

THE
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**Re-imagining Mumbai:
Cleaner & less congested**



Re-imagining Mumbai: Cleaner & less congested



A panel discussion jointly
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and
Indian Merchants' Chamber



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FIRSTPOST.

Preface

There is a soft underbelly that most cities have the world over when it comes to crime and corruption. Mumbai is no different. But what makes this city unique is that – unlike many other cities – its core constituency has almost disappeared.

The primary reason is the willingness on the part of its political masters to refuse to let the city be governed as an independent entity. The reasons are obvious. Maharashtra is a



state where 20 per cent of its people stay on just 2 per cent of its land. And Mumbai and its surrounding regions account for almost 6 per cent of national GDP (see page 17) or almost half the state's GDP. Since Mumbai is the biggest generator of cash – and money making opportunities – it is inevitable

that all political leaders should eye it for the benefits they can extract from it.

Even that would have been understandable if there had been a charter which mandated that at least 30 per cent of the money generated from the regions should be ploughed back into the territories from where the money was earned. Thus, 70 per cent could be used for supporting development elsewhere. Without such a charter, Mumbai has become a place where everybody wants to fleece others. Nobody wants to pay the cost of staying in Mumbai, except the helpless who have no political master or protector. Thus North Mumbai pays more property taxes and

water bills than does South Mumbai, even though the expenditure on infrastructure and amenities in South Mumbai overwhelm North Mumbai both on a per capita or a per square metre basis. Similarly, with 60 per cent of its population living in slums and another 30 per cent in cessed buildings, the bulk of money from property taxes comes from just 20 per cent of the population (see page 15). This is iniquitous. What makes the situation worse is the clamour of self-serving politicians demanding that slum dwellers and those living in houses under 500 square feet (which would account for more than 50 per cent of households) would be exempt from paying property taxes at all. Effectively, Mumbai is being transformed into a city of freeloaders – of parasites who want to drain out benefits from the genuine wealth generators who inhabit Mumbai.

The city is at breaking point. Its investments in infrastructure, its plans to make it a zero landfill city, and its dreams of becoming even more vibrant and liveable are great concepts. But if 70 per cent of Mumbaikars are allowed to live here without paying the basic costs, this city's transformation will be limited.

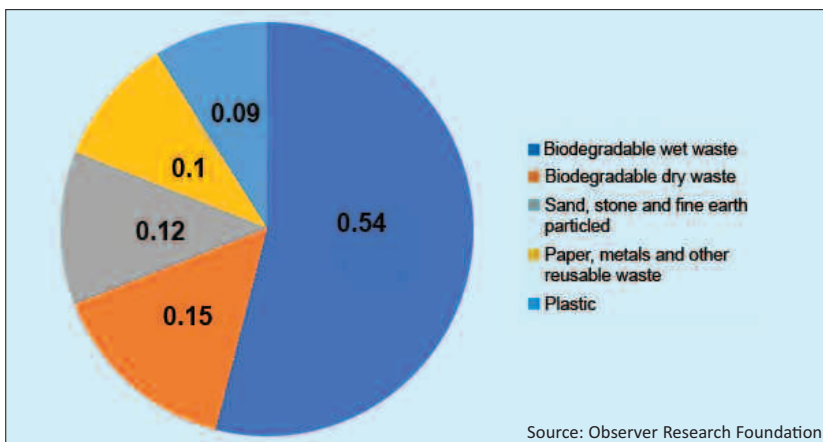
Other cities will gradually gain prominence. They will offer youth the benefit of open spaces, clean air, better infrastructure and a vibrant nightlife that pseudo moralists and sham socialists have taken away from Mumbai.

The city deserves a better fate.

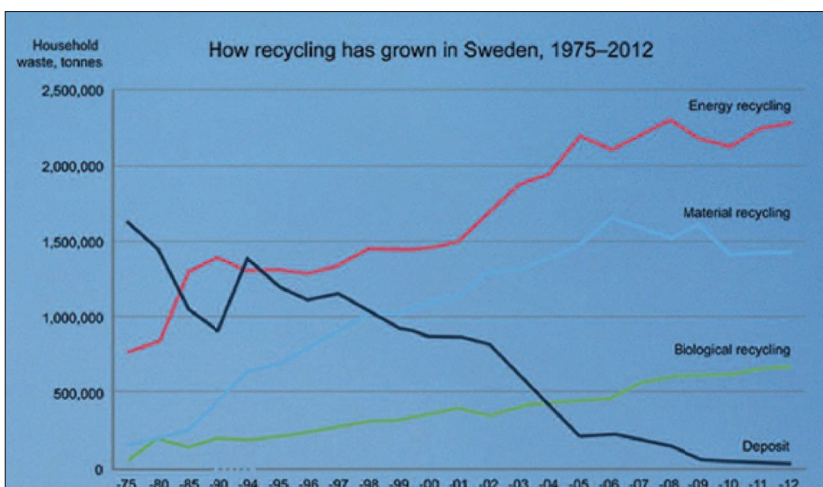
R. N. Bhaskar.

R.N. Bhaskar,
consulting editor, FPI

Best out of waste



City	Municipal Solid Waste (daily tonnes)	% processed
Mumbai	10,000	30
Chennai	4,800	7-10
Delhi	8,400	50-55
Bangalore	3,500	40
Kolkata	4,000	15



Background

- By Pankaj Joshi

Waste management – lots of time has been wasted

The very fact that something has to be re-imagined means all is not as it can be. Mumbai, magnificent in potential, is less than awesome in reality in certain aspects.

Let us start with waste and sewage disposal where frankly Mumbai stinks. Of 10,000 tonnes solid waste (80 per cent garbage and 20 per cent debris), 3,000 tonnes is treated and the rest goes to landfills. Around 75 per cent of the 3.7 billion litres taken up daily by the city goes untreated into the sea and rivers. Most rivers are choked and stinking today.

Untreated waste and sewage causes diseases. Landfills destroy the environment and groundwater reserves. Mumbai has finally resolved to move to a zero landfill policy, and its sewage treatment capacities are being enhanced.

Overall for solid waste disposal, power generation from waste is a great option. Take the case of Sweden. It burns most of its waste to produce energy at incineration plants. That which cannot be burnt (porcelain or tiles) goes into gravel manufacturing for road construction. Overall, Sweden now recycles 99 per cent of its waste – compared to less than half around 40 years ago. It adopted a zero landfill policy in 2004. Sweden is so efficient in waste management that it imports waste from other nations, so that its incinerators can generate energy.

