

Traffic Management Advisory Committee Agenda

To: Councillor Muhammad Ali (Vice-Chair)
Councillors Luke Clancy, Karen Jewitt, Michael Neal, Pat Ryan and Paul Scott

Reserve Members: Jamie Audsley, Robert Canning, Clive Fraser, Patricia Hay-Justice, Oni Oviri and Ian Parker

A meeting of the **Traffic Management Advisory Committee** which you are hereby summoned to attend, will be held on **Tuesday, 12 January 2021** at **6.30 pm**. **This meeting will be held remotely** and can be viewed [here](#).

JACQUELINE HARRIS BAKER
Director of Law and Governance
London Borough of Croydon
Bernard Weatherill House
8 Mint Walk, Croydon CR0 1EA

Cliona May
020 8726 6000 x47279
cliona.may@croydon.gov.uk
www.croydon.gov.uk/meetings
Monday, 4 January 2021

Members of the public are welcome to attend this meeting.

If you would like to record the meeting, we ask that you read the guidance on the recording of public meetings [here](#) before attending.

The agenda papers for all Council meetings are available on the Council website www.croydon.gov.uk/meetings

If you require any assistance, please contact Cliona May
020 8726 6000 x47279 as detailed above.

AGENDA – PART A

1. Apologies for Absence

To receive any apologies for absence from any members of the Committee.

2. Minutes of the Previous Meeting (Pages 5 - 8)

To approve the minutes of the meeting held on 14 October 2020 as an accurate record.

3. Disclosure of Interests

In accordance with the Council's Code of Conduct and the statutory provisions of the Localism Act, Members and co-opted Members of the Council are reminded that it is a requirement to register disclosable pecuniary interests (DPIs) and gifts and hospitality to the value of which exceeds £50 or multiple gifts and/or instances of hospitality with a cumulative value of £50 or more when received from a single donor within a rolling twelve month period. In addition, Members and co-opted Members are reminded that unless their disclosable pecuniary interest is registered on the register of interests or is the subject of a pending notification to the Monitoring Officer, they are required to disclose those disclosable pecuniary interests at the meeting. This should be done by completing the Disclosure of Interest form and handing it to the Democratic Services representative at the start of the meeting. The Chair will then invite Members to make their disclosure orally at the commencement of Agenda item 3. Completed disclosure forms will be provided to the Monitoring Officer for inclusion on the Register of Members' Interests.

4. Urgent Business (if any)

To receive notice of any business not on the agenda which in the opinion of the Chair, by reason of special circumstances, be considered as a matter of urgency.

5. Albert Road (Part) & Eldon Park - Results of Informal Consultation on a Possible Extension of the South Norwood Controlled Parking (CPZ) (Pages 9 - 28)

6. Crystal Palace and South Norwood Low Traffic Neighbourhood (Pages 29 - 370)

7. Exclusion of the Press and Public

The following motion is to be moved and seconded where it is proposed to exclude the press and public from the remainder of a meeting:

“That, under Section 100A(4) of the Local Government Act, 1972, the press and public be excluded from the meeting for the following items of business on the grounds that it involves the likely disclosure of exempt information falling within those paragraphs indicated in Part 1 of Schedule 12A of the Local Government Act 1972, as amended.”

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Traffic Management Advisory Committee

Meeting held on Wednesday, 14 October 2020 at 6.30pm. The meeting was held remotely.

MINUTES

Present: Councillor Stuart King (Chair);
Councillor Muhammad Ali (Vice-Chair);
Councillors Luke Clancy, Karen Jewitt, Michael Neal and Pat Ryan

PART A

1/20 Minutes of the Previous Meeting

The minutes of the meeting held on 8 July 2020 were agreed as an accurate record.

2/20 Disclosure of Interests

There were none.

3/20 Urgent Business (if any)

There were no items of urgent business.

4/20 Parking Charges Review January 2021

The Committee considered the report regarding the revision of the parking charges. The New Business and Projects Manager, Public Realm, informed Members that the report provided details on the costs of managing kerb side demand and influencing car use, to support general accessibility to amenities and in response to overarching national, regional and local drivers for addressing the borough's air quality and public health challenges.

In response to Councillor Clancy it was explained that if the parking charges were increased, it was thought that the demand to park would increase as it would enable better access for shorter stays to occur. It was also noted that it was difficult to estimate if parking would be displaced to private car parks, especially post-COVID 19, as the traffic had not returned to how it was pre-lockdown.

Councillor Ali stated that car-free zones being introduced in Croydon would be positive. The New Business and Projects Manager noted that according to TfL data, Croydon had the most potential in London to provide safe spaces for

cyclists. He gave the statistics of cyclists in neighbouring boroughs to highlight how low the cycling rate was in Croydon.

Councillor Jewitt joined the meeting at 1850 hours.

Councillors Neal and Clancy raised concern for the removal of 30 minutes free parking and the affect this could have on local businesses, particularly in small district centres, which relied on drivers stopping briefly to shop. In response, the officer explained that drivers were discouraged from using cars for non-essential trips and they could walk or cycle to a local shop.

In response to Councillor Neal's query regarding how air quality would be measured, the New Business and Projects Manager explained that the average of vehicle admissions could be calculated from parking bays and using the data collected by the pay and display machines.

In response to queries raised regarding the budget implications of COVID-19, the New Business and Projects Manager and the Director of Public Realm confirmed that the increase of parking charges was not in response to the shortfall created by the lockdown; the majority of the shortfall had been consolidated by the increase collected in August and September 2020 and the council were working with central government to mitigate any impact from COVID-19. It was confirmed that the increase in charges would cover the costs of work being completed by the transport team.

In response to Councillor Clancy, the Chair explained that the Mayor supported the freeze in transport fares; however, TfL was heavily reliant on fare income and this had significantly dropped during lockdown. He noted that more could be done on a local level, in terms of transport, such as offering financial incentives to purchase a bicycle instead of a car.

RESOLVED – That the Committee:

- 1) Agreed, for the reasons detailed in this report, to recommend to the Cabinet Member for Environment, Transport & Regeneration (job share) to amend the existing Traffic Management Orders to effect a 30p per 30min increase in the P&D parking bay charges.
- 2) Note that the recommended 30p per 30min increase would coincide with the implementation of emission-based banded parking charges, as agreed by Cabinet 25 March 2019.
- 3) If it is agreed to proceed, delegate to the Highway Improvement Manager, Public Realm Directorate the authority to give a Public Notice of variation.

5/20

Exclusion of the Press and Public

This was not required.

The meeting ended at 19:14

Signed:

Date:

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REPORT TO:	TRAFFIC MANAGEMENT ADVISORY COMMITTEE 12 January 2020
SUBJECT:	ALBERT ROAD (PART) & ELDON PARK – RESULTS OF INFORMAL CONSULTATION ON A POSSIBLE EXTENSION OF THE SOUTH NORWOOD CONTROLLED PARKING ZONE (CPZ)
LEAD OFFICER:	Shifa Mustafa, Executive Director of Place
CABINET MEMBER:	Councillor Muhammad Ali, Cabinet Member for Sustainable Croydon
WARDS:	South Norwood
<p>CORPORATE PRIORITY/POLICY CONTEXT:</p> <p>This report is in accordance with objectives to improve the safety and reduce obstructive parking on the Borough's roads as detailed in:</p> <ul style="list-style-type: none"> • Croydon Local Plan Feb 2018 • The Local Implementation Plan 3; Section 2 Croydon Transport Objectives • Croydon's Community Strategy; Priority Areas 1, 3, 4 and 6 • The Croydon Plan 2nd Deposit; T4, T7, T35, T36, T42 and T43. • Our Corporate Plan for Croydon 2018 – 22 • Health and Wellbeing Strategy • www.croydonobservatory.org/strategies/ <p>Croydon's Parking Policy 2019 – 2022, sets out that parking schemes are introduced in accordance with the Road Traffic Regulations Act 1984, including having regard to the desirability of securing and maintaining reasonable access to amenities and to the National Air Quality Strategy.</p>	
<p>FINANCIAL IMPACT:</p> <p>These proposals can be contained within the available budget.</p>	
<p>FORWARD PLAN KEY DECISION REFERENCE NO.: n/a</p>	
<p>1. RECOMMENDATIONS</p> <p>That the Traffic Management Advisory Committee recommend to the Cabinet Member for Sustainable Croydon to:</p> <p>1.1 Consider the responses received to the informal consultation on the proposed introduction of a Controlled Parking Zone (CPZ) in Albert Road (part) and Eldon Park Area.</p> <p>1.2 Agree to proceed to the formal consultation stage for a proposal to extend the South Norwood CPZ into the section of Albert Road from the existing boundary</p>	

by Coventry Road to its junction with Eldon Park, as illustrated on drawing number PD-405a.

- 1.3 If formal consultation is agreed, delegate to the Highway Improvement Manager, Public Realm Directorate the authority to give the notice.

2 EXECUTIVE SUMMARY

- 2.1 This report considers the results of the informal consultation on the possible extension of the South Norwood CPZ into Albert Road (part) and Eldon Park.
- 2.2 It is recommended that the Council proceeds to the formal consultation stage with a proposal to extend parking controls into the section of Albert Road, from the existing South Norwood CPZ boundary near Coventry Road to its junction with Eldon Park only, as illustrated on drawing No. PD-405a.
- 2.3 On 16 November 2020 and pursuant to the delegation from the Leader dated 6 June 2016, the Executive Director Place, following consultation with the Cabinet Member for Sustainable Croydon determined that it was appropriate to refer consideration of the matters detailed paragraph 2.2 above to the Traffic Management Advisory Committee for onward recommendation and determination to the Cabinet Member for Sustainable Croydon.

3 DETAIL

- 3.1 An informal consultation was carried out on 13 October 2020 in Albert Road (from Coventry Road to Eldon Park) and Eldon Park, as a direct response to a petition received from residents of Albert Road (from Coventry Road to Eldon Park), requesting that the Council introduce a controlled parking scheme to address the parking concerns in the area.
- 3.2 A letter, map of the consultation area, Frequently Asked Questions factsheet and questionnaire were delivered by Royal Mail, to every property in the consultation area. In this document the council provided all the relevant information relating to parking controls, including costs and asked a series of questions.
- 3.3 The Council tries to make it easy and convenient for everyone to respond by providing a postage paid return envelope. The results below are compiled to show the individual responses from each household and business to determine the views expressed by the locals. The analysis of the questionnaire and comments also helps the council to ensure that the design of a proposed zone most accurately reflects the desires of the community, be it week day only zone, controls on Saturday, or even 7-day controls.
- 3.4 The informal consultation area included Albert Road (from the existing South Norwood CPZ boundary by Coventry Road to Eldon Park) and Eldon Park. The informal consultation ended on 6 November 2020.

- 3.5 The results of this consultation have been analysed, both for the overall area and on a street-by-street basis. When examining the results, the council has taken into account the response rate, the level of support and whether the streets involved would form a coherent zone area. The council tries to ensure that zone boundaries are clear so that any confusion can be avoided.
- 3.6 This enabled the Council to accurately define the area where there is support for the introduction of controls and the area where there is not.
- 3.7 The residents have been assured that the responses received remain confidential and are not available for individual scrutiny. The responses received have helped the council to decide whether a scheme should be introduced and how it will operate.
- 3.8 The introduction of parking controls in one street often results in displacement parking problems in adjacent streets, as motorists may move their cars to the nearest road where parking is unrestricted. Consequently, the Council will consult over a wider area than that in which there are known to be current parking difficulties.
- 3.9 For parking controls to be introduced, the council has taken into account the views of residents and businesses. However, customer feedback is not the single deciding factor. All relevant factors will be considered before arriving at a decision.
- 3.10 CPZs are introduced under the Road Traffic Regulation Act 1984 and require legal traffic management orders (TMO), which designate the permitted parking places and yellow line waiting restrictions. The Council will undertake a consultation with statutory consultees, advertise the proposals in the local press and have regard to any objections before making the orders.
- 3.11 The complete process, from consultation to zone implementation, generally takes between six and twelve months. The process takes time as once a final scheme has been designed and approved, the council is required to consult the police and emergency services about our proposals, advertise and make the TMO, manufacture and install parking signs, as well as install road markings.
- 3.12 After a new zone has been operational for at least twelve months, the council will carry a review consultation to find out if the controls are working effectively.
- 3.13 Residents and businesses will be informed of the results of the informal consultation exercise and the decision made by the Cabinet Member by letter. Updates on each consultation and a copy of the committee report detailing the results can always be found on the Council's website.

4 Consultation results

- 4.1 Consultees were requested to register their “Yes/No” preference votes, with the operational hours of 9am to 5pm Monday to Saturday matching the controls in the existing South Norwood zone bordering the consultation area.
- 4.2 A total of 123 questionnaires were delivered by Royal mail and 23 completed questionnaires were returned, representing a 19% response rate, which is to be expected for an informal consultation exercise of this type.
- 4.3 Table 1 below, shows the number of properties in both roads and the total number of returns received.

Table 1 – Response Rate per Street

Street Name	Number of Properties	Responses Received	Response Rate
Albert Road (Coventry Road to Eldon Park)	39	9	23%
Eldon Park	84	14	17%
TOTAL:	123	23	19%

- 4.4 Table 2 below shows responses in detail in both roads.

Table 2: Answer to Questionnaire

Are you in favour of a Controlled Parking Zone?						
Street Name	Responses Received		Yes		No	
Albert Road (CPZ boundary to Eldon Park)	39	23%	6	67%	3	33%
Eldon Park	14	17%	3	21%	11	79%
TOTAL:	123	19%	9	7%	14	11%

- 4.5 Table 2 above, shows 67% of the respondents from Albert Road were in favour of the introduction of a CPZ in their street. The remaining 33% of the respondents did not support the introduction of parking controls. Due to the parking stress experienced by residents and the need to secure the expeditious, convenient and safe movement of vehicular and other traffic including pedestrians, and the provision of suitable and adequate parking facilities on and off the highway, it is proposed to proceed to a formal consultation with detailed design in Albert Road (from the existing South Norwood CPZ boundary by Coventry Road to the junction of Eldon Park) as illustrated on drawing No. PD-414.
- 4.6 Residents who live closer to the existing South Norwood CPZ are affected by the overspill that often results in displacement parking problems in adjacent streets, as commuters and other motorists may move their cars to the nearest road where parking is unrestricted.
- 4.7 The other street affected by the overspill is Eldon Park, however, only 17% responded to the consultation and of those, 79% have voted against any CPZ scheme. The reason the majority of Eldon Park residents do not support the introduction of parking controls could be because there are a large number of flats of which the majority have access to their own off street parking areas. The residents who do park on the Eldon Park seem to park either before or after commuters, therefore do not seem to be affected by the overspill.
- 4.8 The introduction of a new CPZ requires the making of a Traffic Management Order. The legal process for making a Traffic Management Order requires formal consultation to take place in the form of Public Notices published in the London Gazette and a local newspaper (Croydon Guardian). Although not a legal requirement, this Council also fixes street notices to lamp columns in the vicinity of the proposed scheme and writes to occupiers who are directly affected to inform as many people as possible of the proposals.
- 4.9 Official bodies such as the Fire Brigade, The Pedestrian Association, Age UK and bus operators are consulted under the terms of the Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996. Additional bodies, up to 27 in total, are consulted depending on the relevance of the proposals.
- 4.10 Once the notices have been published, the public has 21 days to comment or object to the proposals. If no relevant objections are received, the Traffic Management Order may then be made. Any relevant objections received following the giving of public notice will be considered by the Executive Director of Place and may be referred to the Traffic Management Advisory Committee for consideration and onward recommendation to the Cabinet Member for Environment, Transport and Regeneration.

5 FINANCIAL CONSIDERATIONS

There is a revenue budget of £50k for CPZ undertakings and £50k for Footway Parking and Disabled Bays, from which these commitments if approved will be

funded. It is proposed that, subject to formal consultation (public notice), this scheme will be implemented in 2021/2022.

5.1 Revenue and Capital consequences of report recommendations

	Current Financial Year	M.T.F.S – 3 year Forecast		
	2020/21	2021/22	2022/23	202324
	£'000	£'000	£'000	£'000
<u>Revenue Budget</u>				
<u>available</u>				
Expenditure	100	0	0	0
Income	0	0	0	0
<u>Effect of Decision</u>				
<u>from Report</u>				
Expenditure	0	4.5	0	0
Income	0	0	0	0
Remaining Budget	0	0	0	0
<u>Capital Budget</u>				
<u>available</u>				
Expenditure	0	0	0	0
<u>Effect of Decision</u>				
<u>from report</u>				
Expenditure	0	0	0	0
Remaining Budget	0	0	0	0

5.2 The effect of the decision

- 5.2.1 The cost of introducing controlled parking into part of Albert Road has been estimated at £4500. This includes the supply and installation of signs, lines and a contribution towards the legal costs.
- 5.2.2 These costs can be contained within the available revenue budgets for 2021/22.
- 5.2.3 It is anticipated that the costs of introducing the CPZ scheme will be offset by income generated from residents parking permits, PCN income and Pay by Phone. Revenue costs for Enforcement Officers will be contained within the existing parking budget. The scheme will payback within a year of its implementation.

5.3 Risks

- 5.3.1 The current method of introducing parking controls is very efficient with the design and legal work being carried out within the department. The marking of the parking bays and the supply and installation of signs and posts is carried

out using the new Highways Contract and the rates are lower than if the schemes were introduced under separate contractual arrangements.

5.4 Options

- 5.4.1 An alternative option is to introduce a Residents Only parking scheme. Virtually all permit schemes in the borough are Shared-Use with "Pay by Phone" Ringo users and this offers the greatest flexibility for drivers who may be visitors to residents and businesses in the area.

5.5 Savings/ future efficiencies

- 5.5.1 If controlled parking is introduced future income will be generated from the purchase of resident/business permits, paid for parking (Pay by Phone), together with the revenue generated from the enforcement of these controls, through the issue of Penalty Charge Notices (PCN). Therefore, new CPZ schemes (which are now introduced without Pay and Display machines), have typically been proven to be self-financing usually within the first year of introduction.

Approved by: Geetha Blood, Finance Manager, Place

6. COMMENTS OF COUNCIL SOLICITOR AND MONITORING OFFICER

- 6.1 The Head of Litigation and Corporate Law comments on behalf of the Director of Law and Governance Sections 6, 45, 46, 47, 49, 124 and Part IV of Schedule 9 of the Road Traffic Regulation Act 1984 (RTRA) provides the Council with the power to implement the changes proposed in this report. This legislation gives a local authority the power to make Traffic Management Orders (TMO) to control parking by designating on-street parking places, charging for their use and imposing waiting and loading restrictions on vehicles of all or certain classes at all times or otherwise.
- 6.2 In making such Orders, the Council must follow the procedures set out at Schedule 9, Part III of the Road Traffic Regulation Act 1984 and detailed in the Local Authorities Traffic Orders (Procedure)(England and Wales) Regulations 1996 (the 1996 Regulations). The said Regulations, prescribe inter alia, specific publication, consultation and notification requirements that must be strictly observed. It is incumbent on the Council to take account of any representations made during the consultation stage and any material objections received to the making of the Order, must be reported back to the decision maker before the Order is made.
- 6.3 By virtue of section 122 of the RTRA, the Council must exercise its powers under that Act so as to secure the expeditious, convenient and safe movement of vehicular and other traffic including pedestrians, and the provision of suitable and adequate parking facilities on and off the highway. These powers must be exercised so far as practicable having regard to the following matters:-

- The desirability of securing and maintaining reasonable access to premises.
- The effect on the amenities of any locality affected including the regulation and restriction of heavy commercial traffic so as to preserve or improve amenity.
- The national air quality strategy.
- The importance of facilitating the passage of public service vehicles and of securing the safety and convenience of persons using or desiring to use such vehicles.
- Any other matters appearing to the Council to be relevant.

6.4 The Council must have proper regard to the matters set out at s 122(1) and (2) and specifically document its analysis of all relevant section 122 considerations when reaching any decision. The Council needs to comply with the necessary requirements of the Local Authorities Traffic Order Procedure) (England and Wales) Regulations 1996 by giving the appropriate notices and receiving representations. Such representations must be considered before a final decision is made.

6.5 It should be noted that two reports were presented to Members by the Chief Finance Officer on 11 November 2020 and 2 December 2020 were issued under of the Local Government Finance Act 1988 section 114(3). A prohibition period of up to 21 days follows each notice during which the Council is not permitted to incur any new expenditure without the prior approval of the Council's Chief Finance Officer.

Approved by: Sandra Herbert, Head of Litigation and Corporate Law on behalf of the Interim Director of Law and Governance and Deputy Monitoring Officer.

7. HUMAN RESOURCES IMPACT

7.1 Enforcement of new parking schemes will require increased enforcement duties by Civil Enforcement Officers. It is anticipated that this additional enforcement can be undertaken using existing resources.

Approved by: Jennifer Sankar, Head of Human Resources.

8. CUSTOMER IMPACT

8.1 The proposed introduction of parking controls into part of Albert Road and is in response to support from local residents for a parking scheme.

- 8.2 Occupiers of all residential and business premises in the area were consulted to ensure that all those potentially affected by the proposals were given the opportunity to give their views. Parking controls are only introduced in the area where the majority of residents are in favour of a scheme. The proposals are therefore likely to be seen as a positive move by the Council and should improve residents' and businesses' views of the work carried out by the Borough.

9. EQUALITIES IMPACT

- 9.1 An initial Equalities Impact Assessment (EqIA) has been carried out and it is considered that a Full EqIA is not required.

10. ENVIRONMENTAL IMPACT

- 10.1 Parking schemes are designed so that the signing is kept to a minimum to reduce the environmental impact. Narrow 50mm wide lines can be used in environmentally sensitive and conservation areas.

11. CRIME AND DISORDER REDUCTION IMPACT

- 11.1 The fact that uniformed Civil Enforcement Officers will be regularly patrolling the area should have a deterrent effect on crime.

12. REASONS FOR RECOMMENDATIONS

- 12.1 The Council recommends to introduce a new controlled parking scheme in the road listed in paragraph 1.2. Therefore the Council proposes to issue a public notice of the Traffic Management Order of the proposed scheme and, subject to no objections received, to make the necessary Traffic Management Order. It is considered that parking controls will improve parking conditions for residents and visitors whilst improving safety and access.

13. OPTIONS CONSIDERED AND REJECTED

- 13.1 The alternative option would be not to proceed with publication of the public notice and formal consultation but this would not accord with the expressed preference of the majority of those who responded to this informal consultation.

REPORT AUTHOR:

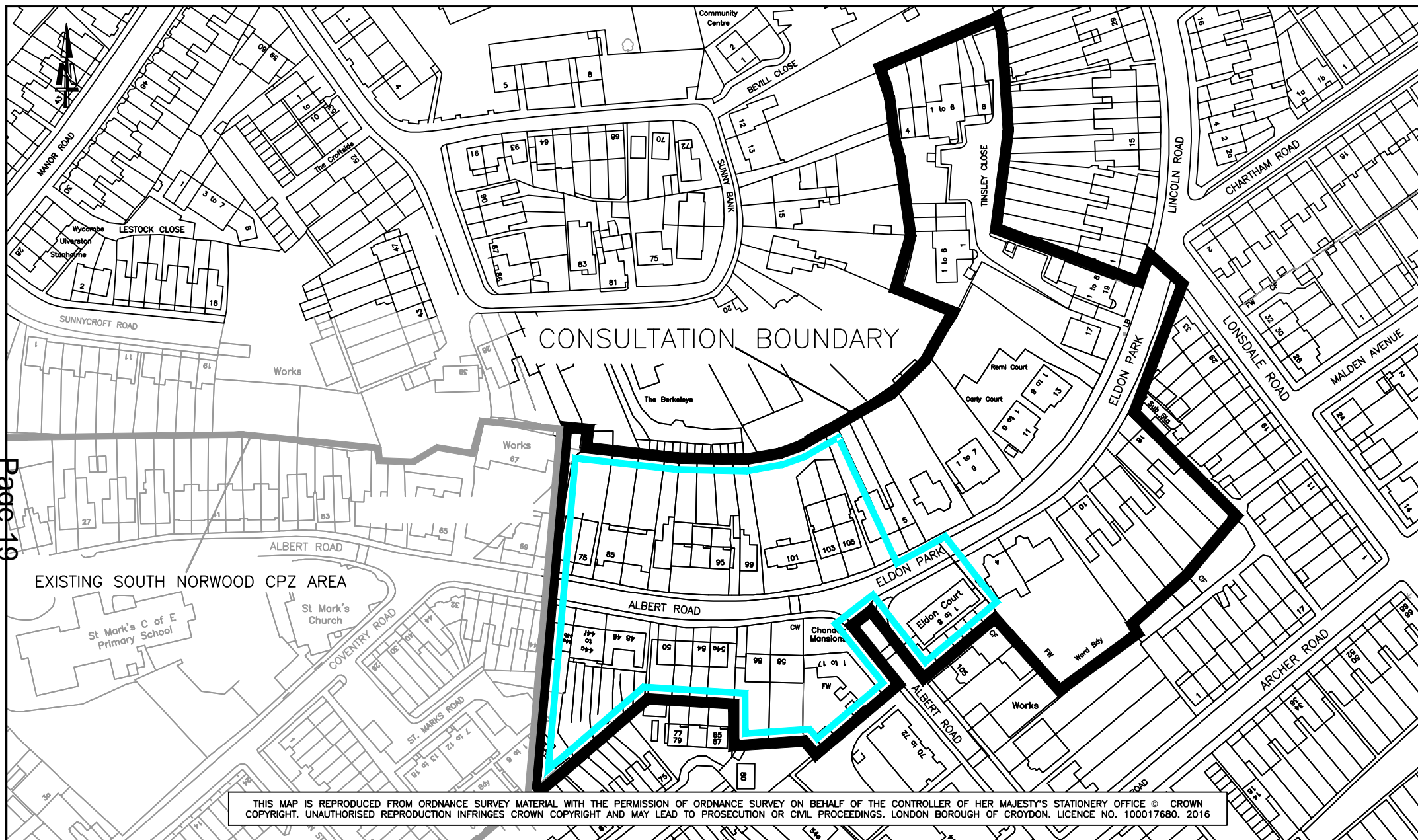
Huda Wahab, Traffic Engineer,
Parking Design, Highway Improvements,
Streets, 020 8726 6000

CONTACT OFFICER:

David Wakeling, Parking Design Manager
Parking Design, Highway Improvements,
Streets, 020 8667 8229

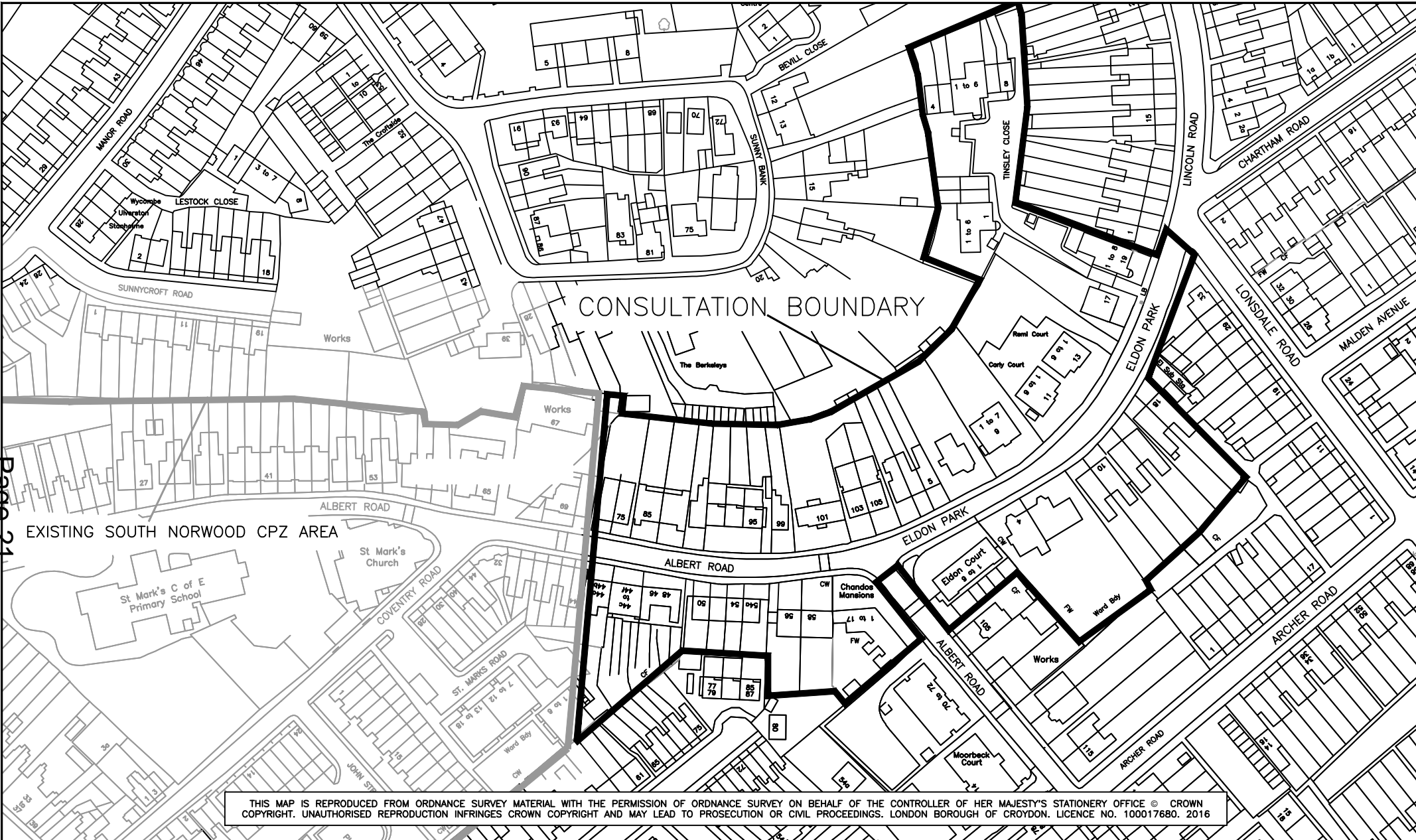
APPENDICES:

Consultation Documents



KEY:		JOB NAME		DRAWING TITLE		DESIGNER		VERIFIED		SCALE AT A4		DATE		PLACE DEPARTMENT		DRAWING NO		REVISION	
Proposed Controlled Parking Zone Extension Boundary		ALBERT ROAD (PART) AND ELDON PARK.		PROPOSED SOUTH NORWOOD CPZ EXTENSION BOUNDARY.		HW		DJW		NTS		November 2020		STREETS DIVISION		PD - 414		-	
														DIRECTOR - STEVE ILES					
														HIGHWAY IMPROVEMENTS					
																		CROYDON	
																		www.croydon.gov.uk	
																		Delivering for Croydon	

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NOTES	JOB NAME ALBERT ROAD AND ELDON PARK.				PLACE DEPARTMENT STREETS DIVISION DIRECTOR - STEVE ILES		DRAWING NO PD-409a.		REVISION -
	DRAWING TITLE CONSULTATION AREA (From Coventry Road To Lonsdale Road).						STATUS -		
	DESIGNER HW	VERIFIED DJW	SCALE AT A4 NTS	DATE September 2020	HIGHWAY IMPROVEMENTS		CROYDON Delivering www.croydon.gov.uk for Croydon		

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The Occupier of Albert Road
(CPZ boundary to Eldon Park) & Eldon Park

Place Department
Highways Improvement Team (6C)
Bernard Weatherill House
8 Mint Walk
Croydon
CR0 1EA
Tel/Typetalk: 020 8726 6000
Minicom: 020 8760 5797

**Important Parking Information &
Questionnaire**

Contact: Ms. Huda Wahab
Huda.Wahab@croydon.gov.uk
Mobile: 07736 498 964
Our Ref:HI/PD//HW/01

Date: **13 October 2020**

Dear Occupier,

**Albert Road (part) and Eldon Park – Possible Extension of the South Norwood
Controlled Parking Zone**

I am writing to ask for your views on the possibility of introducing a Controlled Parking Zone (CPZ) in part of Albert Road and Eldon Park.

The consultation is as a result of concern on the level of parking outside the existing South Norwood CPZ which creates obstruction to pedestrians and access issues for residents. It is proposed to introduce double yellow line 'At any time' waiting restrictions on the south side of Albert Road and extended restrictions on the first section of Eldon Park to remove the current footway parking. A permit scheme introduced at the same time would help to mitigate against the reduced parking.

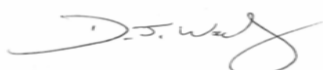
Legislation requires that we have regard to various factors in making a decision on whether an area should have a CPZ introduced. These include the views of owners and occupiers of properties but also the need for maintaining the free movement of traffic including public service and emergency vehicles, access to premises and safety of all road users including pedestrians. This is why your views are important and we would be grateful if you could complete the attached questionnaire. Once completed, please return it in the enclosed pre-paid envelope by **6 November 2020**.

The existing South Norwood CPZ operates between 9am and 5pm, Monday to Saturday. Any proposed CPZ in Albert Road and Eldon Park will mirror these operational times. During the period of operation, parking is only permitted within parking bays with a valid permit or if motorists have paid via the RingGo "Pay by Phone" system. Residents and businesses within the zone boundary are eligible to purchase parking permits.

All questionnaire responses received by **6 November**, will be presented in a report to the Executive Director of Place to consider whether to refer the matter to the next scheduled Traffic Management Advisory Committee meeting for consideration and onward recommendation to the Cabinet Member for Environment, Transport & Regeneration (Job Share) for decision.

Please do not hesitate to contact the scheme engineer, **Ms Huda Wahab** on **07736 498 964** or by email **Huda.Wahab@croydon.gov.uk** if you require further information or clarification.

Yours faithfully,



David Wakeling - Parking Design Manager - Highways Improvement, Place Department

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Parking Consultation: Questionnaire

Albert Road (CPZ boundary to Eldon Park) & Eldon Park

Please complete this questionnaire and return it in the enclosed pre-paid envelope to reach us by Friday, 6 November 2020.

Name

Address*

** Without this information your vote will not be counted. This information will be used only for the purpose of this consultation. We will only use responses from occupiers within the proposed area shown on the attached plan – one response per household and returned using the official pre-paid envelope provided.*

1. Are you in favour of extending the existing South Norwood CPZ into your road?

Please choose an option putting an 'X' in the appropriate box.

Yes, the zone should be extended to include this part of Albert Road and Eldon Park as indicated on the attached drawing. ☐

No, controlled parking is not needed in this part of Albert Road and Eldon Park as indicated on the attached drawing. ☐

Comments:

The results of the consultation will be presented in a report to the Traffic Management Advisory Committee for consideration at its next meeting at 6.30pm on 16 December 2020 in the Town Hall, Katharine Street, Croydon. The report will be available to view online on 9 December 2020 using the following link:

www.croydon.gov.uk/democracy/dande/minutes/committees

**Please return by Friday 6 November 2020
using the pre-paid envelope provided.**

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Controlled Parking – Frequently Asked Questions

1. What is a Controlled Parking Zone?

This is an area where parking activities are controlled by waiting restrictions (yellow lines) and parking bays.

2. At what times will the restrictions apply?

The proposed scheme's hours of operation will mirror those of the existing neighbouring South Norwood Controlled Parking Zone, 9am to 5pm, Monday to Saturday. Most existing zones in the Borough operate Monday to Saturday and it is proposed to consult occupiers on this.

3. How long would I be able to park for during operational hours?

Permit holders and Disabled Blue Badge holders will be able to park for an unlimited period within parking bays, providing a valid permit/Blue Badge is displayed.

4. Who is eligible for parking permits?

Any business with a business address within the zone and any resident with a vehicle registered at an address (if planning conditions do not prevent the issuing of parking permits) within the zone would be eligible for a parking permit. Information on how to apply for a permit will be sent to all consultees in due course if it is decided to proceed with the scheme.

5. What about our visitors?

Visitors would only need to pay for parking during the hours of operation of the zone. During operational hours, visitors must pay via the cashless pay by phone RingGo system or purchase a Resident Visitor Permit (obtained via the resident they are visiting using the cashless RingGo system, usually at a lower rate, depending on the length of stay, than the normal daily tariff).

6. Why can't we have "resident only" parking?

The shared-use Permit / Pay by phone scheme proposed is more flexible, allowing visitors, including customers of local businesses and tradespeople, to park. The permit cost is subsidised by Pay by phone users. Existing shared-use schemes provide residents more flexibility to park during the hours of operation than unregulated parking as the majority of commuters are reluctant to pay for parking.

7. Is this not just a money making scheme?

It is a legal requirement that parking schemes are self-financed as no funding is available from Council Tax for these types of proposals. In outer areas, such as this proposed area, income levels are lower than town centre locations as parking demand is higher. Charges ensure that implementation and administration/enforcement costs can be covered over a number of years.

8. Resident permit charges are currently based on vehicle emissions.

Bands		CO ₂ emission (g/km)	Charge
Vehicle registration from March 2001	Band 1	< 1	£6.50
	Band 2	1 – 75	£65
	Band 3	76 – 165	£104
	Band 4	166 – 225	£146
	Band 5	> 225	£300
Before March 2001	Band 6	1,600 or less	£146
	Band 7	1,601 or more	£300

There is a surcharge for the **second permit of £50**.

9. Where would parking bays and yellow lines be marked?

Parking bays would be marked on the carriageway in safe locations and away from junctions and dropped crossings. Yellow line waiting restrictions would be introduced at locations where parking would be hazardous or cause obstruction.

10. Can you guarantee me a parking space outside my house?

It is not possible to guarantee anyone a particular space on the public highway.

11. How can it be ensured that motorists parking in the zone park legitimately?

Civil Enforcement Officers (CEOs) will patrol the roads within the zone during the controlled hours. CEOs can issue a Penalty Charge Notice (parking ticket) to any vehicle that is parked in a manner that contravenes parking regulations e.g. parking on a yellow line or within a parking bay without displaying a valid permit/virtual ticket via the cashless pay by phone RingGo system.

12. Will I be able to park across my driveway?

Yes, but only outside the controlled hours. It is not possible to mark bays across driveways as this would legalise obstruction.

13. What if I do not support the introduction of controlled parking?

Vote 'No' on the enclosed questionnaire - if the majority of respondents vote against controlled parking then a scheme is unlikely to go ahead in the area. However, please note that due to safety and access concerns for pedestrians the proposal to introduce double yellow line 'At any time' waiting restrictions on the south side of Albert Road and Eldon Park where vehicles currently park on the footway will be progressed, even if the majority of residents vote against parking controls. If the majority of respondents are in favour of a scheme there would be an opportunity to make further comments or object to the proposals at the Public Notice (detailed design) Stage when the scheme is formally advertised in the Croydon Guardian, by on-street notices and on the Council website.

14. What happens next?

The results of the consultation will be presented in a report to the Executive Director of Place to consider whether or not to proceed with the formal consultation on the CPZ scheme or whether to refer the matter to the next scheduled Traffic Management Advisory Committee (TMAC) meeting for consideration and onward recommendation to the Cabinet Member for Environment, Transport & Regeneration (Job Share) for decision. If the matter is referred to the TMAC meeting, which is scheduled to take place on 16 December 2020 at 6:30pm in the Town Hall, Katharine Street, Croydon, any reports will be available to view online on 9 December 2020 prior to the scheduled meeting using the following link www.croydon.gov.uk/democracy/dande/minutes.

REPORT TO:	TRAFFIC MANAGEMENT ADVISORY COMMITTEE 12 January 2021
SUBJECT:	The Crystal Place and South Norwood Low Traffic Neighbourhood
LEAD OFFICER:	Shifa Mustafa, Executive Director, Place Steve Iles, Director, Public Realm
CABINET MEMBER:	Councillor Muhammad Ali, Cabinet Member for Sustainable Croydon
WARDS:	South Norwood, Crystal Palace and Upper Norwood

CORPORATE PRIORITY/POLICY CONTEXT/ AMBITIOUS FOR CROYDON

The recommendations address the Council's Corporate Plan priorities:

- *Easy, accessible, safe and reliable, making it more convenient to travel between Croydon's local places*
- *Less reliance on cars, more willingness to use public transport, walk and cycle and*
- *Invest in safe cycle lanes between central Croydon and local centres*

[Corporate Plan for Croydon 2018-2022](#)

CLIMATE EMERGENCY

The recommendations address priorities in the Climate Change report and the resulting declaration of a 'Climate Emergency', priorities including:

- *Croydon Council become carbon neutral by 2030;*
- *Work with the Mayor of London to meet the aim for London to be a zero-carbon city by 2050;*
- *Work with communities across Croydon to ensure that all residents and businesses are empowered and encouraged to play their part in making the Croydon the most sustainable borough in London;*
- *role of all elected Members in leading this agenda.*

[Climate Change report](#)

FINANCIAL IMPACT

The costs arising from implementing, consulting on and monitoring the Experimental LTN are proposed to be met from Active Travel Funding provided to London by the Secretary of State for Transport (via Transport for London (TfL)), and from funding allocated to the London Borough of Croydon Council ('Croydon Council') by TfL to support the Council implement its Local Implementation Plan.

FORWARD PLAN KEY DECISION REFERENCE NO.: 6520SC

The notice of the decision will specify that the decision may not be implemented until after 13.00 hours on the 6th working day following the day on which the decision was taken unless referred to the Scrutiny and Overview Committee.

1. RECOMMENDATIONS

That the Traffic Management Advisory Committee recommend to the Cabinet Member for Sustainable Croydon that they:

1.1 Consider:

- a) the responses received to the informal consultation on the options for the future of the Crystal Place and South Norwood Temporary Low Traffic Neighbourhood and other feedback.
- b) the Mayor of London's Transport Strategy and the Council's plan to implement it within the Borough (the Croydon Local Implementation Plan).
- c) the Council's statutory duties, including its duties under the Road Traffic Regulation Act 1984, in particular its duties under s.9, s.121B and s.122, its duties under the Traffic Management Act 2004, in particular its duty under s.16, its duties under the Equality Act 2010, in particular under s.1 and s.149 (the public sector equality duty).
- d) the statutory guidance 'Traffic Management Act 2004: network management in response to COVID-19' as updated on 13 November 2020.
- e) the other matters within and referred to within this report.

1.2 Agree to the removal of the measures implementing the Temporary Low Traffic Neighbourhood as soon as practicable and in any event prior to the implementation of the recommended Experimental TRO.**1.3 Agree (subject to Spending Control Panel agreeing to the spending of ring fenced grant funding) to implement an Experimental Low Traffic Neighbourhood at Crystal Palace and South Norwood 'Experimental LTN' by the making of an Experimental Traffic Regulation Order (Experimental TRO) to operate for up to 18 months, to:****1.3.1 prohibit access and egress by motor vehicles (other than certain exempt vehicles) at the following locations:**

- (a) Sylvan Hill at the common boundary of Nos.11 and 13
- (b) Lancaster Road junction with Goat House Bridge
- (c) Fox Hill junction with Braybrooke Gardens
- (d) Stambourne Way junction with Auckland Road
- (e) Bus gate introduced at the common boundary of Nos. 86 and 84a(Auckland Road Surgery) Auckland Road

These restrictions to be enforced through Automatic Number Plate Recognition (ANPR) camera technology, shall not apply in respect of:

- (a) a vehicle being used for fire brigade, ambulance or police purposes;
- (b) anything done with the permission of a police constable in uniform or

- (c) a civil enforcement officer;
- (c) a vehicle being used for the purposes of a statutory undertaker in an emergency, such as the loss of supplies of gas, electricity or water to premises in the area, which necessitates the bringing of vehicles into a section of road to which the order applies;
- (d) vehicles to which a valid exemption permit has been provided;
- (e) licensed taxis at the bus gate only.

1.3.2 Introduce two disabled persons Blue Badge parking bays outside Nos. 84 and 86 Auckland Road.

for the reasons set out in this report and summarised at paragraph 3.12 and 15.3 of the report.

1.4. Delegate to the Director of Public Realm the authority to vary the provisions of the Experimental TRO including the exemptions to the restrictions.

1.5 Instruct officers to continue to seek to work with those in Bromley Council to mitigate effects predicted to arise from the Experimental LTN in certain residential access streets in Bromley.

1.6 In relation to Equality to agree:

- i) that the equality implications of the recommended Experimental Traffic Regulation Order have been the subject of careful consideration in compliance with the Council's obligations under sections 1 and 149 of the Equality Act 2010;
- ii) nevertheless there should be further equality impact analysis including through focused engagement with the members of groups with protected characteristics potentially most affected by the proposed change in and around the area of the current LTN during the operation and improvement of the Experimental TRO

1.7 That a recommendation on the future for the Experimental LTN be brought to the Traffic Management Advisory Committee at the appropriate time.

2. EXECUTIVE SUMMARY

2.1 This report outlines the evolution of the Temporary LTN at Crystal Palace and South Norwood, implemented in stages in response to the ongoing Covid19 Pandemic. It draws on:

- Guidance issued by the Department of Transport in May, when the Secretary of State for Transport was calling on all local authorities to respond swiftly to the Pandemic, to create space for social distancing, walking and cycling, with measures including using planters to close streets to create Low Traffic Neighbourhoods (LTNs).
- The refreshed Guidance published in November where the Secretary of State continues the call for action drawing on the government's 'Gear

Change: A Bold vision for cycling and walking' published in July, which sets out a range of commitments to increase levels of active travel in the medium to longer term, emphasising that reallocating road space is very much part of that vision.

- TfL's and the Mayor of London's 'Streetspace Plan for London' response to the Pandemic. (The purpose of the Plan (as explained by the Mayor) being to fast-track the transformation of streets across London to enable millions to change the way they get about the city)

2.2 Appendix 2 to this report explains that the Crystal Palace and South Norwood Temporary LTN, is an example of where rapid action to respond to the Pandemic meets policy (primarily in the form of the Mayor of London's Transport Strategy and the Council's statutory plan to implement that Strategy within the Borough). Outlined in this report are the wider policy reasons why a LTN should be considered at this location. These include the Corporate Plan priorities and those relating to the declaration of a Climate Change Emergency, set out above. LTNs are also a means of delivering key elements of the statutory Local Implementation Plan and the Mayor of London's Transport Strategy, in particular the Mayor's Healthy Streets objective¹. In turn, the Healthy Streets approach is intended to address the issues of inactivity and obesity, and the resulting health crisis facing Croydon.

2.3 This report explains that:

- since the introduction of 'Waze' and other driver route finding apps a decade ago, vehicle miles driven on London's streets have risen sharply, to their highest ever. All this increase has been on minor unclassified roads/streets, where traffic levels have almost doubled, now almost equaling that on London's A Road network.
- vehicle miles driven in Croydon have followed the same trajectory, with traffic on Croydon's roads and streets now at its highest level ever.
- CO₂ emissions from vehicles on Croydon's minor roads and streets, almost equals that emitted from its A Roads, with 129,000 Tonnes of CO₂ emitted from its minor streets in 2018, more than in any other London borough.

2.4 The Equality Analysis informing this report explains that 'Low Traffic Streets' are 'High People Streets' and conversely, 'High Traffic Streets' are 'Low People Streets'. It explains the physical, mental and community health impacts of High Traffic/Low People Streets arising from past decisions and recent trends. It explains how different groups have been differently impacted by these decisions and changes, children's independent mobility having been curtailed the most.

2.5 This report includes assessments undertaken by PJA consultants on behalf of Croydon Council, and by TfL, into traffic related effects potentially arising from the Temporary LTN. The findings of neither assessment suggest that any potential effects are of such magnitude or significance that an Experimental LTN should not be pursued (especially if Bromley Council can be persuaded to

¹ <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/healthy-streets>

work with Croydon Council). The operation of a time limited Experimental LTN enables the effects arising from it to be monitored and assessed including when the Covid19 Pandemic has subsided and public transport capacity is back to normal.

- 2.6 This report also summarises the results of a main consultation on the current Temporary LTN and a consultation with businesses, along with other feedback received. A Total of 4315 responses to the main consultation were received (and analysed) from across London (and wider). The consultation demonstrating what the Secretary of State for Transport has called 'the noise and passion schemes can generate'. It has not achieved what the Secretary of State is asking for in terms gathering a 'truly representative picture of local views'. The views received are from much wider than the 'local'. The population sample does not reflect the population within the Temporary LTN Area especially in terms of age profile and ethnicity. The Secretary of State reminds us that consultation 'should not be confused with listening only to the loudest voices or giving any one group a veto'. The recommended Experimental LTN is the opportunity to undertake the focussed research the Secretary of State says is needed to achieve a 'truly representative picture of local views', including using the 'scientific polling' he recommends. The recommended Experimental LTN responds to feedback on the effects of the Temporary LTN including concerns about journey distance and time for emergency service vehicles, and the greater distance needed to drive by some residents living within the Temporary LTN to get to and from their homes.
- 2.7 This additional feedback includes online petitions against the temporary closure to through motor traffic at Lancaster Road/Southern Avenue and at Sylvan Hill, Stambourne Way and Fox Hill. . The geographical spread of those responding to the consultation and the petitions (responses from across the UK, across London and across south London) draw into clear focus the decision to be made. Should Auckland Road, Lancaster Road and Southern Avenue be:
- (a) given back to informally acting as single function distributor roads, attempting to meet the demand for longer distance car journeys; or
 - (b) helped to return to being multi-functional streets, streets being the place where historically much of the life in cities and communities has taken place?
- 2.8 This report recommends that an Experimental LTN be implemented at Crystal Palace and South Norwood by way of an experimental traffic order under Section 9 of the Road Traffic Regulation Act 1984. The recommended Experimental LTN would use 'No Motor Vehicle' signs, and in Auckland Road signs prohibiting all vehicles except for buses, cycles and taxis (to create what is often called a 'bus gate') all enforced by cameras and automatic number plate recognition technology, rather than physical restrictions, with exemption permits for vehicles:
- belonging to residents within the Experimental LTN area (see Appendix 1) and
 - used by district nurses in the course of their duties.
- All emergency service vehicles would be exempt from the restrictions. The aims of the Experimental LTN include improving access for those walking and

cycling. When combined with neighbouring LTN's, the aim is for their effect to be greater than the sum of their parts, providing purposeful strategic cycling and walking routes, including meeting cycling demand identified by TfL along the only 'Top Priority' cycling corridor in Croydon. The aim is also to help reclaim the role of streets as social and community space, helping support physical, mental and community health. This report sets out the key factors that need to be considered and balanced, including the results of the consultation, in the decision whether to implement the Experimental LTN.

- 2.9 An experimental traffic order is time limited. It enables a proposal to be monitored and assessed 'in reality'. The Temporary LTN has been accused of worsening traffic conditions (and hence air quality) on neighbouring A Roads and in neighbouring communities, where there is greater deprivation and more members of Black and Minority Ethnic groups living. Through the publicity given to the consultation on the Temporary LTN (by both the Council and the 'Open our Roads' group), a large response rate was achieved. However, the population responding to the consultation does not reflect that within the LTN or neighbouring areas in terms of ethnic diversity, age or income. The Experimental LTN provides the opportunity to fully assess any wider traffic effects potentially arising from the LTN (including air quality) and if significant effects are found, whether these have the potential to impact different groups to a greater or lesser extent. It is also the opportunity to better understand how the LTN might benefit different groups.
- 2.10 The recommended approach is considered to comply with relevant statutory obligations and requirements, and in particular the Council's statutory duties, under the Road Traffic Regulation Act 1984, in particular its duties under s.9, s.121B and s.122, its duties under the Traffic Management Act 2004, in particular its duty under s.16, its duties under the Equality Act 2010, in particular under s.1 and s.149 (the public sector equality duty).
- 2.11 The costs arising from implementing, consulting on (including 'scientific polling') and monitoring the Experimental LTN are proposed to be met from Active Travel Funding provided to London by the Secretary of State for Transport (via Transport for London (TfL)), and from funding allocated to the London Borough of Croydon Council ('Croydon Council') by TfL to support the Council implement its Local Implementation Plan (and hence the Mayor's Transport Strategy).

3. BACKGROUND TO THE RECOMMENDED EXPERIMENTAL LTN

Location

- 3.1 This report makes recommendations regarding the short term future for the Temporary LTN. The Temporary LTN is focussed on Auckland Road / Lancaster Road, and bounded by the A215 South Norwood Hill, A212 Church Road and the railway line connecting Crystal Palace and Norwood Junction. It is adjacent to the Upper Norwood 'Triangle', where the A212, and A214 converge. The 'Triangle' has a long history of concerns associated with the motor traffic that passes through it, and the impacts arising from that traffic. Similarly there have been longstanding concerns about the speed and volume of traffic passing through Auckland Road/Lancaster Road and Southern Avenue.

Local Implementation Plan

- 3.2 The Plan to implement the Mayor of London's Transport Strategy within Croydon (the Local Implementation Plan (LIP)) proposed working with schools and residents to deliver 'Healthy Schools Neighbourhoods (see Appendix 2) including at Upper Norwood. In the latter part of 2019 engagement on the notion of a 'Healthy Schools Neighbourhood' was initiated with (and via) Cypress School, including with the residents of Southern Avenue. This engagement was put on hold with the start of the Covid19 Pandemic. Similarly, traffic surveys intended to inform the local discussion and development of proposals were not taken forward once the first Lockdown started.

The Covid19 Pandemic and the Evolution of the Temporary LTN

- 3.3 What more recently has become referred to as the 'Crystal Palace and South Norwood Temporary Low Traffic Neighbourhood', began with Lancaster Road and Warminster Road in South Norwood being temporarily closed to through motor traffic. At the same time, similar temporary measures were being introduced at nearby Albert Road and Holmesdale Road, plus elsewhere in Croydon and other London boroughs. These and other measures were introduced in response to the Covid19 Pandemic, responding to calls from residents to address the speed and volume of traffic in their streets. Importantly, Auckland Road was already closed for SGN emergency gas works, and Church Road A212 was half closed with temporary traffic signals controlling alternating one-way flows in the open half of the carriageway.
- 3.4 Around the same time, the Secretary of State for Transport was commending those local authorities that had already taken swift action, calling on others to do so, and in any event, act within a matter of weeks. The call was to create space for social distancing, walking and cycling, with the measures to include using planters to close streets to create Low Traffic Neighbourhoods.
- 3.5 Concurrently, TfL announced that the funding previously confirmed to support local authorities deliver measures to help implement their LIPs (including in Croydon's case funding to develop Healthy Schools Neighbourhoods at Upper Norwood and Broad Green), would not be provided, at least for the first half of the financial year. Instead there would be funding to swiftly deliver (with a deadline of early October) measures to implement TfL's and the Mayor of

London's Streetspace Plan for London. The purpose of the Plan (as explained by the Mayor) being to fast-track the transformation of streets across London to enable millions to change the way they get about the city.

- 3.6 TfL published research in support of its Streetspace Plan, to help the local authorities focus their interventions, research which includes its 'Temporary Strategic Cycling Analysis' and its 'Strategic Neighbourhood Analysis'. The former identified high priority cycle corridors (corridors with the greatest potential for people to switch from cars and other motor transport, to cycling) the one 'Top Priority' corridor in Croydon being from Crystal Palace into the Town Centre, along the line of Auckland Road and Holmesdale Road. The 'Strategic Neighbourhood Analysis' draws on a series of data sets (including the indices of multiple deprivation) to indicate areas to be considered for Low Traffic Neighbourhoods. In Croydon, these are predominately in the north of the Borough, including the Holmesdale Road, Albert Road and Auckland Road/Lancaster Road areas. These and other information were used by officers to produce a more strategic response to the Streetspace Plan for London within Croydon.
- 3.7 Once SGN announced it would be reopening Auckland Road, a swift decision was required as to whether to reopen Lancaster Road and hence Southern Avenue to high volumes of through traffic, or to seek to replace the SGN temporary closure. The decision was for the latter, necessitating further action in stages, namely the:
- replacement of the Auckland Road temporary closure with a camera enforced 'bus gate' allowing the 410 bus to return to its route
 - placing of planters in Sylvan Hill, Stambourne Way and Fox Hill to keep through motor traffic out of these streets (and the northern section of Auckland Road), displaced by the bus gate in Auckland Road and seeking to avoid the traffic queue in Church Road arising from the temporary traffic signals.

This had the effect of some drivers seeking to avoid the traffic that queues down Anerley Hill (from the signal junction with Crystal Palace Parade), by using Belvedere Road, Cintra Park, Patterson Road and Milestone Road within Bromley. As the temporary measures were being implemented in Sylvan Hill, Stambourne Way and Fox Hill, officers reached out to Bromley officers, to work to deliver mitigation in the Bromley streets (if felt to be needed). Bromley Council has, in the strongest terms, called for the temporary measures to be removed, indicating that it will only talk with Croydon Council once the Temporary LTN is removed. TfL has however, facilitated an officer level discussion between Bromley and Croydon Councils, officers having met twice.

- 3.8 A considerable quantity of feedback has been received, including via the 'highwayimprovements' email inbox and the semi interactive map on the Council's Streetspace webpages. Much of that feedback was negative, from those opposed to the notion of such an initiative, or supporting the principle of such a scheme, but objecting to the lack of consultation. Others living in the area of the Temporary LTN objected to the extended distances required to drive to and from their homes. Some were concerned at the extended distance

required to drive to the Auckland Surgery, especially if approaching from the south. Others expressed concern at the extra distance (and hence time) emergency service vehicles are required to travel to reach some properties in the area. As some issues were addressed at Sylvan Hill, Stambourne Way and Fox Hill, others arose in Milestone Road, Patterson Road, Cintra Park and Belvedere Road in Bromley. Throughout this period, the temporary traffic signals in Church Road were causing extensive queuing in Church Road, impacting on the operation of the one-way Crystal Palace 'Triangle' traffic gyratory. Numerous complaints were received, which were suggesting that the Temporary LTN was causing traffic that could no longer use the unclassified Auckland Road, to use the A Roads converging at the 'Triangle', this having the effect of creating more traffic in the 'Triangle', which in turn was impacting on the environment, the local economy and people's health. Others suggested the Temporary LTN was leading to increases in traffic on the A Roads bounding it, leading to a worsening of already poor air quality in areas of higher deprivation and where greater numbers of members of Black and Minority Ethnic Groups are resident. Many of these arguments have been put forward by the 'Open our Roads' group and are being put to the High Court in a case against the Temporary LTN.

- 3.9 Croydon officers continued to press for the full opening of Church Road. As soon as the temporary traffic signals were removed, consultation on the future for the Temporary LTN was embarked upon. The intention was that consultation happen when people could experience the streets without the effects arising from the temporary traffic signals in Church Road. Consultation did however, coincide with the second national Lockdown. Consultation with local businesses was postponed until after the second Lockdown, and has just concluded.

Consultation

- 3.10 The consultation sought views on three options for the temporary scheme:
1. To replace the physical planter closures with 'No Motor Vehicle' restrictions and signs enforced by cameras, with vehicles belonging to residents of the area (Appendix 1) being exempt.
 2. To retain the scheme, continuing to employ physical measures to prohibit through motor traffic.
 3. To remove the Temporary LTN entirely.

In each of the first two options, a signed and camera enforced 'bus gate' would be retained in Auckland Road, its location moved northwards to be by the Auckland Surgery.

- 3.11 The main consultation achieved a very wide reach. The QR code provided on letters and notices to assist people responding from their devices, was clicked on around the world. 6022 letters with individual response codes were delivered to households within the area of the Temporary LTN and on the bordering A Roads, eliciting 1,523 responses. Responses differed based on location and experience of the Temporary LTN. A Total of 4315 responses were received and analysed from across London (and wider). The consultation

demonstrating what the Secretary of State for Transport has called 'the noise and passion schemes can generate'. It has not achieved what he is asking for in terms gathering a 'truly representative picture of local views'. The views received are from much wider than the 'local'. The population sample does not reflect the population within the Temporary LTN Area especially in terms of age profile and ethnicity. The recommended Experimental LTN is the opportunity to undertake the focussed research the Secretary of State is saying is needed to achieve 'truly representative picture of local views'

Reasons for the Recommendation

- 3.12 Having considered the responses to the consultation, other feedback and the various other matters within this report, it is recommended to remove the Temporary LTN and to implement an Experimental LTN trial of option 1. This would be implemented by the making of an experimental traffic order under section 9 of the Road Traffic Regulation Act 1984, the effect of which would be to prohibit access and egress by motor vehicles (other than certain exempt vehicles) at the following locations:

- (a) Sylvan Hill at the common boundary of Nos.11 and 13
- (b) Lancaster Road junction with Goat House Bridge
- (c) Fox Hill junction with Braybrooke Gardens
- (d) Stambourne Way junction with Auckland Road
- (e) Bus gate introduced at the common boundary of Nos. 86 and 84a(Auckland Road Surgery) Auckland Road

The restrictions would be enforced through Automatic Number Plate Recognition (ANPR) camera technology. They would not apply to:

- (a) a vehicle being used for fire brigade, ambulance or police purposes;
- (b) anything done with the permission of a police constable in uniform or a civil enforcement officer;
- (c) a vehicle being used for the purposes of a statutory undertaker in an emergency, such as the loss of supplies of gas, electricity or water to premises in the area, which necessitates the bringing of vehicles into a section of road to which the order applies;
- (d) those motor vehicles to which a valid exemption permit has been provided;
- (e) licensed taxis at the bus gate only.

The experimental traffic order would also designate two disabled persons Blue Badge parking bays outside Nos. 84 and 86 Auckland Road.

- 3.13 The recommended Experimental LTN addresses many of the concerns and criticisms levelled at the Temporary LTN. By exempting vehicles belonging to residents within the area (See Appendix 1) the inconvenience caused to those living within the Temporary LTN area and owning cars (currently arising from longer distances to drive in and out of the Temporary LTN) is removed. It responds to concerns regarding emergency service vehicles, providing ease of access for these vehicles. It responds to concerns about access to the Auckland surgery by relocating the bus gate and providing two on street parking bays for vehicles displaying Blue Badge parking permits. It also responds to concerns regarding ease of access for health care workers by including exemption permits for vehicles used by district nurses. It responds to a request

from the United Cabbies Group to permit licenced taxis to pass through the bus gate.

- 3.14 An experimental traffic order may remain in force for up to 18 months. This will enable comprehensive monitoring of the effects of the Experimental LTN, including for after the Covid19 Pandemic subsides. When determining whether to make the Experimental LTN permanent at the end of the experimental period, any objections received by the Council following the notice of making published in respect of a relevant experimental order must subsequently be treated as an objection made in respect of the permanent LTN. The Experimental LTN would be accompanied by a further process of focussed stakeholder engagement including with members of groups with protected characteristics that could not be effectively engaged with during the Covid19 Pandemic. The Council has undertaken a substantial Equality Analysis in relation to the recommended implementation of the proposed Experimental TRO in accordance with its duties under sections 1 and 149 of the Equality Act 2010. Nevertheless it is proposed that further equality analysis should be undertaken during the operation of the Experimental LTN and that this will inform the decision on future traffic management arrangements. It is envisaged that the experimental aspect will run for 12 months to fully assess the effects of the experiment, at the end of which a recommendation would be brought to the Traffic Management Advisory Committee regarding future traffic management arrangements. The operation of the Experimental LTN will be regularly reviewed including with a view to further increasing ease of access into and egress from the LTN for wider group of motor vehicle types and drivers.
- 3.15 The reasons for the recommendation are summarised here and dealt with in more detail in the remainder of the report and the appendices.
- i) **Covid19 Pandemic:** The Covid19 Pandemic remains, and the Secretary of State for Transport has recently reiterated his call to local authorities to take action to help people choose to walk and cycle, providing further funding to support local authority action.
 - ii) **Mayor's Transport Strategy:** Low Traffic Neighbourhoods are a key means of implementing the Mayor of London's Streetspace Plan and his Transport Strategy, in particular the Healthy Streets approach and objective.
 - iii) **Expeditionous, Convenient and Safe Movement of Vehicular and other Traffic:** A Low Traffic Neighbourhood creates quieter, calmer and safer streets for those living within the Neighbourhood. When combined with other such neighbourhoods, a network of quiet streets is created helping people make more journeys by walking and cycling. The Crystal Palace and South Norwood Temporary LTN and the Holmesdale Road Temporary LTN cater for the 'Top Priority' cycling corridor between Crystal Palace and the Town Centre, identified by TfL.

Whilst monitoring the effects arising from the Temporary LTN was challenging (during the Covid19 Pandemic, during related national Lockdowns and the changing traffic patterns and levels) analysis of its effects has been undertaken by Council commissioned PJA consultants and by TfL. Both suggest that many of the traffic related impacts assigned to the Temporary LTN, were in large part arising from the temporary traffic signals in Church Road, and the wider network effects these were having. There are effects from the Temporary LTN in Belvedere Road, Cintra Park, Patterson Road and Milestone Road, and monitoring indicates potential effects in Seymour Villas / Selby Road in Bromley. Beyond these streets (where ideally mitigation would be provided) the findings of the two analyses do not indicate effects of such magnitude or significance arising from the Temporary LTN, to suggest that an Experimental LTN should not be embarked upon. The running of an Experimental LTN allows effects to be monitored and tested. The Council is appreciative of its obligations under both s122 of the Road Traffic Regulation Act 1984 and s16 of the Traffic Management Act 2004. All of the factors which the Council is required to consider have been incorporated in the formulation of the recommendation to implement the Experimental LTN and will continue to be considered throughout the duration of the Experimental TRO. Croydon officers should seek to agree a monitoring strategy with Bromley Council (and TfL) and continue to seek to work with Bromley officers to address displacement of traffic onto residential access streets within Bromley.

An Experimental LTN has the potential to help people choose active travel, in turn helping to achieve health and environmental improvement. The monitoring strategy for the Experimental LTN would be designed to assess its level of success in this regard.

- iv) **Equality:** The Equality Analysis undertaken prior to recommending the Experimental LTN suggests that children are a group whose independent mobility and ability to play and socialise within the street, has been impacted the most by historic decisions and unconscious changes in how our streets are used. They are a group whose physical and mental health is being put at risk due to inactivity / being denied the freedom to walk, cycle and play. Around a quarter of the population within the trial LTN area are under the age of 18 and consequently cannot drive. In addition, ownership of a driving licence is much lower amongst young adults compared to the general adult population. Some have pointed to the fact that there are areas of deprivation outside of (but close to) the current Temporary LTN. It is the case that the areas where the Albert Road and Holmesdale Road Temporary LTNs have been implemented, are amongst the top 10 to 20% most deprived areas in England. However TfL's Strategic Neighbourhoods Analysis indicates that the area of the recommended Experimental LTN is close behind, falling into the 20 to 30% most deprived in the England bracket. The area of the recommended LTN and other neighbouring areas of deprivation are also amongst the ones where households have some of the lowest levels of car ownership / availability in the Borough.

- v) **Environment Including Air Quality:** Just as residents of Croydon and Bromley see air quality and its effects on human health as a serious concern, so do central government and the Mayor of London. The approach taken by both central government and the Mayor to tackle emissions from road transport, is to:
- help and encourage people to choose to travel by cleaner and active means; and
 - reduce the emissions from the remaining motor vehicles.

Both central government and the Mayor see Low Traffic Neighbourhoods as an important means of helping people choose to travel more actively. Both Croydon and Bromley benefit from being in outer London where concentrations of locally important pollutants are lower compared to inner and central London. When modelled concentrations of Nitrogen Dioxide (NO₂) in London were last published (2016), no school in Croydon or Bromley was in a location exceeding the limit value/objective for NO₂, compared with 35 out of 42 schools in Camden². In and around the Temporary LTN and proposed Experimental LTN, concentrations of air borne particulate matter smaller than 10 and 2.5 microns (PM₁₀ and PM_{2.5}) were below the UK legal limit in 2016, including on the A Roads bounding the Temporary LTN. However, the whole area was above the World Health Organisation (WHO) guideline limits, particulate matter seemingly no respecter of boundaries. In 2016, points within the temporary LTN area were below or at the UK legal limit (same as the WHO guideline) for NO₂. Some locations on the surrounding A Road exceeded the limit value.

The Mayor is continuing to take action to reduce air pollution, including further reducing the emissions from the most polluting vehicles by tightening the emissions standards applied through the London wide Low Emissions Zone (action postponed from October 2020 to March 2021 due to the Covid19 Pandemic). This and the expansion of the Ultra-Low Emission Zone in inner London (October 2021) are predicted to bring about significant further reductions in NO₂ concentrations, including at Crystal Palace and South Norwood. Neither TfL's nor the PJA consultant assessment of the traffic effects of the Temporary LTN found strong evidence to suggest an Experimental LTN would lead to traffic conditions on the surrounding A Roads and in the 'Triangle' such that they would counteract the positive effects predicted to arise from the Mayor's Low Emissions initiatives. However, assessment of air quality effects should be part of the monitoring strategy for the recommended Experimental LTN, including whether members of Black and Minority Ethnic groups are being differently affected.

² https://data.london.gov.uk/download/london-atmospheric-emissions-inventory--laei--2016/339630dc-11f4-498e-b70d-711fe3a49af0/Schools_exceeding_LAEI_2016.xlsx
In <http://content.tfl.gov.uk/lsp-interim-borough-guidance-main-doc.pdf>

Vehicle miles driven on streets and roads in Croydon have increased consistently since 2010, reaching their highest level ever. Vehicles registered to addresses in Croydon have risen from 148 thousand to 159.7 thousand between 2009 and 2019, the increase being almost entirely due to the increase in the number of cars registered (the vast majority of the vehicles registered in Croydon)³. Emissions of CO₂ from vehicles on minor streets in Croydon is equal to that emitted from vehicles on A Roads, with 129,000 Tonnes emitted from minor roads / streets and 132,000 Tonnes from A Roads in Croydon in 2018.

The recommended Experimental LTN works with central governments and the Mayor's approach to tackling emissions of local important air pollutants and CO₂ from road traffic.

- vi) **Health:** The Local Implementation Plan explains why it is important to use Low Traffic Neighbourhood type measures to help people travel more actively. It explains that:
- inactivity is having profound health effects and is a major contributory factor to the levels of obesity in Croydon;
 - one in five children in the school reception year are overweight or obese and this rate more than doubles between reception and year 6;
 - early childhood is a critical time to tackle childhood obesity as children are developing and learning healthy or unhealthy behaviours from a young age;
 - by year 6 (age 10 to 11 years) a greater proportion of children in Croydon carry excess weight than in London or nationally;
 - two in five children aged 10 to 11 years in Croydon are overweight or obese and this proportion is increasing over time;
 - for adults the situation is more serious with 62% of the population overweight or obese.
 - one in thirty working age people in Croydon have diabetes, a figure which is predicted to increase by 10% by 2025;
 - amongst older adults (over 65) one in eight are predicted to have diabetes and one in four are obese.
- vii) **Important Findings through Feedback and Consultation:** The Equality Analysis relating to the recommended Experimental LTN, draws on the 1963 Ministry of Transport study into the 'Long Term Problem of Traffic in Towns'. The study considered the 'Deterioration of Environment' identifying the issues arising from '*drivers are seeking alternative routes, mainly through residential areas, in order to avoid congested areas on main roads*'. The study highlighted some of the effects this was having relating to 'age', namely children. It proposed traffic levels that are compatible with play in the street and a reasonable quality of environment. It looked into the future to the era in which we now live and the traffic levels we see today. It suggested the creation of 'Environmental Areas' (areas free of extraneous traffic, and what we are

³ <https://www.gov.uk/government/statistical-data-sets/all-vehicles-veh01>

now calling LTNs) in between the 'Distributor Roads'. It envisaged the Distributor Roads (main streets and high streets) having been rebuilt as major urban highways in order to accommodate the predicted levels of traffic. This rebuilding has since been generally resisted and not taken forward, with the exception of places such as the Croydon Town Centre. Having not rebuilt our high streets and main streets as urban highways, the rising demand for car travel is being accommodated by different means in 21st Century London. Department for Transport (DfT) monitoring of vehicle miles driven on London's roads and streets indicates a dramatic increase over the last decade. The start of the increase coinciding with the launch of 'Waze' and other driver route finding apps / navigational devices. As London's principal road network has not been rebuilt to provide additional capacity, it is the unclassified minor roads and streets that have been both accommodating and facilitating the rising demand to drive. London's minor street network is now carrying almost as many vehicle miles as its A Road network.

The attempt to create an 'Environmental Area' or LTN has given rise to considerable anger (perhaps illustrated by the answers to the question in the consultation asking whether removing the temporary traffic signals from Church Road had improved conditions or made them worse, and over a thousand responding that it had made conditions worse or much worse.). The geographical spread of those responding to the consultation and anti LTN petitions (response from across the country, across London and across south London) draw into clear focus the decision to be made. Should Auckland Road, Lancaster Road and Southern Avenue be:

- (a) given back to informally acting as single function distributor roads, attempting to meet the demand for longer distance car journeys; or
- (b) helped to return to being multi-functional streets, streets being the place where historically much of the life in cities and communities has taken place?

3.16 If the recommendation is accepted by the Traffic Management Advisory Committee and then agreed by Cabinet Member, it could not be implemented directly:

- a) for the reasons arising from Section 121B of the Road Traffic Regulation Act 1984 set out at paragraphs 4.4, 4.5 and 4.6 of this report; and
- b) due to the time required to procure, install and set-up the ANPR cameras.

4. CONSIDERATIONS WHEN MAKING A DECISION AS TO WHETHER TO IMPLEMENT AN EXPERIMENTAL LOW TRAFFIC NEIGHBOURHOOD AT CRYSTAL PALACE AND SOUTH NORWOOD

The Traffic Management Duty

Section 16 of the Traffic Management Act 2004

- 4.1 Section 16 of the Traffic Management Act 2004 imposes 'The Network Management Duty', namely it is the duty of a local traffic authority to manage their road network with a view to achieving, so far as may be reasonably practicable having regard to their other obligations, policies and objectives, the following objectives:
- (a) securing the expeditious movement of traffic on the authority's road network; and
 - (b) facilitating the expeditious movement of traffic on road networks for which another authority is the traffic authority.

The action which the authority may take in performing that duty includes, in particular, any action which they consider will contribute to securing:

- (a) the more efficient use of their road network; or
 - (b) the avoidance, elimination or reduction of road congestion or other disruption to the movement of traffic on their road network or a road network for which another authority is the traffic authority.
- 4.2 Section 31 of the Traffic Management Act defines 'traffic' as including pedestrians. The Traffic Management Act 2004, Network Management Duty Guidance⁴ explains that the Network Management Duty requires the local traffic authority to consider the movement of all road users: pedestrians and cyclists, as well as motorised vehicles. It also explains that the overall aim of the "expeditious movement of traffic" implies a network that is working efficiently without unnecessary delay to those travelling on it. But the duty is also qualified in terms of practicability and other responsibilities of the authority. This means that the Duty is placed alongside all the other things that an authority has to consider, and it does not take precedence.

Section 122 of the Road Traffic Regulation Act 1984

- 4.3 The recommended experimental traffic order would be made under Section 9 of the Road Traffic Regulation Act 1984. In exercising its powers under the Act of 1984, the Council is required, by s122 of the Act, to secure the expeditious, convenient and safe movement of vehicular and other traffic (including pedestrians) and the provision of suitable and adequate parking facilities on and off street, whilst at the same time having regard to the following considerations:
- the desirability of securing and maintaining reasonable access to premises;

4

<https://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/roads/tpm/tmaportal/tmafeatures/tmapart2/tmafeaturespart2.pdf>

- the effect on the amenities of any locality affected and the importance of regulating and restricting the use of roads by heavy commercial vehicles, so as to preserve or improve the amenities of the areas through which the roads run;
- Air quality (and specifically the National Air Quality Strategy prepared under section 80 of the Environment Act 1995);
- the importance of facilitating the passage of public service vehicles and of securing the safety and convenience of persons using or desiring to use such vehicles; and
- any other matters appearing to the Council to be relevant.

Section 121B of the Road Traffic Regulation Act 1984

4.4 Section 121B of the Road Traffic Regulation Act states that no London borough council shall exercise any power under the Act in a way which will affect, or be likely to affect a:

- GLA (TfL) road,
- Strategic Road or
- road in another London borough,

unless:

- i) the council has given notice of the proposal to exercise the power to TfL; and in a case where the road concerned is in another London borough, to the council for that borough; and.
 - ii) the proposal has been approved
 - in the case of a Strategic Road, by Transport for London and, where the road concerned is in another London borough, the council for that borough;
 - in the case of a road within another borough that is not a Strategic Road, by the London borough council concerned;
- or
- ii) the period of one month after the date on which TfL and, where applicable, the council received notice of the proposal, TfL or the council objecting to the proposal; or
 - iii) any objection made by TfL or the council has been withdrawn; or
 - iv) where an objection has been made by TfL or a London borough council and not withdrawn, the Greater London Authority has given its consent to the proposal after consideration of the objection.

4.5 The A212 is a Strategic Road⁵ between South Norwood Hill and A234 Crystal Palace Park Road. At the Crystal Palace 'Triangle', the A212 (Strategic Road) merges / combines with the A214 (non-Strategic) forming the one way gyratory system. Here the A212/A214:

- Church Road is a boundary road between the Boroughs of Croydon and Bromley
- Westow Street is within Croydon
- Westow Hill is a boundary Road between the Boroughs of Croydon and Lambeth and Southwark

⁵ <https://www.legislation.gov.uk/ukxi/2005/476/schedule/made>

- and A212 Crystal Palace Parade is a boundary road between the Boroughs of Bromley and Southwark.

4.6 Section 121B of the Act is applicable to the making of an experimental traffic order. If the recommendation to proceed with the Experimental LTN is agreed, notice will be issued under section 121B to TfL and Bromley, Lambeth and Southwark Councils.

The Greater London Authority Act 1999

4.7 The Greater London Authority Act 1999 places a duty on each London local authority to have regard to the Mayor of London's Transport Strategy when exercising any function. This therefore includes the exercise of its Traffic Management Duty and when deciding whether to make a traffic order.

The Health and Social Care Act 2012 and National Health Service Act 2006

4.8 The Health and Social Care Act 2012 sets a duty for the improvement of public health by amending the National Health Service Act 2006 so as to require each local authority to take such steps as it considers appropriate for improving the health of the people in its area.

The Education Act 1996

4.9 The Education Act 1996 (as amended) places various duties on local authorities including the promotion of sustainable travel and transport modes for the journey to, from, and between schools and other institutions, explaining that "Sustainable modes of travel" are modes of travel which the authority consider may improve either or both of the following:

- (a) the physical well-being of those who use them;
- (b) the environmental well-being of the whole or a part of their area.

The 'Home to School Travel and Transport Guidance: Statutory guidance for local authorities' explains that the sustainable school travel duty should have a broad impact, including providing health benefits for children, and their families, through active journeys, such as walking and cycling. It can also bring significant environmental improvements, through reduced levels of congestion and improvements in air quality to which children are particularly vulnerable.

The Crime and Disorder Act 1998

4.10 The Crime and Disorder Act 1998 places a duty on the local authority to consider crime and disorder implications of exercising its various functions. It is the duty of each authority to exercise its various functions with due regard to the likely effect of the exercise of those functions, and the need to do all that it reasonably can to prevent crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment).

The Equality Act 2010

- 4.11 The Equality Act 2010 places a duty on local authorities to comply with the provisions set out in the Act. The two provisions are:
- The duty under section 1 of the Equality Act 2010, to have due regard to the desirability of exercising the Council's functions in a way that is designed to reduce the inequalities of outcome which result from socio-economic disadvantage;
 - The public sector equality duty in s 149 of the Equality Act 2010 requires the Council to have due regard to the need to:
 - (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act;
 - (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
 - (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The Human Rights Act 1998

- 4.12 The Human Rights Act 1998 states that it is unlawful for a public authority to act in a way which is incompatible with a right or freedom under the European Convention on Human Rights.

Effects of the Temporary LTN and Feedback Received

- 4.13 Feedback on the Temporary LTN and the consultation on options for its future, are addressed in Section 5 ('Consultation') below. The more direct assessment of traffic related effects which are potentially arising from the Temporary LTN, are addressed at Appendix 4; in the PJA consultants' (PJA) report at Appendix 4(a); and TfL report at Appendix 4(b).
- 4.14 Many residents and businesses of Croydon and Bromley (and beyond), are concerned that the Temporary LTN has led to an increase in traffic outside of it, principally on the A Roads surrounding it and forming the Crystal Palace 'Triangle' resulting in a variety of impacts. The PJA analysis and the TfL analysis provide insight into changes in traffic volume and behaviour on the A Roads, following implementation of the Temporary LTN.
- 4.15 PJA used 'Floow' data (derived from in vehicle telematics equipment) and other data, to paint a picture of the traffic effects arising whilst the Temporary LTN measures have been in place. The 'Floow' data can only paint a picture in broad brush strokes. However, it has proved a useful and informative exercise, especially when combined with TfL's own assessment of effects.
- 4.16 Because of how the 'Floow' data are derived, they are collected over extended time periods to try and build a sufficient sample. 'Floow' data for the period 'Before LTN', was taken from February 2019 to March 2019. This was before any temporary measures went into Lancaster Road and was also largely before the temporary traffic signals were installed in Church Road. The data used to assess the effects 'During LTN' were drawn from the period June to November.

This period starts prior to the temporary measures being placed in Sylvan Hill, Stambourne Way and Fox Hill (and hence the results have to be approached with caution). It also covered the period when the temporary traffic signals were in Church Road, severely constraining the capacity of the A212 / A214. It is also 'During Covid Pandemic' when traffic levels dropped sharply at the start of the first Lockdown but from April began to increase again.

- 4.17 The 'Flow' data were used to assess the number of vehicles using streets within the Temporary LTN to pass through the LTN without stopping at a destination within it, or starting the journey in the LTN. The same data were used to assess changes in traffic levels on the surrounding A Road Network including at the Crystal Palace 'Triangle'.
- 4.18 In broad terms, the analysis clearly picked up the drop in traffic through passing along Lancaster Road and Southern Avenue, and was able to indicate the scale of reduction. The results were a little less clear north of the temporary bus gate in Auckland Road, due to the time period over which the 'During LTN' 'Flow' data were collated, in relation to when the temporary measures were installed in Sylvan Hill, Stambourne Way and Fox Hill. The data do however indicate that the closure of Fox Hill:
- appears to have stopped a flow of traffic using it and Cintra Park to bypass the 'Triangle' to reach Anerley Hill;
 - (along with the temporary measures in Sylvan Hill and Stambourne Way) has resulted in drivers seeking to avoid the queues on Anerley Hill by diverting via Belvedere Road, Cintra Road, Patterson and Milestone Road.
- 4.19 The analysis also indicates an increase in through traffic using Seymour Villas and Selby Road in Bromley, (residential access streets that pre Covid19 Pandemic were carrying high levels of through traffic (especially considering their width)), when comparing 'During LTN' with 'Before LTN'. The PJA consultants do not believe they have the evidence to say that the Temporary LTN was the cause. However there is at least correlation.
- 4.20 With the above exceptions and some others, the analysis in broad terms suggests a drop in traffic levels including on the A Roads 'During LTN' compared with 'Before LTN.' The PJA report contains a series of images indicating the change in estimated traffic flow and journey time difference 'During LTN' compared with 'Before LTN' including the image below (red = increase in traffic flow and blue = reduction in traffic flow)

Legend:

- ~71-100%
- ~56-70%
- ~41-55%
- ~31-40%
- ~21-30%
- ~11-20%
- ~6-10%
- ~1-5%
- 0%
- +1-5%
- +6-10%
- +11-20%
- +21-30%
- +31-40%
- +41-50%
- +51-100%
- >+100%

Map Labels:

- Crystal Palace Palace & South Norwood LTN
- Neighbourhood 2
- LTN Measures
- Modal Filter
- Bus Gate

Change in Estimated Average Weekday Daily Traffic, Before and During LTN

Daily means 12-hour average between 06:00-19:00
 Traffic data obtained from Prow
 Current on data @ Crown Copyright and database right 2020
 Contains data from Ordnance Survey

PJA
 The Aquatics Group
 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826

Anerley Road

- General reduction in traffic flows in both peak periods.
- Minimal or no journey time increase on most associated routes.
- No clear relationship can be drawn between the journey time increase on southbound with the temporary LTN. The increase was detected in proximity to the junction with Croydon Road.

