



ORGANIZING AND STREAMLINING THE INTERMEDIATE PUBLIC TRANSPORT SECTOR

JOURNEY AND EVOLUTION OF ERNAKULAM JILLA AUTORICKSHAW DRIVERS' CO-OPERATIVE SOCIETY

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About GUMP

India and Germany have been working for more than 60

years together on environment-friendly urban development projects. To further deepen this cooperation, in November 2019, the Ministry of Housing & Urban Affairs (MoHUA), the Government of India and the German Federal Ministry for Economic Cooperation and Development (BMZ) signed a Joint Declaration of Intent on Green Urban Mobility Partnership (GUMP). Both countries agreed to collaborate more closely to transform urban transport systems through more efficient, people-centric and low carbon mobility solutions.

BMZ is funding a wide range of sustainable urban mobility infrastructure improvement measures such as city bus transport systems, trams, water transport, cable cars, non-motorised transport, and multimodal integration. In addition, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) is providing technical cooperation to enhance the capacities of national, state and local institutions and decision-makers for designing sustainable, inclusive and smart solutions for easy and affordable mobility.

The implementation of this agreement is accompanied by a policy dialogue between the Indian and German sides to achieve effective international contributions to fighting climate change jointly.

About SUM-ACA

Sustainable Urban Mobility – Air quality, Climate action, Accessibility (SUM-ACA) is implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Ministry of Housing and Urban Affairs (MoHUA), commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The project objective is to enable national, state and municipal institutions to promote climate and environmentally friendly, low emission and socially balanced urban mobility systems. The project is part of the Green Urban Mobility Partnership between Germany and India.

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AUTORICKSHAW DRIVERS' CO-OPERATIVE SOCIETY

CONTENTS

PART A

Formalising the informal: Case of streamlining the autorickshaw sector through formation of a co-operative society in Ernakulam District, Kerala

1	Institutional frameworks for efficient autorickshaw services	14
	1.1 Institutional model	15
2	Formation of a co-operative society for autorickshaws	18
	2.1 Role of a nodal agency in the formation of an autorickshaw co-operative society	19
	2.2 Legal framework: Case example of the Kerala Co-operative Societies Act, 1969, adopted for EJADCS	20
	2.3 Formulating the vision and objectives	21
	2.4 Registration of the society	21
	2.5 Organisational structure as per Kerala Co-operative Societies Act, 1969	22
	2.6 Challenges	24
	2.7 Key takeaways	25

PART B

Strengthening the functioning of the co-operative society

3	Inter-agency cooperation mechanisms and policy frameworks for the co-operative society	32
	3.1 Joint Declaration of Intent (JDI) and Memorandum of Understanding (MoU)	33
	3.2 Formation of working groups	34
	3.3 Government orders and regulatory support	34

4	Identifying fund sources for the co-operative society	34
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5	Capacity development initiatives for the co-operative society	38
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PART C

Ensuring improved efficiency and quality of autorickshaw operations

6	Formalised autorickshaw operations by the co-operative society	44
	6.1 Autorickshaws as a feeder system	45
	6.2 Autorickshaws as a door-to-door services	46
	6.3 Autorickshaws to provide shared mobility services	47
	6.4 Exploring alternate green fuels in autorickshaws	48
	6.5 Other services: Emergency services to public	48
	6.6 Information dissemination	50
	Conclusion	52

LIST OF FIGURES

Figure 2.1: Organisational structure for EJADCS as per Class III classification	23
Figure 2.2: Hiring process for staff posts for the operations of the society	24

LIST OF TABLES

Table 2.1: Definitions of some key terms from the Kerala Co-operative Societies Act, 1969	20
Table 2.2: Classification of societies and approved staff pattern as per Kerala Co-operative Societies Act, 1969	23
Table 4.1: Potential fund sources available for co-operative societies and options explored by EJADCS	35
Table 5.1: Potential trainings sessions, trainee category and their expected outcomes	39

LIST OF BOXES

Box 2.1 Vision and objectives formulated for EJADCS	22
Box 3.1 Inter-agency co-operative mechanisms adopted by EJADCS	32
Box 5.1 Training sessions conducted for Board Members and autorickshaw drivers of EJADCS	41
Box 6.1 Strategies adopted by EJADCS to provide improved autorickshaw operations in Kochi	45
Box 6.2 Strategies adopted by EJADCS to provide aggregated services	47
Box 6.3 Strategies adopted by EJADCS to provide shared mobility	47
Box 6.4 Strategies adopted by EJADCS to provide green mobility in Kochi	48
Box 6.5 Autorickshaw services in Kochi during COVID-19 pandemic in 2020 and 2021	49
Box 6.6 Information dissemination strategies adopted by EJADCS	51

LIST OF ABBREVIATIONS

AITUC	All India Trade Union Congress
AuSa	Auto Savari
BMS	Bharatiya Mazdoor Sangh
CITU	Centre of Indian Trade Unions
EJADCS	Ernakulam Jilla Autorickshaw Drivers Co-operative Society
EV	Electric Vehicle
GCDA	Greater Cochin Development Authority
GO	Government Orders
GoK	Government of Kerala
GUMP	Green Urban Mobility Partnership
INTUC	Indian National Trade Union Congress
IPT	Intermediate Public Transport
JDI	Joint Declaration of Intent
KMC	Kochi Municipal Corporation
KMRL	Kochi Metro Rail Limited
MoHUA	Ministry of Housing and Urban Affairs
MoU	Memorandum of Understanding
NBFCs	Non-Banking Financial Company
NGO	Non-Governmental Organisation
OEM	Original Equipment Manufacturer
PT	Public Transport
SC/ST	Scheduled Caste/Scheduled Tribe
STU	SwathantraThozhilali Union
TUCI	Trade Union Centre of India
UMI	Urban Mobility India



OUTLOOK

Scope of the document

Intermediate Public Transport (IPT) plays a vital role in addressing the first and last mile connectivity in many Indian cities. It serves as feeders to public transport systems and acts as primary or the only mode of mobility in areas not served by or accessible to conventional road-based public transport modes. One of the major ways to augment public transport systems (buses, metro, ferry) is by integrating various transport modes (including IPT like autorickshaws) to the system to increase the PT catchment area by providing affordable first and last mile connectivity. Autorickshaws connect the various ends of a transit trip and offer a convenient last mile experience. However, this sector is not formalised and often functions in a disaggregated manner, resulting in mobility gaps. This is because often there is no regulatory body or committee at the city or district level to manage and organise the operations of IPT operations. This sector, represented primarily by the driver community, often lacks the technical know-how and managerial skill sets to organise operations and thus face increased challenges compared to other mobility sectors.

Attempts to formalise the IPT sector have been undertaken in many cities. However, there is little documentation on the efforts taken in this direction. This document attempts to explain the process involved in formalising IPT (exclusively for autorickshaws) services and streamlining its operations based on the case example of Ernakulam District. It is divided into three parts:

Part A: Formalising the informal: Case of streamlining the autorickshaw sector through formation of a co-operative society in Ernakulam District, Kerala

This part of the document provides literature on the different models available to streamline IPT operations. An assessment of these models based on literature and expert opinions provide the factors that were key when choosing the optimum model for streamlining the IPT sector in Ernakulam. This part also indicates the relevance of the state level Co-operative Societies Acts in the formation of autorickshaw co-operative societies. This has been explained using the example of EJADCS and the key aspects from the Kerala Co-operative Societies Act, 1969, relevant for the formation and registration of the society, identifying the organisational structure and hiring of staff for the society. The major challenges faced and the means adopted to overcome them have also been touched upon.

Part B: Strengthening the functioning of the co-operative society

Part B covers the various inter-agency co-operative mechanisms and policy frameworks that are key to efficient operations of the co-operative society and of the IPT sector. The importance and benefits of these mechanisms and frameworks—Joint Declaration of Intent (JDI), Memorandum of Understanding (MoU), Government Orders (GO), creation of Working Groups—in ensuring participation and decision making of the co-operative society in IPT operations and the frameworks adopted by EJADCS have also been indicated. Identifying sources of funds are key to the functioning of the society and this part also discusses the various means available for co-operative societies to generate funds. The benefits of training and capacity building initiatives for the functioning of the society have also been highlighted.

Part C: Ensuring improved efficiency and quality of autorickshaw operations

The final part enumerates the various initiatives that were carried out by EJADCS to help aggregate and streamline the autorickshaw operations, through feeder systems, alternate fuels, aggregator services, etc. It also indicates the key role played by the society in providing emergency services during the pandemic. Various image-building, branding and public outreach mechanisms adopted by EJADCS have also been highlighted.

These three parts are explained using references of the interventions adopted to formalise IPT operations in the district of Ernakulam, Kerala, by EJADCS.

Who can use this document?

The key uses and target groups of this document are summarised below:

1. Trade unions / drivers can use this document as a guide to formalise IPT operations by adopting formalised institutional structures. This document can also guide them on possible measures that may be undertaken to improve IPT operations, post the formation of such institutions. Since this document cites the case example of EJADCS, it is most suited for formalising autorickshaw operations in various cities of Kerala. However, other cities/states may refer the process adopted in Kochi for formalising the institutional structure and operations. This target group may refer all the parts—A, B and C.
2. This document will be useful for already existing IPT associations, co-operative societies and aggregators, who wish to strengthen their organisational functioning and service operations in respective cities. This target group may refer to Parts B and C.
3. This document can also guide decision makers at city and state level on the process involved in formalising IPT in cities and the potential role of city and state level agencies in handholding such newly formed IPT organisations to ensure improved IPT operations in the cities. This target group may refer to Parts B and C.
4. This document can serve as a ready reference for national and international audiences/ interest groups on the initiatives and learnings from EJADCS.

This document explores the potential of a single unified entity in streamlining the IPT operations and strengthening the autorickshaw sector of a city, which includes steps adopted to form such an entity and the means adopted to streamline IPT operations. The case example on the formation and functioning of EJADCS (based on the Kerala Co-operative Societies Act) and autorickshaw operations by EJADCS in Kochi is used throughout the document to explain the above. However, considering Kerala's socio-political nature, while there exists alternate options to streamline IPT operations, which may be suitably adopted by other cities/states.

Why EJADCS, Ernakulam?

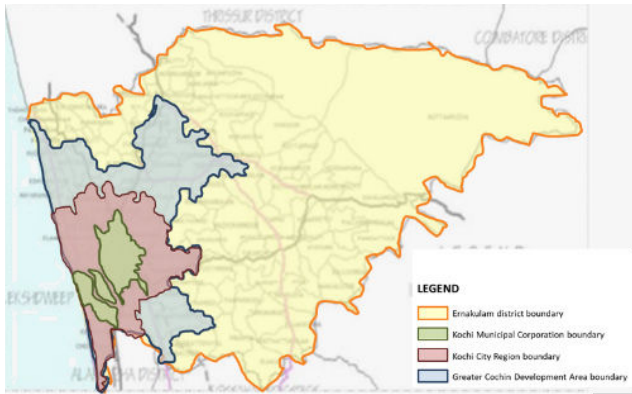
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Auto drivers often belong to marginalised communities with disaggregated leaderships and political affiliations, which prevents them from streamlining operations and utilising facilities offered under policy incentives and financial inclusion. To overcome the fragmented operations in this sector, a Society (EJADCS) was formed in 2019, under the Kerala State Co-operative Societies Act, 1969, for the district of Ernakulam, Kerala, with the objective of integrating autorickshaws for seamless mobility, to provide last mile connectivity and to function as a support structure for the benefit of auto drivers in the district. Kochi Metro Rail Ltd. (KMRL) had taken initiatives towards the formation of this umbrella body, in line with the Government of Kerala's (GoK) public transport integration project titled 'Seamless Transportation for Kochi' which aims at bringing together the fragmented and competing modes of transport under one umbrella and restructure them efficiently.

