

Report to Norwich Highways Agency Committee
16 March 2017

Report of Head of city development services

Subject Transport for Norwich – Brazengate to All Saints Green
Cycling Improvements

Item

15

Purpose

To seek approval to consult on the proposals for the Brazengate to All Saints Green Cycling Improvements scheme.

Recommendation

That the committee:

(1) approves for consultation the proposals for the Brazengate project, including:

- (a) Provision of mandatory and advisory cycle lanes on Brazengate
- (b) Removal of a pedestrian refuge on Brazengate and installation of a zebra crossing in its' place
- (c) Installation of early release traffic signals with camera detection for cyclists at the Brazengate and All Saints Green junctions with Queens Road
- (d) Changes to the All Saints Green / Surrey Street junction to remove existing traffic signals and controlled pedestrian crossings and install a new raised table across the junction with informal crossing points
- (e) Review the existing bus gate at Grove Road to allow use by buses only during the existing operational times of 0730-0930 Monday to Friday and provide camera enforcement
- (f) Provision of an advisory cycle lane on the east side of All Saints Green

(2) asks the head of city development services to carry out the necessary statutory procedures associated with advertising any Traffic Regulation Orders (TROs) and Notices that may be required for the implementation of the scheme as described in this report;

(3) agrees that the outcome of the proposed consultation will be reported to a future meeting of the committee.

Corporate and service priorities

The report helps to meet the corporate priority a safe, clean and low carbon city.

Financial implications

The scheme has been allocated £550,000 of funding from the Department for Transport City Cycle Ambition grant.

Ward/s: Mancroft and Town Close

Cabinet member: Councillor Bremner - Environment and sustainable development

Contact officers

Joanne Deverick, Transportation Manager
Norwich City Council 01603 212218

Jeremy Wiggin, NATS/City Agency Manager
Norfolk County Council 01603 223117

Amy Cole, Project Engineer
Norfolk County Council 01603 638116

Background documents

None

Report

Scheme Objectives and Benefits

1. This cycling improvement scheme is within Norwich city centre and straddles Queens Road which is part of the inner ring road. It includes the All Saints Green/Surrey Street junction to the north, the All Saints Green/Queens Road junction and Brazengate to the south. Part of Grove Road is also included. Please refer to Appendix 1 for a Site Location Plan.
2. All Saints Green, Surrey Street, Queens Road and part of Grove Road fall within a conservation area.
3. This route is part of the yellow Pedalway (Lakenham – Airport) and the orange inner circuit Pedalway. Please refer to the website address https://www.norwich.gov.uk/downloads/file/3488/norwich_cycle_map for a full plan, or see drawing reference PE4113-MP-06A in Appendix 2 for a Pedalway Plan for the local area.
4. Queens Road has an existing speed limit of 30mph. The right turn from Queens Road into All Saints Green is banned to all vehicles including cyclists. Cyclists travelling across Queens Road at the signal controlled junction with All Saints Green and Brazengate must cross 5 lanes of traffic.
5. Brazengate has an existing speed limit of 30mph. This will be reduced to 20mph as part of another scheme to be implemented at the same time as this scheme. Recent housing development at the south end of Brazengate is now complete with properties occupied. Cyclists using the Brazengate approach to Queens Road intending to travel straight ahead or turn right use a narrow feeder lane (approx. 1.05m) between two lanes of traffic. All Saints Green and Surrey Street have an existing speed limit of 20mph. On the All Saints Green approach to Queens Road, cyclists use a short feeder lane to reach an advanced stop line. Left turns from All Saints Green to Queens Road are prohibited to all vehicles.
6. Grove Road has an existing speed limit of 30mph. Other schemes, to be implemented at the same time as this scheme, will see the speed limit changed to 20mph on Grove Road and a zebra crossing installed in the place of the existing puffin crossing.
7. As part of the All Saints Green / Golden Ball Street / Westlegate project All Saints Green was permanently closed to through traffic at John Lewis on 3rd January 2017. This means that general traffic can no longer access All Saints Green from Golden Ball Street and Ber Street. All Saints Green is already closed to general traffic heading towards St Stephens Street.
8. The primary objectives of this scheme are to improve the environment for cyclists using the yellow Pedalway by providing more space for cyclists on Brazengate, allowing them to pass through the Queens Road junction more easily and to reduce traffic speeds. There are also proposals for improvements for pedestrians in the form of a zebra crossing on Brazengate and the relocation of the puffin crossing on Brazengate adjacent to Sainsburys so that it is closer to the pedestrian desire line.

Survey Data

9. A 12 hour weekday classified traffic count was carried out at the Brazengate / Queens Road junction on 5 October 2016. This survey showed a total traffic flow of 907 heading north into All Saints Green and 4064 heading south out of All Saints Green.
10. On 3 January 2017. All Saints Green was closed to through traffic at John Lewis. Traffic and pedestrian surveys were subsequently carried out at the All Saints Green / Surrey Street junction on Thursday 19 January and Saturday 21 January. The weekday data showed a total traffic flow of 1024 heading north and 883 heading south out of All Saints Green.
11. This data shows that since the closure of All Saints Green at John Lewis the levels of traffic travelling southbound between Surrey Street and Queens Road has reduced by over 78%. There has been a 12.9% increase in northbound traffic using this section of All Saints Green.
12. Summarised results of the All Saints Green / Surrey Street surveys can be seen on drawing reference PE4113-MP-011 which can be found in Appendix 3. These are as follows:
 - a) Flows at the junction are generally low
 - b) Surrey Street is the main route for buses with a weekday 12 hour 2-way total of 101 (plus 13 coaches). The peak hour occurs at 1700-1800 with a 2-way total of 17 buses.
 - c) The above is replicated on a Saturday with a 2-way total of 78 buses (plus 3 coaches). The peak hour occurs at 1700-1800 with a 2-way total of 10 buses
 - d) The main traffic movements (weekday and Saturday) are from the south-eastern leg of Surrey Street heading to the southern section of All Saints Green (530 vehicles weekday, 279 vehicles Saturday) and vice versa (526 vehicles weekday and 386 vehicles Saturday).
 - e) The weekday peak hour at the junction occurs between 1300-1400 (512 vehicles)
 - f) The Saturday peak hour at the junction occurs between 1245-1345 (222 vehicles)
 - g) The combined 2-way cycle flow along All Saints Green is 240 weekday and 114 Saturday. This is the route of the orange Pedalway
 - h) The combined 2-way cycle flow along Surrey Street is 113 weekday and 50 Saturday.
 - i) Cycle flows between All Saints Green and Surrey Street along the route of the yellow Pedalway are 85 weekday and 60 Saturday.

13. Pedestrian crossing assessments have been carried out at the All Saints Green / Surrey Street junction using the survey data obtained on 5 October 2016 and 19 and 21 January 2017. These include site assessments and options assessments at each arm of the junction. These documents can be found in Appendix 5.
14. The assessments show the highest number of crossings taking place across the northern arm of All Saints Green (3185 weekday of which 29% are unaccompanied children; 1367 Saturday). The difficulty of crossing here during the peak hour is assessed low. On the southern arm of All Saints Green there were 1639 weekday crossings (856 Saturday) of which 16% were unaccompanied children. Difficulty of crossing here during peak hour is assessed as moderate. The figures for Surrey Street (east) were 1260 weekday, 1980 Saturday with a moderate crossing difficulty and for Surrey Street (west) 926 weekday and 570 Saturday with a low crossing difficulty. Please refer to Appendix 5 for full details.
15. In November 2016 a 7-day automatic traffic count was carried out on Brazengate (close to Sainsbury's customer access). This survey showed mean speeds of 27.0mph northbound and 22.9mph southbound. The 85th percentile speeds were recorded at 31.3mph northbound and 31.3mph southbound.¹

Design Options Considered

16. In light of Surrey Street no longer being a through route for general traffic to St Stephens Street and the more recent closure of All Saints Green at John Lewis, consideration was given to the complete closure of All Saints Green, or the alternative of making the route one-way inbound only from Queens Road with the provision a contraflow cycle lane. A complete closure of All Saints Green may result in additional capacity on the ring road due to fewer traffic signal phases being needed at the junction (subject to traffic modelling). However, it was felt that reduction in vehicular traffic using this section following the road closures mentioned above would result in significant improvements for cyclists without the need for significant additional measures. This has since been supported by data from the traffic surveys carried out in January 2017 as described in item 10.
17. Additionally complete closure of All Saints Green would mean that vehicles using Surrey Street would need to be able to turn around on Surrey Street (access and exit via Queens Road). This would require the provision of adequate space and an assessment made of the impacts on other road users such as pedestrians, including unaccompanied child pedestrians, and cyclists.
18. The traffic survey at the All Saints Green/Surrey Street junction showed the majority of movements travelling between the south-western leg of All Saints Green and the south-eastern leg of Surrey Street in both directions. Some of these movements may be attributed to trips to and from Notre Dame High School.

¹ The 85th percentile speed is the speed at which 85% of traffic is travelling at or below in free flow conditions

19. Making All Saints Green 1-way inbound would mean traffic using this section of Surrey Street would need to exit Surrey Street at an uncontrolled junction with Queens Road. Surveys suggest the displacement of 883 vehicles (within a 12 hour period) from All Saints Green (south-west bound) to Surrey Street (south-east bound). Those wishing to turn right would need to cross 3 traffic lanes to gain access to the north-west bound carriageway. This could result in delays and queuing on Surrey Street. Alternatively vehicles may turn left into Finkelgate, attempting to use the recently installed mini roundabout to turn around to re-join Queens Road using the signal controlled junction, thus enabling an easier right turn.
20. In light of the above it is considered appropriate that All Saints Green should remain open at the current time.
21. The existing layout of the northbound approach on Brazengate is two traffic lanes with a central cycle lead-in lane. Consideration has been given to providing only one traffic lane to allow more space for cycles. However this arrangement could lead to queuing on Brazengate if left turning traffic is unable to turn due to queuing traffic on Queens Road, i.e. those wishing to turn right may be held up in a queue of left turning vehicles. This option has therefore not been included in these proposals.

