

Bringing pedestrian safety to multilane roundabouts

Red Deer, Alberta



Photo: Google StreetView

Location

Red Deer, Alberta

Project size

2 traffic circles with multiple crosswalks (R920 and SC315 RRFBs)

Client

City of Red Deer

Distributor

ATS Traffic

Background

Located roughly halfway between Calgary and Edmonton, the City of Red Deer, Alberta is a fast-growing community with a focus on oil and gas extraction, agriculture, and manufacturing. It recently became the third city in the province to surpass 100,000 people.

Like most of Alberta, motor vehicles are the preferred mode of travel in Red Deer, comprising 84% of trips to work, according to data from the most recent census (less than 1% of commutes are made on foot).

That said, the City has made a concerted effort to encourage multimodal transportation in recent years, greenlighting infrastructure projects aimed at increasing the viability and attractiveness of walking, cycling, and transit.

One of the initiatives that has been embraced with gusto has been the introduction of rectangular rapid-flashing beacons (RRFBs) to improve pedestrian safety. Since beginning to install them at high-traffic crosswalks throughout the city in 2016, they have added them to more than 20 locations.

Project requirements

The two locations identified for the project were both multilane traffic circles along major thoroughfares. In and of themselves, traffic circles (which are larger and operate differently than roundabouts) already improve pedestrian safety, reducing



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Everett, Washington



Photo: Google StreetView

serious and fatal crashes by 78-82%. "Compared to regular intersections, the crossing distance is shorter and pedestrians only have to cross one direction of traffic at a time," says Red Deer's website.

But with 25 pedestrian collisions in 2017—10 of which involved a pedestrian with the right of way—the City knew there was more that could be done along these high-capacity roadways to improve pedestrian safety. They chose the

RRFB knowing it would help drivers quickly recognize and yield to pedestrians, while using cost-effective solar power and wireless communications to connect beacons across the roadway.

Our Solution

Carmanah and its Alberta distributor ATS Traffic were awarded the contract for the two traffic circles through a Request for Proposals (RFP) process. Between the two locations, the City installed nearly two dozen R920 and SC-315 RRFBs to ensure that all legs of the crosswalk were covered (the FHWA recommends placing an RRFB on both ends of a crosswalk, as well as on the median or pedestrian refuge island).

Despite having a relatively northern location (Red Deer is located ~150 km or 93 miles north of Calgary, at 52° N latitude), an Energy Balance Report (EBR) completed by Carmanah revealed that with proper energy management, solar power was achievable—even on the longest, darkest day of the year. This meant the city could not only save on their utility bills, but on their installation costs as well, avoiding costly trenching and long traffic delays.

Outcome

Since their installation earlier this year, the new RRFBs have helped thousands of people cross visibly and safely. Consistent with other sites in Red Deer (and throughout North America), they have shown significant improvements in yielding rates and safety at multilane crossings, prompting the City to commit to adding many more in the coming years.



Photo: Google StreetView