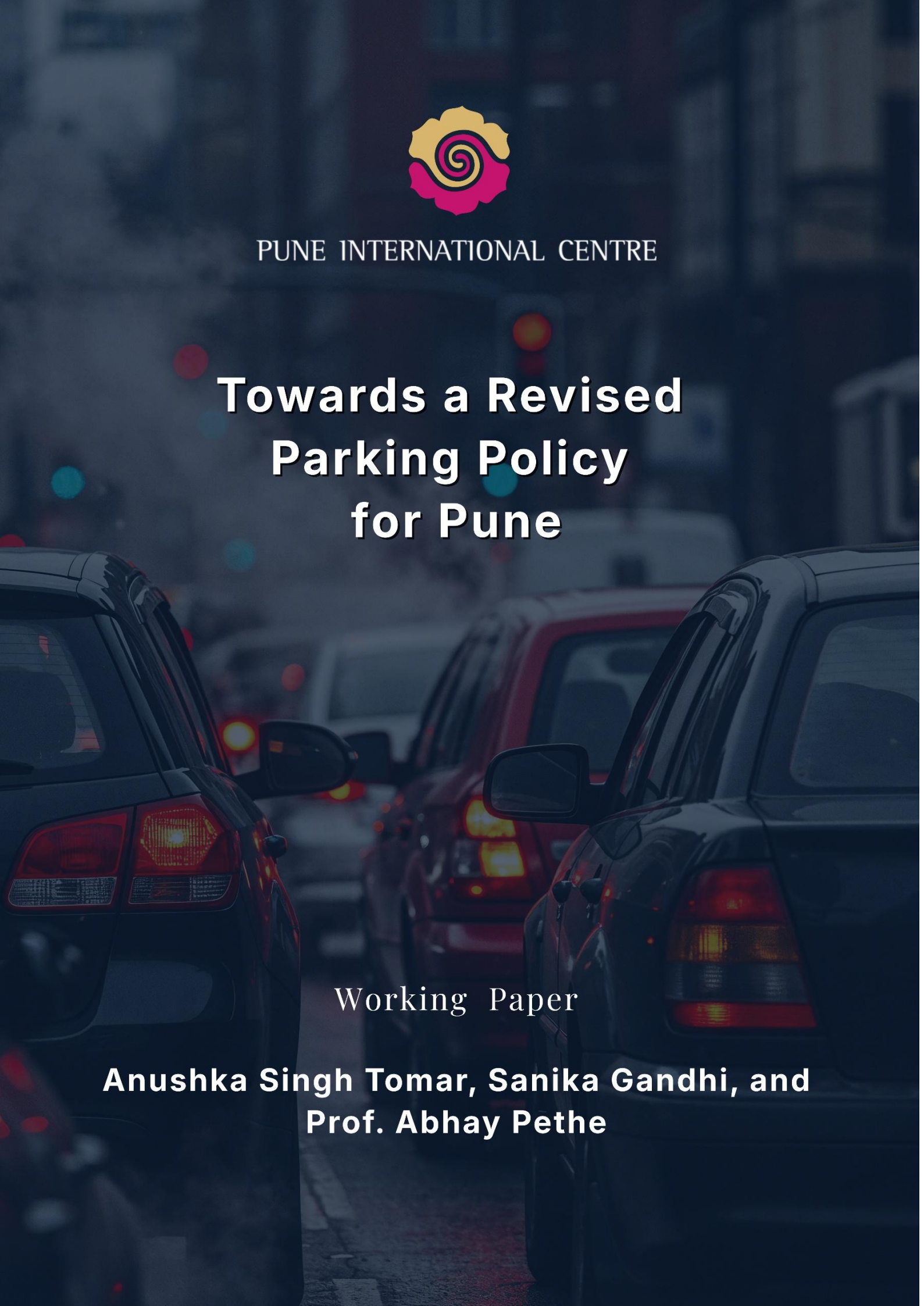

PUNE INTERNATIONAL CENTRE

Towards a Revised Parking Policy for Pune

Working Paper

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About PIC

Pune International Centre (PIC) is an independent, world-class policy think tank committed to the values of the Indian Constitution and the United Nations Charter. Bringing together leading minds, PIC serves as a vibrant platform for research, dialogue, and action across diverse areas such as national security, climate change, social innovation, science and technology, economic reforms, and urbanisation.

Guided by eminent leaders and renowned scientists like Dr. R. A. Mashelkar, President, and distinguished economist Dr. Vijay Kelkar, Vice President, PIC nurtures liberal intellectual discourse, supports arts and culture, and actively engages youth to inspire innovative and inclusive thinking. Its specialised verticals, including the Social Innovation Hub, the Centre for Geopolitics and Geo-economics, the Centre for National Security Studies, the Co-operative Federalism & Multilevel Governance, and the Centre for Sustainable Energy & Mobility, work in synergy to shape transformative ideas and policies for a brighter future.

Background and Rationale

The Co-operative Federalism & Multilevel Governance vertical at Pune International Centre, led by **Prof. Abhay Pethe**, works to strengthen India's public institutions and address the challenges faced by local self-governments, which hold the citizens' mandate. Among other things, it undertakes research projects such as the present study, which aims to bridge theory, practice, and policy to promote democratic decentralization, institutional accountability, and inclusive growth.

The Centre's approach examines both the supply and demand sides of local governance. It assesses the performance of institutions and service delivery mechanisms, while also understanding citizen needs, evaluating the benefits they receive, and exploring avenues for meaningful participation in governance processes.

An interdisciplinary methodology underpins this work, spanning local, state, and national levels. Emphasis is placed on data, evidence, and citizen-focused reforms to make governance more responsive, transparent, and effective.

Introduction

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Pune's Parking Policy was last introduced in 2016 to address the city's growing congestion and promote sustainable urban mobility. It was intended to set up a framework for the implementation and management of parking spaces in the city. However, now nearly a decade later, the policy's effectiveness is limited due to a lack of strict enforcement, implementation inefficiency, outdated zoning, and the availability of free parking in the city. The parking management policy should revolve around managing and improving the current parking spaces, rather than only focusing on developing new ones. While the policy takes vehicle registration into account, it's important to recognise that every citizen has the right to own a vehicle, but they do not have the right to occupy public space on the road. Parking should be looked upon as a privilege and not an entitlement, and thus should be charged according to the demand and space utilised. As long as free and unsupervised on-street parking spaces are available, building more and more multilevel parking spaces won't resolve the issue. This study aims to address this issue and propose a solution in the form of a Universal Pay and Park system across the city.

