February 2026

No Such Thing as Free Parking

Construction Costs in 17 U.S. Cities

UCLA Center for Parking Policy

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The UCLA Center for Parking Policy supports policymakers and practitioners navigating parking policy decisions by translating academic research into accessible resources. The center synthesizes existing academic work, documents real-world examples of reform, identifies gaps in the literature, and develops practical tools to help inform evidence-based parking policy. The center's work builds on decades of expertise at UCLA in parking policy and honors the legacy of Professor Donald Shoup.

Acknowledgments

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The Institute of Transportation Studies and the Center for Parking Policy at UCLA acknowledge the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands). As a land grant institution, we pay our respects to the Honuukvetam (Ancestors), 'Ahiihirom (Elders) and 'Eyoohiinkem (our relatives/relations) past, present and emerging.

Disclaimer

The contents of this report reflect the views of the author, who is responsible for the facts and the accuracy of the information presented herein.

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ISSUE & KEY FINDINGS

Issue

Across the United States, city zoning rules require a minimum number of parking spaces for every type of building, obligating anyone building new housing or commercial space to also expand the city's parking supply. Researchers have frequently argued that these mandates are arbitrary, unscientific and one-size-fits-all, and that they work against many urban policy goals, creating a range of costs that go beyond the spaces themselves. Parking requirements can foster a car-dependent transportation system, increase traffic and pollution, degrade urban design, and reduce walkability. Of particular concern for this report, however, is a more straightforward concern: because parking can be expensive to provide, minimum parking requirements also dramatically increase the cost of building new homes or opening a new business.

In built-out cities and places where land costs are high, developers often meet minimum parking requirements through structured parking, rather than surface lots. Parking structures, however, are costly; in cities with the highest minimums, the required parking can cost nearly as much as the buildings themselves, and sometimes thwart development altogether.

In recognition of these costs, many cities have fully eliminated or greatly reduced minimum parking requirements in recent years, while others are actively considering changes. Understanding how much a parking space costs to build and how parking requirements increase total construction costs can help cities better assess the impacts of maintaining their parking requirements.

This report uses 2025 data from Rider Levett Bucknall (RLB), an international consulting firm specializing in real estate construction cost estimates, to calculate the cost of a parking space in 17 U.S. cities.[1] It updates and expands on a similar analysis Donald Shoup conducted using 2012 RLB data, combining building and parking cost data with minimum parking requirements to show how much these requirements can increase total construction costs for different types of buildings in each city.[2]

[1] Rider Levett Bucknall. (2025). 2025 Third quarter: Quarterly construction cost report.
[2] Shoup, D. (2014). The high cost of minimum parking requirements. In S. Ison & C. Mulley (Eds.), Parking: Issues and policies (Vol. 5, pp. 87–113). Emerald Group Publishing.

Key Findings

- Since 2012, parking construction costs have risen about 50% faster than general inflation.
- The average cost of constructing underground parking is approximately $73,000 per space, excluding land costs, across the 17 cities analyzed. The cost ranged from $40,000 in Washington, D.C. to $111,000 in Portland, Oregon.
- Aboveground parking structures cost, on average, $52,000 per space, with costs ranging from $29,000 in Phoenix, Arizona and Washington, D.C., to $99,000 in Portland, Oregon.
- Required parking represents a substantial share of total construction costs. On average across seven cities, it accounts for 39% of office building and shopping center costs when provided underground and 31% when aboveground.
- For apartments, required parking can add roughly $50,000 to $100,000 per unit.
- Parking minimums can significantly raise total construction costs, relative to the cost of the building alone, across project types. For example:
    - Office buildings: 68% more if the parking is underground, 47% more if aboveground
    - Shopping centers: 70% more if underground, 49% more if aboveground
    - 450-square-foot studio apartments: 39% more if underground, 26% more if aboveground
- Of the 17 U.S. cities with RLB cost estimates, at least 12 have either fully or partially eliminated minimum parking requirements in recent years, with most citing high construction costs as a key reason for reform.

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Construction Cost per Parking Space

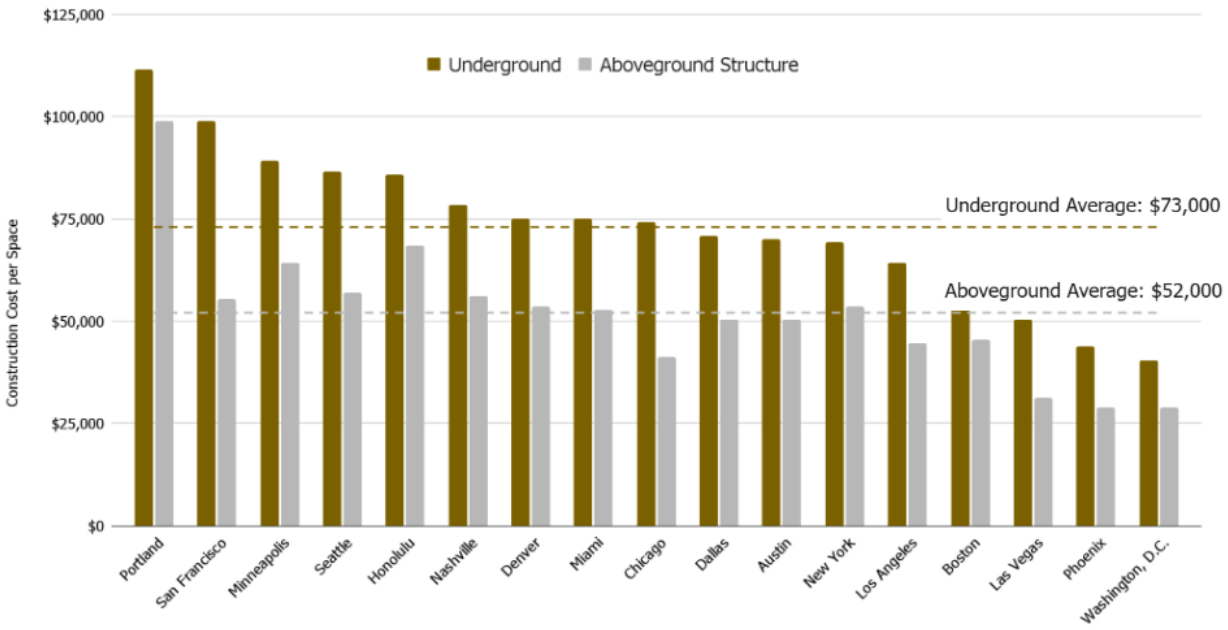
Parking Construction Costs in 2025

Rider Levett Bucknall (RLB) publishes quarterly per-square-foot construction cost estimates for several real estate categories in cities around the world, including cost estimates for both underground and aboveground parking structures in 17 U.S. cities.

Because parking construction costs vary widely based on factors such as seismic risk, soil conditions, water table depth, site configuration, labor and market conditions, regulatory requirements, and structural design, RLB reports both high and low estimates for each real estate category in each city. This analysis averages the high and low estimates and multiplies the result by 330 — the number of square feet required for a typical parking space, including aisle space — to estimate the cost per parking space.

As shown in Figure 1 below and detailed in Table A-1 of the Appendix, the average cost of constructing underground parking is approximately $73,000 per space, ranging from $40,000 in Washington, D.C. to $111,000 in Portland, Oregon. Aboveground structures cost, on average, $52,000 per space, ranging from $29,000 per space in Phoenix, Arizona and Washington, D.C., to $99,000 in Portland, Oregon. These estimates do not include land costs or soft costs, such as architectural and engineering design fees, permitting, financing, and legal expenses.

