

**PLANNING DIVISION REPORT  
DEPARTMENT OF PLANNING AND COMMUNITY  
AND ECONOMIC DEVELOPMENT  
December 3, 2007**

**RE: I.D. #07732 and #07768 Zoning Text Amendments Regarding Parking Standards**

1. Summary of Text Amendment (#07732- Agenda Item 9): This ordinance sets a maximum number of parking spaces for the following uses in buildings with no residential uses: banks and financial institutions; business and professional offices; health, medical, and welfare institution offices; radio and television stations and studios; and retail stores and services. The maximum number of parking spaces shall be one space for each two hundred fifty (250) square feet of gross floor area (4 spaces / 1,000 SF GFA). Conditional use approval would be required to exceed this number of parking spaces.
2. Summary of Text Amendment (#07768- Agenda Item 10): This ordinance changes the minimum number of parking spaces for the following uses in buildings with no residential uses: banks and financial institutions; business and professional offices; health, medical, and welfare institution offices; radio and television stations and studios; and retail stores and services. It provides that the minimum number shall be one space for each one thousand (1,000) square feet of gross floor area. (1 space / 1,000 SF GFA)
3. Report Drafted By: Kevin Firchow, AICP, Planner

**MEMORANDUM PURPOSE**

The Plan Commission is considering two zoning text amendments regarding parking standards. One amendment would establish new caps or maximums on the amount parking allowed for many non-residential office, retail, and service uses. A second amendment would reduce the minimum amount of parking required for these same uses.

At its November 5<sup>th</sup> meeting, the Plan Commission referred action on both amendments to provide Planning Division Staff time to provide additional information on the request. Specially, the Plan Commission requested staff provide the following:

- A review of the parking recommendations found in the Comprehensive Plan,
- Information on approaches to parking requirements being taken by other communities, and
- An analysis of the impact the proposed changes will have on established neighborhoods.

**Organization of Memorandum**

1. Existing Madison Parking Standards
2. Comprehensive Plan  
Parking Recommendations
3. Approaches in Other Communities
4. Proposed Standards vs.  
Standards from Other Communities
5. Potential Neighborhood Impacts
6. Other Considerations
7. Conclusion

## **1 EXISTING MADISON PARKING STANDARDS**

The current Madison Zoning Code establishes minimum parking requirements for all allowed uses. The Code also provides a maximum amount of parking allowed, as well as procedures to approve parking that is less than the prescribed minimum amount or more than the maximum amount.

### **Existing Parking Minimum Standards**

Section 28.11(3)(l)5.d. of the zoning code requires that banks and financial institutions; medical, dental and optical clinics; offices, business and professional; offices of health, medical and welfare institutions; radio and television studios and stations; retail stores and retail service uses provide a minimum of one parking space shall be provided for each three hundred (300) square feet of gross floor area. (3.33 spaces / 1,000 SF GFA)

### **Existing Parking Maximum Standards**

Section 28.12(3)(k) of the Zoning Code currently provides residential and non-residential parking maximums as stated below. These maximums are less restrictive than what is currently proposed.

1. The total number of accessory spaces for a residential building shall not exceed that required by this ordinance for such use or for an equivalent new use by more than fifty percent (50%) or four (4) spaces, whichever number is greater. Provided, however, this prohibition shall not apply where such parking is allowed as a conditional use.
2. The total number of accessory spaces for any other building, other than a residential building, shall not exceed that required by this ordinance for such use or for an equivalent new use by more than one hundred percent (100%) or fifteen (15) spaces, whichever number is greater. Provided, however, this prohibition shall not apply where such parking is allowed as a conditional use.

### **Off-Street Parking Requirement Reduction**

The zoning code provides a mechanism to reduce the required number of off-street parking spaces. The Zoning Administrator or the Director of the Department of Planning and Community and Economic Development may grant a reduction in required off-street parking after considering and giving decisive weight to all relevant facts, including but not limited to the following factors:

- Availability and accessibility of alternative parking;
- Impact on adjacent residential neighborhoods;
- Existing or potential shared parking agreements;
- Number of residential parking permits issued for the area;
- Proximity to transit routes and/or bicycle paths and provision of bicycle racks;
- Proportion of the total parking required that is represented by the requested reduction;
- Proportion of the total parking required that is decreased by Sec. 28.11(2)3.;
- Characteristics of the use, including hours of operation and peak parking demand times;
- Design and maintenance of off-street parking that will be provided; and
- Whether the proposed use is new or a small addition to an existing use.

Requests are processed as follows:

1. **Reduction of 1-9 Parking Stalls:** Application shall be made to the Zoning Administrator.
2. **Reduction of 10-19 Parking Stalls:** Application shall be made to the Director of the Department of Planning and Community and Economic Development.
3. **Reduction of 20 Or More Parking Stalls:** Application shall be made for a conditional use unless the reduction requested is twenty-five percent (25%) or less of the required parking, in which case, application shall be made to the Director of the Department of Planning and Community and Economic Development.

### **Other Standards Related to the Number of Parking Spaces**

The proposed ordinance changes will effect more than the required number of parking spaces. Several standards are currently tied to the number of required or provided parking stalls. These include the following:

- **Parking Lot Landscaping:** Less parking equals fewer required landscaping points and fewer tree islands as parking lots get smaller.
- **Bicycle Parking:** Certain uses reference the number of parking spaces to calculate the required bicycle parking spaces. Several uses, including libraries, amusement facilities and commercial manufacturing uses require one bicycle parking space per 10 auto spaces.
- **Accessible Parking:** The number of required accessible parking spaces are tied to the number of required spaces.

## **2 COMPREHENSIVE PLAN PARKING RECOMMENDATIONS**

The Comprehensive Plan provides several general policies or recommendations that reference parking in the Transportation, Land Use, and Economic Development Chapters. While the Plan was not intended to provide detailed parking recommendations, staff believe that limiting excess parking and creating more flexible standards is consistent with the Plan.

Perhaps the most applicable reference is a policy pertaining to flexibility in parking codes. That policy states, "*Increase flexibility with minimum parking requirements to reflect typical daily demand and allow innovative parking provisions. Explore the use of innovative public and private parking requirements and approaches, including the use of minimum or maximum parking requirements in City ordinances. Note: The City should consider continuing to exempt the downtown area from minimum parking requirements. The City should also recognize and acknowledge unique situations in the downtown and other parts of the City, and allow for flexibility in parking provision decisions in response to unique circumstances.*"

Other Plan recommendations generally recognize the importance of the following:

- Limiting the detrimental visual impacts of surface parking
- Promoting shared parking
- Promoting use of bicycles and transit to limit parking demand

### **3 APPROACHES IN OTHER COMMUNITIES**

Zoning and parking codes routinely include minimum parking standards. These standards vary considerably. In Parking Standards, a publication from the American Planning Association, it is noted that establishing parking maximums is becoming more widespread. Maximum standards, however, are not found in most zoning codes. This is true both nationally and for Wisconsin communities. Staff has provided a review of standards compiled by the American Planning Association (APA) and parking generation data from the Institute of Transportation Engineers (ITE). Additionally, this section summarizes parking initiatives that have been implemented in other communities, both nationally and within the State.

#### **Basic Approaches to Parking Maximums**

Communities that have adopted parking maximums typically use the following approaches. Some communities combine elements of each approach.

- **Ratio:** This method sets the number of parking spaces per square feet of building area (or other standard). The proposed zoning text amendment uses this approach for establishing a parking maximum (4 spaces per 1,000 SF GFA).
- **Base the Maximum Standard on the Minimum Standard:** This method creates a maximum number of spaces based on a percent of the required minimum number of spaces. This can be illustrated with Madison's existing maximum standard which states that "The total number of accessory spaces for any other building, other than a residential building, shall not exceed that required by this ordinance for such use or for an equivalent new use by more than one hundred percent (100%) or fifteen (15) spaces, whichever number is greater."
- **Establish Parking Districts:** This approach sets specific parking caps in designated areas or neighborhoods and the cap may be different in different areas. Madison's current regulations do not apply a specific parking standard in the Downtown area. The proposed ordinance change would continue to exclude the Downtown from specific parking requirements but, there are no additional applications of this approach found in the proposed amendment.

#### **National Parking Data and Standards**

Two references were consulted to obtain data for the following table (Table 1). The American Planning Association (APA) published Parking Standards in 2002. This manual compiles an extensive list of parking standards adopted by different communities. This includes both minimum and maximum standards.

The Institute of Transportation Engineers (ITE) recently published the Third Edition of Parking Generation. This study compiles actual parking data for a variety of use types. *As a caution*, this data is used as one source of commonly cited data, and it is not recommended that minimum or maximum parking standards be based solely on this peak parking generation data.

Table 1: Range of Maximum Parking Standards (APA) vs. Peak Parking Generation (ITE)

Uses included in Proposed Amendments	Minimum Parking Standards: American Planning Association	Maximum Parking Standards: American Planning Association	ITE Average Peak Parking Generation
Banks / Financial Institutions	1/1,000 SF GFA <sup>1</sup> 2/1,000 SF GFA <sup>2</sup> 3.33/1,000 SF GFA <sup>3</sup> 4/1,000 SF GFA <sup>6</sup>	3.33/1,000 SF GFA <sup>2</sup> 5/1,000 SF GFA <sup>1,3</sup> 6.67/1,000 SF GFA <sup>6</sup>	2.30/1,000 SF GFA (no drive up) 3.49/1,000 SF GFA (w/ drive up)
Business / Professional Offices	2.7/1,000 SF GFA <sup>5</sup> 2.86/1,000 SF GFA <sup>3,6</sup>	3.4/1,000 SF GFA <sup>5</sup> 4/1,000 SF GFA <sup>6</sup> 5/1,000 SF GFA <sup>3</sup>	2.84/1,000 SF GFA
Health/Medical/Welfare Institution Office	3.9/1,000 SF GFA <sup>5</sup> 4/1,000 SF GFA <sup>3</sup>	4.9/1,000 SF GFA <sup>5</sup> 6.67/1,000 SF GFA <sup>3</sup>	3.53/1,000 SF GFA
Radio/Television/Studios	1.25/1,000 SF GFA <sup>2</sup> 3.33/1,000 SF GFA <sup>1</sup> 5 Spaces + 1 spot for each employee on max shift <sup>3</sup>	3.33/1,000 SF GFA <sup>2</sup> 5/1,000 SF GFA <sup>1</sup> 5 Spaces + 1 spot for each employee on max shift <sup>3</sup>	No Data Available
Retail Stores and Services	2/1,000 SF GFA* <sup>2</sup> 2.86/1,000 SF GFA <sup>6</sup> 3.6/1,000 SF GFA <sup>5</sup>	5/1,000 SF GFA <sup>6</sup> 5.1/1,000 SF GFA <sup>5</sup> 5.71/1,000 SF GFA <sup>2</sup>	Range: 0.94- 16.3/1,000 SF GFA  * (See Attachment 1)

SF GFA = Square foot of Gross Floor Area

1 San Antonio, TX Pop. 1,144,646  
 2 Pittsburgh, PA Pop 334,563  
 3 Jefferson Co. (Louisville) Kentucky, Pop 693,604  
 4 Pittsburgh, PA Pop 334,563  
 5 Gresham, OR, Pop 90,205  
 6 Glenville, NY, Pop. 28,183

## National Case Studies

### Portland, Oregon

The City of Portland is often considered to be one of the national leaders in establishing parking reduction standards. The City utilizes a detailed system of parking minimums and maximums. Standards are applied differently to uses in different zoning districts, and additional "overlay" standards are provided for distinct geographic areas. The City's approach eliminates minimum parking requirements for sites located less than 500 feet from a transit street with 20-minute peak hour service. It should also be noted that the Portland program has developed a system to transfer unused parking "credits" between parties. Maximum standards for retail and offices use otherwise vary significantly from district to district. The general range includes:

General Office:	Minimum	2/1,000 SF GFA
	Maximum Range	2.5-3.4/1,000 SF GFA
Medical Office:	Minimum	2/1,000 SF GFA
	Maximum Range	3.0-4.9 /1,000 SF GFA
Retail:	Minimum	2/1,000 SF GFA
	Maximum Range	5.0-5.1/1,000 SF GFA

### Burlington, Vermont

Burlington, Vermont has included new parking standards in its revised draft zoning ordinance, dated October 29, 2007. Burlington is similar to Madison as it had established planning goals to improve flexibility on how parking standards were applied. The draft ordinance creates three types of parking districts with differing standards for several uses. These districts include "Neighborhood Districts", "Shared Use Districts", and "Downtown Districts". Different parking minimums are established for each. The total number of parking spaces provided in all parking districts must be no more than 125% of the minimum number of spaces required for the Neighborhood Parking District, for any given use. If an applicant wishes to create more parking, he or she must get approval for a waiver after demonstrating that the parking is necessary. The proposed standards include the following:

General Office:	Minimum Range	2/1,000 SF GFA
	Maximum	2.5/1,000 SF GFA
Medical Office:	Minimum Range	1-3/1,000 SF GFA
	Maximum Range	3.75/1,000 SF GFA
Retail:	Varies significantly by use type	

### Wisconsin Examples

The Cities of Eau Claire and Appleton have implemented parking maximums as part of their zoning codes. Both codes establish general parking maximums that cap parking at 25% above the minimum requirement. The Appleton code provides standards for several development types that supercede the general 25% requirement. Both codes provide mechanisms for applicants to exceed the parking maximums by demonstrating need. Eau Claire handles this during site plan review and Appleton addresses this as a zoning variance. General standards include the following:

#### City of Appleton

General Office:	Minimum	3.33/1,000 SF GFA
	Maximum	4.44/1,000 SF GFA
Retail:	Minimum	5/1,000 SF GFA
	Maximum	6.67/1,000 SF GFA

#### City of Eau Claire

Office/Banks:	Minimum	3.33/1,000 SF GFA
	Maximum	4.17/1,000 SF GFA
Medical Office:	Minimum	5/1,000 SF GFA
	Maximum	6.25/1,000 SF GFA
Retail:	Varies by use type	

### **4 PROPOSED STANDARDS VS. STANDARDS FROM OTHER COMMUNITIES**

The proposed parking minimums and maximums share some consistency with standards found in other communities, but there are also several differences that should be noted.

The proposed maximum standard of four stalls per 1,000 SF GFA is generally within the range of maximums established in other communities for banks, offices, broadcast facilities, and medical/intuitional office. However, the proposed minimum standard of one stall per 1,000 SF GFA is significantly lower than the other general minimums found in codes reviewed for this report. This standard is used in some communities for select uses, such as banks (San Antonio, TX) or medical office (proposed for Burlington, VT); however it was not found to be as widely applied as it would be in the proposed ordinance. Similar minimum standards were applied in select neighborhoods or districts, but not often used as the citywide standard. It should be noted that Madison's current minimum parking standard for office (3.33 stalls /1,000 SF GFA) matches the requirements found in most surrounding communities. The proposed minimum would create a much more flexible standard for Madison.

Many communities have adopted multiple minimum/maximum standards for office, medical office, banks, and retail. The current proposal provides the same standard for all of these uses. While the

proposed standard is similar to others, future analysis may be needed to “fine-tune” this standard for specific use types.

Both the proposed minimum and maximum standard for retail are generally lower than what was required in other communities reviewed for this analysis. As in the case with office uses, communities have established multiple retail minimums and maximums, depending on the specific type of use. The current proposal would establish the same minimum and maximum standard for all retail uses.

## **5 POTENTIAL NEIGHBORHOOD IMPACTS**

Planning staff believe that neighborhood impacts will vary based on location, bike accessibility, transit accessibility, and other characteristics such as intensity and mix of uses. A variety of general positive and negative impacts could be anticipated including:

- ***Improved Aesthetics:*** Eliminating requirements for excess parking could result in enhanced neighborhood aesthetics.
- ***Parking Spillover:*** There is the potential for parking spillover into adjacent streets and neighborhoods. This is primarily a concern with establishing too low of a parking minimum. To address this concern, many communities have provided different minimum standards based on neighborhood or other geographic characteristics.

The proposed maximums are generally well above the level of parking already provided in older, established neighborhoods, especially for the non-retail uses included in this request.

- ***Redevelopment Impacts:*** The proposed amendments would impact not only large commercial and office development on the City’s periphery, but could impact small to mid size commercial developments throughout more established portions of the City. The proposed maximum standards would result in any business providing more parking than allowed by the maximum becoming an existing conditional use. This means that any changes to these businesses (most likely in the thousands) would require conditional use approval. Depending on what approvals would be needed, the longer review process could potentially discourage some redevelopment projects. Conversely, reduced minimum standards could provide some flexibility in promoting redevelopment.

## **6 OTHER CONSIDERATIONS**

Planning Division staff believe there are several other considerations that should be noted in evaluating the proposed zoning text amendments. These include the following:

- ***Proposal Creates Additional Conditional Uses:*** Staff believe the current proposal to create a parking maximum at four spaces per 1,000 square feet would, perhaps, create thousands of additional conditional uses throughout the City. Under current standards, any changes to these properties would require either a major or minor alteration to the conditional use.



- **Consider Performance Standards for Excess Parking:** Staff suggest the Commission consider the feasibility of adopting performance standards or additional requirements (e.g. additional landscaping, stormwater treatment areas, permeable pavers, etc.) if parking maximums are exceeded. Sample standards could be similar to what is included in the current large-format retail ordinance.
- **Neighborhood/Area Specific Standards:** Staff also believe that the use of specific neighborhood standards for minimum and maximum parking could be explored to reflect the difference in parking needs between Downtown, the Isthmus, other established neighborhoods, and peripheral growth. Such standards are found in many of the more detailed parking standards reviewed for this report.
- **Coordination with Zoning Code Re-Write:** The City is beginning a comprehensive re-write of its zoning code. Part of that process can include the further evaluation of parking standards and further evaluation of what is being adopted in other communities. As part of this effort, there is an opportunity to consider a more comprehensive update of the parking standards.

## 7 CONCLUSION

### **Parking Maximum Text Amendment (Agenda Item 9 #07732)**

Staff is not opposed to revising the current parking maximum standards. A review of other maximum standards indicates that Madison's current regulations generally allow more parking than maximum standards adopted by other communities. The proposed ordinance provides a starting point for additional discussion and staff recommend that related issues outlined below be further explored prior to recommending a final zoning text amendment.

1. Separate maximum standards should be evaluated for the different types of uses covered in this text amendment. Banks, general office, medical office, broadcast studios, and general retail have different parking demands and communities have created different standards to address these. Staff believe that further research should occur to "fine-tune" specific standards for each of these use types.
2. Consideration should also be given to increasing the use of administrative approvals in dealing with requests that exceed the maximum that is eventually established. Staff look at the current parking reduction process as a potential model. Requests well in excess of the proposed maximum would require Plan Commission approval, however, staff could approve other requests. Specific thresholds would need to be established. Staff further recommend that specific performance standards be created to help evaluate requests in excess of the maximum. This could include requirements for additional landscaping or pervious surface.
3. Further research should be done on the potential to create district-specific standards that may supercede the general standards. This approach is used in several codes including Portland, Oregon and Burlington, Vermont and may minimize negative impacts on neighborhoods. Further, staff believe this approach to be consistent with the Comprehensive Plan's goals to address the unique parking concerns of different parts of the City.

4. Any ordinance change should also address how related standards, such as landscaping, bicycle parking, and accessible parking would be affected, and include adjustments to those standards as appropriate.

**Parking Minimum Text Amendment (Agenda Item 10 #07768)**

Staff do not oppose considering new parking minimums. However, staff believe that the proposed minimum standard of one (1) stall per 1,000 SF GFA is too low to be an overall general minimum standard for all office and retail uses. Staff reviewed standards from other communities and found that most maintained higher minimums for office and retail developments. Staff believe that such a standard may be appropriate in certain districts, or perhaps, for some types of uses, but not as a general standard. This could be confirmed upon additional research.

If the Plan Commission wishes to proceed with a revised minimum standard, the Zoning Text Amendment Staff Team has previously reviewed a request from Smart Growth Madison to reduce the minimum parking standard for office development to 2.5 stalls / 1,000 SF GFA. Staff would support that standard for office uses. If the Plan Commission wishes to proceed with that change, a substitute ordinance should be recommended to the common council.

**Attachment 1**  
**Additional Retail Peak Parking Generation (Institute of Transportation Engineers)**

<b>Free Standing Discount Store</b>	4.47 /1,000 SF GFA (Saturday December) 3.81/1,000 SF GFA (Saturday Non-December)
<b>Shopping Center</b>	4.74/1,000 SF GFA (Saturday December) 2.97/1,000 SF GFA (Saturday Non-December)
<b>Supermarket</b>	4.47 /1,000 SF GFA (Saturday Urban) 2.47 /1,000 SF GFA (Weekday Urban) 4.75 /1,000 SF GFA (Saturday Suburban) 4.36 /1,000 SF GFA (Weekday Suburban)
<b>Convenience Market</b>	3.4 /1,000 SF GFA (Weekday)
<b>Home Improvement Superstore</b>	2.43 /1,000 SF GFA (Friday) 3.4 /1,000 SF GFA (Saturday)
<b>Pharmacy/Drugstore</b>	2.02 /1,000 SF GFA (Weekday) 2.10 /1,000 SF GFA (Saturday)
<b>Furniture Store</b>	0.94 /1,000 SF GFA (Saturday)
<b>Carpet Store</b>	1.33 /1,000 SF GFA (Saturday) 1.79 /1,000 SF GFA (Saturday)
<b>Video Rental Store</b>	2.41 /1,000 SF GFA (Weekday)
<b>Dry Cleaners</b>	1.4 /1,000 SF GFA (Weekday)
<b>"Quality" Restaurant</b>	15.4 /1,000 SF GFA (Weekday) 17.2 /1,000 SF GFA (Saturday)
<b>"High Turnover" Sit Down Restaurant (w/ bar or lounge)</b>	13.3/1,000 SF GFA (Weekday) 16.3/1,000 SF GFA (Saturday)
<b>Fast Food- w/ Drive Through</b>	9.90/1,000 SF GFA (Weekday) 9.54/1,000 SF GFA (Weekday)

**Attachment 2**  
**Off-Street Parking Ratios Approved in Recent Projects**

Staff has included some representative site plans to illustrate the range of parking requests approved in recent projects.

**John Nolen Office Building**

This large office development has a parking ratio of 3.49 / 1,000 GFA.

**Meriter (Raymond Road)**

This medical office building provides fewer parking spaces than currently allowed by the Zoning Code. A formal parking reduction would need to be approved during the site plan review process.