- Predominant reduction in traffic flows in both peak periods.
- Average bus journey time for both directions show minimal effect from the temporary LTN.
- Some increase in journey time along this road link in both peak periods; result of traffic increase on High Street (west of the junction with South Norwood Hill).

- Traffic flow increase for northbound AM peak, while reduction on PM peak and southbound in both peaks.

- This traffic increase also contributed to a moderate increase of median journey time in AM peak.
- Potential traffic displacement from Auckland Road in the AM peak. A continuous pattern of traffic increase in northbound direction can be seen in the AM peak, which begins from the southern end of South Norwood Hill.
- This pattern then continues along Church Road-Westow Street, turns right onto Westow Hill and travels up towards Crystal Palace Parade.

Church Road (Westow Street-Beulah Hill)

- Traffic flow increase for northbound AM peak, while reduction in PM peak and southbound in both peak periods.
- Serious increase in northbound median journey time in both peak periods.
- Potential traffic displacement from Auckland Road might have effect on journey time in the AM peak.
- Due to temporary signal arrangement on the southern section of Church Road overlapped almost exactly with the road closure/ temporary LTN measure, it is unclear how much of the journey time increase on Church Road could be attributed to the temporary LTN*

(*NB this point is picked up in the section below relating to TfL's analysis)

Crystal Palace Triangle

- Median journey time for general traffic on almost all routes around the Triangle have recorded moderate to significant increase for both peak periods, with a more serious picture showing in the PM peak.
- Potential traffic displacement from Auckland Road might have effect on journey time around the Triangle in the AM peak.
- While the PM peak shows a serious increase in journey time around the Triangle, all three roads around it have shown reductions in traffic flows.
- Under the nature of one-way gyratory system, the temporary signal arrangements and the significant increase of traffic along Central Hill westbound have caused the gridlock in the PM peak.

4.22 TfL has undertaken its own monitoring analysis. The TfL analysis relies primarily on bus journey time data provided by the iBus system. These are the same data used by PJA consultants as part of their analysis, except the TfL analysis is slightly more recent and so includes data gathered after the removal of the traffic signals from Church Road. The analysis indicates that on Anerley Hill northbound, journey times (hence traffic levels) dropped significantly with the start of the first lockdown. This was then followed by a continuous rise in journey time (presumed to be resulting from rising traffic levels). A similar pattern was observed south bound. TfL reports that journey times have decreased in both directions in recent weeks since the removal of the temporary traffic signals from Church Road. Journey times in both directions fell sharply back towards the baseline average at this point. This also coincided with the start of the second Lockdown. The TfL report includes SCOOT data which indicates more traffic moving along Anerley Hill in the AM and PM peaks once the temporary signals were removed, (i.e. more traffic moving in November (during Lockdown), compared with October) suggesting that the improvement in journey times was more likely a result of the removal of the temporary signals

from Church Road, rather than less traffic in Anerley Hill / Road in the second Lockdown.

- 4.23 Auckland Road has seen a significant improvement in journey times for the 410 bus in both directions.
- 4.24 Church Road is the corridor that saw the most clear and dramatic improvement in bus journey time with the removal of the temporary traffic signals, with journey time reducing straight to or below the baseline average. This provides an indication of the degree to which the temporary signals were the cause of delay in Church Road relative to traffic displaced by the Temporary LTN.

Figure 4.2 Average Weekday Journey Times on Church Road North Bound

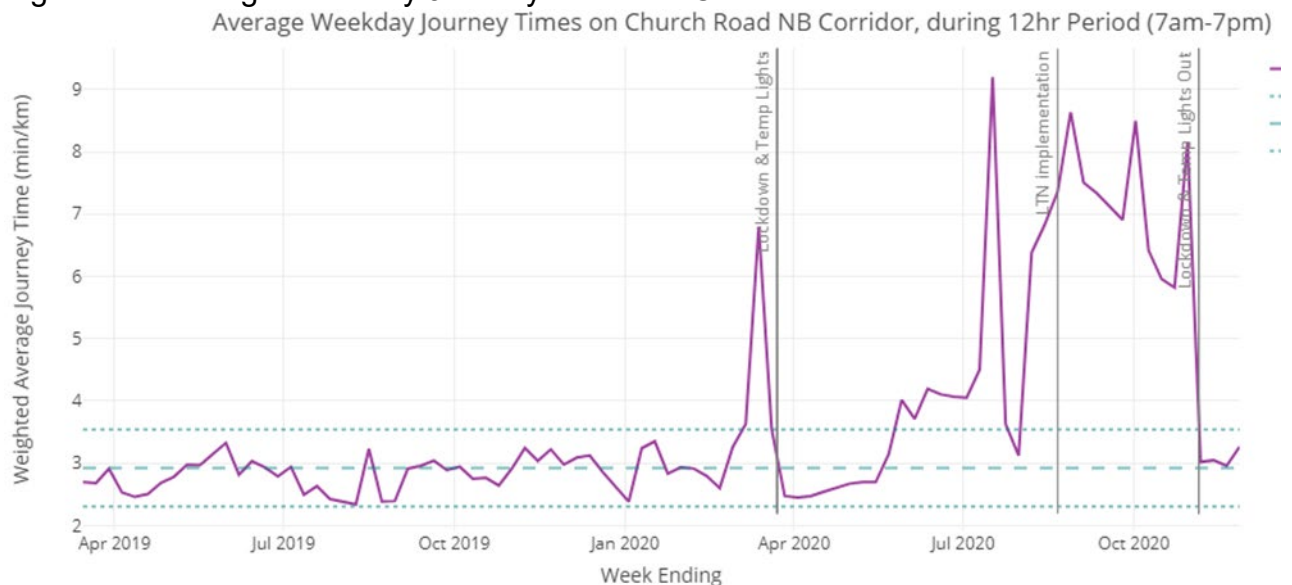
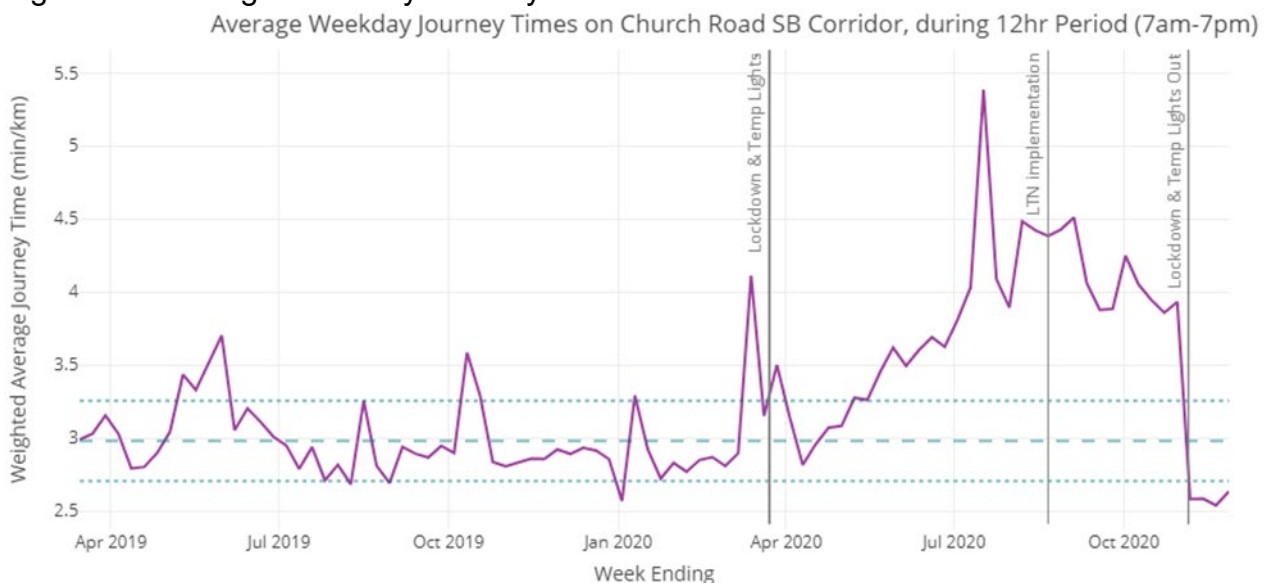


Figure 4.3 Average Weekday Journey Times on Church Road South Bound



- 4.25 Northbound bus journey times on Crystal Palace Parade improved at the start of the first Lockdown and have stayed well below the baseline average. In contrast, the southbound bus journey times increased at the start of Lockdown and have remained above the baseline average. A similar mixed picture has been observed on the Penge Road corridor with journey times being consistently below average in one direction and consistently above in the other direction. It is not easy to say whether this changed pattern on the Penge Road corridor might be a result of the Crystal Palace and South Norwood Temporary LTN, The Holmesdale Road Temporary LTN, both or neither.
- 4.26 As well as having the Traffic Management Duty for the Strategic Road Network in London, TfL is also responsible for London's bus services. The monitoring strategy for the Experimental LTN should be developed and implemented in partnership with TfL (which has a further interest, it being a funder of the Temporary LTN and of the recommended Experimental LTN). Whilst TfL has not raised concerns regarding possible effects arising from the Temporary LTN, notice of the intention to implement the Experimental LTN (if the recommendation is agreed) will be given to TfL. If TfL has concerns it can object.
- 4.27 As with TfL, Croydon Council officers should seek to work with those of Bromley Council on the designs and implementation of the monitoring strategy for the Experimental LTN.

5. CONSULTATION

Pre-consultation Feedback

- 5.1 The LIP outlines the intended approach to engagement and participation as part of the development of 'Healthy Schools Neighbourhoods'. This approach was reiterated by the Head of Transport at a public meeting held in January 2020 at St John the Evangelist Church at Sylvan Road/Auckland Road. In the latter part of 2019, officers in the Strategic Transport Service had been engaging with and via Cypress School on the notion of a Healthy Schools Neighbourhood, and with the residents of Southern Avenue regarding the traffic impacts they had been experiencing over the years. The Covid19 Pandemic then arrived. The Strategic Transport Service and Highways Service moved to listening to requests to provide space for exercise and social distancing received via the Croydon Streetspace web pages (and other means). These pages were created as a response to the Covid19 Pandemic, one of the purposes being to receive requests from the public for local interventions, then comment on interventions once implemented.
- 5.2 Measures, including the creation of low traffic streets were implemented using Section 14 of the Road Traffic Regulation Act 1984 by emergency notice and by temporary traffic order. These powers do not include a requirement for advance public consultation. However, Croydon Council recognises that it is in the interests of fairness to engage with residents in connection with proposed changes, officers continued to receive feedback, predominately via the:
- 'highwayimprovement' email address and
 - semi-interactive map that was established on the Croydon Streetspace 'Get Involved' webpage in the latter part of May (here people could request interventions and/or feedback on what had already been implemented).

Pre-consultation feedback:

- 5.3 During and after implementation of the Temporary LTN, those wishing to comment on the scheme, raise concerns or suggest improvements were encouraged to do so via the semi-interactive map and the 'highwayimprovements' inbox. Throughout this period the temporary traffic lights in Church Road were severely reducing traffic capacity on the A212/A214 at Church Road and the 'Triangle'. Much of the feedback received related to additional traffic congestion.

Communication and feedback were further facilitated by:

- meetings with stakeholders such as the Auckland Surgery, 'Open Our Roads' campaigners, residents of Sylvan Hill and Stambourne Way.
- Letters were delivered to residents and businesses (23 and 30 July 2020) when Sylvan Hill, Stambourne Way and Fox Hill were to be closed to through motor traffic, seeking views on this and the wider scheme in general.
- Street notices and advance warning signs were installed on site.
- Local ward councilors, local groups, statutory groups and transport operators were informed, received feedback was generally relayed to

- officers.
- Our counterparts at the London Borough of Bromley were notified.
- Popular navigation applications were informed of the closure points.
- Details of the temporary scheme were placed on the dedicated Streetspace webpage (established in September)
- Information and updates were being given via Council social media platforms.
- Several press releases were picked up in local newspapers.

Analysis of the comments received in the Highway Improvements Inbox:

- 5.4 A breakdown of analysis of feedback received in the Highway Improvement Inbox up until the end of October 2020 is shown below. It's important to note that a lot of emails received in the inbox were duplicates, with several residents writing in multiple times.
- Total number of responses received: 1,642
 - Total number of responses that were duplications: 664 this equates to 40% of the total responses received.
 - Of the 978 individual responses, there were 777 (79%) opposed, 184 (19%) in favour and 17 (2%) no opinion.

In summary the feedback received via the highway improvements inbox and the online interactive map suggested:

- Those affected wanted the Council to carry out a public consultation on the scheme
- Those affected expressed concerns about the location of the bus gate on Auckland Road and, as a consequence, its impact on access to the Auckland Road Surgery.
- A number of residents wrote in agreement with the scheme in principle, but requested a scheme that provided unhindered access to the streets within the LTN through a permit scheme that other London Boroughs have already introduced.
- Emergency services responded stating they would prefer an ANPR enforced LTN that provided unhindered access.

Consultation Feedback:

- 5.5 Directly following removal of the Church Road temporary traffic signals, a month long consultation was undertaken on three options for the future of the Temporary LTN:
- **Option 1: Replace**
This would involve removing all the physical planter closures from all five current locations (Lancaster Road, Warminster Road, Sylvan Hill, Stambourne Way, Fox Hill) and replacing them with 'No Motor Vehicles' signs, each with an exemption for 'eligible residents'. The traffic signs would be enforced with Automatic Number Plate Recognition (ANPR) cameras to prevent motor vehicles (except those belonging to residents with exemption permits or the emergency services) from entering or exiting by passing the signs.

It is proposed that “eligible residents” would be those living in certain streets within both Croydon’s and Bromley’s borough boundaries, as shown in the map at Appendix 1. It is proposed that the exemption permit be free of charge. The exemption would allow those living in the LTN boundary to drive through the signed closures, as well as the bus gate on Auckland Road.

In response to concerns about access to the Auckland Surgery, it is proposed to relocate the existing bus gate 150 metres northward, so that the surgery can be reached easily from either end of Auckland Road. Two additional ‘Blue Badge’ disabled person’s parking bays would also be provided on Auckland Road close to the surgery.

- **Option 2: Remain**

In this option, the Low Traffic Neighbourhood would remain as is, with physical closures at all five current locations (Lancaster Road, Warminster Road, Sylvan Hill, Stambourne Way, and Fox Hill) but still allowing passage for people walking and cycling. In this option, the bus gate location would be changed as in option 1 above and the ‘Blue Badge’ disabled parking bays introduced.

- **Option 3: Remove**

The third option is for all the closures and bus gate to be removed, returning streets to through motor traffic as per the situation prior to the Covid19 Pandemic.

5.6 The consultation coincided with the Covid19 Pandemic second nationwide Lockdown. Many businesses were temporarily closed, therefore a separate business specific consultation was conducted after the end of the second Lockdown. This ran until 18 December 2020 with letters sent to local businesses explaining the consultation extension.

5.7 The consultation was publicised in the following ways:

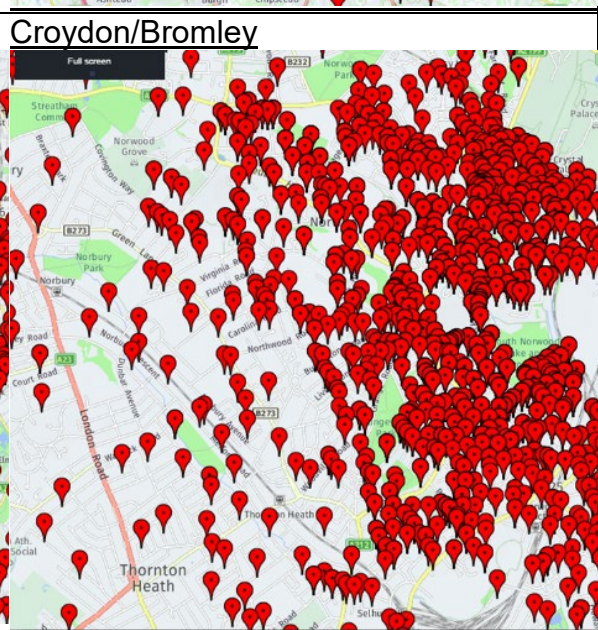
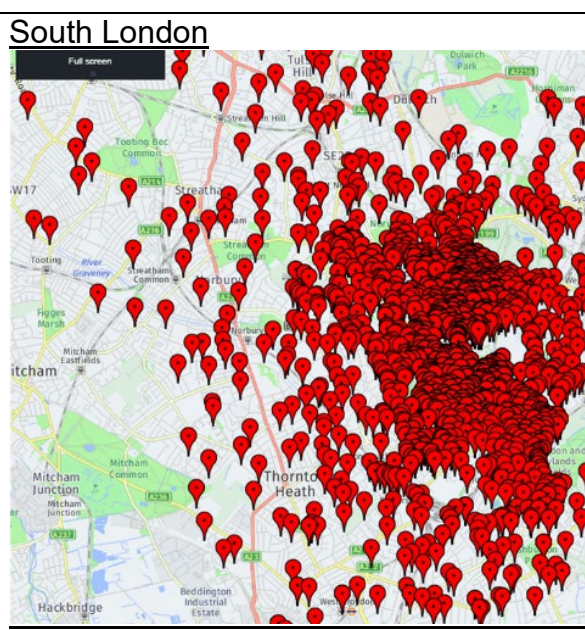
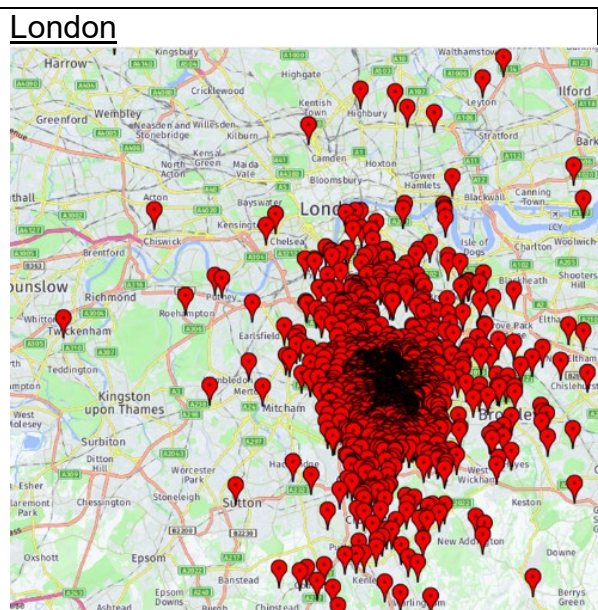
- 6,022 letters approx. with unique codes were delivered to residential properties and within the LTN area and on the A roads bounding it. The purpose of the unique code was validation, to help match responses to addresses.
- 250 street notices were put up on street furniture within the LTN area and on the boundary roads (including in Bromley with the permission of Bromley Council).
- Through the dedicated Streetspace webpages
- Posts informing the public about the consultation were published on the Council’s social media platforms
- A press release

5.8 The letters and notices included a QR code to help people access the consultation via their devices. Letters were delivered, and notices put up in streets within the Temporary LTN and the surrounding A Roads including within Bromley (letters were delivered in Anerley Road as far down as the railway line).

A copy of the consultation letter, street notices and consultation questions are at Appendix 5(a) of this report.

- 5.9 In total 5,293 people started the survey of which 248 entries were blank and 738 entries had no address information. These 986 entries were disregarded leaving a total of 4,315 responses which were read and analysed. This would represent a response rate of 72% based only on the number of letters delivered. However the public consultation was open to anyone. The QR code was clicked on across the UK and the world. There was a spike in QR code use shortly after the consultation went live. There was a second spike coinciding with the 'Open our Roads' leaflet (Appendix 5(b)) drop. The table below shows the postcode locations of the responders to the consultation.

Table 5.1 Responder post codes at London, South London and Croydon/Bromley levels (area around and including the Temporary LTN)



5.10 Analysis 1 – Do the responders agree with:

- The removal of the scheme
- The keeping of the scheme (with the bus gate moving north)
- The adoption of ANPR at locations throughout (with the bus gate moving north)

Responders were asked to choose between Strongly Agree/ Agree/ Don't Know/ Disagree and Strongly Disagree. The table below demonstrates how the analysis was carried out

	ANPR	Keep	Remove
ANPR			
Keep			
Remove			

Yellow cells indicate where, for example, Remove option received Agree and Strongly Agree responses whilst the Replace with ANPR option and Retain/ Keep options were not assessed

Green cells indicate where both ANPR and Keep were viewed as Agree/ Strongly Agree

Blue cells indicate where both ANPR and Remove were viewed as Agree/ Strongly Agree

Grey cells indicate where both Keep and Remove were viewed as Agree/ Strongly Agree

The survey and analysis were designed to disaggregate based on the location of the responder, with those within the LTN potentially having different views to those living outside, be that in neighbouring post code districts or from much further afield. Separate analysis of the responses and comments received have been undertaken on the following basis:

Of the respondents who reside within the LTN

- Roads that may have experienced either positive or negative change/effects arising from the Temporary LTN (Hamlet Road and Waldegrave Road in Bromley)
- Those within Bromley (Belvedere Road, Cintra Park, Patterson Road and Milestone Road) that have seen an increase in traffic flows
- Those roads to the north of the bus gate where traffic flows have reduced
- Those roads to the south of the bus gate where traffic flows have reduced
- Those roads that are within the LTN but will not have seen an increase or decrease in traffic on their roads

Of the respondents who reside outside of the LTN (including the peripheral roads)

- The Principal roads that immediately border the Temporary LTN (In addition, we were asked to analyse data from those roads that Bromley Council officers felt had been affected but didn't sit within the LTN itself, principally respondents living on Anerley Hill or Anerley Road north of the railway line.)
- Roads in SE19, but not including SE19 addresses within the LTN where a valid identifying code was provided.
- Roads in SE20 but not including SE20 addresses within the LTN where a valid identifying code was provided

- Roads in SE25 but not including SE25 addresses within the LTN where a valid identifying code was provided
- Those responders that lived beyond the post codes outlined above
- Respondents living in the existing through route made up of Seymour Villas, Derwent Road and Selby Road residential access streets in Bromley.

As well as the online survey a number of paper questionnaires were sent to those who didn't have internet access and requested paper copies. Of the 14 paper copies sent out 5 were received back, these are included in the analysis.

Analysis of responses from those living within the Temporary LTN area:

- 5.11 Individual addresses were printed onto the individual letters hand delivered to the households in the area of the Temporary LTN (the area bounded by the A Roads including that in Bromley) and on the bordering A Roads. In response to the 6,022 letters delivered 1,523 responses were received, a response rate of 25%. A few households submitted more than one response. 75% of households / addresses within the Temporary LTN were not sufficiently motivated by the introduction of the Temporary LTN to respond, suggesting they did not have a particular view on the temporary scheme or its future.
- 5.12 Those living within the area of the Temporary LTN that responded, did so in the following ways:

Introduction of ANPR enforced LTN:

- Agree or Strongly Agree with implementing an ANPR solution: 392 (26%)
- Disagree or Strongly Disagree with implementing an ANPR solution: 951 (62%)

Should the scheme remain in its current format?

- Agree or Strongly Agree with the scheme remaining: 236 (15%)
- Disagree or Strongly Disagree with scheme remaining: 1,136 (75%)

Should the scheme be removed in its entirety?

- Agree or Strongly Agree with removing the scheme: 932 (61%)
- Disagree or Strongly Disagree with removing scheme: 345 (23%)

In summary, of those living within the LTN area that responded, 75% disagreed with scheme remaining and 62% disagreed with the implementation of an ANPR enforced LTN. However this only represents the views of people in around 25% households in the LTN area, the majority of people did not provide a response suggesting that they don't have a particular view on this scheme.

- 5.13 The results of disaggregating responses from within the Temporary LTN based on areas likely to be differently affected by the LTN are below:

Roads that may have seen the scheme negatively or positively (Hamlet Road and Waldegrave Road in Bromley)				Number of responses	53
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	24	10	9	ANPR	22
Keep	10	14	0	Keep	19
Remove	9	0	30	Remove	3
Agree to all 3				1No	0No
				Disagree to all 3	

Roads within Bromley (Belvedere Road, Cintra Park, Patterson Road and Milestone Road) that have seen an increase in traffic flows				Number of responses	176
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	32	9	17	ANPR	124
Keep	9	1	1	Keep	121
Remove	17	1	141	Remove	0
Agree to all 3				1No	1No
				Disagree to all 3	

Those roads to the north of the bus gate where traffic flows have reduced				Number of responses	319
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	160	53	24	ANPR	125
Keep	53	91	3	Keep	92
Remove	21	3	104	Remove	38
Agree to all 3				2No	8No
				Disagree to all 3	

Those roads to the south of the bus gate where traffic flows have reduced				Number of responses	98
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	41	13	6	ANPR	41
Keep	13	22	1	Keep	33
Remove	6	1	47	Remove	8
Agree to all 3				Disagree to all 3	
1No				0No	

Those roads that are within the LTN but will not have seen an increase or decrease in traffic on their roads				Number of responses	877
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	319	74	131	ANPR	444
Keep	74	132	5	Keep	386
Remove	131	5	561	Remove	97
Agree to all 3				Disagree to all 3	
1No				3No	

Analysis of responses from Outside of the Temporary LTN.

5.14 The responses from outside of the Temporary LTN area were disaggregated into:

- A Roads bounding the LTN (except for Anerley Hill/ Road north of the railway line)
- Anerley Hill/ Road north of the railway line
- The remainder of post code SE19 outside of the LTN area
- The remainder of post code SE23 outside of the LTN area
- The remainder of post code SE25 outside of the LTN area
- Streets outside the LTN in Bromley potentially receiving more traffic Seymour Villas, Derwent Road and Selby Road

The results following this disaggregation are:

Roads in SE19, but not including SE19 addresses within the LTN where a valid identifying code was provided.

Agree or Strongly Agree

	ANPR	Keep	Remove
ANPR	135	60	29
Keep	60	108	8
Remove	29	8	610

Agree to all 3

5No

Number of responses

887

Disagree or Strongly Disagree

	ANPR	Keep	Remove
ANPR	639	591	41
Keep	590	691	35
Remove	41	35	134

Disagree to all 3

10No

Roads in SE20				Number of responses				189	
Agree or Strongly Agree				Disagree or Strongly Disagree					
	ANPR	Keep	Remove		ANPR	Keep	Remove		
ANPR	16	5	7	ANPR	148	139	9		
Keep	5	15	14	Keep	139	156	3		
Remove	7	14	176	Remove	9	3	22		
Agree to all 3		0No		Disagree to all 3		2No			

Roads in SE25				Number of responses				864	
Agree or Strongly Agree				Disagree or Strongly Disagree					
	ANPR	Keep	Remove		ANPR	Keep	Remove		
ANPR	107	35	39	ANPR	605	550	39		
Keep	35	82	12	Keep	550	662	37		
Remove	39	12	662	Remove	39	37	113		
Agree to all 3		4No		Disagree to all 3		18No			

Those responders that lived beyond the post codes outlined above				Number of responses		877	
Agree or Strongly Agree				Disagree or Strongly Disagree			
	ANPR	Keep	Remove		ANPR	Keep	Remove
ANPR	165	127	24	ANPR	507	390	109
Keep	127	259	14	Keep	390	442	19
Remove	24	14	469	Remove	109	19	276
Agree to all 3		4No		Disagree to all 3		18No	

The Principal roads that immediately border the scheme				Number of responses		178	
Agree or Strongly Agree				Disagree or Strongly Disagree			
	ANPR	Keep	Remove		ANPR	Keep	Remove
ANPR	23	6	7	ANPR	123	113	7
Keep	6	18	3	Keep	113	141	7
Remove	7	3	123	Remove	7	7	24
Agree to all 3		1No		Disagree to all 3		0No	

Respondents living on Anerley Hill or Anerley Road				Number of responses		14	
Agree or Strongly Agree				Disagree or Strongly Disagree			
	ANPR	Keep	Remove		ANPR	Keep	Remove
ANPR	0	0	0	ANPR	10	10	0
Keep	0	0	0	Keep	10	12	0
Remove	0	0	12	Remove	0	0	0
Agree to all 3 1No				Disagree to all 3 0No			

Respondents living in the potential additional traffic streets made up of Seymour Villas, Derwent Road and Selby Road				Number of responses	19
Agree or Strongly Agree				Disagree or Strongly Disagree	
	ANPR	Keep	Remove		
ANPR	1	1	0	ANPR	14
Keep	1	2	1	Keep	14
Remove	0	1	14	Remove	0
Agree to all 3 0No				Disagree to all 3 0No	

Overall analysis of the consultation responses to whether the scheme should remain, be replaced or be removed:

- 5.15 The overall aggregate response to the option to Replace the physical closures implementing the Temporary LTN, with ANPR enforced 'No Motor Vehicle' restrictions and signs was:
- Agree or Strongly Agree with implementing an ANPR scheme: 1000 (23%)
 - Disagree or Strongly Disagree with implementing an ANPR scheme: 2656 (61%)
- 5.16 The overall aggregate response to the option for the Temporary LTN to Remain in its current format was
- Agree or Strongly Agree with the scheme remaining: 735 (17%)
 - Disagree or Strongly Disagree with scheme remaining: 3,056 (71%)
- 5.17 The overall aggregate response to the option to remove the Temporary LTN entirely was:
- Agree or Strongly Agree with removing the scheme: 2896 (67%)
 - Disagree or Strongly Disagree with removing scheme: 998 (23%)

Overall analysis of the consultation responses to specific questions:

- 5.18 In aggregate the response to the individual specific questions were:
- Question 1: How do you feel about the scheme when it was first implemented?

Negative	Positive	No Opinion
2968 (69%)	859 (20%)	435 (11%)
Total:	4262	

Question 2: Has the removal of the scaffolding and temporary lights on Church Road made a difference?

Negative	Positive	No Opinion
1050 (25%)	1379(33%)	1807 (42%)
Total:	4236	

Question 3: In July, we made changes to the scheme based on initial feedback - namely installing a bus gate on Auckland Road. How did you feel about the scheme with this change?

Negative	Positive	No Opinion
2,452 (58%)	759 (18%)	1008 (24%)
Total:	4219	

Overall analysis of the consultation responses to specific questions suggests the removal of temporary lights and scaffolding on Church Road had a significant impact on people's opinion of the scheme. For example the analysis shows that there was a 44 % decrease in the people who perceived the scheme as negative, a 13% increase in people who perceived the scheme as positive and a 31% increase in people who had no opinion as a result of the scaffolding being removed. Nevertheless objectors to the LTN assert that 'problems have persisted' since Church Road was fully re-opened.

Furthermore as a result of the changes brought about because of pre-consultation feedback received (namely the introduction of the bus gate) there was an 11% decrease in the number of people who perceived the scheme as negative and an 13% increase in the number of people who had no opinion.

Capturing comments from consultation responses

- 5.19 The consultation survey contained a number of questions to which a free form comments box was provided for responders to give further information to explain their views. Each of the comments has been read and the two most prevalent views highlighted by each responder has been recorded in the following 15 themes that emerged.

In some cases the responder did not give any comment. Some only made a single comment / raised one issue of concern rather than several, and in the case of only one comment, just that one comment was recorded. In other cases, the responder has raised a large number of concerns, and in these cases, only the two most pressing and often quoted themes have been recorded. The number of times each theme has been mentioned has then been counted to indicate which theme is of greatest concern or highest importance.

Table 5.2 Survey Comments Categorised into the 15 Themes

	Theme	TOTAL	%
1	Quieter streets, better environment for walking and cycling	561	8.00%
2	Less air pollution	98	1.40%
3	Safer streets, improved road safety	300	4.28%
4	ANPR is good idea to allow local access	114	1.62%
5	Lack of consultation before implementation	663	9.45%
6	Too hilly to walk or cycle	52	0.74%
7	Worse environment for local people	572	8.15%
8	More traffic pollution	901	12.84%
9	More congested roads, queues, 'rat running', general traffic issues	2092	29.82%
10	Limited access, increased journey times, distance travelled, diverted traffic	1244	17.73%
11	More dangerous streets	104	1.48%
12	Bad for local businesses	62	0.88%
13	Bus gate / ANPR are money making	106	1.51%
14	Creates problems / delays for emergency services	116	1.65%
15	Access for doctors, nurses and health professionals through bus gate and ANPR	31	0.44%

Two most frequent comments –

29.82% of comments mentioned “More congested roads, queues, ‘rat running’, general traffic issues”

17.73% of comments mentioned “Limited access, increased journey times, distance travelled, diverted traffic

- 5.20 The analysis of comments was disaggregated based on the various geographical areas, to provide an indication of which issues are of most concern and /or importance to those responding from different areas within and surrounding the Temporary LTN and distant from it.

Table 5.3 Categorised Survey Comments by Theme and by Location

	Theme	SE19	SE20	SE25	Not Local Responses	Hamlet Road/ Waldegrave Road	Belvedere/ Milestone/ Patterson/Cintra Park	Seymour Villas/ Selby and Derwent Road/	Reduced traffic roads, north of the bus gate	Reduced traffic roads, south of the bus gate	Principal Roads on the periphery of the LTN	Roads within the LTN that have experienced no increase or	Annerley Hill & Road	CSPN Survey Business	TOTAL	%
1	Quieter streets, better environment for walking and cycling	94	14	61	129	13	5	0	112	18	8	107	0	7	568	8.0%
2	Less air pollution	17	2	15	13	8	2	0	16	1	0	24	0	1	99	1.4%
3	Safer streets, improved road safety	6	7	52	105	5	6	0	25	14	7	73	0	4	304	4.3%
4	ANPR is good idea to allow local access	24	2	1	4	0	0	0	55	12	0	16	0	0	114	1.6%
5	Lack of consultation before implementation	132	16	123	55	8	48	1	58	8	29	182	3	2	665	9.4%
6	Too hilly to walk or cycle	15	3	1	16	0	0	0	1	0	6	10	0	0	52	0.7%
7	Worse environment for local people	64	15	296	1	13	42	5	40	3	0	91	2	3	575	8.1%
8	More traffic pollution	150	35	236	137	6	43	7	10	13	83	174	7	5	906	12.8%
9	More congested roads, queues, rat running, general traffic issues	486	103	517	283	22	109	14	82	34	85	347	10	9	2101	29.7%
10	Limited access, increased journey times, distance travelled, diverted traffic	230	71	124	222	17	42	2	120	23	43	348	2	3	1247	17.7%
11	More dangerous streets	28	2	17	13	1	18	1	2	2	7	13	0	0	104	1.5%
12	Bad for local businesses	20	3	2	17	0	0	0	1	2	4	15	0	9	73	1.0%
13	Bus gate / ANPR are money making	25	10	8	26	1	1	0	4	6	3	22	0	1	107	1.5%

14	Creates problems / delays for emergency services	12	8	22	22	2	1	1	11	7	2	27	1	0	116	1.6%
15	Access for doctors, nurses and health professionals through bus gate and ANPR	12	1	4	0	0	2	0	1	2	0	8	1	1	32	0.5%
															7063	100.0%

How representative is the sample population?

5.21 The consultation 'population sample' was influenced by:

- the extent of the Council publicising the consultation;
- publicising of the consultation by others; and
- self-selecting through those receiving publicity, choosing to respond or not.

5.22 Half (2041) of those responding live in a household where there are no children or young people. The age profile of those responding does not match that within the LTN area. Only 6 responses (0.1%) were received from anyone 18 or younger, and 56 (1%) from people 18 to 24 years old. This compares with the population within the LTN area where just under a quarter of the population is below the age of 18.

Figure 5.12 Age Profile of the Responders

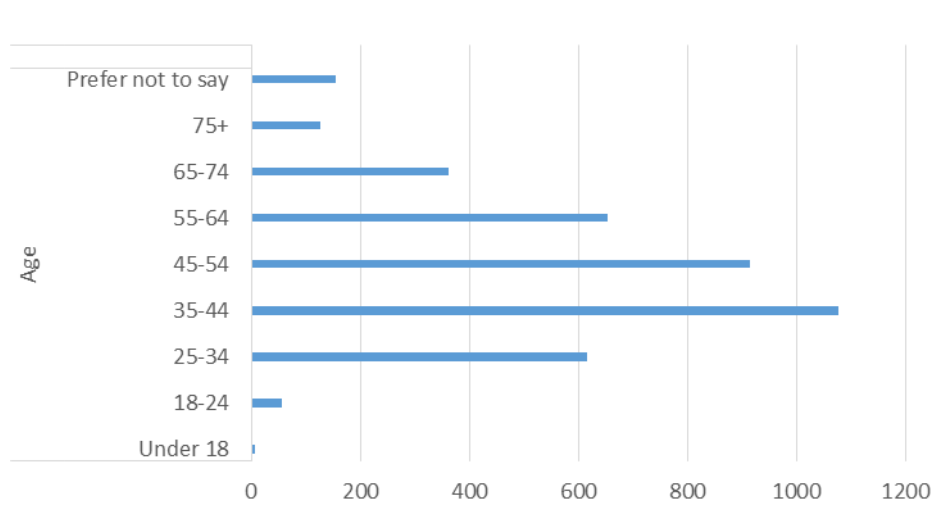
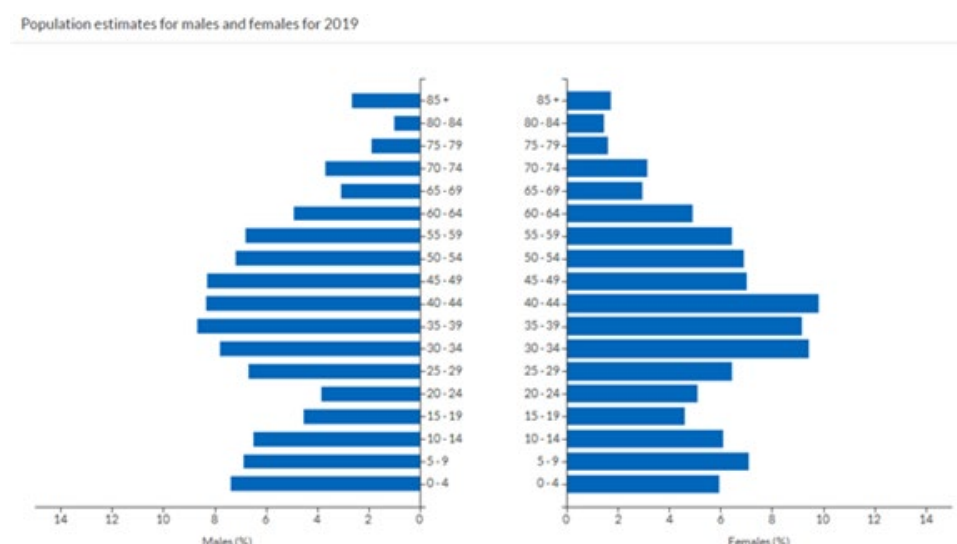


Figure 5.2 Age Profile of Population within the Temporary LTN (see Equality Analysis)



5.23 The ethnic diversity of the population sample does not reflect that within the Temporary LTN.

Figure 5.3 Ethnic Background Reported by Responders

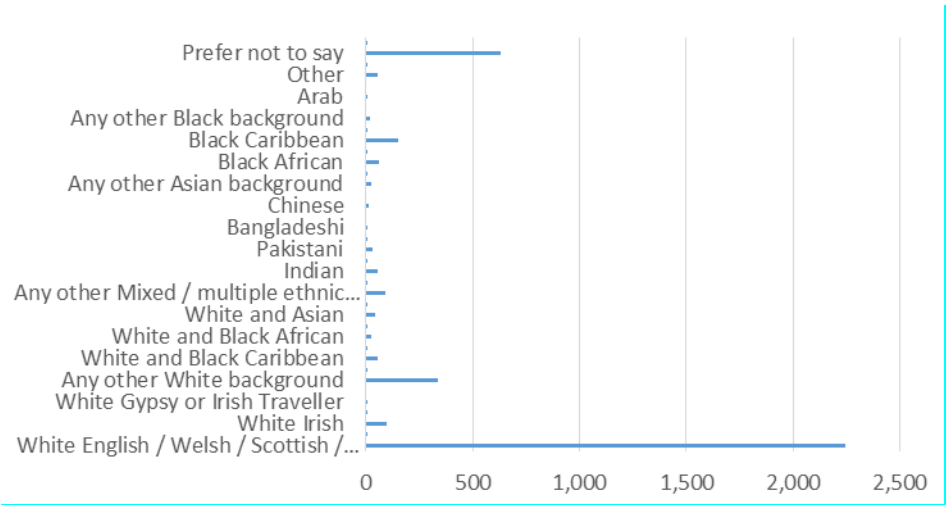
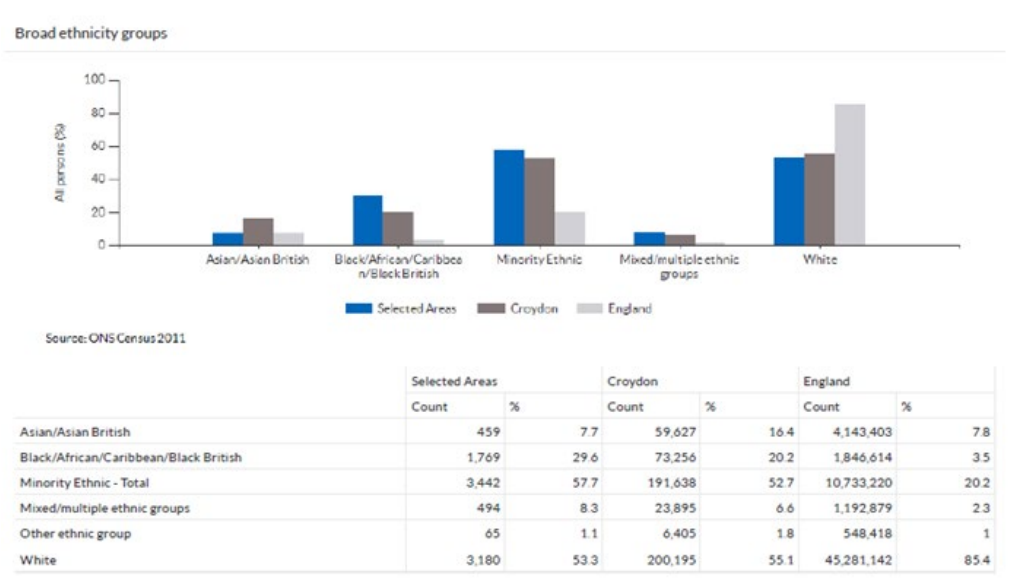
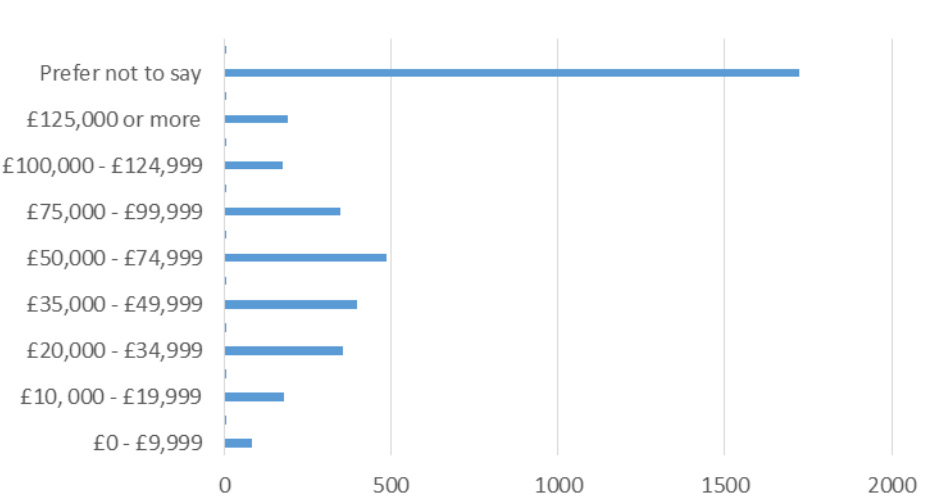


Figure 5.4 Race and Ethnicity of Population Profile within the Temporary LTN, Croydon and England (see Equality Analysis)



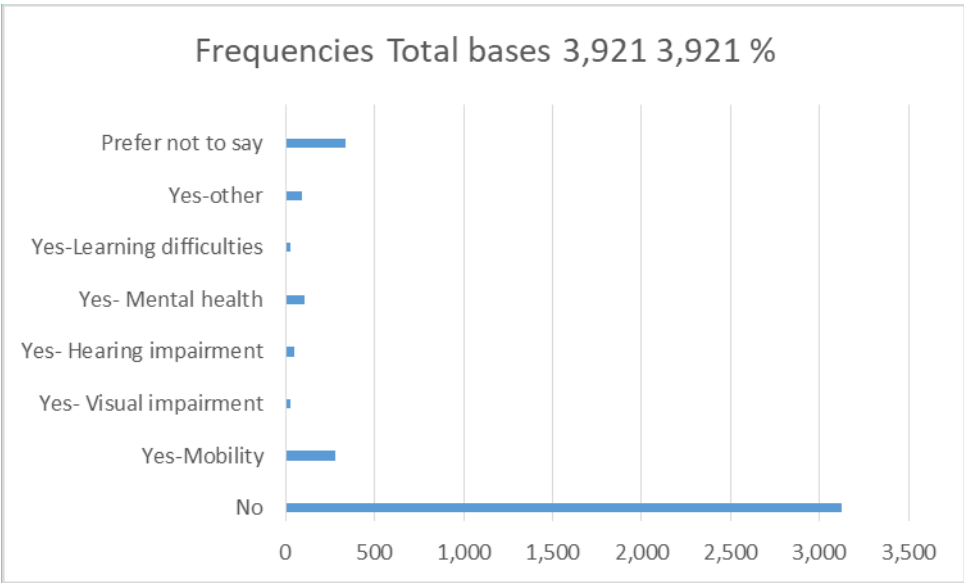
5.24 The Household income of responders appears to be higher than the average within the area of the Temporary LTN, TfL's 'Strategic Neighbourhood Analysis' indicating that the area of the Temporary LTN is amongst the top 20 to 30% most deprived in England

Figure 5.5 Household Income Reported by Responders



5.25 80% of responders reported not having a disability.

Figure 5.6 Responders Reporting Having a Disability



5.26 The gender balance of the responder population appears to be the same as that within the area of the Temporary LTN, with an equal number of female and male respondents who reported their gender. In response to the question ‘If you own a car or motorbike, do you also walk, cycle or use public transport for journeys?’ 3075 responded that they do not own a car.

5.27 Business Consultation Feedback:

Approximately 300 letters were delivered to businesses around the Crystal Palace Triangle and on Anerley Hill in early December, each with a unique code to be used when entering the response on line. 47 responses were received (15% response rate). This suggests that 85% of businesses consulted didn't have

a particular view on the Temporary LTN sufficient to be motivated to respond. This contrasts with the claims made that the Temporary LTN was impacting heavily on the environment with the 'Triangle' and on Anerley Hill and hence on businesses and the economy. However, of those that did respond, the majority of were concerned about additional traffic/congestion around the 'Triangle' attributed to the temporary LTN and this having a negative impact on business. Of the 47 response received, 32 did not use the unique code provided on the letter.

Table 5.4 Summary of Business Responses

How do you feel about the Temporary LTN when it was first implemented?		
Negative or very negative	29	63%
Neutral	5	11%
Positive or very positive	9	20%
No response	3	7%

How do you feel about the Temporary LTN now?		
Negative or very negative	33	72%
Neutral	1	2%
Positive or very positive	9	20%
No response	3	7%

Engagement with the Emergency Services

- 5.28 The Council received specific feedback from the emergency services on the Temporary LTN outlining that they understand the reasons behind its introduction, however their preference would be for the scheme to be implemented using ANPR technology in place of physical barriers, this will ensure they have unhindered access and their response times to emergency call outs is unaffected.

Separate / Additional Responses

- 5.29 Additional responses have been received in the form of:
- "A Briefing to Croydon Councillors" and an "Analysis of the Impact of the LTN Bus Timings" from Open Our Roads. The group is made up of residents who have campaigned throughout for the roads within the LTN to be reopened to traffic, a member of which is the claimant in the Judicial Review of the Temporary LTN
 - A detailed submission by 'Crystal Palace and South Norwood Shape Better Streets'
 - A separate response from Ellie Reeves, MP for Lewisham West & Penge
 - 3 petitions received from the Open Our Roads group

All are included within Appendix 5 to this report.

Engagement and focussed research during the recommended Experimental LTN

- 5.30 In his letter to the Mayor of London on 13 November 2020 (Background document) the Secretary of State explains:

‘Councils must develop schemes that work for their communities..... Consultation should include objective tests of public opinion, such as scientific polling, to cut through the noise and passion schemes can generate and gather a truly representative picture of local views. It should engage stakeholders, including local MPs, but it should not be confused with listening only to the loudest voices or giving any one group a veto.’

What the pre-consultation and this consultation has shown, (as found elsewhere in London and the UK), is that these swiftly implemented LTNs have generated a lot of “noise” and “passion”, generally from those opposed to their principle. The recommended experimental traffic order to implement the Experimental LTN gives the Council the opportunity to undertake more focused research. This to include , but not limited to, traffic surveys, air quality monitoring, close working with both the London Borough of Bromley and Transport for London and additional consultation with the residents of the area, with a particular focus on reaching those residents that chose, for whatever reason, not to engage during this process.

- 5.31 As this report was being written, TfL published ‘The London Streetspace Plan Guidance for engagement & consultation on new Streetspace schemes’ (see Background documents)

6. EQUALITIES IMPACT

- 6.1 The Council, in accordance with its duty under section 1 of the Equality Act 2010, is having due regard to the desirability of exercising its functions in a way that is designed to reduce the inequalities of outcome which result from socio-economic disadvantage;
- 6.2 The Council, in discharging the public sector equality duty in s 149 of the Equality Act 2010 in relation to the decision upon the making of the recommended Experimental Traffic Regulation Order, has due regard to the need to—
- (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act;
 - (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
 - (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.
- 6.3 The Equality Analysis begins by explaining that the proposed change is a response to:
- historic decisions and current trends.
 - the Mayor of London’s Transport Strategy (in particular the Healthy Streets

- objective)
- the continuing Covid19 Pandemic and to Secretary of State for Transport statements and guidance relating to it, and the Mayor's / TfL's Streetspace Plan for London.

It explains that historic decisions continue to have equality implications. These decisions include parliament in the 1930s allowing streets to be given over to motor vehicles. The consequences of this began to be considered formally in the 1960s when the Ministry of Transport studied the 'Long Term Problem of Traffic in Towns'. The study considered the 'Deterioration of Environment' identifying the issues arising from *'drivers are seeking alternative routes, mainly through residential areas, in order to avoid congested areas on main roads'* The study highlighted some of the effects this was having relating to 'age', namely children. It reported *'Journey to school. In 1962, 4,287 child pedestrians between the ages of 5 and 9 years were killed or seriously injured'*. It proposed traffic levels that are compatible with play in the street and a reasonable quality of environment. It suggested the creation of 'Environmental Areas' (areas free of extraneous traffic) in between the 'Distributor Roads' which would largely need to be rebuilt as major urban highways in order to accommodate the predicted levels of traffic. This approach was clearly not fully taken forward in the UK. The response to the high road casualty rate in children age 5 to 9, has largely been to deny them access to the street, and to curtail their independent mobility.

- 6.4 The Analysis touches on the decision in the early 2000's to turn the Crystal Palace 'Triangle' into a one-way traffic gyratory. It was known at the time that to do so would increase the traffic going around the 'Triangle' by around 50% (not because the scheme was predicted to generate more traffic, rather the same traffic would need to travel along more sides of the Triangle to get to its destination). The strategy to protect the environment within the Triangle from the increased traffic, was to use the traffic signals at each corner of the Triangle to queue traffic on the approach arms to the 'Triangle', rather than within it.
- 6.5 The introduction to the Equality Analysis, highlights the growth in vehicle miles on London's streets, and the growth being entirely on the minor unclassified roads / streets. The Equality Analysis explains that whilst the above changes were not subject to any formal equality assessment, the Equality Analysis relates to a proposed Experimental LTN that aims to address some of the effects arising from past decisions and more recent changes.
- 6.6 The Equality Analysis concludes that the potential effects of the proposed change are greatest in terms of effects on members of a group with the 'Age' related protected characteristic. It reports that around a quarter of the population living within the proposed Experimental LTN are under age 18, and consequently cannot drive. Young adults nationally are much less likely to hold a driving licence. Children are the group whose independent mobility has been most curtailed by past decisions, changes and trends. Through reduced freedom to travel actively and to play in the street, they are at risk of long term health issues. They are also the ones who will experience the greatest impacts of Climate Change, if CO₂ emissions (including those from road transport) are not addressed. At the other end of the age spectrum, the percentage of journeys made by older people in the UK, is very much lower than in many other northern European countries. Children and young people are amongst those considered

most likely to benefit from the proposed scheme, but it can help older people consider returning to cycling or to start cycling, including using E-bikes.

- 6.7 The Equality Analysis reports that the street has historically been where much of the life of the town/city takes place. It was community space which also happened to have a movement function. Lowering traffic levels has the potential for the role of the street as community space to return to a degree, depending on the residual traffic level. This in turn can help foster community cohesion and facilitate the fostering of good relations between members of groups with protected characteristics and others (something difficult to achieve if everyone travels to and from their own home, in their own car).
- 6.8 The Experimental TRO is a means of supporting the achievement of key objectives of the Croydon Council 'Opportunity and Fairness Plan' 2016-2020⁶, in particular addressing inequality around:
- SOCIAL ISOLATION: A CONNECTED BOROUGH WHERE NO ONE IS ISOLATED
 - COMMUNITY COHESION: VIBRANT, RESPONSIBLE AND CONNECTED COMMUNITIES
 - HEALTH: HELP PEOPLE FROM ALL COMMUNITIES LIVE LONGER, HEALTHIER LIVES (in particular 'Create and develop healthy and sustainable places and communities')
- 6.9 The Equality Analysis explains that further equality impact work can and should be undertaken during the operation of the trial scheme and design of anything that might follow it. It recommends that:
- The further analysis should be informed by research conducted during the trial, focused on the experiences of members of those groups with protected characteristics, predicted to be affected by the trial.
 - There should be a dialogue with Dial-A-Ride, Community Transport and SEN Transport operators and with users, to help refine the operation of the trial and the analysis.
 - The Croydon Mobility Forum has not met during the Pandemic. The Forum should be engaged with during the operation of the trial, its views informing the analysis, the operation of the trial and the design and operation of any scheme that might follow the trial.
 - A subsequent Equality Analysis should be carried out before any decision is made on the outcome of and the future for the trial and should be published as part of the documents used in making the recommendation.
- 6.10 Members of the public have suggested that the current Temporary LTN has had the effect of increasing traffic congestion elsewhere, including on the A Roads at the edges of the Temporary LTN. It is suggested that this has worsened air quality at these locations, and these are locations where greater numbers of members of Black and Minority Ethnic groups are living. This is a factor which has been considered in making the recommendation to implement the

⁶ https://www.croydon.gov.uk/sites/default/files/articles/downloads/Opportunity_and_Fairness_Plan.pdf

Experimental TRO. This aspect should be investigated as part of the monitoring strategy for and the further equality impact analysis of the Experimental LTN.

Approved by: Yvonne Okiyo Equalities Manager

7. ENVIRONMENTAL IMPACT

- 7.1 A large part of the feedback received regarding the Temporary LTN expresses concern that it is the cause of increased traffic levels (and hence congestion) elsewhere, principally in the neighbouring A Roads. This leads many to be concerned that increased traffic and congestion is contributing to an increase in harmful locally important air pollutants and a general worsening of environment. These were amongst the two issues of most concern emerging via the consultation (Amongst the comments left when completing the consultation questionnaire, 13% (just over 900) related to there being more traffic pollution).
- 7.2 The approach of central government and the Mayor to reducing emissions of locally important pollutants (and globally harmful CO₂ emissions) from road transport, is to:
- reduce reliance on the private car and other motorised transport including through the encouragement of active travel
 - reduce harmful emissions from the remaining vehicles.
- 7.3 The PJA analysis report at Appendix 4(a), includes images indicating the concentration of locally important air pollutants in 2016 at Crystal Place and South Norwood. These indicate that concentrations of particulate matter, both PM₁₀ and PM_{2.5} were below the UK limits, including at the main A Roads. However, the whole area was above the World Health Organisation guideline limit, particulate matter seemingly being no respecter of boundaries or major or minor streets. In 2016, points within the Temporary LTN area were below or at the UK legal limit (same as the WHO guidelines) for Nitrogen Dioxide NO₂. Some locations on the surrounding A Road exceeded the limit value.
- 7.4 Whilst advances in vehicle propulsion technology are reducing harmful emissions from each vehicle, on Croydon and London's streets there are important trends working against this positive effect. DfT monitoring of vehicle miles driven on London's roads and streets indicates that between 2000 and 2009 traffic on London's vehicle miles fell from 20.3 billion to 18.7 billion⁷ supporting the reduction in total vehicle emissions. From 2009 to 2019, traffic on London's streets has risen to its highest ever at 22.6 billion vehicle miles. Unfortunately the same pattern is observed in Croydon⁸, with traffic levels rising to their highest ever at 0.94 billion vehicle miles in 2019. TfL and local authorities have not been building more principal road capacity. The traffic on London's A Roads and B Roads has been stable / declined slightly since around 2006 / 2007. The increase in vehicle miles has been entirely on London's unclassified roads / minor streets. Traffic on the unclassified minor roads almost doubled from 5.4 billion vehicle miles in 2009, to 9.3 billion miles in 2019, reaching the point where London's minor roads/streets are carrying almost as much traffic as its A Road network.

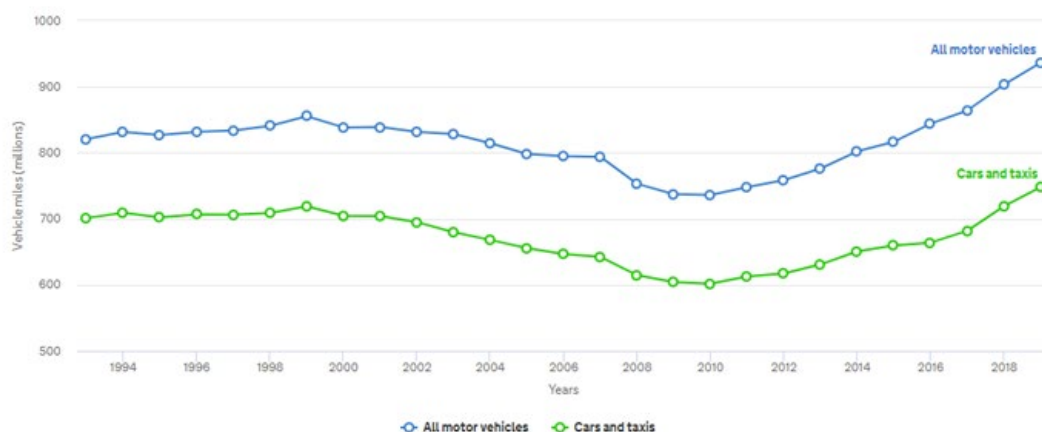
⁷ <https://roadtraffic.dft.gov.uk/regions/6>

⁸ <https://roadtraffic.dft.gov.uk/local-authorities/134>

- 7.5 When plotting/reporting the changes in vehicle miles at the individual borough level the DfT keeps the data in aggregate for. It does not report separately on A, B and unclassified roads (probably due to the relatively small size of the sample of unclassified roads). However an indication of the number of vehicle miles driven on A Roads relative to other roads in Croydon is available by looking at published figures for CO₂ emissions from roads and streets in Croydon. In 2018, vehicles on Croydon's A Roads emitted 132,000 Tonnes of CO₂, whilst the emissions from vehicles on minor Roads was 129,000 Tonnes⁹, more than in any other London borough. As with locally important pollutants, there are two opposing trends, namely improving vehicle efficiency counteracted by increasing vehicle miles.

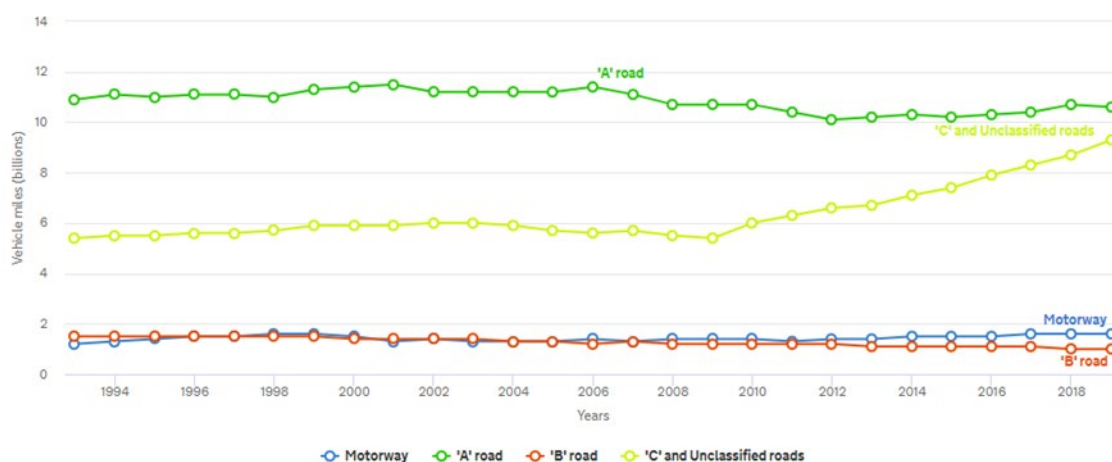
Annual traffic by vehicle type in Croydon

Traffic in Great Britain from 1993 to 2019 by vehicle type in vehicle miles (millions)



Annual traffic by road type in London

Traffic in Great Britain from 1993 to 2019 by road type in vehicle miles (billions)



- 7.6 The rapid rise in vehicle miles on London's unclassified roads, started just after the 2008 launch of the 'Waze' app. It (and subsequent other apps such as Google Maps) draw in and aggregate real time user data (on speed, location, routes and so on), using it to build out and refine its own maps and to calculate the 'best possible' (in terms of time saving) routes (and re-routes) for its drivers / users. The recommend Experimental LTN is intended to be part of the solution

⁹ <https://naei.beis.gov.uk/laco2app/>

to the ever greater consumption of London streetspace by the car. This consumption (whilst facilitated by vehicle routing apps) is in part a reflection of increasing population and car ownership. Vehicles registered to addresses in Croydon have risen from 148,000 to 159,700 between 2009 and 2019, the increase being almost entirely due to the increase in the number of cars registered (the vast majority of the vehicles registered in Croydon).

7.7 Fortunately the vehicle emission consequences of these trends are being counteracted by action of the Mayor to reduce emissions:

- from the most polluting vehicles by tightening the emissions standards applied through the London wide Low Emissions Zone (action postponed from October 2020 to March 2021 due to the Covid Pandemic).
- in the most polluted parts of London by expanding the Ultra Low Emission Zone in inner London (October 2021)

the combination of which are predicted to bring about significant further reductions in NO₂ concentrations, including at Crystal Palace and South Norwood ('Ultra Low Emission Zone - Further Proposals: Integrated Impact Assessment' (2017) ¹⁰).

Figure 7.1 Annual mean NO₂ concentrations in 2021 with stronger LEZ and Expanded ULEZ

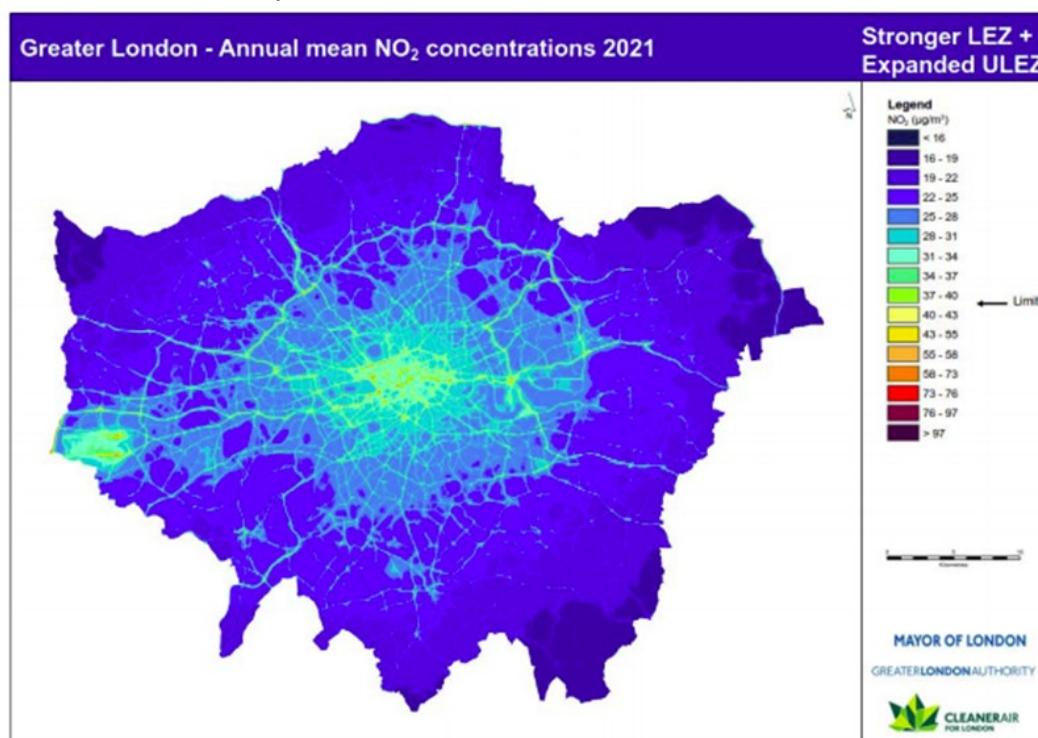


Figure 7.2 Annual mean NO₂ concentrations in 2025 with stronger LEZ and Expanded ULEZ

¹⁰ https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-3b/user_uploads/integrated-impact-assessment.pdf

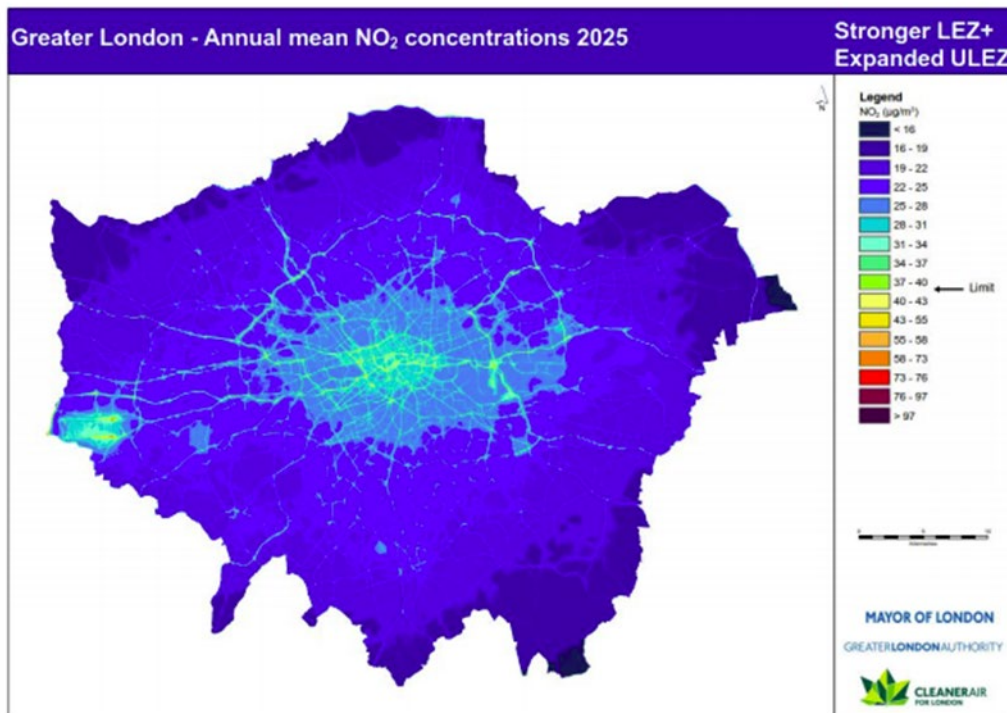


Figure 7.3 Residential receptors exceeding the post LAEI 2025 NO₂ µg/m³ Contour in year 2021

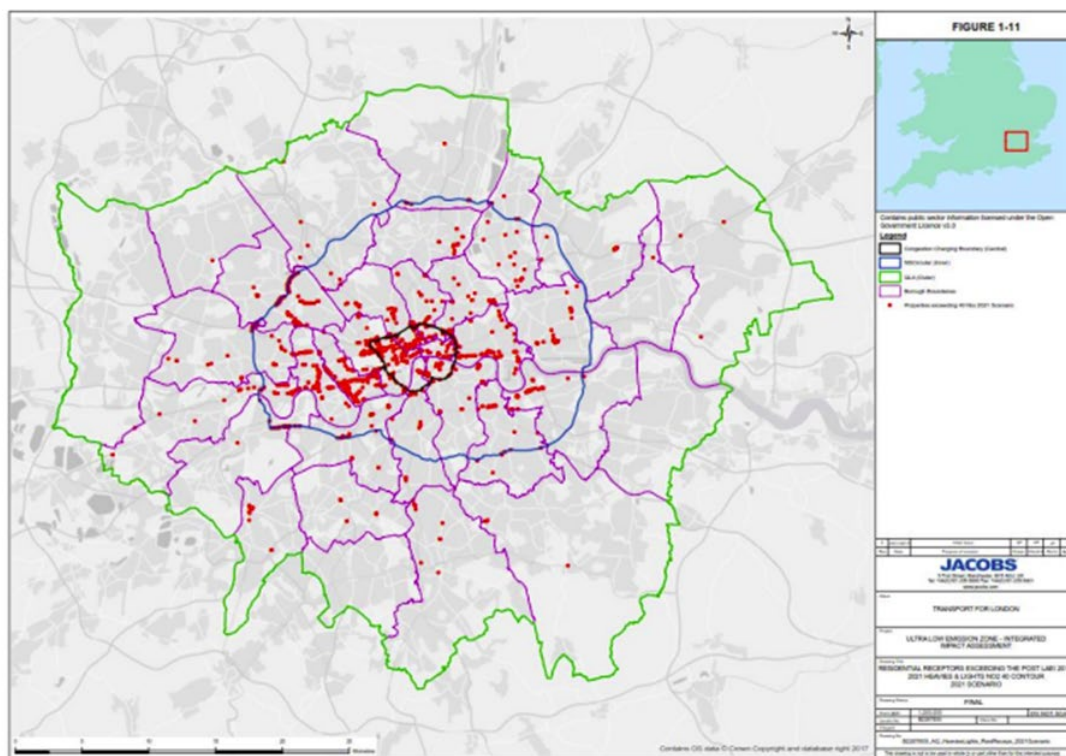
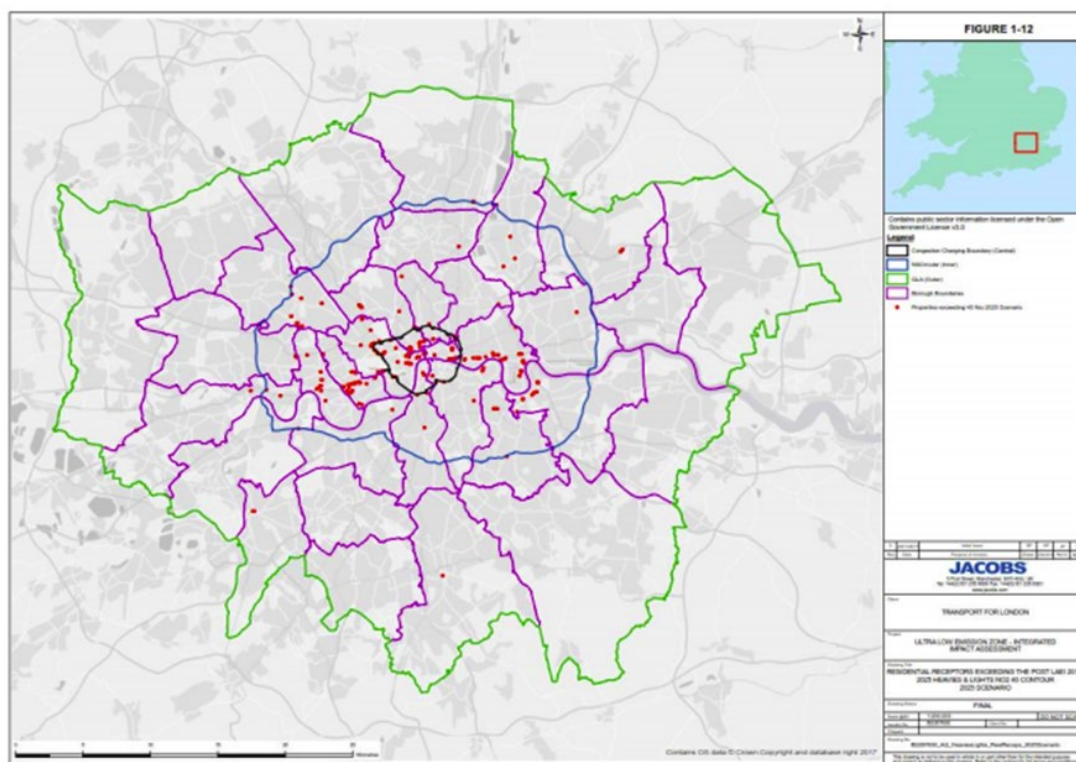


Figure 7.4 Residential receptors exceeding the post LAEI 2025 NO₂ µg/m³ Contour in year 2025



7.8 Whilst:

- neither TfL's nor the PJA assessment of the traffic effects of the Temporary LTN found strong evidence to suggest the Temporary LTN is the cause of traffic conditions on the surrounding A Roads and in the 'Triangle' which might lead to significantly poorer air quality; and
 - action is being taken by the Mayor to significantly improve air quality
- public concern regarding emissions of locally important pollutants from road traffic at Crystal place and South Norwood, is considerable. Assessment of air quality effects should be part of the monitoring strategy for the recommended Experimental LTN, including whether members of Black and Minority Ethnic groups are being differently affected.

8. CRIME AND DISORDER REDUCTION IMPACT

- ### 8.1
- Speeding is possibly the crime that directly kills or seriously injures more people in the UK than any other. In 2018/19 there were 579 police recorded 'causing death or serious injury by dangerous driving' offences in England and Wales¹¹. This compares with a total of 671 victims of murder, manslaughter and infanticide in the same year¹². The Temporary LTN was in large part intended to reduce the road danger in what had been the most heavily trafficked streets in the Neighbourhood, and to reduce the fear of road danger. A key component of the

¹¹ <https://www.statista.com/statistics/303473/death-by-dangerous-driving-in-england-and-wales-uk-y-on-y/>

¹²

<https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/homicideinenglandandwales/yearendingmarch2019>

Mayor of London's 'Healthy Streets' and 'Vision Zero' concepts and objectives is to protect people from the crime of speeding and to help reduce the incidence of the crime.

- 8.2 Some of the comments received regarding the Temporary Low Traffic Neighbourhood include concern that less motor traffic in poorly lit streets will lead to more crime against the person and more fear of crime. The Council's street lighting provider is required to light all streets to certain LUX level standards, with no street permitted to drop below a set minimum. Many of the streets within the Temporary LTN previously enjoyed low traffic levels and would continue to do so under the recommended Experimental LTN. The intention of the Low Traffic Neighbourhood is not to significantly reduce the number of people travelling through it, rather it is to change the mode of travel through it. The subject is complex but there is evidence to suggest that higher crime rates correlate with higher traffic flow.
- 8.3 The implementation of the recommended Experimental LTN would offer increased protection to vulnerable road users within the LTN from dangerous driving.

9. HEALTH IMPACT

- 9.1 A significant part of the feedback received regarding the Temporary LTN, relates to air pollution and its effects on human health. Pollutant concentrations for PM₁₀ and PM_{2.5} in and around the Temporary LTNs exceed WHO guidelines. The Mayor is however taking action to reduce private car use, and to reduce emissions through a tightening of the emissions standard for the LEZ and expanding the ULEZ.
- 9.2 A public health crisis facing Croydon relates to inactivity and obesity. The LIP explains that inactivity is having profound health effects and is a major contributory factor to the levels of obesity in Croydon. One in five children in the school reception year is overweight or obese and this rate more than doubles between reception and year 6. The LIP explains that early childhood is a critical time to tackle childhood obesity as children are developing and learning healthy or unhealthy behaviours from a young age. By year 6 (age 10 to 11 years) a greater proportion of children in Croydon carry excess weight than in London or nationally. Two in five children aged 10 to 11 years in Croydon are overweight or obese and this proportion is increasing over time.
- 9.3 For adults the situation is more serious. Two in three adults (62%) of the population are overweight or obese and one in thirty working age people in Croydon have diabetes, a figure which is predicted to increase by 10% by 2025. Amongst older adults (over 65) one in eight are predicted to have diabetes and one in four are obese. Children in Croydon are growing up in a borough where it is normal to be overweight, emphasising why Croydon needs the infrastructure and cultural changes to enable everybody to incorporate exercise into their daily travel routine.
- 9.4 The Mayor's Transport Strategy '*Outcome 1: London's streets will be healthy and more Londoners will travel actively*' is expressed as Londoners doing at least the

20 minutes of active travel they need to stay healthy each day. This is translated into a target in the Croydon LIP. The target is based on the proportion of Croydon residents doing at least 2x10 minutes of active travel a day (or a single block of 20 minutes or more). The Croydon baseline (2013/14-2016/17) is 26% of residents achieving this level of activity. The LIP target is 70% by 2041, with an interim target of 35% in 2021. The recommended LTN, particularly when working in combination with other LTNs, is intended to help people be more active as they travel, helping address the obesity crisis facing Croydon.

10. HUMAN RIGHTS IMPACT

- 10.1 Regard should be had to the provisions of the Human Rights Act. In particular, the provisions of Article 1, of the First Protocol protection of property and Article 8, right to respect for private and family life. In relation to Article 1 some residents have been unable to use the most direct access when driving to their home, following the implementation of the measures creating the Temporary LTN. However, alternative access for motor vehicles has been maintained. Access for those choosing to walk or cycle or use the 410 bus has been aided by the temporary restrictions and direct motor vehicle access would be returned to residents with cars living within the Neighbourhood under the proposed Experimental LTN. Further, the right under Article 1 is qualified rather than absolute as it permits the deprivation of an individual's possessions or rights where it is in the wider public interest. The public interest benefits of the temporary scheme and recommended experimental scheme are outlined within this report. A move to the recommended experimental scheme would see ease of access to their homes by car return to the pre-temporary scheme level for most residents. In summary it is difficult to see how what has been done, or what is proposed, would amount to interference with property so as to constitute a contravention of any person's Article 1 of the First Protocol human rights.
- 10.2 In relation to Article 8, the right to respect for private and family life has a broad interpretation and extends to being in a public place if there is a reasonable expectation of privacy there. This right can be interfered with where lawful, e.g. where it is necessary and proportionate to protect a number of other concerns including public safety and health. It is not considered that the implementation of the temporary restrictions impeded on the right to individuals' right to respect for private and family life, either in public or on private land, nor would the making of the recommended experimental traffic order. Further, the scheme is proposed to contribute to the more general reduction in vehicle mileage, which will enhance public safety and health. Traditionally 'family life' extended out into the street where siblings would play and children walk together to school. The Low Traffic Neighbourhood proposals seek to allow this to happen again.

11. PRE-DECISION SCRUTINY

- 11.1 The preparation of this report and the recommendations within it have been prepared within a very short timescale, necessitated by a series of events. These

include:

- Waiting until the removal of the temporary traffic signals from Church Road before starting consultation on the future of the Temporary LTN
- That consultation coinciding with the second Lockdown and so business specific consultation being held-off until the end of Lockdown
- TfL waiting until after the removal of the scaffolding before undertaking its assessment
- The Judicial Review and the request for stay until 6 Jan whilst a decision on the LTN is taken and Alternative Dispute Resolution is embarked upon with the claimant
- That Alternative Dispute Resolution being initiated in the latter part of December

This resulted in a very constrained window in which to consider the recommendation and prepare the associated report. That window coincided with Christmas. All these matters led to the inability to provide for Pre-Decision Scrutiny.

12. FINANCIAL AND RISK ASSESSMENT CONSIDERATIONS

- 12.1 TfL has confirmed £866,000 LIP Corridors funding is available to Croydon Council for the remainder of this financial year. It has also confirmed that £211,000 Active Travel funding is available to Croydon Council for this financial year but with the flexibility of being able to carry funding into next year for delivery, if schemes are committed in this year. The request has been made to TfL to use £120,000 of Active Travel Funding with £37,000 LIP Corridors funding for design, implementation, consultation and monitoring costs arising from the recommended trial project. TfL has agreed to this. The recommendation to make the experimental traffic order is subject to Spending Control Panel agreeing the expenditure of this ring-fenced grant funding.

1 Revenue and Capital consequences of report recommendations

		Current year	Medium Term Financial Strategy – 3 year forecast		
		2020/21	2021/22	2022/23	2023/24
		£'000	£'000	£'000	£'000
Revenue available	Budget				
Expenditure					
Income			Unknown	Unknown	
Effect of decision from report					
Expenditure					
Income					
Remaining budget		0			
Capital available	Budget	£157			
Expenditure					
Effect of decision from report					
Expenditure					
Remaining budget					

The effect of the decision

The effect of agreeing and implementing the recommendation would be to incur a cost of £157,000, all of which would be met from ring-fenced grant funding.

