

VEHICLE OCCUPANCY RATIOS ON CONNECTICUT  
STATE ROADS  
1997

The Connecticut Public Transportation Commission is required by Section 13b-11b of the Connecticut General Statutes to monitor progress toward achieving a vehicle occupancy ratio of one and two-tenths persons per car by the year 2000. The best available mechanism we have in Connecticut to determine vehicle occupancy ratios (VORs) is the Traffic Accident Database, a compilation of all accidents on State numbered and State-maintained roads. (Accidents resulting in injuries are also included in the Database, regardless of location.) The Traffic Accident Database records all accidents by time of day and number of occupants per vehicle. These statistics are kept on a planning region basis. Vehicles included in the count are passenger cars, vans, sport utility vehicles and light trucks. Buses, service buses, medium duty and heavy duty trucks are not reflected in the totals.

Due to a delay in the compiling of the Traffic Accident Database, 1997 is the most recent year of the Accident Database available. The 1997 VOR figures in Table 1 are based on 125,232 accidents recorded in the Traffic Accident Database that year. Of these, 15,740 occurred in the 6-9 AM peak and 33,544 occurred in the 3-6 PM peak. Thus, all of the 1997 numbers in Tables 1 and 2 are developed from a very large collection of data, as were the figures for the previous years. The 1997 figures show a very noticeable drop in AM peak ridesharing from the 1996 VOR of 1.224 to 1.212. Ten of the 15 planning regions registered declines in the AM peak. Afternoon peak ridesharing showed a much smaller decline from 1.423 to 1.420 between 1996 and 1997, with nine of fifteen planning regions showing declines. The combined AM and PM peak ratio declined from 1.358 to 1.354. The only positive point for 1997 was that the total 24-hour statewide vehicle occupancy ratio inched upward from 1.410 to 1.411, in effect unchanged from 1996.

[ Note: The above accident totals reflect data for the 15 planning regions but do not include the towns of Stafford and Union, which are not assigned to any planning region. Therefore, all figures referred to as statewide in this discussion reflect data from 167 of Connecticut's 169 towns. The totals of the 15 planning regions are used in order to be directly comparable to the data of previous years.

If the data from Stafford and Union are incorporated, total statewide accidents rise from 125,232 to 125,574, AM peak vehicle occupancy remains unchanged at 1.212, PM peak occupancy increases from 1.420 to 1.421, and the 24-hour statewide vehicle occupancy is 1.412, as opposed to 1.411.]

The AM peak provides the closest reflection of commuter habits since it is dominated by work trips. For the seventh consecutive year, the AM peak exceeded the legislatively established goal of 1.20 set in Public Act 90-219, which was later codified in C.G.S. Section 13b-11b. The PM peak in 1997 again exceeded the 24-hour VOR, showing that PM peak rides were slightly more likely to be shared than all rides in general. This has also held true for 1996, 1995, 1994 and 1992 but was not true for the

remaining years since 1989. The close and alternating relationship between PM peak and overall ridesharing levels indicates that trips during the PM peak are fairly representative of overall occupancy patterns.

STATEWIDE VEHICLE OCCUPANCY RATIOS  
TABLE 1

YEAR	AM PEAK (6-9 AM)	PM PEAK (3-6PM)	COMBINED PEAKS	24-HOUR TOTAL
1997	1.212	1.420	1.354	1.411
1996	1.224	1.423	1.358	1.410
1995	1.223	1.429	1.363	1.422
1994	1.219	1.423	1.360	1.417
1993	1.220	1.425	1.361	1.430
1992	1.220	1.437	1.368	1.427
1991	1.216	1.413	1.352	1.420
1990	1.174	1.346	1.288	1.359
1989	1.173	1.350	1.294	1.360

