

Frequently Asked Questions regarding the SB Road Bus Priority Proposal – Dr Adhiraj Joglekar

The main proposal is downloadable from here – [http://better.pune.googlepages.com/SB\\_Road\\_Pune\\_Bus\\_Priority\\_Part\\_One.pdf](http://better.pune.googlepages.com/SB_Road_Pune_Bus_Priority_Part_One.pdf)

1. *Is it possible to segregate cycle lanes physically from the bus lanes for added safety?*

Yes. The best way to this is by widening the footpaths to the maximum. 2.5 meter footpaths on either side with half designated as cycle lanes may be a safer option. The final choice of which of the 3 options is considered depends on road width and pragmatism to ensure the road serves maximum number of people rather than just one particular section/group.

		
<p>Least preferred (but something is better than nothing principle applies).</p>	<p>Better</p>	<p>Best (all 3 are grade separated)</p>

2. *Will parking be restricted or not allowed on certain roads?*

3. The concept of **red routing** will be introduced on several roads –



The roads affected by this regulation will be -

- ✓ SB Marg
- ✓ Law College road
- ✓ BMCC road
- ✓ Bhandarkar road
- ✓ Paud road
- ✓ Sus-Pashan Road
- ✓ FC and JM roads

This means that the above road will not any longer allow stopping (never mind parking) any more. This is to ensure that every inch of these roads is utilised to their full potential for overall success of the scheme. Defaulters will find their vehicles are towed away for causing obstruction.

4. *What about parking for personal vehicles, this is vital for some?*

With rationalisation of routes and frequencies good connectivity can be achieved with rest of the city. This in itself will reduce need to use personal vehicles and hence reduce demand for parking.

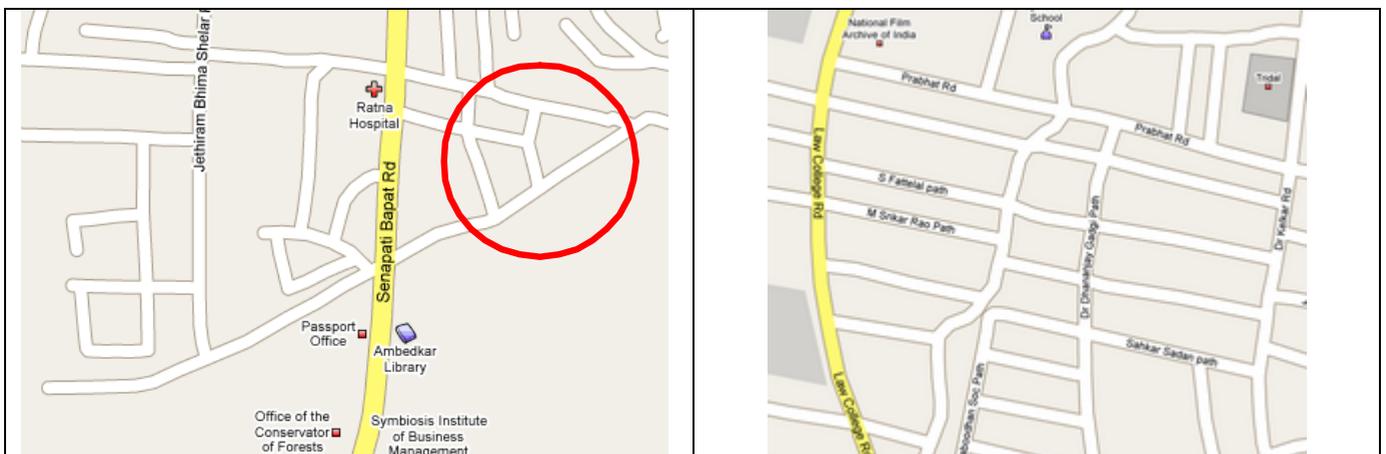
Public money spent on road widening of the road can't be put to misuse by allowing parking. ICC and retail outlets as well as Management / IT institutes ought to either make available parking for their clients or encourage them to use public transport.

Limited parking can be made available on pay per use basis in the side lanes. The road going past Sheti Maha Mandal reaches a dead end and is fairly wide to allow for some paid parking facility. Similarly limited paid parking may be considered on side lanes along the SB road. Given that some side lanes have no entry/exit allowed directly to SB road, those intending to park will need to take a small detour to find their parking space.