This policy paper delves into the current parking policy framework to critically review its conceptualisation as well as the implementation challenges faced and propose a set of reforms in light of the city's changing urban dynamics. The basis of the policy formulation, we believe, ought to be found in its responsiveness to demand supply dynamics, taking in its wake the overall built-up space and its typology. It must also adopt a flexible approach and have a built-in dynamic response to the city parameters as it evolves. The demand and supply must be estimated and matched both in quantitative and spatial terms. In this paper, the key focus is the evaluation and revision of the pricing formula used since 2016, which has failed to be responsive to the actual parking demand. With the emerging IT hubs and high-traffic zones like Kharadi and NIBM, still classified under low-demand categories, the study offers actionable recommendations to improve the Parking Policy.

The purpose of this paper is to provide a basic template of thinking that ought to go into the framing of parking policy for Pune. Obviously, the policymakers and political masters must check the overall feasibility and take a call. But over a period of time, there should be a credible commitment on the part of policymakers to move towards a rational parking policy for Pune.

The Extant Public Parking Policy 2016 - PMC Jurisdiction

Vision and Objectives:

The Parking Policy in Pune, introduced in 2016, draws its guiding principles from the National Urban Transport Policy and the Comprehensive Mobility Plan (2008). This policy aims to encourage citizens to use public transportation more often than private transportation and improve last-mile connectivity in the city. The focus is to reduce the number of vehicles on the road and make roads convenient for non-motorised transport.

The objectives of this policy are as follows:

1. Achieving 80% of motorised trips by public transport by the year 2031, as mentioned in a comprehensive mobility plan of Pune, 2008, by encouraging the use of public transport using a public parking policy as a travel demand management tool.
2. Achieving at least a 50% reduction in total vehicle kilometres travelled (VKT)3 in Pune by the year 2031 by creating an effective parking management system.
3. Transforming at least 10% of street parking spaces to public open spaces or NMT infrastructure by rationalisation of parking spaces in the initial year of policy implementation.

Policy Framework and Implementation:

The city is classified into three parking zones based on congestion and public transport accessibility:

- Zone A covers the Central Business District (CBD),
- Zone B includes key mobility corridors, and
- Zone C encompasses the remaining parts of the city.

Zones A and B, which benefit from strong public transport connectivity, have higher parking charges and limited availability of parking spaces to discourage private vehicle use. In contrast, Zone C has weaker public transport access, and parking rates here reflect this reality with more affordable fees. The current pricing system reflects land rental values, total private vehicle registrations and the Equivalent Car Space (ECS) occupied by different vehicle types. Pickup points and convenient parking for para-transit are provided within the city. Hospitals are supposed to have drop-off zones and hourly parking for patients and families, as well as parking near bus and rail stations for daily commuters. Due care should be taken for parking spaces near heritage sites.

To ensure effective management of the city's parking infrastructure, Pune has also been divided into parking districts, each administered by a single parking operator.

This approach helps streamline operations and avoids unhealthy competition between multiple vendors within the same area. All on-street and off-street parking facilities within a district fall under the purview of the designated operator. The Pune Municipal Corporation (PMC) directly manages on-street parking (area beside the footpath). The on-street parking zones are divided into P1 and P2, where on odd dates, parking is permissible on the P1 side and on even dates, on the P2 side.

There are multi-storeyed structures leased by the PMC to private operators. These are PPP contracts; however, PMC doesn't provide any kind of subsidy. The capacity of these spaces depends on the demand and not the FSI. PMC issues tenders for these zones, and contractors bid for the premium amount. Although PMC has set a fee currently ₹3/hour for two-wheelers and ₹14/hour for four-wheelers, the rates might differ according to the contract and the area. In most of the contracts, PMC only receives the concession fees, and the revenue collected through parking fees goes to the contractor. All the maintenance is also done by the private contractors.

PMC has a provision for overcharging by these private companies. The rules are as follows:

1. On first complaint: fine = collected sum + 50%.
2. Second complaint: fine = collected sum × 2.
3. Third complaint: contract termination.

PMC has attempted to integrate technology into the parking infrastructure and fee management. The system helps to assess parking demand and reduce violations by installing parking meters. It makes it easier to manage the differential fees and real-time tracking of the parking availability. The policy also mentions techniques such as at-grade manual systems to fully automated multi-level structures, each differing in cost, capacity, and operational efficiency. In all of this, as always, credibility is important, so whatever is proposed ensuring capacity to follow through is crucially important.

Tendering system:

In the existing framework, PMC manages public parking spaces through a regulated tendering system. It awards contracts to private operators via competitive bidding. The tenders may cover

individual or multiple sites and require detailed documents like Request for Proposal specifying the fee structure, infrastructure requirements and the contract terms. The bidders have to submit technical and financial proposals along with an earnest money deposit. PMC evaluates the offers based on both proposals.

The following models are used by PMC for the tenders:

1. License Fee Model: PMC sets fixed parking rates for the public. The bidders compete by quoting the highest monthly or annual license fee they are willing to pay to PMC.

2. Revenue Sharing Model: In this model, bidders propose a percentage of the parking revenue they will share with the PMC.
3. Two-Envelope System: All tenders require bidders to pass a technical as well as financial evaluation (based on experience, financial capacity, infrastructure, manpower, etc.). PMC asks for two separate e-envelopes from the bidders, and only technically qualified bidders have their financial bids considered.

Parking Pricing Formula:

Parking rate= Base parking charge + (0.6 × R1 + 0.4 × R2) × Base parking charge, Where R1 is the percentage increase in vehicle registrations in a year, and R2 is the maximum percentage increase in ready reckoner property rates in the city.

Parking Fee Exemptions

- Emergency vehicles like ambulances, fire trucks, and police cars are exempt.
- Government vehicles on duty don't pay parking fees.
- Electric vehicles (EVs) get a 100% exemption for a limited time.
- Vehicles for persons with disabilities are exempt with valid proof.
- Bicycles are always exempt from parking charges.
- Residents with on-street parking permits are exempt from daily charges.
- Public transport buses are exempt from parking fees.

Critique of The Extant Policy

1. About the objectives

The policy begins by mentioning that the tremendous increase in the vehicle registration in Pune. Another stated objective is about achieving 80% of motorised trips by public transport by the year 2031the latter first introduced as the main objective in the mobility plan of 2008. Both of these, whilst being very important goals by themselves, they are wrong headed when it comes to laying down parking policy. Addressing these targets primarily through a parking policy appears to be a misplaced approach. While discouraging personal vehicle use is a valid goal, a parking policy in itself should not be overburdened with broader modal shift in mind sets. A sharply defined objective, avoiding multi-objective problem is the way to go, because among other things, the latter leads to obfuscation, leading to a loss of accountability. Thus, *the parking policy should have a core focus on managing parking supply, and regulating demand through pricing mechanisms*.

