

# ANALYSING THE ROLE OF GOVERNMENT REGULATIONS & INTERVENTION IN E-RICKSHAW INDUSTRY OF DELHI

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**Abstract**— In an era where urban mobility plays a vital role in the economic growth, e-rickshaws have emerged as a promising mode of transport in Delhi. With zero emissions, high accessibility and low operational costs, they provided a shot in the arm to Delhi's landscape within the first few years of their introduction. However, a policy failure and lack of state involvement in the industry failed to exploit it to its optimum best. These unregistered vehicles operated by unlicensed drivers sprouted within a legal ambiguity until the incidents of negligent driving reached an intolerable high. Hence, this study is an attempt to analyse the role of effective governance in the e-rickshaw industry of Delhi conducted against the backdrop of a dearth of existing literature and reliable data on e-rickshaws. It is based on findings of a primary research survey of 220 e-rickshaw drivers in Delhi and an intensive review of the concerned legislations.

In a time span of five years, a multitude of institutions worked in isolation to form policies to regulate these battery operated vehicles but no substantive gains were made until the Motor Vehicles Act (Amendment) 2015. However, even the Amendment could not hinder the blatant flout of registration provisions and safety requirements by the e-rickshaw drivers. The government failed to provide basic infrastructure including charging stations and credit facilities to their operators. Lack of coherency in policies, neglect of lead contamination from batteries and unchecked import of vehicle parts are some other challenges identified by the study.

Finally, the paper suggests some key policy recommendations including a single, unified regulatory authority to design a well-integrated transit policy, infrastructural improvements through installation of charging stations, parking facilities and halt and go stops, and governance systems enabling fleet based operations. Best practices from few success stories have also been assessed for better organisation of this informal sector.

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**Keywords**— E-rickshaws, Regulations, Government, Urban Public Transport.

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## I. INTRODUCTION

Electric rickshaws made their way to the urban public transportation system in 2010 when Municipal Corporation of Delhi launched them to resolve the issue of last mile connectivity, mainly in five areas – Greater Kailash II, Saket, IIT-SDA, DU-North Campus, and Chandni Chowk. They garnered huge popularity as accessible, cheap and comfortable modes of transport. Even from the operator's perspective, they are highly preferred owing to their low cost ownership and operations and higher returns. Most importantly, with the pollution rates at an unprecedented high, this mode was perceived as the ultimate solution to the urban transportation related pollution problems. Thus, according to government figures, by April 2012, over 100,000 of these door-to-door connectivity providers had mushroomed in Delhi.<sup>1</sup>

As per the Central Motor Vehicles Act and Rules, 1989 Section 2(u) 'Battery Operated Vehicle' means a vehicle adapted for use upon roads and powered exclusively by an electric motor whose traction

energy is supplied exclusively by traction battery installed in the vehicle.

Provided that if the following conditions are verified and authorised by any testing agency specified in rule 126, the battery operated vehicle shall not be deemed to be a motor vehicle.

- (i) the thirty minutes' power of the motor is less than 0.25 kW.;
- (ii) the maximum speed of the vehicle is less than 25 km/h<sup>2</sup>

However, an ambiguity over their classification, the absence of clear policies and regulations and the lacklustre approach of the government resulted in their unchecked and unregulated proliferation. As the cases of negligent driving and accidents caused by them increased, the regulation of e-rickshaws underwent a turbulent ride in the past six years.

Thus, this paper aims to analyse the regulatory framework and government intervention in the e-rickshaw industry of India, with special focus on the

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<sup>1</sup><http://www.cppr.in/wp-content/uploads/2014/12/E-Rickshaw.pdf>

<sup>2</sup><http://www.tn.gov.in/sta/Cmvr1989.pdf>

state of Delhi. It intends to meet the following objectives –

- to identify and assess the loopholes and shortcomings in the governance systems of e-rickshaw industry;
- to evaluate the suitability of best practices from successful stories of regulating the informal public transport system;
- to recommend strategic policies for better management and integration of e-rickshaws in urban transportation system.

It is divided into the following sections. Section I delineate the Indian legal structure with respect to the electric-rickshaws, how the regulations evolved from bare minimum in 2010 to the present. Section II tries to enumerate the loopholes and shortcomings in the current system. The final section attempts to explore the scope of improvement and proposes some policy recommendations for the government bodies with the help of best practices of some success stories in this domain.

