Benefits of Using Radar Recorders for Traffic Counts

Conducting traffic counts to obtain volume, speed and/or vehicle classification data is an important part of many traffic investigations and other projects done by public works professionals. Traditionally, in order to get this data, pneumatic tube counters (Automatic Traffic Recorders or ATRs) have been used. However, there are other options, such as radar recorders, which provide additional benefits.

ATR Tube Counters

ATR tube counters have long been used by public works professionals to obtain necessary traffic data. Tube counters are able to collect volume, vehicle speed and vehicle classification data, all of which are vital when conducting investigations related to roadway safety, traffic calming, traffic control device selection and more. To obtain volume data, only one tube is needed, but in order to obtain speed and classification data, two tubes are required to be installed for each roadway. The downside to tube counters is that installation can be a labor-intensive process that requires the installers to be in the travel lanes of the roadway. It requires that an anchor be installed on one side of the roadway, that the tubes be laid across the lanes where the count is desired, a second anchor be installed on the other side of the roadway, possibly a center anchor be installed and then the tubes be connected to the counter on the side of the roadway. Depending on the condition of the roadway, it may be necessary to tape down the tubes as well. If there is more than one roadway where a count is required, this entire process must be repeated. Once the count is completed, the process is reversed for removal of the tubes. Installation and removal of tube counters also has an impact on the roadway traffic operation, as traffic flow must be temporarily stopped for the work to be conducted.
Although an ample amount of data can be collected using tube counters, they are limited in their accuracy, as drivers can potentially drive differently once they see the counters on the road. Other limitations include weather conditions and road maintenance activities.

### Radar Recorders

Radar recorders can collect the same data as tube counters but are more efficient to install and require less time in the roadway. A single radar recorder can do a bi-directional count, so only one is needed per 2-lane, bi-directional roadway. Multiple units can be used on intersecting roadways. The unit can also be programmed for a one-way street. Users can get raw data in bins, peak hour volumes, 85th percentile speeds and create summary reports.

Setup is quick and easy – bands that hold the bracket go around a pole or tree, and the radar recorder unit is attached to the bracket. Then the unit is programmed, which is the only time the installer needs to be in the road, as measurements of the roadway/lane widths are required for programming the unit. After programming is complete, the user can see a “Live View” of the count to ensure that the unit is properly set up. Then the unit is locked and the count is underway. The majority of the installation and setup is done on the side of the road, with limited exposure to traffic. After the count is over, the unit is unlocked and removed from the pole or tree and brought in for data retrieval. Since the unit is not in the roadway, driver behavior is unaffected which provides more accurate speed data.
Radar Recorders Continued

Not only is the installation and removal safer and easier, the unit can be used in any weather conditions, unlike tube counters. If a count is needed during leaf season or winter snow conditions, the radar recorder is a reliable option. Due to its roadside placement, the condition of the road pavement will not affect the count either, as can happen with tube counters.

Currently, there are a few different models on the market. The CT Training and Technical Assistance Center has two Jamar Black Cat II available units as part of the Equipment Loan Program. The Black Cat II is Bluetooth enabled, which allows for wireless on-site programming and data retrieval. The Lithium 12V battery, when fully charged, will allow for up to a 10-day count.

For more information regarding our equipment loan program visit: https://t2center.uconn.edu/pdfs/T2%20Equipment%20Loan%20Program%20Flyer.pdf

or

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