In such matters, it is always advisable to remember and apply the Jan Tinbergen principle. Diluting the purpose of parking policy by tying it too closely to high-level transport targets risks weakening its operational effectiveness and clarity.

What's missing in the stated objectives is a serious commitment to providing a parametric environment of Universal Pay and Park system and well-managed off-street parking facilities which take into account and map the demand and supply side of the provisions planned. The policy, to repeat, is overly focused on behavioural outcomes like reducing vehicle usage or promoting modal shift, without addressing the core function of parking management. The fundamental principle that also appears to be missing is that all on-street and off-street parking should be paid and appropriately priced to reflect the real cost and value of the service. Further, that the service so provided be feasible and viable as well as implementable from affordability angle among other things.

2. Implementation of Policy

The policy suggests a single operator per parking district (Appointed by PMC), but it is unclear whether such operators have been appointed or are active. There is limited public information or documentation available to verify this.

The policy proposes and mentions the use of digital technology for collecting parking fines. However, digital meters are not much in practice.

There is a plethora of exemptions provided in the extant parking policy. This needs to be avoided. Multiplicity of exemptions unnecessarily complicates implementation. It leads to avoidable friction and confusion and adds to the burden of implementation. Following the tenet of simplicity in policy formulation, these need to be kept at a minimum if at all. For example, the policy exempts electric vehicles from parking fees, which is not needed. Parking rules should focus on managing space, not promoting EVs. Also, Government vehicles should not be exempt. If they don't pay, it may lead to more such vehicles being used without checks. This can increase traffic and reduce parking availability. Parking policy should be fair and based on use, not on who owns the vehicle or for what purpose, viz., the functionality.

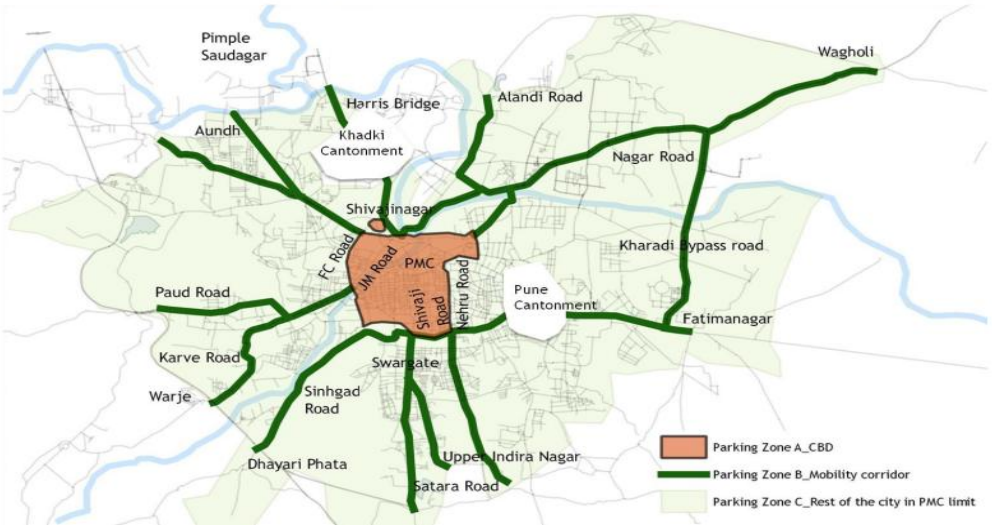
3. Parking Pricing Formula

The current formula uses the increase in vehicle registration and the maximum ready reckoner rates as the criteria for calculating parking rates. This is clearly wrong-headed, since it is the number of vehicles actually on the roads that ought to matter here. To try to reduce vehicle ownership by disincentivizing via parking fees will not work. Thus, the criterion used in the formula, Vehicle registration, while it accounts for the number of vehicles in the city and the need for enough space to accommodate the vehicles, might not be the right way to capture demand. It is not necessary that every vehicle registered will demand a public parking space.

In a situation where there are a lot of first-time buyers and where car ownership continues to be associated with social prestige as it signals upward mobility, there is no way that a small levy for parking will be a detractor. Applying the highest ready reckoner rates uniformly across all areas, regardless of their specific and relevant growth rate and congestion, will be unfair. The less developed areas generally experience limited commercial activity and low traffic congestion, and thus should not be subject to the same rates as the rapidly growing or high-demand zones. Even if a particular locality experienced a minimal or no increase in its Ready Reckoner rates, its parking charges would still be inflated due to the highest growth seen in some localities of the city. This one-size-fits-all approach may discourage the usage of public infrastructure.

Need for Revising Parking Zones in Pune

The following Map shows various Parking zones, 1. Zone – A Congested Area, 2. Zone-B Mobility Corridors, 3.Zone-C Area excluding A and B zones



- Since the policy of 2016 has been drafted, Pune has experienced rapid urbanisation with the emergence of newer commercial and residential areas. Peripheral areas like Kharadi and NIBM, under the PMC jurisdiction, have become high-traffic zones. These were previously categorised as low-demand zones.

- The Pune Metro Rail, with its wider connectivity, has provided more options for travel within the city. As a result, there is an increase in the commuters, resulting in more demand for parking spaces. Due to these changes in the public transport system, areas that were previously highly reliant on private vehicles may now have lower parking usage, while metro feeder points may see an increased demand. The 2016 draft of the policy might not include all the metro station areas in Zones A and B.

- In the Smart City Mission, Pune's goals revolve around walkability, non-motorised transport, reducing traffic congestion, etc. An update in the zone classifications is required to integrate parking policy with the broader urban mobility strategies.

- This outdated zoning leads to mispricing and misses the consideration of actual demand, leading to overpricing in low-demand areas and under-pricing in high-demand areas. This discourages efficient use of the system and reduces the potential revenue collection by the municipality.

Now that the latest Comprehensive Mobility Plan is available, it is imperative that demand estimates for parking and identification of supply points should reflect these in the revised version of parking policy.

Literature Review

In this section, we briefly look at the relevant practices within and outside of India. The purpose here, is to appreciate the practices prevalent elsewhere so as to learn from them. Of course, the takeaways and learning cannot be directly grafted but rather would need to be appropriately adapted and then adopted to suit our local environments and needs.

