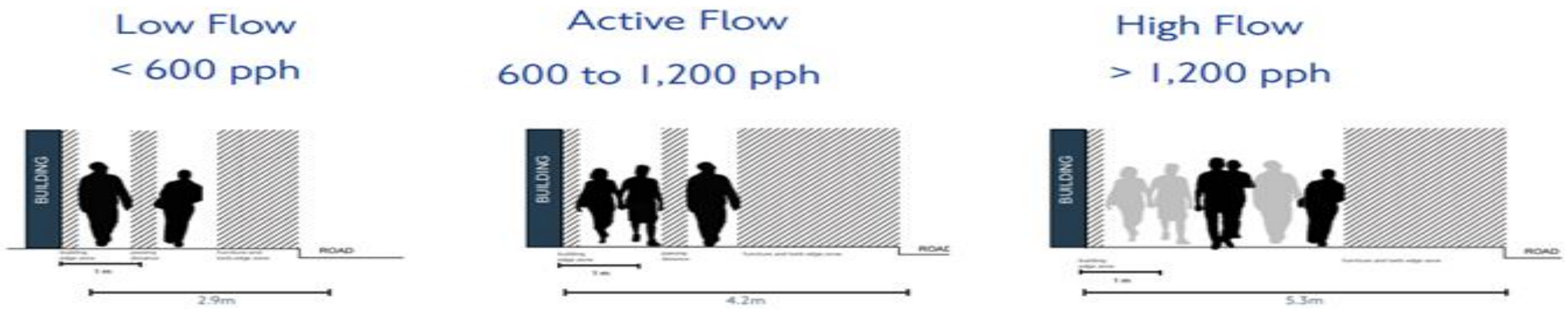


2021 0131

Current changes to the general arrangement plan

- **Turning circle size**- Reduced in size of 1.5m to provide more pavement area, HGV tracking plan still achieves required turning capacity.
- **HC Taxi rank location**- Reduced in length at the eastern end and increased at the western end, all to allow an increase in pavement width
- **Street furniture**- A reduction in bench seats from 4 down to 3, to allow enough pavement width at pinch points.
- **Planting** – addition of 2 planters/benches located at either end of the HC rank
- **Planting species**- For consistency across the town centre, we would suggest Acer campestre 'Elegant' for those trees' location in hard standing and Betula utilis 'Jacquemontii' to the raised planting areas and to the centre of the turning area. These species are as used to Queen Street and Cheapside / the Main Square respectively.
- **Pavement trim finish**- Amendment to finish trim line to help direct people around the turning circle when exiting the interchange from its southern exit
- **Market Stall locations**- Types of stalls, numbers and locations have meant these have evolved over the course of the design through regular consultation with the markets team and traders.
- **Mining Artwork location**- Minimal scope of choice for relocation, but to recited in proposed location that is free from underground services
- **Pavement width**- Footfall survey conducted at max peak flow (Saturday on Matchday) recorded 1211 pedestrians, crossing the railway westbound. Of this number only 504 went up Midland St/Interchange. Guidance puts this flow at low flow <600 pedestrians per hour (PPH) BMBC have based calculations on active flow 600 to 1200 PPH.

Guidance for pedestrian flows per hour



- **Pedestrian Comfort levels**

The Pedestrian Comfort Level (PCL) the site operates at during the Peak Hour Flow. Footways should be designed to operate comfortably during the peak hour. This is colour coded to aid understanding. As well as identifying the PCL this section highlights the clear width required for PCL B+ and the total width required for PCL B+ (assuming the street furniture at the site remains the same).