Transport chaos of India

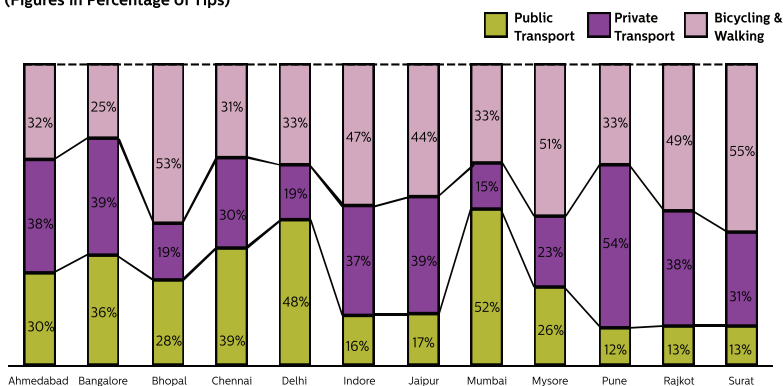
With same level of investment, varying system kilometers can be constructed with:



Bus Rapid Transit is a mass transport mode adapted to the existing demand and that may be implemented in the short/medium term with comparatively low capital cost

Source: Bus Rapid Transit Planning Guide (Institute for transportation and Development Polict,2007)

Modal Split for Travel - Indian Cities
(Figures in Percentage of Trips)



In comparison, London, Paris and New York have a public transport share of 40 per cent, 54 per cent and 54 per cent respectively.

Source: Transport in cities-India Indicators by EMBARQ

Connectivity

Transport connectivity is a critical factor. Connectivity has three important facets—fresh investment being envisaged, the mindset change and optimisation of current infrastructure, and lastly technological developments translating into comfort and utility for end-users.

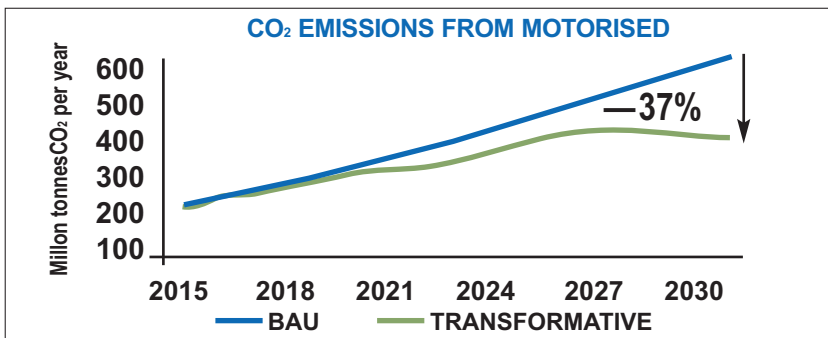
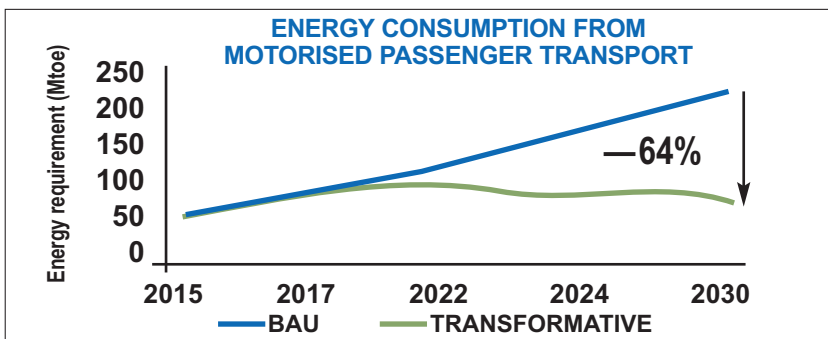
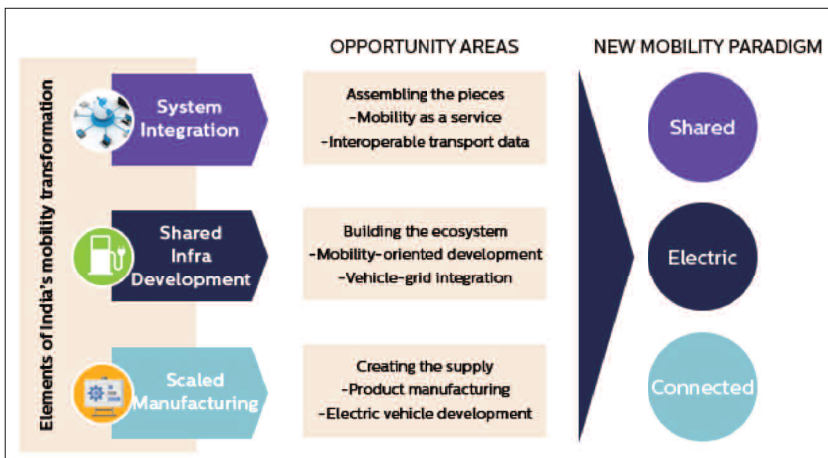
- On the investment front, the coastal road and the Trans-Harbour bridge link are being worked on.
- The Mumbai Metro/ Monorail is set to vastly expand across the city as an adjunct to the existing suburban train network. It will span—over the next seven years— 170 km; equivalent to the suburban rail network today.
- Across all projects, an estimated of Rs 1, 70,000 crore is the planned outlay to improve connectivity in the Mumbai Metropolitan Region (MMR).

On the optimisation front, a marginal investment in public road transport (Mumbai has the BRTS) will lead to fewer private vehicles on the roads. Moreover, private taxi fleets (Ola, Uber and their ilk) are bringing about a mindset change. It is estimated that Mumbai has doubled its taxi strength from around 40,000 to 80,000 with the private fleets, in addition to the estimated 2, 50,000 rickshaw fleet.

The benefits of the private taxi fleet:

- Convenience of travel point to point.
- Reduced need for private vehicles, thanks to convenient sharing options, and reduced demand for parking space.
- Beneficial financial impact of reduced vehicle ownership for users.
- Beneficial financial impact of vehicles being an earning asset for many more owners.
- A more effective and user-friendly ride-sharing facility will further reduce traffic pressures.

Fresh eye on transport



Source: NITI—RMI India Mobility Report 2017

Now we touch upon the technological aspect, which is electricity-driven transport. First consider the four-wheeler vehicular data for Mumbai, which is around 25 lakh currently. The Central Government has stated that 2030 would see 50 per cent of all vehicles on Indian roads being electric vehicles. Assuming Mumbai would have around 40 lakh vehicles by then and 50 per cent of those would be electric vehicles, it actually means less petrol and diesel vehicles compared to today. The benefits of electric vehicles are well-documented.