Chennai's parking policy framework has evolved in response to rapid motorisation and growing urban congestion. According to the Chennai Non-Motorised Transport (NMT) Policy and recommendations from ITDP (2014), unregulated on-street parking occupies over 15–20% of road space in core areas. The policy emphasises demand management through pricing and enforcement, especially in commercial zones. The Chennai City Partnership Program, supported by the World Bank, outlines integrated parking management as part of mobility improvements. The policy is built on the belief that digitised systems reduce cruising time and improve compliance. The Chennai Unified Metropolitan Transport Authority (CUMTA) is mandated to coordinate multimodal integration, including parking. Pilot projects in T. Nagar have demonstrated the benefits of metered parking and pedestrian-friendly redesign. The policy supports a shift from supply expansion to demand-based strategies and improved governance.

Saini and Pundir (2020) investigate parking characteristics in Delhi. The study builds on earlier research that highlights the growing parking problems in urban areas due to rising vehicle ownership. It highlights that unregulated parking, especially on streets, leads to congestion and traffic delays. The paper supports that without proper regulation, parking demand will often overwhelm supply, especially in commercial zones. It draws from literature emphasising the benefits of structured off-street parking to reduce pressure on roads. The study also points to the lack of reliable parking data as a key barrier to effective policy-making. It advocates dynamic pricing and better enforcement as tools for demand management. The paper acknowledges the impact of smart parking technologies in improving efficiency. In conclusion, the paper supports the need for a systematic and localised evaluation of parking characteristics, as attempted in this Delhi case.

The Parking Places Act 1974 (Singapore Statutes Online, 2021) provides a comprehensive

legislative framework for the designation, regulation and management of parking places across Singapore. The act empowers the Land Transport Authority and other bodies to license and regulate parking spaces, prescribe parking charges and enforce compliance through penalties. Section 6A authorises the implementation of electronic systems for calculating and collecting parking fees. This provision has facilitated the widespread adoption of digital tools such as the Electronic Parking System (EPS), allowing for the automated fee deduction via in-vehicle units and promoting efficient, ticketless systems.

The act allows authorities to impose location-based and time-sensitive charges, creating a dynamic pricing model. The strong enforcement measures, such as vehicle mobilisation and fines, help maintain compliance and reduce misuse of the parking infrastructure. The Act aligns parking regulations with border urban mobility goals through technology integration and a demand-sensitive pricing mechanism.

Topp (1993) provides an early and detailed comparative overview of parking policies across major German cities. The study finds that parking management in Germany historically focused on supply-side expansion but gradually shifted toward controlling demand through pricing and regulation. Cities like Munich and Frankfurt adopted time restrictions and user-group prioritisation (e.g. residents vs. commuters). Topp notes that parking policies are increasingly linked with broader goals such as congestion reduction, air quality, and land use planning. Residential parking permits and park-and-ride systems emerged as key tools to reduce inner-city traffic. Importantly, the study highlights tensions between economic development goals and restrictions on car access. He emphasises the role of local autonomy in shaping varied yet progressively sustainable parking strategies. This foundational study remains relevant for understanding the long-term evolution of German urban transport planning.

Kuriakose and School of Planning and Architecture, Bhopal (2012), mention that following World War II, European cities transformed from earlier unregulated parking models to integrated demand-oriented models. Earlier, the availability of free parking in public spaces led to traffic congestion and encroachment by vehicles in these areas. Thus, Europe emphasised a market-based pricing model. In Vienna, harmonised parking fees between on-street and off-street led to a ⅔ rd drop in vehicle kilometres travelled. This strategy was adopted to encourage off-street parking over on-street parking. Among the other successful strategies was supply restrictions; in Zurich, around 100,000 parking spaces were withdrawn, along with high pricing and limits on parking durations and times. Despite this restrictive policy, there was not much harm to the economic and

commercial vitality. As per a study held in the UK, car usage reduced by 20% when parking fees were doubled, and when the parking supply was reduced by half, a 30% drop in car usage was predicted.

Chatman and Rayle (2014) explore how changes in parking supply affect parking demand in dense urban areas. They point out that most prior studies assumed demand is fixed, but real-world data suggests that supply changes can actually influence how much parking is used. The authors review past research that focused largely on suburban contexts or relied on static ratios for parking. Their work highlights that much of the earlier literature lacks empirical evidence from high-density, transit-rich neighbourhoods. The study incorporates behavioural insights, showing that drivers adjust their choices based on parking availability. It also reflects on earlier findings that minimum parking requirements often lead to oversupply. The authors recommend moving away from rigid parking standards and toward context-sensitive, flexible regulations. Their findings suggest that planning for parking should be based on observed behaviour rather than outdated assumptions.

Li, Zhang, and Ge (2017) examine parking challenges in old communities, which were built before mass motorisation and now suffer from space shortages. The paper has shown that unregulated parking in such areas affects both emergency access and overall liveability. The authors note that existing strategies are usually designed for new developments and not suited to older layouts. Using earlier studies like Wei Liang's work, the paper adopts green space and open space ratios to assess liveability. It draws on demand studies to show that most vehicles parked are by residents, with limited visitor turnover. The paper supports solutions such as ecological parking spaces and better land use. It recommends four practical strategies: ecological parking design, parking charges through auctions, real-name vehicle registration, and shared parking models. Altogether, the study fills a gap by applying liveability-based planning to old communities and offers scalable, low-cost solutions.

Typically, therefore we find that parking woes lead to a response. Again, supply side interventions precede demand management via pricing and regulation. In learning from these examples, we need to be cognizant of our specific context in taking a call on what will and will not work. This has not just to do with our mindsets but also our capacity to implement a stated policy. Thus, some of the attractive sounding solutions may not be acceptable and hence feasible for us. It is important therefore to start slow but steadily taking care that we do not announce rules and policies that we cannot follow through. This will lead to a loss of credibility and create problems for any future reforms.

Our Recommendations for (Revised) Parking Policy

Objectives

1. To adopt the (Universal) 'Pay and Park' principle at all public parking spaces.
2. Disincentivise on-street parking by making affordable and well-managed off-street parking spaces available.
3. To ensure last-mile connectivity by offering adequate and well-planned parking facilities at transit hubs (such as metro stations).

Changes in the Formula for Dynamic Pricing:

We propose a dynamic parking price calculation formula that is buoyant in nature and evolves with the changing dynamics of the city. We aim to adequately reflect both the demand for parking spaces and the value of the land being used.

Old Formula:

Parking Rate = Base parking charge + (0.6 × R1 + 0.4 × R2) × Base parking charge

R1: Percentage increase in vehicle registrations in a year

R2: Maximum percentage increase in ready reckoner property rates in the city.

Why should Vehicle registration be revised as a criterion?

