TRANSFORMATION OF BANGALORE URBAN STRUCTURE WITH THE ADVENT OF COMMUTER RAIL SYSTEM

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1. **INTRODUCTION: COMMUTER RAIL SYSTEM PROPOSAL**  
   [source: Bangalore 2015 CDP, BMRDA Structure Plan 2031, Praja Proposal]

2. **FRAMEWORK FOR ANALYSIS FOR INTEGRATED PARADIGM FOR MOBILITY IN BANGALORE**  
   - Urban Form  
   - Urban Structure  
   - Urban Development  
   - Public Transport  

3. **STRUCTURAL TRANSFORMATION: OBSERVATIONS**  
   - CRS Corridor v/s Density  
   - CRS Corridor v/s Synthetic Social Index

4. **LESSONS DRAWN FROM BMPs**  
   - ABC Model of Mobility, Netherlands  
   - Curitiba (Parana), Brazil  

5. **DISCUSSION**
INTRODUCTION: COMMUTER RAIL PROPOSAL, BANGALORE

Phase 1 (IR/SWR): Target - 6 months
- Roll out more rakes
- Increase frequency
- Feeders to the current stations
- Access improvement to current stations
- Extend coverage along existing route

Phase 2 (SPV) – Target 5 years
- Increase stations
- Double/Quadruple tracks
- Investment in signaling
- Increase frequency to 10 mins for each segment
- Investment in world class rolling stock

PRAJA PROPOSAL

Policy T3 in the BMRDA Structure Plan 2031 promotes Rail-based Transport System & Networks

1. Kengeri - Bangalore City Station (13.0 km)
2. Bangalore City Station - Whitefield (24.0 km)
3. Bangalore City Station – Baiyyappanahalli Via Lottegollahalli (23.0 km)
4. Lottegollahalli to Yelahanka (7.0 km)
5. Banaswadi up to BMA Boundary (29.0 km)
6. Kengeri- BMA Boundary (9.0 km)
7. Yeshwantpur to BMA Boundary (14.0 km)
8. BMA Boundary – Hosur (12.0 km)
9. BMA Boundary- Ramanagaram (23.0 km)
10. BMA Boundary to Tumkur (50.0 km)

Total 204.0 km
FRAMEWORK OF ANALYSIS FOR INTEGRATED PARADIGM FOR MOBILITY IN BANGALORE

An Integrated Paradigm for Land Use & Transportation Planning, along with structuring of the Urban Form is aimed at Mobility enhancement. It aspires to achieve a holistic mix of land-uses & density directed towards better social integration and better quality of life.

PARAMETERS FOR ASSESSMENT

1. Urban Form (Size, Shape, Density)
2. Urban Structure (Conurbation, City & District Scales)
3. Urban Development (Existing, New)
4. Public Transport (Modal System)
5. Compatible Transport Infrastructure & Freight Transport

As per the findings of the Dissertation: the CRS Corridor has neither been identified as a MUTATION CORRIDOR, nor have the catchments of the stations been optimized upon.
STRUCTURAL TRANSFORMATION: OBSERVATIONS

- The Bangalore Metropolitan Region based on the CLUSTER & GROWTH NODE based Development Model is expected to grow approx. 2.3 times outside the core in the next 20 years.

- Is the radial web-type growth of the BMR the most suitable urban growth model? [We have seen encroachment on the Green Belt before]

- What opportunities does the introduction of Commuter Rail System as the key public transport mode present in terms of transformation in Urban Structure?
FRAMEWORK OF ANALYSIS FOR INTEGRATED PARADIGM FOR MOBILITY IN BANGALORE

• If CRS is the primary Public Transport Network in the Region, can we use it to STRUCTURE THE REGION?

• Can we use the CRS Corridor as a DEVELOPMENT DENSITY & INTENSITY CORRIDOR?

• Can the CRS Corridor become a 3rd degree MUTATION CORRIDOR within the City after the MRT & the major Arteries?

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CRS CORRIDOR v/s SYNTHETIC SOCIAL INDEX

exploring possibilities…

• If CRS Corridor is regulated, will the SPECULATION go down?

• If the Train Stations’ catchments along the CRS Corridor are optimized upon, will accessibility to public facilities increase?

• If housing solutions for various income-groups are well integrated in the CRS Corridor, will there be greater social equity and synthetic social index?

• Is MOBILITY the answer to achieving a sustainable quality of life?
Cities with more than 1 million population in Netherlands follow the ABC classification for enhancing Mobility.

A: Locations which are easily accessible to local, regional and national public transport.
Use: Population-based activities
Car commuting share: < 10-20%

B: Locations which are easily accessible by local & regional public transport & by car.
Use: Mixed Activities
Car commuting share: < 35%

C: Locations easily accessible by car along peripheral highway with poor public transport supply.
Use: Freight-based Activities

The ABC system integrates accessibility with activity usage logically.

(Source: Module 2a: Land use Planning & Urban Transport, Sustainable Transport: A Sourcebook for Policy Makers in Developing Cities)

Figure 2.4: ABC location classification of Urban Areas - Netherlands, Source: Wuppertal Institute

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LESSONS DRAWN FROM BMPs

ABC Model of Planning, Netherlands: For a RADIAL CITY
LESSONS DRAWN FROM BMPs

Curitiba, Parana, Brazil: STRUCTURING GROWTH

- 75% of the under 3 mn population of the City use Public Transport
- Curitiba is the 1st choice for LIVING for 98% of the City population
- Curitiba Master Plan, 1966 transformed the radial model of development into a LINEAR model of urban expansion along the 5 structural arteries
- Through an Integrated Paradigm, it successfully contained the City in its territorial boundaries & enhanced physical + social MOBILITY
DISCUSSION

1. DO WE NEED TO CHANGE THE WAY WE LOOK AT RAIL CORRIDORS?
2. CAN WE CONSIDER AN ALTERNATE MODEL OF LINEAR/ RIBBON DEVELOPMENT WITHIN THE BMRDA REGION?
3. ARE WE LOOKING AT A PARADIGM SHIFT IN THE REGION...ROAD-BASED TO RAIL-BASED TRANSPORTATION & LIVING?

THANK-YOU!

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