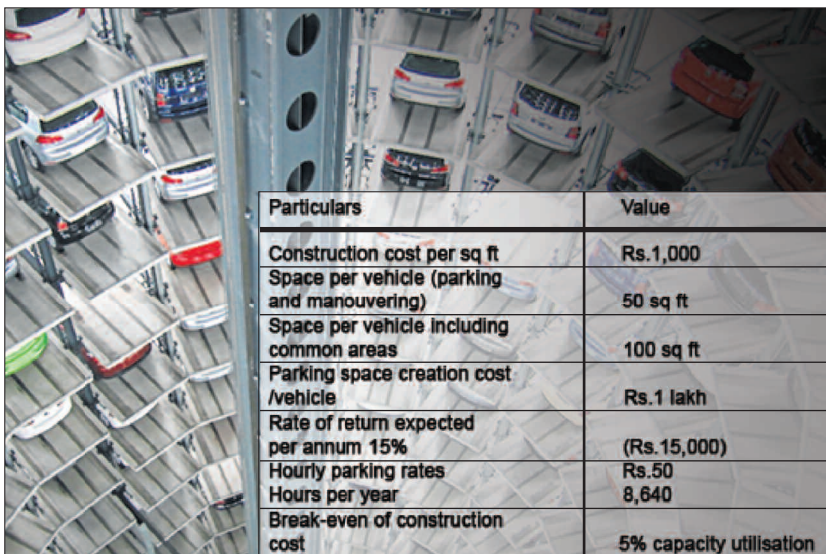
- Emissions will drastically come down.
- Moving parts in electric vehicles are 200 against 2,000 in traditional vehicles.
- Capital cost of ownership will reduce drastically with scale (think Maruti and its cost impact on the car industry).

Hence this shift, once economically viable will be sustainable too. The current constraints are related to charging points which must increase and vehicular storage capacity too must improve.

The other aspect is that the railways are going electric. It is estimated that around 300-350 trains reach Mumbai daily. Piyush Goyal, Railways Minister, says that India is committed to time-bound electrification of Railways and therefore there will be reduction in pollution from diesel trains. Thermal power pollution will become an issue, if a solar power-based policy is not adopted for this.

In that context, the major rise in attraction of renewable energy sources (solar and wind) for incremental demand and the demand from Railways being a buffer for existing capacities would need to be estimated.

Its time to park it better



Particulars	Value
Construction cost per sq ft	Rs.1,000
Space per vehicle (parking and manoeuvring)	50 sq ft
Space per vehicle including common areas	100 sq ft
Parking space creation cost /vehicle	Rs.1 lakh
Rate of return expected per annum 15%	(Rs.15,000)
Hourly parking rates	Rs.50
Hours per year	8,640
Break-even of construction cost	5% capacity utilisation

Source: Asiacoverge.com

Proposed revised parking fee						
Time	Current fee (Rs.)		Revised fee (Rs.)		Sunday/ holiday (Rs.)	
Category A						
	4 wheelers	2 wheelers	4 wheelers	2 wheelers	4 wheelers	2 wheelers
Up to 60 mins	15	2	60	15	30	10
1 to 3 hrs	20	10	75	45	40	25
3 to 6 hrs	30	15	105	60	55	30
6 to 12 hrs	55	20	180	75	90	40
12 to 24 hrs	65	25	210	90	105	45
Category B						
Up to 60 mins	15	2	40	10	20	5
1 to 3 hrs	20	10	50	25	25	15
3 to 6 hrs	30	15	70	30	35	20
6 to 12 hrs	55	20	120	45	60	25
12 to 24 hrs	65	25	140	60	70	30
Category C						
Up to 60 mins	15	2	20	5	10	5
1 to 3 hrs	20	10	25	15	15	10
3 to 6 hrs	30	15	35	20	20	15
6 to 12 hrs	55	20	60	25	30	20
12 to 24 hrs	65	25	70	30	35	35

Source: Observer Research Foundation

Parking and hawking – constraints for movement

Parking has been a perennial problem—in 2012 an NDTV survey estimated that there was one parking arrangement for 120 vehicles across the MMR. 2014 media reports indicated an improvement, with four lakh parking facilities catering to 15 per cent of the four-wheeler vehicle population, again grossly inadequate by any standards.

One solution is development of dedicated multi-storeyed parking lots. Lower floors are kept for hawkers, eateries and free movement of essential services vehicles (police, fire brigade) and higher floors dedicated to parking. The estimate alongside shows that this can be financially very viable once the BMC can allot land. It would also see a drastic drop in bribery activity.

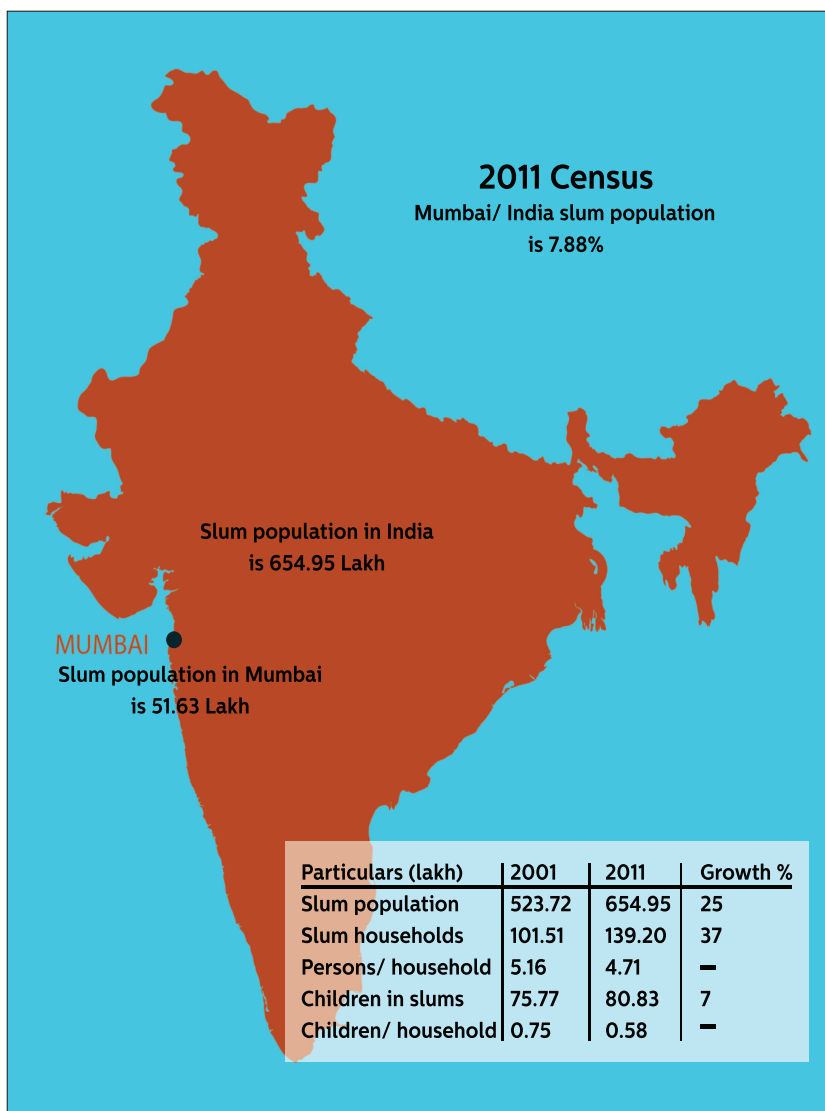
The ORF estimates that the BMC today has 92 dedicated parking lots, and around 50 more are being constructed by private developers who will hand them over in exchange for extra FSI. In all fairness, BMC has put in more parking needs in the new developmental plan proposal, and raised parking charges. Possibly some of the connectivity and public transport initiatives outlined earlier can themselves mitigate the constipated parking situation.

