

VEHICLE OCCUPANCY RATIOS ON CONNECTICUT
STATE ROADS
1999 and 2000

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.

For the last several years, compilation of the Traffic Accident Database has trailed the calendar year by 2 years, meaning the Commission's 2000 Annual Report contained a vehicle occupancy ratio analysis based on 1998 statistics. This year ConnDOT has made a concerted and successful effort to get caught up, with the result that both the 1999 and 2000 data bases have now been compiled. This has allowed the Commission to also analyze both year's data. The 1999 vehicle occupancy ratio (VOR) analysis is based on 130,894 vehicles in the Traffic Accident Database, while the 2000 analysis is based on a similarly large 137,945 vehicles.

[Note: The above accident totals and the following analysis 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.]

1999 Vehicle Occupancy Ratio Analysis

Results for 1999 show a noticeable drop in morning commute time (6-9 AM) ridesharing rates to the second lowest level seen since 1991. In contrast, afternoon commuter time ridesharing rates edged upward from a very good 1999 ratio of 1.434 to a rate of 1.436. This trailed only the 1992 rate of 1.437 for afternoon ridesharing (see Table 1). When the morning and afternoon peak VORs are combined into a weighted average, the combined peak VOR for 1999 was 1.366, the third highest total since 1989, though down from 1998's 1.371, which was the highest rate recorded over the 11 years of analysis. The 24-hour VOR for all 15 planning regions was 1.425, a drop of .001 from 1998's overall rate of 1.426, and the fourth highest 24-hour vehicle occupancy rate.

The AM peak provides the closest reflection of commuter habits since it is dominated by work trips. For the ninth 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 1999 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 1998, 1997, 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
2000	1.232	1.427	1.365	1.424
1999	1.214	1.436	1.366	1.425
1998	1.226	1.434	1.371	1.426
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

Greater Bridgeport had the highest level of morning peak time ridesharing at 1.260. The Connecticut River Estuary Region was second at 1.253, with the Southeastern Connecticut (1.236) and South Western (1.230) regions near the top. Southeastern Connecticut and Greater Bridgeport are traditionally among the best regions for morning ridesharing. South Western is generally among the lowest VOR regions. Therefore, South Western's 1999 performance in this regard is quite a surprise. Four regions failed to achieve the statutory goal of 1.20 occupants per car in 1999. These were Northwestern Connecticut (1.169), Capitol (1.187), Litchfield Hills (1.189) and Central Connecticut (1.191). Northwestern Connecticut was consistently among the morning ridesharing leaders through 1996 but has fared poorly since then, being the second lowest region in 1997.

Northeastern Connecticut (1.500) and Midstate (1.495) were the leading regions in afternoon ridesharing in 1999, with Greater Bridgeport (1.480) and Northwestern Connecticut (1.477) also among the leaders. Northeastern Connecticut led the state in PM peak ridesharing in 1997 and 1998 also. Midstate and Greater Bridgeport have not been among the leaders in afternoon ridesharing in recent years. Northwestern Connecticut led the state in 1996 and was fourth in 1998. Travelers in the Housatonic Valley Region were the least likely to share afternoon rides in 1999, with a VOR of 1.366. The Valley Region was the next lowest at 1.387. Other regions with low afternoon occupancy rates were Capitol (1.412), Windham (1.423) and South Western (1.425). The Valley and Capitol Regions have consistently ranked low in afternoon vehicle occupancy. Table 2 lists the 15 planning regions by vehicle occupancy rates for 1999.

2000 Vehicle Occupancy Ratio Analysis

As Table 1 shows, 2000 produced the highest rate of morning peak ridesharing seen in the 11 years of analysis, at 1.232, beating 1998's AM rate of 1.226. The PM ridesharing rate of 1.427 was slightly better than average but a drop from the rates of the previous two years of 1.436 and 1.434. The combined AM/PM peak VOR and the 24-hour rates were virtually unchanged from 1999 to 2000.

