Shaping Future Dunedin Transport and the New Dunedin Hospital

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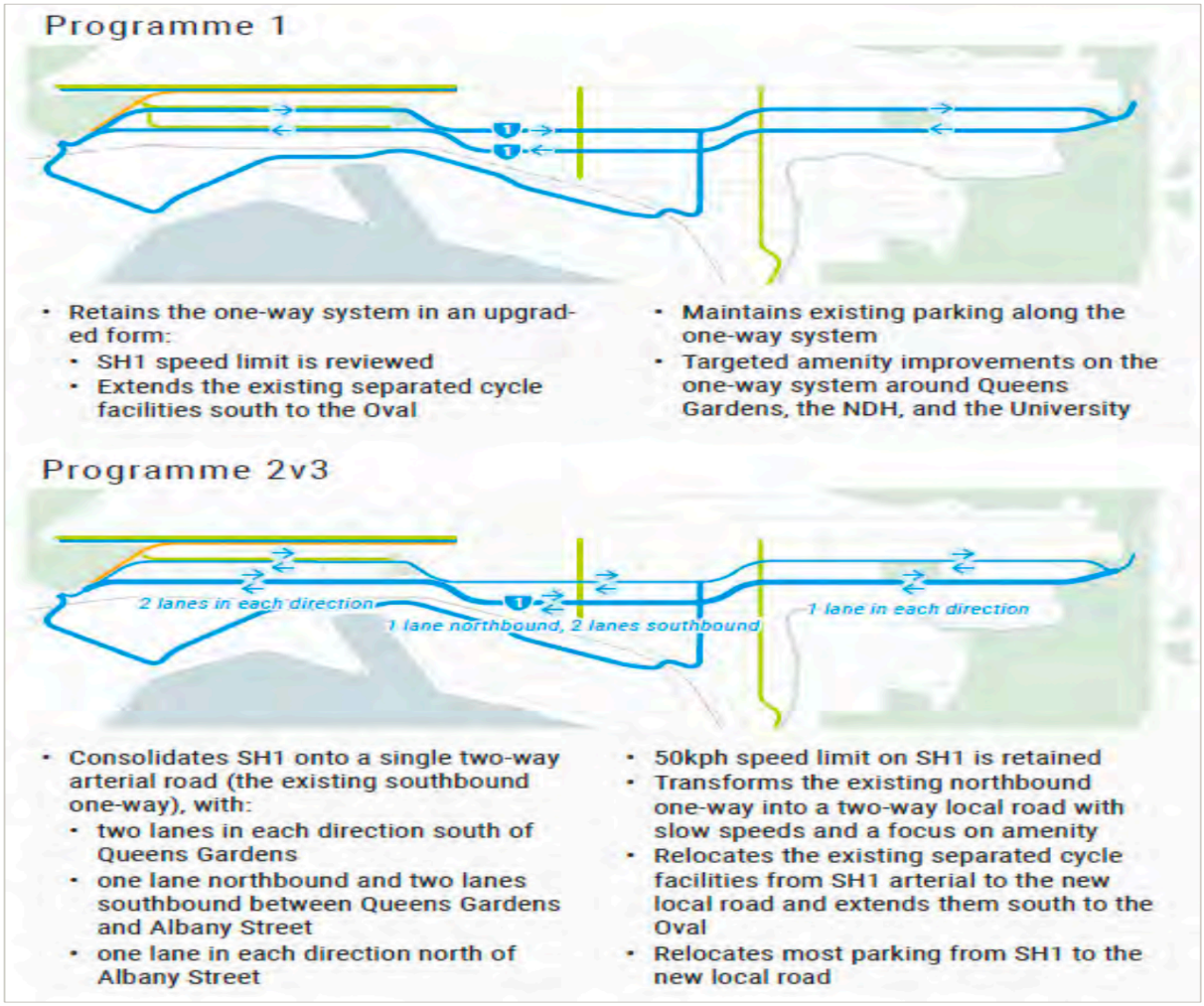
The proposed changes to the state highway 1 (SH1) one-way roading system included in the Shaping Future Dunedin Transport project business case submitted to Waka Kotahi will significantly impact the New Dunedin Hospital and the health and well being of the people of Dunedin and the wider Southern district. **The Clinical Leadership Group, SDHB leadership and New Dunedin Hospital (NDH) project team should review the business case and in particular the independant health impact assessment and make a clear statement on which of the two proposed options (Program 1 or Program 2v3; P1 and P2v3) is preferred.**

