The City and the METRO

Report

परिसर

A National level Round-Table
Pune

List of participants

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Introduction

The last few months saw a raging public debate on the proposed metro rail system for Pune[1]. Many citizens groups came together under the umbrella of "Pune Metro Jagruti Abhiyan" to highlight flaws in the current Detailed Project Report (DPR) as proposed by the Delhi Metro Rail Corporation (DMRC). Many other cities in India already have metro rail systems (Delhi and Kolkata), or are building them (Bangalore and Mumbai), have awarded them (such as Hyderabad), or are proposing to build them (such as Pune, Kochi, Ahmedabad, Jaipur, Ludhiana and Chandigarh). Overall, approximately Rs. 2 lakh crores are likely to be spent on metro rail systems over the next decade or so[2]. Moreover, many questions have been raised about metro rail systems around the country by various commentators[3].

Overall, approximately Rs. 2 lakh crores are likely to be spent on metro rail systems over the next decade or so[2].

This was the context in which Parisar organized a national level round-table on metro rail systems to bring together civil society representatives, architects, planners, consultants and academics from various cities in India, to share their experiences on metro rail systems in their respective cities and to deliberate upon the common concerns and debate ways of moving forward. Representatives from six cities – Bangalore, Delhi, Hyderabad, Kochi, Mumbai and Pune – attended the round-table. In addition, the round-table was attended by representatives from Bangalore Metro Rail Corporation (BMRC). Representatives from Delhi Metro and Mumbai Metro were also invited but did not attend.

The round-table was structured as follows:

- A keynote address by Prof. Dinesh Mohan, TRIPP, IIT Delhi
- Six talks, sharing experiences from the six cities
- A conference dinner
- A brief presentation by representatives from BMRC
- Break-out sessions to discuss four specific themes: (i) the criteria to be considered while justifying a metro for a city, (ii) the administrative and institutional structures required to manage a metro, (iii) the impact of metro systems on a city in terms of densification, urban fabric and environment etc., and (iv) the impact of metro systems on its people in terms of displacement, impact on the poor etc.
- Drafting a set of resolutions based on the break-out sessions.

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1 "Experts' group highlights flaws in DPR", DNA (Pune), 23rd April 2010;
"Experts question necessity of metro on Dapodi-Nigdi route", Times of India (Pune), 10th May 2010;
"PMC GB defers metro rail proposal to June 23", Times of India (Pune), 6th June 2010;
"It is mandatory to hear people's views on Metro", Times of India (Pune), 6th June 2010;

2 "India to invest Rs. 200,000 cr in metro rail in 10 yrs": http://www.zeenews.com/news562710.html accessed 26th July 2010

3 "Urban Transport in Mumbai", S. P. Badami, Economic and Political Weekly, 41 (46), November 18, 2006;
"Mythologies, Metro Rail Systems and Future Urban Transport", D. Mohan, Economic and Political Weekly, 43 (4), January 26, 2008;
"Maytas, Hyderabad Metro and the Politics of Real Estate", C. Ramachandraiah, Economic and Political Weekly, 44 (3), January 17, 2009

Keynote address

Prof. Dinesh Mohan from the Transportation Research and Injury Prevention Programme of IIT Delhi delivered the keynote address. He pointed out that Indian cities, unlike their European counterparts do not have well defined central business districts where large number of working class people are required to be transported in and out, thus making it difficult to justify a high-capacity system such as a metro rail system. Evidence from around the world that most metro rail systems carry fewer people than projected at greater costs than projected backs up this argument.

Further, he said that cities and technology today are substantially different from the early 20th century when many cities of Europe built their metro rail systems. In those days, before the invention of pneumatic tyres and good internal combustion engines, trains on rails were the best available technology to bring workers from suburbs to the city centre, where the affluent lived and jobs were located.

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Prof. Mohan also argued that if one considers door-to-door trips then metro does not save time for typical travel distances, since the time to access a metro station and delays within the metro station also need to be considered. Thus car travel, and hence congestion would not be resolved by metro, a myth that people needed to understand. In addition, he felt that every interchange imposes a significant penalty on the commuter, thus making the whole idea of feeder routes a non-starter.

A paradox he highlighted is that any public transport system (including metro systems) needs to be crowded for it to become viable and this very fact acts as a deterrent to many who can afford to use their own car. Thus, it is very difficult for a viable public transport system to attract car users. He also pointed out that, by enabling longer distance travel and suburban lifestyles, metro systems may promote urban sprawl and increase the carbon footprint of the city.

A city where senior citizens and children can safely walk on the streets and cross them was, according to him, an ideal city from a mobility perspective. He also stressed the need for 'street-level activity' in the form of pedestrians and vendors to ensure safety on the streets.

