

CHAPTER 8

TRUCK TRIP INFORMATION

TABLE 8.1 Truck trip destinations by land-use type

Land Use	Daily Truck Trip Destinations By Acre	
	Median 7 Cities	Range
Residential	1.2	0.1 – 2.0
Manufacturing	2.5	0.4 – 5.9
Transportation	1.7	0.9 – 4.0
Retail-Wholesale Trade	16.0	10.3 – 35.0
Services, Schools, Etc.	3.0	2.6 – 5.2
All Developed Land	1.3	0.6 – 3.5

Source: Reprinted from 1988 CUTD; Original sources are Transportation studies in Monroe, LA (1965); Columbia, SC (1965); Little Rock, AR (1964); Baton Rouge, LA (1965); Richmond, VA (1964); Nashville, TN (1959); Chicago, IL (1959). Data includes all trucks.

TABLE 8.2 CBD truck stops for various land uses

Type Of Establishment	Average Daily Truck Stops Per 1,000 Sq. Ft. Of Floor Space (a)	
	Range	Typical Value
Office	0.15 – 0.24	0.20
Retail		
Apparel	0.18 – 0.67	0.45
Department	0.14 – 0.37	0.25
Furniture	0.19 – 0.60	0.30
Restaurant	2.70 – 6.10	3.60
Hotel	0.03 – 0.20	0.10
Manufacturing	0.35 – 0.68	0.50
Warehousing	0.35 – 0.53	0.50

Source: Reprinted from 1988 CUTD; adapted from H.S. Levinson and P.E. Conrad, "Urban Truck Road Systems and Travel Restrictions," Vol. 2, Appendices, prepared for FHWA by Wilbur Smith and Associates, Columbia, S.C., 1975. Data includes all trucks.

Note: (a) Truck "Stop" is equivalent to a visit to a particular establishment.

TABLE 8.3A Hourly distribution of total daily truck trips by type of truck and land-use type: wholesale trade

Time Period	Wholesale Trade				
	% Of Total Daily Truck Trips				
	6+ Tire Trucks			Total 6+ Tire Trucks	Total Trucks
4 Tire	Single Unit	Combination			
12:00 – 1:00 a.m.	0.0	0.0	0.1	0.1	0.1
1:00 – 2:00 a.m.	0.0	0.0	0.2	0.2	0.2
2:00 – 3:00 a.m.	0.0	0.1	0.2	0.3	0.3
3:00 – 4:00 a.m.	0.1	0.3	0.3	0.6	0.7
4:00 – 5:00 a.m.	0.2	0.4	1.4	1.8	2.0
5:00 – 6:00 a.m.	1.2	1.0	2.2	3.2	4.4
6:00 – 7:00 a.m.	2.2	1.5	2.6	4.1	6.3
7:00 – 8:00 a.m.	1.2	3.1	4.2	7.3	8.5
8:00 – 9:00 a.m.	1.0	3.4	5.3	8.7	9.7
9:00 – 10:00 a.m.	1.9	2.8	4.5	7.3	9.2
10:00 – 11:00 a.m.	2.2	3.5	3.8	7.3	9.5
11:00 – 12:00 p.m.	1.7	2.9	4.4	7.3	9.0
12:00 – 1:00 p.m.	1.2	2.0	4.0	6.0	7.2
1:00 – 2:00 p.m.	1.6	2.0	3.7	5.7	7.3
2:00 – 3:00 p.m.	1.6	2.4	3.7	6.1	7.7
3:00 – 4:00 p.m.	1.3	2.2	2.8	5.0	6.3
4:00 – 5:00 p.m.	1.0	1.9	1.9	3.8	4.8
5:00 – 6:00 p.m.	0.4	1.5	1.2	2.7	3.1
6:00 – 7:00 p.m.	0.1	0.5	1.0	1.5	1.6
7:00 – 8:00 p.m.	0.0	0.4	0.5	0.9	0.9
8:00 – 9:00 p.m.	0.0	0.3	0.3	0.6	0.6
9:00 – 10:00 p.m.	0.0	0.2	0.1	0.3	0.3
10:00 – 11:00 p.m.	0.0	0.1	0.1	0.2	0.2
11:00 – 12:00 a.m.	0.0	0.0	0.1	0.1	0.1
TOTALS	18.9	32.5	48.6	81.1	100.0

Source: FHWA "Quick Response Freight Manual," September 1996, Appendix F.
Four areas are: Knoxville, TN; Modesto, CA; Rochester, NY; and Saginaw, MI.

