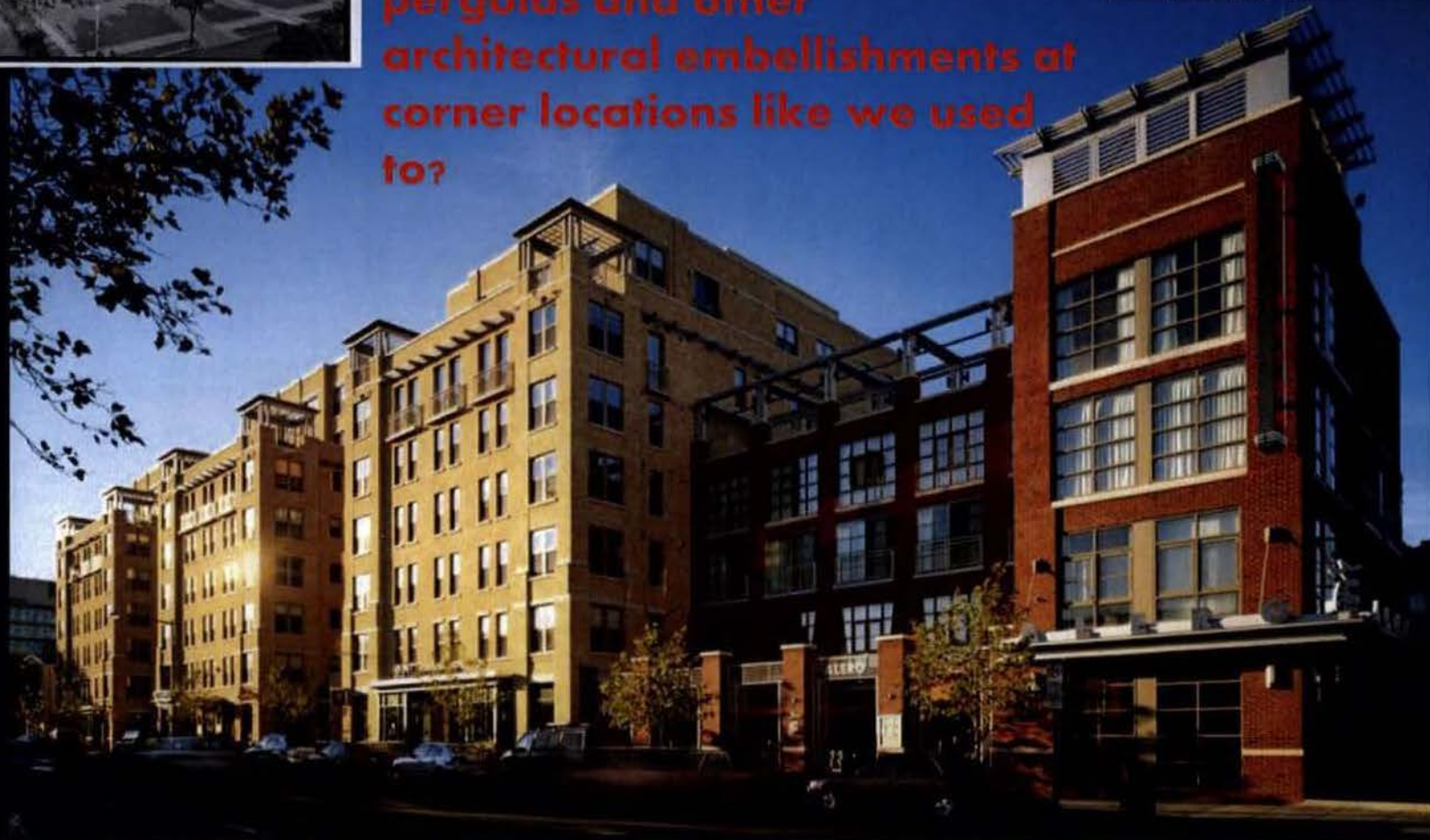




These are illegal per C-505.1-505.2
Why can't architects place
pergolas and other
architectural embellishments at
corner locations like we used
to?



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ZONING COMMISSION
 District of Columbia
 CASE NO.08-06A
 EXHIBIT NO.400



This is illegal per C-1911.7

Why does the district need wider alleys than this [22]? (C-1911.7 requires 24')

This requirement is wasteful of land resources.



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This is illegal per A-1300

The minimum lot requirement of 1800SF in A-1300.0 for row lots proclude use of single loaded towns to line retail levels of multifamily buildings. This is an anti-urbanism clause.