Preferred Option

22. The preferred designs are shown on drawings PE4113-MP-001A, PE4113-MP-002A, PE4113-MP-003A and PE4113-MP-004A which can be found in Appendix 4. The main points are summarised below:
 - a) There are existing advisory cycle lanes on both sides of Brazengate which are between 1.15m – 1.55m wide. These will be widened to 2.0m and converted to mandatory cycle lanes where possible. In constrained areas, such as through the Southwell Road bridge arch, and across junctions, the cycle lane will have advisory sections at 1.5m wide.
 - b) On the Brazengate northbound approach there is a cycle lead-in lane of approximately 1.05m width leading to a 4.90m deep cycle reservoir. This scheme will retain this layout but with a widened lead-in lane of 2.0m. Two traffic lanes will be retained, each 3.0m wide. The reservoir depth will be increased to 7.5m.
 - c) Reconfigure traffic signals at the Queens Road junctions with Brazengate and All Saints Green to provide camera detection of approaching cyclists to trigger an early green signal to cyclists, prior to that for motorised vehicles.
 - d) The pedestrian crossing on Brazengate southbound (adjacent to Sainsburys) will be relocated northwards, closer to the Sainsburys access, to better suit the pedestrian desire line.
 - e) Adjustments will be made to kerb lines on the Queens Road/Brazengate junction, at the Brazengate/Grove Road junction and the northern kerb line of the Sainsbury's customer access to provide physical measures to promote slower vehicle speeds.

- f) Installation of a zebra crossing in the place of an existing pedestrian refuge on Brazengate, just south of the Grove Road junction. The removal of the refuge will free up space which can be used to provide consistent cycle lane widths through this area. This will also provide benefit to pedestrians and will complement the zebra crossing which will be installed on Grove Road as part of another scheme.
- g) There is an existing bus gate at Grove Road which restricts northbound traffic movements 0730-0930 Monday to Friday. It is planned to adjust the Traffic Regulation Order and signing to specify that only buses may pass during these times and camera enforcement shall be installed.
- h) Adjustments to the southbound All Saints Green approach to widen the cycle reservoir to approximately 7.5 metres and widen and lengthen the existing advisory cycle lane. This advisory cycle lane will be located on the east side of All Saints Green from its' junction with Surrey Street southwards to its' junction with Queens Road. The advisory cycle lane will be approximately 1.5 metres wide, with the removal of existing carriageway centre lines, leaving running lane widths of approximately 2.75 metres.
- i) Following the recent removal of through traffic to Surrey Street (north-west bound) and All Saints Green (north-east bound) it is proposed that the traffic signals at this junction be removed and a raised table provided across the junction. Surrey Street shall become the priority route with All Saint's Green traffic giving way at the junction. This has been informed by traffic surveys and a desire to maintain the route taken by buses as the priority route.
- j) In light of an existing controlled crossing of All Saints Green at the Brazengate junction, low vehicle movements and adequate gaps for pedestrians to cross, it is proposed that pedestrian provision at the junction will take the form of informal tactile paved crossing points. These can be located close to the junction (unlike other types of crossings) on the desire lines of pedestrians.
- k) An independent pedestrian crossing assessment of the All Saints Green / Surrey Street junction has been commissioned to take place during April 2017.

Traffic Regulation Orders and Notices

23. Legal processes will be required for the installation of the raised table, the zebra crossing, and the Grove Road bus gate.

Traffic Impacts

24. Traffic management will be required during the construction work and delays to traffic are likely. A press release will be issued for information closer to the start of construction and publicity of the scheme will be managed by the Communications Project Manager. Work will be programmed to minimise impact on the road network where possible.

Environment

25. Queens Road, All Saints Green, Surrey Street and part of Grove Road fall within a Conservation Area. The detailed scheme design will be progressed with input from City Council Landscape and Conservation officers.

Accident Reduction

26. There have been 7 personal injury accidents in the 3 years to November 2016, 3 of which involved cyclists. One of these was due to failure to give way from Grove Road to a northbound cyclist. This scheme will provide improved on-carriageway facilities for cyclists in this area and the adjustment of kerb lines the Grove Road junction will help to encourage lower vehicle speeds.

Public Consultation

27. A public consultation on the scheme proposals is planned to go ahead during May and June 2017. Consultation will also be carried out for all necessary legal processes. Feedback and any objections arising from the consultation on the scheme proposals will be reported to a future NHAC meeting for consideration on how to proceed with the scheme.

Timescales

28. Subject to approvals and legal processes the scheme is planned to be constructed during the final quarter of 2017-18 (January-March 2018).

Stakeholder Views

29. Stakeholders, including businesses in the area, local residents and local interest groups will be included in the scheme consultation.

Conclusion

30. This project is rooted in strategy documents that have been adopted by Norwich City and Norfolk County Councils and the proposals will meet the requirements of the brief by providing benefits to cyclists using the yellow and orange Pedalways.

Resource Implications

31. Finance: The TfN programme forms and integral part of strategic infrastructure as set out in the Joint Core Strategy (JCS). The delivery of this work is funded by government grants by way of the City Cycle Ambition programme.

32. Staff: The project will be delivered through joint team working involving both County Council and City Council officers.

33. Property: The proposals can be provided within the existing highway boundary.

34. IT: No implications.

Other Implications

35. Legal: None.

36. Human Rights: None.

37. Communications: The Communications Project Manager for Transport for Norwich schemes will manage publicity and enquiries.

Section 17 – Crime and Disorder Act

38. The scheme will be designed to ensure there are no negative effects on crime and disorder and will include a review of lighting levels along the route.

Risk Implications / Assessment

39. A risk assessment has been undertaken for development of the NATS Implementation Plan (TfN). The key risks for delivering this are around funding, timescales and planning. These risks are being managed through active project management and ongoing engagement with stakeholders.

40. A risk register is being maintained as part of the technical design and construction delivery processes.

Integrated impact assessment



NORWICH
City Council

Report author to complete

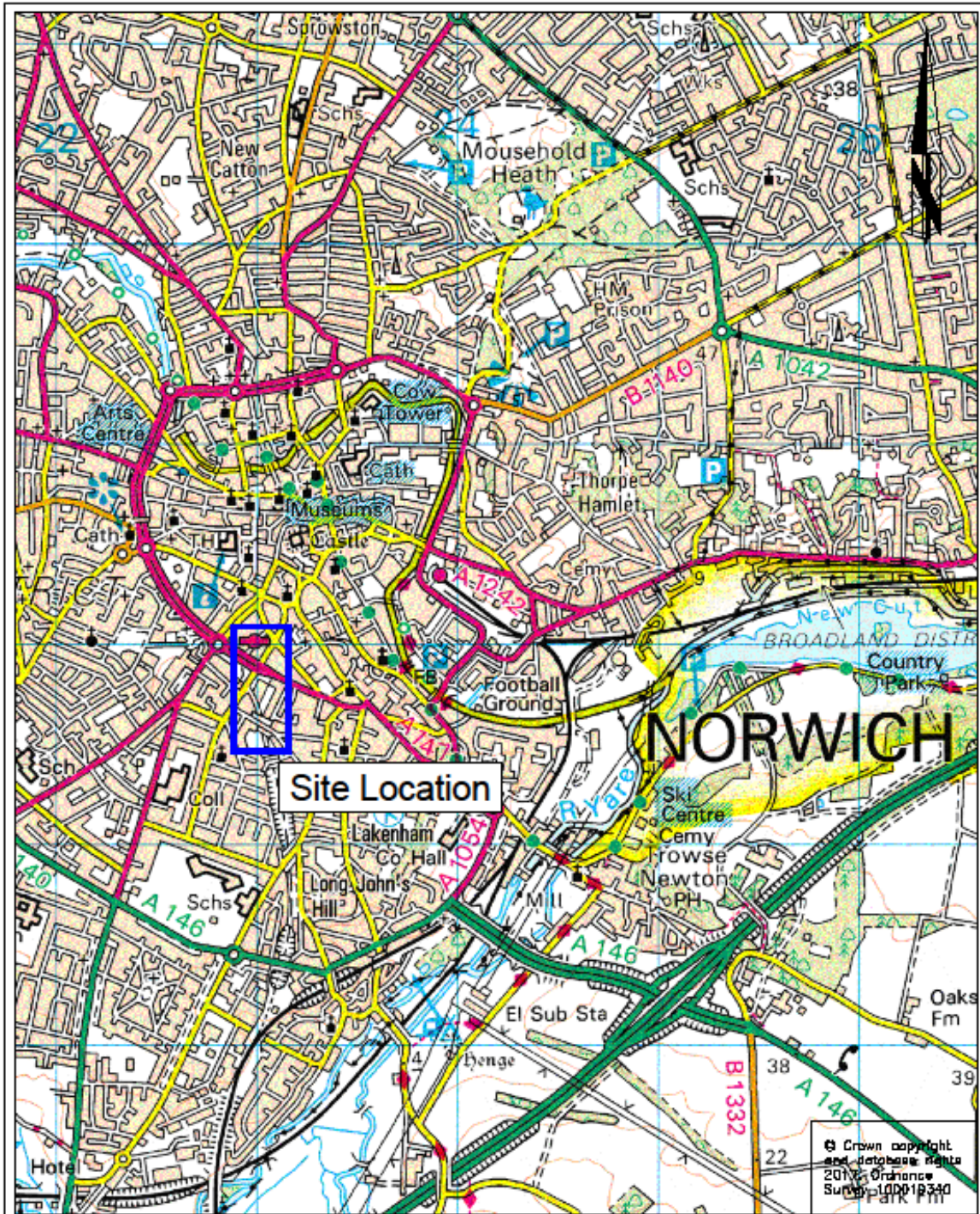
Committee:	Norwich Highways Agency Committee
Committee date:	16 March 2017
Director / Head of service	Head of City Development Services and Executive Director of Community and Environmental Services
Report subject:	Transport for Norwich – Brazengate to All Saints Green Cycling Improvements
Date assessed:	February 2017
Description:	To seek approval to consult on the proposals for the Brazengate to All Saints Green Cycling Improvements scheme