In February 2019, EJADCS was formed unifying various politically affiliated trade unions (CITU, INTUC, AITUC, BMS, STU & TUCI) in the district, with a common goal to improve autorickshaw operations in the district and dedicated to the welfare of autorickshaw drivers and their families. Since its formation, EJADCS has taken several innovative steps for improving the safety and experience of autorickshaw passengers and to support green and affordable autorickshaw services. In 2019, EJADCS initiated the operations of electric feeder autos for the metro service in the city, jointly with KMRL following a rental model of operations. In addition, EJADCS is currently exploring the option of procuring approximately 80 electric autos and operating the same as part of an initiative by KMC under the Indo-German technical cooperation project titled, 'Integrated Sustainable Urban Transport Systems for Smart Cities' (SMART-SUT). Considering that EJADCS is a newly formed society, KMC has also extended support to EJADCS in strengthening their institutional structure as part of the SMART-SUT project. The case example of EJADCS offers valuable insights that could contribute to the ongoing attempts and experiments in other cities to formalise and improve the service quality of the IPT sector.

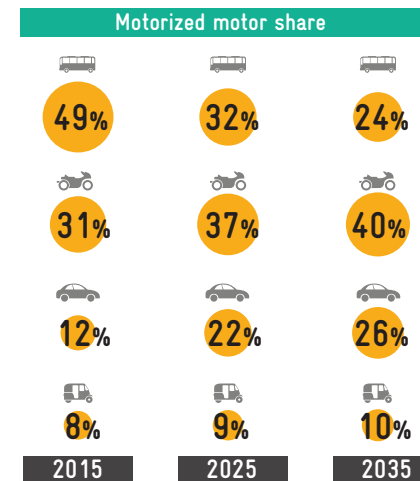
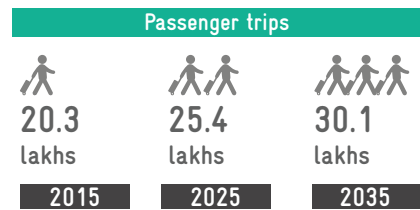
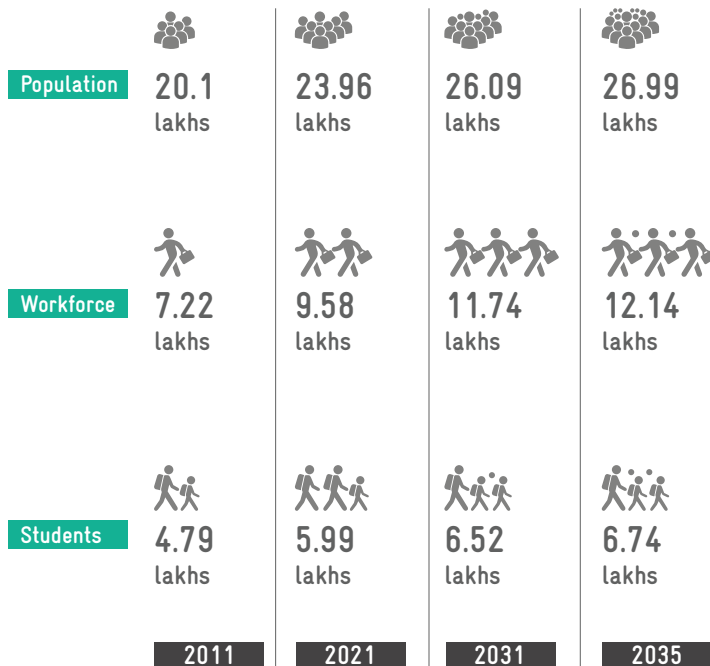


Ernakulam: The operational area of EJADCS



Greater Cochin Development Authority

20.01 lakhs	632 sq kms	3166 persons/sq km
Population	Area	Density



How to use this document?

This document is structured into three parts:

Part A: Formalising the informal: Case of streamlining the autorickshaw sector through formation of a Co-operative Society in Ernakulam District, Kerala	
Chapter 1:	Institutional frameworks for efficient autorickshaw services
Chapter 2:	Formation of a co-operative society for autorickshaws
Part B: Strengthening the functioning of the co-operative society	
Chapter 3:	Inter-agency cooperation mechanisms and policy frameworks for the co-operative society
Chapter 4:	Funding sources for Society
Chapter 5:	Capacity development initiatives for the co-operative society

Part C: Ensuring improved efficiency and quality of autorickshaw operations

Chapter 6: Formalized autorickshaw operations by a co-operative society

Conclusion

Annexures:

This document also has a detailed annexure which comprises of additional information on the case example; EJADCS. Anyone who requires additional information on initiatives may refer the respective annexures listed below. The user will find cross reference to respective annexures in the relevant sections of the toolkit.

Annexure 1: Study Area- Kochi, Ernakulam

Annexures 2: Formation of Ernakulam Jilla Autorickshaw Drivers Co-operative Society (EJADCS)

Annexures 3: Inter-agencyco-operative mechanisms and regulatory support

Annexure 4: Training and capacity building initiatives

Annexure 5: Formalised autorickshaw operations by a co-operative society

PART A

Formalising the
informal: Case of
streamlining the
autorickshaw sector
through formation of
a co-operative society
in Ernakulam District,
Kerala

Autorickshaw segment, an integral part of the mobility system in most Indian cities, often operates in an informal manner and is therefore overlooked in the efforts and initiatives aimed at improving a city's mobility. This section covers the institutional frameworks to streamline autorickshaw operations and closely looks at the Co-operative Society model using the case example of EJADCS and further illustrates the process of forming a co-operative society in the same context. Part A has two chapters namely,

Chapter 1: 'Institutional frameworks for efficient autorickshaw services'

This chapter covers the various institutional frameworks to streamline autorickshaw services in Indian cities, and the means to identify the appropriate model. The chapter further illustrates the co-operative society model using the case example of EJADCS.

Chapter 2: 'Formation of a co-operative society for autorickshaws'

This chapter looks at the formation of a co-operative society using the case example of EJADCS and covers the role of a nodal agency in the formation of an autorickshaw co-operative society, legal framework, registration process, organisational structure and the key challenges involved in the process.



1

INSTITUTIONAL FRAMEWORKS FOR EFFICIENT AUTO RICKSHAW SERVICES





The autorickshaw segment in most Indian cities—being privately owned and informal in nature—has been largely excluded from the transport policies and planning processes. This has led to challenges such as lack of policy frameworks, no economic stability and social benefits for autorickshaw drivers, difficulty in obtaining finance from lending agencies, etc. These challenges have hampered this sector from functioning efficiently and being utilised to its full potential as an integral part of the public transport system of a city. Para transit systems often have disaggregated leaderships that has prevented the sector from operating in a cohesive manner, utilising facilities offered under policy incentives and financial inclusion. Moreover, the lack of efforts towards formalised operations that complement existing PT systems in cities add to the inefficiency of its operations. Thus, the sector faces multiple operational level issues that negatively impact the economic and social stability of the driver community. These disaggregated operations have also prevented the autorickshaw segment from working cohesively as a single unit with streamlined operations as a feeder system to the existing public transport network of the district. It has also prevented the autorickshaw drivers from utilising facilities offered under various policy incentives and financial inclusion.

This chapter focuses on the assessment of the various institutional frameworks, identified by literature to streamline the services of the autorickshaw sector in Indian cities, and the means to identify the appropriate model. The chapter identifies co-operative society model as a suitable structure to strengthen the autorickshaw segment in Kerala. This has been explained using the case example of EJADCS including the steps undertaken towards the formation of the society.

1.1 Institutional model

Data from the statistical handbooks of the Department of Co-operation, Government of Kerala, indicates that there are currently seven autorickshaw co-operative societies in the district of Ernakulam. These societies have varied affiliations with the six key political parties of Kerala, namely INTUC, AITUC, CITU, TICU, STU and BMS, resulting in disaggregated leaderships. The existing auto societies in Kochi worked primarily to provide affordable financing options to the autorickshaw drivers. The disaggregated functioning of these societies contributed to very little benefits to the sector. Refer Annexure 1 for details on autorickshaw sector and its operation in Kochi city including an overview of Kochi's transport scenario. Thus, in Kochi, the Kochi Metro Rail Limited (KMRL) worked as the nodal agency to formulate a way to bring the autorickshaw driver community together and help streamline its operations and integrate the autorickshaw sector into the formal public transport system. Refer Annexure 2 for details on efforts by KMRL in streamlining the autorickshaw sector.

For this purpose, a survey of autorickshaw drivers, across four key locations within the Kochi Municipal Corporation (KMC) area, was conducted by KMRL (Refer Annexure 1 [1.2] for details on operational issues of the autorickshaw sector in Kochi) to understand the perception and their willingness to join a unified co-operative society. From the survey, it was found that:

- a. 95 per cent of the drivers are dissatisfied with the present fare system.
- b. 90 per cent of the drivers feel that a basic pay-based salary is beneficial.
- c. 55 per cent feel single unified entity is beneficial for IPT operations.
- d. 75 per cent of the drivers were willing to join a single unified entity for better IPT operations and benefits.

In addition to this, certain parameters were taken into consideration when assessing the feasibility of merging the existing trade unions under a single large co-operative society model for strengthening the autorickshaw drivers and the autorickshaw sector in Kochi. The key parameters identified for the feasibility of a unified co-operative society in Ernakulam are listed below:

◆ Familiarity of driver members with the co-operative society model:

In lieu of Kerala's experience in co-operative movements across sectors and the presence of co-operative societies within the transport and IPT sector, the autorickshaw drivers in Kerala and Kochi are most familiar with the workings of a co-operative society model. It was thus found to be easier to invite members to join a similar institutional framework of a larger co-operative society model. It would therefore be easier for the autorickshaw drivers to transition to EJADCS, a co-operative society model like the societies the members are already familiar with, rather than a privately owned company or a not-for-profit organisation.

◆ Integrating large number of autorickshaw drivers owning vehicles:

Unlike the bus and taxi sectors where majority of the drivers either lease the vehicle or are hired by vehicle owners on a wage basis, over 70 per cent of the autorickshaw drivers own and drive their

own vehicles. This indicates a large pool of potential driver members who can make independent decisions without being under the purview of lending agencies or vehicle operators.

It was found to be easier to integrate these autorickshaw drivers who owned their own vehicles and were members of other autorickshawco-operative societies into EJADCS, another single larger co-operative society.

◆ **Achieving scalability with large number of memberships:**

To use the IPT sector to ensure first and last mile connectivity to enhance the existing public transport system, a fleet-based operations using many autorickshaws would be required, to improve the geographic reach and accessibility to the transport system. As of 2020, GCDA region of the district had approximately 15,000 autorickshaws. This would help achieve scale of economies for successful fleet operations.

A co-operative society model is considered most efficient to support members of such large scales. The working capital of the society also increases with increased memberships, thus improving the financial strength. A society model has no upper limit on the number of additional members, which will be beneficial in scaling operations.

◆ **Ease in availing monetary support for autorickshaw drivers:**

Autorickshaw drivers often belong to weaker financial and social classes. They are often denied loans and financial assistance by the formal lending institutions due to their perceived negative credit rating, and they access credit from the NBFCs, often at a very high interest rate.

- ◆ In comparison to NGOs or privately owned companies, driver members of a co-operative society find it easier to avail loans with lenient repayment terms through a co-operative society model. Moreover, compared to the existing smaller autorickshaw societies, a large single unified co-operative society like EJADCS has more scope to generate revenue and improve financial strength through various schemes. This makes it easier for the society of driver members to access credit with easier repayment terms.

