara	92.90 %	0.71 %	2.14 %

Data as of 2024



METHODOLOGY



SURVEY DETAILS

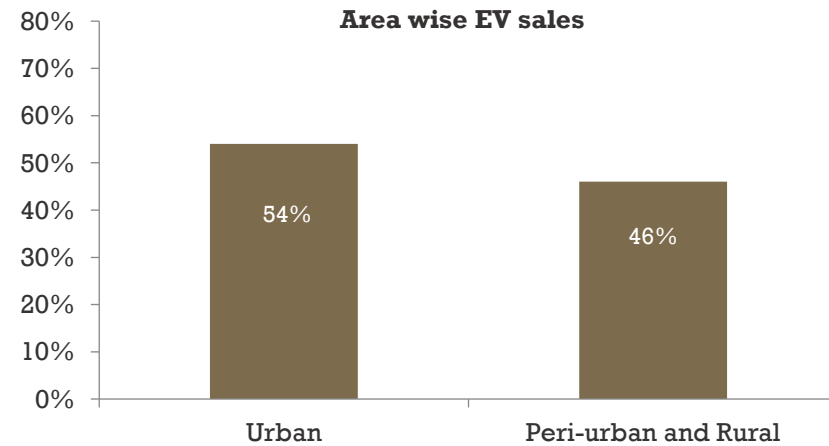
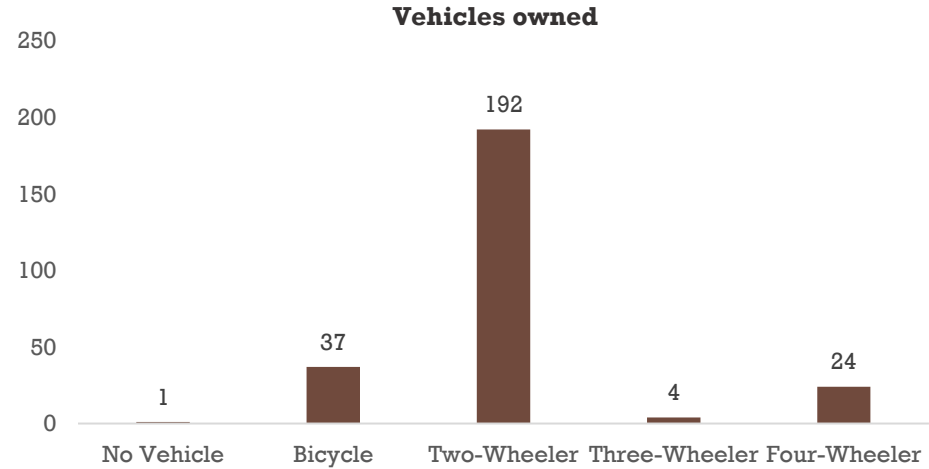
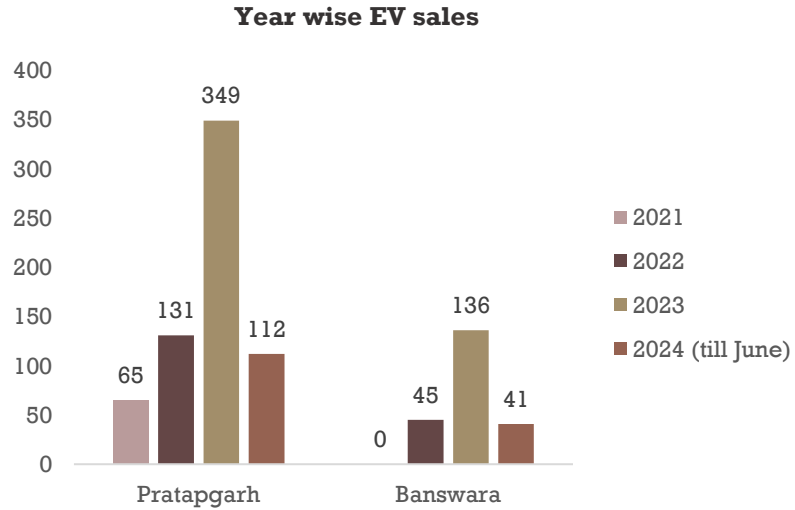
- Total of households surveyed for mobility needs assessment: 194
- Total responses: 893 individuals
- Ten electric automotive dealers were included in the infrastructure assessment study.