Another similar multi-aspect nuisance impeding pedestrian and vehicular traffic is illegal hawking, regular demolition drives notwithstanding. The BMC is actively considering using online survey systems and also a GIS-based mapping to get real-time information on illegal hawking.

- The system can provide details of each registered hawker, including identification, location and biometric details.
- With this, eviction action will now become more focussed and effective.

The complete focus is to have zero tolerance for any unauthorised movement-stalling activity on the road.

Can Mumbai do it better for its slum dwellers?



Map for representation

Population growth pressure

Slums remain an eyesore, abetted by both civic authorities and politicians. Slums and cessed buildings have grown from 0 per cent of population (in 1947) to 55 per cent (in 2015). Periodic legalisation of slum dwellings is a big incentive for mushrooming of slums.

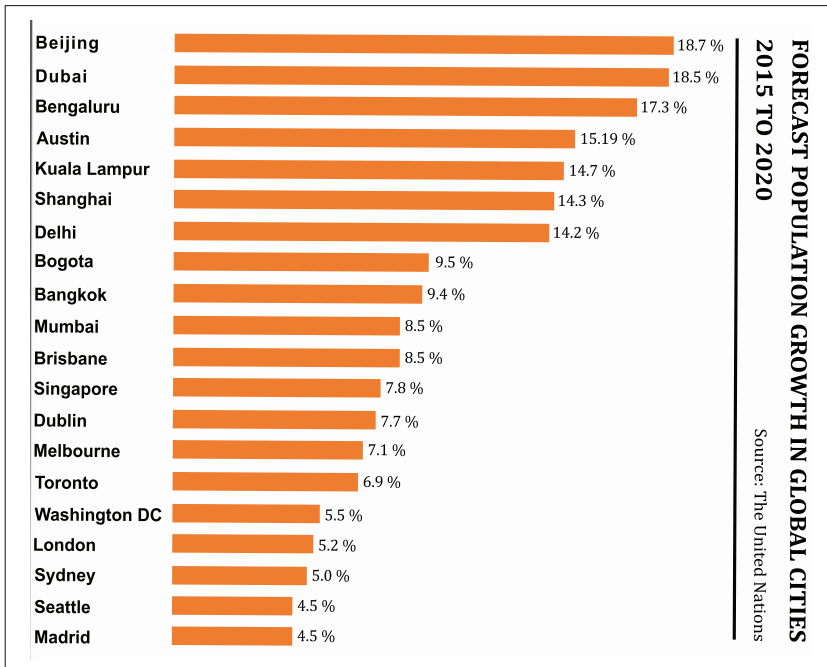
The grant of free housing also encouraged slum-dwellers. Now the modified BMC policy proposes no more free housing for these categories. Large housing projects need to create small-sized dwellings (260-350 sq feet) to 10 per cent of their total project size and hand them over to the BMC. These can be offered to the needy through a lottery system, subject to a floor price.

Apart from the significant eco-political move of putting a price on dwellings, there is a rise in property tax payer segment. There is also a transfer charge, and significant periodic revenue recovery through society maintenance route. These are steps in the right direction.

Given the recent policy of 200 units of subsidised power and also a fixed annual subsidised quantum of cooking gas per household, the household registrations within the existing slum areas have increased rapidly to avail these benefits.

Connectivity would also play a part— the BMC Commissioner has indicated that Mumbai's population (around 12.44 million) would peak at 12.79 million in 2021 and is likely to drop to 11.44 million by 2034. This is because better connectivity would see emergence of satellite locations where both work and residence options would come up.

A step to make global cities smart



The economics of eco-commercial buildings

Cost of 10,000 sq ft ECB with local material in 2015 with PV solar panels -est	Rs 681.44 Lakh
Current cost of similar conventional building with PV solar-est	Rs 563.87 Lakh
Extra Cap Cost	Rs 117.57 Lakh
Electricity saving per year	Rs 6.74 Lakh
Pay back period	17.45 Years
Greenhouse gases emission saved per year	66,000 kgs

Source: Bayer India, based on its new ECB in Greater Noida, New Delhi

Smart City concept – How much can Mumbai learn from it

The concept of smart cities has been adopted and implemented worldwide with varying degrees of success. The Delhi-Mumbai Industrial Corridor design being planned has 24 such cities currently in the blueprint. Let us understand typical features of smart cities, and whether and how can any of them be adopted for Mumbai's re-engineering.

- Smart cities are greenfield / brownfield ventures, where the design stage itself can incorporate green constructions, redundancy-level drainage systems, sewage treatment facilities, gas digesters etc. Focus is waste management without dumping.
- A smart city (including those planned along the DMIC) generally have provision for being self-governed under Article 243Q of the Constitution. This keeps the administration out of the agenda-based meddling of local politicians. Mumbai's political masters would not want this, since cities are a great source of unaccounted money.
- In regard to travel, smart cities need to be planned such that a walk of 500 metres from home or workplace would provide access to a rapid mass-transport system. Also, rules must permit flexi-sharing of hired transport vehicles (as Uber and Ola have shown). Strong connectivity, inter-city and intra-city, is required.
- Smart cities tend to be compact – tall structures with intermittent open spaces, and renewables-driven. Soft infrastructure (healthcare and education) is planned at convenient locations and in abundance. A humming nightlife is essential for a vibrant smart city. Social policing and pseudo-morality (often for easy money) must be restrained.