◆ **Participatory decision making and transparency in operations:**

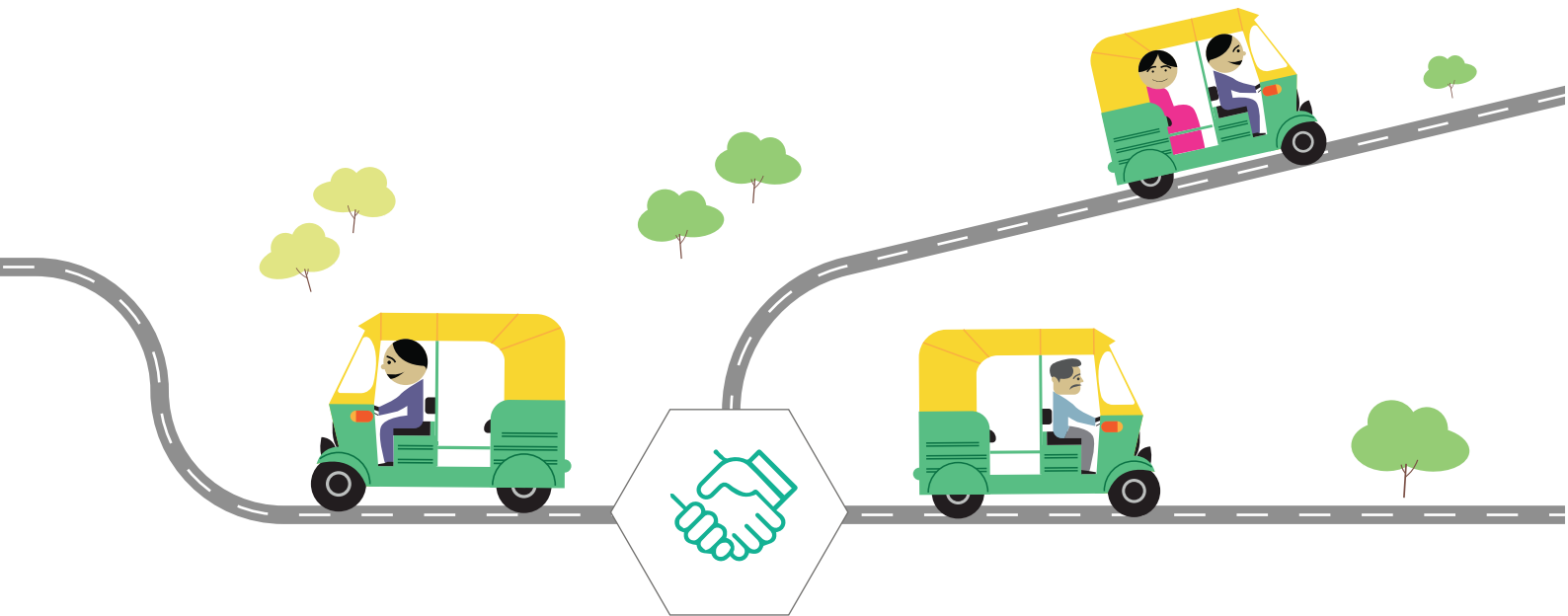
Any co-operative society in Kerala must operate within the framework of the Kerala Co-operative Societies Act, 1969, and under the purview of the Registrar of Societies. The members of the society enjoy voting rights, which ensures democratic and participatory decision making. In addition to this, the bye-laws of the co-operative society also indicate that the government can hold a stake of up to 12per cent in the shares of a co-operative society.

The participatory and driver-centric approach of the co-operative society model makes the driver members feel invested in the operations of the society. They may otherwise feel alienated from decision making in privately owned companies or NGOs. A stringent legal framework and a larger government stake is key in ensuring that the working of the co-operative society is free of corruption, thus improving the credit rating of the society as a whole.

The following chapter explains the steps to be adopted for the formation of a co-operative society, based on the steps undertaken by EJADCS.

2

FORMATION OF A CO-OPERATIVE SOCIETY FOR AUTORICKSHAWS





A co-operative society is a voluntary association of individuals having common needs who join hands for the achievement of common economic interest. Its aim is to serve the interest of the poorer sections of society through the principle of self-help and mutual help. In India, co-operative societies registered in any state will fall within the purview of the relevant co-operative society act of the respective state. All operations of the society must be carried out as stipulated in the Act and must be approved by the Joint Registrar. In lieu of this, it is pertinent to understand the objectives laid out by the state co-operative societies act and its relevance to the operations of the registered society. Moreover, the class and category of the society as indicated in the relevant state co-operative society act will also define the organisational structure for the society. Information pertaining to sources of revenue for the society and hiring process to be followed for staff of the society is also defined in the Act. In the state of Kerala, the registration and activities of all co-operative societies will be carried out as stipulated in the Kerala Co-operative Societies Act, 1969.

In line with this, key definitions, organisational structure, potential sources of revenue and hiring processes as indicated in the Kerala Co-operative Societies Act, 1969, which are being followed by EJADCS, have been elaborated as a case example. All autorickshawco-operative societies registered in any district(s) in Kerala will need to follow the rules of this Act. Likewise, similar autorickshawco-operative societies already registered or ULBs who wish to form similar autorickshawco-operative societies in districts outside the state of Kerala will need to follow the relevant sections and rules stipulated in the co-operative societies act of their respective states. The Punjab Co-operative Societies Act, 1961, and The Karnataka Co-operative Societies Act, 1959, have been used as guiding documents for the formation and activities of the Amritsar Autorickshaw Co-operative Transport Society Ltd in Amritsar, Punjab, and Namma Auto ChalakaraSahakara Society in Bengaluru, Karnataka.

This chapter looks at:

- ◆ **The role of a nodal agency in the formation of an autorickshawco-operative society** – The key role played by KMRL as the nodal agency and support rendered by the trade union leaders and the District Coordination Committee in the formation of EJADCS has been indicated in this chapter.
- ◆ **Legal framework, registration process and organisational structure** –The key definitions from the Kerala Co-operative Societies Act pertaining to EJADCS such as class of society and members and category of the society. Registration process followed for EJADCS and the organisational structure of EJADCS is also discussed in the chapter.
- ◆ **Key challenges** faced at various stages of the formation of EJADCS and the means adopted to overcome them are also highlighted.

This chapter explains the aspects considered under the Kerala Co-operative Societies Act in the formation of a co-operative society. Case example of EJADCS is taken as a reference to explain the formation of such societies including the challenges faced and measures taken to resolve the same.

2.1 Role of a nodal agency in the formation of an autorickshaw co-operative society

Research¹ indicates that the engagement of a nodal agency at city or state level during the conception stage of the formation of a co-operative society helps expediate the process. City-specific parameters with regard to the existing situation of the autorickshaw sector of the city need to be assessed, to unify the driver community to provide aggregated operations under a single unified organisation. The nodal agency will play a key role in carrying out this assessment. The nodal agency guides the potential board members of co-operative societies to:

- a. Formulate the vision, steer the process of formation and oversee the execution of activities of the co-operative society.
- b. Conduct regular discussion and mediations with trade union leaders and autorickshaw drivers in the city.
- c. Assist the co-operative society to identify key partners to strengthen its capacities and assist in the implementation of its various activities.

¹ Ghosh, A. and Kalra, K. (2016), Institutional and financial strengthening of intermediate public transport services in Indian cities, Transportation Research Procedia, Pages 263–272

To augment the public transport sector (buses, metro, ferry), the Government of Kerala has been undertaking initiatives to provide seamless mobility by integrating the various modes into an integrated multimodal transport system. A key aspect of integrating transport systems and providing seamless mobility is to integrate the autorickshaw sector and increase the public transport catchment area by ensuring first and last mile connectivity. This requires the autorickshaw sector to work as an aggregated single unit. The key players responsible for the formation of EJADCS were KMRL, the individual trade union leaders and the District Coordination Committee. Refer Annexure no 2.2 for further details on the same.

The following sections elaborate the key steps to be undertaken towards forming a unified co-operativesociety. This may be undertaken with the guidance of a nodal agency or otherwise. This is explained through the case example of EJADCS.

2.2. Legal framework: Case of the Kerala Co-operative Societies Act, 1969, adopted for EJADCS

Any Indian city aiming to formalise the IPT/autorickshaw operations shall refer the respective state level policies and frameworks for institutionalising the IPT sector. Any co-operative society formed in the state of Kerala functions within the legal framework provided within the Kerala Co-operative Societies Act, 1969. The act categorises the co-operative societies by type and class based on the function of the society and the working capital. As part of formation of the society, it is pertinent to understand the objectives laid out by the Act and its relevance to the operations of the society. This ensures that the functioning of the society does not deviate from the framework prescribed in the Act. EJADCS was categorised as a CLASS III ‘miscellaneous society’.

Table 2.1: Definitions of some key terms from the Kerala Co-operative Societies Act, 1969

		Definition	Implication on autorickshawco-operative societies
Category of Society	‘Miscellaneous’	The Act (Rule 15) provided 13 types of societies based on type of service. Credit, Marketing, Consumer, Farming, Producers, Hospital, Educational, Tourism, SC/ST, Labour Contract, Multi-purpose, Women’s Co-operative are the 12 main categories based on the type of service. A ‘Miscellaneous’ society is defined as that which carries out services that does not fall within these 12 types of services indicated in the Act.	EJADCS is categorised as ‘miscellaneous’. Any autorickshawco-operative society registered in the state will be categorised as ‘miscellaneous’.
Class of Society	Class I, II, III or IV	The Act indicates four classes of societies (Class I, II, III and IV) that fall within the ‘Miscellaneous’ category based on working capital or business turnover. <ul style="list-style-type: none"> ◆ Class I – INR exceeding 10 lakh ◆ Class II – INR between 5 to 10 lakh ◆ Class III – INR 5 to 1 lakh ◆ Class IV – working capital below INR 1 lakh 	EJADCS is currently classified as Class III based on the current working capital. It has the potential to change to Class II or Class I if the working capital or business turnover increases.



	Definition	Implication on autorickshawco-operative societies
Class of members	<p>Members can be categorised as A, B or C as per the bye-laws prepared by the Promoters Committee as part of the formation and registration of the Society.</p> <p>Class A members are defined as those who have voting rights to elect the board members, rights to become a member of the board, have asset ownership, and the right to attend the General Body meetings.</p> <p>Class B members are companies and government bodies. Class C are nominal/associate members with no voting rights or asset ownership.</p>	<p>EJADCS has close to 3000 A class members.</p> <p>Increasing the A class memberships increases the working capital of the society.</p>

2.3 Formulating the vision and objectives

A co-operative society should have an overarching vision that defines its operations and unifies its members. The vision of the society will define the purpose of the organisation and reasons for the organisation to exist. A unifying vision will help a co-operative society bring members together to achieve a common vision, in a driver-centric and participatory manner.

The Government of Kerala has laid significant thrust on adopting sustainable transport measures. The Draft Transport Policy for Kerala highlights the importance of the role played by the IPT sector as a feeder service to public transport system and the need to strengthen the sector via adequate regulation.⁷ In addition to this, the Electric Vehicle Policy of the state also lays emphasis on the need to adopt electric mobility to promote shared mobility and clean transportation.⁸ This vision of sustainable transport for Kerala has been used as the basis to formulate the vision for EJADCS in Ernakulam. Box 2.1 indicates the vision and objectives of EJADCS, and the role played by the nodal agency (KMRL), the trade union leaders and the autorickshaw driver community to formulate the same.

2.4 Registration of the society

In Kerala, the registration of a co-operative society starts with the meeting attended by a minimum of 25 members related to the community (members must belong to separate families). The agenda of this meeting is to come to a unified decision to register a co-operative society. The Promoting Committee is also to be decided during this time. This Committee does not have any limit on the number of members. This committee is formed primarily to take the registration process forward and act as the temporary Board of Directors until the formal Board of Directors is elected. The Committee formed for the formation of EJADCS comprised of trade union leaders from the six major trade unions of the district and other key members of these trade unions. In addition to this, autorickshaw drivers from these trade unions were also members of the Promoting Committee. The Committee is responsible for formulating the vision and preparing the bye-laws for the functioning of the co-operative society. The formation and registration of the society in Kerala is indicated under Sections 3 to 15 and Rules 3 to 15 of Chapter 2 in the Kerala State Co-operative Societies Act, 1969.

⁷ 2011, Draft Transport Policy for Kerala, Department of Transport, Government of Kerala

⁸ 2019, Electric Vehicle Policy, Government of Kerala

BOX 2.1: Definitions of some key terms from the Kerala Co-operative Societies Act, 1969

Adopting a co-operative society model by merging the existing six trade unions was considered the best option to strengthen the autorickshaw sector and promote sustainable transport in Kochi. As part of the negotiations and discussions a vision statement and objectives of the unified autorickshaw society were prepared by the nodal agency (KMRL). This helped the nodal agency convince the trade union leaders and the autorickshaw driver community of the potential role a unified autorickshaw society can play in helping the government promote sustainable transport in the city. As part of these discussions, the autorickshaw drivers also raised their concerns and voiced their opinions, which were taken into consideration while revising the vision statement and objectives for the society.



