Introduction
This report details observations of the circulation in Brunswick Square. The purpose of these observations was to determine the best solution to unsightly desire lines in Brunswick square, caused by pedestrians cutting across lawned areas.

Observation took place on Monday the 2nd of February, during the hours of 12:00 and 14:00. This time was chosen because it was thought that more people would use the square during lunch hours. The weather on this day was cold (approx. 3°C), however there was no precipitation which may have otherwise prevented people from using the square.

This report also puts forward recommendations to resolve the issue of desire lines.

Entrances
Initially the entrances to the park were observed. Each of the three entrances was observed individually for a 10 minute period and the number of people coming in and out of each entrance was counted.
The south entrance was observed between 12:20 and 12:30, the north entrance between 12:30 and 12:40, and the west entrance between 12:45 and 12:55.

2.1 Findings

<table>
<thead>
<tr>
<th>Entrance</th>
<th>Number entering</th>
<th>Number leaving</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North (Foundling Museum)</td>
<td>10</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>West</td>
<td>29</td>
<td>26</td>
<td>55</td>
</tr>
<tr>
<td>South (Lansdowne Terrace)</td>
<td>15</td>
<td>14</td>
<td>29</td>
</tr>
</tbody>
</table>

*Figure 1: the number of pedestrians using various entrances during a 10 minute period*

The west entrance is the main entrance and is therefore predictably the busiest of the entrances. Of the other two entrances, the south entrance is most used, having approximately 50% more use than the north entrance during the observation periods.

3 Paths

The routes which pedestrians were taking along paths were also counted. This was for a 10 minute period between 13:00 and 13:10. For this the pathways in the square were broken up into 4 parts: path between north and south entrances (N-S); path between north and west entrances (N-W); path between south and west entrances (S-W); and the central path which runs around the central planting bed (C). Refer to Drawing 1444.SK.001 for diagram.

3.1 Findings

<table>
<thead>
<tr>
<th>Route</th>
<th>People using route</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-S</td>
<td>16</td>
</tr>
<tr>
<td>N-W</td>
<td>33</td>
</tr>
<tr>
<td>S-W</td>
<td>65</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
</tbody>
</table>

*Figure 2: the number of pedestrians using various routes during a 10 minute period*

During the observation period, the busiest route was between the south and the west entrances, with almost twice as much use as the route between the north entrance and the west entrance, and more than four times as much use as the route between north and south entrances. The use of the central path was much lower.

3.2 Path use

General path use was observed for the entire two hour period. Most use of the paths was for the purpose of walking through the square, whilst a secondary use was people entering the square to find a place to sit. Others were observed walking the paths around the square, whilst a few used the paths for jogging.

4 Desire Lines

The routes which people used to cut across the square, not using paths, were also observed across the entire 2 hour period. These routes are shown mapped in drawing 1444.SK.001.

4.1 Findings

Only 10 incidents of people cutting across the lawns were counted. There is a possibility that the volume of this was reduced on the observation day, due to the muddy condition of the ground, but also by preventative measures which were in place.
Most of the routes taken were in the southern end of the square, which corresponds with the use of the south and west entrances, and the path between them. Other people who walked in the lawned areas but were not included in this count were dog walkers, who followed no set route, of which there were 6.

4.2 Preventative screening

On the date of the observation, temporary willow screening was in place to deter pedestrians from cutting across paths. One screen was placed at the north entrance (Figure 3), one at the south entrance (Figure 4), and another was placed between the south and the west entrance (Figure 4 and 5).

Figure 3: willow screening at north entrance
Figure 4: View from south entrance towards west entrance, with two sets of willow screening

The willow screening may have prevented the observation of natural desire lines through the square, however their placement is indicative of problematic areas, and some desire lines were still visible. An obvious desire line was evident between the south and the west entrance, along the busiest route, shown in Figure 5.
The screening did seem to be acting as a deterrent during the observation period, as the volume of people using this route was low (four in two hours). There is a possibility however that pedestrians were deterred from using this route due to the slightly muddy condition of the ground.

The willow screening in place at present is a temporary measure. Although it may be working practically to prevent desire lines, it is not aesthetically in keeping with the character of the square.

5 Conclusions of Observations
The observations help to confirm the problem areas for desire lines in the square. The busiest area of the square is between the south entrance and the west entrance, with this route heavily used as a pedestrian cut-through.

Temporary measures seem to be reducing the pedestrian traffic on the lawns, however they are not preventing it completely, and are not sensitive to the square’s historic character.

6 Proposed Solutions
Movement of the entrances or pathways are not possible within the scope of this project and may degrade the historic integrity of the square, so these options must be discounted.

As the path between the south and west entrances has a tendency to be busy with pedestrian traffic, it may be that widening the pathway would prevent people from stepping off the path in order to walk more quickly.
Alternatively, the most effective solution may be to introduce barriers which deter people from walking on lawns.

6.1 Recommendations

We consider that the most effective and viable solution will be to install some form of barrier at the source points where short cuts are taken. This barrier could consist of mounding, planting, railings, or a combination of these. At the south entrance, the point where people are cutting across the grass is underneath a large tree, and it is therefore likely that mounding here would impinge on the root protection area of this tree. For this reason we are not proposing any mounding.

We propose a two-part solution to the most problematic desire line between the south and west entrances. Refer to drawing 1444_SK_002 for diagram.

Firstly we propose that the hedge planting at the west entrance, shown in Figure 6, be extended to keep pedestrians on the path. This could be an extension of the existing *Griselinia*, or it could incorporate more species, for example *Ilex*, which would have an added defensive quality. This hedge would of course have to be protected until it is established and we propose using a post and wire fence, 1.2m high, which would be kept in place for 2-3 years.

Secondly we propose that a knee rail be installed opposite the south entrance. There are currently metal knee rails in place outside the square, shown in Figure 7, which are protecting shrub planting. A similar style of knee rail could be carried through to the square, or a more traditional Victorian style could be used. We also propose that this railing have planting behind it,
both to reinforce the railing as a barrier, and to reduce the aesthetic impact of the knee rail. This could be either shrub planting or bulb planting. Refer to image sheet 1444_SK_003.

Figure 7: existing knee rails in place outside Brunswick Square

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