Above, an example of clever parking policy. Spring Grove crescent was once bi-directional; this was converted to one-way with parking on one side and traffic moving safely in one direction (note the clear double yellow no parking lines for the other side). But note the clear parking bays and the fact that one needs a residential permit or pay per parking at the meter. Overall this also improved safety.

On SB road, the above methods can be considered easily. This will effectively mean that parking on SB road is not needed at all.



The road behind passport office is a dead end and is wide enough to create parking spaces on pay per use basis. Also on opposite side (red circle), many small inner lanes can create limited pay per use parking after allocating sufficient space for residents.

The same is true with off-lanes along Law College road as well as Prabhakar road; both these roads should be free of parking to facilitate movement of buses and vehicles optimally.

All inner roads where parking is provided will be pay and park facilities. Below are examples from side lanes of a major arterial road called Fulham palace road in Hammersmith, London



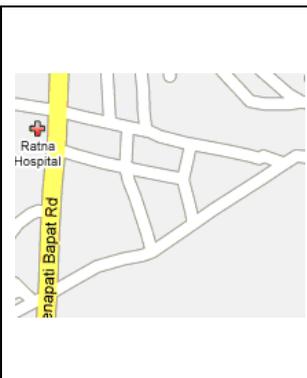
Both above images show a inner residential road where people either buy quarterly parking permits or pay per use by paying at the meter. Traffic wardens ensure the compliance with the system. Defaulters either pay a fine or may find their vehicles clamped with clamp release fees in excess of £200/-

The green boxes are all pay per use self service ticket boxes.

Adjacent a car clamped for not displaying valid ticket



**This is easily implementable on side lanes of SB road as is evident from images below -**



To help facilitate this, the PMC needs to consider use of road layouts with well marked parking bays in each inner residential road as shown below –

	<p>HERE THE SAME ROAD HAS BEEN PROVIDED WITH DEDICATED PARKING SLOTS ONE SIDE.</p> <p>THE HATCHED LINE IN THE CENTRE MEANS VEHICLES MAY CROSS OVER TO OTHER SIDE WHEN MOVING PAST A PARKED CAR / VEHICLE</p> <p>THIS LAYOUT IS TYPICALLY FOUND IN RESIDENTIAL SETTINGS.</p> <p>NOTE THE YELLOW LINES WHICH RESTRICT PARKING ON OTHER SIDE COMPLETELY TO AVOID NARROWING OF THE ROAD BEYOND SAFE USE IN CASE DRIVERS DECIDE TO PARK OPPOSITE EACH OTHER.</p> <p>ASJ</p>		<p>THIS IS A VARIANT OF THE ABOVE</p> <p>INSTEAD OF HAVING PARKING BAYS ON ONE SIDE ONLY, PARKING BAYS ARE DISTRIBUTED ON BOTH SIDES</p> <p>BUT CARE IS TAKEN TO NOT HAVE PARKING BAYS BANG OPPOSITE EACH OTHER.</p> <p>BY DISTRIBUTING THEM AS SHOWN IN THIS IMAGE, THE VEHICLES MAY HAVE TO CURVE AROUND PARKED CARS AND SHOW COURTESY TO ONE ANOTHER WHEN TRAFFIC IS MOVING IN BOTH DIRECTIONS.</p> <p>HOWEVER, THE FACT THAT VEHICLES HAVE TO CURVE AROUND PARKED CARS MEANS THAT THEY HAVE TO MOVE AT SLOWER SPEEDS, THIS IS VERY USEFUL AS A TRAFFIC CALMING MEASURE</p> <p>ALSO NOTE THE YELLOW PARKING RESTRICTIONS LINES IN PLACE TO STOP DRIVERS FROM PARKING OPPOSITE EACH OTHER - SOMETHING WHICH WOULD NARROW THE ROAD CONSIDERABLY.</p> <p>ASJ</p>
	<p>NOW SAME ROAD WIDTH BUT SPACE EQUAL TO ONE LANE IS USED AS A TURNING BAY</p> <p>IN THIS LAYOUT I HAVE ALSO RETAINED PARKING BAYS</p> <p>YOU WILL NOTE THAT IT IS ALONG THE TURNING BAY WHERE PARKING RESTRICTIONS WILL APPLY - SHOWN HERE AS YELLOW LINES ALONG THE FOOTPATHS. THIS IS VITAL TO ENSURE TRAFFIC FLOW IS SMOOTH</p>  <p>ASJ</p>		

