

Statewide Advance Signal Warning System Changes



ADVANCE SIGNAL WARNING SYSTEMS (ASWS)

ASWS are used to alert drivers of upcoming traffic conditions in urban and rural areas, especially the potential need to stop at a signalized intersection. ASWS include the yellow signs stationed over the roadway that often feature flashing yellow lights to warn of a traffic signal ahead. The advance warning signs are often placed where roadway curves or other factors limit visibility or expectation of a signal. They are also placed on highways connecting rural and urban areas, such as Pyramid Highway, Mt. Rose Highway and State Route 160.

Some advance signals contain no flashing lights or lights which continuously flash. Other advance warning signs begin flashing when the traffic signal ahead is about to turn yellow, then red, allowing drivers time to stop for the signal. This can lead drivers to unsafely speed up to “beat the light,” potentially leading to more severe crashes.

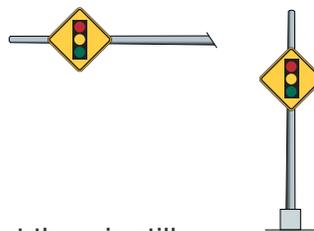
There are three types of systems and each has unique benefits depending on the characteristics of the intersection.

STATIC SYSTEM

Only includes signage messaging of an upcoming traffic signal or intersection.

Best used if:

- signal is visible from an adequate distance but there is still a need to provide some advance warning

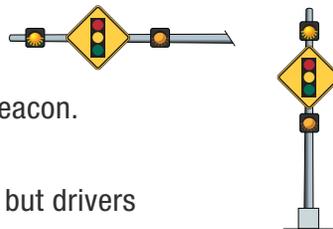


PASSIVE SYSTEM

Includes signage and a continuously flashing beacon.

Best used if:

- signal is visible from an adequate distance but drivers are transitioning from a rural to urban area
- signal is isolated, unexpected, and/or road speeds are above 45mph

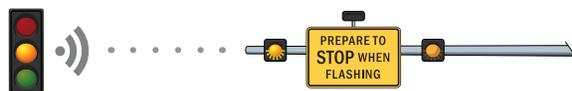


ACTIVE SYSTEM

Includes signage and a flashing beacon that is connected to the signal controller, and only flashes during a signal change, such as from green to yellow, or when a signal is red.

Best used if:

- signal has limited sight distance that doesn't provide proper reaction time
- area has heavy truck traffic, winter or other conditions that require additional stopping distance or reaction time



THE ADVANCE SIGNAL WARNING SYSTEMS STUDY

The Nevada Department of Transportation (NDOT) is evaluating and updating the use and placement of ASWS across the state. The goal is to develop a unified approach statewide that promotes uniformity and consistency in the treatment of ASWS specific to each intersection's individual needs. This will enhance the safety of the traveling public and promote better driver behavior. Similar modifications in other states have shown a reduction in crashes, including severe crashes and crashes from drivers running red lights.

NDOT conducted an engineering study in 2019 to establish guidelines for the most effective use of different types of ASWS, compliant with federal guidelines. Following thorough engineering review, some of the advance signals throughout the state are changing from flashing at the onset of an upcoming yellow signal to a static sign or continuously flashing signal. Timing of flashing signals may also be modified to enhance safety. Some advance signals may be removed due to the updated guidance.

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FREQUENTLY ASKED QUESTIONS



Q1 WHAT IS THE PURPOSE OF PROJECT?

The study will promote uniformity and consistency in ASWS, enhance safety and promote better driver behavior. One of the behaviors this effort aims to reduce is red light running, one of the most serious traffic problems in the nation. Estimates show vehicles running red lights result in more than 200,000 people being injured and approximately 900 deaths nationwide per year. Between 2013 and 2017, the average number of deaths on Nevada's Roads was 303 (Nevada Department of Public Safety Office of Traffic Safety Annual Performance Report FFY 2018).

Q2 WHO IS RESPONSIBLE FOR THIS STUDY?

NDOT is responsible for the ASWS Study, in collaboration with the cities and counties that maintain them.

Q3 WHEN WILL CONSTRUCTION START AND HOW LONG WILL IT LAST?

NDOT is scheduled to begin implementing the changes to the new systems in fall/winter 2020. Not all systems will be changed at the same time. The project is expected to be complete in 2022.

Q4 HOW WILL THE WORK BE IMPLEMENTED?

The construction schedule is being determined and will be organized by the appropriate jurisdiction (NDOT, city, or county). The construction sequence will be determined by individual site needs and community support. Construction will occur in phases to focus on the individual community needs and allow for changes in driver behavior.

Q5 ARE ALL INTERSECTIONS CHANGING?

