

# Public Good or Private Amenity?

A Socio-economic and Environmental Critique

Objections and Alternatives submitted to the MCGM on the Proposed Coastal Road for Mumbai, 2015

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On 26th July 2005, more than 1000 people perished due to flooding in Mumbai, the result of high intensity rain of 380mm for 3 hours. Mumbai's old drainage system has been designed to handle 25mm/hour of rain intensity, whereas the new system is being designed to handle 50mm/hour. This year, with an intensity of a normal 38mm/hour, there was flooding - a rain intensity anywhere close to 2006 will result in an unprecedented disaster. The new drainage system, however, lies incomplete, under construction for the past 20 years. It will cost the city 1,200 crores, one tenth of what it plans to spend on the Coastal Road. And the Coastal Road will greatly increase the risk of flooding.

What this indicates is the glaring disregard for the city's real needs and problems, and the criminal waste of its public resources. The project, as the attached points to this letter will show, is sure to be counter productive from the perspective of traffic congestion management, wasteful in terms of public expenditure, disruptive in terms of ecology and livelihoods, and it ignores cheaper and more efficient alternatives. Despite this, the MCGM insists on building it. Each time it is revised, something new is added as an "attraction" to make it digestible - but every revision makes it sound ever more absurd. Earlier, "green open spaces" were thrown in to greenwash it, now a BRTS is introduced to silence public transport advocates.

The Detailed Project Report (DPR) of the Coastal Road attempts to show that the project will have larger social benefits. This is the opposite of the truth, as apart from the increase in traffic congestion and concomitant pollution, it will increase the number of vehicles on the road, cause considerable environmental damage and adversely impact livelihoods of fishing communities. Moreover, as a project that serves to transport not more than 1.5% of the city's population on any given day (the suburban rail system moves more than 50% of the population), it is more of a private amenity than a public good. And despite doing nothing to ease the burden on the congested public transport network, the public will be made to finance this fundamentally in-egalitarian project.

In fact, the DPR makes no assessment of the opportunity cost of the project – or the cost of sacrificing other alternatives. What could have been the other social benefits possibly gained from such an investment, on transportation improvements or otherwise? To not ask this question is to not consider better use of public resources.

Some have argued that the Road is necessary to improve the "quality of life" in the city. But this is based on a misunderstanding of the concept. Quality of life is not a function of private luxury or consumption, but the result of a vibrant and inclusive public realm. The Road will create a two-tier system, where a few will benefit from an expensive but improved infrastructure, while the rest will be forced to make do with poor quality facilities. A better "quality of life," requires investment in the strengthening and nurturing of the city's public systems and efforts to make them more accessible. The Road heads us in the opposite direction.

Attached with this letter are all the reasons why the project is an unaffordable mistake, and some possible alternatives to improve Mumbai's transport system. We need an intelligent debate and careful planning for our city's future, not mindless mega-projects.

## **A] Counterproductive for traffic congestion management**

1. The Detailed Project Report [DPR] for the project justifies the project by assuming that car ownership in Mumbai will increase at the rate of 2% over the next 30 years. Consider the implications of such automobile growth. If, as the DPR assumes, the traffic in the city grows to 240 cars per 1000 persons, the city will have 34 lakh cars. If these cars descend on the roads, they will need more road space than the total road area of Mumbai.

2. It must also be remembered that this is a city with some of the highest real estate prices, that gives away parking free to its residents. No other city worth its name follows this logic. This is basically an encouragement for people to own cars, who then demand more road space to escape congestion, which then gets filled up by even more cars. Cities such as Singapore auction limited license plates. Parking space in cities such as New York are more expensive than living space. Cities such as London make millions through parking taxes. In Mumbai, we provide parking to car owners as charity.

3. A well planned transport system ought to be concerned with the movement of people, not vehicles. A bus has 50 times the right to a road than a car has, yet it occupies just 3.7 times its road space. Mumbai's bus system occupies 6% of its road space while transporting 45% of people. Private vehicles (two and four wheelers) occupy 87% of road space and move 45% of people. Clearly, cars make our traffic problems worse, and the Coastal Road is "mainly for cars" as the DPR admits.

4. Toll collection projections for the project in the DPR are based on the NH4, and toll rates as per the Maharashtra State Toll Policy. On the other hand, the traffic projections for the project provide different numbers based only on car traffic. These different sets of numbers make it impossible to get a clear understanding of what the toll collections or traffic count will be on the Coastal Road.