Figure 1. Construction Cost per Parking Structure Space in 17 U.S. Cities



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Cost Increases Since 2012

Parking construction costs have grown faster than general inflation in recent years. In an earlier analysis, Donald Shoup used 2012 RLB data to estimate that an underground parking space cost, on average across 12 U.S. cities, $47,600, while an aboveground space cost $33,600 (amounts adjusted to 2025 dollars).[3] In 2025, the respective costs are $73,000 and $52,000 — an increase of about 50% after adjusting for inflation (Table 1).[4]

Several factors may help explain this rapid increase in costs, including rising labor and materials costs and additional regulatory requirements, such as seismic standards, enhanced design standards, or electric vehicle charging requirements.

Table 1. Parking Space Cost Increases Since 2012

Parking Structure Type	Average Cost per Space			Cost Increase between 2012 (Inflation-Adjusted) and 2025
	2012	2012 (Inflation-Adjusted)	2025	
Underground	$34,000	$47,600	$73,000	**53%**
Aboveground	$24,000	$33,600	$52,000	**55%**

Note. 2012 values are from Shoup (2014) and based on 2012 Q3 RLB data. They were adjusted for inflation to September 2025 dollars using the CPI-U (FRED series CPIAUCSL). 2025 values were calculated using 2025 Q3 RLB data.

[3] Shoup, D. (2014). The high cost of minimum parking requirements. In S. Ison & C. Mulley (Eds.), Parking: Issues and policies (Vol. 5, pp. 87–113). Emerald Group Publishing. Values adjusted to September 2025 dollars using CPI-U (FRED series CPIAUCSL).

[4] While the 2025 RLB data cover 17 cities, the 2012 dataset includes only 12. Restricting the 2025 analysis to the original 12 cities yields similar results, with construction cost increases of 50% for underground parking and 51% for aboveground parking.

The Cost of Required Parking

For many types of buildings, cities require parking in proportion to building size — for example, three spaces per 1,000 square feet. The RLB Quarterly Construction Cost Report also provides per-square-foot cost estimates for various building types, including offices, retail shopping centers, and multifamily residential buildings in each city. Combining a city's minimum parking requirements with the typical size of a parking space and RLB per-square-foot cost estimates allows calculation of (1) required parking as a share of total construction costs and (2) how much parking minimums can raise construction costs relative to the cost of the building alone.

Of the 17 cities in the RLB report, five have fully eliminated minimum parking requirements, and several others have removed them for certain building types. The remaining cities vary in the complexity of their requirements; for as many cities as data allow, the following sections illustrate how minimum parking requirements can impact construction costs for office buildings, shopping centers, and housing.[5]

Office Buildings

Of the cities in the RLB report with minimum parking requirements for office buildings, seven (see Table 2) have requirements straightforward enough to analyze. We multiply the cost of each space (underground and aboveground) by the number of spaces required per 1,000 square feet of building.

Table 2. Parking Requirements for Office Buildings

City	Parking Requirement Spaces/1000 Square Feet
Las Vegas	3.33
Nashville	3.33
Phoenix	3.33
Miami	3
Honolulu	2
Los Angeles	2
Seattle	1
Average	**2.57**

Using these estimates, we can calculate the share of total office construction costs attributable to required parking. In Las Vegas, for example, required parking accounts for approximately 42% of total construction costs

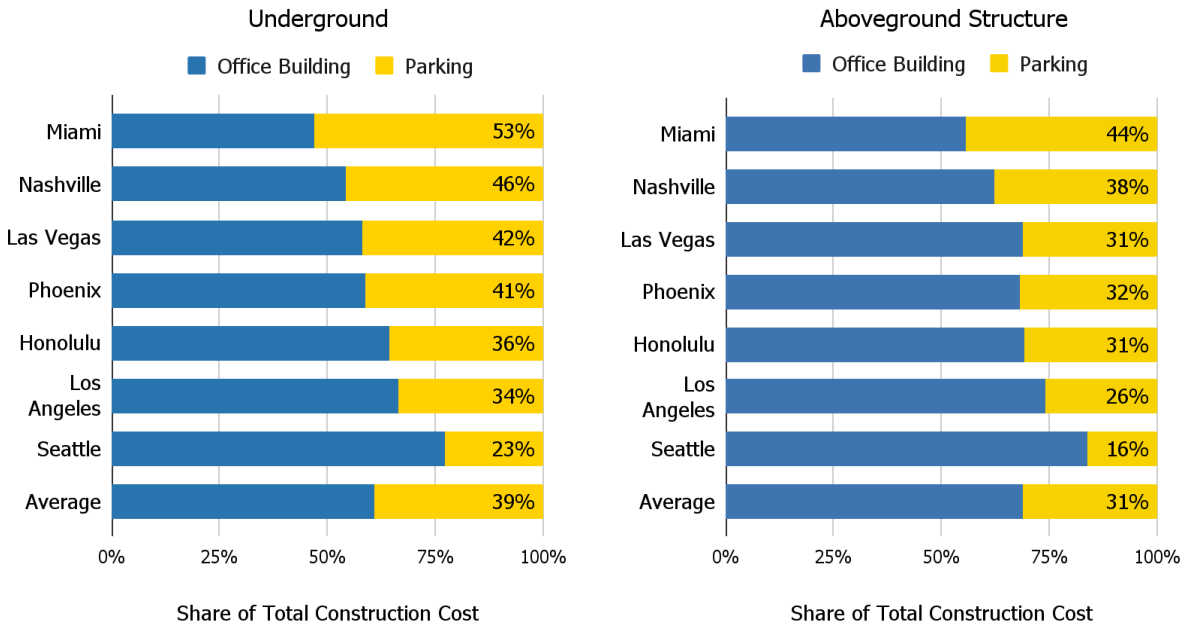
[5] Some cities' requirements are not easily analyzed; for example, they may include exemptions for the first few thousand square feet of building space, different rules for the ground floor versus upper floors, or multiple tiers of parking requirements rather than a single baseline.

when it is provided underground and 31% when provided in an aboveground structure. On average, required parking represents 39% of total construction costs when provided underground and 31% when provided aboveground (Figure 2; see Appendix for calculations).

The same estimates also show how minimum parking requirements can increase total construction costs. For example, in Las Vegas, building a 1,000 square foot office building alone would cost $232,500. Including the required parking, total construction costs rise to $400,500 (72% higher) for underground parking or $337,000 (45% higher) for aboveground parking. Because most office developments would include some parking even without a requirement, these estimates represent the maximum potential cost increase. Figure 3 displays the results for all seven cities. On average, minimum parking requirements can increase the cost of building offices by 68% if the parking is built underground and 47% if it is in an aboveground structure.

