Parking requirements as a barrier to housing development: regulation and reform in Los Angeles

Michael Manville

Lewis Center for Regional Policy Studies

Institute of Transportation Studies

UCLA

Abstract: Using a partial deregulation of residential parking in downtown Los Angeles, I examine the impact of minimum parking requirements on housing development. I find that when parking requirements are removed, developers provide more housing and less parking, and also that developers provide different *types* of housing: housing in older buildings, in previously disinvested areas, and housing marketed toward non-drivers. This latter category of housing tends to sell for less than housing with parking spaces. The research also highlights the importance of removing not just quantity mandates but locational mandates as well. Developers in dense inner cities are often willing to provide parking, but ordinances that require parking to be on the same site as housing can be prohibitively expensive.

Acknowledgments: Funding for this research was generously provided by the University of California Transportation Center. I thank Katie Matchett, Lily Song, Priyah Zachariah, Sharon Cech, Andrew Lee, Norman Wong, Alex Beata, Jessi Kennedy and Matt Bruno for outstanding research assistance. My thanks also go to those individuals who let me interview them. Donald Shoup provided valuable comments, as did Dan Chatman, Kurt Paulsen, Jonathan Yorde and participants at the annual meeting of the Associated Collegiate Schools of Planning. All errors are my own.

I. Introduction

When a local government requires a developer to provide parking on-site with new residential units, the cost of housing rises and the price of driving falls. The cost of parking, which drivers should pay at the end of their trips, is instead paid by developers at the start of their projects; the terminal cost of driving becomes an upfront cost of development. Confronted with this cost, a developer might build fewer housing units. The parking requirement would be a regulatory barrier to housing development.

Do parking requirements pose such a barrier in practice? They needn't, if they are not binding, or if the amount and location of the parking they require is equal to or less than what unregulated developers would provide on their own. Thus in places where land is plentiful and inexpensive, and where most housing consumers want ample off-street parking, the barrier created by a parking requirement might be small.

In places where land is scarce and expensive, however, and where many people can travel by non-auto modes, the distortion introduced by a minimum parking requirement might be large. Parking is more expensive to supply in some places than others, so we should expect parking requirements to inhibit housing development most where the cost of parking is highest. In many instances this will be inner cities. Inner city land is expensive, its ownership fragmented, and its buildings close together, frequently covering their entire lots. In such situations developers often have to build subterranean or structured parking, which is always costly and in some cases physically impossible. Inner cities also tend to have older buildings that are architecturally and historically significant, but that lack parking and the space to add it. Parking requirements could prevent the use or re-use of these buildings.

Here is an anecdote: in February 2010 developers in inner city Indianapolis proposed to rehabilitate a long-vacant and graffiti-covered building, which had been built in 1915, and turn it into 24 apartments. The city's zoning code required one on-site parking space per apartment, but there was no room for surface parking on the lot. The developers requested a variance. The property was surrounded on three sides by surface parking lots, and three bus routes ran down the street where the building was located. "To require this site to meet the required off-street parking standards," the city's planning staff wrote in support of granting the variance, "would require the demolition of a portion of the building or acquisition of adjacent sites." The planning commission, however, denied the variance, and the building remained empty.[1]

To preservationists, empty buildings are endangered buildings. For criminologists, empty buildings are dangerous. And urban policymakers and thinkers going back to Jacobs (1961) have argued that the quantity and quality of the housing stock is a crucial component in reviving and maintaining city neighborhoods. Thus a parking regulation that constrains housing production in a dense inner city might have costs that exceed the value of the lost housing alone, if it delays neighborhood revitalization and the positive externalities that accompany it (Schwartz et al 2006; Galster et al 2006; Rossi-Hansberg et al 2010). Further, these costs, if imposed for the sake of parking, could be needless. Inner cities are where walking and transit use are most feasible; where individuals can most plausibly live without immediate and regular access to a car; and where people who cannot afford cars are most likely to reside. These same inner city areas are also likely to have old vacant buildings. Oldness is a scarce resource, and architecturally attractive old buildings should be a competitive advantage for inner cities; they are a pleasing amenity that most suburbs lack. Converting these buildings to residential use could increase the

[1] Information about this case can be found at http://www.aplaceofsense.com/2010/02/indy-parking-policies-fail-its-citizens.html; the planning documents are available at http://www.indygov.org/eGov/City/DMD/Planning/Zoning/Documents/he/1-28-10he.pdf.

housing stock, help revitalize downtrodden neighborhoods, and give new economic value (and therefore protection) to historic structures. If such buildings remain vacant, however, they become albatrosses rather than assets, and contribute to decline rather than rebirth. Just as the social benefits of new housing in disinvested areas are well-documented, so too are the social costs of large-scale vacancy (Skogan 1990; Kelling and Coles 1996; Immergluck and Smith 2006). Minimum parking requirements might therefore cost most where parking is needed least, and obstruct housing development where housing is needed most.

This article examines the degree to which parking requirements present a barrier to inner city housing development, examines whether housing development can increase if parking requirements are removed, and asks whether the *type* of housing permitted in the absence of parking requirements differs from the housing stock that parking requirements encourage. The article investigates these questions by exploiting a natural experiment. In 1999 the City of Los Angeles approved an Adaptive Reuse Ordinance (ARO) for its downtown. Designed to encourage the conversion of vacant commercial and industrial buildings into housing, the ARO allowed developers who owned qualifying buildings to depart from the standard downtown zoning code in three ways. The first was an alternative life safety code. The second was a by-right exemption, which allowed developers to change the buildings' use—from commercial or industrial to residential—without needing to apply for multiple variances. Lastly, and most importantly for this article, the ARO exempted qualifying buildings from minimum parking requirements. Although developers could not remove any existing parking, they were under no obligation to add any. New ground-up residential construction in the downtown, however, was still subject to the city's parking requirements. The ARO therefore partially deregulated parking in downtown Los Angeles.

The ARO allows us to observe the behavior of unregulated developers, and to compare what they do to what they *would have been required* to do in the absence of an exemption. The ARO thus permits a test of the assumption that minimum parking requirements are binding; do developers freed from parking requirements in fact supply less parking and more housing? We can answer this question by examining whether older buildings were in fact converted to housing as a result of the ordinance, and if so, what role the parking exemption played in enabling these conversions.

We can also use the ARO to draw some inferences about the costs of current minimum parking requirements. As a result of the Adaptive Reuse Ordinance, downtown Los Angeles now contains a large number of buildings that did not face parking requirements in close proximity to buildings that did. Developers who use the ARO to convert old empty buildings into housing downtown face many of the same market conditions as developers who build new housing there—the same amounts of crime and traffic, the same levels of transit accessibility, and so on—*except* minimum parking requirements. By comparing the amount of parking provided by unregulated ARO developers to the amount of parking required of new developers nearby, we can make some estimates about whether and how much the parking requirement exceeds the market demand for parking.

The next section of the article provides a framework for thinking about parking requirements as a regulatory barrier, and then presents a series of hypotheses that flow from that framework. Section III summarizes data and methods, and Section IV presents results, moving systematically from one hypothesis to the next, beginning with descriptive evidence and culminating in series of regression equations. Section V discusses some possible limitations to the study, and Section VI concludes.

