BEFORE THE DUNEDIN CITY COUNCIL

IN THE MATTER OF of the Resource Management Act 1991

AND

IN THE MATTER OF A Notice of Requirement by the Otago Regional Council for a designation pursuant to section 168 of the Act in relation to a Central City Bus Hub (DCC Notice of Requirement: DIS-2017-1)

EVIDENCE IN REPLY BY ANDREW LIGHTOWLER ON BEHALF OF THE OTAGO REGIONAL COUNCIL

26 OCTOBER 2017

1. INTRODUCTION

1.1 This evidence in reply provides additional evidence with regard to a number of issues which were raised at the hearing on Tuesday 24 October 2017 and Wednesday 25 October 2017.

2. THE NEED FOR A FLUSH MEDIAN STRIP

2.1 As indicated in the Updated Concept Design Report for Designation dated 1 June 2017 (para 2.2.3), the proposed provision of a median on Great King Street is designed such that "all necessary bus movements can be performed within the respective lanes up to the centre line of the median. The median will minimise the risk of any minor overrun encroaching into the path of oncoming traffic. The median also provides additional turning room for buses turning left from St Andrew Street into Great King Street".

2.2 It is my opinion that the provision of a median is necessary for the efficient operation and safe performance of the Bus Hub. I do not consider it to be merely an optional provision.

2.3 As noted above, it is important that sufficient space is provided for buses to operate safety and efficiently, and that I consider the median is required.

2.4 I agree with the view of Mr Clarke (Dunedin City Council) that it would be far easier to provide the median initially and then reduce or remove the median to provide additional space for pedestrians should it be subsequently established that the median proposed is too wide, than to do the converse.

3. FOOTPATH WIDTH PROVISION

3.1 The Austroads Guide to Road Design (Part 6A: Paths for Walking and Cycling) provides guidance for designers and other practitioners on the design of paths for safe and efficient walking. This suggests (in Table 5.1) a minimum footpath width of 1.2m in generally low pedestrian volume

situations and a minimum footpath width of 2.4m (or higher based on volume) where there are high pedestrian volumes.

3.2 The guide also notes that wider than the minimum width may be necessary at locations "where pedestrian flows are high or where pedestrians gather such as in the vicinity of schools and associated road crossings, at recreation facilities and at important bus stops". It suggests that "where volume is significant it may be necessary to provide adequate congregation areas clear of the path required for through movement of pedestrians".

3.3 The NZ Transport Agency's *Pedestrian Planning and Design Guide* published in October 2009 is New Zealand's comprehensive official guide to planning and design for walking. It sets out ways to improve New Zealand's walking environment.

3.4 Chapter 14 of this guide indicates a minimum width of 2.4m should be adopted on through routes in CBD areas and where are other major pedestrian generators. A 2.4m footpath is capable of accommodating a pedestrian flow of 80 pedestrians per minute. The guide also notes that the width of the various footpath zones will depend on the environment and those to which the route connects.

3.5 The footpaths in the vicinity of the Bus Hub vary between 2.5m and 3.5m wide in the vicinity of the bus stops. Where the footway narrows to 2.5m, additional waiting space is provided nearby.

3.6 Wider footpaths are provided where the kerb is built out at intersections, at accesses and at the mid-block crossing.

3.7 It is my opinion that the amount of space provided for pedestrians at stops and crossing points in the Bus Hub area is sufficient given the likely level of pedestrian movement and waiting activity. The evidence of Emily Cambridge confirms this is the case.

3.8 I note that none of the evidence presented to the hearing is suggesting that the amount of space provision is insufficient to meet the likely level of use of the Bus Hub.

4. BUS BAY ANGLE

4.1 As indicated in the Updated Concept Design Report for Designation dated 1 June 2017 (para 2.2.?), "the angle of the majority of the bus bays has been set at five degrees from the existing street edge, optimising the balance between length of street edge required by each bay, ease of bus movements (dynamic capacity), footway and road width and bus accessibility for pedestrians".

4.2 Without the use of some angled bus bays, it would not be possible to provide the required number of bus stops on Great King Street (ten), whilst satisfying the minimum required clearance of 1m from access ways and 6m from intersections. The use of angled bays is necessary to provide sufficient space for safe and efficient vehicular movements in the Bus Hub area.

5. ADDITIONAL PEDESTRIAN CROSSING FACILITIES / PEDESTRIAN ACCESS TO THE HUB

5.1 There are a number of routes pedestrians can use to access the Bus Hub from the city centre (George Street), namely via the St Andrew Street intersection, via the Moray Place intersection, and via the Farmers Store. A route also exists from George Street via Blacket Lane, though this route is currently privately owned.