Vision of EJADCS

The society is envisioned as an umbrella organisation dedicated to the welfare of the auto driver community helping them achieve financial inclusion, utilise the facilities offered under various policy incentives and streamline the operations of the autorickshaw sector.

Objectives of EJADCS



To provide support systems for efficient operations of the Society



To provide green and affordable first and last mile connectivity



To provide accessible IPT through Information and communication technologies (ICT) services



To ensure socio-economic benefits to autorickshaw drivers and family members

In addition to formulation the vision and objectives for the Society, the short-, medium- and long-term goals can also be set to help the Society transition in its activities. While the short-term goal was to increase the membership numbers and strengthen the financial and technical capacities of the Society, in the long term it is envisioned to scale up the operations of EJADCS to become a key organisation in the transport sector.

2.5 Organisational structure as per Kerala Co-operative Societies Act, 1969

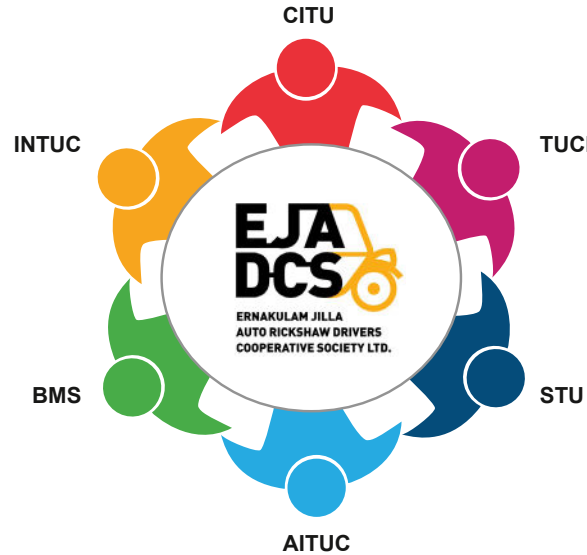
A support structure for the Society is required to ensure a smooth functioning of the society on a daily basis. This proposed structure includes: (a) Formation of the Board of Directors, and (b) Creating the organisation's structure and staffing pattern for the Society. The sections below elaborate the steps taken by EJADCS to select the board members, define the organisational structure and identify revenue generation methods.

Board of Directors for a co-operative society: Case of EJADCS

Election of the Board of Directors for the co-operative society is the first task. In case of EJADCS, the first general body of EJADCS was held after the registration of the co-operative society in 2018. During this meeting a temporary committee/board was selected. The existing Promoting Committee had continued as the Board of Directors for a duration of three months. The decision to elect the Board of Directors was made through the election resolution sent to the State Co-operative Election Commission. The Commission prepared an Election Notification and appointed a Returning Officer and an Electoral Officer for this purpose. The elections were conducted by the Returning Officer, as per Section 28, Rule 35A of the Act.



The Act and the bye-laws prepared for EJADCS stipulate that the Board of Directors elected should comprise of minimum 7 and maximum 15 members of which 3 positions are reserved for women and 1 position is reserved for those belonging to backward/disadvantaged communities (SC/ST). The Board of Directors will carry out its functions for a duration of five years (from the date of election). All operational decisions related to the functioning of the Society, implementation of autorickshaw projects and welfare of autorickshaw drivers are taken by the Board of Directors of the society.



Organisational structure and staff pattern defined for co-operative society

In accordance with the Kerala Co-operative Societies Act, 1969, the institutional structure and approved staff pattern for EJADCS was defined primarily by the amount of working capital as per the classification of the society. The Board of Directors of EJADCS is yet to adopt the staff pattern according to the classification of the society as per Appendix 3 of the Act. EJADCS⁹, being categorised as a ‘miscellaneous’ category society, may be categorised under any class (Class I, II, III or IV) (Refer Table 2.2) depending on the financial status. Based on the amount of working capital with the Society, EJADCS is currently classified as Class III and can hire three staff members to carry out the daily activities and functioning of the Society (Table 2.2). Figure 2.1 indicates the current organisational structure for EJADCS.

Table 2.2: Classification of societies and approved staff pattern as per Kerala Co-operative Societies Act, 1969

Details/ Classification	Class I	Class II	Class III	Class IV
Working capital or business turnover	INR 10 lakhs and above	INR 5 to 10 lakhs	INR 1 to 5 lakhs	< INR 1 lakh
Approved staff Pattern	Secretary (1) Accountant (1) Senior Clerk (3) Attendant (2)	Secretary (1) Accountant (1) Senior Clerk (1) Attendant (1)	Secretary (1) Clerk (1) Attendant (1)	Hon. Sec (1)

Figure 2.1: Organisational structure for EJADCS as per Class III classification

⁹EJADCS falls under ‘Miscellaneous’ with 3000 (approx.) members (as of July 2021)

Hiring staff for the co-operative society: Hiring for each of the various post(s) include two key steps. First, the post for which hiring is to commence will need to be approved by the Joint Registrar. Second, hiring for each post will commence (over three key steps) based on the process stipulated in Section 80, Rules 182 to 201 of the Act.

The approval for this needs to be obtained from the Joint Registrar. The Society can also hire temporary staff as per Rule 185A of the same section (Section 80) within the Act. In addition to the staff allotted as per the staffing pattern approved by the Act, additional roles can be defined by the Society based on operational requirements of the auto society, for example, Operations Manager, Project Director, etc. The hiring for additional posts (posts outside of the stipulated structure of the organisation based on the working capital classification as per the Act) will be carried out as per Rule 188 of Section 80 of the Act. The conceptual steps to hire the staff has been indicated in Figure 2.2.

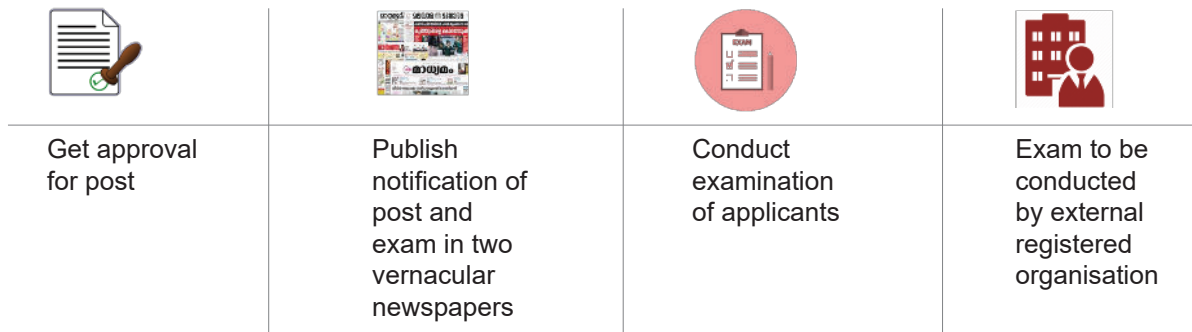


Figure 2.2: Hiring process for staff posts for the operations of the society

2.6 Challenges

Depending on the socio-political and cultural landscape of Indian cities, city governments and concerned agencies will face various challenges especially in the initial stages of formalising the institutional structure. In case of EJADCS, the attempts to strengthen the autorickshaw sector and enhance the social and economic benefits of the autorickshaw driver community was not without challenges. This section highlights the key challenges along with the means adopted to overcome the same.



a. Challenge 1 – To integrate autorickshaw drivers belonging to co-operative societies affiliated to different trade unions and political leaderships, under another unified co-operative society

KMRL invited autorickshaw drivers, who were members of different trade unions, to the office for a presentation which highlighted the overall vision of sustainable transport of the state government and more specifically the role that the autorickshaw sector could play in acting as a feeder to the public transport system in Kochi. Emphasis was also laid on the potential for the sector to work as a fleet and the importance of strengthening the current operations. The divergent political affiliations of the autorickshaw drivers proved to be a challenge when trying to integrate them under a unified body. For this purpose, rigorous discussions were carried out at different times with the drivers and their trade union members to convince them of the benefits of joining under a unified co-operative society. A district coordination committee was mobilised to aid the discussion process. Presence of the KMRL, a key player in the city's transport system, as a nodal agency during the initial stages proved beneficial in mobilising and convincing the trade union leaders and autorickshaw drivers to form and join EJADCS.



b. Challenge 2 – Gain trust and acceptance of the autorickshaw driver community

The proposal of joining another unified co-operative society laid out by KMRL to the autorickshaw drivers was met with scepticism from the driver community. It was important to gain the trust of the driver community through continuous discussions and negotiations. Two key demands emerged from the drivers during this process, namely, improved financial security and improved social status. Autorickshaw drivers voiced their discontent with the current fare system and earnings. In addition to this, they also expressed their desire to use their employment to elevate their social standing.



A revised fare following the basic pay as the Minimum Wages Act and the pay structure indicated by the Indian Labour Organisation and incentives based on higher ridership was proposed. In addition to this, the reference to the drivers was changed from the locally used 'auto driver' to 'auto pilot' and their uniforms were changed from khaki to a new design. An amendment was made to the Motor Vehicles Act to accommodate the change of the uniform of the autorickshaw drivers. Assurance was given by the nodal agency to provide appropriate regulatory support to remove any obstacles that would impede the operations of EJADCS to meet the objectives.



c. Challenge 3 – To avoid monopoly of any political organisation in the functioning of EJADCS

EJADCS was envisioned as a non-political organisation dedicated to strengthening the autorickshaw sector and the welfare of the drivers in the district. CITU and INTUC are the two major trade unions in the state. It was pertinent to avoid any dominant political organisation from monopolising the operations of EJADCS.

To overcome this and ensure democratic and transparent operations of the society, representation from all the six key trade unions of Kochi were ensured during the formation of the Board of Directors of EJADCS.



d. Challenge 4 – To ensure the drivers are adequately represented in the decision-making process

The success of a co-operative society model lies in the inclusive and participatory approach to decision making. For the successful formation of EJADCS, it was necessary to ensure that the demands from the driver community were adequately represented.

This was overcome by ensuring representation of the autorickshaw drivers in the Board of Directors. Currently, 8 out of the total 15 members of the board are autorickshaw drivers. They help in representing the driver community during the decision-making process and providing the link between the driver community and the members of the Board of Directors.

2.7 Key takeaways

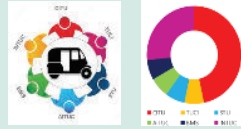
1. Identify an appropriate nodal agency	The nodal agency KMRL, which played a key role in improving the urban transport in Kochi, played a key role in mobilising and negotiating with trade union members and autorickshaw drivers.
2. Utilise existing framework(s)	The existing District Coordination Committee was mobilised to help convince the autorickshaw driver community on the larger benefits of unified and streamlined operations for the IPT sector in Kochi.
3. The society/entity must formulate an overarching vision to unify the autorickshaw driver community	The vision and objectives will help the society/entity to unify the autorickshaw driver community members towards a common goal which would directly and indirectly contribute to socio-economic benefits of the autorickshaw driver members and their families.
4. Garnering support of the government is important to ensure smoother operations and gain visibility among the public	EJADCS was inaugurated by the Chief Minister Mr. Pinarayi Vijayan and is the only co-operative society in the state to be inaugurated by a chief minister. This has not only helped the Society gain support from the government for ensuring the activities run in a smooth manner but has also helped the Society gain visibility among the public.
5. Including autorickshaw drivers into the decision-making positions	By having driver members as part of the Board of Directors in EJADCS ensures adequate representation of the driver community in the decision making and thus higher participation in the various activities of the Society. In case of EJADCS, 8 of 15 members of the board work as autorickshaw drivers.

6. Forging partnerships with technical agencies and organisations.

The society lacks technical and managerial skills, and this was found to be an impediment to organise IPT operations. This was resolved by partnering with agencies, original equipment manufacturer (OEMs), and technology providers for improving technical and managerial skills, helping the Society function as an aggregator and also to contribute to green mobility.

7. Avoid political monopoly among the Board of Directors

Breaking the potential political monopoly of the dominant political parties was key to ensuring democratic operations in the future. Ensuring representation from all trade unions including Board of Directors representing all trade unions was also important. In case of EJADCS, this was overcome by creating a panel of board members with representatives from all political parties.



