

**Subject:** Affordable Housing and Parking Standards Research

**To:** Carl DeLorenzo, Policy Director  
Dept. of County Administration

**Through:** Valdis Lazdins, Director  
Dept. of Planning and Zoning

**From:** Randy Clay, AICP, Planner  
Division of Comprehensive and Community Planning

**Date:** October 8, 2015

**Revised:** November 9, 2015

### Overview

---

This memo summarizes and helps inform the County's discussion on affordable housing and parking. It reflects the scope of current literature, professional design industry methodologies, jurisdictional standards, and project case studies regarding parking. It includes a comprehensive view of current trends and practices at a local, regional and national level.

### Recommendation

---

Given the breadth of regional and national scale parking research completed for downtown Columbia, it is appropriate to consider a parking ratio of 1.3 spaces per unit for studio and one bedroom residential units. For two and three bedroom units the ratio should remain at the current 1.65 spaces. However, given the potential for evolving conditions to affect the demand for parking in downtown Columbia, detailed analyses should still be allowed to test reduced parking standards on a case by case basis.

Further, since the costs associated with parking can impact housing affordability, many communities have sought to balance housing costs with the demand for parking. Some jurisdictions have either eliminated or reduced parking requirements for affordable housing. For example, Montgomery County, Maryland allows for a 0.50 special use reduction of its baseline parking minimum for its moderately priced dwelling units (MPDUs) and workforce housing.<sup>1</sup> This is a policy decision that warrants discussion since a reduction in parking for affordable units could result in an undersupply of residential parking with spill-over impacts to surrounding neighborhoods.

Finally, given the relatively early point in downtown Columbia's transition from a suburban, auto-oriented town center to a pedestrian-oriented, mixed-use urban activity center, an additional CEPPA requirement should be provided for a Downtown Parking Assessment commensurate with the start of the Phase II Cumulative Phasing Progression when a critical mass of development is available for reliable study of land use parking demand. The assessment should provide both quantitative and qualitative metrics for analyzing parking demand across all land use types including specific residential parking utilization yields by housing unit type, tenure and occupancy density as well as necessary adjustments for influencing occupational and socio-demographic factors. Transportation Demand Management Planning (TDMP) will also need consideration as an influencing variable.

---

<sup>1</sup> Montgomery (Maryland), County of. 2015. Montgomery County Code, Article 59-6 General Development Requirements, Section 6.2.3 Parking Requirements.

## DID YOU KNOW

1. American Planning Association Planning Advisory Service. 2009. PAS Essential Info Packet 24: "Parking Solutions."

According to the American Planning Association, parking requirements typically range from one to two spaces per unit. Some codes have different requirements based on dwelling type – either multi- or single-family. Others make further distinctions based on the number of bedrooms, where the project is located in the community, or whether the units serve senior, low-income, or other special populations. Vehicle ownership rates tend to vary based on these factors, influencing parking demand. Studies indicate that in many cases parking requirements are not fixed and are subject to case-by-case review. Additionally, communities with Transportation Demand Management (TDM) ordinances often reference access to transit access as a key factor when considering parking reductions.

**Source:** <https://www.planning.org/pas/infopackets/subscribers/eip24.htm>

2. American Association of State Highway and Transportation Officials in Cooperation with the Federal Highway Administration. 2014. Strategic Issues Facing Transportation, NCHRP Report 750, Volume 6: The Effects of Socio-Demographics on Future Travel Demand.

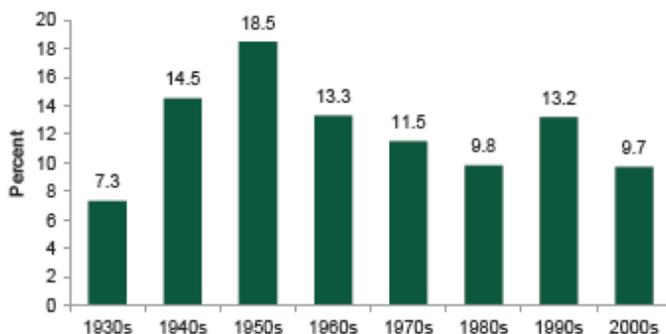
This report presents the results of research on how socio-demographic changes over the next 30 to 50 years may impact travel demand at the U.S. regional level to help transportation decision makers understand how population may change over time and how those changes could affect the ways people travel and the kinds of transportation modes and infrastructure that will be needed. The following bullets highlight key trends, drivers and projected impacts on travel demand:

### 1. Trend 1: The Next 100 Million

*The United States is growing more slowly.*

- **Drivers:** Population growing but aging, declining fertility rates among white women, extended life span, and less immigration.
- **Impact on Travel Demand:** Overall increase in total VMT due to population growth; VMT per capita appears to be declining.

The 2000s marked the lowest decennial rate of population growth since the Depression (see Figure 3-2). Between 2000 and 2010, the U.S. population grew by 27.3 million (about 10 percent).



Source: Brookings Institution 2010.

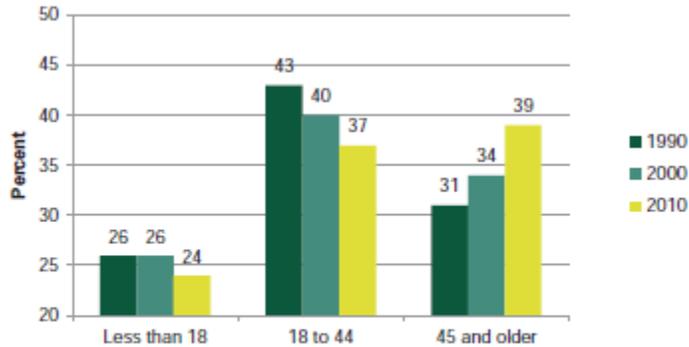
**Figure 3-2. Population growth by decade, 1930s–2000s.**

## 2. Trend 2: The Graying of America

America is becoming “grayer.” The population age 65 and older will significantly increase as the Baby Boom generation enters this demographic group.

- **Drivers:** Population aging, extended life spans, “boom-and-bust” birth rate patterns.
- **Impact on Travel Demand:** Decreased per capita VMT, decreased work trips, increased vehicle age, decreased auto ownership, increased carpooling, decreased transit use.

Population aging is evident in the increasing share of the population in the older age categories as the Baby Boom generation becomes older (see Figure 3-3).



Source: Brownell et al. 2013.

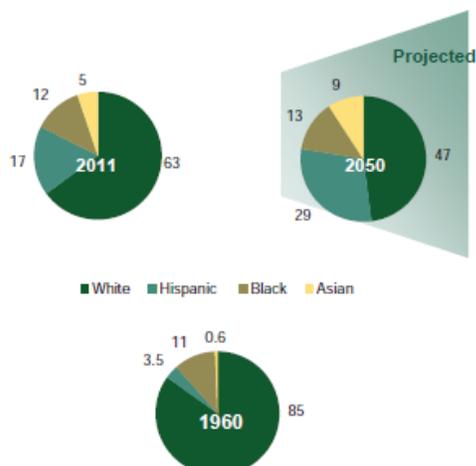
**Figure 3-3. Percentage of U.S. population by age group, 1990–2010.**

## 3. Trend 3: The Browning of America

America is becoming “brownier.” The white population has grown more slowly than every other racial group in the second half of the 20th century.

