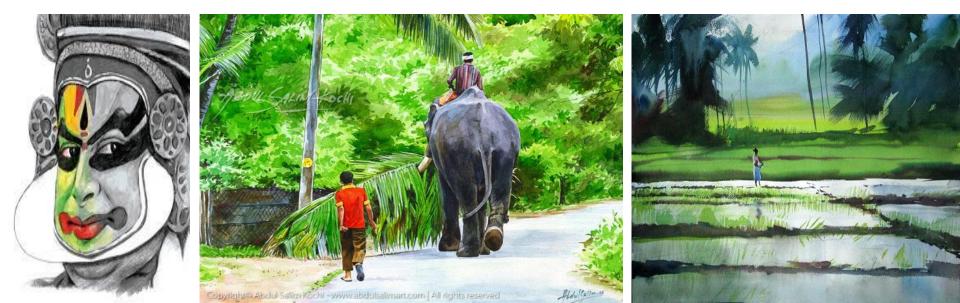


The Transport & Mobility Scenario in Kochi: Past & current Trends.... Challenges.....



The transport and mobility scenario in Kochi - the past...

- Kochi has a long history of its own in the annals of history. The city was so well known across the civilized world for the hospitality of its rulers and its produce, primarily spices, that it had robust trade links with practically the entire civilized world even before the Common Era.
- Kochi thus came to be called the Queen of the Arabian Sea.
- So much so that it eventually led to the colonization of the Indian Sub continent.
- Kochi being a city that is surrounded practically on all sides by water bodies, be it the sea, or the amazing lengths of backwaters and associated canals, it did not take long for the boats and rafts and *vanchis* and *vallams* similar to the gondolas to take to the waters, which even today is the primary mode of mobility in the neighbouring town of Alleppy, called the Venice of the East.

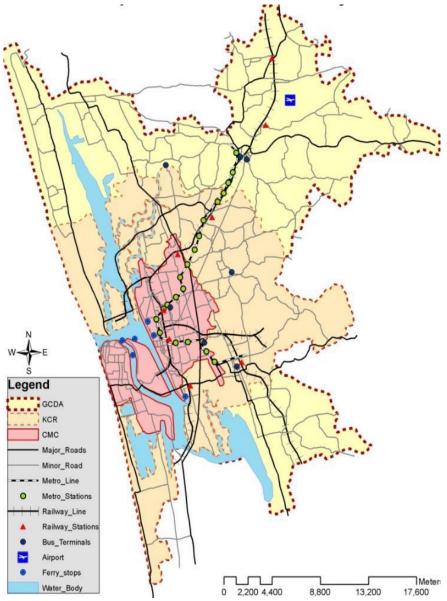
The transport and mobility scenario in Kochi - the past...

- Kochi did indeed have trade and social connections between people across the Indian subcontinent via the narrow dusty and often rocky, and hilly terrains in the ancient past, but the mobility and transportation within the confines of the greater Kochi area of the times came to be dominated by and large through the waters.
- However during the early 19th and 20th century, Kochi too moved on with the new Modes of Transportation that came to dominate the world, be it Automobiles or Omnibuses.
- But development needs mobility and corresponding robust and reliable transportation.

Current Scenario in Kochi



Geographical Area	632 Sq. km
National Highways	NH47, NH17 & NH49
National Waterway	NW-3
Registered Vehicles	1.467 M
Road Length (kms)	948.7 km
City Buses	Close to 1500
Public Transport Share (Declining at 5.6% per annum)	49% (2015) 60.2% (2013)
Average Trip Lengths	NMT – 2.78 km, 2 Wheeler – 9.44 km, 4 Wheeler – 10.32 km Public Transport – 9.5 km



Transition

Unplanned and disorganised growth due to increased economic activity centred around a niche area led to an almost unmanageable urban sprawl further exerting itself on the absent and/or inadequate infrastructure – (boats, boat jetties, buses, roads, parking spaces, economic hubs)

Inability to meet the growing demands and aspirations of the citizenry be they on the islands to safe and easy access to better healthcare, education, employment also meant a large part of the citizenry was kept out of the mainstream