II. Housing for People, Housing for Cars

If a land use regulation increases per-unit construction costs, it can lead developers to supply fewer units, reducing the overall supply of housing and increasing its price. But land use regulations can constrain the supply of housing in three additional ways as well: by making it difficult to build housing for certain types of people, in certain types of buildings, or in certain neighborhoods. A residential minimum parking requirement can do all three. When a local government requires on-site parking spaces with every housing unit, no housing can be built explicitly for households without cars, or for car owners willing to park their cars off-site. The requirement further implies that buildings without parking (and without space to add it) cannot be converted to housing. And if these buildings tend to be near one another, the law renders entire areas unsuitable for residential use. The regulation will therefore constrain both the *overall supply* and the *variety* of available housing. As a result, the price of housing should rise, both because the overall supply is constrained, and because housing targeted at people without cars is *de facto* prohibited.[2]

How large will these effects be? Some academic and anecdotal evidence suggest that the impact could be substantial. In 1980 a federal court ruled that the parking requirements in Parma, Ohio had "the purpose and effect of severely restricting low-income housing."[3] Similarly, Deparle (1993; 1994) discusses the role parking requirements played in stopping Single Room Occupancy hotels in San Diego. Bertha (1964) showed that implementing parking requirements in Oakland led to an 18 percent increase in construction costs, a 30 percent reduction in housing

[2] People without cars are often poor people. In the five-percent IPUMS sample of the 2000 US Census, the simple correlation between poverty and vehicle ownership is -0.4 (N=14,081,466).

[3] *United States vs. City of Parma, Ohio* 494 F. Supp. 1049, 1052 (US District Court for the Northern District of Ohio, 1980).

unit density, and a 33 percent reduction in land value. He also found that the requirement led developers to offer larger (and therefore more expensive) units. And Jia and Wachs (1999) found that housing in San Francisco that didn't have a parking space sold for 12 percent more than housing with parking.

The size of the regulatory barrier posed by a parking requirement will depend on the requirement's stringency, and the stringency will depend in turn on two factors: the *quantity* of parking required and the *location* where the city requires it. A requirement will be more difficult to satisfy if it mandates more spaces, mandates that the spaces be on-site, or both. It follows that a city should be able to reduce the regulatory barrier imposed by a parking requirement by reducing the number of spaces required or allowing spaces to be provided off-site.

The relative impact of these actions—reducing the quantity requirement versus the locational requirement—is open to question. There is some reason to believe, however, that relaxing locational mandates could be particularly useful in central cities, because many central cities already have abundant off-street parking (Jacobs 1961; Jakle and Scully 2004). Many of these spaces are underused, and located in private lots or underneath commercial buildings. The peak occupancy for these spaces occurs during the day, while peak occupancy for residential parking occurs at night. (Willson 1995; Shoup 2005:82). The supply of excess parking spaces and unused building space suggests potential gains from trade. If a portion of inner city housing consumers would be willing to rent existing off-site spaces, and if the current owners of those spaces are willing to lease them, then developers can build less parking and more housing. Existing vacant buildings and existing vacant parking spaces could both be used more efficiently.

The logic above leads to six hypotheses: Specifically, we can predict that removing quantity and location requirements for off-site parking should result in:

1. More housing construction
2. Housing constructed in previously unused or underused buildings
3. Housing construction in previously disinvested areas (if the buildings in hypothesis 2 tend to be near one another)
4. Developers supplying less parking than the zoning would otherwise allow
5. Housing marketed toward people who don't own cars or use cars infrequently.
6. Result, because of number 5 above, in the availability of some housing units at a lower price

III. Data and Methods

I use the Adaptive Reuse Ordinance to test the hypotheses outlined above. The ARO applied only to vacant or under-used commercial and industrial buildings, and could only be used to turn those buildings into housing.[4] The ordinance applied automatically to any such building constructed prior to July 1, 1974, and could apply to newer buildings if a) the buildings were at least five years old, and b) the zoning administrator determined the buildings were no longer economically viable in their current use. Three large office buildings constructed in the 1980s were converted to housing based on such determinations. In February of 2003, four years after the ARO was approved for downtown Los Angeles, the city expanded it to include five neighborhoods surrounding the downtown. In December of 2003, the city expanded the ordinance again, to cover the entire city. Nevertheless, the bulk of Adaptive Reuse activity has occurred in the downtown.

[4] "Under-used" is a relative term, but for example a building that was primarily rented out for filming movies or TV—as a number of these buildings were—might qualify as underused, since it housed only occasional economic activity.

Parking is publicly-mandated but privately supplied, and while developers must demonstrate that they will provide parking spaces, its atomistic provision means that cities often lack any systematic data on how much off-street parking is available in a given building, neighborhood or street.

I estimate parking supply from two separate sources of information. The first is an original survey of Adaptive Reuse buildings carried out in 2009 and 2010. I began with a list of ARO projects issued by the Mayor's Office of Economic Development, and augmented that list with information from real estate development blogs, development trade periodicals, and newspapers devoted to downtown Los Angeles. Researchers called leasing companies and developers and asked a series of questions about parking provision at the building dealt at (e.g., how many spaces were provided, were the spaces on-site, did they come bundled with units, etc.). If a building was fully leased or sold, I contacted its management agency or homeowners association. In a few instances I also spoke to residents. I validated the information by contacting two different sources about each building, and/or by examining rental advertisements on real estate web sites. Using this approach I was able to assemble parking information on 56 of the 67 buildings, a total of 6,647 housing units. Appendix 1 shows the buildings in the sample, their dates of construction and presents the full list of questions asked. For most buildings, I was told how many parking spaces were allocated to each unit. In some instances, however, buildings assigned spaces based on the number of bedrooms in each unit. For these buildings I obtained a breakdown of the number of one-, two- and three-bedroom units, and then constructed a weighted per-unit average.

One advantage of surveying leasing and management companies—rather than reviewing planning documents—is that leasing agents tend to have better information about parking.

Because ARO buildings are not required to provide parking, many formal or informal arrangements, such as parking spaces leased in a nearby garage for the benefit of residents, or the tendency of residents to seek out their own parking, will not show up in planning documents. But current and potential tenants frequently ask about parking, so leasing agents have a strong incentive to know how residents address the problem. The drawback to relying on agents is that they have virtually no incentive to know how many parking spaces a building had prior to its conversion, so I am unable to control for the presence of pre-existing parking. (For about 50 buildings, I did examine building permits and certificates of occupancy. Almost none of them included information about parking, and of those that did, the information was usually inaccurate or incomplete. For example, a certificate of occupancy might indicate that a building had 20 parking spaces on-site, but in talking to the leasing agency later I would learn that the developer had also rented spaces elsewhere).

This survey provided *building-specific* data. Once sold, however, dwelling units change. A developer might build condos and sell them without parking, but buyers might nevertheless acquire a parking space on their own, and the unit, when re-sold, might include parking (perhaps not parking on-site, but parking nonetheless). Similarly, an apartment building that usually rents parking separately from dwelling units might react to a market downturn and start bundling parking with rent, in an effort to attract more customers or different customers. For this reason is also important to examine *unit-specific* data. I assembled a sample of condos and apartments for sale or rent in downtown Los Angeles between February and September of 2010. Some of these units were in ARO buildings, while others were in non-ARO buildings built between 1999 and 2009. I compiled these data from the Downtown Loft Exchange (DLX), a real estate web site that tracks loft properties for sale or lease in downtown Los Angeles and nearby neighborhoods.

The DLX data contain information on the asking price, the final price (for units that have already been sold or rented), and the number of parking spaces that come with the unit, as well as information on a number of other attributes of the unit and the building. Appendix Two lists the buildings included in this sample.

The ARO did not only offer developers a parking exemption, but granted them the alternative seismic code and the by-right exemption as well. It is therefore hard to determine how the parking exemption specifically, rather than the other incentives in the ARO, contributed to this surge in residential construction. Note that a developer *exploiting* the exemption is not equivalent to the exemption's being *necessary.* An unregulated developer could provide less parking but the same amount of housing as a developer subject to parking requirements (although the type of housing provided would doubtless be different). Thus evidence that developers provided less parking than the code would have allowed is not evidence that the parking exemption made any housing possible.