**Home Savings Bank**

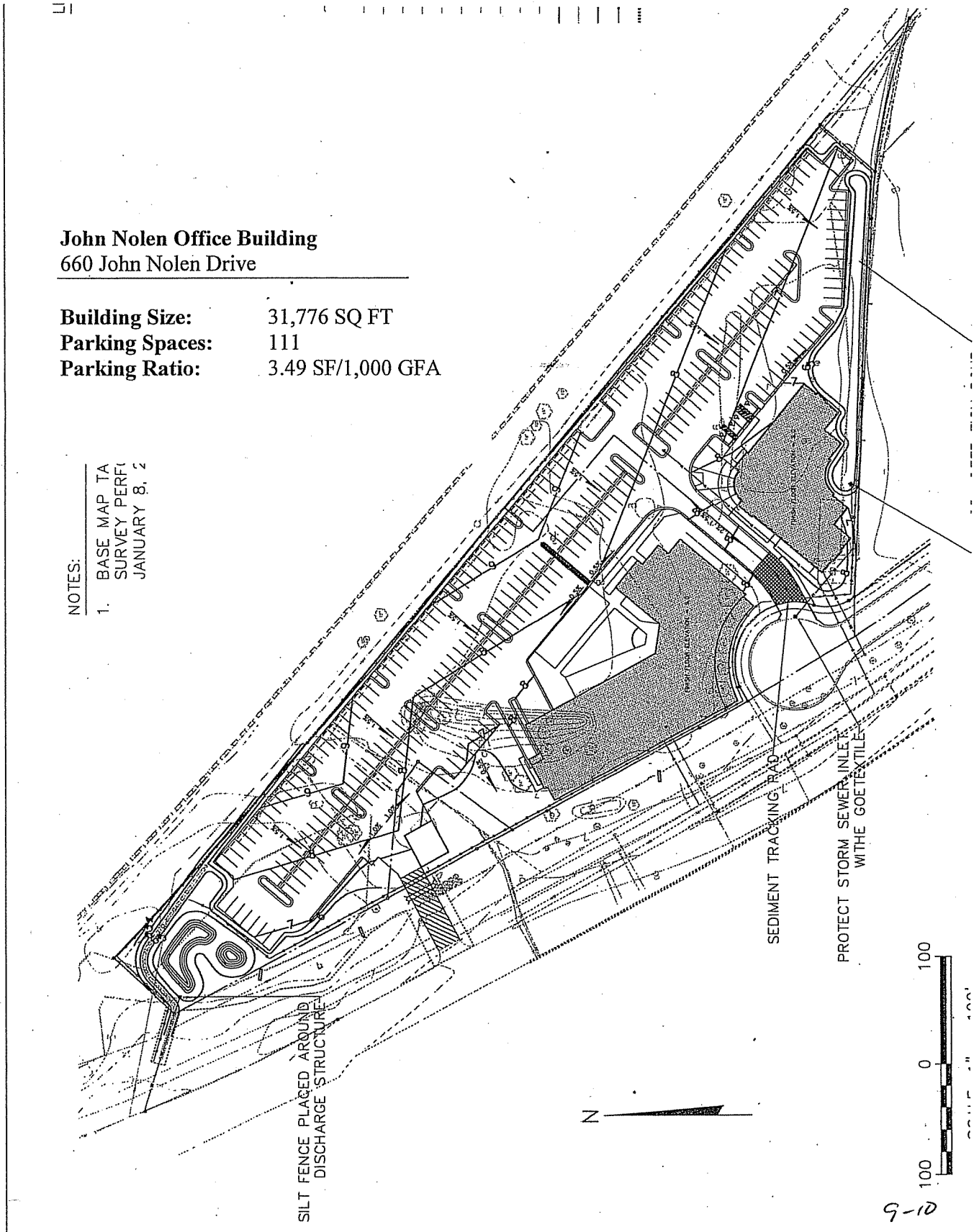
This bank has a relatively small footprint and just meets current maximum parking requirements.

**Attachment 2**  
**Off-Street Parking Ratios Approved in Recent Projects**

**John Nolen Office Building**  
 660 John Nolen Drive

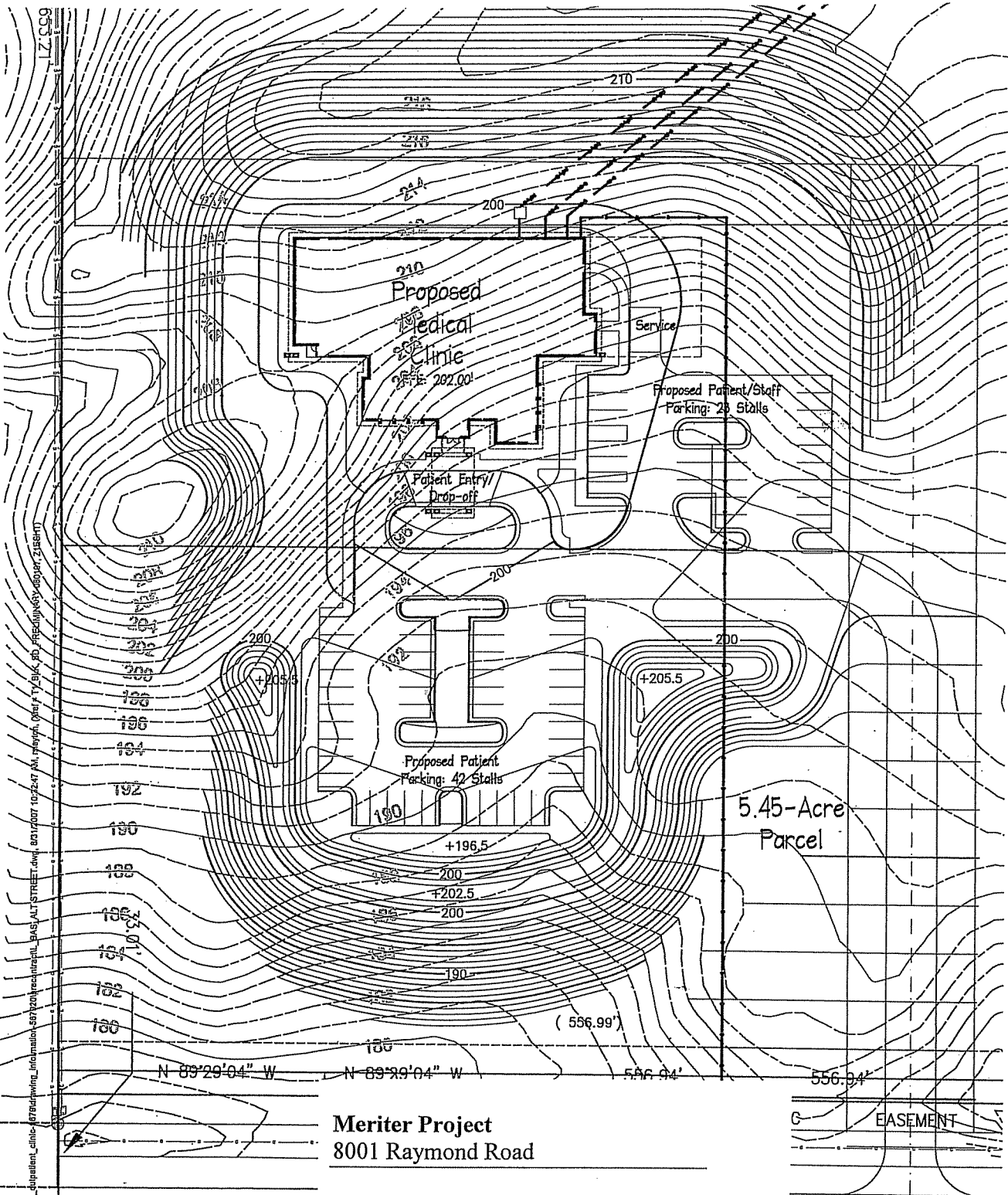
**Building Size:** 31,776 SQ FT  
**Parking Spaces:** 111  
**Parking Ratio:** 3.49 SF/1,000 GFA

- NOTES:  
 1. BASE MAP TA  
 SURVEY PERFI  
 JANUARY 8, '2

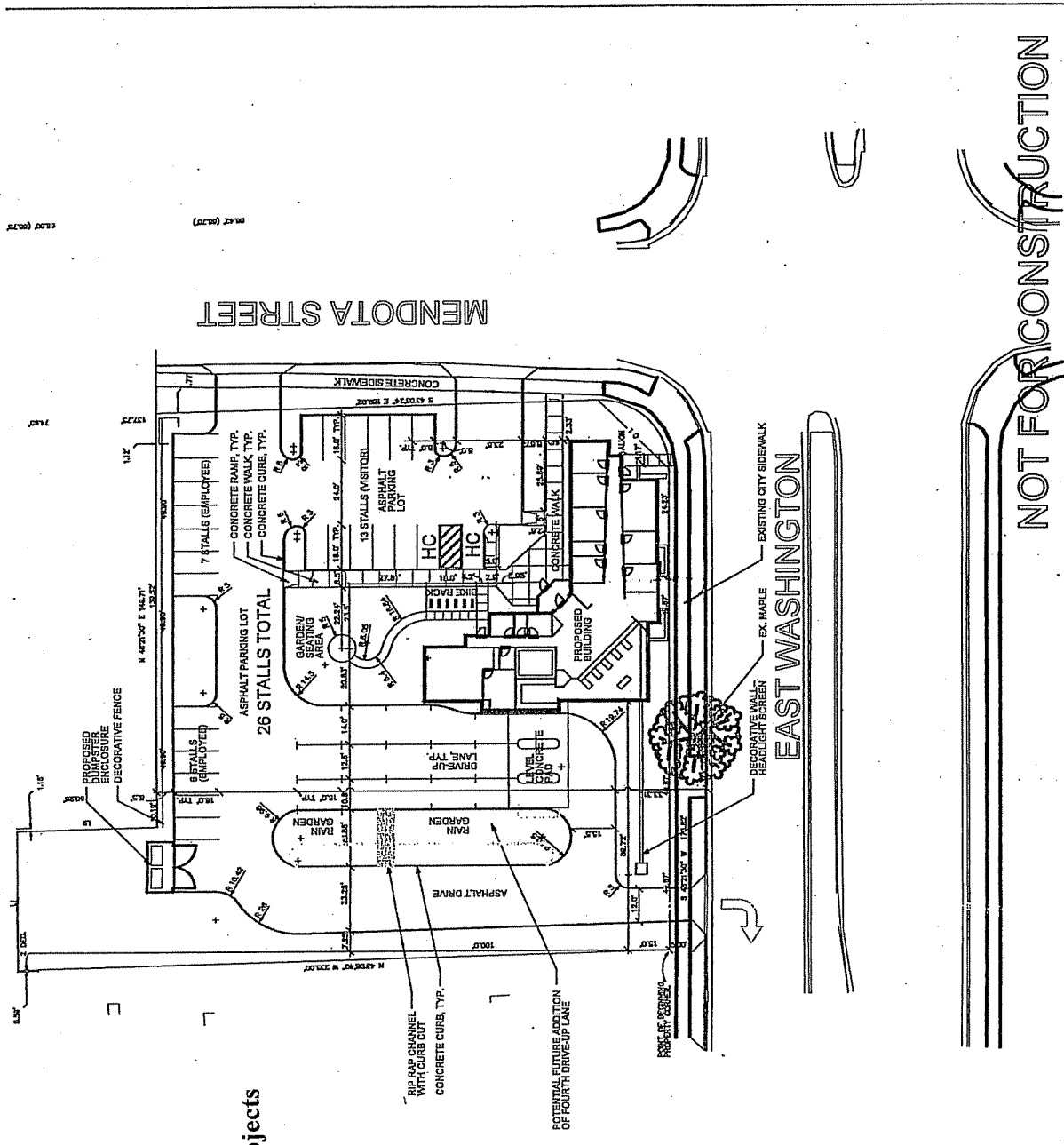


9-10

## Attachment 2 Off-Street Parking Ratios Approved in Recent Projects



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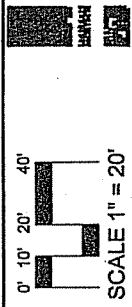
MENDOTA STREET

EAST WASHINGTON

**Attachment 2**  
**Off-Street Parking Ratios Approved in Recent Projects**

**Home Savings Bank**  
3762 East Washington Avenue

**Building Size:** 4,437 SQ FT  
**Parking Spaces:** 26  
**Parking Ratio:** 5.86 SF/1,000 GFA



Scale: 1/8" = 20'-0"

**HOME SAVINGS BANK**  
3762 EAST WASHINGTON AVENUE, MADISON WISCONSIN  
PROJECT NUMBER: 000-08  
DATE: 07/15/11  
DRAWN: JLR  
CHECKED: BJS

LAYOUT PLAN

L1-2

NOT FOR CONSTRUCTION

# People, Parking, and Cities

BY MICHAEL MANVILLE AND DONALD SHOUP



**T**HE POP CULTURE IMAGE of Los Angeles is an ocean of malls, cars, and exit ramps; of humorless tract homes and isolated individuals whose only solace is aimless driving on endless freeways. From Joan Didion to the Sierra Club, LA has been held up as a poster child of sprawl. This is an arresting and romantic narrative, but also largely untrue.