Mumbai is blessed



Mumbai blessed with population too!

			
City	London*	Manhattan	Mumbai
Population (Lakh in early 50s)	81.64	19.60	29.00
Current (lakh)	87.88	16.44	125.00
Growth %	7.64	-16.12	320.51

Source: IMC Presentation

*London's data was for the year 1951, and Manhattan and Mumbai's data were for the year 1950.

Mumbai – a blessing worth fighting for

All the efforts being taken for Mumbai are worth the while. Mumbai is the financial capital of India. Two decades ago, it contributed 10 per cent to the national GDP. Even today, after new industrial and service business towns have come up in the past two decades, Mumbai contributes anywhere between 5-7 per cent of India's GDP. Considering the country's GDP at USD 2.45 trillion (it was USD 440 billion two decades ago), that is impressive. The city has transformed from being a predominantly industrial city five decades ago to a services centre today.

Mumbai is also home to the Hindi film industry, among the biggest globally. Mumbai actually is a combination of New York and Los Angeles, a combination in itself unique.

All this is juxtaposed in an unusual combination of geographical features. There is a coastline, there are rivers (ill-treated but still there), lakes, hills, beaches and mangroves. The city houses within itself remnants of eight fort constructions, a legacy of foreign occupation.

The extension of Mumbai which has been happening unabated (though the official concept of Mumbai Metropolitan Area is comparatively recent), into the neighbouring areas upto Thane, Karjat, Kasara, Virar, Panvel and beyond, is a great stabiliser. The population explosion in the BMC-demarcated Mumbai is indicated alongside and the other benchmarks are notable. Better connectivity will further facilitate satellite townships or small cities linked to Mumbai. That should spread population growth over a wider area. Simultaneously, zero tolerance to any slum expansion is critical.

Recommendations

- For decongestion, there are two aspects— first, get roads free of illegal parking, hawking and settlements, so there is more room for pedestrian and vehicular traffic flow. Second is to prevent further development of slums. It is likewise essential to focus on inter-city and intra-city connectivity.
- Improving GPS-based surveillance on public transport (State and private ownership) so as to enhance safety factor and encourage usage
- It is essential to curb the misuse of subsidised power and cooking gas per unit. This could be done if the subsidy scheme is implemented in slabs based on documented size of each family. A gradual phase-out of the subsidy is the ultimate aim.
- For parking management, greater parking charges, more rigorous detection of illegal parking and intra-city tolls would help enhance revenues which could be invested to improve the loss-making and investment-starved public transport system. Multi-level parking facilities incorporating hawkers, eateries and sanitation facilities would be ideal.
- RFID-based vehicle parking cards would enable automatic tracking of parking time and toll collections based on time-of-day parking without human intervention. Minimising human interface in revenue collection is the ideal method.
- Camera technology, used with much success for monitoring vehicular traffic, can be tweaked and used on a larger scale to monitor illegal hawking/ encroachment activities.
- The use of GPS and camera technology is absolutely essential to monitor and check hawking segment from becoming a menace.
- Waste to energy conversion must be taken up on a non-negotiable basis by the authorities. The economics of the exercise should factor in the following beyond cost and recovery:

- Technological options to generate optimum power even from unsorted waste
- Opportunity cost of real estate (landfill) usage in capital value terms, and site maintenance outgo
- Power generation, rather than seen in isolation, could be linked to the subsidised power scheme, or could even go towards the Railways' enhanced requirement
- The idea of site-based (society or complex) waste management must be taken forward rigorously with financial consequences both ways
- Waste water treatment and recycling for non-potable uses should be made mandatory for large users. This could be the Railways, MBPT, BARC and complexes of all types, even upcoming projects. One yardstick could be size – say a building plot area of one acre, or a building with more than 5, 000 people working.
- Exploration of desalination options for water supply can be done, where costs have rationalised over the past decade, beyond the enhancement of sewage treatment facilities
- Solar power generation facility could be made mandatory for all large projects, beyond just the upcoming ones, which would progressively aid the local energy companies to dedicate more power to the Railways
- India can be a game-changer at world level in acceptance of non-carbon fuels to drive public transport. It is just a question of pursuing the right alternatives

Panel 'Reimagining Mumbai'



(LtoR) R N Bhaskar, Consulting Editor, The Free Press Journal; Ajit Ranade, Chief Economist, Aditya Birla Group of Companies; Ajoy Mehta, Municipal Commissioner, MCGM; Niranjani Hiranandani, founder and head, Hiranandani group of companies; and Shishir Joshi, CEO, Mumbai First

Panel Discussion

Keynote Address by Lalit Kanodia, President, IMC



Mumbai is a city blessed with a sea front of 149 km, beaches of 16 km, three lakes, four rivers, surrounded by mangroves of 70 square km and eight forts. However, it also has high real estate cost, expanding population and rampant encroachment. Dixit, the Director General of Police has once said only 30 per cent of the road can be used and 70 per cent is under encroachment.

Yet another issue faced by the city is discharge. There is discharge of untreated sewage into the sea and into our rivers, because of which none of us can go and swim in the sea. In terms of square km of open space per person, Manhattan has 26, London has 31.68 and Mumbai has 1.58.

Now the good news. The Bombay Port Trust plans to release 900 acres of land, which is a Godsend and optimum utilisation of the land will be important. The city has built the Bandra-Worli Sea Link, and the Metro is in its third phase. The Trans Harbour Link (22 km) and the Coastal road (29 km) are being planned as well.

We need better connectivity with the mainland – we should plan a Golden Triangle of Mumbai, Pune and Nashik. We need to privatise municipal services, improve public transport, to improve execution speed. The Empire State Building, one of the tallest building in the world was erected in 14 months. This was in 1931, which shows what can be done.

Good things have happened but more action is needed



NIRANJANI HIRANANDANI,
Founder and head,
Hiranandani group of companies

“Coastal road project will be like a ring road and should make a paradigm shift to the entire western suburbs. Then is the Navi Mumbai airport, expected to be completed in the next two years.”

Niranjani Hiranandani: Let us summarise the good things that have happened in the recent past. First is the planned metro rail. The aggregate suburban railway line (Western, Central and Harbour) today is 170 kilometres. Against that, all the metro phases planned in the next seven years have 170 kilometres.

Second is the trans harbour bridge, pending since 45 years. At the time of conception its budget was only Rs 100 crore and now it is only Rs 16,000 crore, but at least it is now going to happen.