Given the design of the ARO, there is no quantitative way to isolate the importance of the parking requirement, so I rely on interviews. I interviewed nine developers who together converted 17 buildings into 1,940 housing units. I also interviewed a planning consultant who assisted in the conversion of numerous ARO buildings, a planner with over 20 years of experience in downtown LA, and an architect who helped convert ten vacant downtown commercial buildings into about 2,000 housing units. These interviews were supplemented with information from newspaper articles and trade periodicals.

III. ANALYSIS AND RESULTS

Quantity of ARO Housing

From 1999 to 2008, developers used the Adaptive Reuse Ordinance to build at least 7,300 housing units in downtown Los Angeles.[5] All of these units, by definition, were constructed in buildings that had been vacant for at least five years, and many had been vacant for much longer. Between 1970 and 2000, by contrast, downtown Los Angeles added only 4,300 housing units (from a total of 8,900 in 1970 to 13,400 in 2000). Thus the ARO by itself created more housing in less than ten years than all public and private sector efforts in the previous thirty years combined (see Figure 1).

Implementation of the ARO coincided with the onset of the housing bubble, so the fact that developers used it to create new housing is not *prima facie* evidence that the law, rather than growing real estate market, was responsible. Definitive data about housing construction in the downtown will not be available until the release of the 2010 Census, but the Los Angeles downtown Business Improvement District (BID) tracks new residential construction in downtown LA. The BID's data suggest that between 1999 and 2009 the downtown added over 15,000 market rate housing units.[6] If this is the case, then the quantity of ARO development was roughly equal to non-ARO new development, raising the possibility that the broader upturn in the housing market, as opposed to the ARO in particular, generated the 7,000+ adaptive reuse housing units. I return to this issue in Section IV.

Age and Location of the ARO Conversions

The median year of construction for the ARO buildings was 1922; three of the buildings were built before 1900. By way of comparison, in 2000 the median year of housing construction

[5] There is no single definition of "downtown" Los Angeles, but a general consensus exists that the downtown is the area bounded by the 10, 5, 101 and 110 freeways. This area is encompassed in Census tracts 2062, 2063, 2073, 2074, 2075, 2077, 2079, and 2260. Two of the ARO projects, the 1010 Wilshire and 1100 Wilshire buildings, lie just outside these traditional boundaries (they are slightly west of the 110 freeway), so in comparing the ARO with residential construction in previous decades I err on the conservative side and remove their 455 housing units from the total.[5]

[6] See http://www.downtownla.com/pdfs/econ_residential/3Q10ResidentialFactSheet.pdf

in the downtown Census tracts ranged from 1940 to 1981, while the median years of housing construction in LA City and County were 1960 and 1961, respectively. A number of the buildings converted to housing under the ARO are considered examples of the West Coast Art Deco and Beaux Arts architectural traditions.

Over 6,000 ARO housing units are clustered in a single Census tract (Figure 2). The Census tract (number 2073) had at one time been known as the "Wall Street of West, and was home to held corporate headquarters for financial institutions including Bank of America, Farmers and Merchants Bank, Crocker National Bank, California Bank & Trust, and International Savings & Exchange Bank, as well as the Los Angeles Stock Exchange. The entire area is listed on the National Register of Historic Places. Once elegant, it had begun to decline in the 1960s, and by the 1980s the *Los Angeles Times* wrote that it was "a neighborhood of hoodlums, derelicts and winos—a neighborhood of echoing buildings full of absolutely nothing above the ground floor."[7] In 1980 the Census tract just over 3,100 housing units, and in 2000 it had just over 3,600.[8] Since 2000 the ARO alone has produced over 6,000 units in dozens of buildings in the area.

Did Unregulated Developers Supply Less Parking?

Table 1 shows downtown LA's residential parking requirements. For apartments, developers must provide one on-site, covered parking space for each rental unit of has less than three "habitable rooms" (a kitchen, common area or bedroom). For units with more than three habitable rooms (i.e., a two bedroom apartment) developers must provide 1.25 spaces per unit.

[7] See John Dreyfuss, "Spring Street: On the Road to Respectability". Los Angeles Times, May 14, 1982.
[8] The tract number is 2073.

The downtown parking requirement for condominiums is more complex. Condos in Los Angeles are regulated not just by the zoning code, but also by a planning advisory agency formed specifically to oversee condominiums. The advisory agency has determined that downtown is a "parking impacted area" and until 2005 as a result of this determination required 2.25 to 2.5 parking spaces per condo. In 2005, however—in part because of criticism from planners and developers, and in part because of the success of the Adaptive Reuse Ordinance—the advisory agency began requiring fewer spaces for condos, and now usually requires 1.5 to 2 spaces per unit.

Table 2 compares the parking requirements to the actual amount of parking provided at Adaptive Reuse apartment buildings; it compares, in others words, what unregulated developers *did* with what they *would have had to do.* I lack data on the number of rooms in each ARO apartment unit (the data are building-specific rather than unit-specific), so I conservatively assume that all ARO apartments would have required 1 parking space per unit. I make a similar assumption about condos. Many of the ARO condos in the sample were permitted prior to 2005, and as such would have been required to provide between 2.25 and 2.5 parking spaces per unit. Some of the condos are newer, however. For the current analysis I assume all condos would have been required to provide 2 spaces per unit.

Unregulated apartment developers did not, on average, depart from the parking quantities the zoning code requires. The downtown parking requirement calls for 1 parking space per unit, and Adaptive Reuse developers provided, on average, slightly more than that (1.2 spaces).

However, averages alone don't tell the whole story. First, the simple averages mask substantial variation, as the standard deviation shows. A minimum parking requirement establishes a floor for parking; by definition the variance can only extend in one direction. In the

Adaptive Reuse apartments, however, one building (a small project that was affordable housing) provided no parking at all, and four others provided less than one space per unit.

Second, the data show that the *location* of the parking matters. Developers provided 1.2 spaces per unit on average, but provided only half (0.6) of those spaces on-site. The remainder were usually leased from other parking structures or lots in the downtown. Had the ARO buildings been subject to the downtown parking requirement, all spaces would have had to be on-site.Table 3 shows that the pattern of parking provision at ARO condominiums is similar, although the effects are larger. The 19 condo buildings in the sample account for just under 2,100 housing units, and on average each condo unit is accompanied by 1.3 parking spaces. Because the condominium parking requirement in downtown LA is 2 spaces per unit, this by itself represents a substantial reduction in parking. As was the case with rental units, the difference is magnified once the parking's location is taken into account. ARO condos provide slightly less than 1 space per unit on-site.

In total, 16 of the 57 ARO buildings provide all their parking off-site, while an additional nine buildings offer tenants some combination of on- and off-site parking. Twelve buildings provide at least some parking in an uncovered surface lot, which would also be illegal under the existing LA zoning code.

The Causal Role of the Parking Exemption

My interviews suggest that the parking exemption was a necessary but not sufficient component of the development enabled by the ARO. The parking exemption alone would not have allowed the redevelopment of the ARO buildings--after all, almost every old building in downtown Los Angeles was illegal according to contemporary earthquake-safety standards—but

for many of the buildings the absence of the parking exemption would have prevented a residential conversion.