5. Mumbai has one of the highest modal share of public transport in the world, both a

result of and a reason why the city has sustained such high density growth. It also makes it a unique city – our policies must encourage public transport, and discourage private transport.

6. As opposed to its claim of reducing traffic congestion in these areas the road will actually result in an increase in traffic congestion along the 12 interchanges/connectors that feed the coastal road, with cars trying to get on to the highway. Already congested areas on the western shoreline such as Malad and Bandra will be badly affected, and existing sea-facing/coastal roads such as Carter road will lose its present public character.

7. BRTS on the Coastal Road is almost a joke – employment of a BRTS must aim at reducing car use and shifting people to buses for a quicker, cheaper and more sustainable mobility. Multi-level car parking facilities proposed on the Coastal Road falsely suggests that people will drive (with a good deal of suffering on the connectors) to the Road, park their cars and take a bus! Moreover, being on the edge of the city, the catchment area for the BRTS system will be quite limited. BRTS will be more effective on existing arteries (this is explained in the section on alternatives below).

## **B] Economic and financial costs**

8. The Bandra-Worli Sea-link projected a traffic count of 12 lakh cars/day in 2015. But actual crossings have stagnated around 45,000 cars for the past 5 years. The cost of the project, on the other hand, overshoot estimates by 400%. This experience casts serious doubt over the rather optimistic projections of the DPR justifying the Coastal Road.

9. In the past decade, the city has invested huge sums of money on car centric projects such as flyovers spending 5000 crores, Bandra Worli sea-link spending 1600 crores and the Eastern Freeway spending 1400 crores. All of these projects were meant to overcome traffic congestion, smoothen traffic flow, increase average speeds, etc. Despite this expenditure, there is still traffic congestion, and the latter two projects are being sub-

optimally used.

10. The traffic projections for the project estimate 150,000 car trips in 2024. Assuming that this kind of use will be achieved (notwithstanding the experience of Bandra-Worli Sea-link), toll revenue per day of 60 lakhs will be collected. This is a return of about 1.8% of the project cost, less than what it will cost to maintain, electrify and secure the infrastructure (assuming it will be 2%). This means that the project will be almost entirely financed by the public, including the 98.5% who will not use the Road on any given day.

11. If toll rates are increased to bring it closer to the Bandra Worli Sea-link of Rs. 10 per kilometre, a full single trip will cost Rs. 360. Such a toll will drastically reduce the number users. Therefore, it seems that the only way that the DPR's traffic projections can be achieved is through a paltry toll of Rs. 0.65/km which makes it unviable, and if this is increased, the traffic projections are unlikely to be achieved, making the project unviable. The DPR completely ignores this problem, and in fact rather disingenuously uses different assumptions for traffic projections and different ones for calculating toll revenues.

12. The DPR defends the project by estimating its "societal benefits" through a reduction in vehicle operating costs, travel time, accidents, environmental pollution, etc. Though this sounds quite positive, it actually does a poor job of estimating direct costs (environmental damage, loss of livelihoods, etc) as well as indirect costs (pollution, parking and congestion, etc.) to weigh the benefits of the project.

13. Furthermore, such an evaluation is grossly inadequate as it completely disregards the opportunity cost of the project, or the cost of sacrificing other alternatives. In other words, the social benefits that might have been achieved had this money be spent on other things. The absence of such an assessment – of 'what is not seen' is a deceitful way of making public policy decisions.

14. As we describe in the section on alternatives below, with a little more than half the investment of the project, real gains can be achieved in improving mobility in the city, and

the rest can be better spent on other critical infrastructure. These are all the opportunity costs of the Coastal Road, which the DPR does not care to assess.

## **D] social impacts**

15. According to the Census of Marine Fishermen (2003), 37,695 people depend on fishing and related activities in Mumbai. Most of this activity is along the western coast, in villages such as Cuffe Parade, Worli, Mahim, Chimbai, Khar Danda, Juhu Koliwada, Juhu Moragaon, Versova, Madh, Bhati, Malvani, Manori and Gorai. The Coastal Road will almost entirely wipe out fishing related livelihoods in villages such as Khar Danda (where a under-sea tunnel begins) and Juhu Moragaon (where it emerges). Moreover, through its impacts on the coastal ecology and breeding grounds of aquatic fauna, it will undermine fishing as a whole.