	Impact			
Economic (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Finance (value for money)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other departments and services e.g. office facilities, customer contact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ICT services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Economic development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The scheme will improve access to areas of employment, education and leisure and promote cycle use to help reduce congestion which aids the flow of people and goods/services on the road network.
Financial inclusion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Social (please add an 'x' as appropriate)				
Safeguarding children and adults	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>S17 crime and disorder act 1998</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The scheme will include a review of lighting levels along the route.
Human Rights Act 1998	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Health and well being	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The scheme seeks to contribute to a reduction in congestion and an improvement in air quality by encouraging cycle use. Pedestrians will benefit from a more direct crossing adjacent to Sainsbury and a zebra crossing on Brazengate close to the Grove Road junction.

	Impact			
Equality and diversity (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Relations between groups (cohesion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Eliminating discrimination & harassment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Advancing equality of opportunity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Environmental (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Transportation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The scheme promotes cycle use and a reduction in congestion which will allow goods and services to move more freely on the network.
Natural and built environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Removal of the traffic signals at the All Saints Green / Surrey Street junction with the addition of a raised table is an opportunity to enhance this conservation area by working with Landscape and Conservation Officer to produce a suitable design.
Waste minimisation & resource use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pollution	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The scheme contributes to the corporate priority 'a safe, clean and low carbon city' by seeking to reduce congestion and improve air quality.

	Impact			
Sustainable procurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Energy and climate change	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The scheme contributes to the corporate priority 'a safe, clean and low carbon city' by encouraging cycle use, reducing car use and CO2 emissions.
(Please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Risk management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Recommendations from impact assessment				
Positive				
No further comments				
Negative				
No negative impacts identified				
Neutral				
No further comments				
Issues				
No further comments				

Appendix 1 – Site Location Plan





Norfolk County Council

DRAWING TITLE

PUSH THE PEDALWAYS - PROJECT 16

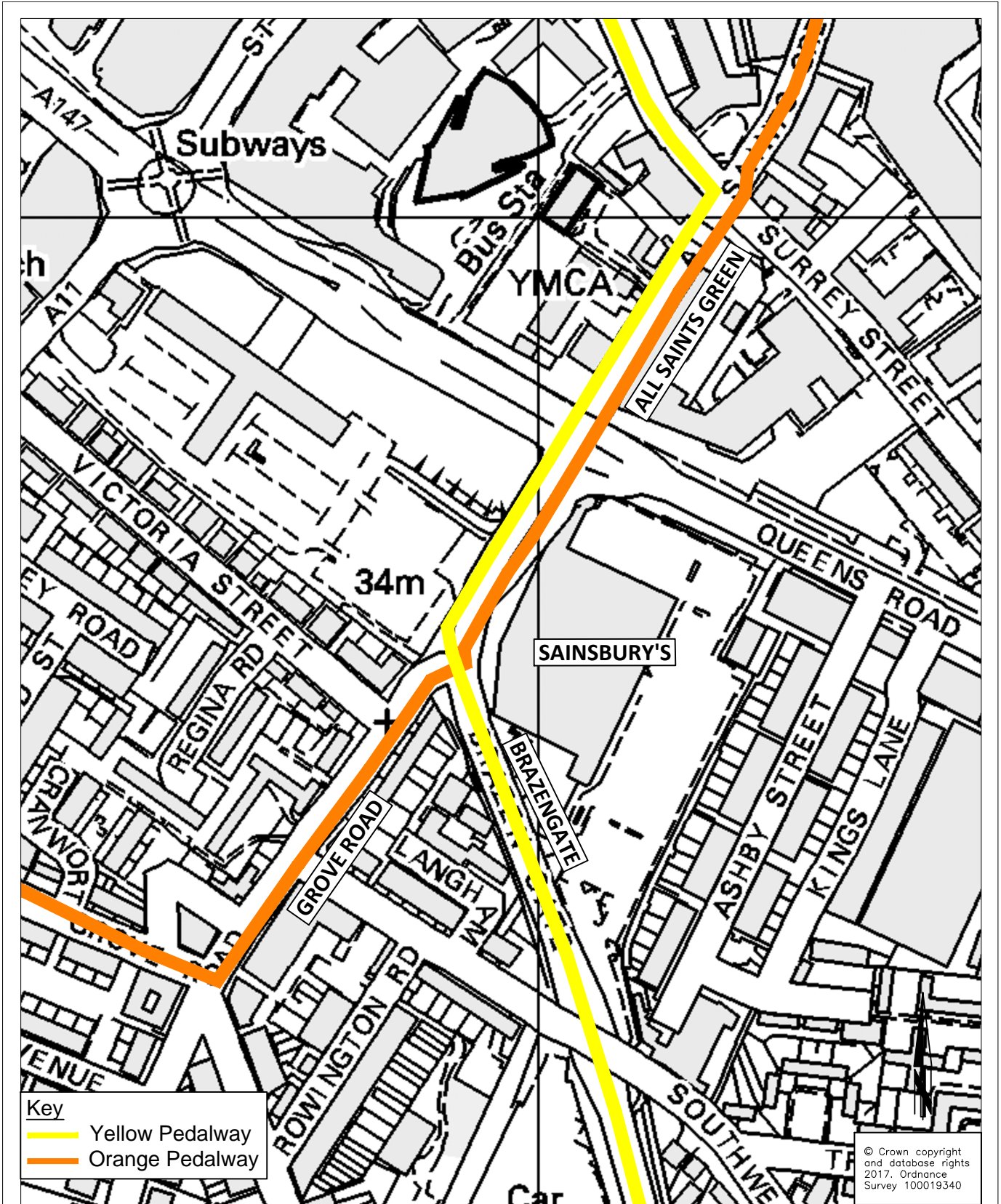
QUEENS ROAD / BRAZENGATE / ALL SAINTS GREEN

LOCATION PLAN

Tom McCabe
 Executive Director of
 Community and Environmental Services
 Norfolk County Council
 County Hall
 Martineau Lane
 Norwich NR1 2SG

REV	DESCRIPTION	DRAWN	CHECKED	DATE

INIT.	DATE	DRAWING No.
SURVEYED BY	OB	2017
DESIGNED BY	DN	01/17
DRAWN BY	DN	01/17
CHECKED BY	AC	01/17
SCALE		1:2500 @ A4
PROJECT TITLE		Push The Pedalways Project 16 - Brazengate
FILE No.		PE4113



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Key
— Yellow Pedalway
— Orange Pedalway

Funded by:



Transport for Norwich



Department for Transport

NEWANGLIA
 Local Enterprise Partnership for Norfolk and Suffolk

DRAWING TITLE

PUSH THE PEDALWAYS - PROJECT 16
 QUEENS ROAD / BRAZENGATE / ALL SAINTS GREEN
 PEDALWAY PLAN

Tom McCabe
 Executive Director of
Community and Environmental Services
 Norfolk County Council
 County Hall
 Martineau Lane
 Norwich NR1 2SG

REV.	DESCRIPTION	CHECKED	DATE
A	Removal of blue Pedalway	AC	01/17

SURVEYED BY	OS	2017	DRAWING No. PE4113-MP-006A
DESIGNED BY	DN	01/17	PROJECT TITLE Push The Pedways Project 16 - Brazengate
DRAWN BY	DN	01/17	SCALE 1:2500 at A4
CHECKED BY	AC	01/17	FILE No. PE4113