CITIES

"*I regard the growth of cities as an evil thing, unfortunate for mankind and the world, unfortunate for England and certainly unfortunate for India...It is only when the cities realize the duty of making an adequate return to the villages for the strength and sustenance which they derive from them, instead of selfishly exploiting them, that a healthy and moral relationship between the two will spring up.*"

M. K. Gandhi

City experiences

Experiences regarding metro rail systems from the six represented cities are presented briefly below. Appendix B provides a brief overview of the six cities and the metro systems planned there.

Bangalore

Mr. Leo Saldanha (Environment Support Group) talked about the concerns in Bangalore regarding the metro system. He said that many alternative and cheaper systems were proposed earlier (such as a RITES proposal for surface rail by extending the existing railway network), but none of these saw the light of day. However, the metro rail plan for Bangalore, proposed in 2005 by DMRC, was expeditiously approved and currently the city is building two metro lines of about 40-odd km length.

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One of the major concerns highlighted by Mr. Saldanha was that an Environmental Impact Assessment (EIA) was not statutorily required of the metro proposal, though metro rail systems have a significant impact on the environment during construction and also potentially impact parks, open spaces, trees, underground aquifers, and result in displacement of people and affecting living and built-up heritage.

He also highlighted that the public hearings conducted by the city administration on this issue were not conducted in the right spirit and did not provide an opportunity for various affected parties to voice their grievances. Mr. Saldanha also pointed out that during the planning and proposal phase, there was no transparency on the part of the city administration, and decision making later was also quite ad-hoc as demonstrated by certain changes in either the alignment or specifications (over-ground / underground) of the metro, as the project progressed.

Delhi

Mr. Dunu Roy (Hazards Centre) presented the experience of Delhi with metro rail systems. Considering that Delhi (apart from Kolkata) is the only city which has an operational metro system today, and a system that is generally considered a "success" in the eyes of the common man, Mr. Roy's statements are significant.

He first highlighted the gap between the projections (based on which the project was approved) and performance. The original metro proposal stated that about 3 million people would be carried daily by the system in Phase I and this was later scaled down to about 2.2 million. However, in reality, the system carries less than a million people today though phase I has been completed.

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He also said though there were popular claims that the Delhi metro was "operationally profitable", it was not clear how profitability was defined, as its share of revenue from the fare box was decreasing while the share of revenue from property development was increasing. Given that the property values along the corridor have increased (in some cases by up to 4 times), resulting in increased Government revenue from properties, he wondered whether the Delhi metro project was a transport project or a property development project.

Mr. Roy stated that the low ridership (against projections) of the metro was in spite of the fact that about 120 competing bus routes were cancelled and bus fares increased by about 130% in the same period that metro fares increased by only about 70%. Further, he said the metro system was not accessible to the poor as its fares were not affordable to them.

He also felt that metro systems were like exclusive communities since they do not permit hawkers on the trains and do not permit cycle rickshaws at metro stations.

On displacement and livelihoods, Mr. Roy said while the Delhi High Court ordered the eviction of about 200,000 families for the metro, only about 50,000 had been resettled. Moreover, even these families have been displaced from their original locations to far away places from where access to jobs becomes harder. He also felt that metro systems were like exclusive communities since they do not permit hawkers on the trains and do not permit cycle rickshaws at metro stations.

Hyderabad

Prof. C. Ramachandraiah (CESS) presented the experiences of Hyderabad with the metro rail system. Hyderabad's experience with the metro rail system was unique because it was one of the first cities in the country to attempt private sector involvement through PPP for metro rail systems, and it was also unlucky enough to become embroiled in the Satyam scandal that broke out in 2008-09. It is understood that L&T has recently been awarded the concession after the bidding process was repeated. But, it is not yet clear whether the bid was won with the same terms and conditions as in the earlier concession agreement.

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of the bidding process and concession agreement, even legislators of the Andhra Pradesh assembly were not aware of them! This information was available only after the bidding process was completed and the concession agreement signed, thus committing the Government to the agreement. Even then, it took the use of Section 4 of the RTI act to actually access the information, as the Government was very reluctant to part with it.

Prof. Ramachandraiah said the concession agreement signed by the Government was rather one-sided to the benefit of the concessionaire. For example, there is a provision for extension of the concession agreement if there is even a marginal fall in the estimated ridership. This is particularly disturbing given the consistent under-performance of metro systems on this count and the fact that it was this ridership claim that was used to justify the metro in the first place! Another example of a one-sided clause was a "no-competition" clause that prohibited any improvement in the services of other modes of transport such as buses, BRTS or surface rail that may threaten the metro rail system. He said that the agreement was such that it would actually be profitable for the concessionaire to abandon the agreement at some point and pay the penalty to walk away from the scheme, since the penalty was an insufficient deterrent. Interestingly, he also said the concession agreement was based on a model concession agreement drafted by the Planning Commission.

