

## **TRAFFIC MONITORING**

Traffic Monitoring is the process of collecting data on the existing number and characteristics of vehicles using Connecticut's roadway system. Statistics on current and historical traffic provide the foundation on which to evaluate the transportation system and plan for future transportation needs. Users of the data range from businesses seeking to relocate, to the Congress determining an equitable apportionment of transportation funds. The data is used by environmental and project planners as well as traffic and design engineers to evaluate the transportation system and to plan for future transportation needs. The Traffic Monitoring and Analysis Section of the Office of Inventory and Forecasting is responsible for this function and collects data in various forms:

### ***Short term coverage counts***

Once every three years, all State-maintained roadways are counted to determine the average daily traffic of the roadway. Counters are placed across the roadways for a 24 hour period and record not only the daily traffic, but also the hourly breakdown of the traffic. For expressways, counters are placed on the ramps and mainline volumes are calculated from known controls on the mainline. Counts are taken by portable traffic recorders with tubes laid across the pavement. This equipment automatically records the vehicles as they pass over the tubes. An average of 5000 counts are taken for this purpose each year. **Coverage counts** provide the broad picture of growth and traffic changes on Connecticut's roadway system.

### ***Short term special Counts***

In addition, for specific transportation projects or studies, short-term counts are often taken as part of the planning, environmental and design process. These counts provide additional information on current roadway usage, daily, weekly and seasonal characteristics as well as hourly and 15 minute volumes for the roadway. As above, these counts are taken by portable traffic recording equipment with tubes across the pavement. The duration of these counts varies depending on project need, but usually ranges from 24 hour to a week. These counts supplement the regularly scheduled coverage counts and provide the base from which traffic projections are developed for transportation projects.

### ***Long term counts***

Statistics on the seasonal variation of traffic and the daily fluctuation of traffic within the year are developed from permanent traffic recording sites. Each site is composed of sensors cut into the pavement and computer equipment, which allows for the continuous recording of traffic data. Data is collected continuously, 24 hours a day, 365 days a year (366 days on leap year). Data is automatically transmitted to the Office by telephone wires and provides both a long term historical picture of traffic as well as detailed characteristics of traffic fluctuation. It provides the basis for determining design hourly traffic factors, fluctuations in traffic on recreational roads, weekend traffic patterns and a host of other statistics, which are critical in the transportation process. They provide the controls for adjusting **short-term counts** to average daily traffic. There are currently forty 40 automatic traffic recorder (ATR) stations within Connecticut. In addition to providing volume data, many have the capability of providing information on the types of vehicles.

### ***Turning movements***

For intersection design and intersection analysis the hourly and 15 minute number of vehicles making individual turns are often required. The number of vehicles making left hand turns, right hand turns, and going straight through an intersection determine the type and form of traffic control devices needed, whether the intersection requires signalization, stop signs, left or right hand turning lanes. Turning movements are done by portable traffic recorders or manual counting procedures.

### ***Vehicle Classification***

Vehicle classification data is collected to determine the breakdown of the types of vehicles on Connecticut's roads. Vehicles are stratified into 13 categories ranging from motorcycles, to passenger cars, to buses, to trailer trucks, to multi trailers. Vehicle classification data is collected at approximately 100 locations and allows the development of factors to estimate vehicle classification data by roadway type and traffic volume.

### ***Truck Weights***

A growing area of importance for transportation planning is truck statistics. Trucks are a critical component of pavement wear. Understanding the number and weight of trucks on our roadway system plays a major role in scheduling and planning of pavement reconstruction and repaving. The **weigh in motion** program provides these statistics. Major technological advances in the past few years now allow us to develop statistics on truck traffic without stopping or inconveniencing truckers. Trucks are classified and weighed as they pass over sensors on or cut into pavement.

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