As we have seen in the VOR analyses of previous years, there is a lot of consistency from year to year in the trip characteristics within given regions. For the morning peak rides (see Table 2), Northeastern Connecticut residents were the most likely to rideshare with 1.393 occupants per vehicle, far above the rate in any other region. Other top ridesharing regions were Litchfield Hills at 1.265, Greater Bridgeport at 1.252 and Southeastern Connecticut at 1.243. These were all among the top five regions in 1996. Northeastern Connecticut, Southeastern Connecticut and Greater Bridgeport also ranked in the top five in 1995. A big change was seen in Northwestern Connecticut, which led the state in 1996 and 1994 but dropped to the second lowest ridership rate of 1.187 in 1997. Only Central Naugatuck Valley at 1.183 was lower. Five other regions were closely bunched between 1.194 and 1.198. These were Midstate, South Western, Valley, Capitol and Connecticut River Estuary. In all, seven regions failed to achieve the 1.20 vehicle occupancy ratio set as a goal in CGS Section 13b-11b. This compares to only one region below 1.20 for the AM peak in 1996, two regions below 1.20 in 1995, 3 in 1994 and 4 in 1993. Thus, 1997 marked a very abrupt reversal of a favorable trend.

During the afternoon commuting peak of 3-6 PM, Northeastern Connecticut was also the leader at 1.499, followed closely by Southeastern Connecticut at 1.495. Trailing substantially behind them were Central Naugatuck Valley at 1.454 and Midstate at 1.450. In the afternoon peak, as in the morning, longtime leader Northwestern Connecticut dropped to a next-to-last 1.386, ahead of only South Western at 1.361. This correlation in the dramatic shift of Northwestern Connecticut rides in both the AM and PM peaks is significant and interesting, but not readily explainable. Valley and Central Connecticut also fared poorly in PM peak ridesharing at 1.388 and 1.395, respectively. Valley and South Western have similarly

been poor ridesharing performers in past years.

The Northwestern Connecticut region aside, the year-to-year consistency for the various regions is perhaps not surprising to find given the large number of data points in the Traffic Accident Database. It does serve to demonstrate the validity of using a methodology based on the Traffic Accident Database to track vehicle occupancy ratio levels and trends.

Differences between population density, transit availability and number of employment sites in the different regions mean that the travel characteristics of their residents will always exhibit different rates of ridesharing. Thus, it is really only the year-to-year comparisons for each region with its past performance that can show what direction vehicle occupancy rates are heading. We can conjecture whether the high rates of transit ridership, especially on Metro-North trains, causes fewer people to carpool in South Western region, which consistency ranks low in VOR, or whether the rural nature of the Northwestern and Northeastern regions leads to more ridesharing there. However, whatever factors are operative in a given region can be assumed to remain consistent from year to year so that ridership changes with time in any given region, rather than the differences between the regions, are useful indicators of the overall trends in the commuting habits of Constitution State residents.

Nineteen ninety-seven was the seventh consecutive year that the goal of 1.20 persons per vehicles, as set forth in C.G.S. 13b-11b, was surpassed for work trips as measured by the AM peak VOR. This target has been far surpassed for all other measures of vehicle occupancy. Therefore, it may be appropriate to revise the legislatively-set goal of C.G.S.13b-11b to an average occupancy of 1.25 persons for all work related trips by the year 2000.

VEHICLE OCCUPANCY RATIOS BY REGION

1997

TABLE 2

PLANNING REGION	AM PEAK VOR (6-9 AM)	PM PEAK VOR (3-6 PM)
Capitol	1.198	1.419
Central Connecticut	1.216	1.395
Central Naugatuck Valley	1.183	1.454*
Connecticut River Estuary	1.198	1.445
Greater Bridgeport	1.252	1.420*
Housatonic Valley	1.209	1.416
Litchfield Hills	1.265*	1.481*
Midstate	1.194	1.450*
Northeastern Connecticut	1.393*	1.499
Northwestern Connecticut	1.187	1.386
South Central	1.216*	1.412
Southeastern Connecticut	1.243*	1.495*
South Western	1.194	1.361
Valley	1.195*	1.388*
Windham	1.209	1.420

\* indicates an increase in Vehicle Occupancy Ratio for that region as compared to 1996 VOR