

Proposed Road Tunnel between Tikujiniwadi (Thane) & Borivali (Mumbai) in Maharashtra, India

Analysis of Alternatives

This report provides the rationale for the proposed project based on the current and future needs of the population commuting between two suburbs of Mumbai Metropolitan Region

1. ANALYSIS OF ALTERNATIVES

Distance between existing east-west link roads i.e. NH8 near Borivali and Thane-Ghodbunder road is about 25 km. Therefore, in order to reduce the load on Thane-Ghodbunder road and to meet future requirements the 2 to 3 link road should be provided between east and west. Almost entire area between Western Express Highway and Eastern Express Highway is covered by Arrey Dairy (forest) and SGNP, hence, no east-west link could be developed in this area in spite of genuine necessity. Considering this difficulty following alternates, in the best favour of environment, are being explored.

a. Capacity enhancement of Thane-Ghodbunder road by providing widening or elevated road

Elevated road on Thane-Ghodbunder road chg. 0/400 to 4/500 passing through SGNP at some locations is underway. This work is being performed to avoid the present situation of traffic congestion and cannot bear the load of further increase in traffic volume over the years.

Further to this, Right of Way (ROW) in the Thane Municipal Corporation has already been fully utilized by providing 3+3 lanes road and 1 lane of service road on either side. This stretch cannot be further widened.

b. Goregaon-Mulund Link Road (Elevated or Tunnel under Aarey Dairy) – by MCGM.

A new link road which has been proposed by MCGM is under consideration and being studied by the consultants. However, this road doesn't shorten the route for commuters travelling between Thane and Borivali. Instead the Travelling length and travel time for the commuters is increased. In the present condition, commuters need to travel approx. 23 km via Ghodbunder road to reach Borivali from Thane. After completion of GMLR it would be more than 30 km, which won't serve the purpose of providing a shortest route to connect NH3 with Western suburb (Borivali) and vice-versa. Therefore, considering the expected travel demand from Thane to Western Suburbs (Dahisar to Goregaon), Thane – Borivali Tunnel is critical.

c. Tikujiniwadi - Borivali Link (Tunnel under SGNP) by MSRDC

Elevated road between Tikujiniwadi and Borivali, would be cheaper than tunnel connectivity. However, elevated road option is not being considered as the same, if passes through SGNP, may lead to significant disturbance to wild life and use of forest land.

On the other hand tunnel construction would not require any forest land (or very minimum land), no displacement of people, no tree cutting etc. and lead to no or very little air and noise pollution during construction as well as during operations (muck removal and / disposal during construction will be planned meticulously). The proposed tunnel alignment can be finalized only after survey and investigations, for which permission is being sought.

d. Borivali-Thane ropeway over SGNP by MMRDA

An aerial tour over Sanjay Gandhi National Park (SGNP) with amazing scenic view of the forest has been proposed by The Mumbai Metropolitan Region Development Authority (MMRDA). The ropeway from Borivali to Thane is proposed in a bid to make the park a bigger attraction for the tourists. This is not a bid to decongest the east-west suburb connecting roads.

<http://www.hindustantimes.com/mumbai/borivli-thane-ropeway-planned-over-sgnp/story-2Gbt7j0d2fKDTeWVznlhPN.html>