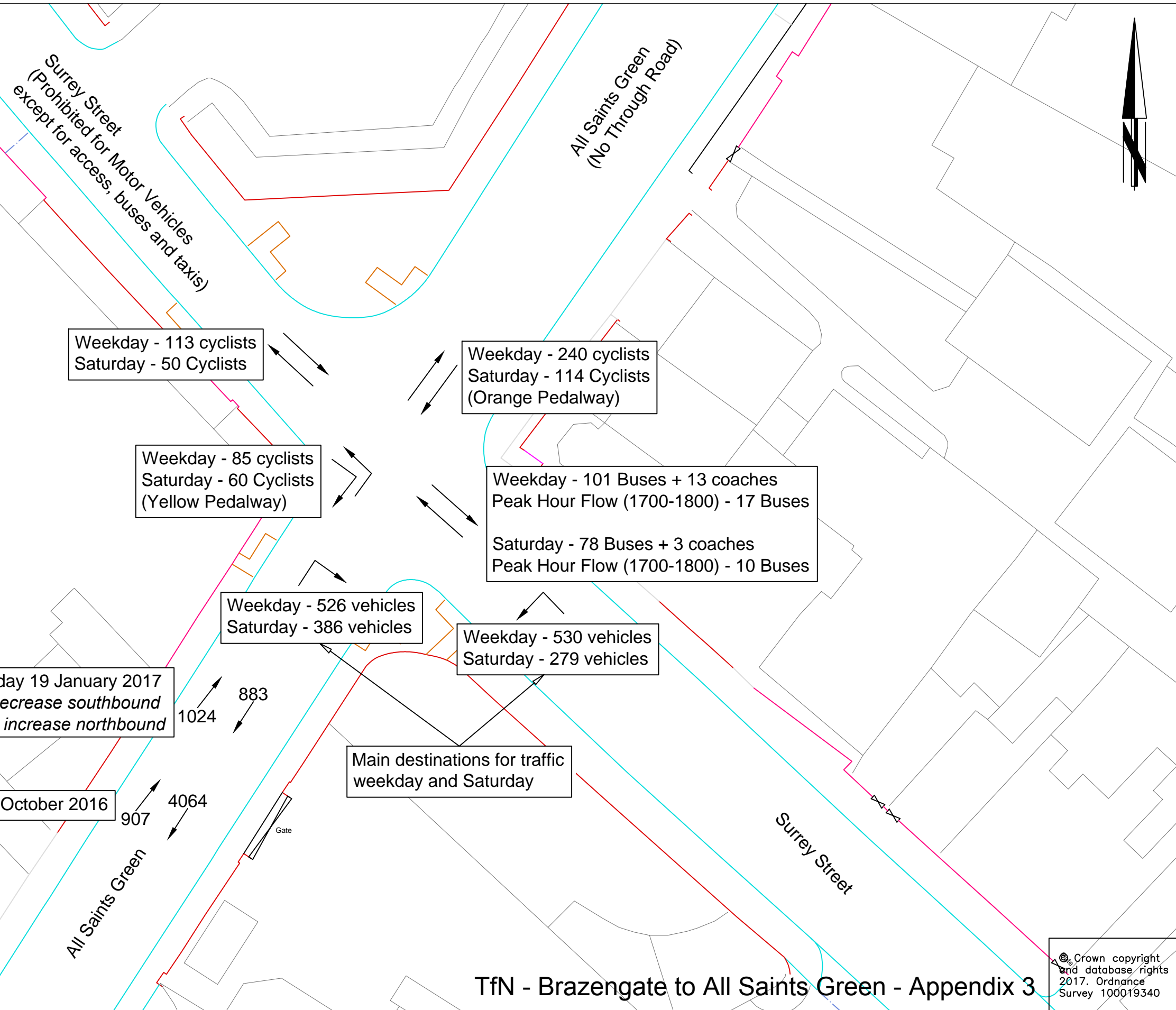
Notes

All surveys undertaken on Thursday 19 & Saturday 21 January 2017 unless otherwise stated.

Flows at the junction are generally low.

Weekday peak hour at junction is 1300-1400 (512 vehicles)

Saturday peak hour at junction is 1245-1345 (222 vehicles)



Thursday 19 January 2017
78% decrease southbound
12.9% increase northbound

Wednesday 05 October 2016

Weekday - 113 cyclists
Saturday - 50 Cyclists

Weekday - 85 cyclists
Saturday - 60 Cyclists
(Yellow Pedalway)

Weekday - 526 vehicles
Saturday - 386 vehicles

Weekday - 240 cyclists
Saturday - 114 Cyclists
(Orange Pedalway)

Weekday - 101 Buses + 13 coaches
Peak Hour Flow (1700-1800) - 17 Buses
Saturday - 78 Buses + 3 coaches
Peak Hour Flow (1700-1800) - 10 Buses

Weekday - 530 vehicles
Saturday - 279 vehicles

Main destinations for traffic
weekday and Saturday

TfN - Brazengate to All Saints Green - Appendix 3

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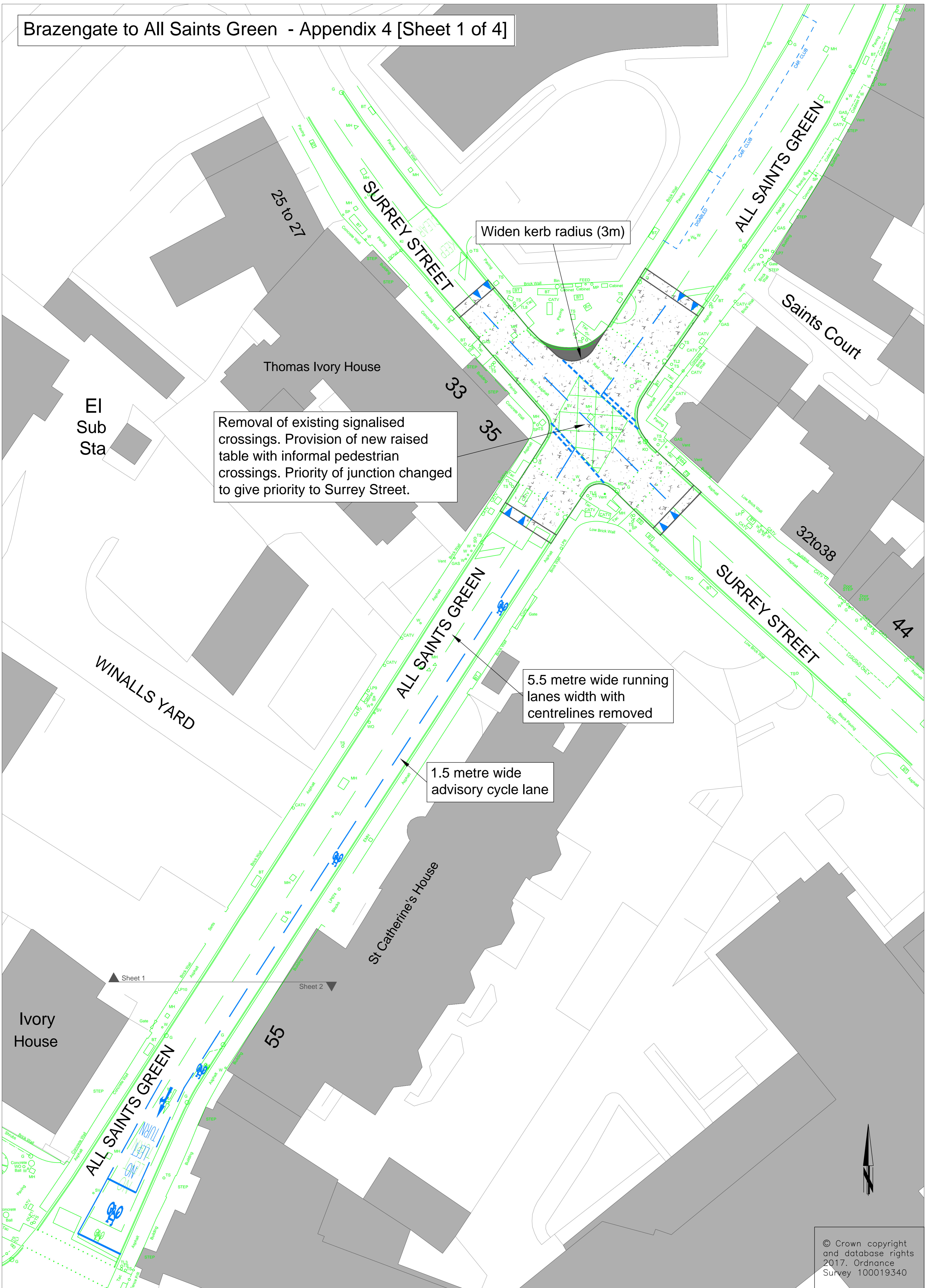
Funded by:

Tom McCabe
Executive Director of Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

DRAWING TITLE
PUSH THE PEDALWAYS - PROJECT 16
ALL SAINTS GREEN / SURREY STREET
SUMMARY OF KEY TRAFFIC SURVEY DATA

REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE

SURVEYED BY	INITIALS	DATE	DRAWING No.
OS/PC		2016	PE4113-MP-011
DESIGNED BY	DN	02/17	PROJECT TITLE
DRAWN BY	DN	02/17	Push The Pedalways Project16 - Brazengate
CHECKED BY	AC	02/17	SCALE
			1:250 @ A3
			FILE No.
			PE4113



Removal of existing signalised crossings. Provision of new raised table with informal pedestrian crossings. Priority of junction changed to give priority to Surrey Street.

Widen kerb radius (3m)

5.5 metre wide running lanes width with centrelines removed

1.5 metre wide advisory cycle lane

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Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

DRAWING TITLE
PUSH THE PEDALWAYS - PROJECT 16
QUEENS ROAD / BRAZENGATE / ALL SAINTS GREEN
SCHEME LAYOUT - SHEET 1 OF 4

REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE
A	1.5m wide advisory cycle lane added on east side of ASG	JT	DN	02/17
B	Proposed Disabled Car Club bays added	DN	AC	03/17

SURVEYED BY	INITIALS	DATE	DRAWING No.
DESIGNED BY	OS/PC	2016	PE4113-MP-001B
DRAWN BY	DN	01/17	Project 16 - Brazengate
CHECKED BY	AC	01/17	SCALE 1:200 @ A1 FILE No. PE4113

Brazengate to All Saints Green - Appendix 4 [Sheet 2 of 4]

Sheet 1

Sheet 2

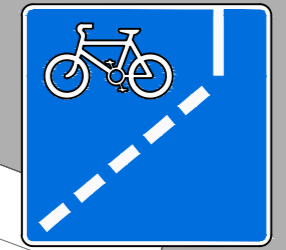
Ivory House

55

Remove existing traffic signal island

Adjust lining to achieve a set-back of 1.7m between the ASL and pedestrian crossing studs.

Adjust lining to achieve 7.5m deep ASL box



Provide mandatory cycle lane signage as necessary

Cycle early release traffic signals and camera detection to be provided.

Adjust lining to achieve a set-back of 1.7m between the ASL and pedestrian crossing studs.