The importance of the parking exemption declined with the standard of housing being constructed. A number of developers and consultants said the parking exemption was the most crucial aspect of the law, but developers of high-end units were an exception. High-end buyers often want parking on-site, and the large institutional lenders necessary to finance luxury housing were skeptical of projects that lacked on-site parking. For luxury developers, the most important facet of the ARO was its by-right exemption. Both developers and lenders can be hesitant about investing in inner cities, in part because of uncertainty about future land prices (Cunningham 2006), but also because of uncertainty about regulations. Re-zoning a vacant commercial building for housing can require multiple variances—the building is likely to lack setbacks, open space and so on—and at each stage planners might attach new conditions to a project. As one developer put it, "Financial institutions don't understand, and don't want to understand, the planning process. They just want to know that you have approvals and that nothing will change." Nevertheless, a few interviewees pointed out that the by-right exemption and the parking exemption interacted. The by-right exemption meant that developers had fewer public hearings and levels of review, which in turn meant fewer opportunities for neighbors and planners to pressure them to provide more parking. And a few high-end developers acknowledged using the ARO to provide less parking than the conventional code would have allowed.

Almost all respondents, high-end developers or otherwise, pointed out that relaxing the locational requirement on parking was instrumental in allowing residential conversions to go forward. For all developers, the ARO's parking exemption was valuable not because it allowed

them to forego parking, but because it let them be creative in how they supplied it. As one developer put it:

> Government regulations have a way of being set in stone, and unless there's some ordinance that reverses that sort of powerful and unmovable object, you end up with "no" as your first answer. Whereas the market in this case—and the financial institutions—present you with a problem, which is "Well, what are you gonna do about parking?" And then you're left to create this sort of wacky, you know, unconventional solution to the parking problem. And that's what happened, I think, in the case of adaptive reuse.

A minimum parking requirement, in other words, presents a developer with a problem (the need for off-street parking), and also tells the developer how to solve that problem (provide a set number of covered spaces on-site with every unit). The parking exemption, by contrast, doesn't remove the problem (some parking is still necessary), but it does remove the one-size-fits-all solution.

The ability to supply parking off-site helped developers simultaneously satisfy lenders, minimize development costs, and maximize the sales potential of an old building. Developers often acquired underused off-site parking spaces nearby, constructed some on-site spaces in the mezzanine or basement of the existing building, or did some combination of both. A useful example is the Pegasus Lofts, a 500,000 square foot building that was once corporate offices for Mobil Oil. The Kor Group purchased the building in 2001 from the real estate company Kennedy-Wilson. At the time of purchase, the building had a basement parking structure with 50

spaces. Kennedy-Wilson also owned a commercial parking structure three blocks away with 700 spaces. When Kor purchased the Pegasus building, it also signed a long-term lease agreement for parking spaces in the off-site garage. But Kor wanted to develop high-end rental units, and knew it would need a large quantity of on-site parking. So the company turned the second and third story of the Pegasus into parking, and constructed a 322-unit apartment building with 200 in-building spaces.

Kor then signed a shorter-term lease with a small off-site garage one block away from the Pegasus. Lastly, it unbundled its on-site parking from rent. When the Pegasus opened, all tenants received a parking space in the lot one block away. The price of this parking was included in the base rent. Tenants who opted not to use this parking, however (because they had no car or could arrange parking on their own) could forego the space and get a rent discount. Tenants who wanted a space on-site paid a premium for it—usually between $150 and $250 a month. The price varied to ensure that some on-site parking spaces were available when one of the building's luxury units became vacant). The parking spaces in the structure blocks away, meanwhile, were leased primarily to nonresidents—office workers and other downtown commuters. The primary purpose of that parking structure was to secure a construction loan; a long-term lease made lenders comfortable because it ensured a supply of parking for the life of the loan, while the smaller, closer garage with a 30-year lease helped sell the building to tenants.

Could the Pegasus have been converted to housing if the city had required all parking on-site? The downtown parking ordinance would have required at least 322 on-site spaces, not 200. Had this ordinance applied, then at the very least each unit in the Pegasus would have been significantly smaller. Alternatively, the developers could have kept the same number of on-site parking spaces and built, at most, 200 apartments, resulting in a loss of 122 housing units. Fewer

units would likely mean larger and more expensive units, reducing the probability that the units would be apartments; developers usually market large units as condos. Condos, however, legally require more parking than apartments, and 200 parking spaces would only permit between 100 and 122 condos—a loss of up to 200 housing units.

If we take the number of on-site parking spaces in each ARO building in the sample as a given, and calculate the number of units that would have been permitted under the parking requirement, we lose an average of 48 housing units per building, or 2,640 lost housing units total. To be sure, with some other combinations of parking and housing the building might still be profitable, while in others it wouldn't pencil out. The point is only that the Pegasus is a successful building, with rents in 2010 ranging between $1,200 and $3,000 per month. Yet it would be illegal to build an exact replica of it today. Were a developer to construct a building from the ground-up next to the Pegasus, which mimicked it perfectly in size and style, the building would require more parking, less housing, or different housing.

The Price of Adaptive Reuse Units

Developers who can offer units without parking can target a lower-income market and offer units at lower prices. Although in theory a developer could market an entire building to carless households, in practice the developer is more likely to unbundle parking from rent, and renting parking to some tenants while renting only housing to others. Twenty of the 56 buildings in the sample unbundle either the first or second parking space. As a strategy, unbundling is most effective when spaces are off-site, because spaces not rented to tenants can be more easily rented to other drivers. This suggests that relaxing locational requirements could be an important step for facilitating unbundled parking. Of the 20 buildings that offer unbundled parking, eight offer

all their parking off-site. Other buildings with unbundling, like the Pegasus offer a combination of on- and off-site parking.

The weighted average price of an unbundled space is $138 per month. One way to gauge the price effect of removing parking requirements is to simply extrapolate from this number: people without cars who rents units in unbundled buildings pay about $1,500 a year less in rent, on average, than they would if parking was bundled.

A more precise approach is to examine actual transactions of condo and rental lofts in the downtown, and compare the prices of units with parking to the prices of units without them. Table 4 shows summary statistics for 658 condo and 330 rental transactions in downtown Los Angeles between February and September 2010. The units are in 19 different condo buildings and 39 different apartment buildings. The data are from the DLX Loft Exchange, described in Section II. The data show that Adaptive Reuse Condos are smaller and have fewer parking spaces on average than non-Adaptive Reuse condos, and that they also sell for a lower price. ARO apartments, by contrast, exhibit few differences from non-ARO apartments; the average ARO apartment in this sample comes with more parking than the average non-ARO apartment, and the ARO apartments are larger and slightly more expensive. For both condos and apartments, the mean asking price is substantially less for units without parking than it is for units with parking. Units without parking are also substantially smaller.

Table 5 shows four regressions examining whether ARO buildings are more likely to offer less parking than non-ARO buildings. The regressions combine apartments and condominiums into one sample, but include a condo dummy variable. The dependent variable in the first two equations is the number of parking spaces that come with the unit. This is a count variable, so the equations are estimated as negative binomial regressions. The dependent variable

in Models 3 and 4 is a binary variable that indicates only if a unit has parking or not. These regressions are logit equations. Models 1 and 3 use zip code fixed effects and cluster standard errors at the building level, while Models 2 and 4 use building fixed effects and cluster standard errors at the zip code level. Model 4 loses some observations as a result of the fixed effect, because some buildings perfectly predict parking or its absence.

The results suggest that ARO buildings provide about 0.3 fewer parking spaces per unit than non-ARO buildings, although in Model 1 this result is statistically significant at only the 80 percent level. Models 3 and 4 provide more robust evidence that ARO buildings are more likely to offer units with no parking; the odds that a unit in a non-ARO building comes with a parking space are 1.5 to 2.5 times as great as they are for a unit in an ARO building.

