



UNIVERSAL DESTINATIONS & EXPERIENCES UK PROJECT

Former Kempston Hardwick Brickworks and adjoining land, Bedford

Appendix 5.2 Link Sensitivity Review (Volume 3)

Report reference: 4.5.2.0

Revision number: 00

Date: June 2025



Universal Destinations & Experiences UK Project

Appendix 5.2 Link Sensitivity Review

226817A
June 2025

A summary of link sensitivity is provided below in Table 1. This includes brief notes of the characteristics of the link and its receptors, which have contributed to the classification of sensitivity.

A review of Personal Injury Collision (PIC) data has been undertaken as part of the Transport Assessment. PIC data was reviewed for the local road network around the Proposed Development using records obtained from Bedford Borough Council and Central Bedfordshire Council (CBC), covering the five-year period (60 months) between September 27th 2018 and September 26th 2023.

The PIC data revealed that there has been a total of 176 collisions in the study area, which have occurred in clusters at nine locations, including 156 slight injury collisions, 19 serious injury collisions and just one collision resulting in a fatality.

Across the nine locations of interest, the records do not point to any obvious highway safety concerns within the local highway network around the Site which may be exacerbated by the Proposed Development. The PIC data review has not resulted in any amendments to the sensitivity classifications of the links within the study area.

Where the Proposed Development results in a reduction in average vehicle speed along a link of 5mph or more, this is included in the notes for this link and the sensitivity has been assigned as medium (unless other characteristics require an assignment of high sensitivity). This methodology has been used as a way to identify any potential individual locations of congestion / driver delay that wider journey time assessments may not identify.

Table 1: Link Sensitivity Notes

Link Reference	Sensitivity	Notes
1	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
2	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
3	Medium	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
4	Medium	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link (there are underpass tracks which may be used by pedestrians/cycles and this is completely segregated from the carriageway). A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
5	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
6	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
7	Medium	Footways and informal crossings are provided at the west of the link where it connects with A421 off-slip, likely to serve nearby commercial units, but it is unclear where the pedestrian desire line would be to at present. It is unlikely that pedestrians and cyclists would currently be present. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
8	Low	Footways and informal crossings are provided where the link meets the A421 off-slip to connect to one property located west of the off-slip. The footways have guard rails for pedestrian protection. This is highly unlikely to be a strong desire line, but the provision is considered suitable for the likely demand.

Link Reference	Sensitivity	Notes
9	Low	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
10	Negligible	This is no footway or cycle provision, and no users present due to the rural nature of the link (there are no trip generators or desire lines as per IEMA definitions).
11	Medium	There is footway provision along northern part of link between existing residences and what appears to be a smallholding. There is no desire line beyond this point and no onward footway provision. An underpass is present under the A421 where the residences are located, which allows people to cross under Lower Shelton Road and the A421 to Marston. Pedestrian provision is considered suitable given likely useage and desire lines. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
12	Low	Footways and informal crossing points are provided so provision is made if pedestrians are present, however there are no real trip generators or desire lines which would create a need to cross over the A421 at this point.
13	Low	Footways are provided along the west side of the link where there may be a desire line to access the Travel Lodge site (which includes a petrol station and fast food places). It is observed that an informal route has been created cutting across from the southern roundabout into the travel lodge site across a grass area, therefore avoiding this link. Guard rails are present where the footway extends around the roundabout to fully separate pedestrians from traffic.
14	Low	There is suitable segregated footway and cycleway provision which looks like it was provided in 2016 as part of the residential development coming forward.
15	Medium	The link is part of a residential area with footways provided on both sides of the carriageway, multiple crossing points and vehicle calming measures. Suitable provision for pedestrians is provided. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.

