

Appendix 3 – Comparison between the currently agreed Valley Gardens North scheme and the suggested refinement.

1. Context

This note explains a proposed variation in the Valley Gardens scheme. The variation applies to the proposed simplified eastern carriageway that will carry private vehicles north to south between St Peters Place and Pavilion Parade.

2. Summary of differing approaches

The preferred scheme currently approved by Committee sees two northbound and two southbound lanes running between St Peters Place and Pavilion Parade.

The revised proposal only provides a second northbound and southbound lane where required to maintain existing capacity. These second lanes are provided on the approach to and exit from signalised junctions to enable stacking traffic to queue and merge on entry and exit from each junction.

3. Key Principles

The Valley Gardens proposals seek to maintain existing traffic capacity whilst enhancing the wider environment.

During development of the concept scheme, it has been assumed that two southbound and two northbound lanes are required for private vehicles in order to maintain existing capacity (effectively providing a lane in each direction for each of the A23 and A27).

Double lanes are only required to accommodate existing capacity on approaches to signalised junctions and for a short distance on exiting a signalised junction (to enable merging). The 'second lane' is effectively a holding lane for waiting traffic.

The proposed refinement is possible partly because the simplified carriageway layout reduces the number of signalised junctions and so stop start conditions in Valley Gardens (Richmond Parade no longer needs to be signalised, nor does the northbound turn from North Road), and partly because detailed junction modelling has shown that additional lanes on approach / exit from retained signalised junctions can be accommodated within existing kerb-lines.

When modelling junction arrangements, the target capacity is 90% (this meaning that the junction can accommodate peak traffic flows with a 10% tolerance). In reality due to existing traffic levels in the city exceeding available capacity, many junctions theoretically operate at a capacity of over 100%.

4. Layout Comparison

| Section | Preferred Scheme | Revised Proposal |
|------------------------------------|---|---|
| St Peters Place to Richmond Parade | Two northbound and two southbound lanes are provided within existing kerblines. | Two northbound lanes are required between Richmond Parade and St Peters Place to accommodate traffic accessing London Road / Cheapside and Lewes Road. Only one southbound lane is required, as there is no signalised junction necessitating queuing traffic until the North Road junction. |
| Richmond Parade to North Road | Two northbound and two southbound lanes are provided. Due to spatial constraints between the building line and Elm trees to the east of Victoria Gardens, the approach requires a new section of two lane (northbound) carriageway to be built within Victoria Gardens north. | Only one southbound lane is required until the approach to the North Road junction. Following a short length of merging lane for vehicles travelling north from the North Road junction, only one lane is required as far as Richmond Parade (which will not be signalised in future). This means that private vehicle capacity can be maintained within existing kerblines, and therefore the need to build new carriageway with Victoria Gardens north is avoided. Note: In order to operate at the target 90% capacity, a 30m (or 5 vehicle) approach lane is required on the southbound approach to the North Road junction. Due to spatial constraints between the building line and trees, this cannot be accommodated within available space. If the revised proposal is pursued, the options are to remove two Early Mature Elms. Alternatively the approach could be reduced to 18m (or 3 vehicles) within existing space, which would see the junction operate at 92% rather than 90% capacity. The latter approach is recommended. |
| North Road to Church Street | Two northbound and two southbound lanes are provided. Due to spatial constraints between the building line and Elm trees to the east of Victoria Gardens, the approach requires a new section of two lane (northbound) carriageway to be built within Victoria Gardens south. | Second north and south bound lanes are only required on the approaches to / exits from the North Street and Church Street junctions (the latter operating at 76% am and 85% pm capacity). For the rest of this section, only one northbound and one southbound lane is required, meaning that private vehicle capacity can be maintained within existing kerb-lines. Therefore the need to build new carriageway with Victoria Gardens south is avoided. Note: In order to accommodate 5 lanes to the immediate north of the Church Street junction (a third southbound lane is required to enable right turns into Church Street) within available space, lane widths are reduced to 2.5m for a short length to the immediate north of Church Street junction. This is narrower than the norm, but the same approach is used elsewhere in the city (on the A259). An alternative approach of re-routing Church Street bound traffic via Kingswood / William and Edward St was considered but discounted due to impact on journey times and the streets / junctions impacted by the re-routing. |

5. Relative Option Strength Comparison

| Existing Preferred Scheme | Proposed Revision |
|---|---|
| <p>Strengths</p> <ol style="list-style-type: none"> 1. Northbound traffic is further away from frontages between Richmond Parade and Church Street, providing localised air quality benefits. 2. Does not limit opportunities for footway extensions in the immediate vicinity of the Church Street and North Road junctions. | <p>Strengths</p> <ol style="list-style-type: none"> 1. The trees that would need to be relocated / removed if new roads are built in Victoria Gardens will be unaffected under the revised proposal. 2. Most work can be undertaken within existing kerb lines, reducing the amount of work that would need to be undertaken within or in proximity to root protection areas of retained trees, reducing cost, construction time and risk to trees. 3. The amount of open space will be greater if new roads do not need to be built in Victoria Gardens. 4. Southbound traffic is further away from frontages between St Peters Place and Richmond Parade, providing localised air quality benefits (although air quality is not currently as great a problem here as between Richmond Parade and Church Street). 5. Larger open spaces means Air Quality will be better in open spaces. 6. The scheme will be cheaper for not needing new roads to be constructed (and reducing the need for work within root protection areas): a proportion of the (currently unknown) saving will benefit Brighton & Hove City Council. 7. Wider footways (or more open space) can be provided between St Peters Place and Richmond Parade. |