TABLE 8.3B Hourly distribution of total daily truck trips by type of truck and land-use type: truck transportation

Time Period	Truck Transportation % Of Total Daily Truck Trips				
	6+ Tire Trucks			Total 6+ Tire Trucks	Total Trucks
	4 Tire	Single Unit	Combination		
12:00 – 1:00 a.m.	0.0	0.0	0.6	0.6	0.6
1:00 – 2:00 a.m.	0.0	0.0	1.3	1.3	1.3
2:00 – 3:00 a.m.	0.0	0.0	1.5	1.5	1.5
3:00 – 4:00 a.m.	0.0	0.0	1.4	1.4	1.4
4:00 – 5:00 a.m.	0.0	0.0	1.5	1.5	1.5
5:00 – 6:00 a.m.	0.0	0.1	1.5	1.6	1.6
6:00 – 7:00 a.m.	0.0	0.3	1.9	2.2	2.2
7:00 – 8:00 a.m.	0.1	0.9	3.0	3.9	4.0
8:00 – 9:00 a.m.	1.7	2.3	5.4	7.7	9.4
9:00 – 10:00 a.m.	2.2	3.1	5.7	8.8	11.0
10:00 – 11:00 a.m.	1.0	1.8	5.0	6.8	7.8
11:00 – 12:00 p.m.	0.5	1.0	3.9	4.9	5.4
12:00 – 1:00 p.m.	0.4	0.7	3.2	3.9	4.3
1:00 – 2:00 p.m.	0.4	0.7	2.9	3.6	4.0
2:00 – 3:00 p.m.	0.5	0.7	2.9	3.6	4.1
3:00 – 4:00 p.m.	0.6	1.2	3.2	4.4	5.0
4:00 – 5:00 p.m.	0.7	1.1	6.0	7.1	7.8
5:00 – 6:00 p.m.	1.0	2.7	5.1	7.8	8.8
6:00 – 7:00 p.m.	1.1	1.3	4.0	5.3	6.4
7:00 – 8:00 p.m.	0.9	0.3	3.0	3.3	4.2
8:00 – 9:00 p.m.	0.5	0.1	1.9	2.0	2.5
9:00 – 10:00 p.m.	0.1	0.1	1.8	1.9	2.0
10:00 – 11:00 p.m.	0.0	0.0	1.8	1.8	1.8
11:00 – 12:00 a.m.	0.0	0.0	1.4	1.4	1.4
TOTALS	11.7	18.4	69.9	88.3	100.0

Source: FHWA "Quick Response Freight Manual," September 1996, Appendix F.
Four areas are: Knoxville, TN; Modesto, CA; Rochester, NY; and Saginaw, MI.

TABLE 8.3C Hourly distribution of total daily truck trips by type of truck and land-use type: downtown retail

Time Period	Downtown Retail % Of Total Daily Truck Trips				
	4 Tire	6+ Tire Trucks		Total 6+ Tire Trucks	Total Trucks
		Single Unit	Combination		
12:00 – 1:00 a.m.	0.0	0.0	0.0	0.0	0.0
1:00 – 2:00 a.m.	0.0	0.0	0.0	0.0	0.0
2:00 – 3:00 a.m.	0.0	0.0	0.0	0.0	0.0
3:00 – 4:00 a.m.	0.0	0.0	0.0	0.0	0.0
4:00 – 5:00 a.m.	0.0	0.0	0.0	0.0	0.0
5:00 – 6:00 a.m.	0.0	0.0	0.0	0.0	0.0
6:00 – 7:00 a.m.	0.1	0.1	0.1	0.2	0.3
7:00 – 8:00 a.m.	1.0	0.8	0.6	1.4	2.4
8:00 – 9:00 a.m.	3.8	1.6	2.0	3.6	7.4
9:00 – 10:00 a.m.	7.1	2.9	2.6	5.5	12.6
10:00 – 11:00 a.m.	8.3	3.8	2.2	6.0	14.3
11:00 – 12:00 p.m.	8.4	3.7	1.8	5.5	13.9
12:00 – 1:00 p.m.	6.3	1.9	2.2	4.1	10.4
1:00 – 2:00 p.m.	4.4	3.4	1.7	5.1	9.5
2:00 – 3:00 p.m.	4.3	3.5	1.8	5.3	9.6
3:00 – 4:00 p.m.	4.0	2.4	1.0	3.4	7.4
4:00 – 5:00 p.m.	4.4	1.7	0.4	2.1	6.5
5:00 – 6:00 p.m.	3.1	0.6	0.1	0.7	3.8
6:00 – 7:00 p.m.	0.8	0.1	0.1	0.2	1.0
7:00 – 8:00 p.m.	0.2	0.1	0.0	0.1	0.3
8:00 – 9:00 p.m.	0.1	0.0	0.0	0.0	0.1
9:00 – 10:00 p.m.	0.1	0.0	0.0	0.0	0.1
10:00 – 11:00 p.m.	0.1	0.1	0.0	0.1	0.2
11:00 – 12:00 a.m.	0.1	0.1	0.0	0.1	0.2
TOTALS	56.6	26.8	16.6	43.4	100.0

Source: FHWA "Quick Response Freight Manual," September 1996, Appendix F.
Four areas are: Knoxville, TN; Modesto, CA; Rochester, NY; and Saginaw, MI.

