**SOUTH COLLEGE STREET – PHASE 2: INFORMATION PACK**

**BACKGROUND**

The South College Street corridor is subject to an ongoing series of improvements to road capacity and active travel infrastructure to facilitate the introduction of the City Centre Masterplan. Phase 1 of the scheme was approved at Council Committee in November 2017. Construction for Phase 1 of the scheme began in 2022 scheme with a staged opening throughout 2023.

In 2017 Elected Members also approved the principle of a traffic signal control at the Queen Elizabeth Bridge / North Esplanade West roundabout and instructed a review of the junction arrangement upon completion of the AWPR and development of the new road's hierarchy. With these both now completed, this project now progresses to Phase 2 with a primary focus on the Queen Elizabeth Bridge / North Esplanade West roundabout.

**THE PROJECT**

The purpose of the project is to support the City Centre Masterplan and its aim to improve the public realm within the city centre by creating new spaces and facilities for pedestrians, cyclists and bus users. To facilitate the displacement of general traffic from the city centre area, traffic capacity improvements are required through the South College Street corridor. In tandem, the project aims to enhance infrastructure for walking and cycling through South College Street and to provide safer connections for active travel with the wider network.

Phase 2 of the project aims to enhance the scheme by considering options for interventions more focused at the South College Street junction with North Esplanade West / Riverside Drive. The objectives for Phase 2 are primarily to improve pedestrian, wheeling, and cycle connectivity through the junction and ensure safe and equitable access for all. The junction itself also carries an important traffic routing function, therefore proposed changes are required to maintain public transport and freight connections as well as general traffic access to the city centre.

A detailed appraisal of the required improvements has been undertaken and several options have been developed. Within this proposed option layout, there are four alternative operational designs, each with benefits and consequences. The Options 1 to 4 designs are included in this information package and feedback on a preferred scheme can be provided via the associated questionnaire.

**CURRENT ISSUES**

The existing network operation within the Phase 2 area includes the following operational issues:

1. Figures A and B show current uncontrolled pedestrian crossing locations on QE Bridge and South College Street
2. The lack of formal cycle crossing points through the junction creates a disconnect for cyclists routing to and from North Esplanade West. At present, cyclists are required to dismount on North Esplanade West to cross over QE Bridge, to connect to Riverside Drive - See Figure C
3. Traffic Demand- All four arms of the junction carry high traffic volumes at varying times of the day. The lack of signal control at the junction can result in an imbalance of traffic queuing and delays.
4. The junction must be able to cater for future operational demand, which is likely to include more public transport priority measures.
5. Separate to the roundabout itself, there are footway width restrictions on Riverside Drive under the Wellington Suspension Bridge (Figure D). Mitigation options to widen the footway which would allow continuous cycle under the bridge is included in this consultation pack.

**OPTIONS**

***Option 1: Enhanced Roundabout (Additional Pedestrian Crossing on QE Bridge)***

**Operation:**

* Retention of roundabout operation with additional Pedestrian crossing on QE Bridge

**Pros:**

* Traffic movements permitted in all directions
* More efficient traffic movement through the junction than signalisation
* Minimised construction intervention

**Cons:**

* Does not enhance the cycle network - gaps still exist on QE Bridge and North Esplanade West
* Pedestrian crossing on QE Bridge requires to be set back from the junction, increasing walk-distance)
* Uncontrolled crossing remains on South College Street
* Does not provide control of junction queuing via signal control

***Option 2: Spiral Roundabout (Additional Toucan Crossing on QE Bridge)***

**Operation:**

* Retention of roundabout operation with additional Toucan crossing on QE Bridge
* Spiral Roundabout operation to allow geometry to fit cycle provisions between Riverside Drive to North Esplanade West via new QE Bridge Toucan crossing

**Pros:**

* Traffic movements permitted in all directions
* More efficient traffic movement through the junction than signalisation
* Enhanced Cycle provision across QE Bridge

**Cons:**

* Gaps still exist in the cycle network - across South College Street
* Pedestrian crossing on QE Bridge is away from the desire line (back from the junction)
* Uncontrolled crossing remains on South College Street
* Does not provide control of junction queuing via signal control

***Option 3: Signalised Junction (All Turning Movements Permitted)***

**Operation:**

* Signalised junction - all turning movements permitted
* Walk-with staggered Toucan Crossing on QE Bridge and South College St
* Remote Toucan Crossings on Riverside Drive & North Esplanade West
* 4 stage signal phasing

**Pros:**

* Traffic movements permitted in all directions
* Provides controlled crossings on all arms of the junction
* Provides connected cycle routes through the junction via Toucan Crossings, segregated cycle lanes, and shared cycle / footway paths
* Provides controlled traffic movement through the junction, allowing:
  + Queue management
  + Hurry call for emergency services
  + Easier freight movement through the junction
  + Future bus priority measures
  + Improved network resilience

**Cons:**

* 4 stage signal phasing - Least efficient option for traffic
* Slightly longer journey times compared to option 1,2 and 4

***Option 4: Signalised Junction (Restricted Turning Movements)***

**Operation:**

* Signalised junction - banned right-turn on North Esplanade West & Riverside Drive
* Right Turn from North Esplanade West is cater for through the new Palmerston Road link
* Walk-with staggered Toucan Crossing on QE Bridge and South College St
* Remote Toucan Crossings on Riverside Drive & North Esplanade West
* 3 stage signal phasing

**Pros:**

* 3 Stage signal Phasing - more efficient operation than option 3 allowing slightly higher traffic flow through the junction than Option 3, reducing delays
* Provides controlled crossings on all arms of the junction
* Provides connected cycle routes through the junction via Toucan Crossings, segregated cycle lanes, and shared cycle / footway paths
* Provides controlled traffic movement through the junction, allowing:
  + Queue management
  + Hurry call for emergency services
  + Easier freight movement through the junction
  + Future bus priority measures
  + Improved network resilience

**Cons:**

* Signalised Junction is less efficient for traffic demand than the roundabout options
* Access Implications - Riverside Drive to Torry routing traffic will require to re-route via King George VI Bridge, West Tullos Road and Abbotswell Road
* Potential for traffic to re-route via minor routes in the network hierarchy

**RIVERSIDE DRIVE - FOOTWAY ENHANCEMENTS PROPOSALS AT WELLINGTON SUSPENSION BRIDGE**

***Current Operation***

* The footway under Wellington Suspension Bridge is 1.9m wide on the south side and 1.1m wide on the north side. Both footways are below current minimum footway standards.
* Phase 1 of the South College Street improvements included a re-alignment of the northbound shared walking and cycle lane on the east side of Riverside Drive to provide clearer visibility through the narrow footway.
* A sign was also erected to advise pedestrians and cyclists to allow oncoming users to pass.

***Further Improvement Considerations***

* Signalised 'shuttle working' operation - requires only one lane only under the suspension bridge. This would allow footway widening to incorporate a shared pedestrian and cycle provision on the eastern footway under the Bridge.
* A Toucan crossing could also be incorporated into the junction signals to provide controlled movement for pedestrians and cyclists on the west side of Riverside Drive to cross to the east side and avoid the narrow 1.1m footway.

***Potential Constraints***

* Signalisation of the single lane section of Riverside Drive would incur some traffic delays on both approaches.
* Priority would need to be given to traffic routing from the north approach to avoid traffic blocking back to the South College Street junction.