

KIND ATTENTION: MR WAGHMARE

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## Recommendations to incorporate environmental elements namely trees in Parking for Pune

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### Introduction

Parking space is often viewed by developers as being essential to the market success of commercial buildings. Yet city planners must balance this commercial need for parking with other community desires such as a more compact urban form, a more pedestrian-oriented urban design and an improved environment. Large surface parking lots can contribute to drainage and flooding problems, increase urban heat islands, become visual eyesores, and encourage people to abandon mass transit, thereby accentuating air quality problems (McPherson 2001).

Design is another aspect of sustainability and plays a dual role in green law. On one hand, designers can be very creative in developing new ideas about construction and materials that support sustainability goals. Successful small-scale experiments can become incorporated into code, then implemented throughout a community. Yet, not all site developers are as innovative as others. The greatest single impact of urbanization is the increase in the amount of impervious surface. Our recommendations below attempt to juggle between both through the medium of policy change.

### Parking anomalies in Pune

- In the current parking scenario .... Parking of cars takes place in the side margins and open spaces thereby reducing the scope for plantations, and increasing damage to trees.
- Paving and concretization of the side margins further disallows healthy plantations.
- At many locations visitors are not allowed to park within the society premises, the requirement being there.
- Same case with departmental stores, commercial complexes, multiplexes and shopping arcades-visitors and customers are forced to park in nearby lanes or on the street.
- Provisions made for parking are highly inadequate considering the growing onslaught of two-wheelers and four wheelers.
- Despite regulations to ban shopping activity on some of the major roads listed in the DC rules, many of these roads are mushrooming with shops made possible by twisting the definitions and interpretations of the activities. This has resulted in unforeseen traffic problems. Proper implementation of these regulations would certainly have been effective in reducing the parking problems on these roads
- Result of this change or relaxation in the law is the construction of hotels and offices in residential areas leading to further congestions and parking problems.

<sup>1</sup> Pune Tree Watch is a citizens group initiated by Kalpavriksh Environment Action Group, Pune in 2005.  
[www.kalpavriksh.org](http://www.kalpavriksh.org)

CC: COMMISSIONER, PNC, MR PARDASHI

Dated

## Recommendations

*The following recommendations are policy guidelines and we would be acceptable to study and analyze in more detail along with the concerned authorities*

### **I) Off-street parking.**

This section deals with the construction and building activity which is no doubt an important economic and development based activity but is wanting in strict implementation in terms of it's environment component. While the number of options for Parking within a building are many (basement/podium/parking floors/visitors parking/ road side parking etc.), the options available for trees are just a couple and at most times not implemented due to lacunae in the government processes such as absence between inter-departmental communication or for that matter, technical reasons. Our recommendations for the same includes the following

- a) **Parking should be provided within the building line itself.**
- b) **In case of basements and podiums the ramps should be within the same area and should not impinge on the marginal open space such as front/rear/side margins. The ramp can however be extended 3 meters outside the building line as per the current rules.**
- c) **It should be made mandatory that a parking plan gets submitted for sanctioning along with the building plan with the necessary area calculations in addition to the required marginal open space. The parking plan should indicate**
  - **Maneuvering space.**
  - **Actual Parking space with details of vehicle sizes and area as per the circular no 140.**
  - **Paved/unpaved areas parking lots with specifications for surface properties<sup>2</sup>.**
- d) **Area Calculation should also be submitted.**
- e) **It should be ensured that the above areas and dimensions should not include the driveway while sanctioning the plans and while issuing the completion certificate and the occupation certificate**
- f) **Parking on the marginal open space should not be allowed.**
- g) **Parking on the space designated as 10% open space should be disallowed or reduced to 15% or a similar percentage, of the total area.**
- h) **Considering the above points – no trees within the marginal open space should be allowed for felling or transplantation. Innovative designs and alternative plans should be encouraged to protect the trees in this area.**
- i) **No concretization and paving should be allowed on the marginal open space, the only exception here being in the case of the maneuvering passage which should be covered with pervious material so as to allow water percolation into the ground. Or else this encourages the marginal open spaces to be used for parking; and disallows the absorption of rain water into the ground**

<sup>2</sup> Biodiversity Conservation for Eco-Housing, Pune Municipal Corporation

- j) Each off-street parking areas located in a front yard shall be subject to landscaping requirements on predefined percentage area, regardless of parking area size or zoning district.
- k) Plots in Green Belts should not be used as Parking lots in a commercial way. If private vehicles are to be parked, parking should cover less than 15% or a similar percentage of the total Plot restricting net surface run-off of site to 0.6<sup>3</sup>