Transition

Realization of the need to ensure better access to all people to the basics resulted in the improvement of a few roads infrastructure in some places and the introduction of some buses But at the macro level the problems continued to remain the same



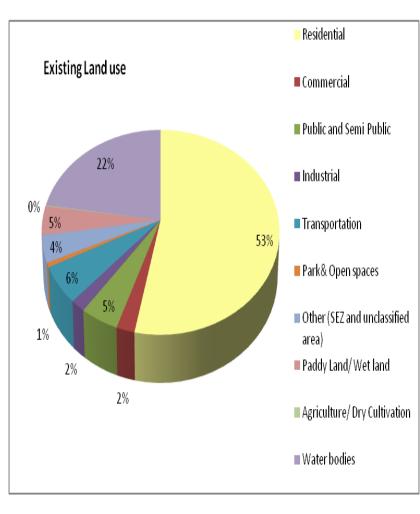
Demography

Kochi City Region: 21.17 lakh

Kochi Corporation: 6.02 lakh

Land Use : Kochi City Region (2009) and Kochi City (2009)

Land Use	Kochi City Region	Kochi Corporation
	Area = 369.72 sq.km	Area = 94.88 sq.km
Residential	43.43%	53.13%
Commercial	0.99%	2.23%
Public & Semi-public	4.16%	4.69%
Industrial	6.50%	1.83%
Transportation	4.02%	5.83%
Park & Open spaces	0.31%	0.70%
Agriculture	2.04%	0.11%
Paddy Land/Marshy		
Land	18.44%	4.65%
Water Bodies	18.96%	22.64%
Others	0.06%	4.19%
Port Land	1.07%	-
	100%	100%



Public Transportation

- Evidently people use the public transportation
- There is not much space for the public transportation to navigate since the infrastructure is inadequate and the private vehicles take off a major part of the right of way
- Increased road width only further clogs the growing numbers of vehicles 1.467M for a population of 2.1M

Result

- While most peoples prefer the public transportation, the lack of availability and reliability of the services and the absence of accountability and the inability to respond from the side of the authorities, even if not proactively, has resulted in large scale migration of persons from the traditional modes of public transport, to privately owned vehicles
- The migration is costly
- Unregulated increase in the number of vehicles on the roads
- Vying for the minimum right of way that is in existence
- Resultant accidents
- Severe loss of life and property
- Highest incidence of death by accidents in India
- Also loss of time, opportunity and degradation of the environment

Kochi's current transportation system is road & water based, without any sub-urban train service...

Major Public Transport modes:

• City buses, Taxis, Auto rickshaws and Ferry boats

As per RITES Survey in 2001

- ✓ Buses -14% of vehicular traffic carry 73% of the passenger traffic
- ✓ Cars
 38% of vehicular traffic carry 15% of the passenger traffic
- ✓ Two wheelers 35% of vehicular traffic carry 8% of passenger traffic
- ✓ Auto rickshaws 13% of vehicular traffic carry 4% of passenger traffic
- Presently no suburban train service

Metro as the Saviour

- An MRTS with a route length of 25.6km with 22 elevated stations along a linear path that goes right through the centre of the most congested roads in Kochi
- Only brownfield development in the first phase; now understanding the dynamics of the MRTS, the need to develop further to greenfield areas commenced