The third is the coastal road project for Mumbai, the personal passion of the Commissioner. This will be like a ring road and should make a paradigm shift to the entire western suburbs. Then is the Navi Mumbai airport, expected to be completed in the next two years.

Last is the upcoming railway enhancement, a high speed corridor coming from VT to Panvel via the Palm Beach road, and a railway passenger service from Panvel to Karjat, which today is just a freight corridor. Then there is the express railway corridor in the western side.

We have Rs 1, 70,000 crore being spent on urban infrastructure in the next five years, more than the total investment by governments in the last 70 years put together. About 70 per cent of all this is already arranged to be funded by the Japanese and various commitments done by the state government and the central government agency.

So for Mumbai, the transport and communications is definitely going to improve. We need to congratulate the state government and we have to congratulate the municipal commissioner. There is one specific contribution done by Ajoy Mehta which I think needs to be highlighted—a proposal to make a canal for the purpose of fishing, right upto the fishing village and a contiguous 300 acre garden at Nariman Point. This will be the largest increase of green space ever in the history of Mumbai.

One thing that is missing is related to my field of activity—affordable housing which has to take off.



LALIT KANODIA,
President, IMC

“For Mumbai Island to expand into mainland India, we should plan on a Golden Triangle of Mumbai, Pune and Nashik. We need to privatise municipal services like we have done with the airports.”

Lalit Kanodia: This is a city blessed with a sea front of 149 km, beaches of 16 km, three lakes, four rivers, surrounded by hills with mangroves of 70 square km and eight forts. As a layman, the problems are clear— very few open spaces, one of the highest population densities worldwide (indicating regular population growth), extremely high cost of real estate, rampant encroachments including roads are some. Then there is the discharge of untreated sewage into the sea and into our rivers, due to which none of us can go and swim in the sea. For slums, we do not need any further description.

Now the potential— the Bombay Port Trust plans to release 900 acres of land, which is a Godsend and should be capitalised on. Then, as per the Municipal Commissioner, Ajoy Mehta, the BMC has ‘Rs 60,000 crore in the bank.’ We already know that huge infrastructure investments are in

process, but we need better connectivity with the mainland. For Mumbai Island to expand into mainland India, we should plan on a Golden Triangle of Mumbai, Pune and Nashik. We need to privatise municipal services like we have done with the airports, then to improve public transport, then to increase the speed of execution.



SHISHIR JOSHI,
CEO, Mumbai First

“Civil society, which still works in silos. Verticals which talk about water management talk in their own manner, verticals which talk about road and sanitation talk in their own manner. We need an integrated viewpoint for which we must decongest our minds.”

Shishir Joshi: Mumbai was at one point India’s best city and Asia’s best. This image has taken a beating in today’s times. I would look at the image aspect and affordable housing aspects. Is housing really affordable? Then hitherto open spaces have become living rooms or often bedrooms. We talk about global cities, where Mumbai is among the top 19 global cities. Global cities have a quality of life – we need to talk on that. If you compare today’s open space with global standards, the question arises if these are really good open spaces. Then, somewhere at a city level we feel a huge trust deficit between citizens and the governance. Can we start bridging the trust deficit? Another issue is governance— there are 17-18 agencies running the city but very often we talk of a road and multiple agencies saying this road doesn’t belong to me, but to someone else. There was an optimistic conversation about a CEO for Mumbai, but it is possible and imperative to align all agencies, get them talking internally and looking at Mumbai city as a whole. Even the development plan – one of the most fantastic documents and one we look forward to being

implemented – gets mixed up. The last part is civil society, which still works in silos. Verticals which talk about water management talk in their own manner, verticals which talk about road and sanitation talk in their own manner. We need an integrated viewpoint for which we must decongest our minds.

Perspective on decongestion and sewage treatment



AJOY MEHTA,
Municipal Commissioner, MCGM

“On sewage, we supply 3, 700 million litres of water daily and 2,800 million litres goes untreated into the sea. In terms of infrastructure, 2, 200 trucks pick up daily garbage with 32,000-35,000 people on the roads cleaning up the city.”

Ajoy Mehta: Let us share ground facts. Mumbai generates about 8,000 tonnes of garbage daily and an additional 2,000 tonnes of debris coming from new developments. Of the 8,000 tonnes, about 3,000 tonnes is scientifically treated and the rest is landfill across three locations. On sewage, we supply 3, 700 million litres of water daily and 2,800 million litres goes untreated into the sea. In terms of infrastructure, 2, 200 trucks pick up daily garbage with 32,000-35,000 people on the roads cleaning up the city. We manage and operate 30,000 toilets, having over one lakh seats. Now decongestion— Mumbai area is about 476 square kilometres, and just 40 per cent is habitable. Rest is under roads (16 per cent), or no-go areas like CRZ, mangroves etc. Today’s population is 12.44 million, which is expected to be 12.79 million in 2021 and by 2034, the population might drop to 11.44 million, due to reasons other than family planning. For waste water, sewage treatment plant tenders are out. We have already started work at Colaba and six more are being set up. Eventually

2,700 million litres of water will be treated and re-pumped back into Mumbai for non-potable purposes. On defecation, Government of India asks administration to identify such locations. Mumbai has about 118 such spots and we provided toilets there, making Mumbai only declared megacity to have toilets available. Next was to get people to use them, for which we have recruited Cleanup Marshalls to fine people defecating outside. Media shows us pictures, we tell them take pictures from the front so the face is captured.

Now parking, which we can handle in two ways. Firstly, we will create a parking authority and then increase parking availability with high cost. In the new DCR itself, we have provided very high parking requirements. Housing societies with parking space which empties out in the morning till evening time, can be a parking option. With 5,000 cameras in place across the city, now we need to get standardised licence plates. Such administrative steps need a full-fledged authority. Thirdly, like the app for estimating travel time and traffic on the route, we are working on an app which tells you whether a parking space is available at your destination. If not, it may make sense to adopt other means of transport.



AJIT RANADE,
Chief Economist,
Aditya Birla Group of Companies

“For instance at Bandra West, people line up for rides to their respective destination. A free shuttle, hop on, hop off or mini BEST bus going nonstop on a circular route can de-congest the station area.”

Ajit Ranade: Can free shuttles be used for decongestion? For instance at Bandra West, people line up for rickshaw rides. A free shuttle, hop on, hop off or mini BEST bus going nonstop on a circular route can de-congest the

station area. Incidentally for past year or two, lots of cab drivers now refuse to break the traffic line for fear of the camera—it's a shift in mindset. For parking we can also use the same technology. Parking is a big problem but this is doable. Just take a picture, date, timestamp by GPS, you know it is a parking violation, you send him a notice for fine payment.

