

Assessing Alternative Approaches to Setting Parking Requirements

THE EFFECTIVENESS OF ANY APPROACH TO REVISING PARKING REQUIREMENTS WILL DEPEND ON LOCAL CONTEXT AND NEEDS. THIS PAPER IDENTIFIES THE KEY FEATURES OF FOUR APPROACHES AND COMPARES THEM BASED ON THEIR ACCURACY, SUPPORT FOR LONG-TERM TRANSPORTATION AND LAND USE GOALS, EASE OF ENFORCEMENT, PREDICTABILITY FOR DEVELOPERS, AND EASE OF INTEGRATION WITH EXISTING CODES.

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INTRODUCTION

Minimum parking requirements, as traditionally applied, have been extensively criticized in recent years. Common criticisms are that they result in free or below market-cost parking, thereby encouraging automobile use; that they are not based on sound principles and are often inflexible, resulting in parking oversupply; that they are not sensitive to the land use and transportation context of a particular site; and that they increase development costs and decrease housing affordability.¹⁻⁷ Revising parking requirements is one of the most powerful strategies available to jurisdictions to minimize cases of parking oversupply, encourage more compact forms of development, and promote more transportation choice.

There are many alternative approaches to revising and specifying new parking requirements, each offering a unique set of advantages and disadvantages. Traditional “one size fits all” parking requirements are the most generic but easiest to apply. Area-specific parking requirements can be tailored to a specific subarea, such as a downtown, to reflect the distinct urban context and transportation conditions within that area. Flexible parking requirements allow minimum or maximum parking requirements to be modified based on site-specific conditions, such as transit accessibility or the availability of nearby carshare vehicles. Parking policies within form-based codes focus more on urban design and are less sensitive to land use type; however, they can only be implemented within form-based codes, which require most zoning codes to be entirely rewritten.

This paper identifies the key features of each approach and compares them based on their accuracy, support for long-term transportation and land use goals, ease of enforcement, predictability for developers, and ease of integration with existing codes. The challenges and intricacies of devel-

oping minimum or maximum parking requirements for specific uses (or eliminating the parking requirements altogether) will need to be addressed under any of the approaches and are not the focus of this paper. In addition, the discussion focuses primarily on the regulation of parking supply rather than design (e.g., location of parking, parking dimensions), which has been the subject of other studies.⁸ This paper identifies general situations for which each approach is best suited, which can help jurisdictions to specify parking requirements more effectively.

APPROACHES TO DEFINING PARKING REQUIREMENTS

When revising existing parking requirements or developing new ones, there are many options and factors to consider. Examples include the range of land use types to be included, whether minimum and/or maximum requirements will be identified, how the requirements will be determined (e.g., based on existing requirements, empirical surveys, policy objectives, and so forth), and geographic boundaries for where they will apply. A key decision that will drive many of these considerations is the adopted framework or structure of the parking requirements—that is, whether parking regulations will be based on generic minimum requirements or will include other approaches such as area-specific requirements, flexible requirements, form-based codes, or a hybrid of these approaches.

Generic Minimum Parking Requirements

Most criticisms of traditional minimum requirements relate to two key issues: The traditional approach tends to require too much parking in many cases, and it is not sensitive to the many factors that influence parking demand other than land use type.

The most common approach for determining a minimum parking requirement

for a particular use (e.g., family restaurants) is to collect data on the peak daily parking demand for a number of similar sites and set a parking ratio (e.g., parking stalls per 100 square meters) based on the 85th percentile of demand.⁹ This ensures that parking at 85 percent of sites will not be fully occupied during the design period. The 85th percentile method is based on the assumption that more parking is better in order to minimize the potential for off-site impacts. As such, it ignores the potential impacts of parking oversupply, discussed earlier.