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This is illegal per G-602.1, F402.1 etc.

In a variety of places in the code, (F402.1 is one example) roof structures are limited to 10' high (conflicting with the requirements of G-1200).

Elevator penthouses and mechanical enclosures appear to be defined as roof structures.

Typical elevator penthouses, even with newer Gen 2 elevators, are taller than 10'. Air handlers are 18'. This will require every building with an elevator or large air handler to need a special exception.

Please clarify the language for penthouses.

"housing for mechanical equipment or a stairway or elevator penthouse may be erected to a height in excess of that authorized in the zone in which located; provided, that the housing is set back from all lot lines of the lot upon which the structure is located a distance equal to its height above the roof of the top story. In any case, a roof structure shall not exceed ten feet (10 ft.) in height above the roof upon which it is located."



Here's our Opportunity with parking requirements:

- Increase the value of commercial property by 15-20%.
- Lower the cost of urban housing by 30%.
- Decrease the average cost of development by 10-25%, 30% in transit served areas.
- Greatly Increase profitability of Parking Facilities, and increase land values.



Here's our Opportunity:

- Lower the cost of urban housing by 30%.

Costs per a unit of housing:



Bath - \$5,000-\$7,000



Kitchen - \$12,000-\$17,000

2 Spaces of Required Underground Parking-

\$50,000-\$110,000



Off Street Parking/Traffic

Off street parking shall be required in all districts. Temporary parking may be permitted in street right-of-way; however, such parking shall be in addition to the minimum requirements of this section. When the parking standards in this Article are not sufficient in determining the required spaced for a specific land use, the most recent publication of the American Planning Association's "Off-Street Parking Requirements" may be used.

A. Residential Districts:

R-1 - 2 spaces per dwelling unit

R-2 - 1.5 spaces per unit for one bedroom
2 spaces per unit for two bedrooms 2.5
spaces per unit for three bedrooms and
over

MD - 1.5 spaces per unit for one bedroom
2 spaces per unit for two bedrooms 2.5
spaces per unit for three bedrooms and
over

HD - 1.5 spaces per unit for one bedroom 2
spaces per unit for two bedrooms 2.5
spaces per unit for three bedrooms and
over

B. Office Buildings: One space for each 200
square feet of gross floor area in the building.

C. Medical or Dental Clinics and Offices:
Four spaces for each doctor engaged at the
clinic or office, plus one space for each two
employees.

D. Schools: Elementary and middle schools,
one space for each two employees, plus
one space for each classroom; high schools
and colleges, one space for each ten students
based on design capacity of the
school, plus one space for each two employees.

Santa Rosa, FL Zoning Code



TORTI GALLAS AND PARTNERS

Parking is a Storage Use!

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COMPARITIVE COST – RESIDENTIAL CONSTRUCTION

- **4 Story Stick Built Apartments with Surface Parking**
 - 102,300 per unit or 93.00/gsf
- **4 Story Stick Built Apartments with Above Grade Parking Structure**
 - 130,000 per unit or 118.00/gsf
- **5 Story Alternate Structure Building with Above Grade Parking Structure**
 - 148,000 per unit or 135.00/gsf
- **6-8 Story Proprietary Light Gauge Structure Building w/Parking Structure**
 - 162,800 per unit or 148.00/gsf
- **Concrete Building with Below Grade Parking –**
 - 207,000 per unit or 188.00/gsf

1 - prices are 2007 costs in Washington DC market

2 - we include a reasonable premium for foundations due to poor soils

3 - we include a 1 to 1 parking ratio with no allocation for office parking

4 - we are using 1,100 gsf per unit

Parking is bundled in developer's proformas – the biggest "POP" is in the cost of parking – not construction technology

Here's our Opportunity:

- Decrease the average cost of development by 10-25%, 30% in transit served areas.

By:

- Obtaining a statistical basis for parking requirements, reducing requirements.
- Understanding the impact of transit and other modes of transportation on auto parking needs
- Allowing better management of parking loads at "Peak" times.
- Allowing parking sharing to assist in managing parking resources over time.



Retail was parked at 3/1000 sq ft. Code Required 4/1000 sq ft. Actual use is 1.25/100sq ft



TORTI GALLAS AND PARTNERS

Parking is a Storage Use!

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We were told "you have to have 1 space per unit" Residential was parked at .75 - Actual use is .45/unit

LACK OF STATISTICAL DATA RELATED TO TOD PARKING IS A PROBLEM

No definitive understandings exist of market rate parking (almost all info is on suburban free parking)

Lenders tend to require conventional Parking Ratios in TOD's

Developers tend to build TOD's with conventional parking ratios

This causes higher development costs.