To the extent that anyone has a definition of sprawl, it usually revolves around the absence of density, and Los Angeles has since the 1980s been the densest urbanized area in the United States. This would make it the *least* sprawling city in America. Compared to other US cities, LA also does not have inordinately high rates of automobile ownership.

These facts strike some as hard to believe, or perhaps false, and they haven't made much of a dent in the LA-as-sprawl idea. Clichés about Los Angeles-style sprawl die hard, partly because the definition of sprawl is so malleable (urbanist William Fulton now simply calls LA "dense sprawl"), and partly because the anti-urban stereotype about LA contains its own kernels of truth. After all, if density is a barometer for healthy urbanism, and Los Angeles is denser than cities like New York or San Francisco, then why are Manhattan and downtown San Francisco such vibrant places, and why is downtown LA comparatively lifeless?

Obviously there's no single answer to that question (and the question itself is rather prejudicial). But we think the differences between Los Angeles, New York, and San Francisco stem in part from the different ways they regulate downtown development, and in particular the way they regulate parking. Los Angeles is an example of density as a dilemma rather than a solution. Planners and urban critics who regularly call for increased density as a salve for city life should realize that without corresponding changes in parking requirements, increased density will compound, rather than solve, the problems we associate with sprawl. >

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#### DENSITY WITHIN REGIONS AND BETWEEN THEM

Before opening this discussion, we should make an important distinction. We are referring to the US Census Bureau's definition of "urbanized areas" rather than to the political boundaries of cities. So when we say that Los Angeles is denser than New York we are actually saying that the Los Angeles urbanized area, which is Los Angeles and its suburbs, is denser than the New York urbanized area, which includes not just New York City but its suburbs as well.

Without doubt, the *cities* of New York and San Francisco are denser than the city of LA. But sprawl is a regional attribute, and Los Angeles has much denser suburbs than New York or San Francisco. Indeed, the LA region's distinguishing characteristic may be the uniformity of its density; its suburbs have 82 percent of the density of its central city. In contrast, New York's suburban density is a mere 12 percent of its central city density, and San Francisco's suburban density is only 35 percent of the city's. New York and San Francisco look like Hong Kong surrounded by Phoenix, while Los Angeles looks like Los Angeles surrounded by . . . well, Los Angeles.

In other words, Los Angeles is a dense area without an extremely dense core, while New York and San Francisco are less dense overall but enjoy the benefits of very dense core areas. It's worth asking why that is. It may be that uniform density across an urbanized area is a result of the inability to have a very dense core. Or it may be that high uniform density precludes having a lively downtown. We don't have definitive answers to these questions, but we can highlight the tremendous deadening effect that parking regulations have on LA's Central Business District.

#### PARKING AND THE CENTRAL BUSINESS DISTRICT

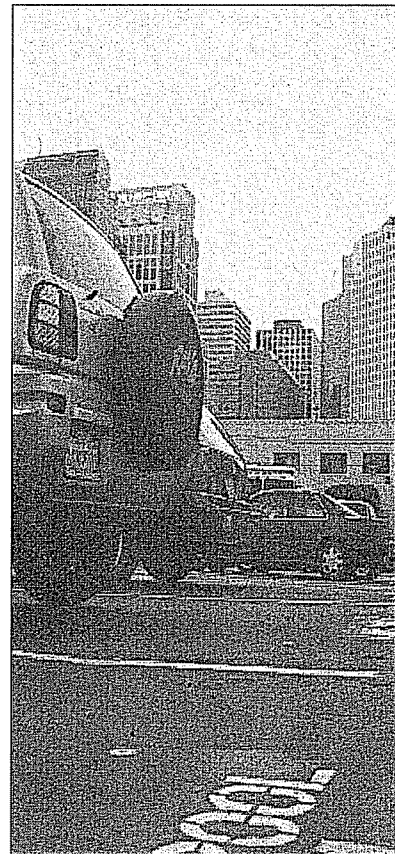
A successful Central Business District (CBD) combines large amounts of labor and capital on a small amount of land. CBDs thrive on high density because the prime advantage they offer over other parts of a metropolitan area is *proximity*—the immediate availability of a wide variety of activities. The clustering of museums, theaters, restaurants, and offices is the commodity a downtown can offer that other areas cannot. Yet downtowns have long been plagued by questions about access, for they can either thrive on or be destroyed by congestion. In order to thrive, a CBD must receive a critical mass of people every day but do so without clogging itself to the point of paralysis. One way to do this is to require off-street parking spaces. Off-street parking can reduce the cruising for parking that often strangles the streets of CBDs, but parking requirements have high costs.

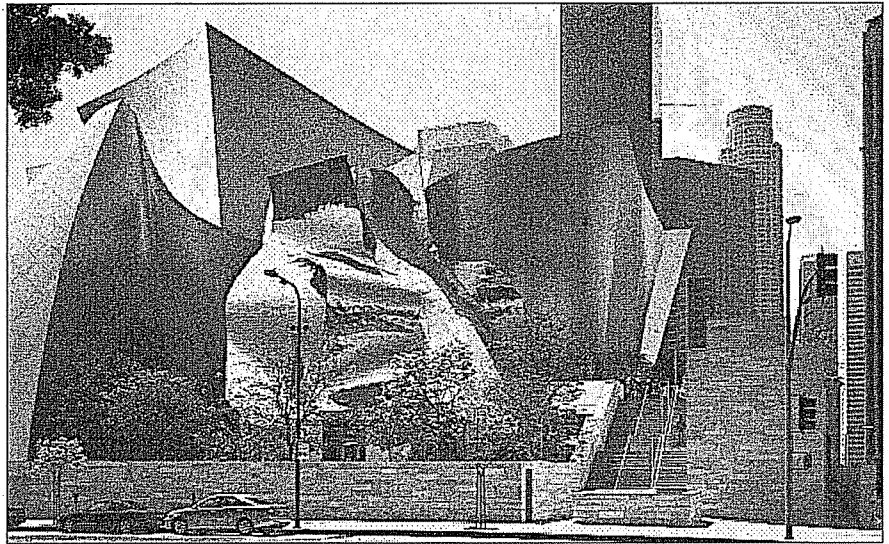
It's not hard to see how a conventional parking lot can undermine a CBD's success; a downtown surface lot often has a very high and very visible opportunity cost. Instead of a building teeming with activity there is an expanse of asphalt with one employee manning a booth; where there could be something there is instead not much. But even when off-street parking is dressed up or hidden—when it is placed underground, or in a structure that has retail uses at the street level—it is inimical to density. Because land is most expensive in the CBD, off-street parking is also most expensive there, and constructing it uses up capital that could otherwise be invested more productively. More important, if off-street parking is *required*, as it is in many cities, then it becomes rational for firms to locate in places where land is less expensive, meaning it becomes rational to locate outside the CBD. A parking requirement applied uniformly across a city implicitly discriminates against development in the CBD, because the burden of complying with the requirement is greater in the CBD than almost anywhere else.

### A TALE OF TWO PARKING REQUIREMENTS

The impact of parking requirements becomes clearer when we compare the parking requirements of our three cities. New York and San Francisco have strict limits on how much parking they allow in their CBDs; Los Angeles, however, pursues a diametrically opposing path—where the other two cities limit off-street parking, LA requires it. This requirement not only discourages development in downtown Los Angeles relative to other parts of the region but also distorts how the downtown functions.

Take, for example, the different treatment given by Los Angeles and San Francisco to their concert halls. For a downtown concert hall, Los Angeles requires, as a minimum, *fifty times* more parking than San Francisco allows as its maximum. Thus the San Francisco Symphony built its home, Louise Davies Hall, without a parking garage, while Disney Hall, the new home of the Los Angeles Philharmonic, did not open until seven years after its parking garage was built. >





*Disney Hall*

Disney Hall's six-level, 2,188-space underground garage cost \$110 million to build (about \$50,000 per space). Financially troubled Los Angeles County, which built the garage, went into debt to finance it, expecting that parking revenues would repay the borrowed money. But the garage was completed in 1996, and Disney Hall—which suffered from a budget less grand than its vision—became knotted in delays and didn't open until late 2003. During the seven years in between, parking revenue fell far short of debt payments (few people park in an underground structure if there is nothing above it) and the county, by that point nearly bankrupt, had to subsidize the garage even as it laid off employees.

The county owns the land beneath Disney Hall, and its lease for the site specifies that Disney Hall must schedule at least 128 concerts each winter season. Why 128? That's the minimum number of concerts that will generate the parking revenue necessary to pay the debt service on the garage. And in its first year, Disney Hall scheduled exactly 128 concerts. The parking garage, ostensibly designed to serve the Philharmonic, now has the Philharmonic serving it; the minimum parking requirements have led to a minimum concert requirement.

The money spent on parking has altered the hall in other ways, too, shifting its design toward drivers and away from pedestrians. The presence of a six-story subterranean garage means most concert patrons arrive from underneath, rather than outside, the hall. The hall's designers clearly understood this, and so while the hall has a fairly impressive street entrance, its more magisterial gateway is a vertical one: an "escalator cascade" that flows up from the parking structure and ends in the foyer. This has profound implications for street life. A concertgoer can now drive to Disney Hall, park beneath it, ride up into it, see a show, and then reverse the whole process—and never set foot on a sidewalk in downtown LA. The full experience of an iconic Los Angeles building begins and ends in its parking garage, not in the city itself.

Visitors to downtown San Francisco are unlikely to have such a privatized and encapsulated experience. When a concert or theater performance lets out in San Francisco, people stream onto the sidewalks, strolling past the restaurants, bars, bookstores and

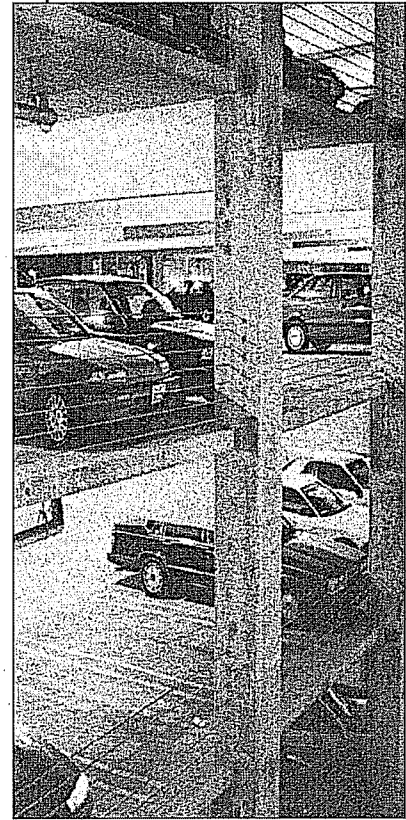


flower shops that are open and well-lit. For those who have driven, it is a long walk to their cars, which are probably in a public facility unattached to any specific restaurant or shop. The presence of open shops and people on the street encourages other people to be out as well. People want to be on streets with other people, and they avoid streets that are empty, because empty streets are eerie and menacing. Although the absence of parking requirements does not guarantee a vibrant area, their presence certainly inhibits it. "The more downtown is broken up and interspersed with parking lots and garages," Jane Jacobs argued in 1961, "the duller and deader it becomes ... and there is nothing more repellent than a dead downtown."