- **Drivers:** Structural changes in population distribution by race/ethnicity, relatively high fertility rates among Hispanic women, continuing immigration in younger age groups.
- **Impact on Travel Demand:** Increase in VMT per capita, increase in auto age, greater public transit use.

White non-Hispanics accounted for a majority of the U.S. population in 2010, but their share has declined over time as the shares of other groups, particularly Hispanics and Asian/Pacific Islander populations, have grown significantly faster (see Figure 3-4).



Source: Census Bureau 2011 Population Estimates (Passel and Cohn 2008).

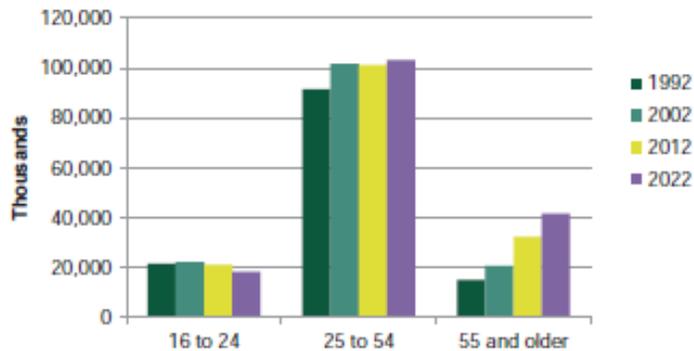
**Figure 3-4. Population by race and ethnicity, actual and projected (% of total).**

#### 4. Trend 4: The Changing American Workforce

*America's workforce is growing older, more female, and more diverse.*

- **Drivers:** Boom-and-bust birth rate patterns, population aging, female work participation patterns, female longevity, structural changes in racial/ethnic distribution of labor force, immigration.
- **Impact on Travel Demand:** Decreased VMT per capita, increased work-related VMT, lower growth in work-related VMT, increased carpooling.

The population will continue to exhibit structural changes that will have significant impacts on the U.S. workforce (see Figure 3-5). For example, according to the BLS, the share of 16–24-year-olds in the workforce is declining—from 17 percent in 1992 to 16 percent in 2012 to a projected 14 percent in 2022. Even more significant declines are observed among 25–54-year-olds, who represent the prime age group for workers.



Source: BLS, Monthly Labor Review, December 2013 (Toossi 2013).

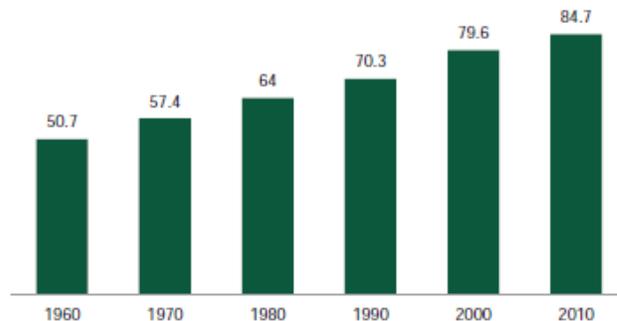
**Figure 3-5. Civilian labor force by age.**

#### 5. Trend 5: The Blurring of City and Suburb

*The differentiation between cities and suburbs is fading.*

- **Drivers:** Population growth, housing starts, population aging, age structure, household structure.
- **Impact on Travel Demand:** Decreased VMT per capita, increased non-motorized trips, increased transit trips.

U.S. population density, defined as the number of people per square mile of land area, increased from 50.7 in 1960 to 87.4 in 2010 (see Figure 3-6). Over the same period, central cities have become less dense, and the density of suburbs has changed very little (Census 2012, Hobbs and Stoops 2002).



Source: Census 2012 and Hobbs and Stoops 2002

**Figure 3-6. Number of people per square mile of U.S. land area.**

## 6. Trend 6: Slow Growth in Households

The rate of new household formation has plunged since 2006, creating more single households and also more multigenerational and larger households.

- **Drivers:** Poor labor market, aging population, lifestyle choices of Millennials.
- **Impact on Travel Demand:** Decreased per capita VMT, decreased auto ownership among young people, increased carpooling, increased public transit use.

Between 2006 and 2010, an average of 850,000 households were formed per year, compared with an average of 1.68 million per year over the previous five years (see Figure 3-7). In fact, household formation during 2006–2011 appears to have been far lower than in any five-year period over the past 40 years (Paciorek 2013).

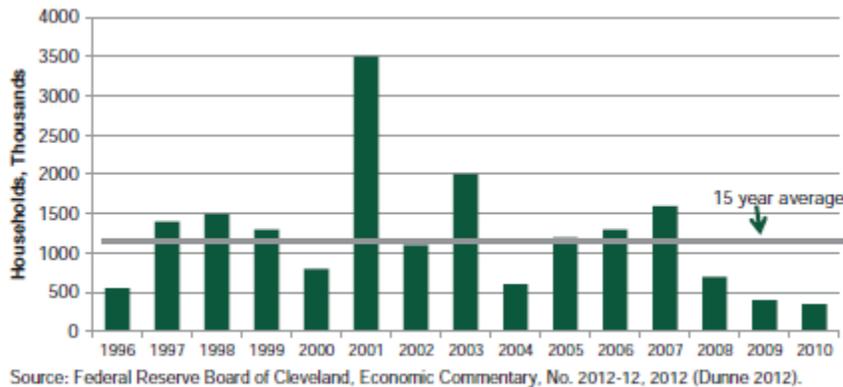


Figure 3-7. Net new households, 1996–2010.

## 7. Trend 7: The Generation C

Mobile broadband will become increasingly more important and ubiquitous, creating a new Generation C.

- **Drivers:** Technology evolution, lifestyle choices, age structure.
- **Impact on Travel Demand:** Reduced VMT per capita for some trip purposes, decreased car ownership.

The growing influence of digital and mobile devices in the way people live, work, and socialize has spawned a new generation. Generation C is not necessarily a demographic group, as it is a lifestyle segment. Trend data indicate that these alternative means of communication have thrived among mobile phone users. A 2013 Pew Research Center survey found that 91 percent of American adults own a cell phone and 56 percent of adults own a smartphone (Pew 2013a) (Figure 3-8).