At Columbia Heights 750 excess underground spaces were built, using public funds

750 spaces*\$35,000/space = \$26.2M dollars wasted

\$26.2M dollars = 200 units housing

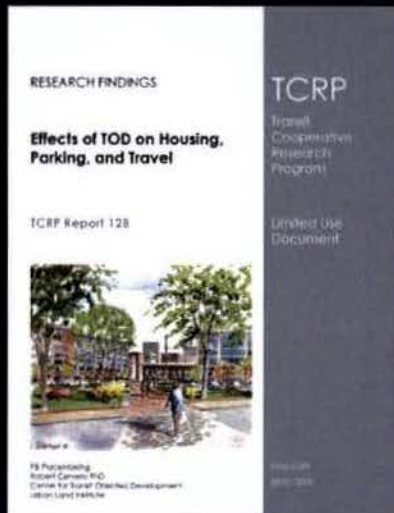


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Problem: Little understanding of Market-rate or parking in Transit-served areas.

Map 1. Case Study Metropolitan Areas



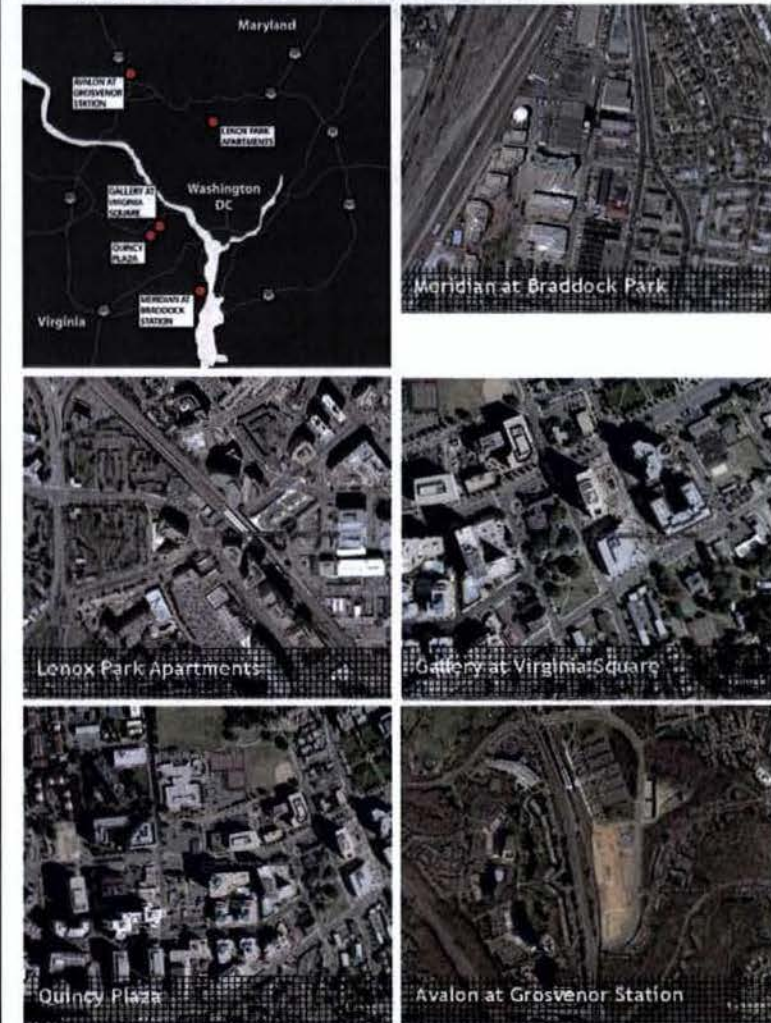
c/o GB Arrington

Developers of the studied TOD's who thought they parked their projects aggressively had actually overparked by a factor of 2



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Map 3. Locations of Study Sites in Metropolitan Washington, D.C.: Avalon; Virginia Square; Meridian; Quincy Plaza; Lenox Park