The next sets of regressions examine the prices of these units; condos and apartments are examined separately. Table 6 shows condo equations. The regressions are linear and the dependent variable is the natural logarithm of the asking price of a condominium unit. [9] In Models 1 and 2 the independent variable of interest is the number of parking spaces attached to the unit; in Models 3 and 4 the independent variable of interest is a binary variable indicating whether the unit includes parking. The sample is composed of 392 units in ARO buildings and 259 units in non-ARO buildings. Thirty-five percent of the ARO units come without parking, compared with 15 percent of the non-ARO units. Thirty percent of the ARO units have 2 parking spaces, compared to 50 percent of the non-ARO units.

Control variables include the number of bathrooms, the number of bedrooms, the year the building was built, and Homeowner Association fees (HOAs). In addition, three binary

[9] The nature of the data set makes using the asking price, rather than the sale price, a better decision, because it allows me to include units that are on the market as well as units already sold or rented. The coefficient of correlation between asking and sales prices is over 0.9, and the average unit sold or rented in the sample is sold for 97 percent of the asking price.

control variables indicate if the building qualifies for Mills Act historic preservation tax credits; if it has a pool; and if the unit has been foreclosed upon or is otherwise being sold by a lender. All equations use a combination of zip code fixed effects and building-clustered standard errors.[10]

The parking variables are statistically significant in three of the four specifications. The results suggest units without parking sell for between 7 and 10 percent less than units with parking spaces, and that each additional parking space adds between 4 and 6 percent to the asking price of a condo. Converted back into dollars, these coefficients suggest that a condo without parking sells for about $31,000 less than condos with parking, while a condo with no parking spaces sells for about $15,000 less than a unit with one parking space, holding other factors constant.

The rental equations in Table 7 tell roughly the same story, although the results are less stable; the parking variables are statistically significant at conventional levels in only two of the four equations. Models 1 and 2 suggest that each additional parking space adds about 6 percent to the asking price of a rental unit, or about $85 per month. For the most part the control variables are the same as in Table 6, except that HOA and Mills Act variables are removed (they do not apply to rental properties) and I introduce a binary variable that shows whether the unit is furnished.

In sum, the regression evidence is suggestive but far from ironclad, given that levels of statistical significance in these equations are sensitive to alternative specifications. In part this

[10] The number of bedrooms is highly collinear (0.7) with square footage; in some equations I present estimates with square footage and in some I use bedrooms. Square footage data is also missing for 14 observations, so bedroom data allow for a slightly larger sample size. Re-estimating all the equations in this section using bedrooms rather than square feet, or vice-versa, does not substantially change the results (although using square footage usually yields a slightly higher R^2). Similarly, the presence of a pool correlates strongly with the presence of other building-specific amenities, such as a fitness center of a rooftop deck. Swapping out these variables also does not result in a substantive change in effects.

instability may be a function of relatively small sample sizes. Table 8 presents two final regressions that combine condos and rentals and analyze the effect of parking provision on the unit's price per square foot. I include a dummy variable in these equations indicating if the unit is an apartment, since apartment prices are on a per-month rather than permanent basis. The results suggest that units with parking sell for about $19 more per square foot than units without. These results are more robust to alternative specifications, but the dissimilarities between condos also mean that the regression can include fewer relevant variables, and that the results should be approached with some caution.

Overall, the combination of descriptive and econometric evidence suggests that ARO buildings are more likely to be offered without parking, and that units without parking have lower prices than units with parking. The magnitudes of these effects, however, cannot be estimate with precision, underscoring the need for larger samples and more systematic data about parking supply.

IV. Concerns and Caveats

In this section I address potential limitations to my analysis. Probably the largest confounding factor in my analysis is, as was mentioned earlier, the housing bubble. Almost certainly some of the housing construction in the downtown between 2000 and 2009 was driven more by easy credit than by the ARO. It is difficult, however, to fully separate out these effects. I

For the sake of argument, however, assume that all downtown residential construction in the 2000s was the result of the housing bubble; in the absence of the ARO all 7,000 housing units it produced would still have been built. Were this the case, the ARO would have had no effect on the *quantity* of housing in the downtown. The *type* and *location* of housing, however,

would likely be quite different. The new housing units would not have been built in old vacant buildings, meaning the downtown would still have a large supply of empty historic structures. And the swathes of downtown that held those empty buildings would still be disinvested. Further, if the housing were built without the ARO, it would be new, ground-up construction subject to the zoning law, and therefore both more expensive and more uniform. So even assuming the ARO contributed no new housing to Los Angeles, it still facilitated the reuse and protection of older buildings, helped revive disinvested blocks, and permitted a wider variety of housing options at a lower cost.

Another possible objection is that my analysis compares ARO development to a fictional baseline. I contrast the actions of unregulated developers with the requirements of the zoning code, but if regulated developers don't really adhere to the zoning code, then the effects I have estimated will be too large. To control for this possibility, I collected data on ten non-ARO developments that had been built in the downtown since 1999. In total these buildings have 3,629 housing units. These buildings provided an average of 1.7 parking spaces per unit, with a low of 1.2 and a high of 2.3. Apartment buildings supplied an average of 1.6 spaces per unit, condos 1.7. All the buildings included their spaces on-site, and all bundled their spaces in with rent. None of the buildings provided spaces in a surface lot. All parking was covered, and either in garages or subterranean structures.

Some buildings in this sample of new construction, particularly the condos, have lower parking ratios than the zoning code would suggest. In part this is because the condos are newer (built after the Planning Advisory Board revised its condo parking requirements), and in part it also represents the time, money and effort required to secure variances. Three of the lowest parking-space-to-unit ratios are buildings by the South Group, located in a growing

neighborhood near the University of Southern California. Securing reduced parking requirements was a primary objective of South Group, and the process was long and costly.[11] Note too that if the ARO's success made the Planning Commission more likely to grant parking variances (because it demonstrated the viability of developments with less parking), the potential bias may actually run in the other direction; the ARO over time reduced the baseline parking standard, and in so doing made its own results seem less dramatic.

A third concern is that by emphasizing the benefits of new housing, I gloss over a well-known cost of revitalization, which is gentrification and displacement. Displacement is always a serious concern with redevelopment, but the ARO applied to *vacant commercial and industrial* buildings, so no one was directly displaced.[12] A fourth possible criticism is that minimum parking requirements internalize an externality I failed to account for. If the purpose of the parking requirement is in part to prevent residential parking from spilling over onto the street, then de-regulating parking might result simply in overused curb parking. However, downtown streets are metered from 8 a.m. to 8 p.m., and overnight parking is prohibited on most streets. It is therefore unlikely that a proliferation of housing with less parking led to significant on-street spillover.

Indeed, there are reasons to believe that the estimated effects of the Adaptive Reuse Ordinance are too *low*. First, I am not able to control for the presence of parking at ARO buildings prior to conversion—the parking spaces developers were not permitted to remove. I do know, however, that a number of buildings had at least some parking, and that a few that a lot of parking. The 1100 Wilshire Building, which provides 2 spaces per unit, for example, sits atop a pre-existing 11-story parking garage (Figure 2). The Sky Lofts also had a large parking structure

[11] I served as a consultant for the developer during the variance proceedings.
[12] Rents in the surrounding area did rise, so development pressure from the ARO may have led to some indirect displacement.

prior to conversion, and the Factory Place Lofts were surrounded by a large surface parking lot.[13] It is possible that in the absence of these spaces developers would have built them anyway, but we should not consider them the result of "unregulated" parking, and they bias the amount of ARO parking upward.[14] Second, I assume all rental units would have had to provide 1 space per unit, but many rental units have more than three habitable rooms, and therefore would have faced a parking requirement of 1.25 spaces per unit. In the DLX sample, for instance, 69 of 200 ARO apartments (34 percent) had two or more bedrooms, and thus would have required more parking. Lastly, a number of buildings that are now apartments, including 1010 Wilshire, were permitted as condominiums, and a number of buildings offer both condos and apartments. In my analysis I count all these buildings as apartments, thereby lowering the baseline parking comparison.