District	No. of households	No. of households surveyed (peri-urban)	No. of responses	No. of households surveyed (rural)	No. of responses	Total responses
Pratapgarh	102	38	178	64	319	497
Banswara	92	24	101	68	295	396



KEY FINDINGS (PRIVATE COMMUTE)

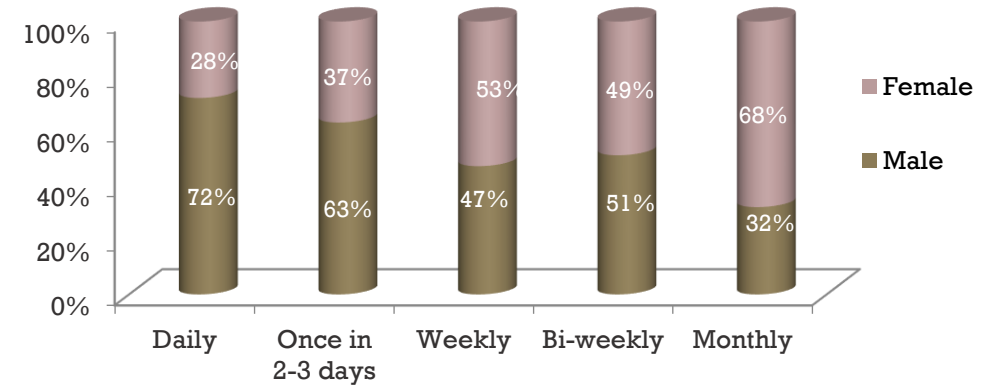
- Well-shaped market for two-wheelers
- Sales of electric two-wheelers in rural areas are not far behind sales in urban areas
- Increasing year-wise EV sales



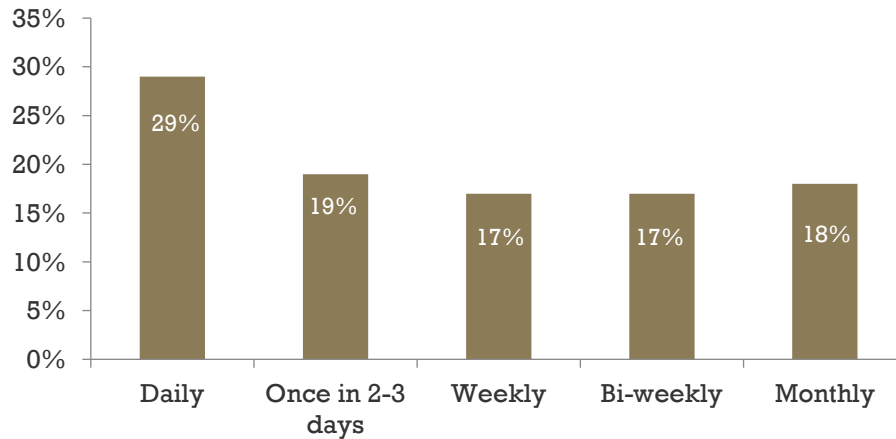
KEY FINDINGS (PRIVATE COMMUTE)

- Fairly frequent movement in rural areas
- Gender-wise disparity; most frequent travellers are men
- Prevalence of the demand-responsive transport (DRT) system
- Higher vehicle life in rural and peri-urban areas