The aim of using enforcement cameras is to ensure compliance with the traffic signs/order. The aim is 100% compliance and no Penalty Charge Notices (PCNs) being issued. In reality, compliance will be less than 100% and there will be income derived from PCNs. However, the level of compliance and PCN issuing rate are unknown and so is the likely level of income. The current bus gate on Auckland Road is receiving around 100 contraventions per day with a recoverable rate of around £55 per infringement. It is anticipated that the three closures, covering Sylvan Hill, Stambourne Way and Fox Hill, will experience around half the number of the bus gate collectively, as they are not considered to be on the main desire line through the area. It is also expected that the number of contraventions will decrease as drivers become more aware of the LTN. It is therefore estimated that the Auckland Road bus gate may continue to generate around 70 contraventions per day during the working week and around 50 per day at weekends, and the side road restrictions around 35 per day during the working week and 25 per day at weekends. This rate of contravention should lead to the camera enforced restrictions on Sylvan Hill, Stambourne Way and Fox Hill, repaying the cost of the infrastructure within the first two months after their introduction. However, the Covid19 Pandemic increases the difficulty making income predictions.

2 Risks

The recommendation is to implement the Low Traffic Neighbourhood on an experimental basis. If the Experimental LTN (on balance) is deemed not to be successful, there will be a small cost associated with the removal of the trial scheme infrastructure. If this were to happen, that cost would likely be incurred in 2022/23. The major cost associated with implementing the Experimental LTN is the purchase of the enforcement cameras. If the Experimental LTN is not made permanent, the cameras will still have a significant residual value. There should be discussion with TfL regarding any redeployment or sale of cameras purchased with grant funding provided for this specific trial project.

It is hoped that Bromley Council will work with Croydon Council to mitigate effects likely to arise from the trial in residential access streets in Bromley. Bromley Council agreeing to so work with Croydon would be positive. However, there would be every likelihood that Bromley Council would not expect to use either its own capital funds or LIP funding from TfL for such mitigation. A discussion would need to be held with TfL and Bromley Council as to how these costs (if they were to arise) should be met.

In the following section of this report, the Head of Corporate Law has summarised the criteria set by S121B of the Road Traffic Regulation Act that need to be met if the recommended experimental traffic order is to be made.

Significant delay to making the experimental traffic order is likely to impact on the ability to spend all of the TfL and DfT funding allocated to the project this year. Removal of the Temporary LTN is intended to allow discussion with Bromley Council regarding the recommended Experimental LTN and reduce the risk around making of the traffic order and financial risk potentially associated with delay.

The Covid19 Pandemic adds to the difficulty estimating what income might be derived during the Experimental LTN.

3 Options

The three consulted options are 'Replace', 'Remain', 'Remove'. The effects and risks arising from the first of these are summarised above.

The planters and concrete blocks used to implement the current temporary scheme are considered acceptable for a temporary or trial project. If the Temporary LTN were to be made permanent, then there would be a capital cost for the construction of permanent measures and possible ongoing revenue costs of maintaining trees and other greenery if incorporated into those permanent measures. There would also be the cost incurred relocating the bus gate. The capital costs could potentially be met from TfL LIP Funding. Below is a summary of costs for each of the options considered: remove, replace or retain:

1. Approximate cost of removing each point closure £2,500
2. Approximate cost of replacing the existing temporary point closures with ANPR technology: £157,000
3. Approximate cost of retaining the existing point closures in their current format: £10,000 per site/per year due to ongoing vandalism etc.

4 Future savings/efficiencies

As stated above the objective of enforcing traffic restrictions with cameras is 100% compliance with the restrictions. However, if PCNs are issued and the penalty charges paid, revenue is derived. That revenue income is predicted to be greater than the revenue cost associated with maintaining the scheme infrastructure and enforcing the restrictions, resulting in a predicted surplus income. This surplus will be used in accordance with relevant regulations.

Approved by: Felicia Wright, Head of Finance Place and Resources

13. LEGAL CONSIDERATIONS

- 13.1 Subject to compliance with statutory processes and broader public law principles, Croydon Council is able to make an Experimental Traffic Regulation Order ('TRO') under Section 9 of the Road Traffic Regulation Act 1984 ('1984 Act'), by virtue of the Experimental Order being for the purpose of 'prescribing streets which are not to be used for traffic by vehicles, or by vehicles of any specified class or classes, either generally or at specified times' under Paragraph 2 of Schedule 1 and Section 6 of the 1984 Act. The Experimental TRO must extend for no longer than 18 months.
- 13.2 The Order may be made subject to compliance with the procedure set out in the Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996 ('1996 Regulations'). Whilst statutory consultees are listed at Regulation 6 of the 1996 Regulations, there is no statutory requirement for public consultation. For the purposes of an experimental order, the Council is not required to publish a notice of intention or consider objections prior to making the TRO. Croydon Council will be obliged to consider any such objections at the point of a determination as to whether the Experimental LTN becomes permanent.
- 13.3 Croydon Council must publish a notice on making in relation to the Experimental TRO not less than seven days prior to it coming into force. The notice must include the following statements at Schedule 5 of the 1996 Regulations:
- 1) that Croydon Council will be considering in due course whether the provisions of the experimental order should be continued in force indefinitely
 - 2) that within a period of six months –
 - a. beginning with the day on which the experimental order came into force or
 - b. if that order is varied by another order or modified pursuant to section 10(2) of the 984 Act, beginning with the day on which the variation or modification or the latest variation or modification came into force,any person may object to the making of an order for the purpose of such indefinite continuation
 - 3) that any objection must-
 - a. be in writing
 - b. state the grounds on which it is made; and
 - c. be sent to an address specified for the purpose in the notice making.
- 13.4 In addition to the statutory requirements, broader administrative law and duties ought to be considered. These have been substantively addressed within this report.

- 13.5 Under S121B of the 1984 Act, Croydon Council may not implement a TRO if it will, or is likely to affect a GLA Road, Strategic Road or a road in another borough unless it has notified TfL and the London Borough (as relevant) and the proposal has either (a) been approved; (b) received no objection within one month; (c) any objection has been withdrawn; or (d) GLA has given its consent after consideration of the objection.

Approved by: Sandra Herbert Head of Litigation and Corporate Law for and on behalf of Jacqueline Harris-Baker the Council Solicitor and Monitoring Officer.

14. HUMAN RESOURCES IMPACT

- 14.1 There are no immediate HR impact issues in this report. If any should arise these will be managed under the Council's Policies and Procedures.

Approved by: Jennifer Sankar, Head HR Place for and on behalf of the Sue Moorman, Director of Human Resources

15. REASONS FOR RECOMMENDATIONS/PROPOSED DECISION

Reasons for an Experimental rather than Permanent Scheme

- 15.1 There has been considerable public concern expressed regarding the perceived effects of the Temporary LTN. In the light of that concern, a recommendation to implement a permanent scheme of a similar nature at this location is not proposed. Rather a trial, the effects of which can be monitored and assessed, is recommended. Much of the concern expressed relates to the view that the Temporary LTN has led to increased congestion elsewhere, with resulting environmental effects impacting certain groups to a greater extent. An experimental traffic order is time limited and allows a traffic management scheme to be 'modelled in reality', allowing a realistic and more accurate assessment of effects. An experiment allows some further adjustment and improvement of measures whilst it is running. If deemed unsuccessful the experiment can be halted and / or not made permanent.

- 15.2 Engagement on the future of the Temporary LTN was broad (reaching a good many people, many living a considerable distance from the LTN) but was not deep. In the Covid19 Pandemic it was difficult to reach out to members of groups mostly likely to be positively or negatively affected by the measures. The Experiment is the opportunity to reach out to these groups and include their experiences within the monitoring and assessment.

Reasons for pursuing a scheme following the removal of the Temporary LTN

- 15.3 In making the recommendation to make the experimental traffic order, consideration has been given to the matters in this report and in particular:

- i) **The expeditious, convenient and safe movement of vehicular and other traffic (including pedestrians) and the provision of suitable and adequate parking facilities.**

The recommended Experimental LTN is intended to facilitate the expeditious,

safe and convenient movement of pedestrians and people on bikes, especially when linked with other similar measures. The trial would also lessen the conflict previously arising between traffic movement and parked vehicles in Auckland Road and Southern Avenue. It would allow for the convenient movement of vehicles belonging to residents of the area within the Experimental LTN, exempt from the experimental restrictions on vehicle movement.

ii) **Access.**

Access including that for motorised traffic, would be maintained to all residential and other properties, albeit access routes for motorised traffic (except for emergency services vehicles and vehicles belonging to residents living within the exemption permit area holding exemption permits) will change (compared to prior to the Temporary LTN), which may cause inconvenience to some. The resident permit exemption and the proposed relocation of the bus gate in Auckland Road by the Auckland Road Surgery, are intended to minimise inconvenience.

iii) **Amenity.**

All local amenities remain accessible and their accessibility by walking and cycling would be improved, although for some the route to access these amenities may change. The area will benefit from the significant reduction of through movements of motorised traffic, and thereby provide a significant improvement to the amenity of the area. Streets will be better able to return to their historic role as places for play, places for the community to share, enjoy and engage. The amenity value of many streets would be much increased.

iv) **Air Quality.**

By creating safer more pleasant space for people to walk and cycle short journeys, the majority we all make, the Experimental LTN aims to reduce reliance on / use of the private car. Many have suggested that the Temporary LTN led to a worsening of air quality on the A Roads surrounding it. The PJA analysis and that of TfL suggests that effects of the temporary LTN are not that significant compared with the effects of the temporary traffic lights in Church Road. The Mayor is taking action that is predicted to bring about further improvement in air quality. However, there is strong public concern regarding air quality and assessment of air quality effects should be an important element of the trial, the results of which would be a factor in any decision as to whether or not to make the trial permanent.

v) **Passage of Public Service Vehicles.**

Removing through motor traffic from Auckland Road, Lancaster Road and Southern Avenue will have a powerful 'bus priority' effect, improving both bus journey times and reliability on this section of the 410 bus route. It would also make the walk to and from the bus stops within these streets safer (in terms of Road Danger / Risk) and more pleasant. The Open our Roads assessment of bus journey times 'The LTN's impact on congestion' has been considered (Appendix 5 (d)), as has TfL's own assessment (Appendix 4(b)). TfL's assessment suggests that the Temporary LTN did not have a significant effect on bus journey time for those services using the surrounding A Roads compared to the effect of the temporary Traffic lights in Church Road. The

TfL analysis indicates that on the Anerley Hill/Road corridor journey times have decreased in both directions since the removal of the temporary signals. The picture is also mixed with bus journey times on the likes of Penge Road, having improved east bound since the start of the first Lockdown, weekly averages having been consistently lower than the baseline average, but the opposite being the case west bound. Continuing to monitor effects on bus services with TfL will be an element of the Experimental LTN assessment.

vi) **Continuing Pandemic.**

The Secretary of State for Transport's statement and associated Statutory Guidance (last updated on 13 November 2020), continue to require councils to cater for significantly increased numbers of cyclists and pedestrians, and making it easier for them to create safer streets is a relevant consideration. The updated statement and Guidance have an added emphasis on monitoring and consultation, both of which would be elements of the recommended Experimental LTN.

vii) **Strategy and Policy.**

The LTN (when combined with others) is a major means of delivering objectives in the Mayor of London's Transport Strategy including the Healthy Streets objective. It supports delivery of the 'Top Priority' cycle corridor identified by TfL from Crystal Palace to the Town centre. It is an important means of delivering on commitments in the Croydon LIP and addressing matters of importance, specifically health, climate change and social inclusion.

viii) **Important Findings through Feedback and Consultation**

The Equality Analysis relating to the recommended Experimental LTN, draws on the 1963 Ministry of Transport study into the 'Long Term Problem of Traffic in Towns'. The study considered the 'Deterioration of Environment' identifying the issues arising from *'drivers are seeking alternative routes, mainly through residential areas, in order to avoid congested areas on main roads'* The study highlighted some of the effects this was having relating to 'age', namely children. It proposed traffic levels that are compatible with play in the street and a reasonable quality of environment. It looked into the future to the era in which we now live and the traffic levels we see today. It suggested the creation of 'Environmental Areas' (areas free of extraneous traffic, and what we are now calling LTNs) in between the 'Distributor Roads'. It envisaged the Distributor Roads (main streets and high streets) would be rebuilt as major urban highways in order to accommodate the predicted levels of traffic. This rebuilding was generally resisted and not taken forward, with the exception of places such as the Croydon Town Centre. Having not rebuilt our high streets and main streets as urban highways, the rising demand for car travel is being accommodated by different means in 21st Century London. Department for Transport (DfT) monitoring of vehicle miles driven on London's roads and streets indicates a dramatic increase over the last decade. The start of the increase coinciding with the launch of 'Waze' and other driver route finding apps / navigational devices. As London's principal road network has not been rebuilt to provide additional capacity, it is the unclassified minor roads and streets that have been both accommodating and facilitating the rising demand to drive. London's minor street network now carries almost as many vehicle miles as its A Road network.

The attempt to create an 'Environmental Area' or LTN has given rise to considerable anger. This is perhaps illustrated through having asked in the consultation whether they agreed or disagreed that conditions had improved with the removal of the temporary traffic signals from Church Road. Over a thousand respondents either strongly disagreed or disagreed. The geographical spread of those responding to the consultation and anti LTN petitions (response from across the country, across London and across south London) illustrate the decision to be made. Should Auckland Road, Lancaster Road and Southern Avenue be given back to acting as single function distributor roads meeting the demand for longer distance car journeys, or be helped to return to being multi-functional streets, streets being the place where historically much of the life of cities and communities has taken place?

16. OPTIONS CONSIDERED AND REJECTED

16.1 The options considered and rejected are:

- 1) removing the Temporary LTN and not replacing it with anything
- 2) removing the Temporary LTN and replacing it with a Permanent LTN

17. DATA PROTECTION IMPLICATIONS

17.1 **WILL THE SUBJECT OF THE REPORT INVOLVE THE PROCESSING OF 'PERSONAL DATA'?**

YES

17.2 The collection and analysis of the consultation responses involved the processing of personal data. Further consultation analysis, surveying and monitoring during the Experimental LTN is likely to involve the processing of personal data.

17.3 **HAS A DATA PROTECTION IMPACT ASSESSMENT (DPIA) BEEN COMPLETED?**

YES

DPIAs were undertaken and published for the online consultation on the future of the Temporary LTN, and the consultation survey of businesses. Further DPIAs will be undertaken when the further consultation analysis, surveying and monitoring during the Experimental LTN is being specified.

Personal data were submitted in the form of name and address information from three online petitions. The address information was used to plot the home locations of those signing the petitions and was then deleted and not saved.

Approved by: Steve Iles, Director of Public Realm

CONTACT OFFICER: Ian Plowright, Head of Transport x62927

BACKGROUND PAPERS

Cycling Skills Level Audit _ Croydon Cycle Network Review

Letter from Secretary of State for Transport to Mayor of London 13 November 2020

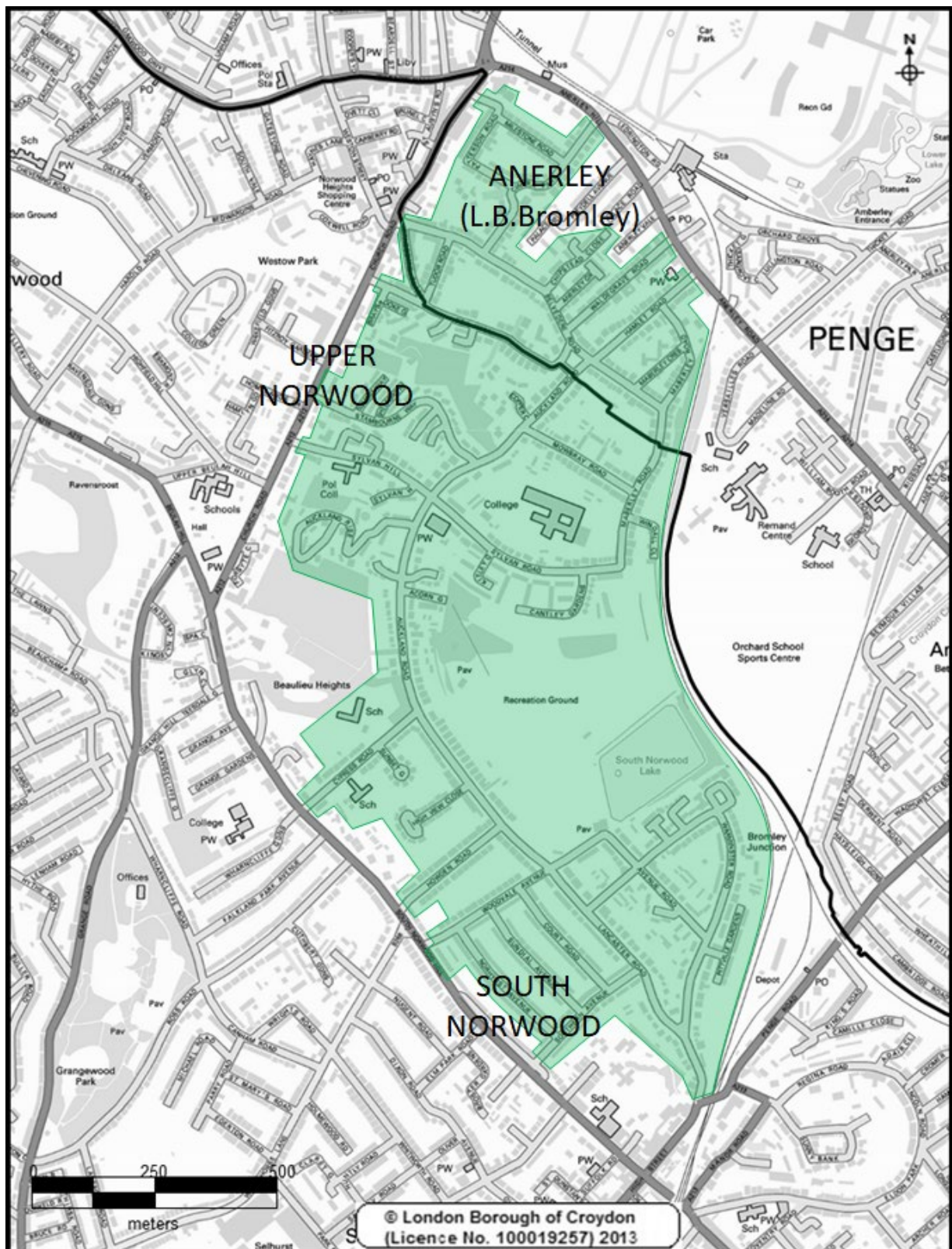
Email from Karen Proctor, Chairperson, United Cabbies Group, with attached letter and other attachments

The London Streetspace Plan Guidance for engagement & consultation on new Streetspace schemes, TfL, December 2020

APPENDICES TO THIS REPORT

1. Location of Exemption for Residents of Bromley and Croydon
2. Further Policy Background to the Temporary LTN
- 2(a) 'FOCUS ON: THE HEALTHY STREETS APPROACH' Mayor's Transport Strategy pages 36 and 37.
- 3 Further Background to the Evolution of the Temporary LTN
- 4 Analysis of Traffic Effects
- 4(a) PJA consultants' analysis
- 4(b) TfL analysis
- 5 Consultation
- 5(a) The consultation letter, street notices, plans and consultation questions
- 5(b) Open our Roads leaflet
- 5(c) Main consultation (non-business) response data set
- 5(d) Separate / Additional responses
 - 'Briefing to all Croydon Cllrs' Open Our Roads.
 - Open Our Roads 'The LTN's impact on congestion A data supplement for TMAC based on TfL's record of local bus journey times'
 - 'SHAPE BETTER STREETS' Submission by Crystal Palace and South Norwood Shape Better Streets
 - Letter from Ellie Reeves MP
- 5(e) Petitions
- 6 Further Information on Environmental Impacts Including Air Quality
- 7 Health Impacts Further Policy Information
- 8 Equality Analysis

Location of Exemption for Residents of Bromley and Croydon



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Further Policy Background to the Temporary LTN

Background

- 1.1 The Temporary LTN was implemented ‘reactively’ in stages, as a response to the Covid19 Pandemic. The Temporary LTN also has the potential to address matters of importance, including furthering the Mayor of London’s ‘Healthy Streets’ objective. The Temporary LTN is an example of where rapid action to respond to the Pandemic (asked of local authorities by the Secretary of State for Transport) meets policy (primarily in the form of the Mayor of London’s Transport Strategy and the Council’s statutory plan to implement that Strategy within the Borough). This appendix sets out the policy and Pandemic background to the Temporary LTN, and policy considerations to be had in determining its future.

Mayor of London’s Transport Strategy and the Croydon Local Implementation Plan

- 1.2 The Greater London Authority Act 1999 requires the Mayor of London to make a Transport Strategy. It requires each London local authority to make a plan (a Local Implementation Plan (LIP)) to implement the Strategy within its area. The Mayor has to approve each local authority’s LIP. To do so he must be satisfied that:
- a) the LIP is consistent with the transport strategy,
 - b) the proposals contained in the LIP are adequate to implement his Strategy, and
 - c) the timetable for implementing those proposals, and the date by which those proposals are to be implemented, are adequate for those purposes.

The Act ‘presumes’ the local authority will implement its LIP. If the Mayor considers a local authority to be failing or likely to fail to implement proposals in the LIP, the Act enables the Mayor to exercise the powers of the local authority to implement the LIP, and charge the local authority for doing so.

- 1.3 Section 159 of the Greater London Authority Act 1999 authorises Transport for London (TfL) to give financial assistance to any body (including local authorities) for expenditure incurred doing anything conducive to the provision of safe, integrated, efficient and economic transport. TfL has used this power to provide funding (‘LIP Funding’) to local authorities to support the implementation of their LIPs (with the exception of the first half of the current financial year).
- 1.4 Published in 2018, the Mayor’s Transport Strategy uses the ‘Healthy Streets Approach’ to prioritise human health in planning the city. The Mayor wishes to change London’s transport mix so the city works better for everyone. Three key themes are at the heart of the Strategy:

Healthy Streets and Healthy People

- creating streets and street networks that encourage walking, cycling and public transport use to reduce car dependency and the health problems it creates. The Strategy Vision is expressed as:

'Changing the transport mix

- *The success of London's future transport system relies upon reducing Londoners' dependency on cars in favour of increased walking, cycling and public transport use. This simple aim of a shift away from the car will help address many of London's health problems, by reducing inactivity and cleaning up the air. It will help to eliminate the blight of road danger. It will limit the city's contribution to climate change and help to develop attractive local environments. It will reconnect communities by creating places where people are prioritised over cars.....'*

Policy 1 of the Strategy states:

- *'The Mayor, through TfL and the boroughs, and working with stakeholders, will reduce Londoners' dependency on cars in favour of active, efficient and sustainable modes of travel, with the central aim for 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041.'*

1.5 On 15 October 2018, Cabinet approved the draft Croydon LIP (Decision ref: 81/18) core components, including draft LIP Objectives:

'1. Croydon will look to reduce the number of local in-borough car journeys by creating a transport network that prioritises walking, cycling and public transport.

2. Croydon will create healthy streets and neighbourhoods that encourage walking and cycling, where traffic volumes and speeds are low.'

The officers' report to Cabinet explained:

'4.9 The following programme areas and projects being proposed in Croydon's draft LIP3 are detailed below:

- *Healthy Schools Neighbourhoods – this will be a holistic approach to tackling the school run and encouraging walking and cycling to and from school whilst also helping all in the neighbourhood make local journeys on foot and by bike. It will include a package of measures such as school pedestrian zones, bikeability training, school safety schemes, neighbourhood traffic reduction schemes and behaviour change measures, all focused upon a cluster of schools in the same neighbourhood at the same time. Two areas that have been identified as having clusters of schools suitable for piloting the concept are Broad Green and Upper Norwood.'*

1.6 The consultation draft LIP was published in December 2018, containing proposals for *'Healthy Schools Neighbourhoods'* including at Upper Norwood where it was proposed *'Working with schools and the neighbouring communities to develop and deliver 'Healthy Schools Neighbourhoods' in which it is easier and more enjoyable for all to move around on foot and on bike'*.

1.7 The consultation on the draft LIP included an online questionnaire to which there were just under one thousand responses. In summary, the results where:

- 86% of respondents agreed that traffic levels are too high in Croydon.
- 44% of respondents agreed that traffic speeds are too high, with 37% disagreeing, 19% were not sure.
- Less than 5% agreed that the street environment encouraged them to cycle, whilst 77% disagreed, with over 52% disagreeing strongly.

- Over 55% agreed that children should be able to play in residential streets, 26% disagreeing.
- 74% stated that they are concerned about air quality.
- 72% agreed that traffic levels need to be lower.
- 40% agreed they would cycle more if conditions were right, with 43% disagreeing.
- 64% stated they would use public transport more if it was convenient.
- 61% would travel by car less if the alternatives were better.
- 78% agreed that less vehicles would mean better air quality.

1.8 The draft LIP proposed both ‘Low Traffic Neighbourhoods’ and ‘Healthy Schools Neighbourhoods’. The emphasis shifted onto the latter in the finalised LIP. The term ‘Low Traffic Neighbourhood’ contains a clear objective. It was felt that ‘Healthy Schools Neighbourhood’ was a more appropriate title if engaging with residents and other stakeholders with an open and receptive mind on issues and principles, before moving to objectives and then measures to achieve those objectives.

1.9 The short to medium term delivery objectives and proposals of the LIP include:

‘Work with local residents to reduce external through traffic in residential areas using the Low Traffic Neighbourhoods principles’,

and the LIP ‘Three-year indicative Programme of Investment’ explains:

‘3.8.3 Consultation and early engagement with key stakeholders identified that traffic dominance and the fear of road danger were key factors in why people in Croydon were not walking or cycling more often. Stakeholders highlighted particular concerns around speeding vehicles, dangerous driving and lack of priority for pedestrians or dedicated infrastructure for cyclists. Discussions with both internal and external stakeholders identified that the school run and associated vehicle trips were key causal factors for congestion and high car trips in the Borough, and should be an area of intervention that is prioritised.’

The LIP also includes a map of the ‘Croydon Cycle Route Network’ which includes ‘Existing secondary cycle routes’ amongst which are shown Auckland Road, Lancaster Road and Southern Avenue. These are on the old/historic London Cycle Network which the Council aims to keep signed within Croydon.

1.10 At its September 2019 meeting, Cabinet agreed (Decision ref:75/19) the submission to be made to TfL for 2020/21 funding to support implementation of the LIP. This included £300,000 for Healthy Schools Neighbourhoods pilot areas including Broad Green and Upper Norwood/Crystal Palace. Due to the Covid19 Pandemic and the resulting effect on TfL’s Finances, this LIP funding was not provided.

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'FOCUS ON: THE HEALTHY STREETS APPROACH' Mayor's Transport Strategy pages 36 and 37.

A new type of thinking is required to put into practice the theory of reducing car dependency and increasing active, efficient and sustainable travel. It requires an understanding of how Londoners interact with their city and what defines their quality of life, with particular attention to the streets where daily life plays out.

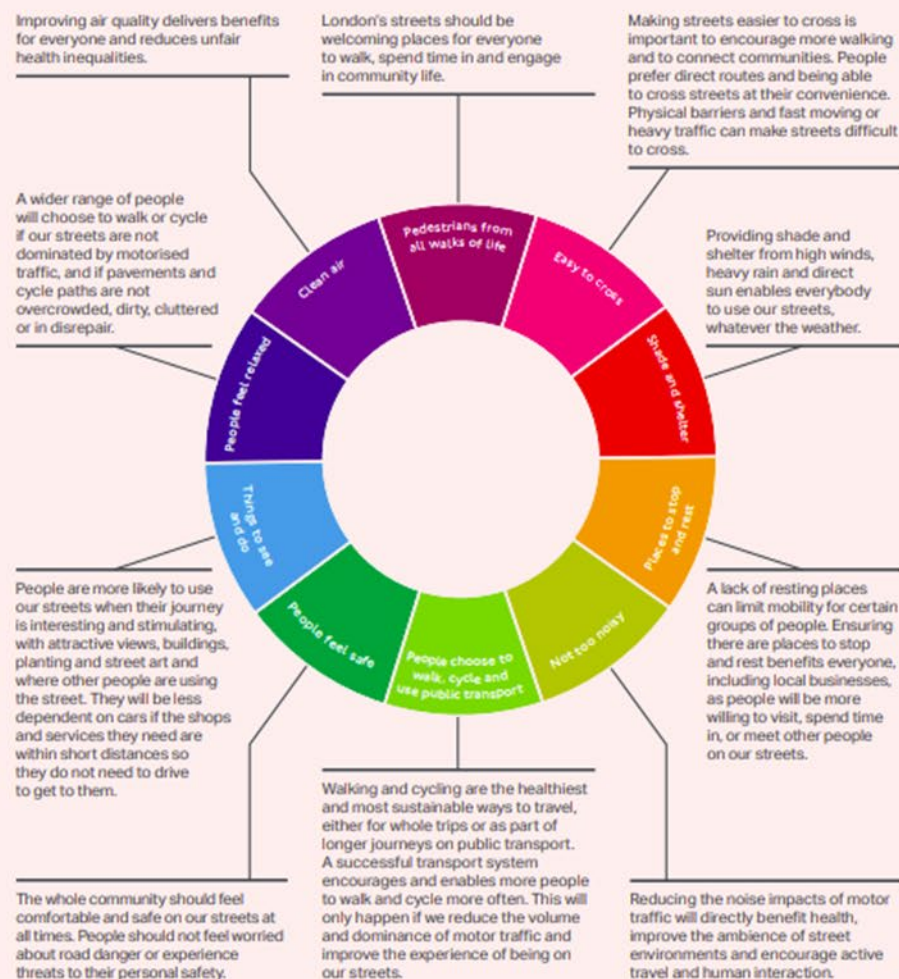
Whatever mode of transport Londoners use, the quality of the experience of using London's streets helps to define the quality of their journey. Eighty per cent of Londoners' trips are entirely on streets⁵, and all Tube and rail journeys rely on good street access to stations. A good street experience is therefore key to providing attractive public transport options of whatever mode.

The wider role streets play in virtually every aspect of London life also provides an enormous opportunity to use the Mayor's strategy for transport to improve Londoners' broader experience of their city. Streets are where Londoners spend their time and meet other people – they make up 80 per cent of the city's public space. They are places where people live, shop and work, where children play, where communities connect and where

businesses can thrive. The experience of being on London's streets is particularly important for older people, the very young, disabled people and those living on lower incomes, who disproportionately feel the negative impacts of living in a car-dependent city. Improving public transport and assisted transport services for older and disabled people will help a wider range of people to become less car dependent, and improving streets to increase active travel levels, reduce road danger, improve air quality and reconnect communities will be vital in reducing unfair health inequalities.

The Healthy Streets Approach provides the framework for putting human health and experience at the heart of planning the city. It uses ten evidence-based indicators, shown in Figure 3, to assess the experience of being on our streets. Good performance against each indicator means that individual streets are appealing places to walk, cycle and spend time. Improvements against all the indicators across the city's streets will radically transform the day-to-day experience of living in London, helping to fulfil this strategy's overall aim of creating a better city for more people to live and work in.

FIGURE 3: THE TEN HEALTHY STREETS INDICATORS



Source: Lucy Saunders

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Further Background to the Evolution of the Temporary LTN

The Covid19 Pandemic and the Evolution of the Temporary LTN

- 1.1 In the latter part of 2019, officers began engaging with, and via, Cypress School on the notion of a Healthy School Neighbourhood, including with residents of Southern Avenue.
- 1.2 On 18 January 2020, Steve Reed MP, The Croydon Council Cabinet Member for Environment, Transport and Regeneration, and the Council's Head of Transport, attended a public meeting called by Croydon Living Streets at St John the Evangelist Church at Sylvan Road/Auckland Road, to hear and discuss concerns about traffic issues in the area. The Head of Transport outlined the intended application of the 'Healthy Schools Neighbourhood' approach in the area around Auckland Road, with the Council carrying out surveys of traffic conditions, and engaging with residents and other stakeholders with a view to arriving at a consensus as to whether there are issues that needed to be addressed, and what those issues are, then seeking to achieve a consensus as to how those issues should be addressed.
- 1.3 Traffic surveys were in the process of being commissioned, but were then not progressed as the UK entered lockdown as a result of the Covid19 Pandemic on 26 March 2020 ('Lockdown'). The ability to obtain any meaningful data was not only impacted by the effects of Lockdown, but also by:
 - SGN having closed Auckland Road for emergency gas works, and
 - a car crashing into a shop on Church Road, and the temporary scaffolding placed in Church Road to support the damaged building, necessitating the closure of one side of Church Road and the introduction of temporary traffic signals.
- 1.4 In response to the Covid19 Pandemic, Croydon Council published its Croydon Streetspace webpages which included offering to work with residents to create low traffic streets to provide space for exercise etc.
- 1.5 On 2 May and 6 May 2020 respectively, Lancaster Road was closed at its junction with Southern Avenue and Warminster Road closed using emergency Notices under Section 14(2) of the Road Traffic Regulation Act 1984 and then by temporary traffic orders¹ made under S14(1) of the Act. The closure of Lancaster Road was made feasible by the SGN closure of Auckland Road. At the same time similar temporary closures were being introduced in nearby Albert Road and Holmesdale Road and in other streets in Croydon and across London.
- 1.6 On 6 May 2020 the Mayor of London published his Streetspace Plan for London² explaining that '*TfL, working with London's boroughs will make changes - unparalleled in a city London's size – to focus on three key areas*'. One of these is '*Reducing traffic on residential streets, creating low-traffic*

¹ <https://www.croydon.gov.uk/sites/default/files/articles/downloads/PN878.pdf>

² <https://www.london.gov.uk/press-releases/mayoral/mayors-bold-plan-will-overhaul-capitals-streets>

neighbourhoods right across London to enable more people to walk and cycle as part of their daily routine, as has happened during lockdown.'

The Mayor explained:

'The emergency measures included in our major strategic London Streetspace programme will help those who have to travel to work by fast-tracking the transformation of streets across our city. Many Londoners have rediscovered the joys of walking and cycling during lockdown and, by quickly and cheaply widening pavements, creating temporary cycle lanes and closing roads to through traffic we will enable millions more people to change the way they get around our city.'

TfL informed the London local authorities that funding previously intended to support their implementation of proposals within their LIPs, would not be provided, at least for the first half of 2020/21. Instead, funding would be made available with which to implement London Streetspace Plan measures.

- 1.7 On the same day, the Department for Transport (DfT) published statutory guidance 'Traffic Management Act 2004: Network Management in Response to COVID-19' (updated on 23 May 2020 and again on 13 November)³. In his foreword to the Guidance of 23 May, the Secretary of State for Transport explained that:

'..as people go back to work we need millions more people to cycle. Over 40% of urban journeys are under 2 miles – perfectly suited to walking and cycling. Active travel is affordable, delivers significant health benefits, has been shown to improve wellbeing, mitigates congestion, improves air quality and has no carbon emissions at the point of use. Towns and cities based around active travel will have happier and healthier citizens as well as lasting local economic benefits. Central government therefore expects local authorities to make significant changes to their road layouts to give more space to cyclists and pedestrians.'

The Guidance stated:

'Reallocating road space: measures

Local authorities in areas with high levels of public transport use should take measures to reallocate road space to people walking and cycling, both to encourage active travel and to enable social distancing during restart..... Local authorities where public transport use is low should be considering all possible measures.

(23rd May and 13th November)

³ <https://www.gov.uk/government/publications/reallocating-road-space-in-response-to-covid-19-statutory-guidance-for-local-authorities/traffic-management-act-2004-network-management-in-response-to-covid-19>

Measures should be taken as swiftly as possible, and in any event within weeks, given the urgent need to change travel habits before the restart takes full effect.

None of these measures are new – they are interventions that are a standard part of the traffic management toolkit, but a step-change in their roll-out is needed to ensure a green restart. They include:

-
- *Modal filters (also known as filtered permeability); closing roads to motor traffic, for example by using planters or large barriers. Often used in residential areas, this can create neighbourhoods that are low-traffic or traffic free, creating a more pleasant environment that encourages people to walk and cycle, and improving safety.'*

- 1.8 The Traffic Orders Procedure (Coronavirus) (Amendment) (England) Regulations 2020 Statutory Instrument No 536⁴ was also made on 23rd May 2020. The 'Traffic Regulation Orders: Guidance on the Traffic Orders Procedure (Coronavirus)'⁵ published 29 June 2020 confirmed that:

'The amendments included in the SI are intended to speed up the time it takes for traffic authorities to make the traffic orders that are needed to put in place measures to deal with the effects of coronavirus, including the need to encourage social distancing and promote active travel, for example, walking and cycling'.

explaining that:

"Purposes connected to coronavirus" may include measures that are made as a response to, or with the intention of mitigating risks related to, the coronavirus pandemic. For example:

-
- *restricting certain roads to certain types of traffic'*

and

'Temporary orders can be in place for up to 6 months for footpaths, bridleways, restricted byways, cycle tracks or byways open to all traffic, and 18 months for all other orders.'

- 1.9 At the beginning of June, SGN announced that it was finishing its works and would be reopening Auckland Road. A swift decision was needed as to whether to re-open Lancaster Road (and hence also Southern Avenue) to through traffic, or to keep Auckland Road closed to through motor traffic, (enabling the 'protection' offered to Southern Avenue and other streets by virtue of the Lancaster Road closure, to continue). Auckland Road was closed by means of

⁴ <https://www.legislation.gov.uk/uksi/2020/536/contents/made>

⁵ <https://www.gov.uk/government/publications/making-traffic-regulation-orders-during-coronavirus-covid-19/traffic-regulation-orders-guidance-on-the-traffic-orders-procedure-coronavirus>

an emergency Notice at the location of the SGN closure on 06 June moving to S14 Order on 03 July 2020⁶ .

- 1.10 Residents of Stambourne Way and Sylvan Hill experienced significantly increased traffic through their streets whilst SGN had closed Auckland Road and the scaffolding was in Church Road. They undertook their own traffic surveys to quantify the magnitude of impact they were experiencing and requested a meeting with the Cabinet Member for Transport. The meeting was held via Zoom and the Cabinet Member and Head of Transport listened to the experiences and concerns of the residents.
- 1.11 On 3rd August 2020 the Council temporarily closed Stambourne Way, Sylvan Hill and Fox Hill to through motor traffic, initially by Notice published under S14 of the Road Traffic Regulation Act 1984 ('1984 Act') and then by Temporary Traffic Order⁷ made under the same section of the 1984 Act. London Borough of Bromley Council ('Bromley Council') was given notice on 28 July 2020 of the intention to implement the temporary closures. At the same time Croydon Council officers reached out to Bromley Council officers to work to implement mitigation in streets in Bromley if it was felt to be needed. In parallel, the temporary closure of Auckland Road was replaced by a 'bus gate' (permitting the passage of buses and cycles) enforced by camera. As these temporary measures were being implemented, the term 'Crystal Palace and South Norwood Temporary Low Traffic Neighbourhood' was increasingly being used. The Temporary LTN was given its own webpage when the Council revamped its Croydon Streetspace section of its website in September.

Croydon Covid19 Response Streetspace 'Strategy'

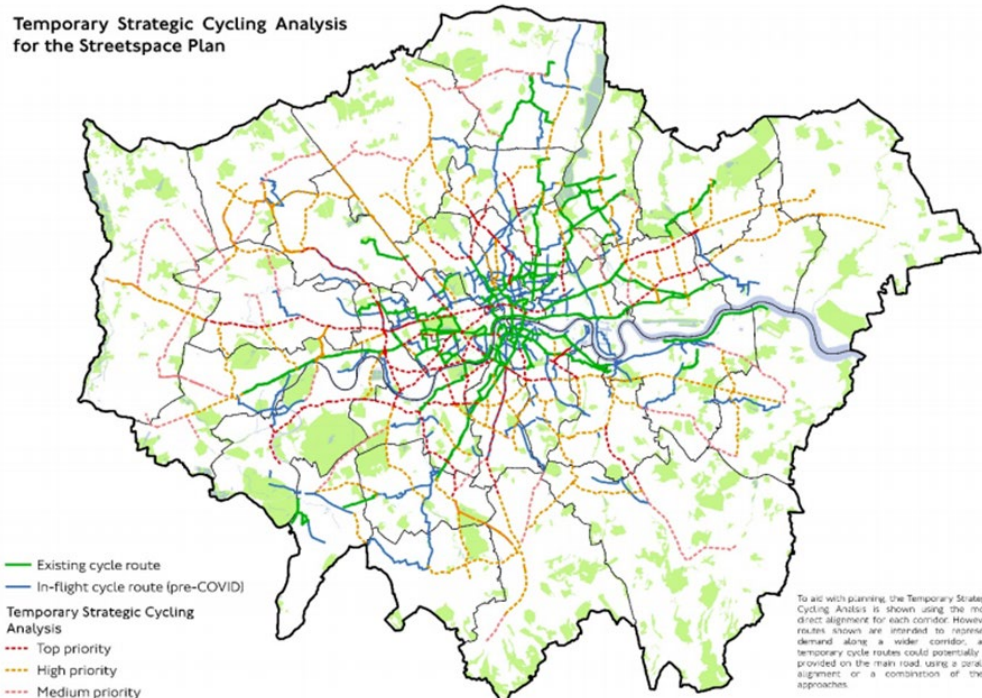
- 1.12 The measures introduced by Croydon Council following publication of the Streetspace Plan for London (such as the temporary closures of Holmesdale Road, Albert Road and Lancaster Road) were initially reactive. They did however become part of a 'rapid response strategy'. In support of the Streetspace Plan for London, TfL published a series of data sets to aid local authority prioritisation of locations to focus action and particular types of measures. These included the '**Temporary Strategic Cycling Analysis**'⁸ which identified a series of priority cycling corridors in Croydon. The one 'Top Priority' corridor in Croydon runs from Crystal Palace and South Norwood towards the Town Centre. The Temporary Strategic Cycling Analysis document explains that TfL has revised its Strategic Cycling Analysis in line with the objectives of the Streetspace Plan to provide an evidence-led blueprint for the Temporary Strategic Cycle Network, called the Temporary Strategic Cycling Analysis. *'TfL will prioritise activity in line with this framework, and boroughs are strongly encouraged to bring forward proposals that align with priority corridors identified in the Temporary SCA.'*

⁶ <https://www.croydon.gov.uk/sites/default/files/articles/downloads/PN912.pdf> .

⁷ <https://www.croydon.gov.uk/sites/default/files/articles/downloads/PN999.pdf>

⁸ <http://content.tfl.gov.uk/lsp-app-four-analysis-temp-sca-v1.pdf>

Figure 1. TfL Temporary SCA Priority Cycling Corridors
 Figure 4.4: Temporary Strategic Cycling Analysis for Streetspace Plan



‘Analysis on Low Traffic Neighbourhoods’⁹ which indicated areas for potential Low Traffic neighbourhoods; these being predominantly in the north of the Borough of Croydon. The document explains that the Analysis divided London into a series of residential neighbourhoods. These act primarily as a common geographic basis for comparing data across different areas of London. This analysis should help boroughs to:

- Understand the challenges schemes may seek to address
- Gauge the potential for LTNs in their area
- Identify different options and prioritise between them
- Provide a basis for evidence-led discussions with stakeholders

The Neighbourhoods are allocated two scores, a traffic filtering score and a general score. These are combined on the map in Figure two below. The traffic filtering score is based on:

- Modelled through traffic
- Recorded walking and cycling casualties
- Modelled potential cycling flows

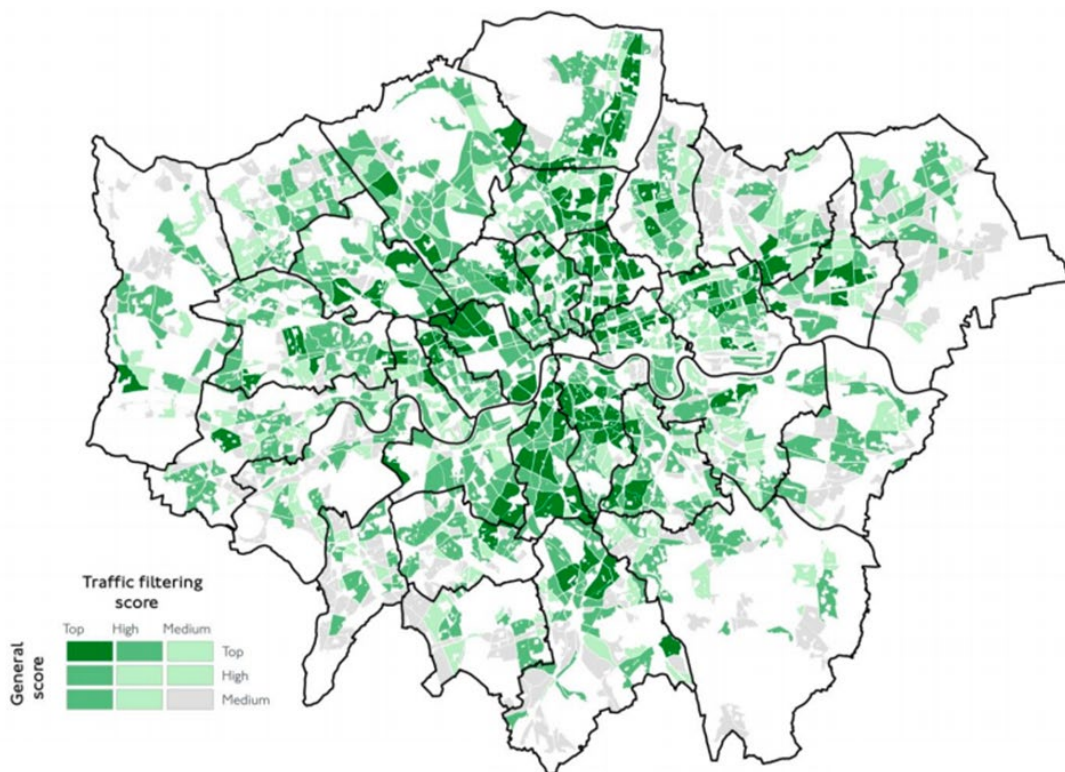
The general score is based on:

- The social distancing challenge (pavement widths and population density)
- The number of schools
- Levels of deprivation
- Total population and low car ownership

Resulting in the ‘SNA overview map’, intended to show a snapshot of the potential for low traffic neighbourhoods (LTNs) across London, and where the greatest need may be.

⁹ <http://content.tfl.gov.uk/lsp-app-six-b-strategic-neighbourhoods-analysis-v1.pdf>

Figure 2. SNA overview map

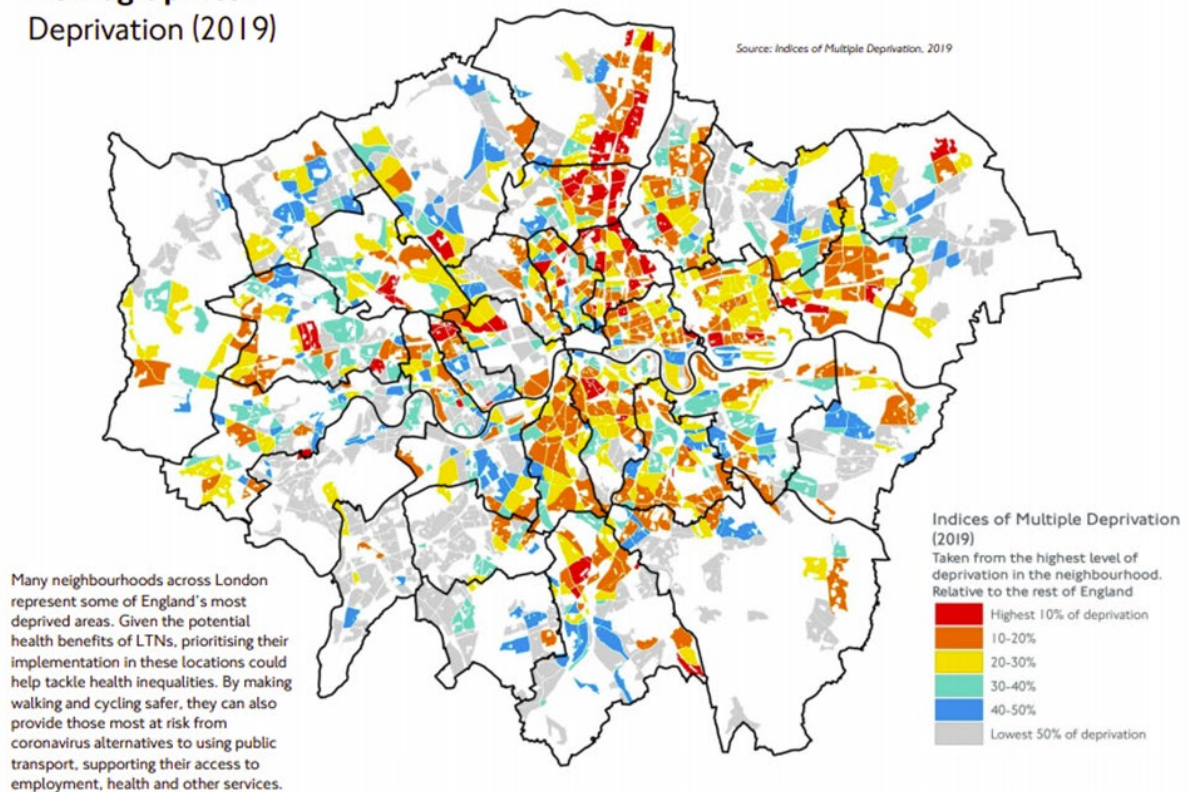


The Analysis document separately maps each of the factors incorporated into the Analysis, eg Deprivation

Figure 3. SNA Mapping of Deprivation

Demographics:

Deprivation (2019)



- 1.13 The Croydon Council commissioned 'Cycling Skills Level Audit' (2019) was also employed. This study looked at every street in the Borough, classifying the level of cycling ability needed to cycle within each street. The majority of streets are suitable for cycling by beginners, having low traffic levels / low traffic speeds. Consequently they are also places where it is relatively safe and pleasant to walk. However these tend not to be linked together into meaningful routes. The streets focused on (when developing the Covid response Streetspace 'Strategy') were those in 20mph limit areas, but which require advanced cycling skills due largely to the speed and volume of traffic. These streets are generally unclassified roads that are being used by drivers making longer distance through journeys. Many would have been 'access' streets in the old Road Hierarchy, but are acting as 'distributor roads' as they make useful connecting routes for drivers. These routes can do the same for people on bikes and people walking, if the traffic environment permits / encourages it. As a consequence of the volume and speed of traffic in these streets, many of them are where residents requested action be taken to address both.
- 1.14 The proposed programme resulting from / responding to this 'strategy' looked to create cycling and walking routes away from the busiest street corridors, where possible. On these busy corridors, the competition for space is greatest. It is also where the district and local centres tend to sit and where space to facilitate social distancing within the centres was a priority. They are also where vulnerable road user casualties are concentrated. The 'strategy' envisaged Auckland Road, Lancaster Road and Southern Avenue being part of a strategic cycling and walking route picking up the Top Priority Cycle Corridor identified by TfL through its 'Temporary Strategic Cycling Analysis', connecting Crystal Palace to the Croydon Town Centre via Holmesdale Road.
- 1.15 Two requests were submitted to TfL for Streetspace Plan for London funding. The first was for the initial reactive measures. The second and much larger request was predominantly for funding to implement the 'rapid response strategy'. This second funding request took the combined bid over £1m and hence the requests were the subject of a Key Decision (Decision ref: 0120PL)¹⁰

¹⁰ <https://www.croydon.gov.uk/sites/default/files/0120PL%20Decision%20Notice.pdf>

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Analysis of Traffic Effects

The Effects Arising from the Implementation of the Temporary LTN

- 1.1. As the Covid19 Pandemic worsened, and the UK was entering the first lockdown, traffic surveys which were in the process of being commissioned, were not pursued. As the temporary LTN grew in stages from South Norwood towards Crystal Palace, officers began to consider how the effects of the temporary measure might be assessed. PJA consultants were commissioned to use 'Floow' data (derived from in vehicle telematics equipment) and other data to paint a picture of the traffic effects arising whilst the temporary measures have been in place. The 'Floow' data can only paint a picture in broad brush strokes.
- 1.2 Because of how the 'Floow' data are derived, they are collected over extended time periods. 'Floow' data for the period 'before the LTN', was taken from February 2019 to March 2019. This was before any temporary measures went into Lancaster Road and was also before the temporary traffic signals were installed in Church Road. The data used to assess the effects 'during the LTN' were drawn from the period June to November. This period starts prior to the measures being placed in Sylvan Hill, Stambourne Way and Fox Hill (and hence the results have to be approached with caution). It also covered the period when the temporary traffic signals were in Church Road, severely constraining the capacity of the A212 / A214. It was also 'During Covid Pandemic' when traffic levels dropped sharply at the start of the first Lockdown but from April began to increase again.
- 1.3 The Floow data were used to assess the number of vehicles using streets within the Temporary LTN to pass through the LTN without stopping at a destination within the LTN, or starting the journey in the LTN. The image below is taken from the PJA report. The darker colours indicate the higher through traffic flows. The figures are vehicles per hour in each direction, averaged over a 12hr weekday day. The pattern it shows pre Temporary LTN reveal high flows in Hamlet Road and Auckland (north) with some of this flow dissipating via Sylvan Hill, Stambourne Way and Fox Hill. Hence the flow further south in Auckland Road is lessened somewhat. The image does indicate high traffic flows in Lancaster Road, (particularly the southern section, and in Southern Avenue).

Figure 1. Average Weekday Through Traffic Before the Temporary LTN



4.4 PJA compared the:

- daily traffic flows; and
- traffic flow in the morning and evening peaks averaged over the three hours of each peak

before and 'during' the Temporary LTN. As the 'During LTN' data were collected from June, but Sylvan Hill, Stambourne Way and Fox Hill were not closed until August, the 'During LTN' shows a considerable number of through vehicles using these streets. (The figures will have been further heightened due to traffic using these streets between June and August to avoid the queues in Church Road A212 and elsewhere, arising from the scaffolding and temporary traffic signals in Church Road) Consequently, it is likely over representing the flow in Auckland Road north 'during the Temporary LTN', and under representing the flow in Belvedere Road, Cintra Park, Patterson Road and Milestone Road in the Borough of Bromley. The consult report refers to 'an anomaly' appearing on Hamlet Road. However, the picture painted here is as one might expect. Hamlet Road would have received increased flows between June and July from traffic using Sylvan Hill and Stambourne Way to avoid the queuing in Church Road. After the closure of Sylvan Hill, Stambourne Way and Fox Hill, Hamlet Road would have continued to carry traffic seeking to avoid the historic que on Annerley Hill, but which was then using Belvedere and Milestone etc. Roads. The picture is probably most accurately painted south of the temporary closure / bus gate in Auckland Road.

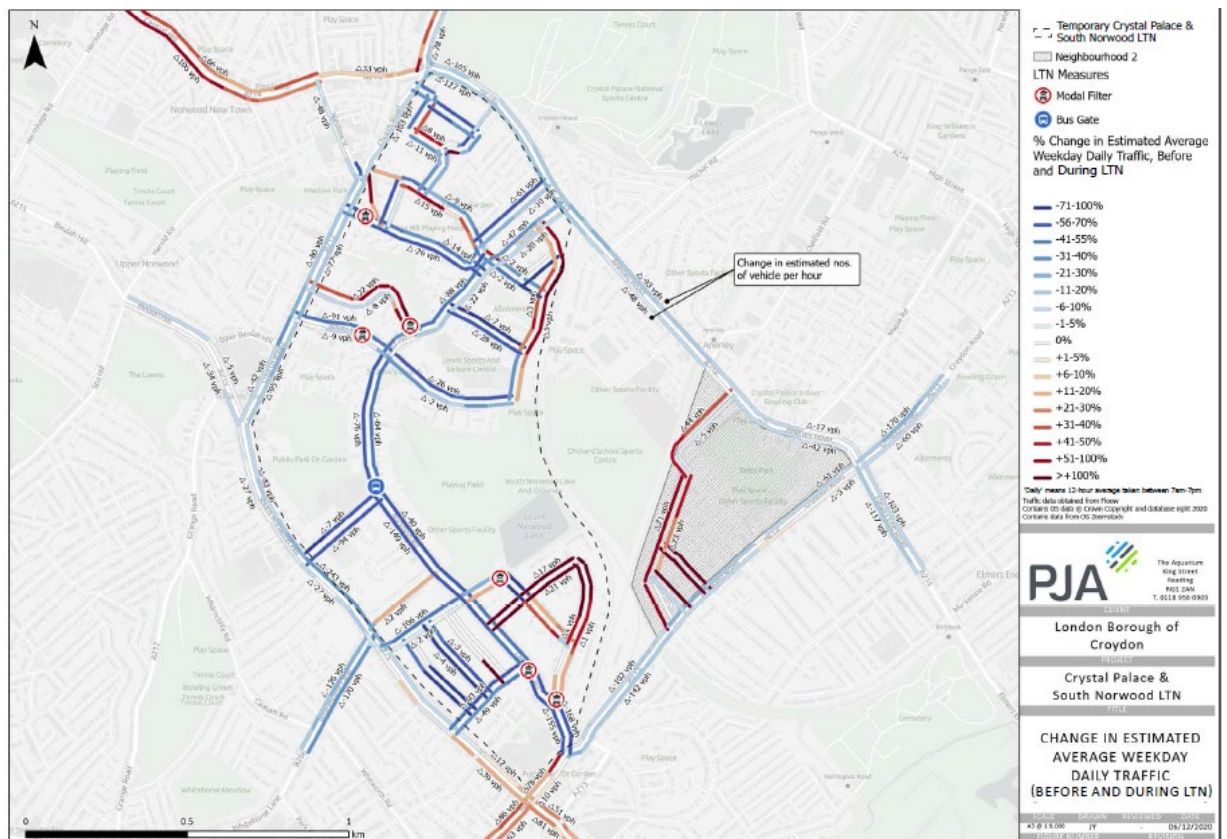
The PJA report includes a table comparison of flow in the peaks before and during the Temp LTN, on 'Roads commonly used by through traffic'. The likes of Belvedere and Milestone etc. Roads are not included in the table as these were previously not 'commonly used by through traffic'

Table 1 Comparison of through traffic flows 'Before' and 'During' the Temporary LTN

Roads commonly used by through traffic within LTN (excluding roads with anomaly)		AM Peak		PM Peak	
		Before (vph)	During (vph)	Before (vph)	During (vph)
Waldegrave Road	NB	105	8	96	15
Cintra Park-Tudor Road	NB	84	4	29	0
Stambourne Way	WB	37	12	99	33
	EB	90	0	20	12
Auckland Road (Sylvan Hill-Cypress Road)	NB	96	8	132	20
	SB	70	24	155	37
Cypress Road	WB	206	12	87	37
Auckland Road (Cypress Road-Woodvale Avenue)	NB	283	8	158	28
	SB	38	12	88	5
	EB	250	4	201	6
Woodvale Avenue	WB	20	8	96	30
	EB	55	4	201	6
Southern Avenue	WB	20	8	96	26
	NB	263	4	182	9
Lancaster Road	SB	111	4	364	7

- 1.5 The 'Flow' data analysis suggests that during weekdays average traffic volume reduced in most streets including on the A Roads surrounding the LTN during the period of the LTN, compared with before (with some important exceptions). The blue in the image below indicates reductions, the red an increase. (the 'red' / increase indicated in Stambourne Way will be arising from vehicles diverting through it between June and August to avoid the effects of the scaffolding and temporary signals is Church Road)

Figure 2 Change in Estimated Average Weekday Traffic Flow



- 1.6 In the morning and evening peak periods, some links on the surrounding 'A' Roads experienced an increase in traffic whilst others a decrease 'During Temporary LTN' compared with before. As the daily average was in the large part lower 'during the Temporary LTN' compared to before, it is suggested that the increase in traffic on some links during the peaks was perhaps arising from people choosing the car over public transport for the commute. The reason for some links experiencing a decrease may have been due to the 'during covid' car based commuter journey pattern being different to that pre-covid. People would probably also have adjusted their journeys in response to the delays caused by the temporary signals in Church Road.
- 1.7 The 'Flow' data indicate that before the LTN period there was a flow of through traffic from Church Road via Fox Hill and Cintra Park (Bromley) to Anerley in the morning peak which was on a par with the flow from Auckland Road via Sylvan Hill to Church Road. This stopped 'During the Temporary LTN', to be replaced by vehicles using Belvedere Road, Cintra Park, Patterson Road and Milestone Road. This is a movement repeatedly drawn to the attention of Council officers, Members and others by the residents of these streets. The magnitude of this movement is understated in the data, due to the period of the 'During LTN' starting in June, when Fox Hill, Stambourne Way and Sylvan Hill were still open to through traffic (until August).

- 1.8 Bromley Council officers requested that the study also look at Selby Road and Seymour Villas in Bromley, a longstanding route (through in some places very narrow streets) used by drivers seeking to avoid the queues at the junction of Annerley Road A214 and Croydon Road A213 (When the DfT last surveyed traffic in 2009 at Seymour Villas to estimate annual average daily traffic flows the estimate was 1600 vehicles eastbound and 1616 westbound). The 'Flow' data analysis indicates an increase in traffic using these and a couple of connecting streets when traffic on other streets had fallen.
- 1.9 PJA supplement the Flow data with bus journey time data provided by TfL. They use both data sets to paint the picture of change at section 3.5 ('Discussion') of the report and draw their conclusions at section 4. They also make recommendations at section 4, including that the Council considers monitoring the effects of the temporary LTN comprehensively, with ATCs after the traffic flows have returned to normal. The Appendix to the report summarises the results of Traffic surveys undertaken after the scaffolding was removed from Church Road but still in second Lockdown, for comparison purposes during the recommended experiment / trial LTN. The surveys are however providing some useful indications here and now as they are beginning to be analysed.
- 1.10 Traffic entering and exiting Milestone Road at its junction with Church Road was recorded on weekdays (24 hours) at the end of November / beginning of December. The average daily flows recorded in Milestone Road were 1011 vehicles per day northbound and 289 southbound (the latter is assumed not to be traffic travelling through the area/rather it has a destination in the Temporary LTN). The DfT count traffic on one street within the Temporary LTN, namely on Stambourne Way, PJA estimated annual daily traffic flow in Stambourne Way, based on the DfT 2019 count was 1768 total vehicles. This provides a useful comparison. However, making the comparison is not intended to suggest that the level of traffic currently using Milestone Road and the streets connecting to it, is acceptable.
- 1.11 TfL has provided its own monitoring analysis at Appendix 4(b). The TfL analysis relies primarily on bus journey time data provided by the iBus system. These are the same data used by PJA consultants as part of their analysis, except the TfL analysis is more recent and so includes data gathered after the removal of the traffic signals from Church Road.

Cycling and Walking in Auckland Road

- 1.13 The Council commissioned surveys including of pedestrians and cyclists in Auckland Road at Cypress Road carried out over three separate days:
- | | | | | | | |
|----------|------------------|-----------|---------|-----|------------------------|------------|
| Saturday | 28 th | November, | weather | was | mainly | overcast |
| Tuesday | 1 st | December, | weather | was | mainly | bright |
| Thursday | 3 rd | December, | weather | saw | light rain and drizzle | throughout |

The Open Our Roads group also carried out a cycling survey over two days, 14th and 15th September, with both surveys covering the hours 07:00 – 10:00.

Cycling Survey

The survey undertaken by residents at the Cypress Road junction on the weekday (the 14th) recorded a total of 49 cycling journeys between 7am and 10am. The weather on the day of the survey was bright and sunny.

The survey carried out by the Council, over the same 7am to 10 period saw:

1st December 37 journeys

3rd December 26 journeys

The downturn in cycling at this time can be considered to be as a consequence of darker mornings, colder weather and, particularly on 3rd December, rain. There is also the effect of the second lockdown which may have meant that fewer people had a need to travel at that time.

Pedestrian Survey

The pedestrian count shows that the presence of two local schools within the area has an effect on the numbers of children and teenagers walking through the area during the week, their numbers dropped significantly at the weekend. It should also be noted that the poor weather on 3rd also saw a significant drop in the number of pedestrians (across all classes) accessing the local area.

Temporary Crystal Palace and South Norwood Low Traffic Neighbourhood

Study Report

December 2020



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www.croydon.gov.uk

Version Control and Approval

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1.0	12/11/2020	JY	JMQ	JMQ
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2.2	9/12/2020	JY	-	-
2.3	11/12/2020	JY	JMQ, BC	JMQ
2.4	14/12/2020	JY	JMQ	JMQ
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2.6	21/12/2020	JY	-	-

Prepared for

London Borough of Croydon

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3	TRAFFIC ANALYSIS	31
4	CONCLUSIONS	81
	APPENDIX	85

1 INTRODUCTION

1 INTRODUCTION

Background

London Borough of Croydon (LB Croydon) has introduced a series of Temporary Low Traffic Neighbourhood (LTN) measures in the Crystal Palace and South Norwood area. The temporary LTN measures are intended to provide safe spaces for people to walk, cycle, exercise and socially distance, and have been developed in response to the Department for Transport's (DfT) Emergency Active Travel Fund (EATF) criteria. It is worth noting that there are historical issues regarding vehicle speeds and volumes on residential streets in the area which predate the introduction of the temporary LTN measures.

PJA has been commissioned by LB Croydon to complete a baseline analysis of the neighbourhood, and to undertake traffic analyses to review the effects of the temporary scheme.

Temporary LTN measures

LB Croydon has introduced seven temporary LTN measures in the area in stages through Temporary Traffic Management Orders. The extents of the temporary LTN are shown opposite. Whilst there is no formal boundary to the temporary LTN, the notional 'neighbourhood' spans across the boundary with the London Borough of Bromley (LB Bromley). The temporary LTN covers a large

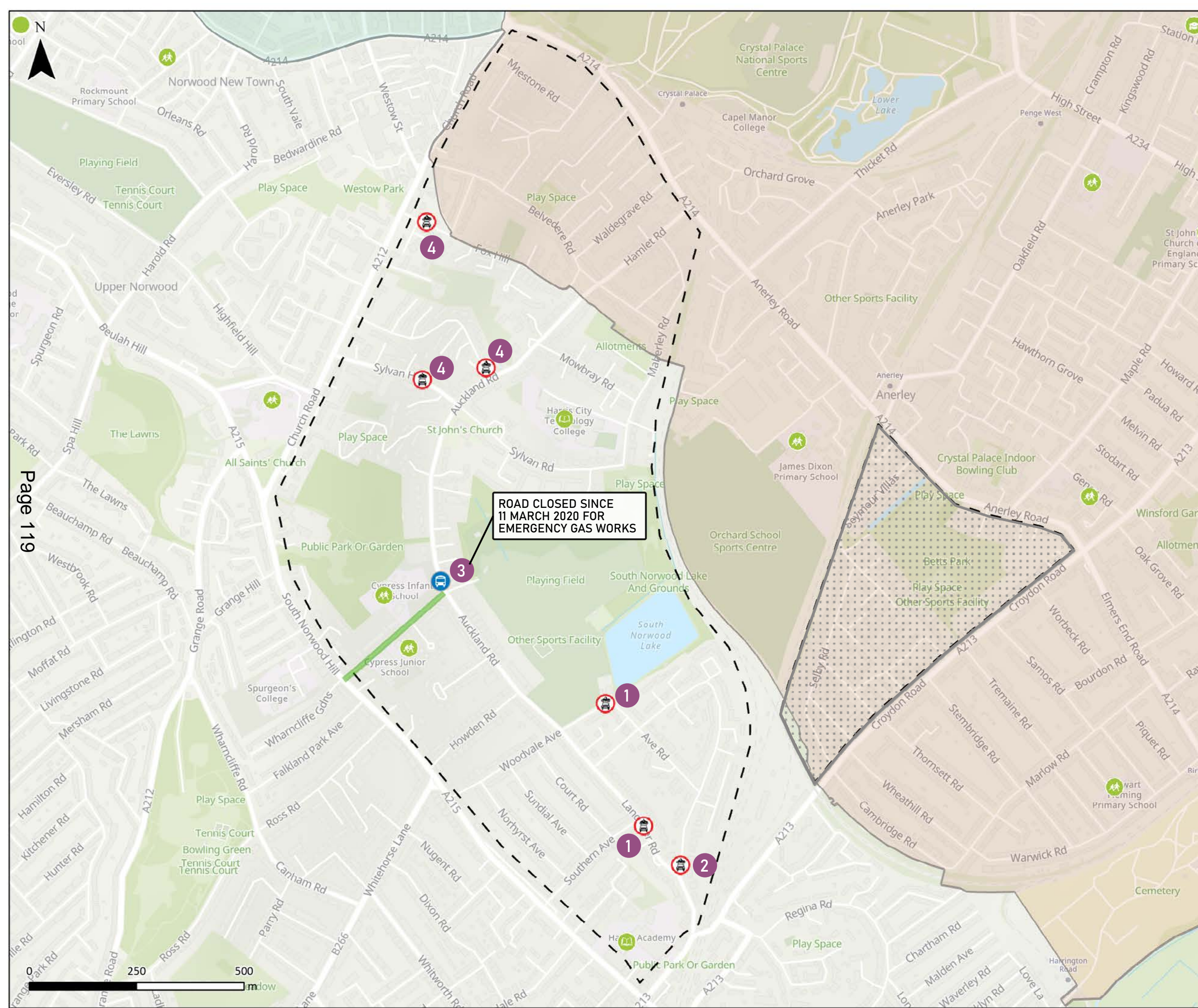
area bounded by main A Roads and the railway line.

Six of these measures are 'modal filters' which prohibit motor vehicle access, but maintain through access for pedestrians and cyclists. The seventh location uses a bus gate which has the same operation as the other modal filters however through access is provided for bus services. The location of the measures is indicated on the plan opposite. A short timeline also explains the development of the temporary LTN and when the different measures were installed. Photos of the temporary LTN measures and more information on the rationale of the scheme are provided overleaf.

While we have made every effort to undertake an extensive review on the traffic effects associated with the temporary LTN, there are limitations. The general reduction in traffic due to COVID-19, coupled with a series of road works conducted in a close proximity to the temporary LTN, has posed difficulties in measuring and deducing effects arising directly from the scheme. We have also taken these factors into consideration when undertaking the analyses.

Temporary LTN Timeline

- 1 2 May 2020**
Modal filters placed on (TMO PN874):
 - Junction of Lancaster Road/ Southern Avenue
 - Junction of Woodvale Avenue/ Avenue Road
- 2 9 May 2020**
Modal filter placed at (TMO PN878):
 - Junction of Lancaster Road/ Warminster Road
- 3 7 June 2020**
Modal filter placed on Auckland Road by Cypress Road (This was upgraded to a Bus Gate on 15/07/20 (TMO PN912), and with camera enforcement on 31/07/20 July (TMO PN928).
The road was closed by Southern Gas Network for emergency gas works since 11 March 2020.
- 4 3 August 2020**
Modal filters placed on (TMO PN999):
 - Stambourne Way
 - Sylvan Hill
 - Fox Hill



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Borough Boundary

LB Bromley

LB Lambeth

School Street scheme
on Cypress Road
(since Feb 2020)

LTN Measures

Modal filter

Bus Gate

Schools

Primary

Secondary

Independent/ Other

College and University

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study
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Crystal Palace &
South Norwood LTN

TITLE

TEMPORARY LTN
SCHEME OVERVIEW

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,000	JY	JMQ	20/11/2020
FIGURE NUMBER	REVISION		
8			

Rationale for Low Traffic Neighbourhoods

Low Traffic Neighbourhoods (LTN) aim to reduce the impact of through vehicular traffic upon streets. Although coined as Low Traffic ‘Neighbourhoods’ which implies a residential focus, the approach can be applied to any area where through traffic has an adverse effect on other users. The main output of LTNs is reduced through traffic volumes, however the approach and its benefits are significantly wider ranging than traffic management. The additional benefits include improved air and noise quality, improved access to open spaces and parks, and improved road safety.

Low Traffic Neighbourhood is an increasingly popular method for encouraging increased levels of walking and cycling through the creation of low traffic environments. The Department for Transport’s recently published ‘Cycle Infrastructure Design – Local Transport Note 1/20’ also makes specific reference to the use of low-traffic environments.

Rationale for EATF Streetspace Programme

At the start of the first Lockdown in Spring 2020, LB Croydon introduced a series of temporary LTN measures to stop through traffic using certain streets.

Temporary LTNs have been installed by many London Boroughs as part of their EATF responses, including Brent, Camden, Enfield, Lambeth, Hackney, and Southwark. As with LB Croydon, these authorities are now monitoring the effects of the temporary measures and reviewing the next steps, which include removal or options for more permanent arrangements.





Auckland Road



Pedestrian and Cycle Zone as part of the existing Cypress Road school street scheme



Stambourne Way modal filter



Advanced warning sign provided regarding bus gate on Auckland Road



Advanced warning sign provided regarding road closure on Sylvan Hill



Auckland Road bus gate

2 BASELINE ANALYSIS

2.1 TRIP ATTRACTORS

This chapter presents our desk-based review of the baseline conditions of the neighbourhood, which covers the following topics:

- Trip attractors
- Public transport and walking
- Cycle network
- Car ownership
- Pedestrian and cyclist casualties
- Schools within the temporary LTN and pupils' home location
- Air quality

TRIP ATTRACTORS

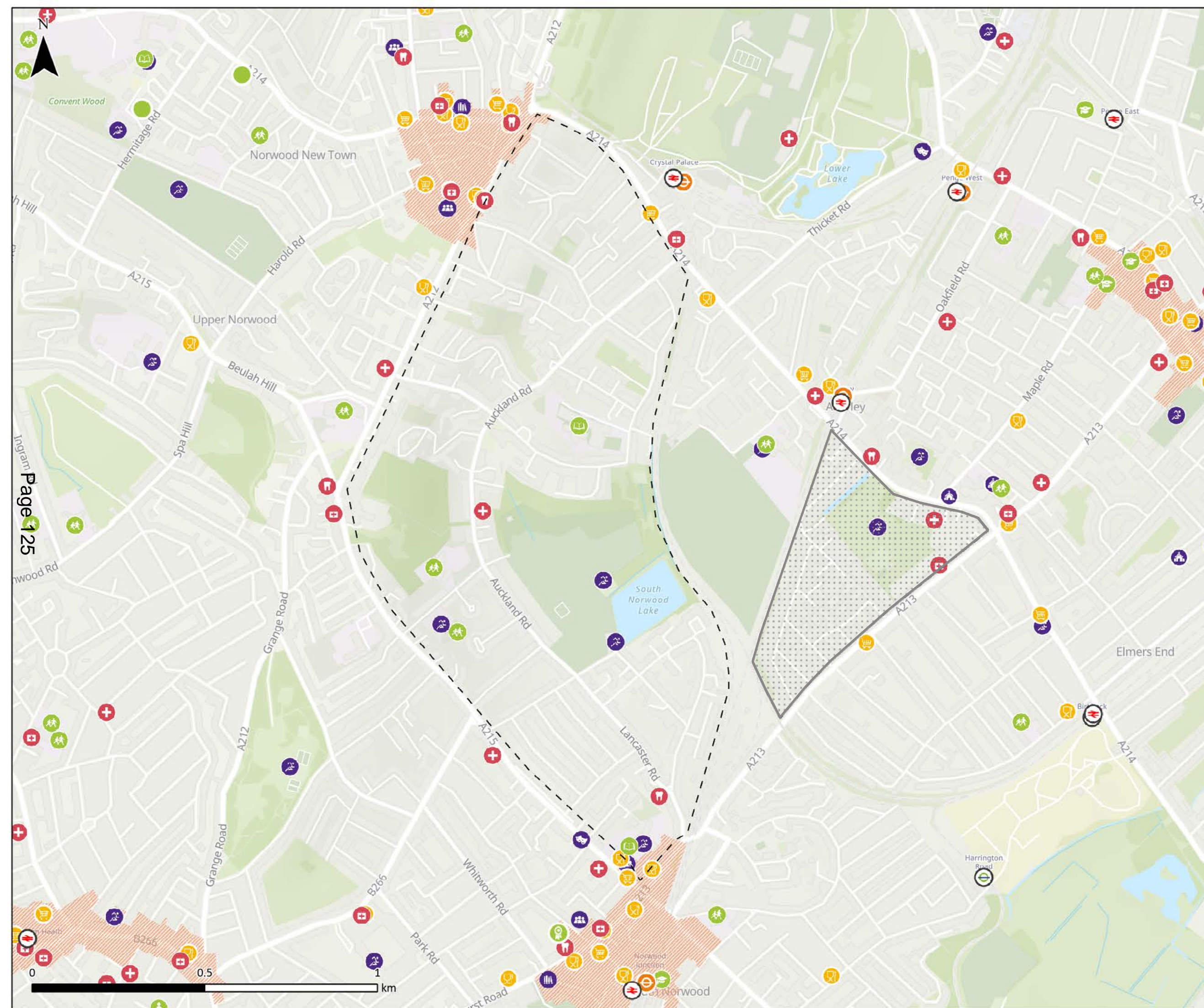
The plan opposite summarises the key trip attractors in the vicinity of the Temporary Crystal Palace and South Norwood LTN. It is important to review the distribution of these attractors to help understand movement patterns within the LTN.

There is a high density of trip attractors located at both the northern and southern edges of the LTN. Both of these areas, Upper Norwood and South Norwood, are recognised as District Centres in the London Plan.

There are restaurants, retail points,

pharmacies, dentists, community centres and libraries at both locations.

Within the area of the temporary LTN, there is a GP surgery, a dentist, three sport facilities, three schools and two large open spaces. With a well-connected residential street network, there is convenient access to amenities, schools and other facilities in and around the temporary LTN.



- Temporary Crystal Palace & South Norwood LTN
- Neighbourhood 2*
- National Rail
- Overground
- Tramlink
- Healthcare Facilities
 - Hospital
 - General Practice
 - Pharmacy
 - Dentist
- Schools
 - Nursery
 - Primary
 - Secondary
 - Sixth Form
 - Independent/ Other
 - College and University
- Amenities
 - Supermarket
 - Pub
 - Library
 - Community Centre
 - Sport Facility
 - Theatre
 - Place of Worship
 - District Centre (London Plan)

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

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Crystal Palace & South Norwood LTN

TITLE

TRIP GENERATORS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:10,000	JY	-	10/11/2020
FIGURE NUMBER	REVISION		
2	-		

2.2 SCHOOLS

The opposite plan identifies both the location of schools in the temporary LTN as well as the home locations of most of their pupils. This helps to understand the impact of the schools in the wider area and the key routes that pupils are likely to use to access the schools. There are three schools in the temporary LTN:

- Cypress Primary School (747 pupils)
(with two sites on Cypress Road)
- Harris Academy South Norwood (1572 pupils)
- Harris City Academy Crystal Palace (1209 pupils)

Despite Harris Academy South Norwood is located within the temporary LTN boundary, it is on a cul-de-sac that can only be accessed from South Norwood Hill.

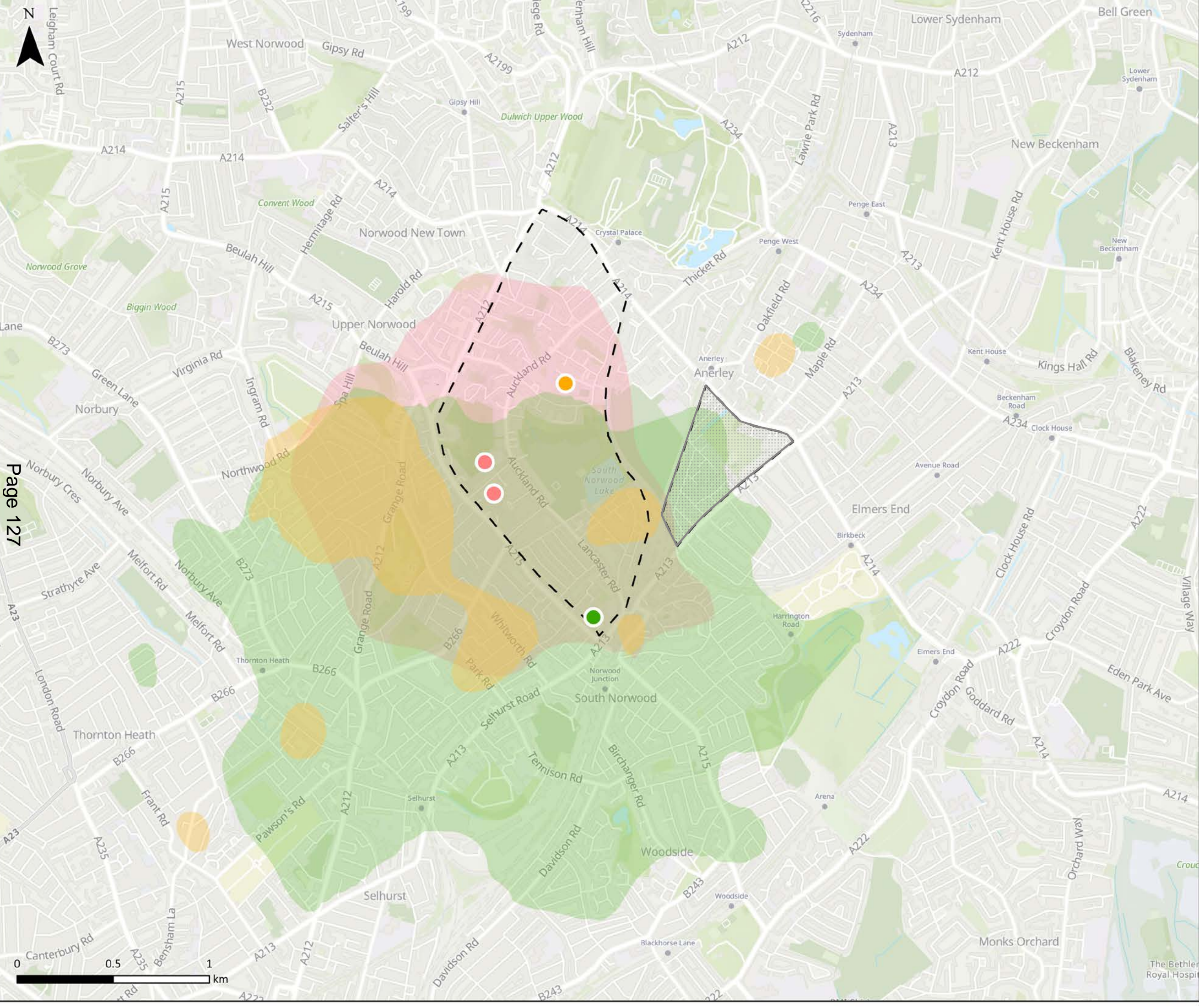
The plan shows that over half of the home location catchment for Cypress Primary School is within the temporary LTN. A majority of pupils from Harris Academy South Norwood and Harris City Academy Crystal Palace live outside of the temporary LTN area.

Most pupils attending the local schools located in the temporary LTN live within 3.1km of their school. Based on TfL data,

these distances would be considered comfortably cyclable and potentially walkable too^{1 2}. It would be expected to be beneficial to reduce road danger by reducing through traffic volumes in vicinity of the schools, with the aim of providing a safer routes for walking, cycling and scooting, etc. to schools for pupils.