## II) On-street Parking

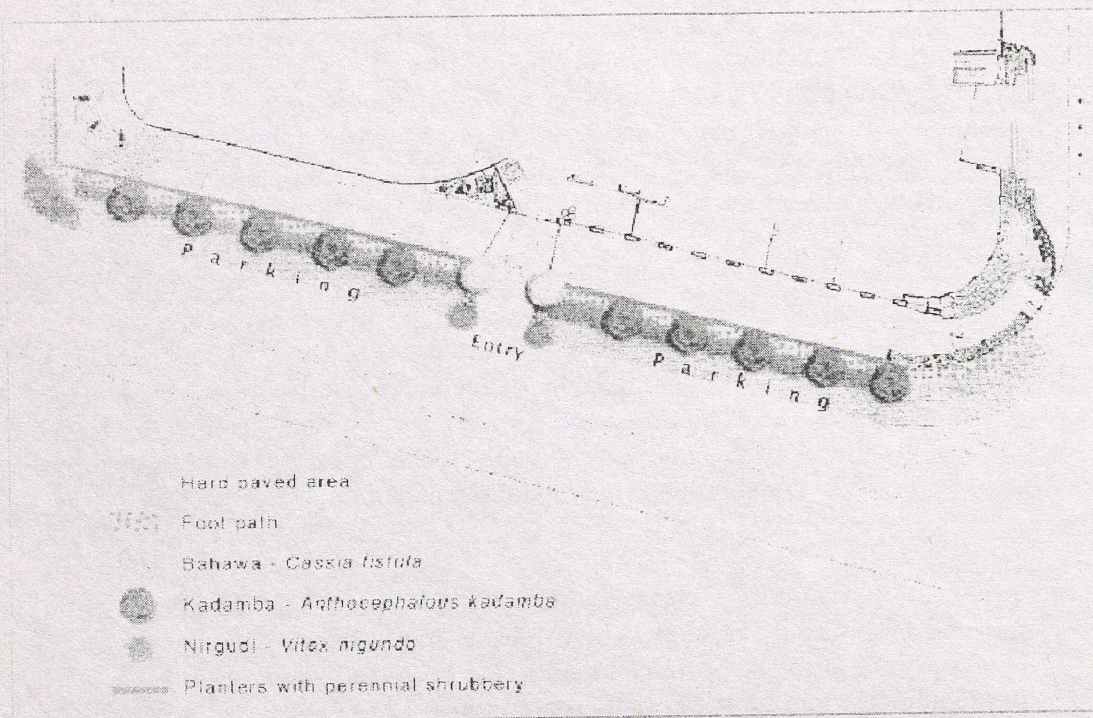
Scientists have long observed that urban and suburban areas have hotter air and surface temperatures than their rural surroundings. Tree canopy cover reduces urban heat island effects (Akbari et al. 1992, Asaeda et al. 1996). Tree planting is one of the most cost-effective means of mitigating urban heat islands. Vegetation canopies can cool paving by direct shading of the ground surface. They also cool parking areas indirectly through transpiration of water through leaves (Oke 1987). Exposed soils also help through evaporation of water (Simpson, et al. 1994).

- a) Trees should be planted every twelve feet distance on all roads where parking facilities are to be provided. These should be compulsorily incorporated in the road department plans so that they could be easily implemented upon by the Garden Department of the PMC.
- b) Road sections should be predefined as per the Indian Road Congress norms - a specific area within the road width should be reserved for the Green Verge so that no overlapping of the pedestrian areas service areas and green areas takes place.
- c) Pervious Paving: Most parking lot paving materials are impervious, that is, water cannot soak through them and into underlying soils. Thus precipitation collects on the paved surface, moves downhill, and must be dispersed or will cause local flooding in low spots. Vegetation-based strategies are the focus of this report. But pervious paving is an equally important innovation, and their use should be drafted into the local policy. Pervious materials permit water to enter the ground because they are porous or have void spaces. For example, instead of hard paved blocks, it is recommended to keep rammed earth for parking which would reduce heat radiation. But it would be essential to install a proper mechanism for storm water management. Two to three inches of gravel layer can be laid on rammed earth to avoid this problem.

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<sup>3</sup> Eco Housing Norms for run off coefficient

Overall layout:



### Conclusion

Pune city loses almost a thousand trees every month to development demands. Of this construction activities and road widening take the highest toll. Despite the norm of plantation of one tree per hundred square meters, it is the common observation that no adequate space gets ever left to plant trees. This trend is mostly in commercial complexes such as malls, multiplexes, business houses, and shopping arcades. Due to concretization, paving, lack of consideration to above norm, parking pressure, commerce and lack of inter-departmental implementation, the authority – the Garden Department and the Pune Tree Authority in this case are unable to ensure that the required plantation does happen.

In view of the internal environmental problems of Pune city and that of climate change it is advisable to maintain more and more spaces among infrastructure where various canopy layers could be developed or maintained so that it plays a major role in urban ecological functioning.

### References

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