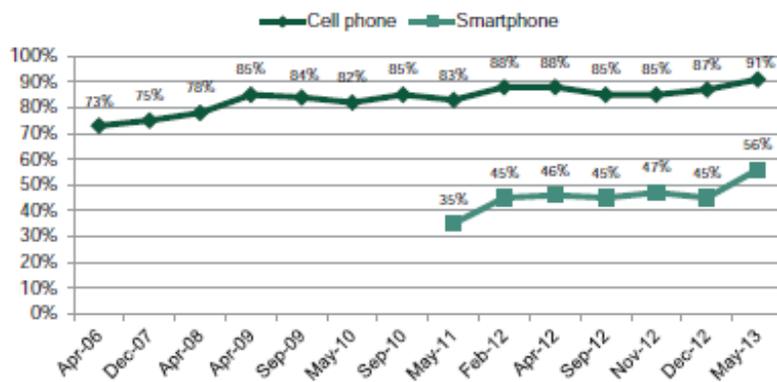


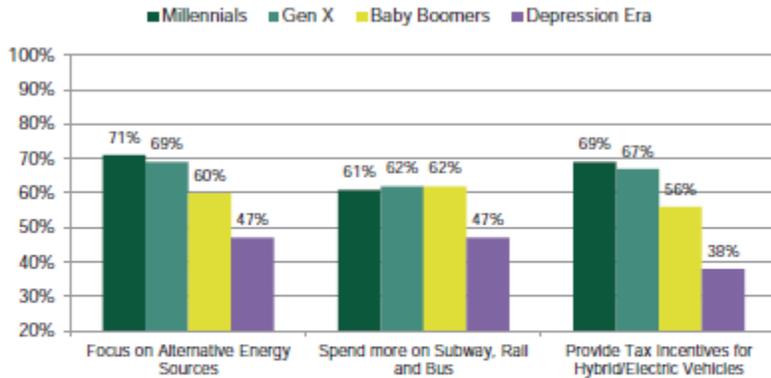
Figure 3-8. Percentage of American adults by cell phone and smartphone ownership.

## 8. Trend 8: The Salience of Environmental Concerns

The generational divide over the nation's energy and environmental priorities is still strong but will decrease over time.

- **Drivers:** Age structure, population aging.
- **Impact on Travel Demand:** Lower car ownership, more transit and nonvehicle travel by younger generations due to elderly population shrinking.

According to a 2011 Pew Research Center poll, different generations of Americans have starkly different views on some of the social issues facing the United States today (Pew 2011). With respect to another policy that addressed tax incentives for buying hybrid/electric vehicles, 69 percent of Millennials favored the policy, compared with 67 percent of Gen X'ers, 56 percent of Baby Boomers, and 38 percent of Depression era respondents (Figure 3-9).



Source: Pew 2011.

**Figure 3-9. Generational differences in views on energy and environmental priorities: percentage in agreement.**

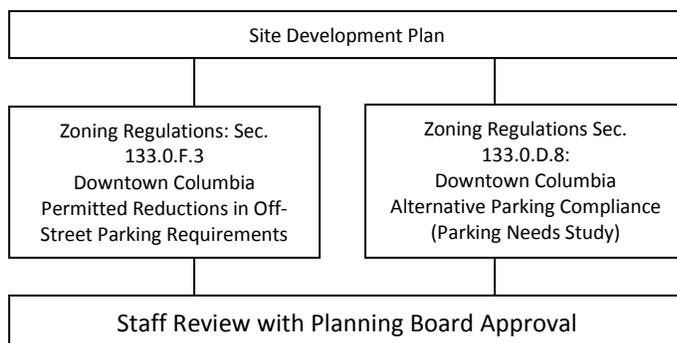
Source: <http://www.trb.org/Main/Blurbs/171200.aspx>

## LOCAL

### 1. Downtown Columbia Parking Review Process

Site Development Plans (SDP) for Downtown Columbia apply either parking standards based on the provisions of the Howard County Zoning Regulations (Sec. 133.0.F.3), which utilize a shared parking methodology, or an alternative shared parking methodology (Sec. 133.0.D.8), which requires a Parking Needs Study.

Figure 1. Downtown Columbia Parking Review Flow Chart



The current Howard County Zoning Ordinance requires 1.5 paces/unit plus 0.15 paces/unit for visitors for all types of residential; the total requirement is 1.65 per unit.

Table 1. Howard County Shared Parking Methodology Base Parking Ratios

Land Use	Weekday		Weekend		Unit
	Visitor	Employee	Visitor	Employee	
General Retail/Personal Service	2.90	0.70	3.20	0.80	/ksf GLA
Shopping Center	3.20	0.80	3.60	0.90	/ksf GLA
Restaurants, standard, and beverage establishments	15.25	2.75	17.00	3.00	
Fast Food Restaurant	12.75	2.25	12.00	2.00	/ksf GLA
Cinema	0.19	0.01	0.26	0.01	/seat
Performing Arts Theater	0.30	0.07	0.33	0.07	/seat
Health Club	6.60	0.40	5.50	0.25	/ksf GLA
Hotel	0.90	0.25	1.00	0.18	/room
Restaurant/Lounge	10.00		10.00		/ksf GLA
Conference Ctr./Banquet (20 to 50 sq ft/guest room)	30.00		30.00		/ksf GLA
Convention Space (>50 sq ft/guest room)	20.00		10.00		/ksf GLA
Residential(1)	0.15	1.50	0.15	1.50	/unit
General Office up to 100 ksf	0.275	3.30	0.028	0.33	/ksf GLA
General Office over 100 ksf	0.20	2.60	0.02	0.26	/ksf GLA
Medical/Dental Office	3.00	1.50	3.00	1.50	/ksf GLA

Note(s): (1) 1.0 space reserved for residents' sole use; remainder may be shared.

(2) For all other land uses, data from the current edition of "Parking Generation" (ITE), "Shared Parking" (ULI), the Howard County Zoning Regulations or other applicable sources may be used.

Source: Howard County Zoning Regulations, Section 133.0, Off-Street Parking and Loading Facilities

## 2. Local Case Studies

### Burgess Mill Phase I: Unit and Parking Counts

Burgess Mills Station was developed by the Howard County Housing Commission in 2014 as a mixed-income rental community. Phase I included 198 units - both apartments and townhouses. Current parking ratios are:

Table 2. Burgess Mill Phase 1 Parking Ratio

Garden Apartments	G1	G2	G3	G4	G5	G6	Sub Total		
Units	24	23	12	12	22	21	114		
Manor Houses	M1	M2	M3	M4	M5	M6			
Units	9	9	9	9	9	11	56		
Stacked Town	T1	T2	T3	T4	-	-			
	6	6	10	6	-	-	28		
Total Units							198	Market	Affordable
Total Parking							383	91	107
Parking Ratio							1.93		

Source: Howard County Planning and Zoning

### Monarch Mill: Unit and Parking Counts

Monarch Mills was developed by the Howard County Housing Commission in 2012 as a mixed-income rental community. It includes 269 garden style apartments.