For more road layouts please check <http://better.pune.googlepages.com/roadlayouts.html>

For layout that ensures parking / hawking space are designated such that footpaths are not encroached, please check this image – <http://better.pune.googlepages.com/pune-footpath-road-template.pdf>

5. How will the side lanes that are to be closed off be regulated? Is this a known practice?



As seen above, this bus lane in Hammersmith is protected by reducing conflict with the side lane.

6. What about rickshaw stands?

The side lanes of Patrakar Nagar Chowk near Sheti Maha Mandal and Ramesh Market already have rickshaw stands. Further down stands currently occupying the SB road will need relocating in to side lanes (e.g. Rickshaws near Ratna Hospital). Given that some side lanes have no entry/exit allowed directly to SB road; rickshaws may need to take a small detour to get to SB road. Thus the rickshaws will remain parked behind the guard rails shown in the above picture.

7. But will this not cause a slight detour to rickshaws and vehicles using the side lane?

Yes – this will cause a slight detour to vehicles other than buses not just on SB road but also on roads where contra-flow bus lanes will operate.

This is a common practice as this ensures much needed priority to buses but also acts as a measure of traffic demand management as well as regulating / metering the traffic from side lanes



8. *Why are the bus lanes on SB road kerb-side? Is this a common practice?*

Median bus lanes and bus stops need substantially more space as well as investment for upgrading the infrastructure. The proposed scheme overcomes these limitations. Kerb side bus lanes have been used in London since 1968.

9. *Are kerb-side lanes used with success else where and can they integrate with median lanes (for example of Ganeshkhind road)?*

Transport for London manages major London roads, 5% of these are kerb-side bus lanes. These bus lanes carry 35% of 6.5 million bus users daily with improved reliability and speed across London. Integration with median lanes or other methods of bus priority is easy. At no time are two methods used on the same road. And as any given road ends at a signalised junction, integration with a median bus lane beyond the junction can be possible with relative ease. This proposal augments plans for BRTS and does not replace it. Thus BRT bus from Pashan via University road, hits the bus lanes on SB road → Prabhat road and connects with BRT on Karve road, improving connectivity substantially.

10. *Are contra-flow lanes used widely? Can they be used on narrow roads?*



Contra-flow lanes are in use in several countries. The image above shows one such lane running on a narrow central London road with mixed traffic moving in the opposite direction.

11. *Are contra-flow lanes segregated?*

They can be segregated or non-segregated. In this proposed scheme, the lanes are non-segregated to allow access in and out of side lanes during the times when there is no approaching bus inside the bus lane.

12. *Are contra-flow lanes on kerb side or median?*

The lanes are located along the kerb and existing infrastructure will be in use.

13. *But along side-lanes mixed vehicle drivers do not understand concepts of right of way, give way and hence will this affect the bus lanes performance?*

Having seen the IRC guidance on road markings, it is amply clear that the PMC has failed in its duties to provide signage and road markings along side lanes. Every side lane has to have a triangular give way road marking plus similar signage on a pole. This proposal expects PMC delivers this basic road safety related infrastructure.

Further, without a text book, one can't learn ABC – similarly, without appropriate road signs / markings it is not possible to educate public about the significance of such concepts in keeping the traffic flowing smoothly and safely.

Also, the proposal creates substantial right of way for buses. It is unlikely that motorised two wheelers or cars / vans will want to cut across a bus that is hurtling down a bus lane.



A bus hurtling down the kerb side bus lane and a van driver waiting to give-way. Also note the conflict reduction with the bus lane as the right turn in to the side lane is barred.