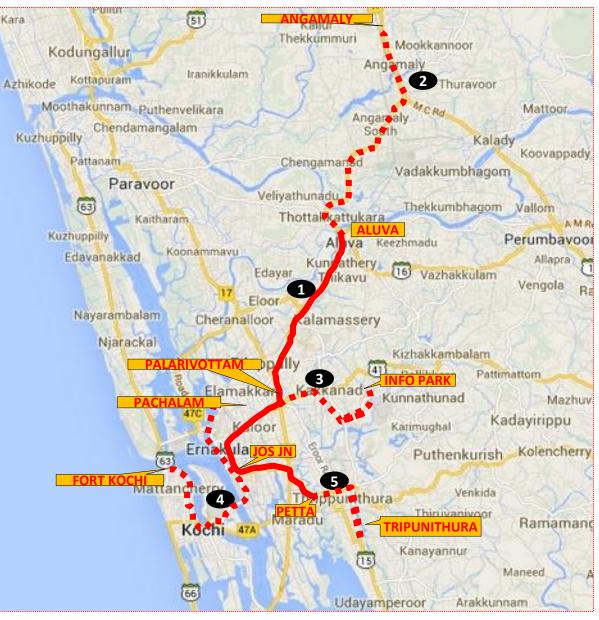
KOCHI METRO RAIL NETWORK



- 1. ALUVA PETTA (PH-I) (25.612KM)
- 2. ALUVA-ANGAMALY (18.28M)
- 3. JLN STATION INFO PARK VIA KAKKANAD (10.90KM)
- 4. PACHALAM/JOS JUNCTION) – FORT KOCHI (19.8KM)
- 5. PETTA TRIPUNITHURA (3.45KM)

<u>LEGEND</u>

- METRO LINE PHASE-I
- METRO LINE PHASE-II



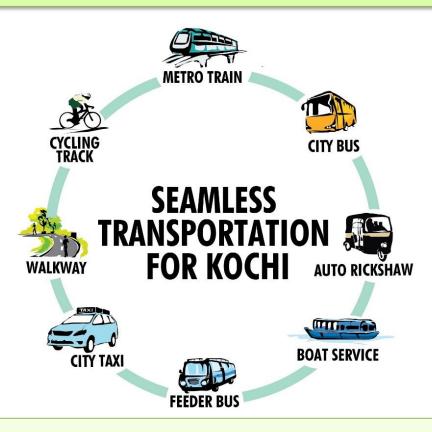
Metro Alone Not the Saviour

- Mobility needs are increasing
- Health concerns are rising
- Healthcare cost shoots up through the roof
- Access to goods and services means better network requirements
- Economic development requires timely seamless connections with all resources

Integrated Public Transport...



... a possible solution to Kochi's transportation problems



Integration with Bus and Water Bus based Public Transportation with last mile connectivity provided by the Para Transport and Non-Motorised Transport

Challenges

- Multiplicity of Independent Authorities in city development and transportation
- what, when, where and how of every possible issue in mobility and transportation. And a why to boot that can stall any initiative
- Road infrastructure
- Moveable transport infrastructure
- Transport operators

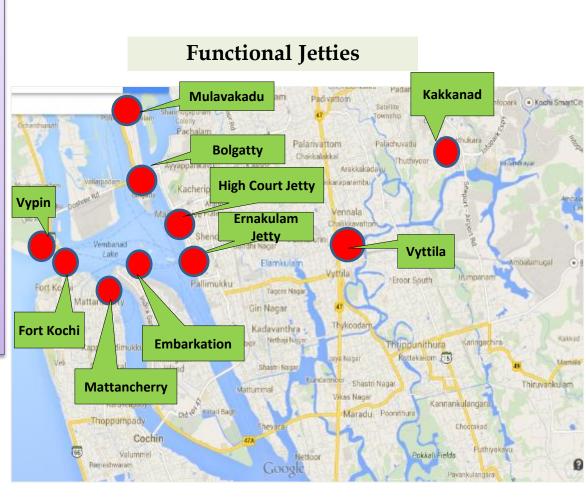
Challenges

- Multiplicity of laws
- Often with overlapping and in some cases absence of control areas
- Confusion in the roles and responsibilities
- Conflicting objectives and procedures
- Multiplicity also leads to issue of accountability
- Result No one is responsible

An Example from the existing Water Transport System



- State Water Transport Department owns and operates boat services
- Kerala State Inland Navigation
 Corporation also operates boats
- Private operators operate public transportation often with dilapidated boats with no safety equipment to boast of
- It also has shipping lines crossing



... is managed by multiple agencies, creating problems related to overlapping functions & resulting lack of accountability.

Governance Mechanism for Transportation system:

- Presently, facilitation and management of traffic & transportation is done by multiple agencies/departments like Local Bodies, GCDA, GIDA, Roads and Bridges Corporation, PWD, NHAI, RTO, Police, KINCO, KSRTC, Railways, Road Fund Board, Inland Waterways Authority of India...
- No single agency is solely accountable for providing transport services as well as transport infrastructure, resulting in overlapping functions, functional and spatial fragmentation.