TABLE 8.3D Hourly distribution of total daily truck trips by type of truck and land-use type: Phoenix metropolitan area

Time Period	Phoenix Metropolitan Area % Of Total Daily Truck Trips				
	4 Tire	6+ Tire Trucks		Total 6+ Tire Trucks	Total Trucks
		Single Unit	Combination		
12:00 – 1:00 a.m.	0.0	0.0	0.0	0.0	0.0
1:00 – 2:00 a.m.	0.0	0.0	0.0	0.0	0.0
2:00 – 3:00 a.m.	0.3	0.5	0.3	0.8	1.1
3:00 – 4:00 a.m.	0.0	0.0	0.0	0.0	0.0
4:00 – 5:00 a.m.	0.6	0.6	0.9	1.5	2.1
5:00 – 6:00 a.m.	1.4	1.1	2.5	3.6	5.0
6:00 – 7:00 a.m.	0.8	1.1	3.1	4.2	5.0
7:00 – 8:00 a.m.	0.9	1.3	3.8	5.1	6.0
8:00 – 9:00 a.m.	1.0	2.0	4.0	6.0	7.0
9:00 – 10:00 a.m.	1.9	2.2	4.9	7.1	9.0
10:00 – 11:00 a.m.	1.7	2.4	4.8	7.2	8.9
11:00 – 12:00 p.m.	2.7	3.5	4.8	8.3	11.0
12:00 – 1:00 p.m.	4.3	3.4	5.3	8.7	13.0
1:00 – 2:00 p.m.	4.6	2.5	5.9	8.4	13.0
2:00 – 3:00 p.m.	1.5	1.7	3.7	5.4	6.9
3:00 – 4:00 p.m.	1.5	1.2	2.3	3.5	5.0
4:00 – 5:00 p.m.	0.9	0.6	1.5	2.1	3.0
5:00 – 6:00 p.m.	1.2	0.4	0.4	0.8	2.0
6:00 – 7:00 p.m.	0.3	0.3	0.5	0.8	1.1
7:00 – 8:00 p.m.	0.5	0.0	0.5	0.5	1.0
8:00 – 9:00 p.m.	0.5	0.0	0.5	0.5	1.0
9:00 – 10:00 p.m.	1.0	0.0	0.0	0.0	1.0
10:00 – 11:00 p.m.	0.0	0.0	0.0	0.0	0.0
11:00 – 12:00 a.m.	0.0	0.0	0.0	0.0	0.0
TOTALS	27.6	24.8	49.7	74.5	102.1

Source: FHWA "Quick Response Freight Manual," September 1996, Appendix F.

TABLE 8.4 Internal versus external truck trips (as a percentage of total vehicle trips)

Region	Percentage Of Total Trips ^{1,2}			Date
	Internal	Internal/ External	Through	
San Francisco Bay Area ³	86.0	14	1	1993
Puget Sound Region ⁴	48.5	38.5	13	1994
Lancaster County, Pennsylvania (external trips only) ⁵		50	50	1994
York County, Pennsylvania (external trips only) ⁵		64	36	1994
I-235, Polk County, Iowa ⁶			11	1991
Yuma Metropolitan Area, Arizona ⁷			7	1990
Port Authority of New York and New Jersey (toll bridges/tunnel crossings) ⁸			7	1991

Source: Listed in notes for each region.

- Notes:
1. Percentages based on number of trips.
 2. Values available for 2-axle, 3-axle, and 4- or more-axle trucks. Assumed 4- or more-axle trucks = 6+ Combination Commercial Vehicles.
 3. Schlappi, Marshall, and Itamura, "Truck Travel in the San Francisco Bay Area," Transportation Research Board 72nd Annual Meeting, January 1993.
 4. Transmode Consultants, Inc., "Analysis of Freight Movements in the Puget Sound Region," Puget Sound Regional Council, October 1994.
 5. Skelly and Loy, Inc., "PA 372 Origin-Destination Survey Final Report," for Lancaster and York County Planning Commissions, August 1994.
 6. Wilbur Smith Associates, "I-235 Alternatives Analysis and Environmental Impact Statement," Technical Memorandum Number 1, for Iowa DOT.
 7. Yuma Metropolitan Planning Organization, "1990 Origin-Destination Survey," 1990.
 8. Percentage based on eastbound truck traffic at the region's 6 crossings.