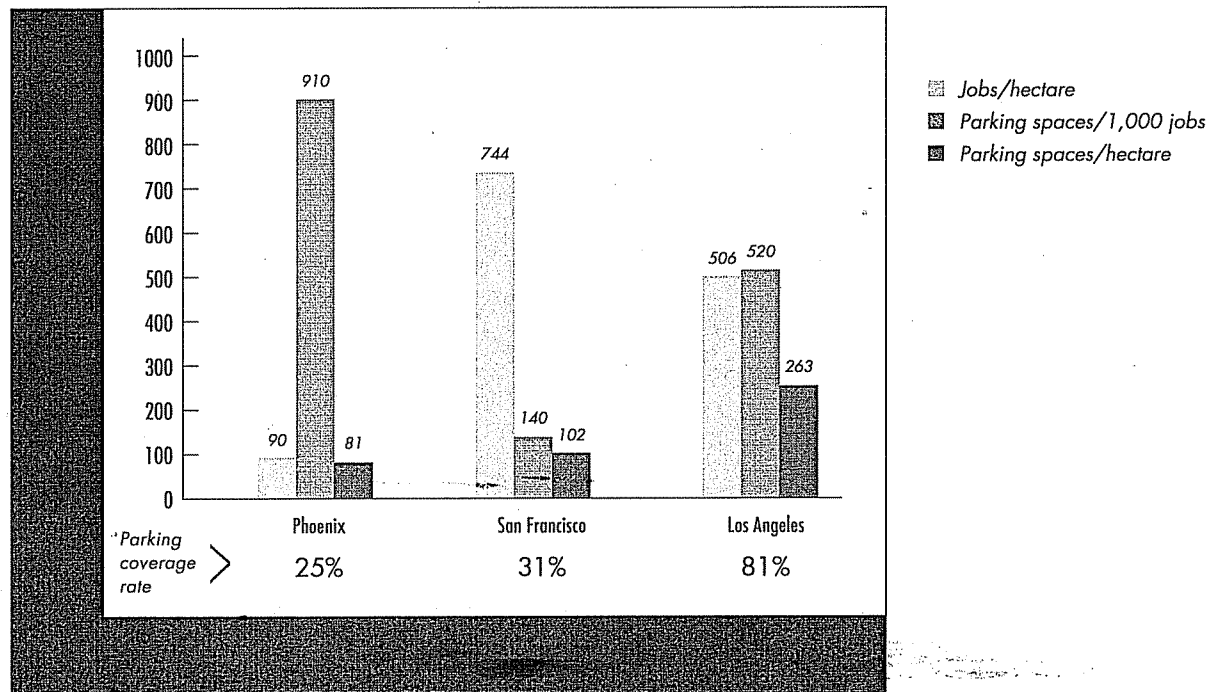
**THE DENSITY OF PARKING**

In the end, what sets downtown LA apart from other cities is not its sprawl, or its human density, but its high human density combined with its high *parking* density. If you took all of the parking spaces in the Los Angeles CBD and spread them horizontally in a surface lot, they would cover 81 percent of the CBD's land area. We call this ratio—of parking area to total land area—the "parking coverage rate," and it is higher in downtown LA than in any other downtown on earth. In San Francisco, for instance, the coverage rate is 31 percent, and in New York it is only 18 percent.

The density of parking depends on both the density of jobs and the number of parking spaces per job. Consider the CBDs of Phoenix, San Francisco, and Los Angeles, which are roughly the same size. Why does Phoenix, which most people would consider the most auto-oriented of the three cities, have the lowest parking coverage rate, at 25 percent? Phoenix has the highest number of parking spaces per job, but also by >



Parking and jobs in the CBD



#9-10



#### FURTHER READING

William Fulton and Rolf Pendall. *Who Sprawls Most? How Growth Patterns Differ Across the US*. (Washington, DC: Brookings Institution) 2001.

Donald Shoup, "Truth in Transportation Planning," *Journal of Transportation and Statistics*, vol. 6, no. 1, 2003, pp. 1-16.

Donald Shoup, "The Trouble with Minimum Parking Requirements," *Transportation Research Part A: Policy and Practice*, vol. 33A, nos. 7/8, September/November 1999, pp. 549-574.

Donald Shoup, *The High Cost of Free Parking*, forthcoming from The Planners Press.

far the fewest jobs. It has a lot of parking for not many people, and for that reason many commuters to the Phoenix CBD drive alone to work. San Francisco, by contrast, has a lot of people and very little parking—a function of its ordinances that limit parking spaces. This helps explain why many commuters to downtown San Francisco walk, carpool, or ride transit—and contribute to a vibrant CBD by doing so. Although San Francisco has over eight times as many jobs as Phoenix, its parking coverage rate is only slightly higher, at 31 percent.

And what about Los Angeles? Downtown LA has more than three times as many parking spaces as Phoenix, but it also has five times as many jobs. Compared to San Francisco, LA has fewer jobs but more than twice as many parking spaces. As a result, its parking coverage rate, at 81 percent, is higher than both of the other cities combined. Los Angeles is both car-oriented *and* dense; it approaches the human density of San Francisco but dilutes it with the parking supply of a suburb. Any benefits Los Angeles might derive from its density are offset by its relentless accommodation of the automobile.

This car-oriented density creates something different from plain old sprawl. Los Angeles is dense and getting denser, but so long as its zoning assumes that almost every new person will also bring a car—and requires parking for that car—it will never develop the sort of vital core we associate with older urban centers. The need to house humans might push toward an increasingly dense center, but the zoning requirement to house cars pushes back, sending development outward. With off-street parking requirements, higher density simply brings more cars and more congestion, as well as increased disruptions in the urban fabric, with money directed away from buildings and toward parking lots.

#### CONCLUSION

"The right to access every building in the city by private motorcar," Lewis Mumford wrote in 1961, "in an age when everyone owns such a vehicle, is actually the right to destroy the city." Mumford meant not physical destruction, of course, but loss of the cohesion that can make a CBD more than the sum of its parts. Parking requirements go a long way toward making downtown LA little more than a group of buildings, each a destination in its own right, to be parked at and departed from, and not part of some larger whole. This missing sense of urbanity—subjective though that term may be—might explain why people often react with disbelief when they are told LA sprawls less than New York or San Francisco.

So what should we do? We could start by admitting that there is such a thing as too much parking. So long as we continue to make minimum parking requirements a condition of development, we subordinate almost every other function of our cities to the need for free parking. But free parking—indeed, parking in general—is not what makes cities great. It doesn't create Manhattan and it doesn't make downtown San Francisco. Urbanists who admire these cities should call for other areas to mimic not simply their density, but also their willingness to limit rather than require parking. Perhaps the simplest and most productive reform of American zoning would be to declare that all existing off-street parking requirements are maximums rather than minimums. From that point we could let the market take care of parking, and let city planners take care of the many vital issues that really demand their attention. ♦

# Quantity versus Quality in Off-Street Parking Requirements

Vinit Mukhija and Donald Shoup

Most local governments' off-street parking requirements promote quantity over quality, focusing on ensuring an ample supply of parking. This has undesirable consequences for the built environment. Parking lots and parking structures routinely overwhelm the architecture and urban design of even the best buildings and neighborhoods. We argue that planners should worry less about the quantity of parking, and pay more attention to its quality. Through examples of zoning reforms adopted by some cities, we show how regulating the quality of parking has the potential to improve urban design.

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Most local off-street parking requirements emphasize quantity over quality. Local governments often have minimum parking requirements that overwhelm the physical landscape with an excessive supply of unattractive parking,<sup>1</sup> but relatively few impose design requirements on parking lots and parking structures. Off-street parking requirements focus on the ratio of parking spaces to floor area, usually neglecting the consequences for urban design. As a result, most parking lots are asphalt breaks in the urban fabric, and most parking structures present blank walls to the street. Parking lots and garages tend to interrupt the streetscape, expand the distances between destinations, and undermine walkability (see Figures 1 and 2). We argue that planners should worry less about the quantity of parking provided and should pay more attention to its quality.

Off-street parking requirements also reduce architectural quality. Architects often complain that they must shoehorn a building into the space remaining after the parking requirement has been satisfied, compromising the design. Thus reducing or removing parking requirements can make better design possible, and cities can use quality-based parking requirements within an urban design framework to reinforce the desired character of each neighborhood.

The market gives developers a strong incentive to provide adequate parking because lenders are unwilling to finance projects with inadequate parking and tenants are unwilling to rent space in them. But the market provides less incentive to improve parking design because many of the benefits of better parking design accrue to the community rather than to the property owner. Developers are more likely to spend money on a marble-veneered lobby (which will increase the value of the building) than on landscaping the parking lot (which will increase the value of the whole neighborhood).

In this article we show how planners can use the following five strategies to improve urban design.

1. Deregulate or limit the number of parking spaces.
2. Improve the location of parking.
3. Improve the design of surface parking.
4. Improve the design of parking structures.
5. Improve the design of residential garages.



Figure 1. Off-street parking in Los Angeles.

Shifting the focus of parking requirements from quantity to quality will help planners to play a more constructive role in shaping the built environment.

## Eliminating Minimum Off-Street Parking Requirements

Minimum parking requirements in zoning ordinances would not be needed if they did not increase the parking supply beyond what the market would provide (Shoup, 2005). Such requirements create a self-perpetuating cycle in which increasing the supply of parking leads to increased demand. Plentiful parking encourages people to buy more cars, and more cars lead cities to require even more parking spaces. Parking lots consume land that could be put to higher-value uses, such as housing, and they detract from the traditional pedestrian ambience of cities. As Alexander, Ishikawa, and Silverstein (1977) wrote 30 years ago:

We suspect that when the density of cars passes a certain limit, and people experience the feeling that there are too many cars, what is really happening is that subconsciously they feel that the cars are overwhelming the environment, that the environment is no longer “theirs,” that they have no right to be there, that it is not a place for people, and so on. After all, the effect of the cars reaches far beyond the mere presence of the cars themselves. They create a maze of driveways, garage doors, asphalt and concrete surfaces, and building elements which people cannot use. When the density goes beyond the limit, we suspect that people feel the social potential of the environment has disappeared. (p. 122)

To preserve and enhance walkability, Alexander and his coauthors suggested that only 9% of a city’s land should be devoted to parking, though there is little empirical basis for this number. Some cities, such as Cleveland, Milwaukee, and Philadelphia, have eliminated parking requirements in



Figure 2. Off-street parking in San Francisco.  
Source: San Francisco Planning Department

their downtowns to make them more accommodating to pedestrians. Other cities have reduced or eliminated parking requirements adjacent to public transit stops. An ordinance in Portland, Oregon states, "There is no minimum parking requirement for sites located less than 500 feet from a transit street with 20-minute peak hour service" (City of Portland, 2006).