Hence, the need arose for establishing Unified Metropolitan Transport Authority, in place of these agencies to be able to provide Kochi with an integrated multi-modal transport system

UMTA has been designed considering National Urban Transport Planning guidelines and global best practices.



Review of Laws & Authority governing Urban Transport

Review of UMTA Initiatives in India

Interaction with key stakeholders across cities

Review of similar global initiatives

Clarity in Roles & Responsibilities of UMTA

Governed by clear non-overlapping objectives

Embedded with strong customer service culture

Improved Governance and Accountability

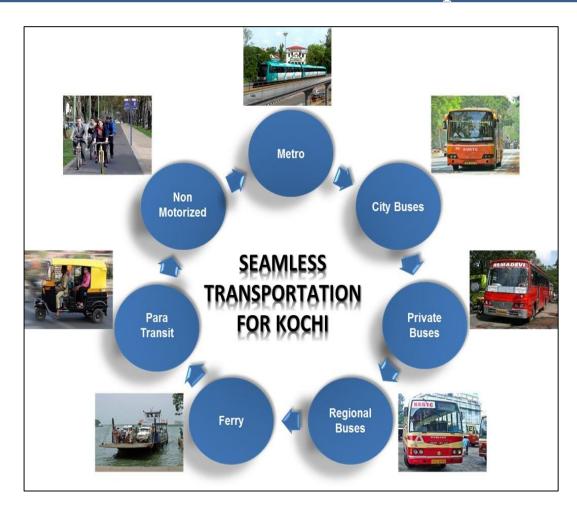
Replacement of plethora of agencies, operating in this space

Uniqueness of the City driving the Agency's mandate

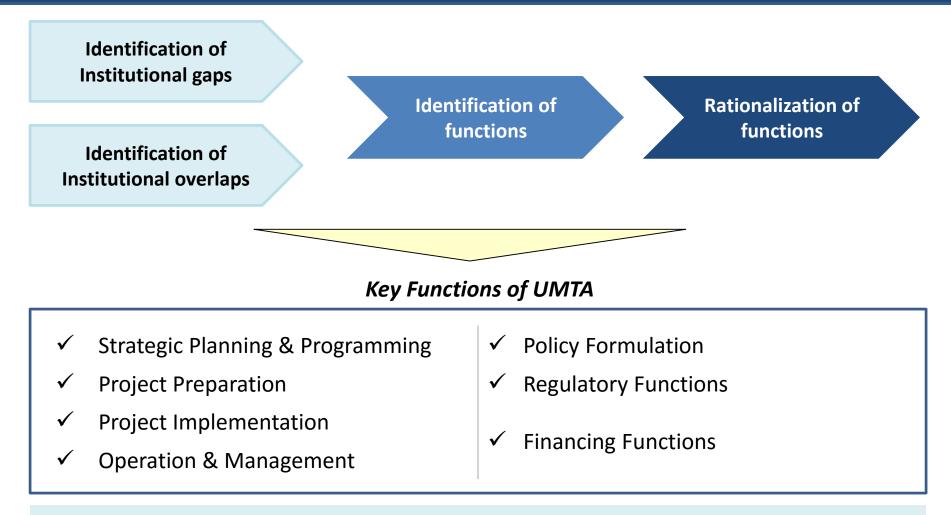
UNIFIED METROPOLITAN TRANSPORT

Umbrella Body to oversee and steer the transformation of

Kochi's Urban Transport



Its key functions are defined as follows:



UMTA will be the ONE AGENCY responsible for planning, coordination & integration, management of Urban Transport Fund & Regulatory oversight



Passenger Centric Plans







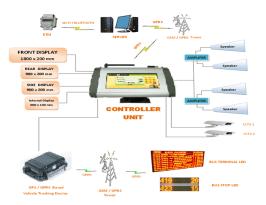


Disabled friendly Infrastructure

Signages for improved access



Intelligent Transport System



Feeder modes- small occupancy



NMT Master Plan





Introduction of Park and Ride Facility

ROTARY CAR PARKING SYSTEM





AUTOMATED CAR PARKING SYSTEM

Introduction of Feeder Bus Services







A Shift Towards Non-motorised Transport...

