Does Pune really need a Metro?
Route Map for Pune Metro

PHASE 1 & 2

Total length – 30.36 kms

Estimated cost – Rs.11,522 crores
Stations for Phase I and II

- Phase I: covers a 16.13 kms stretch
- 10.18 kms elevated, 5.95 kms underground, from PCMC to Swargate

PCMC Station- Tukaram Nagar-Bhosari-Kasarwadi-Fugewadi-Dapodi-Bopodi-Khadki-Hill Range- Shivajinagar-ASI-PMC-Budhwar Peth-Mandai-Swargate (Elevated from PCMC to Shivajinagar, underground from Shivajinagar to Swargate).

- Phase II: covers a 14.23 kms stretch
- All elevated from Vanaz to Ramwadi

Vanaz- Ideal Colony -Anand nagar- Nal Stop-Garware College-Deccan Gymkhana-Sambhaji Park-PMC--Civil Court-Mangalwar Peth-Pune Railway Station-Ruby Clinic-Bund Garden-Yerawada-Kalyani Nagar-Ramwadi
Promoters of Pune Metro

Earlier the Delhi Metro Railway Corporation (DMRC) given mandate for construction

Now, Maharashtra Metro Corporation (MMC) has been awarded the contract
Is Metro a suitable choice for Pune?

Has Pune’s mobility pattern been considered?

- **Metro feasibility** - more in cities where long distances in one direction have to be covered by a larger number of people e.g. Mumbai

- **Pune mobility pattern** - People crisscross different areas of the city, or even just numerous locations within a particular area
Is Metro a suitable choice for Pune?

Route planning - questionable

Areas where a larger, substantial number of people could have been benefitted by the Metro (like centres of the city – Laxmi road, etc) not being covered in current planning
Route planning - questionable

Overlapping with other mass transit options

- 1) Corridor no. 1 (PCMC to Swargate) portion on old Pune - Mumbai highway overlaps with Pune - Lonavala local train route (whose capacity is now being doubled), BRT corridor, Pune - Nigdi segregated high speed traffic corridor.

- 2) Corridor no. 2 (Vanaz to Ramwadi) overlaps with BRT corridor (Paud road, Karve road, JM road, Bund garden road, Nagar road).

- 3) There are other transit alternatives planned in the city which either overlap or would impact the proposed metro route, such as monorail, rapid transit Shivane – Kharadi riverside road, HCMTR, ring road etc. These alternatives could have adverse impact on metro ridership.

The utility and viability of metro route would be affected because of above reasons. However, assessment of impacts of these transport alternatives on Metro ridership has not been done.
Is Metro a suitable choice for Pune?

Does it reduce travel time?

- Minimum door-to-door trip: 20 minutes
- Trip less than 10-15 kms is not efficient for a Metro
- In Pune, almost 75% of the work trips undertaken by an individual are between 7-9 kms on an average
- Good bus service – may render more efficient
Is Metro a suitable choice for Pune?

Does it have a strong feeder network?

- Metro - not a stand-alone system. Metro users reach the station either walking or by bus.
- Pune pavements - filthy, uneven, patchy, dug up and sometimes non-existent. Not conducive to provide a hassle-free walk for the Metro user.
- Buses, very poor in terms of frequency and connectivity.
- Pune’s pedestrian facilities and public transport systems - not geared up to support the Metro.
How many passengers will the Metro carry?

Metro is estimated to carry ONLY 7 lakhs by 2031.

PMPML already carries 12 lakh passengers as of today.

Number of PMPML passengers can increase even more with efficiency and better route planning.
At what cost is the “benefit” of the Metro?

Rs. 11,500 crores for only 2% population

Rs. 1000 crores for 3000 buses, for 25% population

The high costs for building a Metro do not justify the number of passengers it will carry!
What can you get for 1000 crores?

**METRO**

- only **2.5 kms** of underground line
- only **5 kms** of elevated line

**67 kms of BRT**

For the cost of building 100 km of BRT, we will get only **7.5 km of METRO**
Is Metro a suitable choice for Pune?

Is it financially viable?

- Metro Ridership - estimated to carry 5 lakh passengers daily by 2018 and increased to around 7 lakhs daily by 2031.
  PMPML - already carrying around 10-12 lakh passengers daily as of today

- Stated in the Pune Metro DPR itself:
  Capacity of proposed Metro - 30,000 pphpd (persons per hour per direction)  breakeven point - 15,000 pphpd.
  However figures for most likely traffic projections during peak hours as given in the DPR are much lower:
  Year 2018 - 1050 to 6203 pphpd
  Year 2021 – 1358 to 8519 pphpd
  Year 2031 – 1595 to 10982 pphpd

Thus breakeven point will not be achieved even in the year 2031
• Is it financially viable?