1 - TfL's '[Analysis of Cycling Potential](#)' defines a cycleable trip as less than 8km and the traveller is over 5 and under 64,

2- TfL's '[Analysis of Walking Potential](#)' defines a walkable trip as less than 1.5km for those aged under 12 or over 69; and under 2km made by those aged 12-69.



- Temporary Crystal Palace & South Norwood LTN
- Neighbourhood 2*
- Schools within the LTN
- Cypress Primary School (747 pupils)
 - Harris Academy South Norwood (1572 pupils)
 - Harris City Academy Crystal Palace (1209 pupils)
- Home locations of most pupils
- Cypress Primary School
 - Harris Academy South Norwood
 - Harris City Academy Crystal Palace

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

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Crystal Palace & South Norwood LTN

TITLE

SCHOOLS AND HOME LOCATION OF MOST PUPILS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:18,000	JY	JMQ	20/11/2020
FIGURE NUMBER	REVISION		
9			

2.3 PUBLIC TRANSPORT AND WALKING

PUBLIC TRANSPORT ACCESSIBILITY

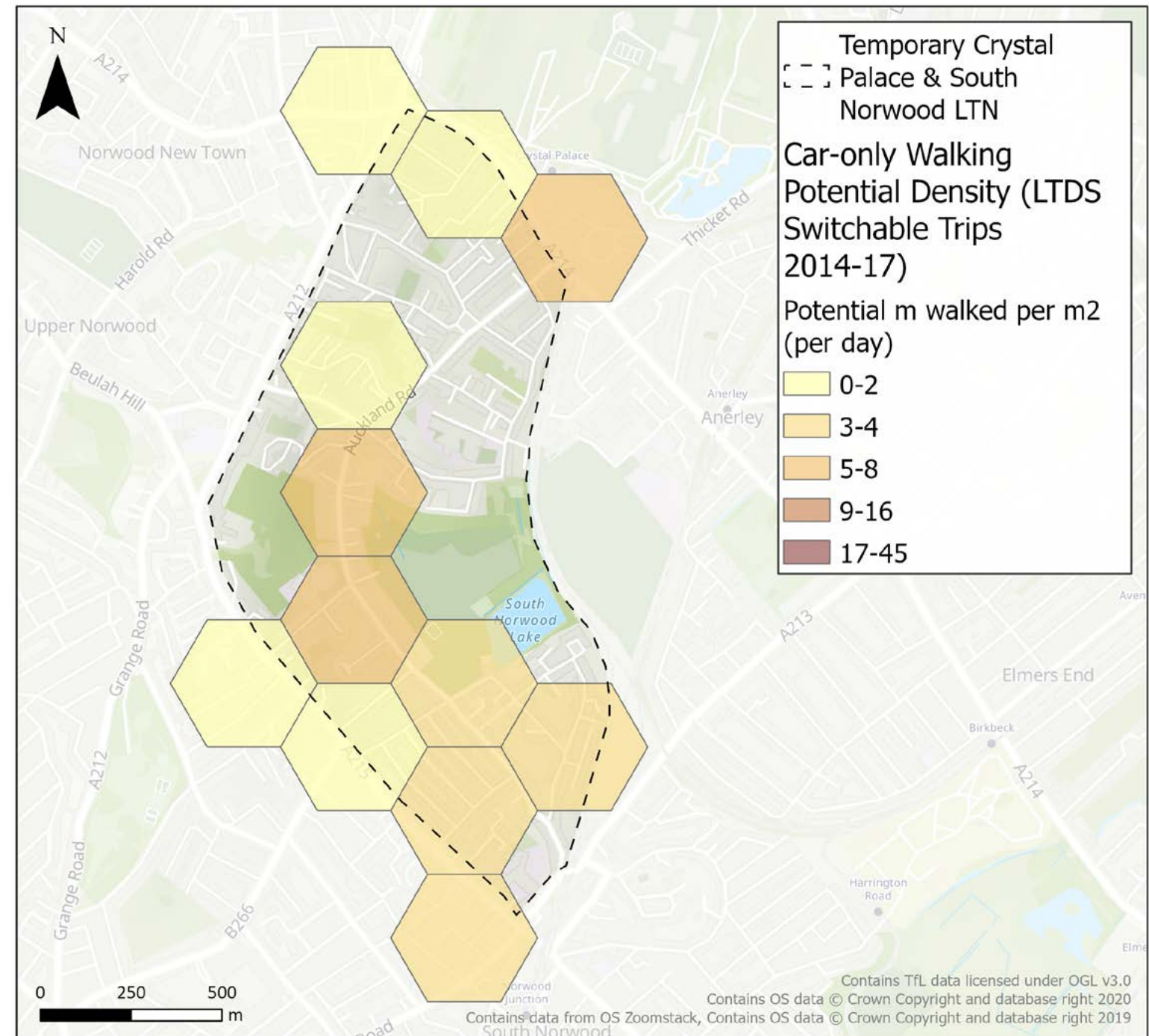
Public transport accessibility levels are analysed by TfL on a relative basis and are expressed as 'Public Transport Accessibility Levels' (PTAL). The PTAL scores range from 0 (worst) up to 6b (best). The PTAL scores for the study area are illustrated overleaf.

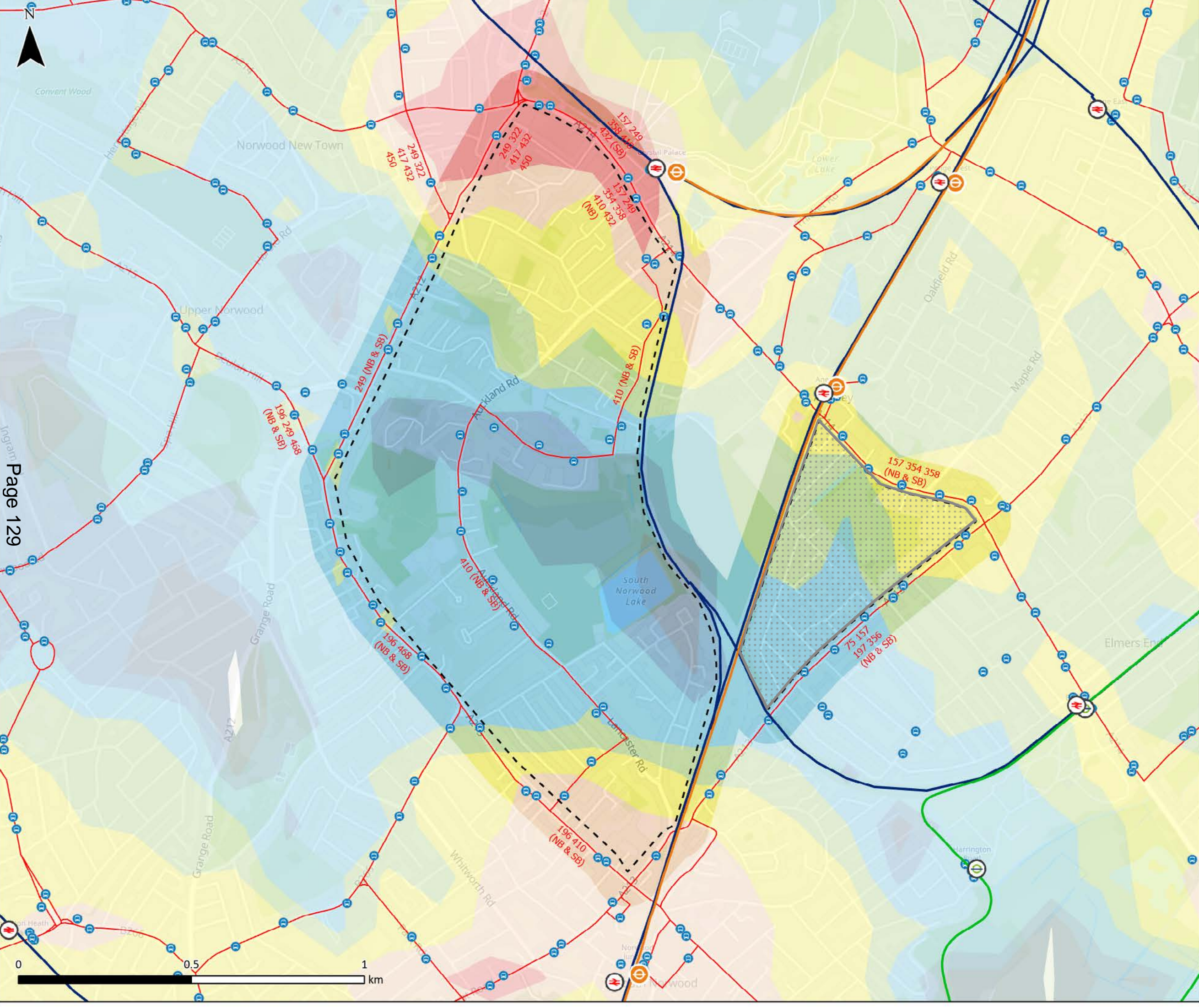
Over half of the temporary LTN area has a PTAL rating of 1 to 3. The northern and southern edges of the temporary LTN have PTAL scores of between 4 and 6a respectively. The temporary LTN area is bounded by bus routes and the 410 bus route runs through it. The difference in the distribution of PTAL rates is explained by the presence of rail stations at the northern and southern ends of the temporary LTN which increase the scores in neighbouring areas.

WALKING POTENTIAL

Whilst PTAL scores vary across the temporary LTN, the TfL 'Car-Only Walking Potential Density' assessment (right) suggests that there is a moderate potential through the area for increased walking trips switchable from car driving. The data represents the density of walking trips that could be made by residents living within each of the hexagons, if they switched from driving a car. The assessment captures 'potential

trips' by measuring the impact of switching suitable existing short private car trips to foot.





--- Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Rail Connections

- Overground
- Tramlink
- National Rail Lines

Bus Connections

- Bus Stop
- Bus Routes

Public Transport Accessibility Level

0 (worst)

- 1a
- 1b
- 2
- 3
- 4
- 5
- 6a
- 6b (best)

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

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PUBLIC TRANSPORT CONNECTIONS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:10,000	JY	JMQ	11/11/2020
FIGURE NUMBER	REVISION		
6	-		

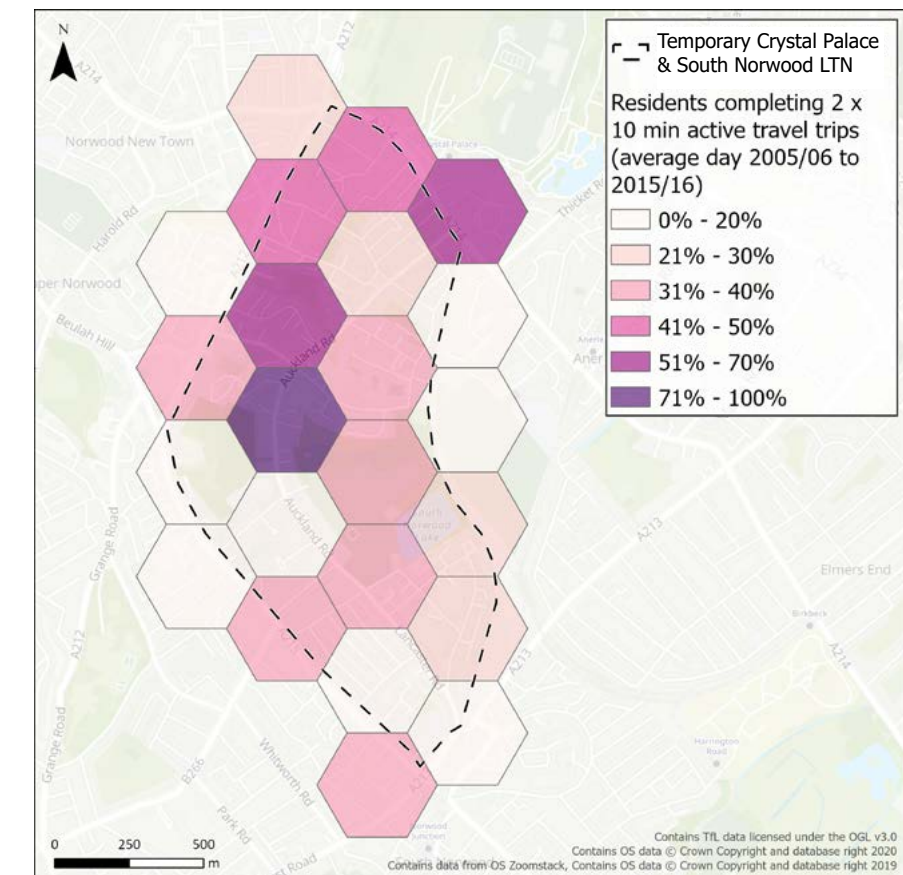
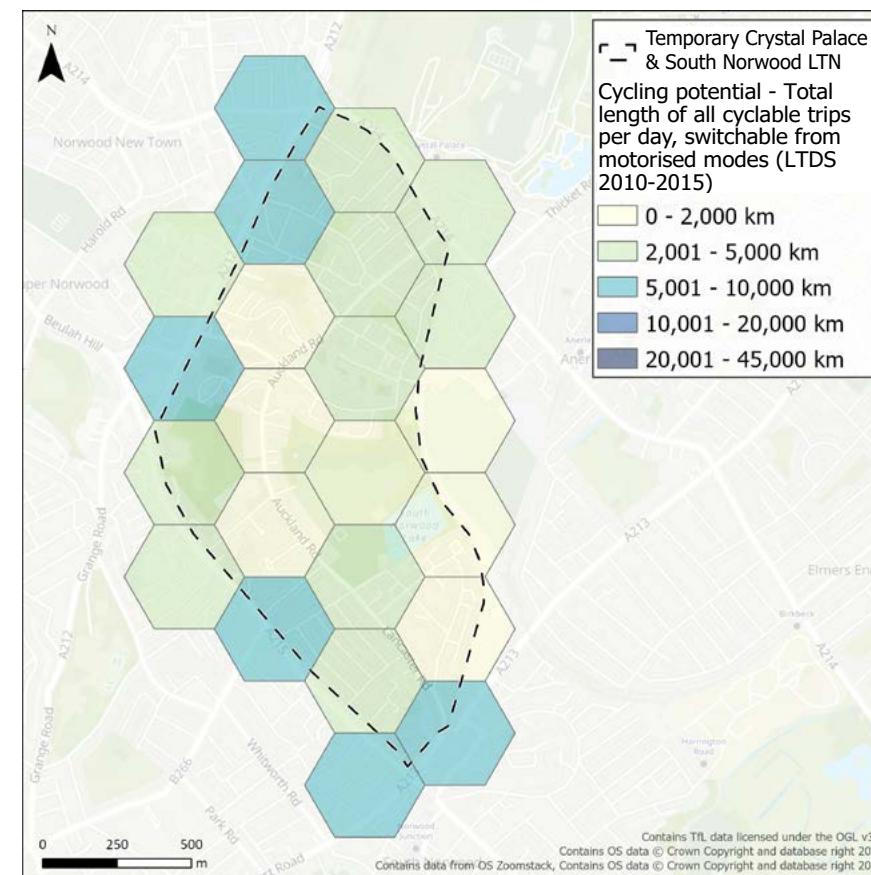
2.4 CYCLE NETWORK

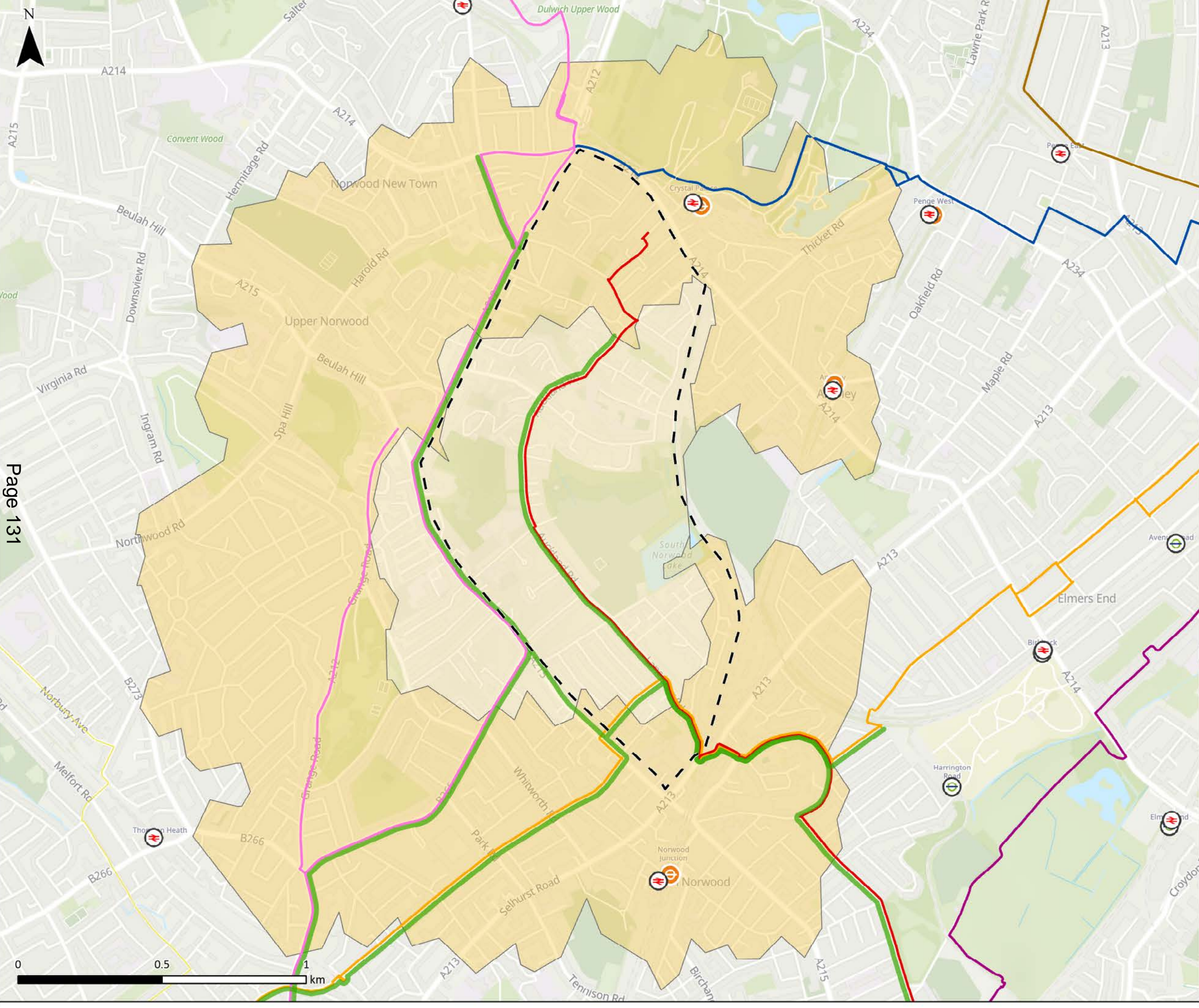
The plan overleaf summarises the existing cycle network in the vicinity of the temporary LTN area. The plan also includes cycling isochrones to illustrate the distance that could be cycled in five minutes and ten minutes using the existing road network. It shows that Thornton Heath to the southwest, as well as Crystal Palace, Anerley and South Norwood rail stations are located within a ten-minute cycle journey from the centre point of the temporary LTN area.

The combined outputs highlights that there are currently a number of route options in the area and that a majority of the temporary LTN is within a five minute cycle ride.

The two figures on this page compare the potential for increased cycling activity using outputs from TfL's City Planner Tool.


- The left figure shows TfL's assessment of the total length of all cyclable trips that could be made per day by residents living within each of the hexagons, if they switched from motorised modes.
- The figure to the right shows TfL's assessment of the proportion of residents who complete at least two 10-minute active travel trip on an average day.





- Temporary Crystal Palace & South Norwood LTN
- National Rail
- Overground
- Tramlink
- Cycle Time from LTN centroid
 - ≤ 5 mins
 - ≤ 10 mins
- Existing Cycle Routes
 - Existing Croydon
 - Secondary Cycle Routes (LIP3)
 - LCN 23
 - LCN 27
 - LCN 29
 - LCN 5
 - LCN 62
 - LCN 77
 - NCN 21

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PROJECT

Crystal Palace &
South Norwood LTN

TITLE

CYCLE NETWORK

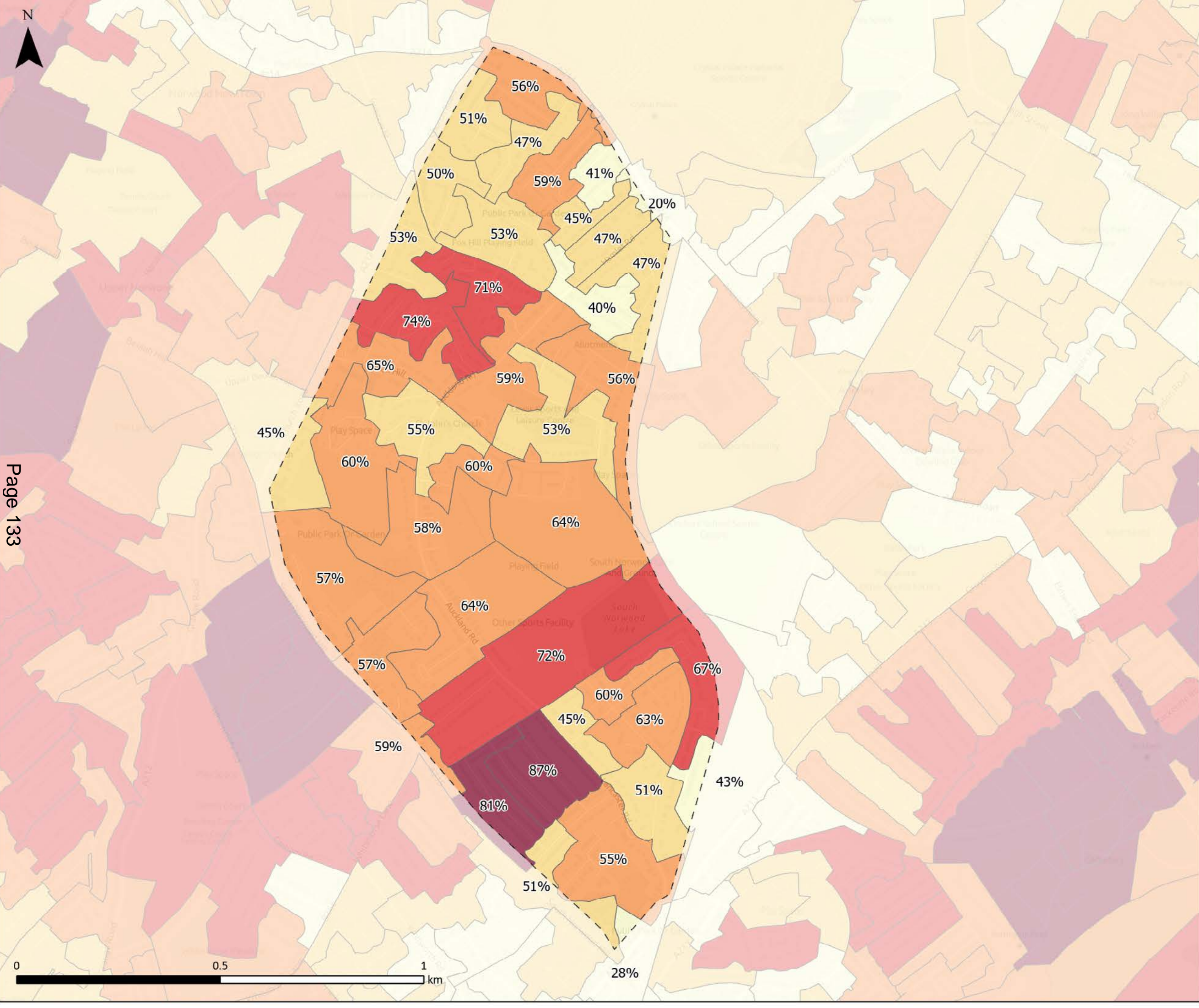
SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:12,000	JY	JMQ	02/12/2020
FIGURE NUMBER	REVISION		
7	A		

2.5 CAR OWNERSHIP

This plan to the right summarises the percentage of households that have access to at least one car or van based on 2011 Census data.

About 55% of the households in the temporary LTN area have access to one or more cars or vans. Areas with higher car ownership percentage are generally located around the centre of the temporary LTN area, with a relationship with accessibility to public transport.

The 2021 census will provide a more accurate picture.




Temporary Crystal Palace & South Norwood LTN

Percentage of household with access to car or van (2011 Census)

- ≤43%
- ≤55%
- ≤65%
- ≤77%
- ≤98%

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CAR OR VAN AVAILABILITY BY HOUSEHOLD

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,500	JY	-	09/12/2020
FIGURE NUMBER	REVISION		
1	A		

2.6 TRAFFIC MANAGEMENT (BEFORE LTN)

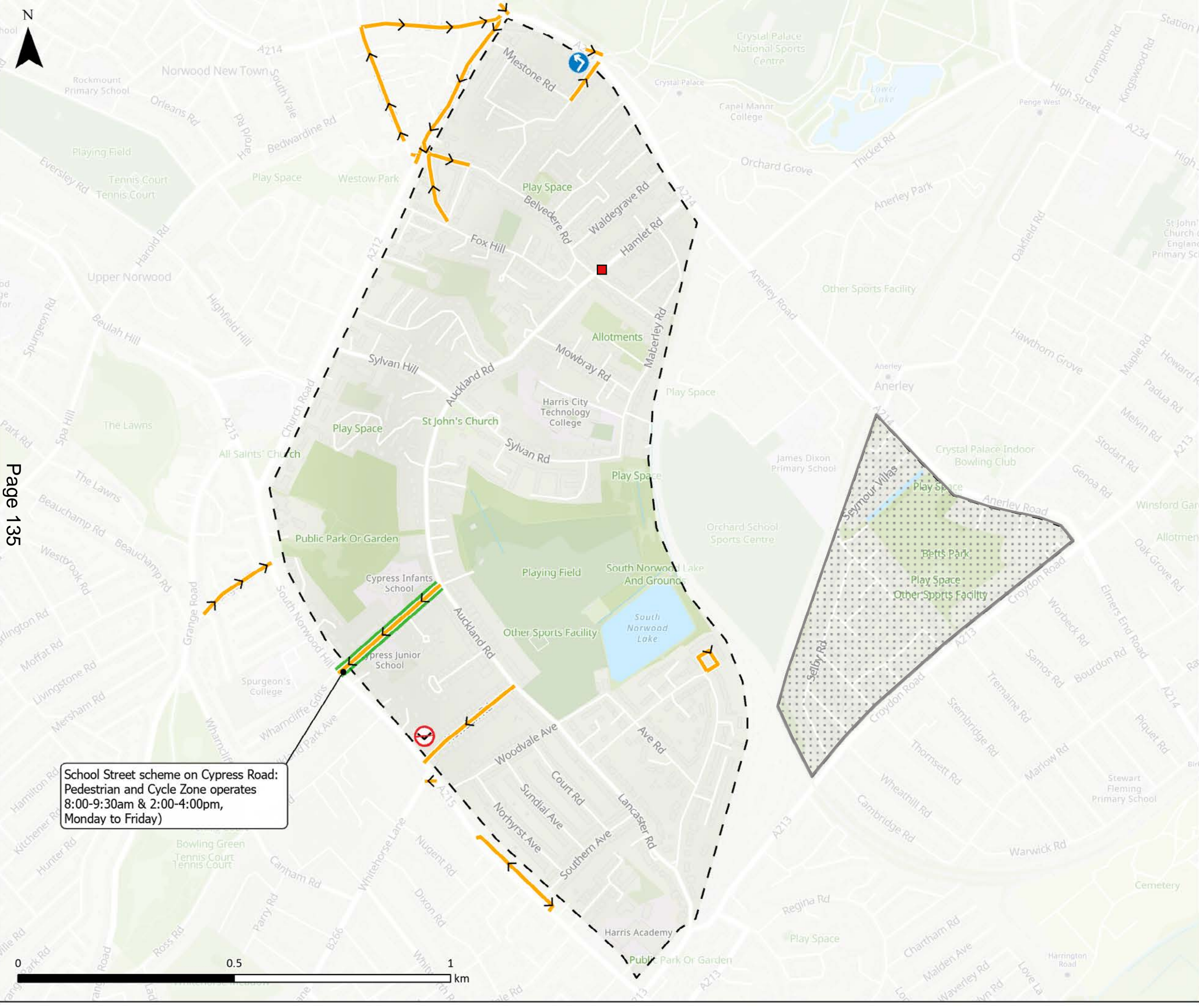
This plan summarises the traffic management measures within the area before the temporary LTN measures were introduced since May 2020. This provides an understanding on its baseline permeability level of vehicular traffic and action taken in the past to address traffic issues.

There are several traffic management measures that are currently in place in or around the LTN. These measures are listed below:

- A mandatory left turn is in place at Cintra Park junction with Anerley Hill.
- A right turn ban is in place at Howden Road junction with South Norwood Hill.
- Within the temporary LTN area, one-way operations are in place on:
 - Cintra Park
 - Landsdowne Place
 - Belvedere Road (western section)
 - Cyress Road
 - Howden Road
 - Warminster Square
- A width restriction where Auckland Road joins Hamlet Road
- A gyratory system is in place along the northern section of Church Road, Westow

Street and the eastern section of Westow Hill.

- A school street scheme has been introduced on Cypress Road since February 2020, not long before the first Lockdown in March. It is a pedestrian and cycle zone arrangement enforced from Monday to Friday, during 8-9:30am and 2-4pm.



School Street scheme on Cypress Road:
Pedestrian and Cycle Zone operates
8:00-9:30am & 2:00-4:00pm,
Monday to Friday)

- Temporary Crystal Palace & South Norwood LTN
- Neighbourhood 2*
- School Street scheme on Cypress Road (since Feb 2020)
- One Way Road
- Turn Restriction
 - Mandatory Left Turn
 - Banned Right Turn
 - Width Restriction

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

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PROJECT

Auckland Road LTN

TITLE

TRAFFIC MANAGEMENT
MEASURES (BEFORE LTN
IMPLEMENTATION)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,000	JY	-	27/11/2020
FIGURE NUMBER	REVISION		
11	-		

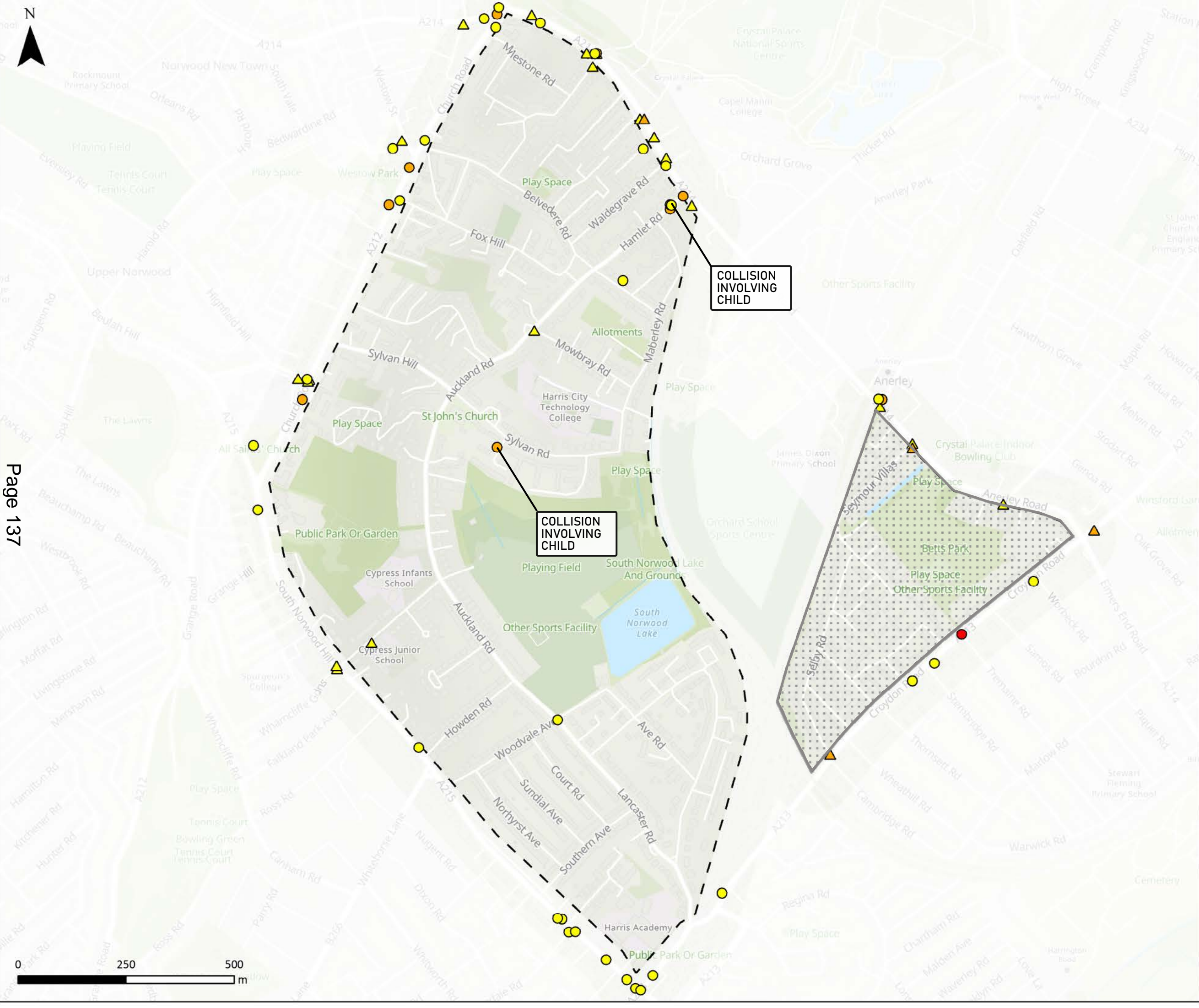
2.7 PEDESTRIAN AND CYCLIST CASUALTIES

This plan summarises collisions resulting in pedestrians and/or cyclist casualties between April 2017 and April 2020. This is the latest collision data available to date, provided by Transport for London.

There were nine collisions involving pedestrians or cyclists within the LTN area. Two of which were serious injuries. Notably, two of these collisions (22%) within the temporary LTN (as annotated on the plan) involved children walking.

These figures are neither a true reflection of road danger (due to under reporting of injured casualties to the police¹) or road risk (due to people lowering risk by not walking or cycling where they see streets as dangerous, and not allowing their children to do so).

1 - [DfT \(2017\), Reported Road Casualties in Great Britain: notes, definitions, symbols and conventions](#)



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Pedestrian and Cyclist Collision

(Apr 2017-Apr 2020)

Pedestrian

Fatal

Serious

Slight

Cyclist

Serious

Slight

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

School pupils statistics obtained from GLA's London School Atlas
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Crystal Palace & South Norwood LTN

TITLE

PEDESTRIAN AND CYCLIST COLLISIONS

SCALE

A3 @ 1:8,000

DRAWN

JY

REVIEWED

JMQ

DATE

26/11/2020

FIGURE NUMBER

10

REVISION

-

2.8 AIR QUALITY

Three plans have been presented in the following pages (27-29), showing the annual mean concentrations of PM10, PM2.5 and NO2 in 2016.

PM10

Although the temporary LTN area have shown PM10 concentrations that are within the UK legal limit (40 µg/m³), most parts of it are still higher than the WHO guideline limit of 20 µg/m³.

Concentrations around the boundary roads ranges from between 22 to 34 µg/m³. Auckland Road, which runs north-south across the temporary LTN, has shown concentrations between 21 to 23 µg/m³, which are figures within the range shown on main roads.

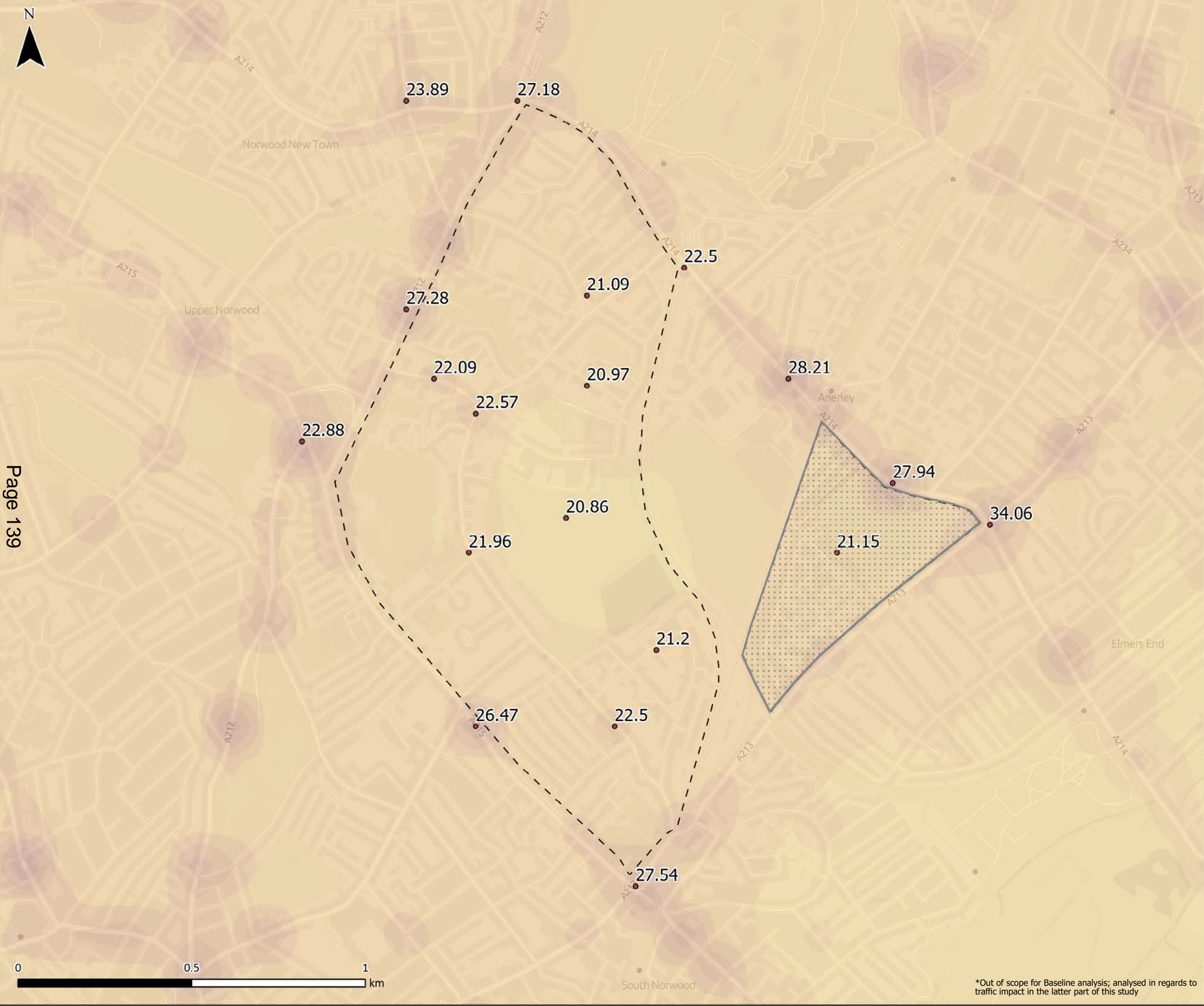
PM2.5

Similar to PM10, the PM2.5 concentrations in and around the temporary LTN are within the UK legal limit (25 µg/m³), ranges from 12 to 17 µg/m³. However these figures are still higher than the WHO guideline limit of 10 µg/m³. Concentrations within the temporary LTN ranges around 12-13 µg/m³.

NO2

Unlike PM10 and PM2.5, the UK's NO2 legal limit is the same as the WHO's guideline limit (40 µg/m³). Despite most parts of the temporary LTN are showing concentrations that are within the legal limit, most boundary roads have exceeded the limit, showing a range from around 40 to 70 µg/m³.

Notably, Sylvan Hill has shown considerably higher concentrations (36-37 µg/m³) than the surrounding areas. The surrounding areas show figures between 32 and 35 µg/m³.



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Annual Mean PM10 Concentrations 2016

µg/m3

≤ 17.94	
≤ 18.5	
≤ 18.9	
≤ 19.17	
≤ 19.37	
≤ 19.51	
≤ 19.7	
≤ 19.98	
≤ 20.38	WHO guideline limit (20 µg/m3)
≤ 20.94	
≤ 21.74	
≤ 22.87	
≤ 24.47	
≤ 26.75	
≤ 29.98	
≤ 34.57	UK legal limit (40 µg/m3)
≤ 41.09	
≤ 50.34	
≤ 63.47	
≤ 82.11	

Data from London Atmospheric Emission Inventory, showing modelled 2016 ground level concentrations

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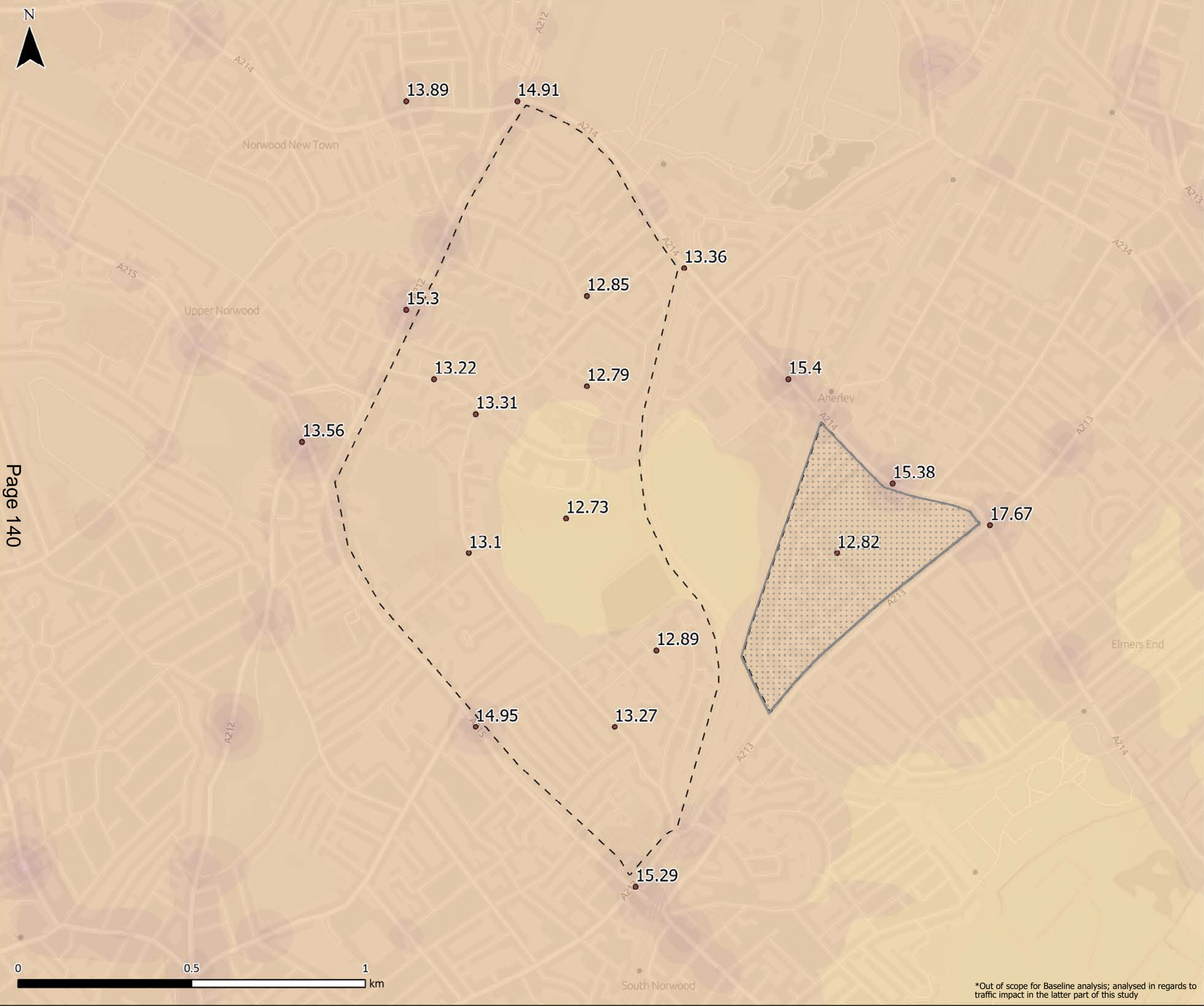
Crystal Palace &
South Norwood LTN

TITLE

AIR QUALITY -
PM10 CONCENTRATIONS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:10,000	JY	-	10/11/2020
FIGURE NUMBER	REVISION		
3	-		

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Annual Mean PM2.5 Concentrations 2016

µg/m3

≤ 11.25

≤ 11.48

≤ 11.63

≤ 11.75

≤ 11.83

≤ 11.88

≤ 11.96

≤ 12.07

≤ 12.23

≤ 12.46

≤ 12.78

≤ 13.23

≤ 13.88

≤ 14.8

≤ 16.1

≤ 17.95

≤ 20.57

≤ 24.29

≤ 29.58

≤ 37.09

WHO guideline limit (10 µg/m3)

UK legal limit (25 µg/m3)

Data from London Atmospheric Emission Inventory, showing modelled 2016 ground level concentrations

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Crystal Palace & South Norwood LTN

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AIR QUALITY - PM2.5 CONCENTRATIONS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:10,000	JY	JMQ	10/11/2020
FIGURE NUMBER	REVISION		
4	-		

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2*

Annual Mean NO2 Concentrations 2016

µg/m3

- ≤ 31.28
- ≤ 33.45
- ≤ 36.52
- ≤ 40.89
- ≤ 47.08
- ≤ 55.87
- ≤ 68.35

UK legal & WHO guideline limit (40 µg/m3)

Data from London Atmospheric Emission Inventory, showing modelled 2016 ground level concentrations

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Crystal Palace & South Norwood LTN

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AIR QUALITY - NO2 CONCENTRATIONS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:10,000	JY	JMQ	10/11/2020
FIGURE NUMBER	REVISION		
5	-		

*Out of scope for Baseline analysis; analysed in regards to traffic impact in the latter part of this study

3 TRAFFIC ANALYSIS

3 TRAFFIC ANALYSIS

This chapter presents analysis on traffic effects in relation to the introduction of the temporary LTN. It includes analyses in the following three areas:

1. Estimated through traffic levels
2. Estimated traffic flows
3. Journey time difference

Comparisons have been drawn using data collected before and during the temporary LTN implementation.

This chapter begins with understanding the current traffic management measures, followed by an overview of road works that took place near the temporary LTN between March and October 2020, which may have affected traffic conditions aside of the temporary LTN measures.

Widened scope for traffic analysis

LB Croydon has received feedback from LB Bromley regarding potential traffic displacement onto Selby Road and Seymour Villas.

For the purpose of this traffic analysis, we have incorporated this neighbourhood extent into our scope of study (it is referred as 'Neighbourhood 2').

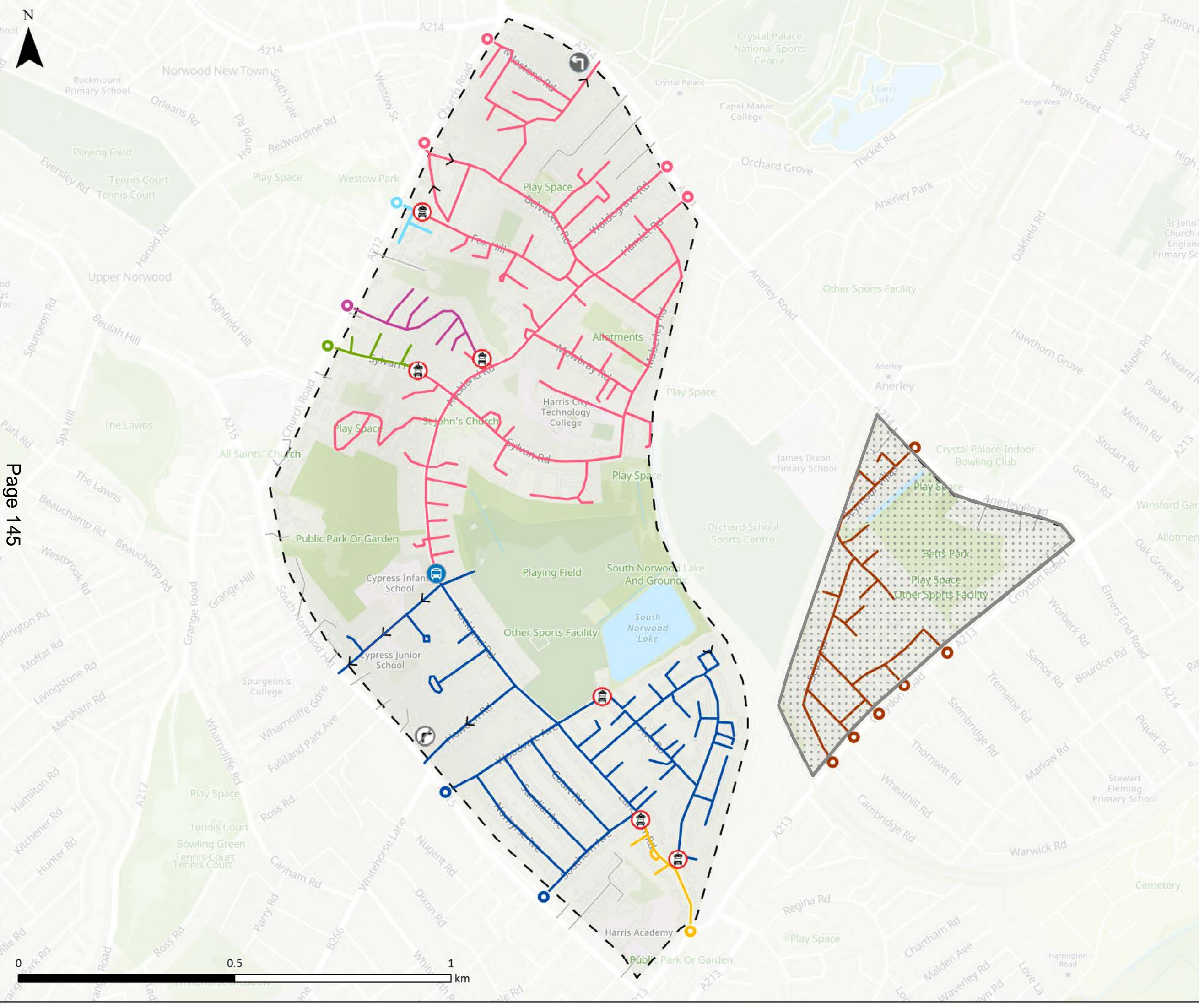
TRAFFIC MANAGEMENT MEASURES (DURING LTN)

Chapter 1 presented an overview of the temporary LTN measures that were introduced between May and August 2020.

To understand how these measures affect vehicle access, the plan overleaf shows that the measures have divided the temporary LTN into seven sub zones. The vehicle entry points for each zone are also presented.

It is noted that the number of entry points to most sub zones is proportionate to their size. For instance, there are four entry points from two boundary roads (Church Road and Anerley Road) for sub zone A (shown in pink colour), which is the largest of all sub zones. The second largest in the temporary LTN, sub zone B (shown in blue colour), has two entry points along South Norwood Hill.

All streets within the LTN areas remain accessible by motor vehicles.



- Temporary Crystal Palace & South Norwood LTN
- Neighbourhood 2
- Turn Restriction
 - Mandatory Left Turn
 - Banned Right Turn
- LTN Measures
 - Modal filter
 - Bus Gate
- Sub LTN Zones (and Entry Points)
 - A (4)
 - B (2)
 - C (1)
 - D (1)
 - E (1)
 - F (1)
 - G (6)
 - Single access only

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Auckland Road LTN

TITLE

DURING LTN
IMPLEMENTATION -
SUB ZONE AND ENTRY
POINTS

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,000	JY	-	27/11/2020
FIGURE NUMBER	REVISION		
13	-		

ROAD WORKS AND TEMPORARY LTN MEASURES TIMELINE

A series of road works were conducted in close proximity to the temporary LTN, which has posed difficulties in measuring and deducing the direct effects caused by the temporary LTN. In consideration we have compiled the list of road works in chronological order, and plotted alongside the temporary LTN measures on the plan overleaf.

Road works

- A

11 March – 6 June 2020

Auckland Road

Emergency gas works. One way working was introduced on Cypress Road, and on Auckland Road west-bound towards South Norwood Hill
- B

22 March – 1 November 2020

Church Road

A car crashed into a candle shop at 111 Church Road. The southbound lane located to the south of the junction with Westow Street was blocked by scaffolding for seven months. Temporary signals were in place.
- C

29 April – 5 May 2020

Westow Hill

Water works. A lane by 2 Westow Hill was closed.
- D

13 – 16 May 2020

Church Road

Water works. Entire road was closed, closure point by No. 49.
- E

26 – 29 May 2020

Sylvan Road

Urgent gas works. Traffic control with priority working in operation, by St Johns Church on Sylvan Road.
- F

20 – 26 June 2020

Westow Hill

Water works. Entire road was closed.
- G

23 July 2020

Woodvale Avenue

Carriageway resurfacing works. Entire road was closed.
- H

28 August – 7 September 2020

South Norwood Hill

Power works. Traffic control with two-way signals in operation, by 126 South Norwood Hill.
- I

23 – 29 September 2020

Auckland Road

Water works. Give-and-take traffic Control in operation, outside No. 98.
- J

1 – 7 October 2020

Auckland Road

Water works. Traffic control with multi-way signals in operation, at J/O Cypress Road with Auckland Road
- K

13 – 19 October 2020

South Norwood Hill

Water works. Traffic control with multi-way signals in operation, outside No. 153.
- L

13 – 19 October 2020

Howden Road

Water works. Entire road was closed, closure point by No. 16.
- M

26 – 28 October 2020

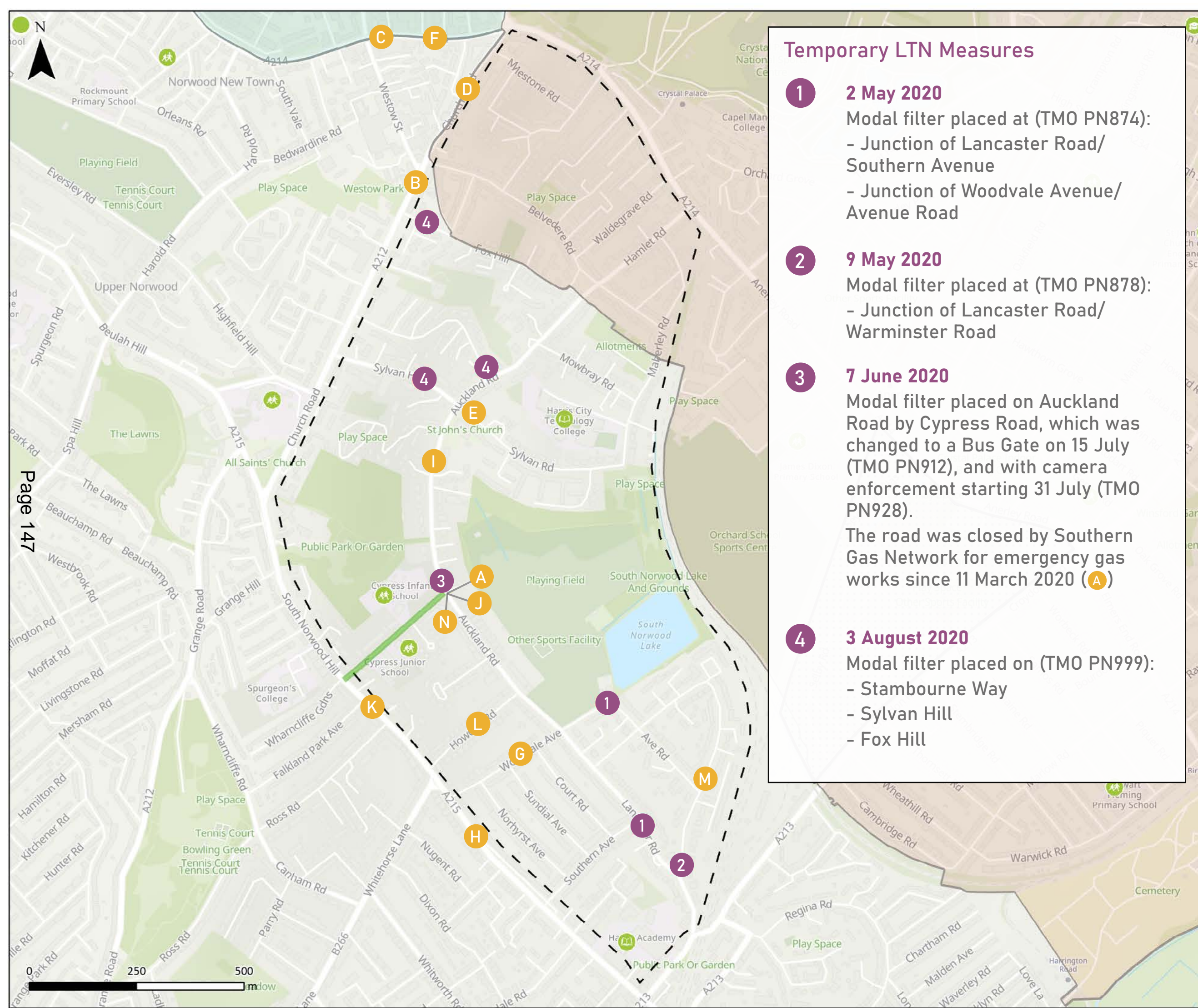
Warminster Road

Carriageway resurfacing works. Closure between J/W Warminster Square to J/W Lancaster Road.
- N

28 – 30 October 2020

Auckland Road

Water works. Traffic control with multi-way signals in operation, at J/O Cypress Road with Auckland Road.



Temporary LTN Measures

- 2 May 2020**
Modal filter placed at (TMO PN874):
 - Junction of Lancaster Road/
Southern Avenue
 - Junction of Woodvale Avenue/
Avenue Road
- 9 May 2020**
Modal filter placed at (TMO PN878):
 - Junction of Lancaster Road/
Warminster Road
- 7 June 2020**
Modal filter placed on Auckland
Road by Cypress Road, which was
changed to a Bus Gate on 15 July
(TMO PN912), and with camera
enforcement starting 31 July (TMO
PN928).
The road was closed by Southern
Gas Network for emergency gas
works since 11 March 2020 (A)
- 3 August 2020**
Modal filter placed on (TMO PN999):
 - Stambourne Way
 - Sylvan Hill
 - Fox Hill

--- Temporary Crystal Palace
& South Norwood LTN

□ Borough Boundary

LB Bromley

LB Lambeth

School Street scheme
on Cypress Road
(since Feb 2020)

LTN Measures

Modal filter

Bus Gate

Schools

Primary

Secondary

Independent/ Other

College and University

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Crystal Palace &
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TITLE

LTN SCHEME
OVERVIEW

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,000	JY	JMQ	20/11/2020
FIGURE NUMBER	REVISION		
8			

3.1 ESTIMATED THROUGH TRAFFIC LEVELS

This section analyses which road segments within the temporary LTN were amongst the most affected by through traffic, and whether the situation has improved since the measures have been installed.

Two sets of through traffic data have been retrieved and collected, representing the time periods before and during the temporary LTN measures were introduced:

- 'Before LTN': February 2019 - March 2020
- 'During LTN': June 2020 - November 2020

It is worth noting that the period included as 'Before LTN' preceed the period when the temporary signals were in use on Church Road (the road work specified as **B** on page 34). The temporary signals were in use on Church Road for the entire period of 'During LTN'.

Methodology

The through traffic data was supplied by The Floow, a telematics company, which collected the raw traffic data using telematics technology. Having applied a method called the Blend Analysis to identify through traffic levels, the company identified the origin and destination for each journey in terms of LSOA, a geospatial statistical unit for small area statistics.

The Floow repeated this process for several

time periods, in this case, the daily average, AM and PM peak periods. The analysis classifies the trip travel under the following three categories:

- Exclusively internal to the cell ('In-In'), with both origin and destination located within the cell
- Exclusively external to the cell ('Out-Out'), with both origin and destination located out of the cell
- Involves either an origin ('In-Out') or destination ('Out-In') inside of the cell only. These are trips with a purpose related to the cell, i.e. by people who live, work, spend time in, or deliver to the cell.

Through traffic is defined as the 'Out-Out' trips, with trip purposes unrelated to the cell.

The occurrences of segments within journeys were then tallied in terms of the category of trip travel, and were stored as a percentage of all journeys.

An estimated general traffic flow per hour is also provided for each road segment by direction. This data is approximated by extrapolating the telematic data with traffic flow counts obtained from Department for Transport. Using this traffic flow estimate, we then multiply by the through traffic percentage to calculate an estimated through traffic flow for each road segment per hour, per direction.

Limitations

Due to data sampling limitations, the dataset representing 'During LTN' includes data recorded starting from June 2020, when some measures have not yet been put in place. It might therefore present a view of the situation that is not the most up-to-date. We have taken this into account when interpreting the data.

In addition, telematics uses vehicle tracking (black box) and GPS location data to identify type of trip travel. It relies on engine activity to determine the start or end of trip. Therefore, separate trips but with the engine kept running in between would be considered as one single trip, e.g. a food delivery if the engine is left running. These characteristics might render potential, albeit small, inaccuracy to the through traffic percentage data.

Whilst a traffic flow estimate was generated for every road segment, it was modelled using counts from scattered locations across the road network. Hence, it is highlighted that they cannot be fully accurate to the actual flows and should be interpreted as an approximation.

In the following analyses, we have reviewed the before-and-during through traffic levels in terms of daily average, then by peak period.



Advanced warning sign for bus gate on Auckland Road



Advanced warning sign for bus gate and modal filters on Auckland Road



Fox Hill modal filter



Bus gate on Auckland Road



Public consultation notice for the temporary LTN scheme



Advanced warning sign for the camera enforcement of bus gate on Auckland Road

AVERAGE WEEKDAY DAILY THROUGH TRAFFIC
(BEFORE LTN)

The estimated flows of average daily (12-hour average, 7am-7pm) through traffic on weekdays, before the temporary LTN was introduced, is shown overleaf.

The Hamlet Road-Auckland Road-Lancaster Road route had been a popular through traffic route before the temporary LTN was introduced. Given it is a direct north-south route parallel to the boundary roads (Church Road and South Norwood Hill), it was heavily used by 70-170 through traffic vehicles per hour (vph) in both directions, across an average weekday.

Waldegrave Road northbound was also frequently used by through traffic (circa 60 vph), as an alternative way out of the north-south route.

A few more roads within the temporary LTN had been frequently used by through traffic as well:

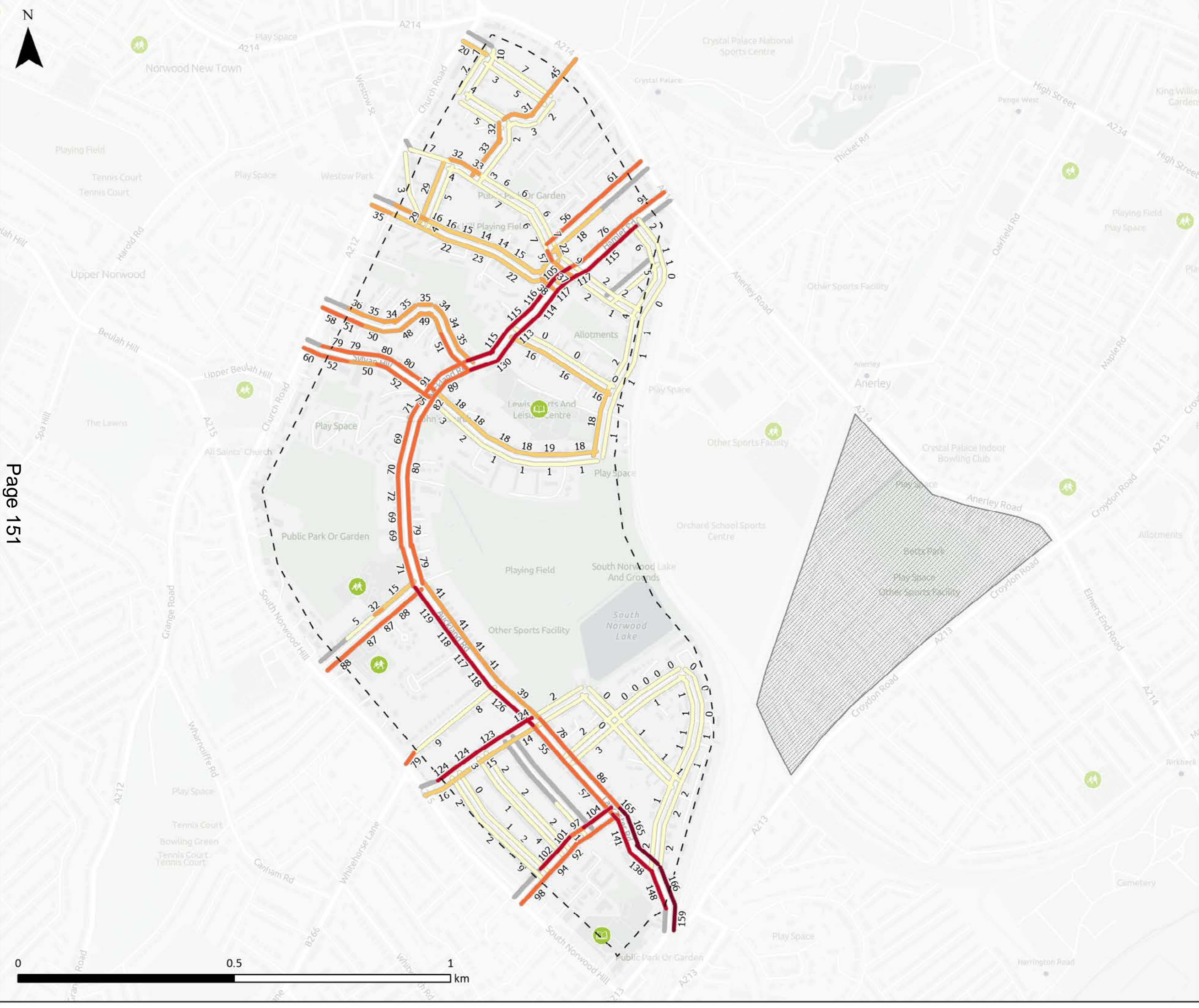
- Stambourne Way (30-60 vph, both directions)
- Sylvan Hill (60-80 vph, both directions)
- Cypress Road (circa 80 vph westbound)

- Woodvale Avenue (circa 120 vph eastbound)
- Southern Avenue (90-105 vph, both directions)

These five roads were used as the connecting routes between the boundary roads and Auckland Road.

Speeding issue on Auckland Road

Besides, according to Speedvisor data, collected in August 2019, the average speed on Auckland Road is 21.16 mph, exceeding the speed limit of 20mph. An average of 62.9% of vehicles speeded over the limit. The 85th percentile speed (the speed at which the data shows 85% of vehicles were travelling at or below) is 25 mph.



--- Temporary Crystal Palace & South Norwood LTN

▨ Neighbourhood 2

- Schools**
- 🏫 Primary
 - 🏫 Secondary
 - 🟢 Independent/ Other

Average Weekday Daily Through Traffic within LTN (Before)

- Approx. no. of vehicle/ hour**
- ≤10
 - ≤30
 - ≤50
 - ≤100
 - ≤150
 - ≤200
 - Data Unavailable

'Daily' means 12-hour average taken between 7am-7pm
Traffic data obtained from Flow
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AVERAGE WEEKDAY DAILY THROUGH TRAFFIC WITHIN LTN (BEFORE LTN)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,000	JY	-	05/12/2020
FIGURE NUMBER	REVISION		
16	A		

AVERAGE WEEKDAY DAILY THROUGH TRAFFIC
(DURING LTN)

The plan on the opposite page shows a clear reduction of through traffic within the temporary LTN, during the scheme was introduced.

Auckland Road (between Sylvan Hill and Southern Avenue), and Lancaster Road show a significant reduction in through traffic. Similar reductions have also been recorded on four of the connecting routes to Auckland Road, namely Stambourne Way, Cypress Road, Woodvale Avenue and Southern Avenue.

Notably, Cypress Road, where Cypress Primary School is located, has recorded about 75% decrease in through traffic volume. This might partly be attributed to the School Street scheme enforced since February 2020.

An anomaly can be spotted on these plans. While the data shows that through traffic has been halved on the northbound direction of Hamlet Road-Auckland Road (northern section)-Sylvan Hill, the southbound direction on these roads appears still being used heavily by through traffic. However, given that the modal filter on Sylvan Hill was installed in early August and has since been intact, the

data shown may have reflected the trends from the period between June and August. In a case which the data is the most up-to-date, through traffic should not be shown at all along this route.

To explain further, as Auckland Road has been closed due to emergency gas works since March, Cypress Road, Woodvale Avenue and Southern Avenue became unattractive for through traffic since then. In contrast, Hamlet Road-Auckland Road (northern section)-Sylvan Hill continued to be an attractive through traffic route to avoid the Anerley Hill/ Church Road junction, up until Sylvan Hill was closed in August. This is a possible explanation for why the data only shows through traffic on one stretch but not the other ones.

Nevertheless, we recommend LB Croydon to verify the actual situation along this section of roads using Automatic Traffic Counters (ATCs). We have included this recommendation in the conclusions.



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

Schools

Primary

Secondary

Independent/ Other

Average Weekday Daily Through Traffic within LTN (After)

Approx. no. of vehicle/ hour

≤10

≤30

≤50

≤100

≤150

≤200

Data Unavailable

'Daily' means 12-hour average taken between 7am-7pm
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PROJECT

Crystal Palace &
South Norwood LTN

TITLE

AVERAGE WEEKDAY DAILY
THROUGH TRAFFIC WITHIN
LTN (DURING LTN)

SCALE

A3 @ 1:8,000

DRAWN

JY

REVIEWED

-

DATE

05/12/2020

FIGURE NUMBER

16

REVISION

A

COMPARISON BETWEEN AM PEAK AND PM PEAK

The 'before' and 'during' plans, showing the average weekday through traffic for both AM peak (7-10am) and PM peak (4-7pm) periods, are presented in the next four pages:

- Before, AM peak (page 43)
- Before, PM peak (page 44)
- During, AM peak (page 45)
- During, PM peak (page 46)

A table showing comparison of through traffic volume before and during LTN is also presented by peak period, within the plan opposite.

Before LTN

Similar patterns can be found for both AM and PM peaks before the temporary LTN. The Hamlet Road-Auckland Road-Lancaster Road route had been a popular through traffic route for both AM and PM peaks, with a through traffic volume of at least 150 vph. Stambourne Way, Sylvan Hill, Cypress Road, Woodvale Avenue and Southern Avenue, as well as Tudor Road-Cintra Park, also served as the main through traffic connections between Auckland Road and the boundary roads in both peak periods. These roads carried at least 50 vph of through traffic volumes.

Nevertheless, there are variations in through traffic volume between AM and PM peaks. AM peak generally recorded less through traffic than the PM peak on majority of the roads. One of the exceptions had been the loop of Woodvale Avenue-Auckland Road-Cypress Road. The circa 200 vehicles in the AM peak recorded on this route could be attributed to the 'school run traffic' associated with Cypress Primary School.

Another exception for a higher volume in the AM peak (150-200 vph) can also be spotted on Lancaster Road-Southern Avenue heading south, which could be contributed by traffic seeking to avoid the South Norwood Hill/High Street junction. The prevailing direction of through traffic can be seen reversed to head north in the PM peak.

During LTN

In line with the trends shown in the daily average, through traffic in the temporary LTN have generally been significantly reduced on both AM and PM peaks since the measures were installed.

Same as the daily average data, an anomaly appears on Hamlet Road, Auckland Road (northern section) and Sylvan Hill for both AM and PM peak periods.

Apart from the roads mentioned above, through traffic volume in AM peak reduced

to less than or around 10 vph. PM peak saw slightly more through traffic remaining in the area, with the volume generally reduced to below or around 20 vph on most roads. More reductions was recorded in the PM peak, given the fact that it had more through volume before the temporary LTN has been in place.

Auckland Road section between Sylvan Hill and Cypress Road is the only route connecting the northern and southern part of the temporary LTN. For the northbound, it shows a reduction of 88vph in the AM peak, and 112 vph for the PM peak. For the southbound, it shows a reduction of 46 vph in the AM peak and 118 vph in the PM peak.

The loop of Woodvale Avenue-Auckland Road-Cypress Road, located by Cypress Primary School, saw only about 10 vph of through traffic in the AM peak. However, the figures jumped up to around 40 vph for the PM peak, possibly due to the school street restriction only being enforced until 4pm.



Roads commonly used by through traffic within LTN (excluding roads with anomaly)		AM Peak		PM Peak	
		Before (vph)	During (vph)	Before (vph)	During (vph)
Waldegrave Road	NB	105	8	96	15
Cintra Park-Tudor Road	NB	84	4	29	0
Stambourne Way	WB	37	12	99	33
	EB	90	0	20	12
Auckland Road (Sylvan Hill-Cypress Road)	NB	96	8	132	20
	SB	70	24	155	37
Cypress Road	WB	206	12	87	37
Auckland Road (Cypress Road-Woodvale Avenue)	NB	283	8	158	28
	SB	38	12	88	5
Woodvale Avenue	WB	20	8	96	30
	EB	55	4	201	6
Southern Avenue	WB	20	8	96	26
	NB	263	4	182	9
Lancaster Road	SB	111	4	364	7

Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

Schools

Primary

Secondary

Independent/ Other

Average Weekday AM Peak Through Traffic within LTN (Before)

Approx. no. of vehicle/ hour

≤10

≤30

≤50

≤100

≤150

≤200

≤300

Data Unavailable

'AM peak' means 3-hour average taken between 7-10am
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Crystal Palace &
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TITLE

AVERAGE WEEKDAY AM
PEAK THROUGH TRAFFIC
WITHIN LTN (BEFORE)

SCALE

A3 @ 1:8,000

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DATE

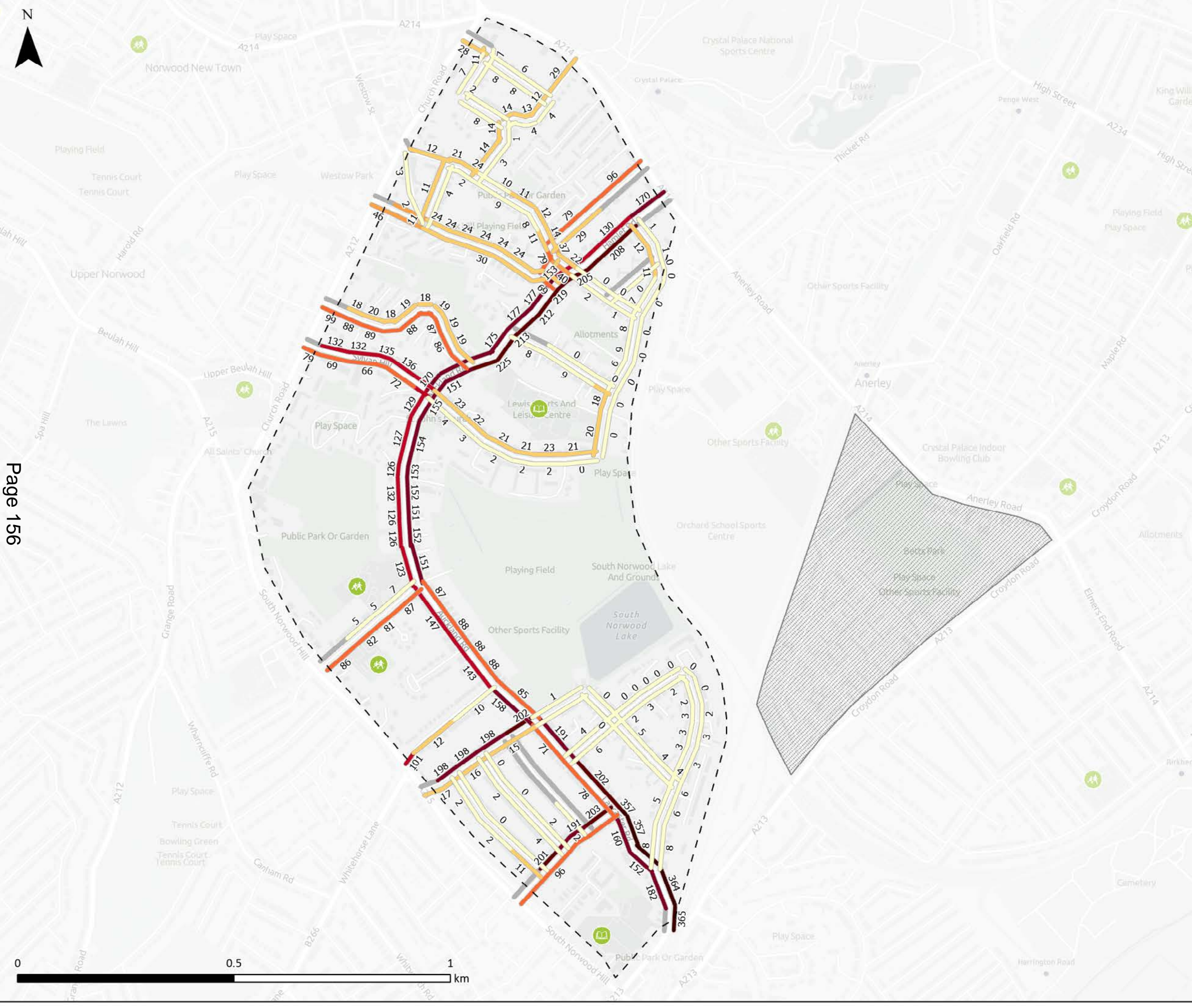
05/12/2020

FIGURE NUMBER

29

REVISION

-



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

Schools

Primary

Secondary

Independent/ Other

Average Weekday PM Peak Through Traffic within LTN (Before)

Approx. no. of vehicle/ hour

≤10

≤30

≤50

≤100

≤150

≤200

≤300

≤400

Data Unavailable

'PM peak' means 3-hour average taken between 4-7pm
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LONDON BOROUGH OF
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Crystal Palace &
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AVERAGE WEEKDAY PM
PEAK THROUGH TRAFFIC
WITHIN LTN (BEFORE)

SCALE

DRAWN

REVIEWED

DATE

A3 @ 1:8,000

JY

-

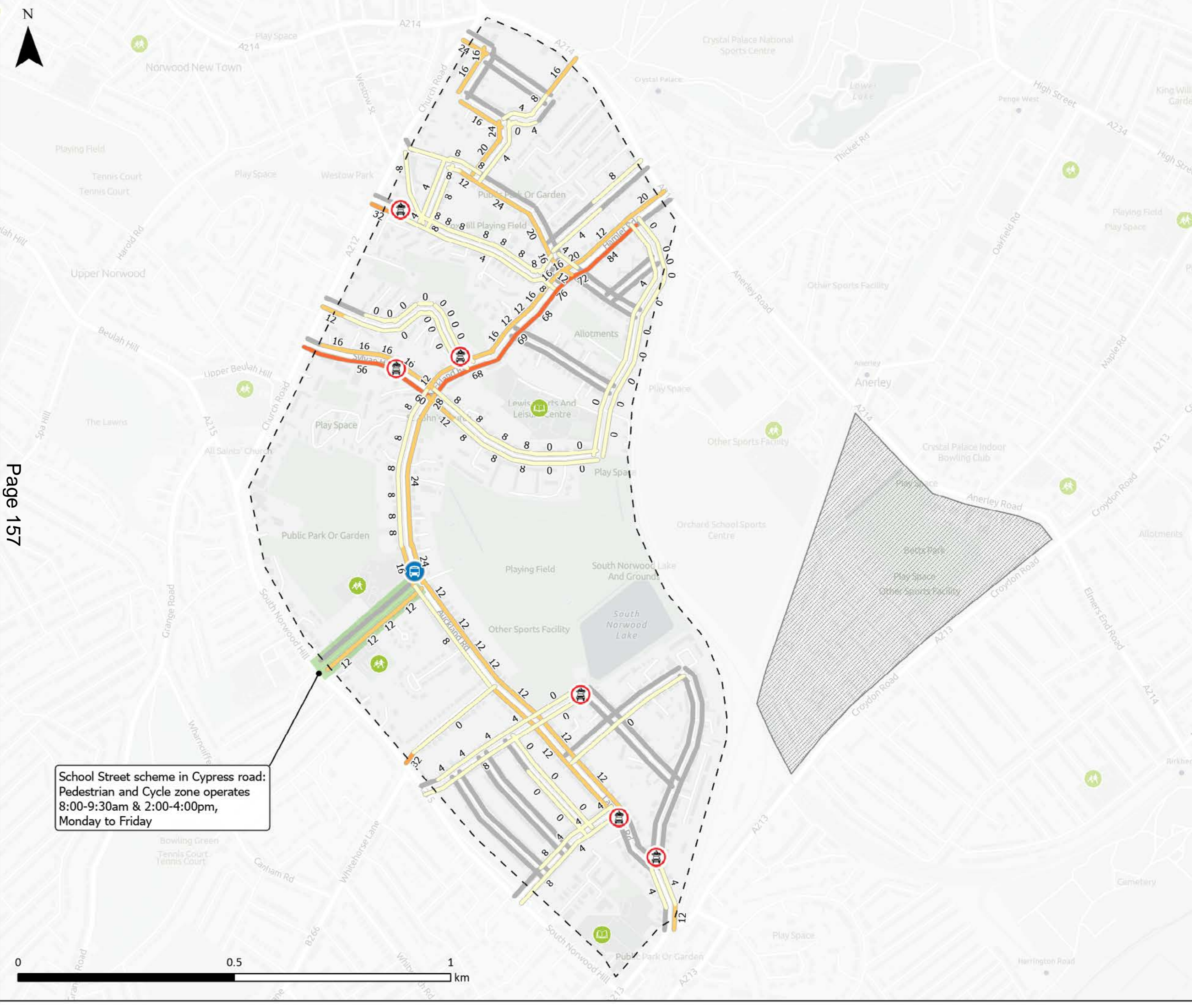
05/12/2020

FIGURE NUMBER

REVISION

31

-



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

School Street scheme on Cypress Road (since Feb 2020)

Schools

Primary

Secondary

Independent/ Other

Average Weekday AM Peak Through Traffic within LTN (During)

Approx. no. of vehicle/ hour

≤10

≤30

≤50

≤100

≤150

≤200

≤300

Data Unavailable

'AM peak' means 3-hour average taken between 7-10am

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TITLE

AVERAGE WEEKDAY AM PEAK THROUGH TRAFFIC WITHIN LTN (DURING)

SCALE

DRAWN

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DATE

A3 @ 1:8,000

JY

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05/12/2020

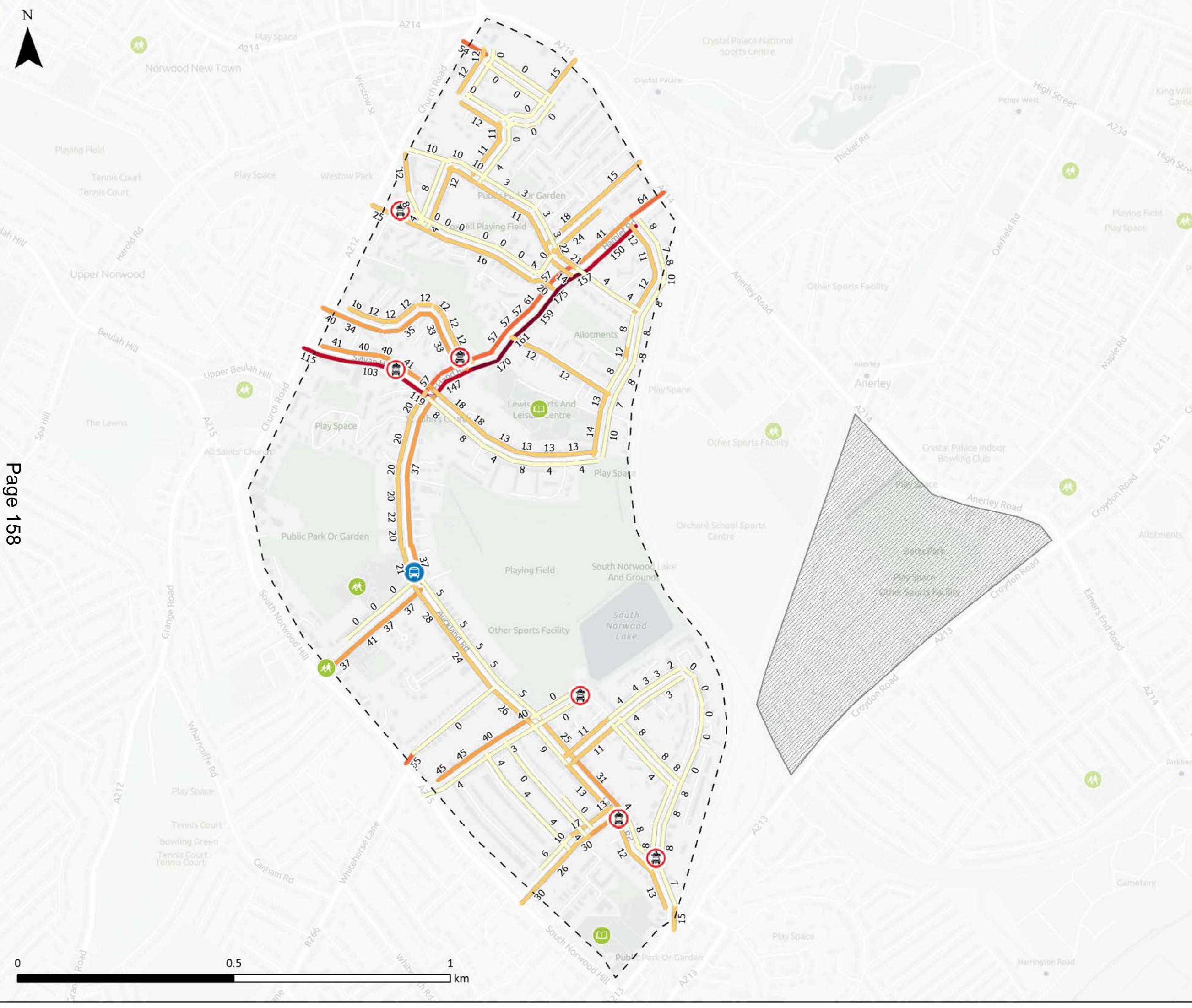
FIGURE NUMBER

REVISION

30

-

Page 157



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

Schools

Primary

Secondary

Independent/ Other

Average Weekday PM Peak Through Traffic within LTN (During)

Approx. no. of vehicle/ hour

≤10

≤30

≤50

≤100

≤150

≤200

≤300

≤400

'PM peak' means 3-hour average taken between 4-7pm

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TITLE

AVERAGE WEEKDAY PM PEAK THROUGH TRAFFIC WITHIN LTN (DURING)

SCALE

A3 @ 1:8,000

DRAWN

JY

REVIEWED

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DATE

07/12/2020

FIGURE NUMBER

32

REVISION

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3.2 ESTIMATED TRAFFIC FLOWS

LB Croydon is keen to understand the degree to which traffic was displaced from within the temporary LTN and onto the nearby A Roads.

