

# Freight transport mode

## Level 1

Level 1 assumes that the past trend continues till 2050, with the modal share rising significantly in favor of roadways. Large-scale investments in highways and expressways, including industrial corridors, are expected to encourage the use of road over railways. However, it would also lead to congestion due to the increase in road freight traffic which could decrease transport efficiencies after a certain point of time. Share of rail is expected to decrease to 29%, by 2050, and waterway assumed to take 1% share from road.

## Level 2

Level 2 sees the start of the industrial corridors, which include mass rapid transit systems and logistical hubs. Superior technology could improve rail efficiency and capacity. High speed freight trains could be introduced running at 100+kmph. This could also be accompanied with tariff rationalization, both of which would work towards attracting more rail based transport, reaching 36% in 2050. As waterways are developed, 1.5% of freight share is assumed to move from road to waterways by 2050.

Railways in Karnataka carried ~34 BTKM of freight in 2015, which accounted for about 50% of the total freight transport, the remaining being transported by road, air, and waterways. The trend in the last few decades has seen an increase in the share of traffic on roads in the total share of surface freight transportation. This is mainly due to high growth of manufacturing in the state. Some of these cargos move over shorter distances and some are time sensitive. The share of road has also increased due to the highly competitive nature of road transport, convenience and flexibility in tariffs, and the capability of road to handle smaller loads. Karnataka has plans to develop Bengaluru-Chennai and Bengaluru-Mumbai Industrial Corridor, and the presence of one major and ten minor ports, including New Mangalore port which is seventh largest port in India the demand for freight movement is expected to significantly increase in the future from the base level of ~67 billion ton-kilometers (BKTMs) in 2015.

## Level 3

Level 3 sees higher investments in rail based freight transport. This level sees further strengthening of the industrial corridors. Rationalization in the tariff regime of railway freight transport, coupled with increased speeds and a shift towards containerization could increase the share of the freight traffic on railways to 40% by 2050. Waterway development could be further strengthened and its share in the freight modal mix is assumed to increase to 1.75% by 2050.

## Level 4

Level 4 assumes quick implementation of industrial corridors, state policies to encourage a modal shift towards rail freight in alignment with central policies along with tariff rationalization, increased privatization, etc. New technologies, such as RoadRailers (highway trailers that are specially equipped for intermodal movement on railway tracks and highways) could further help increase the intermodal share of Railways to 45% in 2050. Waterways are assumed to have a 2% share in freight transport by 2050.