PART B

Strengthening the
functioning of the
co-operative society

Literature indicates that the autorickshaw sector has the potential to improve its operations and work in a complementary manner to the formal public transport system of the city. Fleet-based operations have been found to be suitable to implement these services with the requisite technologies under a single umbrella organisation (co-operative society). IPT operations require the involvement of various agencies and stakeholders, highlighting the need for strong cooperation mechanisms. Training of the Society members, namely board of directors, staff of the co-operative society and the autorickshaw driver members, are also important to improve capacities and implement and operation projects efficiently, thus providing better quality services to the public.

This part enumerates the systems that need to be set in place for strengthening the IPT operations of a co-operative society. Potential benefits accrued to the society members and the public have also been mentioned. This part has the following three chapters.

Chapter 3: Inter-agency cooperation mechanisms and policy frameworks for the co-operative society

Various mechanisms and policy framework options available for autorickshaw co-operative societies to ensure efficient and transparent decision making and operations have been enumerated here. This chapter also highlights the options adopted by EJADCS for operating the IPT sector in a fleet-based mode in Ernakulam.

Chapter 4: Identifying fund sources for the co-operative society

Funds and revenue sources are key to ensuring efficient functioning of projects. This chapter indicates the potential funding options and sources available to an autorickshaw co-operative society. The potential projects and sources that will be explored by EJADCS are also touched upon.

Chapter 5: Capacity development initiatives for the co-operative society

The importance of training programmes and capacity development for various categories of stakeholders has been highlighted here. This chapter also includes the various sessions conducted for the different stakeholders involved in the functioning of EJADCS and IPT operations in Ernakulam.



3

INTER-AGENCY COOPERATION MECHANISMS AND POLICY FRAMEWORKS FOR THE CO-OPERATIVE SOCIETY





As part of day-to-day operations and for specific initiatives, the co-operative society may need to work with multiple agencies and stakeholders in the city and the state. These include ULBs, the state government, other public transport and IPT operators, OEMs, technology providers, etc.

Moreover, a co-operative society—at the onset—may not have the technical capacities to address operational issues like (a) knowledge of route and fare optimisation, (b) familiarity with modern technologies, (c) understanding of innovative financing of vehicles, and (d) means of improving socio-economic benefits of the autorickshaw drivers, among others, and carry out the various initiatives and projects identified by the co-operative society. Thus, it is pertinent for the co-operative society to forge partnerships with various organisations and agencies. Some areas that these key partners can assist the co-operative society include:

- ◆ training and capacity building of Society staff and members,
- ◆ identifying sources of funds for functioning of the society and for execution of various projects,
- ◆ procurement of new vehicles, implementation of technologies, aggregation of operations, etc.

A year after the formation and registration of the Society, EJADCS initiated various measures to streamline autorickshaw operations in the city of Kochi along with KMRL and Kochi Municipal Corporation (KMC). The objectives of EJADCS include providing green and affordable mobility and safeguarding welfare of the drivers. Considering the activities that EJADCS was planning to undertake in their early phase of operations, institutional strengthening and capacity building was pivotal to ensure successful implementation. In addition, for a newly formed Society, like EJADCS, exploring funding sources was required to rollout activities. For formalised operations of autorickshaws in Kochi, EJADCS also required changes in policy regulations like a government order permitting EJADCS to operate shared three-wheelers in the city premises. To achieve the above, technical and financial assistance was availed from key stakeholders in the city through forming partnerships.

For formalising such partnerships with the key stakeholders, EJADCS entered into partnership agreements like a Memorandum of Understanding (MoU) with KMRL for operating metro feeder e-autorickshaws and a Joint Declaration of Intent (JDI) with KMC for operating shared e-autos in Kochi Corporation limits.

In addition to this, the members also required to have knowledge on aspects such as procurement procedures of vehicles and managerial skills to ensure the smooth functioning of the society. It was identified that the co-operative society formed by the autorickshaw drivers lack the technical knowledge or the managerial skill sets to adopt technology or organise operations.

Similarly, working groups, encompassing the key stakeholders in the city and state, were set up to seek guidance and cooperation on various initiatives planned by EJADCS. The various inter-agency co-operative mechanisms such as Joint Declarations of Intent (JDI), Memorandum of Understanding (MoU), formation of Working Groups, etc. help to define the scope of works for the respective agencies, ensure transparency of operations, and include the co-operative society in decision making. The key role played by these mechanisms have been elaborated upon in the following sections.

3.1. Joint Declaration of Intent (JDI) and Memorandum of Understanding (MoU)

Tools such as JDIs and MoUs are prepared to ensure transparency on the roles and obligations of the concerned parties. A JDI is signed between parties to indicate willingness to work together for a common objective and carry out certain defined roles. The key intention of signing a JDI is to enumerate the roles and obligations of parties involved. An MoU is also signed to ascertain the roles and obligations of the parties but other terms of the agreement between the various parties may be included as additional clauses that cover terms of cancellation, disputes, etc. The MoU may also be legally binding depending on the clauses included.

While JDIs are signed with other government nodal agencies, the autorickshaw co-operative society may need to sign MoUs with private organisations (OEMs, technology providers, etc). An MoU has the scope to include additional terms compared to a JDI and it also helps to protect the co-operative society since it has the potential to be challenged in a court of law, unlike the JDI.

The JDI and/or MoU will act as an agreement. Documentation of this kind is beneficial to:

- ◆ Ensure accountability of the autorickshaw co-operative society,
- ◆ Help the autorickshaw co-operative society in decision making at the project level, and

- ◆ Help maintain continuity in roles to be carried out by members of the nodal agency and the autorickshawco-operative society, irrespective of the changing leadership.

Refer Annexure 3.1 on JDI and MoUs signed between EJADCS and concerned agencies related to various initiatives by EJADCS in Kochi.

3.2 Formation of working groups

Working groups are created with members representing various stakeholders working together to achieve specified goals, including the autorickshawco-operative society. These working groups will help the autorickshawco-operative society to ensure transparency in operations, and in quick turnaround of decisions and actions. The stakeholders selected and included in the working group is dependent on the purpose of the working group; hence, suitable representatives need to be identified to be included in the working groups. A government order may be issued to inform of the working group members and activities.

3.3 Government orders and regulatory support

Regulatory support is required for the smooth functioning of projects implemented by the autorickshawco-operative society. Issuance of government orders at various stages of the autorickshaw projects may be required. Additionally, amendments to Acts may also be needed to remove unforeseen hurdles and ensure efficient implementation of projects. An autorickshawco-operative society, during its initial stages of functioning, may not have the skills sets required to carry out such mechanisms. Hence, as mentioned in the previous sections, the autorickshawco-operative society will benefit from the presence of a nodal agency, who, on its behalf, will provide the society with regulatory support in these aspects. Additionally, the co-operative society will also need to hire a CEO/any other staff in addition to the staff already prescribed by the relevant co-operative societies act. The staff hired for this purpose will need to have the skill sets that ensure an efficient implementation of the projects of the co-operative society.

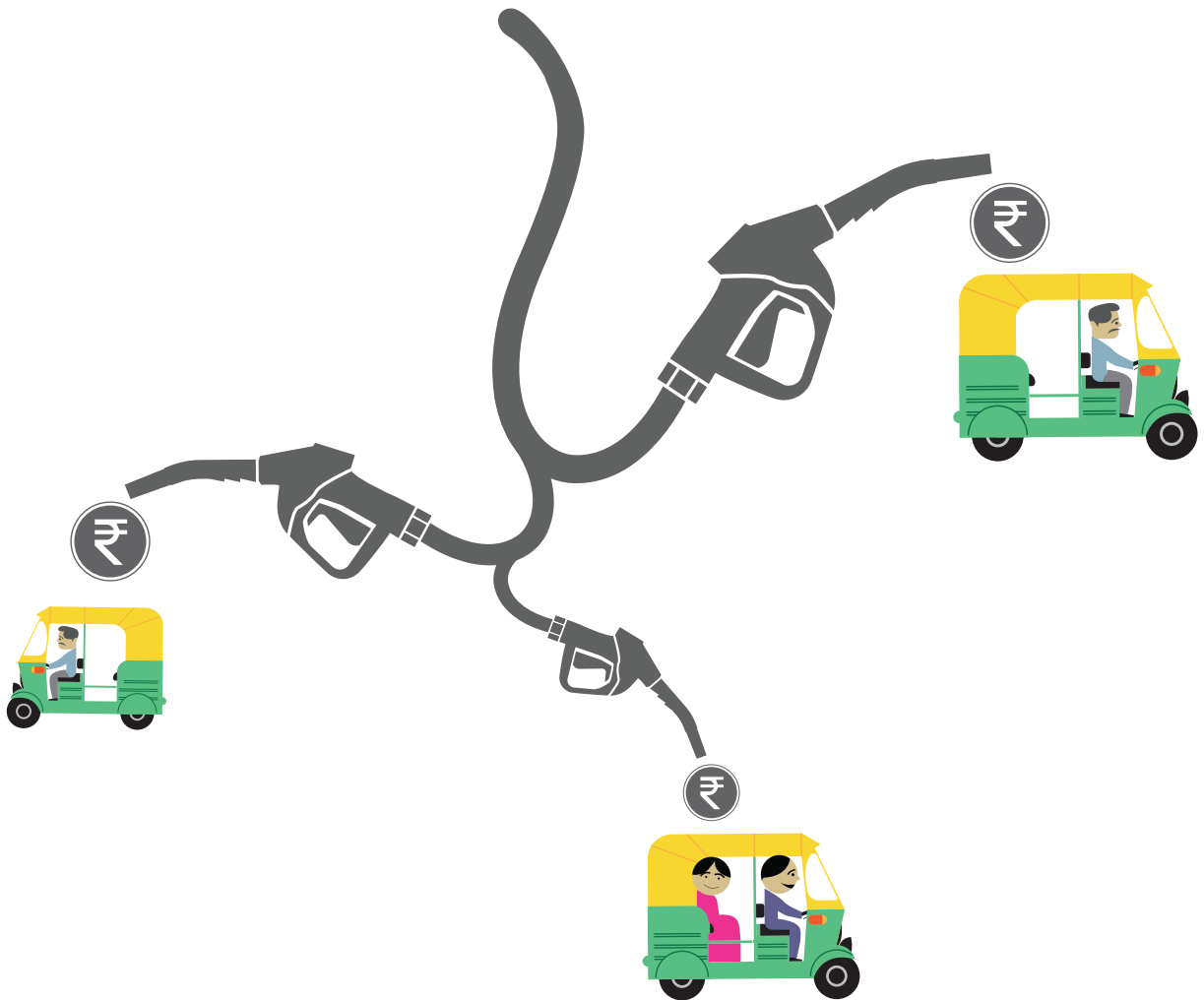
BOX 3.1 - INTER-AGENCY CO-OPERATIVE MECHANISMS ADOPTED BY EJADCS

Contractual agreements and documentation in the form of JDI and MoU have been drafted and signed between EJADCS and multiple stakeholders and agencies, such as KMRL, OEMs, etc. These mechanisms have worked to establish the intent and define the scope of works, and communicate on a mutual goal and the desire to see the projects and tasks through completion. In addition to this, working groups were established with multiple parties via stakeholder consultations. This ensured that EJADCS played a key role in decision making and negotiations during procurement of vehicles, execution and other stages of the autorickshaw projects. Policy-level changes and regulatory support that were required to overcome any roadblocks in meeting the objectives of the auto projects were carried out using Government Orders (GO). As part of the institutional strengthening initiative of KMC and GIZ under the SMART-SUT project, Board Members have been sensitised on the various co-operative mechanisms available and the uses of these mechanisms for projects. EJADCS has also benefitted from the presence of KMRL and then KMC as nodal agencies who have helped mobilise the required regulatory support at various stages of execution of the autorickshaw projects.

Details on the various JDIs, MoUs, Working Groups and Government Orders can be referred to in Annexure 3.1.