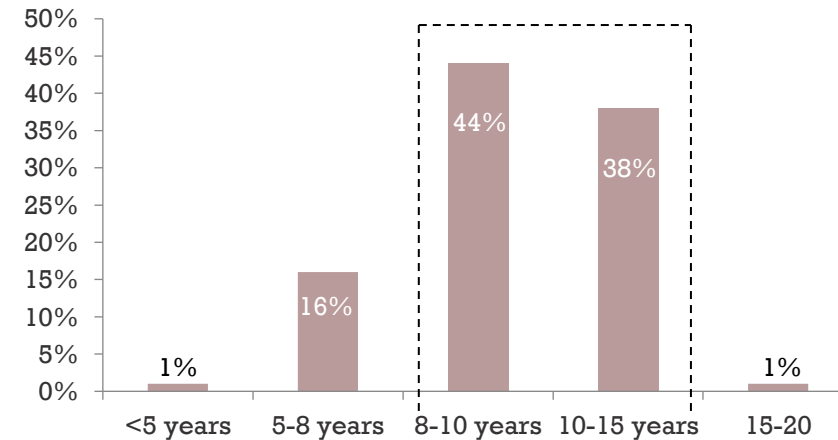
Gender wise commute frequency



Commute frequency

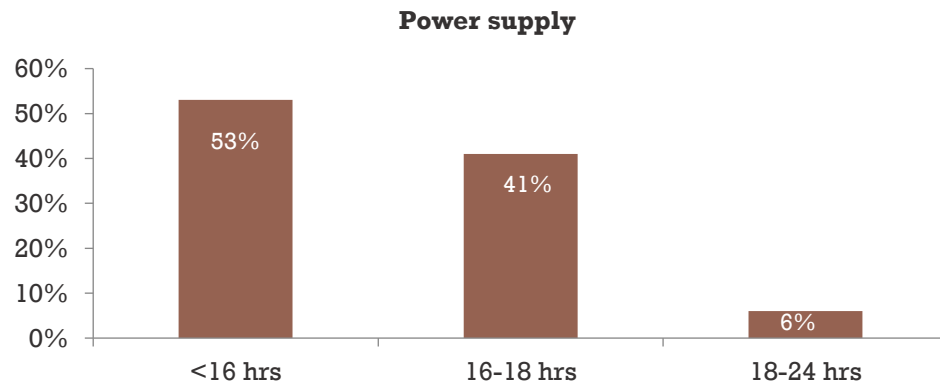


Estimated lifecycle of two wheelers

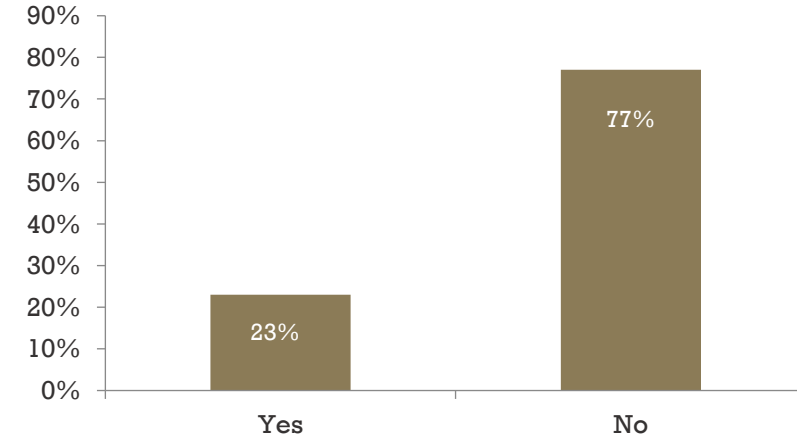


KEY FINDINGS (PRIVATE COMMUTE)

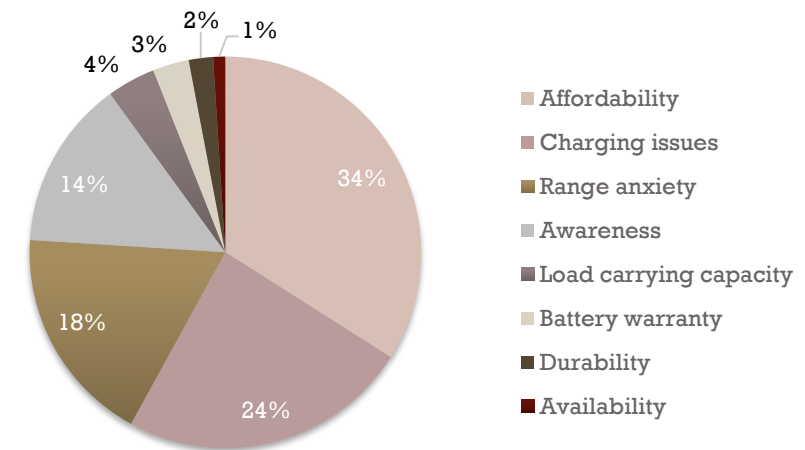
- Lack of awareness about subsidies
- Subpar after-sales service
- Product gap
- Abysmal subsidy disbursal mechanism
- Absence of local manufacturing
- Higher financing and insurance costs
- Irregular power supply



