



Multi-Modal Integration: Case Study KMRL

4th November 2017

Presented By:
Praveen Goyal
Director (Systems)



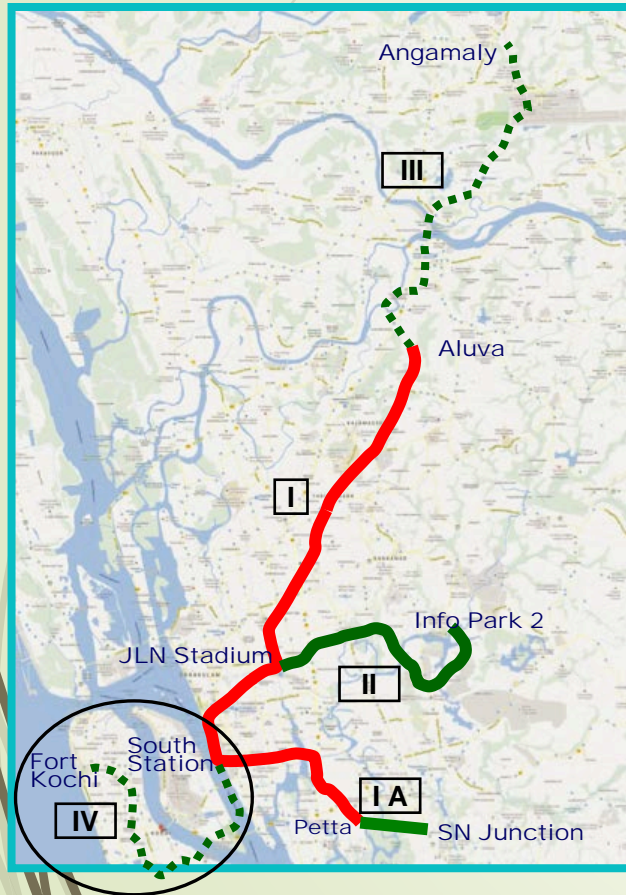
Introduction

- Commuter - overall end to end experience
- Metro solution is point to point
- Last mile connectivity vital for Passengers (and Metros)
- Last Mile Connectivity is value for money but requires
 - Co-ordination between agencies
 - Comprehensive planning