4

IDENTIFYING FUND SOURCES FOR THE CO-OPERATIVE SOCIETY





Improving the working capital and financial strength of a Society will help to increase staff strength, fund various projects, spend on training and capacity building activities and provide incentives to driver members. Exploring working capital of societies in the initial stages of a society's functioning may be explored. In case of EAJDCS, close to 3500 autorickshaw drivers are registered under EAJDCS (as of December 2021) as society members. Increasing the number of members (Ref. Section 2.2 for details), increase the share capital which can be made part of the working capital.

In addition to the working capital, the various sources of revenue generation that may be explored by various co-operative societies are mentioned broadly in the Co-operative Societies Act of Kerala, 1969. It is important to note that co-operative societies will also need to identify and define the exact sources of revenue in their respective bye-laws. The following sources of revenue are commonly defined in the bye-laws of co-operative societies in Kerala. Table 4.1 explains the revenue sources explored by EAJDCS as well, in line with the revenue sources broadly defined in the Act. The bylaws of the Society enumerate a few key sources of income generation for the Society as shown in Table 4.1.

Table 4.1: Potential fund sources available for co-operative societies and options explored by EAJDCS

Potential options for autorickshaw co-operative societies	Sources explored by EAJDCS
<p>Fixed deposits, loans, investment plans</p>	<p>Accept fixed deposits and disburse loans, groups investment plans: Societies generally have provisions to accept fixed deposit accounts. Additionally, they may also accept savings bank deposit accounts (4 per cent interest rate), current deposit accounts, and pigmy deposit accounts (daily collection with 3 per cent interest rates included in low-cost investment schemes). In addition to deposits, various loan schemes also must be implemented to cater to the financial needs of the members. The requisite sub-conditions for implementation and the repayment terms must be prepared by the Society and in turn approved by the Joint Registrar. The current bylaws of EAJDCS have the provision for accepting fixed deposits but the by-laws may be amended to include the above-mentioned fund sources.</p> <p>Group Investment Plan: Group Investment Plans also known as Group Deposit Scheme or Monthly Deposit Scheme helps the Society increase its working capital by earning commissions on the amount deposited by the autorickshaw driver members. Through this scheme, the Society can earn a commission of 5 per cent on the total amount invested. The requisite sub-conditions for the implementation of group investment plans must be prepared by the Society and in turn be approved by the Joint Registrar.</p>

Potential options for autorickshaw co-operative societies	Sources explored by EJADCS
<p>Fleet-based operations of autorickshaws:</p> <p>An autorickshaw co-operative society will need to conceptualise and operate autorickshaw projects that will subsequently help the society earn revenue. Some opportunities that can be explored for similar societies include using the autorickshaw to improve first and last mile connectivity, providing shared mobility services through the autorickshaw, exploring dial-an-auto services, among others. The identified projects will need to be financially feasible to ensure that the projects are able to generate revenue for the society, thus improving the financial strength of the society.</p>	<p>The following fleet-based operations were explored by EJADCS since 2018:</p> <p>a. Metro feeder operations using e-autorickshaws</p> <p>KMRL facilitated the e-autorickshaw feeder service in 2019 to provide first and last mile connectivity to the commuters, increasing metro patronage. As part of the project, KMRL introduced e-autos at six metro stations. The e-autorickshaw project was jointly operated by EJADCS, the OEM and KMRL on a rental-based business model, wherein e-autorickshaws were provided by the OEM (Kinetic Green Energy and Power Solutions Ltd) to the Society (EJADCS) on a rental basis of INR 200 per day per vehicle. EJADCS facilitated the availability of drivers for these autorickshaws. This arrangement was formalised via formal agreements between (a) KMRL and the OEM and (b) EJADCS and the OEM. The autorickshaw drivers benefitted from this model through increased earnings of an average INR 1000/- per day due to lower fuel (electric) charges. Hence, the member auto drivers of EJADCS financially benefitted from this initiative. Despite the higher income earned by the e-autorickshaw drivers, the OEM was unable to increase the number of e-autorickshaw plying on the road because of the range anxiety of the drivers, uncertainty over the battery life and lack of charging infrastructure. This deterred conventional autorickshaw drivers from adopting the e-autorickshaw mode (for further details refer Scoping Report).¹⁰</p> <p>b. Launching shared e-autos in Kochi by the KMC</p> <p>KMC initiated a project to improve first and last mile connectivity of mass transit systems in an affordable manner within the Corporation limits using e-autos operated on a shared basis (Refer Annexure 5). The study supported by the Indo-German technical cooperation project (SMART-SUT) under the Green Urban Mobility Partnership (GUIMP). EJADCS was identified as the key beneficiary who will receive the KMC level subsidy to procure the e-autos and operate the same. Under this model, EJADCS will rent/lease the e-autos to its member drivers for operations thereby making profit.</p> <p>c. AuSa pilot app project</p> <p>The AuSa Pilot app was developed by Technovia Info Solutions Private Limited to help EJADCS improve accessibility of the autorickshaws to the public via smartphone application-based auto hire systems. The key objectives of the smartphone based AuSa application are to: (a) improve accessibility and reliability to the IPT services in the city by providing door-to-door services, and (b) help the autorickshaw act as a feeder to the existing public transport by operating on a fleet-based model.</p>

¹⁰ KMC (2021), Scoping report for introduction of electric autos in the city of Kochi, Kerala, India, GIZ SMART-SUT Project



Potential options for autorickshaw co-operative societies	Sources explored by EJADCS
	<p>The application assists in vehicle tracking, real time trip monitoring, maintaining database of drivers and vehicles, vehicle, and SOS management via server to ensure safety travel. Fare transparency is achieved by using government-approved metered rates, and cashless payments are supported by the applications through digital payments via connections to various UPIs and thermal printers used for receipts. In addition to this, the application also supports green mobility measures via connections to e-autorickshaw drivers and vehicle charging stations. EJADCS plays four key roles in the operations of the AuSa Pilot application, namely (a) Own the AuSa Pilot application, (b) Enrol autorickshaws and drivers to the application, (c) Ensure that all drivers have smartphones, and (d) Revise pre-programmed features on a need basis. EJADCS will earn revenue on a commission base depending upon the number of rides through the app. Overtime, EJADCS can employ autorickshaw drivers for the application and the society will earn revenue directly generated through the rides.</p> <p>Details of e-autorickshaw projects and AuSa pilot project of EJADCS can be referred to in Annexure 5.</p>
<p>Funds from agencies: Nodal agencies, donors and other CSR funds institutions can be identified and approached for other options for funding. These funds can help kick-start the various planned auto projects in the city.</p>	<p>Funds from nodal agencies and donor agencies were explored by EJADCS.</p> <p>Funds allocated by nodal agencies: Agencies such as KMC and Kochi Metropolitan Transport Authority may support shared and green mobility project(s) in Kochi.</p> <p>Donor funds: Funds from donor agencies such as GIZ and UN Habitat were used by EJADCS to procure, own and launch e-autos to operate as feeder systems to the existing public transport systems.</p> <p>Refer Annexure 5 for further details on the funding sources explored by EJADCS for initiating various projects in Kochi.</p>
<p>Insurance plan tie-ups, fuel cards, digital screen advertising, start workshops and spare-parts shops which provide services at reasonable rates etc. The drivers/members, who need to pay higher amounts from other privately run spare part shops, can benefit from the moderate rates charged by the Society. Additionally, the profits from this can be used for the generation of revenue for the Society.</p>	<p>EJADCS is currently exploring the various sources mentioned here.</p>

The Kerala Co-operative Societies Act, 1969, and the bylaws prepared for EJADCS indicate all the permissible activities and projects and the process that needs to be followed for approval of these activities that can be carried out by the Society. In addition to this, the Society also undergoes regular audits to monitor the financial activities of the Society.

5

CAPACITY
DEVELOPMENT
INITIATIVES FOR THE
CO-OPERATIVE SOCIETY









When a new autorickshaw co-operative society is formed, it initially comprises only Board Members who then expand the Society. Board members of such a newly formed society are often trade union members of various political parties and may lack the technical expertise and skill sets to ensure a proper functioning of the Society. At the initial stages, the Society board members will need to initiate projects which will generate income, based on which additional staff can be hired and the Society can be expanded. Thus, capacity building and training of the board members and autorickshaw driver members of the Society may be taken up in the initial stages. Once the staff of the Society is hired, they may also be trained as required.

Training topics can include broad topics such as relevant Acts and policies, technical know-how on streamlining autorickshaw operations, managerial skill sets, etc. Table 5.1 indicates some of the training sessions that can be offered and their potential outcomes.

Table 5.1: Potential trainings sessions, trainee category and their expected outcomes

Topics	Board members of the co-operative society	Staff of the co-operative society	Autorickshaw drivers of the co-operative society	Expected outcomes
 Policies and Acts (Examples include national and state level policies and Acts such as National Urban Transport Policy, Motor Vehicles Act, Co-operative Society Acts, Electric Vehicles Policy, etc.)	✓	✓		Guiding principles from the policies Activities permissible as per the Acts and identification of amendments/revisions required (if any)
 Streamlining autorickshaw operations to meet first and last mile connectivity	✓			Improved decision making on route planning Enhanced autorickshaw operations
 Vehicle technology and market sensitisation	✓			Market sensitisation for informed decision making
 Procurement procedures	✓			Society and its members can manage the operations efficiently

Topics	Board members of the co-operative society	Staff of the co-operative society	Autorickshaw drivers of the co-operative society	Expected outcomes
 <p>Management capacity, negotiation, leadership, motivation, establishing inter-organisational relationships</p>	✓	✓	✓	Society and its members can manage the operations efficiently
 <p>Improved operations, Passenger-friendly behaviour including gender sensitisation, road safety, use of IT-enabled systems, skill set development for operations and maintenance of vehicles with new technology (EV, solar, etc.)</p>			✓	Improved operations by autorickshaw drivers and better customer satisfaction
 <p>Introduction to alternate technology and fuel</p>	✓			Improved awareness of the benefits of using alternate technology (ex. EV, solar) and technical know-how for introducing such technologies



Box 5.1 below provides details on the various trainings that were carried out for the board members and drivers of EJADCS.

BOX 5.1 - TRAINING SESSIONS CONDUCTED OF BOARD MEMBERS AND AUTORICKSHAW DRIVERS OF EJADCS

As part of the institutional strengthening of EJADCS, numerous training sessions have been conducted both in-person and virtually during the period 2020-2021. The trainings were carried out with support from KMC and GIZ under the SMART-SUT project. The primary objective of the sessions is to build the capacity of the board members of the Society on various topics related to the functioning of co-operative societies and e-auto operations. These trainings helped the Society in making informed fleet procurement decisions, tackling teething issues in operations, and improving the in-house technical and managerial capacities. In lieu of EJADCS's role in promoting green mobility through e-autorickshaws, the trainings sessions covered the broad topics that include:

- ◆ Relevant Acts for Co-operative Society and e-autorickshaw operations such as Motor Vehicle Act, Electric Vehicle Act and Kerala Co-operative Societies Act, 1969
- ◆ EV technology and EV operations in India
- ◆ Vehicle technology and market sensitization
- ◆ Vehicle procurement
- ◆ Technology training for smartphone-based autorickshaw hiring; Cashless payment solutions
- ◆ Soft skills such as managerial capacity development, negotiation, motivation, leadership skills etc.

(Snapshot of training sessions can be referred in Annexure 4.)