Table 3 shows how the various regions of the state performed in ridesharing in 2000. For morning peak trips, Connecticut River Estuary led the state at 1.326 persons per vehicle, with Greater Bridgeport (1.282), Northeastern Connecticut (1.278) and Southeastern Connecticut (1.252) among the leaders. Thus, three of the top four regions were consistent from 1999 to 2000, namely Connecticut River Estuary, Greater Bridgeport and Southeastern Connecticut. Northeastern Connecticut was sixth in 1999. Litchfield Hills had the lowest level of morning ridesharing in 2000 at 1.201, followed closely by Capitol at 1.205, Midstate at 1.210 and Valley at 1.224. Capitol and Litchfield Hills were the second and third lowest in AM peak occupancy in 1999, again showing the consistency in regional performances from year to year.

For the afternoon peak driving time of 3-6 PM, Connecticut River Estuary showed the highest vehicle occupancy rate at 1.541, followed by Litchfield Hills at 1.476, Southeastern Connecticut at 1.454 and South Central at 1.447. None of these regions were among the 1999 leaders, showing a highly unusual lack of consistency. This was not the case at the other end of the range where the 1999 and 2000 results showed more similarities. Valley had the lowest level of afternoon peak ridesharing at 1.329, with Housatonic Valley and Northeastern Connecticut at 1.403. The Housatonic Valley and Valley Regions, respectively, were the lowest and second lowest afternoon ridesharing regions in 1999. Midstate and Central Connecticut, both at 1.414, and Capitol at 1.415 were other regions where motorists were less likely to share afternoon rides in 2000.

There was less consistency than usual in the year-to-year ridesharing ratios of the 15 planning regions for the two years covered in this analysis. Normally we see the same regions ranking at the top and bottom rungs of the ridesharing ladder each year. Given the large number of data points recorded in the annual Traffic Accident Database, this would be expected. 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.

1999 and 2000 were the ninth and tenth consecutive years for which the goal of 1.20 persons per vehicle, as set forth in C.G.S. section 13b-11b, was surpassed for work trips, as measured by the AM peak vehicle occupancy ratio. The 6-9 AM timeframe is assumed to capture most employment-based trips while having the smallest fraction of trips for non-employment purposes. Therefore, the AM peak is used as a proxy for work-based commuting, which the Commission assumes to be the intent of C.G.S. section 13b-11b. The 1.20 target has been far

surpassed for all other measures of vehicle occupancy. Year 2000 was also the last year for which the Commission is required to provide these statistics, which are supposed to monitor progress toward the VOR goal of 1.20 by the year 2000.

VEHICLE OCCUPANCY RATIOS BY REGION

1999

TABLE 2

PLANNING REGION	AM PEAK VOR (6-9 AM)	PM PEAK VOR (3-6 PM)
Capitol	1.187	1.412
Central Connecticut	1.191	1.436
Central Naugatuck Valley 1.216	1.468	
Connecticut River Estuary 1.253	1.472	
Greater Bridgeport	1.260	1.480
Housatonic Valley	1.225	1.366
Litchfield Hills	1.189	1.432
Midstate 1.216	1.495	
Northeastern Connecticut 1.223	1.500	
Northwestern Connecticut 1.169	1.477	
South Central	1.216	1.446
Southeastern Connecticut 1.236	1.463	
South Western	1.230	1.425
Valley	1.211	1.387
Windham	1.222	1.423

VEHICLE OCCUPANCY RATIOS BY REGION

2000

TABLE 3

PLANNING REGION	AM PEAK VOR	PM PEAK VOR
	(6-9 AM)	(3-6 PM)
Capitol	1.205	1.415
Central Connecticut	1.226	1.414
Central Naugatuck Valley 1.244	1.418	
Connecticut River Estuary 1.326	1.541	
Greater Bridgeport	1.282	1.441
Housatonic Valley	1.236	1.403
Litchfield Hills	1.201	1.476
Midstate 1.210	1.414	
Northeastern Connecticut 1.278	1.403	
Northwestern Connecticut 1.240	1.420	
South Central	1.236	1.447
Southeastern Connecticut 1.252	1.454	
South Western	1.228	1.419
Valley	1.224	1.329
Windham	1.248	1.439