At present





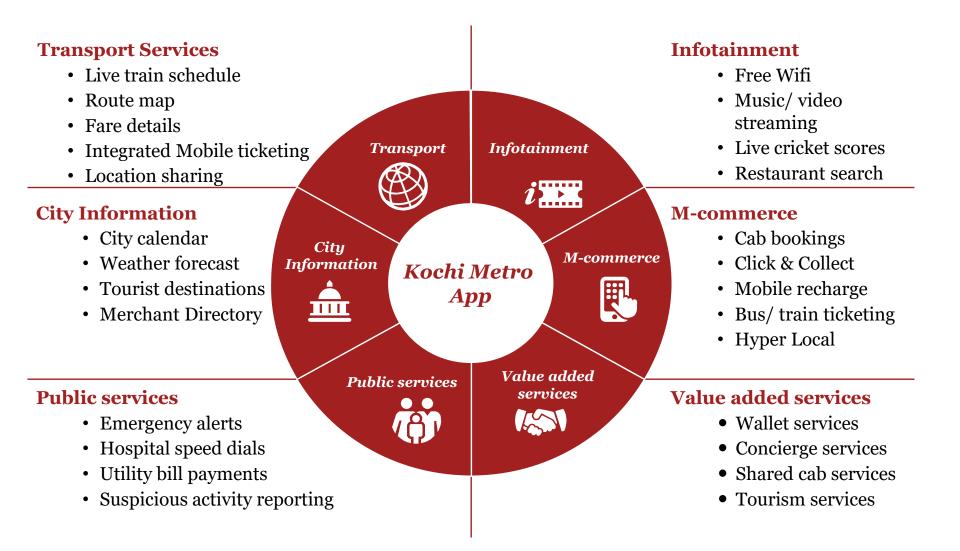
Our goal







PREPAREDNESS FOR TRANSFORMING PUBLIC TRANSPORT



Change in outlook

- The National Urban Transport Policy (NUTP, 2006) has recommended setting up of Unified Urban Metropolitan Transport Authorities (UMTAs) in million plus cities.
- □ Government of India (Gol) encourages the setting up of umbrella bodies that regulate the overall performance of the public transport systems and ensure that the city has a comprehensive public transport system.
- Government of Kerala (GoK) has constituted the UMTA committee for Greater Kochi area which is chaired by the MD, KMRL.
- Statutory backing through appropriate legislation needs to be provided to UMTA.

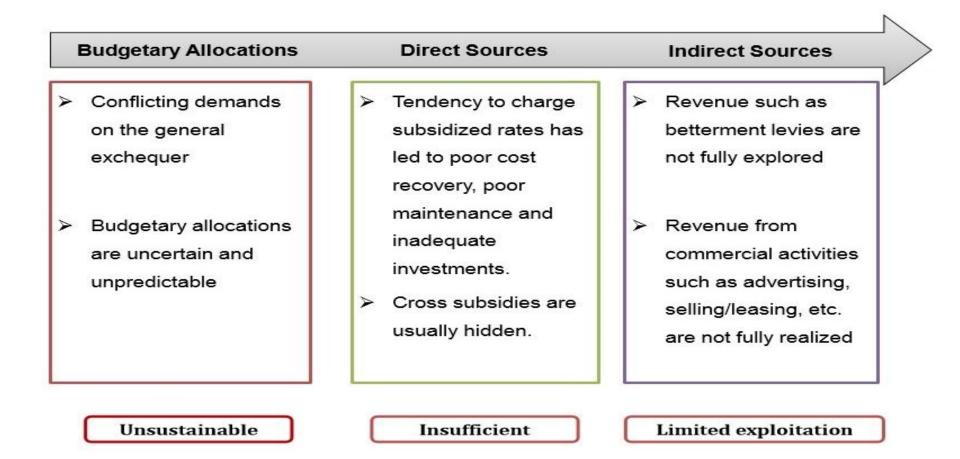
Key Issues which UMTA is designed to address (1/2):