5.2 As indicated in the Updated Concept Design Report for Designation dated 1 June 2017 (para 2.2.5), "a mid-block pedestrian crossing is proposed to be provided on Great King Street. Its position has been determined through consideration of the anticipated future pedestrian desire lines through the Hub area, as well as its integration into the preferred bus bay and private access locations".

5.3 As part of the concept design process, an option was investigated to provide an additional or alternative pedestrian crossing located near to the Countdown access. This would help satisfy the pedestrian desire lines between the Bus Hub / Countdown and the city Centre via Moray Place / proposed toilets and bike storage within the Community House car park.

5.4 There is not enough space to provide a second crossing whilst meeting design requirements for the bus bays and the multiple car park accesses on Great King Street.

5.5 Having regard to the pedestrian crossings at either end of the Hub, a crossing facility located towards the centre of the hub was concluded to be the best location. A central crossing location is most likely to best cater for pedestrian crossing movements in the Bus Hub area, in particular passengers interchanging between bus services at the Hub.

5.6 The designation does not preclude Blacket Lane being used as an access in the future should the opportunity arise. This route would align well with the proposed central pedestrian crossing location.

5.7 The provision of the pedestrian crossing facility at the Moray Street intersection was concluded to be the most suitable way of satisfying the pedestrian desire lines between the Bus Hub and the city Centre via Moray Place.

6. PEDESTRIAN CROSSING AT THE GREAT KING STREET/MORAY PLACE INTERSECTION

6.1 The current design of the Great King Street/Moray Place intersection includes a crossing facility on all three approaches to the intersection.

6.2 The current crossing parallel to Moray Place could potentially be realigned slightly to provide a more direct route between the city centre and the east side of the Bus Hub. Careful consideration will however need to be given the proximity of the pedestrian crossing to Bus Bay 10 (the southern-most stop

on the east side of Great King Street), as there is very little room to reposition it and very little space between the end of the bus stop and the intersection stop line. A more direct crossing may also encourage inappropriate pedestrian behavior at the crossing. This is a matter that can be explored further in detailed design.

6.3 It should be noted that the time saving this could provide would be less than five seconds, given that the more direct crossing distance would be no more than five metres shorter than the distance currently shown on the concept design plans.

7. RAISED COURTESY CROSSING

7.1 As indicated in the Updated Concept Design Report for Designation dated 1 June 2017 (para 2.2.5), "The main purpose of a raised table is to encourage low vehicle speeds, however the Bus Hub layout is anticipated to promote sufficiently low speeds without the requirement of further traffic calming. A raised table would increase passenger discomfort, is unlikely to improve pedestrian safety, and will have the effect of increasing construction costs. Hence it is proposed that the road level is not raised at the crossing point".

7.2 I would add that the maneuvering of buses to and from the bus stops is likely to promote a low speed environment for buses. The need for low bus speeds on Great King Street could be reinforced though bus driver training.

8. SPACE FOR A DEDICATED PEDESTRIAN PATH THROUGH THE COMMUNITY HOUSE CAR PARK

8.1 I estimate that in the order of a further 4-6 spaces would be lost if a dedicated pedestrian path was provided through the Community House car park.

8.2 I do not consider this to be practical as this would be a significant further reduction in the amount of space available for car parking provision for the Community House.

8.3 It is likely that a reconfiguration of the carpark to accommodate the pedestrian access way would result in an increased conflict with pedestrians.

8.4 The provision of a dedicated path would direct pedestrians towards a location where it is not practical to provide a safe road crossing point across Great King Street.

8.5 Overall I am satisfied that it is best that the proposed design removes the informal pedestrian desire line.

9. THE HUB AS A PEDESTRIAN SPACE

9.1 A considerable amount of design work has led to the currently layout being proposed. The design process has sought to maximize pedestrian amenity whilst ensuring that buses can operate safely. As indicated in the Updated Concept Design Report for Designation dated 1 June 2017 (para 3.2), "Pedestrian accessibility and connectivity throughout the streetscape has been considered during the concept design phase".

9.2 It is my opinion therefore that an optimum balance has been struck between the needs of pedestrians and the needs of all road users (buses, cars, trucks and cyclists, etc.).

9.3 The designation does not preclude modifications to the design occurring should the needs of the Bus Hub change over time.