Table 3. Monarch Mill Parking Ratio

Building	Bldg A	Bldg B	Bldg C	Bldg D	Bldg E	Bldg F	Bldg G	Bldg H	Bldg I	Bldg J	Total	Market Affordable		
Units	32	24	32	12	12	45	24	24	32	32	269	153	116	
Total Parking												580		
Parking Ratio												2.16		

Source: Howard County Planning and Zoning

### Downtown Columbia and Surrounding Village Residential Development Unit Types

A review of recently approved residential developments within Downtown Columbia and surrounding villages indicates a range in unit type programming. Parcel D (The Metropolitan) includes an approximate 60:40 unit ratio between 1 bedroom and 2 and 3 bedroom types. Parcel C-1 (North Building) provides an approximate 40:60 unit ratio between studio and 1 bedroom and 2 and 3 bedroom types and Parcel C-2 (South Building) offers a very different program with an approximate 85:15 unit ratio between studio and 1 bedroom and 2 and 3 bedroom types. The Wilde Lake Apartments development offers the most even unit distribution with a 45:55 unit ratio between 1 bedroom and 2 and 3 bedroom types.

Table 1. Approved Downtown Columbia and Surrounding Villages Residential Development Unit Types

The Metropolitan: SDP-13-007

Unit Type	Level 1	Mezzanine	Level 2	Level 3	Level 4	Level 5	Level 6	Total Units	% Total	% Unit Type
1 Bed Junior	6	-	9	9	9	15	0	48	13%	62%
1 Bed	9	-	36	36	36	30	0	147	39%	
1 Bed Den	3	-	6	6	6	6	2	29	8%	
1 Bed Loft	13	-	0	0	0	0	0	13	3%	
2 Bed	10	-	22	22	22	22	7	105	28%	38%
2 Bed Loft	4	-	0	0	0	0	0	4	1%	
3 Bed	0	-	5	5	5	5	2	22	6%	
3 Bed Den	0	-	2	2	2	2	4	12	3%	
Total	45	-	80	80	80	80	15	380	100%	100%

Parcel C-1 North Building: SDP-14-024

Unit Type	Level 1	Mezzanine	Level 2	Level 3	Level 4	Level 5	Level 6	Total Units	% Total	% Unit Type
Studio	2	-	0	0	0	0	-	2	1%	42%
1 Bed	9	-	14	14	14	14	-	65	38%	
1 Bed Den	0	-	2	1	1	1	-	5	3%	
2 Bed	6	-	18	19	19	20	-	82	48%	58%
2 Bed Den	0	-	1	1	1	1	-	4	2%	
3 Bed	1	-	3	3	3	2	-	12	7%	
Total	18	-	38	38	38	38	-	170	100%	

Parcel C-2 South Building: SDP-14-024

Unit Type	Level 1	Mezzanine	Level 2	Level 3	Level 4	Level 5	Level 6	Total Units	% Total	% Unit Type
Studio	-	3	4	4	4	4	-	19	7%	84%
1 Bed Junior	-	3	4	4	4	4	8	27	10%	
1 Bed	-	6	34	33	33	33	12	151	57%	
1 Bed Den	-	2	6	6	6	6	2	28	10%	
2 Bed	-	1	4	5	6	6	3	25	9%	16%
2 Bed Den	-	0	3	3	2	3	2	13	5%	
3 Bed	-	0	1	1	1	0	1	4	1%	
Total	-	15	56	56	56	56	28	267	100%	

Wilde Lake Apartments: SDP-13-046

Unit Type	Level 1	Mezzanine	Level 2	Level 3	Level 4	Level 5	Level 6	Total Units	% Total	% Unit Type
Studio	-	-	-	-	-	-	-	-	0%	45%
1 bed	17	-	20	22	22	22	-	103	45%	
2 Bed	15	-	24	26	26	26	-	117	51%	55%
3 Bed	2	-	2	2	2	2	-	10	4%	
Total	34	-	46	50	50	50	-	230	100%	100%

Source: Howard County Department of Licenses and Permits

## Maple Lawn Farms

The Amended Comprehensive and Subdivision Sketch Plan for Maple Lawn Farms in Fulton was approved January 25, 2007 by the Planning Board. The following parking standards are included as part of the development criteria:

- No less than two parking spaces shall be provided for each Single Family Detached dwelling unit.
- No less than one parking space shall be provided for each accessory dwelling unit.
- No less than two parking spaces shall be provided for each Single Family Attached, Lille-Work, Semi-Detached, and Two-Family dwelling unit.
- No less than one and one-half parking spaces shall be provided for each apartment unit.
- Reductions in parking requirements are permitted pursuant to the Howard County Zoning Regulations Section 133.E.1 (Shared Parking).

## Localized Multifamily Parking Demand

The Howard Hughes Corporation (HHC) studied 15 comparable multi-family developments across the Washington metropolitan area to supplement its analysis of parking demand for the Metropolitan. The study identified total units and parking spaces and the occupancy rates for both. The survey indicates in a suburban, but transitional urbanizing area, the average residential parking ratio is 1.52 spaces/unit.

Table 4 Washington Metropolitan Area Residential Parking Space Survey

Residential Parking Space Survey										
Recent Suburban Rental Communities - Baltimore/Washington, D.C. Region										
Project	Type	Submarket	Jurisdiction	Units	Residential Parking Spaces*	Parking Supply Ratio	Parking Occupancy**	Resident Occupancy***	Leasing Status	Parking Type
The Metropolitan Downtown Columbia	Mid-Rise	Columbia	Howard	380	591	1.555				Multi-Level Structured
Crosswinds at Annapolis Town Center	Mid-Rise	Annapolis	Anne Arundel	215	300	1.40	90%	94%	Stabilized	Multi-Level Structured
Mariner Bay at Annapolis Town Center	High-Rise	Annapolis	Anne Arundel	208	364	1.75	90%	92%	Stabilized	Multi-Level Structured
Flats 170 at Academy Yard	Mid-Rise	Odenton	Anne Arundel	369	579	1.57	75%	74%	Lease-Up	Multi-Level Structured
Jazz at the Quarter	Mid-Rise	Towson	Baltimore	280	318	1.14	90%	96%	Stabilized	Multi-Level Structured
Renaissance at the Quarter	Mid-Rise	Towson	Baltimore	150	222	1.48	90%	96%	Stabilized	Multi-Level Structured
Palisades at Towson	High-Rise	Towson	Baltimore	357	515	1.44	WND	95%	Stabilized	Multi-Level Structured
Towson Promenade	Mid-Rise	Towson	Baltimore	379	645	1.70	95%	92%	Stabilized	Multi-Level Structured
Avalon Mosaic	Mid-Rise	Dunn Loring/Merrifield	Fairfax	531	767	1.44	WND	56%	Lease-Up	Multi-Level Structured
The Metropolitan at Lorton Station	Mid-Rise	Lorton	Fairfax	251	429	1.71	75%	96%	Stabilized	Multi-Level Structured
The Metropolitan at Reston Town Center	High-Rise	Reston	Fairfax	288	460	1.60	75%	96%	Stabilized	Sub-Terranean
Avalon Park Crest	Mid-Rise	Tysons	Fairfax	354	720	2.03	85%	96%	Stabilized	Sub-Terranean
Archstone Gaithersburg Station	Mid-Rise	Gaithersburg	Montgomery	389	536	1.38	88%	96%	Stabilized	Multi-Level Structured
Cadence at Crown	Mid-Rise	Gaithersburg	Montgomery	540	703	1.30	90%	23%	Lease-Up	Multi-Level Structured
Paramount	Mid-Rise	Gaithersburg	Montgomery	224	335	1.50	100%	83%	Lease-Up	Multi-Level Structured
Gables Upper Rock	Mid-Rise	North Rockville	Montgomery	275	412	1.50	95%	96%	Stabilized	Sub-Terranean
				Totals	4,810	7,305	1.52			
				Averages	321	487	1.52			

