Report to	Norwich Highways Agency committee	**Item**
	24 November 2016	
Joint report of	Head of city development services and Executive director of community and environmental services	13
Subject	Transport for Norwich –Mile Cross Lane (Fiddlewood to Catton Grove Road) cycling Improvements	

Purpose

To seek approval to consult on the proposals for the Mile Cross Lane to Fiddlewood cycling improvement scheme.

Recommendation

To:

(1) approve for consultation the proposals for the Mile Cross Lane project, including:

(a) widening the footway to the north side of Mile Cross Lane, the west side of Catton Grove Road and the footpath between Mile Cross Lane and Blackthorn Close to a nominal 3.0m where possible

(b) transfer of strips of land from Norwich City Council ownership to adopted highway to facilitate the above

(c) teconfiguration of the existing traffic island on Mile Cross Lane, at the Catton Grove Road/St Faiths Road junction, to allow use by cyclists

(d) completing legal processes including statutory consultation(s) to convert all of the above to shared cyclist and pedestrian use;

(2) ask 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 objective and service priorities

The scheme helps to meet the corporate priority ‘A safe and clean city’ and the service plan priority to implement the Transport for Norwich Plan.

Scheme Timescales

- A 4 week public consultation of scheme proposals in January 2017
- Consideration of consultation feedback in February 2017
- Refine the proposals where necessary and present the scheme to Committee for approval on 16 March 2017
- Subject to legal processes and the outcome of consultation the scheme is planned to be constructed in quarter 2 of 2017-18.

Financial implications

The scheme has been allocated funding of £485,000 from the Department for Transport (DfT) Cycle City Ambition Grant and approx. £15,000 of Section 106 funds.

Ward/s: All Wards

Cabinet member: Councillor Bremner – Environment and sustainable development

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Background documents

None

REPORT

Strategic Objectives

1. Norwich and its' surrounding area is becoming an increasingly popular area to live, work and visit. It is the number one shopping destination in the eastern region and becoming one of the nation's premier cultural centres. To ensure the Greater Norwich Area continues to be popular and grow, the transport systems need to be able to cope with the increased demand.

2. The Norwich Area Transportation Strategy (NATS), now more widely known as Transport for Norwich (TfN), is the adopted strategy which will deliver the transport improvements needed over the next 15 plus years. The strategy recognises everybody's journeys are different and does not look to force people to use one particular mode. It does look to give people viable options on how they choose to travel and actively promote sustainable transport.

3. The Strategy details the plan for future delivery of improvements in order to develop sustainable transport, reduce congestion and improve air quality within the Greater Norwich area. The strategy has already delivered key improvements such as the award winning Norwich Bus Station, St Augustine's Gyratory, a network of Park and Ride facilities, St Stephens & Chapel Field North and various Bus Rapid Transit (BRT) improvements. It also includes the recently completed Postwick hub and the Northern Distributor Road which is due for completion late 2017.

4. The implementation plan for the Norwich Area Transportation Strategy (NATSIP) was agreed by Norfolk County Council in April 2010 and updated in November 2013: https://www.norfolk.gov.uk/-/media/norfolk/downloads/roads-and-transport/tfn/nats-ip-update.pdf?la=en. The plan sets out the range of transport measures, together with their general intended phasing, for delivery over the short to medium term.

5. The plan has now been updated to take account of what has been delivered since 2010 and to reflect the latest position on future scheme delivery, given progress with implementation, and now that the growth plans for the area are more clear (see joint core strategy document: http://www.greaternorwichgrowth.org.uk/dmsdocument/1953).

6. Cycling is on the increase for both recreation and commuting nationally and the area has a thriving cycling community. The implementation of a city wide cycling network (see link to cycle map - https://www.norwich.gov.uk/downloads/file/3107/map_illustrating_our_proposed_cycling_ambition_programme) is a key part of the Transport for Norwich Strategy as by delivering a comprehensive city network this reduces a number of short distance car journeys removing pressure on the network, as well as offering improved quality of life with well documented health benefits.