The four A Roads surrounding the temporary LTN are:

- Anerley Road (A214)
- High Street-Penge Road (A213)
- South Norwood Hill (A215)
- Church Road (A212)

Traffic concerns have also been raised for roads forming the Crystal Palace Triangle gyratory, namely Church Road (Anerley Hill-Westow Street), Westow Street and Westow Hill.

LB Bromley has also expressed concern about potential traffic displacement onto Selby Road and Seymour Villas.

This section examines the effects on a number of selected roads aforementioned, to understand how the surrounding road network is performing during the introduction of the scheme. The estimated traffic flows used in this analysis were supplied by The Floow, which gathered the flow estimates using telematics technology. Limitations on the data methodology was presented on page 36.

Traffic counts were also conducted between 26 November and 2 December 2020, after the temporary measures were installed, but during the second Lockdown. The results are presented in the Appendix.

CHANGE BEFORE AND DURING LTN (AVERAGE WEEKDAY DAILY FLOWS)

The plan on the page after next (page 50) shows the percentage change in average weekday daily (12-hour average, 7am-7pm) traffic before and during the temporary LTN was introduced. The change in estimated number of vehicle is also shown in the plan, extracted from certain points representative of each road.

While figures within the temporary LTN are also shown on the plan, this part of analysis focuses on the change in traffic flows outside the temporary LTN.

Two plans showing the flow estimates 'before' and 'during' the scheme are also presented on page 51-52.

The change on the selected roads are summarised as follows.

Boundary roads

- Anerley Road saw a reduction between -42 and -127 vph (-8% to -25%) northbound, and

a reduction between -17 and -105 vph (-3% to -20%) southbound.

- High Street-Penge Road saw a change in vehicle flows ranging from +78 to -102 vph (+15% to -17%) eastbound; and from +10 to -142 vph (+3% to -27%) westbound.
- South Norwood Hill saw a change in vehicle flows ranging from +39 to -27 vph (+11 to -5%) northbound; and from +12 to -243 vph (+4 to -42%) westbound.
- Church Road (Westow Street-Beulah Hill) saw a reduction between -42 and -80 vph (-15% to -22%) northbound, and a reduction between -77 and -95 vph (-21% to -29%) southbound.

Crystal Palace Triangle

- Church Road (Anerley Hill-Westow Street), one-way southbound, saw a reduction of -103 vph (-18%).
- Westow Street, one-way northbound, saw a reduction of -48 vph (-10%).
- Westow Hill, one-way eastbound, saw an increase of +33 vph (7%).

Neighbourhood 2

- Selby Road and Seymour Villas saw an increase between +44 and +71 vph (+40% to +68%) northbound; and a change

ranging from +23 to -5 vph (+24% to -5%) southbound.

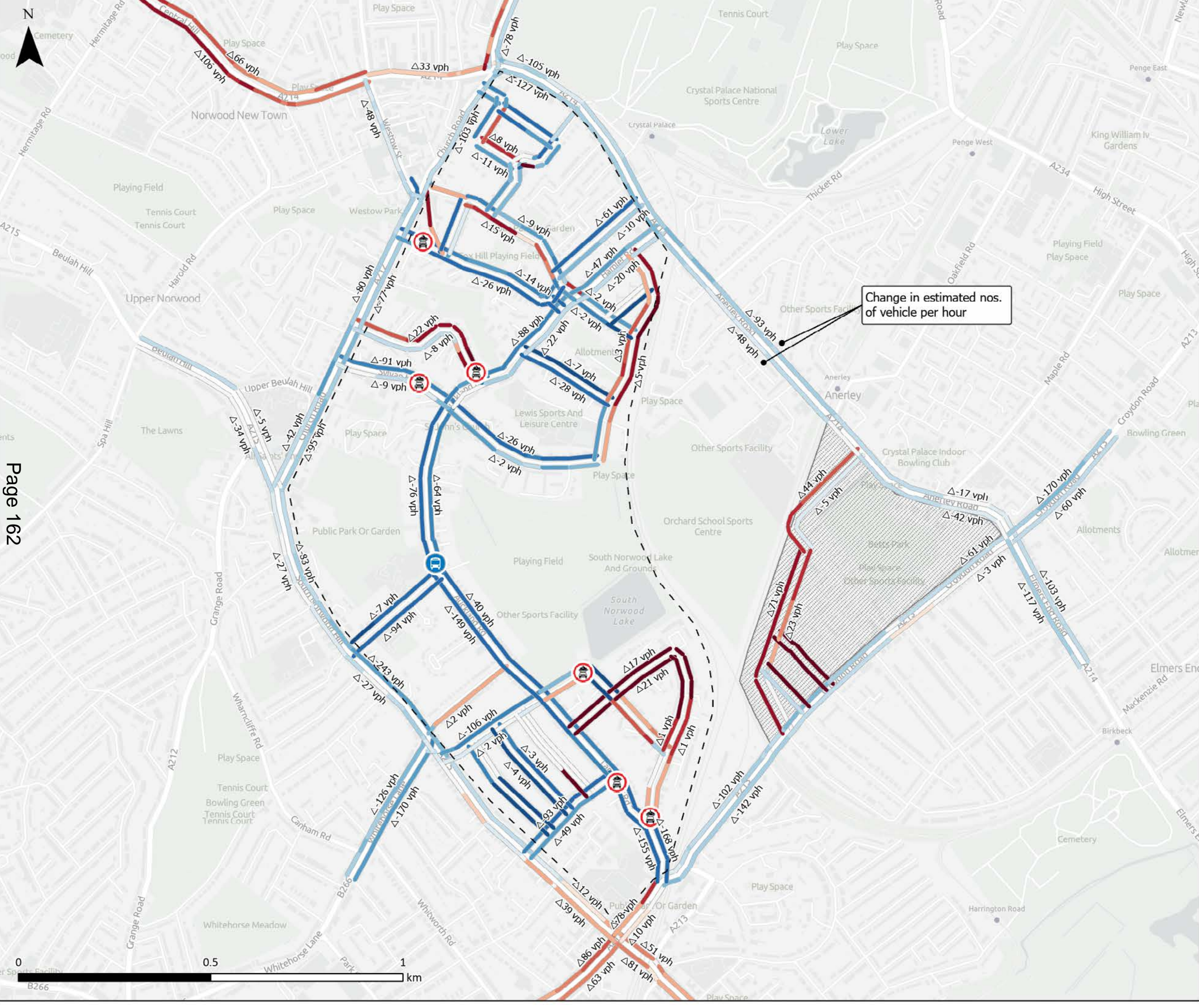
Summary

Overall, the average weekday daily flow estimates show a general reduction of traffic on majority of the roads mentioned above, during the temporary LTN was introduced.

Some increase in traffic can also be noticed on several roads during the temporary LTN was introduced. These include around the High Street/ South Norwood Hill junction, Central Hill, Westow Hill and Selby Road-Seymour Villas within 'Neighbourhood 2'.

The estimated average weekday daily flows have given us a view that was averaged across 12 hours of a typical weekday. To examine the specific time periods when the network takes the most pressure, we have also undertaken analyses on the periods of peak traffic:

- AM peak (page 53)
- PM peak (page 57)



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2


LTN Measures

- Modal Filter
- Bus Gate

% Change in Estimated Average Weekday Daily Traffic, Before and During LTN

- 71-100%
- 56-70%
- 41-55%
- 31-40%
- 21-30%
- 11-20%
- 6-10%
- 1-5%
- 0%
- +1-5%
- +6-10%
- +11-20%
- +21-30%
- +31-40%
- +41-50%
- +51-100%
- >+100%

'Daily' means 12-hour average taken between 7am-7pm
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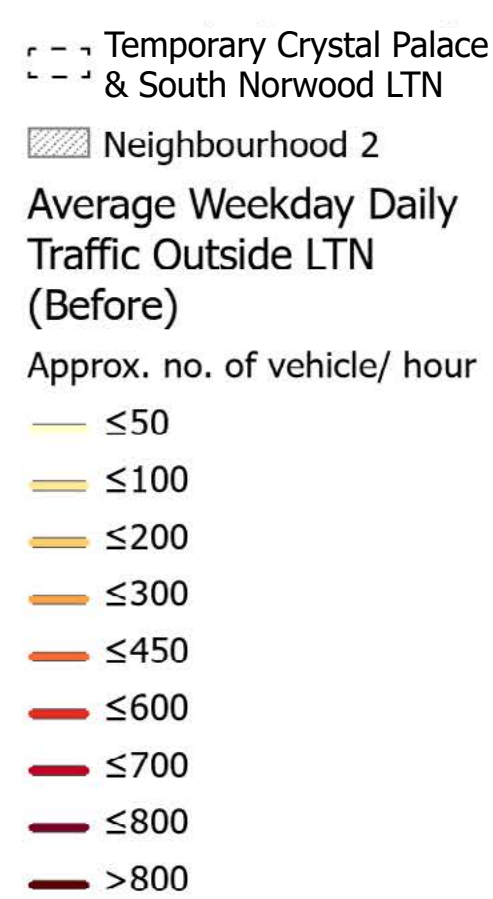
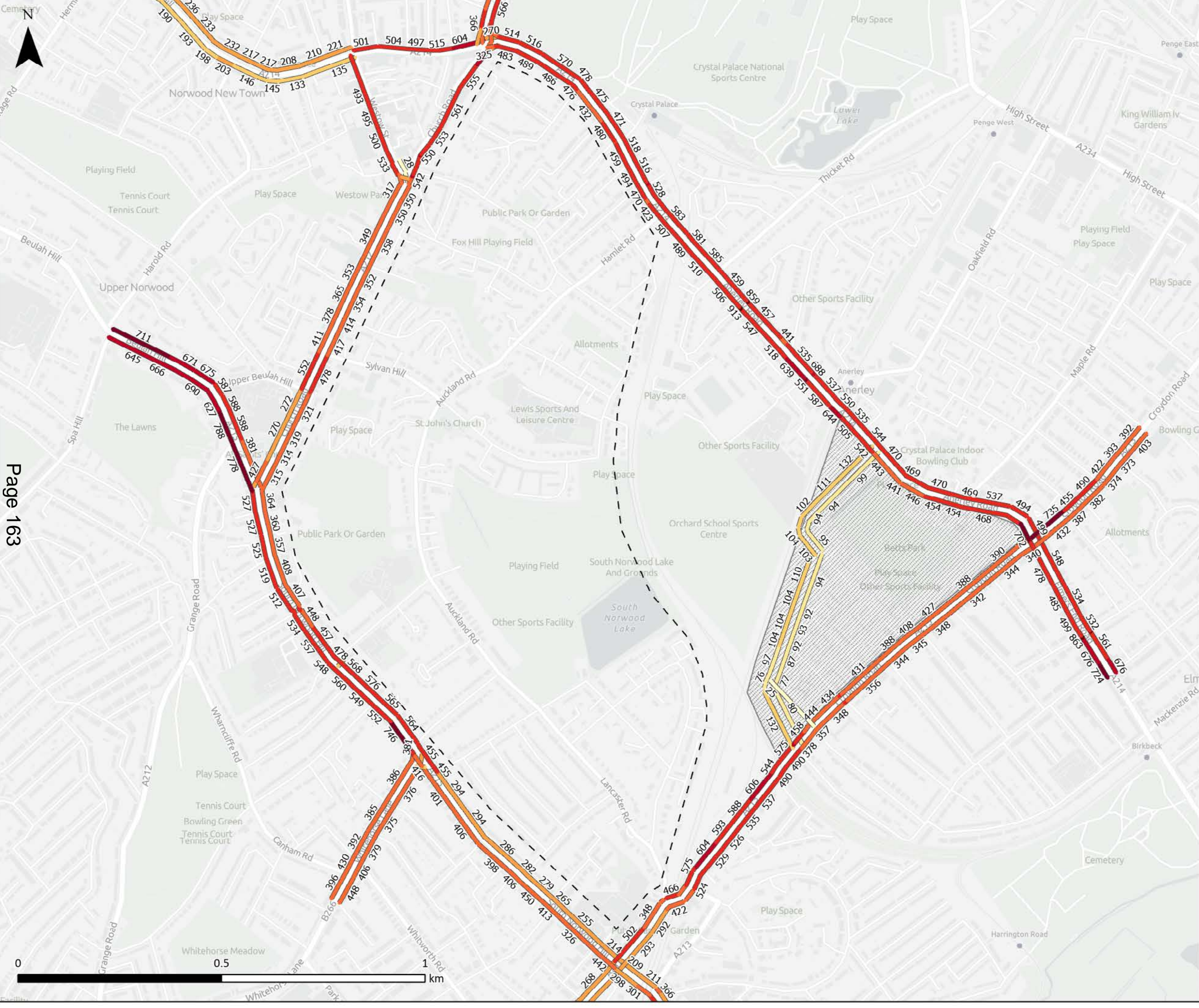
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Crystal Palace & South Norwood LTN


TITLE

CHANGE IN ESTIMATED AVERAGE WEEKDAY DAILY TRAFFIC (BEFORE AND DURING LTN)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:9,000	JY	-	06/12/2020
FIGURE NUMBER	REVISION		
20	-		



'Daily' means 12-hour average taken between 7am-7pm
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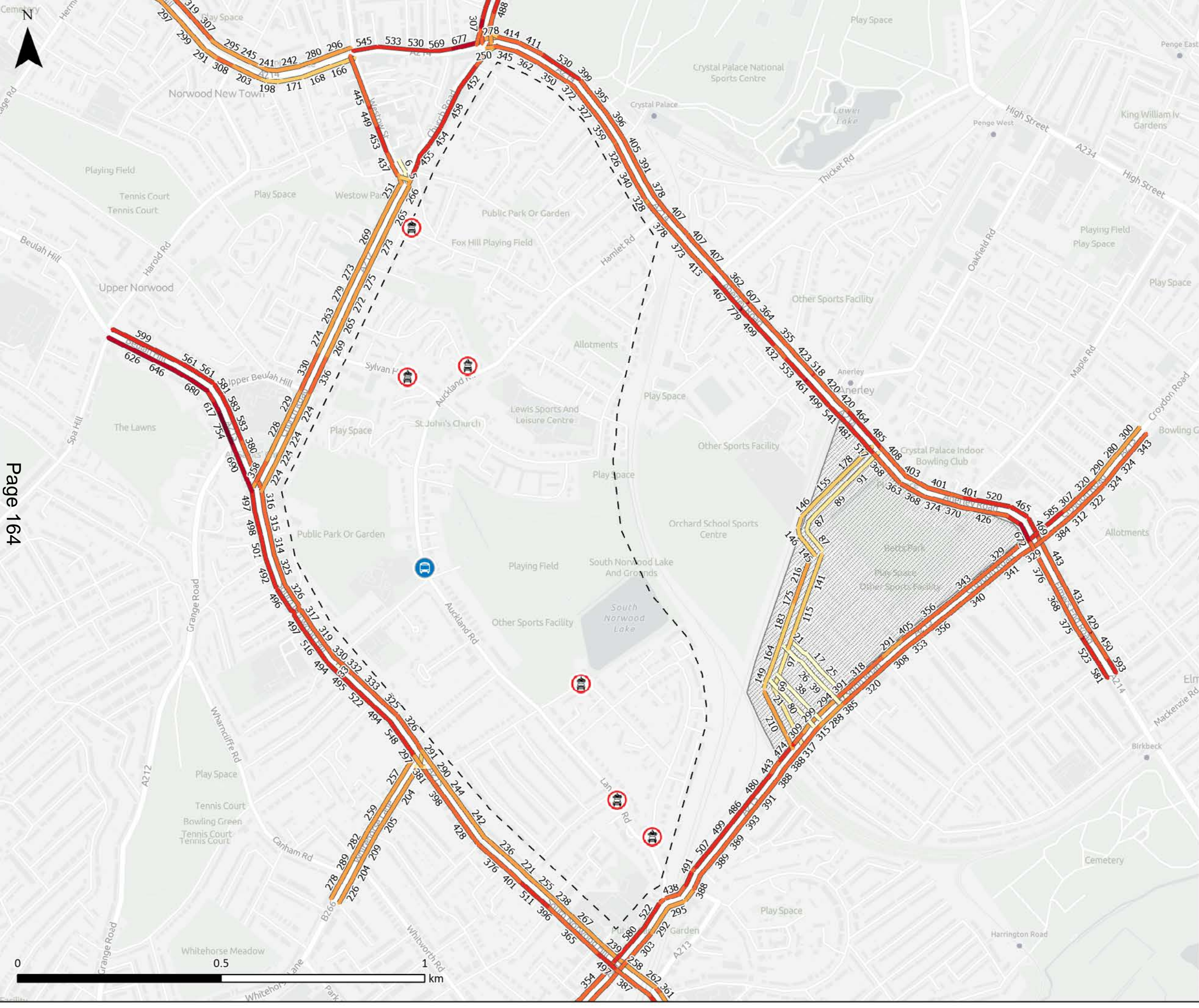
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Crystal Palace & South Norwood LTN

TITLE

AVERAGE WEEKDAY DAILY TRAFFIC OUTSIDE LTN (BEFORE)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,500	JY	-	05/12/2020
FIGURE NUMBER	REVISION		
23	-		



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

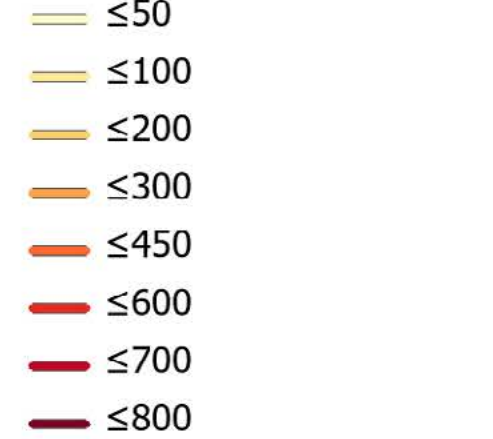
LTN Measures

Modal Filter

Bus Gate

Average Weekday Daily Traffic (During)

Approx. no. of vehicle/ hour



'Daily' means 12-hour average taken between 7am-7pm
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TITLE

AVERAGE WEEKDAY DAILY TRAFFIC OUTSIDE LTN (DURING)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,500	JY	-	05/12/2020
FIGURE NUMBER	REVISION		
24	-		

CHANGE BEFORE AND DURING LTN (AVERAGE WEEKDAY AM PEAK)

As shown on the plan on the following page, the AM peak (7-10am) generally saw more increase in traffic amongst the selected roads than the daily average.

Two plans showing the flow estimates 'before' and 'during' the scheme are also presented on page 55-56. The change on each of the selected roads are summarised as follows.

Boundary roads

- Anerley Road saw a reduction of -92 to -132 vph (-18% to -29%) northbound, and a reduction between -105 and -145 vph (-25% to -35%) southbound.
- High Street-Penge Road saw a reduction between -63 and -370 vph (-8% to -43%) eastbound; and a change in traffic flows ranging from +134 to -147 vph (+69% to -29%) westbound.
- South Norwood Hill saw an increase between +33 and +88 vph (+5% to +21%) northbound; and a change in traffic flows ranging from -458 to +22 vph (-72% to +14%) southbound.
- Church Road (Westow Street-Beulah Hill) saw a increase between +97 and +129 vph (+37% to +39%) northbound, but a reduction

on southbound between -127 and -132 vph (-41% to -46%).

Crystal Palace Triangle

- Church Road (Anerley Hill-Westow Street), one-way southbound, saw a reduction of -57 vph (-11%).
- Westow Street, one-way northbound, saw an increase of +260 vph (+49%).
- Westow Hill, one-way eastbound, saw an increase of +114 vph (7%).

Neighbourhood 2

- Selby Road and Seymour Villas saw an increase between +95 and +106 vph (+76% to +87%) northbound; and a change ranging from 0 to -8 vph (0% to -25%) southbound.

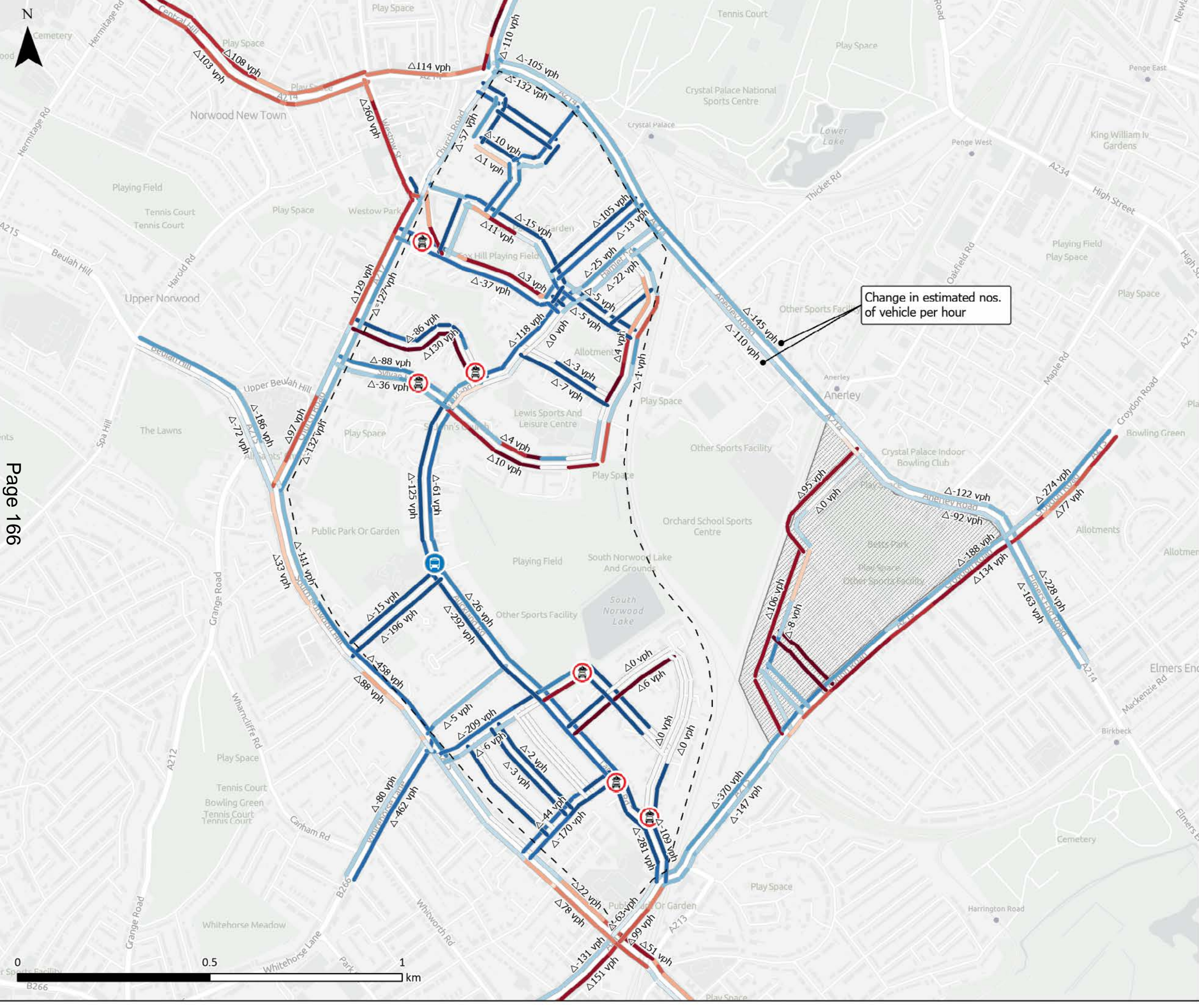
Summary

Apart from the locations seen in the daily average, traffic increase in the AM peak were also located along the northbound direction of South Norwood Hill, Church Road (Westow Street-Beulah Hill) and Westow Street. This shows an increased flow of traffic going northbound originated from the southern end of South Norwood Hill up to Crystal Palace Parade.

In addition, 'Neighbourhood 2' also saw an increase in traffic along the northbound

direction of Selby Road and Seymour Villas during the temporary LTN was introduced.

A more detailed discussion on the effects, using journey time difference data, is conducted in the Discussion section at the end of this chapter.



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

% Change in Estimated Average Weekday AM Peak Traffic, Before and During LTN

-71-100%

-56-70%

-41-55%

-31-40%

-21-30%

-11-20%

-6-10%

-1-5%

0%

+1-5%

+6-10%

+11-20%

+21-30%

+31-40%

+41-50%

+51-100%

>+100%

'AM peak' means 3-hour average taken between 7-10am

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Crystal Palace & South Norwood LTN

TITLE

CHANGE IN ESTIMATED AVERAGE WEEKDAY AM PEAK TRAFFIC (BEFORE AND DURING LTN)

SCALE

A3 @ 1:9,000

DRAWN

JY

REVIEWED

-

DATE

06/12/2020

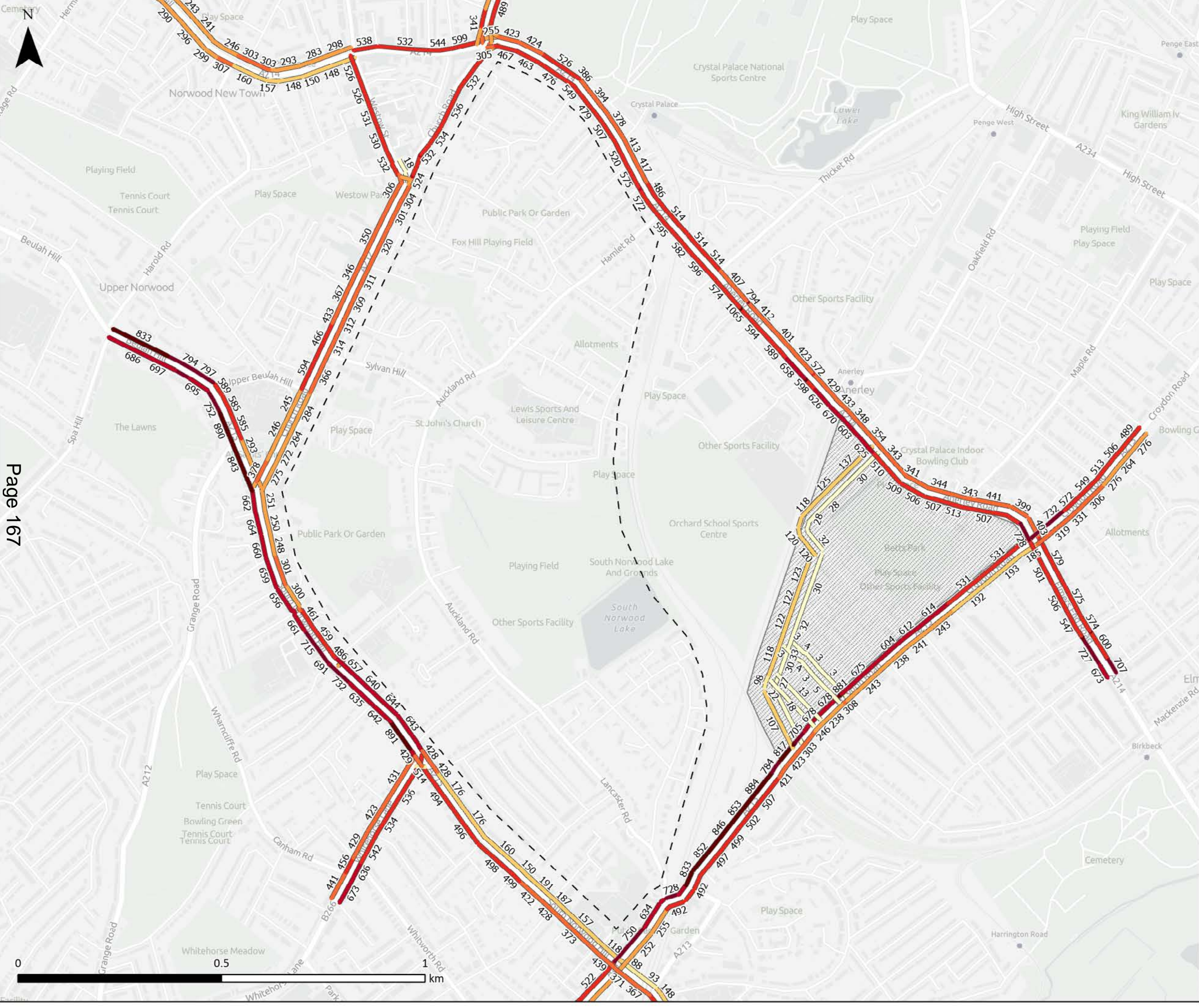
FIGURE NUMBER

33

REVISION

-

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--- Temporary Crystal Palace & South Norwood LTN

▨ Neighbourhood 2

Average Weekday AM Peak Traffic Outside LTN (Before)

Approx. no. of vehicle/ hour

- ≤50
- ≤100
- ≤200
- ≤300
- ≤450
- ≤600
- ≤700
- ≤800
- >800

'AM peak' means 3-hour average taken between 7-10am
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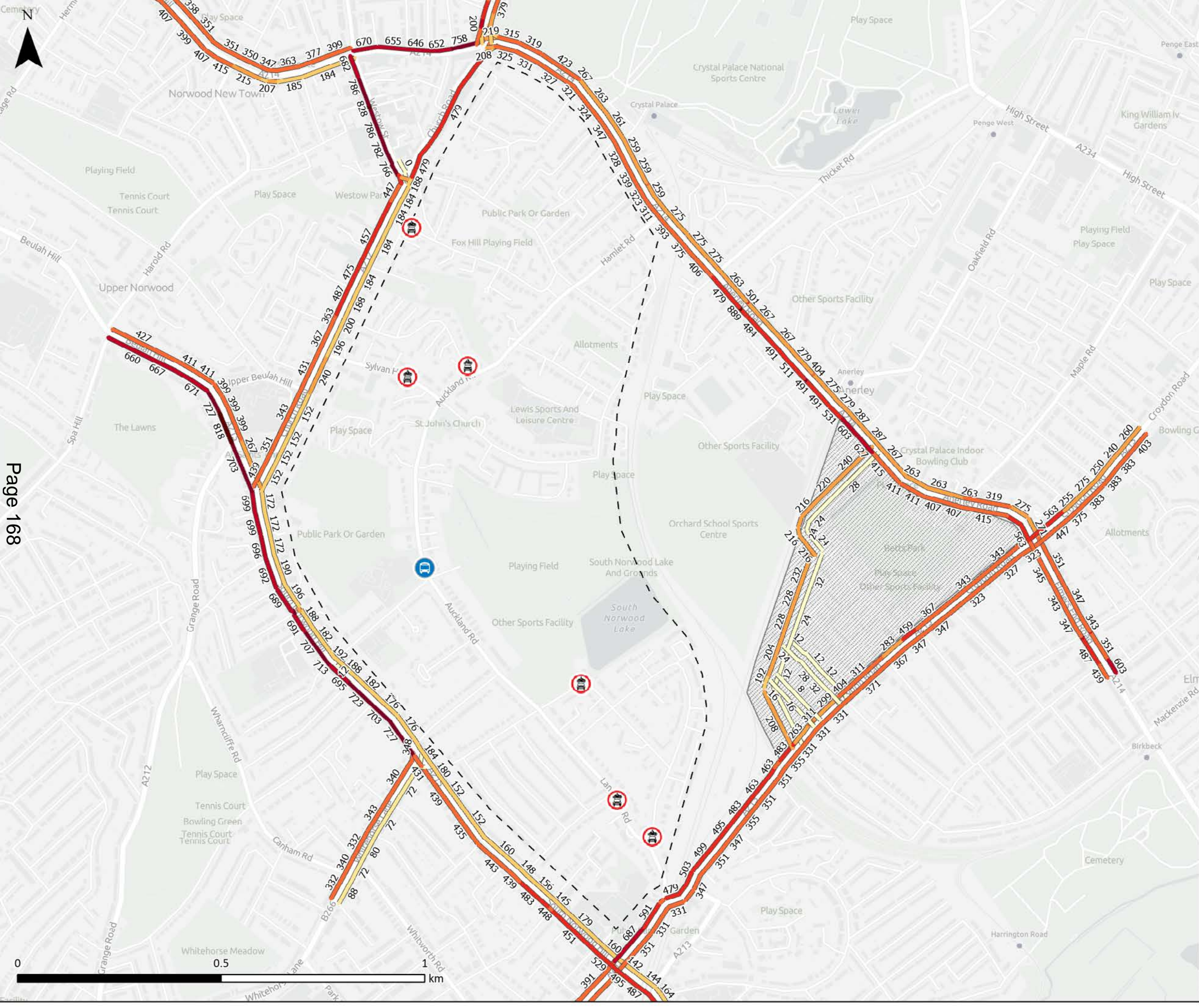
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Crystal Palace & South Norwood LTN

TITLE

AVERAGE WEEKDAY AM
PEAK TRAFFIC OUTSIDE LTN
(BEFORE)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,500	JY	-	05/12/2020
FIGURE NUMBER	REVISION		
25	-		



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

Average Weekday AM Peak Traffic Outside LTN (During)

Approx. no. of vehicle/ hour

≤50

≤100

≤200

≤300

≤450

≤600

≤700

≤800

>800

'AM peak' means 3-hour average taken between 7-10am
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Crystal Palace & South Norwood LTN

TITLE

AVERAGE WEEKDAY AM PEAK TRAFFIC OUTSIDE LTN (DURING)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:8,500	JY	-	05/12/2020
FIGURE NUMBER	REVISION		
26			

Page 168

CHANGE BEFORE AND DURING LTN (AVERAGE WEEKDAY PM PEAK)

The plan showing the change in traffic flow before and during the temporary LTN, for average weekday PM peak (4-7pm), is provided on the following page.

In comparison to the daily average and the AM peak, PM peak saw much more reduction than increase in traffic amongst the selected roads.

Two plans showing the flow estimates 'before' and 'during' the scheme are also presented on page 59-60.

The change on the selected roads are summarised as follows.

Boundary roads

- Anerley Road saw a reduction between -61 and -150 vph (-7% to -21%) northbound, and a change in traffic flows ranging from +151 to -213 vph (+20% to -29%) southbound. The increase was detected in proximity to the junction with Croydon Road.
- High Street-Penge Road saw a change in traffic flows ranging from +18 to -104 vph (+3% to -14%) eastbound; and a reduction between -98 and -278 vph (-19% to -31%) westbound.

- South Norwood Hill saw a change in traffic flows ranging from +18 to -140 vph (+4% to -20%) northbound; and between +7 and -321 vph (+2% to -35%) southbound.
- Church Road (Westow Street-Beulah Hill) saw a reduction between -166 and -268 vph (-49% to -62%) northbound, and a reduction of -147 to -190 vph (-26% to -38%) southbound.

Crystal Palace Triangle

- Church Road (Anerley Hill-Westow Street), one-way southbound, saw a reduction of -174 vph (-23%).
- Westow Street, one-way northbound, saw a reduction of -258 vph (-45%).
- Westow Hill, one-way eastbound, saw a reduction of -135 vph (-23%).

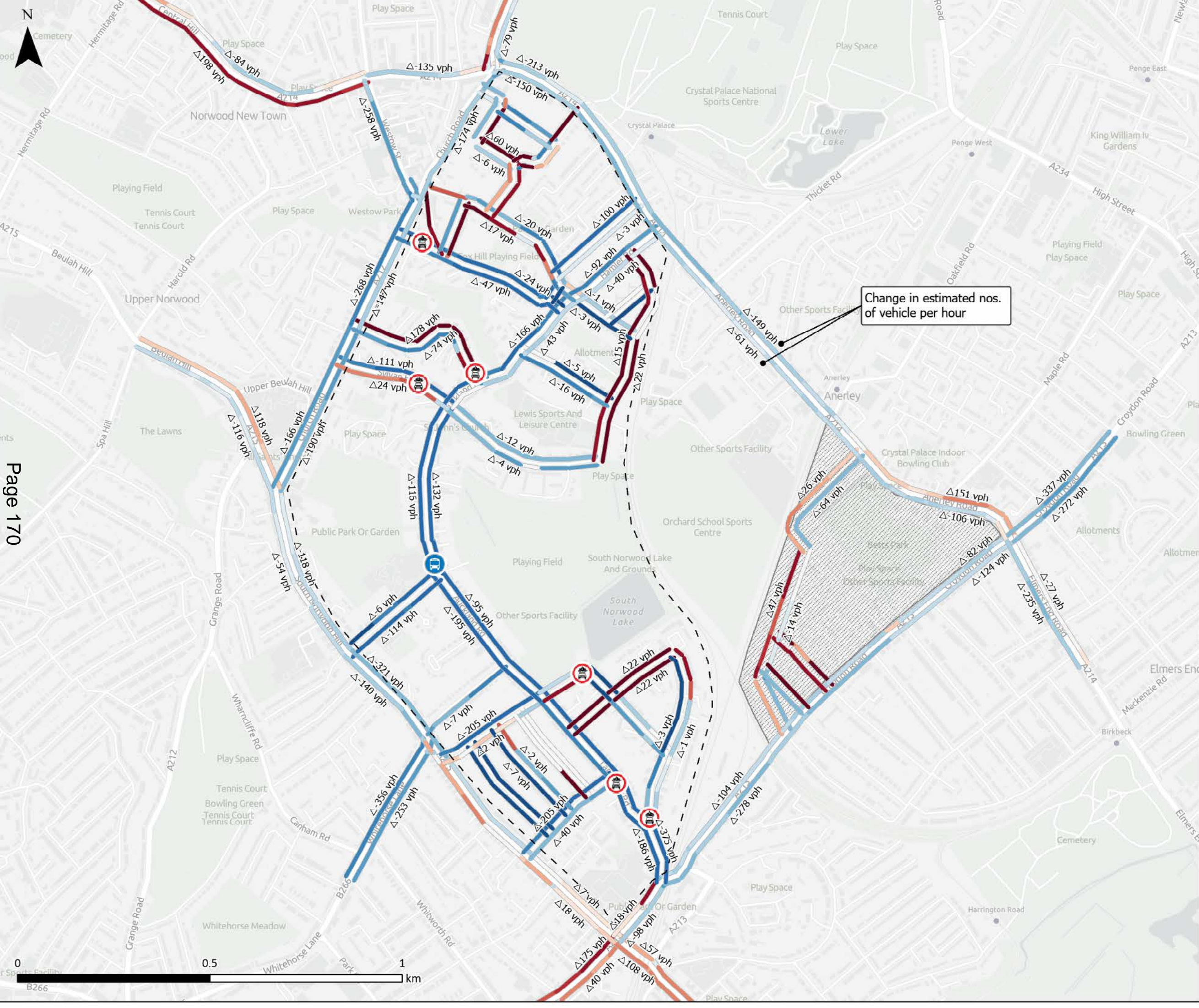
Neighbourhood 2

- Selby Road and Seymour Villas saw an increase between +26 and +47 vph (+16% to +32%) northbound; but a reduction between of -14 to -64 vph (-8% to -35%) southbound.

Summary

For the PM peak, while traffic mostly decreased on the roads nearby, Selby Road and Seymour Villas of 'Neighbourhood 2' still saw an increase in the northbound direction during the temporary LTN was introduced.

A more detailed discussion on the effects, using journey time difference data, is conducted in the Discussion section at the end of this chapter.



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

% Change in Estimated Average Weekday PM Peak Traffic, Before and During LTN

-71-100%

-56-70%

-41-55%

-31-40%

-21-30%

-11-20%

-6-10%

-1-5%

0%

+1-5%

+6-10%

+11-20%

+21-30%

+31-40%

+41-50%

+51-100%

>+100%

'PM peak' means 3-hour average taken between 4-7pm

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CHANGE IN ESTIMATED AVERAGE WEEKDAY PM PEAK TRAFFIC (BEFORE AND DURING LTN)

SCALE

A3 @ 1:9,000

DRAWN

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DATE

06/12/2020

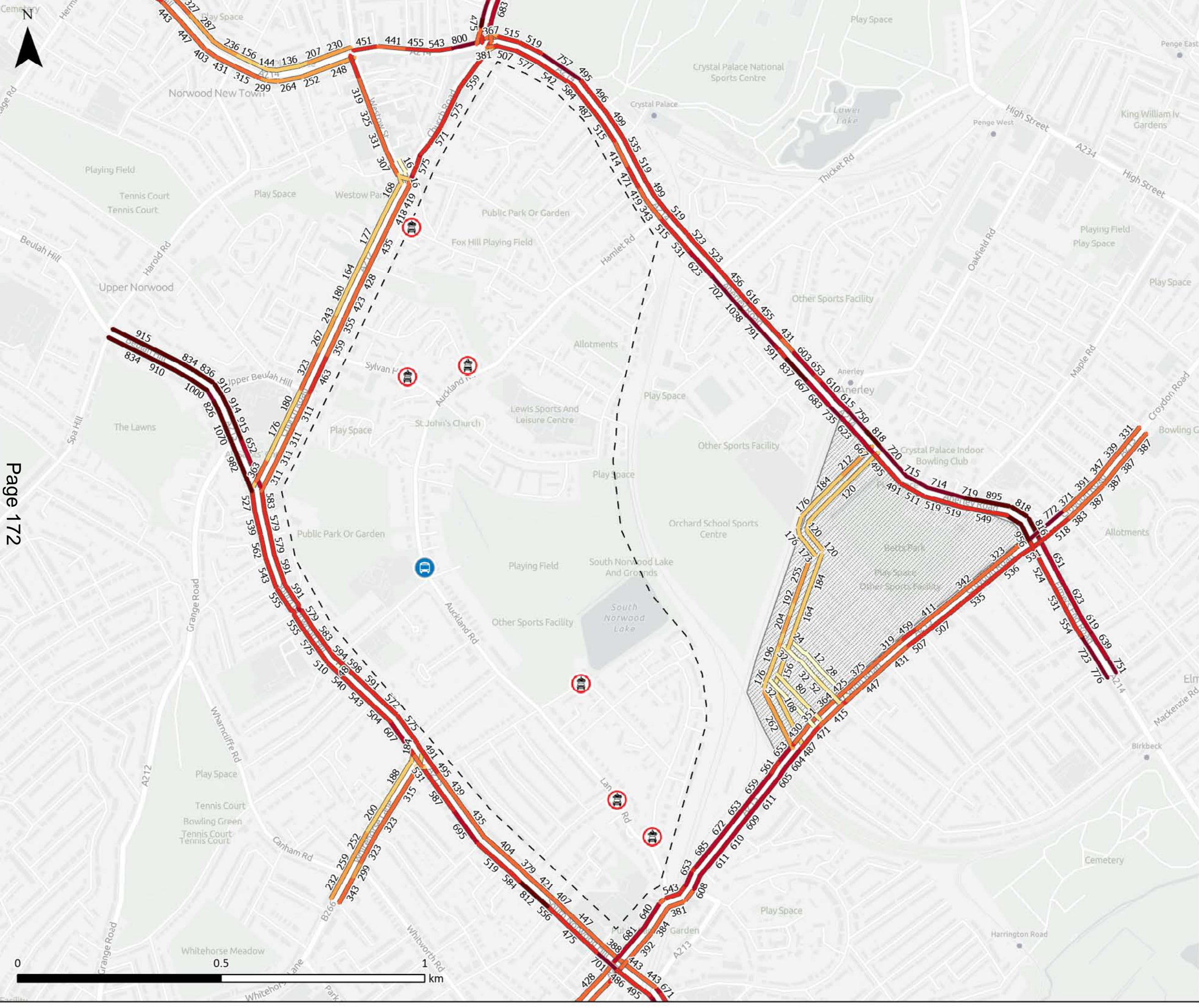
FIGURE NUMBER

34

REVISION

-

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Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

Average Weekday PM Peak Traffic Outside LTN (During)

Approx. no. of vehicle/ hour

≤50

≤100

≤200

≤300

≤450

≤600

≤700

≤800

>800

'PM peak' means 3-hour average taken between 4-7pm
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AVERAGE WEEKDAY PM
PEAK TRAFFIC OUTSIDE LTN
(DURING)

SCALE

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DATE

A3 @ 1:8,500

JY

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05/12/2020

FIGURE NUMBER

REVISION

28

-



Church Road section between Anerley Hill and Westow Street, taken during AM peak



The original exit arm on Belvedere Road, now converted to an outdoor dining space



Portland Road facing northbound



Church Road section between Anerley Hill and Westow Street, taken during PM peak



Church Road junction with Westow Street, taken during PM peak



Anerley Hill junction with Cintra Park

3.3 JOURNEY TIME DIFFERENCE (GENERAL TRAFFIC)

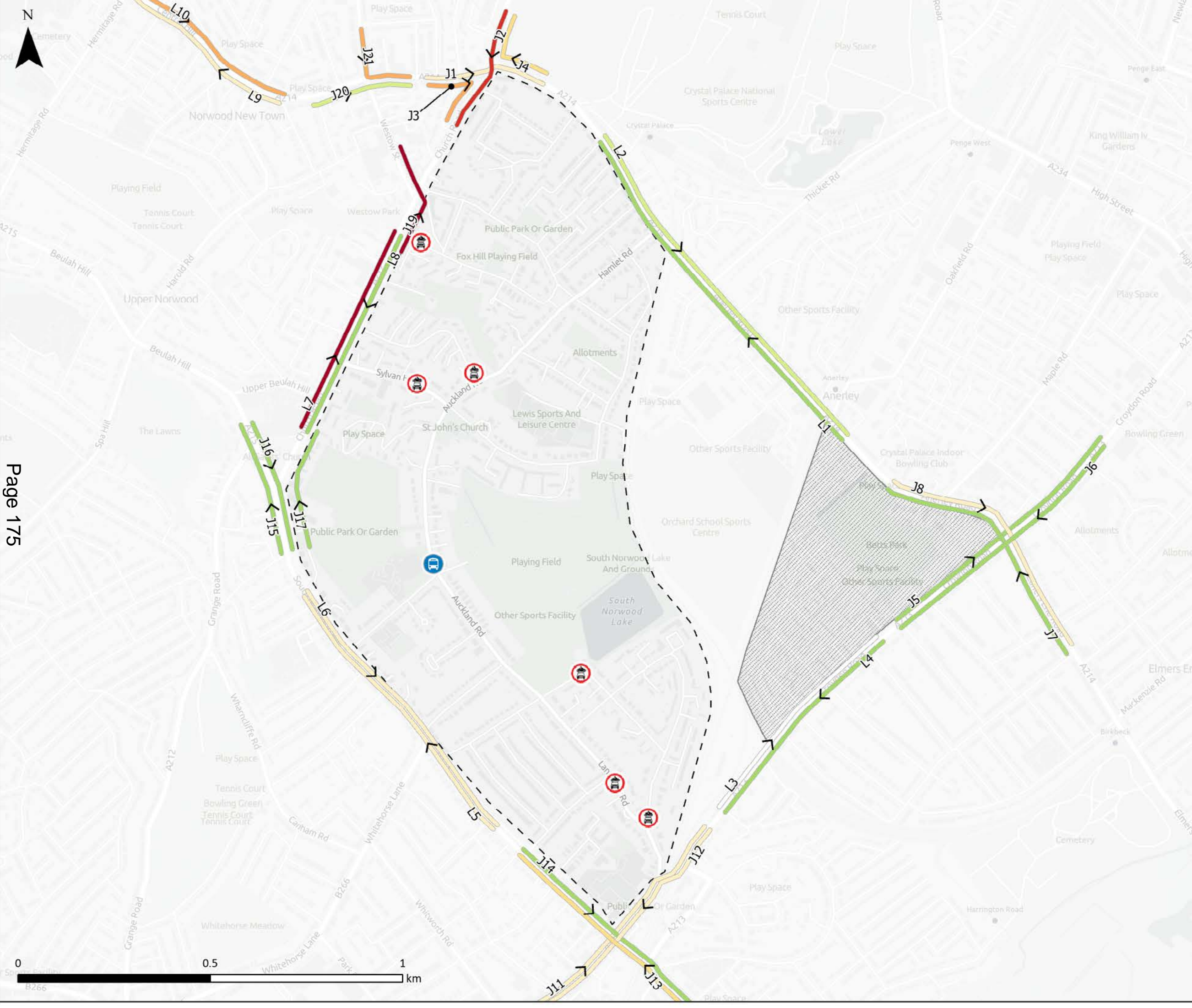
This section presents the before-and-during journey time comparison for general traffic, on roads and junctions in vicinity to the temporary LTN. Similarly to the previous sections, the data was provided for The Floop using telematics technology. The data is presented by peak periods. We have calculated the journey time difference using median journey time in seconds.

GENERAL TRAFFIC (AM PEAK)

A total of 31 routes was monitored, though three of the routes did not have enough data to generate robust results for the AM peak (7-10am). Results for the remaining 28 routes are shown in the table laid out on the right, with their location shown on the plan overleaf.

Roughly half of the routes have recorded a reduction or less than 1% increase in median journey time. Most routes (13 in total) with more than 1% increase are along Church Road northbound and the Crystal Palace Triangle. The median journey time increase ranges from 1 second to around 1.9 minutes.

Route Label	Median AM Peak journey time, Before LTN	Median AM Peak journey time, During LTN	Journey time range for 80% of journeys in AM Peak, During LTN	Difference in median journey time in AM Peak	% Change in median journey time in AM Peak
J1	101 s	102 s	64s - 139s	+1 s	+1.0%
J2	58 s	100.5 s	50s - 189s	+42.5 s	+73.3%
J3	123 s	143 s	83s - 313s	+20 s	+16.3%
J4	128 s	137.5 s	84s - 211s	+9.5 s	+7.4%
J5	127 s	110 s	86s - 180s	-17 s	-13.4%
J6	91 s	86 s	73s - 117s	-5 s	-5.5%
J7	154 s	146 s	79s - 243s	-8 s	-5.2%
J8	82 s	83 s	66s - 116s	+1 s	+1.2%
J11	172 s	176 s	113s - 286s	+4 s	+2.3%
J12	145 s	146 s	100s - 212s	+1 s	+0.7%
J13	170 s	185 s	100s - 329s	+15 s	+8.8%
J14	131 s	121 s	91s - 241s	-10 s	-7.6%
J15	71 s	61.5 s	39s - 96s	-9.5 s	-13.4%
J16	55 s	49 s	36s - 67s	-6 s	-10.9%
J17	69 s	62 s	42s - 91s	-7 s	-10.1%
J19	91.5 s	208 s	79s - 267s	+116.5 s	+127.3%
J20	87 s	86 s	45s - 169s	-1 s	-1.1%
J21	41 s	48.5 s	39s - 83s	+7.5 s	+18.3%
L1	145 s	131.5 s	99s - 319s	-13.5 s	-9.3%
L2	129 s	123 s	98s - 175s	-6 s	-4.7%
L3	71 s	71 s	54s - 104s	0 s	0.0%
L4	78 s	72 s	57s - 119s	-6 s	-7.7%
L5	138 s	141 s	104s - 233s	+3 s	+2.2%
L6	96 s	96.5 s	77s - 120s	+0.5 s	+0.5%
L7	71.5 s	146 s	61s - 293s	+74.5 s	+104.2%
L8	64.5 s	60 s	49s - 76s	-4.5 s	-7.0%
L9	47 s	48 s	41s - 73s	+1 s	+2.1%
L10	140 s	157 s	131s - 216s	+17 s	+12.1%



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

% Change in AM Peak median journey time

-10-14 %

-5-9 %

-1-4 %

≤0

+1-5%

+6-10%

+11-25%

+26-50%

+51-100%

+101-130%

'AM peak' means 3-hour average taken between 7-10am
Traffic data obtained from Floop
Contains OS data © Crown Copyright and database right 2020
Contains data from OS Zoomstack

PJA

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CLIENT

London Borough of Croydon

PROJECT

Crystal Palace & South Norwood LTN

TITLE

JOURNEY TIME DIFFERENCE (AM PEAK) (BEFORE AND DURING LTN)

SCALE

A3 @ 1:9,000

DRAWN

JY

REVIEWED

-

DATE

09/12/2020

FIGURE NUMBER

21

REVISION

-

Page 175

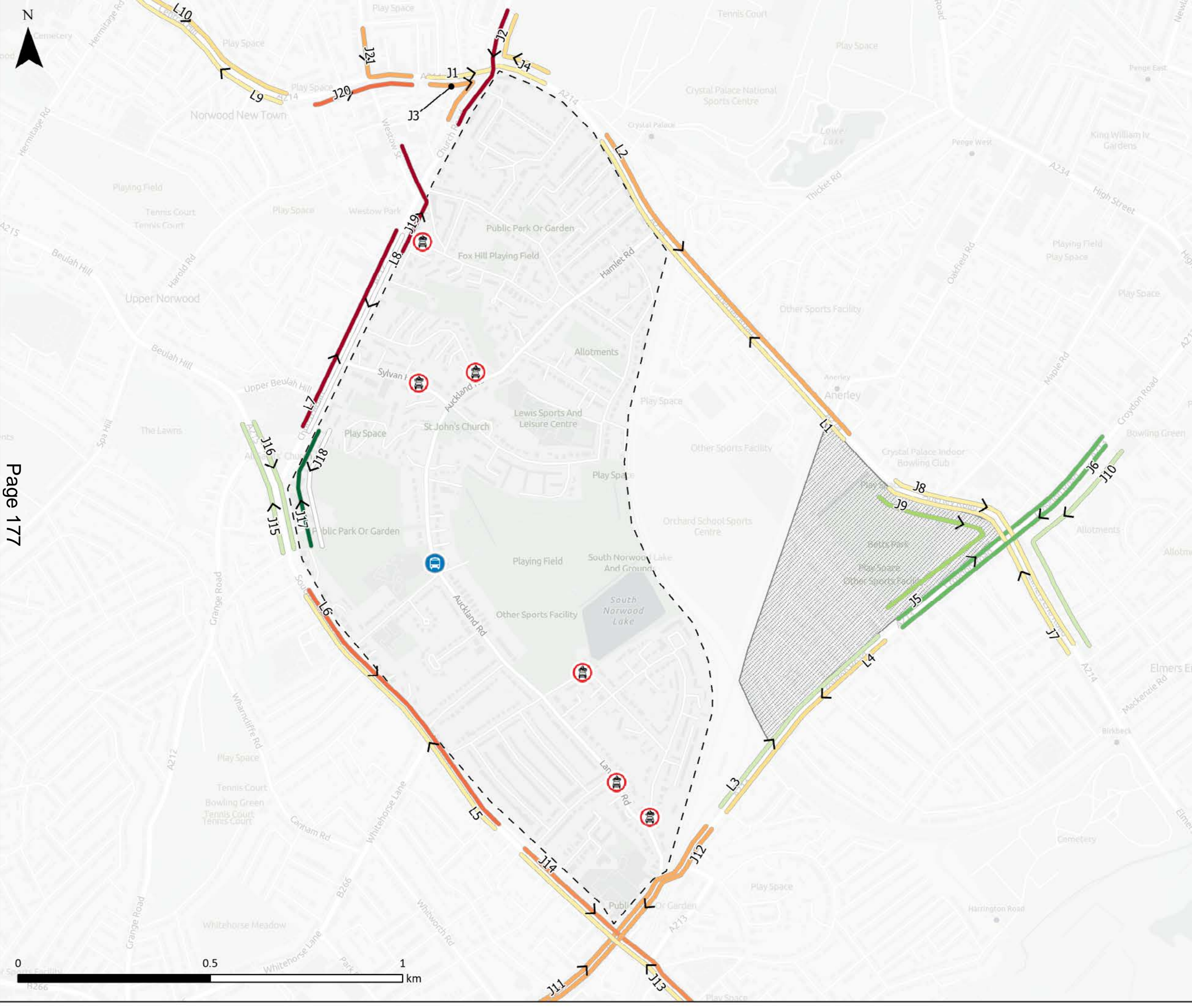
GENERAL TRAFFIC (PM PEAK)

A total of 31 routes was monitored, with results presented for the PM peak. The table of results are laid out on the right, with their location shown on the plan overleaf.

About two-third of the routes have recorded more than 1% increase in median journey time. The increase ranges from 4 seconds to 2.6 minutes. These routes cover most road segments around the temporary LTN. Similar to the AM peak, Church Road northbound and the Crystal Palace Triangle are amongst the area with most percentage increase in median journey time. South Norwood Hill southbound, down to Portland Road, also saw a large increase in the PM peak.

A more detailed analysis about the journey time difference is included in the Discussion section at the end of this chapter.

Route Label	Median PM Peak journey time, Before LTN	Median PM Peak journey time, During LTN	Journey time range for 80% of journeys in PM Peak, During LTN	Difference in median journey time in PM Peak	% Change in median journey time in PM Peak
J1	159.5 s	168 s	93s - 274s	+8.5 s	+5.3%
J2	68 s	192 s	89s - 286s	+124 s	+182.3%
J3	193 s	266 s	178s - 370s	+73 s	+37.8%
J4	123 s	143 s	69s - 237s	+20 s	+16.3%
J5	142 s	127 s	80s - 196s	-15 s	-10.6%
J6	112 s	98 s	75s - 140s	-14 s	-12.5%
J7	126 s	137 s	89s - 216s	+11 s	+8.7%
J8	97 s	106 s	74s - 162s	+9 s	+9.3%
J9	98 s	92 s	75s - 157s	-6 s	-6.1%
J10	106.5 s	105 s	83s - 130s	-1.5 s	-1.4%
J11	255 s	328.5 s	182s - 477s	+73.5 s	+28.8%
J12	147.5 s	221 s	148s - 289s	+73.5 s	+49.8%
J13	173 s	180 s	116s - 297s	+7 s	+4.0%
J14	274 s	426 s	247s - 621s	+152 s	+55.5%
J15	67.5 s	64.5 s	41s - 108s	-3 s	-4.4%
J16	68 s	65 s	51s - 86s	-3 s	-4.4%
J17	69 s	56.5 s	37s - 88s	-12.5 s	-18.1%
J18	49 s	49 s	40s - 73s	0 s	+0.0%
J19	82 s	243 s	116s - 320s	+161 s	+196.3%
J20	108 s	192.5 s	67s - 377s	+84.5 s	+78.2%
J21	71 s	97 s	48s - 153s	+26 s	+36.6%
L1	146 s	159 s	113s - 225s	+13 s	+8.9%
L2	174 s	238 s	146s - 387s	+64 s	+36.8%
L3	80 s	79 s	57s - 117s	-1 s	-1.3%
L4	75 s	89 s	61s - 225s	+14 s	+18.7%
L5	121.5 s	126 s	99s - 243s	+4.5 s	+3.7%
L6	112 s	252 s	126s - 426s	+140 s	+125.0%
L7	72 s	219 s	92s - 424s	+147 s	+204.2%
L8	65 s	65 s	53s - 91s	0 s	0.0%
L9	49 s	53 s	48s - 75s	+4 s	+8.2%
L10	153 s	181 s	144s - 276s	+28 s	+18.3%



Temporary Crystal Palace & South Norwood LTN

Neighbourhood 2

LTN Measures

Modal Filter

Bus Gate

% Change in PM Peak median journey time

-15-20 %

-10-14 %

-5-9 %

-1-4 %

0 %

+1-10 %

+11-25 %

+26-50 %

+51-75 %

+76-100 %

+101-125 %

+126-150 %

+151-210 %

'PM peak' means 3-hour average taken between 4-7pm
Traffic data obtained from Floop
Contains OS data © Crown Copyright and database right 2020
Contains data from OS Zoomstack

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CLIENT

London Borough of
Croydon

PROJECT

Crystal Palace &
South Norwood LTN

TITLE

JOURNEY TIME DIFFERENCE (PM PEAK) (BEFORE AND DURING LTN)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:9,000	JY	-	09/12/2020
FIGURE NUMBER	REVISION		
22	-		

3.4 JOURNEY TIME DIFFERENCE (BUSES)

Bus journey time data, as provided by TfL from the iBus system, has been analysed to understand if the temporary LTN scheme has had an effect in the running times of local bus routes. The latest data we obtained cover the period from January 2019 to the second week of October 2020.

The timeline graph, showing changes in average weekday bus journey time during a 12-hour peak (7am-7pm), are presented by each road corridor around the LTN. These corridors are listed below.

- Anerley Road (northbound)
- Anerley Road (southbound)
- Penge Road (eastbound)
- Penge Road (westbound)
- South Norwood Hill (northbound)
- South Norwood Hill (southbound)
- Church Road (northbound)
- Church Road (southbound)

On top of each graph, we also added the timeline of road works, LTN measures and COVID-19 restrictions at the time along the bus performance timeline. For the precise location and details of particular LTN measure or road works, please refer to page 34-35.

ANERLEY ROAD (NORTHBOUND)

The average journey time of buses along Anerley Road northbound dropped with the first lockdown in late March 2020, then remained below the baseline of 3.2 minutes per kilometre (min/km).

The figure started increase, to about 4.2 min/km starting from August 2020. It then increased to about 4.9 min/km in October.

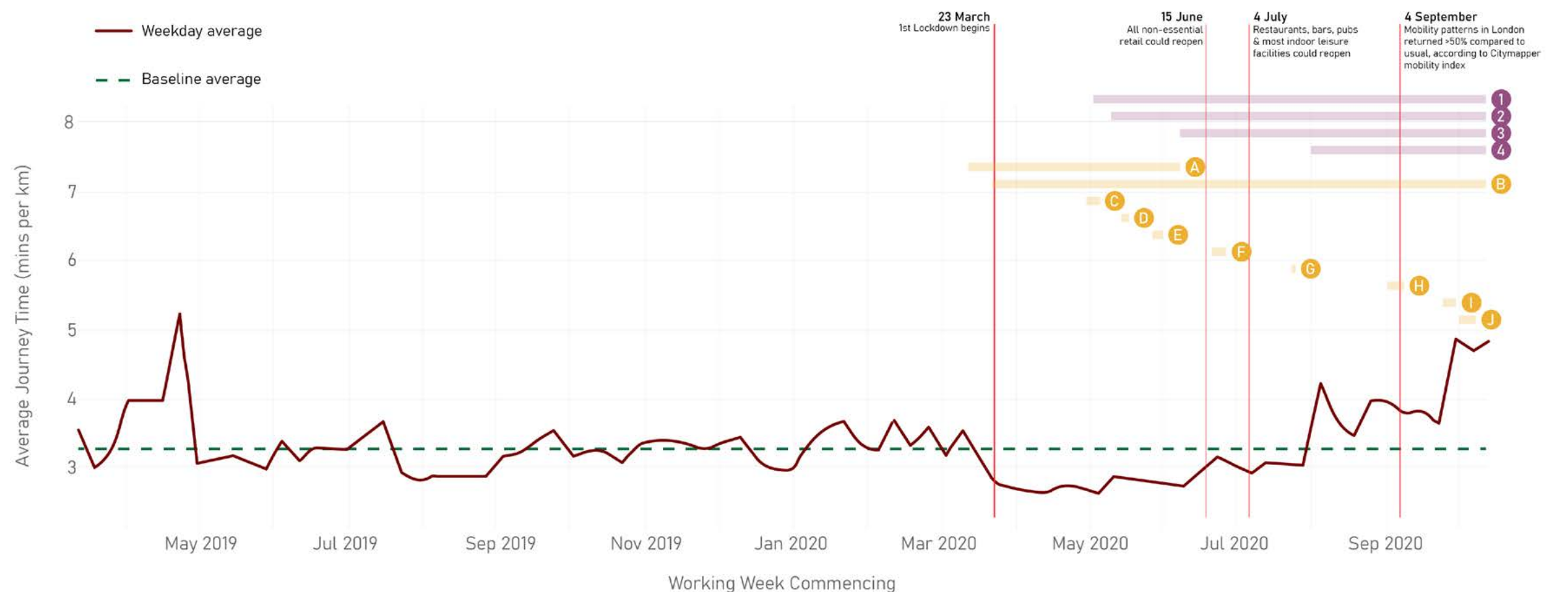
The first spike in journey time coincided with the period when the modal filters were installed on Stambourne Way, Sylvan Hill and Fox Hill. Despite the figure fell to around 3.8 min/km in late September, the figure reached 4.9 min/km again when the road works were in place on Auckland Road.

ANERLEY ROAD (SOUTHBOUND)

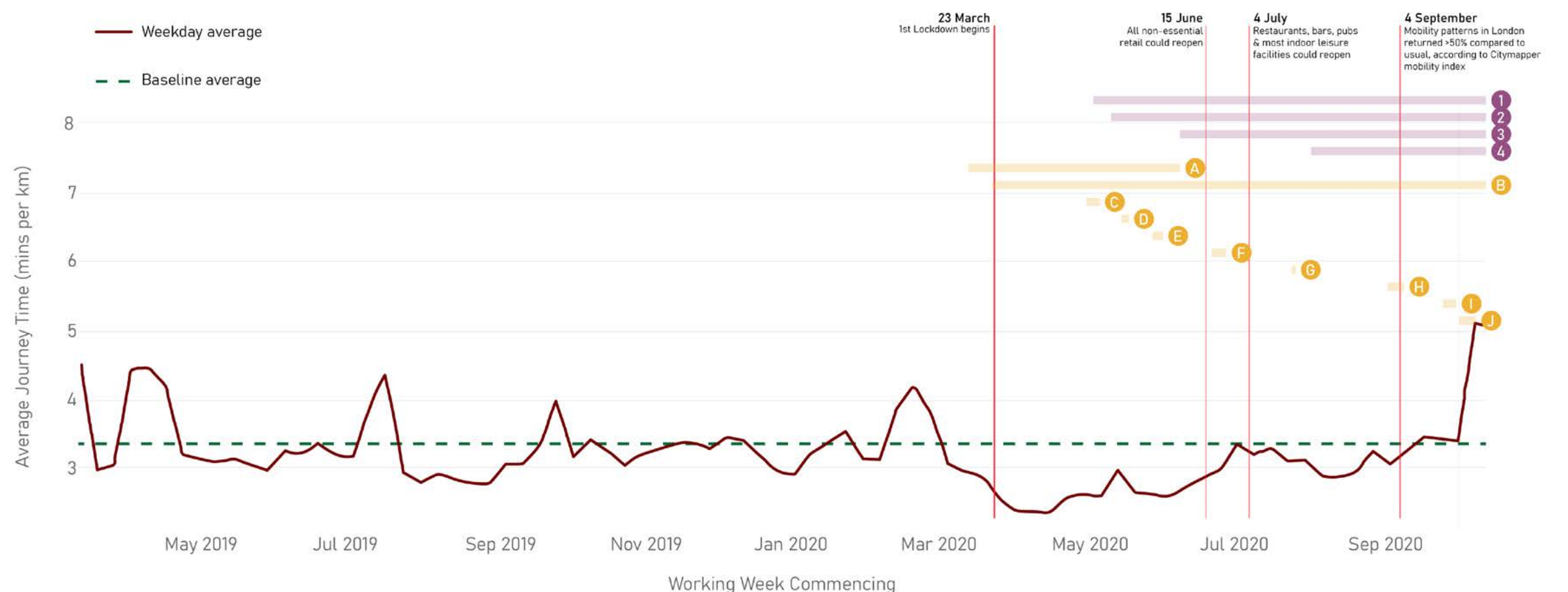
The average journey time of buses along Anerley Road southbound also stayed below the baseline of 3.3 minutes per kilometre (min/km) after dropping with the first lockdown in late March 2020.

The figure did not increase over the baseline until early October, when it soared to about 5.1 min/km.

Anerley Road NB corridor



Anerley Road SB corridor



Temporary LTN Measures

- 1 **9 May 2020**
Modal filter at
- Junction of Lancaster Road/ Southern Avenue
- Junction of Woodvale Avenue/ Avenue Road
- 2 **9 May 2020**
Modal filter at Junction of Lancaster Road/ Warminster Road
- 3 **7 June 2020**
Modal filter (now a Bus Gate) at Auckland Road by Cypress Road
- 4 **3 August 2020**
Modal filter on
- Stambourne Way
- Sylvan Hill
- Fox Hill

Road works

- A Auckland Road
- B Church Road
- C Westow Hill
- D Church Road
- E Sylvan Road
- F Westow Hill
- G Woodvale Avenue
- H South Norwood Hill
- I Auckland Road
- J Auckland Road

PENGE ROAD (EASTBOUND)

The baseline average of bus journey time along Penge Road eastbound is around 3.6 min/km. The figure stayed below the baseline after the lockdown measures were enforced since late March 2020.

Some fluctuations were identified, such as a spike after non-essential retail were allowed to reopen on 15 July, as well as at the start of a roadwork on South Norwood Hill. Nevertheless, the figure stayed at around 3.5 min/km at the end of the data period.

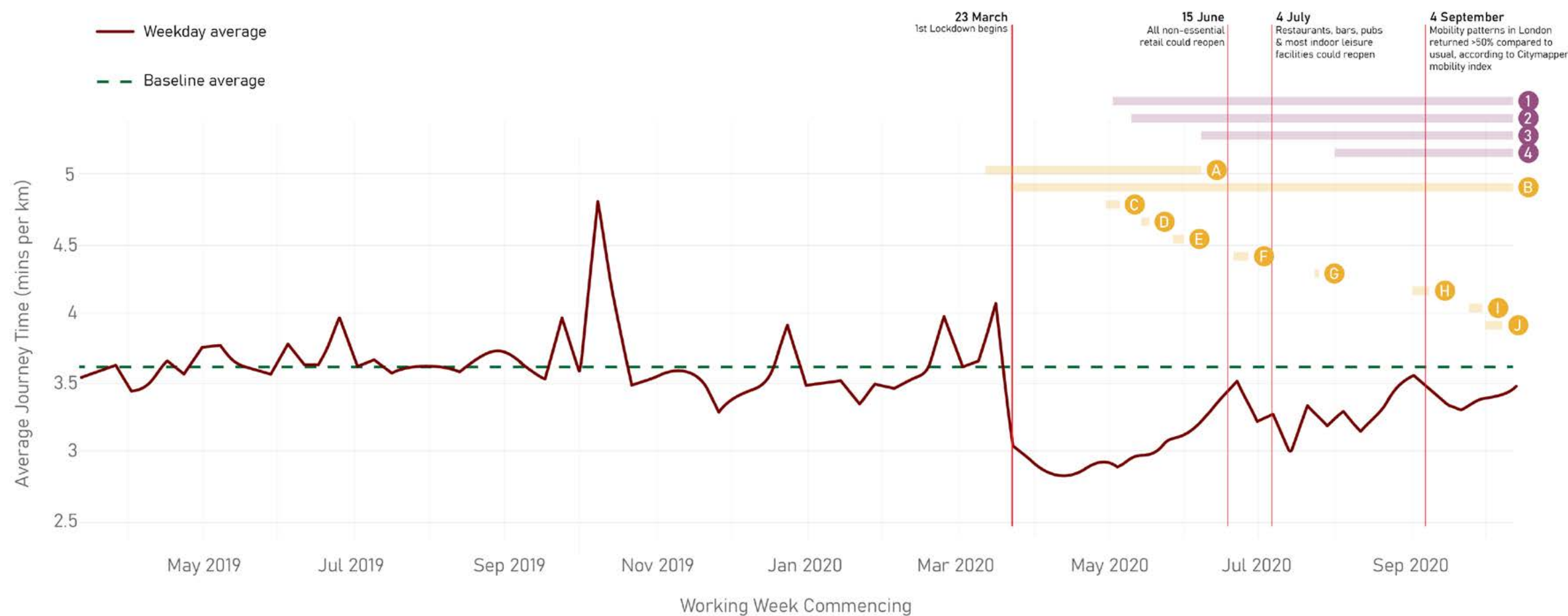
PENGE ROAD (WESTBOUND)

The baseline average of bus journey time along Penge Road westbound is around 4.6 min/km. The average decreased to around 3.5 min/km after the first lockdown.

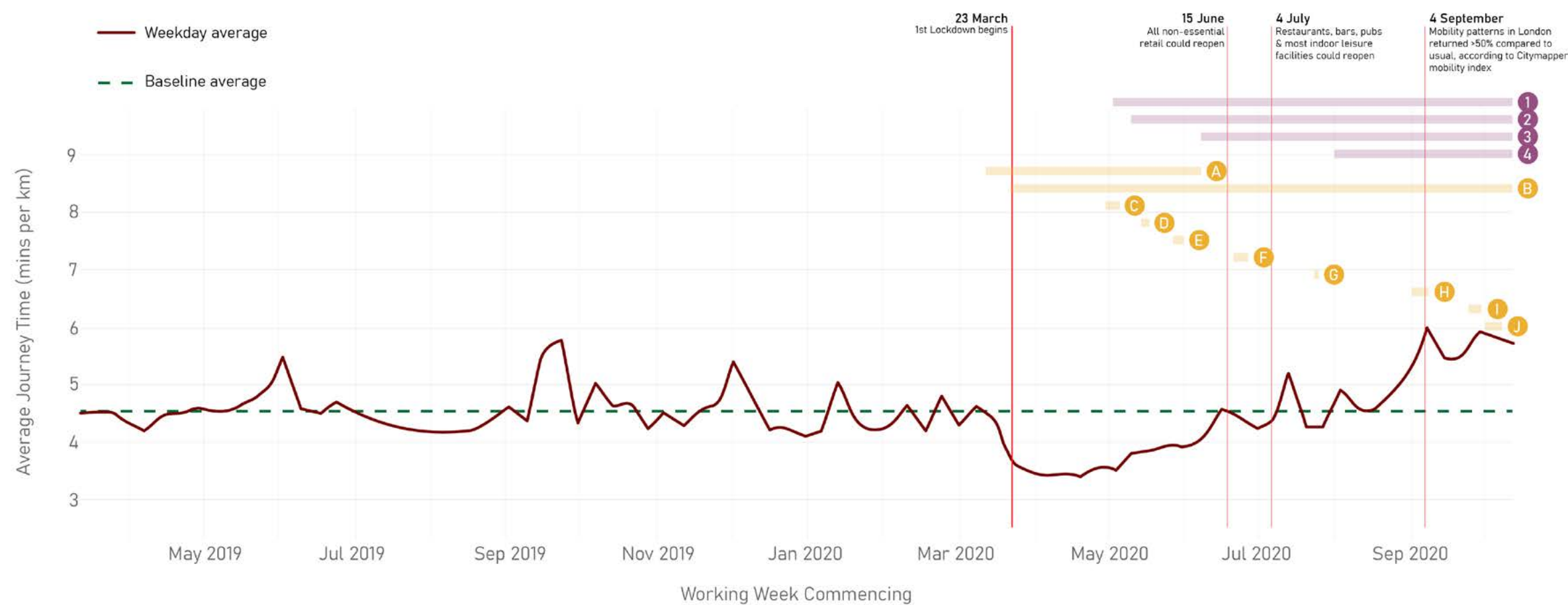
The figure started increase above the baseline average starting from mid-July, after the restaurants were allowed to reopen. It then increased to around 6 min/km in September. That was the time when the mobility patterns in London returned to at least 50% of the usual, according to Citymapper mobility index.¹

1 - [Citymapper Mobility Index \(2020\) '% of London moving compared to usual'](#)

Penge Road EB corridor



Penge Road WB corridor



Temporary LTN Measures

- 1 **9 May 2020**
Modal filter at
- Junction of Lancaster Road/ Southern Avenue
- Junction of Woodvale Avenue/ Avenue Road
- 2 **9 May 2020**
Modal filter at Junction of Lancaster Road/ Warminster Road
- 3 **7 June 2020**
Modal filter (now a Bus Gate) at Auckland Road by Cypress Road
- 4 **3 August 2020**
Modal filter on
- Stambourne Way
- Sylvan Hill
- Fox Hill

Road works

- A Auckland Road
- B Church Road
- C Westow Hill
- D Church Road
- E Sylvan Road
- F Westow Hill
- G Woodvale Avenue
- H South Norwood Hill
- I Auckland Road
- J Auckland Road

SOUTH NORWOOD HILL (NORTHBOUND)

The baseline average of bus journey time along South Norwood Hill northbound is around 3.8 min/km. After lockdown in March 2020, the average bus journey time reduced to less than 3 min/km.

While the figure gradually increased over a six month period, it stayed below the baseline average, before it soared to over 5 min/ km in early October.

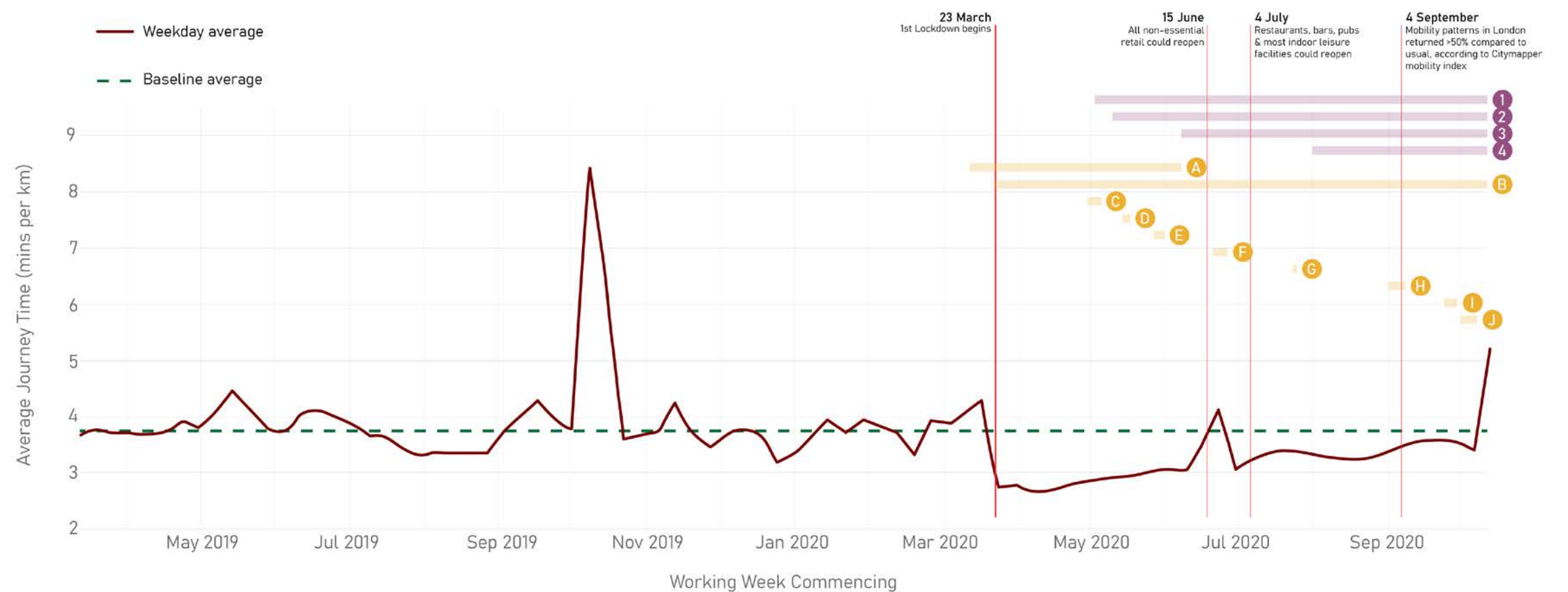
SOUTH NORWOOD HILL (SOUTHBOUND)

The baseline average of bus journey time along South Norwood Hill southbound is around 4 min/km. After lockdown, the average reduced to less than 3 min/km, then increased above the baseline after non-essential retailers were back in business since mid-June 2020.