The concession agreement was such that it would actually be profitable for the concessionaire to abandon the agreement at some point and pay the penalty to walk away from the scheme, since the penalty was an insufficient deterrent.

It was also pointed out that options such as improving the surface rail system (MMTS), whose popularity was growing, actually were not pursued seriously by the Government though it would have cost much less and carried significant numbers of people. Similarly, other cheaper alternatives such as the existing bus system and BRTS continue to be ignored by the Government while it pursues the metro rail system. In addition, Prof. Ramachandraiah also expressed his concern that the proposed metro rail routes would go through some of the densest and culturally rich parts of the city and destroy iconic localities such as the Sultan Bazar.

He also pointed out other concerns with the Hyderabad metro, such as its not requiring to do an EIA, unclear route selection criteria, very poor pedestrian facilities to access the metro etc.

Kochi

The Kochi experience with metro systems was presented by Mr. K. J. Sohan (INTACH and former Mayor, Kochi). This presentation was particularly interesting considering the demographics of the city and its likely growth patterns. Kochi city currently has a population of under 6 lakhs and even the urban agglomeration including many villages around Kochi only has a population of about Rs. 11 lakhs. Moreover, Kochi is also the first city in India to have a birth rate that is below the replacement level and therefore its population is not expected to grow fast either, and the city's population is only expected to reach about 6.5 lakhs (and 14 lakhs for the agglomeration) in 2026! Therefore, it was surprising that the city proposed a metro rail as a solution to its transport problems.

Modernization and improvement of the ferry systems – currently being neglected – present in 12 of the 16 urban local bodies (ULBs) would take only about Rs. 100 crores.

Mr. Sohan also pointed out that Kerala was blessed with rivers and canals, and had 3 national waterways running through it which are extensively in use as transport corridors even now. It is estimated that the modernization and improvement of the ferry systems – currently being neglected – present in 12 of the 16 urban local bodies (ULBs) would take only about Rs. 100 crores. Similarly, he said there had been a proposal to improve the surface train system, which would also have costed in the region of Rs. 100 crores. In contrast, the proposed metro system would cost Rs. 5000 crores. Moreover, the proposed metro rail route runs parallel to existing railway lines on which suburban trains can be easily run. As a result, he pointed out that the fares for the proposed metro rail system would be considerably higher than the fares for the existing bus, suburban rail and ferry systems.

In contrast, the proposed metro system would cost Rs. 5000 crores.

Therefore, a metro rail proposal for Kochi (and cities such as Ludhiana, Chandigarh and perhaps Jaipur) clearly goes against the guidelines of the Central Government.

The Kochi metro proposal also appears to go against many of the directives and guidelines of the Central Government and its officials, said Mr. Sohan. Mr. Jaipal Reddy, the urban development minister, said the Kochi metro is likely to be a white elephant, while Mr. Gajendra Haldea of the Planning Commission felt that a publicly funded metro system was not practical. Moreover, the Central Government guidelines state that metro systems are intended for cities with populations of at least 3 million (30 lakhs). Therefore, a metro rail proposal for Kochi (and cities such as Ludhiana, Chandigarh and perhaps Jaipur) clearly goes against the guidelines of the Central Government.

Since the media in Kochi seems fascinated by the metro, Mr. Sohan and his team have been holding regular interactions with citizens in order to apprise them of the cost and implications of the metro, and its likely impact on the city of Kochi.

Mumbai

Mumbai, like Bangalore, already has a metro rail under construction, said Ar. Nitin Killawala presenting the metro debate in Mumbai. While there was some debate about the expense and need for a metro in Mumbai[4] in the past, the current discourse tends to focus more on issues such as over-riding of ULBs, controversies regarding land acquisition, worries about cost escalation, and slippages of schedule.

Ar. Killawala said that since the Mumbai metro was approved under the 1886 Tramways Act, it allowed for practically any changes to a DP road. This leads to agencies such as MMRDA (which is responsible for construction and operation of the Mumbai Metro along with Reliance Energy) over-riding municipal corporations such as the BMC on many issues and flouting many norms of the local bodies. Further, there have also been instances of land acquisition by force without due processes.

Mumbai fire department has said that it will not be able to service many buildings that lie very close to the metro line.

There has also been controversy and concern about the total cost escalation of the project which is now already pegged at Rs. 50,000 crores[5] for the 150 km project, he said. This was surprising since the cost of the civil works, which is the most likely cause for the cost escalation, was only 1/3rd of the total project cost. Further, though only two of the 12 stations expected on Phase I of the metro are ready by July end and work has not even begun on some stations, MMRDA continues to re-assure citizens that the first phase would be operational by December – something hard to believe.

