

# Appendix 4

## Methodology to reduce options

Looking to restrict/ close two to three arms of the junction, there are a possibility of 35 options of closure combinations. The methodology of reducing from 35 to 5 options is set out below:

- **Reducing from 35 to 20 options:**
  - Started by looking at the Healthy Street indicators but this didn't give enough of a differentiation between the options.
  - The project objectives were then considered. Each of the 35 options were given a score for possible safety improvement, possible Place improvement, a score as a proxy for potential Air Quality improvement (by the removal of more vehicles), and a score for the number of buses that would need to be rerouted as part of the option as a proxy for difficulty of achieving the option. The following weighting was applied:
    - Safety – number of collisions on each arm (45% weighting)
    - Place – a score given by LC and GH (17.5%)
    - Air Quality – potential vehicle reduction was used as a proxy (17.5%)
    - Bus rerouting – how many buses per hour would be affected (20%)
  - This led to a ranking of the 35 options. There are 20 options with proposed three arm closures and 15 options for two arm closures.
  - In the first round of elimination, the 3 arm closure options would be compared to each other first, and the two arm closures compared to each. This eliminated the bottom five of each group.
  - For the three arm closure options. A discussion about when the right time to review the options against other matters such as other aspirations, cycle routes, accessibility etc was had. It was agreed that now was not the right time with so many options on the table. This would be taken into consideration in the future rounds of elimination.
  - For the two arm closure options. A discussion as to whether the proposed King William Street/Princes Street should be eliminated at this stage as so many of the three arms included these arms and the two-arm option had scored highly on the potential Healthy Streets indicator. It was agreed that as the methodology used says this option does not score highly it should be eliminated. There is still a three-arm closure with these arms included which will go through to modelling.
  - In order to get the last five options to remove, the options were merged back together and the bottom five were looked at and agreed to be eliminated
  - The 15 options eliminated at this stage are shown below in table 1:

Table 1 – Eliminated options: X indicates arm closed.

Option	King William St	Queen Victoria St	Poultry	Princess St	Threadneedle St	Cornhill
1	x	x		x		
2	x			x	x	
3	x		x	x		
7	x		x		x	
14		x		x		x
16			x	x		x
21	x			x		
22	x	x				
23	x				x	
24	x		x			
25	x		x		x	
26		x		x		
27				x	x	
28			x	x		
29				x		x

- **Reducing from 20 to 15 options:**
















- There are now 20 options remaining, and the option numbers have been revised to reflect their new composite ranking.
- Due to safety issues, and site constraints with servicing Cornhill, 5 options that included both Threadneedle Street and Cornhill within the same option were eliminated and are shown below in table 2:

Table 2 – Eliminated options: X indicates arm closed

Option	King William St	Queen Victoria St	Poultry	Princess St	Threadneedle St	Cornhill
7		x			x	x
8	x				x	x
10			x		x	x
13				x	x	x
19					x	x

- **Reducing from 15 to 5 options:**
  - The remaining options were weighed against the following criteria, with emphasis being placed on the objectives from City of London Transport Strategy, which was to provide priority to pedestrians over motorised vehicles.
  - **Impact on general journey times (15% weighting)**
  - **Impact on bus journey times (25%)**
  - **Pedestrian uplift – Part 1 (35%)** – reallocation of road space to provide a safer and more comfortable environment, **within** the limits of the Bank on Safety scheme
  - **Pedestrian uplift – Part 2 (25%)** – reallocation of road space to provide a safer and more comfortable environment, **outside** the limits of the Bank on Safety scheme
  - Final ranking tables for the above criteria for reducing from 15 to 5 options are shown in the Table 3 below.
  - The top 5 ranking options are made up of four, 3 arm closure options, and one, 2 arm closure option, and will be considered further against the matrix assessment within the gateway 3 report, to help identify the most suitable three options to take forward for additional feasibility design and modelling work.
  - The highlighted top five are referred to as Options I, II, III, IV and V in the main report to avoid confusion.

Table 3: 15 closure options ranked.

Option number	Number of arms closed	KWS	QVS	Poultry	Princes	Threadneedle	Cornhill	Map	25%	15%	35%	25%	Weighted average score	Weighted average rank
									Bus JT combined peak rank	General Traffic combined peak rank	Area 1 rank	Area 2 rank		
15	3		X		X	X			7	5	2	2	3.7	1
9	3	X	X			X			9	9	1	1	4.2	2
3	3		X	X		X			8	11	3	3	5.45	3
20	2		X			X			4	1	10	5	5.9	4
2	3		X	X			X		5	8	8	9	7.5	5
4	3	X	X				X		10	6	7	8	7.85	6
1	3	X	X	X					12	12	5	6	8.05	7
11	3			X	X	X			14	14	6	4	8.7	8
18	2			X		X			3	2	14	11	8.7	8
17	2		X				X		2	4	13	13	8.9	10
5	3		X	X	X				15	15	4	7	9.15	11
12	2		X	X					6	10	11	10	9.35	12
16	2			X			X		1	3	15	15	9.7	13
6	3	X		X			X		11	7	12	12	11	14
14	3	X			X		X		13	13	9	14	11.85	15