Another shortcoming of traditional parking requirements is that they focus exclusively on land use type combined with building size or capacity to determine parking needs. Other factors that influence parking demand are not considered, such as the popularity of a particular establishment, geographic features (e.g., transit proximity, walkability, and land use density), demographics (e.g., income) and parking management practices (e.g., pricing, availability of public lots, and so forth). In an effort to be more accurate, generic minimum requirements tend to be specified for numerous very specific land use categories (e.g., auto body shops, bowling lanes, real estate offices, and so forth). However, as the number of land use categories grows, the data collection needs to develop accurate requirements. Rationalizing the land use types to a more condensed list may, counterintuitively, allow for better data sets for each use and lead to more accurate requirements.

Many of the criticisms can be addressed by adopting a lower threshold than the 85th percentile method and rationalizing land use categories. For example, in the city of Toronto, Canada's review of commercial parking requirements, the overall direction was to develop parking requirements that provide the "minimum responsible amount of parking" for a given land use, which was significantly below the 85th percentile supply rate.¹⁰ This approach is simple to implement and straightforward to enforce and requires few internal administrative changes.

However, citywide standards remain insensitive to local context and planning directions and would be less applicable to an existing downtown with high-order

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transit or an area planned to develop into a compact urban center. Furthermore, parking supply decisions are based on a complex web of factors, and experience shows that reducing parking requirements does not always lead to reductions in parking supply for new development, particularly for some retail uses.¹¹ Maximum parking requirements, which are merited in certain conditions, are very difficult to implement citywide.

Finally, there may be some resistance to lowering citywide parking requirements, given that certain jurisdictions like to start from high requirements and offer reductions as a bargaining chip to negotiate other desirable features in the development-approvals process.

Area-Specific Parking Requirements

Under this approach, zones within a city would be defined and possibly grouped, with each area having its own particular parking requirements. The most common application of this approach is specifying separate parking requirements for downtown areas.

A code's sensitivity to local context is limited by the number and diversity of

zones; however, the boundaries of such area-specific parking supply requirements may be somewhat arbitrary. There is a balance to be struck between micromanaging with smaller zones and applying blanket standards across larger areas, the latter of which will present the same pitfalls as the generic approach discussed above. Although the zones remain a somewhat blunt proxy for identifying the factors that affect parking demand, if the zones are chosen well, they can be effective and require little in the way of an institutional overhaul to implement.

Broadly, a zone-based approach allows the parking requirements to address the specific needs in particular areas of the city. They are forward looking and can be specified to support long-term transportation and land use planning goals. So as to not introduce an entirely new urban stratification into a city's planning discourse, such parking zones would typically be based on planning areas and regions of interest that are already identified in other policies. In addition, since this approach can isolate areas with lower parking demand and a greater range of transportation alternatives, it can make it easier to begin phasing in more progressive measures, such as parking maximums or parking caps.

The city of Toronto is an older example of this approach, where progressive parking standards were implemented for the city's central area in the 1970s, including parking maximums for most nonresidential uses. The downtown requirements include detailed shared parking considerations (a flexible parking strategy) and, in 1990, bicycle parking requirements were added to the code.

Flexible Parking Requirements

Although not new, another approach that is receiving increased attention is flexible parking requirements. *Flexible Parking Requirements*, published by the American Planning Association in 1983, details numerous flexible approaches, including shared parking, fees in lieu of parking, off-site parking, and parking reductions to encourage ridesharing programs.¹² Many parking ordinances adopt some of these flexible tools. Shared parking is particularly valuable to mixed

use development, as it reduces the overall parking requirement, allowing parking to be shared among multiple establishments that have peak demands at different times. Some cities have also linked minimum and/or maximum parking requirements to site-specific conditions, such as transit accessibility, the availability of nearby off-site parking (e.g., public parking), and the availability of carshare vehicles.

There are many examples of such adjustment factors aimed at tweaking parking requirements to better reflect true demand for parking and to balance parking with wider community goals:

- Portland, Oregon, USA, removes minimum parking requirements for sites located within 500 feet of a transit corridor with at least 20-minute peak hour service;
- Los Angeles, California, USA, grants a reduction in the parking requirement of 0.5 stalls per affordable housing unit, with further reductions if the units are within 1,500 feet of high-order transit; and
- For offices within 400 meters of a light-rail station, Pasadena, California, USA, applies a maximum parking standard equivalent to 75 percent of the minimum standard in other areas.

