



From Pedal to Battery- Rickshaws in Transition

Urban Mobility Study — Snapshot

A Study of INNOVISION Consulting

Battery-powered rickshaws—often called “**Bangla Teslas**”—have rapidly emerged as a dominant mode of short-distance urban transport in Dhaka. Their growth has intensified public debate around **traffic congestion, road safety, employment, and regulation**.

Amid this transition, **Dhaka South and Dhaka North City Corporations** have launched a pilot initiative for **BUET-approved battery-powered rickshaws**, signaling a potential shift toward formal recognition and regulation.

To understand **what is driving this transformation**—and what it means for **drivers, passengers, and garage owners**—**INNOVISION Consulting** conducted a comprehensive urban mobility study based on primary data from across Dhaka.

Study Sample

384 Rickshaw Drivers

|

392 Passengers

|

63 Garage Owners

Key Findings from the Study (Battery Rickshaws vs Pedal Rickshaws)

Rickshaw Operations Remain Largely Unregulated

97.40%
of battery
rickshaws are
unregistered

85.94%
of pedal
rickshaws are
unregistered

Battery Rickshaws Are Attracting Younger, New Drivers

Average age

Battery drivers | Pedal drivers
38 years | **42 years**

Average experience

Battery drivers | Pedal drivers
2.5 years | **15 years**

75% of battery rickshaw drivers are **new entrants**

Most Drivers Cannot Afford Battery Rickshaws

Rented rickshaws

Battery | Pedal
79% | **65%**

Average rickshaw cost

Battery | Pedal
TK 83,194 | **TK 9,237**

Battery Rickshaw Drivers Rely More on Microfinance

59.70%
of battery
drivers use
microfinance

60%
of pedal drivers
use personal
savings

Battery Drivers Carry Higher Loan Burdens

Average loan size

Battery drivers:
TK 79,927

Pedal drivers:
TK 18,654

Battery Rickshaws Enable Higher Daily Workload

Drivers completing 31–50 trips
per day

Battery drivers | Pedal drivers
39.25% | **12.57%**

Higher Gross Income Does Not Mean Higher Net Income

Average daily net income
(rented)

Battery | Pedal
TK 418 | **TK 484**

Average daily net income
(self-owned)

Battery | Pedal
TK 970 | **TK 530**

Drivers View Rickshaws as Transitional Livelihoods

68%
of battery drivers (26–35)
want to shift to **cars or CNGs**

60.56%
of pedal drivers (36–45) want to
shift to **battery rickshaws**

Perspectives of the Passengers

Rickshaws serve short-distance trips for middle-income households

63%
of passengers earn
TK 20,001–50,000/month

Battery Rickshaws Are Faster and Cheaper for Passengers

Average daily spending

Battery

Pedal

107.73 BDT

134.87 BDT

82% choose battery rickshaws for faster commute

Battery Rickshaws Are Linked to Higher Accident Severity

Accident reported

Serious to very serious injuries

Battery: **30%**

Battery: **44.45%**

Pedal: **18%**

Pedal: **29.6%**

Passengers Associate Congestion Mainly with Battery Rickshaws

Battery
rickshaws

Pedal
rickshaws

Both

62%

34%

4%

Strong Public Demand for Regulation

56.60%

strongly support
stricter regulation

22.70%

somewhat support
stricter regulation

21.90%

support a
complete ban

33.93%

want battery rickshaws
limited to secondary roads

Garage Owner's Accounts

Garage Owners Are Economically Dependent on Rickshaws

86%

rely solely on
rickshaw rental

81%

started with pedal
rickshaws

35%

have already converted
to battery rickshaws

62%

prefer battery
rickshaws

High Maintenance Is a Key Business Challenge

Frequent
repairs:

33.33%

High maintenance
costs:

30.16%

54%

want to continue
current business

46%

are open to related
investments (battery
variants, ride-hailing, CNG)

Policy Directions Emerging from the Study

Standardize
battery rickshaw
design

Regulate entry
and licensing

Facilitate pedal-
to-battery
transition through
affordable credit

Incentivize
formalization

Provide training
and traffic
awareness

Develop
alternative short-
distance transport
options

About INNOVISION

INNOVISION is an international advisory and management consulting firm. We are working on transforming the world's trade, investment, finance and socio-economic systems. We offer research, technical assistance, and project management services to support governments, private sector actors, multilateral organizations, and civil society in designing, implementing, and evaluating inclusive and systemic solutions. Our work spans across regions, fostering South-South and South-North cooperation to identify and overcome barriers to inclusive market, equitable trade and shared prosperity. For queries, please get in touch with **Md. Rubaiyath Sarwar**, Managing Director, INNOVISION.

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