\*Includes visitor parking

\*\*Parking occupancies compiled via phone survey with property management; for properties in lease-up, parking occupancies are based on % of resident occupants requiring parking

\*\*\*Resident occupancies compiled from Axiometrics

## REGIONAL

1. Alexandria, Virginia applies variable parking ratios for residential development as described in its City Code:

### Alexandria (Virginia), City of. 2015. Code of Ordinances. Article VIII: Off-Street Parking and Loading, Section 8-200: General Parking Regulations.

- iii. *Optional parking ratio for affordable housing.* If a multifamily building includes income-restricted units, the parking ratio for such units may be as follows:
  - a. Three-quarters of a parking space per unit if the affordable housing unit is income-restricted for households earning at or below 60 percent of Area Median Income for Washington-Arlington-Alexandria, DC-VA-MD-WV;
  - b. Sixty-five hundredths of a parking space per unit if the affordable housing unit is income-restricted for households earning at or below 50 percent of Area Median Income for Washington-Arlington-Alexandria, DC-VA-MD-WV; and

- c. Five-tenths of a parking space per unit if the affordable housing unit is income-restricted for households earning at or below 30 percent of Area Median Income for Washington-Arlington-Alexandria, DC-VA-MD-WV;
- d. The above parking ratios may be reduced by the following percentages if the applicant can show, to the satisfaction of the director, that the multifamily dwelling in which the units are located complies with any of the following:
  - A. Ten percent if the multifamily dwelling is within the Metro Half-Mile Walkshed or Bus Rapid Transit Half-Mile Walkshed, as shown on the maps titled "City of Alexandria Metro Station Walkshed Map" and "City of Alexandria Bus Rapid Transit Walkshed Map";
  - B. Five percent if the multifamily dwelling is within one-quarter of a mile of four or more active bus routes;
  - C. Ten percent if the multifamily dwelling has a walkability index score of 90—100 or five percent if the multifamily dwelling has a walkability index score of 80—89; or
  - D. Five percent if the multifamily dwelling includes 20 percent or more studio units.

**Source:** [https://www.municode.com/library/va/alexandria/codes/zoning?nodeId=ARTVIIIIOREPALO\\_S8-200GEPARE](https://www.municode.com/library/va/alexandria/codes/zoning?nodeId=ARTVIIIIOREPALO_S8-200GEPARE).

2. Arlington, Virginia allows reduced parking for affordable housing:

---

**Arlington (Virginia), County of. 2014. Neighborhood Form Based Code. Part 9: Building Use Standards, Section 903: Additional Incentives for Affordable Housing.**

A reduced parking ratio is used as a bonus if more than the requested number of affordable units is created:

- A. The following incentives are provided in order to encourage property owners to create or preserve AFFORDABLE HOUSING units beyond the minimum number of AFFORDABLE HOUSING units required in Section on 902.
  - 1. Reduced parking ratio: If an applicant provides at least 1 percent more AFFORDABLE HOUSING UNITS in excess of the minimum required quantity, the applicant may reduce the minimum parking ratio for all AFFORDABLE HOUSING UNITS within the DEVELOPMENT PROJECT from 1.125 spaces per unit to 0.825spaces per unit, which includes 0.7 space per unit and 0.125 SHARED space per unit.

**Source:** [http://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2014/06/5\\_Parts5\\_10.pdf](http://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2014/06/5_Parts5_10.pdf)

3. Baltimore, Maryland allows reduced parking for different types of housing, including public and elderly housing:

---

**Baltimore (Maryland), City of. 2012. Zoning Code. Title 10: Off-Street Parking Regulations, Subtitle 2: Scope and Eligibility, Section 10-207: Exemptions; Special Provisions.**

Offers an exemption to the parking minimum for public housing units (could include those within mixed-income developments), and elderly housing.

- c. For public housing.
  - No more than 1 vehicle parking space need be provided for every 2 dwelling units in dwellings erected or rehabilitated to be sold to, to be developed by, or to be developed for the use of the Housing Authority of Baltimore City for low-rent public housing.
- d. For elderly.
  - No more than 1 vehicle parking space need be provided for every 4 units designed for occupancy by the elderly in:

1. a federally-assisted private or public housing dwelling; or
2. housing for the elderly

**Source:** <http://archive.baltimorecity.gov/portals/0/charter%20and%20Codes/code/Art%2000%20-%20Zoning.pdf>

4. Fairfax, Virginia. Reston Town Center.

---



Although initial development of Reston Town Center’s core began in the 1990s, current parking standards apply to new residential developments. Article 11-103 of the Fairfax County Code requires one in six-tenths (1.6) spaces per unit for multifamily housing in Reston Town Center.

Source: <http://www.fairfaxcounty.gov/dpz/zoningordinance/>

5. Gaithersburg, Maryland includes parking ratios for multifamily units based on bedroom count:

---

**Gaithersburg, (Maryland) City of. 2015 City Code. Part 1 The Charter, Chapter 24 Zoning, Article XI Off-Street Parking and Loading.**

Residential	
Single-family and two-family	2/DU (Dwelling Units)
Multiple-family apartments and apartment hotels:*	
Efficiency	1/DU
1 B.R.	1.25/DU
2 B.R.	1.5/DU
3 B.R. and larger	2/DU
*Plus 1 space for each 400 square feet of assembly area required.	

**Source:** [https://www.municode.com/library/#!/md/gaithersburg/codes/code\\_of\\_ordinances?nodeId=PTIITHCO\\_CH24ZO\\_ARTXIOREPALO](https://www.municode.com/library/#!/md/gaithersburg/codes/code_of_ordinances?nodeId=PTIITHCO_CH24ZO_ARTXIOREPALO)

6. Montgomery County, Maryland includes parking ratios for multifamily units based on bedroom count and allows parking rate adjustments for specific housing types :

---

**Montgomery (Maryland), County of. 2015. Montgomery County Code, Article 59-6 General Development Requirements, Section 6.2.3 Calculation of Required Parking and Section 6.2.4 Parking Requirements.**

**I. Adjustments to Vehicle Parking**

**1. In General**

- a. Reduced parking rates under Section 6.2.3.I are not mandatory. The maximum number of parking spaces allowed in a Parking Lot District or Reduced Parking Area is based on the baseline maximum in the parking table under Section 6.2.4.B.
- b. Adjustments under Section 6.2.3.I to the minimum number of required parking spaces must not result in a reduction below 50% of the baseline parking minimum or shared parking model minimum.