V. Conclusion

I have used a partial deregulation of parking in downtown Los Angeles to test a number of hypotheses about the impact of parking requirements on housing development and housing affordability. I show that removing parking requirements for a subset of buildings in downtown Los Angeles led to both *more* housing and a greater *variety* of housing. Not only were more units built, but these units were constructed in buildings and neighborhoods that had long been stagnant and underused. Further, a number of these buildings unbundled parking from rent, allowing them to target an underserved demographic—people without cars—and offer a lower-priced housing product.

A notable finding from this research is the importance of where parking is located. Critics of parking requirements often focus on the inefficiencies of quantity regulation, noting

[13] The Factory place Lofts had been progressively redeveloped. In these calculations I only count those buildings that used the ARO.
[14] Neither of these buildings added new parking spaces during the ARO conversion process.

(correctly) that planners have no way to know the "right" level of parking. The results from Los Angeles suggest that an equally urgent—and perhaps more feasible—reform is in locational requirements. Supplying parking is less onerous if the parking needn't be on-site, and parking provided off-site can be sold to a variety of users, which makes unbundled parking—and therefore lower-priced housing—easier for developers to offer. Unbundled parking can also make more efficient use of existing underused parking, particularly in downtown areas.

References

Bertha, Brian. 1964. "Appendix A" in *The Low Rise Speculative Development*, by Wallace Smith. Berkeley: Institute of Urban and Regional Development, University of California.

Cunningham, Christopher. 2006. House Price Uncertainty, Timing of Development, and Vacant Land Prices. *Journal of Urban Economics.* 50(1): 1-31

DeParle, Jason. 1993. San Diego sees too much of success in building hotels to house the poor. *New York Times.* July 13, p. 14.

_____. 1994. Build Single Room Occupancy Hotels. *Washington Monthly.* March. http://findarticles.com/p/articles/mi_m1316/is_n3_v26/ai_14882984/

Jakle, Scully 2004. *Lots of Parking*. University of Virginia Press.

Immergluck, Dan and Geoffrey Smith, 2006. The External Costs of Single-Family Mortgage Foreclosures. *Housing Policy Debate.* 57-80.

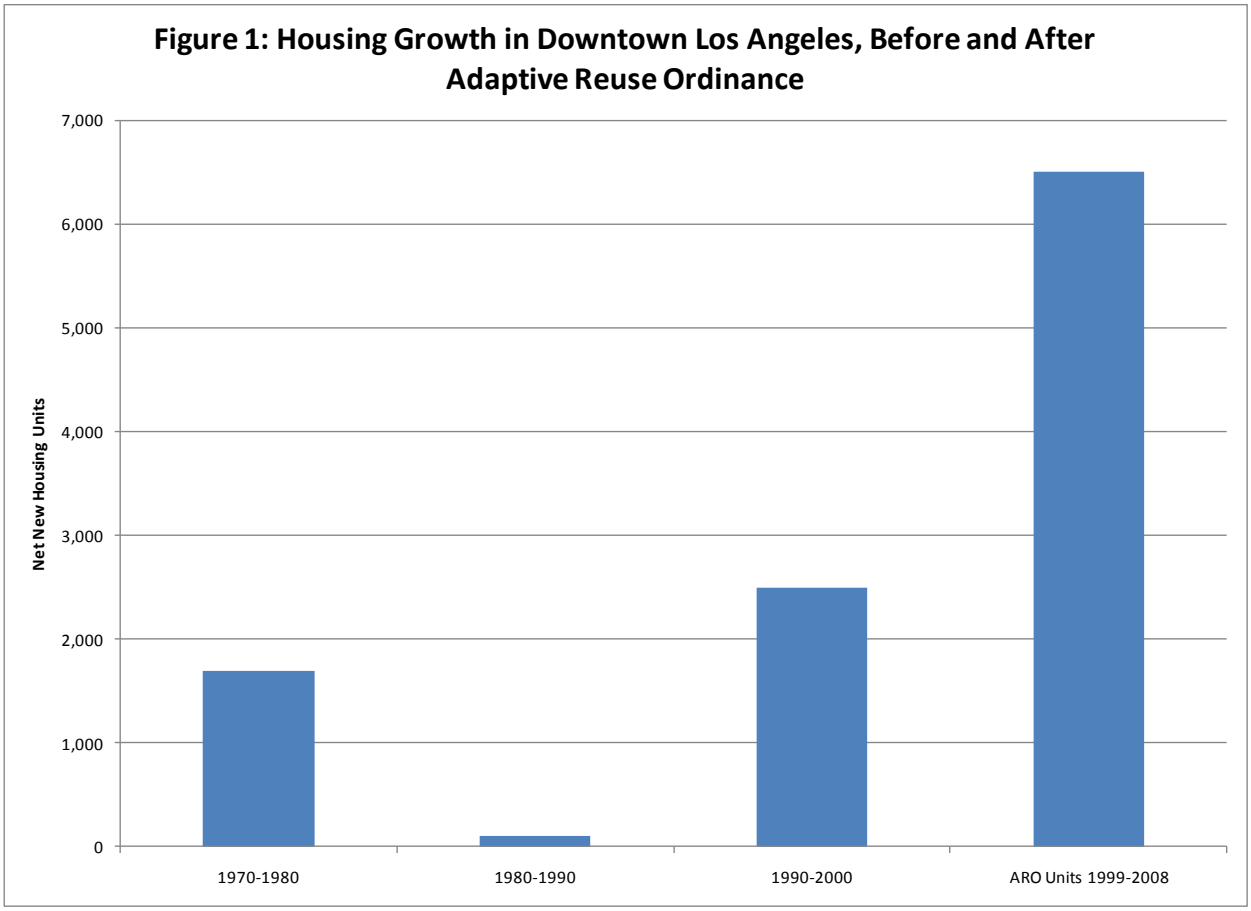
Jia, Wenyu and Martin Wachs. 1999. Parking Requirements and Housing Affordability. *Transportation Research Record.* 1685: 156-160.

Kelling, George, and Catherine Coles. 1996. *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities.* New York: Touchstone.

Skogan, Wesley. 1990. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods.* Berkeley, CA: University of California Press.

Shoup, Donald. 2005. *The High Cost of Free Parking.* Chicago: Planner's Press.

Willson, Richard. 1995. Suburban Parking Requirements: A Tacit Policy for Automobile Use and Sprawl. *Journal of the American Planning Association*. 61(1): 29-42.



Sources and Notes: Data on downtown Los Angeles is from the Neighborhood Change Database. Downtown LA is defined as Census Tracts 2060, 2062, 2063, 2073, 2077.1 and 2260. MSA data are from the Decennial Census.