4 "Urban Transport in Mumbai", S. P. Badami, Economic and Political Weekly, 41 (46), November 18, 2006

5 Some participants said that they have been told verbally that the cost could go up to Rs. 80,000 cr!

Ar. Killawala also expressed concerns about the harm to the urban fabric being caused by the construction being undertaken for the metro (and the skywalks), as it not only leads to visual pollution but also poses severe risks in terms of fire hazards and so on. He said the Mumbai fire department has said that it will not be able to service many buildings that lie very close to the metro line. Moreover, he noted that it appeared that the seemingly more expensive option of the underground metro was adopted in the Mumbai downtown area where the more affluent and influential people lived, while the more dangerous and ugly over-ground version was being used for the suburbs where the relatively less affluent and less influential population lives.

Pune

Ar. Shirish Kembhavi and Mr. Prashant Inamdar, both part of the Pune Metro Jagruti Abhiyan, presented the Pune experience. The salient points brought out by the Pune presentation were:

- Lack of sufficient efforts by the Pune Municipal Corporation to get inputs from citizens by explaining the metro rail project to them, and lack of satisfactory replies to the many concerns raised by citizens' groups.
- The inconsistency in the terms of reference given to Delhi Metro Rail Corporation by Pune city, where the city had already stated it wanted a plan for about 30km of metro but also stated that it needed a traffic demand assessment.
- The use of "artists' impressions" about metro stations proving to be highly misleading as seen from experiences in Mumbai, Delhi and Bangalore.
- Lack of sufficient justification for the chosen alignment, insufficient integration with other modes of transport etc.
- The selling of the metro rail system as a silver bullet to address all of Pune's transport problems, while neglecting the existing systems such as the current bus system.
- Inadequate understanding of local realities (including road alignments and property positions) leading to improper identification (and under-representation) of properties to be acquired.
- Potential impact of the over-ground metro on the urban fabric of the city, and resultant visual and noise pollution.
- Lack of clarity on the financial burden to be imposed on the city by the metro rail, and who would bear the costs – particularly in case of cost-overruns and reduced ridership than projected.

Lack of sufficient justification for the chosen alignment, insufficient integration with other modes of transport etc.

Lack of clarity on the financial burden to be imposed on the city by the metro rail, and who would bear the costs

Common themes and concerns

Based on the experiences of the six cities and the discussions during the break-out sessions, it was clear that there were common themes and concerns about the way metro rail systems were being pursued across the country. These are as follows.

1. Metro rail systems are being justified in cities based on crude parameters such as city population, rather than a comprehensive vision and studies based on traffic demand projections. In some cities such as Kochi, they are being pushed even when these criteria also are not satisfied.

Often, the DPRs – typically prepared by DMRC – are of quite poor quality with many questionable assumptions and conclusions.

2. Often, the DPRs – typically prepared by DMRC – are of quite poor quality with many questionable assumptions and conclusions. Since the metro systems are justified on the basis of such DPRs, their justification is also questionable. This is more so given that metro systems have consistently under-achieved in terms of projected ridership and overshot their cost estimates.
3. There is also a common tendency to treat metro rail systems as stand alone projects rather than an integrated part of a larger urban transport system. Thus, there is often little or no attempt at integrating such systems with other modes of transport.
4. There is also a consistent pattern of ignoring, delaying or shelving other, more cost effective transportation options (such as existing bus systems or rail networks) to promote metro systems.

Metro systems have consistently under-achieved in terms of projected ridership and overshot their cost estimates.

5. Transparent and participative decision making has generally been lacking across cities where metro systems are concerned. Given the vast investment required for such systems, this is a matter of grave concern.
6. Metro corporations seem to over-ride city statutes about land acquisition, building norms etc. raising questions regarding their jurisdiction and powers vis-à-vis ULBs.

7. The social, environmental and cultural impact assessment of these systems appears to be inadequate due to exemptions from statutory EIA processes.
8. Where the systems are being developed through concessionaire agreements (in PPP projects), it appears that the agreements are vague and biased towards the concessionaire, allowing him to leverage real-estate to finance metro systems with the benefit not being captured by the city.
9. Across cities, it is found that there has been hurried planning of metro systems leading to *ad hoc* changes (in alignment, grade etc.) during implementation.
10. It appears that there are no well-defined criteria to decide between elevated and underground corridors, with a seeming bias to go underground in more affluent areas.

BMRC's approach to some of these concerns

The representatives of BMRC who attended the round-table presented how BMRC is attempting to address some of the concerns listed above. Giving an overview of the project, they said the costs were originally estimated to be about Rs. 8100 crores, and the currently estimated cost is Rs. 11,600 crores. This is for a 42-km long metro of which about 9km are underground, for which FAR 4 was given only in a 150m radius around metro stations. They predict that the daily ridership in 2013 (when the 42 km would be complete) would be around 12 lakhs.