**2. Special Uses**

- a. The parking minimum resulting from a Special Uses adjustment may not be further reduced by additional adjustments under Section 6.2.3.I.
- b. Restricted Housing Types  
The baseline parking minimum in the parking table under Section 6.2.4.B may be reduced for restricted housing types by multiplying the following adjustment factor times the baseline minimum:

Housing Type	Adjustment Factor
MPDUs and Workforce Housing	0.50
Age-Restricted Housing	0.75
Senior Housing	0.50

**B. Vehicle Parking Spaces**

USE or USE GROUP	Metric	AGRICULTURAL, RURAL RESIDENTIAL, RESIDENTIAL, AND INDUSTRIAL ZONES Baseline Minimum	COMMERCIAL/RESIDENTIAL AND EMPLOYMENT ZONES		
			Within a Parking Lot District or Reduced Parking Area		Outside a Parking Lot District or Reduced Parking Area
			Baseline Minimum	Baseline Maximum	Baseline Minimum
<b>AGRICULTURAL</b>					
Agricultural Auction Facility	1,000 SF of GFA	5.00	--	--	--
Agricultural Processing	1,000 SF of GFA	1.50	--	--	--
Farm Supply, Machinery Sales, Storage, and Service	1,000 SF of GFA, excluding storage area	5.00	1.00	2.00	2.00
<b>NURSERY</b>					
Nursery (Retail)	1,000 SF of Sales Area	6.00	3.00	6.00	6.00
Nursery (Wholesale)	1,000 SF of Total Floor Area	1.50	--	--	--
Slaughterhouse	1,000 SF of GFA	1.50	--	--	--
Winery	1,000 SF of GFA, and	1.50	--	--	--
	If the winery conducts public tours	10.00	--	--	--
<b>ACCESSORY AGRICULTURAL USES</b>					
Farm Market, On-site	Market	3.00	0.00	0.00	3.00
<b>RESIDENTIAL</b>					
<b>HOUSEHOLD LIVING</b>					
Single-Unit Living					
Two-Unit Living	Dwelling Unit	2.00	1.00	2.00	2.00
Townhouse Living					
Multi-Unit Living	Efficiency Dwelling Unit	1.00	1.00	1.00	1.00
	1 Bedroom Dwelling Unit	1.25	1.00	1.25	1.25
	2 Bedroom Dwelling Unit	1.50	1.00	1.50	1.50
	3+ Bedroom Dwelling Unit	2.00	1.00	2.00	2.00

Source: [http://library.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:montgomery\\_md\\_mc](http://library.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:montgomery_md_mc)



The Rio Washingtonian is a mixed-use development project located in Gaithersburg in Montgomery County, Maryland. Parking standards are primarily governed by Montgomery County zoning regulations.

7. Rockville, Maryland includes parking ratios for multifamily and live-work units based on bedroom count:

**Rockville (Maryland), City of. 2015. City Code, Chapter 25 Zoning Ordinance, Article 16 Parking and Loading.**

Use Category	Use	Auto Parking Spaces		Bicycle Parking Spaces			Additional Requirements
		Unit Measure	Base Number Required	Unit Measure	Short Term Space	Long Term Space	
Residential	Dwelling, single unit detached	Per dwelling unit	2	Dwelling unit	0	0	
	Dwelling, single unit semi-detached	Per dwelling unit	2	Dwelling unit	0	0	
	Dwelling, townhouse	For 1 or 2 bedrooms	1.5	Dwelling unit	0	0	
		For 3 or more bedrooms	2				
	Dwelling, single unit attached	Per dwelling unit	2	Dwelling unit	0	0	
	Dwelling, multiple-unit	For 0 (zero) bedrooms	1	Dwelling unit	1 per 50	1 per 3	
		For 1 bedroom	1				
		For 2 or more bedrooms	1.5				
	Live-work unit	For 1 or 2 bedrooms	2	Unit	1 per 5	1 per 3	
		For 3 or more bedrooms	2				

Source: [https://www.municode.com/library/#!/md/rockville/codes/code\\_of\\_ordinances?nodeId=CICO\\_CH25ZOOR\\_ART16PALO](https://www.municode.com/library/#!/md/rockville/codes/code_of_ordinances?nodeId=CICO_CH25ZOOR_ART16PALO)

King Farm

Resolution-10-96 for approval of King Farm’s concept plan includes the following parking criteria:

With the exception of multiple (apartment) dwellings which shall be parked at 1.7 spaces for each unit regardless of the number of separate bedrooms, Helios/Towle will provide the required parking under the current Zoning and Planning Ordinance for all uses within the King Farm development, and no waiver of parking requirements is being granted as part of this Concept Plan Application.

Source: <http://md-rockville.civicplus.com/DocumentCenter/View/5203>

## NATIONAL

1. Alexandria, Virginia developed a matrix of mixed-income residential developments from across the U.S. to help inform its comprehensive plans for the Braddock Metro Area. The matrix describes parking demand for various residential projects including project name, total units, affordability breakdown, parking ratios and total parking spaces. Based on this chart, parking for mixed-income housing can range from 0.7 to 1.0 spaces/unit.

### Alexandria (Virginia), County of. 2007. “Mixed-Income Housing Matrix: Braddock Metro Area Plan.”

Table 5. National Mixed-Income Housing Development Matrix

Project	Location	Site Area	Units	Residential Density	Affordability Breakdown	Parking Ratio	Parking Provided
		<i>acres</i>		<i>units/acre</i>		<i>spaces/unit</i>	
Auburn Cour	Cambridge, MA	2.3 acres	77 (Phase I)	33 units/acre	40% low-income, 9% affordable, 51% market-rate	1 space/unit	77 spaces
Franklin Hill	Boston, MA	9.9 acres	378	38 units/acre	97% low-income, 3% market-rate	0.75 spaces/unit	195 surface spaces, 90 garage spaces
Hismen Hin-nu Terrace	Oakland, CA	1.46 acres	92	85 units/acre (mixed-use portion); 65 units/acre overall	100% affordable (50-60% AMI)	< 1 space/unit	119 total spaces (89 residential)
Langham Cour	Boston, MA	1 acre	89	89/units/acre	1/3 low-income, 1/3 affordable, 1/3 market-rate	0.7 spaces/unit	51 garage spaces
Maverick Landin	Boston, MA		396	44 units/acre	77% low-income, 23% market-rate		
Parkside of Old Town (Cabrini Green Phase I	Chicago, IL	19 acres (Phase I)	760 (Phase I)	40 units/acre	30% low-income, 20% affordable, 50% market-rate		
Quinnipiac Terrac	New Haven, CT	15 acres	226	20-30 units/acre	60% affordable, 40% market-rate	1 space/unit	233 surface spaces
Tent City	Boston, MA	3 acres	269	89 units/acre	1/4 low-income, 1/2 affordable, 1/4 market-rate	0.7 spaces/unit	698 garage spaces
Townhomes On Capitol Hill (Ellen Wilson)	Washington, DC	5 acres	147	29 units/acre	91% low-income and affordable, 9% market-rate		

