

DRAFT Operational Review – SH1 and SH88 Dunedin CBD



New Dunedin Hospital

A review has been completed into whether the Dunedin SH1 one-way system or a two-way alternative, is best to enhance safety, accessibility, and people friendly surroundings for SH1 to give people safe and easy access to the new Dunedin Hospital and surrounding areas.

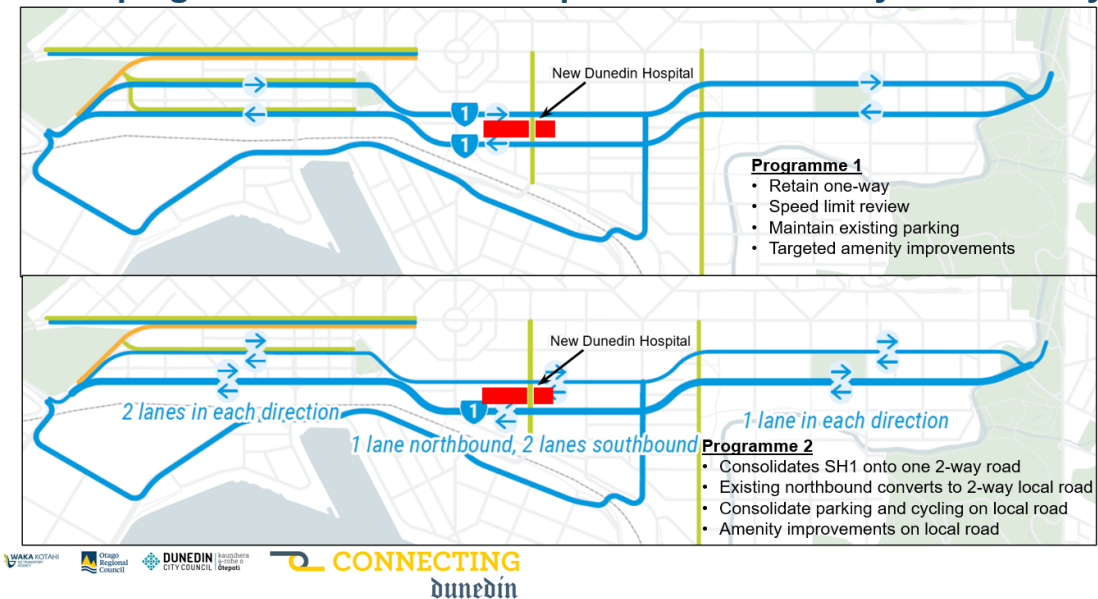
Background

In late 2021, Waka Kotahi NZ Transport Agency endorsed the Shaping Future Dunedin Transport Programme Business Case jointly developed with the Dunedin City Council (DCC) and Otago Regional Council (ORC). It included an enhanced one-way system as part of wider transport improvements driven by the new Dunedin Hospital build.

Shaping Future Dunedin Transport PBC – Preferred Option



Shaping Future Dunedin Transport PBC – One-way vs. Two-way



Dunedin City Councillors voted for continuing discussions with Waka Kotahi on the future form of SH1 one-way system, with the two-way option as a starting point. We have worked with both councils on a review into the functionality and operational performance of the one-way and two-way SH1 options. We have investigated potential amenity and public realm opportunities particularly in the vicinity of the New Dunedin Hospital and nearby area, under both the one-way and two-way scenarios.

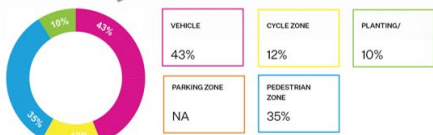
The review used updated transport modelling to confirm the functionality and performance of both the one and the two-way options on SH1, and options on the future of SH88 St Andrew Street between the two New Dunedin Hospital blocks.

The urban design potential of the one and two-way options through reallocating road space and amenity improvements at key mid-block locations formed part of the review. Visuals have been developed to show the urban design opportunities supported by transport modelling to ensure the designs are functional. DCC and ORC have been involved in the scoping of this work and participated in workshops and provided feedback. It should be noted that the spatial analysis and visualisations are not detailed designs of final solutions but have been produced to show how the corridor could look and function.