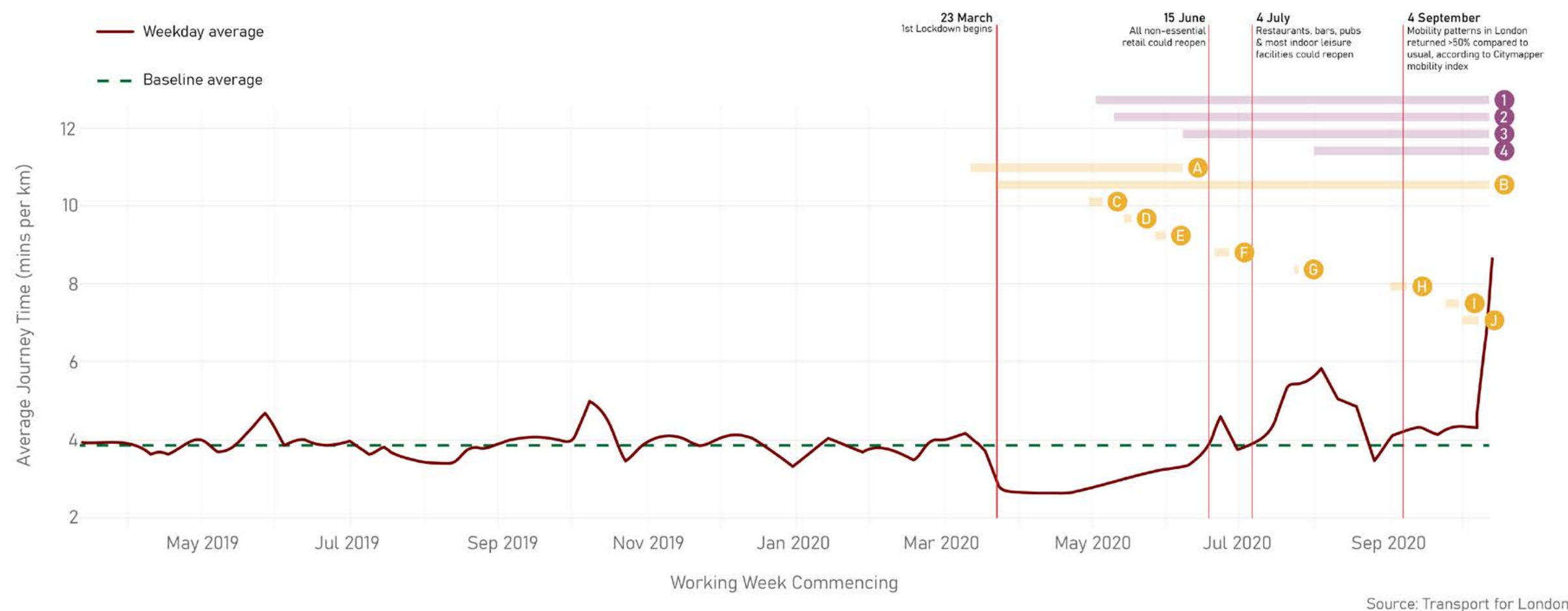
The figure fluctuated for a few months before October, which at times it soared to near 6 min/km. This spike happened around the period when the modal filters were installed on Stambourne Way, Sylvan Hill and Fox Hill.

The figure fell back to just above the baseline (around 4.2 min/km) around September and remain steady until early October, when soared to over 8 min/ km.

South Norwood Hill NB corridor



South Norwood Hill SB corridor



Temporary LTN Measures

- 9 May 2020**
Modal filter at
- Junction of Lancaster Road/ Southern Avenue
- Junction of Woodvale Avenue/ Avenue Road
- 9 May 2020**
Modal filter at Junction of Lancaster Road/ Warminster Road
- 7 June 2020**
Modal filter (now a Bus Gate) at Auckland Road by Cypress Road
- 3 August 2020**
Modal filter on
- Stambourne Way
- Sylvan Hill
- Fox Hill

Road works

- A Auckland Road
- B Church Road
- C Westow Hill
- D Church Road
- E Sylvan Road
- F Westow Hill
- G Woodvale Avenue
- H South Norwood Hill
- I Auckland Road
- J Auckland Road

CHURCH ROAD (NORTHBOUND)

The baseline average of bus journey time along Church Road northbound is around 3 min/km. There was a spike in the average before the first lockdown in early March. It was very likely to be caused by the Candle shop car crash. As a result, the figure did not plummet a lot after the lockdown in March 2020, unlike all the other roads mentioned above.

Shortly before June, the figure increased above the baseline of 3 min/km and settled around 4 min/km for around a month and a half. The second spike brought the figure to around 9 min/km shortly after 4 July, when all restaurants were allowed to reopen.

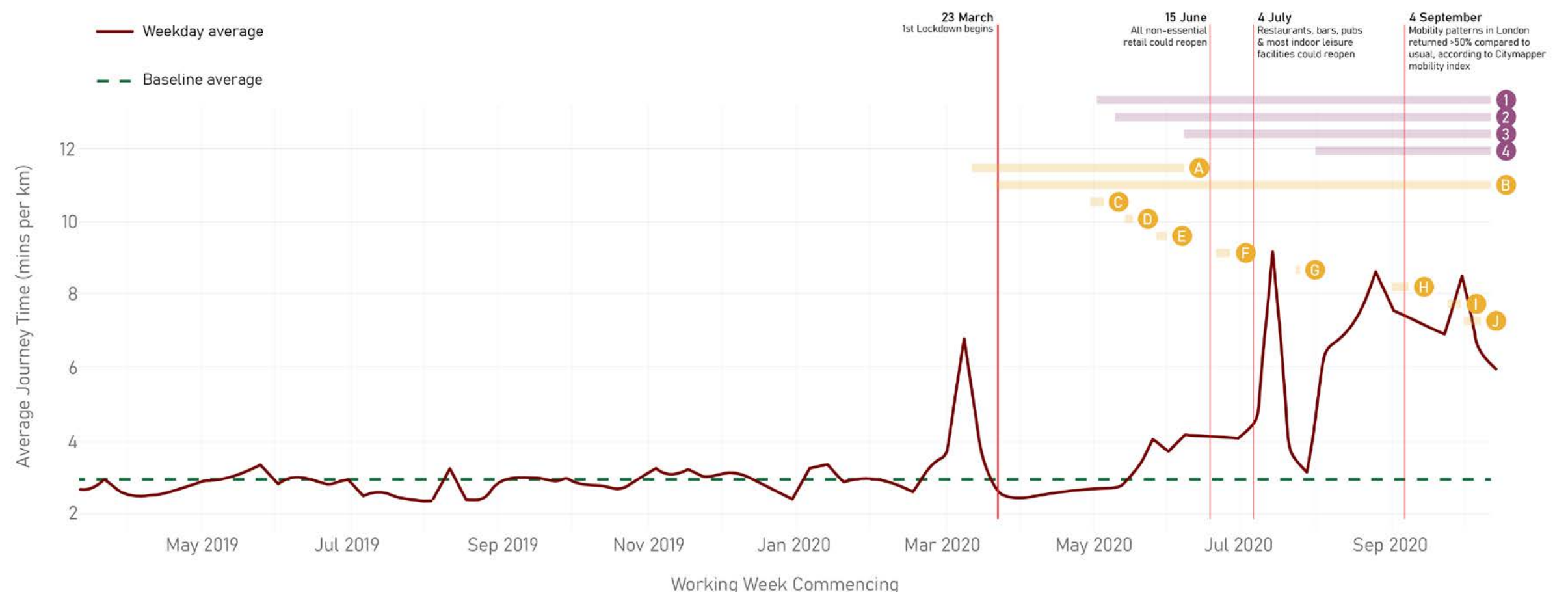
There was a large range of fluctuations between August and early October, ranging between 3 and 8.2 min/km. After the figure reached around 8.2 min/km, it decreased steadily to around 6 min/km at the end of the data period.

CHURCH ROAD (SOUTHBOUND)

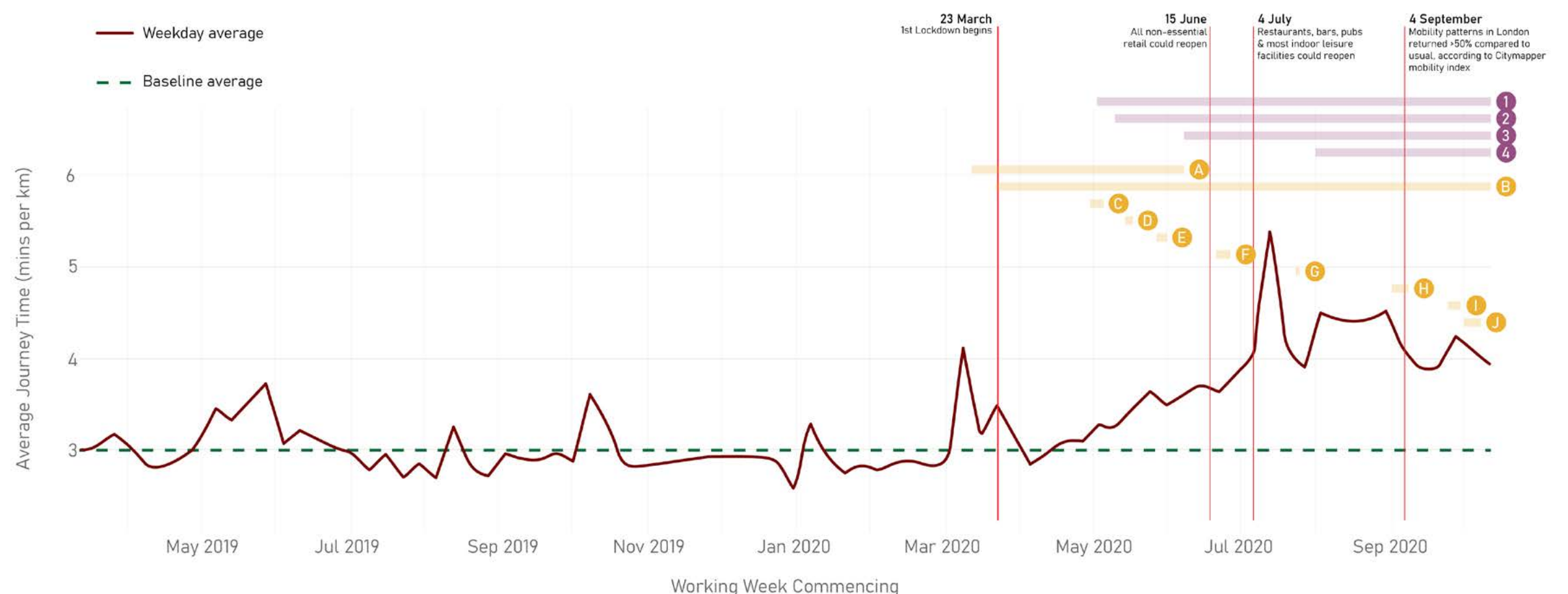
The baseline average of bus journey time along Church Road southbound is around 3 min/km. Similar to the northbound, there was a spike in the average before the first lockdown in early March, likely to be due to the Candle shop car crash. The figure stayed mostly above the average since lockdown.

The figure gradually increased to around 4 min/km in July. There was then a spike to around 5.5 min/km after 4 July, when all restaurants were allowed to reopen. After that, there were fluctuations between an average of 4 to 4.5 min/km until the end of the data period.

Church Road NB corridor



Church Road SB corridor



Temporary LTN Measures

- 1 **9 May 2020**
Modal filter at
- Junction of Lancaster Road/ Southern Avenue
- Junction of Woodvale Avenue/ Avenue Road
- 2 **9 May 2020**
Modal filter at Junction of Lancaster Road/ Warminster Road
- 3 **7 June 2020**
Modal filter (now a Bus Gate) at Auckland Road by Cypress Road
- 4 **3 August 2020**
Modal filter on
- Stambourne Way
- Sylvan Hill
- Fox Hill

Road works

- A Auckland Road
- B Church Road
- C Westow Hill
- D Church Road
- E Sylvan Road
- F Westow Hill
- G Woodvale Avenue
- H South Norwood Hill
- I Auckland Road
- J Auckland Road

3.5 DISCUSSION

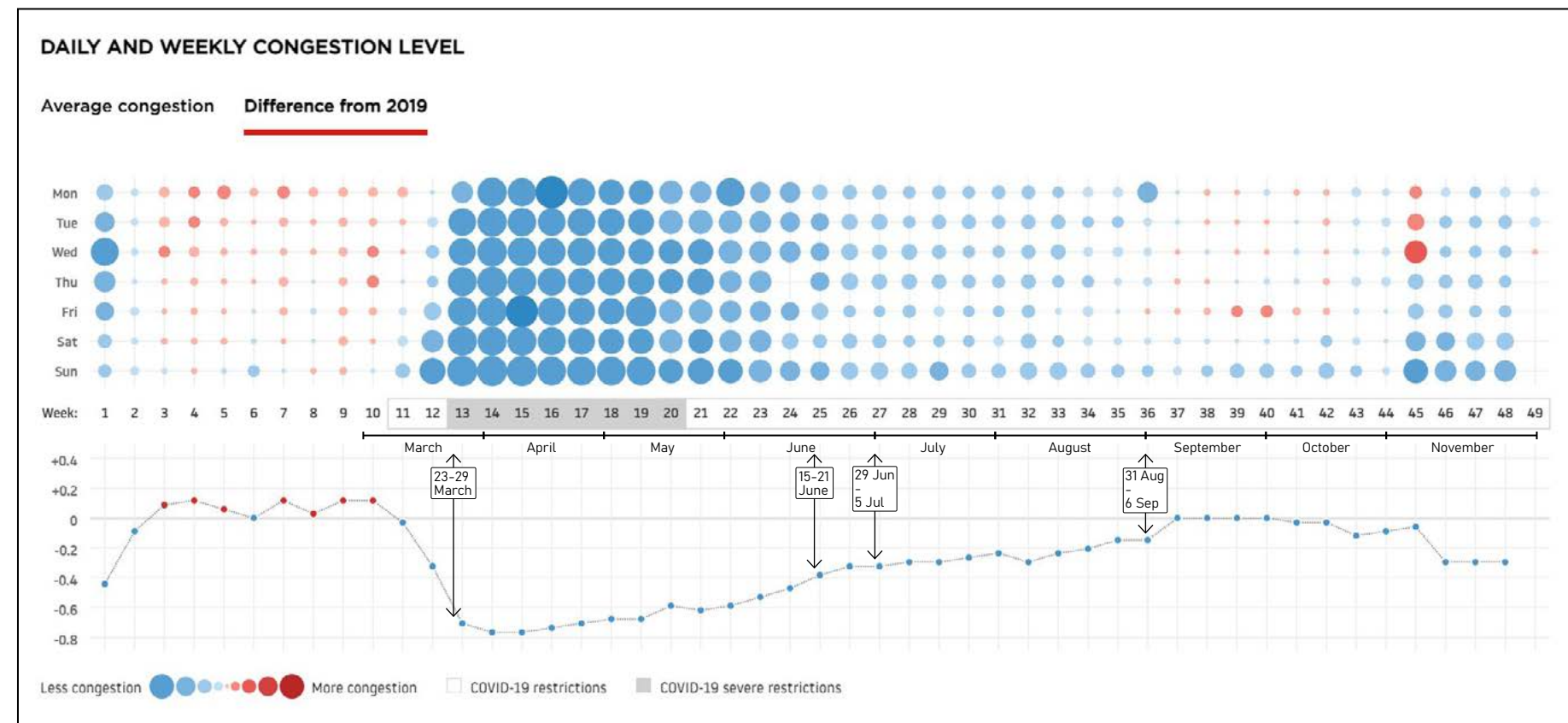
This section presents further analyses about the traffic data results. It begins with an overview on the background constraints in the study, then explains the traffic effects on the selected roads outside of the temporary LTN.

BACKGROUND CONSTRAINTS

The year of 2020 has seen an unprecedented drop and fluctuations in mobility patterns due to COVID-19. It has caused immense difficulty in the collection and analysis of traffic data.

As seen in TomTom's graph on the right showing London's daily and weekly congestion level in 2020, over half of the year has seen at least 20% less congestion than 2019. On the other hand, COVID-19 may also have changed the way how many people choose to travel, i.e. choosing private car over public transport for social distancing; or choosing cycling rather than private car due to less traffic on the road. The mode choice and travel patterns can change quickly over time.

As a result, it is difficult to determine whether the temporary LTN has a direct impact on the difference in traffic flows and journey time, as many of the assumptions we normally use in traffic analysis no longer apply.



55% of the time this year has shown at least 20% less than the daily congestion level in 2019 (TomTom)

We are able to suggest likelihood of relationships between the temporary LTN measures and the traffic situation nearby. However, we cannot determine direct causations with detailed calculation.

Since there was no comprehensive set of 'before LTN' ATC data covering the area we wish to monitor, we have used telematic data. The data presents in the format of estimated flow per hour for each road segment. As they are not actual, observed traffic counts, we cannot use the data to provide a robust calculation for traffic displacement.

TRAFFIC FLOWS AND JOURNEY TIME DIFFERENCE OUTSIDE LTN

Based on the data results presented in the previous sections, we are going to analyse the relationships between the changes in traffic flows and journey time, and to explain possible factors attributable to these traffic effects on the selected roads outside the temporary LTN.

Anerley Road

Anerley Road shows a general reduction of traffic flows, up to -29%, in both directions

for the daily average and the AM peak period. However, it shows a change in traffic flows ranging from +20% to -29% southbound in the PM peak. The increase was detected in proximity to the junction with Croydon Road.

The journey time difference shows a similar picture. It shows a reduction in median journey time in both directions (between -4.7% for route L2; and -9.3% for route L1) in the AM peak. For the PM peak, it shows a slight increase for northbound (+8.9%; +13s for route L1), but a large increase for southbound (+36.8%; +64s for route L2).

While the average bus journey time for northbound shows a considerable increase (from below the baseline of 3.8 min/km in late March to 4.9 min/km in October), it is unlikely to be caused by the temporary LTN measures as the data shows a clear reduction of traffic flow on the northbound. The bus journey time graph shows a fluctuation between 3.8 and 4.2 min/km between August and October, when mobility patterns gradually increased back to about 50% of the usual in London. The figure only increased drastically to 4.9 min/km since the start of October, but the last stage of LTN measures were introduced at the start of August.

For the southbound direction, while the daily average shows an overall reduction of traffic

flows on the southbound, there has been an increase in both the traffic flows and journey time for general traffic in PM peak. The average bus journey time for southbound remained below the baseline for most of the data period, without much changes in response to road works or different stages of the temporary LTN.

In addition, the increase on southbound was detected in proximity to the junction with Croydon Road, which could be contributed by the potential increase of traffic on Thicket Road, Oakfield Road and Maple Road. Therefore, we cannot establish a clear relationship on the journey time increase on southbound with the temporary LTN.

High Street-Penge Road

The road link of High Street-Penge Road shows a mixed picture in the change of the traffic flows. For eastbound, there has predominantly been a reduction in traffic in both AM peak (up to -43%; -370 vph), but a change between +18 and -104 vph (+3% to -14%) in the PM peak. The slight increase on eastbound in the PM peak was detected close to the junction with Portland Road and South Norwood Hill. For westbound, it shows an increase (up to +69%; +134 vph) in the AM peak and a reduction (up to -31%; -278 vph) in the PM peak. The increase on westbound

in the PM peak can be seen to have begun from Croydon Road to the east.

In terms of journey time difference for general traffic, it also shows a mixed picture. There was a negligible increase in median journey time (+2.3%; +4s for route J11) on both directions in the AM peak. In the PM peak, the median journey time increase for both directions (+73.5s for both route J11 and J12) were also confined to the section near the junction with Portland Road and South Norwood Hill. This suggests that the increase in journey time along this road link is a result of traffic increase on High Street (west of the junction with South Norwood Hill).

The average bus journey time for both directions shows minimal effect from the temporary LTN, as there were no spike in the figures around or after the first two modal filters were installed on or near Lancaster Road. Those measures have closed the through route from Penge Road since May. It is therefore safe to say the temporary LTN has a minimal effect on the traffic flows and journey time along High Street and Penge Road.

South Norwood Hill

South Norwood Hill shows a mixed picture in the change of traffic flow. For northbound,

there was a clear increase in the AM peak (up to +21%; +88 vph), but predominantly a reduction in the PM peak (between +18 and -140 vph; +4% to -20%).

As mentioned in Section 3.2, a continuous pattern of traffic increase in northbound direction can be observed in the AM peak, which begins from the southern end of South Norwood Hill. This pattern then continues along Church Road-Westow Street, turns right onto Westow Hill and travels up towards Crystal Palace Parade.

The traffic increase could be associated with the displacement of some northbound through traffic from the temporary LTN. This traffic increase also contributed to an +8.8% increase (+15s; route J13) of median journey time in AM peak. However this explanation could also be subject to challenge. As mentioned in Section 3.1, there has been more reduction in through traffic within the LTN in the PM peak than the AM peak. However, South Norwood Hill still saw predominantly a reduction (between +18 and -140 vph; +4% to -20%) in PM peak northbound. Decrease was also detected in southbound direction on both peaks as well.

The average bus journey time shows that the LTN measures might have posed some effect to the journey time. The figure for northbound

spiked up to around +50% (6 min/km) of the baseline in early August, shortly after the final stage of modal filters were installed on Stambourne Way, Sylvan Hill and Fox Hill. However, the figure reduced quickly back to around slightly more than the baseline in the end of August, suggesting limited impacts.

In contrast to the predominant decrease in traffic flows southbound, there was a huge increase in median journey time for general traffic in the PM peak (+125%; +140s for route L6 and +55.5%; +152s for route J14). Since there has been large increase in traffic on High street eastbound west of the junction with South Norwood Hill in the PM peak, it is suggested that the journey time increase on South Norwood Hill southbound was predominantly affected by the increase of right turning traffic from High street.

Church Road (Westow Street-Beulah Hill)

Similarly to South Norwood Hill, the Church Road section between Westow Street and Beulah Hill only shows an increase in traffic flows in the AM peak (up to +39%; +129 vph). PM peak for northbound, as well as both peaks for southbound have shown significant reduction in traffic flows (up to -62%; -268 vph). The traffic increase could also be associated with the displacement of some northbound through traffic from the temporary LTN.

The journey time for general traffic in the northbound direction, however, shows a conflicting picture. There was huge increase in the median journey time for both AM (+104.2%; +74.5s for route L7) and PM peak (+204.2%; +147s for route L7), despite there was only traffic increase recorded in the AM peak. The southbound median journey time decreased (-7%; -4.5s for route L8) and stayed the same in AM and PM peak respectively.

Unlike all the other roads mentioned above, the average bus journey time in both peak periods for both directions stayed above the baseline after first lockdown and increased steadily. For northbound, the figure fluctuated between 3 and 8.2 min/km, between August to early October. For southbound, the figure fluctuated between 4 to 5.5 min/km after 4 July and until the end of the data period.

After the candle shop car crash on 21 March, temporary signals were in place from 22 March to 1 November, with only one lane of traffic from either direction can pass at a time. This is identified as one of the major factors contributing to the sharp increase of journey time in both directions.

A spike in the average bus journey time can be spotted soon after 4 July when most restaurants could reopen. The journey

time increase could be associated with the temporary LTN, as there was a spike in average bus journey time soon after the final set of modal filters were installed on Stambourne Way, Sylvan Hill and Fox Hill on 3 August. These filters closed the remaining bidirectional through traffic route across the LTN between Anerley Road and Church Road. However, this does not explain why the traffic flows on Church Road only increased in the northbound direction for the AM peak (up to +39%; +129 vph), during all temporary LTN measures were being put in place.

The duration of the temporary signal arrangement on the southern section of Church Road overlapped almost exactly with the road closure/ temporary LTN measure have been in place on Auckland Road. In addition, the fluctuating mobility patterns due to easing and tightening of COVID related restrictions have complicated the relationship further. Therefore, it is unclear how much of the journey time increase on Church Road could be attributed to the temporary LTN.

Crystal Palace Triangle

Crystal Palace Triangle is a gyratory formed by the northern section of Church Road (between Anerley Hill and Westow Street), Westow Street and Westow Hill. In the AM peak, Westow Street and Westow Hill both

had an increase of traffic flow of +49% (+260 vph) and 7% (+114 vph) respectively, while the northern section of Church Road had a reduction of -11% (-57 vph). In the PM peak, all three roads had a reduction in traffic flows, with the rate ranging between -23% (-174 vph) and -45% (-258 vph).

Nevertheless, the median journey time for general traffic on almost all routes around the Triangle have recorded moderate to significant increase for both peak periods, with a more serious picture showing in the PM peak. These routes and their results are presented in the table on the right.

No average bus journey time data was provided by TfL for Westow Hill or Westow Street. As mentioned previously, the average bus journey time for Church Road southbound stayed above the baseline after first lockdown and increased steadily until early July, before it fluctuated between a range of 1.5 min/km before the end of the data period.

Due to the nature of one-way gyratory system in place around the Triangle, disruption close to any of the arms can cause grid relatively quickly. The temporary signal arrangement, located just south of the Triangle, was a potential cause of the increase in journey time for route J2 and

Route		AM Peak		PM Peak	
		% Change	Change in seconds	% Change	Change in seconds
J1	Anerley Hill (Beardell Street-Cintra Park) EB	+1.0%	+1 s	+5.3%	+8.5 s
J2	Crystal Palace Parade-Church Road (Bus station-St Aubyns Road) SB	+73.3%	+42.5 s	+182.3%	+124 s
J3	Westow Hill-Church Road (Beardell Street-N of Stoney Lane)	+16.3%	+20 s	+37.8%	+73 s
J19	Church Road-Westow Street (Fox Hill-Carberry Road) NB	+127.3%	+116.5 s	+196.3%	+161 s
J20	Central Hill (Gatestone Road-Beardell Street) EB	-1.1%	-1 s	+78.2%	+84.5 s
J21	Gipsy Hill-Westow Hill (Camden Hill Road-Beardell Road)	+18.3%	+7.5 s	+36.6%	+26 s

Journey time difference on routes associated with Crystal Palace Triangle

J19. Traffic going to the southern section of Church Road had to wait longer in the northern section. In addition, the increase of traffic flows (up to +39%; +129 vph) on Church Road (Westow Street-Beulah Hill) northbound has also contributed to the journey time increase around the Triangle in the AM peak, which might be pursuant to the temporary LTN.

While the PM peak shows a serious increase in journey time around the Triangle, all three

roads around it has shown reductions in traffic flows. Apart from the temporary signal arrangements, it could also be contributed by the significant increase of traffic along Central Hill westbound (+198 vph).

Selby Road-Seymour Villas

The road link of Selby Road and Seymour Villas in Neighbourhood 2 shows traffic flow increase on the northbound in both AM (up to +87%; +106 vph) and PM peak (up to +32%; +47 vph). In contrast, the southbound direction shows no change in traffic flows or a reduction up to -35% (-64 vph) amongst the two peak periods.

No journey time data for general traffic were collected for this road link. Majority of the routes around Neighbourhood 2 shows reductions in the median journey time (up to -12.5%; -14s for J6). There were a few routes with moderate increase, ranging from +1.2% (+1s, route J8 in AM peak) to +18.7% (+14s, route L4 in PM peak).

Majority of the roads outside Neighbourhood 2 had significant reductions in traffic flows, for instance, up to -31% (-278 vph) on Penge Road in the PM peak. As there were no considerable increase in journey time or traffic flows around Neighbourhood 2 during the temporary LTN was introduced, there is

no evidence to suggest that the temporary scheme has caused displacement of traffic towards the area. Therefore, there is minimal evidence to establish a direct relationship between the temporary LTN and the increase of south-north traffic flows along Selby Road and Seymour Villas in the AM peak.

4 CONCLUSIONS

4 CONCLUSIONS

PJA has conducted a study reviewing the Temporary Crystal Palace and South Norwood LTN. We have conducted a baseline analysis for the neighbourhood, and performed traffic analysis to review the effect of the temporary scheme.

BASELINE ANALYSIS

The key findings on baseline conditions of the neighbourhood are listed below:

- The neighbourhood is located between two District Centres and surrounded by trip attractors.
- Trip attractors are linked together by LCN and Croydon cycle routes, within 10-minute cycle distance
- Two railway links were located at both the northern and southern ends. Over half of the area has a modest PTAL between 1-3.
- Areas with lower accessibility to public transport generally have a higher car ownership percentage
- Most pupils attending the local schools located in the neighbourhood live within 3.1km of their school. These distances would be considered comfortably cyclable and potentially walkable.
- Two collisions within the neighbourhood involved children walking over the last three years.

- A school street scheme has been introduced on Cypress Road since February 2020, not long before the first Lockdown in March.
- Most areas in and around the neighbourhood have PM10, PM2.5 and NO2 concentrations over the WHO limit.

TRAFFIC EFFECTS

Through the process of Temporary Traffic Management Orders, LB Croydon installed six modal filters and a bus gate in the temporary LTN in four stages between May and August 2020.

Using the telematic data provided by The Floow, we have reviewed the traffic effects of the temporary LTN by comparing the through traffic levels, general traffic flows as well as journey time differences, before and during the temporary LTN was introduced.

Estimated Through Traffic Levels

Before the temporary LTN was introduced, the Hamlet Road-Auckland Road-Lancaster Road route was a popular through traffic route, heavily used by 70-170 vph (vehicle per hour) through traffic in both directions. PM peak generally recorded more through traffic than the AM peak.

The temporary scheme successfully reduced the percentage and volume of through traffic

across the LTN area. Through volume in AM peak reduced to less than or around 10 vph. PM peak saw slightly more through traffic left, with through volume generally reduced to below or around 20 vph on most roads.

Auckland Road section between Sylvan Hill and Cypress Road, being the only route connecting the northern and southern part of the temporary LTN, has shown a reduction of 80-120 vph in both peaks for the northbound, and 40-120 vph for the southbound.

Estimated Traffic Flows and Journey Time Difference

The key findings on the change in estimated traffic and journey time are listed below:

Anerley Road

- General reduction in traffic flows in both peak periods.
- Minimal or no journey time increase on most associated routes.
- No clear relationship can be drawn between the journey time increase on southbound with the temporary LTN. The increase was detected in proximity to the junction with Croydon Road.

High street-Penge Road

- Predominant reduction in traffic flows in both peak periods.

- Average bus journey time for both directions show minimal effect from the temporary LTN.
- Some increase in journey time along this road link in both peak periods; result of traffic increase on High Street (west of the junction with South Norwood Hill).

South Norwood Hill

- Traffic flow increase for northbound AM peak, while reduction on PM peak and southbound in both peaks.
- This traffic increase also contributed to a moderate increase of median journey time in AM peak.
- Potential traffic displacement from Auckland Road in the AM peak. A continuous pattern of traffic increase in northbound direction can be seen in the AM peak, which begins from the southern end of South Norwood Hill.
- This pattern then continues along Church Road-Westow Street, turns right onto Westow Hill and travels up towards Crystal Palace Parade.

Church Road (Westow Street-Beulah Hill)

- Traffic flow increase for northbound AM peak, while reduction on PM peak and southbound in both peak periods.
- Serious increase in northbound median journey time in both peak periods.

- Potential traffic displacement from Auckland Road might have effect on journey time in the AM peak.
- Due to temporary signal arrangement on the southern section of Church Road overlapped almost exactly with the road closure/ temporary LTN measure, it is unclear how much of the journey time increase on Church Road could be attributed to the temporary LTN.

Crystal Palace Triangle

- Median journey time for general traffic on almost all routes around the Triangle have recorded moderate to significant increase for both peak periods, with a more serious picture showing in the PM peak.
- Potential traffic displacement from Auckland Road might have effect on journey time around the Triangle in the AM peak.
- While the PM peak shows a serious increase in journey time around the Triangle, all three roads around it have shown reductions in traffic flows.
- Under the nature of one-way gyratory system, the temporary signal arrangements and the significant increase of traffic along Central Hill westbound have caused the gridlock in the PM peak.

Neighbourhood 2

- Increase of south-north traffic flows along Selby Road and Seymour Villas in the AM peak.
- No considerable increase in journey time or traffic flows around Neighbourhood 2 during the temporary LTN was introduced.
- No evidence to suggest that the temporary scheme has caused displacement of traffic towards the area.

RECOMMEDATIONS

Due to an anomaly for the through traffic data, which shows the roads between Hamlet Road, Auckland Road and Sylvan Hill still being heavily used by through traffic (despite an intact modal filter in place), we recommend LB Croydon to verify the actual situation along this section of roads using Automatic Traffic Counters (ATCs).

In addition, we suggest LB Croydon should consider monitoring the effects of the temporary LTN comprehensively, with ATCs after the traffic flows have returned normal.

We recommended LB Croydon to collaborate with LB Bromley, to coordinate change to the area. These include the installation of modal filters on Selby Road and Seymour Villa to stop through traffic passing through Neighbourhood 2, and the enhancement of cycle connection to Crystal Palace Park.

APPENDIX

APPENDIX: TRAFFIC COUNTS DURING SECOND LOCKDOWN

To supplement the traffic flow estimates generated with telematic data, LB Croydon has commissioned a series of traffic flow counts between 26 November and 2 December 2020. The plan showing the average weekday flow of vehicles, per day by direction, is presented overleaf.

The traffic counts were collected after all temporary LTN measures were introduced, but during the second Lockdown. Therefore, the flows are likely to be lower than periods with looser COVID restrictions, and should be taken as reference only. This data cannot be used for like-for-like comparison with telematic data.

Some key findings on the traffic counts are listed below:

- Auckland Road: The section north of Cypress Avenue only recorded circa 250 vehicles per day (vpd) on each direction. That is about 10 vpd divided by 24 hours (and 16 vpd if divided by 16 hours).
- Church Road: More flows were recorded on the southbound (9171 vpd) than the northbound (6253 vpd).
- Westow Street/Church Road junction:
 - 50-55% of traffic on Westow Street came from Church Road northbound

- 40-45% of traffic on Westow Street came from Church Road southbound (mostly heading to Central Hill westbound)
- South Norwood Hill: About 30-40% of traffic in both direction were related to Whitehorse Lane. Only about 60-70% of traffic were recorded coming from or heading to the junction with High street and Portland Road.

In addition, 85th percentile speeds were also collected by direction on Church Road, South Norwood Hill and Croydon Road. All of which show 85th percentile speeds below the posted speed limit of 30mph.



Temporary Crystal
Palace & South
Norwood LTN

Remarks:
- vpd = average weekday daily vehicle
flow (24-hour average)
- Speed shown in this plan are 85th
percentile speeds over the 7-day data
collection period

Traffic Count data collected between 26 November and 2
December 2020 (During 2nd lockdown)
Contains OS data © Crown Copyright and database right
2020
Contains data from OS Zoomstack



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CLIENT
London Borough of Croydon
PROJECT
Crystal Palace & South Norwood LTN
TITLE

TRAFFIC COUNTS
26 NOV-2 DEC 2020
(AVERAGE WEEKDAY DAILY
FLOW AND
85TH PERCENTILE SPEED)

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:9,000	JY	-	17/12/2020
FIGURE NUMBER	REVISION		
35	-		



Prepared: Justin Yim
Reviewed: John McQueen & Ben Coleman
Issued: John McQueen
21.12.2020 - v2.6 TBA
PJA, The Aquarium, King Street, Reading, RG1 2AN





FRIDAY 4TH DECEMBER

CRYSTAL PALACE LTN MONITORING



Monitoring Area

Bus journey times have been monitored for the sections highlighted purple below. These comprise 6 bi-directional corridors, which in most cases include journey times for multiple routes:

- **Anerley Road** (routes 157, 249, 354, 358, 410, 432)
- **Auckland Road** (route 410)
- **Church Road** (route 249)
- **Crystal Palace Parade** (routes 3, 122, 202, 227, 363,
- **Norwood Hill** (routes 196, 468)
- **Penge Road** (routes 75, 157, 197, 356)



SCOOT data was also used to monitor bus & traffic impact.

- Astrid Flow Data – To compare the amount of flow moving through the network during the installing, operating, removal of temp signals and LTNs.



Roadworks and Closures

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- **22nd March** - Scaffold / Temp signals implementation
- **June - July (exact dates unknown)** – Auckland Road closed for SGN gas works
- **21st August** - LTN implementation

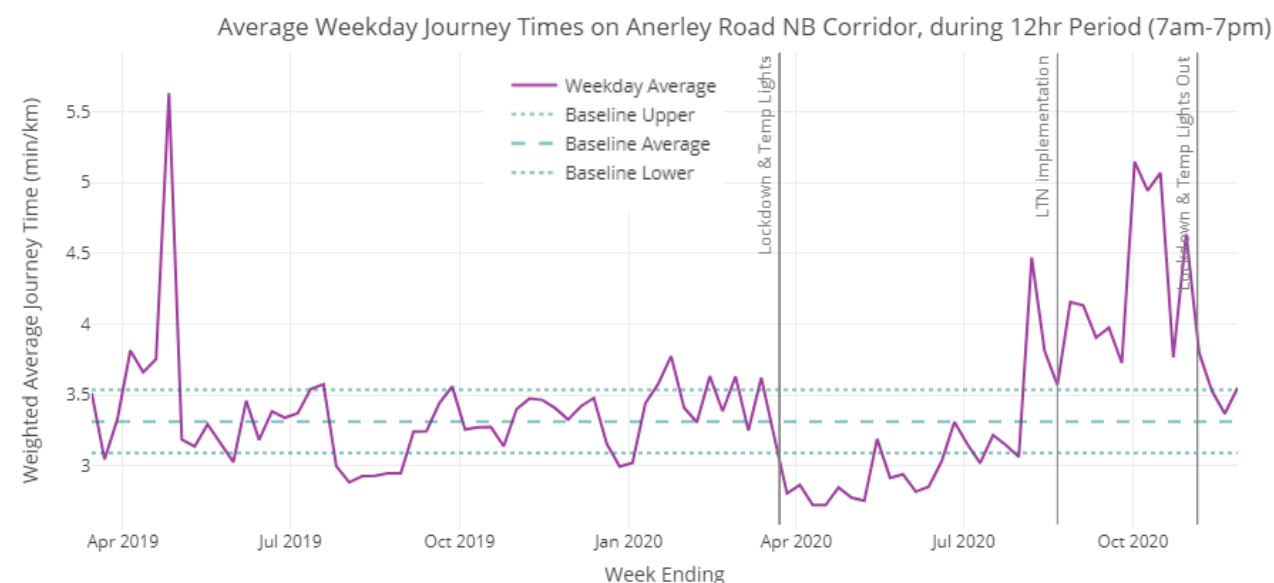
Road/Section of Road Name	2. Closed between	3. TTRO start date	4. Expiry of TTRO
Lancaster Road, South Norwood (fronting Nos. 2 to 8 Lancaster Road)	Southern Avenue, South Norwood	22/05/20	22/11/21
Auckland Road (fronting property Nos. 70 to 110 Auckland Road), Upper Norwood	Cypress Road, Upper Norwood	03/07/20	03/01/22
Fox Hill, Upper Norwood	Braybrooke Gardens, Upper Norwood	21/08/20	21/02/22
Stambourne Way, Upper Norwood	Auckland Road, Upper Norwood	21/08/20	21/02/22
Sylvan Hill, Upper Norwood	Between Nos. 11 & 13 Sylvan Hill, Upper Norwood	21/08/20	21/02/22

- **1st November** - Scaffold / temp signal removal
- **1st – 3rd November** – SCOOT fault at Anerley and Church Road junction
- **10th November** – Temp signals on Anerley for Thames works (1 day only, very large delays)



Bus Journey Times: Anerley Road Corridor

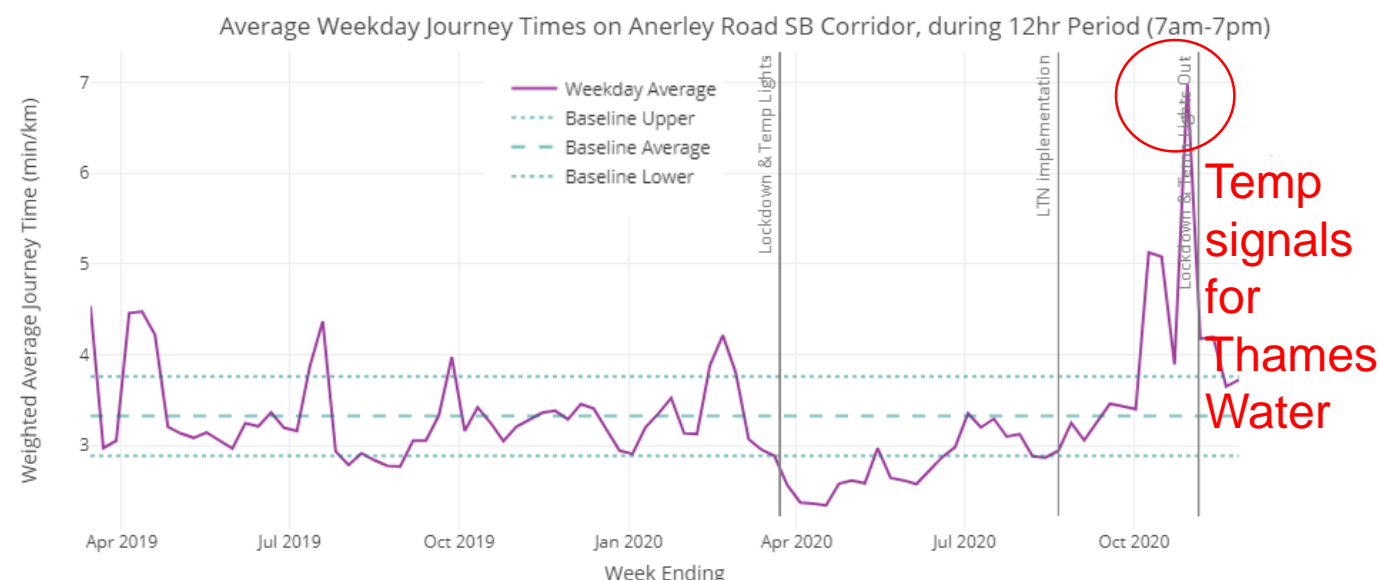
The Anerley Road corridor has shown increased journey times since scheme implementation. These reduced with the 2nd lockdown / temp lights being removed.



The **NB** journey times increased post-implementation and exceeded the threshold 13 of the 15 weeks.

Journey times were **0.2 min/km (7%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.

The **SB** journey times also increased post-implementation and exceeded the threshold 6 of the 15 weeks.



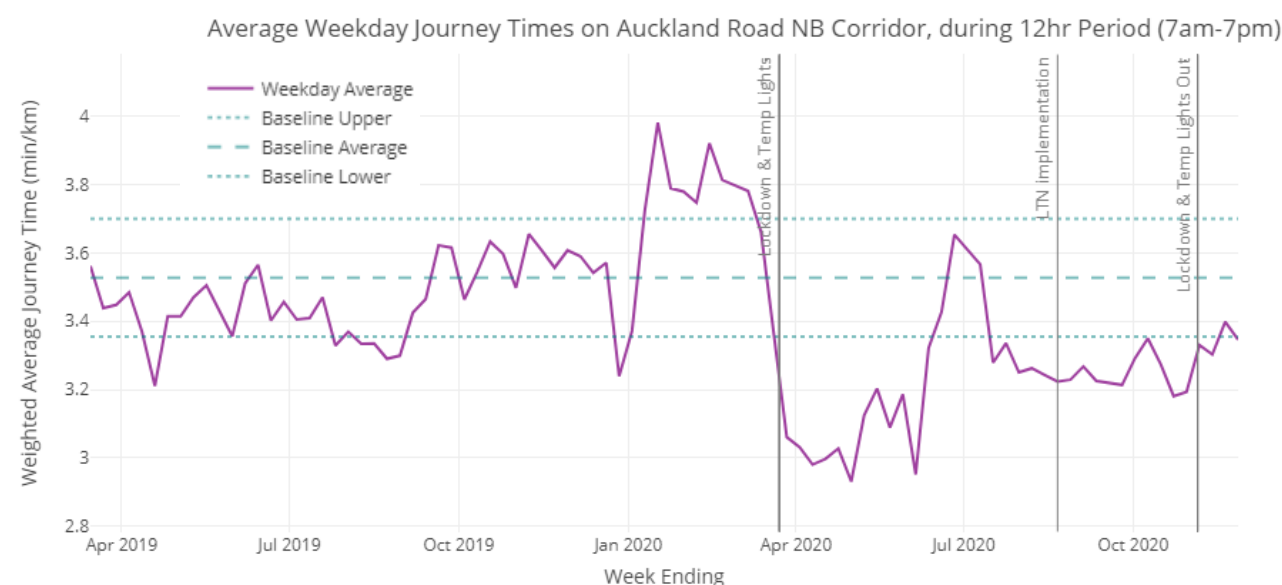
Journey times were **0.4 min/km (12%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.

Journey times have decreased in both directions in recent weeks since the removal of the temp signals.



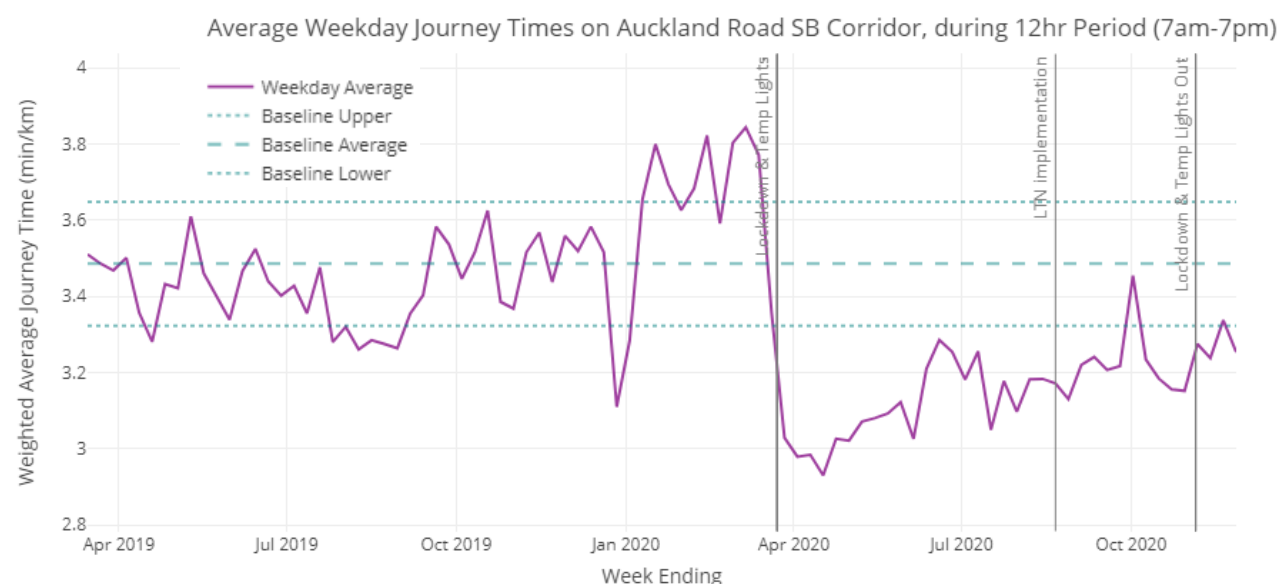
Bus Journey Times: Auckland Road Corridor

The Auckland Road corridor has consistently shown reduced journey times compared to last year.



The **NB** journey times dropped with the first lockdown and remained low. Weekly averages have been consistently lower than the baseline mean, and often lower than the baseline lower threshold.

Journey times were **-0.2 min/km (-5%) lower** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



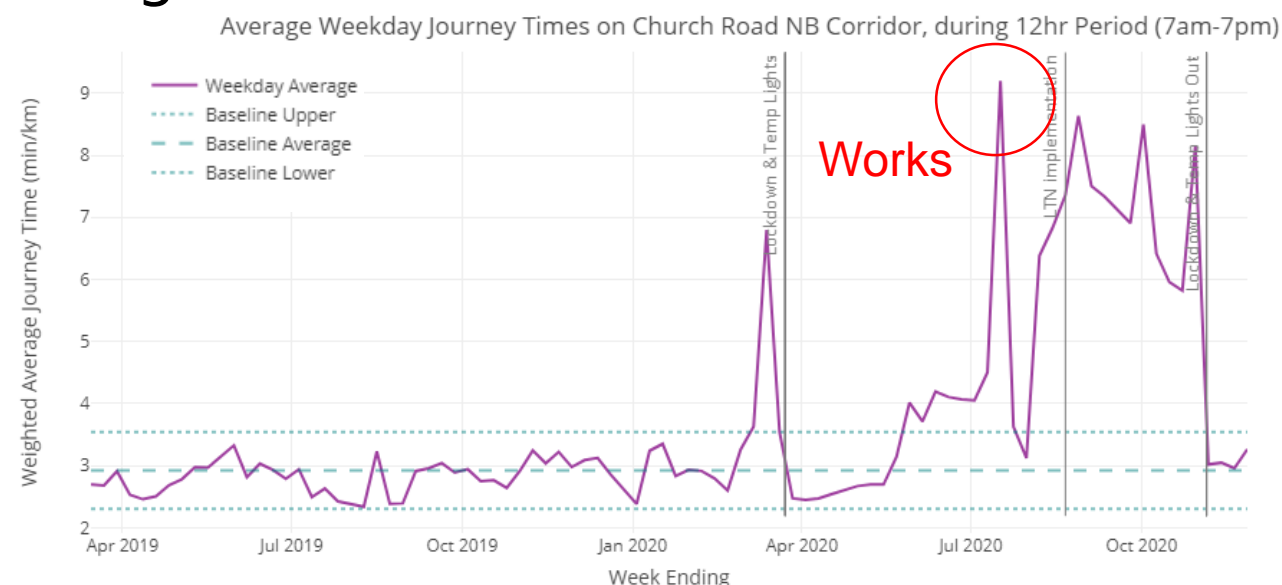
The **SB** journey times also dropped with the first lockdown and remained low. Weekly averages have been consistently lower than the baseline mean, and often lower than the baseline lower threshold.

Journey times were **-0.2 min/km (-7%) lower** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



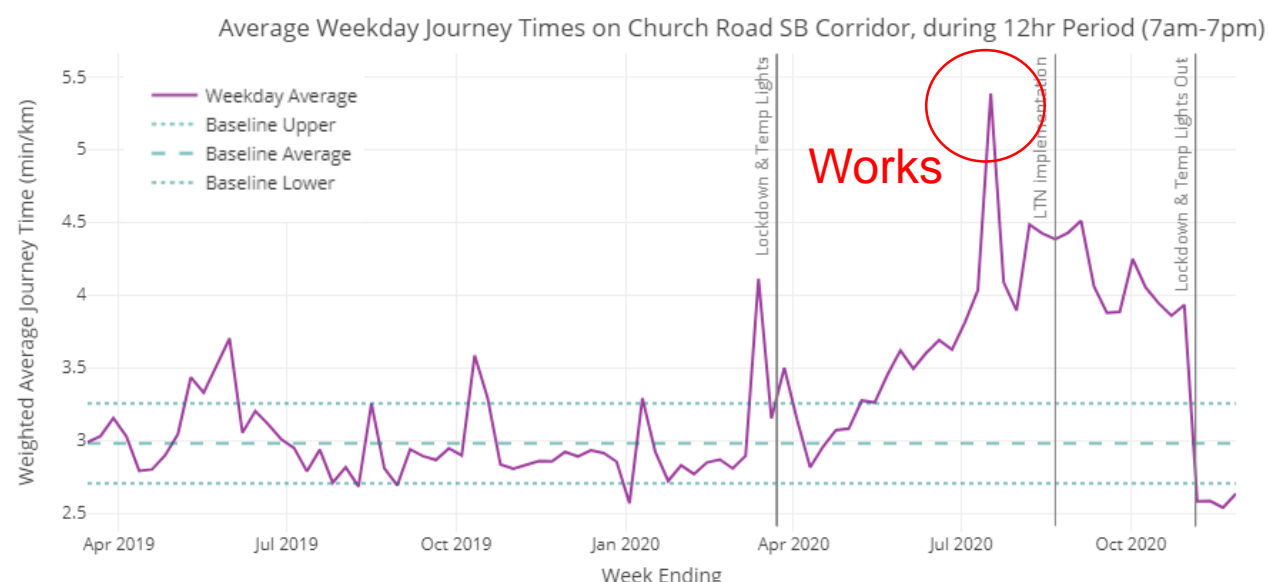
Bus Journey Times: Church Road Corridor

The Church Road corridor has shown increased journey times both pre & post scheme implementation. These reduced with the 2nd lockdown / temp lights being removed.



The **NB** journey times increased from a few weeks pre-implementation and exceeded the threshold 11 of the 15 weeks.

Journey times were **0.3 min/km (12%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



The **SB** journey times have been increasing since the first lockdown and exceeded the threshold 11 of the 15 weeks.

Journey times were **-0.3 min/km (-12%) lower** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.

Journey times have decreased in both directions in recent weeks

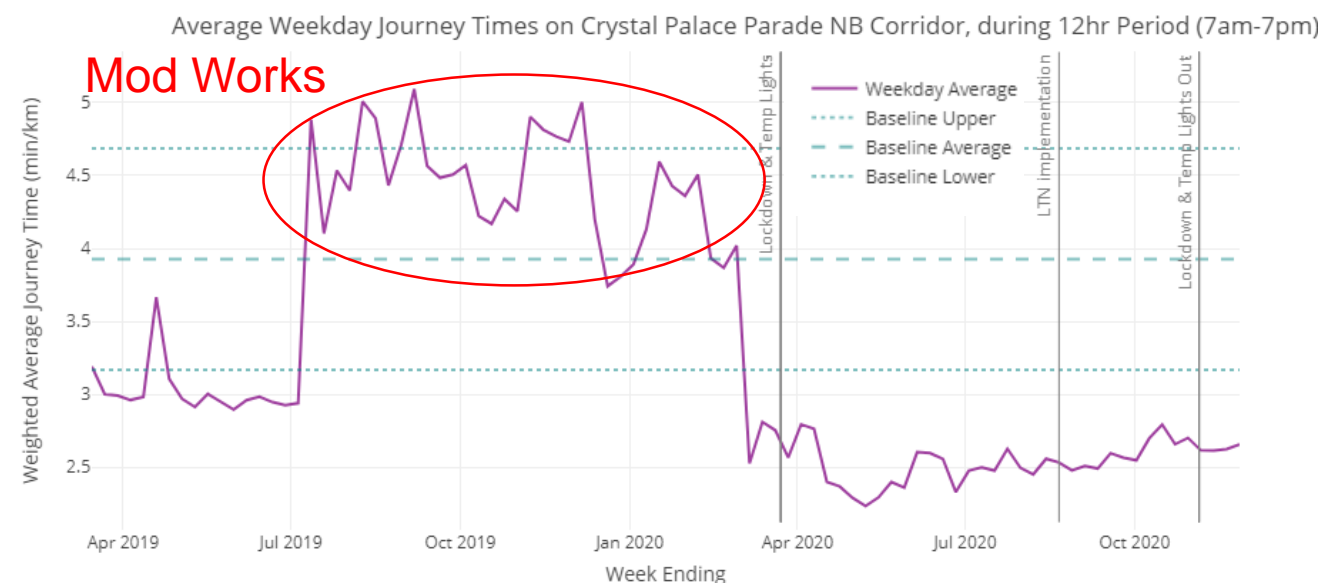
signals.

EVERY JOURNEY MATTERS



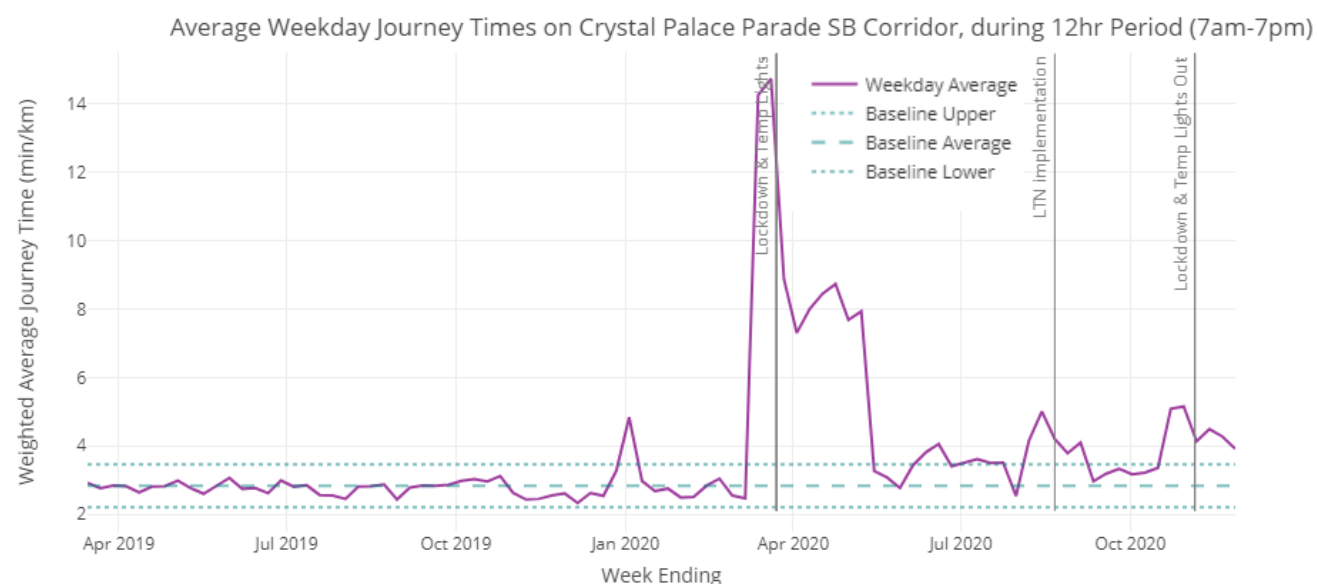
Bus Journey Times: Crystal Palace Parade Corridor

The Crystal Palace corridor has shown increased journey times in the SB direction and reduced journey times in the NB direction.



The **NB** journey times did not increase post-implementation and weekly averages have consistently been below the baseline lower threshold.

Journey times were **-1.3 min/km (-32%) lower** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



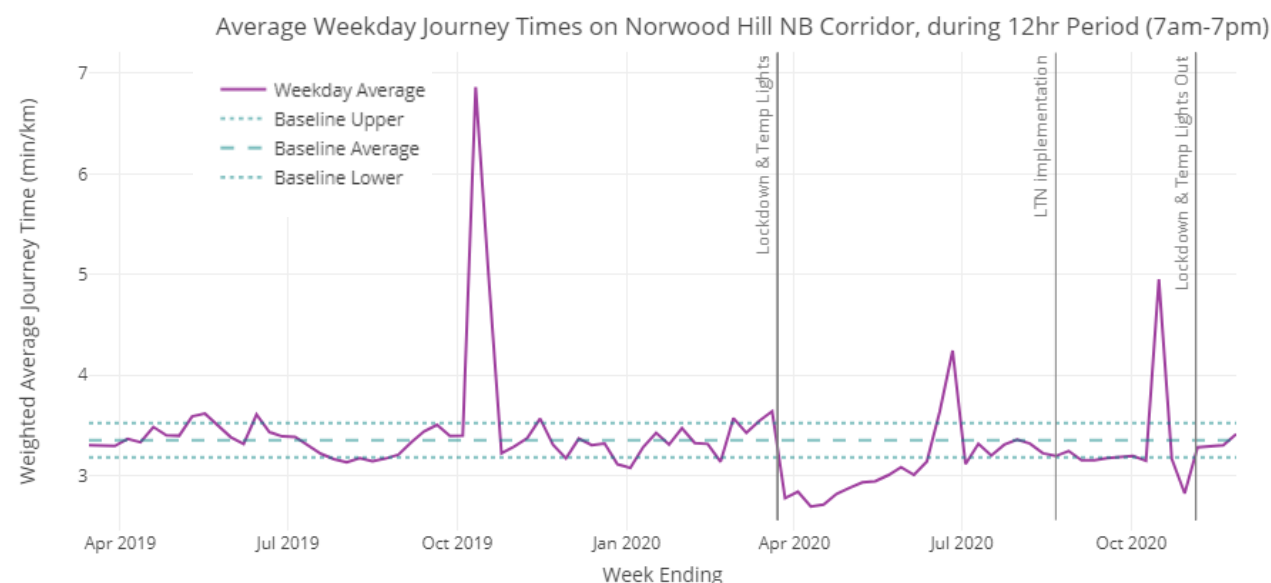
The **SB** journey times increased when the temp lights went in. They dropped in May but have still been exceeding the threshold 9 of the 15 weeks post-implementation.

Journey times were **1.1 min/km (38%) higher** 7am-7pm W/C 27th Nov than the baseline (Mar 2019-Mar 2020) average.



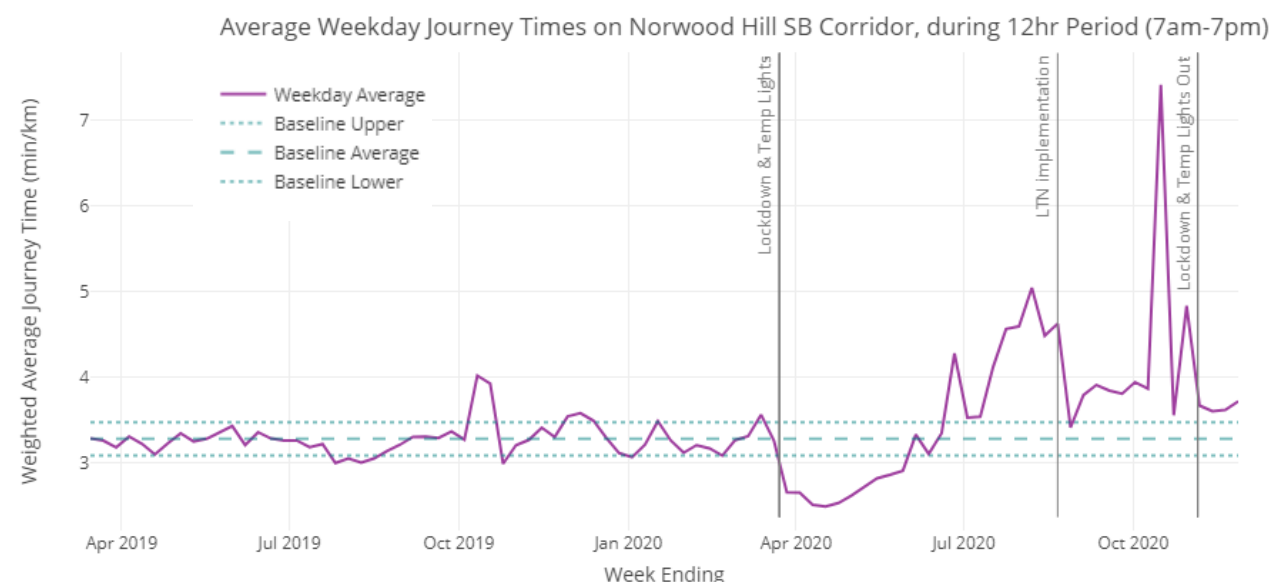
Bus Journey Times: South Norwood Hill Corridor

The Norwood Hill corridor has shown increased journey times SB but level journey times with last year NB.



The **NB** journey times did not increase post-implementation and only exceeded the threshold once on W/E 16th Oct.

Journey times were **0.1 min/km (2%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



The **SB** journey times increased from a few weeks pre-implementation due to the gas works on Auckland Road, and continue to be high post-implementation. They exceeded the threshold 14 of the 15 weeks.

Journey times were **0.4 min/km (13%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.

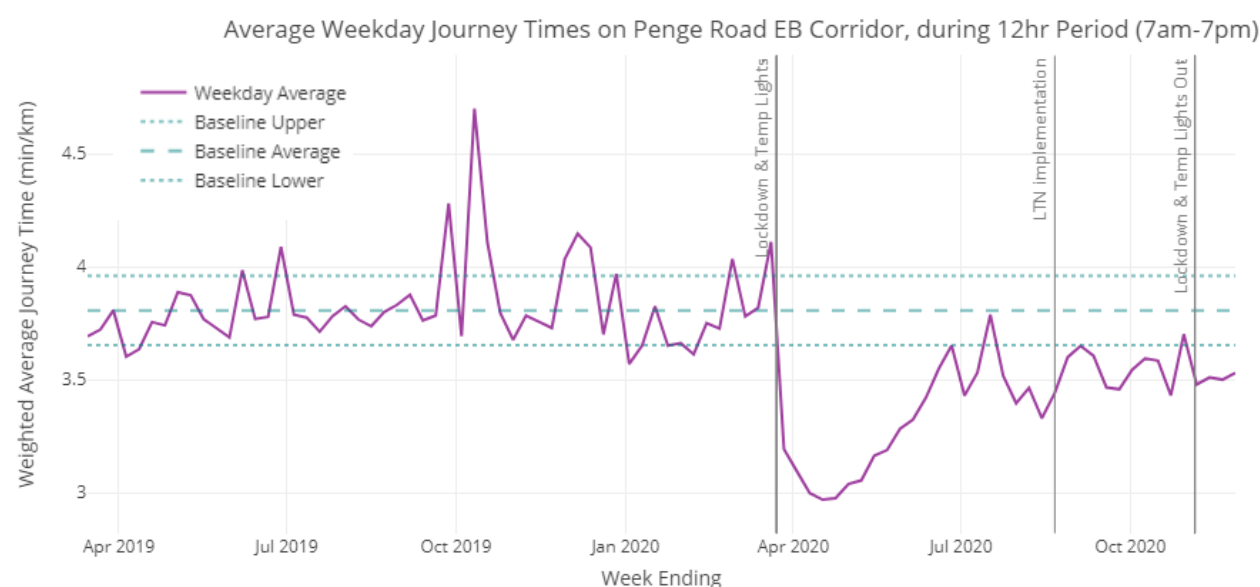
Journey times have decreased in recent weeks but remain above

EVERY JOURNEY MATTERS



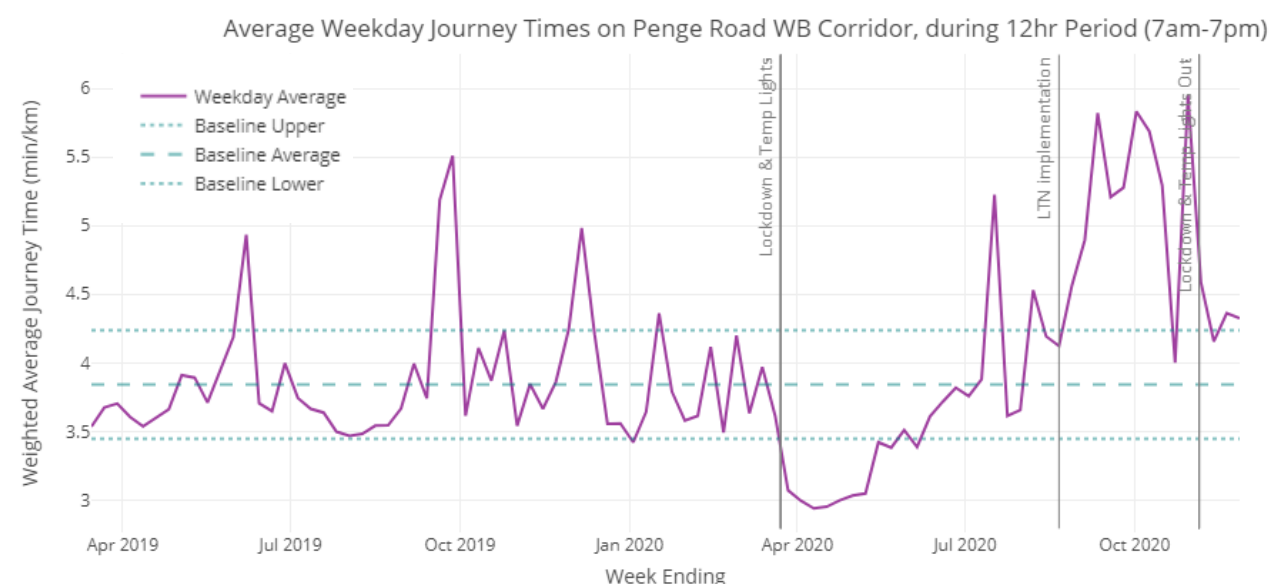
Bus Journey Times: Penge Road Corridor

The Penge Road corridor has shown increased journey times in the WB direction but not in the EB direction.



The **EB** journey times did not increase post-implementation. Weekly averages have been consistently lower than the baseline mean, and often lower than the baseline lower threshold.

Journey times were **-0.3 min/km (-7%) lower** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



The **WB** journey times increased through lockdown and post-implementation and exceeded the threshold 11 of the 15 weeks. Journey times have decreased in recent weeks but remain above the upper threshold.

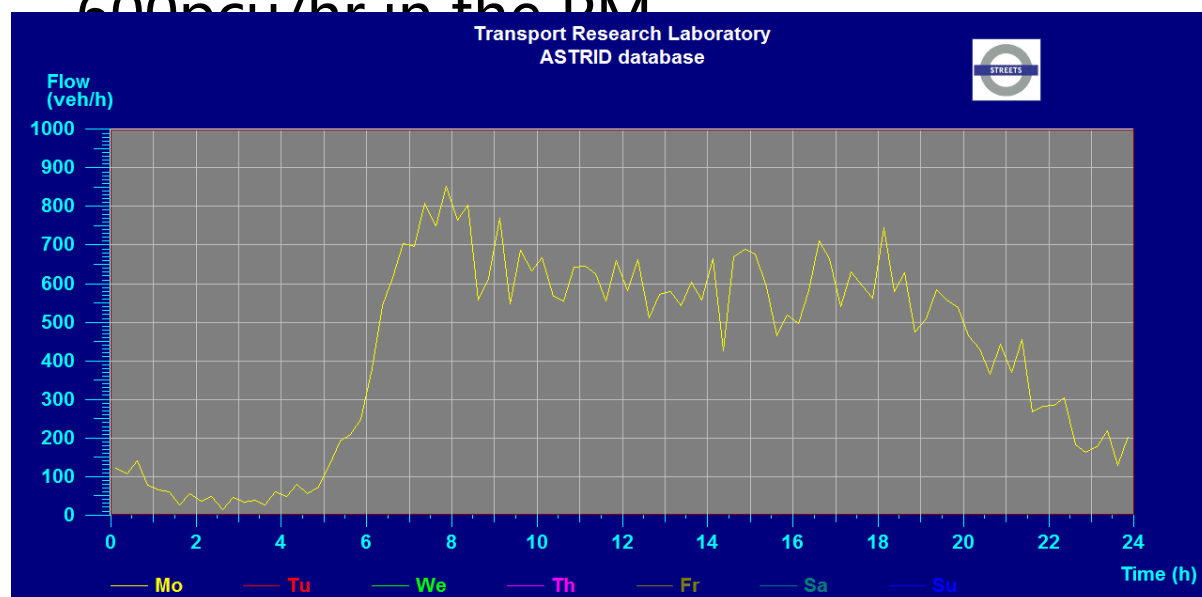
Journey times were **0.5 min/km (13%) higher** 7am-7pm W/E 27th Nov than the baseline (Mar 2019-Mar 2020) average.



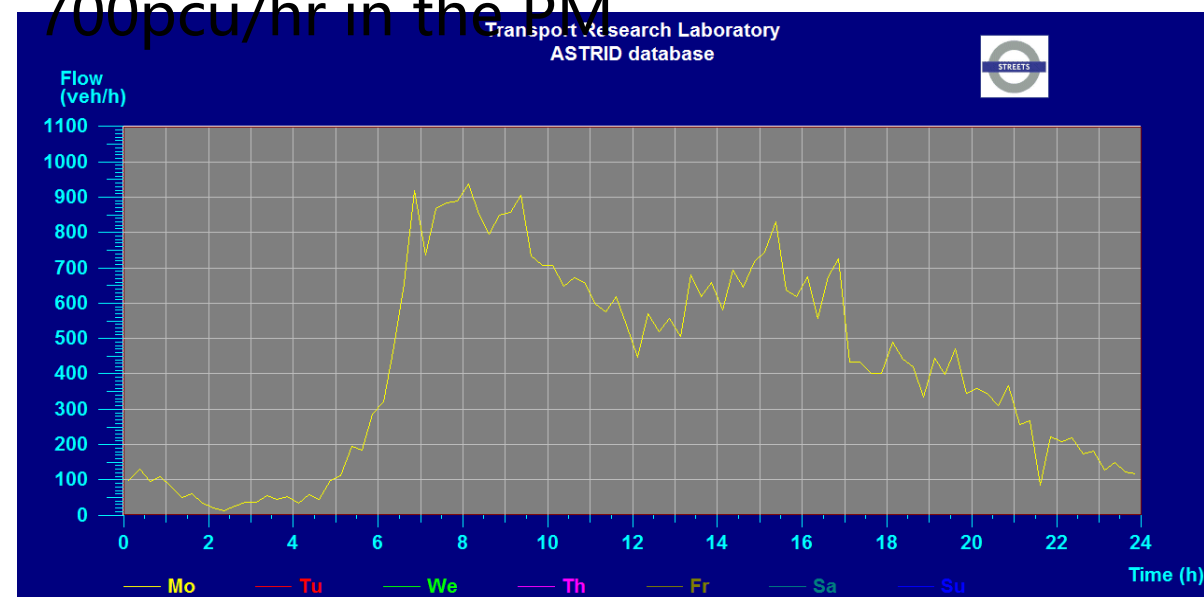
Astrid Flow Data

SCOOT data was able show that more traffic flow was moving along Anerley Hill once the temp signals were removed.

Oct 2020 – shows approx.
800pcu/hr in the AM and
600pcu/hr in the PM



Nov 2020 – shows approx.
900pcu/hr in the AM and
700pcu/hr in the PM



Appendices

The following slides give some detail on the methodology.

The graphs & figures included in the slides above can be found in the dashboard [here](#).



Buses methodology

Scope

- Weekly iBus data has been used for this analysis. This gives weekday (Mon-Fri) average journey times (excluding dwell times) by route, stop-to-stop link and peak.
- Data included is from W/E 15/03/19 to W/E 27/11/20. W/E 24/05/19 was excluded as there was missing data this week.
- 6 key corridors were studied (in both directions), as detailed on the first slide.

Methodology

- The corridor averages shown are a weighted average across the journey times for all routes running along the corridor, based on the route frequency. This means the corridor average is skewed towards the higher frequency routes.
- The route level journey times are found by taking the total journey time across stop-to-stop links along the corridor and dividing by the length of these links, to give a min/km figure. This is what is then averaged across routes.
- Corridor average journey time trends have been plotted against thresholds. These thresholds are meant to represent "normal" journey times.
- Threshold values were found by taking the mean +/- 1 standard deviation, for the weekly corridor averages during the baseline period (11 March 2019 – 13 March 2020). This allows for a reasonable amount of week-to-week variation but gives a threshold above which journey times would be deemed above "normal".



Consultation

5 (a) The consultation letter, sent to residences within the LTN

November 2020
PUBLIC CONSULTATION

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XXXXXX
XXXXXX
XXXXXX

Future of the Temporary Crystal Palace and South Norwood Low Traffic Neighbourhood

We are writing to inform you of the upcoming consultation on the Crystal Palace and South Norwood Low Traffic Neighbourhood (LTN) introduced on a temporary basis earlier this year.

As a result of the Covid-19 pandemic, central government issued guidance to local authorities to move quickly, making changes to our streets for social distancing and to encourage walking and cycling. Using funding from Transport for London, we implemented measures to reduce through traffic in the Auckland Road / Southern Avenue area creating quieter and safer space to walk and cycle while capacity was reduced on public transport. By helping more people to walk and cycle rather than drive short journeys, the temporary scheme is also aimed at tackling air, pollution, congestion, speeding and improving overall road safety.

The LTN was implemented in stages based around the gas utility works closing Auckland Road, at the ending of those works. After hearing some initial concerns, we swiftly put in a bus gate to maintain access for the 410 bus, and emergency vehicles this was all at the time Church Road was half closed, with temporary traffic signals significantly impacting on the capacity of the A212 and A214. As the temporary LTN moved to its current form, we sought feedback via our Streetspace webpage interactive map. Over 2000 people reached out to share their views. Comments from the survey and emails received to our 'highways improvement' inbox indicated some clear themes:

- Patients driving to the Auckland Surgery need improved access
- Emergency service vehicles need more direct access
- The council should have consulted before implementing the temporary LTN
- The LTN doesn't work for us. It should be removed and streets returned to allow for through traffic
- The temporary LTN is welcomed. The need to reduce through traffic is understood, however the scheme disadvantages local residents by limiting access. Car access for local residents to their homes should be improved through alternative measures, such as camera-enforced entry points (ANPR cameras)
- The temporary LTN is liked, it has created a quieter, safer local street environment and neighbourhood
- Air pollution on main roads and in surrounding areas is worse
- Local businesses will be impacted by increased congestion on Church Road

Our proposals for the next stage of the scheme seek to address many of these concerns.

We are very appreciative to everyone for taking the time to submit feedback. Having listened, we are inviting the public to participate in a consultation on the future of the scheme. You can view the consultation material in full online and submit your response from **6 November 2020** until **4 December 2020** on our dedicated consultation webpage.

The link will go live on our Streetspace webpages available at croydon.gov.uk/streetspace – or through the QR code here:



How do I participate?

It is important that you carefully note how to complete the online form, using the information below and on our webpage. We are asking local residents to enter the **unique ID code** below in your survey response, to make our analysis much more informative and robust.

While the consultation is open to all those who consider themselves affected, we are hoping to capture the feedback from those living within the scheme boundary with more specific detail. This is the purpose of the unique ID codes.

Those without Internet access or with accessibility needs can request a printed copy of the consultation material. Requests must be submitted via the council's contact centre by phoning: 020 8726 7000.

Your unique ID code is:

XXXX – XXXX, XXXX, XXXX

When responding you must enter **4 digit code** followed by your **full address** into our online form. Responses will be accepted no later than **4 December 2020 at 9:00 pm**.

Who else is being consulted and how will other concerns from the themes be addressed?

We are consulting local ward councillors, schools, emergency services and residents of nearby boroughs, to help inform the decision making process. The range of options available is described on the survey portal.

Local businesses are important to us, and we are including them in this consultation as well, so that we can listen to their concerns, and ensure any impact of the scheme on their businesses is taken into account moving forward.

What will happen next?

After the consultation, a report will be written with recommendations on the future of the temporary scheme, based on the results of the consultation, balanced with other material considerations. The report will be considered by the Traffic Management Advisory Committee in December, and decisions on the next steps for the Crystal Palace and South Norwood LTN will be made.

How do I get more information?

For further information on our Streetspace programme please visit our website.

www.croydon.gov.uk/streetspace

November 2020

PUBLIC CONSULTATION

CROYDON | Delivering
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Future of Crystal Palace and South Norwood Low Traffic Neighbourhood

The council is carrying out a public consultation on the temporary Crystal Palace & South Norwood (LTN) scheme implemented earlier this year.

How do I participate?

We are very appreciative to everyone for taking the time to submit feedback. Having listened, we are inviting the public to participate in a consultation on the future of the scheme. You can view the consultation material in full online and submit your response from **6 November 2020** until **4 December 2020** on our dedicated consultation webpage.

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Local businesses are important to us, and we are including them in this consultation as well, so that we can listen to their concerns, and ensure any impact of the scheme on their businesses is taken into account moving forward.

What will happen next?

After the consultation, a report will be written with recommendations on the future of the temporary scheme, based on the results of the consultation, balanced with other material considerations. The report will be considered by the Traffic Management Advisory Committee in December, and decisions on the next steps for the Crystal Palace and South Norwood LTN will be made.

www.croydon.gov.uk/streetspace

Questions asked as a part of the consultation.

Note, the questionnaire was optimised for web input, paper questionnaires were sent to residents when requested, the format adopted may not match that below.

Consent

1: Can you please confirm:

- I give consent to Croydon Council to share my data between one officer in the Communications and Engagement Team, one officer in the Highways Team and one officer in the Strategic Transport Team
- I understand the council will:
 - keep all data in a secure location only accessible by the above three officers
 - that it will be used only for the purpose of analysing and validating the consultation results on which a report will be based
 - keep all data for a period of up to one year from the close of consultation for the purpose of further analysis and reporting on the results of the consultation, should this be deemed necessary
- I know I have the right to withdraw consent at any time by emailing highwayimprovements@croydon.gov.uk but understand that withdrawing consent may not affect the material that has already been used.

The full Privacy Notice can be viewed [here](#).

* This question must be answered

I give consent to Croydon Council using my data as outlined in the Privacy Notice. []

Section 1: About you

2: If you received a letter with a four-digit code please enter it here.

If you did not receive a letter/code, please enter 0000.

* This question must be answered

3: Do you:

* This question must be answered

Live locally to the scheme []

Travel through the area []

4: My house number / name or flat number is:

* This question must be answered

5: Road name:

* This question must be answered

6: Postcode:

* This question must be answered

7: Which borough do you live in?

* This question must be answered

Croydon []

Bromley []

Lambeth []

Southwark []

Lewisham []

Other []

7.1: Please specify:

8: Have you let us know your feedback on Streetspace before this consultation? If so, by which method (choose all that apply):

Please tick all that apply.

Yes - online survey response []

Yes - email []

No []

Section 2: Feedback on the Low Traffic Neighbourhood

9: How did you feel about the scheme when it was first implemented?

* This question must be answered

Very positive []

Positive []

Neutral []

Negative []

Very negative []

10: Please explain your answer:

.....
.....

11 How do you feel about the scheme now?

* This question must be answered

Very positive []

Positive []

Neutral []

Negative []

Very negative []

12: Please explain your answer:

.....
.....

13: Has the removal of the scaffolding and temporary lights on Church Road made a difference? If so, in what way?

* This question must be answered

Very positive []

Positive []

Neutral []

Negative []

Very negative []

14: Please explain your answer:

.....
.....

15: In July, we made changes to the scheme based on initial feedback - namely installing a bus gate on Auckland Road. How did you feel about the scheme with this change?

* This question must be answered

Very positive []

Positive []

Neutral []

Negative []

Very negative []

16: Please explain your answer:

.....
.....

Section 3: How you travel in and around Crystal Palace

17: What (if anything) stops you from walking and cycling for more journeys in and around Crystal Palace and South Norwood?

Select as many as appropriate.

Please tick all that apply.

Concern about road safety/ road danger []

Traffic speed []

Traffic volume []

Unpleasant street environment []

Topography (hills) []

Disability []

Other []

17.1: Please specify

.....
.....