Using vehicle registration data to determine parking prices does not take into consideration the local registrations. Vehicle registration is recorded at the city or district level, but parking demand varies sharply across different areas and zones and even time slots within the same street. For instance, a residential area with high vehicle ownership may still experience low daytime parking demand due to out-commuting. At the same time, a commercial zone like FC Road may face acute parking pressure despite modest vehicle registrations in that ward. This citywide vs. local mismatch renders the registration metric poorly aligned with actual demand. Also, vehicle ownership doesn't equate to vehicle usage. A registered vehicle may be seldom driven, kept idle at home, used occasionally, or replaced by public transport or shared mobility options. Behavioural factors such as fuel prices, work-from-home patterns, and personal preferences influence usage far more than ownership. Hence, vehicle registration fails to capture when, where, and how often vehicles are driven and parked. Thus, we suggest using demand for the parking space as a variable instead of the registrations.

Why Demand Category is a Better Component Than Vehicle Registration in Parking Pricing?

Replacing vehicle registration with a demand category based on actual parking demand in specific areas makes the pricing formula more equitable and efficient. If one can ensure understanding then implementation should not be an issue given our current ability to leverage IT/ AI based solutions.

1. Real-Time and Location-Specific Insights:

It shows the actual pattern of vehicles using parking spaces in the different zones. This will help to assess the actual peak hours in the specific area or facility. For proper demand management, a digital system (sensor data) is required to maintain the records.

2. Incorporates Time-Based Variations:

Using demand as a criterion captures the occupancy level of the parking facility while indirectly capturing the time-based variations. The occupancy level differs according to the timings, and thus, the average rate will also be affected when calculating based on the occupancy levels.

- Captures patterns such as:
    - Peak hours (e.g., 10 AM–6 PM in business districts)
    - Weekday vs weekend demand
    - Seasonal spikes (e.g., festive or tourist seasons)

3. Reflects Willingness and Ability to Pay:

Takes into account the economic principle of supply and demand. Demand analysis reflects the user's willingness and the ability to pay. High demand correlates with the following higher parking consumption, and gives an overview of the preferred parking spaces and areas by the citizens. It encourages rational pricing by keeping higher charges where users demonstrate higher demand.

4. Helps in Parking Demand Management

When demand-based pricing is applied, it discourages parking in high-demand areas for longer durations. This may, in turn, push long-term or price-sensitive users to opt for parking in the spaces with less demand or occupancy. Such a mechanism may improve efficiency in parking management.

We have kept the ready reckoner Rates in our proposed parking formula same as the original formula. Ready reckoner rate factors the land value and is necessary to consider, as parking is essentially renting out a public space for a specific duration. Ready reckoner rates are inflation-sensitive to some extent, but they do not fully reflect the actual market trends. These rates are revised annually by the state on the basis of market prices, inflation, demand and development. However, ready reckoner rates won't consider true buoyancy as they are not inflation indices. In our proposed formula, we have increased its weightage to better account for the land in use and the opportunity cost of spaces in high-demand areas. Instead of using the maximum increase in the ready reckoner rates, the new formula tries to classify the annual growth of the rates in different bands. The normalised value will then be decided based on that band.

The Proposed Formula:

Parking Rate: Base rate +(0.5×R1+0.5×R2)*Base Rate

Where:

- Base Rate is fixed based on the zone and ECS (Equivalent Car Space)
- R_1 = Demand Category Index (reflecting parking demand level)
- R_2 = Ready Reckoner Index (reflecting land value or property rates in the area)

Base Rate for Parking Zones

To make parking charges fair and consistent, the city is divided into three parking zones as per the policy of 2016: Zone A, Zone B, and Zone C. Each zone has a fixed base rate for parking one standard car space (called 1 ECS).

- **Step 1: Decide Base Rate per Zone for 1 ECS**

The base rate for each zone depends on parking availability and connectivity through public transport:

Zone A (Central Business District): This zone has the highest base rate. It's the busiest part of the city with high land prices, lots of shops and offices, and the highest demand for parking.

Zone B (Mobility Corridors): This zone has a medium base rate. These are busy roads, but not as crowded as the central area.

Zone C (Low-Density Areas): This zone has the lowest base rate. These areas have more open space and less need for parking.

Note: We're keeping the same base rates as those decided in the 2016 parking policy. Ideally, from a theoretical perspective, we should be rationally be charging the rental value based on the capital value of land being taken up for parking. But such a reasoning would lead to an unacceptably high parking fees to be charged. At the very least, there should be an automatic adjustment to cover inflation. However, for facility of transition and realistic acceptance of rates we have for illustrative purposes used the same base rates as those decided in 2016.

Area Type	On-Street *(Rs/hr)* 1 ECS	Off-Street *(Rs/hr)* 1 ECS
Central Business District (CBD)	₹60	₹30
Zone B(Mobility Corridors)	₹40	₹20
Zone C (Low-Density Areas)	₹20	₹10

NOTE: These Base rates need to be revised every 5 years. The increase needs to be rational, taking into consideration the real value of money at that time. The structure of charges needs to mimic the relevant land values as reflected in the Ready Recknor.

- **Step 2: Apply ECS Multipliers Based on Vehicle Type**

Each vehicle type is assigned an ECS multiplier depending on the space it occupies in relation to the standard car measure.

For instance, a two-wheeler will be assigned 0.25 ECS and a standard car 1.0 ECS.

The final base rate for any vehicle is calculated as:

Parking Fee = ECS of vehicle × 1 ECS base rate (for the zone)

This structure ensures that larger vehicles pay proportionally more, and pricing reflects both demand and space consumption.

Parking Rate: Base rate +(0.5×R1+0.5×R2)*Base Rate

Where:

- Base Rate is fixed based on the zone and ECS (Equivalent Car Space)
- R_1 = Demand Category Index (reflecting parking demand level)
- R_2 = Ready Reckoner Index (reflecting land value or property rates in the area)

Equivalent Car Space (ECS) Values:

Our ECS values are similar to those mentioned in the 2016 policy. We propose a minor change in accounting for SUVs. Ideally, one Equivalent Car Space (ECS) should be defined based on the space occupied by a standard hatchback car. Since SUVs occupy more space than a regular hatchback, it is reasonable that their parking fee be calculated based on 1.25 ECS.

At the moment, in many off-street parking spaces, the grids marked for four-wheelers are uniform, regardless of vehicle type. If both hatchbacks and SUVs are allotted the same physical parking space, implementing differential pricing without structural modifications lacks justification and could be perceived as arbitrary. To practically implement the suggestion of charging SUVs at a higher rate, changes to the gridding pattern would be necessary in those places.