   The Greater Norwich area is one of 8 urban areas across the country that has been successful in bidding for Cycle Ambition funding from the Department for Transport to comprehensively improve the quality of cycling infrastructure across

the Norwich cycle network. A copy of the application documents can be found here:
https://www.norwich.gov.uk/downloads/download/2096/cycle_city_ambition_-_phase_two

Scheme Objectives and Benefits

7. This scheme is located on Norwich's outer ring road at the junction of Mile Cross Lane/Chartwell Road/Catton Grove Road and St Faiths Road. Please see Appendix 1 for a Site Location Plan.

8. The scheme is a key part of the Yellow Pedalway which links the airport at the north, with Lakenham, heading into the city centre, to the south. The map included in Appendix 2 shows the route of the yellow Pedalway through the area.

9. The Norwich outer ring road (Mile Cross Lane – Chartwell Road) is subject to a 40mph speed limit and carries a high volume of traffic including HGVs. Currently cyclists are required to ride alongside traffic through the junction because there are no off-carriageway facilities or protected space. This scheme looks at the link between Catton Grove Road and the Fiddlewood estate (to the immediate north west of the junction) and seeks to improve an important link on the yellow Pedalway where it crosses the ring road at the Catton Grove Road/St Faiths Road junction. The main objective of the scheme is to provide protected space for cyclists away from vehicular traffic.

Design Proposals

Options Considered

10. A feasibility study setting out the design guidance and options considered has been included in Appendix 3 of this report. A summary of this is provided below:

11. At the feasibility stage of this scheme 3 options were considered:

Option 1 –

- Cycle track on south side of Mile Cross Lane
- Constraints include the frequency of vehicular accesses, level differences, healthy London Plan trees, maintaining adequate network capacity for vehicular traffic, including providing an acceptable taper for east-west merging traffic
- Due to constraints the facility would need to be provided within existing carriageway space.
- Existing puffin crossing on Mile Cross Lane to be upgraded to toucan crossing to enable use by cyclists

Option 2 –

- Provision of an off-carriageway shared pedestrian/cycle facility on the north side of Mile Cross Lane
- Widen existing footway to 3.0m into the verge behind and complete legal process to convert to shared use

- Widen footpath where constraints allow between Mile Cross Lane and Blackthorn Close and convert to shared use
- Upgrade signalised junction to allow cyclists to use crossing points

Option 3 –

- As option 2, with the addition of the removal of the left slip lane for vehicular traffic from Mile Cross Lane to St Faiths Road. The aim of this would be to create a 2-stage rather than 3-stage crossing to potentially minimise wait times for cyclists and pedestrians (see item 16 for more information).

Preferred Option & Design Guidance

12. It is recommended that option 2 to provide an off-carriageway shared use route is taken forward for consultation. Drawing PEA003-TfN-013 showing the proposals can be found in Appendix 5.

13. A cyclist and pedestrian survey was carried out on 23 June 2015 and the results are summarised on drawing PEA003-TfN-006 which can be found in Appendix 4. The survey shows a peak hour flow of 56 for pedestrians and 25 for cyclists. Assuming an increase of 50% in peak hour cyclists the flow would be categorised 'very low' by London Cycling Design Standards (LCDS) [0-60 per hour], requiring a shared use width of 2.2m.

14. Design guidance, as detailed in the feasibility document in Appendix 3, indicates that 3.0m would be a suitable width for a shared use facility.

15. The proposals include widening existing footways and converting them to shared use. The existing footway to the north of Mile Cross Lane is approx.1.8m wide. The footway will be widened to the back to a total 3.0m width to avoid the need to move kerb lines and impact on traffic capacity. The land behind the existing footways is owned by Norwich City Council and will be acquired as part of the delivery of this scheme.

16. The footpath that links Mile Cross Lane through to Blackthorn Close is 1.9m wide at its' narrowest point. The scheme will seek to widen this link but 3.0m is unlikely to be achievable due to the proximity of a steep bank and existing trees with shallow roots. A minimum proposed width of 2.2m is shown on drawing PEA003-TfN-013 and this area will be considered during the detailed design process.