14. *Would side lanes not conflict with contra-flow lanes?*

This is possible but as with the SB road, the number of conflicting side lanes linking with the BMCC and Prabhat Road can be reduced. Further as traffic from and to these side lanes is likely to be small, in reality such conflict is likely to be minimal. Further as a rule, there ought to be signage indicating personal vehicle drivers that when there is an approaching bus in the bus lane, the bus has right of the way and they ought to wait and give way. As buses will ply at frequencies of one bus every 7-10 minutes, again mixed traffic is unlikely to face be held up beyond a few seconds at a time.

15. *Are there measures for improving law enforcement to avoid abuse of bus lanes by other vehicles?*

There are some very cost-effective measures in use across the globe. These are better than having to recruit a plethora of police personnel or traffic wardens (and paying their salaries for ever).

The following videos on you tube are worth watching –

<http://uk.youtube.com/watch?v=88LHUW8F32M> – a video I recently compiled showcasing the automated bus gates used on Hammersmith bridge bus priority scheme.

<http://www.youtube.com/watch?v=BWnfeDtnuds> - Manchester Automatic Traffic Bollards

Additionally some simple, cost-effective measures that may be used are the tyre killers shown below – these ensure that buses traveling in the direction of the pointed metal plates collapse the plates while vehicles attempting to use the bus lanes in the wrong direction will end up experiencing damage of their tyre's and possibly their vehicles



16. *Are there effective ways of regulating one-way systems in the inner residential areas?*

*Yes, the images below show possible options with use of technology or clever road layouts –*



*Top 2 images showing use of technology. Top left, no entry sign and a vehicle gate. Top right, shows the other side of the automated vehicle gate where sensors embedded in the tarmac under the stop road marking (seen as a rectangular mark) is calibrated to open the gate once a vehicle stands atop it.*

*Adjacent – a road layout where there is no entry in to the side lane from the main road. The exit from side lane to the main road is narrowed down to allow passage of only one vehicle. Clear signage shows who has ROW.*



17. Will the effective taking away of one lane for buses and allowing mixed traffic in one direction only (that opposite the buses) cause congestion?

This is less likely. Once the buses start being used by the public the overall traffic density and demand on these roads should reduce. Further, by letting mixed vehicles travel as a one-way system (other than the buses which run in opposite direction) overall traffic flow and safety may change for the better.

18. How was the direction of the contra-flow lanes decided?

This is a pragmatic arrangement and the flows could be reversed or arranged in any permutation and combination as deemed suitable. Ideally PMC ought to carry out traffic counts study to determine the exact plan.

19. Are these changes costly?

Barring the cost of upgrading the much needed pedestrian and NMT facility, the bus lanes need painting red and appropriate signage and road markings put in place. In contrast to costs of building flyovers, subways, underpasses, elevated roads and tunnels the cost of this proposal is negligible. Further efficacy can be monitored, improved where possible and at worse, the changes reverted (this is easily possible with this proposal unlike mega-projects).

20. But this part of Pune has poor bus connectivity?

The proposal demands that bus routes and frequencies are rationalised for overall success of the scheme.

