Vehicular Detection Options at Signalized Intersections Discussion

Community Planning and Transportation Committee

September 25, 2025

Agenda

- Norman’s History—How we selected video detection systems as our main detection platform
- Vehicular Detection Facts
- Working with Video Detection
- Responsibility to Our Citizens
- Impacts of Change

Norman’s History

- For years, the detection technology of choice in Norman was vehicular detection loops
  - There are issues with this technology as maintenance requires a traffic signal technician to work out in the street
  - This technology is not friendly to construction activities when lanes may shift on account of construction activities
- The City of Norman currently maintains 156 traffic signals
- The final phase of video detection upgrades (to upgrade from detection loops to video detection cameras) is approved through ACOG/ODOT for funding in an upcoming year

Norman's History (continued)

- Why did we choose video detection as our preferred method of vehicular detection?
  - At the time that Norman changes from vehicular detection loops, there were few, if any, options available
  - The issues associated with construction activities and the ability to maintain detection during construction was huge
  - The video detection camera change over coincided with the City's decision to install fiber optic cable to connect our traffic signals. This fiber allowed us the opportunity to bring the video feeds back to our office to be used as a means of verification for certain signal events. It also gave us ready technology to be able to record the cameras for easy access to turning movement counts for a variety of reasons.
- We have gone through a number of iterations with our signal provider, Econolite, that have served to upgrade the reliability with each upgrade

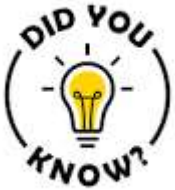
Vehicular Detection Facts

No Single "Best" Detection System

- No technology is perfect. Each option has advantages and disadvantages depending on intersection design, traffic types, weather, cost, and maintenance.

Why We Use Video Detection

- Video offers flexibility: multilane and turn-lane monitoring, advance detection, and analytics like turning counts and vehicle classification. It scales with our growing network needs.



Working with Video Detection

Addressing Limitations

- Video can be affected by weather or lighting, but most fixes are made remotely. This reduces downtime and field costs while keeping technicians focused where needed.

Future Integration with the Traffic Management Center (TMC)

- When the TMC launches by June of 2025, operators will be able to monitor, calibrate, and adjust detection in real time—further improving efficiency and investment value.

Protecting Our Investment While Planning for the Future

- Norman has a significant investment in video detection. Staying with this platform protects that investment while keeping us compatible with current infrastructure, software, and staff expertise, and still leaves room for future technologies.

Responsibility to Our Citizens

- From the time we switched from vehicular detection loops to video detection cameras, the City of Norman has invested nearly $2 million into our video detection platform
  - This includes the cost of cameras
  - It also includes maintenance costs
  - Finally, it includes the appropriate platforms to be able to fully utilize these camera systems
- With the need to be fiscally responsible, a change in our preferred vehicular detection method would need to open up new opportunities without compromising what we have already in place

Impacts of Change

- What would happen if we did decide to change from video detection as our preferred method of vehicular detection?
  - Maintaining traffic signals is all about making sure that adequate inventory is on-hand as we all know that any electronic component is prone to failure from weather or age
  - Currently, all of our inventory is geared toward video detection cameras and system components
  - For efficient traffic signal maintenance to be consistent across the city, it is critical the technologies utilized from one intersection to the next are the same
  - Changing from video to another technology would require that significant capital investment be made to replace field equipment as well as inventory supplies
- One last thought to leave you with:
  - Because we have video detection cameras in place that allow us to "see" the intersection, this is equivalent to having one or more additional traffic signal technicians. The system's continuous visibility frees staff from unnecessary field visits, providing the benefit of additional technician capacity without the added personnel cost.

Questions?