	HIGH STREET		OFFICE AND RETAIL		RESIDENTIAL		TOURIST ATTRACTION		TRANSPORT INTERCHANGE	
	Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max	Peak	Ave of Max
A	COMFORTABLE		COMFORTABLE		COMFORTABLE		COMFORTABLE		COMFORTABLE	
B+	ACCEPTABLE		ACCEPTABLE		ACCEPTABLE		ACCEPTABLE		ACCEPTABLE	
B										
B-	AT RISK		ACCEPTABLE		ACCEPTABLE		AT RISK		ACCEPTABLE	
C+	UNACCEPTABLE/ UNCOMFORTABLE		ACCEPTABLE		AT RISK	AT RISK	UNACCEPTABLE/ UNCOMFORTABLE		ACCEPTABLE	
C-			AT RISK	AT RISK	ACCEPTABLE					
D			AT RISK	AT RISK	UNACCEPTABLE/ UNCOMFORTABLE					
E	UNACCEPTABLE/ UNCOMFORTABLE		AT RISK	AT RISK	UNACCEPTABLE/ UNCOMFORTABLE		UNACCEPTABLE/ UNCOMFORTABLE		AT RISK	AT RISK
	Peak and Average of Maximum Activity levels have similar guidance as people visiting retail areas stated they were particularly sensitive to crowding.		The "at risk" level is set at a lower PCL during the Average of Maximum Activity than peak flows. This is because of the greater number of single travellers and the short duration of maximum activity.		The "at risk" level is set at a lower PCL than peak flows in Residential Areas to reflect the short time this is likely to occur. A site visit to Residential sites is particularly important to check if there is school activity or a bus stand in the area.		Peak and Average of Maximum Activity levels have similar guidance as people visiting tourist areas are likely to be particularly sensitive to crowding		The "at risk" level is set at a lower PCL during the Average of Maximum Activity than peak flows. This is because of the greater number of single travellers and the short duration of maximum activity.	

Calculation of pedestrian comfort level

PEDESTRIAN COMFORT ASSESSMENT: FOOTWAY COMFORT

Clear Examples

Location Name	Location Type	Area Type	Average Flow	Peak Hour Flow	Ave of Max Activity	Total Width	Building Edge?	Kerb Edge?	Any unusable width (<0.6m)	Street Furniture 1			Street Furniture 2			Street Furniture 3			Clear Footway Width	Average Flow Crowding (ppmm)	Peak Hour Flow Crowding (ppmm)	Ave of Max Crowding (ppmm)	Pedestrian Comfort Level (For Average Flows)			Pedestrian Comfort Level (For Peak Hour Flows)			Pedestrian Comfort Level (Average of Max Activity)		
										Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer					Average PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Peak Hour PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Ave of Max PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+
1	Guidance p 9 Location A	Full Footway Width	High Street	171	1200	513	4.4	Yes	Yes									4	1	5	2	A+	1.90	1.50	A	2.07	1.67	A+	1.90	1.50	
2	Guidance p 9 Location B	Street Furniture (Multiple)	High Street	171	1200	513	4.4	Yes	Yes	1.35	3 bollards	0.45		Bench	0.45	0.045		1.705	2	12	5	A+	4.20	1.50	B	4.37	1.67	A	4.20	1.50	
3	Guidance p 9 Location C	Street Furniture (Single)	High Street	171	1200	513	4.4	Yes	Yes									4	1	5	2	A+	1.90	1.50	A	2.07	1.67	A+	1.90	1.50	
4	Guidance p 9 Location D	Full Footway Width	High Street	171	1200	513	4.4	Yes	Yes									4	1	5	2	A+	1.90	1.50	A	2.07	1.67	A+	1.90	1.50	
5																															
6																															
7																															
8																															
9																															
10																															

- Based on 1200 PPH, to achieve a pedestrian comfort rating of B+, would require a total clear pavement width of 4.2m for average flow and 4.37m peak flow. The narrowest measurement of pavement width is 4.4m (East side Planter/bench seat front edge to interchange boundary wall).
- Source for Pedestrian flows per hour and pedestrian comfort levels obtained from:

Website: www.tfl.gov.uk/walking

Email: walking@tfl.gov.uk