Cycle early release traffic signals and camera detection to be provided.

Adjust lining to achieve 7.5m deep ASL box

Existing central lead-in lane to be adjusted to achieve 2.0m width with adjacent traffic lanes 3.0m wide.

Widen kerb radius (8m) to slow left turn manoeuvres.

Existing staggered crossing to be relocated.



Provide mandatory cycle lane signage as necessary

Traffic island to be narrowed/adjusted accordingly to accommodate central lead-in widening on northbound carriageway. A minimum width of 3.0m to be maintained for pedestrians on staggered crossing.

Existing advisory cycle lane to be widened to 2.0m and made mandatory, with adjacent traffic lanes of minimum 3.0m.

Sheet 2

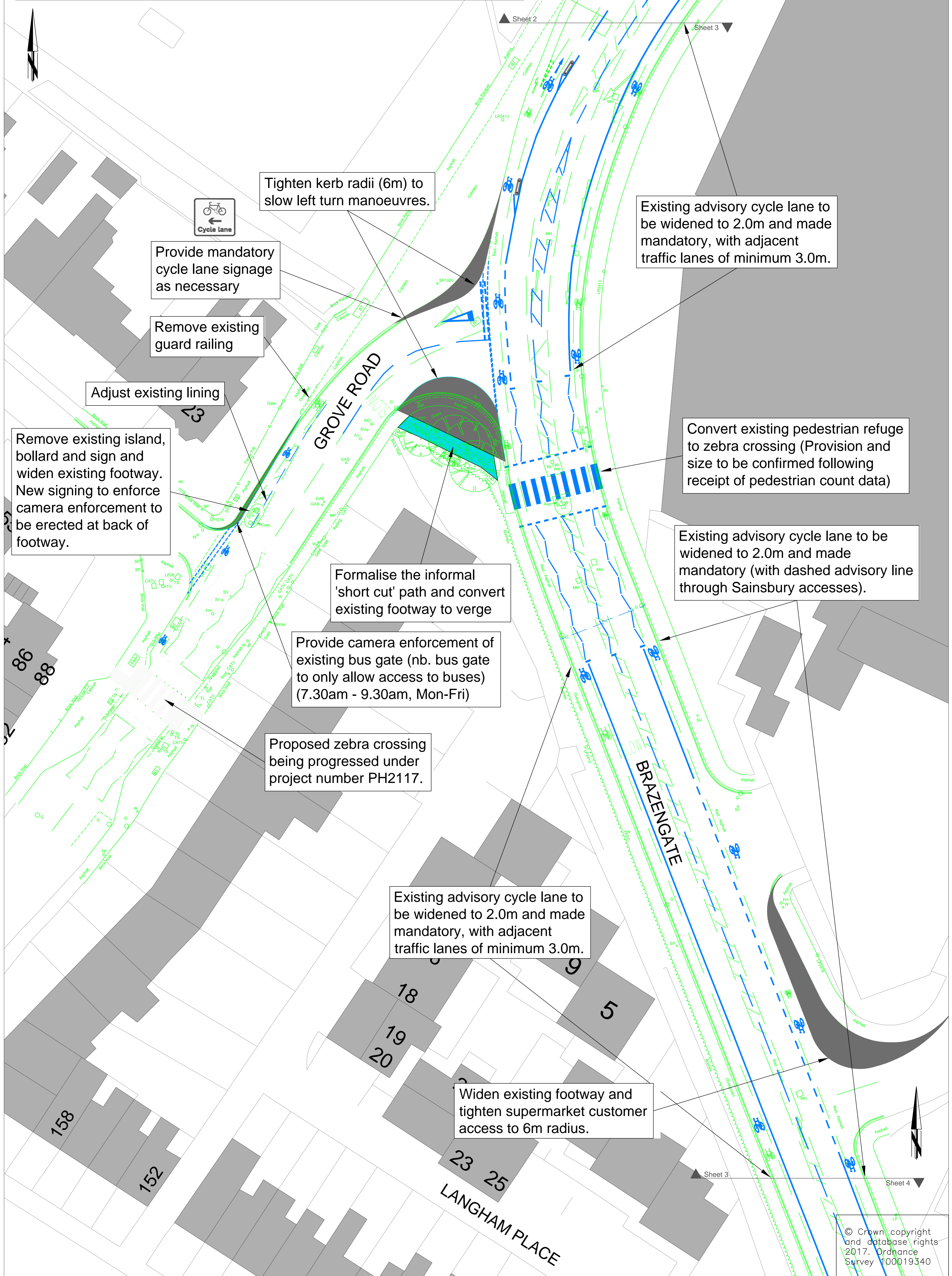
Sheet 3

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REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE
A	N/A	JT	DN	02/17
B	Annotation adjustments	DN	AC	03/17

SURVEYED BY	INITIALS	DATE	DRAWING No.
DESIGNED BY	OS/PC	2016	PE4113-MP-002B
DRAWN BY	DN	01/17	Project 16 - Brazengate
CHECKED BY	DN	01/17	SCALE 1:200 @ A1
	AC	01/17	FILE No. PE4113

Brazengate to All Saints Green - Appendix 4 [Sheet 3 of 4]



Tighten kerb radii (6m) to slow left turn manoeuvres.

Existing advisory cycle lane to be widened to 2.0m and made mandatory, with adjacent traffic lanes of minimum 3.0m.

Provide mandatory cycle lane signage as necessary

Remove existing guard railing

Adjust existing lining

Remove existing island, bollard and sign and widen existing footway. New signing to enforce camera enforcement to be erected at back of footway.

Convert existing pedestrian refuge to zebra crossing (Provision and size to be confirmed following receipt of pedestrian count data)

Formalise the informal 'short cut' path and convert existing footway to verge

Existing advisory cycle lane to be widened to 2.0m and made mandatory (with dashed advisory line through Sainsbury accesses).

Provide camera enforcement of existing bus gate (nb. bus gate to only allow access to buses) (7.30am - 9.30am, Mon-Fri)

Proposed zebra crossing being progressed under project number PH2117.

Existing advisory cycle lane to be widened to 2.0m and made mandatory, with adjacent traffic lanes of minimum 3.0m.

Widen existing footway and tighten supermarket customer access to 6m radius.



Tom McCabe
Executive Director of
Community and Environmental Services
Norfolk County Council
County Hall, Martineau Lane
Norwich NR1 2SG

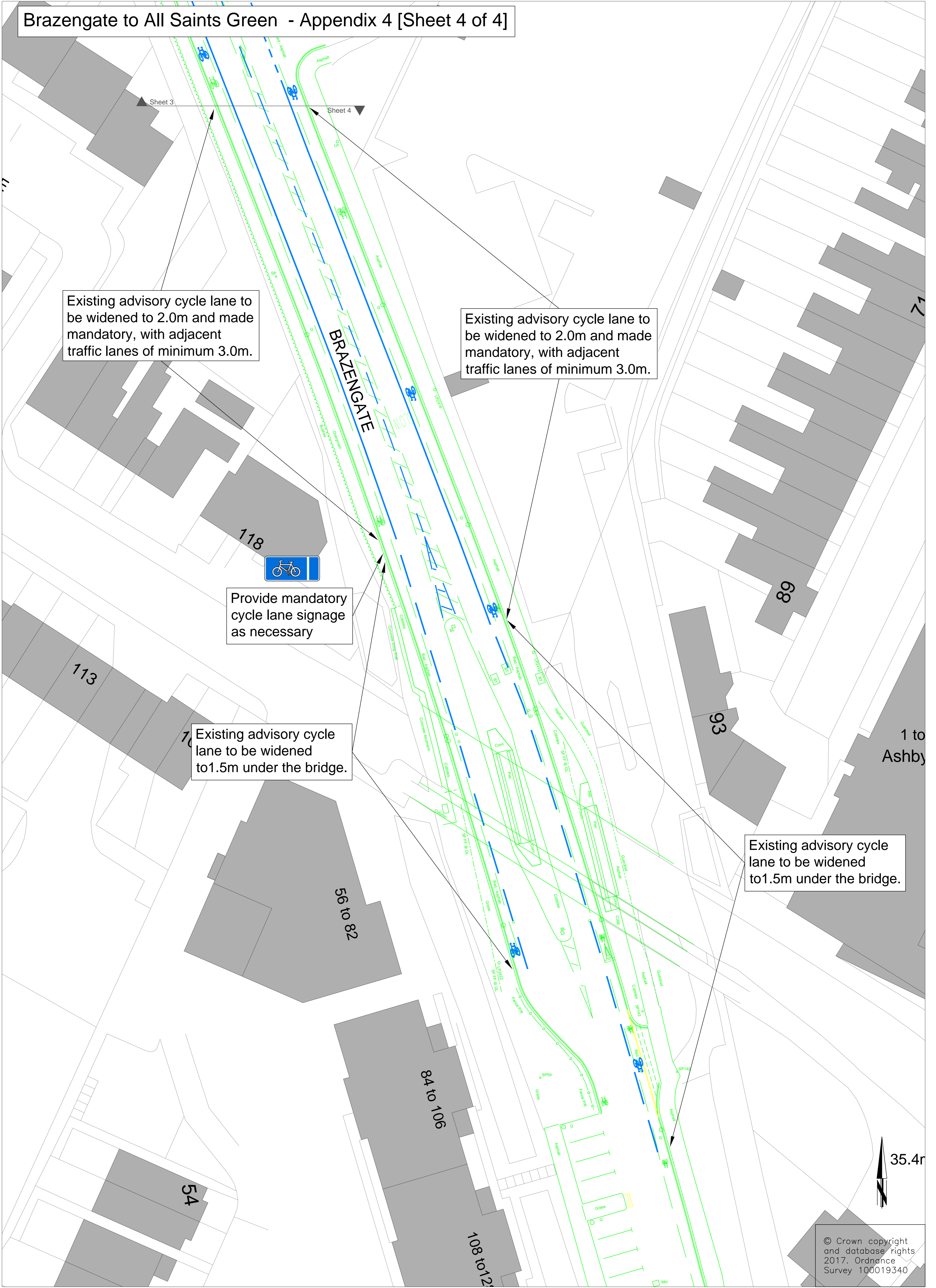
DRAWING TITLE
PUSH THE PEDALWAYS - PROJECT 16
QUEENS ROAD / BRAZENGATE / ALL SAINTS GREEN
SCHEME LAYOUT - SHEET 3 OF 4