• Capital costs of a Metro - Rs. 11,500 crores, catering 2% of the population. Capital costs for 3000 buses is Rs. 1000 crores catering 25% of the population.

• Rs.1000 crore can construct 5 kms of an elevated Metro line, or 2.5 kms of an underground one, while the same costs can build 67 kms of BRT.
IMAGINE...

Trees will be cut
Lighting and ventilation of residences will be affected
Footpath space used up for construction
Traffic congestion!

Imagine what Pune roads without their beautiful canopy of trees will look like

9 MTR BARRICADEING
Reduction in road width by 3 mtr
Is Metro a suitable choice for Pune?

Does it address issues of congestion and pollution?

- A strong belief - Metro will eliminate pollution and traffic congestion in the city has been formed in people’s minds - Not true
- Only way - by limiting the use of private vehicles
- Delhi Metro- operational since 2002 - No reduction in road congestion neither pollution
- Metro - separate route delinked from the roads - does not contribute to reduce road congestion.
- Buses or a BRT system shares the road space with other private vehicles, thus keeping an automatic check and reducing the scope to increase their numbers
Other impacts of Metro

Ecology of Pune rivers

- Two stations and 1.7 km stretch of Metro route passes through Mutha river within the flood line in the proposed route of Phase II
- Citizens took objection to this alignment and filed case in NGT (National Green Tribunal)
- A TSG (Technical Support Group) under Biodiversity Committee was set up by PMC
- The TSG confirmed that constructing the Metro on the river bed will damage the riparian zone, disrupt the vegetative cover and affect the aquatic diversity
- In their survey many native species of flowering plants, number of either threatened or rare species of birds, reptiles, insects as well as fish were found within the stretch
- Removal of the trees and loss of vegetative cover will affect the ecological balance causing disruption of habitat for small birds, raptors, arboreal mammals etc.
- The construction of Metro and Metro stations will impede the natural flow of river Mutha and will increase the flood risks in the flood prone city of Pune.
- Matter is under litigation in the NGT

Inputs by: Sarang Yadwadkar
Threat to heritage

Possibility of threat to three of Pune’s national monuments, the Pataleshwar Caves, Shaniwar Wada and Aga Khan Palace

Can we have less damaging modes?
Other impacts of Metro

Pune’s heritage sites

• Pune - blessed with both natural and man made structures.
• Citizens value the aesthetics of the city for the sense of well being they impart.
• Extensive construction for the new Metro lines, elevated ones would permanently criss-cross parts of the city, marring and disfiguring its panorama.
• Possible threat to Heritage buildings, old trees, public spaces.
• 46% of the listed heritage sites will be endangered. These include religious sites and private properties as well.
• There is a possibility of 3 of the national monuments, the Pataleshwar Caves, The Shaniwar Wada and the Aga Khan Palace getting affected.

Inputs by : Ms. Prajakta Panshikar -Divekar
Metro and the 4 FSI storey

Do we need the METRO?

No assurance of increasing ridership with densification
No LOGIC to why Metro planned along a route with low ridership.

Who can afford the price of property situated in developed areas?
Density is proposed in ALREADY DEVELOPED AREAS! The affluent segment, which most likely to own private vehicles are least likely to ride Metro!

Unviable for small plot holders
The plots next to tracks and stations are too small to accommodate the extra FSI, as the minimum area to qualify for grant of 4 FSI is 0.2 Hectares (about 2,150 sq feet). So plot holders with smaller plots will be forced to sell off their lands to builders who will amalgamate several such plots and qualify for the 4 FSI after paying the extra premium.

No ASSESSMENT of how much revenue needed through additional FSI.
Even if just half the landowners along the metro corridor take advantage of the 4 FSI proposal, it will lead to 20 sq. km of built up area coming up in say the next 10 years. That is MORE than the total housing needs of Pune for the next 20 years!

And the PMC would raise Rs 37,000 CR from the sale of FSI whereas it needs just Rs 3,000 CR!!