For the purpose of this study, a primary research in the form of a survey of e-rickshaw drivers was conducted. Delhi was divided into four data sampling zones with a total of 220 e-rickshaws being sampled. A common questionnaire to evaluate their personal and vehicular profile was used and the results help in the afore-mentioned analysis.

## II. EVOLUTION OF E-RICKSHAW INDUSTRY

The Central Motor Vehicle Act (1988) specifies that any electric vehicle with a power output of more than 250W or a top speed more than 25kmph is a motor vehicle. When they were first launched in 2010, these eco-friendly vehicles called E-ricks were meant for only two passengers with power output of less than 250W. Thus, they did not require registration under the Act. However, with the changes in their design and capacity over time, the TERI Study 2012 concluded that with power outputs of 650W-1000W, most of them meet these conditions.

After this study, the Government of Delhi made an effort to keep an eye on imported parts by issuing an order which required the e-rickshaw dealers to register themselves with the Delhi Transport Authority. But the dealers found an easy escape by using neighbouring cities like Hisar and Agra to assemble imported parts and then selling the vehicles in Delhi under Indian names such as Sarthi, Shikara and Mayuri.<sup>3</sup>

In April 2014, the Ministry for Road Transport and Highways issued a ban due to their non-compliance with the Motor Vehicles Act. Yet, the enormity of the task of removing 100,000 unregistered and

unregulated vehicles besides the government's laxity in doing so, made no difference to their operations. As the new government assumed power in May 2014, Nitin Gadkari, the Minister for Road Transport and Highways, proposed the Deen Dayal scheme to revise the Motor Vehicles Act (1988) allowing battery rickshaws with power outputs of up to 650W to ply as non-motorised vehicles. Besides removing the need for registration, it would have permitted their operation without commercial badges, excluded them from the purview of permit regimes and offered incentives in the form of government loans to opt for Indian made rickshaws but the scheme could never be formalised. With the Delhi Transport Department's failure to enforce the ban, the Delhi High Court immediately called upon the Delhi Government to formulate the required regulation and continue with the ban until then.

In response to the High Court's criticism and the gruesome death of a three-year-old after falling in a hot cauldron from his mother's arms on being hit by an electric rickshaw, the Delhi Government slapped a tighter ban on them. This came as a serious blow to the drivers who had incurred heavy loans to buy the vehicles and had to make instalment payments regularly and to the businesses of manufacturers, retailers and importers of these vehicles.

In light of the several protests by driver organisations for demanding lifting of the ban, the Motor Vehicles (Amendment) Bill, 2014 was introduced in Lok Sabha on December 15, 2014, but it could not see light of the day.

However, the same month Delhi government launched the E – Rickshaw Sewa Scheme in response to the Parliament's failure to pass the Amendment Bill. The scheme came as a short term relief as it broke the one-and-a-half-year deadlock on the issue.

### Key Features of E-Rickshaw Sewa Scheme<sup>4</sup>

- E-rickshaws will have a seating capacity of four persons, excluding the driver, with maximum luggage weight of 40 kg.
- E-rickshaws will be registered as transport vehicle under registration series DL-1ER and will be granted contract as per carriage permits.
- The model of vehicle must be in accordance with provisions of section 126 of Motor Vehicle Act, 1988.
- Every e-rickshaw should have a yellow colour reflective strip on its rear side.
- The owner of the e-rickshaw should possess a valid license to drive the vehicle besides a public service badge.

<sup>4</sup><http://www.delhi.gov.in/wps/wcm/connect/68855600475e7edb9c6dfc825d7a2a20/E-RICKSHAW+SEWA+SCHEME.pdf?MOD=AJPERES&lmod=-1542501104&CACHEID=68855600475e7edb9c6dfc825d7a2a20&E-RICKSHAW%20SEWA%20SCHEME>

<sup>3</sup><http://www.downtoearth.org.in/coverage/last-mile-chaos-44033>

- Besides, the name, address and telephone number of permit holder should be painted on the left side of the vehicle.
- The dimensions of the e-rickshaw should not exceed length of 2.8 meters, 1.8 meters height and 1 meter width.
- Every such vehicle should also have valid fitness certificate issued from the department.

The next major breakthrough came with the passing of the Motor Vehicles (Amendment) Bill, 2015 in March, 2015 by the Parliament.