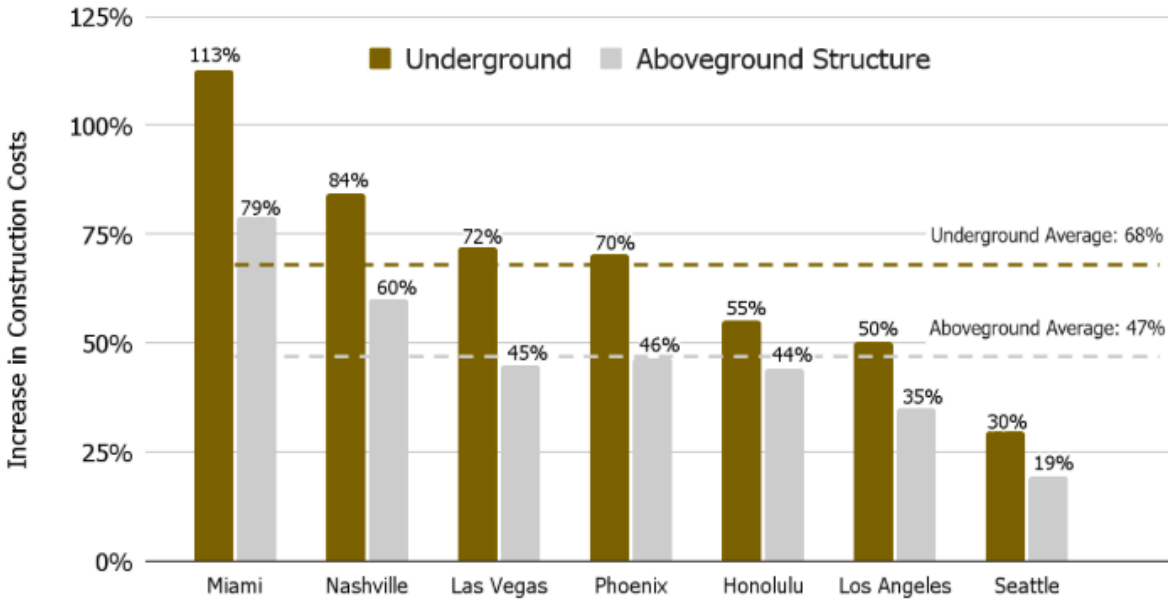
Although construction costs vary by city, higher parking minimums are generally associated with larger percentage increases in total construction costs. The largest cost increases occur in Miami, which has both above-average parking construction costs (likely driven in part by the need for flood and hurricane resilience) and relatively high parking minimums. In Miami, meeting minimum parking requirements with underground parking would more than double total construction costs, while aboveground parking would increase costs by 79%. By contrast, the smallest cost increases occur in Seattle. Although Seattle has some of the highest parking construction costs per space, its relatively low minimum requirement of just one space per 1,000 square feet keeps the cost increases smaller.

Figure 2. Required Parking as a Share of Total Construction Costs for Office Buildings



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Figure 3. Percentage Increases in Office Building Construction Costs from Required Parking



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Shopping Centers

We apply the same method to shopping centers. Most of the cities impose higher requirements for shopping centers than for office buildings, requiring, on average, 3.33 spaces per 1,000 square feet (Table 3). Given the typical parking stall size of 330 square feet, the total required parking area often exceeds the size of the building.

Table 3. Parking Requirements for Shopping Centers

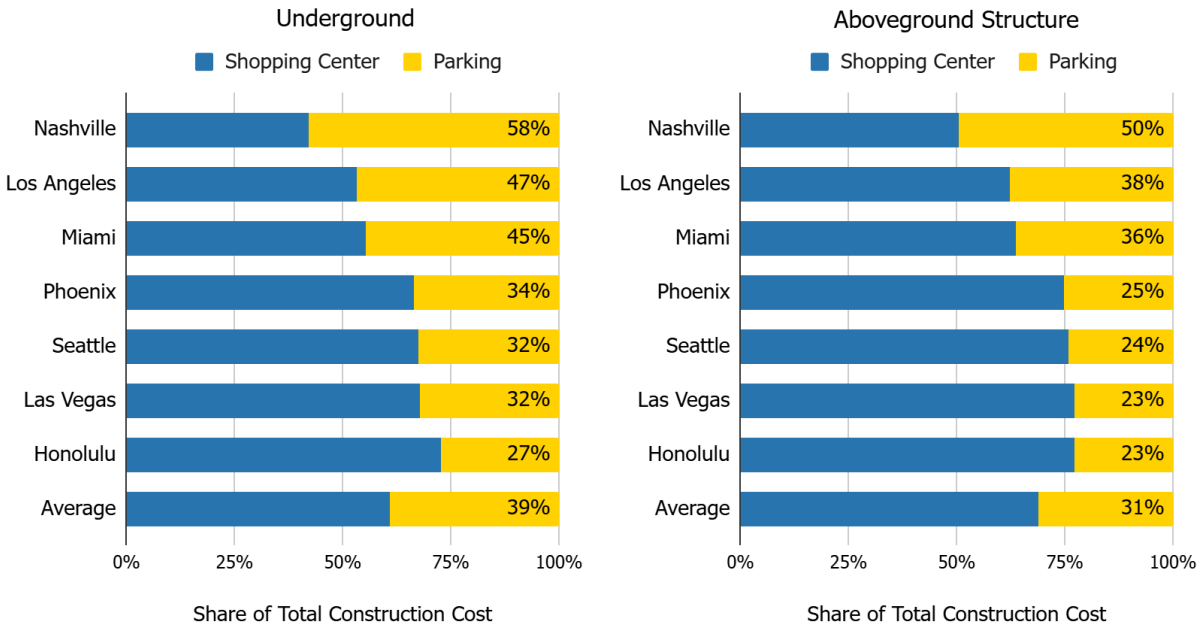
City	Parking Requirement Spaces/1,000 Square Feet
Nashville	5
Los Angeles	4
Las Vegas	4
Phoenix	3.33
Miami	3
Seattle	2
Honolulu	2
Average	**3.33**

These parking requirements translate into high construction costs. On average across the seven cities, the required parking for shopping centers represents 39% of total construction costs when provided underground and 31% when in an aboveground structure (see Figure 4; see Appendix for calculations).

On average, meeting minimum parking requirements increases the total construction cost for shopping centers by 70% when the required parking is provided underground and by 49% when it is in an aboveground structure (see Figure 5). Although shopping centers have higher parking requirements than office buildings, their percentage cost increases are similar because the per-square-foot construction costs for shopping centers are also higher than for offices.

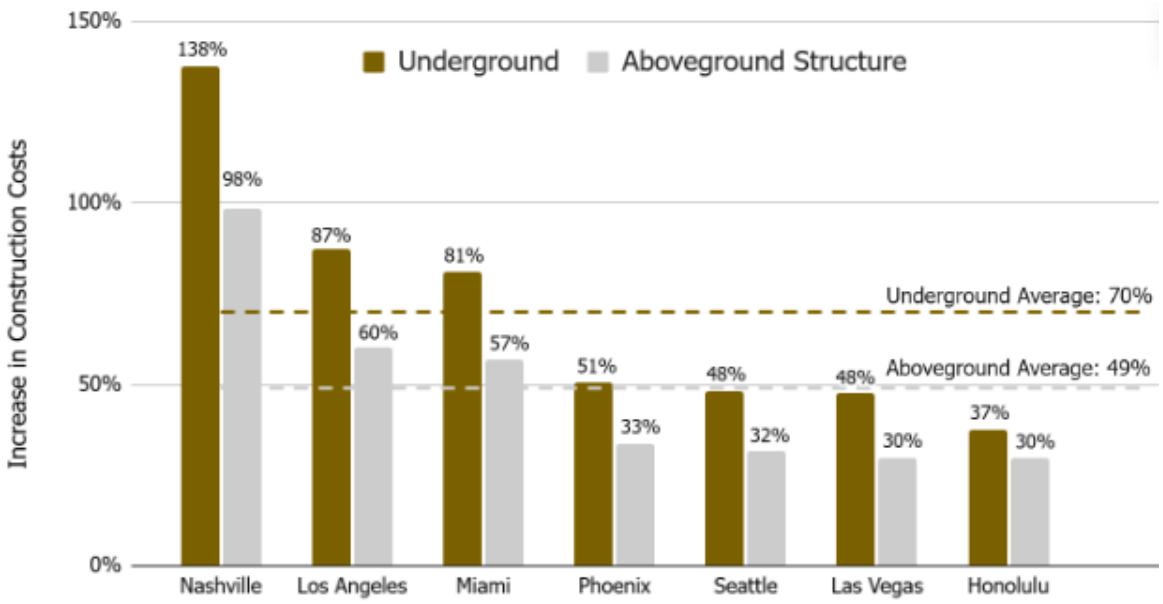
Although per-square-foot costs vary by city, higher parking minimums are generally associated with larger percentage cost increases. Nashville has both the highest minimum parking requirement and the largest cost increases: 138% for underground parking and 98% for aboveground parking. Honolulu has the smallest cost increases — 37% and 30%, respectively — largely because its minimum parking requirement is below average and in part because its shopping center construction costs are relatively high.