They said that an independent land committee was formed to determine compensation to those whose land was to be acquired. It was decided that they would be paid a rate marked up by 30% over the market rate and be paid a 12% interest from notification. As a result, they said, there were almost no court cases filed against BMRC, and there was only one person out of about twenty on one street who did not agree to their compensation terms.

Regarding displacement of the slum-dwellers, they said BMRC had resettled 320 slum dwellers in specially constructed 700 sq ft apartments 14 km from their original location. The intended beneficiaries were consulted during the planning phase of the new apartments, and were given resettlement allowances. They claimed that all the relocated people were happy with the new premises, which were registered in the name of the lady of the house. The story of their rehabilitation is likely to feature in an upcoming BBC programme.

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They said the environmental impact of BMRC's construction is minimal. Their survey indicated that 1500 trees were to be felled, but only 1200 had to be. Their plan is to plant 10 trees for every felled tree, though many of these had to be planted in a separate urban forest as there was resistance to planting them along the streets. These trees would be planted with an NGO called Eco-watch. They also claimed that an IISc, Bangalore study shows that the water table in Bangalore is actually rising thus allaying fears of the metro construction affecting water tables.

The representatives said BMRC has taken the task of shifting all utilities upon itself to minimize delays in construction. To conclude, they said that citizens of Bangalore are by and large convinced that the metro would be good for them, and that BMRC would welcome engagement with NGOs and would be happy to show NGOs its work as transparently as possible.

Resolutions

The participants of the round-table broke up into four different groups to deliberate upon the following topics:

1. Justifying a metro
2. Managing a metro
3. Metro and its impact on the city
4. Metro and its impact on people

These deliberations threw up many interesting points such as

a. The importance of mobility patterns in designing transport systems

b. The inability of a metro to have a wide reach and flexibility in a growing city

c. Misaligned incentives between the needs of the city, private contractors, financial institutions etc.

d. The problem of fragmented expertise in various fields such as urban and transport planning, transport technology, social issues, financing systems, and environmental issues.

e. The trade-offs between underground and elevated metros, such as differences in construction cost, impact on surface transport, need to follow existing road corridors, amount of concrete required etc.

Based on these discussions, the participants arrived at the following resolutions with the help of eminent urban planner and engineer, Mr. Shirish Patel.

1. A city must have a development plan and a comprehensive mobility vision and plan, based on systematic and comprehensive studies. A metro rail project (or any large transport project) should be undertaken only if it is compatible with this vision and plan.
2. The comprehensive mobility plan for the city must be prepared with well defined objectives to enable evaluation of the plan and its implementation. Moreover, the objectives should be compatible with policies such as the National Urban Transport Policy, and promote socially equitable and environmentally and financially sustainable development. Some typical objectives that should be considered are listed below. The final set of objectives should be arrived at through a process of public consultation.
    a. minimize the need for mobility through development and zoning mechanisms,
    b. focus on mobility of people rather than vehicles,
    c. promote non-motorized modes of transport such as walking and cycling,
    d. provide access to safe, affordable and reliable transport services for all classes of people from origin to destination,
    e. encourage optimally dense, mixed land-use development and
    f. encourage mixed income development and discourage gated communities
3. Since metro systems are very expensive to build and operate and take a long time to implement, all other alternatives must be explored and exploited to the fullest extent before deciding whether a city needs a metro rail. Further, city specific considerations must also be factored in since general rules based on city size or population are not meaningful. Past experience suggests that ridership numbers are often over-stated and costs are under-stated in metro proposals. Therefore, particular attention should be paid to these numbers based on past performance, and it should be ensured that the liability of under-performance, if any, is not borne by citizens directly or indirectly through public subsidies.
4. Comprehensive transport planning of all modes (including metros) must be done at a metropolitan region level which may extend beyond a city's municipal jurisdiction. Such planning must begin with a regional development vision to be formulated by a body consisting of elected representatives (such as a Metropolitan Planning Committee, MPC) and including adequate citizen representation. This plan can then be translated into a regional development plan by an overall development authority (such as a Regional Development Authority, RDA) which is accountable to the MPC. The comprehensive transport plan should be consistent with the regional development plan and be drafted by the RDA, or a separate transport planning authority (such as an Urban Metropolitan Transport Authority, UMTA), which can either be a part of the RDA, or a separate agency accountable to the MPC. Such agencies should regulate land use and intensity of development as well as transport lines & capacities. Large projects with significant impacts such as metro rail projects should not be

undertaken without instituting suitable processes and setting up such agencies with the required expertise, strength and authority.