Awareness on EV subsidies



Constraints in buying EV as next vehicle



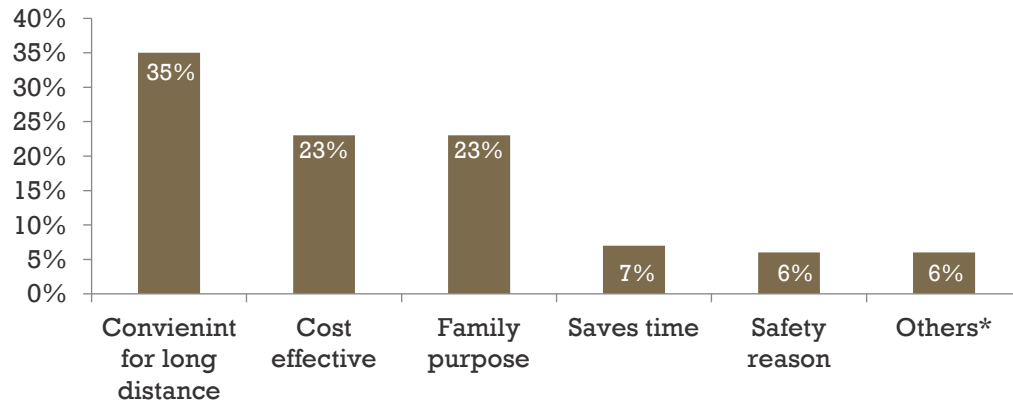
RECOMMENDATIONS

- Innovative awareness campaigns: local media, panchayat meetings, and community gatherings in street play, on-spot registration melas, exhibitions in weekly markets/ trade fairs
- Engaging existing dealerships
- Expanding the policy support to peri-urban and rural areas of priority cities
- Revival of low-cost non-RTO vehicles
- Battery as a service model
- Retrofitting of two-wheelers, as an economic alternative to new EV, Special retrofitting zones in identified industrial areas for manufacturing
- Promoting local manufacturing under the MSME umbrella to cater to local needs, address product gap and inefficient sub-dealership system

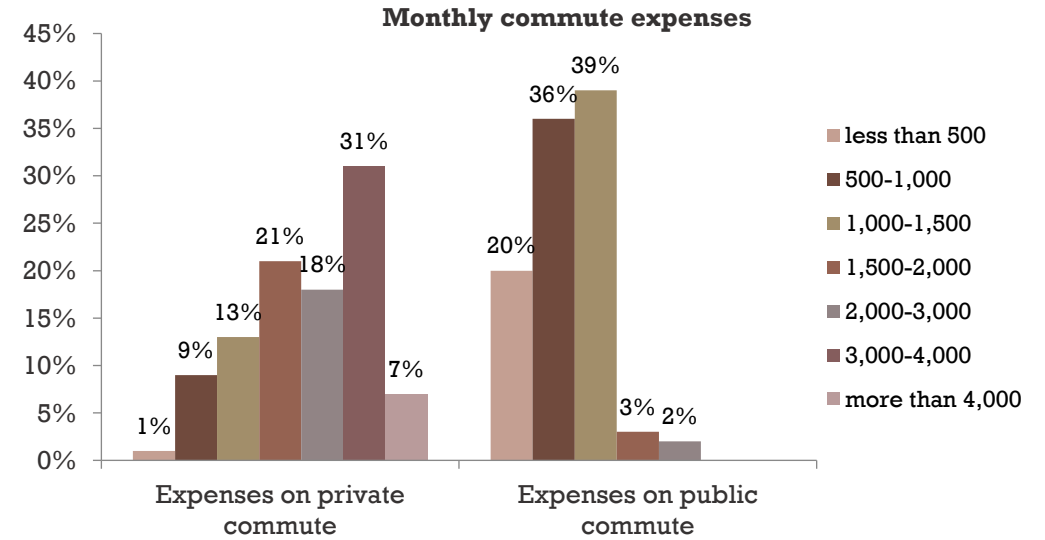
KEY FINDINGS (PUBLIC COMMUTE)

- Multiple factors lead people to choose public transport frequently
- Cost differential is one of the major factors in opting for public transport over private
- In most cases, all three modes of commute (three-wheeler, four-wheeler, and bus) are required for commute to the city/nearby towns
- Limited scope of electric three-wheelers in Pratapgarh, topographical barriers