Figure 4. Required Parking as a Share of Total Construction Costs for Shopping Centers



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Figure 5. Percentage Increases in Shopping Center Construction Costs from Required Parking



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Apartments and Condominiums

Most cities (except for Honolulu, in this sample) do not base parking requirements for apartments on square footage, as they do for offices and shopping centers. Instead, cities typically set residential requirements on a per-unit basis, as shown in Table 4.

We analyze the seven cities in the RLB report with clear baseline parking requirements. Six of these cities overlap with those examined in the office and shopping center sections above. We exclude Miami because its zoning code has multiple density-based tiers, each with different requirements. And we add Chicago, since it does not exempt the first several thousand square feet of multifamily residential development from parking requirements, as it does for office buildings and shopping centers.

Many of the cities in this analysis have reduced their minimum parking requirements in recent years to promote housing affordability; across all U.S. cities, the average minimum parking requirements for housing (and the associated construction cost increases) may be substantially higher.

Table 4. Parking Requirements for Apartments and Condominiums

City	Minimum Parking Requirement (Spaces per Unit)			
	Studio	**1-Bedroom**	**2-Bedroom**	**3-Bedroom**
Nashville	1	1	1	1.5
Seattle	1	1	1	1
Chicago	1	1	1	1
Los Angeles[a]	1	1.5	2	2
Las Vegas	1.25	1.25	1.75	2
Phoenix	1.5	1.5	1.5	1.5
Honolulu	1 space per 1,000 sq ft private dwelling area[b]			
	.45	.75	1.1	1.35
Average	**1.03**	**1.14**	**1.34**	**1.48**

Note.
a = Los Angeles' parking requirement is based on the number of "habitable rooms" in a unit (<3, =3, or >3), but the code notes that studios have fewer than 3, 1-bedrooms typically have 3, and 2-bedrooms typically have more than 3.
b = Honolulu's requirement is based on square footage of private dwelling area (excluding common areas such as building hallways), so we use the representative unit sizes of 450, 750, 1,100, and 1,350 square feet for studios, 1-bedrooms, 2-bedrooms, and 3-bedrooms, respectively, to calculate the parking requirements relevant to this analysis.

Although residential parking requirements are not set per square foot, we can perform an exploratory calculation using representative unit sizes. We use the following representative unit sizes:

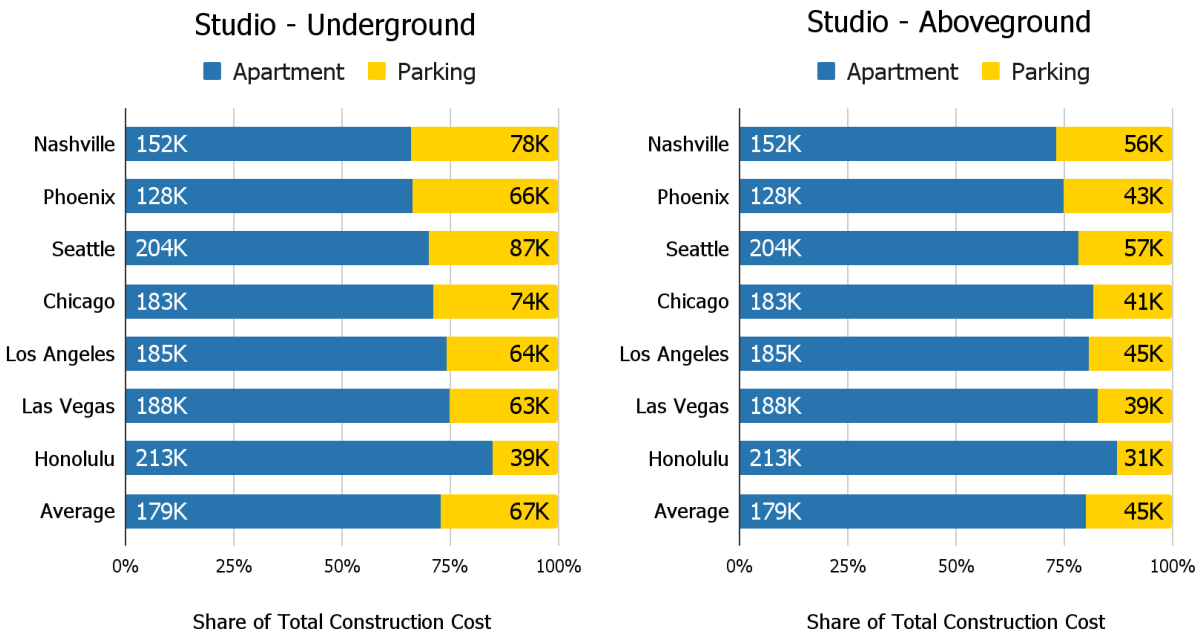
- Studios, 450 square feet
- 1-bedrooms, 750 square feet
- 2-bedrooms, 1,100 square feet
- 3-bedrooms, 1,350 square feet

We assume that dwelling units account for 85% of total building area, with the remaining 15% devoted to common spaces such as hallways, stairwells, and laundry rooms.

On average across the seven cities, required parking adds roughly $67,000 per studio, $76,000 per one-bedroom, $88,000 per two-bedroom, and $98,000 per three-bedroom apartment when provided underground. If parking is provided aboveground, the corresponding costs are $45,000, $51,000, $60,000, and $67,000, respectively (see Figures 6–9).

