

## Traffic Signals

**To report a traffic signal malfunction, call 911.**

The Traffic Division maintains all traffic control signals in Johnson City. Some of the traffic signals are installed by contractors while others are installed by a combination of city personnel and contractors. Funding for traffic signals has come from a variety of places. Some signals are fully funded by one of these parties: Johnson City, the Tennessee Department of Transportation (TDOT), The Federal Highway Administration (FHWA), a developer, or a combination of these. The signals are installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) standards. No traffic signal may be installed without meeting the requirements (warrants) set forth in the MUTCD that examines the traffic volumes of the different approaches and any traffic accidents. Signals are standardized in operation, size and meaning to provide consistency across the United States. The standardization assists drivers in readily recognizing and responding appropriately, regardless of the jurisdiction. Johnson City maintains nearly 100 traffic signals.

The City Commission for Johnson City must approve each installation and TDOT must also approve any signals on state routes. To receive federal funding for signals, the City Commission, the Johnson City Metropolitan Transportation Planning Organization (JCMTPO), TDOT, and FHWA must review and approve the use of funds. Traffic signals installed by contractors cost, depending on the complexity and the size of the intersection, from \$200,000 to \$300,000. When they are locally funded, they generally must be budgeted during the normal budgeting process prior to July 1 of each year.

Johnson City's City Commission set a policy to strive to install mast arm poles at any new traffic signal installations and has supported upgrading older signals in equipment and appearance. Mast arms suspend the traffic signal heads over the roadway in a uniform manner allowing better placement and reducing the impact on visibility due to windy conditions. This type installation also protects the wiring and signal heads to extend the life of the signals and greatly reduce the number of problems associated with weather conditions and wiring. Additionally it provides the opportunity to install new technologies such as **optical preemption** and **video detection**. A better appearance is also a benefit that not only is more aesthetically pleasing but improves the visibility of the signal indications by reducing the clutter of wires strung all around the intersection. Streets are loaded with visual clutter that compete for a drivers attention; a more professional looking display and less cluttered appearance commands more attention and respect which translates into better compliance.

Traffic signals often do not stop accidents or solve all traffic congestion problems. Where traffic signals are warranted and installed, accidents may be reduced or simply change from a right-angle accident to a rear-end accident. While safety can be enhanced at some locations with the addition of a traffic signal, it can be worsened at other locations. Careful consideration must be given to the location, surroundings and

geometrics of the intersection prior to the decision on whether or not to ask for approval or funding.

Want to know more about traffic signals? Select a topic from the list below:

- LEDs
- Optical Preemption
- Video Detection
- Loop Detectors (coming soon)
- Timing (coming soon)
- Coordination (coming soon)

To request an intersection be evaluated for a possible traffic signal, e-mail or call.