17. An existing pedestrian crossing on Mile Cross Lane at the junction with Catton Grove Road/St Faiths Road will be upgraded so that it may also be used by cyclists. This will require widening the island to 3.0 and lengthening it.

18. The provision of off-carriageway space will separate cyclists from general traffic, providing particular benefit to more vulnerable cyclists.

19. Traffic signals: The existing junction operates on the SCOOT (Split Cycle Offset Optimisation Technique) system and it is biased to vehicular traffic as no pedestrian crossings are automatically demanded but need to be called using a push button. Based on the assumption of a 120 second cycle time at the

junction, the pedestrian wait times are currently 139 seconds minimum/207 seconds maximum heading north to south, and 127 seconds minimum/245 seconds maximum heading south to north.

It is proposed that as part of the scheme improvements be made that will reduce wait times to 44 seconds minimum/135 seconds maximum heading north to south and 26 seconds minimum/108 seconds maximum heading south to north. In addition it is proposed that the operation of the signals be changed to the MOVA (Microprocessor Optimised Vehicle Actuation) system. This will allow larger variations in stage length to be more responsive to live conditions thereby reducing queuing and delay.

20. Were scheme option 3 implemented (removal of left turn slip from Mile Cross Lane to St Faiths Road) the wait times would be 22 seconds minimum/118 seconds maximum heading north to south and 80 seconds minimum/183 seconds maximum heading south to north. The wait times for this option heading south to north are considerably longer than those in the proposed option 2.

Traffic Regulation Orders and notices

21. Legal processes will be required to convert pedestrian only routes to shared use.

Traffic impacts

22. Traffic management will be required during the work and delays to traffic are likely. It is intended to issue a press release for information closer to the start of construction. Work will be programmed to minimise impact on the road network where possible.

Environment

23. A City Council Landscape Architect has offered advice in relation to the proposed design. Further advice will be sought in relation to areas constrained by trees as noted on drawing PEA003-TfN-013 (Appendix 3). The Landscape Architect is also designing an improvement to the triangular shaped area to the immediate south-west of the main junction. This area is not highway and is owned by Norwich City Council.

Accident reduction

24. There have been 7 accidents in the vicinity of the proposed scheme in the last 5 years all categorised as ‘slight’, 1 of which involved a cyclist. By providing an off-carriageway route for cyclists this scheme will reduce the potential for conflict with vehicles and resulting accidents.

Public Consultation

25. A four week public consultation of scheme proposals is planned to go ahead during January 2017. Consultation will also be carried out for any TROs or Notices required. The consultation feedback and any objections will be reported

to a future meeting of this committee for consideration on how to proceed with the scheme.

Timescales

26. Subject to legal processes the scheme is planned to be constructed during 2017-18 quarter 2 (July-September 2017).

Stakeholder views

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

Conclusion

28. The 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 and pedestrians. The proposals as presented would provide the next phase of improvement on the yellow Pedalway and will improve connectivity to the city centre from the north of the outer ring road.

Resource Implications

29. Finance: The TfN programme forms an integral part of strategic infrastructure as set out in the Joint Core Strategy. The delivery of this work is funded by government grants by way of the City Cycle Ambition programme and Section 106 funding.

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

31. Property: The proposals cannot be provided within the existing highway boundary. Adjacent land is owned by Norwich City Council and strips of this will be acquired as highway in order to provide the shared use facilities.

32. IT: None.

Other implications

33. Legal Implications: None

34. Human Rights: None.

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

Section 17 - Crime and Disorder Act

36. The scheme will be designed to ensure it has a positive effect on crime and disorder where possible. Particular consideration will be given to the link between Mile Cross Lane and Blackthorn Close, to ensure that lighting levels are adequate and foliage trimmed back where appropriate. Care will be taken during construction to minimise opportunities for crime and disorder, for instance the secure storage of construction equipment and materials.