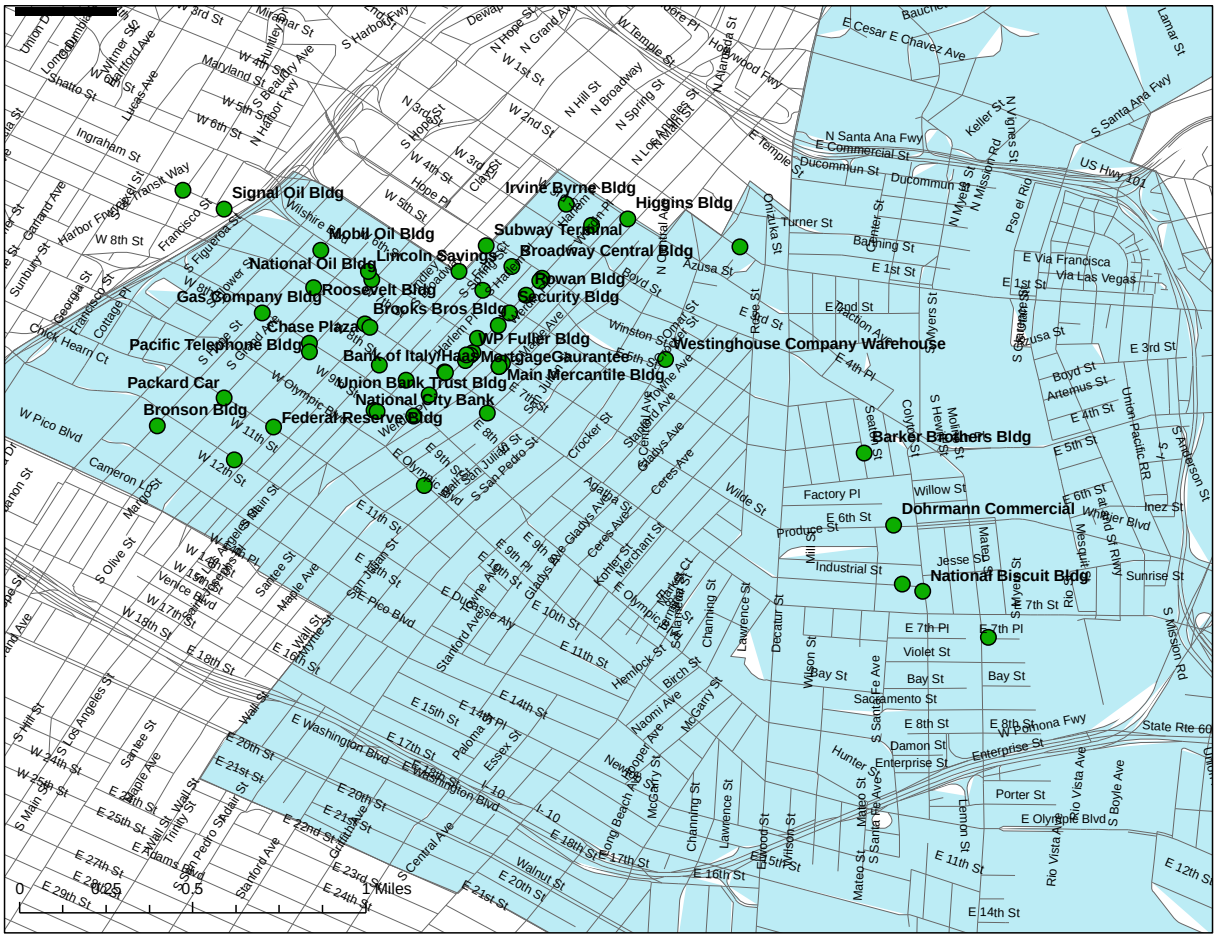


Figure 2: Location of Adaptive Reuse Projects

Table 1: Downtown Los Angeles Parking Requirements

Apartment	1 space per unit if unit is less than three habitable rooms 1.25 spaces per unit if unit has 3 or more habitable rooms
Condominium	2 spaces per unit, unless development is in parking congested area, in which case 2.25 to 2.5 spaces per unit
Adaptive Reuse	Developer cannot remove any existing parking, but is not obligated to add any parking spaces.

Notes: "habitable rooms" include kitchens, so a 2-bedroom apartment would qualify (kitchen, common area, and two bedrooms). Source: Los Angeles Department of Building and Safety, Document P/ZC 2002-011, and Los Angeles Department of City Planning.

Table 2: Parking Spaces Provided at Adaptive Reuse Rental Buildings

	Mean	Standard Deviation	Low	High
Spaces Provided Per Unit	1.2	0.5	0	2.6
Spaces On-Site Per Unit	0.6	0.5	0	1.5
Minimum Parking Requirement for New Construction (Spaces/Unit)		1		
Number of Buildings		36		
Number of Units		4,554		

Source: Author's calculations based on survey described in text.

Table 3: Parking Spaces Provided at Adaptive Reuse Condo Buildings

	Mean	Standard Deviation	Low	High
Spaces Provided Per Unit	1.3	0.7	1	3
Spaces On-Site Per Unit	0.9	0.8	0	2
Minimum Parking Requirement for New Construction (Spaces/Unit)		2		
Number of Buildings		19		
Number of Units		2,093		

Source: Author's calculations based on survey described in text.

Table 4: Selected Sales and Rentals of Downtown Lofts, 2010

	Condominium Sales				Apartment Rentals			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Price	$429,211	$393,388	$104,000	$5,859,000	$2,295	$765	$800	$6,500
Price Per Square Foot	$365	$142	$76	$1,601	$2	$0	$1	$5
Parking Spaces	1.1	0.8	0	3	1.3	0.6	0	3
Bathrooms	1.4	0.6	1	4	1.4	0.6	0	5
Bedrooms	1.1	0.8	0	3	1.3	0.6	0	3
Square Feet	1,119	446	430	3873	1,119	443	0	4000
Home Owner's Association Fees	$546	$283	0	$3,850				
Buildings	19				39			
N	658				330			
Adaptive Reuse Units								
Price	$372,812	$203,853	$104,000	$1,349,999	$2,298	$740	$800	$6,500
Parking Spaces	1.0	0.8	0	3	1.3	0.7	0	3
Square Footage	1,078	398	430	2,773	1,164	411	480	4,000
N	392				200			
Non-Adaptive Reuse Units								
Price	$511,621	$564,672	$149,000	$5,859,000	$2,289	$804	$1,300	$5,250
Parking Spaces	1.3	0.7	0	2	1.3	0.5	0	2
Square Footage	1,161	489	481	3,873	1,073	389	481	2,688
N	259				130			
Units with Parking								
Price	$486,702	$441,789	$125,000	$5,859,000	$2,341	$765	$1,150	$6,500
Square Footage	1,188	460	481	3,873	1,152	449	481	4,000
N	478				302			
Units Without Parking								
Price	$276,539	$125,028	$104,000	$789,000	$1,797	$574	$800	$3,500
Square Footage	935	347	430	2,560	877	289	480	1,876
N	180				28			

Source: Compiled from Downtown Loft Exchange, (dlxco.com) between February and September 2010.

Data on square footage has some missing observations. *N* for apartment square footage is 199; for apartmenrs with parking is 299, for non-ARO apartments is 128.

Table 5: Determinants of Parking Availability at Downtown Lofts

	Model 1 Number of Parking Spaces	Model 2 Number of Parking Spaces	Model 3 Parking Provided	Model 4 Parking Provided
Adaptive Reuse Building	-0.201	-0.240***	-1.443*	-2.472***
	(0.16)	(0.03)	(0.67)	(0.14)
Bedrooms	0.318***	0.308***	0.234	0.667**
	(0.07)	(0.07)	(0.32)	(0.24)
Condo (Binary)	-0.148**	-0.118*	-2.568***	-3.228***
	(0.05)	(0.05)	(0.41)	(0.79)
Constant	0.085	0.349***	5.515***	6.326***
	(0.16)	(0.09)	(0.76)	(0.82)
Zip Code Fixed Effects	yes	no	yes	no
Building Fixed Effects	no	yes	no	yes
McFadden's Adjusted R^2	.04	.07		
Adjusted Count R^2			0.10	0.39
N	1,001	1,001	1,001	856

* p<0.05, ** p<0.01, ***p<0.001

Notes: Robust standard errors in parentheses. Dependent variable in Models 1 and 2 is count and regressions are negative binomial. Models 3 and 4 have binary dependent variables and are logit regressions. In Models 1 and 3 standard errors are clustered by building; in 2 and 4 standard errors are clustered by zip code. Some observations in Model 4 are lost because some buildings perfectly predict parking or its absence.