Link Reference	Sensitivity	Notes
16	Medium	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
17	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
18	Low	Footways are provided for very limited number of properties fronting the link. An informal crossing is provided allowing pedestrians to cross from east to west side to access A421 underpass, but the road on the other side this connects to (Hoo Lane) doesn't have any pedestrian facilities so unlikely to be a material trip generator in terms of pedestrian movements.
19	Negligible	There is no footway or cycle provision, and no users expected to be present due to the strategic nature of this link.
20	High	Kimberley Sixth Form College is located along this link and as such, pedestrians and cyclists of school-age will be present. Continuous footways are provided between the nearby settlement and this facility, and a signalised crossing point is located outside of the College. Users of the link are required to cross the rail line via a level crossing. No collisions have been recorded at this location.
21	Medium	Although Kimberley College is not directly located on this link, the footway on the north side (which is likely to be used by students) is narrow. The footway on the south side is wide and generally set back from the road with separation provided through grass verges, so there is a good quality alternative
22	Low	A continuous footway is provided along the east side of the carriageway where residential and commercial properties are located. There is no reason for pedestrians to cross the link.
23	Low	A footway is provided on the east side of the link, which is where properties and desire lines are located. There is no observed need for pedestrians to cross to the west side of the link and no crossing provision is made.

Link Reference	Sensitivity	Notes
24	Medium	A pedestrian crossing is provided at south of the link on the roundabout to allow crossing between commercial units and the residential area and Co-Op supermarket to the east. There is a small commercial unit to the north which does not have pedestrian access to it as well as a farm and one residential property further north (about 450m from the roundabout). These do not necessarily create a strong pedestrian desire line and therefore the sensitivity is medium rather than high.
25	Low	Suitable footways are provided, and most sections are set back from the road and separated by wide grass verges.
26	High	There is a footway on the east side of the carriageway which is separated from the road by a wide grass verge, however, there is a PROW on the west side which there is no crossing to get to. The existing footway is also narrow. It could be argued that there is likely to be very low pedestrian use, given the location of this PROW in proximity to nearby residences, and so the lack of a crossing point is appropriate for level of use / context. The footway is also narrow under the railway bridge with no separation from road.
27	High	A southbound bus stop is located on the east side of the road, but no pedestrian crossing is provided from the footway on the west side, and there are no footway facilities either side of the bus stop. It should be noted however, that this bus stop is approximately 570m from the closest residence in Stewartby. Two routes serve this stop. Route 68 runs on an hourly basis, but also stops in Stewartby, significantly closer to residents, and therefore it is unlikely that users of this route will be attracted to this bus stop. Route FL5 only runs twice per day.
28	High	A southbound bus stop is located on the east side of the road, but no pedestrian crossing is provided from the footway on the west side, and there are no footway facilities either side of the bus stop. It should be noted however, that this bus stop is approximately 570m from the closest residence in Stewartby. Two routes serve this stop. Route 68 runs on an hourly basis, but also stops in Stewartby, significantly closer to residents, and therefore it is unlikely that users of this route will be attracted to this bus stop. Route FL5 only runs twice per day.
29	Negligible	This is a rural lane between B530 Ampthill Road and the village of Houghton Conquest (but does not include roads within the village). There are no pedestrian facilities, but also no desire lines within a reasonable walking distance.

Link Reference	Sensitivity	Notes
30	Low	A footway is provided along the link connecting to Thickhorn Lane (the only observed desire line) and there are no reasonable desire lines beyond this. Footway provision does not continue beyond this point.
31	Medium	A footway is provided on the east side of the link up to D&G Noble Limited, which connects with footways to the north and west to Wootton. There are no real desire lines south beyond this. There is a PROW sign just south of the D&G site, however this is very overgrown and not obvious how you would access it. There is no desire line to cross to the west side of the road i.e. PROW terminates at this point. Congestion experienced as a result of the Proposed Development. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
32	Medium	Footways are provided along the south side of the link, providing a continuous pedestrian route between Wootton and Woburn Road. At present this is not a strong desire line but would be in future with the Proposed Development. Crossing points are not provided, as there is no reason to cross the link, and guard railing is in place around the corner where the link connects with the Woburn Road roundabout. In future, this will form a key desire line between Wootton and the Proposed Development.
33	High	An access to a playground is located on this link and therefore there will be children present. Continuous footways are provided which are considered to be of good quality and a signalised crossing is provided near to the entrance to the playground.
34	Low	The link benefits from high quality footway and cycle provision, and zebra crossings are also provided.
35	Low	There is no footway provision along the link and no existing desire lines. There is a farm property, but the main access is via Manor Road.
36	High	There are PROW running parallel with this link, but no footways or dedicated crossings are provided.
37	Medium	Footways are provided on both sides of the carriageway and an informal crossing is also provided. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.