Alternative Modes of Transport

KMRL's Current Metro Alignment & Expansion Plans

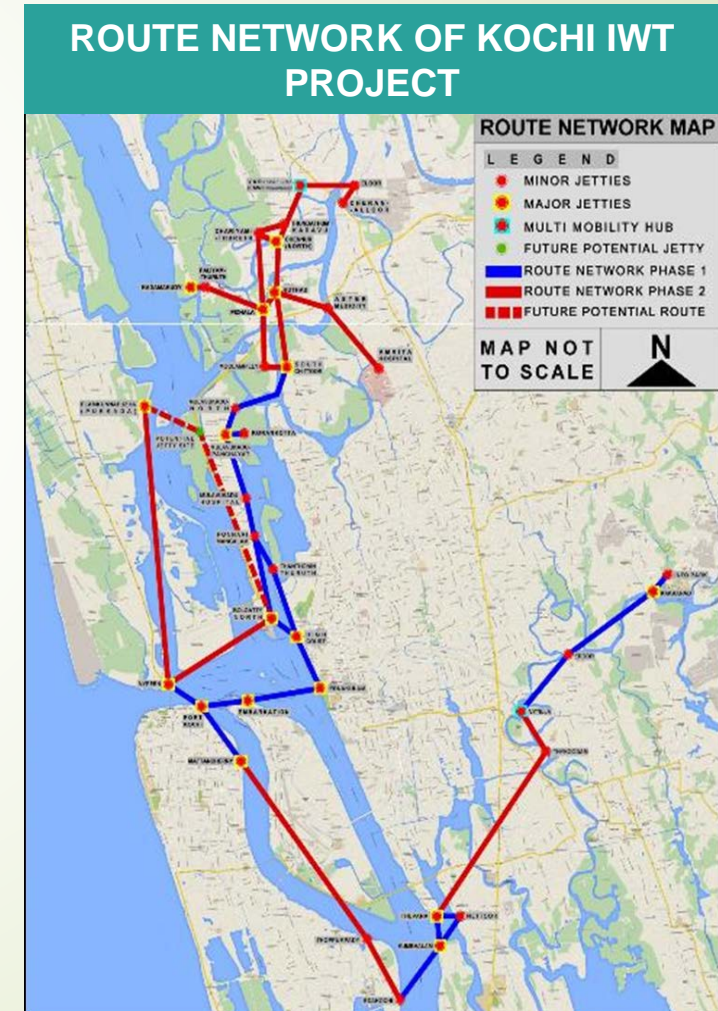



Phase	Description
Phase-I	<ul style="list-style-type: none">Aluva to Petta with 25.6 kms,Project Cost INR 5181.79 Crores
Phase-II	<ul style="list-style-type: none">JLN stadium to Info Park 2, 11.2Kms,
Phase-III	<ul style="list-style-type: none">Aluva to Angamaly, 18 Kms
Phase-IV	<ul style="list-style-type: none">Jos Jn to Fort Kochi, 18KmsProject Cost INR 5218 CroresDPR prepared

Alternative Solutions: Kochi Inland Water Transport

KEY FEATURES OF NEW PROJECT :-

- Modern boats with 100 Pax (26 Nos) & 50 Pax (52 Nos), 16 routes covering 76 route km
- Energy Efficient, AC boats with 15-22 kmph speed
- 38 Passenger modern friendly Jetties with public amenities
- Development of '100 kms of approach / island road'
- Project launched July 2016





KMRL is repositioning itself as “ An Urban Transport Solution Provider” , instead of a “ A Metro Rail Operator” .

From “A Metro Rail Operator”

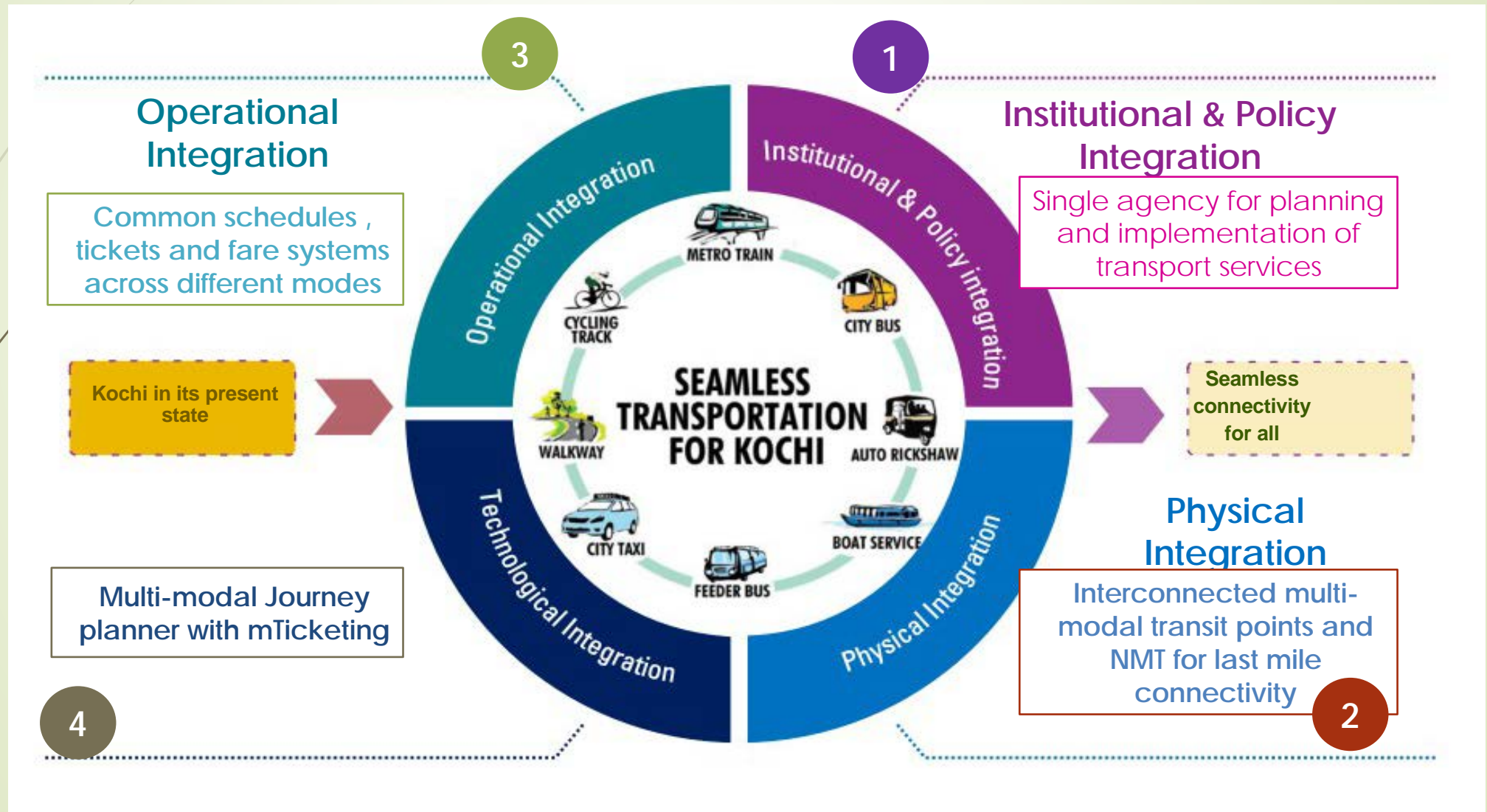
Started out with the idea of setting up a modern Metro for Kochi. However,

