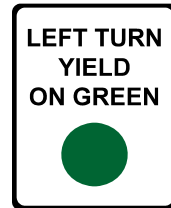




Information on Left Turn Signals



*Why do some have arrows and ball indications? Why don't they all?
Why do some have red arrows and other have red balls?
Why do I get a left turn arrow before the green ball sometimes and others after the green ball?
Why do not all traffic signals have left turn signals?*

Drivers attempting to make a left turn are sometimes frustrated by the inability to turn due to the amount of oncoming traffic. Traffic Engineers study these situations to determine if there is a need for a left turn arrow and what type of left turn arrow to install.

Left turn arrows are great if you are the one turning left, however they generally make the wait longer for everyone else at the intersection. Traffic Engineers must balance between adding a left turn arrow for the minor vehicle movement (left turners) and causing more overall delay for the other more major movements or allowing left turners to use the available gaps in opposing traffic as well as the yellow phase of the signal cycle to make the left turn. Safety and crash history are always considered in this evaluation along with the number of travel lanes opposing the left turn movement.

Left turns phasing is done in one of four ways: **permissive**, **protected only**, **protected/permissive** and **time of day protected/permissive**.

Permissive Left Turn Phasing



Permissive only left turn phasing is considered when there is not a left turn signal head that provides for a protected left turn phase of the traffic signal. This is common with low left turn volumes. A permissive only left turn does not have a signal head with indications and drivers use the adjacent through movement Green indication to enter the intersection. **Permissive left turners must always yield to oncoming traffic.**

Protected Only Left Turn Phasing



Protected only left turn phasing is considered when the left turning vehicles have limited sight visibility to adequately see gaps in opposing traffic or when there are multiple lanes turning. The protected left turn interval can be at either before the through traffic gets a Green indication or after the through traffic gets a green indication. A protected only left turn uses arrows in the Red, Yellow, and Green indications. Lefts turners will get a Green arrow indication and oncoming traffic will have a Red indication.



Protected/Permissive Left Turn Phasing



Protected/permissive left turn phasing is considered when there is a need for a dedicated part of the signal cycle to allow for a protected left turn movement. However the intersection geometry and crash history also indicated that left turns can be made safety in the gaps in opposing traffic. The protected left turn interval can be at either before or after the through

(over)

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traffic gets a Green ball indication. During the interval the left turners get a Green arrow indication, the oncoming traffic will have a Red indication. **During the permissive left turn interval, the left turners will either get a Green ball indication only or a flashing Yellow arrow indication and they must yield to oncoming traffic.** If the protected/permissive left turn signal head have five-signal indications, it will have a Red ball, Yellow ball, Green ball, Yellow arrow, and a Green arrow. If the protected/permissive left turn signal head has four sections, it will be have a Red ball, a solid Yellow arrow, a flashing Yellow arrow, and a Green arrow.

Time of Day Protected Left Turn Phasing



Time of day protected/permissive left turn phasing is considered when there is a need for a dedicated part of the signal cycle to allow for a protected left turn movement. However the intersection geometry and crash history also indicated that during certain times of the day that left turns can be made safely in the gaps in opposing traffic. The protected left turn interval can be at either before the through traffic gets a Green indication or after the through traffic gets a Green indication. During the interval the left turners get a Green arrow indication and oncoming traffic will have a Red indication. **During the time the left turners get a Green ball indication only, they must yield to oncoming traffic.** Times of day protected/permissive left turn signal heads have five-signal indications: Red arrow, Yellow ball, Green ball, Yellow arrow, and a Green arrow.

Why do some mast arms look like there should be a left turn signal but there isn't?

While left turn signals are not always installed when a traffic signal is constructed, Clark County's policy is to design and install the mast arms long enough to accommodate left turn signal heads when it is determined that they are needed in the future. This allows the County to install the left turn phase without replacing the mast arm thereby greatly reducing the cost, driver inconvenience, and time to install the left turn signal head when they are needed in the future.

Why do I get a Green left turn arrow at the start and sometimes others after the green ball?

Normally, the Green left turn arrow is on before the Green ball or flashing Yellow arrow, which is called a "leading left". However, Green left turn arrows can also be on after the Green ball or flashing Yellow arrow, which is called a "lagging left". Sometimes opposing Green left turn arrows come on at the same time and other times one direction "leads" and the opposing direction "lags". When the Green left turn arrow comes on is based upon how the flow of traffic arrives at that intersection at that time of the day. As the flow of traffic changes throughout the day, when the Green left turn arrow comes on can change throughout the day to reduce delay and increase the efficiency of the traffic signal.

Want More Information?

This flyer is for general purposes only. For more information, please contact the Clark County Department of Public Works, Traffic Management Division at (702) 455-6000 or email InTheWorks@ClarkCountyNV.gov.

NOTE: The **MUTCD** is used throughout the country as the standard by which traffic control decisions are made. Nevada Revised Statute 484A.430 and County Code 14.12.070 require the County to use the **MUTCD** for placement of all traffic control devices. The complete **MUTCD** can be found at: <http://mutcd.fhwa.dot.gov/pdfs/2009/pdf-index.htm>

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