Link Reference	Sensitivity	Notes
38	Medium	A footway is provided on the east side and is considered suitable for observed demand. It is considered to be of an adequate width, and it is set back from the carriageway. The majority of development, and therefore desire lines, is located along the east side of the link. The footway along the west of the carriageway is of a poorer quality but this is not on the main desire line. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
39	Low	Adequate footway provision is in place along this link (footways are of adequate width and are set back from the road), which is characterised as residential.
40	Low	Adequate footway provision is in place along this link (footways are of adequate width and are set back from the road), which is characterised as residential.
41	Low	This is currently no development along this route as Wixams is under construction, however the masterplan includes suitable footway provision.
42	Medium	Adequate footway provision is in place along this link (footways are of adequate width and are set back from the road and separated by verges) and multiple crossing points are provided. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
43	Low	There is no pedestrian and cycle provision due to the rural nature of the link. Some commercial businesses are accessed from the link, but due to the distance between them and existing settlements, there is unlikely to be any pedestrian demand. A PROW sign is located at the north of the Lake Zone; however this does not continue across the B530 or south along the link, it is very overgrown and unlikely to be used (due to its overgrown nature, lack of onward connection and desire line).
44	Medium	There is no footway provision due to the strategic nature of the link. Underpasses are provided to get from commercial properties to residential areas on the west side of Bedford. One PROW crossing looks to remain, but it is unclear whether it is gated or not. To be robust it has been assumed that this is open. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.

Link Reference	Sensitivity	Notes
45	Medium	There is no footway provision due to the strategic nature of the link. Underpasses are provided to cross under the A6. There is a PROW connection at the very north of the link (on the west side of the carriageway) but this is segregated from the road and an informal crossing is provided at the roundabout to cross. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
46	Low	There are wide shared use footway/cycleways along both sides of the carriageway and informal pedestrian island crossings at each roundabout. Although a dual carriageway, the road is subject to a 30mph speed limit.
47	High	There is a small number of residential and commercial properties at the north of the link, which are set back from the carriageway and are not accessed directly from the link. The road is subject to a 40mph speed limit within the vicinity of the residences. A footway is provided from the Marston Moretaine junction to the north, down to these properties. It does not extend south beyond these. At the south of the link, immediately north of the junction with Manor Road, a PROW (bridleway) connects with the road on the west side, and an informal dropped-kerb crossing is provided to allow access to the footway/ cycleway on the east side. The footway/ cycleway is narrow at this point and continues around onto Manor Road. The link is subject to the national speed limit at this point.
48	Medium	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
49	Medium	The footways and cycleways are completely segregated at different level to the carriageway, as this road connects to the A6, where pedestrians and cycles are not permitted. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
50	Low	There are wide footways provided and with suitable crossing points.

Link Reference	Sensitivity	Notes
51	Medium	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
52	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
53	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
54	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
55	Medium	Footways and informal crossing points are provided but the footway is not well surfaced, and some areas are narrow.
56	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
57	Medium	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
58	Medium	Continuous footways are provided, judged to be of a suitable width based on observed pedestrian flows. A signalised crossing is provided and where the footway extends under the bridge it is segregated from the carriageway. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
59	Medium	Footways are completely segregated from the carriageway due to its strategic nature and a signalised crossing is provided at the north of link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
60	High	Footways are provided and there are signalised crossings at each end of link. The link is judged to not be a pleasant environment for pedestrians and cyclists however, and there is a reduction in average vehicle speed of more than 5mph on this link as a result of the Proposed Development.

