



GOVERNMENT OF KERALA

# KOCHI METRO RAIL PROJECT

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# KOCHI CITY

- Kochi is located on the southwest coast of India and straddles the backwaters, encompassing the northern end of a peninsula, several islands and a portion of the mainland.
- To the west lies the Arabian sea, and to the east is the urbanized region in the mainland.
- The current metropolitan limits of Kochi include the mainland of Ernakulam, Fort Kochi, the suburbs of Edapally, Kalamassery and Kakkanad to the northeast, Tripunithura to the southeast and a group of islands closely scattered in the Vembanad lake.

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The Chinese fishing nets at Fort Kochi are an icon of the city.



Marine Drive walkway

# KOCHI CITY

- **It is the commercial capital of the State.**
- **It is home to Southern Naval Command, Cochin Port, Transshipment Terminal, Cochin Shipyard, Kochi Refinery, Kochi Marina, industries like FACT, TCC, IREL, HOCL, industrial parks like the Cochin SEZ, Infopark and institutions like High Court, CUSAT etc.**

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# KOCHI CITY

- **It has a unique cultural and historical heritage.**
- **It has global presence in tourism, health care, business and academic fields.**
- **Present population of 2.5 million with an annual growth rate of 1.4% - as per GCDA statistics.**
- **At any given point in time, the floating population in Kochi City is 3-5 lakhs which includes workers, tourists (domestic & foreign) and pilgrims; this would add to the ridership.**
- **Present transport facilities and infrastructure are grossly inadequate resulting in wastage of time, resources, fossil fuels and increased pollution levels.**

# PRESENT SCENARIO

- **Dense Development along narrow and congested roads.**
- **Prohibitive cost of land.**
- **Need to preserve cultural & historical heritage.**
- **Expansion of existing transport infrastructure therefore unviable.**
- **Peak Hour Peak Direction Traffic (PHPDT) in 2011, is 13861.**

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# PRESENT SCENARIO

- **The annual growth in vehicles is around 12-13%.**
- **Little scope for property development in Cochin along the corridor due to non availability of land and population density.**
- **There is an established need for a Mass Rapid Transport System (MRTS) in Kochi.**

# WHY METRO?

- **Metro is a fast, reliable, convenient, efficient, modern and economical mode of urban transport.**
- **Elevated Metro Rail occupies only about 1.80 m of the width of the road.**
- **Safe and eco-friendly.**
- **Requires only 1/5<sup>th</sup> energy per passenger km compared to road-based transport systems.**



# THE PROJECT

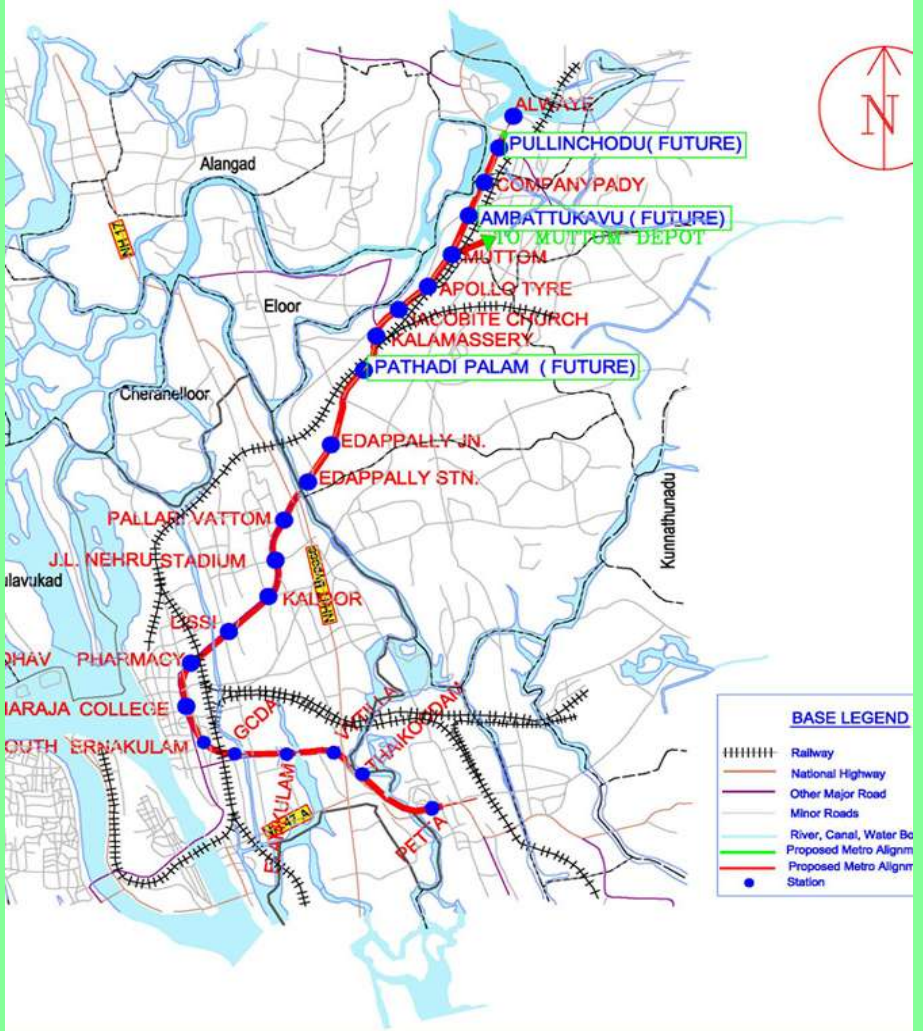
- **Proposed alignment from Alwaye to Petta.**
- **25.612 KM in length.**
- **22 stations.**
- **O&M by Kochi Metro Rail Ltd.**