5. The comprehensive transport plan must be an integrated multi-modal plan with convenient inter-modal transfers and connections, with universal access for all including senior citizens, children, the disabled, pregnant women etc. Moreover, it must consider and provide for different modes (such as pedestrians, cyclists, bus users, private vehicle users and other modes) depending on the needs, viability and desirability of the respective modes.
6. There must be complete transparency and frequent public participation through all phases such as the definition of objectives, creation of the regional development plan and transport plan, creation of detailed project reports (DPRs) for individual modes (such as the metro), project execution and subsequent commissioning and operation.
7. Real estate development has often been a major, associated component of all Rapid Transit systems including metro rail systems. If real estate development (and its value appreciation) is considered absolutely necessary for urban infrastructure development, it must be ensured that the resultant value addition is captured for public use rather than private benefit. All such use of land must be completely transparent, and used for the most appropriate transport system. Any increase in FAR along transport corridors should follow statutory town planning norms and best practices of urban planning without compromising quality of life.
8. Development of any transport infrastructure, including metro rail systems, must be such that it has negligible adverse social impact such as displacement, loss of livelihoods etc. All affected persons and parties must be taken into confidence in advance and adequately compensated. In particular, land use plans must carefully consider the implications of potential rise in land values along metro or other transport corridors and resultant displacement of the poor further away from the city.

9. The DPR for any transport infrastructure project shall strictly be in conformity with the guidelines issued by the Government of India and the DPR shall include detailed study of environmental and social impacts with realistic assessment of costs of these impacts.
10. Underground, elevated and surface (metro) rail systems are three different mobility options, with vastly different costs and impacts. Therefore, they must be treated as three distinct options, and an objective framework must be developed to decide which of the systems would be suitable under what conditions and which locations, given the impact of such systems on urban fabric and form. Further, elevated metro systems are not viable solutions for areas that are already dense and built-up.

The participants regret that the metro rail systems being proposed, planned or operated today in India do not satisfy most of the points mentioned above, and strongly recommend that the Government takes necessary measures to ensure that these vital points are satisfied for any metro rail (or other large transport infrastructure) project.

Way forward

The round-table helped citizens from different cities to share their experiences and network with each other. It also helped evolve a common understanding about the shortcomings in how metro rail systems are currently chosen, planned, financed, implemented and operated. This common understanding led to the resolutions listed in the previous section.

Parisar, along with the civil society participants at the round-table, and other like-minded individuals and groups will now do the following:

1. Build greater awareness among citizens of the country regarding these problems by providing media coverage to the common problems and the resolutions of the group.
2. Present the findings and resolutions to the concerned authorities at the city, state and central levels, and pressurize them to adopt the same.
3. Work with the authorities at various levels to identify means by which the resolutions can be implemented, such as identifying suitable institutions, policy changes, legal provisions, capacity building etc.

Overview of metros from six participating cities

City	Proposed metro length UG[6] (km)	OG (km)	Estimated cost (Rs. Cr)	Estimated daily ridership (lakhs)	Model	Other current/ possible modes of public transport
Bangalore[7]	8.9	33.4	11,600	12	PSU	Bus, surface rail
Delhi (Phase I)[8]	65		10,571	22[9]	PSU	Bus, BRTS, surface rail
Hyderabad[10]		71	12,132	N.A.	PPP	Bus, BRTS, surface rail
Kochi[11]	25		4,427	N.A.	Undecided	Bus, water ways, surface rail
Mumbai (VAG corridor only)[12]	-	11	2,356[13]	N.A.	PPP	Bus, BRTS, surface rail, mono rail
Pune[14]	5	27	9,534	6.1 (in 2021)	Undecided	Bus, BRTS, some surface rail

6 UG: Underground, OG: Over-ground

7 Source: www.bmrc.co.in accessed 28th July 2010 and presentation by BMRC representatives at the round-table

8 Source: www.delhimetrorail.com accessed 28th July 2010; "Delhi metro rail – a new mode of public transport" by Hazards Centre, June 2006 and presentation by Mr. Dunu Roy at the round-table

9 This is against an initial estimate of 30 lakhs and actual ridership of about 8 lakhs in 2010.

10 Source: "Maytas, Hyderabad Metro and the Politics of Real Estate", C. Ramachandriah, Economic and Political Weekly, 44 (3), January 17, 2009 and presentation by Prof. Ramachandraiah at the round-table

11 Source: "An affordable and viable urban transport system for the people of Cochin: A proposal" by K. J. Sohan, and presentation by Mr. Sohan at the round-table

12 Source: www.mumbaimetro1.com accessed 28th July 2010 and Ar. Killawala's presentation at the round-table

13 Total estimated cost of the entire proposed network in Mumbai is about Rs. 60,000 cr.

14 Source: Detailed project report on Pune metro by DMRC and presentations by Ar. Kembhavi and Mr. Inamdar at the round-table

