





GOVERNMENT OF INDIA MINISTRY OF HOUSING AND URBAN AFFAIRS





### Impact of Shared Mobility on Public Transport (Research Study of MoHUA)



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# Overview

- Defining Shared Mobility Indian & Global Scenario
- Public transport paradigm in the country
- Data Analysis
- Issues Identified
- Recommendations



# Background

- New technologies and modes reshaping the status quo
- Innovations have centred on reinventing ownership and delivery
- Data and connectivity is used in new ways



2<sup>th</sup> Urban Mobility India C nference & Expo 2019

#### **Global trends for car sharing**



Members	15,700	12,546	81,817	955,880	955,880	8,722,138
Compound annual member growth rate	0%	-12%	155%	40%	144%	202%
Vehicles	608	810	4,315	6,155	20,344	67,329
Compound annual member growth rate	0%	15%	131%	19%	82%	82%
Member-vehicle ratio	25.8	15.5	19.0	26.1	47.0	129.5

(Source: Moving Forward Together, NITI Aayog, 2018)

# **Shared Mobility**



An innovative transportation strategy that enables users to have **short-term access** to a mode of transportation on **need basis** 







### **Public Transport Scenario**

- Bus based & Rail based public transport plays an important role and reaches all the corners of Cities, Rural and Hilly Regions of the country.
- Buses still most prominent public transport mode in the country Metro also catching up with close to 700 km operational network.
- Traditional Public bus transport systems lead to the increase in attraction to the personalized mode of transport





### India's Trajectory towards an advanced mobility future



India has a unique set of conditions that enable it to leapfrog the traditional mobility paradigm.



New mobility paradigm

India's current mobility system

# **Ride-sharing models**





# Objective

- To identify factors which adjunct shared mobility and to understand how they complement and/or compete with the public transport
- To comprehend if shared mobility impacts the public transport systems in our cities
- To suggest recommendations for future transport environment.



# Existing regulatory frameworks in India

- MoRTH Taxi Policy Guidelines, 2016
- The Motor Vehicles (Amendment) Bill, 2019

Taxi aggregators: The Bill defines aggregators as digital intermediaries or market places which can be used by passengers to connect with a driver for transportation purposes (taxi services). These aggregators will be issued licenses by state governments. Further, they must comply with the Information Technology Act, 2000.

No specific Legal frameworks or policy guidelines for regulating Shared Mobility in India at Union Level

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# Methodology



### **Case city selection**



# Data Collected



- →Socioeconomic Parameters
- $\rightarrow$ User Attributes
- →Factors Impacting User Choices
- →Expenditure and Trip Purpose for Daily Trips
- →Willingness to Shift
- $\rightarrow$ Factors accentuating shared mobility systems

→City Characteristics

- $\rightarrow$ Existing Mode Share
- $\rightarrow$ Socioeconomic Characters
- →Traffic & Transport Characteristics
- $\rightarrow$ Policy Guidelines on Shared Systems
- $\rightarrow$ Identification of Survey Locations

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#### DELHI

Vis -a - vis

### CHANDIGARH





Vis -a - vis

#### CHANDIGARH

#### SHARED MOBILITY PARADIGM







### CHANDIGARH



### **Indian Scenario**





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#### SHARED MOBILITY PARADIGM



53.25%

22.69%

18%

8%

Pool/ Share

Personal vehicle

Public Transport services

#### NATIONAL SCENARIO Public Transport vs. Shared Mobility



#### **Shared Mobility Paradigm in Indian Cities**





**Most Demanded Time of booking** (\*From Driver survey)

#### MODE CHOICE MODELLING FOR SHARED MOBILITY

- **Binary Logit Model** is used for predicting the travel choice between two alternative
- The individual will select the alternative from set of available alternatives having maximum utility
- Attributes Selected :

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Utility Equation U<sub>T</sub>= 0.383+ 1.12(Access Distance) -0.0065(WT) + 0.006(TT) -0.0028 (Cost)

	Combined	Large Cities	Small Cities	Regression Statistics		
Probability of choosing Public Transport	0.723 (72.3%)	0.64 (64%)	0.794 (79.4%)	Multiple R R Square	0.80434	
Probability of choosing Shared Mobility	0.277 (27.7%)	0.36 (36%)	0.206 (20.6%)	Adjusted R Square Standard Error Observations	0.64336	

# **Conclusion** I

- More than 40% of users having an average income profile of Rs. 20,000-50,0000, spend less than Rs. 50 for their daily trips
- Majority of shared mobility users having an average income profile of Rs. 50,000-Rs.1,00,000



Signifies that majority of Indian users still prefer Public transport over shared services

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# **Conclusion II**

The shift attributed towards shared mobility systems is primarily from personal vehicles whereas public transport systems have been much lesser impacted

In medium size cities where 2 wheeled shared mobility system exists major shift is attributed towards public transport systems





# **Conclusion III**



Users are ready to shift to PT if it provide with better connectivity and service

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### Future Shared mobility Paradigms- Bike sharing



- 2W is Most affordable & Convenient mode of Transport
- ☐ It is observed that among the 2W App based mobility users, around 35% users prior mode was Public

**Transport Services** 

- As per the Pre- feasibility Rider survey conducted by Uber in Delhi
  - 52% people may prefer Uber MOTO for their Daily Work trips
  - 24% would prefer Uber MOTO for first & Last mile connectivity from metro stations





#### WAY FORWARD



KEY ELEMENTS OF INDIA'S MOBILITY TRANSFORMATION