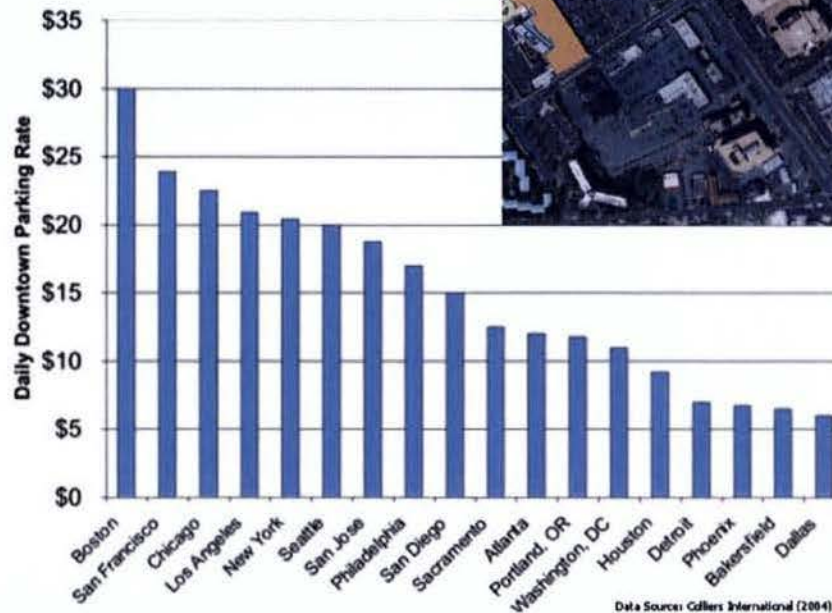
Res CBD Free bundled parking = 0.5/1000 sq. ft

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Here's our Opportunity:

- Greatly increase profitability of parking facilities, and increase land values.

Allowing Market processes to work with parking will greatly improve efficiency of land use, return on parking investments, and increased land value.



RATES	
30 MINUTES	FREE
30 MIN - 1 HOUR	\$3
EACH ADDITIONAL HOUR	\$4
MAXIMUM FEE	\$15



TORTI GALLAS AND PARTNERS

Parking is a Storage Use!

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III. The Politics of Parking – *it's emotional!*

Generally, Policy is enacted through short term expediency:

- Parking policy is based upon a highly desired mythical goal: volumes of free parking at a fully developed walkable destination [Note that this defines the shopping mall]
- Little recognition that the desire for free parking and immediate car access is the primary cause of sprawl.
- NIMBYism promotes excess parking because costs are almost always borne by others.
- Developers/people building are loathe to fight excessive parking requirements because the requirements are imposed at the moment of greatest risk in the approvals process.



TORTI GALLAS AND PARTNERS

Slide courtesy of Patrick Siegman, Nelson Nygaard Consulting Associates

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IV. How Parking is Legislated/Parking Policy

Mistakes in parking policy

1. Keeping curb parking free or cheap.
2. Requiring lots of off-street parking.
3. Allowing unscreened storage uses to devalue the surrounding land.
4. Not resolving "spill-over" neighborhood pressures adjacent to commercial areas.
5. Bundling parking.
6. Not limiting parking SF as floor area.
7. Not considering peak loading in parking policy, and ignoring time as a factor in load calculation.



TORTI GALLAS AND PARTNERS

Slide based upon work of Patrick Siegman, Nelson Nygaard Consulting Associates

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Unintended Consequences of Parking Requirements

1. **Minimum requirements set to provide excess spaces even when parking is free, even at isolated locations with no transit.**
2. **Parking is then provided for free at most destinations and its costs hidden.**
3. **Bundling the cost of parking into higher prices for everything else skews travel choices toward driving.**



Slide courtesy of Patrick Siegman, Nelson Nygaard Consulting Associates

V. Calculating Parking Demand and its Impacts **Denser types**

The application of Parking Minimums is a key driver of density:

Residential: 1 sq ft pkg/sq ft GLA

Offices: 1 sq ft pkg/sq ft GLA

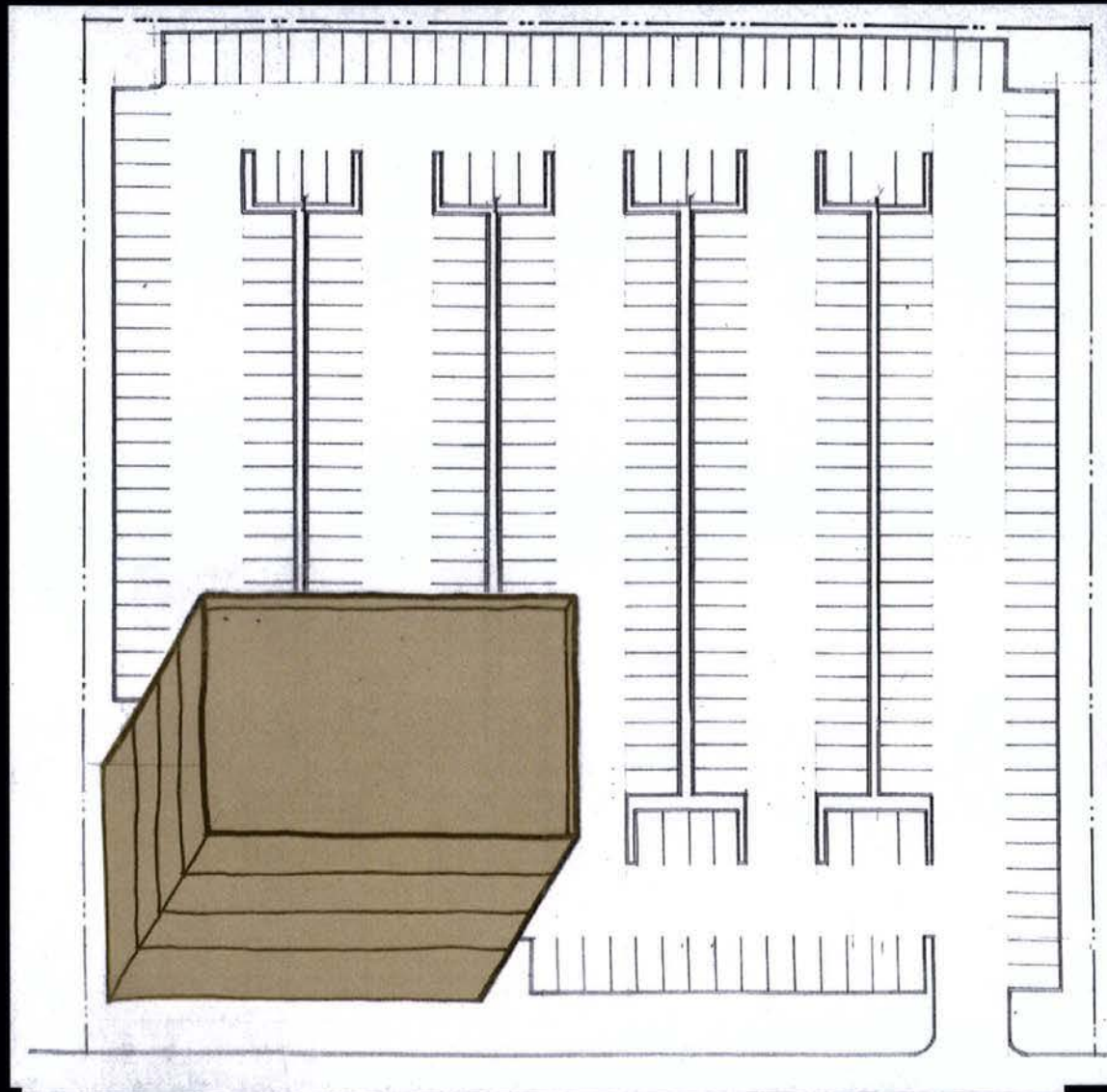
Retail: 1.5 sq ft pkg/sq ft GLA

Restaurants: >5 sq ft pkg/sq ft GLA

In places where land is cheap, this leads to dedicating large swaths of ground to parking.



What does 1 sq ft pkg/sq ft GLA mean?



Parking Requirements of Commercial Uses in Greenfield America - Suburban land use

GENERIC PARKING DIAGRAMS



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It means suburban America

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Parking calculation is a “pseudo-science”:

- **Little or NO statistical basis** (the only proven types are non-transit served office and regional shopping centers. All other standards are guesswork.
- **Not really an art either, unless with a refined shared parking analysis** (see below)
- **It is often political and not based upon sound market economics or dynamics.**
Rules are adopted and recopied for political expediency

Conventional parking minimum standards are overly conservative - based upon multiple overage factors layered on top of one another and therefore wasteful of land resources.



Parking calculation is a "pseudo-science":