Risk Implications/Assessment

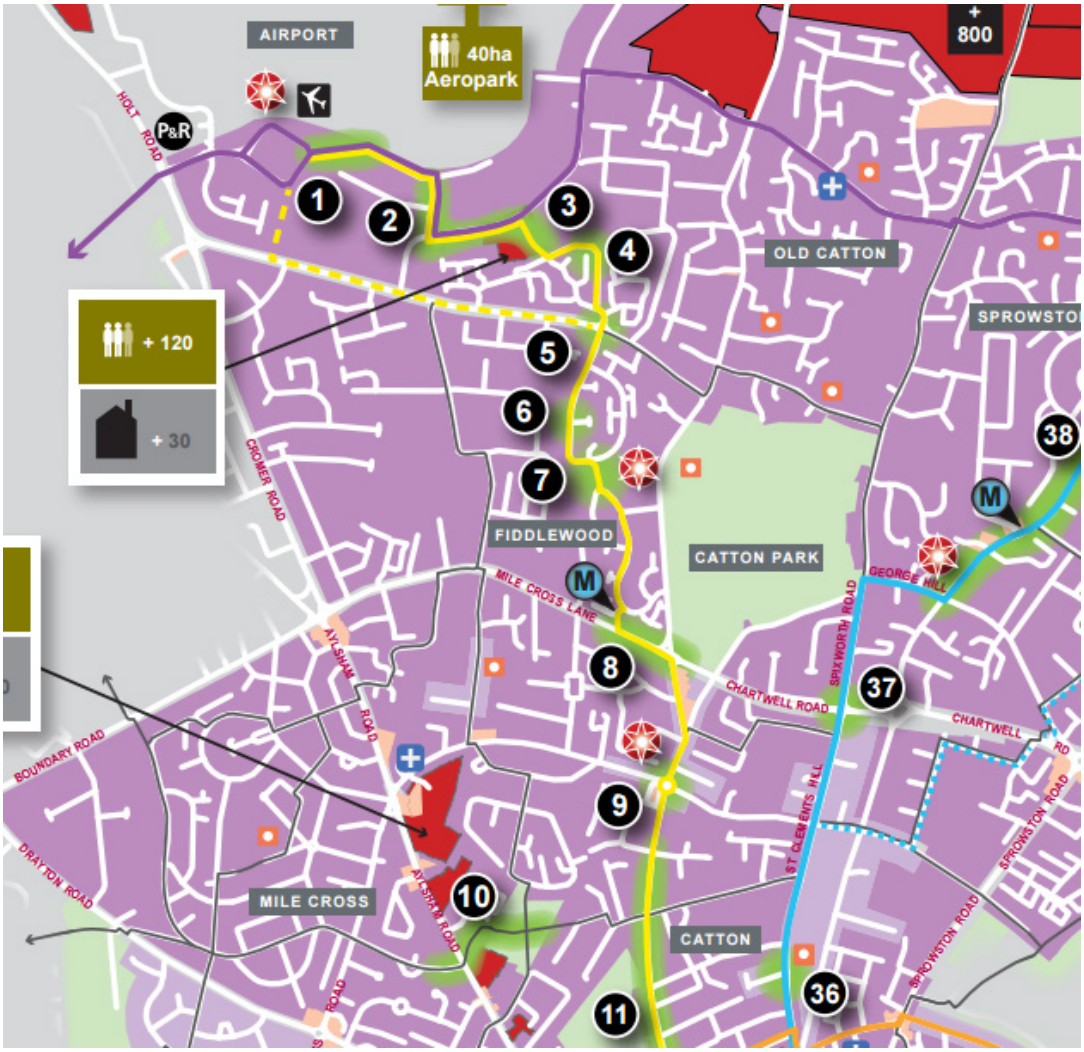
37. A risk assessment has been undertaken for development of the NATS Implementation Plan (TfN). The key risks for delivering this are around funding, timescales and planning. These risks are being managed through active project management and ongoing engagement with stakeholders.

