

PRELIMINARY BUILD OPTIONS

OPTION A: UNSIGNALIZED OR SIGNALIZED INTERSECTIONS

Features

- Traditional intersection treatment that exists along the existing widened portion of Kaumuali'i Highway.
- All movements accommodated.
- Left-turn lanes and auxiliary right-turn lanes will be provided.

Considerations

- Intersection volume from minor roads may not warrant a traffic signal.
- Least amount of right-of-way required.
- Severity of high-speed right angle crashes at unsignalized intersections.



Unsignalized intersection at Kaumuali'i Highway and Anonui Street



Signalized intersection at Kaumuali'i Highway and Kalepa Street

OPTION B: ROUNDABOUT

Features

- Typical inscribed circle diameter between 150 feet and 300 feet.
- Typical daily service volumes approximately up to 45,000 for two-lane roundabout.
- Generally, roundabouts treat all movements at an intersection equally with no priority provided to movements from major roads over movements from minor roads. Each approach is required to yield to circulating traffic.

Considerations

- Conflict points reduced over traditional intersections. Frequency of crashes not always reduced, but injury rates are generally reduced due to lower speed crashes that reduce severity.
- Requires more right-of-way than stop-controlled minor road intersections or signalized intersections. Steep drop-offs may prevent roundabouts in some locations.
- Trade-offs between safety, operations, and design.
- Would be the first multi-lane roundabout on Kaua'i.



Maui Roundabout at intersection of Pi'ilani Highway and Kūlanihāko'i Street



3-Leg Roundabout

OPTION C: REDUCED CONFLICT INTERSECTION

Features

- Minor road traffic forced to make right turn then a U-turn at a selected location.
- At intersection, one-way median opening exclusively for left-turning traffic from Kaumuali'i Highway.
- Approximately 70-foot median width required to accommodate semi-trailer truck U-turn movements.

Considerations

- Applicable from isolated rural, high-speed locations to urban and suburban high-volume multimodal corridors. Low to medium side street volumes.
- Simplifies decision-making for drivers and minimizes potential for higher severity crash types (head-on and angle).
- Studies have shown 30% increase in throughput and 40% reduction in network intersection travel time.
- Proven to be safer than traditional intersections on a 4-lane highway because they eliminate or substantially reduce right-angle crashes.
- Intersection conflict points reduced from 32 possible conflict points to 14.

Crossing a rural divided highway using a Reduced Conflict Intersection



Left hand turn onto divided highway using a Reduced Conflict Intersection



Reduced Conflict Intersection