Removing off-street parking requirements can also ease adaptive reuse and historic preservation. Older buildings rarely meet current minimum parking requirements, and as a consequence many stunning buildings are demolished and replaced by ordinary structures that do meet the requirements. Apart from the irreplaceable loss of heritage, such demolition limits the possibility of a rich and varied collage of buildings from different time periods.<sup>2</sup> To encourage the conversion of older, economically distressed office buildings to apartments and lofts, some cities exempt these buildings from parking requirements if they are converted to residential uses. Los Angeles, for example, does not require downtown buildings built before 1974 to add

parking spaces if they are converted to dwelling units, guest rooms, or joint live-work quarters.<sup>3</sup>

Minimum parking requirements are intended to ensure an ample parking supply, and they imply that parking is a problem only when there is not enough of it. But too much parking also creates problems. Most major U.S. cities, including Boston, Chicago, New York, and San Francisco, regulate the maximum rather than the minimum number of parking spaces in their downtowns. Carmel, California, which is famous for its attractive downtown, is an extreme, but highly successful, example of limits on parking. Zoning helps to maintain Carmel's unique pedestrian ambience by prohibiting off-street parking spaces in the central commercial district:

On-site parking is prohibited in the central commercial (CC) land use district. This policy reduces the need for curb cuts in sidewalks and the interference with free pedestrian traffic flow that would result from an excessive number of driveways. This policy is intended



to enhance the opportunities for creating intra-block courts and walkways between properties and buildings.<sup>4</sup> (City of Carmel-by-the-Sea, 1998b)

The absence of off-street parking (and of cars driving across the sidewalks to reach it) helps make Carmel one of the best places in America to be a pedestrian, and people from all over the world come to walk around (see Figure 3). Few cities will want to prohibit off-street parking, and many may not want to limit it, but they may wish to restrict surface parking lots, as in downtown San Francisco: "No permanent parking lot shall be permitted in [downtown]; temporary parking lots may be approved as conditional uses . . . for a period not to exceed two years from the date of approval" (City of San Francisco, 2006).

Even without reducing their off-street parking requirements, cities like Palo Alto and Pasadena in California have improved urban design by offering developers the opportunity to pay a fee in lieu of providing all the parking spaces required by zoning. The cities then use the revenue to provide shared public parking spaces to replace those the developers would have provided. Public parking spaces built with the in-lieu revenue allow drivers to park once and visit multiple sites on foot, reducing vehicle traffic and increasing foot traffic. The in-lieu option makes it easier to restore historic buildings and rehabilitate historic areas for the reasons noted earlier. And because developers can meet their parking requirements without on-site parking, storefronts can be continuous, without the gaps that parking lots create. Developers can also undertake infill projects without assembling large parcels for on-site parking, and architects have greater design freedom. The public parking structures consume less land than if each development provided its own parking lot, and cities can place the structures where they interfere least with vehicle and pedestrian circulation. To improve the streetscape, some cities dedicate the first floor of public parking structures to retail uses. The in-lieu policy thus contributes to a better looking, safer, and more walkable city.

Some cities allow shared parking among sites where the peak parking demands occur at different times (e.g., banks and bars). Fewer spaces are needed to meet the combined peak demand, and each parking space is occupied more of the time.<sup>5</sup> For example, Circle Centre, a successful retail/entertainment development in downtown Indianapolis, would have needed 6,000 parking spaces if it were built with unshared parking for every individual use, but only 2,815 shared parking spaces were sufficient to meet the demand (Smith, 1996).

Removing or reducing off-street parking requirements does not restrict parking or reduce the market incentive for

developers to provide an adequate supply. Letting markets determine the number of off-site parking spaces changes, but does not eliminate, planning for parking. Local governments should still regulate parking landscaping, layout, location, pedestrian access, provisions for the handicapped, security, setback, signage, storm water runoff, and urban design. The following section discusses ways to improve urban design by regulating the location and appearance of parking spaces.

## Parking Location Requirements

The location and placement of parking greatly affects urban design. Parking lots located between the sidewalk and buildings make walking more onerous. To avoid this, planners can use conventional zoning regulations to require that parking be positioned below, behind, or beside buildings, rather than in front, and that buildings be oriented to the sidewalk.

Although Los Angeles did not begin to require off-street parking for retail and commercial buildings until 1946, cars and parking transformed the character of its commercial spaces in the first half of the 20th century. Richard Longstreth documented these changes. His work explains how merchants valued the sidewalk orientation of their businesses. Faced with an increase in the demand for parking, merchants initially provided parking spaces behind their buildings. Thus, major retail corridors like Wilshire Boulevard "maintained a sense of street-front drama by adhering to the pattern of showing facades and offering rear parking" (Longstreth, 1992, p. 152). Wilshire Boulevard set an example of pedestrian orientation for the region's smaller retail precincts during the 1930s and 1940s, but merchants finally abandoned pedestrians to make life more convenient for motorists and, as Liebs (1985) wrote, "the long-standing tenet of Main Street commercial site planning—line the shops along the sidewalk with room for parking only at the curb—was finally cast aside" (p. 14).

In a Planning Advisory Service report on how to prepare zoning ordinances, Lerable (1995) showed how the placement of parking lots can influence the pedestrian quality of the streetscape. The bottom panel of Figure 4 illustrates his recommended approach, placing parking lots behind buildings so that the only gap between shops is the access to parking. An even more desirable approach would close all gaps between the shops and provide access to the parking lot from a side street or rear alley. This would eliminate curb cuts on the main street, reduce driving across sidewalks to access the off-street parking, and allow the maximum amount of curb parking. Curb parking buffers the pedestrian



Figure 3. Walking in downtown Carmel.

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from cars and other vehicles on the street, and improves the walking experience on the sidewalk.

Similar ideas are popular with new urbanist architects and planners (Calthorpe, 1993). New urbanists sometimes go so far as to recommend a specific building typology, such as a colonnaded arcade, in order to respect the streetscape and push parking behind the buildings. A less prescriptive method is the use of build-to lines, the opposite of setback lines. Whereas setbacks ensure that buildings are placed at least a specified distance back from the street, build-to lines require that buildings come up to a specified plane, usually the sidewalk. New York's Lower Manhattan Plan pioneered the use of build-to lines to define visual corridors and maintain street front continuity (Barnett, 1974).

Regulations on the location of parking should not be implemented uniformly across a city, but should match a larger urban design strategy that recognizes the differing characters of neighborhoods. The city of SeaTac, Washington, for example, focuses on developing pedestrian-friendly commercial districts. It prohibits parking lots from dominating the streets in the commercial districts: "No parking shall be located between the building and the front property line. On corner lots, no parking shall be located between the building and either of the two (2) front property lines" (City of SeaTac, 2006).<sup>6</sup> Such ideas are valuable outside commercial areas as well. In West Hollywood, California, zoning prohibits the use of a residential front yard for parking:

Automobiles shall not be parked between the street property line and the front of a residential unit except on a driveway leading to a garage or carport, or a semi-circular driveway on a lot that has a minimum frontage width of seventy feet.<sup>7</sup> (City of West Hollywood, 2006a)

Such requirements help put on-site parking spaces beside or behind buildings, rather than in front, and can be combined with some of the design improvement strategies we discuss in the next section.

## Design Improvement Requirements

Rather than focus on individual land uses, planning for parking should actively shape public space. The following strategies show how cities can improve the design of surface parking, parking structures, and residential parking.

### Improved Design of Surface Parking

Because of their ubiquity, parking lots create great problems for urban design. They will continue to be built,

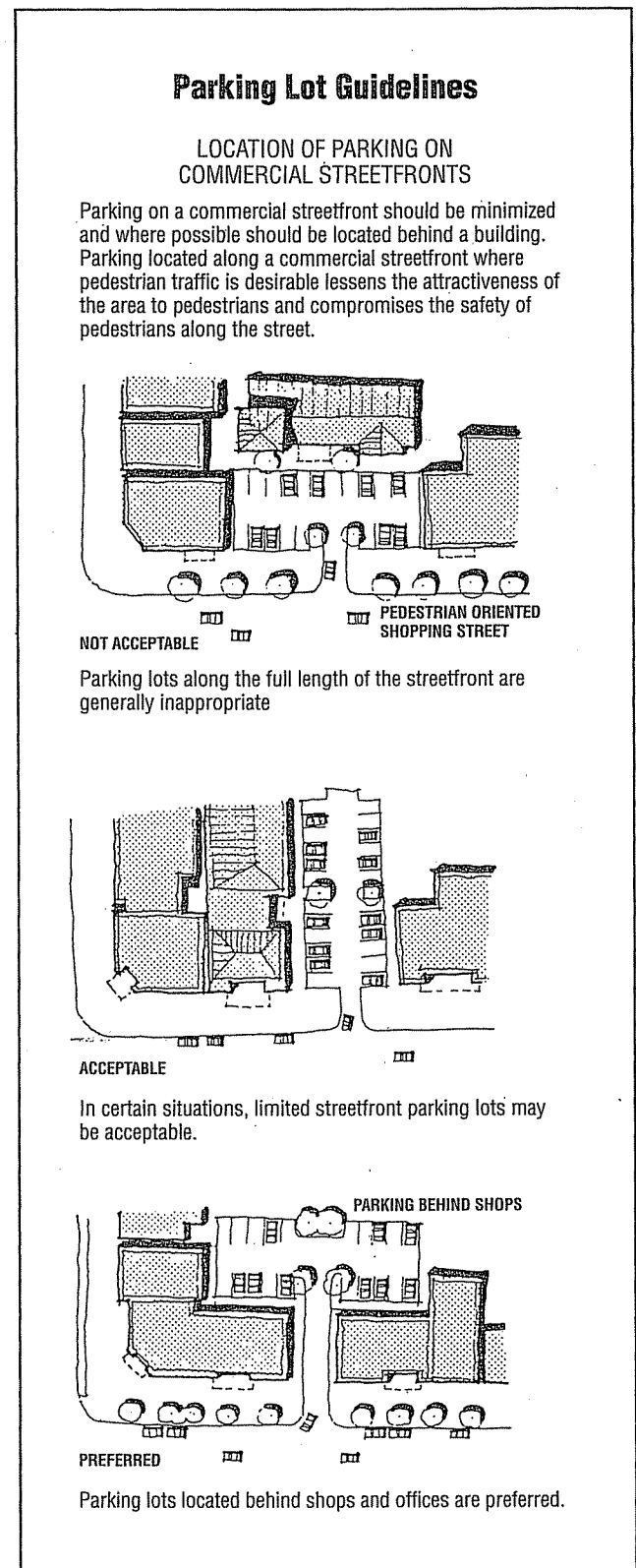


Figure 4. Parking lot guidelines.  
Source: Lerable (1995, p. 30).

but better design strategies can help integrate them into the built environment and improve the public realm. We have already discussed the possibility of locating these lots behind or beside buildings. Another approach, offered by Lynch and Hack (1984), is to limit the size of the parking lots and to drop them “a few feet below pedestrian grade, so that the line of sight passes over the car . . . [which] also makes it easier to screen the lots with planting or low walls” (p. 265). Cities can also require that surface parking be screened, as in West Hollywood:

Parking areas adjacent to a public right-of-way shall be provided with landscaping that is designed and maintained to screen cars from the view from the street to a height of forty-two inches, measured from the surface of the parking area. (City of West Hollywood, 2006d)

The reason for limiting the size of parking lots, dropping them partially below grade, and screening them is that conventional parking lots are visually unappealing. Other than concealing them, how can we make them more attractive? One strategy is to use landscaping. In the late 1980s, the Columbus Carscape Competition invited design ideas to improve parking design for a lot in downtown Columbus, Ohio. The winning entry transformed “the parking lot into a park, an urban plaza, through the use of ordinary elements of urban design—patterned pavers and lights under a canopy of trees” (Miller, 1988, p. 40). The winner proposed densely interspersing parking spaces with Bradford pear trees that “do not bear fruit but mark the seasons with white blossoms in the spring and leaves turning red-orange in the fall” (ibid.). The design was inspired by European urban plazas that accommodate cars, market-

places, and other activities in a single location. Modest landscaping can improve even small parking lots tremendously, and at low cost (see Figure 5).