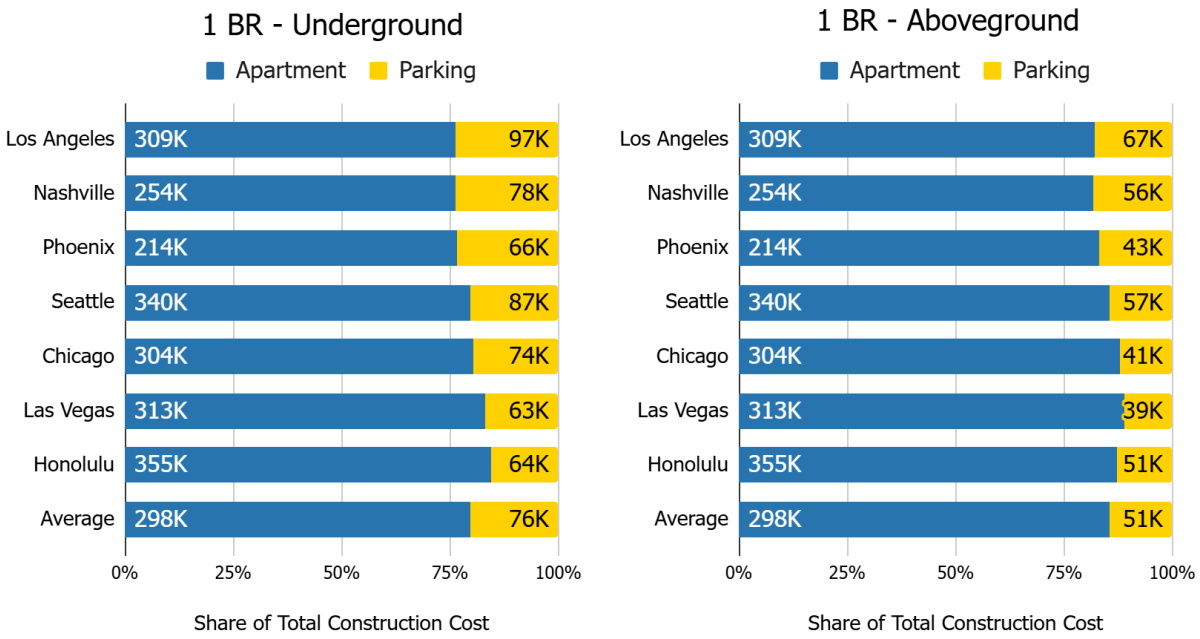
As a share of total costs, required parking represents, on average, 27% of the construction cost per studio, 20% of the cost per one-bedroom, 17% per two-bedroom, and 15% per three-bedroom, when provided underground. When the required parking is in an aboveground structure, its share of total construction costs is 20%, 15%, 12%, or 11%, respectively.

Figure 6. Construction Costs for a 450 Sq Ft Studio Apartment Attributable to Required Parking



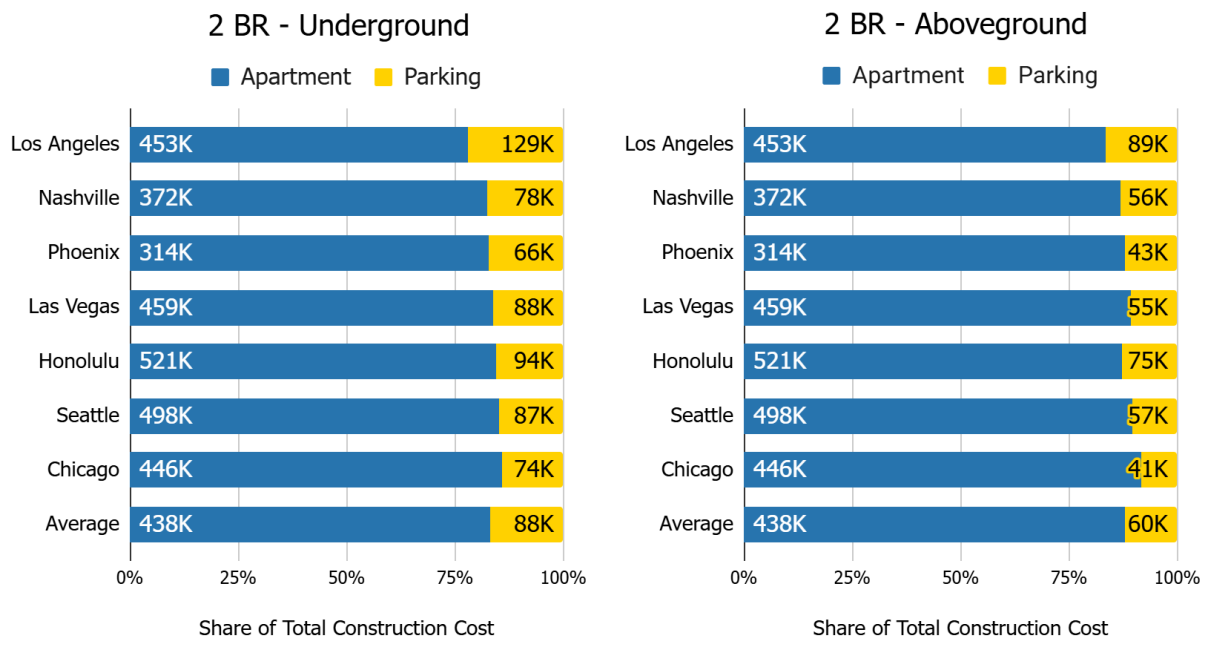
Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Figure 7. Construction Costs for a 750 Sq Ft 1-BR Apartment Attributable to Required Parking



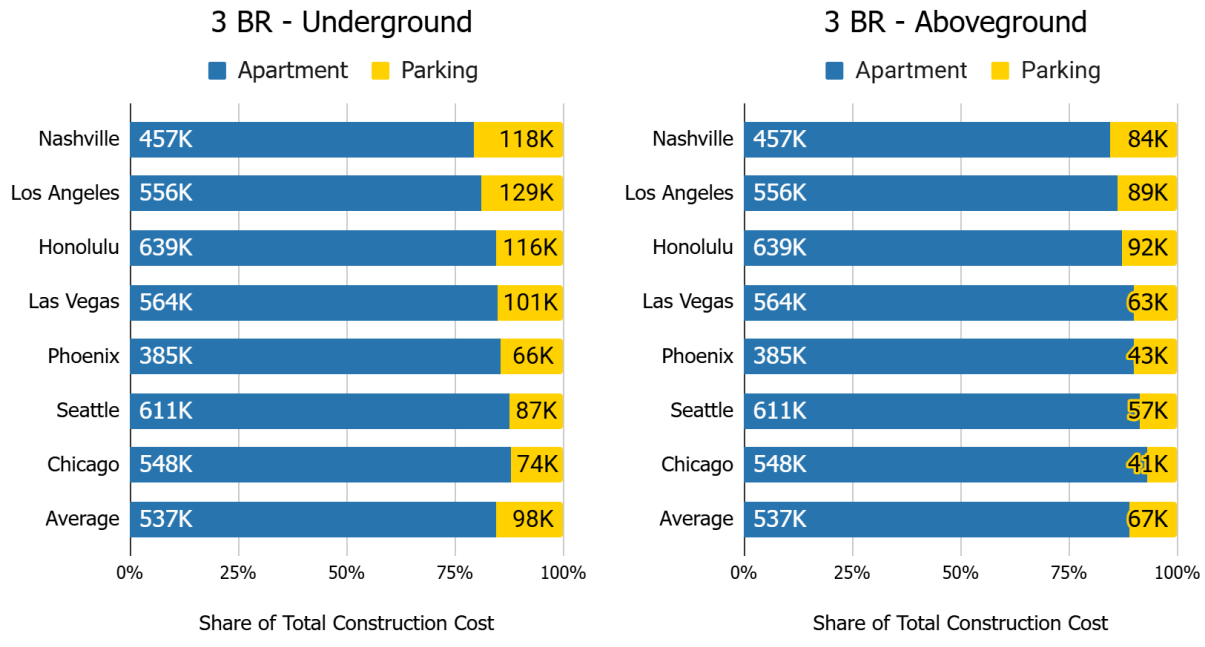
Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Figure 8. Construction Costs for a 1,100 Sq Ft 2-BR Apartment Attributable to Required Parking