Broadly speaking P1 proposes to keep the status quo of two state highway one-way systems either side of the NDH with some improvements. Broadly speaking P2v3 proposes to change the state highway one-way system to a two way (2-3 lane) state highway (where the one-way south is currently) and turn the state highway one-way system north (on the city side of the NDH) into a low speed, two way "local" road with an active (cycling and walking) and public transport spine.



The Minister of Transport Michael Wood will be visiting Dunedin in April 2022 to review the decision. Therefore, any review and statement would need to occur quickly to help inform his position. Currently two key stakehloders – the Dunedin City Council (DCC) and the University of Otago (UO) – have gone on the record in support of P2v3 and its strong alignment with their long term and master plans. I have summarised key points from the Business case, health impact assessment below.

- The business case was prepared for Waka Kotahi and submitted in August 2021
- The goals were to enable integration of the NDH with the city, stimulate economic growth and regeneration, to provide for safe and accessible people friendly streets and improve city liveability.
- SDHB noted at a stakeholder workshop in 2018 that *"the severance effect* (of two one-way state highways either side of the hospital*) and lack of integration is at odds with the MOH objectives for the hospital site, which are for an active interface and strong pedestrian links between the hospital and the wider city to enable the hospital to provide wider benefits beyond healthcare services. The design of the new hospital is intended to 'celebrate the built environment' by providing active edges, publicly accessible green space, visual interest, a porous campus to enhance connections with the city and a built response that sits well as part of the urban fabric."*
- The Central City Plan, Tertiary Precinct Plan and Otago University Masterplan all identified the one way SH1 system as a barrier for safe, efficient, convenient links for pedestrians and cyclists.
- The University identified them as a barrier between the health precinct and the central campus.
- The SH1 system and St Andrew street are deemed high and moderate risk for crash risk, in particular for vulnerable road users. See table below.

Table 7-1: Reported Crash History for SH1 One Way Pair and Harbour Arterial (2015 to 2019)

Location	Crash Severity				Total Number of Crashes	Common Crash Movements		Vulnerable Road User Involvement	
	Fatal	Serious	Minor	Non-Injury		Rear End in Traffic	Run Red Light	Pedestrian	Cyclist
SH1 Northbound	1	13	64	113	**191**	49 (26%)	43 (23%)	14	9
SH1 Southbound	0	12	46	117	**175**	42 (24%)	27 (15%)	11	10
Combined SH1 Total	1	25	110	230	**366**	91 (25%)	70 (19%)	25	19

The Collective Risk is High on both northbound and southbound SH1 routes, and Medium on St Andrew Street, as shown in Figure 7-4. This indicates there are already safety issues on the SH1 routes. Adding more vulnerable users (pedestrians, cyclists, mobility impaired people) will increase the risk.

- P2v3 scored higher by the business case technical team when weighted to the project outcomes.
- P2v3 resulted in greater mode shift (with well documented environmental, health and wellbeing benefits associated with mode shift identified in the health impact assessment).

Projected Mode Shift

	2018	P1	P2v3
Work from home	10.2%	13%	16%
Walking	9.9%	14%	16%
Cycling	2.1%	5%	8%
Public transport	3.4%	8%	10%
Driving	74.4%	60%	50%

- P2v3 resulted in increased resident wellbeing and liveability benefits and associated economic benefits. See table 18-1 from the business case.