REV.	DESCRIPTION	DRAWN BY	CHECKED	DATE
A	Lining, kerblines, accesses amended. Cycle separators added	JT	DN	02/17
B	Annotation Adjustments	DN	AC	03/17

SURVEYED BY	INITIALS	DATE	DRAWING No.
DESIGNED BY	OS/PC	2016	PE4113-MP-003B
DRAWN BY	DN	01/17	PROJECT TITLE
CHECKED BY	AC	01/17	Push The Pedalways
			Project 16 - Brazengate
			SCALE
			1:200 @ A1
			FILE No.
			PE4113

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Brazengate to All Saints Green - Appendix 4 [Sheet 4 of 4]



Existing advisory cycle lane to be widened to 2.0m and made mandatory, with adjacent traffic lanes of minimum 3.0m.

Existing advisory cycle lane to be widened to 2.0m and made mandatory, with adjacent traffic lanes of minimum 3.0m.

Provide mandatory cycle lane signage as necessary

Existing advisory cycle lane to be widened to 1.5m under the bridge.

Existing advisory cycle lane to be widened to 1.5m under the bridge.

SITE ASSESSMENT RECORD
ALL SAINTS GREEN (NORTH)

1. SITE CHARACTERISTICS

1.1 Site Location

45534/10 All Saints Green northeast of its junction with C865/10 Surrey Street in the city of Norwich. Grid reference 623096, 308016.

1.2 Carriageway Type

Two way single carriageway with two lanes.

1.3 Carriageway Width

8.2m

1.4 Footway Width

West side – 1.8m but widens to over 7m where the footway is built out on the corner.

East side – 2.2m – 2.6m

1.5 Refuge Island

No

1.6 Road Lighting Standard

Street lighting was installed in 2012/2013 (LED lights). Re-arrangement and supplementary lighting may be required depending on position on type of any new crossing.

1.7 Minimum Visibility

Forward visibility to the existing crossing point for drivers approaching the junction on All Saints Green is adequate in both directions.

Sideway visibility from the existing crossing point for pedestrians looking northeast is adequate.

Depending on the position and proximity of any new crossing in relation to the junction, the visibility splay is restricted on the northeast corner of the junction due to the presence of a building.

(LTN2/95 recommends 50m for 85 percentile approach speeds of 25mph).

1.8 Waiting/Loading/Stopping Restrictions

At prospective site – Waiting and loading restrictions

Within 50 metres of the site - Waiting and loading restrictions

1.9 Public Transport Stopping Points

None within 50m of site

1.10 Nearby Junctions

Nearest significant junctions are:
6m to the south

1.11 Other Pedestrian Crossings

Existing signalised crossing (to be removed) at Surrey Street junction.

1.12 School Crossing Patrol

None within 100m of site

1.13 Skid Risk

TBC

1.14 Surroundings (entrances within 100m)

Hospital/Sheltered housing/Workshop for disabled people	No
School	No
Post Office	No
Railway/ Bus Station	Yes
Pedestrian leisure/shopping area	Yes
Sports stadia/entertainment venue	No
Junction with cycle route	Yes
Equestrian centre or junction with Bridle Path	No
Others	No

2. CROSSING TRAFFIC INFORMATION

2.1 Flow and Composition

Thursday 19th Jan 2017 – 0700-1900

	West to East	East to West	Total	Percentage
Pedestrian Count	1297	1888	3185	100%
Unaccompanied child	245	666	911	29%
Accompanied child	25	43	68	2%
Adult 16 to 65	1012	1169	2181	68%
Adult Over 65	7	4	11	<1%
Disabled – Walking stick / frame	8	6	14	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	1	0	1	<1%
Mobility Scooter user	0	0	0	0%
Prams/pushchairs	7	14	21	<1%
Crossing cyclists	2	2	4	100%
Child Under 16	0	2	2	50%
Adult 16 to 65	2	0	2	50%
Adult Over 65	0	0	0	0%

Saturday 21st Jan 2017 – 0700-1900

	West to East	East to West	Total	Percentage
Pedestrian Count	619	748	1367	100%
Unaccompanied child	0	2	2	<1%
Accompanied child	56	58	114	8%
Adult 16 to 65	558	687	1245	91%
Adult Over 65	2	0	2	<1%
Disabled – Walking stick / frame	3	1	4	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	1	0	1	<1%
Mobility Scooter user	0	0	0	0%
Prams/pushchairs	14	13	27	2%
Crossing cyclists	0	0	0	0%
Child Under 16	0	0	0	0%
Adult 16 to 65	0	0	0	0%
Adult Over 65	0	0	0	0%

2.2 Time to cross the road (measured sample)

Able Pedestrians = 5.7 seconds (Estimate 8.2m/1.44m/s)

Elderly or disabled people = 7.1 seconds (Estimate 8.2m/1.16m/s)

2.3 Difficulty of Crossing

Peak Hour Vehicle Flow = 114 = 1.9 vehicles a minute

Peak Hour Crossing Flow = 547 = 9.1 pedestrians a minute

Weekday 0800-900

2.4 Latent Crossing Demand

Unlikely as there are already signalised crossings (phased with the existing traffic signals) on all four arms of the junction.

3. VEHICLE TRAFFIC INFORMATION

3.1 Flow & Composition

Thursday 19th Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Vehicle Count	306	420	726	100%
Car/Taxi/LGV	152	233	385	53%
HGV/OGV	10	19	29	4%
Bus/Coach	0	0	0	0%
Motorcycles	1	2	3	<1%
Cyclists	143	166	309	43%

Peak hour flow = 114 (0800-0900)

Saturday 21st Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Vehicle Count	230	323	553	100%
Car/Taxi/LGV	162	249	411	74%
HGV/OGV	1	4	5	<1%
Bus/Coach	0	0	0	0%
Motorcycles	1	2	3	<1%
Cyclists	66	68	134	24%

Peak hour flow = 74 (1200-1300)

3.2 Vehicle Speed

85 percentile: TBC

Speed Limit: 20mph zone

4. ROAD ACCIDENTS

4.1 Mean Personal Injury Accident Frequency

2 PIA's (1 serious pedestrian, 1 slight cyclist) have occurred in the last five years (both in 2015).

ALL SAINTS GREEN (NORTH)

SITE ASSESSMENT SUMMARY

Characteristic	Data and Comments at 07 February 2017
Location	The site at 45534 All Saints Green northeast of its junction with C865 Surrey Street is a single two way, one lane (each approach) carriageway, total width 8.2m with 1.8m-2.6m footways (with wider footway section of 7m+ on the northwest corner of the junction).
Highway Facilities	Road lighting is recent but may need repositioning depending on positioning of any new crossing. Adequate skid resistance to be reviewed.
Visibility	Desirable visibility standards can be met on the straight approaches. Visibility to towards Surrey Street (east) is restricted on the northeast corner of the junction due to the presence of a building.
Complexity	North-eastern leg of a crossroad junction. Existing signalised crossings (phased with traffic lights) at the junction are to be removed. Site is within 100m of a pedestrian shopping area and bus station entrance. The junction also forms part of signed cycle routes.
Crossing Traffic	Surveys show 3185 cross the road daily (0700-1900) on a weekday and 1367 (0700-1900) on a Saturday. 29% of the weekday flows are unaccompanied children, most likely walking to and from Notre Dame High School on Surrey Street (east). Crossing time and difficulty of crossing is considered relatively low due to All Saints Green (north) being a no-through route for general traffic.
Vehicles	417 vehicles and 309 cyclists a day (0700-1900 weekday) with 4% HGV's and 0% buses. 419 and 134 cyclists a day (0700-1900 Saturday) with <1% HGV's and 0% buses. Highest two way peak hour flow is 114 (including 79 cyclists). Motor traffic flows are expected to fall further when drivers are more used to All Saints Green (north) being closed to through general traffic. The site falls within a 20mph zone and is close to a priority junction where speeds are likely to be low.
Road Accidents	There have been 2 PI accidents in last 5 years (1 serious pedestrian and 1 slight cyclist), both occurring in 2015.

SITE ASSESSMENT RECORD
ALL SAINTS GREEN (SOUTH)

1. SITE CHARACTERISTICS

1.1 Site Location

45534/10 All Saints Green southwest of its junction with C865/10 Surrey Street in the city of Norwich. Grid reference 623084, 307998.

1.2 Carriageway Type

Two way single carriageway with two lanes.

1.3 Carriageway Width

7.3m

1.4 Footway Width(s)

West side – 1.6m-1.7m

East side – 1.5m-1.6m but widens to 4.5m where the footway is built out on the corner.

1.5 Refuge Island

No

1.6 Road Lighting Standard

Street lighting was installed in 2012/2013 (LED lights). Re-arrangement and supplementary lighting may be required depending on position on type of any new crossing.

1.7 Minimum Visibility

Forward visibility to the existing crossing point for drivers approaching the junction on All Saints Green is adequate in both directions.