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

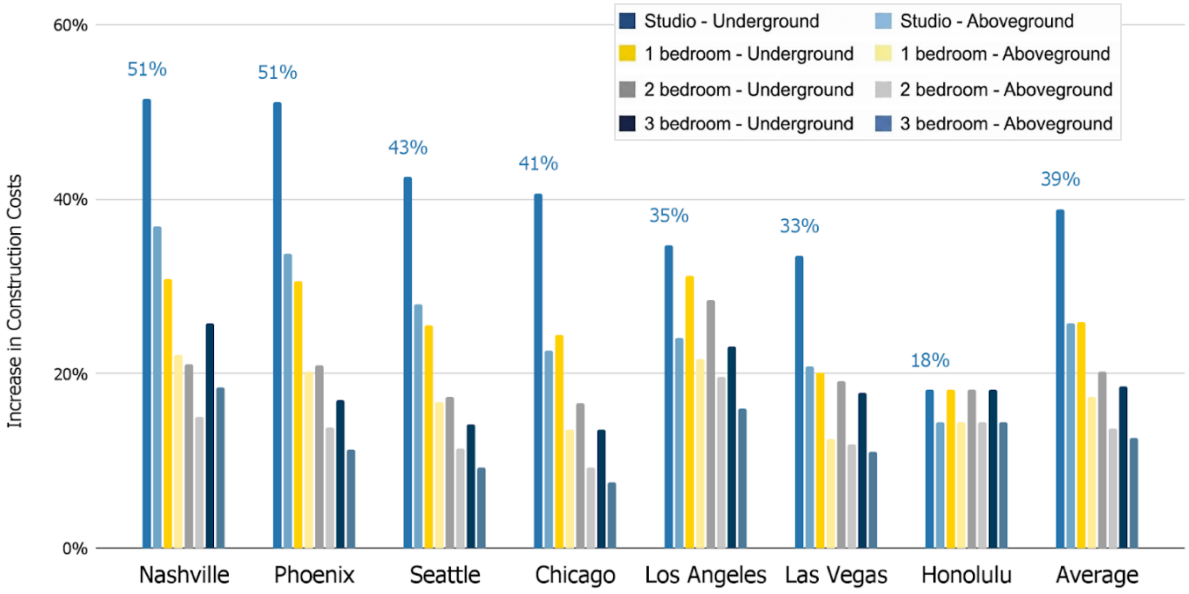
Figure 9. Construction Costs for a 1,350 Sq Ft 3-BR Apartment Attributable to Required Parking



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Even when minimum parking requirements scale with the number of bedrooms, they can disproportionately increase the cost of creating smaller apartments. As shown in Figure 10 below, when required parking is provided underground, parking requirements raise total construction costs by an average of up to 39% for studio apartments, 26% for one-bedroom apartments, and 20% for two-bedroom apartments, relative to the cost of the building space alone. This occurs because, for smaller units, the area of the required parking area is larger relative to the area of housing. This pattern holds not only in cities such as Seattle, Chicago, and Phoenix, which apply the same parking requirement regardless of unit size, but also in cities that require more parking for larger units, including Los Angeles and Las Vegas. Honolulu is the only city in the sample that scales minimum parking requirements by unit size, resulting in the same percentage cost increase across apartment sizes.

Figure 10. Percentage Increases in Apartment Construction Costs from Required Parking



Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Reforms Motivated by High Costs

Of the 17 U.S. cities with cost estimate data in the RLB report, the majority have either fully or partially removed minimum parking requirements in recent years, often citing high construction costs as one of the key reasons for reform.

As shown in Table A-10 in the Appendix, four of the five cities that have fully eliminated minimum parking requirements cited parking construction costs as a key rationale. At least eight other cities from the RLB sample implemented partial repeals or reduced their minimum parking requirements in recent years, all of which also cited cost as a major factor. Of the remaining four cities, two (Boston and Los Angeles) are currently considering reforming their parking requirements.

Policy Implications

Off-street parking requirements can increase building costs by forcing business owners and homebuilders to provide more parking than they otherwise would, which often means more parking than the market demands. Higher construction costs mean fewer projects make financial sense, since only buildings that can charge high rents or generate substantial returns from commercial activity are likely to be built. By discouraging new construction, parking requirements also drive up the cost of existing buildings, as more people compete for a limited supply of homes and commercial spaces. Minimum parking requirements especially discourage the construction of affordable apartments, because per-unit requirements disproportionately increase the cost of smaller units. Here, we show that parking not only accounts for a large share of overall construction costs, but that the costs have increased rapidly over the past decade.

Structured parking is expensive, averaging $73,000 per space for underground parking and $52,000 per space for aboveground parking. However, the *marginal* cost of complying with minimum parking requirements is often even higher than the *average* cost per space. For example, if a site can fit 16 spaces on a single underground level, but a city requires 22, the builder may need to dig an additional, deeper (and more expensive) level to meet the requirement. As a result, the last six spaces can cost significantly more than the first 16. When parking requirements are calculated per apartment, developers may cut the number of units and build larger apartments to avoid the disproportionately high cost of the final few parking spaces.

As we show in this report, the costs of parking construction are substantial, and our cost estimates provide a benchmark that helps illuminate the economic and development impacts of minimum parking requirements. Residents and businesses experience these costs not only through higher housing and commercial property prices, but also through fewer homes, stores, restaurants, and other businesses being built.

Appendix

This appendix displays underlying data and calculations for the results shown in the body of the report. Intermediate values have been rounded for simplicity; all final calculations are derived from the original, unrounded figures.

Construction Cost per Parking Space

Table A-1 below displays the data and calculations underlying Figure 1.

Table A-1. Construction Cost per Parking Space in 17 U.S. Cities

City	Construction Cost per Square Foot		Construction Cost per Space	
	Underground ($/sq ft) (1)	Aboveground ($/sq ft) (2)	Underground ($/space) (3) = (1) x 330	Aboveground ($/space) (4) = (2) x 330
Austin	213	153	70,000	50,000
Boston	165	138	54,000	45,000
Chicago	225	125	74,000	41,000
Dallas	215	153	71,000	50,000
Denver	228	163	75,000	54,000
Honolulu	260	208	86,000	68,000
Las Vegas	153	95	50,000	31,000
Los Angeles	195	135	64,000	45,000
Miami	228	160	75,000	53,000
Minneapolis	270	195	89,000	64,000
Nashville	238	170	78,000	56,000
New York City	210	163	69,000	54,000
Phoenix	133	88	44,000	29,000
Portland	338	300	111,000	99,000
San Francisco	300	168	99,000	55,000
Seattle	263	173	87,000	57,000
Washington, D.C.	123	88	40,000	29,000
Average	221	157	73,000	52,000

Note. Columns 1 and 2 display averages of "high" and "low" cost estimates from Rider Levett Bucknall (2025).

The Cost of Required Parking

Office Buildings and Shopping Centers

Table A-2 and Table A-3 display the calculations underlying Figures 2–5 in the report, showing (1) required parking as a share of total construction costs and (2) how much parking minimums can raise construction costs relative to the cost of the building alone. Table A-2 shows parking requirements, construction costs, and calculations for office buildings, and Table A-3 shows the same information for shopping centers.

The first column of each table shows each city's parking requirement per 1,000 square feet of building space.[6] Multiplying the number of required spaces by 330 — the approximate square footage for a typical space, including aisles — gives the total parking area required per 1,000 square feet of office building area, shown in column 3.

We then multiply each required parking area by the cost per square foot of underground and aboveground structures to calculate each city's cost of providing the required parking for every 1,000 square feet of building space. Column 7 displays the cost per 1,000 square feet of building.[7]

Finally, we combine these parking cost estimates with building construction cost estimates in two ways. Columns 10 and 11 show the share of total construction costs attributable to required parking. Columns 12 and 13 show how much minimum parking requirements can increase the total cost of construction when the required parking is provided in underground and aboveground structures, respectively.

