Roundabouts vs Traffic Signals

Which one is better? - Roundabouts vs traffic signals has always been an argumentative topic between drivers, but not so much among traffic engineers. Better is a subjective term and depends on what is considered ‘better’. From an engineer’s perspective, better can be defined by cost, traffic flow and safety. Objective imperial data matters for engineers, rather than driver perceptions or in the case of roundabouts, fear of the unknown.

Studies have shown roundabouts are much safer than traffic lights. Drivers need to slow down and think at roundabouts as opposed to trying to “beat a red light”. Overall, roundabouts have shown to achieve a 37 % reduction in collisions vs. traffic signals.

Roundabouts also improve traffic flow. Drivers rarely have to wait at a roundabout and never sit at a red light for minutes at a time. As such roundabouts promote continuous traffic flow. Delay is reduced overall, to a great extent in the off-peak (23 hours a day in the case of ADLP) and to a lesser degree during the highest peak half hours (morning drop off and pick up).

Finally, roundabouts cost less to implement. Original construction cost roughly the same, as long as right of way is available. Over the long term, however, roundabouts are $15,000 – $20,000 cheaper per year as there are no electrical costs involved. Roundabouts do need more property and right of way to implement, however there are less approach lanes than at traffic lights, they do not require electrical infrastructure, have very little maintenance, thus reducing the cost.

The verdict? - Roundabouts are the clear winner here, primarily due to vast improvements in collision reductions and decreases in corridor travel time. They are safer, improve traffic flow, reduce delay, are cheaper than traffic signals and can be installed for use in most situations. These are the main reasons why roundabouts are a superior traffic control device to signals, are used world-wide, and are becoming increasingly popular throughout the U.S. and in most CA cities.

A great independent resource is the Insurance Institute for Highway Safety (IIHS), a nonprofit scientific and educational organization dedicated to reducing deaths, injuries, and property damage from motor vehicle crashes https://www.iihs.org/topics/roundabouts.