

widespread, thus encroaching the sidewalks and blocking the pedestrian ways. According to a parking fee collecting agent, it is very difficult to say the exact number of cars that can be accommodated in a parking lot because it depends on the size of a car. The bigger the car, the greater the space that will be required, thereby reducing the efficiency of utilizing a single parking lot. Double lane parking was also noticed in few of the lanes which is obstructing the smooth flow of vehicles, thus leading to traffic congestion. In some cases, it was also observed that a parking lot which has already been occupied, a second row of car parking is taking place which in turn reduces the road space to a great extent, thereby aggravating the traffic congestion further.

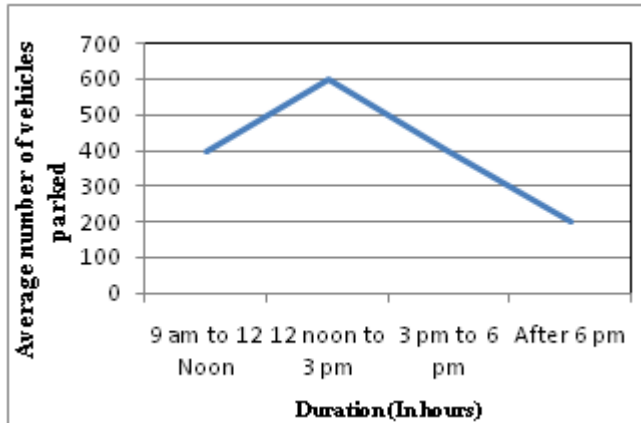


Figure 5: Average number of vehicles parked in a day at Dalhousie area



Figure 6: Three row car parking on Bankshall Street.

5.3 Khidirpur

The area around Khidirpur has lots of retail shops, big markets, like Five Star market, Fancy market etc., restaurants, schools, and hospital.

Major Problems: The parking lots in this area appear to be fake and unauthorized. They are solely controlled by the local unemployed youths. Vehicles are parked right in the middle of the artery between Five Star and Fancy Markets and Babubazar for a fee as high as Rs.100/- for a couple of hours. Some are forced to shell out even more. Due to on-street parking the road space has got squeezed to a great extent, as a result frequent traffic jams take place in this area. The roads are getting narrower and thus it is creating an obstacle for the

smooth flow of vehicles which is leading to traffic congestion in this area. The on-street parking encroaches sidewalks blocking pedestrian ways and **reducing the walkway space for the pedestrians.** Khidirpur is a shopping hub. Markets like Five Star Market, Fancy market, restaurants such as India restaurant, Sheesh Mahal draw a large number of people from the surrounding areas. Thus this area has a high volume of pedestrians walking on the street. Besides, Schools like St. Thomas, St. Teresa, and St. Paul's are also located here. **Haphazard car parking** outside the school gates in the morning, i.e. from 8 to 9 am as well as during afternoon i.e., from 2 to 3 pm during weekdays is a regular phenomenon which leads to traffic congestion. The Normal vehicles that are plying on the road find difficulty in driving smoothly through this area. Thus, the car parking management system has to be more efficient in order to check the illegal parking done in this area.



Figure 7: Haphazard and illegal parking run by local goons in Khidirpur area



Figure 8: Illegal two-wheeler parking near fancy market

6. Discussion

After the diagnosis of the problem it is clear that the problem of parking is common in all three areas. The major problems that are identified are:

- There are not enough parking spaces
- Parking Intruding on the public realm
- Illegal and obstructive parking.
- Road congestion due to on-street parking.

Thus few of the suggestions to resolve these problems are:

Manage parking well: The first step is always about managing on-road and off-road parking to reduce traffic chaos. Kolkata can designate on-street parking areas, efficient utilization of parking lots-valet parking, up gradation of metering, improved user information and management of spill over.

How much parking is enough: Cities have adopted parking standards for different land uses and building types but without a common matrix for defining norms. Parking should be as far as possible common and shared and not serve each building individually. A combination of low parking requirement, parking pricing and putting the onus of finding a parking space on car owners can reduce parking demand effectively.

Effective Price parking adequately: Kolkata need to price parking effectively to reduce car usage. Global experience shows that appropriately priced parking can reduce automobile commuting by 10-30% especially if linked with transportation choices.

Parking revenue for public good: Revenue from parking should be used for public transport betterment. This is one of the potential revenue sources for creating dedicated urban transport funds. The parking spaces should be taxed at the same rate if the land was used for other developments. This will help to augment the returns and also maximize the revenue gains to fund other sustainable practices.

Parking for multimodal integration: Parking can be creatively deployed for multimodal integration of – buses, cycling and walking. Kolkata can use Multilevel parking as much as possible for integrating public transport modes (buses, train etc.) and remote parking.

Public awareness: People should be more aware about the need to decongest Kolkata. They will have to minimize the use of private vehicles and use more of public transport. While talking about illegal parking we often ignore the fact that today these unauthorized fake parking lots are operating because we let them operate in that manner. Thus change is possible if people of this city demand change.

Enforce restrictions effectively: Setting out a management regime for parking is only part of story; effective enforcement of restrictions and charging regimes is critical if parking controls are to have the desired effects. Without enforcement, it is inevitable that parking management will fail and the objectives will not be achieved. Authorities may need to apply for Civil Parking Enforcement to secure the resources and powers necessary to enforce effectively.



Figure 9: Valet Parking.



Figure 10: Automated parking machine

7. Conclusion

Kolkata's solution lies in its inherent character. Kolkata is a mega city with a difference. Car parking problem in Kolkata is aggravating day by day. Kolkata being the capital city of West Bengal is visited by thousands of people from different parts of the state. Proper Car Parking Management system is urgently required to be introduced to get out of this situation. Both Government and Non-Government agencies should come forward and find solutions to this problem.

This city has an enormous opportunity to set an example in the country by thinking differently, and acting differently. Its strength remains in its huge base of public transport usage, zero-emission tram network, and enormous share of walking. It will be a terrible mistake if Kolkata disregards this inherent strength and a legacy as a sign of underdevelopment.

8. Implementation by KMDA

The blue print has come from the City Mobility Plan and the new proposal that Kolkata Metropolitan Development Authority has developed. The new parking policy seeks to generate parking facilities for all categories of vehicles in a sustainable manner; minimize traffic disruptions and congestions due to the on-street and uncontrolled parking of vehicles; and planned approach of the urban local bodies to meet the parking problems in their respective areas. The policy has outlined the enforcement strategy for parking. In order to minimize disruptions and congestion it seeks to regulate on-street parking with special attention to maximizing effective width of carriageway; selection of location of on-street

parking space; selection of location of on street parking lots on major arterial roads and transit corridors; and demarcation of on-street parking lots with proper traffic signs and road markings; and provision of parking facilities for different categories of vehicles. Also commercial areas and market centres are to provide minimum amount of parking facilities for goods vehicles.



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