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

Appendix 1 – Site location plans

Appendix 2 – Site location plan

Source: Norwich City Council (2015)



Pedalways

Cross City

- Cringleford ↔ Sprowston
- Superceeded section of pedalway
- Lakenham ↔ Airport
- Superceeded section of pedalway
- Drayton ↔ Whitlingham (National Cycle Route 1)
- Bowthorpe ↔ Broadland Business Park
- N&N Hospital ↔ Heartsease

Circular

- Outer circuit
- Inner circuit

Local

- Neighbourhood routes

Hub creation or upgrade

Planned development sites (served by yellow and blue pedalways)

Proposed monitoring location (on routes to be upgraded)

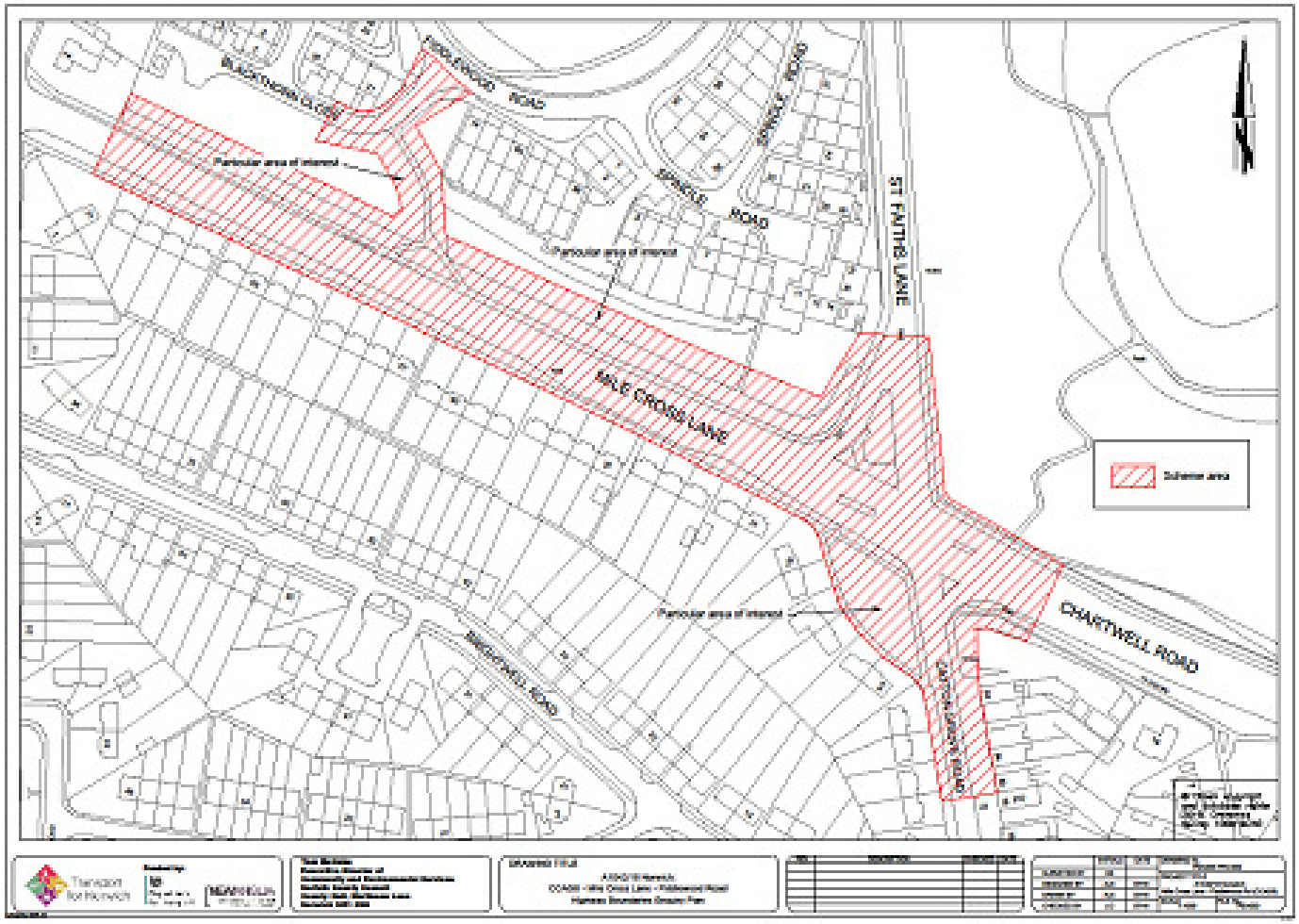
Doctors surgeries (extra cycle parking)