The advantage of this approach is that it can provide detailed citywide context sensitivity without developing unique parking standards for each of a city's neighborhoods. This sensitivity, however, always involves tradeoffs with the system's complexity. As more adjustment factors are added, the requirements become more difficult to understand, enforce, and predict. For example, certain adjustment factors, such as the presence of nearby carshare vehicles, may not be within the control of a particular development. If carshare vehicles are removed from an area, the development may then be nonconforming with zoning ordinances and could potentially experience parking shortages.

Another limitation with this approach is that such requirements are primarily sensitive to existing conditions and are less forward looking. If the existing conditions diverge significantly from the city's

planned vision for an area, then the parking requirements may not align well with long-term planning objectives.

Form-Based Codes

Form-based codes are a method of regulating development to achieve a specific urban form. These codes create a predictable public realm by primarily controlling physical form, with a lesser focus on land use. This is in contrast to existing zoning ordinances, which typically focus on land use with fewer controls on form.

A form-based approach to regulating the built environment incorporates the concept of urban transects, an interesting variation on a traditional zone-based dissection of the city. These transects form a continuum, from rural to urban, that defines how the zones relate to one another and how they will evolve over time.

Form-based codes appear to be quickly catching on as a remedy to the often-criticized Euclidean zoning practices. A recent article reports as many as 48 form-based codes in Florida, USA, alone.¹³ By not focusing on the intricate details of land use segregation, this approach facilitates both spatial and temporal land use mixing. Minimum and/or maximum parking requirements might be specifically defined for various building envelope or street section characterizations but across broad land-use categories. For example, the town core standards for the City of Grass Valley, California, USA, specify parking requirements based on the size of the ground floor area and differentiate between the broad categories of residential and non-residential uses for upper floors.¹⁴

Unfortunately, many existing form-based codes do not maximize the potential of the form-based approach with respect to parking regulations.¹⁵ Miami 21 is a recent example of a citywide switch to form-based code regulation. Although Miami 21 does appear to consolidate land uses somewhat and also includes a shared parking reduction matrix, for the most part, the code defines generous parking minimums, does not include parking maximums (even for T6, the most urban of its transect zones), and fails to adopt any other progressive parking policy measures.¹⁶

Given the detailed nature of form-based codes and the fact that they are a

significant departure from the conventional Euclidean approach, significant resources are required to develop such codes. Parking supply requirements are only a small part of this puzzle and would not likely be a driving force for this transition; however, if a form-based code is already being developed, there is a unique opportunity to integrate innovative parking requirements.

SELECTING A PREFERRED APPROACH

While each approach to setting parking requirements has unique advantages and disadvantages, if specified appropriately, they can all be used to achieve common goals of encouraging alternative modes to the private automobile and supporting more compact forms of development, without ignoring the off-street parking needs of motor vehicles. Each jurisdiction has to choose the approach that best meets its local needs and political reality. To assist in this process, Table 1 compares each alternative based on a number of criteria.

Generic parking requirements offer the least accuracy and correlation with long-term policy objectives but are the easiest to implement. Area-based requirements are well suited to policy-driven forward-looking requirements in special planning districts, while flexible requirements generally do a better job of reflecting the actual parking demand based on existing conditions at and around the site. Due to the implied variability in flexible parking requirements, this approach tends to be more difficult to enforce and offers less predictability to developers. A form-based approach has the potential to perform well in terms of alignment with long-term planning objectives, predictability, and ease of enforcement but requires a significant rewrite of existing zoning regulation and a corresponding institutional reorganization.