Many cities have landscaping requirements for parking lots. West Hollywood, for example, has developed a comprehensive strategy. First, the city requires one canopy tree for every eight parking spaces (City of West Hollywood, 2006c).<sup>8</sup> Second, it defines the number of points awarded for each of a number of landscape and design features, as shown in Table 1. Developers can choose how to achieve the required number of points. This strategy is not overly prescriptive, and allows designers to be creative, but even cities that did not wish to use a point approach could use ideas from Table 1.

In Southern California, solar collectors cover some parking lots (see Figure 6). Some look like high-tech trellises or public art, and feature changing patterns. This makes parking lots more attractive and shades the cars, but is still a costly approach, even taking into consideration the offsetting benefit from the electricity generated.

### Parking Structure Design Requirements

Locating parking in structures occupies less land than surface parking. However parking structure design only occasionally enhances the built environment. In rare circumstances, collaboration between a skilled architect and an enlightened developer leads to a beautiful and functional parking structure, but developers often neglect the architecture and build parking structures as cheaply as possible. Most developers will voluntarily spend money to improve the appearance of a parking structure only to the extent that it increases the value of the residential or commercial development it serves. Because the private economic

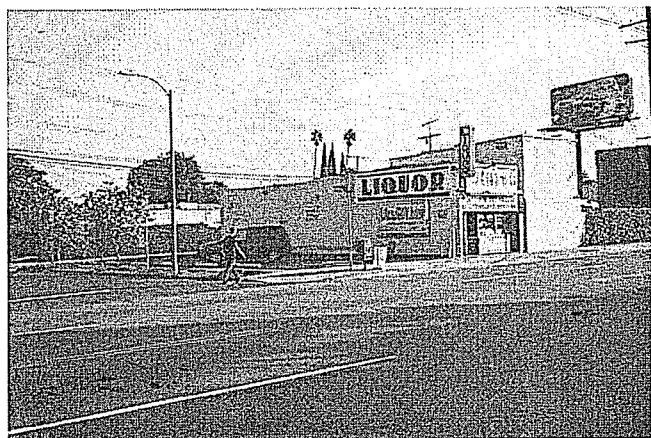


Figure 5. Parking lot without and with landscaping, West Hollywood. (Photo courtesy of Paul Travis).

Table 1. Landscape and site development features qualifying as credits toward point totals for parking lots in West Hollywood, California.

Earned points	Qualifying landscape or site development features
10	8% of site area within parking lot perimeter occupied by landscaping.
4	Each canopy tree.
4	Each existing large or well-established tree or specimen plant retained.
6	Consistent use of vine pockets against walls.
5	Pedestrian amenities (e.g., thematic or comprehensive pedestrian lighting scheme, unique decorative materials, art, or ornamental sculpture or fountains), each.
4	Surfaces other than asphalt or concrete and permeable surfaces as part of hardscape (does not include planters). Light colored surfaces and grasscrete are encouraged.
4	Pavement surfaces of rubberized asphalt.
5	Decorative perimeter walls with integral architectural elements (e.g., gateways, coping, piers, and ornamental decorative materials).
<b>The following are available only for parking lots with 51 or more spaces</b>	
20	Integration of circulation, hardscape, walls, landscaping, and lighting into a central design concept approved by the Review Authority.
5	Clearly delineated axis to adjoining buildings or other site relationships.
5	Maximum separation of pedestrian and vehicular travel ways.
5	Transition zones to sidewalk and building-adjacent areas.
5	Ability to use parking lot space in other ways when not being used for parking, with uses and activities deemed compatible with the zoning of the site and surrounding properties (e.g., pedestrian space or basketball court).
6	Decorative perimeter walls with integral architectural elements (e.g., gateways, coping, piers, and ornamental and decorative materials).

Source: City of West Hollywood (2006b)

incentives for good parking design are weak, parking structures need architectural controls and review to ensure good urban design.

One strategy to improve urban design is to build parking structures that look like regular buildings.<sup>9</sup> This was a common practice in the early part of the last century. A more contemporary approach is to “wrap,” or surround, a parking structure with retail or other uses. Dunphy, Myerson, and Pawlukiewicz (2003) suggested that “creative designers can wrap a parking structure with retail shops, eateries, residences, and services, such as dry cleaners” (p. 11). In addition to concealing the parking, this creates a mixed-use development, and patrons who park in the structure provide a built-in clientele for the retail businesses. How-

ever, this approach can increase a developer’s cost if natural ventilation is not feasible and mechanical ventilation is required. In such cases, cities may offer the developer a higher floor area ratio as compensation. Alternatively, cities can require retail or residential uses only at the street level and some modest architectural details on the upper level facades (see Figure 7). San Diego’s zoning ordinance mandates this approach for parking in the CBD: “All enclosed ground level parking areas shall be shielded from adjoining public *streets*, with such parking areas being separated from the public sidewalk by habitable residential or non-residential space, or utility rooms.” (City of San Diego, 2006).

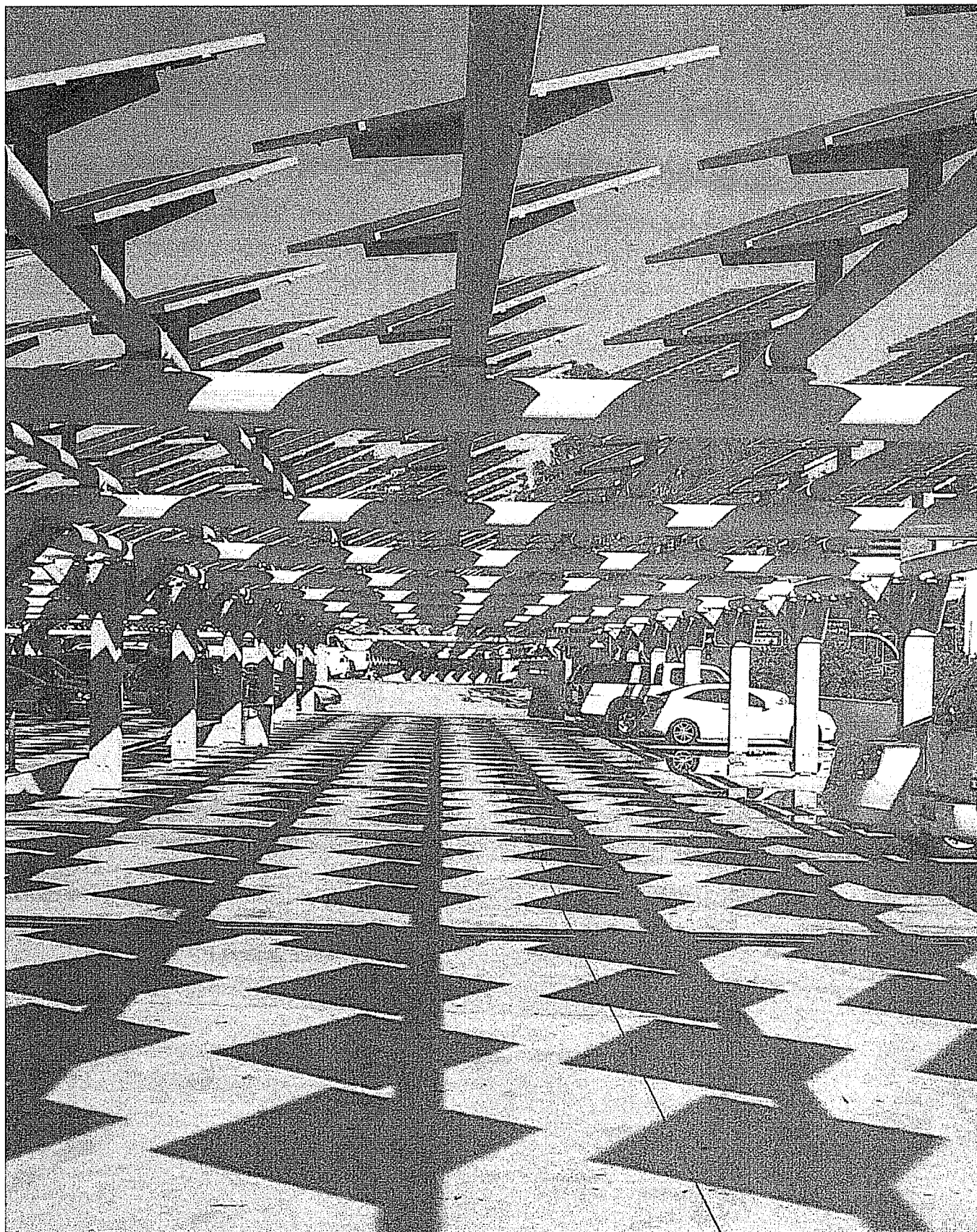


Figure 6. Solar collectors over a parking lot, Los Angeles.

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## Garage Door Restrictions

The importance of improved parking design is not limited to the commercial districts of cities. Parking infrastructure (garages and driveways) can easily overwhelm residential neighborhoods as well. To reduce the impact of parking on the residential streetscape, Carmel restricts the size of all residential garage doors that face a street to the width necessary for a single car: "On sites of less than 6,000 square feet, only a single-car-width garage door shall face the street" (City of Carmel-by-the-Sea, 1998a). As a result, garage doors do not dominate the fronts of houses. Figure 8 shows an example of a resulting facade. Portland, Oregon, limits the length of the garage wall facing the street to no more than 50% of the entire building facade (Wittenberg, 2002).<sup>10</sup> Other cities could follow similar strategies, limiting garage frontage but allowing more depth for parking.

Local governments can also restrict the location and design of garages. To prohibit "snout" houses with protruding garages that take up most of the street frontage, Olympia, Washington, requires that garages be located

behind the house or stepped back from the facade of a building. To limit the view of garages from the street and to minimize curb cuts that disrupt the sidewalks, Olympia's garage design guidelines recommend that driveways be as narrow as possible and shared where feasible (see Figure 9). Recessed garages and balconies over garage doors also help the doors disappear in the shadows (see Figure 10). Garage sidewalls that face the street can be designed to appear as habitable spaces by incorporating windows and other design elements that are in character with the rest of the dwelling (City of Olympia, 2006).