- Metro alone is not a solution for Kochi’s transportation problems
- For Metro to be sustainable, we need to make public transportation the default option for all classes



To “An Urban Transport Solution Provider”

KMRL is focusing upon a four-pronged approach comprising integration of Institutional & Policy, Physical Infra, Operations & Technology



Implementing Smart Card based integrated ticketing system

Implementing Smart Card based integrated ticketing system



EMV Smart Card based Payments



Mobile based Payments



Buses



Metro Trains



Ferries

Fare purchases for Kochi Public Transit



Parking



E-Commerce




Retail Payments

Non-Transit payments enablement

- Open loop smart card
- Implementation by consortium
- **KMRL** will get
- Additional Revenue

- **First time in India, EMV** enabled, can be used **as store value card**
- **Axis bank, ASIS (Turkey), AGS** to bear **Capital and maintenance cost** of ~INR 270 crore
- **Financial Gain of more than INR 235 crore** over 10 Years
- **0.2% of transaction value** on non-transit transaction

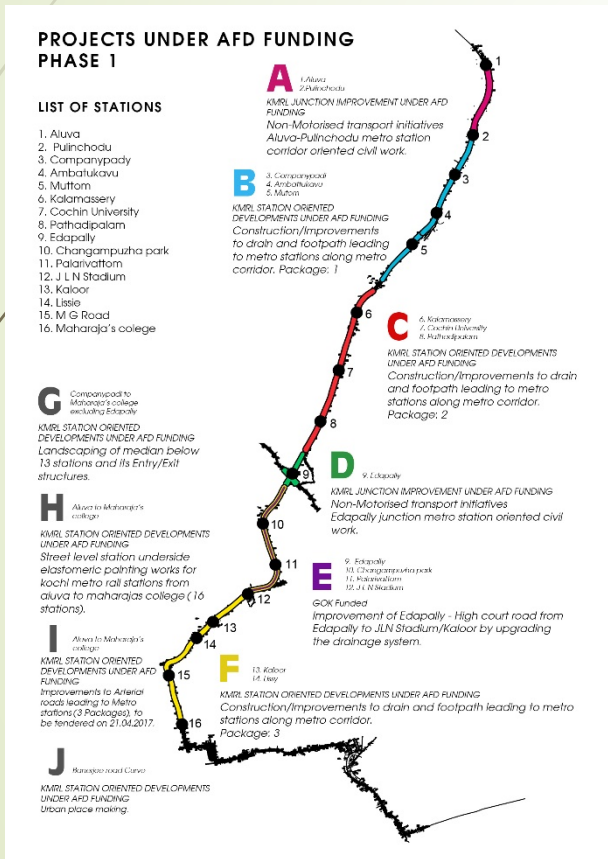


Studies Undertaken

- ▶ Comprehensive Mobility Plan & Master Parking Plan for Greater Kochi (Including Parking Policy)
- ▶ Integrated Public Transport Solution for Greater Kochi Region
 - ▶ Bus Route Rationalisation Plan
 - ▶ Feeder Network Plan

NMT & Place Making Projects

MoUD guidelines state that MRTS projects shall facilitate last mile connectivity in the influence zone of the stations. Accordingly, KMRL has prepared a NMT Master Plan consisting of multiple projects for NMT infrastructure improvement



Total Value of Phase I - 91.88 Cr.
Total Value of Phase II - 69.12 Cr.
Total for NMT & Place Making Project - 161.00 Cr.