PART C

Ensuring improved
efficiency and quality
of autorickshaw
operations

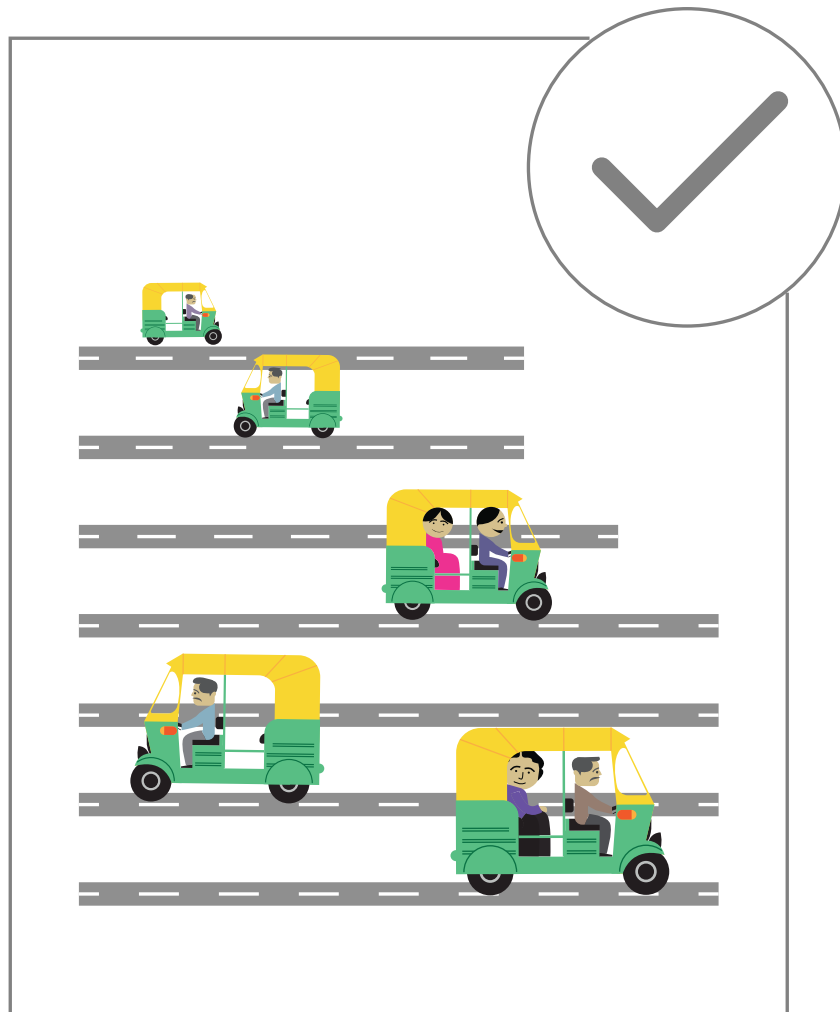
A part of streamlining autorickshaw operations in a city is to improve accessibility through cost-efficient autorickshaw services. Various options to ensure this include autorickshaw services as a feeder system to the formal city public transport service, shared mobility services and aggregator operations. In addition to this, the pandemic and subsequent mobility restrictions have increased the potential of the autorickshaw to provide emergency door-to-door services. However, the potential of the autorickshaw to provide these services remain underutilised due to their current disaggregated operations.

Chapter 6, Formalised autorickshaw operations by the co-operative society, under Part C, highlights the various options that can be explored to ensure streamlined autorickshaw services. The case example of EJADCS and the services provided by the autorickshaw in Kochi through EJADCS have also been elaborated.



6

FORMALISED AUTORICKSHAW OPERATIONS BY THE CO-OPERATIVE SOCIETY







In most cities autorickshaws complement the public transport systems, by serving as last mile connectivity choice. They are also suitable modes that can access a large majority of roads in Indian cities which are narrow and inaccessible by public transport. In addition, autorickshaws also provide door-to-door services. The sub-sections below elaborate the various opportunities that the autorickshaw sector can capitalise to provide improved transport services in a city.

6.1 Autorickshaws as a feeder system

Autorickshaws can provide first and last mile connectivity by integrating locations and service routes with the existing public transport system. This will help improve usage of the formal public transport system (bus, rail services and others) as a primary mode of transport. Realising this role played by autorickshaws, it is a common practise in majority of Indian cities for concerned authorities to include designated autorickshaw stands in bus stops and railway terminals.

In many cities there are public transport accessibility gaps due to geographic constraints such as narrow inaccessible roads, terrain issues, etc. The autorickshaw sector has the potential to act as the main mode of commute for such areas that are not serviced by the public transport system such as city buses and metros. The strategies explored by EJADCS in Kochi for improving autorickshaw operations are discussed in Box 6.1.

BOX 6.1: Strategies adopted by EJADCS to provide improved autorickshaw operations in Kochi

<p>Autorickshaws as the feeder system to Kochi's public transport</p>	<p>As one of the first initiatives after formation of the Society, EJADCS joined hands with KMRL to operate autorickshaws as feeder to the metro system. The locations of autorickshaw stands were well integrated with metro stations to ensure seamless connectivity, and selected member auto drivers from the Society were trained on road safety, customer-friendly behaviour, etc. Special driver uniforms and branding drivers as 'auto pilot' ambassadors for the service helped improve the image of the overall autorickshaw service and that of auto drivers.</p>	
<p>Efficient last mile connectivity through autorickshaws in West Kochi, Elamkulam and Kadavanthara, Kochi city</p>	<p>Envisaging improvement of last mile connectivity especially in the island of West Kochi, and in areas with limited public transport coverage like Elamkulam and Kadavanthara, KMC plans to launch 100 shared electric autos, jointly with EJADCS. These autos plying on a fixed route will complement the public transport routes and system by transporting public transport passengers from their homes or places of work to public transport stations. These services planned to be launched by mid-2022 are expected to offer enhanced reliability as autorickshaws will be operated on a fixed schedule. (Refer annexure 5.1.)</p>	



Society (example EJADCS)	Auto drivers	Passengers	Environment
Increase in revenue due to increased number of autorickshaw drivers participating in such planned initiatives addressing last mile connectivity	Increase in revenue due to increased IPT usage by passengers to reach public transport stations Better image and recognition in society	Reliable services Transparent fares, Improved safety	Presence of a reliable IPT service that connects areas with low public transport connectivity with public transport stations encourages a shift from personal vehicles to public transport and hence reduce emissions

6.2 Autorickshaws as a door-to-door service

In addition to its role as a feeder system, autorickshaws also provide door-to-door services. The challenges pertaining to this conventional system is the unreliability and ambiguity in terms of lack of information on availability, transparency in fares, passenger safety, comfort, etc. However, in the last decade aggregated taxi services were successful in addressing some of these challenges by providing reliable, affordable and transparent services, ensuring passenger safety. The autorickshaw sector also has the potential to work as an aggregated service whereby the riders can hire autorickshaws using phone-based applications and it can be efficiently used to integrate autorickshaws into the existing public transport system.

Pioneering models in the form of G-Auto in Rajkot, mGaadi in Bengaluru, Poochh-O in Delhi have indicated that technology can be used to solve problems faced by the autorickshaw sector, successfully.^{11 12} Individually operated autorickshaws plying along disjointed routes now ply on optimised routes, leading to better service. The ride hailing applications have also improved the security of the female passenger by making it easier to report harassment via details of the vehicle and the driver provided through the Vehicle Information System (VIS). The system, through its allocation of passengers to drivers using real time monitoring of driver location and availability, has also allowed the drivers to increase their productivity, which was otherwise stunted because of issues of geographic coverage and high number of dead runs. Increase in number of rides and the transparent metered fare charges have increased the income of the drivers and reduced the haggling over trip fares.¹³ The strategy explored by EJADCS in Kochi to introduce door-to-door service is discussed in Box 6.2.

BOX 6.2: Strategies adopted by EJADCS to provide aggregated services

Autorickshaws as an aggregated service using phone-based application

To promote fleet-based operations and act as a feeder system, EJADCS partnered with Technovia Solutions to create a ride-hailing application named Auto Savari ('AuSa'). The key objectives of the smartphone-based AuSa application not only include improved accessibility and reliability of the door-to-door IPT services in the city, but also improved feeder service to the existing public transport systems. (Refer Annexure 5.2.)



¹¹ Reid, D. (2014), Mobile apps taming India's chaotic auto-rickshaws, BBC News, <https://www.bbc.com/news/business-29840206> (Accessed on 19 July 2021)

¹² Dasgupta, A. (2016), How Mobile Apps Are Improving India's Rickshaws, <https://www.wri.org/insights/how-mobile-apps-are-improving-india-as-rickshaws> (Accessed on 19 July 2021)

¹³ Dasgupta, A. (2016), How Mobile Apps Are Improving India's Rickshaws, <https://www.wri.org/insights/how-mobile-apps-are-improving-india-as-rickshaws> (Accessed on 19 July 2021)




Society (example EJADCS)	Auto drivers	Passengers
Increased number of autorickshaw drivers enrolling in such online apps/system contributes to alternate income for the Society in terms of the app registration fees and user charges	Increase in revenue due to enhanced access to IPT services through apps	Reliable door-to-door service, Transparent fares, Improved safety, customer care facility, etc.

6.3 Autorickshaws to provide shared mobility services

Lower income households that do not own private vehicles heavily rely on public transport systems. However, in many cities though there are efficient IPT services well integrated with public transport stations, a good share of public transport users from low-income households are unable to afford the existing IPT fares. Introduction of a shared mobility (where one or more passengers share a ride and thereby pay reduced per person fare) concept in autorickshaw services can reduce the per ride fare of the passenger making it an affordable mode of transport along high demand corridors and in areas that lack public transport. The strategies explored by EJADCS in Kochi to provide shared mobility through autorickshaw services are discussed in Box 6.3.

BOX 6.3: Strategies adopted by EJADCS to provide shared mobility

<p>Shared mobility services through autorickshaws in the city</p>	<p>With support of KMC, EJADCS is exploring the potential of improving connectivity of the mainland city with the surrounding areas through electric vehicles, which are proposed to operate as shared services. Shared mobility services on fixed route basis in these areas will improve the reliability and affordability of commute. (Refer Annexure 5.1)</p>	
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Society (example EJADCS)	Auto drivers	Passengers	Environment
Introduction of such planned IPT operations that address the mobility gaps in the city help to not only position the Society/aggregator as a key player in the city's mobility ecosystem, but also help establish good working relationships with other key mobility service providers like metro, railways, ferry and bus operators.	This being an affordable service ensures increased IPT users and hence increased revenue	Affordable service as per ride fare is reduced as it is shared with co-passengers	The concept of shared mobility encourages three or four passengers to share a ride to a common/nearby destination, thus reducing the number of trips and related emissions.

6.4 Exploring alternate green fuels in autorickshaws

The autorickshaw sector has been identified as one of the major contributors to vehicle-related emissions in cities.¹⁴ Hence, adopting alternate fuel options in this sector, such as CNG, solar and electric, will play a key role in promoting sustainable urban transport. The strategy explored by EJADCS in Kochi for introducing alternate green fuels is discussed in Box 6.4.

BOX 6.4: Strategies adopted by EJADCS to provide green mobility in Kochi

Green mobility in the autorickshaw sector

Kerala EV Policy (draft) targets ‘1 million EVs on the road by 2022 and 50,000 electric autorickshaws as a pilot fleet by 2020’. In line with this EV Policy, EJADCS undertook initiatives to introduce electric autorickshaws in Kochi. In 2019, e-autorickshaws were launched in Kochi on a rental model basis and the project was jointly operated by KMRL, the OEM (Kinetic Green) and EJADCS. In addition to this, in association with KMC, an alternate business model (vehicle owned by EJADCS) of e-autorickshaw operations in the city limits is being explored. EJADCS is also expected to play a more central role as an aggregator with active participation in vehicle procurement, deployment of drivers, etc. These will be operated on shared basis. (Refer Annexure 5.1)



Society (example EJADCS)	Auto drivers	Passengers	Environment
Introduction of such alternate fuel technologies in IPT operations enables such aggregators/Societies to advance state/national green mandates (like GoK’s EV Policy) and avail the central, state and ULB-level subsidies associated with EV/other alternate fuel vehicle procurement.	Reduced operational costs resulting in increased daily income	Alternate fuel vehicles produce lower noise and air pollution compared to conventional diesel/petrol vehicles, thereby offering a comfortable ride	Alternate fuel vehicles produce lower emissions compared to conventional diesel/petrol vehicles

6.5 Other services: Emergency services to public

Autorickshaws have been the service of choice during times of crisis as they are an affordable alternate option which is easily accessible for the larger public. The COVID-19 pandemic impacted the livelihood of autorickshaw driver community across India. During this time, autorickshaw drivers have provided various emergency services to patients—ranging from provision of grocery to isolated and quarantined households to transferring patients to hospitals. While this has been carried out in an ad-hoc manner in cities, a co-operative society or aggregators have the potential to streamline these emergency services via its operations. The various emergency services implemented by EJADCS in Kochi are discussed in Box 6.5.