18: If you own a car or motorbike, do you also walk, cycle or use public transport for journeys?

Yes []

No []

I don't own a car or motorbike []

19: On a scale of 1 to 5, 5 being much more and 1 much less, are you walking, cycling, scooting more now than before the Covid-19 pandemic?

5 - much more []

4 []

3 - about the same []

2 []

1 - much less []

20: If you have children and/or young people in your household, are they walking, cycling, scooting, skating more now than before the Covid-19 pandemic?

5 - much more []

- 4 []
3 - about the same []
2 []
1 - much less []
No children/young people in household []

21: On a scale of 1 to 5, 5 being much better and 1 much worse, how would you describe the impact on your street since the temporary LTN was put in – including with the bus gate on Auckland Road? Eg. air pollution, noise, etc.

- 5 - much better []
4 []
3 - no difference []
2 []
1 - much worse []

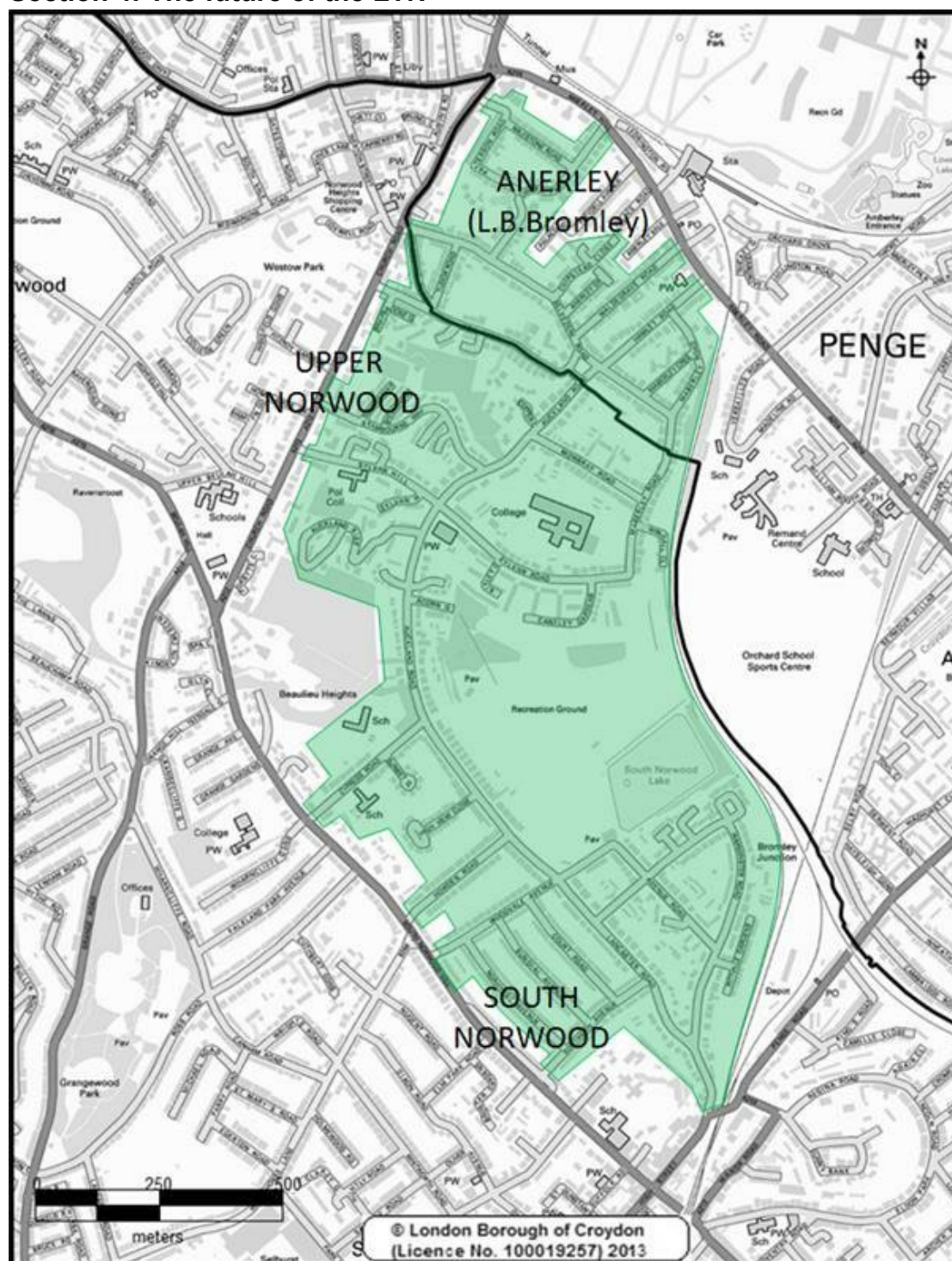
22: How would you describe road safety within your street since the temporary LTN was put in place?

- 5 - much better []
4 []
3 - no difference []
2 []
1 - much worse []

23: How are conditions for walking, cycling, and scooting now compared to before the LTN was in place?

- 5 - much better []
4 []
3 - no difference []
2 []
1 - much worse []

Section 4: The future of the LTN



- 24: Option 1: Replace: remove all physical planter closures and replace them with five ANPR camera-controlled access points with an exemption for eligible residents. Our definition of “eligible residents” would include those living on certain streets within both Croydon and Bromley’s borough boundaries, see map above. This permit would be free of charge, and would allow those in the exemption permit boundary of the LTN to drive through the closures, as well as the bus gate on Auckland Road. After hearing concerns about access to the Auckland Surgery, we are also proposing the relocation of the bus gate 150 metres, so the surgery can be reached easily from either end of Auckland Road. We will also be providing two additional disabled bays to make access for those with accessibility needs.

* This question must be answered

Strongly agree []

Agree []

Disagree []

Strongly disagree []

Don't know []

25: Please explain your answer, including any positive or negative impacts you feel this option could have on you.

.....
.....

26: Option 2: Remain: the LTN will not change in its current format with physical closures to remain in place, except for the changes in Auckland Road as described in option 1.

* This question must be answered

Strongly agree []

Agree []

Disagree []

Strongly disagree []

Don't know []

27: Please explain your answer, including any positive or negative impacts you feel this option could have on you.

.....
.....

28: Option 3: Remove: removing the scheme entirely, and by doing so, returning access for all motor traffic including non-residential traffic.

* This question must be answered

Strongly agree []

Agree []

Disagree []

Strongly disagree []

Don't know []

29: Please explain your answer, including any positive or negative impacts you feel this option could have on you.

.....
.....

30: If you have any other suggestions for how we could make the area safer, quieter and less polluted, please tell us in the space below?

.....
.....

Equalities questions

31: Which age group are you in?

Under 18 []

- 18-24 []
- 25-34 []
- 35-44 []
- 45-54 []
- 55-64 []
- 65-74 []
- 75+ []

Prefer not to say []

32: How would you describe your ethnic origin?

- White English / Welsh / Scottish / Northern Irish / British []
- White Irish []
- White Gypsy or Irish Traveller []
- Any other White background []
- White and Black Caribbean []
- White and Black African []
- White and Asian []
- Any other Mixed / multiple ethnic background []
- Indian []
- Pakistani []
- Bangladeshi []
- Chinese []
- Any other Asian background []
- Black African []
- Black Caribbean []
- Any other Black background []
- Arab []
- Other []
- Prefer not to say []

32.1: Please Specify

33: The Equality Act 2010 defines someone as a disabled person if they have a physical or mental impairment which has a long term and substantial adverse effect on their ability to carry out normal day to day activities.
A disability may include progressive conditions such as HIV and cancer, mobility, sight or hearing impairments or mental health issues such as depression.
In considering whether you have a disability you should not take into account the effect of any medication or treatments used or adaptations made which reduce the effects of an impairments (other than glasses or contact lenses used to correct a visual impairment):

Do you consider yourself to be disabled?

Please tick all that apply.

- No []
- Yes-Mobility []
- Yes- Visual impairment []

Yes- Hearing impairment []

Yes- Mental health []

Yes-Learning difficulties []

Yes-other []

Prefer not to say []

33.1: Please specify:.....

34: I identify my gender as:

Male []

Female []

Transgender Male []

Transgender Female []

Gender variant/ non-conforming []

Prefer to self-describe []

Prefer not to say []

34.1: Please describe

35: What is your annual household income?

£0 - £9,999 []

£10, 000 - £19,999 []

£20,000 - £34,999 []

£35,000 - £49,999 []

£50,000 - £74,999 []

£75,000 - £99,999 []

£100,000 - £124,999 []

£125,000 or more []

Prefer not to say []

Thank you for completing our survey. If you require further information, please visit our [Streetspace webpages](#).

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Open Our Roads leaflet

OPEN OUR ROADS

Croydon Council think YOU DON'T MATTER!

The council want to create private roads for a select few residents
AT YOUR EXPENSE.

- Those residents get quiet roads that ONLY THEY can drive on
- YOU get all the diverted traffic and pollution!
- YOU will be paying for THEIR roads that YOU can't use!
- If you drive on THEIR roads, YOU will get fined!



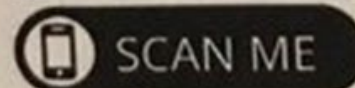
But you know what's even worse?

- The council ONLY sent consultation letters to the residents on these roads!
- They deliberately excluded YOU because they know you won't want this!

Don't let them get away with it!

Take part in Croydon Council's secret consultation. Scan the link – enter code 0000 when prompted.

- ✗ Say NO to road closures – diverting traffic into your area!
- ✗ Say NO to ANPR cameras – private roads for THEM that YOU have to pay for!
- ✓ Say YES to opening the roads (Option 3: Remove) – put things back to how they were



If you can't scan the QR code enter the following address: <https://new.croydon.gov.uk/croydon-streetspace/crystal-palace-and-south-norwood-low-traffic-neighbourhood>

Or you can request a paper copy on 020 8726 7000

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Main consultation (non-business) response data set

Data analysis – complete dataset:

Ref	Question	Yes - Online	Yes - Email	No
1	Have you let us know your feedback on Streetspace before this consultation? If so, by which method (choose all that apply):	643	712	3075

Ref	Question	Very Negative	Negative	Neutral	Positive	Very Positive
2	How did you feel about the scheme when it was first implemented?	2325	643	435	291	568
3	How do you feel about the scheme now?	2855	449	90	267	594
4	Has the removal of the scaffolding and temporary lights on Church Road made a difference? If so, in what way?	594	456	1807	823	556
5	In July, we made changes to the scheme based on initial feedback - namely installing a bus gate on Auckland Road. How did you feel about the scheme with this change?	1913	539	1008	387	372

Ref	Question	Yes	No	Don't Own
6	If you own a car or motorbike, do you also walk, cycle or use public transport for journeys?	643	712	3075

Ref	Question	Much Less	Less	About the same	More	Much More	No Children/ Young People
7	On a scale of 1 to 5, 5 being much more and 1 much less, are you walking, cycling, scooting more now than before the Covid-19 pandemic?	662	263	2103	618	508	
8	If you have children and/or young people in your household, are they walking, cycling, scooting, skating more now than before the Covid-19 pandemic?	333	97	1177	240	210	2041
9	On a scale of 1 to 5, 5 being much better and 1 much worse, how would you describe the impact on your street since the temporary LTN was put in – including with the bus gate on Auckland Road? Eg. air pollution, noise, etc.	1997	377	957	259	502	
10	How would you describe road safety within your street since the temporary LTN was put in place?	1452	432	1505	232	460	
11	How are conditions for walking, cycling, and scooting now compared to before the LTN was in place?	1158	397	1582	327	625	

Data Analysis – Inside the LTN

Ref	Question	Yes - Online	Yes - Email	No
1	Have you let us know your feedback on Streetspace before this consultation? If so, by which method (choose all that apply):	112	173	413

Ref	Question	Very Negative	Negative	Neutral	Positive	Very Positive
2	How did you feel about the scheme when it was first implemented?	316	106	65	59	97
3	How do you feel about the scheme now?	352	90	25	74	101
4	Has the removal of the scaffolding and temporary lights on Church Road made a difference? If so, in what way?	88	69	220	142	20
5	In July, we made changes to the scheme based on initial feedback - namely installing a bus gate on Auckland Road. How did you feel about the scheme with this change?	261	82	136	74	86

Ref	Question	Yes	No	Don't Own
6	If you own a car or motorbike, do you also walk, cycle or use public transport for journeys?	468	45	118

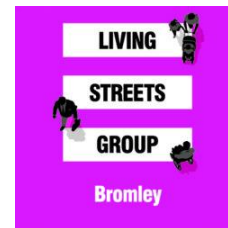
Ref	Question	Much Less	Less	About the same	More	Much More	No Children/ Young People
7	On a scale of 1 to 5, 5 being much more and 1 much less, are you walking, cycling, scooting more now	80	40	312	103	98	

	than before the Covid-19 pandemic?						
8	If you have children and/or young people in your household, are they walking, cycling, scooting, skating more now than before the Covid-19 pandemic?	40	9	139	33	37	213
9	On a scale of 1 to 5, 5 being much better and 1 much worse, how would you describe the impact on your street since the temporary LTN was put in – including with the bus gate on Auckland Road? Eg. air pollution, noise, etc.	268	54	122	62	154	
10	How would you describe road safety within your street since the temporary LTN was put in place?	212	57	164	60	145	
11	How are conditions for walking, cycling, and scooting now compared to before the LTN was in place?	148	33	190	63	127	

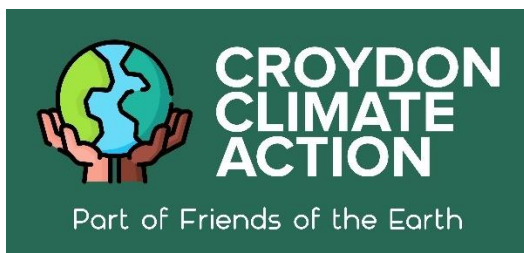
SHAPE BETTER STREETS

Submission by Crystal Palace and South Norwood Shape Better Streets

Supported by



**friends of
the earth**
Croydon



Your voice for a
cycling borough



Who we are

Shape Better Streets is a resident campaign supporting the principle of a Low Traffic Neighbourhood in Crystal Palace and South Norwood. Our website address is: <https://crystalpalaceltn.org/> and our email address is CrystalPalaceLTN@gmail.com.

Bromley Cyclists forms part of the London Cycling Campaign - a group which campaigns for better cycling facilities and promotes cycling to all Londoners

Bromley Living Streets is a group of residents in the London Borough of Bromley, campaigning for safer, quieter, low-traffic neighbourhoods which encourage walking and cycling.

Cadence is a cycling hub open to every level of bike rider. We describe ourselves as being 'more than a bike shop and more than a club'.

Croydon Cycling Campaign is a group of Croydon locals who want to see Croydon transformed into a city that is welcoming to cyclists of all ages and abilities. We work with the council to encourage high quality provision for cycling, organise rides and socials and campaign tirelessly for a real cycling revolution.

Friends of the Earth Croydon is part of a national and international community dedicated to protecting the natural world and the wellbeing of everyone in it. We lead campaigns, provide resources and information and drive real solutions to the environmental problems facing us all.

Croydon Climate Action, founded in 2019, works in partnership with Croydon Friends of the Earth specifically to work on local campaigns relating to climate change. We are a group of passionate individuals who work with local councils, businesses, schools and communities to ensure the future of Croydon is climate-friendly.

Croydon Living Streets is a group of volunteers working to make everyday walking safer, easier and more enjoyable across our community.

Holmesdale Community Action Group is a community group bringing neighbours together who are dedicated to making our local area a safer, cleaner and better place to live.

Labour Cycles is a community of Labour members committed to ensuring active travel is the for the many, not the few.

London Cycling Campaign is a 11,500-strong membership charity, making sure that everyone who cycles, or wants to cycle, has a voice in Greater London.

Peddle My Wheels is a circular economy business that aims to make cycling accessible and affordable for everyone.

Key points

- The climate crisis, national and local policy all call for a local approach based on reducing private vehicle use and the air quality, noise and traffic danger it creates, to make neighbourhoods safe and pleasant and encourage active travel.
- The LTN experiment should therefore only be abandoned if there is strong evidence that any harms significantly outweigh the benefits and cannot be mitigated by changes to the scheme.
- Over the last decade, traffic volumes on some streets in the neighbourhood have more than doubled – to 12,000 movements a day, based on January 2019 data – comparable or more than some nearby main roads. This is consistent with the increase in vehicle use seen in London over recent years, which has almost all taken place on streets which are not part of the main road network.
- The majority of people rat-running through the neighbourhood have been flouting the law by exceeding speed limits and other dangerous and anti-social behaviour.
- The increase in traffic has led to completely unacceptable consequences for air quality, noise, and danger, especially for active travel. It has degraded the neighbourhood as a place to live. The official London cycling route through the neighbourhood was experiencing levels of traffic far higher than TfL's standards for back street, "quiet" routes without formal cycling infrastructure.
- The experimental LTN has, in only three months from inception, led to at least a two thirds reduction in vehicle traffic, with accompanying reductions in air pollution, noise and traffic danger, and a tripling of walking and cycling.
- The main genuine problem which has emerged is some increase in traffic on adjoining streets in the borough of Bromley – though on nothing like the scale previously experienced in the streets where LTN measures have been installed. This has eased, as a result of Church Road reverting to normal working. If the scheme changes to allow resident access from Church Road further south, it should reduce further traffic on these streets. If there continued to be a problem, it could be addressed without allowing 10,000 or more vehicles a day back on to Auckland Road and other streets.
- There is a complete lack of objective evidence for other claimed disbenefits – emergency services access, social safety, increases in congestion and pollution on surrounding roads, and damage to the Triangle town centre economy. The improvement in local congestion following the removal of the restriction in place on Church Road from March to October shows clearly that the LTN has not had an unacceptable impact on local main road capacity. Main roads remain congested at times, and hostile environments for active travel, as they have been for decades. That can and should be tackled as an issue in its own right.
- The streets in the LTN can either be a pleasant, safe neighbourhood to live, and an a quiet, safe, attractive corridor for active travel away from main roads. Or they can be a congested, polluted, dangerous, bypass for the Triangle and the main roads. They cannot be both. There is no credible basis for the council choosing the latter.

Policy context: Global, national, London

Climate Crisis

The world is experiencing a climate crisis, with 2019 concluding a decade of exceptional global heat, retreating ice and record sea levels driven by greenhouse gases produced by human activities. To prevent warming beyond 1.5 °C (the recognised limit for land and sea to cope is 1.5-2 °C), we need to reduce emissions by 7.6 % every year from this year to 2030.¹

The 2015 Paris Agreement was drawn up to limit global temperature rise to no more than 2° C above pre-industrial levels but also offered national pledges for countries to cut or curb their greenhouse gas emissions by 2030. The initial pledges are already insufficient to meet the target.²

Air Quality

The World Health Organisation estimates that air pollution costs the UK economy approximately £54 billion a year. This accounts for 3.7 % of GDP in Britain.³

Up to 36,000 deaths every year are linked to air pollution in the UK (based on figures from 2010-2017) and over 35 % of local authorities (including more than 22 million people) had areas with unsafe levels of fine particulate matter (PM_{2.5}) in 2018.

More locally, Transport for London (TfL) has undertaken research into the economic costs of the health impacts caused by air pollution in London. The research estimates an annual economic cost of up to £3.7 billion, made up of the cost of treatment, lost work hours and concern and inconvenience to family members.⁴

There is growing evidence of a link between poor air quality and vulnerability to COVID-19. A recent study estimated that about 14 % of deaths in the UK from COVID-19 – some 6,100 to date – could be attributed to long-term exposure to air pollution.⁵

Traffic and Travel

Congestion cost the UK economy £6.9 billion in 2019 and on average, UK road users lost 115 hours and £894 a year to congestion⁵. In terms of the human cost, over three quarters of deaths due to injury in the age bracket of 10–18-year-olds are related to traffic incidents.⁶

2,324 people were killed or seriously injured (KSI) on London streets in road traffic collisions in 2013. There are an estimated 5,900 deaths per year in London due to long-term exposure to NO₂, and 3,500 deaths due to long-term exposure to fine particulate matter (PM_{2.5}).⁷

London's population is projected to increase by 24 % by 2041. With this expansion, rising public transport demand means that, without further action, the majority of morning peak travel on both National Rail and London Underground would be in crowded conditions.⁸

The Mayor of London's own transport strategy is very clear on what action needs to be taken:

"At its heart is a bold aim for 80 % of all trips in London to be made on foot, by cycle or using public transport by 2041."

Private vehicle use is certainly not the answer to the public transport crisis. Household car ownership in Greater London is significantly lower than the average in England. In addition, over one third of all the car trips made by London residents are less than 2 km and could be walked in up to 25 minutes. Habit strongly influences the choice of travel mode.⁹

The Impact of COVID-19

Following unprecedented levels of walking and cycling across the UK during the pandemic, the Department for Transport (DfT) published plans to help encourage more people to choose alternatives to public transport when they need to travel. This should make it easier to follow healthier habits, and make sure the road, bus and rail networks are ready to respond to future increases in demand.¹⁰

In May 2020 the Emergency Active Travel Fund was formally announced. It supports local authorities to develop cycling and walking facilities and projects such as Low Traffic Neighbourhood schemes (LTN schemes). The accompanying Department for Transport guidance, reaffirmed and updated in November 2020, urges highways authorities to implement measures to reduce rat-run traffic on minor roads:

*"Modal filters (also known as filtered permeability); closing roads to motor traffic, for example by using planters or large barriers. Often used in residential areas, when designed and delivered well, this can create low-traffic or traffic-free neighbourhoods leading to a more pleasant environment that encourages people to walk and cycle, and improving safety."*¹¹

Survey results show clear support for these initiatives:

- Respondents overwhelmingly agreed that the government should act in local neighbourhoods to increase road safety (88 %), improve air quality (86 %), reduce traffic congestion (83 %) and reduce traffic noise (75 %).
- Three quarters of respondents supported the reduction of road traffic in towns and cities in England (77 %) and their local area / neighbourhood (78 %), and two thirds of respondents were supportive of reallocating road space to walking and cycling across towns and cities in England (66 %) and their local area / neighbourhood (65 %).¹²

In London particularly, where public transport use is usually high, the need was critical. TfL warned that due to social distancing, capacity on the Tube would be reduced to 15–20 % and 20–25 % on buses. If nothing was done, TfL's own modelling showed a doubling of car use in central London, assuming a third of pre-lockdown journeys returned and those who cannot get on to public transport shifted to cars.¹³

Mini-Hollands – the evidence from schemes in place

This national and London policy emphasis reflects evidence from pathfinder mini-Holland schemes. A study investigating the early impact of the mini-Holland schemes in Waltham Forest discovered that people in areas with active travel schemes were 24 % more likely to

have done any cycling in the previous week and walked or cycled for 41 minutes per week more than those where such improvements have not yet been made.¹⁴

More recent research has consistently found that living near interventions has led to a 40–45-minute weekly increase in active travel, providing confidence that even in more car-dependent, suburban areas, active travel infrastructure can spur take-up, and that such growth can provide high health economic benefits in relation to intervention costs. There is also a consistent trend towards people in the LTN area being less likely to own a car, with the largest decrease in car use always within the LTN group.¹⁵

Public Health

It is estimated that more than 14 % of children age 11 are overweight and more than 23 % are obese. Countries with the highest levels of cycling and walking generally have the lowest obesity rates. People who cycle live two years longer on average than people who do not and take 15 % fewer days off work through illness.¹⁶

The total cost of obesity to wider society is estimated at £27 billion. The UK-wide NHS costs attributable to excessive weight and obesity are projected to reach £9.7 billion by 2050, with wider costs to society estimated to reach £49.9 billion per year.¹⁷

The Mayor of London's Childhood Obesity Taskforce has called for a rapid increase in the number of 'public realm improvements that reduce traffic and support children's health, well-being and mobility' as one of its 10 ambitions for tackling childhood obesity in the capital.¹⁸

Children and School Travel

With the 'school run' a key contributor to rush hour traffic, this seems an easy target to reduce private car use, particularly given the potential benefits in health for the younger generation.

- 76 % of trips to school made by primary school children are under 2 miles, compared to 49 % of trips to school made by secondary school children. For secondary school children, trips to school are more likely to be between 2 and 5 miles (29 %).
- 88 % of children aged 7 to 10 were usually accompanied to school by an adult in 2013, this proportion drops to 31 % for children aged 11 to 13.
- 43 % of children are accompanied to school because of fear of road danger.¹⁹

If only a small fraction of these journeys were converted to active travel, it would have a huge positive impact on by reducing the volume of vehicular traffic on our roads.

Policy context: Croydon

Local policy and strategies on climate, transport and public health all point clearly towards reducing motor vehicle use and encouraging active travel.

Climate

In June 2019 Croydon Council declared a climate emergency, with an ambitious target of ensuring the borough is carbon neutral by 2030.²⁰ It has set up a Climate Crisis Commission, one of whose workstreams is on transport and energy.²¹ A Citizen's Assembly sponsored by the council and operating in early 2020 said "we want to see fewer cars in total on the borough's roads with shorter journeys in particular being cut."²²

Air Quality

In Croydon alone, background concentrations of PM_{2.5} have been measured as dangerous and in breach of World Health Organisation (WHO) limits. In 2018 an estimated 6.16 % of deaths in the borough were attributable to PM_{2.5} air pollution which was equivalent to 151.5 deaths.²³ Croydon's Air Quality Management Plan includes a commitment to reprioritise road space to enable walking and cycling.²⁴

Active travel

Croydon has developed a strong policy commitment to active travel in recent years. The 2018-23 Cycling Strategy, published in 2017, set out an approach, including establishing an inclusive cycling culture and establishing safe routes. One of the routes earmarked for improvement was the long-standing London Cycle Network route along Lancaster and Auckland Roads.²⁵ The Croydon Cycling Campaign has been arguing for several years that it should be improved by cutting rat-run traffic.²⁶

The controlling Labour Group's 2018 manifesto made strong commitments on active travel, with a particular focus on children and young people – to support initiatives "that encourage children to walk and cycle to school" and to put in place an approach to transport which "enable[s] people to get out of their cars... work[s] to achieve the principles of Vision Zero ...and makes Croydon... easy to get around and enjoy, especially for young people, older people and disabled residents."²⁷ These commitments are reflected in the council's current corporate plan.²⁸

How the policy context should shape a decision

The weight of national, London and local policy points overwhelmingly to the need to reduce motor vehicle use and encourage active travel. It also points to the importance of creating low-traffic environments in which the air and noise pollution associated with excessive traffic is removed, and in which active travel is encouraged.

That does not, of course, justify persisting with a particular scheme if it does not achieve these objectives, or results in significant unintended adverse consequences. But it does point strongly towards only abandoning a scheme if:

- there is clear evidence that the harm outweighs the benefits;

and

- any harm cannot be addressed by modifications to the scheme.

Our argument is:

- The scheme has resulted in very significant benefits.
- There are some harms, but many of the claims which have been made about adverse consequences are, at best, exaggerated, and in some cases are not supported at all by the evidence.
- Changes to the scheme could reduce the genuine harms significantly.

About the Crystal Palace and South Norwood LTN

Geography

The neighbourhood in which the LTN has been established is, in formal terms, the parts of Croydon's South Norwood, and Crystal Palace and Upper Norwood, wards bounded by: the A213 South Norwood High Street; the A215 South Norwood Hill; the A212 Church Road; the boundary with Bromley; and the railway line between Crystal Palace and Norwood Junction,

However, part of the boundary with Bromley does not follow any strong natural features, and a wider definition of the neighbourhood would extend to the A214 Anerley Hill and Anerley Road.

On this broader definition, the neighbourhood is about a mile and a half north to south, and around half a mile wide.

The neighbourhood occupies the eastern slopes of the southern end of the Norwood Ridge. Broadly, the difference in elevation between Church Road and South Norwood Hill on the western boundary of the neighbourhood, and the lower lying streets is greatest (around 50 m of elevation) towards the northern end, and less or negligible towards the south. A road, called successively Lancaster Road, Auckland Road and Hamlet Road, runs through the neighbourhood from south to north. Various streets run west from it to South Norwood Hill and Church Road. There are networks of streets east of it, to the south around Warminster Road, and to the north round Sylvan Road and Maberley Road. Travel (by any mode) to the east is completely blocked by the railway line, which can only be crossed on the main roads at the northern and southern ends of the neighbourhood. The Auckland Rise estate occupies a substantial area east of Church Road and south of Sylvan Hill, and there is a significant amount of social housing on the Bromley side, between Anerley Road and Belvedere Road.

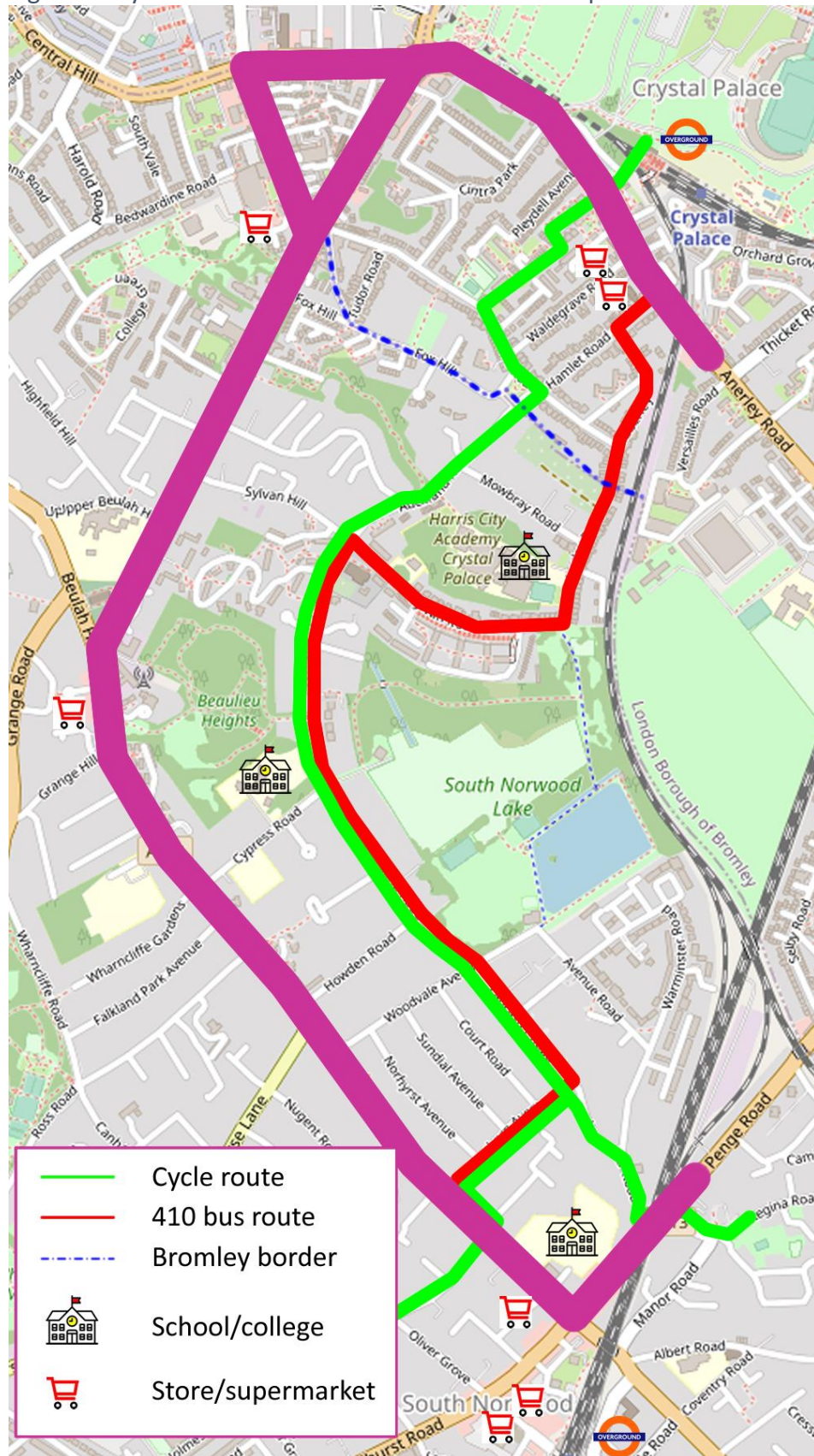
There are several areas of public open space in the neighbourhood, principally South Norwood Lake and Grounds, Beaulieu Heights and Stambourne Woodland.

There is one primary school in the neighbourhood (Pegasus Academy Cypress School), and two secondaries: Harris City Academy Crystal Palace towards the north, and Harris South Norwood on the South Norwood Hill boundary road at the southern end. There is a community centre (Waterside) adjacent to the South Norwood Lake.

There are railway stations (Norwood Junction and Crystal Palace) close to the northern and southern ends of the neighbourhood. Buses run along the main roads bounding the neighbourhood, and there is a service (410) running through the neighbourhood itself from south to north via Southern Avenue, Lancaster Road, Auckland Road, Sylvan Road, Maberley Road and Hamlet Road. A long-standing London Cycle Network route runs through the area along Lancaster Road, Auckland Road, Belvedere Road and Chipstead Close.

Figure 1 is a map of the area.

Figure 1: Crystal Palace and South Norwood LTN: Map



Demography

Figure 2 shows key demographic information.²⁹ The population is around 7,400 (Croydon only) or 11,400 (including the Bromley streets). Over 40 % of the population is Black, Asian and Minority Ethnic (BAME). There are around 3,200 households in the Croydon section, a further 1,800 in the Bromley section. 43 % of households do not have access to a private vehicle. Taken as a whole, the neighbourhood is around the bottom of the middle third of the income distribution. The census districts within it range from two within the 30 % poorest in England to one around the middle of the income distribution. The neighbourhood is more affluent than some of the area to the south of it (the other side of South Norwood High Street), and less affluent than much of the area to the west (the other side of Church Road).

Figure 2: Key demographic information

Census LSOA		Income decile (lower number=poorer)	Population	% BAME	Households	No car	%no car
Croydon	008A	3	1272	57.8	568	243	42.8
	007D	4	1868	52.1	620	194	31.3
	007C	4	1638	44.7	773	310	40.1
(part)	001A	4	1052	37.6	438	173	39.5
	001B	5	1523	34.8	774	306	39.5
Bromley	005B	3	1917	30.1	842	480	57.0
	005E	4	2125	29.7	949	450	47.4
Total (Croydon only)		3.5	7353	45.8	3173	1226	38.6
Total (including Bromley)		3.4	11395	40.1	4964	2156	43.4

There is no data about the income status of households within the neighbourhood as opposed to the boundary roads. The two main areas of social housing both have some frontage on main roads, but most of the properties in them do not front main roads. There is no reason to believe that, taken as a whole, there is any difference in income levels between the boundary roads and the rest of the neighbourhood.

Summing up:

- The neighbourhood has a large population.
- It is diverse.
- It is not particularly well-off.

It is a long way from the “small, wealthy, white, enclave” scheme opponents have claimed.

Traffic in the neighbourhood before the LTN

Data

There are three sources of quantitative data about traffic in the neighbourhood before the LTN:³⁰

1. Council data from January 2013 recording vehicle numbers and speeds westbound on Auckland Road at the junction with Stambourne Way. These record numbers of motor vehicles (only) and speeds in one direction only (west/south towards South Norwood. They do not record vehicle type (car, van, etc).
2. Data downloaded by the council in January 2019 from the speed display device in Auckland Road just east of the junction with Stambourne Way, containing the same information as 1, though distinguishing between speeds below 20 mph and between 20 mph and 30 mph. (There is also data for August 2019, but that was, of course, at a time of year without school traffic, and which generally tends to be less busy.)
3. Counts carried out manually by residents in June and July 2020 in Sylvan Hill and Auckland Road. These include pedestrians and cyclists as well as vehicles, recorded by type, but do not record speeds. These counts both took place after the LTN's first phase with planters in South Norwood and on Auckland Road; and before the conversion into a bus gate on Auckland Road and the installation of planters on Sylvan Hill. However, they were carried out in the earlier phases of the lifting of the spring lockdown, when traffic levels still had not recovered from their very low levels. In particular, the schools were only open to a minority of pupils.

Rat-runs

Before the LTN was introduced, vehicles were able to make through journeys across the neighbourhood. The main rat-runs were:

1. Southern Avenue and Lancaster Road (and vice versa) as a route between South Norwood Hill and South Norwood High Street.
2. Hamlet Road, Auckland Road and Sylvan Hill, with some traffic also using Fox Hill and Stambourne Way, (and vice versa) as a route between Anerley Road and Church Road.
3. Hamlet Road, Auckland Road, Lancaster Road, and either Southern Avenue or the south end of Lancaster Road (and vice versa) as a route between Anerley Road and South Norwood.
4. As 3, but using Sylvan Hill, Stambourne Way and Fox Hill to travel to or from Church Road.

These routes (2 in particular) were indicated on navigation apps as preferable to the main roads even when traffic on the main roads was light.

Traffic volumes

In just over 6 years, the daily one-way total had well over tripled – equivalent to traffic increasing by nearly 23 %, year after year. Assuming broadly equal numbers of vehicles going both ways in the course of a day, the 2019 total is equivalent to around 12,000 vehicles a day. Figure 3 below shows the 2013 and 2019 daily totals

Figure 3: Vehicle movements, Auckland Road, Westbound, January 2013 and January 2019
Source: Croydon Council

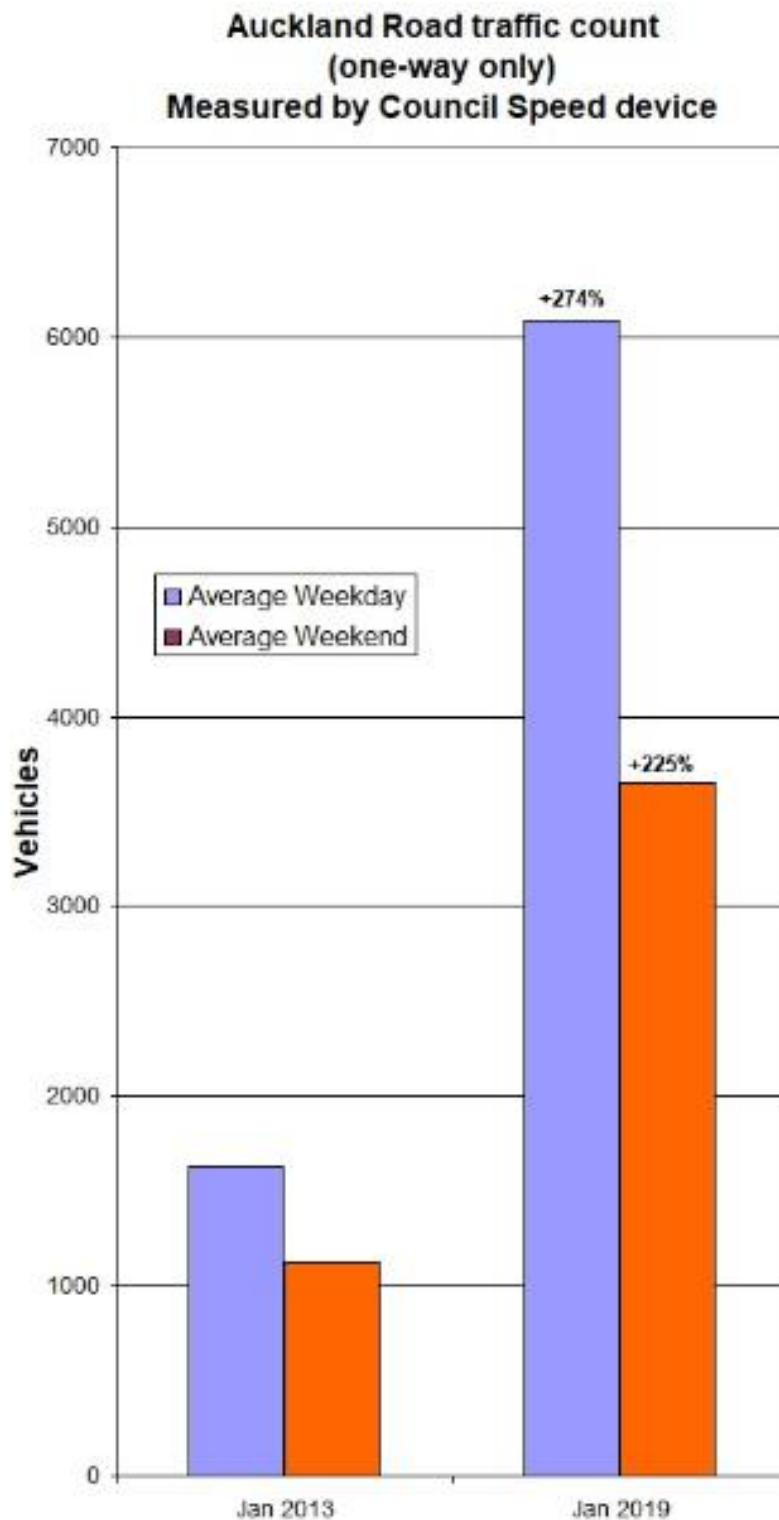
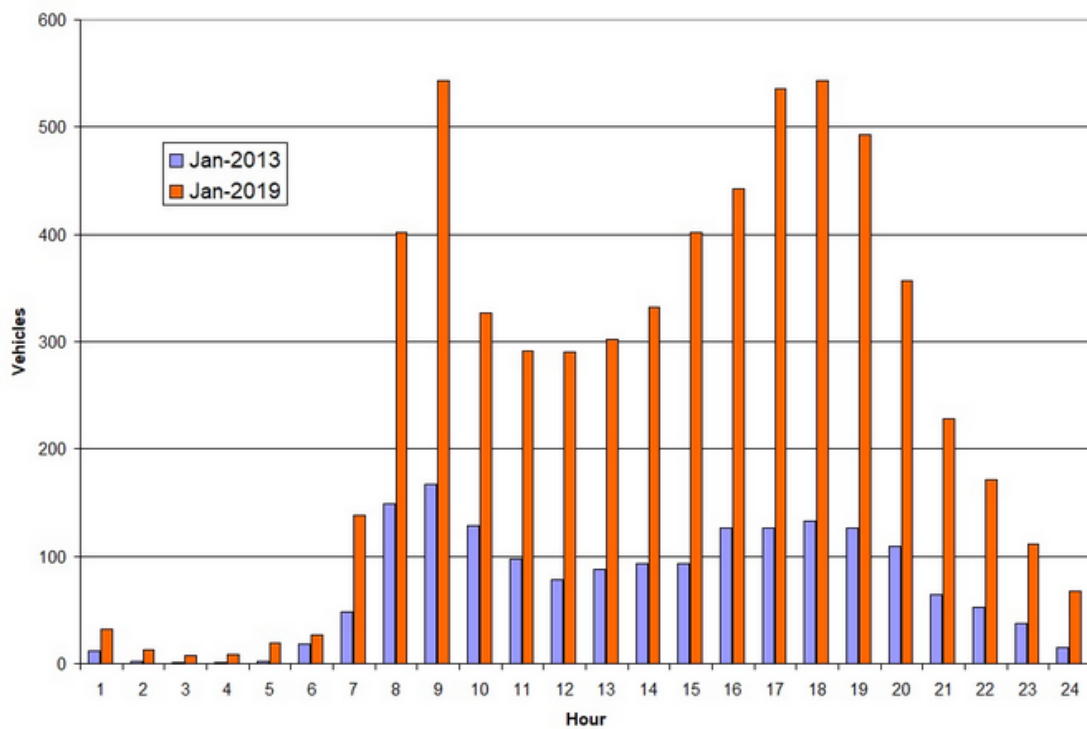


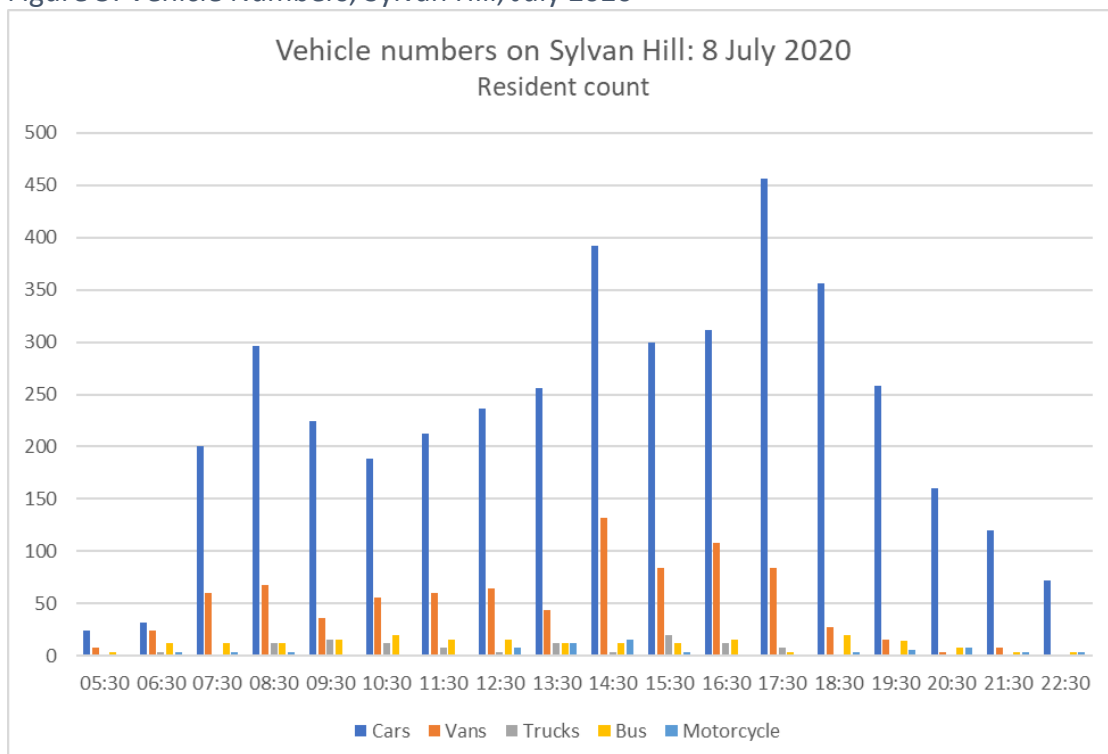
Figure 4 shows the hourly distribution in the two years. In 2013, one-way traffic only exceeded 100 vehicles per hour for 8 hours in the day. In 2019, high traffic was constant from early morning until well into the evening: over 290 vehicles an hour (one way) from 8 am to 9 pm.

Figure 4: Auckland Road traffic - 2013 and 2019: weekday hourly
Auckland Road hourly traffic count (one-way only)
Measured by Council Speed device



In June and July 2020, residents carried out weekday manual counts on Auckland Road and Sylvan Hill. The results of the July counts (the lower of the two) are shown in Figure 5 below.

Figure 5: Vehicle Numbers, Sylvan Hill, July 2020

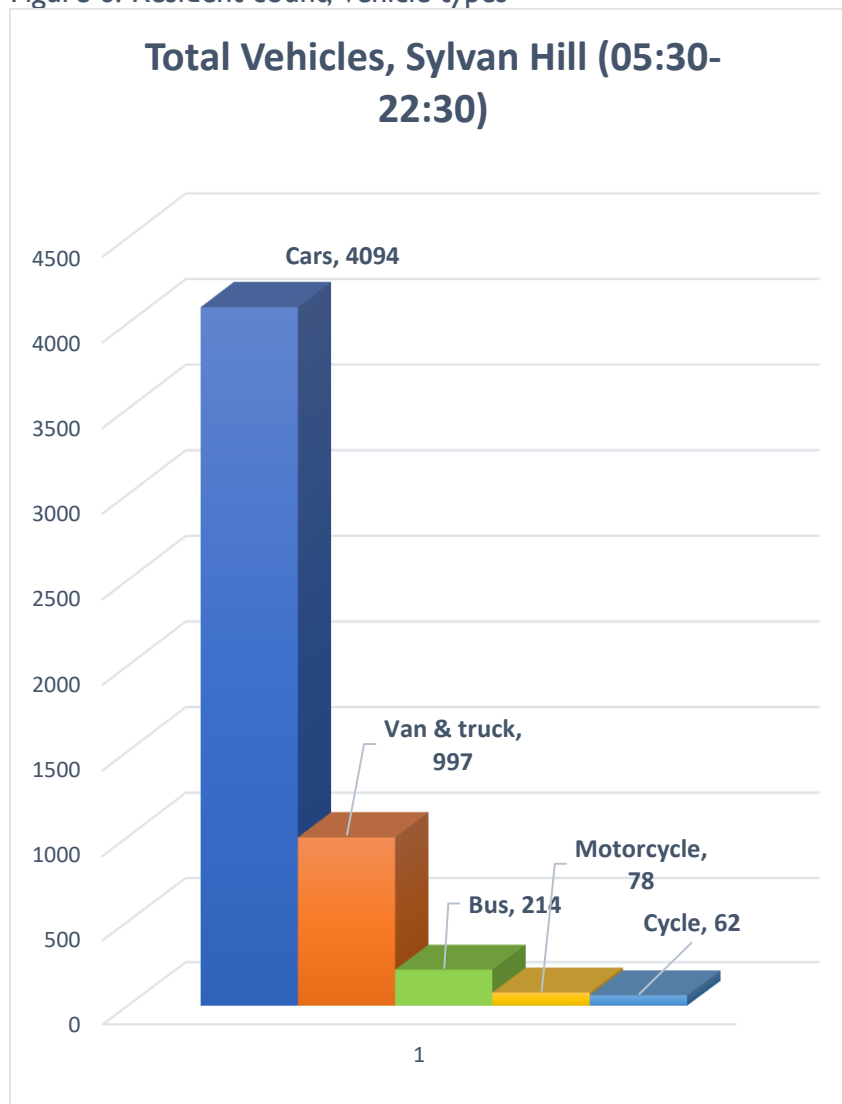


The daily total from this count, around, 5,400, is somewhat lower than the August 2019 council data, but still over 50 % higher than 2013. A number of factors may have been in play:

- In early July 2020, lockdown restrictions had not been fully lifted. In particular, schools were only operating for a limited number of pupils.
- Because, at that time, Auckland Road was closed to vehicles further south, Sylvan Hill was carrying traffic which would otherwise have been on Auckland Road. The 410 bus was using Sylvan Hill, but only accounts for at most 5 % of the vehicle movements recorded.

As Figure 6 shows, Light Commercial Vehicles, vans and smaller trucks, accounted for about 20 % of the total.

Figure 6: Resident count, vehicle types



These are extraordinarily high volumes for side streets not part of the main road network. They are higher than recent data for the nearby A214 Central Hill and not much less than Anerley Road and Church Road.³¹ They are higher than the guideline figures suggested for

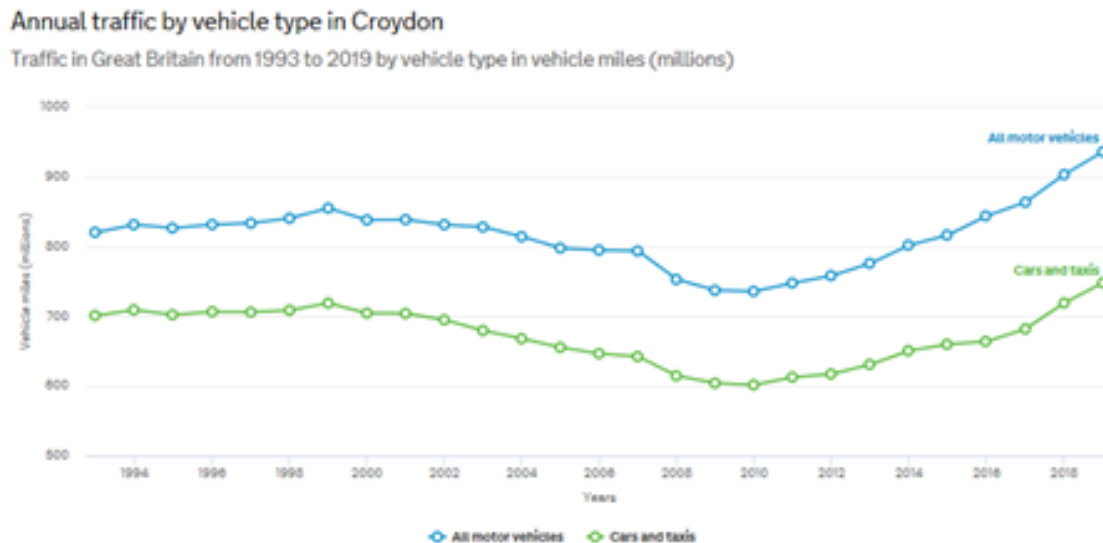
“Quietway” cycle routes in TfL guidance – critical since Lancaster Road and Auckland Road are designated as part of such a route.³²

The extent to which, within the last decade, Auckland Road and other streets have become, in effect, main roads, reflects broader trends across the borough and London as a whole.

Figure 7 below shows that in Croydon, there has been a 200-million-mile increase in miles driven in Croydon over the last 25 years, an increase of nearly 20 %.

Figure 7: Annual traffic by vehicle type: Croydon

Source: Department for Transport



But, as Figure 8 shows, the location of this increase has been very uneven. Across London as a whole, volumes on main roads have changed little. The entire increase has been on other streets, like Auckland Road and the other streets in the neighbourhood which have become rat-runs, and over the last 10 years or so. This increase is largely down to increased usage of satnav with traffic functionality, increased use of delivery services and lack of adequate cycling infrastructure.

Auckland Road and other now-busy streets in the neighbourhood are therefore the “canaries in the coal mine.” Their state, before the experimental LTN was introduced, was a consequence of an unsustainable growth in traffic volumes, and the diversion of that traffic off the main road network enabled by navigation apps.

Congestion

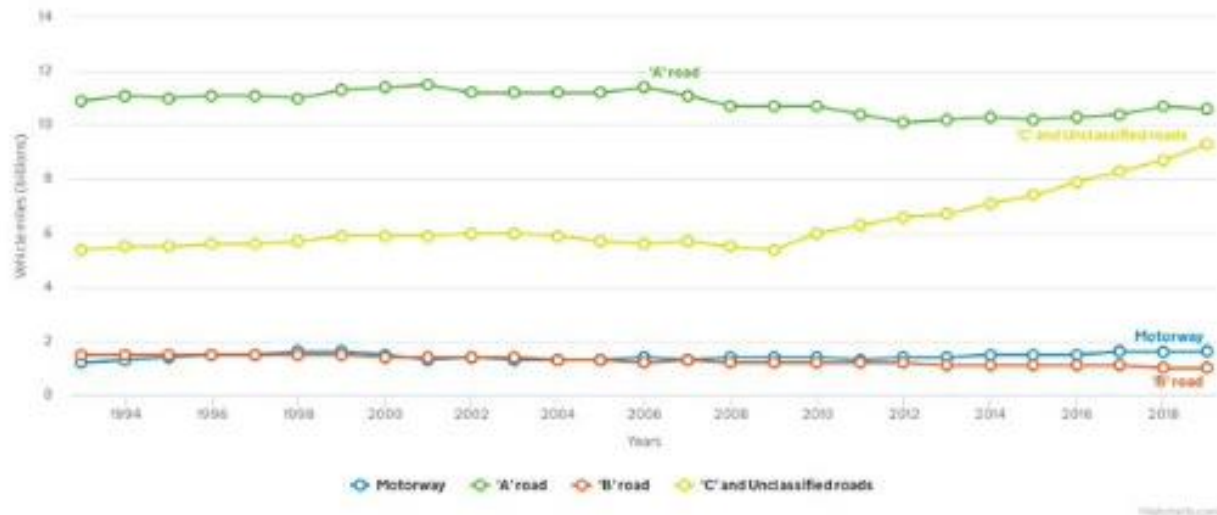
Because of the volume of traffic using streets not managed as main roads, and in particular with unrestricted parking, there was frequent congestion at pinch points such as the junction of Southern Avenue and Lancaster Road, on Hamlet Road, and on Auckland Road near the doctors’ surgery. On Hamlet Road, eastbound traffic often backed up as much as 300 m from the junction with Anerley Road. This would cause severe delays to the 410 bus and occasionally caused emergency vehicles to become stuck. It was common for altercations to take place between angry and frustrated drivers, both physically and verbally.

Figure 8: Traffic volumes: London and Croydon comparisons

Source: Department for Transport

Annual traffic by road type in London

Traffic in Great Britain from 1993 to 2019 by road type in vehicle miles (billions)

*Traffic danger*

The impact of traffic volumes was made worse by driver behaviour. On average, more than 80% of vehicles exceeded the posted 20mph limit. The median speed recorded on the road was 26.4mph – nearly a third above the speed limit. Half of all vehicles drove faster than this. The 85th percentile speed recorded was 33mph. That is, 15% of vehicles were being driven more than two thirds above the speed limit. The highest speed recorded was 70mph, at about 8:50pm in the evening. Most hours of the day, at least one vehicle was recorded at over 45mph.

This section of Auckland Road is used, and crossed, by large numbers of students walking to and from Harris City Academy Crystal Palace.

These streets have therefore recently been carrying volumes of traffic similar to main roads, with high levels of disregard for speed limits. But they are not managed or laid out with the features characteristic of main roads:

- Parking is much less restricted than is typical on main roads of similar width, and there are typically parked vehicles on both sides for significant stretches, leaving insufficient width for opposing vehicles to pass, and contributing to poor conditions for cycling when there are high volumes of traffic.
- Auckland Road contains a number of blind bends and crests. Combined with large numbers of parked vehicles, this means sight lines are poor in many places.
- There are no formal pedestrian crossings, only refuges at three locations along the whole length of Hamlet Road, Auckland Road and Lancaster Road, and no such features on any of the other roads. Sight lines are often blocked by parked vehicles.
- There are speed humps along the southern part of Auckland Road, and cushions further north on Auckland Road, Hamlet Road and on Sylvan Hill and Stambourne

Way. The cushions in particular do not appear to be effective in restraining speed, as the speed data summarised above shows.

- At the main junctions of streets in the neighbourhood with main roads – namely Hamlet Road/Anerley Road, Sylvan Hill/Church Road, Southern Avenue/South Norwood Hill and Lancaster Road/South Norwood Hill – there are no traffic signals or roundabouts.

Figure 9 is a photograph of Auckland Road, showing how the topography and high levels of on street parking make it unsuitable for high volumes of traffic.

Figure 9: Auckland Road: Typical look of street

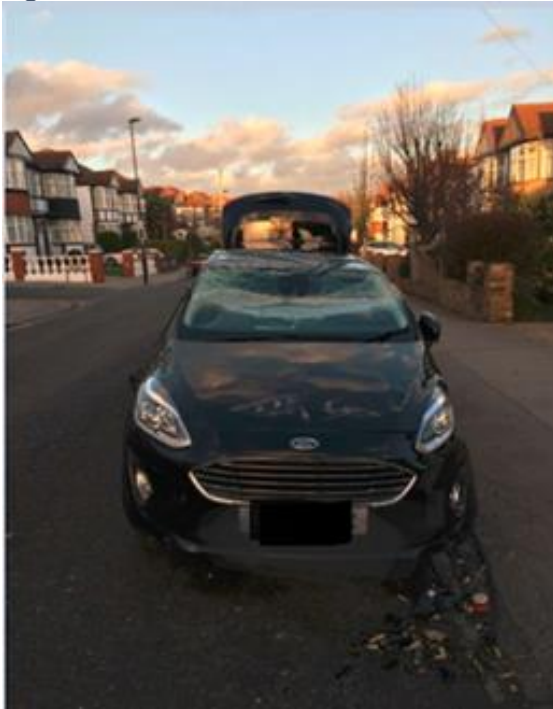


As a result, the neighbourhood and its main road junctions have seen high volumes of traffic collisions. Junctions on Auckland Road within the neighbourhood also have a poor safety record (Figure 10).

There was a serious cycle injury on Sylvan Hill in July 2020, sadly illustrative of how large numbers of motor vehicles, many of them recklessly driven, created a dangerous environment, above all for people not in a motor vehicle. A driver overtook another travelling uphill, in the path of someone cycling downhill. The cyclist swerved off the road to avoid a head-on collision and hit a wall. The photograph below (Figure 11) shows a car that was involved in a collision on Southern Avenue last year. The car involved was driving fast enough for the car to mount the pavement on its roof. Luckily there were no pedestrians on the pavement at the time. There have been many other examples of speeding vehicles losing control on these residential roads.



Figure 11: Crashed vehicle in Southern Avenue



Subjective safety for pedestrians and cyclists was poor. Pedestrians, in particular older and less able people, found crossing the roads, especially at the junctions of the 'hill roads' (Sylvan Hill, Stambourne Way and Fox Hill) extremely intimidating because of the speed and careless manner in which drivers took the turns.

"I felt like I was taking my life into my hands crossing Stambourne Way and Fox Hill at their junctions with Auckland Road. I was nearly hit several times and drivers frequently honked at me and verbally abused me." (Woman, 60, walking impairment)

"Before the LTN I would never have let my children walk or cycle to Cypress School alone. I used to have my heart in my mouth when my youngest (5) scooted off ahead of me." (Parent)

Before the LTN was in place very few parents would allow their children to walk to Cypress School due to safety concerns. In addition to this many parents would drive their children to local schools, including Harris Crystal Palace and Harris South Norwood. This would create pinch points and increased congestion at Lancaster Road, Southern Avenue and Auckland Road, which in turn caused delays to the bus and made the environment less safe for any children and adults not in cars.

Air quality

There has been, so far as we are aware, no air quality monitoring within the LTN. However, with Auckland Road and other streets carrying volumes of traffic comparable to nearby main roads, it is reasonable to assume that parts of the LTN were experiencing comparably poor air quality.

Noise

Likewise, there has not, so far as we are aware, been any monitoring of noise. Yet the volumes of traffic passing through some streets in the neighbourhood was clearly resulting in high levels of insidious noise pollution.

Impact on well-being

A survey of residents carried out in summer 2020 found that large majorities were concerned about air quality, noise and vibration.³⁴

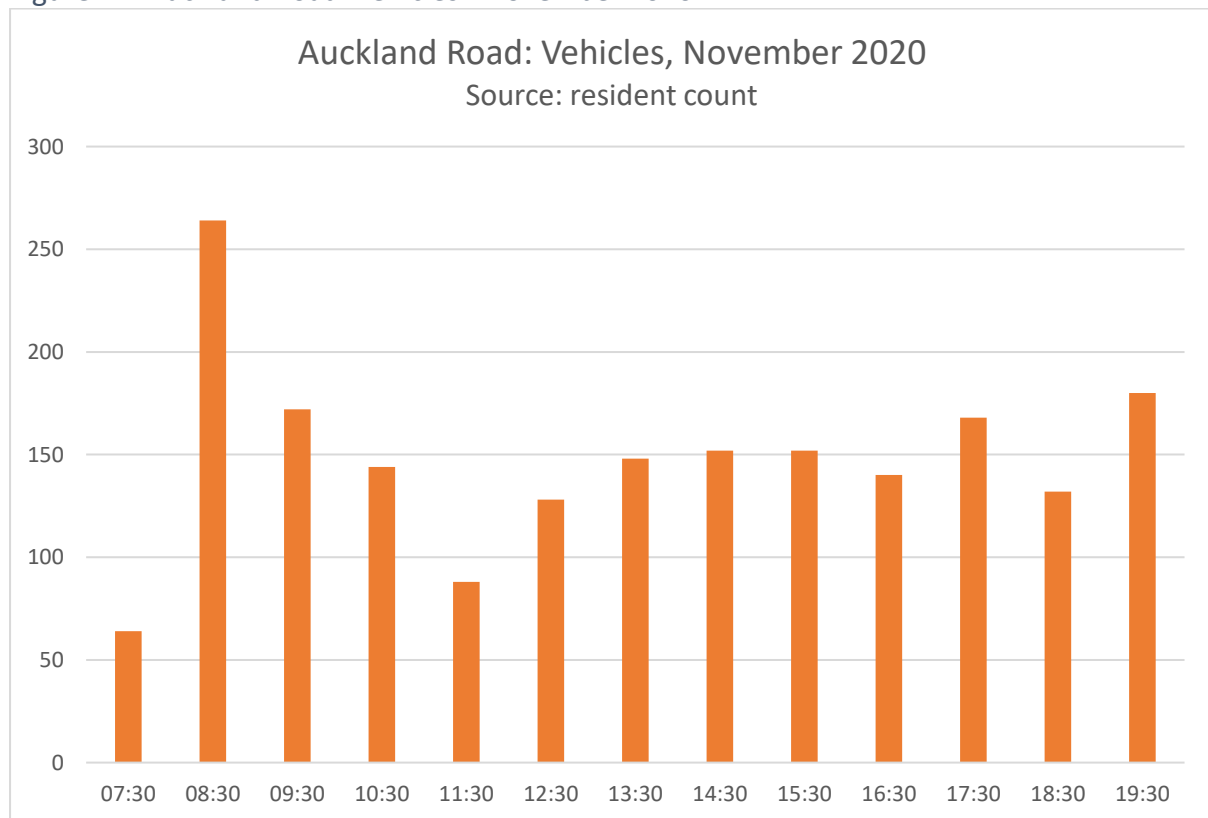
Positive Impact of the LTN

The introduction of the LTN has resulted in a dramatic reduction in motor traffic volumes on the previously busy roads in the neighbourhood (see pages 10–19 above). It has also led to more people walking and cycling.

Reduction in motor traffic movements, air and noise pollution, and traffic danger

Resident traffic counts carried out in the weeks beginning 16 and 23 November 2020 suggest a fall in motor traffic movements along Auckland Road and Sylvan Hill to around 1,700 per day, a two thirds reduction compared with July 2020 and three quarters compared with August 2019 (Figure 12). Only between 8 and 9am did numbers exceed 100 per hour.

Figure 12: Auckland Road: vehicles - November 2020



This fall in motor vehicle movements has had three main consequences for the local environment:

- A dramatic fall in air pollution. While there are no before or after measurements of air pollution, it is completely reasonable to assume that a two-thirds fall in vehicle movements will have resulted in much lower air pollution, and the experience of residents is certainly that the air is fresher.
- Likewise, a drop in noise pollution, as experienced on streets and in homes.

- A significant improvement in road safety. While a minority of vehicle drivers unfortunately continue to disregard the speed limit, and drive dangerously in other ways, the total volume of traffic has fallen so much that the incidence of dangerous driving and speeding is much less. The safety benefits are not just in the interior of the LTN. The intersections of the streets connecting the neighbourhood to the main roads (see pages 16–17 above) are also much safer for pedestrians and drivers because of the significant reduction in turning movements.

Travel to school

As well as the general reduction in traffic, the school run now has much less impact on the neighbourhood. Supported by positive communication from Harris City Academy Crystal Palace (HCACP), those parents who continue to drive their children to school are now dropping them or picking them up beyond the filters in Stambourne Way and Sylvan Hill. This means the street outside the main school entrance is now much quieter at the beginning and the end of the school day. This creates a safer environment for students and staff, supports social distancing, and reduces nuisance to local residents.

With the additional school street restriction further reducing motor access to Cypress Road, the great majority of home-school journeys to Cypress School are now by walking or cycling.

“Two girls from my class [Cypress School] now cycle to school regularly because the streets are now safe and school had a “Ride to School Week”. (Resident, 9)

“My son now cycles to school every day, on his own, as the roads are safe enough. He is really enjoying the freedom and getting fit.” (Parent)

Active travel

Figure 13 shows hourly estimates* of the numbers of people walking (in both directions) between 7 am and 7 pm in July and November.

The comparison is not like-for-like in an important respect. In July, there were few if any students of Harris City Academy Crystal Palace attending, whereas the school is currently functioning fully. Students account for a large proportion of the distinct peaks seen in the graph in the early morning and mid-afternoon, since Sylvan Hill is one of the main walking routes to the school. However, even removing 500–600 Harris student movements from the total, there has still been around a threefold increase in walking.

*Based on 15 minute counts at the half hour.

Figure 13: Sylvan Hill: Pedestrians

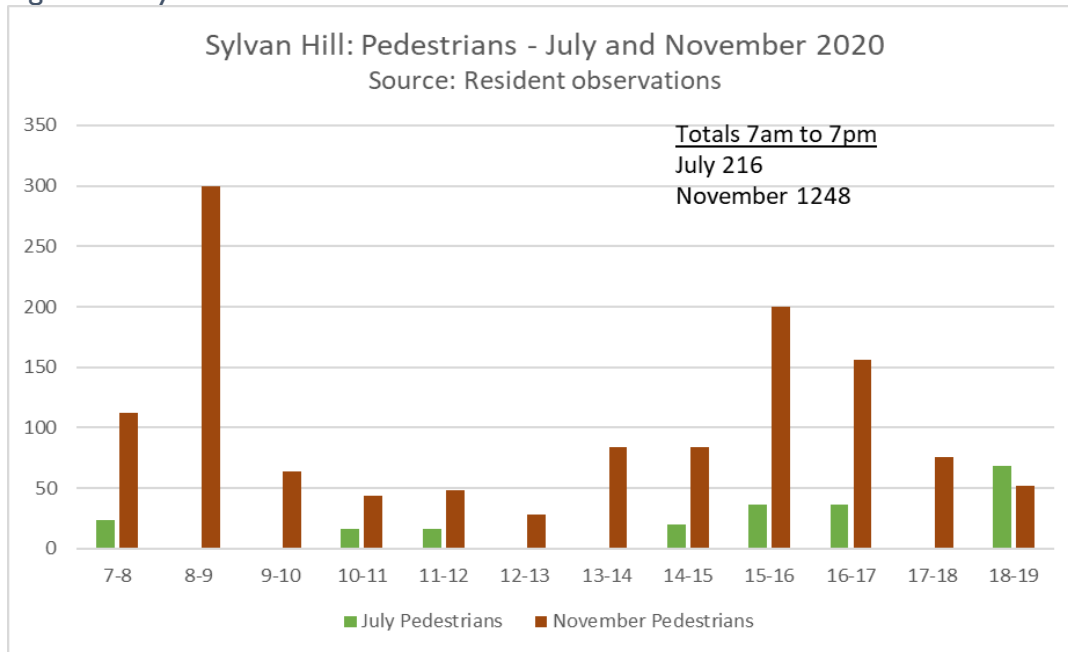


Figure 14 (below) shows hourly estimates of the numbers of people cycling (in both directions) between 7 am and 7 pm in July and November.

Total numbers have nearly tripled since the summer. During the morning commuting phase (7–9 am), there were approximately 60 cycle movements. While not counted separately, a considerable proportion of these were parents with children (on child seats or in cargo bikes or trailers). (Respect to these parents who are tackling the hill!)

Figure 14: Sylvan Hill: cycles

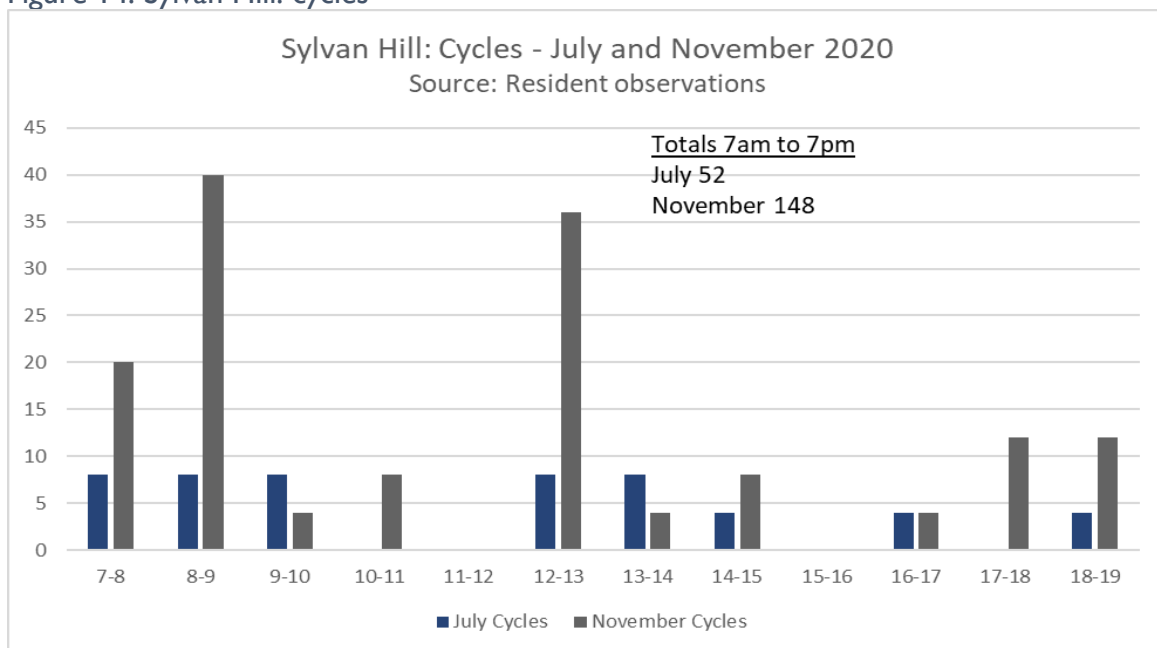


Figure 15 below shows the results of a pedestrian and cycle count at the Sylvan Hill/Auckland Road crossroads. There is no July data, but the results are nonetheless

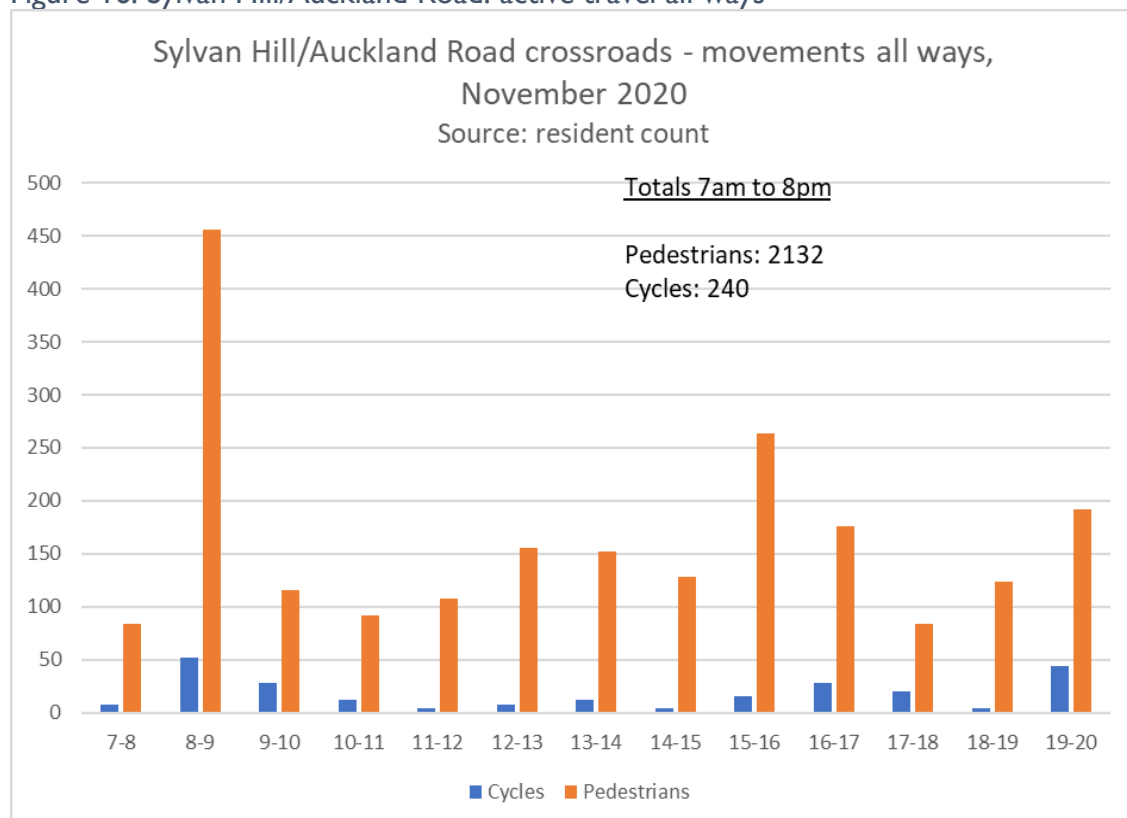
informative: some 240 cyclists passing through the junction during the course of the day, or around one every three minutes; and over 2100 pedestrians passing through the junction. As with the Sylvan Hill count, several hundred of these movements are of Harris students, but there is an enormous amount of general footfall at this location too.

The figures show the importance of Sylvan Hill and Sylvan Road as the main pedestrian access for HCACP students. Sylvan Hill is now a much safer environment for these high volumes of young pedestrians. It is possible to maintain social distancing because stepping in the road (with care) is now possible when it was impossible when the road was carrying several hundred vehicles an hour at peak times. Another important walking route to the school — from Anerley Road, via Hamlet Road and Maberley Road — is likewise much safer, since there is much less traffic using Hamlet Road.

The usefulness and safety of the designated cycle route through the neighbourhood (see pages 5 and 7 above) is much improved. This is reflected in the higher cycle numbers in the November traffic counts. A number of residents in middle or later years have commented that they have been able to cycle more, or resume cycling after having been frightened into stopping, and are consequently using bikes for local journeys which they would previously have made by car.

“I am back on a bike after over three years of being scared off by dangerous traffic. With other filtered streets in South Norwood and Woodside, it is now possible to ride most of the way into Croydon on a regular trip for which I used to drive. I am also now doing my weekly supermarket shop by bike, rather than car. I enjoy my rides and feel fitter.” (Resident, 50s)

Figure 16: Sylvan Hill/Auckland Road: active travel all ways



Public Transport

The 410 bus was previously affected adversely by congestion in Hamlet Road and Southern Avenue and had to negotiate stretches of road narrowed by parked cars with high volumes of opposing traffic. It can now pass through the neighbourhood with a minimum of conflict and delay and does not have to queue to join the main roads.

Active travel for disabled people

Much commentary on LTNs seems to rest on an assumption that the only way people with limited mobility can get around is by motor vehicle. In fact, people with limited mobility travel less by car than the rest of the population, both as drivers and passengers.³⁵ At least as much as everyone else in society, disabled people get around by a variety of means other than motor vehicles. Contrary to the stereotypes, many people with limited mobility can and do walk, often using aids like walking sticks and rollators, often with limitations on how far and fast they can go. People who cannot walk much, or at all, can likewise travel by a variety of means: manual or powered wheelchairs, or mobility scooters, most obviously. Contrary to much received wisdom, many disabled people can and do cycle, either on conventional bikes or a variety of adapted manual or e-assist bikes.³⁶ Like everyone else, most people with limited mobility use a variety of means of transport, depending on the length and nature of their journey and personal preference.

None of the non-car options are, of course, adversely affected by a Low Traffic Neighbourhood. Indeed, they are likely to be safer and more pleasant than in other neighbourhoods with high volumes of rat-running traffic. Tasks like crossing roads when there is a lot of traffic are much more difficult for disabled people walking or using mobility devices, because they usually cannot move as quickly as other people. They are more likely, as a consequence, to have to extend their journey to find a safe place to cross. In many ways, moving around on streets in residential neighbourhoods with high volumes of traffic may be more difficult than on main roads, which are engineered with features like pedestrian crossings and refuges. These real difficulties aside, like other non-motor users of streets, disabled people's experiences of walking, cycling or travelling by chair or scooter in Low Traffic Neighbourhoods are likely to be healthier and more pleasant because of the much lower levels of fumes, noise and aggressive behaviour from drivers.³⁷

Well-being benefits

There are well-evidenced associations between low noise, good air quality and regular moderate exercise, and physical and mental health (see pages 2-4 above). While it is very early days, it is reasonable to assume that, if the LTN continues, its direct impacts will over time translate into substantial well-being benefits.

Enabling children to walk or cycle to school is hugely beneficial for children's mental and physical well-being.³⁸ Multiple studies have shown the benefit active travel can have on children's academic attainment and behaviour for learning, as well as allowing them to build in physical activity to the daily routine. Furthermore, setting up healthy travel habits in childhood and adolescence leads to healthier adult travel habits.³⁹

Women are more likely to be responsible for educational escort trips and are less likely to feel confident cycling on busier roads, especially when travelling with children.⁴⁰ Families with lower incomes are more likely to be dependent on walking and our most deprived communities are also up to six times more likely to see their children killed walking or cycling to school than our least deprived.⁴¹

Another reported benefit is sociability. In the quieter and less stressed streets, it is now possible to stop on the street and have a conversation with acquaintances or strangers. So long as socialising indoors remains restricted, this will be particularly important for maintaining social contact and hence well-being.⁴²

The impact of the LTN is most noticeable on the roads which were previously busiest – the Hamlet Road, Auckland Road and Lancaster Road north-south route, and the streets connecting it to the main roads. However, the benefits are also experienced by people not living on those streets:

- The other streets, estates and cul-de-sacs in the neighbourhood. Their residents use what were the busier roads to enter and leave the neighbourhood. Nearly half of them do not have access to a motor vehicle so will normally either be walking, cycling or using the 410 bus. They are enjoying greater safety and convenience.
- People living outside the LTN but who travel through it. As mentioned above, large numbers of HCACP students and staff travel to and from the school through the LTN. People living outside the LTN walk or cycle through it to access amenities including the public open spaces, doctors' surgery, and places of worship.

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Negative impacts of the LTN

A variety of negative impacts have been observed or claimed. They are:

- Longer journeys and inconvenience for residents who need to drive, including disabled people.
- A reduction in social safety for pedestrians in the neighbourhood.
- Obstruction and delays to emergency vehicles.
- Diversion of traffic on to the Bromley side streets adjacent to the northern boundary of the LTN.
- Diversion of traffic on to the surrounding main roads, with consequent adverse impacts on air quality, footfall and economic vitality in the 'Triangle' town centre of Crystal Palace.
- Diversion of traffic through other side streets, west of Church Road and South Norwood Hill.

In this section we review each in turn.

Longer journeys and inconvenience for residents who need to drive

As implemented up to August 2020, it is indisputable that some driving trips have become longer. For example, a driving journey from Auckland Road just north of the Cypress Road junction to the Crystal Palace Triangle has increased from 0.8 miles to 1.4 miles. A journey from the same location to Croydon town centre has increased from about 3.5 miles to 5 miles. Especially at busy times, this may add appreciably to journey times. While the longer journey time might encourage some people to switch from private car to other modes, in line with the intention of the LTN approach, there is likely to be some genuine delay and inconvenience for, for example, key workers who need to drive for their work, and disabled people for whom a vehicle is the only feasible means of transport.

However, the option suggested in the consultation of allowing resident access controlled by ANPR would mitigate this adverse impact in many cases. The consultation is also proposing to move the bus gate on Auckland Road to a location which will allow motor access to the doctor's surgery from both directions.

Disabled people who need to drive for some or all journeys will have experienced some adverse impact because some trips within, in or out of the neighbourhood are somewhat longer than they were previously. However, all properties in the neighbourhood can still be accessed by vehicle. Any increased journey lengths for disabled people using vehicles need to be weighed up against the benefits of safer streets for disabled people travelling by other modes (see pages 24-5 above). If the current filters are replaced by ANPR-controlled access, there will be no adverse impact on disabled residents who use vehicles.

