

## TECHNICAL NOTE

**Job Name:** Seven Dials Junction Improvement, Brighton  
**Job No:** 21810/015  
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**Prepared By:** K. Marshall  
**Subject:** Design Alterations to Vernon Terrace

Brighton and Hove City Council (BHCC) has instructed Peter Brett Associates LLP (PBA) to prepare a technical note exploring alternative design options for Vernon Terrace to include keeping the Elm tree.

### Design Alterations to Vernon Terrace

Following on from technical note TN004 which describes the existing situation around the elm tree and the current proposals, this technical note will discuss alternative design options for the area around the tree should it be kept in the scheme.

#### **A: MOVE THE PROPOSED ZEBRA CROSSING FURTHER SOUTH ALONG VERNON TERRACE**

Vernon Terrace is mainly a residential road with walls along the property line and gated pedestrian access points. This does allow scope of positioning the pedestrian crossing point further south down the road.

##### Advantages:

1. The visibility requirements become less onerous when the crossing is further than 20m from the give way line of the roundabout. If the crossing moved to be greater than 20m away from the give way line then with regard to the visibility from the vehicle to the crossing only 1 of the 3 requirements that we have shown is not met. The visibility splay of the vehicles from the pedestrians using the crossing is improved but there would still be a departure from DMRB standard (there will be a greater opportunity to see the vehicles in the distance from the roundabout but not to the full standard design requirements).

##### Disadvantages:

1. The crossing will be further away from the pedestrian desire line around Seven Dials and will therefore lead to more pedestrians crossing at the entrance of Vernon Terrace in gaps between traffic flows rather than choosing the narrow footpath available towards the crossing. This move discourages the use of the crossing and increases the risk accidents in the area. The crossing position further away from the desire line also reduces its function for mobility impaired users.
2. The footway width remains below standards in the immediate vicinity of the tree.
3. The drainage issue in the immediate vicinity of the tree remains.
4. The risk of damage caused by the tree roots increases.
5. Maintenance costs will gradually increase over the years if the size of the tree increases.
6. A key aim of the new scheme is to improve the pedestrian environment and to afford a greater sense of pedestrian priority. Moving the pedestrian crossing away from the roundabout would be contradictory to this aim.



## TECHNICAL NOTE

### Design Alterations to Vernon Terrace

#### **B: INCREASING THE WIDTH OF THE FOOTWAY ON THE SOUTH SIDE OF VERNON TERRACE AND RETAIN THE EXISTING PELICAN CROSSING**

The footway on the north side of Vernon Terrace is 2.1m so it is not considered suitable to reduce this side as it will fall below standard. The alternative is therefore to narrow the carriageway width of Vernon Terrace from 7.5m to approximately 6.5m which would have to be checked in more detail (vehicle swept path analysis) but does initially look feasible. The width could either be increased from the roundabout past the crossing and tie in further down Vernon Terrace or be provided as a build-out to the crossing itself as shown in an example photo.

##### Advantages:

1. Improved visibility (compared to existing) of vehicles to the crossing equipment (slight improvement to pedestrians waiting to cross).
2. The visibility splay for pedestrians to vehicles moves also improved and would conform to MfS guidance, although falling well short of DMRB standard.
3. Shorter crossing length.

##### Disadvantages:

1. Reduced width traffic running lanes which would create a pinch point for cyclists which may not leave sufficient room for large vehicles to pass cyclists safely. (may be within standard, needs swept path analysis to conform).
2. The footway width remains below standards in the immediate vicinity of the tree.
3. The drainage issue in the area remains in the immediate vicinity of the tree.
4. Maintenance costs will gradually increase over the years as the size of the tree increases.
5. Increased cost of additional design work and increased construction cost. (with particular regard to drainage issues through the area.)



*Photo of example build out at controlled crossing to improve visibility around an existing tree (taken from Local Transport Note 2/95)*

#### **C: RETAIN THE PELICAN CROSSING RATHER THAN REPLACING IT WITH A ZEBRA CROSSING**

To retain a pelican crossing (or update it to a puffin crossing) is feasible but would not improve the existing situation. The advantages/disadvantages would be as the existing layout.