Vehicle	ECS
Two-wheeler	0.25
Para Transit (non-designated)	0.6
Four Wheeler (Sedan)	1.0
Tempos*	1.0

SUV / Van	1.25
Mini bus / LCV	1.5
HCV / Truck	2.2
Private Tourist Bus (~15m)	3.9

*Includes food vending tempos, vegetable vending tempos, and similar utility vehicles. Cycles and PMPML buses are exempt from parking charges.

How Demand is Accounted for in the Formula

Categorizing and Normalizing Parking Demand (R_1) Based on Occupancy Levels

To operationalise R_1 (Demand Category) in the parking pricing formula, parking occupancy must first be studied through real-time analysis and surveys on the occupancy levels. It will then be categorised into three bands based on real-time or periodic surveys. Each category is assigned a normalised value between 0 and 1 to reflect its weight in the pricing formula.

Occupancy-Based Demand Index (R_1)

Category	Occupancy Level	Normalized R_1 Value	Interpretation
Very High Demand	> 80%	1.0	Full or near-full utilisation, Severe parking pressure
High	60%-80%	0.75	Decent utilisation, building up of parking pressure building up.

Medium Demand	40% – 60%	0.5	Moderate usage
Low Demand	< 40%	0.25	Availability of space

Categorizing and Normalizing Land Value (R_2) Based on Ready Reckoner Growth

R_2 captures the escalation in land and property values as reflected in the ready reckoner rates. These rates serve as a proxy for the economic value of urban land. Higher RR growth signifies increasing land costs and a higher opportunity cost for allocating valuable space to parking. Normalising R_2 into defined

value bands, ensuring that pricing reflects the real cost of occupying premium public or semi-public land in high-growth areas.

Category	Annual RR Growth (%)	Normalized R_2 Value	Interpretation
Very High Growth	> 9%	1.00	Sharp land appreciation, strong case for premium pricing.
High Growth	6%–9%	0.75	Robust value increase, significant cost of public space usage.
Medium	3% –6%	0.50	Stable appreciation, moderate pricing

Growth			justified.
Low Growth	0% – 3%(if RR growth is in negative consider it to be 0)	0.25	Modest growth, lower parking costs are appropriate.

Note If incorporating the annual Ready Reckoner growth rate through band is difficult to implement, then the average annual Ready Reckoner growth rate should be used, not the highest Ready Reckoner rate. Of course, this should be revised every 3-5 years.

Example- To show calculation based on our formula

For Zone B and for medium demand, medium growth.

Parking Rate: Base rate +(0.5×R1+0.5×R2)*Base Rate

Base rate for one car, on-street parking = Rs 40.

R1= 0.5

R2= 0.5

Parking rate= 40+(0.5*0.5+ 0.5*0.5)*40

= Rs 60

Therefore, for a 4-wheeler willing to park in the mobility corridors and an area with moderate demand, and ready reckoner rates will cost Rs 60.

Policy Recommendations

1. Standardised zonal parking rates with formula-based pricing

The parking policy of 2016 defines different base parking fee rates for Zones A, B, and C, with provisions to discourage vehicle usage in high-congestion areas. These base rates are used in the parking formula to calculate the final parking rates while also taking into account the area-specific characteristics (vehicle registration and the ready reckoner). It remains unclear how consistently this formula is being followed in practice. In particular, off-street parking lots leased to private operators often charge arbitrary rates, which is a deviation from the official policy. Ensuring city-wide implementation of the parking rates(calculated using the formula) is necessary and would require strict regulation of private off-street lots to uphold fairness and avoid commercial exploitation of public spaces.

No distinction should be made between residential and commercial areas when it comes to parking rights or pricing. Road space is for all, and its use should be governed by consistent rules across the city. This uniform approach would ensure fairness and create a transparent mechanism to monitor and manage local parking demand effectively.

2. Application of Pay and Park Mechanism

Free parking options reinforce the misconception that parking is a right. Parking should be seen as a limited resource. In practice, facilities like P1 and P2 in Pune currently offer unpaid parking, which undermines the city's goal of promoting regulated, paid parking systems. As long as such free options exist, citizens will resist paying for parking and continue to view it as an entitlement. A prime example is FC Road, where free parking is available on both sides of the road, even though a multi-storeyed off-street paid parking facility has been developed nearby. The policy should eliminate free parking in public spaces and ensure that all parking, whether on-street or off-street, is priced to reflect its value.

On-street parking is often treated as a free option, possibly due to PMC's limited manpower to enforce fee collection. We propose pay and park systems for all public spaces, and for that, adequate emphasis must be placed on ensuring that parking fees are collected for all on-street parking spaces, with uniform implementation across the city. This will help shift public perception and reinforce the idea that parking is a priced commodity, not a free entitlement.

3. Introduce Residential Parking Permits to Regulate Local Parking Use

PMC does not offer a structured system for monthly or annual residential parking permits, which could
play a crucial role in managing routine parking in local neighbourhoods. To bring order and accountability to everyday parking, PMC should introduce a permit-based system that allows residents to legally park in designated areas upon payment of a regulated fee.

4. Parking spaces near Metro Stations

Lack of a dedicated parking space near the Metro stations leads to congestion in the area. Vehicles are asymmetrically parked on the footpaths, and there is no proper management, since it's not a pay-and-park service. Some major stations, such as the civil court and Ideal Colony, do have a parking zone. As there is a provision of parking spaces or concessional rates for frequent PMPML users, a similar provision should be made available for the metro users. The metro pass itself can include the parking ticket or weekly/monthly rental for a parking space for the commuters. PMC has proposed creating pay and park services in 8 metro stations in 2014, but they lacked the inclusion of some of the major stations like Vanaz, Nal Stop, Ruby Hall, etc.

5. Independent Parking Management Authority:

There should be an independent and dedicated city-level Parking authority for parking management, similar to Mumbai. Pune lacks such an institution, leading to inefficient implementation and fragmented enforcement.

6. Demand and supply assessment of the Off-street parking structures

Citizens are repeatedly urging the PMC to increase the scope of the parking lots and increase the capacity of the existing ones. There are also concerns that the people living near the parking spaces have to face a lot of traffic congestion on the roads, as the parking space is not enough to meet the demand. Some new commercial complexes exceed capacity, forcing spillover parking onto narrow lanes. E.g., a Prabhat Road complex added over 200 vehicles and illegally took public road space. The private vehicles in Pune are increasing due to rapid urbanisation. PMC should revise the zones and do a proper supply and demand assessment for off-street parking in major areas.