16. Fishing communities also depend on the beaches and edges for livelihood related activities such as fish drying, boat parking, net-mending, etc. The existence of these coastal commons is crucial to the livelihoods of the Kolis, and the coastal road will enclose or alter these areas forever. For example Reclamation is proposed in front of the fish drying areas of Khar Danda village, cutting off its direct access to the sea. There is also the threat that these areas will be eventually appropriated for leisure and recreational activities.

17. Similarly, a new road has been proposed by the Draft Development Plan on the seaward side of Chimbai village, which is designed as one of the feeders to the coastal road. This road will cut off access to the coastal commons and boat parking areas presently used by the community.

18. Conscious of the threats to their livelihoods and villages, in a meeting organized by Maharashtra Machhimar Kruti Samiti (Maharashtra Fishworkers Committee) with representatives from villages across the city, the fishing community has unanimously voted to oppose the Coastal Road project.

19. The entry and exit to the northern under-sea tunnel that begins and ends outside fishing villages will require cut and cover entry points – requiring heavy construction and excavation of beaches. The scale and type of construction will have a huge footprint, on and around these sites. The EIA report concedes that preparatory activities will “change the land use pattern of the project influence area for a temporary period” due to use of existing access roads, construction of new ones, construction of quarters, storage godowns, stockyards, etc. Though the temporary nature of these impacts are emphasized by the EIA, assuming this is true, what will the fishing communities do meanwhile for their livelihoods?

20. The areas reclaimed along the coast between the road and the existing edge are proposed to be 91 hectares of public open spaces which include promenades, landscape theme parks etc. The problem, however, is that these open spaces are being created by effacing existing ones including natural beaches that work much better. The coast offers a whole range and variety of open spaces to residents, each distinctive for the kind of experience it offers.

21. Access to public spaces and proximity to residential areas are crucial to the functioning of waterfront recreational areas. An eight lane highway with uninhibited traffic is quite different from a marine drive or carter road where pedestrians can prevail over cars. The only way these new reclaimed promenades can be accessed will be through underground tunnels, across 50-60 metres of road, making them highly un-attractive. Already, the poor use of the promenade in Bandra Reclamation shows the ineffectiveness of such projects.

#### **D] impacts on natural and the built environment**

22. The massive projections of private automobile traffic according to the DPR are a grim prospect for such a dense city. The coastal breeze will bring in the continuous production of fumes the road will generate. As a mitigation measure the EIA report for the coastal

road project proposes afforestation/plantation measures along the coastal road, but these are hardly mitigating measures. If any thing, the Coastal Road will contribute towards an increase in private automobile traffic in the city.

23. An EIA requires a consideration of all possible alternatives, including a 'no project option' and a comparison of impacts due to each. Alternatives typically should cover locations and process technologies. Alternatives ought to then be ranked for the selection of the best environmental option for optimum economic benefits to the community at large. The DPR's EIA only compares alternative alignments of the coastal road, not alternatives to the project itself.

24. The EIA report claims that there will be no impacts on natural drainage patterns as ample culverts have been provided along the entire length. But large scale reclamation and conversion of natural areas into concretized hard-paved areas creates an impervious terrain that is likely to impact the natural drainage patterns in the city. Furthermore due to an inadequate solid waste management system, culverts and storm water drains tend to get clogged in Mumbai, and are incapable of adequately flushing out water.

25. Indiscriminate construction of landfilled roads and stilt roads in mangrove areas and at the mouth of estuaries will further exacerbate this problem. A land filled road has been proposed in the middle of Malad creek for a considerable length and it is feared that the constriction of mouth of the creek will reduce the area available for flushing and the water will remain in the channel for a longer time. The pillars planned in Malad creek will hamper the currents during low tide and the ponding of this water will be similar to what we experience in Kurla Depot area along Mithi bank.

26. It has been observed that construction within natural drainage channels leads to flooding in other low-lying areas. Informal settlements, koliwadras, gaothans and other residential neighborhoods in the city are especially vulnerable face the threat from flooding. Construction of concretized embankments along the estuary at Juhu due to the BRIMSTOWAD project had led to the diversion of water and flooding in Juhu Moragaon

fishing village. Severe flooding is anticipated in upstream areas of creeks where large scale construction is carried out especially areas such as Goregaon, Malad and Charkhop.

27. The project will require reclamation of 27 Hectares of mangrove land, and will impact irreversibly more areas due to construction activity. The stretch of road between Juhu and Malad will pass through the Malad creek and over mangroves near Versova fishing village, and this area will be severely affected. Mangroves and coastal wetlands serve important ecological functions (such as breeding areas for coastal fauna) and provide important ecological services. They act as natural sponges and play a crucial role in flood prevention, and it is incredible how the DPR disregards this fact.

