



Fix Crash Corner A Roundabout Story

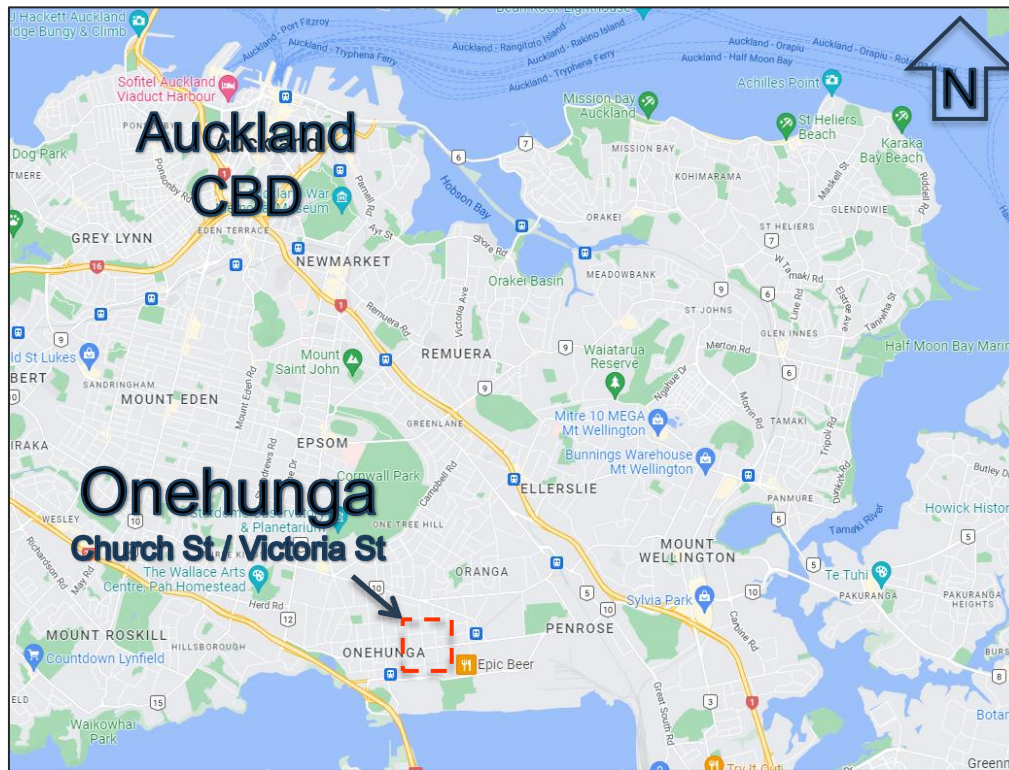
Bruno Royce



New roundabout constructed in Auckland (Xmas 2019/2020)