Salient Features of Phase - I

Location	Aluva to Maharajas College
Total Value of Phase-I	91.88 Cr.
Value of Civil Work	78.88 Cr.
Value of Electrical Work	13.00 Cr.
Major Junctions improvements	Aluva & Edepally Junctions

STATION ORIENTED DEVELOPMENT



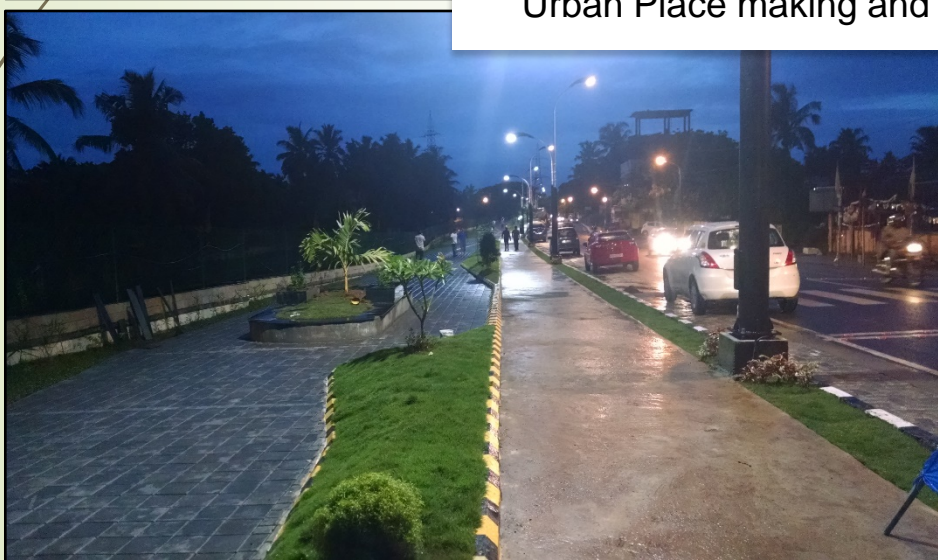
- ❑ Improving the first and last mile connectivity to MRTS
 - Revamping the walkways and drains,
 - Designated bus bays, parking areas,
 - Pedestrian crossings and improvement of existing junctions
- ❑ Making pedestrian friendly facility
 - Greenery of viaduct median and station premises
 - Western Ghats themed station design.

PANAMPILLY NAGAR URBAN PLACE MAKING PROJECT

12



Urban Place making and beautification project



ALUVA JUNCTION IMPROVEMENT

- Key initiatives:**
- Dedicated space for NMT and prioritize NMT along main roads
 - Create NMT bridges at 2 places
 - Plan for multi modal integration around Aluva Metro Station and Railway Station.



INTEGRATED BUS TIME TABLE (IBTT)

Challenges in the Present MV Act:

- Route, Origin-Destination & Schedule are proposed by Pvt. Bus owners
- RTO is obliged to issue bus permits accordingly, subjected to state rules
- Clash of interests of Pvt. Bus Ops hindering implementation of IBTT

KMRL's Solutions:

- Kerala MTA Draft Bill envisages powers to formulate fresh scheme for buses and recommending it to Govt. for notification
- Upon notification of scheme by Govt., Implementation responsibility lies with MTA. All 7 companies have been aligned to follow scheme
- IBTT prepared
- A Journey Planner App is also under consideration, along with GPS based Bus tracking System

City Private BUS Integration

1400 Buses – 1000 private and 400 State run

- Kochi Wheelz United LLP
- Muziris Bus LLP
- My Metro Bus Services LLP
- Pratheeksha Transport Operators Organisation Pvt. Ltd
- Greater Kochi Bus Transport Association LLP
- Perfect Bus Metro Services LLP
- Kochi Metropolitan Transport Co- operative Society Ltd.