Schools (extra cycle parking)

Potential project area

Transport for Norwich Programme meeting 4th October 2016
PEA003 – Mile Cross Lane to Fiddlewood (Yellow Pedalway Project 8)

SCHEME AREA



BRIEF

Catton Grove Road – Mile Cross Lane – footpath link through to Blackthorn Close and Fiddlewood forms part of the yellow Pedalway. The brief details a junction CLoS score of 4/24, a score of 41/70 on Mile Cross Lane, the potential for left hook accidents in all 4 directions and lack of protection for cyclists. The objective is to provide a link achieving a CLoS score of at least 70/100.

- A1042 Mile Cross Lane forms part of the outer ring road subject to a 40mph speed limit
- Currently 10m wide
- 2B Principal Primary Route & abnormal loads route
- Traffic sensitive band 7 (0730-1900 Mon-Sat and 1000-1700 Sun all year)
- 7 'slight' accidents in last 5 years (1 involving a cyclist)

A pedestrian and cycle survey carried out in June 2015 0700-1900 records a maximum peak hour cycle flow of 25 (this includes those using part of the route, e.g. joining the route heading in a south-easterly direction from Mile Cross). Peak hour pedestrian flow was recorded as 56 (at the Blackthorn Close to Mile Cross Lane footpath). Both flows fall into the 'very low' London Cycling Design Standards (LCDS) flow category.

ENVIRONMENT

To the north of Mile Cross Lane there is a 1.8m wide footway with a wide verge behind which is land owned by Norwich CC. There are some trees located in a bank behind this. Vodafone and BT apparatus are located in this area.

To the south of Mile Cross Lane are residential properties, most with driveways. There is an existing parking bay and 3 London Plane trees which are to be retained. There is a considerable level difference between the carriageway edge and the footway (lower), between which there is a verge. BT, water/foul, LP gas, LV and HV electricity and Virgin Media are located in this area.

OPTIONS

1 – light segregated lane south side of Mile Cross Lane, 2-way (but could be 1 way). Upgrade puffin, link into Catton Grove Rd.
2 – Provide shared use facility on north side of Mile Cross Lane by widening the existing footway to the back. Upgrade junction to allow cyclists to use crossing from Catton Grove Road.
3 – As option 2 but with removal of left slip to St Faiths Lane to create a 2-stage (instead of 3-stage) crossing.

DESIGN GUIDANCE FOR OFF-CARRIAGEWAY ROUTES

LCDS Flow categories for partially separated and shared routes (off-road)

Peak flow categories	Pedestrians per hour	Cyclists per hour	Recommended effective width	
			Shared	Partially separated
Very low	0-120	0-60	2.2m	3.0m (cycle track 1.2m-1.5m)
Low	120-200	60-150		
Medium	200-450	150-300	3.0m	4.5m (cycle track 2.5m-2.8m)
High	450-900	300-450		
Very high	900+	450+	4.5m	5.9m (cycle track 2.5m to 3.5m)

SUSTRANS recommended minimum widths, unsegregated shared use

Urban traffic free	3.0m on main & secondary cycle routes. 4.0m preferred & consider segregation where high usage is expected (>150/hr)/demand to ride 2 abreast
Urban fringe/semi-rural traffic free	3.0m on all main cycle routes, major access paths & school links 2.5m possible on lesser secondary cycle routes & access links
Rural traffic free	2.5m on all main routes, major access paths & school links 2.0m possible on lesser routes and links

Min acceptable verge 0.5m; 1.0m preferred

DESIGN GUIDANCE FOR ON-CARRIAGEWAY ROUTES

LCDS peak hour flow categories:

	1-way lane/track	2-way track
Very low	<100	<100
Low	100-200	100-300
Medium	200-800	300-1000
High	800-1200	1000-1500
Very high	1200+	1500+

LCDS Summary of guidance on widths on carriageway for cycle tracks (including segregated lanes):