Sideway visibility from the existing crossing point for pedestrians looking southwest is adequate.

Depending on the position and proximity of any new crossing in relation to the junction, the visibility splay is restricted on the southwest corner of the junction due to the presence of a building.

(LTN2/95 recommends 50m for 85 percentile approach speeds of 25mph).

1.8 Waiting/Loading/Stopping Restrictions

At prospective site – Waiting and loading restrictions

Within 50 metres of the site - Waiting and loading restrictions

1.9 Public Transport Stopping Points

None within 50m of site

1.10 Nearby Junctions

Nearest significant junctions are:
6m to the north

1.11 Other Pedestrian Crossings

Existing signalised crossing (to be removed) at Surrey Street junction.

1.12 School Crossing Patrol

None within 100m of site

1.13 Skid Risk

TBC

1.14 Surroundings (entrances within 100m)

Hospital/Sheltered housing/Workshop for disabled people	No
School	No
Post Office	No
Railway/ Bus Station	Yes
Pedestrian leisure/shopping area	Yes
Sports stadia/entertainment venue	No
Junction with cycle route	Yes
Equestrian centre or junction with Bridle Path	No
Others	No

2. CROSSING TRAFFIC INFORMATION

2.1 Flow and Composition

Thursday 19th Jan 2017 – 0700-1900

	East to West	West to East	Total	Percentage
Pedestrian Count	602	1037	1639	100%
Unaccompanied child	123	140	263	16%
Accompanied child	36	29	65	4%
Adult 16 to 65	439	847	1286	78%
Adult Over 65	0	14	14	<1%
Disabled – Walking stick / frame	4	7	11	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	0	2	2	<1%
Mobility Scooter user	2	1	3	<1%
Prams/pushchairs	9	6	15	<1%
Crossing cyclists	2	1	3	100%
Child Under 16	2	1	3	100%
Adult 16 to 65	0	0	0	0%
Adult Over 65	0	0	0	0%

Saturday 21st Jan 2017 – 0700-1900

	East to West	West to East	Total	Percentage
Pedestrian Count	388	468	856	100%
Unaccompanied child	8	12	20	2%
Accompanied child	38	44	82	10%
Adult 16 to 65	336	408	744	87%
Adult Over 65	2	1	3	<1%
Disabled – Walking stick / frame	4	3	7	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	0	1	1	<1%
Mobility Scooter user	1	1	2	<1%
Prams/pushchairs	5	5	10	1%
Crossing cyclists	0	1	1	100%
Child Under 16	0	1	1	100%
Adult 16 to 65	0	0	0	0%
Adult Over 65	0	0	0	0%

2.2 Time to cross the road (measured sample in seconds)

Able Pedestrians = 5.1 seconds (Estimate 7.3m/1.44m/s)

Elderly or disabled people = 6.3 seconds (Estimate 7.3m/1.16m/s)

2.3 Difficulty of Crossing

Peak Hour Vehicle Flow = 363 = 6.1 vehicles a minute

Peak Hour Crossing Flow = 356 = 5.9 pedestrians a minute

Weekday 0800-900

2.4 Latent Crossing Demand

Unlikely as there are already signalised crossings (phased with the existing traffic signals) on all four arms of the junction.

3. VEHICLE TRAFFIC INFORMATION

3.1 Flow & Composition

Thursday 19th Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Vehicle Count	883	1024	1907	100%
Car/Taxi/LGV	689	780	1469	77%
HGV/OGV	11	24	35	2%
Bus/Coach	1	13	14	<1%
Motorcycles	10	7	17	<1%
Cyclists	172	200	372	20%

Peak hour flow = 363 (0800-0900)

Saturday 21st Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Vehicle Count	523	774	1297	100%
Car/Taxi/LGV	422	649	1071	82%
HGV/OGV	6	16	22	2%
Bus/Coach	1	2	3	<1%
Motorcycles	1	3	4	<1%
Cyclists	93	104	197	15%

Peak hour flow = 153 (1400-1500)

3.2 Vehicle Speed

85 percentile: TBC

Speed Limit: 20 mph zone

4. ROAD ACCIDENTS

4.1 Mean Personal Injury Accident Frequency

1 PIA (slight) has occurred in the last five years (2012) and did not include pedestrians or cyclists.

ALL SAINTS GREEN (SOUTH)

SITE ASSESSMENT SUMMARY

Characteristic	Data and Comments at 07 February 2017
Location	The site at 45534 All Saints Green southwest of its junction with C865 Surrey Street is a single two way, one lane (each approach) carriageway, total width 7.3m with 1.5m-1.7m footways (with wider footway section of 4.5m on the southeast corner of the junction).
Highway Facilities	Road lighting is recent but may need repositioning depending on positioning of any new crossing. Adequate skid resistance to be reviewed.
Visibility	Desirable visibility standards can be met on the straight approaches. Visibility to towards Surrey Street (west) is restricted on the southwest corner of the junction due to the presence of a building.
Complexity	South-western leg of a crossroad junction. Existing signalised crossings (phased with traffic lights) at the junction are to be removed. Site is within 100m of a pedestrian shopping area and bus station entrance. The junction also forms part of signed cycle routes.
Crossing Traffic	Surveys show 1639 cross the road daily (0700-1900) on a weekday and 856 (0700-1900) on a Saturday. 16% of the weekday flows are unaccompanied children, most likely walking to and from Notre Dame High School on Surrey Street (east).
Vehicles	1535 vehicles and 372 cyclists a day (0700-1900 weekday) with 2% HGV's and <1% buses. 1100 and 197 cyclists a day (0700-1900 Saturday) with 2% HGV's and <1% buses. Highest two way peak hour flow is 363 (including 78 cyclists). The site falls within a 20mph zone and is close to a priority junction where speeds are likely to be low.
Road Accidents	There has been 1 PI accident in the last 5 years (slight) and did not involve pedestrians or cyclists. The accident occurred in 2012 therefore there have been no PI accidents in the last 4 years.

SITE ASSESSMENT RECORD
SURREY STREET (EAST)

1. SITE CHARACTERISTICS

1.1 Site Location

C865/10 Surrey Street southeast of its junction with 45534/10 All Saints Green in the city of Norwich. Grid reference 623097, 308004.

1.2 Carriageway Type

Two way single carriageway with two lanes.

1.3 Carriageway Width

7.1m

1.4 Footway Width(s)

North side - 1.9m

South side – 2.3m-2.5m but widens to over 4.5m where the footway is built out on the corner.

1.5 Refuge Island

No

1.6 Road Lighting Standard

Street lighting was installed in 2012/2013 (LED lights). Re-arrangement and supplementary lighting may be required depending on position on type of any new crossing.

1.7 Minimum Visibility

Forward visibility to the existing crossing point for drivers approaching the junction on Surrey Street is adequate in both directions.

Sideway visibility from the existing crossing point for pedestrians looking southeast is adequate.

Depending on the position and proximity of any new crossing in relation to the junction, the visibility splay is restricted on the northeast corner of the junction due to the presence of a building.

(LTN2/95 recommends 50m for 85 percentile approach speeds of 25mph).

1.8 Waiting/Loading/Stopping Restrictions

At prospective site – Waiting and loading restrictions

Within 50 metres of the site - Waiting and loading restrictions

1.9 Public Transport Stopping Points

None within 50m of site

1.10 Nearby Junctions

Nearest significant junctions are:
6m to the south

1.11 Other Pedestrian Crossings

Existing signalised crossing (to be removed) at Surrey Street junction.

1.12 School Crossing Patrol

None within 100m of site

1.13 Skid Risk

TBC

1.14 Surroundings (entrances within 100m)

Hospital/Sheltered housing/Workshop for disabled people	No
School	No
Post Office	No
Railway/ Bus Station	Yes
Pedestrian leisure/shopping area	Yes
Sports stadia/entertainment venue	No
Junction with cycle route	Yes
Equestrian centre or junction with Bridle Path	No
Others	No

2. CROSSING TRAFFIC INFORMATION

2.1 Flow and Composition

Thursday 19th Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Pedestrian Count	626	634	1260	100%
Unaccompanied child	34	47	81	6%
Accompanied child	24	18	42	3%
Adult 16 to 65	566	565	1131	90%
Adult Over 65	0	0	0	0%
Disabled – Walking stick / frame	2	4	6	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	0	1	1	<1%
Mobility Scooter user	1	1	2	<1%
Prams/pushchairs	15	9	24	2%
Crossing cyclists	0	1	1	100%
Child Under 16	0	0	0	0%
Adult 16 to 65	0	1	1	100%
Adult Over 65	0	0	0	0%

Saturday 21st Jan 2017 – 0700-1900

	North to South	South to North	Total	Percentage
Pedestrian Count	896	1084	1980	100%
Unaccompanied child	0	1	1	<1%
Accompanied child	52	83	135	7%
Adult 16 to 65	844	997	1841	93%
Adult Over 65	0	0	0	0%
Disabled – Walking stick / frame	0	3	3	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	0	1	1	<1%
Mobility Scooter user	0	1	1	<1%
Prams/pushchairs	13	25	38	2%
Crossing cyclists	0	0	0	0%
Child Under 16	0	0	0	0%
Adult 16 to 65	0	0	0	0%
Adult Over 65	0	0	0	0%

2.2 Time to cross the road (measured sample in seconds)

Able Pedestrians = 4.9 seconds (Estimate 7.1m/1.44m/s)

Elderly or disabled people = 6.1 seconds (Estimate 7.1m/1.16m/s)

2.3 Difficulty of Crossing

Peak Hour Vehicle Flow (Weekday 0800-0900) = 368 = 6.1 vehicles a minute

Peak Hour Crossing Flow (Weekday 0815-0915) = 176 = 2.9 pedestrians a minute

Peak Hour Vehicle Flow (Saturday 1300-1400) = 145 = 2.4 vehicles a minute

Peak Hour Crossing Flow (Saturday 1345-1445) = 295 = 4.9 pedestrians a minute

2.4 Latent Crossing Demand

Unlikely as there are already signalised crossings (phased with the existing traffic signals) on all four arms of the junction.