28. Ironically, the EIA report for the coastal road project itself acknowledges that "mangroves maintain the integrity of Mumbai's shoreline" and provide "a vital service to the city of Mumbai." The report even goes on to state that flooding in Mumbai was a result of a "systematic destruction of mangroves in the city" and "demonstrated the consequence of tampering with the ecology of fragile ecosystems" and "depriving Mumbai of its natural flood-and silt trap." It also mentions that "had Mumbai's Mithi river and Mahim creek mangroves not been destroyed, "fewer people would have died and the property damage would have been dramatically less."

29. The EIA report states that to compensate for the loss of Mangroves, "mangrove species shall be established on either side of the road to be constructed." It is surprising how the EIA consultants assume that complex eco-systems that have evolved over time can be replaced and recreated by simple replanting of a few selected specimens of such a system; or that such measures can compensate for the substantial loss of their present ecological and bio-diversity value.

30. In 2005 the High Court ruled that no construction on or around mangrove land is permitted. The MoEFCC has exempted the project from the CRZ regulations. This rules are customarily used to criminalize the poor in the city, despite the fact that they are meant to safeguard environmental systems and livelihoods. They are now being disregarded for a

project that is hardly in the larger public interest.

31. The project has already triggered speculative development in the ecologically sensitive areas of Madh, Marve and Manori that the coastal road will eventually connect. These areas already have numerous natural areas, urban villages and their commons, and were protected as No Development Zones in the 1991 development plan, and as CRZ III areas under the CRZ regulations.

32. The western coastline of Mumbai still retains its natural edge that consists of natural geomorphic formations and diverse coastal ecosystems. These include rocky and sandy beaches, bays and headlands, estuaries and coastal wetlands. The 34.56 km long project will reclaim land, build stilted roads and construct underwater tunnels will deal enormous impacts on this delicate ecology and natural features to homogenize the shoreline of the city.

33. Out of the total length, 11.61 kms is proposed by the DPR as a reclaimed road, the total area of reclamation being 168.08 hectares. As one of the largest proposed reclamation due to a single project, it will offset the coastline considerably along large stretches of the coast, smoothing out the natural formations of the coast for the free flow of traffic.

34. Reclamation will replace almost all of Mumbai's remaining rocky beaches which include long stretches along Napean sea road, Breach Candy, Mahalaxmi headland, Worli seafront, Bandra headland and Bandra Bandstand. Reclamation of these areas will irreversibly alter the natural erosion and deposition along the beaches that have over time formed the complex geomorphological features that sustain diverse ecological habitats.

35. Natural rocky beaches such as those around Bandra fort and Bandstand are also important as vibrant and active public spaces in the city, providing direct and uninhibited access to the sea. These are intensively used, and thousands of people from different parts of the city visit these everyday. These beaches will be replaced by a large reclaimed concretized expanse which will be completely cut off from the sea by the road and would

in turn imply the loss of public access to the coastline.

36. The EIA report and DPR mentions that the "Committee has found that the proposed reclamation of an average width of about 100 metres does not cause any impact on the tidal movements and no adverse effects to the coastline are envisaged." But past experience and alternative views from experts and scientists suggest that the opposite may be true, and tidal variation is likely to have severe impacts at several places along the coastline.

37. For instance, it has been reported that reclamation for the Bandra Worli sea link resulted in severe erosion of sand from sandy beaches along the coastline such as the waterfront at Dadar which eventually led to the "death" of Dadar Chowpatty beach. Reclamation will reduce the areas in the natural bays, and the volume of water displaced is likely to lead to the erosion of the north section of Juhu beach which is an important public beach for the city.

38. The reclaimed road is also proposed to function as a massive sea wall, cutting off the city – physically and symbolically - from the sea. The existing sea facing areas, built structures, waterfronts, beaches and monuments (such as the Mahalaxmi temple) will no longer have visual and physical access to the sea due to the construction of the eight lane highway with an elevation of about 3.5mts above the high tide line.

39. The EIA report fails to list out significant monuments such as the Bandra Fort along the route, and quite ironically proposes a "memory garden" along this stretch – perhaps a reference to the beach that will remain only in the city's collective memory.

40. Construction of a messy tangle of flyovers and connectors proposed within Haji Ali Bay will not only substantially reduce the size of the bay but also obstruct and partially block the view of famous Haji Ali Dargah from the existing road. Besides this pilgrims and visitors will have to cross an underpass below the Coastal road flyover in order to reach it.