[6] When cities have areas exempt from minimum parking requirements or subject to reduced standards, this analysis uses the baseline requirement that applies outside those exempt or reduced areas.

[7] RLB provides cost estimates for Prime and Secondary office buildings and for Center and Strip retail shopping. This analysis uses Secondary estimates for office buildings and Center estimates for shopping centers, following Donald Shoup's (2014) methodology.

Table A-2. The Cost of Meeting Minimum Parking Requirements for Office Buildings

City	Parking Requirement Spaces/1000 Square Feet	Building Area Square Feet	Parking Area Square Feet	Construction Cost per Square Foot $		
	(1)	(2)	(3) = (1) x 330	Office Building (4)	Underground Parking (5)	Aboveground Parking (6)
Las Vegas	3.33	1,000	1,100	233	153	95
Nashville	3.33	1,000	1,100	310	238	170
Phoenix	3.33	1,000	1,100	208	133	88
Miami	3	1,000	990	200	228	160
Honolulu	2	1,000	660	310	260	208
Los Angeles	2	1,000	660	255	195	135
Seattle	1	1,000	330	293	263	173
Average	**2.57**	**1,000**	**850**	**258**	**210**	**147**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Table A-2 (continued). The Cost of Meeting Minimum Parking Requirements for Office Buildings

City	Construction Cost per 1,000 Square Feet of Office Building Area $			Share of Total Construction Costs Attributable to Required Parking %		Cost Increase Relative to Building Alone %	
	Office Building (7) = (2) x (4)	Underground Parking (8) = (3) x (5)	Aboveground Parking (9) = (3) x (6)	Underground (10) = (8) / ((7)+(8))	Aboveground (11) = (9) / ((7)+(9))	Underground (12) = (7) / (8)	Aboveground (13) = (7) / (9)
Las Vegas	233,000	168,000	104,000	42	31	72	45
Nashville	310,000	261,000	187,000	46	38	84	60
Phoenix	208,000	146,000	96,000	41	32	70	46
Miami	200,000	225,000	158,000	53	44	113	79
Honolulu	310,000	172,000	137,000	36	31	55	44
Los Angeles	255,000	129,000	89,000	34	26	50	35
Seattle	293,000	87,000	57,000	23	16	30	19
Average	**258,000**	**169,000**	**118,000**	**39**	**31**	**68**	**47**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Table A-3. The Cost of Meeting Minimum Parking Requirements for Shopping Centers

City	Parking Requirement Spaces/1000 Square Feet	Building Area Square Feet	Parking Area Square Feet	Construction Cost per Square Foot $		
	(1)	(2)	(3) = (1) x 330	Office Building (4)	Underground Parking (5)	Aboveground Parking (6)
Las Vegas	5	1,000	1,650	285	238	170
Nashville	4	1,000	1,320	295	195	135
Phoenix	4	1,000	1,320	423	153	95
Miami	3.33	1,000	1,100	288	133	88
Honolulu	3	1,000	990	278	228	160
Los Angeles	2	1,000	660	360	263	173
Seattle	2	1,000	660	460	260	208
Average	3.33	1,000	1,100	341	210	147

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Table A-3 (continued). The Cost of Meeting Minimum Parking Requirements for Shopping Centers

City	Construction Cost per 1,000 Square Feet of Office Building Area $			Share of Total Construction Costs Attributable to Required Parking %		Cost Increase Relative to Building Alone %	
	Office Building (7) = (2) x (4)	Underground Parking (8) = (3) x (5)	Aboveground Parking (9) = (3) x (6)	Underground (10) = (8) / ((7)+(8))	Aboveground (11) = (9) / ((7)+(9))	Underground (12) = (7) / (8)	Aboveground (13) = (7) / (9)
Las Vegas	285,000	392,000	281,000	32	23	138	98
Nashville	295,000	257,000	178,000	58	50	87	60
Phoenix	423,000	201,000	125,000	34	25	48	30
Miami	288,000	146,000	96,000	45	36	51	33
Honolulu	278,000	225,000	158,000	27	23	81	57
Los Angeles	360,000	173,000	114,000	47	38	48	32
Seattle	460,000	172,000	137,000	32	24	37	30
Average	**341,000**	**224,000**	**156,000**	**39**	**31**	**70**	**49**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Apartments and Condominiums

Because cities typically set parking requirements for multifamily residential on a per-unit basis, rather than per 1,000 square feet, this analysis uses representative unit sizes and an assumption that dwelling units account for 85% of total building area, with the remaining 15% devoted to common spaces such as hallways, stairwells, and laundry rooms. Column 2 of Table A-4 below displays the total building square footage assumed necessary for a unit of each size. Next, we multiply the adjusted sizes by the average of the low and high RLB per-square-foot construction cost estimates for multifamily residential buildings to find the construction cost per unit in each city, as shown in Table A-5 below.

Table A-4. Representative Housing Unit Sizes Used in Analysis

Unit Type	Representative Size Used Square Feet (1)	Adjusted Size, Including Share of Common Spaces Square Feet (2) = (1) / 0.85
Studio	450	529
One-bedroom	750	882
Two-bedroom	1,100	1,294
Three-bedroom	1,350	1,588

Table A-5. Housing Cost Estimates for Various Unit Types by City

City	Multifamily Residential Construction Cost per Square Foot $ (1)	Construction Cost per Unit $			
		Studio (2) = (1) x 529	1-bedroom (3) = (1) x 882	2-bedroom (4) = (1) x 1,294	3-bedroom (5) = (1) x 1,588
Nashville	288	152,000	254,000	372,000	457,000
Seattle	385	204,000	340,000	498,000	611,000
Chicago	345	183,000	304,000	446,000	548,000
Los Angeles	350	185,000	309,000	453,000	556,000
Las Vegas	355	188,000	313,000	459,000	564,000
Phoenix	243	128,000	214,000	314,000	385,000
Honolulu	403	213,000	355,000	521,000	639,000
Average	**338**	**179,000**	**298,000**	**438,000**	**537,000**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

In Table A-6, columns 1–4 show each city's minimum parking requirement for each unit type. We then multiply the number of required spaces by 330 — the approximate square footage for a typical space, including aisles — to illustrate the parking area required by unit type in each city, shown in columns 5–8.

In Table A-7, we multiply the required parking areas from columns 5–8 of Table A-6 by RLB's per-square-foot construction cost estimates for underground and aboveground parking in each city to see the total construction costs of providing the required parking for each unit size.

Finally, we combine the parking cost estimates from Table 7 with apartment construction cost estimates from Table A-5 in two ways. Table 8 shows the approximate share of total construction costs attributable to required parking for each unit size in each city, for both underground and aboveground parking. Table A-9 shows the percentages by which each city's minimum parking requirements can increase total construction costs for housing, relative to the construction cost of the building alone.