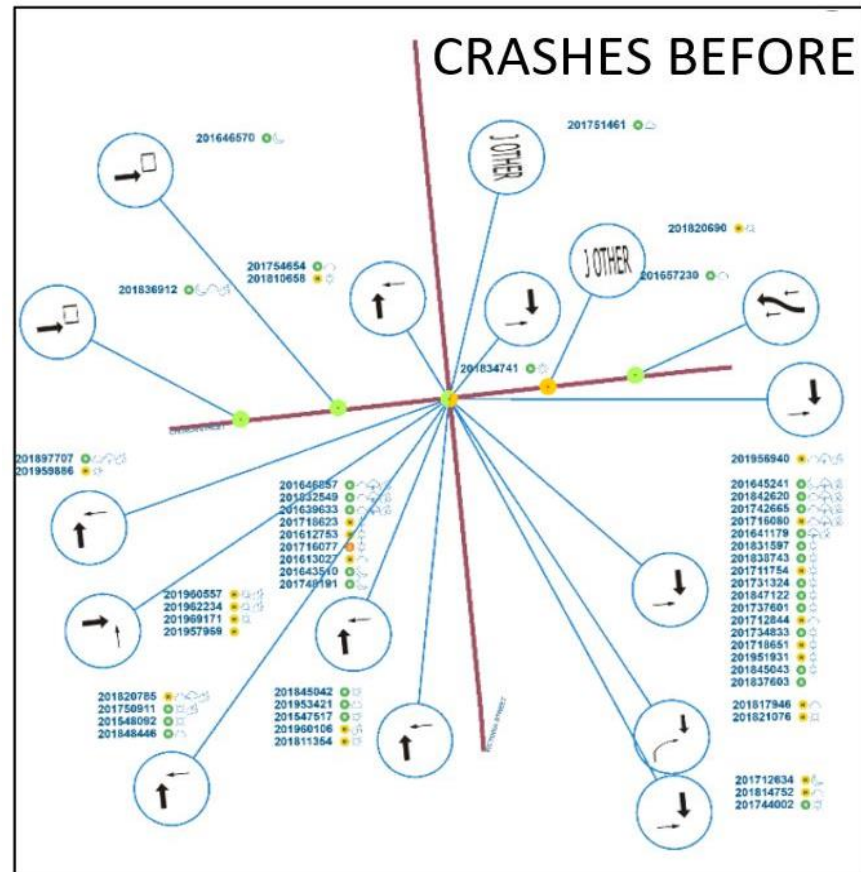
Location





Junction Nicknamed 'Crash Corner'

- 51 crashes over 5 years (2015-2019)
- 23 minor injury crashes
- 1 serious injury crash
- 96% right-angle collision (HA) crashes



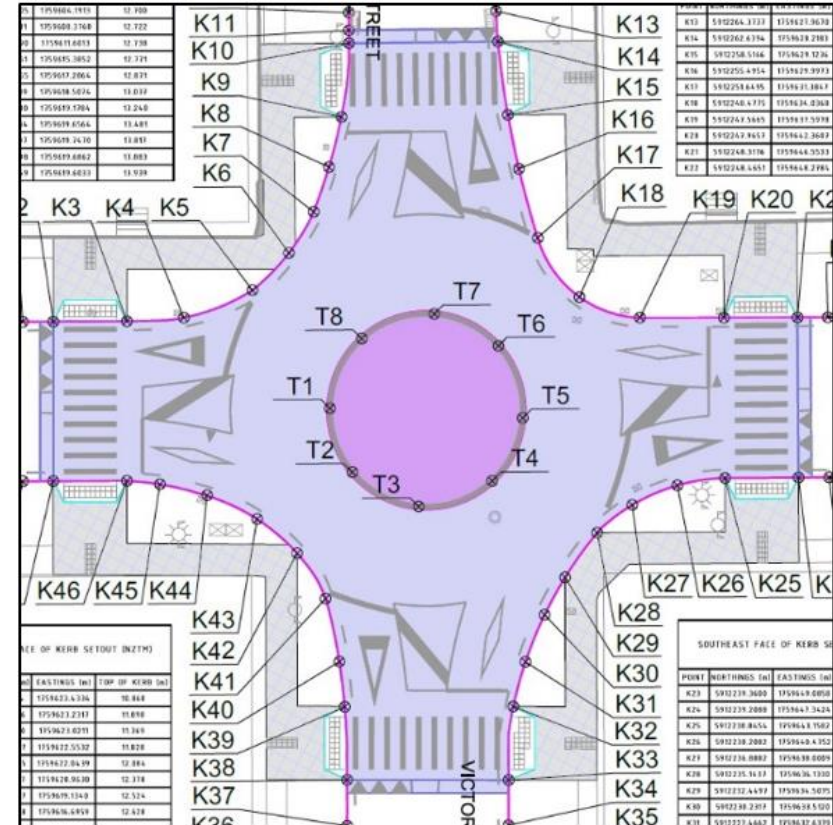


Options Considered:

- Do nothing;
- Signals (fairly safe, on-street parking removal, less efficient);
- Roundabout (safe system design, and efficient operation)

Project Delivery:

- **Urgent:** Crashes / politics.
- **Design:** Scheme / detailed design in 1 month.
- **Design:** Parallel design teams.
- **Contractor:** Early involvement, with designer / contractor meetings.
- **Timeframe:** Design to construction in 6 months.



Construction:

- **Time:** Constructed over Xmas;
- **Period:** Completed in one month;
- **Traffic closure:** Full intersection closure allowed efficient concrete pour and adequate curing.
- **TMP:** Traffic Management Plans ensured alternative routes for traffic and pedestrians.
- **Communication:** Clear, early, and regular communication to stakeholders, motorists and residents.