#### Key features of Amendment Bill<sup>5</sup>

- It defines an E-cart or E-rickshaw as a “special purpose battery powered vehicle of power not exceeding 4000 watts, having three wheels for carrying goods or passengers, as the case may be, for hire or reward, manufactured, constructed or adapted, equipped and maintained in accordance with such specifications, as may be prescribed in this behalf.” Thus, they have been brought under the ambit of the parent Act.
- The Bill exempts drivers of e-rickshaw and e-cart from the requirement of learner’s licence. The Bill gives powers to Union government to make Rules on the specifications for e-carts and e-rickshaws, and the conditions and manner for issuing driving licenses.

According to the Motor Vehicles Act, 1988, no vehicle is allowed to ply on roads without taking a third-party insurance cover. Hence the Amendment brought the e-rickshaws under a similar requirement and thus helped in protecting the vehicle’s owner from the liability in the event of an accident.

The Insurance Regulatory and Development Authority (IRDA) specified the premium requirements between INR 1066 and 3760 depending on the type of battery vehicle.

Thus in an attempt to provide a transparent system of regulating electric rickshaws, it involved focussed and well-designed policy instruments to improve the performance of these three-wheeled battery operated vehicles.

Since then, many government initiatives have made an endeavour to incorporate e-rickshaws in the integrated urban transportation plan. In May 2015, Government of Delhi scaled down the VAT on hybrid cars, battery operated vehicles and e-rickshaws from 12.5% to 5% in an effort to reduce pollution rates.<sup>6</sup> In April 2016, the taxi and auto aggregator, Ola

launched the Ola e-rickshaws in partnership with Bhartiya Micro Credit (BMC) across Delhi, Gurgaon, Ghaziabad, Noida and Faridabad encouraging rickshaw pullers to become driver entrepreneurs. Thus, from an unchecked growth, this segment of urban public transport has been wrenched into a regulatory framework in the last two years.

### III. CHALLENGES

A regulatory vacuum followed by a chain of policy initiatives and regulations in the electric rickshaw sector, when closely examined, reflect the gaps and loopholes in the urban transit regulatory structure.

The Motor Vehicle Act (Amendment) 2015 was hailed as a national success in finally taming the throngs of the battery operated rickshaws. However, despite one and a half years of coming into force, it has failed to deliver desired results. The transport department of Delhi government had set up special camps at all its regional offices for the process of registration of e-rickshaws, issuing licenses and PSV badges. A subsidy scheme for e-rickshaw drivers as financial assistance of Rs 15,000 was launched by the Delhi government for registered vehicles. However, as per our survey, only 123 out of 220 e-rickshaws (56%) were registered. In fact, by February 2016 only 4,600 e-rickshaws were registered<sup>7</sup>. This is primarily attributed to the tedious and expensive process involved.

A clearance certificate for the vehicle from the transport department, which can be procured only after modifying the e-rickshaws in line with the models cleared by International Center for Automotive Technology (ICAT) is a pre-requisite for registration. However, this calls for an additional spending of Rs 32,000 – 40,000 on the vehicles which is seen as a heavy burden by the drivers. Those who managed to get the retrofitting done have long waiting period before their registration documents arrive. This not only increased the instances of bribes to the authorities but compelled others to run their vehicles unregistered. The haste in which the Bill was passed seemed to have kept the safety of commuters at the backseat as the current models of e-rickshaws are mere assembled pieces imported mainly from China. Small units in New Delhi and the neighbouring cities like Agra contracted with assembling the vehicles do not adopt the proper procedures.

The Amendment restricted the maximum passengers to four; however, the authorities have brutally failed in preventing the overloading of electric rickshaws. Turning a blind eye to the safety concerns, the drivers are often seen to carry five to seven passengers even in the presence of police personnel. Out of the 220 e-

<sup>5</sup>[http://www.prsindia.org/uploads/media/Motor%20Vehicles/Motor%20Vehicles%20\(A\).%202015.pdf](http://www.prsindia.org/uploads/media/Motor%20Vehicles/Motor%20Vehicles%20(A).%202015.pdf)

<sup>6</sup>[http://www.delhi.gov.in/wps/portal!/ut/p/c/0/04\\_SB8K8xLLM9MSzPy8xBz9CP0os3hvdXMXEdTEwMDXzNzA09\\_YvOPEHcnAwMLQ\\_2CbEdFAIa72s0!/2WCM\\_PORTLET=PC\\_7\\_KG4D4D54\\_00M670IO32HTGB0046\\_WCM&WCM\\_GLOBAL\\_CONTEXT=/wps/wcm/connect/doiit\\_publicity/Information+and+Publicity/Press+Release/Chief+Minister/Hybrid+Cars+Battery%2C+11th+May+2016](http://www.delhi.gov.in/wps/portal!/ut/p/c/0/04_SB8K8xLLM9MSzPy8xBz9CP0os3hvdXMXEdTEwMDXzNzA09_YvOPEHcnAwMLQ_2CbEdFAIa72s0!/2WCM_PORTLET=PC_7_KG4D4D54_00M670IO32HTGB0046_WCM&WCM_GLOBAL_CONTEXT=/wps/wcm/connect/doiit_publicity/Information+and+Publicity/Press+Release/Chief+Minister/Hybrid+Cars+Battery%2C+11th+May+2016)