Table 6: Linear Regression Analysis of Parking's Influence on Condominium Prices

	Model 1	Model 2	Model 3	Model 4
Parking Spaces	0.061**	0.036		
	(0.02)	(0.02)		
Parking (binary)			0.104**	0.073*
			(0.04)	(0.03)
Bathrooms	0.089*	0.131***	0.113**	0.144***
	(0.04)	(0.03)	(0.04)	(0.03)
Square Feet	0.001***	0.001***	0.001***	0.001***
	(0.00)	(0.00)	(0.00)	(0.00)
Pool	0.027	0.150	0.018	0.144
	(0.06)	(0.08)	(0.06)	(0.07)
HOA	0.000***	0.000**	0.000***	0.000**
	(0.00)	(0.00)	(0.00)	(0.00)
Mills Act	0.175*	0.179*	0.177*	0.183**
	(0.08)	(0.07)	(0.08)	(0.07)
Short Sale	-0.292***	-0.284***	-0.282***	-0.275***
	(0.04)	(0.04)	(0.04)	(0.04)
Year Structure Built	0.002*	0.000	0.002*	0.001
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	7.325**	10.919***	7.154**	10.752***
	(2.21)	(2.76)	(2.14)	(2.67)
Zip Code Fixed Effects	no	yes	no	yes
R^2	0.81	0.83	0.81	0.83
N	657	657	657	657

* p<0.05, ** p<0.01, ***p<0.001

Notes: Robust standard errors in parentheses. Standard errors are clustered at the building level. Dependent variable is the natural logarithm of the offered sales price. "HOA" refers to condo's Home Owner's Association fees. "Mills Act" is a binary variable indicating if the unit's building qualifies for preservation tax credits. "Short sale" is a binary variable indicating if unit is bank- or lender-owned.

Table 7: Effect of Parking Provision on Rental Price of Loft Apartments

	Model 1	Model 2	Model 3	Model 4
Parking Spaces	0.080*	0.091***		
	-0.04	-0.03		
Parking (Binary)			0.044	0.093
			-0.05	-0.08
Bathrooms	0.148***	0.163***	0.190***	0.175***
	-0.04	-0.04	-0.02	-0.04
Square Feet	0.151**	0.151***	0.162**	0.164***
	-0.04	-0.03	-0.03	-0.04
Pool	0.081	0.003	-0.123***	0.115
	-0.06	-0.09	-0.02	-0.08
Year Structure Built	0	-0.012		-0.001
	0	-0.01		0
Furnished	0.207	0.283**	0.291*	0.245*
	-0.1	-0.09	-0.11	-0.09
Constant	6.323***	31.987	7.447***	8.715***
	-1.61	-18.56	-0.05	-1.66
Zip Code Fixed Effects	no	yes	no	yes
Building Fixed Effects	no	yes	yes	no
R^2	0.45	0.74	0.52	0.44
N	330	330	330	330

* p<0.05, ** p<0.01,
***p<0.001

Robust standard errors in parentheses. Standard errors are clustered by building in all models 1 and 4, and by zip code in 2 and 3. Dependent variable is the natural logarithm of the offered rental price. Using a unit square footage variable rather than a bedroom variable does not meaningfully alter parking coefficients.

Table 8: Effect of Parking Provision on Per-Square-Foot Prices of Downtown Lofts

	Model 1 Unit Price Per Square Foot	Model 2 Unit Price Per Square Foot
Number of Parking Spaces	13.821***	
	(4.15)	
Parking (Binary)		19.534*
		(7.65)
Apartment	-376.275***	-378.389***
	(5.43)	(5.63)
Bedrooms	11.386*	15.032***
	(4.53)	(4.31)
Pool	23.503	25.629
	(39.41)	(39.49)
Constant	356.922***	354.847***
	(54.47)	(54.71)
Building Fixed Effects	yes	yes
Zip Code Fixed Effects	yes	yes
Adjusted R^2	0.88	0.88
N	985	985

* p<0.05, ** p<0.01, ***p<0.001

Standard errors in parentheses. Dependent variable is asking price per square foot of the unit, regressions are OLS. Levels of statistical significance do not change if robust standard errors are employed.

Figure 3: The 1100 Wilshire Building was converted into luxury apartments using the Adaptive Reuse Ordinance. The apartments sit atop a 12-story parking structure.

Appendix I: Adaptive Reuse Buildings used in Survey, With Original Construction Dates

Building Name	Year Built	Building Name	Year Built
1010 Wilshire	1985	Library Court	1955
1100 Wilshire	1986	Little Tokyo Lofts	1922
2121 Lofts	1927	Loft 721	1925
Barn Lofts	1909	Manhattan Lofts (SB Manhattan)	1910
Bartlett Building Lofts	1911	Metro 417	1925
Biscuit Company Lofts	1925	National City Tower Lofts	1924
Broadway Exchange Lofts	1915	Orpheum Lofts	1926
Brockman Bldg	1911	Pacific Electric Lofts	1905
Chapman Lofts	1912	Packard Lofts	1905
City Lofts	1913	Pan American Lofts	1895
City View Lofts	1923	Pegasus	1949
Continental Lofts	1902	Roosevelt Lofts	1927
Coulter Mandel Lofts	1917	Rowan Lofts	1912
Douglas Lofts	1898	Santee Village	1917
Downtown Lofts	1907	SB GRAND	1921
Eastern Columbia Lofts	1930	SB Lofts	1923
El Dorado Lofts	1913	SB Main	1929
Emil Brown Lofts	1922	SB Spring	1925
Factory Place Lofts	1926	Security Lofts	1920
Far East	1890	Sky	1985
Flower St Lofts	1936	South Park Lofts	1924
Fuller Lofts	1916	Spring Tower Lofts	1919
Gas Company Lofts	1924	Texere Plaza	1924
Grand Lofts	1923	The Judson	1907
Grand Pacific Lofts/Milano Lofts	1925	The Reserve	1929
Great Republic Lofts	1927	Title Guarantee Bldg	1931
Hewitt Lofts	1880	Toy Factory Lofts	1924
Higgins Bldg	1910	Union Lofts	1922

Questions asked of developers and leasing companies:

1. Was this project completed under the Adaptive Reuse Ordinance?
2. How many units are in the project? Are they rental or condo?
3. How does the building address parking?

Specifically:

4. How many parking spaces does the building have?
5. How many parking spaces did the site have prior to its conversion to housing?
6. Where is the parking located? Is it on-site off-site?
7. If parking is off-site, where is it?
8. How is the parking assigned? Does parking come automatically with units?
9. If parking is paid for separately, how much does it cost?

Appendix 2: Buildings Used in Unit-Level Analysis

1100 Wilshire	Mercury
Barker	Molino Street Lofts
Bartlett Building Lofts	Mura
Biscuit Company Lofts	Pan American Lofts
Bunker Hill	Promenade
City View Lofts	Promenade West
Concerto Lofts	Ritz Carlton
Douglas Lofts	Roosevelt
Downtown Lofts	Rowan Lofts (next to El Dorado)
Eastern Columbia Lofts	Santee Court (three buildings consolidated)
El Dorado	Santee Village
Elleven	Savoy
Evo	SB GRAND
Flower St Lofts	Sky
Grand Lofts	Skyline Condominiums
Hewitt Lofts	Solair
Higgins Bldg	Tomahawk Building
Library Court	Toy Factory Lofts
Little Tokyo Lofts	Toy Warehouse
Luma	Vero
Market Lofts	