Societies may put brakes on blood-spilling on city roads

To pool collection from operation of buses and share it equally among members

STAFF REPORTER
KOCHI

The organisation of city bus operators under seven societies formed at the instance of Kochi Metro Rail Limited (KMRL) as part of the proposed Urban Metropolitan Transport Authority (UMTA) to coordinate multiple modes of transport alongside Kochi Metro may serve another unexpected purpose, i.e. spare the city roads of blood-spilling caused by rash and negligent driving by bus drivers.

The KMRL's proposal to pool the collection from the operation of buses and share it equally among members of each society may ultimately make the city roads safer.

"There is no question that the proposal is a win-win situation for both bus owners and passengers while making the city roads safer by ending reckless driving to net more collection. But the onus is on the State government to pass the UMTA legislation to make proposals such as route and fare rationalisation, common pooling of collection, and their sharing a reality.

At present, there is a notification regarding UMTA, which is not adequate to pass on powers from various authorities to the proposed UMTA," said K.J. Sohan, former Kochi Mayor who is closely associated with the development initiative of the city.

Most bus owners seem open to the idea and are actively considering it for implementation at a later stage.

In fact, a section of bus owners have implemented a somewhat similar arrangement at Panthirankavu in Kozhikode.

"Such an arrangement will put an end to unhealthy competition among bus operators," said K.B. Suneer, district general secretary, Private Bus Operators Association.

Mobility plan

About 170 private buses currently plying through the city routes will be rerouted once the Kochi Metro ser-

vices become fully operational. As per the Comprehensive Mobility Plan readied by the KMRL, only 244 private buses will be operated in the city routes instead of the current 494 while the number of long route permits will go up from the existing 573 to 794. A total of 1,390 buses are currently being operated, both KSRTC and private, in 773 routes touching the metro corridors.

The formation of seven societies by private bus operators earlier this month covers

900 buses with the underlying objective of streamlining the public transport network in sync with the Kochi Metro.

Four of these societies - My Metro Bus Service LLP, Kochi Wheels United LLP, Kochi Metro Transport Co-operative Society and Perfect Buses Metro services LLP - have already been registered.

Buses registered with the societies will be enabled with GPS Tracking, mobile journey planner and smart card ticketing.

Kochi Wheels sets an example

Donates initial collection for treatment of cancer patients

SPECIAL CORRESPONDENT
KOCHI

Kochi Wheels United LLP, one of the groups of private bus operators in a new venture to integrate city transport as part of Kochi metro development plans, had an auspicious beginning on Wednesday with a total of 140 buses in the partnership contributing the day's collection to the government's fund for treating cancer patients.

The programme was inaugurated in different sectors of the city - at Aluva, Palarivattom, Kannamaly and Pookkattupady. K.M. Navaz, Kochi Wheels designated partner, said the buses in the partnership would pool their collection to avoid competition.



Wednesday's collection from 140 buses will be contributed to the government's fund for treating cancer patients.

The inauguration of the programme at Palarivattom around 8 a.m. was witnessed by a large group of bus riders, who had gathered to find out about the new venture.

The money that was collected on Wednesday would be formally handed over to the government fund for cancer patients at a later occasion, said Mr. Navaz.

Empowering Autos in to Integrated PT Network

Formation of Auto Society

- 7 Auto drivers unions to form a Co-operative Society for integrated Auto operations
- PT feeder services, Auto Hire & Auto Rental
- Hand Book being prepared for Auto Society, assisted by Cochin University of Science & Technology
- Auto Pilots as members & employees of society
- Better Social status, EPF, ESI, Insurance Benefits
- Reduction in Operating Costs

KMRL can fix fares for Feeder Services



GOVERNMENT OF KERALA

No:C2/107/2017-TRANS

Transport (C) Department
Thiruvananthapuram,
Dated:01/08/2017

From The Secretary to Government
To The Managing Director
Kochi Metro Rail Limited.

Sir,

Sub: Transport Department - Kochi Metro Rail Limited – Permission to collect separate fares from passengers using auto rickshaws and motor cabs in GCDA and GIDA area – reg.
Ref: Letter No.KMRL/SYS/56/2017 dated 07.06.2017 from the Director (Systems), KMRL.

Inviting your attention to the reference cited, I am to inform you that Government have no objection to fixing special rates as suggested by KMRL as an informal consensual arrangement for the smooth travel of those utilizing feeder services. But it is to be ensured that such special rates do not exceed the rate fixed by Government for that particular category.