Table A-6. Parking Requirements and Parking Area Required for Various Residential Unit Sizes by City

City	Minimum Parking Requirement Parking Spaces per Unit				Required Parking Area Square Feet			
	Studio (1)	1-bedroom (2)	2-bedroom (3)	3-bedroom (4)	Studio (5) = (1) x 330	1-bedroom (6) = (2) x 330	2-bedroom (7) = (3) x 330	3-bedroom (8) = (4) x 330
Nashville	1	1	1	1.5	330	330	330	495
Seattle	1	1	1	1	330	330	330	330
Chicago	1	1	1	1	330	330	330	330
Los Angeles[a]	1	1.5	2	2	330	495	660	660
Las Vegas	1.25	1.25	1.75	2	413	413	578	660
Phoenix	1.5	1.5	1.5	1.5	495	495	495	495
Honolulu	1 space per 1,000 sq ft private dwelling area[b]				149	248	363	446
	.45	.75	1.1	1.35				
Average	**1.03**	**1.14**	**1.34**	**1.48**	**340**	**377**	**441**	**488**

Note.
a = Los Angeles' parking requirement is based on the number of "habitable rooms" in a unit (<3, =3, or >3) but notes that studios have fewer than 3, 1-bedrooms typically have 3, and 2-bedrooms typically have more than 3.
b= Honolulu's parking requirement is based on square footage of private dwelling area (excluding common areas such as building hallways), so values were calculated using the representative unit sizes listed in column 1 of Table A-4 above.

Table A-7. The Cost of Meeting Residential Minimum Parking Requirements

City	Underground Parking Construction Cost per Square Foot $ (1)	Underground Parking Construction Cost $				Aboveground Parking Construction Cost per Square Foot $ (6)	Aboveground Parking Construction Cost $			
		Studio (2) = (1) x (Table 6, (5))	1-Bedroom (3) = (1) x (Table 6, (6))	2-Bedroom (4) = (1) x (Table 6, (7))	3-Bedroom (5) = (1) x (Table 6, (8))		Studio (7) = (6) x (Table 6, (5))	1-Bedroom (8) = (6) x (Table 6, (6))	2-Bedroom (9) = (6) x (Table 6, (7))	3-Bedroom (10) = (6) x (Table 6, (8))
Nashville	238	78,000	78,000	78,000	118,000	170	56,000	56,000	56,000	84,000
Phoenix	133	66,000	66,000	66,000	66,000	88	43,000	43,000	43,000	43,000
Seattle	263	87,000	87,000	87,000	87,000	173	57,000	57,000	57,000	57,000
Chicago	225	74,000	74,000	74,000	74,000	125	41,000	41,000	41,000	41,000
Los Angeles	195	64,000	96,000	129,000	129,000	135	45,000	67,000	89,000	89,000
Las Vegas	153	63,000	63,000	88,000	101,000	95	39,000	39,000	55,000	63,000
Honolulu	260	39,000	64,000	94,000	116,000	208	31,000	51,000	75,000	92,000
Average	**209**	**67,000**	**76,000**	**88,000**	**98,000**	**142**	**45,000**	**51,000**	**60,000**	**67,000**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Table A-8. Share of Total Multifamily Residential Construction Costs Attributable to Required Parking

City	Share of Total Construction Costs Attributable to Required Parking - With Underground Parking %				Share of Total Construction Costs Attributable to Required Parking - With Aboveground Parking %			
	Studio	1-Bedroom	2-Bedroom	3-Bedroom	Studio	1-Bedroom	2-Bedroom	3-Bedroom
	(1) = (Table 7, (2)) / (Table 7, (2) + Table 5, (2))	(2) = (Table 7, (3)) / (Table 7, (3) + Table 5, (3))	(3) = (Table 7, (4)) / (Table 7, (4) + Table 5, (4))	(4) = (Table 7, (5)) / (Table 7, (5) + Table 5, (5))	(5) = (Table 7, (7)) / (Table 7, (7) + Table 5, (2))	(6) = (Table 7, (8)) / (Table 7, (8) + Table 5, (3))	(7) = (Table 7, (9)) / (Table 7, (9) + Table 5, (4))	(8) = (Table 7, (10)) / (Table 7, (10) + Table 5, (5))
Nashville	34	24	17	20	27	18	13	16
Phoenix	34	23	17	15	25	17	12	10
Seattle	30	20	15	12	22	14	10	9
Chicago	29	20	14	12	18	12	8	7
Los Angeles	26	24	22	19	19	18	16	14
Las Vegas	25	17	16	15	17	11	11	10
Honolulu	15	15	15	15	13	13	13	13
Average	**27**	**20**	**17**	**15**	**20**	**15**	**12**	**11**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Table A-9. How Minimum Parking Requirements Increase the Cost of Multifamily Residential Construction

City	Construction Cost Increase - With Underground Parking %				Construction Cost Increase - With Aboveground Parking %			
	Studio	1-Bedroom	2-Bedroom	3-Bedroom	Studio	1-Bedroom	2-Bedroom	3-Bedroom
	(1) = (Table 5, (2)) / (Table 7, (2))	(2) = (Table 5, (3)) / (Table 7, (3))	(3) = (Table 5, (4)) / (Table 7, (4))	(4) = (Table 5, (5)) / (Table 7, (5))	(5) = (Table 5, (2)) / (Table 7, (7))	(6) = (Table 5, (3)) / (Table 7, (8))	(7) = (Table 5, (4)) / (Table 7, (9))	(8) = (Table 5, (5)) / (Table 7, (10))
Nashville	51	31	21	26	37	22	15	18
Phoenix	51	31	21	17	34	20	14	11
Seattle	43	26	17	14	28	17	11	9
Chicago	41	24	17	14	23	14	9	8
Los Angeles	35	31	28	23	24	22	20	16
Las Vegas	33	20	19	18	21	13	12	11
Honolulu	18	18	18	18	14	14	14	14
Average	**39**	**26**	**20**	**19**	**26**	**17**	**14**	**13**

Note. Calculated using per-square-foot cost estimates from Rider Levett Bucknall (2025).

Reforms Motivated by the High Costs of Parking

Of the 17 U.S. cities with cost estimate data in the RLB report, the majority have either fully or partially removed minimum parking requirements in recent years, often citing high construction costs as one of the key reasons for reform. Table A-10 lists cities from the RLB report that have recently repealed or reduced minimum parking requirements, the year of the reform, and whether cost was cited as a rationale.

In Portland, cost considerations were cited in connection with an earlier, partial repeal of parking minimums, but the materials associated with the subsequent citywide repeal focused primarily on compliance with state administrative rules.

Table A-10. Cost as Rationale for Repealing or Reducing Minimum Parking Requirements

City	Reform	Year	Cost Cited as Rationale?
San Francisco, CA	Full repeal of minimum parking requirements	2019	Yes
Minneapolis, MN	Full repeal of minimum parking requirements	2021	Yes
Portland, OR	Full repeal of minimum parking requirements	2023	No
Austin, TX	Full repeal of minimum parking requirements	2023	Yes
Denver, CO	Full repeal of minimum parking requirements	2025	Yes
Seattle, WA	Repeal in urban centers and near transit; reductions in other areas	2012	Yes
Washington, D.C.	Repeal downtown; reductions in other areas	2016	Yes
Honolulu, HI	Repeal in the primary urban center and near transit; reductions in other areas	2020	Yes
Nashville, TN	Repeal for urban zoning overlay	2022	Yes
Phoenix, AZ	Halved requirements for multifamily housing in walkable urban core	2023	Yes
New York City, NY	Repeal for housing near transit	2024	Yes
Dallas, TX	Repeal downtown and near transit, as well as for certain uses including offices, retail, small restaurants, and up to the first 20 units of multifamily housing developments	2025	Yes
Chicago, IL	Repeal near transit	2025	Yes

Note. Author review of city staff reports, ordinance findings, planning commission materials, and official city webpages associated with parking reform actions. "Cost cited" indicates that materials explicitly referenced housing costs, development costs, parking construction costs, or affordability impacts.

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