<sup>7</sup><http://economictimes.indiatimes.com/news/economy/policy/delhi-govt-offers-subsidy-for-registration-of-e-rickshaw/articleshow/51027173.cms>

rickshaws surveyed, 87% agreed to the violation of this norm. They also continue to ply in the Restricted Zone not permitted for their operation such as Ring Road and Vikas Marg. Hence, lack of enforcement and the subsequent bribery remain a major challenge. As per the survey undertaken, it was concluded that the charging facility has to be arranged by the drivers themselves. Thus, in case of power cuts, no back up source or charging spots are available. This has resulted in the majority of them stealing power from streetlight poles and electricity line. If caught, the absence of clear policies in this regard left them scot free. Thus, government's failure to provide charging facilities at cheap rates is a major hindrance to a smooth functioning of this potential sector of public transport.

Further, in a congested city like Delhi, the absence of parking facilities and halt and go spots at major junctures resulted in traffic jams and the encroachment of residential areas. This infrastructural lacuna reflects the inability of the state to optimise the benefits of electric rickshaws.

Electric rickshaws were celebrated for their zero emission battery and low carbon footprints. However, the threat posed by the lead contamination from battery production during use and after disposal is still underrated. Besides the requirement of exchanging the battery only at an E-waste disposal agency, no further guidelines have been laid. The proper storage and recycling of batteries remain ignored.

Another dimension overlooked so far has been the economic stability and social welfare of the drivers. They are burdened with high rents and loans charging exorbitant interest rates. As per our survey, 74% electric rickshaw drivers receive loans from the informal sector at an interest rate of 12-16%. The absence of customised finance schemes to minimise interest rates and ease the formalities in government policies has added to their woes. Prime Minister Narendra Modi, as part of the Pradhan Mantri Mudra Yojana distributed 5,100 e-rickshaws, linked to the Ola app and expected to offer online payment facility to customers. The e-rickshaw drivers required a valid driving licence, vehicle registration and route permits from transport department to ply the vehicles. As e-rickshaws are available cheaper than the price quoted (between INR160,000 to 170,000) neither the new buyers nor those who already own a vehicle had shown interest in the scheme.

#### IV. RECOMMENDATIONS

For the e-rickshaw industry to flourish in a sustainable way, public sector intervention is indispensable. To ensure better mobility choices, equitable distribution and employment generation, the afore-mentioned challenges need to be dealt with.

**Regulation & Enforcement:** It is important to do away with the multiplicity of institutions working in an incoherent and isolated way for a common goal. Setting up of a single, unified authority for planning, coordination management and monitoring of infrastructure, functioning etc of the urban transportation system will help in eliminating duplication costs.

A crucial step post policy formulation is monitoring and enforcement, a domain the government has failed so far. Hence, robust analysis capabilities, dispute resolution mechanisms and data and information sharing with transparency at its centre are instruments for ensuring the compliance with the given norms and provisions.

**Road Safety:** Road safety needs to assume prime importance. Merely specifying a speed limit is not enough. To minimise the multivehicle collisions, infrastructure design changes such as corridors for e-rickshaws, and speed controls should be adopted. Seat belts for the drivers and passengers, cushions, dashboards and yielding surface should be incorporated especially when the light weight of the vehicle permits sharp turning ability.

**Infrastructure:** There exists an imminent need for government intervention in improving the current infrastructural deficiencies. Off-street and night parking facilities and halt and go stands will be highly helpful in minimising traffic congestion. Keeping away electric vehicles from main roads by mandating them to ply only on Non Motorised Vehicle lanes will also serve this end. The NMV lanes themselves need to be regulated as most of them are either occupied for parking or encroached by residents.