41. According to the EIA report, the "road level is planned in such a way that it will not

impact aesthetic and sea side view of commuters”, implying that the project is designed keeping the aesthetic needs of the commuters as opposed to the residents or pedestrians in mind.

42. Mumbai has not evolved as a car centric city, and the coastal road will impact existing settlements or neighbourhoods and historic urban fabrics in the city. The road will increase pressure on existing roads, and require widening (as the MCGM's PLU proposes) of roads through residential neighbourhoods and urban villages altering their physical character forever.

43. The EIA report mentions that changes in microclimate change due to road construction will be temporary as afforestation will restore this in 3-4 years. But despite afforestation, if it happens, the heat island effect and changes in microclimate will result due to a heavily concretized coastline. Incredibly, despite its own projections of car traffic, the EIA report claims that there will be negligible changes in macroclimate due to the road.

44. The EIA report mentions that noise levels at Haji Ali, Nariman Point, Mahalaxmi Temple, Carter road, Rizvi College, Poddar Hospital, Versova and Lokhandwala Complex, are already exceeding the limits prescribed under Environment Protection Act (Regulation & Control) rules 2000. It is obvious that noise levels will increase during and after the construction of the coastal road.

45. The EIA reports enumerates in detail the different kinds of environmental impacts likely during the construction and operational phases of the project. The impacts listed are extremely serious, though the mitigation measures the report suggests are trivial at best.

46. The western coast of the city also provides livelihoods to thousands of fishermen, and a social impact assessment needs to be undertaken to evaluate the potential consequences of the project on coastal communities.

## **D] Alternatives to the coastal road**

47. The DPR assumes only two transportation alternatives - a "do nothing" alternative and a "with coastal road" alternative. However, there are multiple things that can be done to improve transportation in Mumbai. The alternatives involve looking at the transport system as a whole (see table).

48. One important step could be to implement the MUTP III approved by the government of Maharashtra and the Ministry of Railways. This would involve (a) Replacing the existing signalling system with an electronic one, (b) adding 5th and 6th tracks to increase number of trains, (c) improving station areas and passenger dispersal systems, (d) introducing AC coaches in every train. This alternative will add approximately 12 lakh passengers per day, at a cost of Rupees 4500 crore.

**The Coastal Road and Other Alternatives**

Project Type	Period of Implementation (years)	Investment in Rs. Crore	Fuel costs in Rupees / kilometre	Additional Passenger trips / day	Investment / passenger / trip (for 25 years)
1 Coastal Road (as per DPR)	3	13,000	3.50	300,000	47.49
2a Bus System	3	2,700	0.20 – 0.30	800,000	3.70
2b Suburban Railway (MUTP III)	3	4,530	0.15	660,000	7.52
2c Parking / traffic management	3	500	-	-	-
2d Car / taxi pooling	1	200	2.50	100,000	2.19

SOURCE: MUMBAI ENVIRONMENTAL SOCIAL NETWORK (MESN), 2015

49. The second step would be to introduce bus priority lanes on major suburban arteries such as the Western Express Highway, the Jogeshwari Vikhroli Link Road (JVLR) and the Santacruz Chembur Link Road (SCLR). Since such a lane cannot be in the center (due to numerous flyovers), these will have to be on the kerb lane. Mumbai's bus system currently ferries about 30 lakh passengers, and has a potential to do 15 lakh more. An improved system with 1000 new buses and 2000 replacement buses may be able to achieve 8 lakh trips per day for an investment of 2700 crore.

50. Parking Management forms the third part of this combined alternative. Around the world, parking costs/hour are a little more than the cost of fuel. A charge of Rs 200/hour as

destination parking along with congestion on peak hour pricing will do much to restrict car use, and introducing parking fees and fines will create much needed revenue for the transport sector. The investment for traffic management may not be more than 500 crore, and result in positive revenue for the city

51. Car pooling forms the fourth part of this alternative. Even if 20% cars are pooled, the traffic congestion problem can be substantially addressed. Pooling can be encouraged by introducing variable tolls, where a car with 1-2 passengers is required to pay a higher toll than one with 3-4 people.

52. In addition to this alternative, the Metro being constructed along the Western corridor will take away some of the people from private vehicles and move them to a more efficient and sustainable metro rail system. The DPR for the Coastal Road makes no mention of the Metro or how it will affect traffic along this corridor.

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