Niranjan Hiranandani: We could provide such a free service, but for a suburb the Municipality must play a role. At Powai, we did 60-foot roads and thought they were too wide. Today in Thane we built 40- metre roads, and already find them crowded because the scale of vehicle ownership per flat has changed. More mass transport has to be the answer, complemented by the Ubers and Olas.

Shishir Joshi: We are also trying this model with 25 buses in Western suburbs. It will start from two locations— western side and eastern side— which start at Borivali, Kandivali and Andheri, and end in BKC. Those paying around Rs 600 for an Uber can pay about Rs 100 here. They will be timed in such a way that there is a bus every ten minutes.

Road maintenance and potholes

Ajoy Mehta: Concreting is expensive and time-consuming as well. In Mumbai, today a road is made concrete, tomorrow a power cable has to be laid, next month a data cable. Utility ducts are the technical option but any road has pipes crossing each other underneath. Shifting all to a duct would close the road for months. The holistic way is hence first mastic use and second quality roads with better technical parameters.

Mumbai roads are over a hundred years old. As a civil engineer I can tell you that if a road has been there for a hundred years, compression is adequate. Now the need is not to dig down, but to get the layered surface

done quickly. What we now focus on is getting the relaying surface done quick and fast. Overnight, we rip up the top surface, relay a mastic layer and the road runs for 5-7 years, all at a fraction of the cost. We have brought down the Corporation's budget for roads from Rs 3,000 crore to Rs 400 crore. This experiment has succeeded in a big way— around 75-80 km and not a single pothole.

On pavements, I am saying on record that they are poor. The challenge is that most of the utilities are running under the pavements, and we have to honour all cable repair requests. Previously, the utility was supposed to repair the road but many utilities would just do a shoddy job. When we took responsibility, I found my own contractors doing likewise.

Mumbai has to be dug and will be dug. We are now trying to put a policy structure in place where the barricading is correct, the pavement is restored correctly and quickly to minimise inconvenience.

Waste treatment and energy potential

Ajit Ranade: We know the story of Jayadratha in Mahabharata who had Shiva's blessing that he will not be defeated or killed by the Pandavas on the 13th day. So just before sunset, Krishna put the Sudarshan chakra in front of the sun and created a solar eclipse. In that illusion Jayadratha came out and exposed himself before Arjuna. Then Krishna took it out and said to Arjuna, this is the sun that is Jayadratha. A key point is that Mumbai is perhaps the only city having a garbage dump within a kilometre of a power plant (Tata Power). Technology for conversion of garbage to a fuel, usable by thermal energy plants, has been available for 20 years. Technology which does not need wet and dry garbage separation is available since 15 years. Tata Power has been doing pilot projects, so can this city become the example for generation of electricity from garbage? A calculation says this could be worth 200 MW, which could reduce power shortages and generate revenues

of Rs 1,000 crore to pay off workers involved in collection and transport.

Another point is starting the system of feed-in tariffs, Delhi has already started that, which will get people to invest in solar electricity and meters happily. I don't know if it's under BMC, but can they coordinate that.

Ajoy Mehta: On waste-to-energy, there is a wrong impression that energy generated from the waste will pay for everything else. It doesn't. Beyond the capex itself, Mumbai's waste has typical problems. It's not segregated and waste in monsoon months is dripping wet. Third, key calorific components—paper and plastic—are generally removed by scavengers, so what reaches has very low calorific value. That said, we are looking at two things. First is bio-reactions, to convert this into gas and the compost goes off to methane. We have put a small gas engine in Kanjur. In Deonar, we are looking at a waste-to-energy plant with capex of around Rs 1,000 crore. Tenders are out and hopefully in next three months this should be closed. We are technology neutral on the tenders— Swedish or Israeli, segregation or non-segregation. Just bring technology and deliver on cost and performance parameters.

There is nothing called zero garbage, the key is at what level it is treated. We have created around 10 segregation centres in the city, and we are now saying that if you have a built up area more than 20,000 square meters, or you generate more than 100 kilos of garbage every day, you shall process it within your premises. On the debris side, we are putting up waste-to-building-material type of plants to create value, so that waste does not end up on the roads or in mangroves.

Affordable housing has to be really affordable

Audience: I have a question about the housing for all. Today, affordable housing is available at Rs 15-20 lakhs. What do you think is the biggest

challenge for Indian builders— they are not adopting the international technologies that exists today to make houses within the Rs 5-10 lakh limit, especially with the infrastructure status?



Slums: India's version of affordable housing. Authorities are trying to eradicate it.

Ajoy Mehta: Today, 50 per cent of Mumbai is in slums and 22 per cent lives in cessed buildings, which need to be demolished and rebuilt. So, 72 per cent of Mumbai is living in substandard housing. As a policy, we said that 72 per cent of Mumbai is entitled to free housing. We came out with an SRA scheme and a redevelopment scheme. Builders would build free houses, for which they would get an incentive FSI with which to build their sale building,

make money and cross-subsidise this housing. Its effect, if you spend one generation in a slum, you get a free house, was our message then.

The new government wants to break this vicious cycle through concept of affordable housing. How do you quantify this concept? The national housing policy prescribes affordable house as what you could buy after five years of your working life. We looked at the median incomes of Mumbai, to get a fix on the amount. This comes as impractical because there is hardly any free land and also the corporation taxes new constructions heavily, around Rs 3,500 per square foot. We earn around Rs 5,000 crore from this annually. Somewhere this taxation has become anti-housing and the footprint of taxation has become smaller and smaller. Octroi has gone away, which was a very secular tax, unlike property tax. The footprint here is very small and this must be increased. Also, the government has now agreed to compensate us for the octroi.

Coming back to increasing supply, one is obviously higher FSI, Mumbai has to grow taller. Then to handle transport load we need the metro systems, to help create and connect satellite cities. That is why I said that by 2034, Mumbai population drops to 11.44 crore, because a lot of satellites cities like Mira, Bhayander, Thane etc are going to develop. Metros would see that they get ferried in a comfortable manner.

We also have a huge area, which was marked as no-development zone in the 1991 plan. The then planners were unsure about how Mumbai would evolve and so they blocked some spaces, which we have opened up in the new proposed plan with a pre-condition. A developer must create affordable housing on one-third of the space and hand over to the government. One-third is saleable area for the developer and one-third demarcated as open spaces. The affordable housing component would be allotted at the median price through a lottery system, for which you should have stayed 15-20 years in Mumbai to be eligible. This will break the logjam.

