

3.5 Junction 5 – A185 / Mill Lane Signalised Junction

2023 Base + Committed Development + Other Development

3.5.1 The junction can be seen to be exceeding capacity in the morning peak period with significant queuing across the junction and approaching capacity in the evening peak period.

Table 13. A185 / Mill Lane – 2023 Base + Com. Dev. + Other Dev.

JUNCTION ARM	MORNING PEAK		EVENING PEAK	
	Deg. Sat. (%)	Queue (PCU)	Deg. Sat. (%)	Queue (PCU)
A185 North	90.6%	19.7	70.5%	10.1
Mill Lane	115.0%	57.9	90.7%	16.2
A185 South	116.6%	52.4	90.1%	19.8
Junction Deg. Sat. (%)	116.6		90.7	
Junction PRC All Lanes (%)	-29.50%		-0.80%	

2023 Base + Committed Development + Other Development + Local Plan Development

3.5.2 With the addition of Local Plan traffic, the operation of the junction is exacerbated with increased queuing across the junction.

Table 14. A185 / Mill Lane – 2023 Base + Com. Dev. + Other Dev. + Full Local Plan

JUNCTION ARM	MORNING PEAK		EVENING PEAK	
	Deg. Sat. (%)	Queue (PCU)	Deg. Sat. (%)	Queue (PCU)
A185 North	91.6	21.4	73.8	11.1
Mill Lane	123.8	79.1	95	19.4
A185 South	124.1	71.7	95.9	25.1
Junction Deg. Sat. (%)	124.1		95.9	
Junction PRC All Lanes (%)	-37.9		-6.5	

2023 Base + Committed Development + Other Development + Local Plan Mitigation Results

3.5.1 A mitigation scheme is considered necessary to address the capacity problems identified at the junction. It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction is over capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added. However the addition of Local Plan traffic significantly worsens the operation of the junction in terms of delay and queuing.

3.5.2 The scheme consists of a reconfiguration of the signalised junction to provide segregated crossing facilities with localised widening on Mill Lane to provide a two lane approach to the junction.

3.5.3 The modelling results demonstrate the mitigation scheme returns a considerable improvement on the existing situation but remains approaching its theoretical capacity.

3.5.4 The capacity assessment is summarised on Drawing Ref 16L02-05-001 and 16L02-05-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-05-003 overleaf.

3.5.5 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station in the vicinity of this junction.

Table 15. A185 / Mill Lane – 2023 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

JUNCTION ARM	MORNING PEAK		EVENING PEAK	
	Deg. Sat. (%)	Queue (PCU)	Deg. Sat. (%)	Queue (PCU)
A185 North	84.1	16.1	88.9	20.1
Mill Lane	84.5	9.9	87.3	13.3
A185 South	49.6	7	83.8	17.1
Junction Deg. Sat. (%)	84.5		87.3	
Junction PRC All Lanes (%)	6.5		1.3	

Cost of Mitigation

3.5.6 The junction is located in an urban environment with Hebburn Fire Station and private residencies to the west, grassland to the north east and highway verge to the south east. There are no substantial level changes from the edge of carriageway.

3.5.7 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.5.8 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of utility covers located in the existing footways where carriageway widening is proposed and street lighting surrounding the junction.

3.5.9 The introduction of the proposed mitigation is anticipated to cost in the region of £500,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.5.10 In addition, contributions to local or wider sustainable transport improvements may be necessary for example towards a new Metro station within the vicinity of the junction.

- 2.8.7 Within the results table for each model the ratio of flow to capacity or the degree of saturation and mean maximum queue length has been stated for each arm. If any arm of the junction is considered to be approaching capacity, it is coloured amber and if operating in excess of capacity, it is coloured red.
- 2.8.8 For the purposes of this assessment, an RFC or PRC of between 85 – 99% to be approaching capacity (coloured amber) and an RFC or PRC in excess of 100% to be over capacity (coloured red).