##### Advantages:

1. Maintains the existing situation.

##### Disadvantages:

1. The DMRB visibility standards to and from the crossing are not met. Although the guidance from MfS which could be seen as more appropriate for this area are met.
2. The footway width remains below standard in the immediate vicinity of the tree.
3. The drainage issue in the area remains in the immediate vicinity of the tree.
4. The on-going damage the tree roots will cause.
5. Maintenance costs will gradually increase over the years as the size of the tree increases.
6. A key aim of the new scheme is to improve the pedestrian environment and to afford a greater sense of pedestrian priority through the introduction of zebra crossings. Retaining a pelican crossing on the Vernon Terrace arm would create an inconsistency with the rest of the layout and would mean the scheme would not fully deliver the desired benefits.



## TECHNICAL NOTE

### Design Alterations to Vernon Terrace

#### **D: INCREASING THE WIDTH OF THE FOOTWAY ON THE SOUTH SIDE OF VERNON TERRACE AND ADD A PROPOSED ZEBRA CROSSING**

This is a variation on option B, however for continuity to the overall scheme a zebra crossing has been considered in this example.

##### Advantages:

1. Slight improvement to visibility (compared to existing) of vehicles to pedestrians waiting to cross.
2. The visibility splay for pedestrians to vehicles is also improved and would conform to MfS guidance, although falling well short of DMRB standard.
3. Shorter crossing length.
4. A key aim of the new scheme is to improve the pedestrian environment and to afford a greater sense of pedestrian priority through the introduction of zebra crossings. To have a zebra crossing on Vernon Terrace would provide continuity with the rest of the layout.

##### Disadvantages:

1. Although there will be an improved visibility to the crossing equipment, this will be an orange beacon for a zebra crossing (warning of crossing location) rather than the traffic signals of a pelican crossing (which would instruct the vehicle of the required action at the time of approach).
2. Reduced width traffic running lanes which would create a pinch point for cyclists which may not leave sufficient room for large vehicles to pass cyclists safely (may be within standard, needs swept path analysis to conform).
3. The footway width remains below standards in the immediate vicinity of the tree.
4. The drainage issue in the area remains in the immediate vicinity of the tree.
5. Maintenance costs will gradually increase over the years as the size of the tree increases.
6. Increased cost of additional design work and increased construction cost. (with particular regard to drainage issues through the area.)

#### **E: NARROW VERNON TERRACE DOWN TO A ONE-WAY ROAD/ WIDEN FOOTWAY ON SOUTH SIDE OF VERNON TERRACE TO HAVE A 2M FOOTWAY TO THE NORTH WEST OF THE TREE**

The footway width would allow the tree to be kept in the middle of a larger footway area on the south side of Vernon Terrace with the remaining carriageway width left for one-way traffic flows.

##### Advantages:

1. It appears that visibility standards would all be met (subject to a detailed assessment).
2. The footway width would meet standards.
3. There would be an increase in safety from having one less contributing arm of traffic flowing onto the roundabout.

##### Disadvantages:

1. Further public consultation may need to be undertaken as this option would represent a material change to that approved by the transport committee.
2. Possible risk of vehicles parking on the large footway area.
3. Maintenance costs will gradually increase over the years if the size of the tree increases.
4. The initial public consultation included an option to convert Vernon Terrace to one-way operation and this was strongly opposed by local residents due to fear of rat running in residential roads. These issues would come to light again in any future consultation and such a proposal would be unlikely to receive public support.



## TECHNICAL NOTE

### Design Alterations to Vernon Terrace

**Additional Note:**

BHCC may want to consider the option of a raised speed table for the existing pelican crossing as the proposed zebra crossing was intended in the current design. Having the pelican crossing on a raised table would act as a safety calming measure and would improve the current situation.

This would require level adjustments to the footway and would keep the resurfacing proposal of Vernon Terrace and its footways in the design to visually draw the existing crossing into the scheme. A paving detail around the tree in the footway would need to be considered – perhaps an asphalt or permeable surface at 1 - 2m around the base of the tree rather than the proposed paving slabs as this would mitigate future trip hazards that movement caused by the root growth will create.

DMRB – Design Manual for Roads and Bridges, MfS – Manual for Streets

### DOCUMENT ISSUE RECORD

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