2. Bertolet, Dan. 2012. "Final Right-Size Parking Technical Memo – Work Order #2, Task 4." King County Metro Transit.

This extensive memo discusses "right-sizing" parking standards in the Seattle metropolitan area. The following are key highlights on affordable housing and how urbanizing suburban areas are addressing parking needs:

- Precedents: Many cities have made incremental reductions over time to parking minimums focused on increasing residential densities. Shoup (2011) reviewed national newspaper articles discussing the removal of downtown off-street parking requirements and noted that: "A search of newspaper articles found 129 reports of cities that have removed off-street parking requirements in their downtowns since 2005. Although newspaper articles don't represent what all cities are doing, they do include many comments on why cities are changing their policies. At least in downtown business districts, some elected officials think that parking requirements put the brakes on what they want to happen and accelerate what they want to prevent. Some of the reasons given for removing parking requirements are "to promote the creation of downtown apartments" (Greenfield, Massachusetts), "to see more affordable housing" (Miami), "to meet the needs of smaller businesses" (Muskegon, Michigan), "to give business owners more flexibility while creating a vibrant downtown" (Sandpoint, Idaho), and "to prevent ugly, auto-oriented townhouses" (Seattle).
- In the Seattle area, suburban communities seeking to urbanize downtown areas have made use of maximums. Bellevue applied a parking maximum in its downtown districts of 2 per unit, downtown Renton has a maximum of 1.75 per dwelling unit, while in Redmond there is a 2.25 stall per unit maximum in downtown zones.

**Source:**

<http://metro.kingcounty.gov/programs-projects/right-size-parking/pdf/rsp-technical-policy-memo-final-09-17-12.pdf>.

3. Denver (Colorado), City and County of. 2010. Municipal Code. Article 10: General Design Standards, Division 10.4: Parking and Loading, Section 10.4.5.2: Alternative Minimum Vehicle Parking Ratios.

Denver's Code includes provisions for reducing parking ratios to 0.25 spaces/unit for specific housing types:

- A. Alternative Minimum Vehicle Parking Ratios Allowed The Zoning Administrator shall allow an applicant to apply an alternative minimum vehicle parking ratio upon finding that the additional requirements and special review process stated in the following table have been met:

TYPE OF ALTERNATIVE	APPLICABLE ZONE DISTRICTS	APPLICABLE USE	ADDITIONAL REQUIREMENTS	ALTERNATIVE ALLOWED	SPECIAL REVIEW PROCESS
Rooming and Boarding House	All Main Street Zone Districts	Rooming and Boarding House Primary Use	n/a	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a
Senior Housing	All Main Street Zone Districts	Residence for Older Adults Primary Use	n/a	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a
Other Housing	All Main Street Zone Districts	Primary Residential Uses	Other special needs housing with similar reduced parking demands, as approved by the Zoning Administrator	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a

TYPE OF ALTERNATIVE	APPLICABLE ZONE DISTRICTS	APPLICABLE USE	ADDITIONAL REQUIREMENTS	ALTERNATIVE ALLOWED	SPECIAL REVIEW PROCESS
Affordable Housing	All Main Street Zone Districts	Primary Residential Uses	Housing that is affordable for persons with 40 percent area median income and below	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a
Small Dwelling Units	All Main Street Zone Districts	Primary Residential Uses	Dwelling Units that are under 550 square feet in gross floor area may utilize this reduction	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a
Single Room Occupancy (SRO) Hotel	All Zone Districts	Single Room Occupancy (SRO) Hotel Primary Use	n/a	Alternative minimum vehicle parking ratio of 0.25 vehicle parking spaces per unit	n/a

Source: [http://www.denvergov.org/Portals/646/documents/Zoning/DZC/Art10\\_DesignStandards\\_DZC\\_071015.pdf](http://www.denvergov.org/Portals/646/documents/Zoning/DZC/Art10_DesignStandards_DZC_071015.pdf)

- Eugene (Oregon), City of. 2012. City Code. Chapter 9: Land Use, Section 9.6410: Motor Vehicle Parking Standards

Includes parking reductions for a range of low-income housing units:

Multiple-Family Subsidized Low-Income Housing in any area (see (5) below)	.67 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Senior Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Disabled Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Senior Housing Partial in any area (see (5) below)	.67 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Specialized Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Manufactured Home Park	1 per dwelling.
Controlled Income and Rent Housing (CIR) where density is above that usually permitted in the zoning, yet not to exceed 150%	1 per dwelling.

Source: <http://www.eugene-or.gov/DocumentCenter/Home/Index/262>

- Greeley (Colorado), City of. 2015. Municipal Code. Title 18: Development Code, Chapter 18.42: Off-Street Parking and Loading Standards, Section 18.42.090: Parking Reduction Options

Allows reductions in required parking for affordable, senior or disabled housing, but requires a parking study. Also allow reductions for projects with a Transportation Demand Management Plan (TDMP) demonstrating a comprehensive approach to reducing parking demand.

- Parking requirements for housing units specifically designed and intended for senior citizens or those with disabilities that preclude or limit driving and/or affordable housing units may be adjusted on an individual project basis subject to a parking study based on project location and proximity to public services, including but not limited to medical offices, shopping areas, mass transit or alternative modes of transportation, employment, etc.

Source: [https://www.municode.com/library/co/greeley/codes/municipal\\_code?nodeId=TIT18DECO\\_CH\\_18.42OREPALOST\\_18.42.090PAREOP](https://www.municode.com/library/co/greeley/codes/municipal_code?nodeId=TIT18DECO_CH_18.42OREPALOST_18.42.090PAREOP)

- Greeley (Colorado), City of. 2015. Municipal Code. Title 18: Development Code, Chapter 18.42: Off-Street Parking and Loading Standards, Section 18.42.090: Parking Reduction Options

California Assembly Bill (AB 744) was passed October 9, 2015 that changes parking minimums for affordable development. AB 744 allows certain mixed-income projects near transit to bypass parking requirements. Under the legislation, projects within one-half mile of a major transit stop and with some affordable housing could go as low as 0.5 parking spaces per bedroom (meaning a building with primarily two-bedroom units would still have roughly one parking space per unit). These projects, however, would only be eligible to reduce their parking to that level if they have at least 20 percent units for low-income people (or at least 11 percent units for residents categorized as "very low-income").