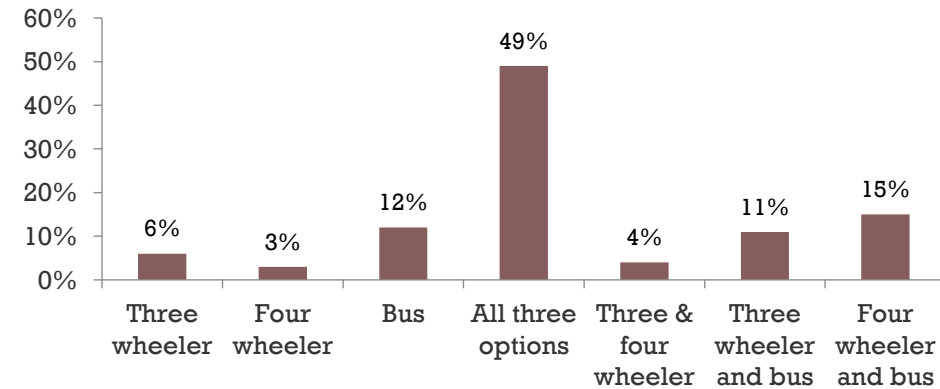
Factors for choosing public transport



*Others include goods transport, medical emergency, absence of driver for private vehicle



Requirement for different modes of public transport



KEY FINDINGS (PUBLIC COMMUTE)

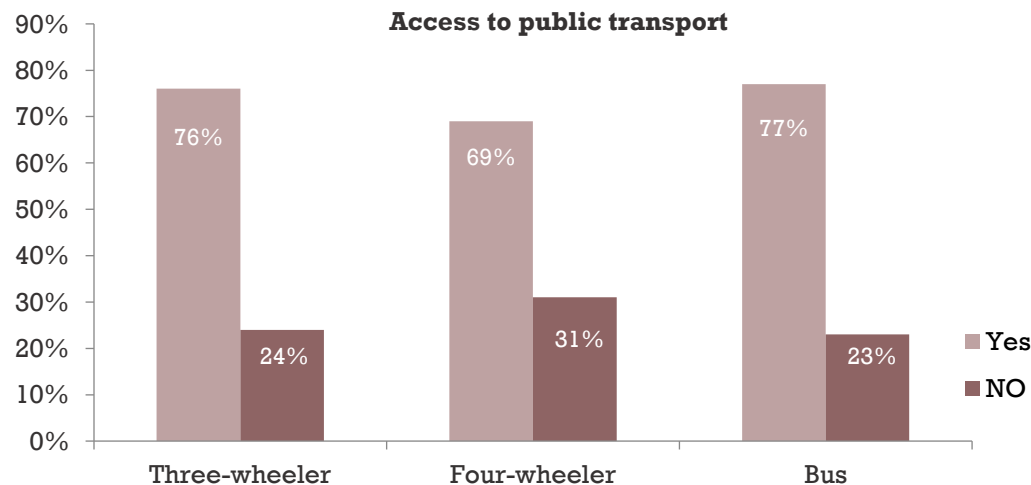
- Accessibility and Availability of public vehicles need improvements
- Average waiting time is 35 minutes for three-wheelers, 55 minutes for four-wheelers and 75 minutes for bus
- Last mile connectivity network in Pratapgarh completely relies on non-sharing mode
- Women are dependent on male members of the family and are largely dependent on public transport in their absence

Parameters:

Availability - Public three-wheelers, four-wheelers and buses run regularly in the region

Accessibility – (1) Public transport is available within a convenient distance (2) they are directly reachable (3) the frequency is reliably high; hence a low waiting time