Flow	**1-way**	**2-way**
Very low / low	1.5m	2.0m
Medium flow	2.2m	3.0m
High / very high	2.5m+	4.0m+

SUSTRANS

- Motor vehicle speeds much above 40mph become unsuitable for cycling on the carriageway
- Light segregation (intermittent islands/armadillos or similar) are suitable on roads with a speed limit of 30mph or less – 'at higher speeds segregation should be more substantial'
- 1-way tracks should be a minimum width of 2.0m (or 1.5m & 0.5m margin) where speed limit is 40mph (also as in LTN 2/08)
- 2-way tracks should be a minimum of 3.0m in most situations
- Hybrid (stepped) tracks should be minimum 3.0m width for 2-way use
- Suggest a minimum 1.0m segregating kerbed strip where speed limit is >40mph

LTN 2/08 states that 2-way cycle lanes are generally not recommended – they can be confusing to motorists, including those exiting side roads (or driveways). The note says cyclists should be separated from traffic lanes by means such as a kerb.

OPTIONS ASSESSMENT – MAIN PROS AND CONS

Option	Pros	Cons
1 (south side)	Cyclists use upgraded single-stage toucan crossing instead of multi-stage crossing at junction – reduced wait times Civils work to main signalised junction not required	13 accesses / 150m length – any segregation will be intermittent – design guidance suggests it should be substantial at 40mph Sustrans guidance – 3m wide 2-way / 1m segregation strip unachievable Question suitability of facility on 40mph busy route, particularly in relation to 2-way proposal, particularly for vulnerable users Carriageway level higher than footway / many adjacent accesses / retention of London Plane trees / parking bay means that the facility will claim carriageway space – is the impact on the network acceptable to NCC and to stakeholders? May not achieve public/stakeholder support in light of perceived suitable alternative option on north side Potential conflict due to vehicular accesses Likely increased overall cost & design time TRO required for mandatory cycle lane Length of lane is short – benefit is not maximised Complex design due to level differences, including drainage
2 (north side)	Plenty of space – design guidance achievable Fewer utilities Less complex to design and build Reduced construction time / disruption to the network More likely to achieve stakeholder approval? Less likely to receive resident objections? More suitable for all user groups inc. vulnerable Less expensive Less chance of vehicle/cyclist conflict due to no vehicular accesses Suggest 'greener' route may be more pleasant Improved crossing facilities for cyclists at the junction will benefit cyclists heading north/south Traffic capacity is not reduced	Requires acquisition of City Land (paper trail required) Cyclist wait times greater due to 2 (or 3) stage crossing as opposed to single stage using upgraded crossing on Mile Cross Lane Work to signalised junction required
Option 3 is as option 2 but with the removal of the left slip from Mile Cross Lane to Catton Grove Road. A turning count and modelling will determine what the reduction in wait time would be and a judgement on cost/benefit to be made		

NOTES:

1. Pedestrian and cycle survey carried out on 23rd June 2015 between the hours of 0700-1900.
2. Figures shown in red denote cycle movements with pedestrian movements shown in [brackets].
3. Only significant single movements selected from the data have been shown (hence data shown in total data tables exceeds the sum of individual movements shown).
4. All destination points which were part of the original survey area are shown here to enable cross-reference with original data as required (e.g. 'F' & 'G' shown without data).
5. Maximum peak hour (single origin & destination) cycle flows in the area are 6 (D1-B2) and 5 (B1-D2 & E1-C2) and for the yellow pedalway route 4 (A-D1 and D1-E2).
6. The maximum peak hour cycle flow using the pedalway (multiple routes, including part of route only) is 25 occuring between 1700 and 1800 north-south (A-D1, A-D2, E2-D1 & E1-C2 combined) and is 17 between 0700-0800 south to north (D1-E2, D1-A, C1-E2 & C2-E1).
7. The highest pedestrian peak hour flow of 56 occured at location 'A' (0800-0900)

KEY:

Yellow Pedalway

LOCATION A TOTAL DATA

	Pedestrian	Ped. (child)	Cycle	Cycle (child)
A Origin	134	35	57	3
A Destination	104	20	25	0
A Combined	238	55	82	3