**Source:** <http://www.eastbayexpress.com/SevenDays/archives/2015/09/03/bill-to-boost-affordable-housing-reform-outdated-parking-requirements-heads-to-governors-desk>

7. Wilbur Smith Associates. 2011. San Diego Affordable Housing Parking Study. City of San Diego.

In 2011, San Diego conducted a parking demand analysis to evaluate differences between residential unit types and locations with varying levels of transit service. As shown below, the basic ratios for low transit areas range from 0.5 for studios to 1.75 spaces per unit for 3 bedroom family units across all residential categories. In addition, they recommend a factor of 0.20 for visitor and staff parking, making the total ratios 0.7 to 1.95 spaces/unit.

Table 5 San Diego Affordable Housing Parking Demand – Low, Medium and High Transit

Type of project	A. Total units	B. Studio Low/Med/High	C. 1 BR Low/Med/High	D. 2 BR Low/Med/High	E. 3 BR Low/Med/High	F. Subtotal for units (sum B3 – E3)	G. Visitor parking (G2*A1)	H. Staff parking (H2*A1)	I. Subtotal w/ staff + visitor (F3+G3+H3)	J. Total requirement with vacancy factor adjustment (I3*J2) Vacancy adj./no vacancy adj.
Family Housing	1. Units									
	2. Rate		N/A	1.0/0.6/0.33	1.3/1.1/0.5	1.75/1.4/0.75	0.15	0.05		1.1/1.0
	3. Spaces									
Living Unit/SRO	1. Units									
	2. Rate		0.5/0.3/0.1	N/A	N/A	N/A	0.15	0.05		1.1/1.0
	3. Spaces									
Senior Housing	1. Units									
	2. Rate		0.5/0.3/0.1	0.75/0.6/0.15	1.0/0.85/0.2	N/A	0.15	0.05		1.1/1.0
	3. Spaces									
Studio – 1 bedroom	1. Units									
	2. Rate		0.5/0.2/0.1	0.75/0.5/0.1	N/A	N/A	0.15	0.05		1.1/1.0
	3. Spaces									
Special Needs	1. Units									
	2. Rate		0.5/0.2/0.1	0.75/0.5/0.1	N/A	N/A	0.15	0.10		1.1/1.0
	3. Spaces									

**Source:** <http://www.sandiego.gov/planning/programs/transportation/mobility/pdf/111231sdfhfinal.pdf>

8. Reno (Nevada), City of. 2015. Land Development Code. Chapter 18.12: General Development and Design Standards, Section 18.12.203.

Includes conditions for parking reductions for development meeting certain criteria:

A. Conditions for Parking Reduction.

Parking reductions for residential developments (new development, infill, and acquisition/rehabilitation) that meet the affordability guidelines stated in Section 18.12.201 above will be granted if:

1. The project can demonstrate that either parking cannot be provided in compliance with Section 18.12.1102, as may be modified by other provisions of this title, or additional amenities can be provided with the reduction of parking;
2. The project is within one mile of an employment base of at least 1,500 employees;
3. Availability of public transportation can be demonstrated; and
4. The project is located no closer than one-half mile to another previously approved project that has met the above guidelines and received a parking reduction.

B. Parking Reductions Allowed.

If the above guidelines are met, then parking will be reduced by the following:

1. Each unit dedicated to households earning 60 percent of adjusted median income (AMI) may receive a 20 percent reduction to the parking requirements.
2. Each unit dedicated to households earning 50 percent of AMI may receive a 30 percent reduction to the parking requirements.

Each unit dedicated to households earning 40 percent of AMI or less may receive a 45 percent reduction to the parking requirements.

**Source:** [https://www.municode.com/library/nv/reno/codes/land\\_development\\_code?nodetid=LAND\\_DEVELOPMENT\\_CODE\\_CH18.12GEDEDEST\\_ARTIIDEBOOTINAFHO\\_S18.12.203PAREAFHOPR](https://www.municode.com/library/nv/reno/codes/land_development_code?nodetid=LAND_DEVELOPMENT_CODE_CH18.12GEDEDEST_ARTIIDEBOOTINAFHO_S18.12.203PAREAFHOPR)

10. San Francisco (California), City of. 2015. "San Francisco General Plan: 2014 Housing Element."

---

Parking requirement reductions were introduced by the City of San Francisco to facilitate affordable housing. Providing parking represents a development cost, which can affect housing price. In 2006, San Francisco eliminated minimum parking requirements for downtown residential development, instead establishing a parking maximum that caps the number of parking spaces allowed at one per four dwelling units (or 0.25 spaces per unit). Developers who wish to include additional parking spaces may submit an application for a conditional use permit. If approved, additional parking, up to 0.75 spaces for each one-bedroom or studio unit and up to 1 space for each unit with two or more bedrooms would be allowed. Applications are subject to case-by-case review by the Planning Commission. San Francisco has also prohibited downtown residential developers from requiring buyers to purchase a parking space. Spaces must instead be leased or sold separately from the housing unit, helping to reduce costs for homebuyers without cars.

**Source:** [http://www.sf-planning.org/ftp/general\\_plan/l1\\_Housing.htm](http://www.sf-planning.org/ftp/general_plan/l1_Housing.htm)

11. The Woodlands, Texas. 2015. The Woodlands Commercial Planning and Design Standards.

---



The Woodlands Commercial District includes minimum parking ratios for multi-family residential land uses:

### APPENDIX O – PARKING RATIOS

Commercial Parking Ratios		Commercial Parking Ratios	
Land Use		Land Use	Parking Ratio
General Office	3 spaces/1,000 sq. ft.	Multi-family or Condominium <ul style="list-style-type: none"> <li>• Efficiency 1.0 spaces/unit</li> <li>• One bedroom 1.5 spaces/unit</li> <li>• Two bedroom 2.0 spaces/unit</li> <li>• Three bedroom 2.5 spaces/unit</li> <li>• Each add'l bedroom 0.5 space per bedroom per unit</li> </ul>	
Convenience Storage (Mini-warehouse)	1 space/4,000 sq. ft.		
Bulk Warehouse <ul style="list-style-type: none"> <li>• Office Use 2.5 spaces/1,000 sq. ft.</li> <li>• Warehouse Use 1 space/7,000 sq. ft.</li> </ul>			
Medical Office/Clinic	5 spaces/1,000 sq. ft.		
Research Laboratory	2.5 spaces/1,000 sq. ft.		
Financial Services <ul style="list-style-type: none"> <li>• Drive-In 8 queue spaces/lane</li> </ul>		Duplex or Single Family Attached (Standard)	2 spaces/dwelling unit
Hospitality <ul style="list-style-type: none"> <li>• Other uses within hospitality</li> <li>• If not an accessory use, 80% of parking otherwise required by the Code</li> </ul>		Duplex or Single Family Attached (Greater than 4,000 sq. ft. or more than 6 bedrooms)	1 space per bedroom
Restaurant		Single Family Residential	2 spaces/dwelling unit

Source: <https://www.thewoodlandstownship-tx.gov/DocumentCenter/Home/View/933>