TABLE 3-4 PATAPHYSICAL PARKING REQUIREMENTS

Land use Parking requirement

Adult entertainment	1 space per patron, plus 1 space per employee on the largest working shift
Barber shop	2 spaces per barber
Beauty shop	3 spaces per beautician
Bicycle repair	3 spaces per 1,000 square feet
Bowling alley	1 space for each employee and employer, plus 5 spaces for each lane
Gas station	1.5 spaces per fuel nozzle
Health home	1 space per 3 beds and bassinets, plus 1 space per 3 employees, plus 1 space per staff doctor
Heating supply	3.33 spaces for every 1,000 square feet of sales and office area, plus 2 spaces per 3 employees on the maximum shift, plus 1 space for every vehicle customarily used in operation of the use or stored on the premises
Heliprot	1 space per 5 employees, plus 5 spaces per touchdown pad
Machinery sales	1 space per 500 square feet of enclosed sales/rental floor area, plus 1 space per 2,500 square feet of open sales/rental display lot area, plus 2 spaces per service bay, plus 1 space per employee, but never less than 5 spaces
Mausoleum	10 spaces per maximum number of interments in a one-hour period
Nunnery	1 space per 10 nuns
Rectory	3 spaces per 4 clergymen
Swimming pool	1 space per 2,500 gallons of water
Taxi stand	1 space for each employee on the largest shift, plus 1 space per taxi, plus sufficient spaces to accommodate the largest number of visitors that may be expected at any one time
Tennis court	1 space per player

Sources: Planning Advisory Service (1964, 1971, and 1991); Witheford and Kanaan (1972)

body-piercing studio

body-piercing studio (see *tattoo parlor/body-piercing studio*)

book store (see also *retail use, unless otherwise specified*)

- 1 space per each 350 square feet of gross floor area excluding storage areas which shall not exceed 15 percent of the gross square footage (St. Tammany Parish, La., pop. 191,268)
- 1 space per 300 square feet of gross floor area in excess of 4,000 square feet (Minneapolis, Minn., pop. 382,618)
- 1 space per 125 square feet of gross leasable area (Grosse Ile Township, Mich., pop. 10,894)
- 4.5 spaces for every 1,000 square feet of gross floor area (Hickory, N.C., pop. 37,222; Maryland Heights, Mo., pop. 25,756; Naperville, Ill., pop. 128,358; Spartanburg, S.C., pop. 39,673)
- 6 per 1,000 square feet of gross floor area (Racine, Wisc., pop. 81,855)

Minimum: 1 per 300 square feet of gross floor area
Maximum: 1 per 200 square feet of gross floor area (San Antonio, Tex., pop. 1,144,646)

If greater than 50,000 square feet, parking requirements for department per discount stores shall apply. Otherwise:

- Minimum: 1 space for each 250 square feet of gross floor area
- Maximum: 1 space for each 150 square feet of gross floor area (Jefferson County, Ky., pop. 692,604)
- Minimum: 1 per 300 square feet of gross floor area
- Maximum: 1 per 200 square feet of gross floor area (Glenville, N.Y., pop. 28,183)

 Bicycle Parking Standard: 1 per 20 vehicle spaces which are 1 per 200 square feet (Grand Junction, Colo., pop. 41,498)

botanical gardens (see also *arboretum; community garden*)

- 1 space per 10,000 square feet outdoor lot area, plus 1 space per 1,000 square feet indoor floor area (Bloomington, Ind., pop. 69,291)
- 1 per employee in single shift, plus 2 spaces per acre (Charleston County, S.C., pop. 309,969)
- 1 space per 400 square feet of gross floor area (Salem, Ore., pop. 136,924)
- 1 per 5,000 square feet of gross land area (Racine, Wisc., pop. 81,855)
- 2 spaces per acre (Spartanburg, S.C., pop. 39,673)
- Maximum: 1 per 125 square feet of gross floor area (Concord, N.C., pop. 55,977)

bottle club (see also *bar; beer garden; brew pub; night club; restaurant uses*)

- 1 per 100 square feet of gross floor area or 1 per 4 seats, whichever is greater, plus 1 per 2 full-time employees of the largest shift (York, Pa., pop. 40,862)

bowling alley

- 1 per 50 square feet, plus 1 per 75 square feet for any outdoor eating per drinking areas (Collier County, Fla., pop. 251,377)
- 1 per 30 square feet of customer service area, plus 1 per 250 square feet of remaining floor area, plus 1 per 2 linear feet of bar seating (Broward County, Fla., pop. 1,623,018)

Minimum: 1 space for each 100 square feet of gross floor area

Maximum: 1 space for each 50 square feet of gross floor area (Jefferson County, Ky., pop. 693,604)

bottling plant (see also *industrial uses*)

- 0.6 per employee (Hickory, N.C., pop. 37,222)
- 1 for each 300 square feet of floor area (Danville, N.Y., pop. 4,832)
- 1 off-street parking space for [each] 2 employees, based upon the maximum number of employees on the premises at any time (Westmont, Ill., pop. 24,554)
- 1 parking space for each employee on the maximum working shift, plus space to accommodate all trucks and other vehicles used in connection therewith, but not less than 1 parking space for each 1,000 square feet of floor area (Frisco, Tex., pop. 33,714)
- 1 per 500 square feet of building area; office area shall be calculated at 1 per 275 square feet (Collier County, Fla., pop. 251,377)
- 1 motor vehicle parking space for each 500 square feet of gross floor area or 1 motor vehicle parking space for each employee computed on the basis of the maximum shift, whichever is greater (Boca Raton, Fla., pop. 74,764)