LOCATION B TOTAL DATA

	Pedestrian	Ped. (child)	Cycle	Cycle (child)
B Southbound	52	3	107	0
B Northbound	112	22	33	0
B Combined	164	25	140	0

LOCATION D TOTAL DATA

	Pedestrian	Ped. (child)	Cycle	Cycle (child)
D Northbound	109	6	99	1
D Southbound	138	27	55	0
D Combined	247	33	154	1

A-E1: 5 [13]
A-E2: 18 [99]
E1-A: 6 [22]
E1-C2: 50 [7]
A-D1: 30 [44]
A-D2: 7 [3]
E2-A: 11 [89]
E2-D1: 21 [43]
B2-D1: 4 [29]
B1-C2: 25 [12]
B1-D2 65 [4]
C2-E1: 8 [8]
C1-E2: 44 [24]
C1-D2: 10 [36]
D1-E2: 20 [5]
D1-A: 6 [5]
D1-B2: 51 [27]

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Funded by: Department for Transport; NEWANGLIA Local Enterprise Partnership for Norfolk and Suffolk

Transport for Norwich

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DRAWING TITLE

A1042/18 Norwich: Mile Cross Lane
Cycling Improvements
Pedestrian & Cycle Survey Plan

REV.	DESCRIPTION	CHECKED	DATE

	INITIALS	DATE
SURVEYED BY	OS	2016
DESIGNED BY	AJC	09/16
DRAWN BY	AJC	09/16
CHECKED BY	LO	10/16

DRAWING No. PEA003-TfN-006
PROJECT TITLE A1042/18 Norwich: Mile Cross Lane Cycling Improvements
SCALE 1:1000
FILE No. PEA003

ORIGINAL SIZE: A3

Existing speed camera to be retained

Additional drop kerbs

Widen path adjacent to trees and steep bank where possible

Remove railings. Consider installation of single central bollard

Widen existing footpaths to 2.75m to create shared use areas

New drop kerbs to provide access point from carriageway to new shared use facility for cyclists

Existing puffin crossing to remain

Existing footway widened into verge and converted to a 3.0m wide shared use facility

Existing traffic island lengthened and widened from 2.5m to 3.0m to allow use by cyclists

Area to be landscaped. Design to investigate whether existing 2.25m facility can be widened under tree canopy

Widen footway to 3.0m and convert to shared use

Arrangement and position for cyclists to rejoin carriageway to be investigated as part of detailed design.

BLACKTHORN CLOSE

FIDDLE WOOD ROAD

HARMER ROAD

MILE CROSS LANE

ST FAITH'S ROAD

CHARTWELL ROAD

CATTON GROVE ROAD

BRIGHTWELL ROAD

Key

- Proposed pedestrian/cyclist shared use path
- Existing footway to remain
- Area to be landscaped
- Proposed road markings
- Tactile paving (450mmx450mm slabs)
- Grass verge/general landscaping
- Proposed bollard
- Proposed new kerbing

Notes:

1. Topographical survey data shown in green, Ordnance Survey data shown in grey. DO NOT scale from OS data.
2. Plan is indicative only - final scheme layout will be determined by detailed design.
3. Minimal road markings are shown. Details yet to be designed.

Metres 5 0 5 10 20 30 40 Metres 50

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Transport for Norwich

Funded by: Department for Transport; NEWANGLIA Local Enterprise Partnership for Norfolk and Suffolk

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DRAWING TITLE

A1042/18 Norwich: Mile Cross Lane
Cycling Improvements
Preliminary Engineering Layout

REV.	DESCRIPTION	CHECKED	DATE

	INITIALS	DATE
SURVEYED BY	OS/PC	08/2016
DESIGNED BY	LO/AC	10/16
DRAWN BY	LO/AC	10/16
CHECKED BY	MA	10/16

DRAWING No. PEA003-TFN-013

PROJECT TITLE A1042/18 Norwich: Mile Cross Lane Cycling Improvements

SCALE 1:500 @ A1

FILE No. PEA003

ORIGINAL SIZE: A1

RN 13/01/17