Metro Influence Zone (MIZ)
500 meters on both sides

PMC proposes to offer 4 FSI at a premium in this MIZ to make funds available for part financing the Metro

How will PMC service 4 FSI??!
Herculean challenge to provide services and amenities like water, sewage, garbage disposal etc for the additional FSI, when insufficient even with the present lower FSI!

Inconvenient to MIZ residents
The ones that can fully consume the full FSI are at the edge of the corridor, far from stations. In effect additional population that starts living in these corridors will have to walk longer, or need a vehicle to reach the Metro!

Forced to use 4 FSI
The owner will be fined heavily by the PMC if he does not use up the 4 FSI. Hence all the plot owners will be forced to build on his/her property even if they do not want to.
FSI Issue

• What is the current funding for the Metro?
  Central government (20%) + State government (20%) + PMC (10%) = 50%.
  Remaining 50% - loans which will have to be paid back by the local authority (PMC).
  How?- Taxes and various surcharges on fuel, and property tax, 2% Metro tax on payrolls of all establishments with more than 100 employees, 1% surcharge on stamp duty for transaction on sale of property, Professional tax at 1%, etc. Hike in the Development charges.

• What is the FSI proposal?
  To offer 4 FSI at a premium, along the Metro corridor, to the extent of 500 metres on both sides which would be the MIZ (Metro Influence Zone).

• Why is FSI being proposed?
  To raise funds through
  i) development charges in the Metro Influence Zone
  ii) increased ridership with increased densification
  The rationale behind this proposal is that as an area gets more populated, there will be a greater need for transportation, and the Metro will be the solution to that demand. Consequently, ridership will get a boost.
Several issues with this proposal

Limited understanding of Transit Oriented Development
• Sprawled out cities – ideal for densification; Indian cities - already densely populated
• Disincentivize private vehicles
• Vigorous policies - No Parking zones, auto vehicle free zones, high parking charges etc

Affordability
• Offer is in areas which are already developed.
• Price of a property in a developed area - higher. Only affluent segment can afford.
• Affluent segment is most likely to own private vehicles, least likely to ride the Metro.

Infrastructure and amenities:
• Infrastructure, services and amenities like water, sewage, garbage disposal, etc are already stretched to a limit. These could collapse under the weight of additional FSI.
• No study on amount of revenue that can be raised.
Several issues with this proposal

- Repayment of loan
  The current funding is Central government (20%) + State government (20%) + PMC (10%) = 50%.
  It should be kept in mind that the remaining 50% of funding is from loans which have to be repaid by the local authority (PMC).
  Some part of the repayment will be through taxes collected from the citizens.
So whether a citizen uses a Metro or not, there will be some additional liability on the citizens in some form.
FSI Issue

How can the proposal be improved?

Adjust FSI allowance! Why a blanket of 4 FSI?

Higher FSI on the city outskirts
Prerequisite to be smart?

- A Metro is projected as a prerequisite for a world class city, and necessary for future transportation needs of a modern city. Huge amount of finance is made available for this multi crore project. Then if the vision is for a world class, efficient urban transportation of which the Metro is a part, why is it not planned in a more need-based and aesthetic manner?

- More studies and alternative solutions need to be presented to arrive at the best possible choice for the city. Instead of making criss cross lines marring the city’s skyline, cutting several trees, affecting architecturally significant buildings, creating more chaos during construction on already crowded streets, and increasing problems of interchange as network grows. Could building the lines underground, as per community’s requirements, while taking care of the city’s aesthetics, at least within the main city areas, be considered as a much better option?

- Although it may cost more, unlike elevated lines, an underground line need not follow the surface road alignment, but can cut across straight covering shortest distances from station to station, wherever possible. So overall building expenses may still be worth considering. A cost-benefit analysis of a fully underground Metro system has to be undertaken.
So what works for Pune

• A good strategy for Pune would be to make the existing public transport which is the bus and the BRT more efficient by increasing frequency, good route planning, maintaining the buses in good condition, adding new routes and buses if required, while also improving the cycling and walking conditions in the city by making the footpaths and cycling tracks safe.

• Giving an impetus to these systems and strengthening mobility support on the main as well as the arterial roads will go a long way in solving many of the traffic issues. Once these systems reach their optimal capacity, consider other higher capacity modes.

• Whether a Metro is finally approved or not, it is imperative that the city needs a major relook at its transportation policy and implementation. Only an integrated and a holistic approach that looks at costs, feasibility, convenience, environmental impacts and aesthetics of the city will help arrive at a smarter decision.
with inputs from

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Thank you