¹⁴ ICLEI Local Governments for Sustainability, 2018. Eco Mobility Alliance Report Phase 2018. Bonn, Germany

**BOX 6.5: Autorickshaw services in Kochi during the COVID-19 pandemic in 2020 and 2021**

KMC and EJADCS had forged a strong working relationship through a SMART-SUT supported project titled 'Launching E-autos in Kochi'. In continuation, the institutional strengthening of EJADCS was carried out for efficient operation of autorickshaw services in the city. Building on this relationship and realising the need to ensure safe transport for all during Covid-19, KMC and EJADCS, with support of SMART-SUT project, undertook initiatives during the first and second wave of Covid-19 to ensure the safety of passengers and autorickshaw drivers and to connect people to essential services.

During the first wave of the pandemic in 2020, EJADCS with the support of KMC and SMART-SUT project adopted precautionary measures as prescribed in the COVID protocol to make travel safer for all. These precautionary measures included the following:



Installation of physical separators between the driver and passengers inside autorickshaws



Enabling cashless fare transactions through installation of QR code in partnership with Technovia Info Solutions Pvt Ltd. and Federal Bank



Training for autorickshaw drivers on the importance of following safety protocols during COVID by Health Department



Installation of notices on precautionary guidance to passengers and drivers

With the onset of the second wave in Kochi, a Covid-19 response support using autorickshaws was rolled out. Autorickshaws doubled-up as ambulances catering to the needs of Covid-19 patients in the city including patient transportation between hospitals and home, supply of medicines, oximeter, thermometer, and facilitating movement of medical staff to patients' houses. Under a one-month pilot initiative, 16 fully equipped autorickshaw ambulances provided 24-hour free service to Covid-19 patients. Each vehicle was equipped with medical equipment like pulse oximeter, infrared thermometer and portable oxygen cans. This timely action by KMC and EJADCS was supported by relevant health and transport stakeholders in the city, and a multi-stakeholder committee was formed for efficient implementation of the initiative.

The 18¹⁵ volunteering drivers were trained on safety measures, use of medical equipment and mobile-based application. They were provided with safety kits and in-vehicle medical equipment, and were provided food, restroom, parking and PPE waste disposal facilities. The service was operated in coordination with the Control Room, wherein relevant calls to the Control Room were directed to the auto ambulances. For enhanced safety, the vehicles were fitted with Vehicle Location Tracking (VLT) system to aid live tracking of the vehicles in addition to tracking via drivers' mobile phones.



The 18 volunteering drivers were trained on safety measures, use of medical equipment and mobile-based application. They were provided with safety kits and in-vehicle medical equipment, and were provided food, restroom, parking and PPE waste disposal facilities. The service was operated in coordination with the Control Room, wherein relevant calls to the Control Room were directed to the auto ambulances. For enhanced safety, the vehicles were fitted with Vehicle Location Tracking (VLT) system to aid live tracking of the vehicles in addition to tracking via drivers' mobile phones.

¹⁵(16 + 2 stand-by drivers)

Trainings for drivers on safety measures (guidance on the use of mask, vehicle sanitisation, cashless fare collection, etc.) supported by National Health Mission and Corona Safe Network



Timely mobilisation of resources jointly by KMC and EJADCS with support of SMART-SUT and in partnership with key stakeholders ensured that the autorickshaw ambulances were operational for one month during the peak of Covid-19 second wave in Kochi. Close monitoring and course-correction through day-to-day coordination with volunteer-drivers and through weekly operations report and review by Coordination Committee helped identify and address pressing issues for improved service. The pilot operations successfully fulfilled 261 requests, including 227 patient transfers. The city administration ended the service given the decline in Covid-19 cases in the city.








Society (example EJADCS)	Auto drivers	Passengers / Citizens
Capability of aggregators/Societies to proactively address needs of drivers and citizens during crisis situations positions them as a key player in the city's mobility ecosystem	Association with Societies/ aggregators ensures timely help and support during crisis situations	Safe, reliable and affordable(or free) services through autos during the times of crisis

6.6. Information dissemination

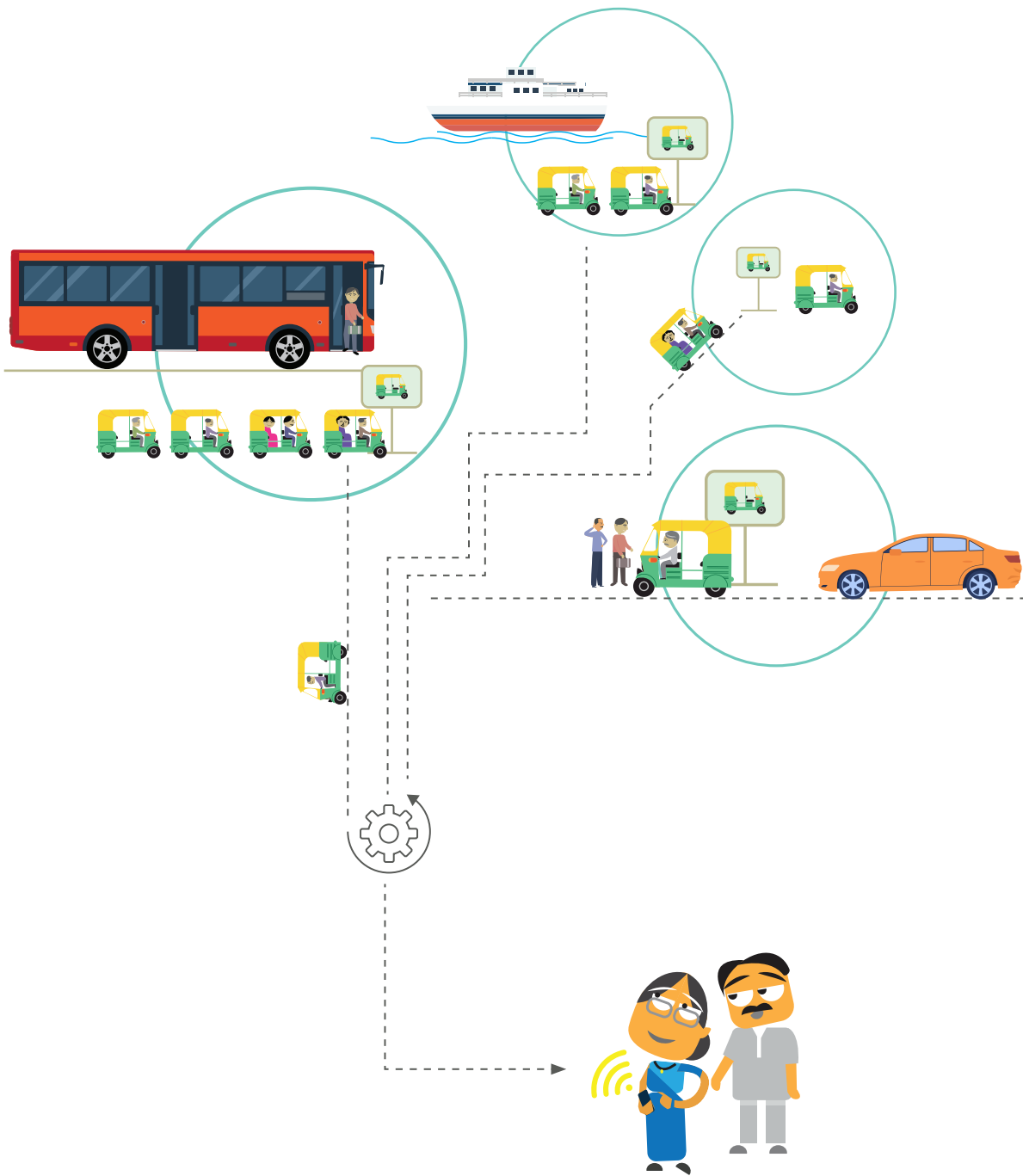
The co-operative society can engage with and improve visibility among the public. Disseminating information regarding projects, initiatives and operations of the co-operative society will help raise awareness, inform, receive input and feedback, and promote its activities. The target audience of this information dissemination will include the larger public commuters to the niche government institutions and other agencies. Various kinds of platforms—both conventional and innovative—can be used depending on the scale and type of information to be shared with the audience. Box 6.6 indicates the kind of platform that can be used based on the activity and the reach offered, based on EJADCS' activities. The staff of the co-operative society will be responsible for preparing an information dissemination plan and carrying it out effectively.

**BOX 6.6: Information dissemination strategies adopted by EJADCS**

Information on the various projects, milestones and activities of EJADCS are disseminated frequently to promote and raise general awareness among the public about the Society through social media platforms and other means as listed below:

	Signage	Set up signage and maps, for example, transit maps and IPT service routes, in coordination with concerned agencies
	Social media platforms	Creation of a Facebook page and twitter handle to engage with public and notify on the latest developments and activities. Twitter: @EJADCS (https://twitter.com/EJADCS); Facebook: Ernakulam-Jilla-Auto-Rickshaw-Drivers-Co-Operative-Society-EJADCS (Link)
	Branding	Creating logo, special uniforms for EJADCS autorickshaw drivers, branding initiatives of autorickshaws for special services
	Print media	News articles of EJADCS activities in the major local newspapers to keep the public informed of activities and services
	Publications	Brochures, presentations on trainings, articles/reports etc. to share information and learnings with other parties

CONCLUSION





Kochi as a city has benefitted from the various initiatives undertaken by EJADCS in coordination with various city, state, national and international agencies, which not only includes streamlining IPT operations but also response to emergency situations like COVID-19. These efforts were recognised by MoHUA during the Urban Mobility India (UMI) conference when EJADCS was conferred with the 'Award of Commendable Initiative' for 'Innovations undertaken in Urban Transport during COVID-19' and launch of Auto Ambulance during the second wave of COVID-19 in 2021. This was made possible due to the strong inter-organisational mechanisms established by EJADCS in the city which has positioned EJADCS as a key player in the mobility ecosystem of Kochi. Various Covid-19 precautionary measures adopted by EJADCS during 2020-2021 gained national level recognition setting new standards for IPT aggregators in playing a vital role in addressing the mobility needs of the city during crisis.

EJADCS, being the first Society to jointly launch electric autorickshaws with KMRL, as feeder to Kochi metro services, not only sets an example for the autorickshaw communities, but also for the State. The joint initiative by KMC and EJADCS to launch the first 100 electric three-wheelers as part of pilot project in Kochi has been estimated by SMART-SUT to result in a CO2 emission reduction potential of up to 12.2 per cent from the current levels by 2040.

The unique story of EJADCS has enabled EJADCS to successfully initiate projects with full support of the auto-driver community with different political affiliations, as a unified body. The success story of EJADCS is proof that a newly formed Society, operated solely by its board members with limited capital, can bring about a positive change, not only leveraging both technical and financial assistance from national and international agencies, but also streamlining IPT operations, on account of their strong vision, for the benefit of the citizens and auto driver community. This is worth replicating in other cities.



Ministry of Housing and Urban Affairs (MoHUA) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH are jointly implementing the technical cooperation project 'Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT)', commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The project works with the three Smart Cities of Bhubaneswar, Coimbatore, and Kochi and respective state governments of Odisha, Tamil Nadu, and Kerala to promote low carbon mobility planning, and to plan and implement sustainable urban transport projects.

As part of the Indo-German bilateral cooperation, both countries have also agreed upon a strategic partnership—Green Urban Mobility Partnership (GUMP)—between the Ministry of Housing and Urban Affairs (MoHUA) and Federal Ministry for Economic Cooperation and Development (BMZ). Within the framework of partnership's technical and financial cooperation, the German government will support improvements in green urban mobility infrastructure and services, strengthen capacities of national, state, and local institutions to design and implement sustainable, inclusive, and smart mobility solutions in Indian cities. As part of the GUMP partnership, Germany will also be supporting the expansion of public transport infrastructure, multimodal integration, low-emission or zero-emission technologies, and promotion of non-motorised transport in India. Through this strategic partnership, India and Germany intend to jointly achieve effective international contributions to fight climate change.