Environment:

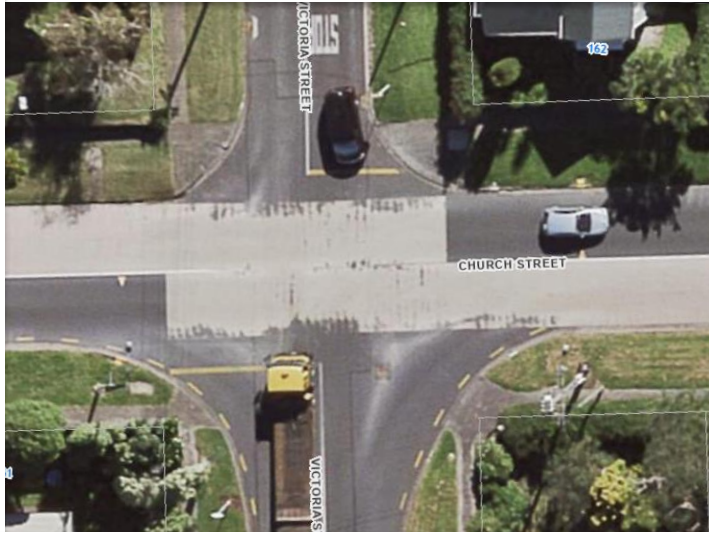
- **Arborist:** Mitigating tree impact and root zone protection.
- **Bus stop:** Semi-permeable and flexible surface for platform upgrade.
- **Recycled:** Water trucks.
- **Silt-sock:** Catchpit protection.