	 Urban Transport Planning is not assigned to any one agency & responsibility is diffused No agency prepares consolidated multi-year integrated Urban Transport programs
Strategic Planning	Route & integration decision is based on commercial viability
Project Preparation	 Performed either by public or private agencies Responsibility of respective implementation agency Lack of design guidelines & standards for many components of urban transport
Project Implementation	 Responsibilities are clearly defined for center, state & city for individual mode of transport, however no clear responsibility for multi-model integration & facilities
Operation & Management	 Performed either by public or private agencies Need or the agency to manage common ticketing, coordination for multi-modal terminals & public information systems Requirement of adequate staff & skill

Key Issues which UMTA is designed to address (2/2):

Policy Formulation	 Policy formulation performed by national & state governments can be improved
Regulatory Functions	 Performed by multiple agencies Performance issue in enforcement of regulations
Financing Functions	 Financing is done through annual budgetary processes Government budgetary allocations or urban transport is unknown, uncertain & unpredictable Can be used to ensure compliance with plans & programs

Urban Transport requires heavy investment and the current sources of funding are insufficient and unsustainable



Urban Transport should have a prudent mix of funding sources, so as to meet its requirements while not putting undue pressure on funding sources.

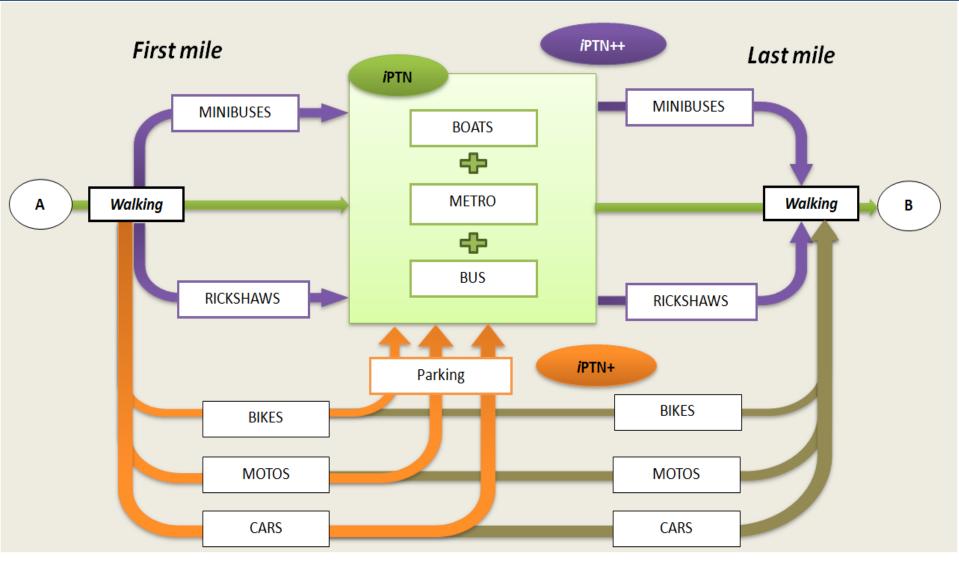


WHEN ?

- 1. Approval of Legal Framework for UMTA January 2016
- 2. Implementation of Parking Policy December 2016
- **3. Implementation of SMART card based ticketing system** Under progress. First on Metro Rail, gradually on other modes **October 2016**
- 4. Implementation of Non-Motorized modes of transport 3 pilot projects were identified, viz., Aluva, Kalamassery & Fort Kochi. Walkway project contract at Panampilly Nagar, Kochi has been awarded. Planning & stake holders discussions for MG Road & Hospital roads are underway. December 2016
- 5. Implementation of IT based control Tender for ITS ready, would be floated as part of Water Transport project under financial assistance of KfW June 2017
- 6. Notification of Integrated Time-Table
- 7. Creation of Urban Transport Fund
- 8. Adoption of Integrated Tariff policy -
- 9. Adoption of Master Transport Plan

- October 2016
 - February 2016
 - October 2016
 - December 2017

Vision of Kochi UMTA: "One Network- One Timetable-One Fare"



HOW ? - INSTITUTIONAL ARRANGEMENT

