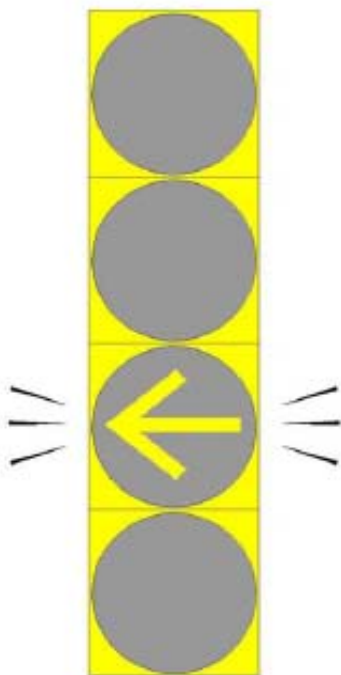


Flashing Yellow Arrow Signals for Left Turns



What is a flashing yellow arrow signal?

A flashing yellow arrow signal is a new type of signal placed over a left turn lane at a signalized intersection where one of the displays on the signal face includes a flashing yellow arrow. Other displays on the same signal face include a steady green arrow, steady yellow arrow and steady red arrow.

What is the purpose of the flashing yellow arrow?

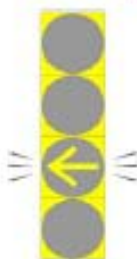
The flashing yellow arrow will be used at various intersections in order to minimize delay while providing a clear message to motorists turning left. When the flashing yellow arrow is displayed, motorists are allowed to turn left when available gaps in the oncoming traffic are present. This is called the permissive phase. Motorists may also turn left when a green arrow is displayed and all conflicting traffic is stopped. This is called a protected phase.

Have flashing yellow arrow signals been used anywhere in the U.S.?

Yes, flashing yellow arrow signals have been used in a few states as part of a study sponsored by the Federal Highway Administration. The results of this study indicate public reaction to the flashing yellow arrow signals has been very positive. The study also revealed that flashing yellow arrow signals offered the highest level of safety, versatility and efficiency when compared to other signal displays used for permissive/protected phasing.

So exactly how will the flashing yellow arrow signal operate?

The flashing yellow arrow display will be part of a four-arrow signal face that will operate in the following four-interval sequence:

Interval 1

Flashing Yellow Arrow: The flashing yellow arrow display allows motorists to turn left when oncoming traffic is clear (oncoming traffic has a green light). Drivers must carefully determine that there is an adequate gap in the oncoming traffic, and ensure that there are no pedestrian conflicts, before making their turn.

Interval 2

Steady Green Arrow: At the end of the flashing yellow arrow, a steady green arrow will be displayed. Left turns are allowed. Drivers should proceed with caution. At intersections equipped with vehicle detection cameras or in-pavement sensors, this sequence may be skipped if no left-turning vehicles are detected.

Interval 3

Steady Yellow Arrow: A steady yellow arrow will be displayed next. This is to warn drivers that the left-turn signal is about to go to red and they should prepare to stop, or prepare to complete their left turn if they are legally within the intersection during this interval and there is no conflicting traffic present.

Interval 4

Steady Red Arrow: At the end of the steady yellow arrow, a steady red arrow will be displayed. Motorists turning left must stop and wait during this interval. This interval will be followed by Interval 1.

Don't signals with flashing red displays serve the same purpose?

Yes and no. Indeed the most common signal in Michigan for permissive/protected left-turn phasing uses a flashing red display. While the flashing red display allows motorists to turn left when opposing traffic clears, it requires a complete stop under state law. Many times a complete stop is not necessary, which explains why the flashing red is so often violated. Further, most road agencies choose to follow the flashing red display with a green arrow display even if it is not needed. The reason for this is to avoid going from a flashing red display to a solid red display and potentially trapping vehicles within the intersection. Because the flashing yellow arrow signals utilize a solid yellow arrow display immediately above the flashing yellow arrow display, the green arrow phase may be skipped when left-turn vehicles are not detected (at locations equipped with video detection or in-pavement sensors). This reduces intersection delay by shortening the cycle length (the time it takes for the signal to cycle through all phases) or allowing more green time to be added to the phases for through traffic.

When and where can I expect to see flashing yellow arrow signals in Michigan?

The Livingston County Road Commission is expected to install the first flashing yellow arrow signals in Michigan at five intersections within Livingston County in 2004. These intersections include; Grand River Avenue and Old US 23 / Whitmore Lake Road in Brighton Township, Old US 23 and Spencer Road (West) in Brighton Township, Old US 23 and Spencer Road (East) in Brighton Township, Whitmore Lake Road and Lee Road in Green Oak Township, and Brighton Road at Brighton High School in Genoa Township.



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LCRC Facts

The Livingston County Road Commission (LCRC) maintains and provides the following as part of the county road system:

- ◆ Maintains 1,329 total miles of roadway
- ◆ Maintains 667 miles of gravel roads
- ◆ Accepts approximately 10 miles of new roads into the county road system each year
- ◆ Maintains more than 14,000 traffic signs
- ◆ Issues approximately 1,000 residential driveway approach permits each year

Also, the Livingston County Road Commission:

- ◆ Is funded directly by state gas tax and vehicle registration fees – not by property taxes
- ◆ Is located in a state with a gas tax below the national average and ranks in the bottom six states in per capita road funding
- ◆ Receives no direct revenue from growth and development
- ◆ Is not part of the Livingston County general government

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