Details of two day Program

Day 1 20th July 2010

Event	From	To
Registration + Lunch	1230	1330
Opening remarks: Parisar	1330	1345
Keynote address: Prof Dinesh Mohan, *TRIPP, IIT Delhi*	1345	1430
Coffee break	1430	1445
Session on City Experiences	1445	1830
Bangalore: Mr Leo Saldanha, *Environment Support Group*	1445	1515
Delhi: Mr Dunu Roy, *Hazards Centre*	1515	1545
Hyderabad: Prof C Ramachandraiah, *CESS, Hyderabad*	1545	1615
Coffee break	1615	1630
Kochi: Mr KJ Sohan, *INTACH*	1630	1700
Mumbai: Ar Killawala, *Architect, Mumbai*	1700	1730
Pune: Mr Prashant Inamdar/Ar Shirish Kembhavi, *Pune Metro Jagruti Abhiyan*	1730	1800
Discussion of City Experiences	1800	1830
Conference Dinner *at Rajwada, Baner Rd, Pune 8*	1930	2130

Day 2 21st July 2010

Event	From	To
Breakfast at venue	0830	0900
Introduction to break-out sessions	0900	0930
Four parallel breakout sessions*	0930	1100
Coffee break	1100	1115
Presentation of breakout sessions (4 presentations of 15 min each)	1115	1215
Summing up/resolution: Chaired by Mr Shirish Patel	1215	1315
Conclusion: Parisar	1315	1330
Lunch and Disperse	1330	1430

***Breakout session topics:**

1. **Justifying a Metro [Moderator: Prof JG Krishnayya]:**
   a. Mobility demand assessment
   b. Metro demand assessment (in the presence of other modes)
   c. Financial/Economic viability
   d. Planning for cost over-runs and ridership under-achievement
2. **Managing a Metro [Moderator: Mr Sudhir Badami]:**
   a. Integrating all modes of transport (pedestrian, cyclist, bus, BRT, metro, two-wheelers, cars etc.)
   b. Regulatory structure (such as UMTAs) and their powers and responsibilities
   c. Single ticketing, passes etc.
   d. Administrative and Institutional structure
   e. Park-and-ride facilities

3. **Metro and the City [Moderator: Ar Prasanna Desai]:**
   a. Densification, FSI and Metro
   b. Metro and land-use patterns
   c. Impact of Metro on heritage, skyline and urban fabric
4. **Metro and People [Moderator: Mr Ashok Datar]:**
   a. Transparent and participative decision making during the decision and planning for a metro
   b. Transparency and accountability of the organization running the metro
   c. Transparency, accountability and participative decision making of the regulatory authority overseeing all transport
   d. Impact of Metro on the poor
   e. Displacement and Rehabilitation

Metro costly, consider other options: Experts

TIMES NEWS NETWORK

File Photo

Pune: A national round-table meet on 'metro and the city' has stressed that, because metro-rail systems are very expensive and take long time to implement, other alternatives must be explored and exploited to the fullest extent before deciding whether a city needs a metro rail.

The meet, organised by Parisar, an environmental organisation working for the improvement of urban transport, had participants from Delhi, Bangalore, Mumbai, Hyderabad and Pune sharing their experiences and coming out with a ten-point resolution. The participants included Leo Saldanha (Environment Support Group, Bangalore), Dunu Roy (Hazards Centre, Delhi), C Ramachandraiah (Centre for Economic and Social Studies, Hyderabad), K J Sohan (Intach, Kochi), Nitin Killawala (architect from Mumbai), and city-based architect Shirish Kembhavi and Prashant Inamdar of Pedestrians First.

Delivering the keynote address, Dinesh Mohan of the transportation research and injury prevention programme of IIT Delhi pointed out that if one considers door-to-door trips, metro does not save time for typical travel distances of six to seven kilometers, and therefore people prefer to travel by cars or personal vehicles. Congestion would not be resolved by metro system, a myth that people need to understand, he said, stressing the need for safe cities where people can walk and cycle, and where public transport is affordable to the poorest.

One of the resolutions said that city specific considerations must be taken into account since general rules based on city size or population are not meaningful. Experience suggests that ridership numbers are often over-stated, while costs are under-stated in metro proposals.

On the wrong track?

- Metro does not save time for typical travel distances of six to seven km
- Congestion would not be resolved by metro system
- City specific considerations must be taken into account
- A city must have a development plan and a comprehensive mobility plan
- Comprehensive transport planning must be done at the metropolitan regional level
- Development of transport infrastructure should have negligible adverse social impact

The resolution said that particular attention should be paid to numbers based on past performance and it should be ensured that the liability of any under-performance is not borne by citizens, directly or indirectly through public subsidies.

The participants stressed that a city must have a development plan and a comprehensive mobility vision and plan, based on systematic and thorough studies. Any large transport project should be undertaken only if it is compatible with this vision and plan. They added that the comprehensive mobility plan must be prepared with well defined objectives to enable evaluation of the plan and its implementation. The objectives should be compatible with the national urban transport policy.