## Conclusion

Although we criticize the way planners now regulate parking, we do not call for deregulation. Instead, we recommend that planners use their ability to regulate parking more constructively, worrying less about the quantity of parking and more about its quality. Market

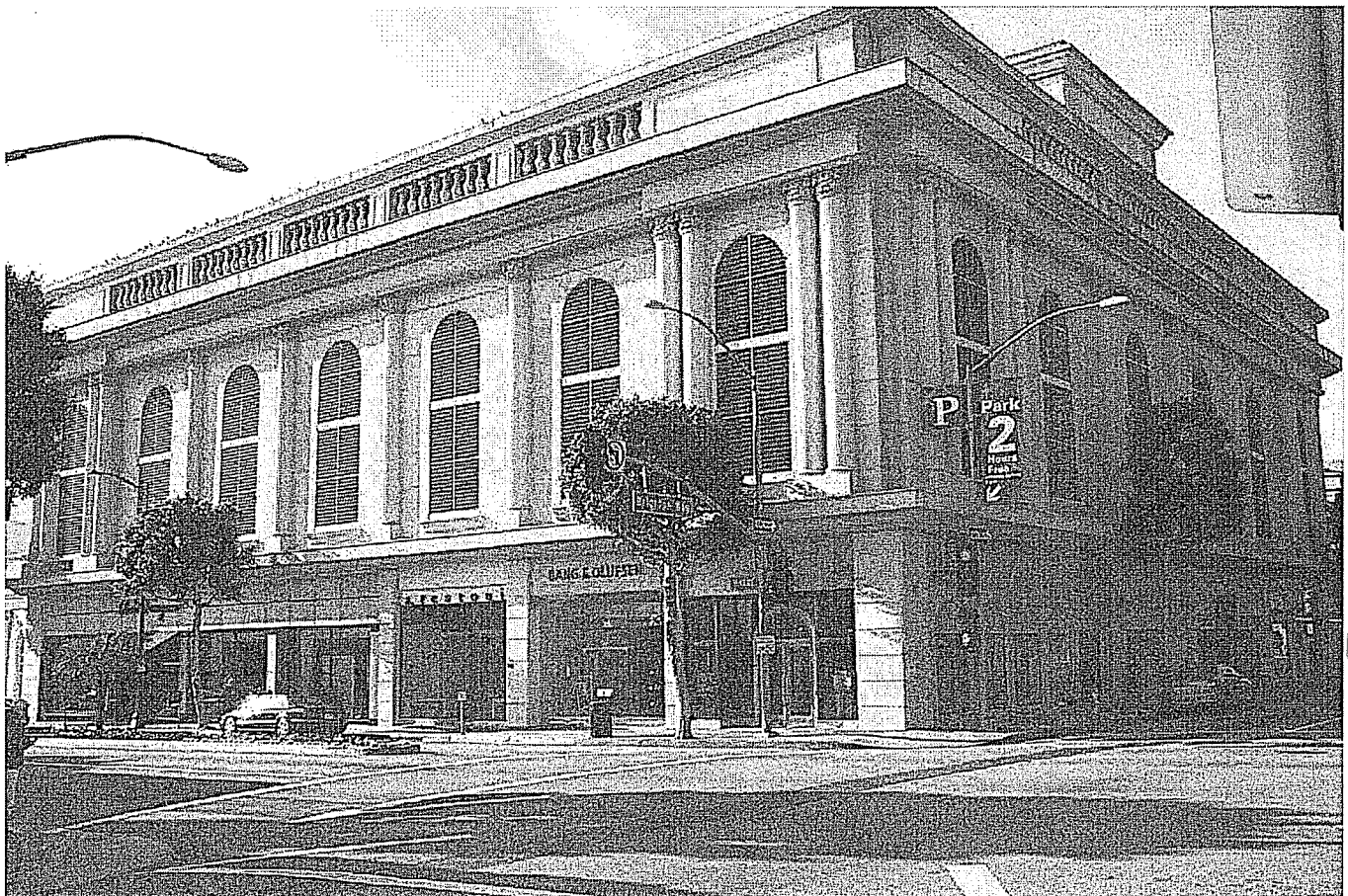


Figure 7. Parking structure with ground-floor retail, Beverly Hills.

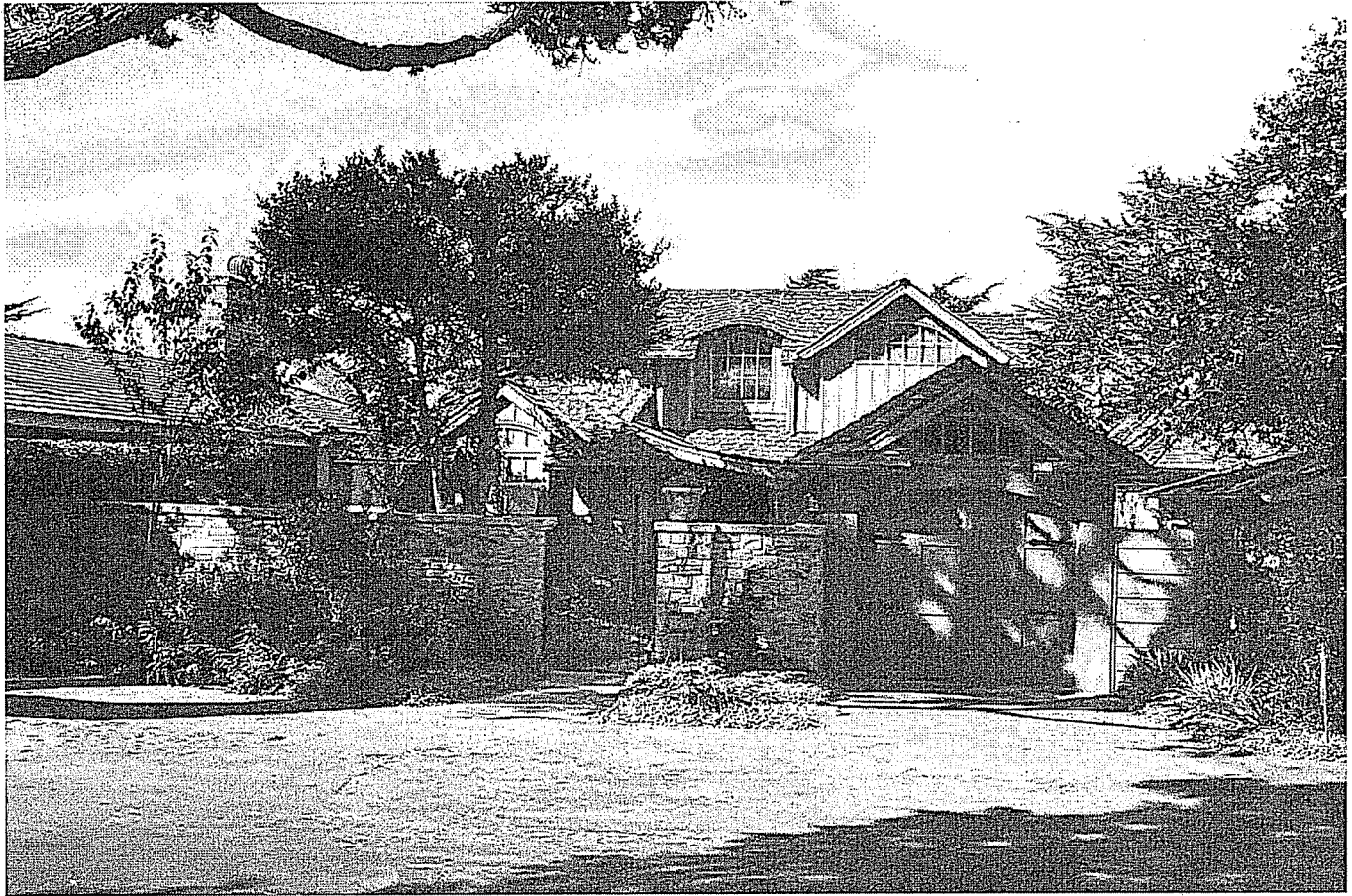


Figure 8. Single-car-width garage, Carmel.

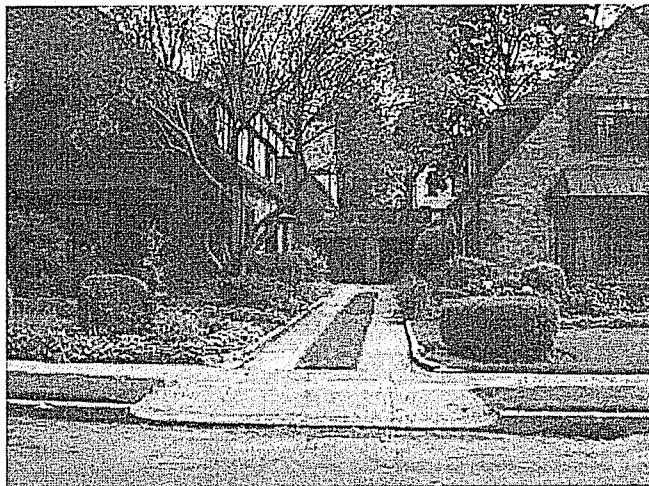


Figure 9. Shared driveway, Forest Hills.  
(Photo courtesy of Joel Cochran).



Figure 10. Recessed garage door, Los Angeles.

# 9-10



forces can ensure an adequate number of parking spaces, but the economic incentives for good parking design are weak. Nonetheless, most local governments strictly regulate parking quantity but ignore its quality. As a result, parking now spoils much of the American landscape.

Even where local governments do regulate the design of parking lots and structures, minimum parking requirements require a massive parking supply that is difficult to camouflage. This article points out places that have put quality ahead of quantity in their regulation of parking, providing examples for other localities. We find at least five different approaches to improving urban design through creative off-street parking requirements: limiting the number of parking spaces; improving the location of parking; and requiring better design of parking lots, parking structures, and residential garages. Just as many cities have adapted zoning codes from other communities, they can use design regulations from other places to improve the quality of their own urban environments. Planners cannot significantly improve the design of cities without reforming local parking requirements to emphasize quality over quantity. While developers may object that better design will cost more, cities can mitigate these costs by reducing or removing minimum parking requirements. Reducing parking alone will improve urban design. As a famous architect once put it, less is more.

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### Notes

1. In their illuminating history of how parking lots have affected American cities, Jakle and Sculle (2004) concluded, "Nothing over the past century has proven as disruptive of traditional urban landscape as parking. Perhaps nothing has made American cities less memorable" (p. 8). In his excellent guide to better design of parking lots and structures, Childs (1999) wrote, "The typical design of parking lots as simply a monofunctional expanse of cheap asphalt and a net of white lines is wasteful and destructive. . . . parking lots have eaten away cities in the United States like moths devouring a lace wedding gown" (p. xxi). Minimum parking requirements have made this bad situation even worse.
2. In their seminal work *Collage City*, Rowe and Koetter (1978) criticized the revitalization of cities based entirely on demolition and redevelopment, and made an argument for the preservation of older buildings and styles.
3. The Los Angeles Municipal Code states that for these conversions, "The required number of parking spaces shall be the same as the number of spaces that existed on the site on June 3, 1999, and shall be maintained and not reduced" (City of Los Angeles, 2001).
4. Carmel provides several parking lots on the periphery of its downtown.

5. The Urban Land Institute (1983) explains the economics of shared parking.
6. Similarly, the Rochester, New York, Municipal Code states, "parking shall not be permitted between a building and the sidewalk" (City of Rochester, 2005b).
7. Similarly, the Rochester, New York, Municipal Code states, "Parking for single-family, two-family and attached dwellings in all districts shall be limited to no more than three vehicles for each dwelling unit. No parking for such residential uses shall be located in the required side or front yard setback except in a legal driveway that provides access to the rear yard, a detached or attached garage." (City of Rochester, 2005a).
8. Similarly, the Rochester, New York, Municipal Code states, "A minimum of one landscaped area with a minimum size of 162 square feet (approximately nine feet by 18 feet) shall be provided for every 15 parking spaces and developed as islands within the parking surface area" (City of Rochester, 2005c).
9. West Hollywood requires that "Parking structures visible from street frontages shall be designed to be compatible with architectural character and quality of adjacent buildings and shall not adversely impact abutting pedestrian sidewalks" (City of West Hollywood, 2006e).
10. Similarly, New Jersey requires cities to calculate the number of off-street parking spaces in a way that reduces the garage frontage. A one-car garage and driveway combination counts as two parking spaces if the length of the driveway is at least 18 feet between the face of the garage door and the right-of-way (State of New Jersey, 2006).

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