Yours Faithfully,
NAZIM M
DEPUTY SECRETARY
For Secretary to Government.

Approved for Issue,

Section Officer.

KMRL to bring autos in the city under one roof

Around 15,000 autorickshaw drivers will join the scheme and work as a single professional operating unit

EXPRESS NEWS SERVICE
@Kochi

IN A novel initiative to ensure seamless public transport facility in the city, the Kochi Metro Rail Ltd (KMRL) has succeeded in bringing together autorickshaw drivers' unions in the CCTA and Coshore areas to form a company/society.

Around 15,000 autorickshaw drivers in the city will join the scheme and work as a single professional operating unit under the proposed company.

The move is aimed at connecting Metro stations to various places in the city and its suburbs.

The company/society will be managed by the District Autorickshaw Union Coordination Committee, which will have representatives of major unions in the governing body. It will be responsible for formulating the rules, regulations and bylaws, and also the smooth functioning of the system.

The unions will hold meetings with the local units to convince auto drivers of the basic vision behind the initiative, before May 10.

"Kochi has more byroads and service roads than main roads. The best way to connect people with the public transport system shaws. Connecting autos to our public transport system will bring a revolutionary change in the city traffic," said KMRL managing director Elias George.



Auto services

The auto integration system will help commuters avail of three types of services - Hire Auto, Smart Auto and Feeder Auto. While Hire Auto conducts normal service taking people from A to B, Smart Auto will come to commuters' doorstep and can be booked through an app. Feeder Auto will pick people from feeder routes.

"Once the company is formed, the new system will enable GPS tracking, mobile journey planner and smart card ticketing - making the journey hi-tech, safe and easy for commuters. To proceed further in the matter, the unions will hold meetings with KMRL and the technical partners on May 2," he said.

Another task taken up by the Coordination Committee is to deliberate on the list of feeder routes to be finalised for Kochi Metro, Water Metro and feeder buses with the help of local units. The initiative has the technical assistance of the students of

SCMS College.

The Coordination Committee will hold further discussions to decide whether to create a society or register it as a company before May 30.

The committee will also hold a contest among autorickshaw drivers to create a name and logo for the proposed company, designing of the autorickshaws and the uniform for the drivers.

"It is a social inclusion project which will provide a working environment as an 'employee and owner', under a professional operating unit - a company or society," said Elias George.

City autos to come under one umbrella

Move Part Of KMRL's Initiative Towards Integration Of Public Transport System

Tues News Network

Kochi: Signalling the move towards seamless integration of public transport system in the city, the Kochi Metro Rail Ltd (KMRL) has succeeded in bringing various autorickshaw unions under a single platform.

All autorickshaw unions in the Greater Cochin and Coshore areas have reached a consensus to form a company or society. Around 15,000 autorickshaws will join the scheme and work as a single professional unit. The initiative will be professionally managed by autorickshaw owners.

KMRL expects the integration of autorickshaws to help commuters avail three types of services: 'Hire Auto', a normal service that transports people from one destination to other, 'Smart Auto', the service that comes to the doorstep and can be booked through an app, and the 'Feeder Auto', which will pick people from feeder routes.



Around 15,000 autos will join the scheme and work as a single professional unit. The initiative will be professionally managed by autorickshaw owners

mobile journey planner and smart card ticketing. KMRL spokesperson said the Metro agency and technical partners will hold discussions with autorickshaw drivers' union on May 2. The unions will hold meetings with the local units to pass on the basic vision of the initiative to fellow autorickshaw operators before May 10. The district auto rickshaw co-ordination committee will hold further discussions to decide whether to form a society or register as a company before May 30.

The company/society will be managed by the district autorickshaw union co-ordination committee which

comprises major unions. The governing body will be responsible for framing of rules, regulations, bylaws and also ensuring smooth functioning of the system.

The district autorickshaw union co-ordination committee will also deliberate on feeder routes to be finalised for Kochi Metro, Water Metro and feeder buses with the help of their local units. They will have technical help from the students of SCMS college.

The committee will conduct competitions among autorickshaw drivers for creating a name and logo for the company/society and the design of the auto and the uniform for the drivers.

As Kochi has more byroads and service roads than main roads, the metro agency considers three-wheelers as the best option to make people use public transport. "Connecting autos to our public transport system would bring a revolutionary change in the city traffic," said KMRL managing director Elias George. The new system will have GPS tracking.