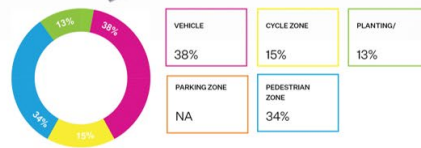
Options covered by the review

Potential Cumberland Street Options

One-way Option (P1)



Two-way Option (P2V3)

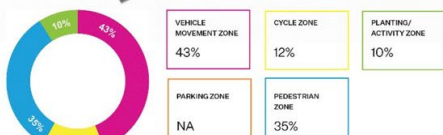


Existing condition

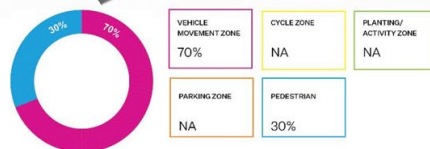


Potential Castle Street Options

One-way Option (P1)



Two-way Option (P2V3)

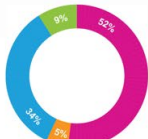


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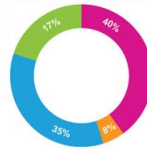
Potential St Andrew Street Options

Three-lane Option



VEHICLE MOVEMENT ZONE	52%
PEDESTRIAN ZONE	34%
PARKING ZONE	5%
PLANTING/ACTIVITY ZONE	9%

Two-lane Option



VEHICLE MOVEMENT ZONE	40%
PEDESTRIAN ZONE	35%
PARKING ZONE	8%
PLANTING/ACTIVITY ZONE	17%

Existing condition



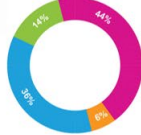
Potential Cumberland (UNI) Street Options

One-way Option (P1)



VEHICLE MOVEMENT ZONE	43%
PEDESTRIAN ZONE	33%
PLANTING/ACTIVITY ZONE	10%
PARKING ZONE	4%
CYCLE ZONE	10%

Two-way Option (P2V3)



VEHICLE MOVEMENT ZONE	44%
PEDESTRIAN ZONE	36%
PLANTING/ACTIVITY ZONE	14%
PARKING ZONE	6%
CYCLE ZONE	NA

Existing condition



Health Impact Assessment

A Health Impact Assessment was commissioned by the Local Advisory Group to the New Dunedin Hospital project on the transport programme options. This identified the main health and well-being outcomes and provided suggestions on how these might be achieved to improve the design of what ends up being delivered. The review concluded both one and two-way options for SH1 could improve health and well-being outcomes.

Suggestions include:

- Lower speed limits
- Better highway crossing facilities including everyone crosses at once Barnes Dance signals
- Greater pedestrian focus on St Andrew St and linkages to the Central City Bus Hub
- Traffic reductions including heavy vehicles in the vicinity of the new hospital
- Consideration of safe walking access from car-parking from the east of the New Dunedin Hospital
- Greater safety for cyclists at intersections and better integration of cycle connections to the north of the CBD
- No e-scooters usage on footpaths around the New Dunedin Hospital
- Measures to encourage people to use forms of travel such as cycling, walking and public transport
- Development of park and ride facilities, better parking management and availability of mobility parks in the CBD
- Seating and landscaping to create more people-friendly surroundings on the links to the New Dunedin Hospital and nearby areas

Urban design

Both the one and two-way highway options could deliver appealing people friendly surroundings on links to the New Dunedin Hospital. To achieve an improved pedestrian environment within what is a constrained highway corridor requires some reallocation of space such as parking.

The central Castle Street blocks in the two-way option performs poorly from an amenity and pedestrian access perspective with no improvements.

The one-way option provides the best overall balance of amenity and pedestrian access improvements across the length of both the north and southbound SH1 corridors.

Traffic Modelling

The one-way option sees a marginal reduction in operational performance of SH1 compared to what currently exists, with less traffic due to the lower speed environment and greater use of the Harbour Arterial.

The two-way option has less overall network capacity than the one-way option. The movement complexity and resultant delay at intersections, would see more traffic switching to the Harbour Arterial and other central city roads. This would increase Central City travel times and see longer delays at some key intersections.

SH88 St Andrew Street possible options for the new Dunedin Hospital block

- Reduce road width and traffic lanes—Two traffic lanes (banned right turns from internal link)
- Three traffic lanes (ban single right turn)
- Three traffic lanes (retain back-to-back right turn lane)

Fewer traffic lanes would result in:

- Wider footpaths and/or space for kerbside activity and amenity/public realm enhancements
- Less traffic on St Andrew St and at adjacent intersections
- Easier installation of improved pedestrian crossings eg Barnes Dance and mid-block crossings
- Modelling shows fewer traffic lanes and banning turns has little impact on the performance of the wider road network in the area.

Review conclusions

- Both one and two-way options offer significant amenity/public realm opportunities
- Improvements under either option would change how the highway currently operates
- The one-way option offers a marginal reduction in operational performance compared to the existing highway configuration and shifts traffic on to the Harbour Arterial.
- The two-way option would see more traffic using the Harbour Arterial and other central city roads due to increased movement complexity for drivers at SH1 intersections.
- A two-way option would increase Central City travel times and result in poorer levels of service at key intersections.
- Both St Andrew Street (SH88) options provide opportunities to increase pedestrian amenity and safety through reduced traffic volumes on this road between the two New Dunedin Hospital blocks.

Next steps

The next steps include a formal resolution by the Dunedin City Council, briefing for the Minister of Transport, then consideration by the Waka Kotahi Board.