The sustainability of electric rickshaws counts on the quality and access to charging infrastructure (primarily low speed charging stations) in the city. The resounding success of Amsterdam in boosting electric mobility by providing charging infrastructure in combination with policy measures sets a precedent for countries like India to learn from. It is estimated that there are 7,487 public slow charging points available 24 hours, 10,871 slow charging points with limited public access and 475 public and semi-public quick charging points as of 2016.<sup>8</sup> On parallel lines, charging spots must be installed at existing fuel stations, parking areas etc, in Delhi. Facilities such as use of information technology (IT) to locate charging stations developed with the help of private sector will also go a long way. An important impediment is the financial constraints, but public-private partnerships can ensure a stable source of funding.

<sup>8</sup><https://bovag.nl/BovagWebsite/media/BovagMediaFiles/Cijfers/2015/Cijfers-elektrisch-vervoer-tm-december-2015.pdf?ext=.pdf>

**Driver welfare:** Economic security and social welfare of drivers have direct impact on the long run success of electric rickshaws in reshaping the urban transit system. Currently, electric rickshaws in Delhi ply primarily for mobility services with drivers bearing the brunt of exceedingly high rental services. Two successful examples illustrate the approach that local bodies can adopt in meeting this end. (a) The **Sammaan Foundation** was able to identify the latent business opportunity in the cycle rickshaw industry. In addition to passenger mobility, services like distribution of magazines, newspapers, mobile recharge and selling water bottles and advertising space are offered by e-rickshaws with the help of the Foundation, resulting in the former's value addition.

(b) **Fazilka Ecocabs** are dial-a-rickshaw service ensuring door to door connectivity through a network of call centres. It turned out to be tremendously successful in organising this otherwise informal sector. Besides ensuring availability at cheap prices, it helped in uplifting the social and economic status of the drivers through benefits like free health check-ups, discounted medicines and tests, free education and annual scholarships to school-going children of the operators, digital identity card, accidental insurance for INR 50,000, better rickshaw parking facilities, free legal help cell, and access to credit financing schemes of leading banks.

Its success relies on a financial model which allows each member to become a stakeholder in the project at an initial capital cost of Rs 10,000 for which a loan can be availed at a low annual rate of interest of 4% under the Reserve Bank of India's differential rate of interest scheme. With daily instalments of Rs. 20 per day (far less than what they pay to rent a rickshaw) along with additional advertisement revenues, the scheme allows the rickshaw-pullers to reach the breakeven point within 10–12 months.

Thus, government intervention through regulatory reforms enabling fleet based operations with dispatch services will not only enhance commuter comfort but also ensure driver welfare.

**Ensuring complementary roles:** Electric rickshaws must complement and not compete with the existing public transit system to avoid reduced revenue for all and ensure better commuter experience. Multimodal integration, common ticketing system and route divisions will serve this end. In fact, the survey concludes that majority of the e-rickshaw drivers want the government regulated route permits for an improved traffic management. In the absence of such a regulation, they are forced to constantly compete and negotiate with auto-rickshaws, cycle rickshaws and Grameen Sevas.

The Delhi government can also play an indirect role in optimising the utility from all modes by organizing the e-rickshaw drivers of the city on the lines of the Indonesian example of Pankalan, an initiative to

organize informal transport services. Pankalan/Ranks are cooperative organizations of informal transport drivers, recognised by the government. The benefits from membership include operation in a specified territory or a specific customer base, access to uniforms, parking attendants and shared repair equipment. This proved to be an efficient way of structuring and organising the informal transport ensuring their drivers resource sharing and filling the gaps of urban mobility.

### **Information Dissemination & Driver Training:**

Apart from laying down regulations, the government must also make some efforts in information dissemination among the drivers and passengers on the policies and initiatives. It must also focus on driver training through short term skill development programs to ensure a standard skill level and competence.

### **CONCLUSION**

In the face of rapid urbanization and increasing environmental concerns, the e-rickshaw industry possesses the potential of an integrated and efficient transport system in Delhi. Since its inception in 2010, it has helped in meeting the sharp increase in demand for urban transit facilities and supported over a million livelihoods. The inadequacies of the current system cannot be left for the market forces and rather call for government intervention. An effective transport policy which offers enhanced safety for the users and a platform for the public transport providers to play complementary roles needs to come into force. Thus, the government must adopt a three-pronged approach for an improved e-rickshaw sector.

- Ensuring enforcement of regulations and safety provisions
- Infrastructural developments, especially under PPP
- Integration of e-rickshaws in the overall urban public transit system

A long term vision, coherency in regulations and well defined intervention are the need of the hour to put this sector on a sustained development trajectory.

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