

# Norfolk Insider

City of Norfolk, NE

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## “Traffic Signals”



The top cause of fatal auto accidents in the U.S. is a driver running a red light. Jim Koch, City of Norfolk Streets Director, would like drivers to understand how the traffic lights in Norfolk change hoping that they are more patient with the process.

“Prior to what many drivers think, there are very few traffic control signals that have more than 75 seconds between light changes,” Koch said.

He explained that signals are set up on timers to allow traffic to flow smoothly. A signal with a set time for each direction is said to be on a “fixed time cycle.” The streets that have the

most traffic in a city will be set differently. In order to let the traffic on that street not stop as often, the signals along that street will be set to “green rest.” This means that the traffic on that street will always have a green light unless vehicles approach from a crossing street.

How does the signal know there is approaching traffic?

Traffic loops are placed under the street surface or are cut into the surface that detect when a vehicle approaches. The loop then sends a message to the controller on the street signal. This controller is programmed to turn the signal to yellow and then red, allowing the vehicle from the side street to cross.

At least that’s how it’s supposed to work.

“Unfortunately, sometimes the loop malfunctions. There may have been some construction done at the intersection or a pothole disturbed the loop. There have been times when the light doesn’t change because of a bad loop. We at the street department need to hear from the public if they have been at a light for an inordinate amount of time because the loop in the street or the controller might be damaged,” Koch said.

Multiple lanes help somewhat. If the loop in one lane is damaged but the loop in the adjacent lane is fine, then the light will change if another vehicle pulls up alongside the waiting vehicle. Koch said the term for this occurrence is that an “angel” vehicle enables the light to change and sends both vehicles on their way.

A vehicle that stops slightly in a right lane and then turns right on a red light may trigger a loop to change the light to red even if the vehicle by then is long gone. This is called a “ghost call” as traffic is made to wait because of a message that is sent from a vehicle that is no longer there. To prevent ghost calls, Koch said the loops in right hand lanes are often set with a “delay on detection”. Normal delay or the time it takes for a vehicle to send a

message to the loop is three to five seconds so the vehicle may be required to sit longer in a right hand lane in order to get a green light change.

Some drivers have wanted to have signals timed where there are a number of traffic signals in a row like on Norfolk Avenue, so that each will turn green as they get to it. Koch said that isn't going to happen as each change of the light is still dependent on the amount of traffic entering each intersection.

"Traffic signal design is a very complicated field. Everyone thinks they are experts at setting them up yet they cannot be set to please everyone," Koch said.

He recommends that drivers pull up to the intersection or stop bar close enough to trigger the loop under the surface but not enough to be into the pedestrian crosswalk.

"We do our best to keep the loops and controllers working correctly. Still, nothing is as effective as a patient and courteous driver," Koch said.