Table 18-1: Liveability and Wellbeing Assessment Results

	Improvement in Wellbeing of Residents	Annual benefits from improved wellbeing	Value added to liveability
Common Programme	+0.60%	$92.0m	$56.2m
SH1 – one way package	+0.13%	$19.9m	$12.0m
SH1 – two-way package	+0.90%	$138.0m	$84.5m
TOTAL Programme 1	**+0.73%**	**$111.9m**	**$68.2m**
TOTAL Programme 2v3	**+1.50%**	**$230.0m**	**$140.7m**

- The University of Otago have identified P2v3 as supporting the planned health precinct which will be cut off by retention of the current one way SH1 system. This will undermine one of the key economic drivers for the region.

Figure 7-6: University of Otago Health Precinct Master Plan (Source: University of Otago)

- Program 1 will result in slightly better travel times by car across the length of the central city one-way system (2-4 minutes at peak evening traffic) compared to P2v3.
- Program 1 will be cheaper to implement ($103 million dollars vs $123 million dollars for P2v3).
- Program 1 will be less technically difficult to implement.

Most importantly for SDHB a health impact assessment was conducted including extensive literature review as well as engagement with stakeholder agencies. In addition, focus groups and telephone interviews were used to reach the following groups: older people (25% of population), people with disabilities (20% of population), tertiary students (22% of population) and hospital staff (4% of population if considered representative of all visitors to hospital). Some key messages from the health impact assessment: -

- The assessment concluded that the do minimum option has the potential to negatively affect health and wellbeing outcomes, whereas both Programme 1 and Programme 2v3 have the potential to improve health and wellbeing outcomes, with Programme 2v3 substantially more so than Programme 1.

Table 18-3: Results of Health Impact Assessment

Determinant	Do Minimum	Programme 1	Programme 2v3
Access to health services	-1	0	+2
Safety	-2	+1	+2
Modes of access to/from city and connectivity within CBD	-1	+1	+2
Sense of place	-1	+1	+3
Average score	**-1.25**	**+0.75**	**+2.25**
No. preferring this scenario (from the 66 participants of focus groups)	**0**	**3**	**63**

- Of the 66 people engaged for the health impact assessment 63 supported programme 2v3.
- For those who must attend hospital, barriers to access must be as low as possible no matter how people choose/are able to travel. P2v3 best supports the full suite of travel choices for people travelling to the NDH: walk, cycle, public transport, drop off, taxi, shuttle, private vehicle.
- The author of the health impact assessment concluded Programme 2 *"allows the hospital to be a more considered, purposeful healthcare destination. The P2v3 environment has the potential to support the NDH, rather than the NDH trying to work within what is a transport-dominated environment."*
- The local two way road at 30km/h will be substantially safer than P1 or Do Minimum. The international literature is clear that two-way streets are safer than one-way streets. Several high quality studies in peer reviewed scientific journals confirm a higher incidence of collisions and injuries on multi-lane one way streets than on their two-way counterparts – for motorists, bikes and pedestrians.
- The removal of heavy traffic from the local road creates a calmer hospital environment for visitors, staff and patients. The hospital's spine for people movement (visitors, patients, etc) matches the local road. The hospital's ancillary services spine (catering, energy, water, machinery) matches the noisier/busier State Highway. P2v3 therefore best matches the hospital design to support a health promoting environment for staff and visitors.
- Under P2v3, the mid-block cross between the bus hub and NDH can be signalised to allow people with all types of abilities another opportunity to cross the road to the NDH.

Summary

Programme 2v3 better achieves the goals of improved safety, health, wellbeing, sense of place, liveability and integration of the New Dunedin Hospital, according to the evidence provided in the business case and the health impact assessment. Of the 66 people engaged for the health impact assessment 63 supported programme 2v3. Despite this, the Waka Kotahi board has endorsed Programme 1 on the basis that it will have reduced impact on travel times (an increase of 2-4 mins during peak evening traffic), was supported by the majority of public submitters and is technically easier to achieve. The Dunedin City Council has voted to support Programme 2v3. The University of Otago has also come out in support of programme 2v3. I think the CLG, New Dunedin Hospital project management team and SDHB leadership should also endorse this program for the health, safety and overall benefit of the population we serve. It is important that a decision is made on this soon given the upcoming visit to Dunedin of the Minister of Transport Michael Wood.