# THE PROJECT

- **Covers 7 villages (Aluva West, Thrikkakkara North, Edappally North, Edappally South, Ernakulam, Elamkulam & Poonithura).**
- **31.9216 hectares of land required.**
- **AS accorded for LA under FTP with urgency clause on 25.10.2011.**

# THE ROUTE MAP

KEY PLAN  
KOCHI METRO (ALWAYE- PETTA CORRIDOR)



# KOCHI METRO FUNDING PATTERN

- Govt of India = Rs.1002.23 crores
- Govt. of Kerala = Rs. 2009.56 crores
- JICA Loan = Rs. 2170 crores

**Total project cost = Rs. 5181.79 crores**

# FUNDING PATTERN APPROVED BY GOK & GOI

		GOI		GOK		TOTAL	
Sl. No	Particulars	%	RS/Crore	%	RS/Crore	%	RS/Crore
1	Equity by GOI & GOK	15.24%	753.73	15.24%	753.73	30.48%	1507.46
2	SD for land cost by GOK	0.00%	0.00	13.59%	672.00	13.59%	672.00
3	Additional SD for Central taxes by GOI (50%) & GOK (50%)	5.02%	248.50	5.02%	248.50	10.04%	497.00
4	Property Development	0.00%	0.00	1.98%	98.00	1.98%	98.00
	<b>Sub Total</b>	<b>20.26%</b>	<b>1002.23</b>	<b>35.83%</b>	<b>1772.23</b>	<b>56.09%</b>	<b>2774.46</b>
5	JICA loan @ 1.4% PA/Market borrowing @12 % PA	43.88%	2170.00	0.00%	0.00	43.88%	2170.00
	<b>Total cost</b>	<b>64.14%</b>	<b>3172.23</b>	<b>35.83%</b>	<b>1772.23</b>	<b>100.00%</b>	<b>4944.46</b>
6	Add: State taxes borne by GOK				237.33		237.33
	<b>Grand Total cost including State taxes</b>		<b>3172.23</b>		<b>2009.56</b>		<b>5181.79</b>

# PRESENT STATUS IN GOK

- Kochi Metro Rail Ltd, the Special Purpose Vehicle(SPV) for the implementation of the project was formed on 2<sup>nd</sup> Aug 2011.
- The present Chairman of SPV formed is Chief Minister and the Board of Directors include several ministers.
- Budget allocation of Rs.119 cr is made for 2012-13. Rs.158.68 cr was allocated in 2011-12 for preparatory works.

# PRESENT STATUS IN GOI

- Approval of Kochi Metro Rail project is expected in the Union Cabinet to be held on 3<sup>rd</sup> July 2012.

# INNOVATIVE FUNDING SOURCES

- 500 m on both sides of metro line will be designated as Metro Zone
- Study has been conducted through KITCO Ltd. for the implementation of TDR and Metro Zoning.
- Greater Cochin Development Authority (GCDA) has given a proposal for generating funds for the project. The options are:



# INNOVATIVE FUNDING SOURCES

- Pricing of additional FAR
- Providing TDR in lieu of land surrender
- Development CESS on building construction
- Levy on real estate transactions
- Vacant land taxation
- Congestion charging
- Duty on vehicle registration
- Advertisement charges
- CESS on building tax

# INNOVATIVE FUNDING SOURCES

- Property development at stations and at depot is also being explored. This will generate regular income, which will be an additional support to meet the operation and maintenance costs.

33 acres of land at Kakkanad, Kochi is being assigned to Kochi Metro Rail Ltd. Income from development of this property is pegged at Rs.100 cr on a conservative estimate.

# PREPARATORY WORKS UNDERTAKEN

1. Rebuilding North ROB
2. New ROB on Salim-Rajan road
3. Upgrade of South Railway station approach road
4. Upgrade of M.G.Road
5. Upgrade of Banerjee road

**Total = 158.68 Crores.**



**Rebuilding of North ROB**



**Construction of Salim Rajan ROB**

# TRAFFIC DIVERSION ROADS

1. Veekshanam Road,
  2. C.P. Ummer road,
  3. Pullepady-Kathrikadavu road,
  4. Kathrikadavu ROB under pass road
  5. Kaloor Pachalam gate Round to 10<sup>th</sup> Pious Church
  6. Thamannam Kathrikadavu road
  7. Pipe line road
- and few more roads.

# WHAT NEXT?

- Ministry of Urban Development projects average city speed of 6 to 8 kmph by 2030.
- Average speed of a morning walker is 6 kmph.
- Metro is a must. If not Kochi would grind to a halt.

THANK YOU.