It is important to note that this is the first phase of the project. Not all ASWS in the state were included in this phase of the study and not all ASWS will be removed or modified. There may be additional intersections that will be reviewed using the ASWS guidance.

NDOT does not own or operate signals in the state. They are managed by local jurisdictions with whom NDOT closely works. However, this current ASWS guidance will be applied statewide from this point forward.

Q6 WHAT IS QUEUE DETECTION?

Queue detection is a warning system that uses real-time sensors to alert drivers to construction or traffic up ahead and was not included in this project. At some intersections, queue detection is the challenge rather than the advance signal warning system. A further engineering study will need to be conducted at various intersections to determine an appropriate queuing treatment.

Q7 WHY ARE SIGNALS BEING REMOVED?

Signals are not being removed, but, at some intersections, the advance signal warning system is being removed and the standard traffic signal will remain.

The goal is to develop a unified approach statewide that promotes uniformity and consistency in the treatment of ASWS specific to each intersection's individual needs. This will enhance the safety of the traveling public and promote better driver behavior. Similar modifications in other states have shown a reduction in crashes, including severe crashes and crashes from drivers running red lights.

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Q8 WHAT IS THE COST OF THE PROJECT?

The estimated total project cost including construction, design, permitting, and construction management is dependent upon the construction phasing currently being determined.

Q9 WHERE IS THE FUNDING COMING FROM?

The project will be paid for with state funds.

Q10 WHAT IS THE DIFFERENCE BETWEEN ADVANCE WARNING SIGNALS AND STANDARD SIGNALS?

Advance warning signals are warning devices used in conjunction with standard signals to alert drivers approaching the signal that they may be required to stop.

Q11 WHY WERE THE ASWS SIGNALS INSTALLED?

The original ASWS guidance was based on drivers traveling at a speed of 45 mph or greater and as a treatment at the first signal approaching an urban area. Through the years, the standard driver traveling speed has changed and the current ASWS guidance is reflective of that, coupled with numerous traffic management and driver behavioral changes promoting continued safety and better driver behavior.

Q12 WHY IS THE TIMING BEING MODIFIED?

Timing is being modified to promote safer driving behaviors. Currently, at certain intersections, a lengthy advanced notice is being given to drivers and they are “overdriving” or attempting to “beat” the signal and running red lights. Timing will vary for each advance signal and is dependent upon the geometry and site conditions at each location.

Similar modifications in other states have shown a reduction in crashes, including severe crashes and crashes from drivers running red lights. Red light running is one of the most serious traffic problems in the nation. Estimates show vehicles running red lights result in more than 200,000 people being injured and approximately 900 deaths nationwide per year. Between 2013 and 2017, the average number of deaths on Nevada’s Roads was 303 (Nevada Department of Public Safety Office of Traffic Safety Annual Performance Report FFY 2018).

Q13 WHAT WILL REMAIN AT AN INTERSECTION WHEN YOU ELIMINATE AN ASWS?

The standard traffic signal and equipment will remain when an ASWS is eliminated at an intersection. Only the advance warning signs, flashers, and poles will be removed.

Q14 WHAT IMPACTS CAN I EXPECT DURING CONSTRUCTION?

Motorists should always heed warnings and pay attention to the road ahead. During construction, access to businesses and residences will remain open at all times and traffic alerts will be sent before any closures. Where needed, flaggers will be stationed at designated areas to maintain safe travel. Construction activities could include:

- Lane closures
- Detours
- Traffic delays
- Noise, dust and vibrations

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Q15 WHAT ACTIONS SHOULD DRIVERS TAKE?

More than anything, it's necessary for drivers to always be attentive, follow road signage, and practice safe driving behaviors.

Q16 WHAT DOES THIS MEAN FOR ME?

Most ASWS systems that are being used throughout the state are currently active systems. New guidance will allow for the use of all three systems based on field conditions and the engineering study, enhancing uniformity and improving operations and safety.

NDOT has completed the statewide study and some intersections in your jurisdiction may be changing to a different system. NDOT will be coordinating with you throughout the process and will let you know a specific timeframe for any anticipated changes in your area.

Q17 HOW CAN I STAY UPDATED?

Communication with the local and traveling public is a priority for NDOT. Timely construction information and updates will be posted to the project website at nvsafesignals.com.

Construction alerts and project updates will also be distributed electronically. If you wish to receive project updates via email, please visit the project website, nvsafesignals.com, to signup. If you have questions or concerns, please call (775) 888-7000 or email info@dot.nv.gov.

INTERSECTION SAFETY TIPS



Drive attentively



Make a complete stop at all red traffic signals and stop signs



Lift your foot off the accelerator and look both ways before crossing an intersection on a green signal



Yield to other drivers, bicyclists and pedestrians



Look right before turning on green



When stopped at a red light, look both ways before proceeding on a green light to make sure the intersection is clear