Niranjan Hiranandani: In most Indian cities, you get housing at Rs 3,000-5,000 a square foot, except Mumbai. As an island, there is land shortage and land prices keep going up. They tried to throw people out of Mumbai which did not work because jobs are here. People would agree to stay in slums and that got political acceptance. From zero unauthorised houses in Mumbai in 1947, today there are 55 per cent.

The development plan objective is to provide sufficient amount of housing, not only in Mumbai, but in the MMR region. Building cost can be affordable when there is scale. Beyond that, there are elements like land cost, development cost and costs like stamp duty, GST and other things, which impact prices. As of now, the Chief Minister has announced a programme to make 5 lakh houses on basis of cost of construction. They want to give 12 lakh houses for 10 per cent amount upfront and the rest to be paid over 30 years. There is also a central subsidy of 3.5 per cent or 4 per cent. If the development plan gets finalised in the next six months, this programme can take off and the poorest can get that kind of housing on ownership or rentals in 5-10 years.



(LtoR) Raj Nair, Vice President, IMC; R N Bhaskar, Consulting Editor, The Free Press Journal; Ajit Ranade, Chief Economist, Aditya Birla Group of Companies; Lalit Kanodia, President, IMC; Ajoy Mehta, Municipal Commissioner, MCGM; Niranjan Hiranandani, founder and head, Hiranandani group of companies; Shishir Joshi, CEO, Mumbai First and Abhishek Karnani, Director, The Free Press Journal, before the panel discussion.



Tata Power's managing director Anil Sardana (in the extreme right in the first row) present for the discussion



Ashok Karnani, Director, The Free Press Journal gives away memento to Shishir Joshi.



Ashok Karnani, Director, The Free Press Journal presents memento to Ajoy Mehta on behalf of the publication.



Niranjan Hiranandani delivering his view about Mumbai and its infrastructure.



Abhishek Karnani, Director, The Free Press Journal shares a light moment with Niranjan Hiranandani.

Welcome address by Arvind Pradhan, Director General, IMC

This a panel discussion on reimagining Mumbai as a cleaner and less congested city. This is a vision that we all cherish and so this is going to be a great platform for a discussion which has been organised jointly by IMC and Free Press Journal. Thank you.

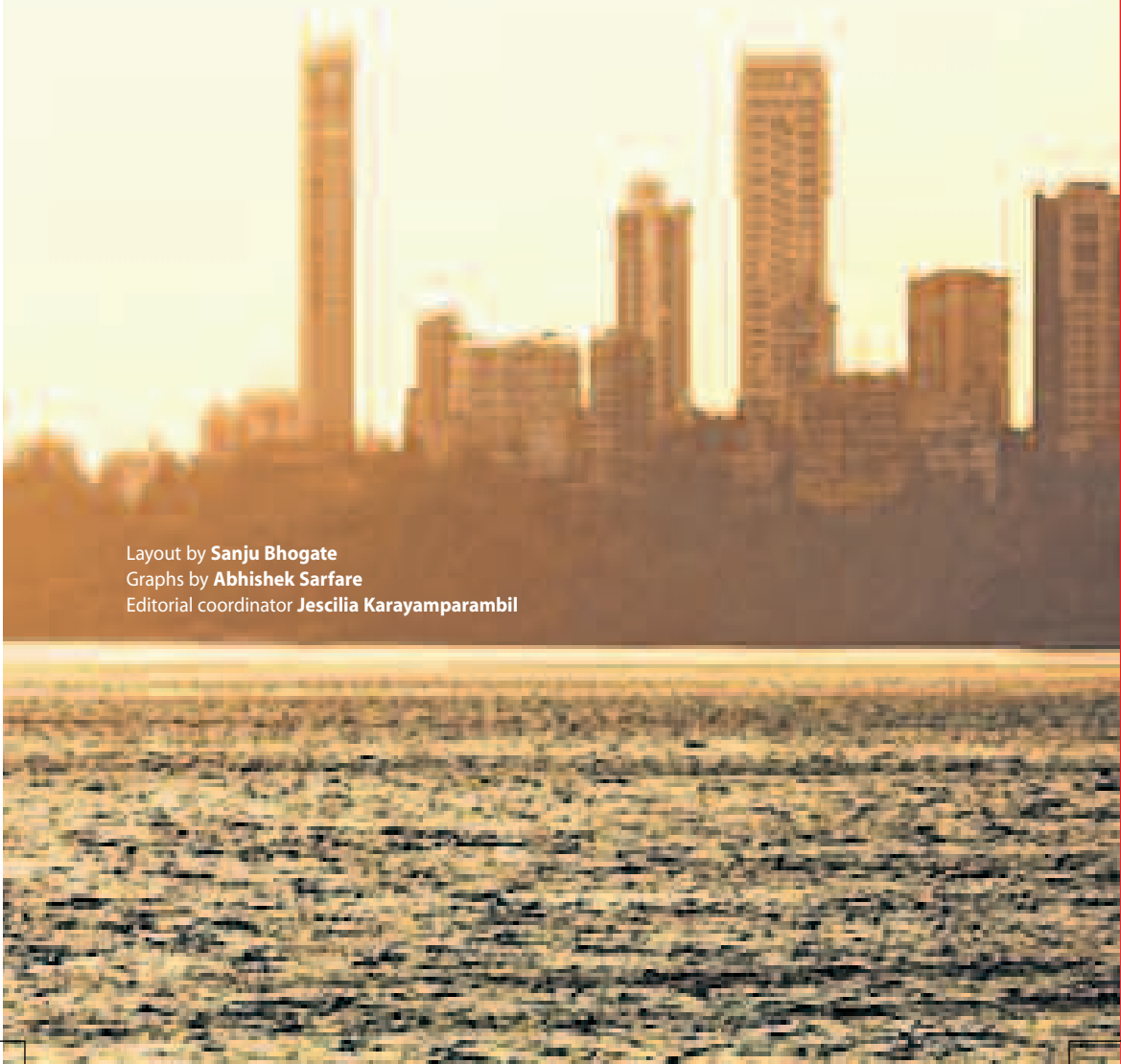
Vote of thanks by Raj Nair, Vice-President, IMC

Ladies and gentlemen, what a lovely event. It has been naturally a privilege for me to propose a vote of thanks. On this platform, so many problems have been discussed and so many solutions have been offered. This shows there is so much hope. I feel it was a great evening and it was a pleasure to have you all here. Thank you.

“This is not India. There are people here from every part of India, but Bombay isn't India. Bombay is an own-world, a world in itself. The real India is out there.”

- Author Gregory David Roberts

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