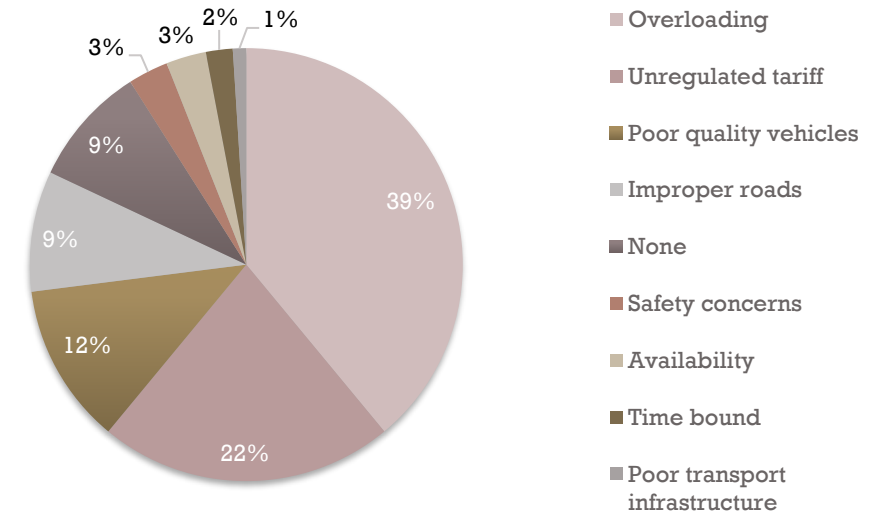
Affordability - Assessed as the proportion of the monthly expense on the public commute to the household income. If it's less than 15 % by the thumb rule, public transport is considered affordable



RECOMMENDATIONS

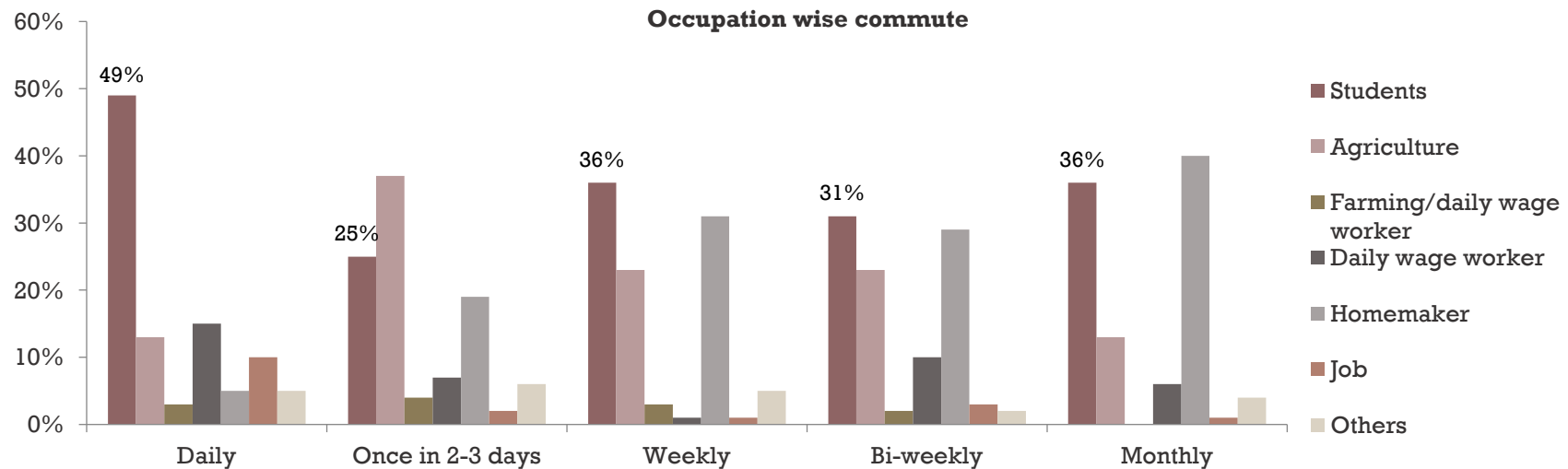
- Establishing inter-village electric three-wheeler ecosystem
- Women self-help groups can operate this network; training and capacity building required
- Role of co-operatives in providing training; for example, RAJEEVIKA
- Multiple areas for improvement in public transport; overloading being the most prominent, followed by unregulated tariff, poor quality vehicles, improper roads etc.
- Deploying electric medium-duty vehicles in peri-urban and rural areas on a bi-weekly rotation, especially for women
- Strict compliance on road transport undertakings (permits, pollution level, old vehicles, passenger limit); regulations of tariff

Scope for improvement in public transport



RECOMMENDATIONS (CONT.)

- Retrofitting the three and four-wheelers can avoid the risk of introducing a completely new design of the vehicle
- Need to promote shared rides
- Sustainable mobility solutions in public transport would require strategic charging infrastructure development
- 26 per cent of the commuters are school students – a potential target population. Electric fleets can be introduced to the school and college vans/ buses



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