Empowering Autos in to Integrated PT Network

KMRL idea to boost public transport

Now, auto unions to form company

DC CORRESPONDENT
KOCHI, APRIL 28

After the private buses, the autorickshaw unions in the city have decided to form a company or society on the direction of the Kochi Metro Rail Ltd (KMRL), thereby bringing nearly 15,000 autos under one roof.



Journey Planner and Smart Card Ticketing, all of which would make the journey hi-tech, safe and easy for commuters.

"The unions will hold a meeting with the KMRL and the technical partners on May 2 to finalise the system," the official said.

The autorickshaw co-ordination committee

City autorickshaws to offer 'smart ride'

GPS-enabled Smart Auto application promises a safe and secure journey

SPECIAL CORRESPONDENT
KOCHI

Autorickshaw ride in the city turned 'smart' on Wednesday.

The Smart Auto, a joint initiative of Autorickshaw Drivers' Union and Vehicle ST, a start-up incubated at the Kerala State Industrial Development Corporation (KSIDCO) facility at Angamaly, was launched by C. Divakaran, MIA, at a function held at the Ernakulam Town Hall.

As many as 100 autorickshaws will be linked to the app in the initial phase. Accordingly, a specially-programmed tablet will be provided to each vehicle.

The application, which can be downloaded from Google Playstore, has features that offer a safe and secure journey with the help of a GPS-enabled vehicle tracking and monitoring system.



At one's fingertips: C. Divakaran, MIA, releases the Smart Auto app in the city on Wednesday. +91 SPECIAL ARRANGEMENT

It also has a panic button-embedded special alert-cum-security feature, which can be used by women passengers to alert the police or call centre for help.

The traveller can use the passenger information system to know the route and browse. Binu Varghese, secretary, Autorickshaw Drivers Union, Ernakulam, said the app would serve as a platform connecting customers with vehicle owners, besides allowing tracking, navigation. One can also quote the

best rates. The users can choose pick-up locations and the type of vehicle they need or schedule a trip later.

They can go for the 'ride and bid for the best rate' using a list of vehicles available.

KMRL initiative

The initiative is part of efforts by Kochi Metro Rail Limited (KMRL) to move towards seamless integration of public transportation in the city.

Around 600 more autorickshaws will be added to the smart network in the second phase.

Interestingly, the KMRL authorities have agreed to extend the multi-purpose Kochi One smart card to autorickshaws switching to the online mode.

Metro Feeder Services (Van & Auto)

ഫീഡർ പാലാരിവട്ടം FEEDER, Palarivattom

ഫീഡർ വാൻ റൂട്ടുകൾ / Feeder Van Routes

റൂട്ട് / Route No.	സ്റ്റേഷൻ / Station	റൂട്ട് / Route No.	സ്റ്റേഷൻ / Station
1	മുൻപുവട്ടം	10	കോളേജ് റോഡ്
2	മുൻപുവട്ടം	11	കോളേജ് റോഡ്
3	മുൻപുവട്ടം	12	കോളേജ് റോഡ്
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8	മുൻപുവട്ടം	17	കോളേജ് റോഡ്
9	മുൻപുവട്ടം	18	കോളേജ് റോഡ്

റൂട്ട് വിവരങ്ങൾ / Route Details

ഫീഡർ ഓട്ടോ റൂട്ടുകൾ / Feeder Auto Routes

റൂട്ട് / Route No.	സ്റ്റേഷൻ / Station	റൂട്ട് / Route No.	സ്റ്റേഷൻ / Station
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ലേഓൺ / Legend

- മെട്രോ സ്റ്റേഷൻ / Metro Station
- ഫീഡർ വാൻ സ്റ്റേഷൻ / Feeder Van Station
- ഫീഡർ ഓട്ടോ സ്റ്റേഷൻ / Feeder Auto Station
- പാലാരിവട്ടം മെട്രോ സ്റ്റേഷൻ / Palarivattom Metro Station

ഫീഡർ പാലാരിവട്ടം FEEDER, Palarivattom

ഫീഡർ വാൻ റൂട്ടുകൾ / Feeder Van Routes

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INTEGRATED PUBLIC TRANSPORT - KOCHI

ഫീഡർ പാലാരിവട്ടം

ഫീഡർ പാലാരിവട്ടം