- 2 parking spaces for each 3 employees on the maximum working shift, plus space to accommodate all trucks and other vehicles used in connection therewith (Dona Ana County, N.Mex., pop. 174,682)
- 2 per each 3 employees (Racine, Wisc., pop. 81,855)
- 2.5 parking spaces per 1,000 square feet of gross floor area (Naperville, Ill., pop. 128,358)

bowling alley

- 1 space for every 3 persons of maximum capacity permitted by fire regulations, plus 1 space per 200 square feet of gross floor area used in a manner not susceptible to such calculations (Yavapai County, Ariz., pop. 167,517)
- 2 spaces for each alley, plus 1 additional for each 2 employees, plus 1 for each 100 square feet of gross floor space used for amusement or assembly (Canton, Ga., pop. 7,709)
- 2 spaces for each alley, plus 1 additional space for each 2 employees (Salisbury, N.C., pop. 26,462)
- 2 per bowling lane (Ithaca, N.Y., pop. 29,287)



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"Pseudo-science" quote per Donald Shoup; code selections from Jeff Tumlin

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DC Office of Zoning - Windows Internet Explorer

http://www.dcoz.dc.gov/ZRR/ZRR.shm

DC Office of Planning's Zoning... DC Office of Zoning dc.gov dc.gov

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Page Safety Tools

Compliance Review

 Exemtable Annotations

Monday, November 4, 2013 at 6:00 p.m.

A	Authority and Applicability
W	Mapping
X	General Procedures (Includes PUDs and Campus Plan procedures)
Y	Board of Zoning Adjustment Rules of Practice and Procedure
Z	Zoning Commission Rules of Practice and Procedure

Tuesday, November 5, 2013 at 6:00 p.m.

B	Definitions (includes uses)
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Wednesday, November 6, 2013 at 6:00 p.m.

D	Residential House (R) Zones (Includes ADUs and corner stores for the current R-3 zones)
---	--

Thursday, November 7, 2013 at 6:00 p.m.

E	Residential Flat (RF) Zones (Includes corner stores for the current R-4 zones)
F	Apartment (A) Zones

Tuesday, November 12, 2013 at 6:00 p.m.

C	General Procedures (Includes parking, bike parking, loading)
---	---

Wednesday, November 13, 2013 at 6:00 p.m.

G	Mixed Use (M) Zones
H	Neighborhood Mixed Use (N) Zones (Includes new zones created from Neighborhood Commercial Overlays)

Thursday, November 14, 2013 at 6:00 p.m.

I	Downtown Zones
J	Production, Distribution and Repair (P) Zones
K	Special Purpose Zones

Tuesday, November 19 and Wednesday, November 20, 2013 at 6:00 p.m.

Reserved for overflow from previous hearings.

How can you participate?

LIVE WEBCAST
View Live Webcast of ZC and BZA hearings and meetings 

VIDEO ON DEMAND
Watch past public hearings and meetings 

SUMMARY ZONING MAP
View printable Zoning map 

Compliance Review
File compliance complaint

100%

What's generally accepted basis for “unadjusted” parking ratios?

Expected accumulation of vehicles
at the peak hour
on a design day
assuming **nearly** 100 percent modal split to auto use and
minimal ridesharing,
INCLUDING
effective supply considerations

That is, how many spaces should be provided
if the land use is all by itself....in a cornfield!

Per Mary Smith,
Director of Parking Consulting
Walker Parking



Resources for unadjusted ratios:

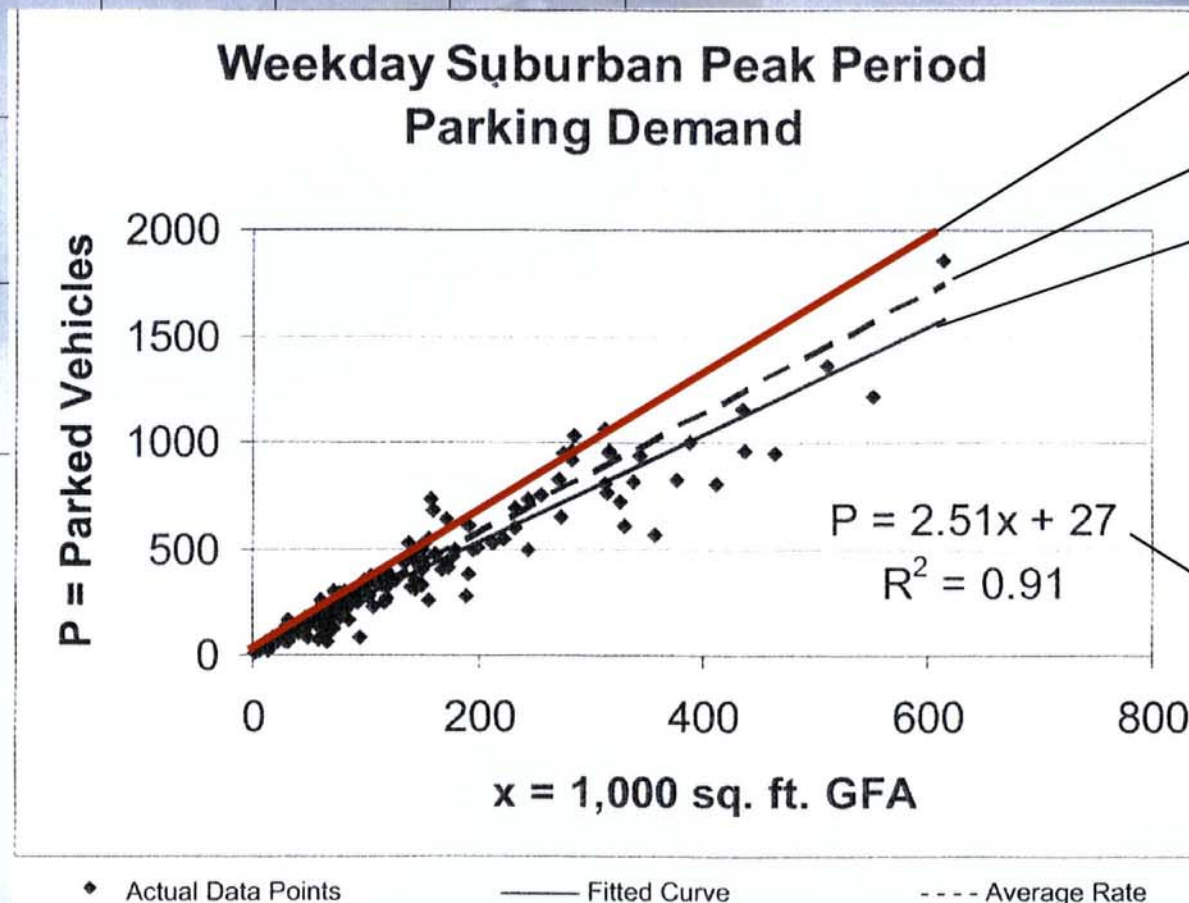
- ITE *Transportation Planning Handbook* (2nd Edition, 1999) Ch 14 **Ratios out of date**, info on planning and pkg management strategies
- ULI/ICSC *Parking Requirements for Shopping Centers* (2nd Ed, 1999)
 - Recommended ratios for shopping centers
- ITE *Parking Generation* (3rd Edition, 2004)
 - Generation/accumulation not recommended ratios...**USE WITH CARE**
- ULI/ICSC *Shared Parking** (2nd Edition Dec, 2005)
 - Recommended ratios for most common land uses
- NPA/PCC *Recommended Zoning Ordinance Provisions for Parking** (2nd Edition, early 2007)
 - Ratios for other uses
 - Opinion, backed by Parking Gen data and experience
- APA *Planning and Urban Design Standards* (1st Edition, 2006)
 - Includes ratios that were based on early versions of *Parking Gen* and *Shared Parking*, but last minute changes in latter results in conflicting ratios

Per Mary Smith,
Director of Parking Consulting
Walker Parking



The only land use in ITE *Parking Generation* with reliable data: office

Parking Gen is data, not recommended ratio



85th percentile

Average

Fitted curve indicates demand declines as size increases, but most users don't use equation

Per Mary Smith,
Director of Parking Consulting
Walker Parking



II. The Types and Costs of Parking – Off street

Surface - Asphalt:

\$3,000 - \$5,000 / space



Unadorned deck:

\$14,000 - \$20,000 / space



Exposed and decorated garage

\$18,000 - 25,000 / space



Surface - Pavers:

\$10,000 / space



Wrapped garage

\$14,000 - 20,000 space
(assumes precast)



Underground garage

\$30,000 to \$55,000 / space



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Conventional Parking, Types