The resolution said that the comprehensive transport planning of all modes, including metro, must be done at the metropolitan regional level and not just at the city level. Large projects with significant impacts should not be undertaken without instituting suitable processes and setting up agencies with required expertise, strength and authority.

The participants stressed that development of any transport infrastructure should have negligible adverse social impacts such as displacement. The resolution said all affected people and parties must be taken into confidence in advance and adequately compensated. Land use patterns must consider implications of potential rise in land values along metro or other transport corridors and resultant displacement of the poor further away from the city.

The participants said that, underground, elevated and surface metro rail systems are options with vast difference in costs and impacts. An objective framework must be developed to decide which of the systems would be suitable.

Press Report

Times of India, Pune
Thursday, August 5, 2010

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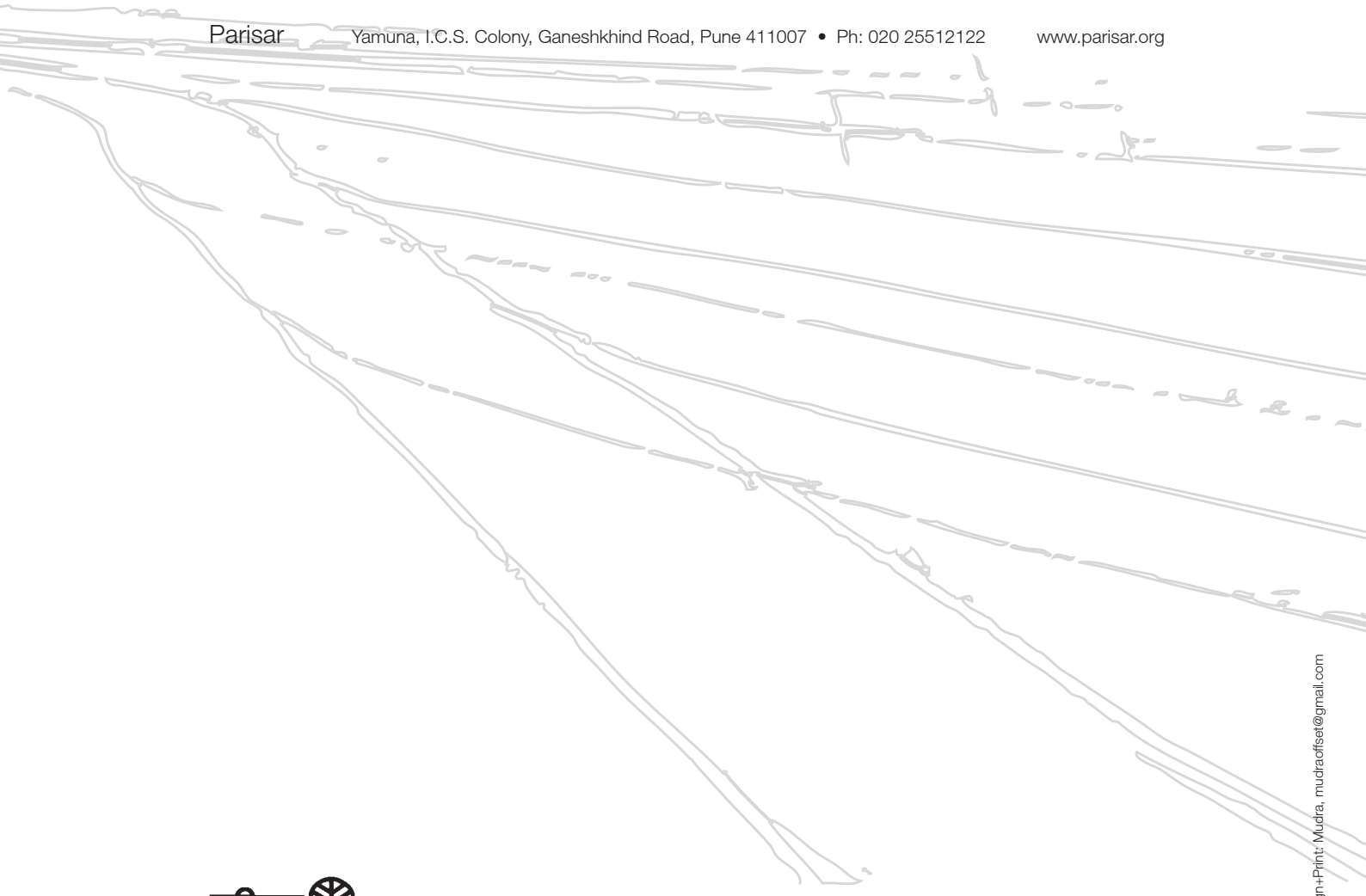

परिसर

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