Transforming Urban Mobility in India using Micro-Mobility Platform
DRIVING SUSTAINABLE MOBILITY

SOLVING FOR TRAFFIC CONGESTION

Average speed of our big cities during office hours has reduced below 6 kmph. This is due to inefficient use of personal vehicles or cabs. 65% of the trips are below 5 km which can be made efficient by using shared micro-mobility as a service. Yulu wants to make short-distance commute more efficient and green.

MAKING OUR CITIES BREATHABLE

14 out of 20 most polluted cities in the world belong to India. It has been affecting the well-being of every individual. One-third of this pollution is caused by vehicles, we can solve it by using clean modes of commute.
Growing 2-W preference & lowering battery cost- a window of Opportunity

Exhibit 4: Changes in vehicle ownership with age (Age Group vs Vehicle Ownership)

Exhibit 5: Ownership Vs Preferred Transport Mode (Comparison between vehicle ownership and preferred mode of transport)

Exhibit 6: Used cases

Exhibit 7: Li battery costs per kWh (USD)

Sources: Study on Electric Mobility in India- UNEP DTU Partnership, Yulu Analysis
Urban Commute

72% of Ahmedabad vehicles are two-wheeler

This is how people in big cities can move efficiently

Micro Mobility

0 – 5 Km

60% Trips

Bikes & Scooters

Low speed, small sized vehicles designed for single passenger and sharing usage model. These vehicles are human or electric powered.

5 – 15 Km

25% Trips

Ride Hailing Cabs

Medium Distance

Ride Hailing running on dedicated road corridors in Shared Mode. Augmented by micro-mobility for first or last 1 Km.

> 15 Km

15% Trips

Public Transportation

Long Distance

Public or Chartered Buses, Metro trains, Sub-Urban Railways. Augmented by micro-mobility for first and last mile.
Yulu Miracle is one of the most advanced shared micro-mobility vehicles

Battery – Li Ion (swappable, 5 Kg weight)  Range per charge – 65 – 70 km

Max Speed – 25 kmph
Overall Weight – 43 Kg
Legal Status – Treated as bicycle, doesn’t require helmet, license, registration plate

Assembling

Our Partner is a leading 2 W Manufacturer in India

Long Term Plan Co-Designed by Yulu Manufactured in India
Challenges and Issues for Micro-Mobility.
Ecosystem Development: Grounds Up

ASSET HEAVY/OPERATION BURN
Self financing
Weak Unit economics
No VGF, Subsidy, Financing schemes

UNREASONABLE SPACE RENTALS
Compete for space with other subsidized mode
No preferential access for NMT

MISSING NODAL AGENCY
Onboarding multiple stakeholders
Missing guidelines
Solving all problems on our own

DENSE NETWORK OF STATIONS
Available-Affordable-Accessible
Lack of infrastructure

BEHAVIOR CHANGE
From Ownership to Sharing
Awareness: Keyless, QR Code, Digital, Aadhar, Range, Geo Fence

FUTURE TECHNOLOGY ANXIETY
Fast paced development
Minimum time to test and stabilise
Future technology promising only when we utilize the current one

FIGHTING EVERY BATTLE FROM DESIGN TO DISPOSAL
Operational Challenges: Ever evolving puzzle

Technology driven yet human intensive

1. BATTERY SWAPPING
   Decentralised charging infrastructure
   Optimum distances for Swapping

2. SKILLING & CAPACITY BUILDING
   From Eager to learn individual to well trained resource in 4 weeks

3. RELOCATION & REBALANCING
   AL/ML for demand supply match

4. REPAIR & MAINTENANCE
   On ground repair
   Minimum TAT & cost
   Heavy wear and tear

5. OPERATION HEAVY
   Round the clock operations
   False alarms, Noise
BATTERY CHARGING

**CHALLENGES**

- **AMBIENT CONDITIONS**—Tough weather conditions mainly hot and humid,
- **BATTERY TECHNOLOGY**—Cylindrical/Prismatic/Pouch, Swap Vs Fast
- **HANDLING & MAINTENANCE**—Replicating Safe charging infra, Training, Logistics,
- **CHARGING INFRASTRUCTURE**—uneven power supply, non-existent infra, Renewable integration

**INNOVATIONS**

- **DECENTRALISED CHARGING**—Distributed and Optimally placed
- **SECOND LIFE APPLICATIONS**—Telecom towers, Community housing etc
- **SMART BMS**—Interoperability, Indigenous, Smart charging
Integration can happen effectively only when both sides trust each other and be transparent with usage sharing.

NO PREFERRED PARKING
PBS has been an afterthought for all existing metro

EXPECTATIONS FOR SUBSIDISED TARIFFS
Not Sustainable without VGF/Subsidy

USAGE DATA SHARING: WITHOUT PURPOSE
No clear roadmap for data utilisation, leakage to competition

API INTEGRATION
More theory than practice, Opaque
PHYSICAL ABUSE

THEFT
- Unmanned stations
- Euphoria/Curiosity
- Minors are the troublemakers
- Secondary markets for spares

VANDALISM
- No support framework from Authorities
- Auto Unions/Rage
- Damage similar to public property

MISUSE
- Irresponsible usage
- Exploiting lack of direct laws for NMT
- Parents risking the kids safety
- Parking space hijack
Contact Us
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