

3rd Edition

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# Parking Generation

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# Land Use: 110

## General Light Industrial

### Land Use Description

Light industrial facilities are free-standing facilities devoted to a single use. The facilities have an emphasis on activities other than manufacturing and typically have minimal office space. Typical light industrial activities include printing, material testing and assembly of data processing equipment. Industrial park (Land Use 130) and manufacturing (Land Use 140) are related uses.

### Database Description

The database consisted of a mix of suburban and urban sites. Parking demand rates at the suburban sites were similar to those at urban sites and therefore the data were combined and analyzed together.

- Average parking supply ratios: 1.1 spaces per 1,000 sq. ft. GFA (five study sites) and 1.3 spaces per employee (four study sites).
- Average site employment density: 1,200 sq. ft. GFA per employee (five study sites).

The number of employees for this land use was the total number of employees working on all shifts. Facilities with employees that work on shifts may peak at different hours. It is unclear from the data collected for this land use whether the parking demand counts occurred during, prior to, or after shift changes at the study sites.

Four sites that were submitted were substantially smaller than the other sites contained in the database. The sites ranged in size between 1,200 and 5,100 sq. ft. GFA and employed between one and nine persons. The peak period demand observed at these four sites was 1.13 parked vehicles per employee. The parking demand information from these sites was excluded from the data plots and analysis.

### Study Sites/Years

Anaheim, CA (1984); Dallas, TX (1985); Oklahoma City, OK (1987); Glenview, IL (1990); Anaheim, CA (1991); Seattle, WA (1999); Norristown, PA (2001)

# Land Use: 150 Warehousing

## Land Use Description

Warehouses are primarily devoted to the storage of materials, but they may also include office and maintenance areas.

## Database Description

- Average parking supply ratios: 0.5 spaces per 1,000 sq. ft. GFA and 1.0 space per employee.
- Average site employment density: 4,100 sq. ft. GFA per employee.

The study sites consisted of a grocery store distribution warehouse, dot.com warehouses, paper supplier warehouses and transfer and storage companies.

The following table presents a time-of-day distribution of parking demand for the 10 study sites.

<b>Based on Vehicles per 1,000 sq. ft. GFA</b>	<b>Weekday Data</b>	
Hour Beginning	Percent of Peak Period	Number of Data Points*
12:00–4:00 a.m.	–	0
5:00 a.m.	–	0
6:00 a.m.	–	0
7:00 a.m.	–	0
8:00 a.m.	71	10
9:00 a.m.	92	10
10:00 a.m.	100	10
11:00 a.m.	99	10
12:00 p.m.	88	10
1:00 p.m.	–	0
2:00 p.m.	–	0
3:00 p.m.	–	0
4:00 p.m.	–	0
5:00 p.m.	–	0
6:00 p.m.	–	0
7:00 p.m.	–	0
8:00 p.m.	–	0
9:00 p.m.	–	0
10:00 p.m.	–	0
11:00 p.m.	–	0

\* Subset of database

For eight of the study sites, data were also collected for trucks parked at the site. The average truck parking demand ratio was 0.11 trucks per 1,000 sq. ft. GFA with a range between 0.04 and 0.25 trucks per 1,000 sq. ft. GFA.

## Study Sites/Years

Syracuse, NY (1988); Bellevue, WA (1991); Seattle, WA (1991); Clackamas, OR (1995); Gresham, OR (1995); Milwaukie, OR (1995); Portland, OR (1995); Wilsonville, OR (1995)

# Land Use: 812

## Building Materials and Lumber Store

### Land Use Description

A building materials and lumber store is a free-standing building that sells hardware, building materials and lumber. The lumber may be stored in the main building, yard, or storage shed. The buildings contained in this land use are less than 30,000 sq. ft. GFA. Hardware/paint store (Land Use 816) and home improvement superstore (Land Use 862) are related uses.

### Database Description

The database consisted of two study sites, one in a suburban setting and one in an urban setting.

- Size: 26,000 sq. ft. GFA and 11,300 sq. ft. GFA at the suburban and urban sites, respectively.
- Parking supply ratios: 3.8 and 2.4 spaces per 1,000 sq. ft. GFA at the suburban and urban sites, respectively.
- Suburban weekday peak parking demand ratio: 1.7 vehicles per 1,000 sq. ft. GFA between 6:00 and 7:00 p.m. (based on a continuous count between 4:00 and 8:00 p.m.).
- Urban weekday peak parking demand ratio: 1.1 vehicles per 1,000 sq. ft. between 1:00 and 3:00 p.m. (based on a continuous count between 8:00 a.m. and 6:00 p.m.).

*Outside storage areas are not included in the overall gross floor area measurements. However, if storage areas are located within the principal outside faces of the exterior walls, they are included in the building's overall gross floor area.*

### Study Sites/Years

Dewitt, NY (1984); Santa Barbara, CA (1998)