7. Road widening or increasing parking provisions due to increased FSI

The recent Development Control Rules in Pune have allowed a higher Floor Space Index (FSI) in the transit-oriented development zones, i.e., near the metro and BRT corridors. This denser development will create spillover traffic and parking congestion. Nevertheless, the road network is not upgraded

along with it; as a result, the narrow streets will not be able to accommodate the heavy traffic, leading to jams and reduced pedestrian mobility. If this development happens without a proportional expansion of the road or without providing adequate parking infrastructure, there would be an increase in illegal on-street parking. PMC introduced the transit-oriented development policy to promote growth within 500 metres of the metro corridor. An additional FSI up to 4 has been offered, subject to plot size and infrastructure. This supports the use of public transport, increasing the built-up area and consequently the number of residents and vehicles. However, the TOD policy has halved the parking requirements, mandating only 50% of the UDCPR norms. This might raise serious challenges for parking demand management. Reduced dedicated parking spaces may lead to spillover parking onto public roads. These changes may impose challenges if the use of public transport doesn't turn out as expected. This imbalance between the increased density and limited parking infrastructure could strain urban mobility. Redevelopment and FSI revision should be accompanied by parking capacity planning with mandatory on-site parking. The city should adopt demand-based parking norms in close proximity to the transit zones. There should be stricter regulations for on-street parking to control the increased demand. Once a city has a built-up space it is difficult to add roads or amenities' space. Redevelopment is the only opportune time when one can insist on off sets leading to wider roads or additional roads.

8. Develop Multilevel Public Parking on Underutilised Government Land

Pune should prioritise the development of multilevel parking structures on underutilised government-owned land. These sites in high-demand areas like commercial centres and transit hubs, could offer valuable opportunities to expand off-street parking without further crowding public spaces. The implementation can follow a Public-Private Partnership model, where private operators are incentivised through revenue-sharing mechanisms or a two-envelope model with development rights to build and maintain the structures. These parking facilities should be planned with integrated pedestrian access, last-mile connectivity, and amenities such as electric vehicle charging and public toilets. Ground floors can be used for commercial kiosks or other public services, making the structures multifunctional. A dedicated coordination unit within PMC should be established to identify suitable land parcels, streamline inter-departmental cooperation, and

oversee project implementation. This strategy will help reduce pressure on on-street parking and improve access to regulated, affordable parking in dense city areas.

9. Enable Shared Use of Private Parking Infrastructure Through Mixed-Use Agreements

Pune can promote mixed-use parking arrangements that allow underutilised private parking spaces to be accessed by the public during non-peak hours. Many institutions, such as shopping malls, office complexes, and IT parks, possess parking infrastructure that remains vacant for large portions of the day or night. The PMC could facilitate time-based sharing agreements, for example, allowing mall basements to be used by office-goers during working hours. This requires clear policy guidelines from

the municipality that outline responsibilities, duration, pricing, and liability for shared use. Shared-use lots can be digitally integrated with the PMC's central parking management platform to provide real-time information on space availability and pricing. Private entities that participate in this model can be incentivised through some mechanisms. For public confidence and effective utilisation, all shared parking lots must have adequate signage and standardised safety measures. This approach will expand off-street parking supply without additional construction and will promote efficient use of the city's existing built environment.

10. Enforce a Cap on Parking Supply in High-Density Areas

In high-density and congested areas such as the old city wards, traditional markets, and core commercial zones of Pune, the total number of parking spaces can be strictly capped. These areas often face acute traffic congestion, narrow road widths, and intense pedestrian activity, making unregulated expansion of parking impractical and counterproductive. Instead of allowing additional on-street parking, the focus should shift to off-street parking spaces that are space-efficient and do not obstruct urban mobility. Any new parking provision in these zones must be allowed if it is within a multilevel or underground facility and does not compromise road space or walkability. The cap can be enforced to prohibit the addition of new surface parking in already saturated areas. A formal inventory of existing parking supply in these localities should be maintained by PMC, and no approvals for new surface lots should be granted beyond the capped threshold. This measure will help discourage excessive vehicle use in dense zones.

11. Cleanliness and Management

Pune's public parking lots are cited as unhygienic, with dirty toilets, non-functional or missing lifts, poor maintenance, and a lack of basic amenities. According to some news reports, PMC has spent

approximately 2.5 crores on VIP toilets but is neglecting the basic and essential services. Citizens have raised complaints about this disparity in priorities. Thus, while setting up the multi-storeyed facilities in the city, attention should also be paid to the construction of basic amenities like washrooms, and daily cleaning should be ensured.

12. Digital Parking Systems and Enforcement

PMC must develop a mobile application that will help users navigate through parking facilities based on their availability and also ensure remote payments. This will also help the contractors to assess the demand for the spaces and charge accordingly. PMC's parking app can bring together all public parking spaces, including off-street spaces managed by private operators. This step will improve transparency, allowing PMC to monitor pricing and make rates clear to the public. The formula we have proposed can work more effectively with such checks and balances in place. The current enforcement mechanism, which is largely manual, needs to shift towards the use of technology. Stricter enforcement can be done through CCTV systems and e-challans. This will also reduce manual errors and inconsistencies.

13. Revenue Utilisation

The 2016 policy mentions a dedicated Urban transport fund to reinvest the revenue generated from parking facilities into sustainable transport initiatives. Although there is not much transparency on how much of the revenue is put into the fund and used. This ringfencing principle should be applied whether the revenue accrues solely to PMC, whether it is shared through some formula or entirely accrues to some other authority like the Police. Also, there should be an improved mechanism for revenue management to build public trust. ,

Before concluding, we need to underscore two very important public policy tenets that need adhering to. One, in putting together/ implementing parking policy, it must be borne in mind that one must not overly focus on the revenues generated or indeed try to maximise them. The first and perhaps the only charge ought to be to focus on parking policy as a provision of public service with the accompanying positive externalities such as better traffic management and lessening of congestion. Two, the success of any policy largely depends on the acceptance of it by the public. This means that positive vibes and ambience need to be created through the use of media, for period of time, before rolling out of the policy.

Conclusion

Pune's parking policy is an important step toward managing the city's rising vehicle population and supporting sustainable mobility. In the years since its introduction, the city's landscape has changed dramatically, with rapid urban expansion, new mobility patterns due to metro connectivity, and the continued rise in private vehicle ownership. While the policy was a step in the right direction, changing realities call for a reassessment. The current approach needs to be evaluated against present-day challenges such as underpriced parking in high-demand areas, weak enforcement, and outdated zone demarcations.

This paper recommends reforms such as incorporating demand-based pricing, strengthening enforcement mechanisms, universal pay and park to ensure more efficient use of urban space, and integrating technology, among others. It also highlights the need to revise the existing parking pricing formula and redefine zone classifications in line with actual demand and land value. A modern, responsive, and citizen-centric parking strategy can contribute significantly to better urban planning and to creating a better Pune than the one we currently reside in. A modern, responsive, and citizen-centric parking strategy can contribute significantly to better urban planning and creating a better Pune than the one we currently reside in.