Before

and

After



X-Junction

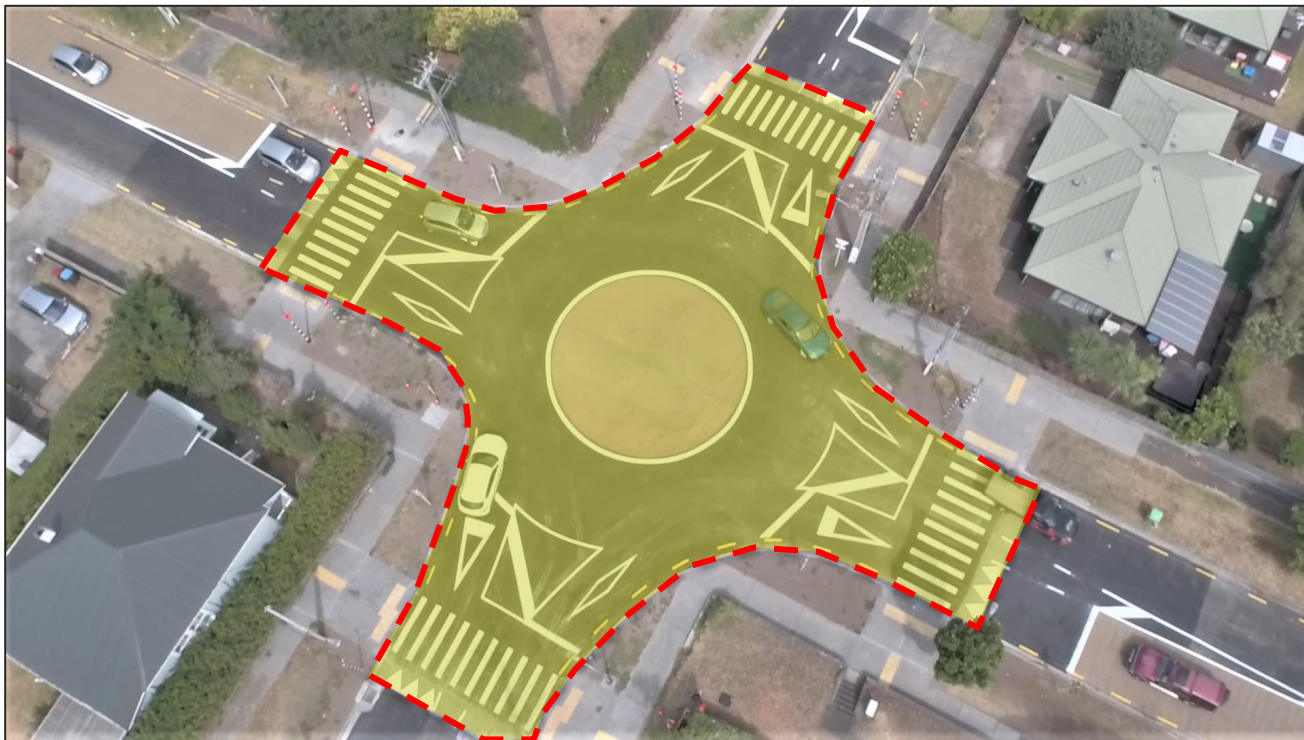


Roundabout

Innovative 'Vision Zero' / 'Safe System' Design



Fully Raised Roundabout



Raised ramps and pedestrian crossings on all approaches

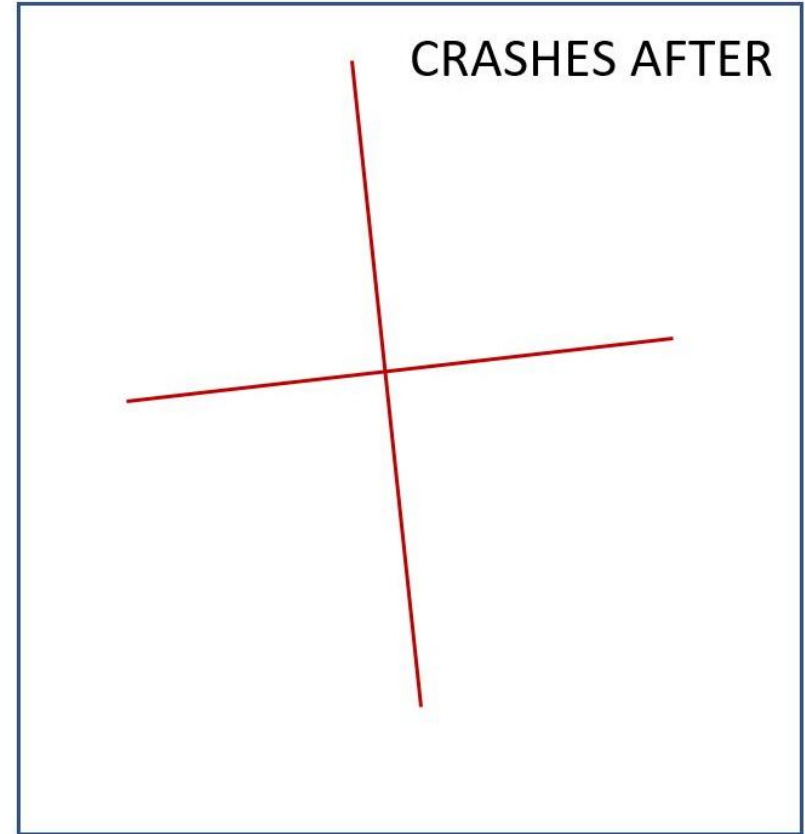


Safe System Benefits?

Crash Saving?

Crashes After

- 0 crashes over 2 years (2020-2022)
- 0 minor injury crashes
- 0 serious injury crashes



Results

100%

Crash Reduction at Intersection

No evidence of crash migration on nearby roads

Results

Additional crash savings nearby

\$10 million

Present Value Life-time Crash Cost Savings (Approx)

Community Benefits?

Community Benefits:

- **Pedestrians:** Improved footpath and crossing facilities.
- **Public transport:** Upgraded bus stops.
- **Pedestrian volumes:** Increased at the junction and bus stops.
- **Environment:** Safer neighbourhood for community.
- **Damage:** No more property damage/stress from crashes at the junction.





Conclusions



Raised roundabouts can be very effective at crash reduction at and near a junction



**Raised
roundabouts
can provide
substantial
pedestrian
safety and
amenity**



Delivery:

**Scheme design,
Detailed Design,
Consultation,
and Construction is
possible in 6 months**



Council can make politicians and ratepayers happy



Further Reading:

“Journal of Road Safety”

“Fix Crash Corner” – Published Research Paper

Thank you.