3. VEHICLE TRAFFIC INFORMATION

3.1 Flow & Composition

Thursday 19th Jan 2017 – 0700-1900

	East to West	West to East	Total	Percentage
Vehicle Count	949	915	1864	100%
Car/Taxi/LGV	751	723	1474	79%
HGV/OGV	21	17	38	2%
Bus/Coach	71	50	121	6%
Motorcycles	11	4	15	<1%
Cyclists	95	121	216	12%

Peak hour flow = 368 (0800-0900)

Saturday 21st Jan 2017 – 0700-1900

	East to West	West to East	Total	Percentage
Vehicle Count	538	662	1200	100%
Car/Taxi/LGV	441	563	1004	84%
HGV/OGV	7	11	18	2%
Bus/Coach	48	34	82	7%
Motorcycles	5	2	7	<1%
Cyclists	37	52	89	7%

Peak hour flow = 145 (1300-1400)

3.2 Vehicle Speed

85 percentile: TBC

Speed Limit: 20mph zone

4. ROAD ACCIDENTS

4.1 Mean Personal Injury Accident Frequency

No PIA's have occurred in the last five years.

SURREY STREET (EAST)

SITE ASSESSMENT SUMMARY

Characteristic	Data and Comments at 07 February 2017
Location	The site at C865 Surrey Street southeast of its junction with 45534 All Saints Green is a single two way, one lane (each approach) carriageway, total width 7.1m with 1.9m-2.5m footways (with wider footway section of 4.5m on the southeast corner of the junction).
Highway Facilities	Road lighting is recent but may need repositioning depending on positioning of any new crossing. Adequate skid resistance to be reviewed.
Visibility	Desirable visibility standards can be met on the straight approaches. Visibility to towards All Saints Green (north) is restricted on the northeast corner of the junction due to the presence of a building.
Complexity	South-eastern leg of a crossroad junction. Existing signalised crossings (phased with traffic lights) at the junction are to be removed. Site is within 100m of a pedestrian shopping area and bus station entrance. The junction also forms part of signed cycle routes.
Crossing Traffic	Surveys show 1260 cross the road daily (0700-1900) on a weekday and 1980 (0700-1900) on a Saturday.
Vehicles	1648 vehicles and 216 cyclists a day (0700-1900 weekday) with 2% HGV's and 6% buses. 1111 and 89 cyclists a day (0700-1900 Saturday) with 2% HGV's and 7% buses. Highest two way peak hour flow is 368 (including 56 cyclists). The site falls within a 20mph zone.
Road Accidents	There have been no PI accidents in last 5 years.

SITE ASSESSMENT RECORD
SURREY STREET (WEST)

1. SITE CHARACTERISTICS

1.1 Site Location

C865/10 Surrey Street northwest of its junction with 45534/10 All Saints Green in the city of Norwich. Grid reference 623085, 308017.

1.2 Carriageway Type

Two way single carriageway with two lanes.

1.3 Carriageway Width

5.5m

1.4 Footway Width(s)

North side – 1.8m but widens to over 7m where the footway is built out on the corner.

South side – 1.8m-1.9m

1.5 Refuge Island

No

1.6 Road Lighting Standard

Street lighting was installed in 2012/2013 (LED lights). Re-arrangement and supplementary lighting may be required depending on position on type of any new crossing.

1.7 Minimum Visibility

Forward visibility to the existing crossing point for drivers approaching the junction on Surrey Street is adequate in both directions.

Sideway visibility from the existing crossing point for pedestrians looking northwest is adequate.

Depending on the position and proximity of any new crossing in relation to the junction, the visibility splay is restricted on the southwest corner of the junction due to the presence of a building.

(LTN2/95 recommends 50m for 85 percentile approach speeds of 25mph).

1.8 Waiting/Loading/Stopping Restrictions

At prospective site – Waiting and loading restrictions

Within 50 metres of the site - Waiting and loading restrictions

1.9 Public Transport Stopping Points

None within 50m of site

1.10 Nearby Junctions

Nearest significant junctions are:
11m to the south

1.11 Other Pedestrian Crossings

Existing signalised crossing (to be removed) at Surrey Street junction.

1.12 School Crossing Patrol

None within 100m of site

1.13 Skid Risk

TBC

1.14 Surroundings (entrances within 100m)

Hospital/Sheltered housing/Workshop for disabled people	No
School	No
Post Office	No
Railway/ Bus Station	Yes
Pedestrian leisure/shopping area	Yes
Sports stadia/entertainment venue	No
Junction with cycle route	Yes
Equestrian centre or junction with Bridle Path	No
Others	No

2. CROSSING TRAFFIC INFORMATION

2.1 Flow and Composition

Thursday 19th Jan 2017 – 0700-1900

	South to North	North to South	Total	Percentage
Pedestrian Count	502	424	926	100%
Unaccompanied child	4	0	4	<1%
Accompanied child	19	21	40	4%
Adult 16 to 65	478	394	872	94%
Adult Over 65	1	3	4	<1%
Disabled – Walking stick / frame	0	6	6	<1%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	0	1	1	<1%
Mobility Scooter user	0	0	0	0%
Prams/pushchairs	10	4	14	2%
Crossing cyclists	1	2	3	100%
Child Under 16	1	0	1	33%
Adult 16 to 65	0	2	2	67%
Adult Over 65	0	0	0	0%

Saturday 21st Jan 2017 – 0700-1900

	South to North	North to South	Total	Percentage
Pedestrian Count	265	305	570	100%
Unaccompanied child	0	0	0	0%
Accompanied child	23	18	41	7%
Adult 16 to 65	230	261	491	86%
Adult Over 65	6	22	28	5%
Disabled – Walking stick / frame	6	4	10	2%
Of which				
Blind / Visually impaired	0	0	0	0%
Wheelchair user	3	3	6	1%
Mobility Scooter user	0	0	0	0%
Prams/pushchairs	11	6	17	3%
Crossing cyclists	0	0	0	0%
Child Under 16	0	0	0	0%
Adult 16 to 65	0	0	0	0%
Adult Over 65	0	0	0	0%

2.2 Time to cross the road (measured sample in seconds)

Able Pedestrians = 3.8 seconds (Estimate 5.5m/1.44m/s)

Elderly or disabled people = 4.7 seconds (Estimate 5.5m/1.16m/s)

2.3 Difficulty of Crossing

Peak Hour Vehicle Flow (Weekday 0800-900) = 179 = 3 vehicles a minute

Peak Hour Crossing Flow = (Weekday 0815-0915) = 209 = 3.5 pedestrians a minute

2.4 Latent Crossing Demand

Unlikely as there are already signalised crossings (phased with the existing traffic signals) on all four arms of the junction.

3. VEHICLE TRAFFIC INFORMATION

3.1 Flow & Composition

Thursday 19th Jan 2017 – 0700-1900

	West to East	East to West	Total	Percentage
Vehicle Count	484	545	1029	100%
Car/Taxi/LGV	307	345	652	63%
HGV/OGV	9	17	26	2%
Bus/Coach	44	77	121	12%
Motorcycles	7	10	17	2%
Cyclists	117	96	213	21%

Peak hour flow = 179 (0800-0900)

Saturday 21st Jan 2017 – 0700-1900

	West to East	East to West	Total	Percentage
Vehicle Count	309	343	652	100%
Car/Taxi/LGV	212	230	442	68%
HGV/OGV	3	6	9	1%
Bus/Coach	34	49	83	13%
Motorcycles	0	4	4	<1%
Cyclists	60	54	114	17%

Peak hour flow = 85 (1700-1800)

3.2 Vehicle Speed

85 percentile: TBC

Speed Limit: 20mph zone

4. ROAD ACCIDENTS

4.1 Mean Personal Injury Accident Frequency

No PIA's have occurred in the last five years.

SURREY STREET (WEST)

SITE ASSESSMENT

Characteristic	Data and Comments at 07 February 2017
Location	The site at C865 Surrey Street northwest of its junction with 45534 All Saints Green is a single two way, one lane (each approach) carriageway, total width 5.5m with 1.8m-1.9m footways (with wider footway section of 7m+ on the northwest corner of the junction).
Highway Facilities	Road lighting is recent but may need repositioning depending on positioning of any new crossing. Adequate skid resistance to be reviewed.
Visibility	Desirable visibility standards can be met on the straight approaches. Visibility to towards All Saints Green (south) is restricted on the southwest corner of the junction due to the presence of a building.
Complexity	North-western leg of a crossroad junction. Existing signalised crossings (phased with traffic lights) at the junction are to be removed. Site is within 100m of a pedestrian shopping area and bus station entrance. The junction also forms part of signed cycle routes.
Crossing Traffic	Surveys show 926 cross the road daily (0700-1900) on a weekday and 570 (0700-1900) on a Saturday. Crossing time and difficulty of crossing is considered relatively low due to Surrey Street (west) being a prohibited to motor vehicles (expect for access, buses and taxis).
Vehicles	816 vehicles and 213 cyclists a day (0700-1900 weekday) with 2% HGV's and 12% buses. 569 vehicles and 83 cyclists a day (0700-1900 Saturday) with 1% HGV's and 13% buses. Highest two way peak hour flow is 179 (including 43 cyclists). The site falls within a 20mph zone.
Road Accidents	There have been no PI accidents in last 5 years.