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Appendix

Base rate of Parking Policy 2016

1. Base rate for on & off street parking in Zone A-Central Business District

Vehicle	ECS	Parking Base Rate (Rs. per hour)	Off street Parking base rate (Rs Per hour)
Two-wheeler	0.25	15	10
Para Transit (non designated areas)	0.6	36	20
Four Wheeler	1.0	60	30
Tempos*	1.0	60	30
Mini bus/ LCV	1.5	90	45
HCV/Truck	2.2	132	65
Private tourist Bus (~15m long)	3.9	234	115
*includes vehicles such as food vending tempos, vegetable vending tempos and other such vehicles Cycles and all types of PMPML buses shall be exempted from parking charges.			

2. Base rate of for on & off street parking in Zone B-Mobility Corridor

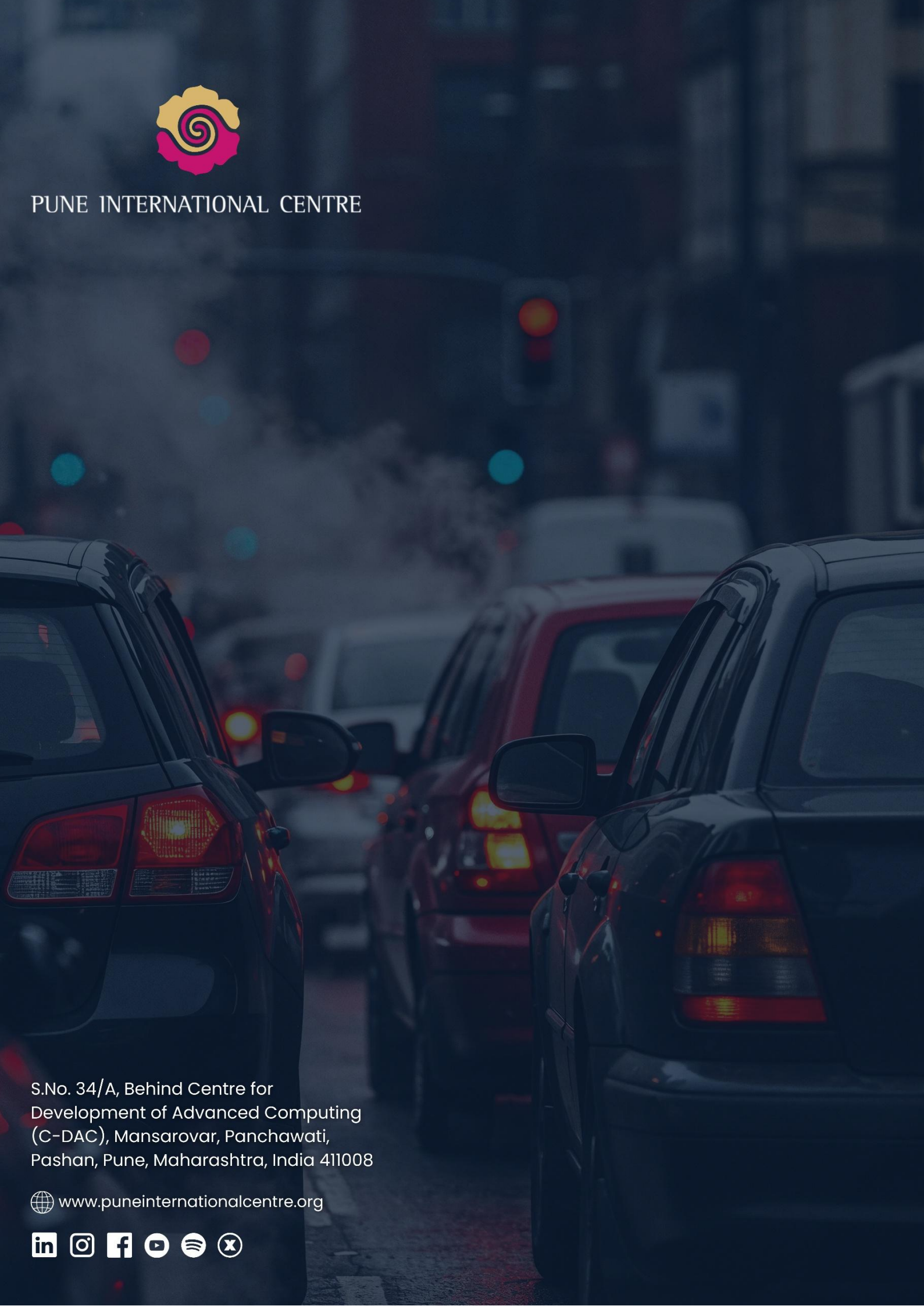
Vehicle	ECS	Parking Base Rate (Rs. per hour)	Off street Parking base rate (Rs Per hour)
Two-wheeler	0.25	10	5
Para Transit (non designated areas)	0.6	24	10
Four Wheeler	1.0	40	20
Tempos*	1.0	40	20
Mini bus/ LCV	1.5	60	30
HCV/Truck	2.2	88	45
Private tourist Bus (~15m long)	3.9	156	80

3. Base rate for on & Off street parking in Zone C-Rest of the city in PMC limit

Vehicle	ECS	Parking Base Rate (Rs. per hour)	Off street Parking base rate (Rs Per hour)
Two-wheeler	0.25	5	3
ParaTransit (non designated areas)	0.6	12	5
Four Wheeler	1.0	20	10
Tempos*	1.0	20	10
Mini bus/ LCV	1.5	30	15
HCV/Truck	2.2	44	20
Private tourist Bus (~15m long)	3.9	78	40
*includes vehicles such as food vending tempos, vegetable vending tempos and other such vehicles Cycles and all types of PMPML buses shall be exempted from parking charges.			

*ECS (Equivalent Car Space) is a standard unit used to measure parking capacity, where 1 ECS represents space for one vehicle.

Revenue Type	Code	2021–22	2022–23	2023–24	2024–25 (Est.)	2025–26 (Est.)
Vehicle Parking Fee / ITS (Intelligent Transportation System)-Based Collection/Grants for road construction and road maintenance	RI20A109	₹2.38 crore		₹1.61 crore	₹4.5 crores (only parking fee)	₹4.5 crores (only parking fee)
No-Parking Zone Violation Penalties	RI20A114	₹19.43 lakh	₹2.50 lakh	-	₹10 lakh	₹10 lakh



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