Figure 1: Connecting Road between Eastern and Western Suburban areas of Mumbai



2. ALIGNMENTS OF PROPOSED ROAD TUNNEL

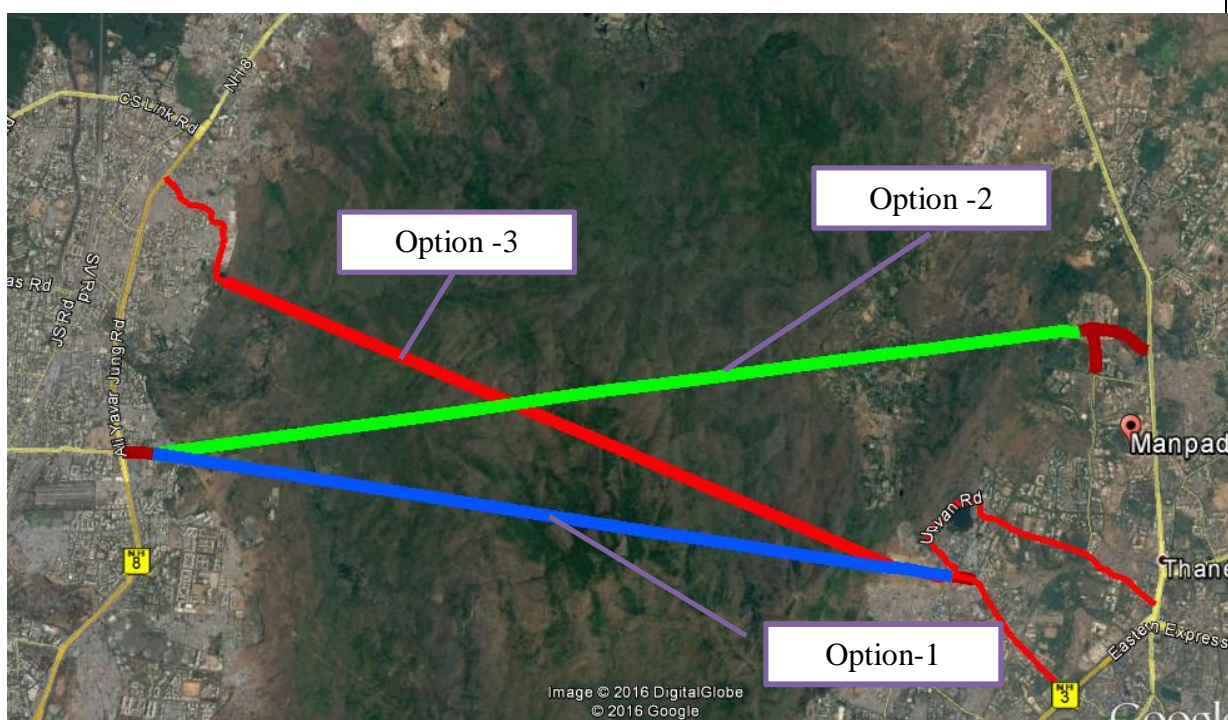
The alternative locations / routes will be analysed during the survey so as to leave least impact on the environment. The tentative options as identified during the preliminary assessment. Three portals on either end were identified and respective alignments were evaluated. Many possible alignments due to involvement of forest and defense land in large extent were rejected. Other possible alignments (Option-1, Option-2 and Option-3) are shown in Figure-2 and discussed subsequently.

Figure 2: Comparative Evaluation of the Portals and Tunnel Alignment Alternatives

Portals and alignment marked on Map (1:50000 scale) – also attached separately



Portals and alignment marked on Satellite Imagery



Satellite Imagery Source: Google Earth

The three alignments were studied comprehensively and compared. After the detailed assessment, Option 2 is being persuaded for further studies.

Table -1: Salient Features of Various Alternates to be studied for Alignment

	Option 1	Option 2	Option 3
Location	From Western Express Highway near Magathane DP road to Shastri Nagar junction on Pokhran road no. 1	From NH8 near Magathane DP road to Tikujiniwadi near Patlipada	From Ekta Nagar in Western side to Shastri Nagar junction on pokhran road no. 1
Land availability for development of portal/ Cut n cover	Private/ Government land on Western side and Government (Defence) land on Eastern side	Private/ Government land on both Western and Eastern side	Private/ Government land on Western side and Government (Defence) land on Eastern side
Topography and Landuse	<p>The proposed western end is far away from the National park boundary and is habitated at present. However, there is a redevelopment plan of BMC of the region.</p> <p>The proposed eastern end lies outside the National park in the defence land.</p> <p>The topography along the alignment is Undulating on a hilly terrain under green cover.</p>	<p>The proposed western end is far away from the National park boundary and is habitated at present. However, there is a redevelopment plan of BMC of the region.</p> <p>The proposed eastern end lies outside the National park in the forest area.</p> <p>The topography along the alignment is Undulating on a hilly terrain under green cover.</p>	<p>The proposed western end location is on the border of SGNP (north-western corner). The topography of the area undulating rocky area sloping towards north west direction.</p> <p>Eastern portal is outside the SGNP. Open land parcel sloping towards eastern direction.</p>
Approx. Length of proposed alignment (km)	9.68	10.85	12.56
Ground Elevation Approx. m above msl	470 m (max.)	357 m (max.)	397 m (max.)
Proximity to eco-sensitive area	> 95% of total proposed alignment is within SGNP. However, no National park land required for the construction.	> 95% of total proposed alignment is within SGNP. However, no National park land required for the construction.	> 95% of total proposed alignment is within SGNP. However, no National park land required for the construction.
Population Density	Significant population of slum area at the Western end at present which is the part of BMC's redevelopment plan.	Significant population of slum area at the Western end at present which is the part of BMC's redevelopment plan.	No population along the proposed alignment.

	Option 1	Option 2	Option 3
	Population along the proposed alignment above Yeoor hills	Developing residential societies of Patlipada near eastern end.	
Direct Connectivity to National Highway	Direct Connectivity to NH8 and Pokhran road number 2 at both western and eastern end respectively through Cut n cover.	Direct Connectivity to NH8 and Thane Ghodbunder road at both western and eastern end respectively through Cut n cover / access roads.	Connectivity to NH8 on western side through elevated structures and Pokhran road on eastern end through access roads.
Proximity to identified water Sources	Alignment is crossing one identified stream flowing from south to north in the middle east of the forest area	Alignment is crossing one identified stream flowing from south to north in the middle east of the forest area	Alignment is crossing one identified stream flowing from south to north in the middle east of the forest area
Loss of agricultural land	Nil	Nil	Nil
Proximity to ASI sites	No	No	No