Based on these findings, one can start to consider the conditions under which alternative approaches may be preferable. For example, area-specific requirements with lower minimums as well as maximums would likely be well suited to an auto-oriented district that is planned to evolve into a transit-supportive area with a compact mix of uses. A flexible approach would be useful for a built-up jurisdiction

Table 1. Multi-criteria assessment of parking requirement frameworks.

| Criterion | Generic | Area-Specific | Flexible | Form-Based |
|--|---|---|--|--|
| Accuracy—alignment with actual parking demand. | Very Low No consideration of factors influencing demand other than land use. | Fair Can bluntly address local transportation and land use conditions, such as transit availability, land use density, and walkability. | Very High Can account for geographic features, mix of uses, parking management practices, demographics, etc. Challenging to collect sufficient data to set accurate adjustments. | Fair Transects similar to area-specific approach. Fewer land use categories reduce sensitivity to parking demand. |
| Alignment with long-term policy objectives to create compact, walkable, and transit-supportive areas with high-quality urban design. | Low Opportunity to development “minimum responsible” requirements or remove requirements for certain land uses. No ability to develop unique requirements for special planning areas. Limited opportunity to implement parking maximums citywide. | High Can develop unique forward-looking requirements for special planning areas. | Fair Adjustment factors typically based on existing conditions and less forward looking. | Very High Can develop unique forward-looking requirements for particular transects. High level of control over urban design of parking facilities. |
| Ease of enforcement. | Fair Parking requirements easily determined based on readily available measures such as gross floor area. Overlapping land use categories may cause confusion. Challenge to enforce when uses change in existing development and increase required parking above existing levels. | Fair Same as Generic. | Low More difficult to calculate, with overlapping adjustment factors. For some adjustment factors, parking requirements may change over the course of development given changes to nearby transit service, carshare service, etc. leading to nonconformance with parking requirements. | High Fewer issues with changing parking requirements when there is a change in land use at an existing development or in mixed-use developments. However, additional parking design and location requirements need to be enforced. |
| Predictability for developers. | High Simple parking requirements, easily determined and consistent citywide. | High Simple area-specific requirements specified for a clearly delineated area. | Fair Certain adjustment factors (e.g., availability of off-site parking, presence of nearby carshare vehicles) beyond the control of a particular development and may change during the development cycle. | Very High Requirements specified for a clearly delineated transects. Central goal that requirements be easily understood and likely less sensitive to variation in the allocation of floor space to different uses. |
| Ease of integrating with traditional zoning codes. | Very High Most parking codes are based on this approach. | High Many parking codes already have area-based requirements for the downtown area. Drawing from other policies relatively straightforward. | High Many parking codes already include some flexible strategies (e.g., shared parking, cash in lieu of parking). | Very Low Requires entirely new approach to zoning code. |

Note: Each approach is assessed on a five point scale: very low, low, fair, high, very high

looking to make existing generic requirements more accurate across the city. Even though generic requirements do not perform well in this comparison, the value of revising existing citywide requirements should not be underestimated. Indeed, a reasonable set of base parking requirements is an important starting point for other more sophisticated approaches.

A successful approach must also take into account the market forces that drive parking supply decisions, such as requirements from financing bodies and industry norms (e.g., shopping centers typically supply sufficient parking spaces to meet the demand associated with the 20th busiest hour of the year).¹⁷

Hybrid approaches may also work well. The parking requirements for Markham Centre in Markham, Ontario, Canada, provide an interesting example of a hybrid approach that also considers market forces. This emerging suburban growth center is attempting to steer development toward a transit-supportive form in advance of major rapid transit investments. To do this, Markham has adopted aggressive parking maximums for the area, particularly for employment, along with a suite of other parking management strategies (e.g., joint venture parking facilities, paid parking, downtown parking reserve fund).¹⁸ However, recognizing that rapid transit is not yet in place, new office buildings can supply parking above the maximum, provided that this additional parking is placed under a temporary holding agreement, under which it will be redeveloped once better transit service is provided to the area.

Whatever approach is implemented, as jurisdictions move away from parking requirements that require abundant levels of parking, there will also need to be a greater role for parking management strategies to manage demand peaks and make more efficient use parking resources. ■

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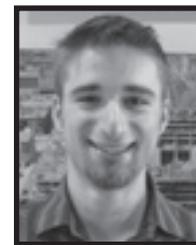
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