Link Reference	Sensitivity	Notes
61	Low	Footways begin to be separated from carriageway and backed by residential dwellings, feeling less 'hemmed in' than the previous link.
62	Low	Wide footways and a signalised crossing are provided at the western end of the link where it connects with the strategic road network.
63	Medium	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link. A reduction in average vehicle speed of more than 5mph is experienced on this link as a result of the Proposed Development.
64	Medium	Footways and cycleways are provided, along with informal crossing points. The sensitivity of users of this link would be low but there are clear desire lines to cross over the road as there are bus stops on either side.
65	Medium	Footways are provided along the link along with a combination of signalised crossings and informal crossings. Users of this link would be assigned as low sensitivity, however there is a desire line between Shortstown and Bedford over the A421 and this link requires using a bridge crossing over the A421 which could be intimidating.
66	Medium	Footways are provided along the link along with a combination of signalised crossings and informal crossings. Users of this link would be assigned as low sensitivity, however there is a desire line between Shortstown and Bedford over the A421 and this link includes using a bridge crossing over the A421 which could be intimidating. Footways could also do with widening.
67	Low	A shared footway/cycleway is provided along the north side of the link, which is where trip generators and desire lines are. This is considered suitable provision.
68	Medium	Most of link does not have pedestrian facilities due to its strategic nature, but there is a spur of footway to a bus stop which is very narrow. The link would otherwise have been classed as low. A signalised crossing is provided at the eastern end of the link.

Link Reference	Sensitivity	Notes
69	High	The footway/cycleway is very narrow in parts and is not continued over a small bridge along the link (due to width constraints) and therefore would require pedestrians to walk on the edge of the carriageway. Although there is good visibility this is not a high-quality pedestrian provision. This is the only pedestrian /cycle connection over the A421 at this location. A reduction in average vehicle speed of more than 5mph is also experienced on this link as a result of the Proposed Development.
70	Medium	Footways/cycleways are wide and set back from the carriageway for the most part. Informal crossings are provided. A reduction in average vehicle speed of more than 5mph is also experienced on this link as a result of the Proposed Development.
71	Medium	A footway provided but this is narrow. There are bus stops on either side of the road and a football club which could be a trip generator.
72	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
73	Low	This is a rural lane with no footways, and it is considered very unlikely that there would be any pedestrian desire lines (some footway provided at roundabout but this stops). This footway provision which does not continue could have resulted in a higher sensitivity but there are no desire lines to the south which would mean pedestrians were using this footway and then suddenly met with dead end, therefore the sensitivity is classed as low.
74	Low	There is suitable pedestrian provision where trip generators are located (access to open space, residences) and a signalised crossing is provided adjacent to the open space.
75	Low	There is no footway or cycle provision, and no users are expected to be present due to the strategic nature of the link. The exception to this is where the link connects to the roundabout- there is an informal crossing here which does not extend along the link but allows north-south ped movements (unlikely to be any, but this is why low rather than negligible).
76	Medium	There is a footway on the east side of the carriageway which leads to a bus stop, then informal crossing to cross to the west side where residences and commercial units are located (very small number). It is very

Link Reference	Sensitivity	Notes
		unlikely that there would be much pedestrian activity but because of the bus stop and narrow footway at this point, receptors using this link have been classed as medium sensitivity, in order to be robust.
77	Negligible	There is no footway or cycle provision and no NMUs will be present due to the strategic nature of the link.
78	Negligible	This link has been closed due to construction of the Black Cat scheme.
79	Medium	This link is highly unlikely to have any pedestrian or cycle traffic due to its strategic nature and lack of desire lines. A reduction in average vehicle speed of more than 5mph is also experienced on this link as a result of the Proposed Development.
80	Low	Footways are provided along the link but there are no trip generators within reasonable walking distance. Where there are residences/ commercial properties, these have segregated access and underpasses/ bridges are provided over the strategic road.
81	Medium	The footway switches between both sides of the carriageway with no crossing points (although there are no real pedestrian trip generators so sensitivity could be argued to be low). A reduction in average vehicle speed of more than 5mph is also experienced on this link as a result of the Proposed Development.
82	Negligible	This is a strategic link with no footway/cycleway provision and therefore pedestrians and cyclists will not be present.