

## **1. TRC18CETRP2\_Development of a sustainable mobility plan for Kazhakuttom**

Shift towards more sustainable modes of transport like public and non-motorized transport, plays an indispensable role to make the cities livable and less polluted. Current urban mobility patterns have considerable negative impacts on air quality, noise pollution, safety and usage of public space. Hence, sustainable urban mobility plans and transport strategies aim to reduce these impacts, by shifting to environmentally friendly modes of transport such as walking, cycling and car sharing, by increasing the share of public transport and clean vehicles, and by using the state-of-art technology for the remaining individual motorized transport.

The development of Kazhakuttom in Thiruvananthapuram district is a typical example of how land use and transportation are mutually dependent. Once a suburb of Thiruvananthapuram city, the area now has all the major facilities for daily activities of the residents. Along with this, the transportation needs of the people also increased leading to chaos and congestion at the major junctions and corridors. Hence, this area was selected for the study. The study provides solutions to reduce road congestion and pollution by reducing dependence on personalised vehicles and promoting walking, cycling and public transportation. This study attempted to identify solutions for the transportation problem of Kazhakuttom by providing a framework for assessing the sustainability of the existing transport environment using sustainability indicators.

Seven indicators were used in the study under three criteria; viz; economic, social and environmental; for the sustainability assessment of transportation in Kazhakuttom. They are; LOS of road stretches and intersections, LOS of pedestrian facilities, Modal split, Encroachment ratio and Air quality (Emission of  $PM_{2.5}$ , Emission of  $SO_2$  and Emission of  $NO_2$ )

The selected indicators were assessed and it was revealed that these transport indicators were not sustainable in the study area. Analytical Hierarchical Process (AHP) was used for prioritizing the road stretches for suitable intervention to make transportation in the study area sustainable. The prioritized road stretches are shown in red colour in Fig. 1. It was revealed that traffic congestion management, LOS of pedestrian facilities and air quality are the key areas needed for improvement in Kazhakuttom.

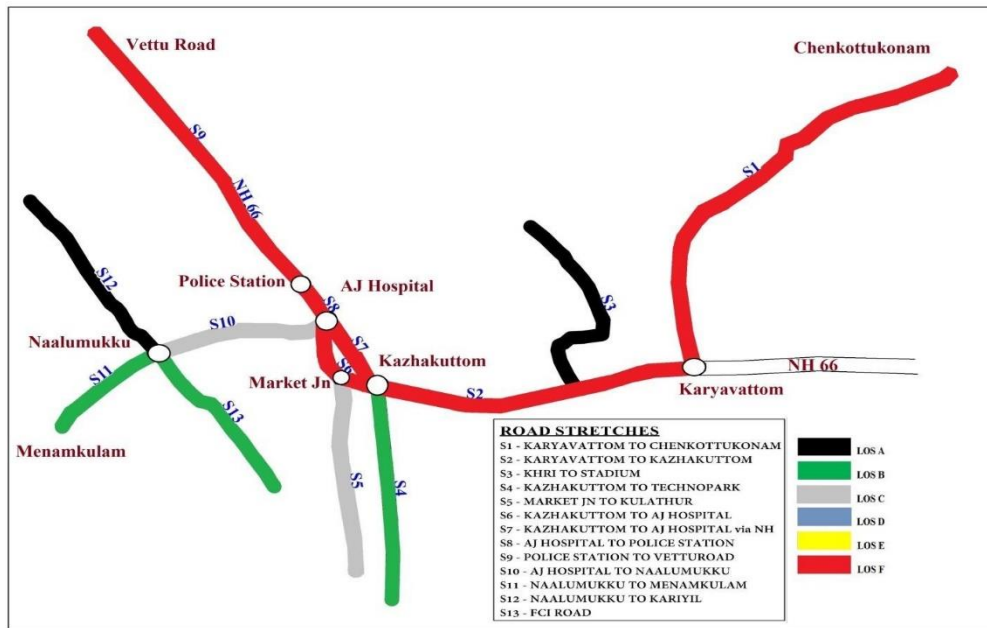


Fig.1 Prioritised roads

A mobility plan was suggested for the improvement of Kazhakuttom area to make it sustainable. Mobility plan suggested for improving the traffic conditions and pedestrian facilities are given below: Providing mobility hub at Kazhakuttom, Providing information center to know about the upcoming bus timing, Widening of road stretches, Providing Road Over Bridges and Providing pedestrian sidewalks.

#### Deliverables:

- ✓ Comprehensive Mobility Plan for Kazhakuttom
- ✓ Sustainability Assessment Framework

#### Societal Relevance:

- ✓ Improved Air Quality and Public Health
- ✓ Reduced Traffic Congestion
- ✓ Enhanced Safety and Accessibility
- ✓ Promotion of Sustainable Transport