21. Can this scheme be extended?

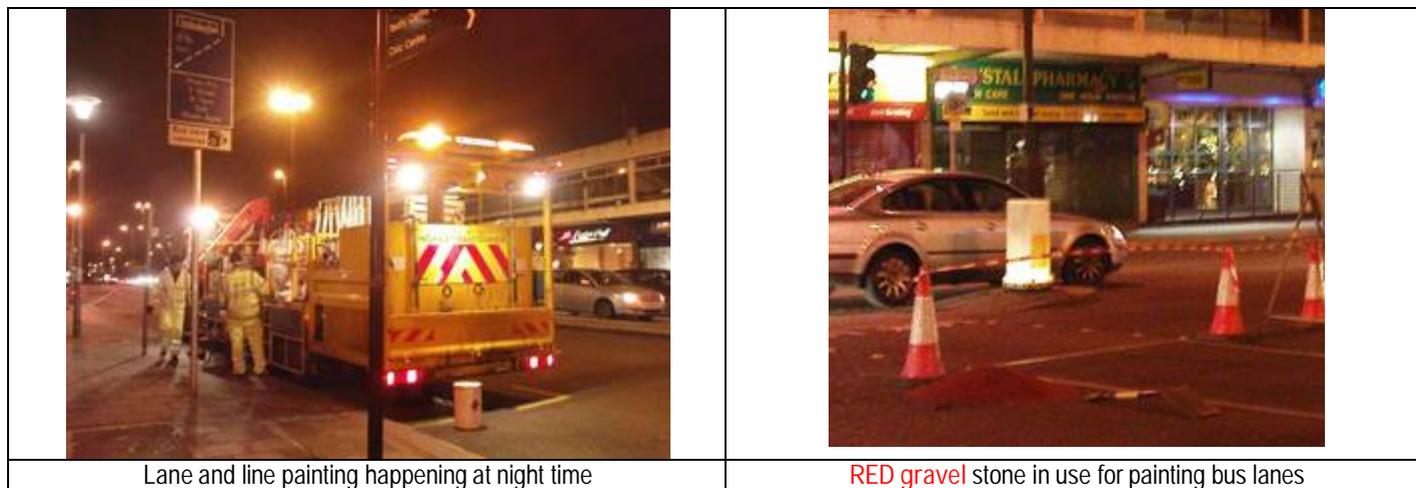
Yes, once this pilot is successful, it can be extended with ease along the same lines and principles. As an example, NMT can be introduced on Law College Road; BRTS along Ganeshkhind road, Baner / Pashan and Aundh roads as well as JM road / Karve road is already planned. Thus with relative ease, the entire north-west of Pune can be covered easily and connected with southern / eastern Pune's existing BRT pilots.

22. Can emergency vehicles make use of the bus lanes?

Yes, this is a distinct advantage of bus lanes which also ensure that critically ill people reach the hospitals faster.

23. Do the bus lanes have to be RED in colour?

Yes. This is preferable as it produces a psychological grade separation of a kind. With good law enforcement, the red colour becomes associated cognitively amongst drivers as an area to avoid at all times. Similarly painting the cycle lanes green has an advantage too.

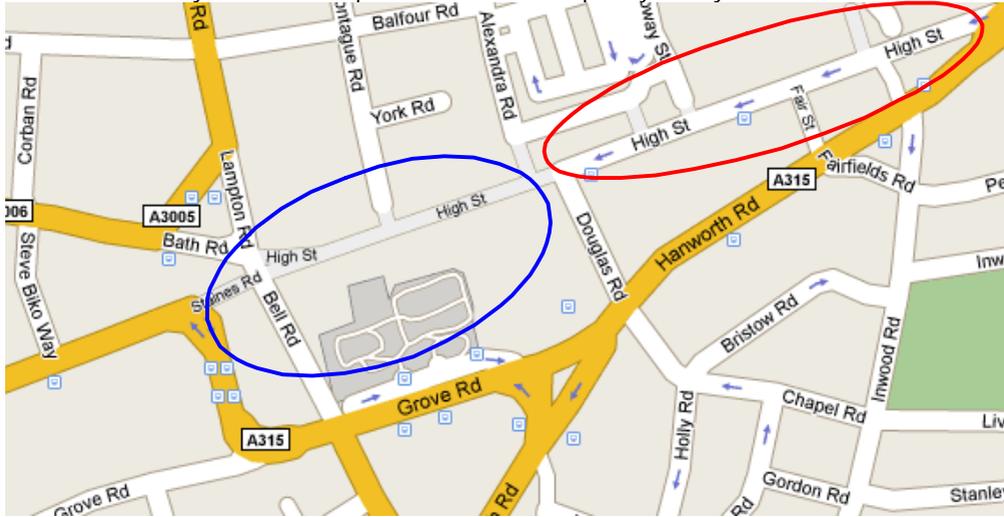


24. Are there measures to improve road safety on inner residential roads?



25. Are there other ways of improving bus priority on narrow roads?

Indeed. The simplest form can be to convert one parallel road in to a bus and cycle only road. This is not currently part of the proposal for SB road, but may be considered in some parts of Pune where feasible. As an example, below I am providing snapshots of the Hounslow High Street which was converted from a busy main road to a pedestrians and buses plus cycle only road.



Now / currently - The red circle above is now bus and cycle lanes only while the blue circle is only pedestrians



Above – two images of the pedestrians only section (often there is live music played here)

Adjacent – two images of bus / cycle only route.

For purposes of traffic calming, the route has been made tortuous