Social safety

Claims have been made on social media that the reduction in motor traffic has resulted in the streets becoming unsafe for pedestrians, in terms of vulnerability to street crime. In our view, this is implausible. Government street design guidance suggests that high traffic tends to be associated with higher fear of crime by pedestrians, while pedestrians generally feel safe where their route is overlooked by buildings, and other people are using the street.⁴³

Most or all of any walking trips along streets in the neighbourhood are continuously overlooked by buildings, and, as set out above, there have been dramatic increases in walking and cycling in the neighbourhood since the LTN measures were installed.

At the risk of stating the obvious, the greater risk to pedestrians, being hit by a motor vehicle, is now much reduced.

The LTN has not been in place long enough for any reliable before-and-after conclusions. But we observe that recorded crime in the square mile including the LTN has in fact fallen from around 850 a month in June and July to 669 in October.⁴⁴

Emergency services

We assume the council has included emergency services in the current consultation. Clearly, their feedback, based on their operational data, should be conclusive in determining whether the changes have adversely affected their performance. So far as we are aware, despite frequent scaremongering on social media, there is no evidence of any material impact on emergency service response. Before and after comparisons in the Waltham Forest mini-Holland suggested that there was little impact on emergency service response, indeed a slight improvement.⁴⁵ The London Ambulance Service said at its annual meeting, in relation to schemes across London, that they were “not aware of any LTNs that have led to any patient safety concerns or any significant delays.”⁴⁶

Emergency service vehicles can, of course, pass through the Auckland Road bus gate and, we assume, if necessary, could disregard the school street restriction on Cypress Road. If the council retains the LTN with Automatic Number Plate Recognition (ANPR)-controlled access at the current filters, there will, of course, be no reason why there should be any effect at all on emergency vehicles.

Diversion to Bromley streets

Some Bromley streets have unequivocally benefited from the LTN, certainly Hamlet Road. It no longer experiences high volumes of traffic, including long queues of standing vehicles eastbound. However, the closure of Croydon borough streets further south to through traffic means that the only route from Hamlet Road or Auckland Road to Church Road, avoiding the main A214, is via Belvedere Road, Cintra Park, Patterson Road and Milestone Road. Residents have reported increases in vehicle numbers on these streets, including, at times, standing traffic, and confrontations between drivers attempting to navigate between parked vehicles.

These streets certainly offer a route from the northern part of the LTN to Church Road without going on to the A214. They also offer a potential diversion northbound away from the A214 to Church Road. Observation of navigation apps suggests drivers are being routed away from the main road at times of high congestion, but not at other times. However, unlike the currently closed roads, they do not offer a useful diversion route for traffic heading towards Anerley Hill from Church Road, since Milestone Road can only be accessed after travelling all the way round the Triangle. Once a driver has reached the Westow Hill/Anerley Hill junction, continuing into Church Road and down Milestone Road would take much longer than simply continuing along the main road.

In September 2020, volunteers from Shape Better Streets carried out observations in these streets to assess the scale and nature of this problem. Their findings were as follows:

- There appears to be a morning peak between 8 and 9am, of around 250 vehicles in the hour, mostly uphill, taking the four observations together, though there clearly are significant upward spikes from time to time.
- It is highly likely that the reaction of navigation apps to congestion on Anerley Hill may contribute to the higher levels of traffic at this time. That said, observations at the Auckland Road junction suggest that around 40 % of uphill movements originate from the south, within the LTN, not from Anerley Road.
- At other times, including the evening peak, it looks like the traffic does not exceed 100 vehicles an hour and is often significantly less.
- Many more vehicles drive uphill than downhill, especially in the morning peak. Cycle and pedestrian movements are more balanced.
- From the data collected, a guesstimate of vehicles per day would be 1,000-2,000, compared with over 10,000 a day in the Croydon streets further south before the LTN was implemented. At worst, no more vehicles are using these streets than continue to use Auckland Road for access (Figure 12, page 20 above).
- At the morning peak, traffic levels are comparable, though somewhat lower, than those observed in Auckland Road and Sylvan Hill before the Croydon LTN was implemented. At other times, however, they are around 25 % or less of those observed in the Croydon streets.⁴⁷

There is clearly a relationship between traffic on these streets and congestion on Anerley Hill. At the time of the observations, there was frequent congestion at peak times in the northern part of Church Road, back from the temporary lights then in place at the Westow Street junction. This tended in turn to knock on to Anerley Hill, as one of the roads feeding into Church Road. With the removal of the temporary lights, congestion on Church Road and Anerley Hill has reduced significantly (see following sections). So, the frequency and impact of episodes of high traffic on these streets should reduce (Figure 17).

Figure 17: Milestone Road, reported location of high volumes of diverted traffic, view west to Church Road, 8.45am, 3 December 2020



If the council introduces ANPR access on the streets accessing Church Road further south, the element of traffic which is using these streets for journeys from the neighbourhood to Church Road should reduce.

It remains to be seen how far there will be a recurrence of heavy traffic phases on these streets with the nearby main roads now being clearer following the removal of the Church Road temporary lights. However, there would be better answers to tackling the problem than allowing far larger volumes of traffic to start rat-running again through the streets further south. For example, a further modal filter (fixed barrier or ANPR device) could be installed, or the section of Milestone Road nearest Church Road could be made one-way from Church Road only. We understand, of course, that such measures would be a matter for Bromley Council.

Diversion of traffic on to nearby main roads

The Low Traffic Neighbourhood approach, by design, seeks to end the diversion of traffic from main roads, which are designated and designed to carry high levels of traffic, on to other streets, which are not, with the consequences explained above (pages 10-19 above).

However, if the result were that the main roads became unacceptably congested, that would clearly be a significant consequence to weigh up against the benefits set out above.

Before examining the evidence on this point, it is important to emphasise that the Triangle, South Norwood town centre and the main roads approaching them have experienced frequent serious traffic congestion for decades. This congestion is a consequence of high volumes of motor traffic on roads laid out in the 19th century with no conception of use by motor vehicles, let alone at today's traffic levels. While for much of the 168 hours in a week, these roads can and do carry high volumes of traffic without significant congestion, they become busy at peak times, and are vulnerable to incidental disruptions, for example road works, breakdowns, obstructive parking or collisions.

Congestion during the experimental period

Assessing the impact, if any, of the LTN measures on nearby main roads during the experimental period is very problematic:

- There was a general rise in traffic across London as lockdown restrictions eased, from May through to October.
- From March to late October, Church Road was reduced to alternate one-way working at the junction with Westow Street, and the right turn normally permitted from Westow Street was not available. This was because a car had collided with and seriously damaged a building, which had to be supported by a large scaffolding installation. As lockdown eased, before the completion of the LTN in early August, this was already resulting in lengthy queuing traffic along Church Road in both directions.
- At times during the experimental period, there have also been road works at various locations, including on South Norwood Hill during August, on at least two occasions at the crossroads in South Norwood, at Crown Point, and at the junction of Crystal Palace Park Road and Thicket Road.

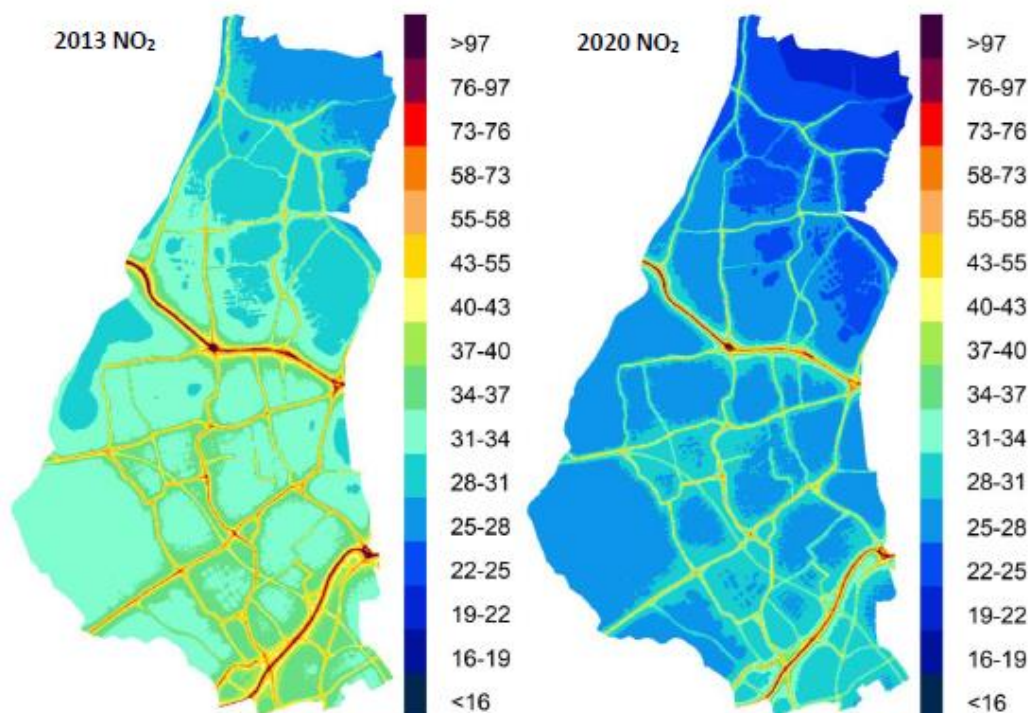
Aside from Church Road, which was badly affected by the alternate one-way restriction, it does not appear to us that, so far as one can generalise from the significant day-to-day variations, congestion on the main roads was any worse than it has been for many years. It would certainly go far beyond any evidence of which we are aware to suggest that vehicles no longer being able to drive through the LTN was decisive.

The removal of the scaffolding and one-way restriction in Church Road at the end of October made a big and immediate difference, however, to congestion in and around the Triangle. That suggests strongly that, to the extent vehicles are now using main roads which would otherwise have driven through the LTN, the main roads are able to carry the additional demand.

Air quality

Air quality on adjoining roads and in the two town centres is beyond doubt frequently poor. However, if, as we argue above, the heavy traffic and congestion which causes it cannot reliably be attributed to the LTN, opening the LTN roads again to rat-running would not assist. The Waltham Forest mini-Holland, including progressively rolling out LTNs, has reduced air pollution on 90 % of the borough's streets without worsening it on the main roads. (Figure 18)⁴⁸

Figure 18: Change in Nitrogen Dioxide emissions, Waltham Forest, 2013-2020



Local economy

Opponents of the LTN claim it has damaged the economy of the Triangle. Their chain of logic appears to be:

1. Businesses suffering loss of footfall and turnover, because:
2. Streets are unpleasant and access difficult for car-borne customers, because:
3. The Triangle and approaching main roads are congested, because:

4. The LTN has diverted traffic on to main roads.

We have seen nothing other than anecdote and assertion to support this line of argument. We have dealt above with the impact of the LTN on main road congestion (3 and 4). As for 1 and 2, so far as we are aware, only two retail or hospitality businesses have closed in the last six months. At weekends especially, the Triangle appears busy, in terms of walking footfall. Both closed premises have been taken over by new tenants. Despite the pandemic, several new businesses have opened in recent weeks. Tens of thousands of people live within walking distance; there are two nearby rail stations and numerous bus routes, and there is, so far as we know, no recent or reliable data on how customers travel to the Triangle. National research suggests retailers tend to over-estimate the proportion of customers travelling by car and under-estimate the proportion walking, cycling or using public transport.⁴⁹

It may be that some businesses are experiencing reduced footfall and turnover. However, aside from the implausibility of attributing traffic congestion to the LTN, there are many other current factors affecting customers' ability to spend and shopping choices, including uncertainty about employment and earnings, and reluctance to visit busy environments. Older residents in the LTN have commented to us that they feel unable to maintain social distancing using the narrow pavements in the Triangle, particularly since the removal of the temporarily widened footways installed in the spring.

Diversion of traffic into other residential neighbourhoods

We are aware of concern about rat-running in two nearby neighbourhoods, the streets between Beulah Hill and Central Hill, around Harold Road, and west of South Norwood Hill. In the latter area, the council has installed modal filters which prevent Holmesdale Road from being used for east-west motor journeys, but the north-south streets remain open.

Rat-running may well have been increasing in these neighbourhoods, for the same reasons it had been increasing in the LTN before its inception (see pages 10-19 above). We are not aware of any evidence that the introduction of the LTN has made a significant difference, on top of the other factors contributing to congestion on main roads. In any event, a more effective response than re-opening the LTN to rat-running would be to make these neighbourhoods LTNs as well. We understand that some residents are beginning to campaign for that.

Next steps

We hope and trust that, in the light of this submission and other contributions to the consultation, the council will decide to retain the LTN, with modifications.

We support the proposed re-siting of the bus gate to improve access to the doctors' surgery.

There are differences of view within our group about the respective merits of retaining physical barriers to vehicles and replacing them with ANPR-controlled access. As a group, we are content for the council to make that judgement, on the basis of the views of residents and the reasons they give for them. Both approaches would bring about the important result, which is a continuation of the reduction in vehicle movements brought about by the LTN.

If the LTN is retained, there will need to be strong communication with residents and others about the following:

- If the decision is to proceed with ANPR access, the location of 'gates', and how to obtain permits. The routes which will be open to those without permits should be well publicised and signed.
- Encouraging further increased take-up of cycling. From what we can see, there is not enough awareness either outside the LTN of the safe, pleasant, cycling routes which have now been opened up, nor inside and outside the LTN about how, combined with other measures along Holmesdale Road and Albert Road, it is now possible to ride most of the way to Croydon town centre with minimal use of busy main roads.
- Continued explanation of the intent and benefits of LTNs, and myth-busting.

As a group, we offer our support to work alongside the council in these communication challenges.

It is regrettable that relationships between the two neighbouring boroughs, Croydon and Bromley, have not been managed well. Neither council emerges with much credit from recent history. We hope that they will now start to co-operate to the benefit of residents, who are very much part of one community, whichever side of the boundary they happen to live. In particular, there should be continuing engagement with residents of Belvedere Road and other streets which have experienced periodic spikes of rat-run traffic and dangerous driving, to find a solution. We hope that the newly established cross-boundary councillor group can assist with this.

We do not accept that the LTN has worsened, or will, worsen congestion, air quality, traffic danger or other characteristics of surrounding main roads and town centres. If anything, the behaviour change which it is intended to bring about should help by encouraging shift from private cars to other modes. However, that does not alter the fact they have been for many years, and, without action, will continue to be, poor environments for people living and travelling on them by active modes. We encourage the council to develop plans to improve them, working with other boroughs around the Triangle. Again, the councillor forum is a good platform for making this happen.

Conclusion

Over the last decade, rat-running in the neighbourhood has increased to the point where it has been having a completely unacceptable impact on residents' health and quality of life, because of air quality, noise, and traffic danger. These impacts affected the whole neighbourhood, not just the busy streets, since the latter are the main access routes from anywhere in the neighbourhood to nearby main roads and amenities. Over 40 % of households do not have access to a vehicle, so were experiencing nothing but detriment from uncontrolled motor vehicle access through the neighbourhood.

Traffic levels also made active travel unpleasant and unsafe, for residents and those passing through on foot or cycling. There could be no realistic prospect of the Lancaster Road/Auckland Road cycle route being brought up to the required London standards without either suppressing motor vehicle use of it, or engineering solutions such as cycle lanes and junction improvements which would both be hugely costly and not achievable without removing all or most on-street parking.

Safe active travel through the neighbourhood is critical, not only as a means of maintaining a decent cycling network in the borough, but as a means of enabling local families, inside and nearby the LTN, to use active travel to access the park, their children's school and other services and amenities.

The global climate emergency, and the weight of national, London and local policy on air quality, public health and local transport all point overwhelmingly towards the adoption of measures such as those put in place or now proposed for the LTN. Though far from perfect, the experimental scheme has shown that the approach can produce strong improvements in local health and well-being, and, only three months on, has produced very significant increases in active travel.

By contrast, the claims of opponents about the adverse consequences of the scheme are almost entirely based on assertion and anecdote. The concerns which are more credible: disproportionate diversions for residents who need to use vehicles, including disabled residents, and the intermittent heavy traffic on some of the Bromley streets, can be addressed effectively without reopening the whole neighbourhood to rat-running.

If the LTN trial is removed, we can expect traffic volumes and speeds once again to return to levels which would have huge adverse impacts on residents' health and well-being and make healthy travel choices less convenient, less attractive and less safe.

Children and young people cannot vote and families with young children are often least able to participate in debate around local issues. These voices are so often lost in our local decision-making processes. They must not be ignored.

The streets in the LTN can either be a pleasant, safe neighbourhood to live, and an active travel corridor. Or they can be a congested, polluted, dangerous, bypass for the Triangle and the main roads. They cannot be both. There is no credible basis for the council choosing the latter.

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OPEN OUR ROADS

The negative impacts of the Crystal Palace and South Norwood LTN

Briefing note for all Croydon Councillors

Purpose

We are briefing you about the negative impacts of the Council's Low Traffic Neighbourhood (LTN) scheme in the Crystal Palace and South Norwood wards which affect the health, safety and well-being of residents and visitors while decreasing the economic potential and development of the town centre. It's a controversial traffic scheme that has attracted opposition with over 6000 people from a cross-section of the local community having signed numerous petitions asking for the roads to be reopened, and a well-attended protest in Crystal Palace in November.

What is an LTN?

LTNs have been promoted as a way to encourage more people to walk and cycle, called active travel, while discouraging unnecessary car journeys. The objective is to decrease congestion and lower pollution. The Council's stated purpose of this LTN was to respond to the Covid-19 pandemic as a way to provide socially distanced active travel.

The issue

The Crystal Palace and South Norwood LTN was implemented without any baseline evidence or traffic modelling; no stakeholder consultations, including none of those with protected characteristics or emergency services; and no regard for the Council's statutory duties as a traffic authority.

Due to the lack of strategic planning and characteristics of the area, the LTN has had the opposite effect of its stated aims. It has:

- Increased congestion by diverting traffic onto main roads, including strategic A roads that were already at saturation point;
- Diverted traffic onto other residential roads that are ill-equipped to handle these traffic volumes – including roads in the neighbouring London Borough of Bromley, which was not consulted before the LTN was implemented;
- Increased pollution on main roads, some of which were already over the legal limits of pollutants, and so endangers the health of children whose schools are located on these roads, residents who live on these roads as well as pedestrians and cyclists who use these roads;
- Created delays in response times to emergency services, which we fear has the potential to lead to a preventable loss of life;
- Prevented vulnerable residents from accessing essential services, such as care visits and medical care;
- Disproportionately impacted the quality of life for BAME communities who live outside the LTN.

Our view is that Croydon Council's LTN in Crystal Palace and South Norwood ward is:

- **Illegal** due to non-compliance with Road Traffic Act legislation, part of Judicial Review;
- **Discriminatory** due to the environmental apartheid it inflicts on majority ethnic minority areas;
- Creates **health injustice** by increasing pollution above dangerous levels on main roads;
- **Worsens** the climate crisis whilst also being **economically wasteful**;
- **Ineffective** at increasing cycling – and there are less disruptive ways to achieve that goal;
- Fails to achieve most of TfL's criteria for an LTN, instead it **creates more dangerous roads**;
- Causes **significant harm** to businesses, amenity and quality of life around shopping areas;
- **We call upon Croydon Council to remove the scheme completely.**

Background

Between 2 May and 3 August 2020, the London Borough of Croydon (LBC) used Covid-19 amendments to the Road Traffic Regulation Act (RTRA) to close six roads, restricting vehicular access around Crystal Palace and South Norwood, calling it a Low Traffic Neighbourhood. The stated purpose was to encourage active travel while ensuring social distancing during the pandemic.

The roads around Crystal Palace's Triangle town centre and South Norwood have been consistently busier and more congested since the scheme was introduced, even during the second national lockdown.

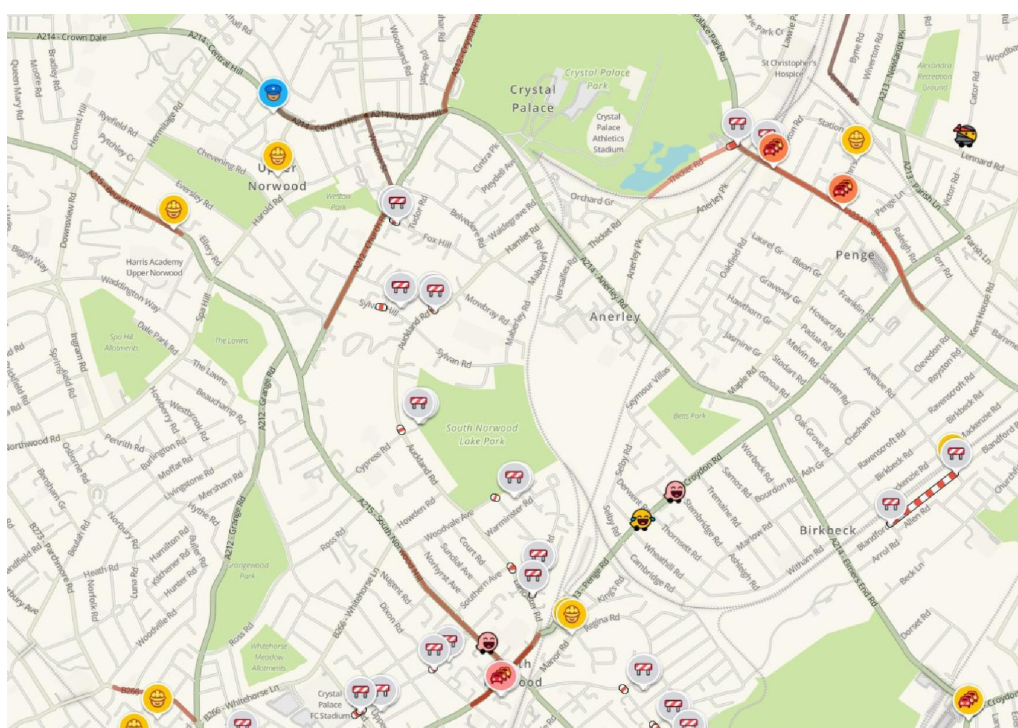
The council had claimed this increased congestion was caused by scaffolding that was obstructing one side of one road leading into the Triangle (Church Road). However, the scaffolding was removed in early November, and the problems have persisted due to effects of the LTN.

The locality

Crystal Palace sits on the northern edge of Croydon at the top of a natural hill and is the meeting point of five London Boroughs (Croydon, Bromley, Lewisham, Southwark and Lambeth). Due to the local geography and topography, the area's main roads, which are part of the Strategic Road Network, funnel traffic into a meeting point at Crystal Palace, making it act as a central hub connecting each of the neighbouring boroughs.

The shopping streets are locally known as the Triangle, the three sides being Westow Street, Westow Hill and Church Road. The shopping area is vibrant, with many thriving independent businesses. These attract trade and visitors from outside the area to shop, socialise, eat out, enjoy the food market, watch a movie, visit the antique shops, and stroll round the famous and unique Crystal Palace Park with its Victorian dinosaurs.

It is key to understanding the issues to note that all of the A roads are heavily populated residential areas with schools, nurseries, homes for the elderly, entrances to parks, shopping areas, libraries and a main bus terminus.



The cause of the problem

Sitting just off from the Triangle along Church Road are 3 side turnings: hill roads called Fox Hill, Stambourne Way and Sylvan Hill (all unclassified roads). These roads lead from Church Road to Auckland Road (a classified C road that crosses two boroughs and two postcodes) and the LTN closed these to motor vehicles on 3 August 2020. Auckland Road, together with Warminster Road and Southern Avenue had already been closed off to traffic by the Council since the first lockdown.

These roads all formed part of a network of roads that connected communities and at key times served as filter roads. For most of the day these side roads were quiet and without significant traffic. The impact of the closures has been catastrophic to the surrounding neighbourhoods.

The Triangle shopping area sitting on the Northern boundary of the LTN scheme has become the only route for a significant proportion of traffic that has been displaced by the road closures.

To the South and West, the boundaries of the LTN are formed by the main A roads in South Norwood – the A215 and A213. These roads converge at a narrow road junction on South Norwood High Street, at the centre of a local shopping area. This 4-way junction is a notorious bottleneck because its narrow road layout leads to frequent blockages when any vehicle is waiting to turn right, blocked by oncoming traffic. This is why many cars previously, very sensibly used Lancaster Road and Southern Avenue to bypass this junction.

These roads are now closed, funnelling further traffic through South Norwood Hill and the High Street.

The harmful consequences of the LTN

The closed area is an enormous 2.4km x 0.85km - and this blocked off 2km² area effectively traps some c.5,000 households with no easy vehicular access. There are no shops or amenities in the closed streets, so for some the walk from their house to the shops would take c.35 minutes and involve a 1:20 hill climb.

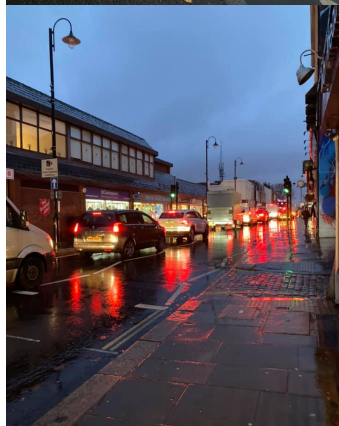
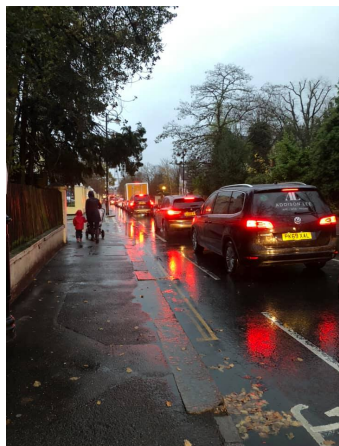
It is our experience that most people do not make short unnecessary journeys: the assumption that short car journeys are luxuries to be foregone is highly contestable. For carers, tradespersons, the elderly, women juggling childcare and work and others, car use is vital, not just a lifestyle choice.

The net effect of the closures has been to push an estimated daily 6000 – 10,000 additional vehicles onto the main A roads in Crystal Palace that as per TfL data were already at capacity levels.

Most drivers are now forced into the Triangle resulting in regular congestion or gridlock with queues of vehicles and stop-start traffic, leading to more harmful pollution; most journey times are now longer, using more fuel and therefore adding more pollution.

This all happens at precisely the times these roads are busiest with other road users: parents walking children to school, commuters attempting to get to work, be that cycling, walking, or waiting at bus stops. Crossing the road is much more dangerous; social distancing on these roads is now impossible; and because of limited road space more cyclists are using the pavement.

The additional congestion on main roads causes delays to emergency vehicles, increasing the risk of harm and potential risk to life.



Specifically, Councillors
Stephen Mann
Nina Degrad
Pat Ryan
Clive Fraser
Patsy Cummings
Jane Avis
Pat Clouder
Karen Jewitt
Callton Young
in whose wards these pollution ghettos are being created, must reject all forms of discrimination and stand-up for these protected groups.

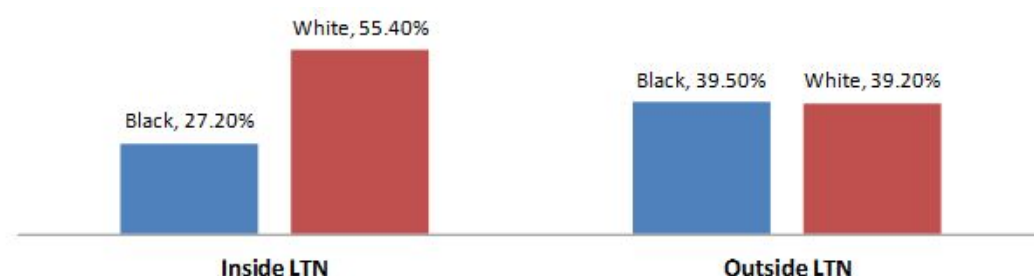
This scheme harms and further reduces life expectancy for disadvantaged people for the benefit of the LTN residents.

There are severe delays to buses, making public transport a less attractive option for many.

Further, in the event of minor or major road incidents in the area or adjoining areas (e.g. accidents, burst water mains, floods) those roads are now completely gridlocked for hours when such incidents occur.

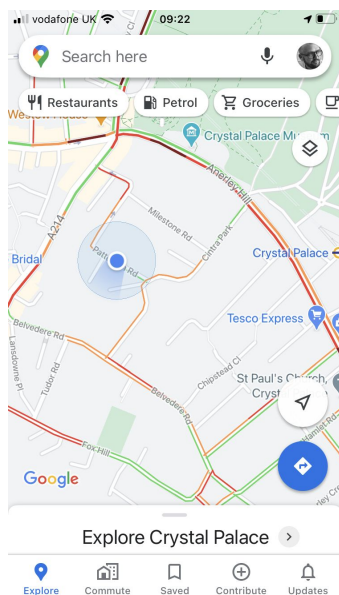
The junction on South Norwood High Street has been overwhelmed by traffic that has been diverted by the road closures, leading to very long queues on both of the A roads on the boundary of the LTN. These A roads pass next to Harris Academy South Norwood on two sides, where children's play areas are located, and these are the same roads that children must use to walk to and from the school. The LTN is therefore exposing children to increased air pollution.

The ethnic and equality issues are of serious and immediate concern:



- Traffic has been diverted to areas with a significantly higher proportion of Black residents at 39%, compared to 27% in the LTN, which is 55% white (see Appendices [Ai\) Population inside the LTN](#) & [Aii: Population bordering the LTN](#));
- Black males living in South Norwood and Selhurst already have a shorter life expectancy than other parts of Croydon – and 10 years less than anywhere else in the UK (see [Appendix B: ONS reported statistic](#));
- The main roads and areas traffic has been displaced to are home to some of the least well-off residents and deprived parts of LBC (see [Appendix C: Deprivation](#)).

Increasing pollution, congestion and further worsening these areas' quality of life is not only morally unacceptable but the LTN as implemented is discriminatory. The current situation has created a dangerous and polluted environment for anyone using or living on the main 'A' roads and respiratory difficulties are exacerbated in areas of high pollution (see [Appendix D: Pollution](#)).



An equally distressing effect of the closures has been the displacement of traffic through a cluster of formerly quiet, narrow, winding, residential roads that sit nestled in the corner of the London Borough of Bromley (LBB) that were astonishingly advertised by LBC as alternative routes (Belvedere Road, Cintra Park, Patterson Road and Milestone Road). These roads are wholly unsuitable to take the additional traffic because of their narrow width and curves, and this leads to queuing traffic and the associated pollution problems that brings. The diverted traffic has also caused multiple road rage incidents in this residential neighbourhood, some of which were close to escalating into violence, and this has now become a public safety issue. All these issues have severely impacted these residents' quality of life.

**“Yet again all my clients late for appointments.
Madness, just pissing me off.”**

BUSINESS OWNER, WESTOW STREET, 14:54 06 DEC 2020

Local businesses in Crystal Palace report that the road closures have had a direct impact on trade (from footfall, appointment data and customer feedback). This is partly due to some customers finding it less convenient to travel to Crystal Palace, and partly due to some avoiding the area because the increased vehicular pollution makes for an unpleasant shopping environment. Both of these problems have been directly caused by the road closures.

Flawed LTN rationale

The official reason given for the road closures was Covid-19 related, to make the roads within the LTN safer for social distancing and to encourage cycling and exercising but those who live in the area are baffled by this.

- The area is blessed with parks, woods, lakes (approximately 30% of the area is covered in public green spaces);
- The topography (hill roads with approx. 1:20 inclines) can make walking or cycling to Church Road quite challenging for many people;
- The roads have generously sized pavements for walking with social distancing;
- The roads were already safe for cycling (data shows no cycling incidents on any of the hill roads and only two minor incidents on Auckland Road during the previous four years);
- The roads where most pedestrians are at risk (shopping, waiting at bus stops, taking children to school) are the main roads where all the additional traffic has been diverted.

“So angry. I have had some really bad health issues in the last two and a half weeks. I have had to call an ambulance out to help me three times. All three ambulances have been held up or got stuck trying to get to me. I have asked today's one to please complain about these road closures as this is dangerous to people like me who need help.”

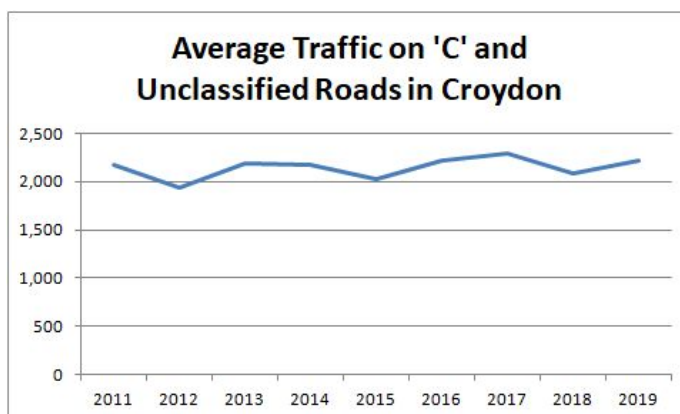
LTN resident, Dec 2020

We have seen no verifiable data that shows clear rationale as to why these roads were selected to be closed off. We believe this decision has been strongly influenced by the London Cycling Campaign who have lobbied for years to close Auckland Road to motor traffic. The closures of the vital hill roads were merely to protect Auckland Road for essentially the exclusive use of cyclists.

No baseline data was gathered around the area before implementation of the scheme against which to measure success or failure. It is our view that this must be a prerequisite of any major traffic scheme and that the Council should remove the roadblocks and undertake proper modelling assessments that go beyond a desktop exercise.

Some campaigners have presented unverified data using January 2013 as a baseline to show an increase in traffic volumes within the LTN. This data must be ignored as in January 2013 it snowed heavily and settled, forcing schools and public transport to close. Traffic volumes would have been artificially suppressed by the snow (see [Appendix E: Weather](#)).

In fact, official [DfT statistics](#) for one of the roads in the LTN show no increase over the last decade. This is a [trend](#) mirrored across all C and unclassified roads in the Borough of Croydon that were monitored by DfT over the last decade and thus there is no evidence of any traffic increase within the LTN during this time.



SOURCE: DEPARTMENT FOR TRANSPORT

The increase in the types of vehicles using our road network are borne out by market trends and TfL data analysis. Amazon sales in the UK have increased +69 percent between 2019 v 2014-18 as an average, while online grocery shopping has increased to 30 percent from 27.8 percent as a total of grocery shopping between 2019 v 2014-18 as an average. The online grocery market value doubled from the past six years.

TfL has recorded a 10 percent rise in the number of vans crossing its counting cordons. By the same measure, HGV flows have risen by 2 percent; and cars increased by 1 percent (Source: [TfL Travel in London Report 13](#)).

We have seen no evidence that would support the myth of ‘traffic evaporation’ on roads bordering and outside the LTN. Using the data from the much cited Cairns report on traffic evaporation, we’ve calculated an average increase in traffic on surrounding roads of up to 7 percent.

We’ve seen no evidence that the LTNs have decreased pollution. Conversely, traffic has worsened dramatically on already saturated roads, and pollution has increased from standing idling vehicles. This is occurring on roads, such as Church Road (A212), that Croydon Council’s own records show were already above the legal limits for pollution (See [Appendix F: Church Road air quality](#)) We have firsthand witness statements from long-term local residents and traders saying the level of traffic and gridlock now on the A roads around Crystal Palace and South Norwood is unprecedented.

We have seen no evidence, in the months that Auckland Road has been closed, of any significant increase in cycling. Any benefits that may accrue to a small number of cyclists are vastly outweighed by the huge economic, environmental and well-being cost paid by thousands of residents, road users and businesses.

In conclusion

We urge Croydon Council remove the scheme and conduct a full and proper independent traffic survey based on industry best practice, ensure robust and continuous pollution monitoring on the surrounding residential main roads, and work towards a local traffic management plan that is fair, just and works for everyone.

Thank you

openourroadsnow@gmail.com

The LTN's impact on congestion

A data supplement for TMAC based on TfL's record of local bus journey times

December 2020

TFL ENDORSEMENT

The use of bus journey data for monitoring congestion is actively endorsed and utilised by TfL. **Andrew Miles, Consultation Specialist at TfL,** confirmed that this is one of the two data sources TfL will be using to monitor traffic in the area due to its efficacy. He said: ***“There are no bus lanes locally to limit the effects of any congestion on buses, so bus performance data also provides a good and reliable indicator of conditions for general traffic in the area”.***

Purpose

This briefing is to inform you, as members of Croydon Council's Traffic Management Advisory Committee, of new data measuring the increase in congestion caused by Croydon Council's Low Traffic Neighbourhood (LTN) scheme in Crystal Palace and South Norwood.

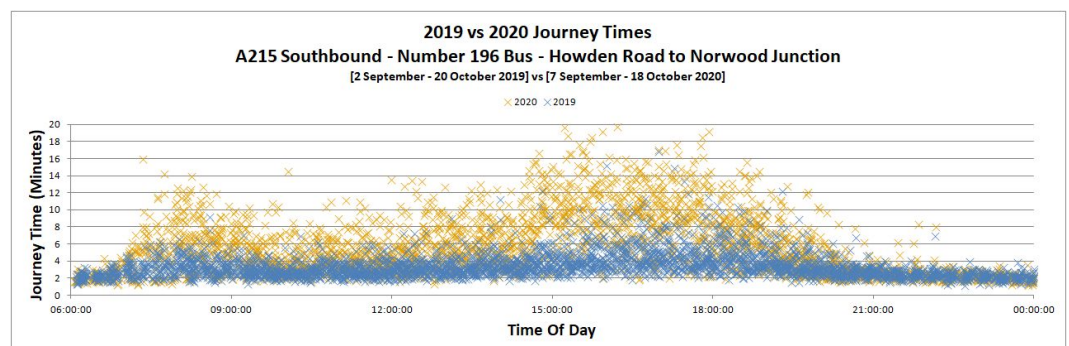
Until now, it was not possible to measure this impact of the scheme upon the main 'A' roads around the boundary of the LTN. This was because the Council did not take baseline traffic data prior to introducing the scheme during the Covid pandemic.

However, TfL bus journey tracking data, one of the only reliable sources, allows a comparison of traffic levels seen after the Council's implementation of the LTN to 2019 traffic levels. This allows us to see the increase of traffic congestion through public transport journey times, providing a very sobering insight into the impact of the LTN.

We urge you to consider this information very carefully as you make your decision on the future of the scheme.

What you'll find in this document

The TfL bus journey time data has been turned into a visualisation so you can see the difference between 2019 and 2020. Links to the original data have been included, so you can drill down into the data for yourself. The visualisations look like the one below, which depict the the 196 bus times between two stops.



“Ella died of asthma contributed to by exposure to excessive air pollution... The whole of Ella’s life was lived in close proximity to highly polluting roads. I have no difficulty in concluding that her personal exposure to nitrogen dioxide and PM was very high.”

Dr Philp Barlow
Coroner, Southwark
Coroner’s Court

Implications of increased congestion on main roads

Whilst the transport sector does not contribute as much to greenhouse gas emissions and dangerous air pollution as other sectors, like industrial manufacturing, we know that road vehicle emissions can be more harmful to human health, as they occur in areas where people live and work. This includes the main roads in the London Borough of Croydon that are absorbing the displaced traffic from the LTN.

In the following pages, we have calculated the potential increase in CO2 emissions based on increased journey times. However, the real concern is the increase in harmful pollutants such as those cited in a landmark hearing [linking the death of Ella Kissi-Debrah to NOx](#). Ella lived on the South Circular in Lewisham, just 6 miles from North Croydon.

Diesel vehicles - including buses - produce more of these harmful pollutants - nitrogen oxides (NO2, NOx) and particulate matter (PM) - than petrol or electric vehicles.

As it’s not possible to know the number of diesel vs petrol vs electric vehicles on the following roads, we have limited our calculations to CO2. However, it is reasonable to expect the same increase in these harmful pollutants with the increased congestion caused by the LTN, exposing those living, working and travelling by the main roads to dangerous conditions.

Executive summary

The TfL data reveals **severe delays to bus journeys in South Norwood** since the introduction of the LTN.

The Number 75 bus from Penge into South Norwood:

- consistently takes 15 – 20 minutes longer during the morning peak compared with the 2019 baseline;
- takes 5 – 10 minutes longer during the evening peak;
- 3 – 5 minutes longer throughout the majority of the day.

At 08:04, the 75 bus from Lewisham should take 1h13m to reach Fairfield Halls. From Anerley Road it normally takes 30 minutes. A 20 minute delay to that would nearly double the journey time to Croydon.

All road users of the A213 – not just buses – are suffering these same delays due to traffic congestion. [DfT traffic counts](#) show this road on average is used by 17,000 vehicles every day. Even with a very conservative estimate, it is highly likely that thousands of vehicles per day are being delayed by an average of 10 minutes due to the LTN.

Consider the additional pollution and CO2 emissions this must be causing due to all the additional engine idling and start-stop movements: If 5,000 cars are idling for 10 minutes, consuming a typical 0.25 litres of fuel per hour, they will produce half a tonne of CO2 in that time.

That would translate into **more than 100 tonnes of additional CO2 per year caused by this aspect of the LTN alone**, and this may be a significant under-estimate of the true figure. [Start-and-stop movements](#) will only add to this so the true figure could be multiple times higher.

That's without even considering the longer routes that some traffic has to take on diversion around the closed roads. This is all in addition to the social, economic and mental health cost on all bus passengers and motorists caught in this traffic.

The A215 on South Norwood Hill is a similar story, told by the journeys of the Number 196 bus. Throughout the entire day, journeys consistently take **4 – 8 minutes longer** compared with the 2019 baseline. [DfT traffic counts](#) are similarly around 17,000 vehicles per day on average. Many thousands of vehicles are therefore stuck in traffic for 4 – 8 minutes

A NOTE ON THE CRYSTAL PALACE SCAFFOLDING

The primary focus of this report is on South Norwood. It is highly unlikely that the traffic in South Norwood was affected by the Crystal Palace scaffolding in any significant way, since these are very distinct routes.

longer per day as a result of the LTN. That could easily translate into **another 50 tonnes of CO2 per year from this aspect of the LTN** on this particular road alone.

Data is not yet available for Crystal Palace Church Road after the removal of the scaffolding on 1st November. We will share this data when available. In the meantime, the effect of the widely-reported traffic congestion in Crystal Palace is clear to see in the delays experienced by bus route 157 via Anerley Hill (A214).

The data

TfL's IBus system automatically tracks each bus as it makes each journey. The arrival time at each bus stop is recorded in a database for future reference. We obtained the data for a 7-week period in September and October 2020, and the corresponding period of 2019. These dates were selected as they were after Covid restrictions had eased, prior to the second national lockdown and while schools were open.

Covid-19 effects

Due to the unusual conditions of pandemic, the [DfT is recording](#) lower levels of all vehicles on roads in the UK compared to pre-pandemic levels. The data in this report provides the current best available prediction of the impact, but the true impact is likely to be even higher if traffic levels return to pre-pandemic levels after everyday life normalises.

Methodology

We selected two bus stops on each route to measure the traffic conditions between those two points in the area surrounding the LTN. We calculated the journey time between these two bus stops by subtracting the two arrival times. We visualised this data as a chart which shows the duration of each journey at the time it occurred, as a point on a two-dimensional scatter graph. We repeated this for both years, and then compared the results.

Interpreting the charts

When viewing the charts, the height of each point represents the journey duration. The higher the point: the longer the journey. The vertical gap between the 2019 data points and the 2020 data points indicates how much longer journeys are taking compared with last year.

These increased journey times are an indication of increased traffic delays - on average - on these routes. We do not see any significant changes to the bus schedules in the past year that would account for any of the delays. Based on the magnitude of the delays, and how well they correlate with peak traffic times, there can be no doubt that increased traffic congestion due to the LTN is the primary cause.

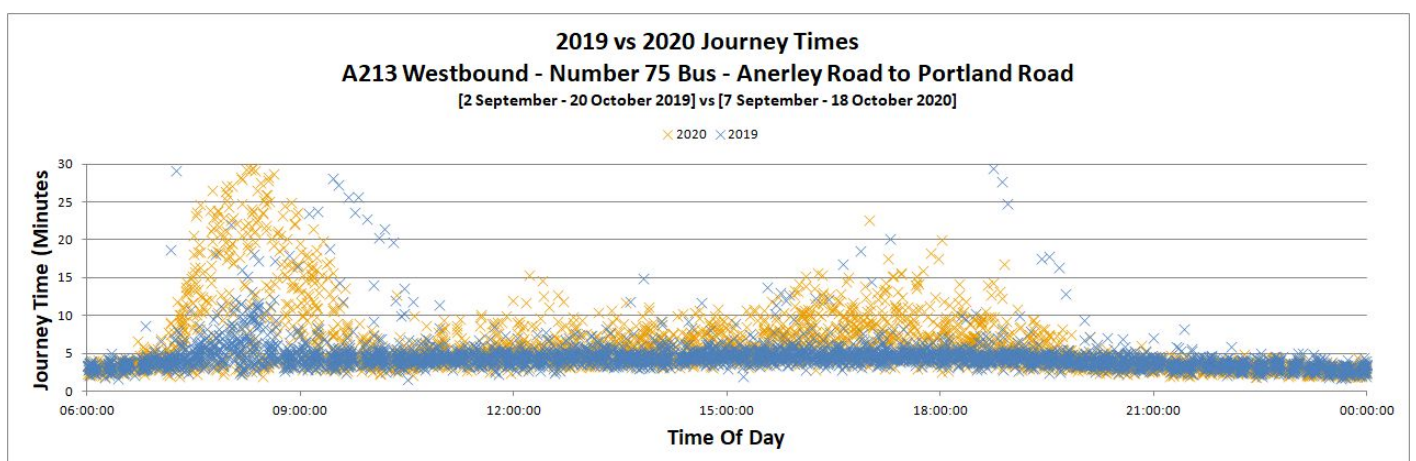
Number 75 - A213 Westbound into South Norwood

The route

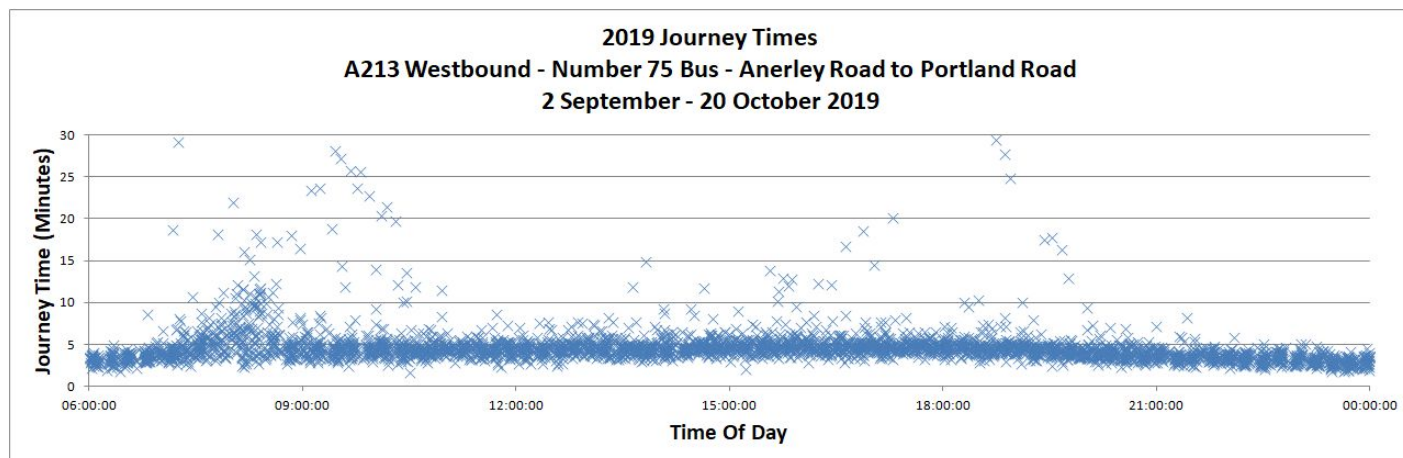
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



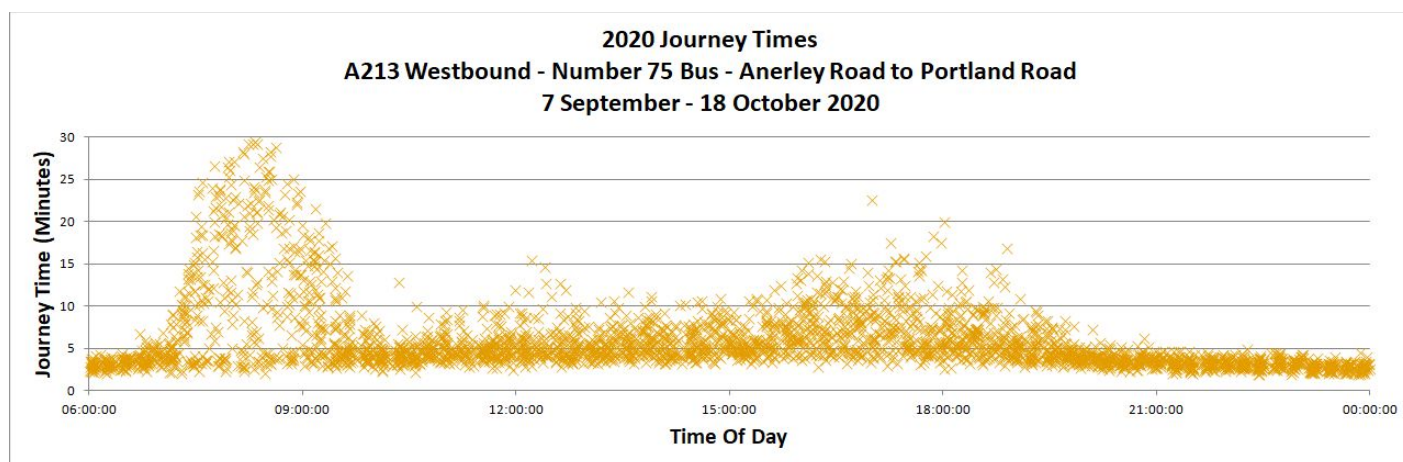
Before and after the LTN



Before the LTN



After the LTN



SOURCE: [TfL IBus journey time data](#)

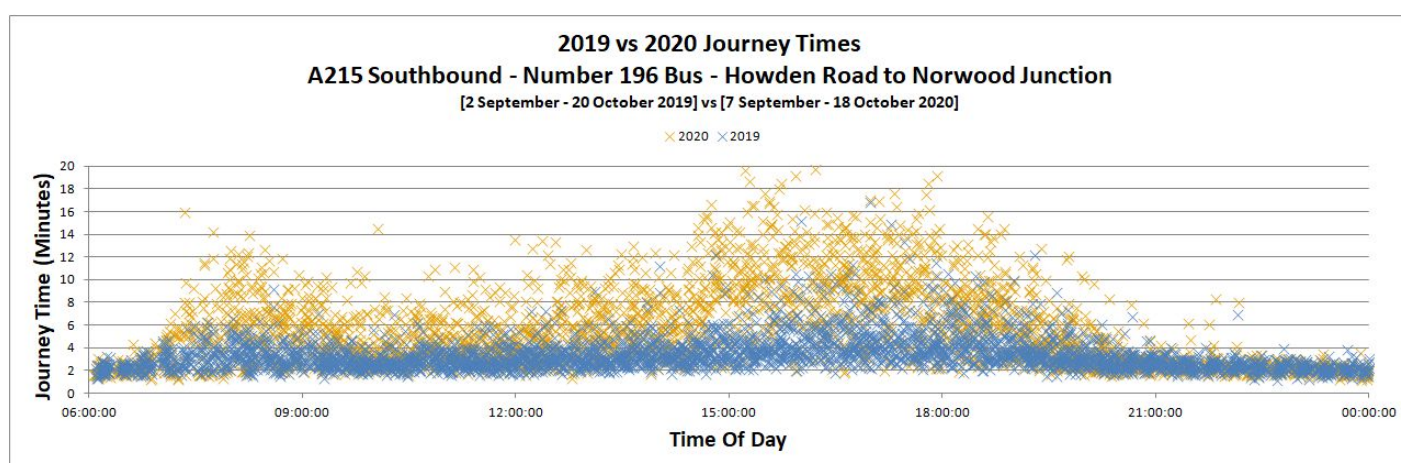
Number 196 - A215 Southbound into South Norwood

The route

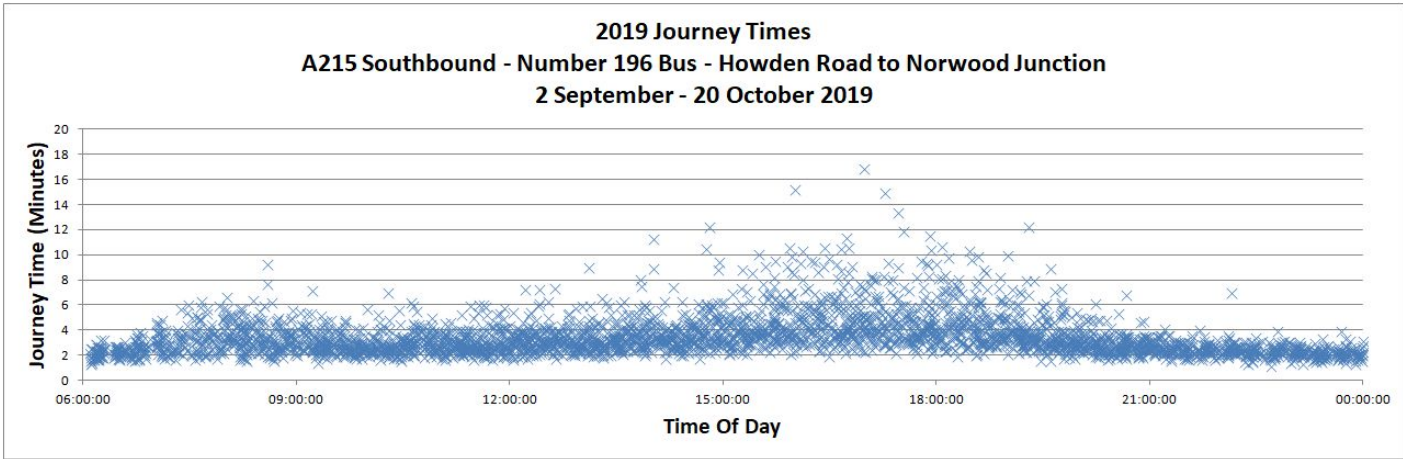
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



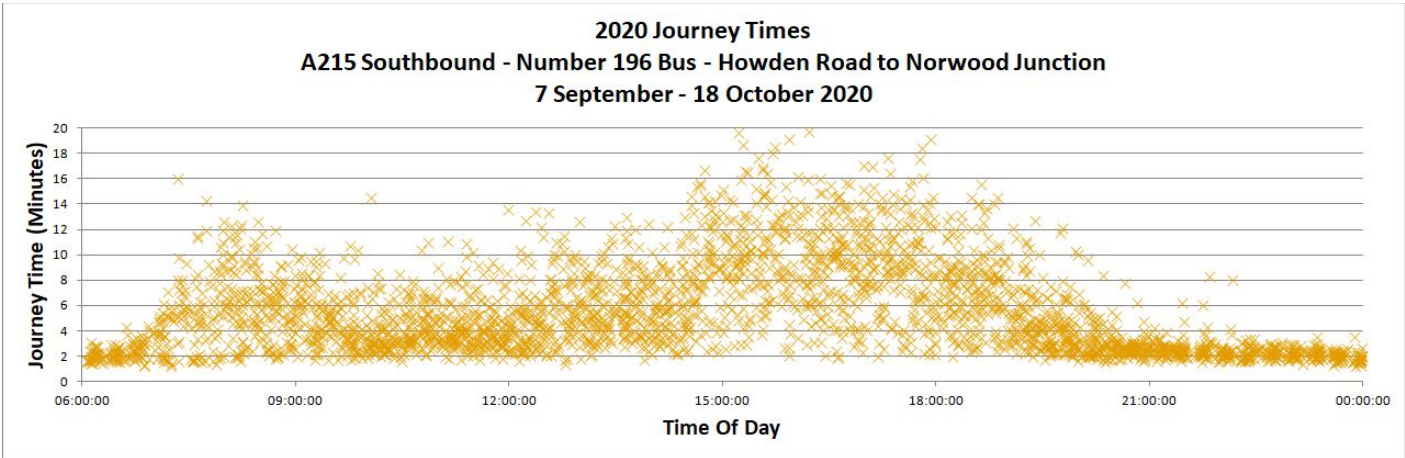
Before and after the LTN



Before the LTN



After the LTN

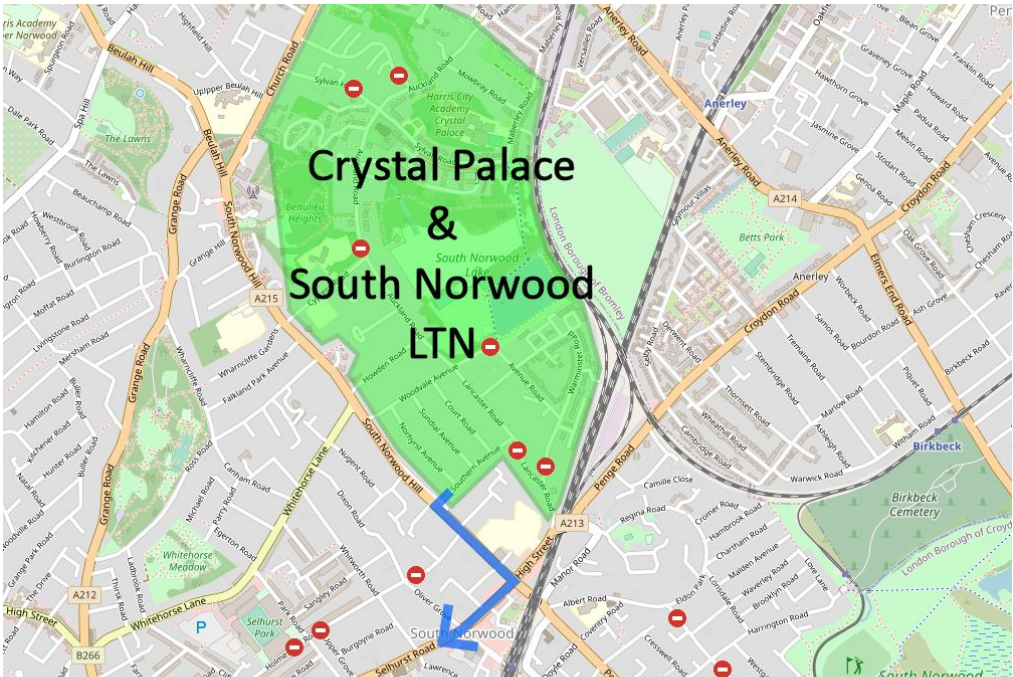


SOURCE: [TfL IBus journey time data](#)

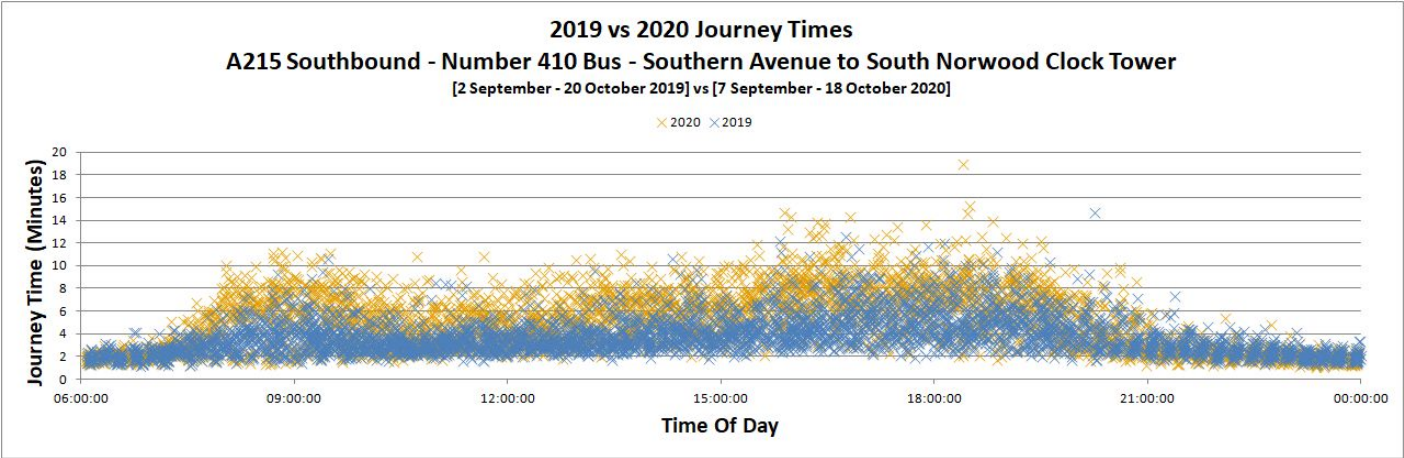
Number 410 - A215 Southbound into South Norwood

The route

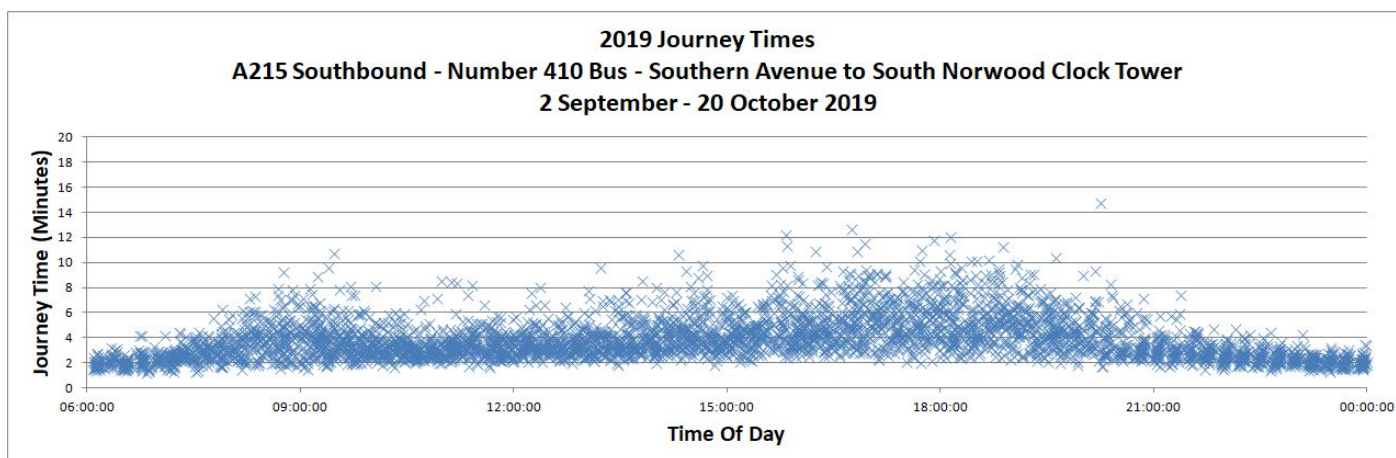
- ✓ Not impacted by the Crystal Palace Scaffolding
- ✓ Impacted by Crystal Palace and South Norwood LTN road closures



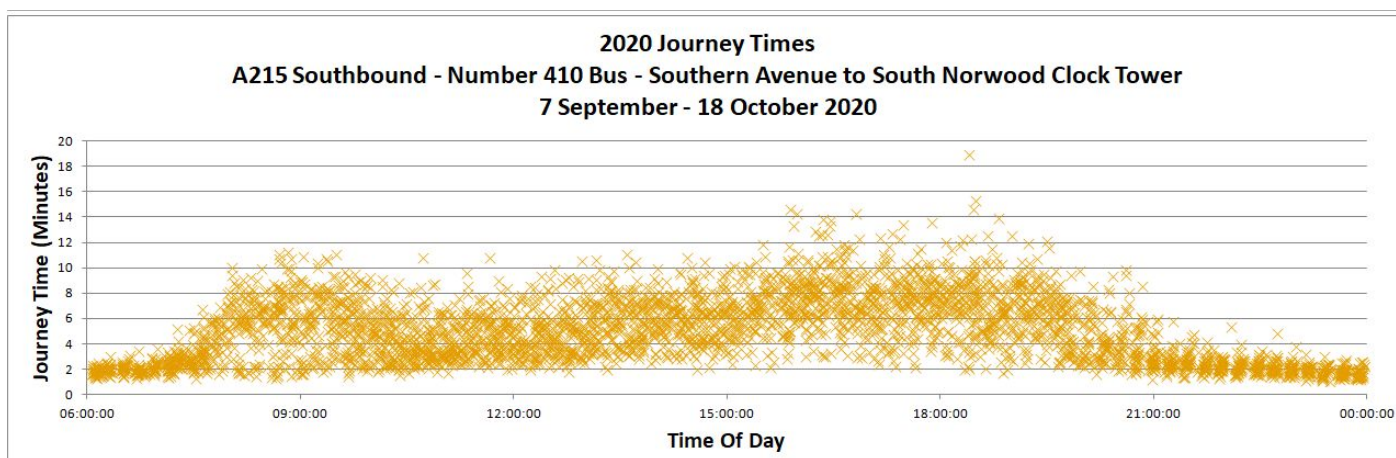
Before and after the LTN



Before the LTN



After the LTN



SOURCE: [TfL IBus journey time data](#)

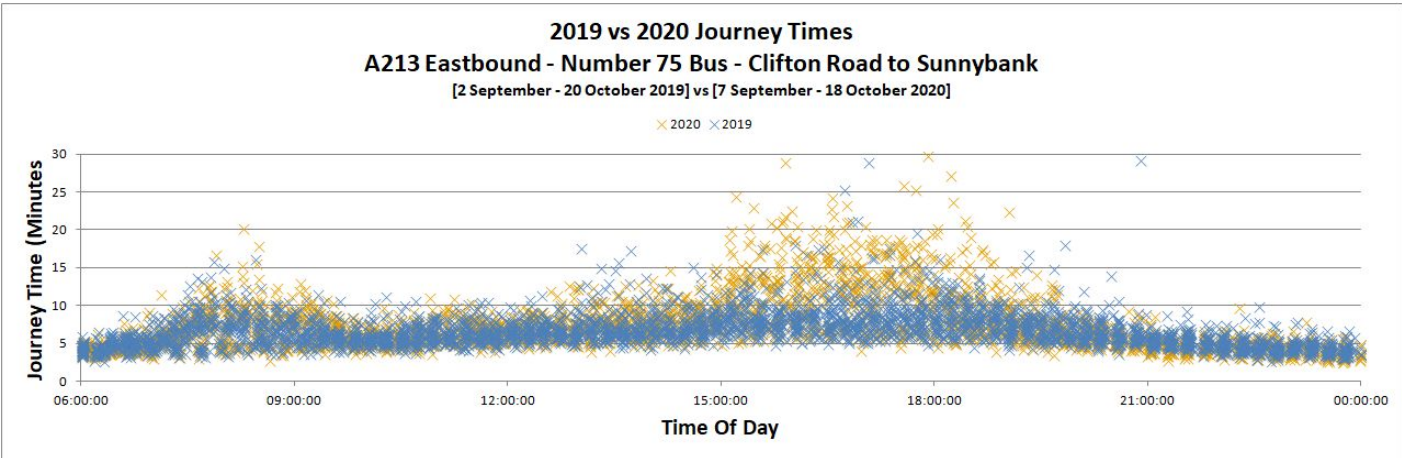
Number 75 - A213 Southbound into South Norwood

The route

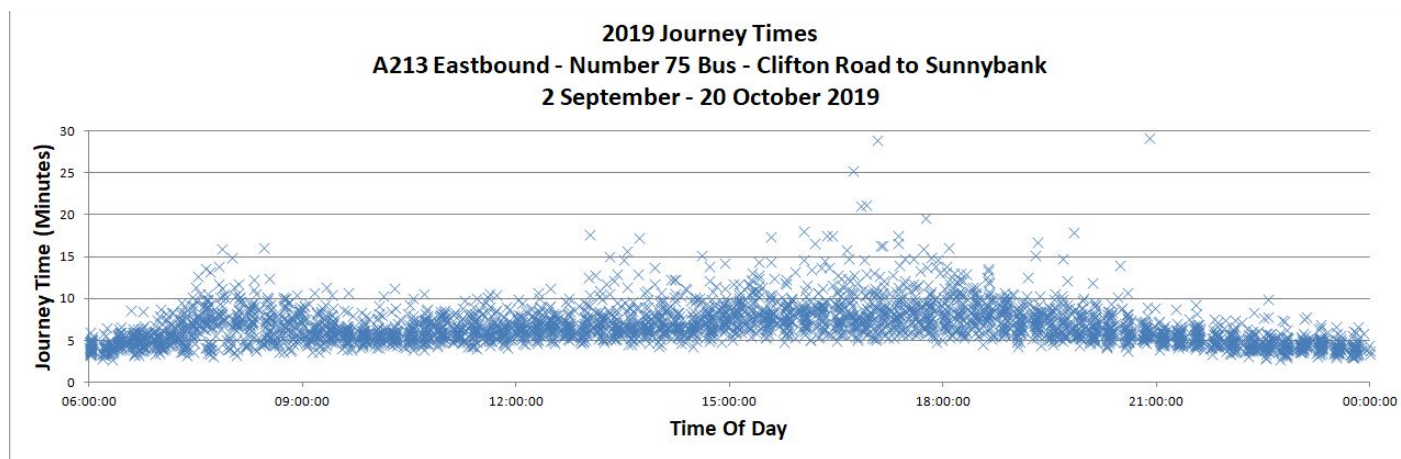
- ✓ Not impacted by the Crystal Palace Scaffolding
- ⚠ Likely impacted by the Holmesdale Road closures



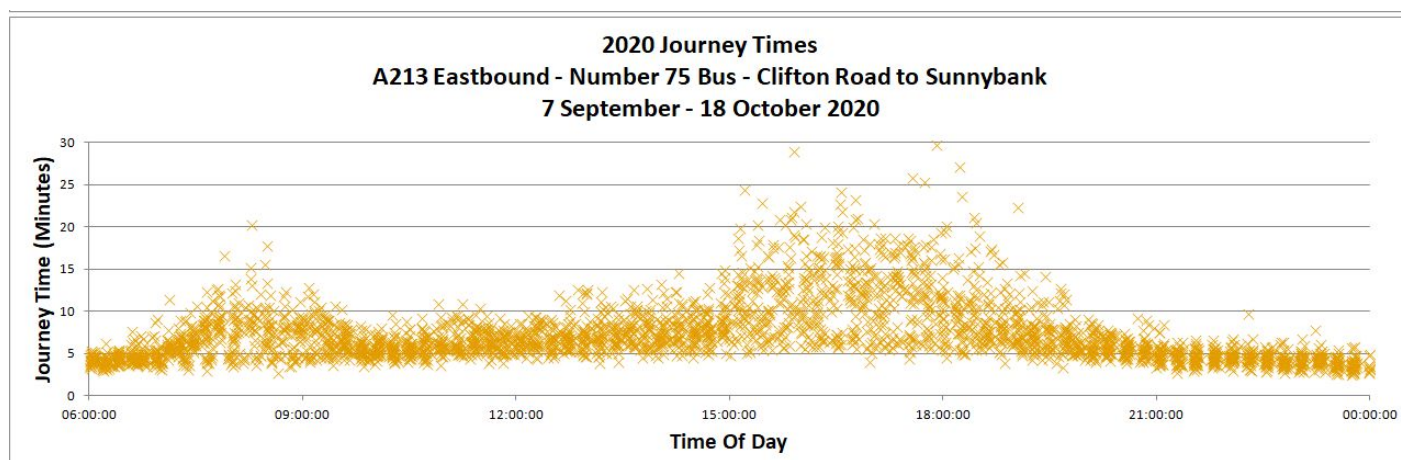
Before and after the LTN



Before the LTN





After the LTN



SOURCE: [TfL IBus journey time data](#)

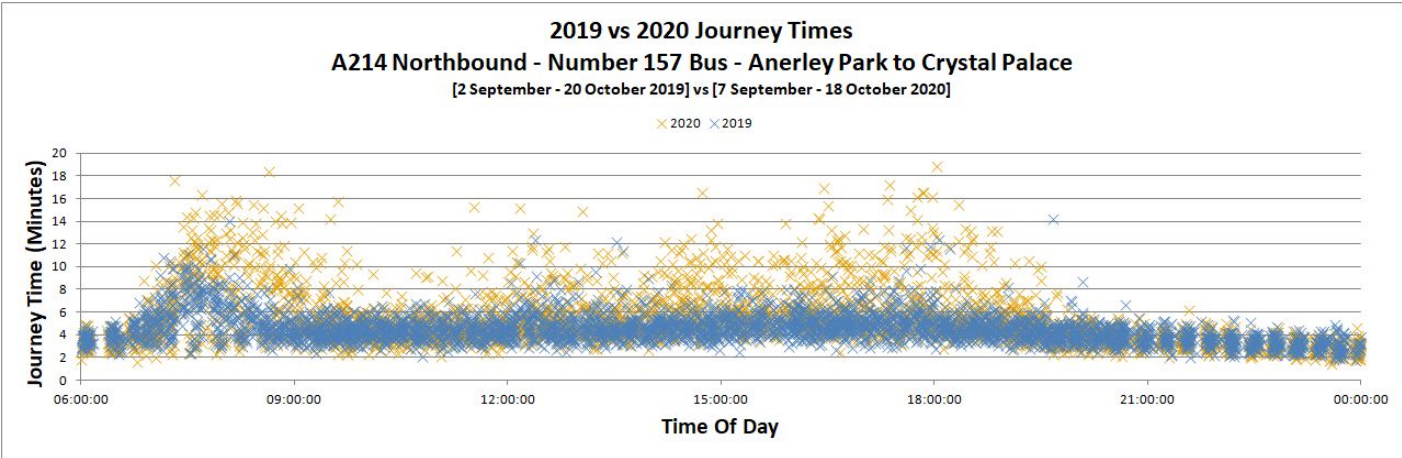
Number 157 - A214 Northbound into Crystal Palace

The route

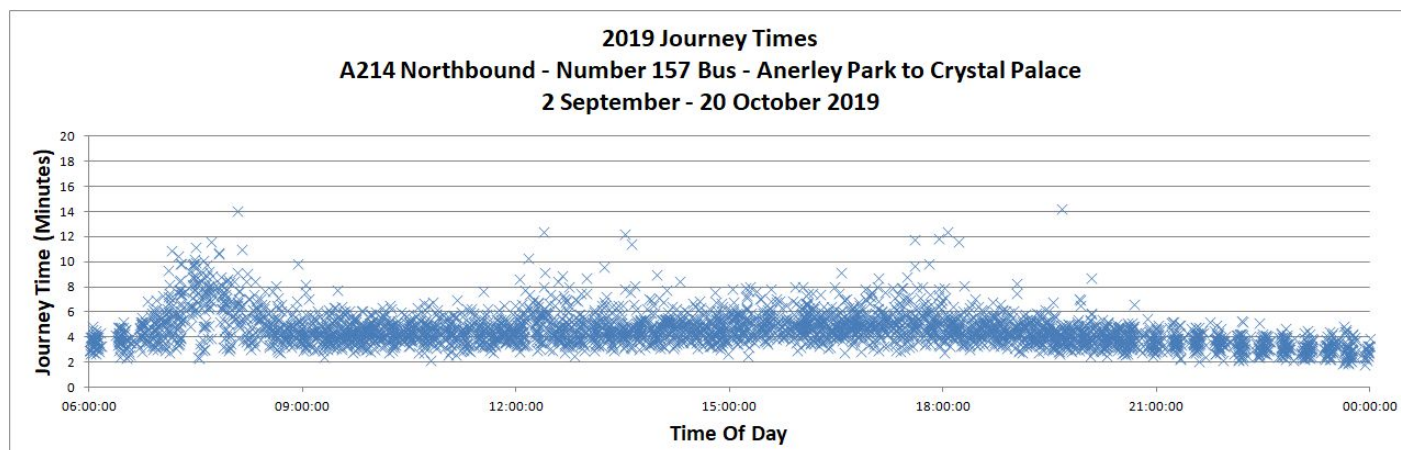
-  Potentially impacted by the Crystal Palace Scaffolding
-  Impacted by Crystal Palace and South Norwood LTN road closures



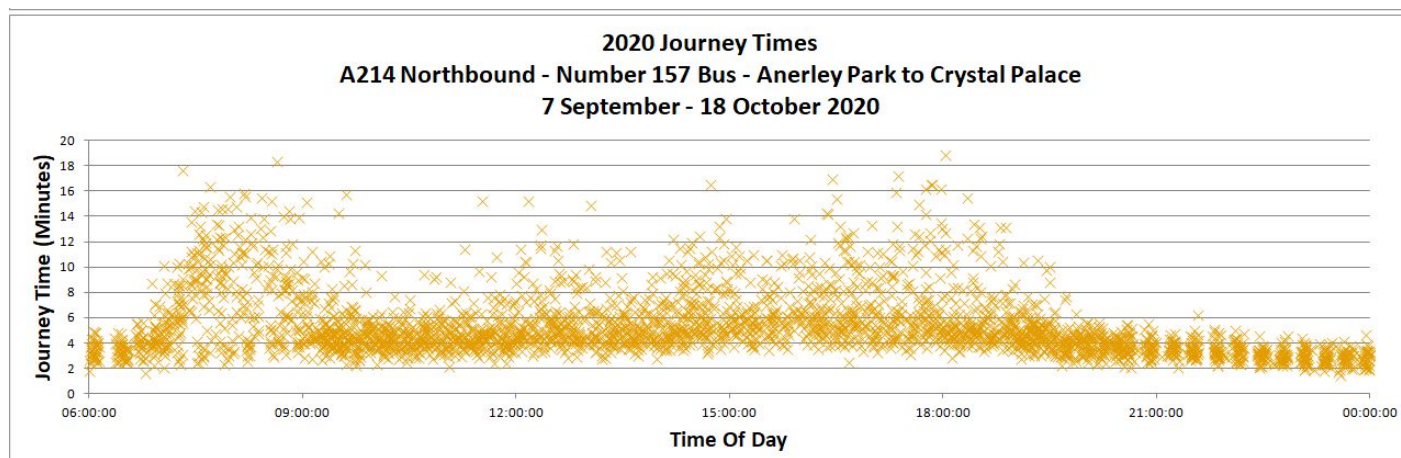
Before and after the LTN



Before the LTN





After the LTN



SOURCE: [TfL IBus journey time data](#)

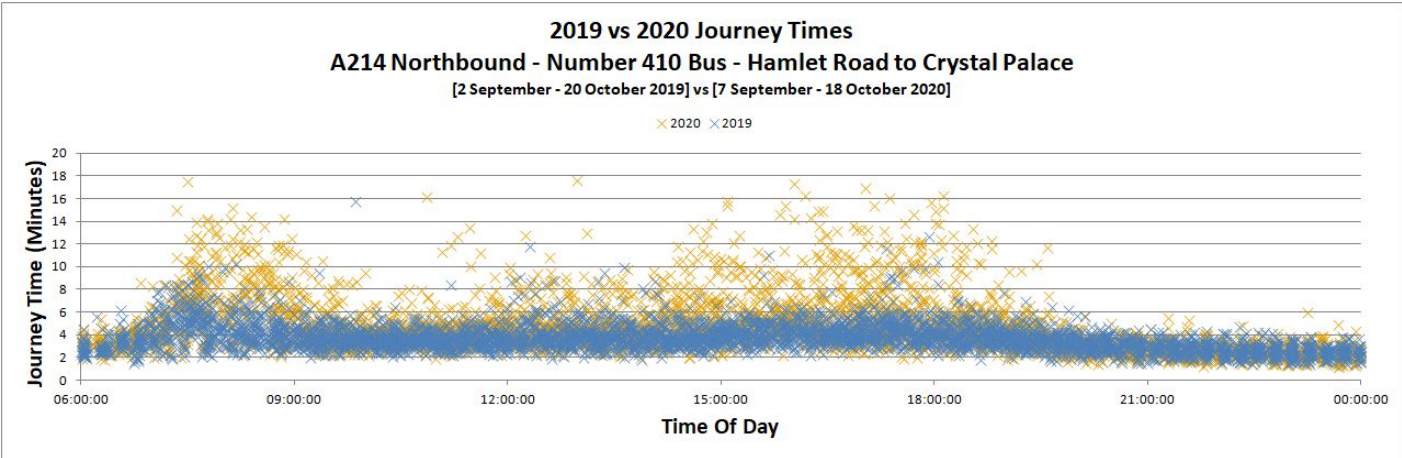
Number 410 - A214 Northbound into Crystal Palace

The route

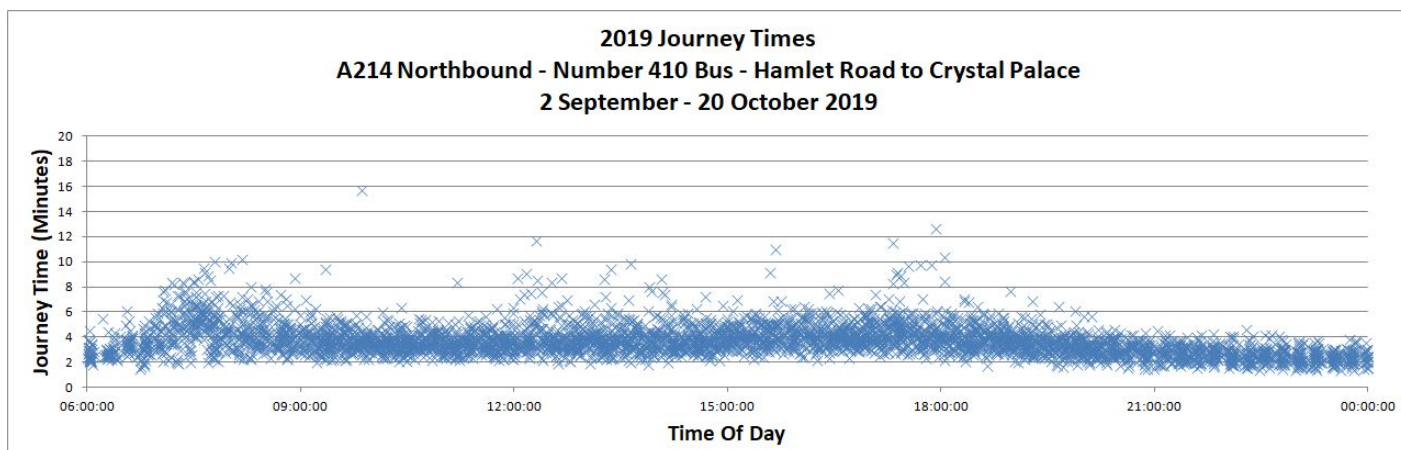
-  Potentially impacted by the Crystal Palace Scaffolding
-  Impacted by Crystal Palace and South Norwood LTN road closures



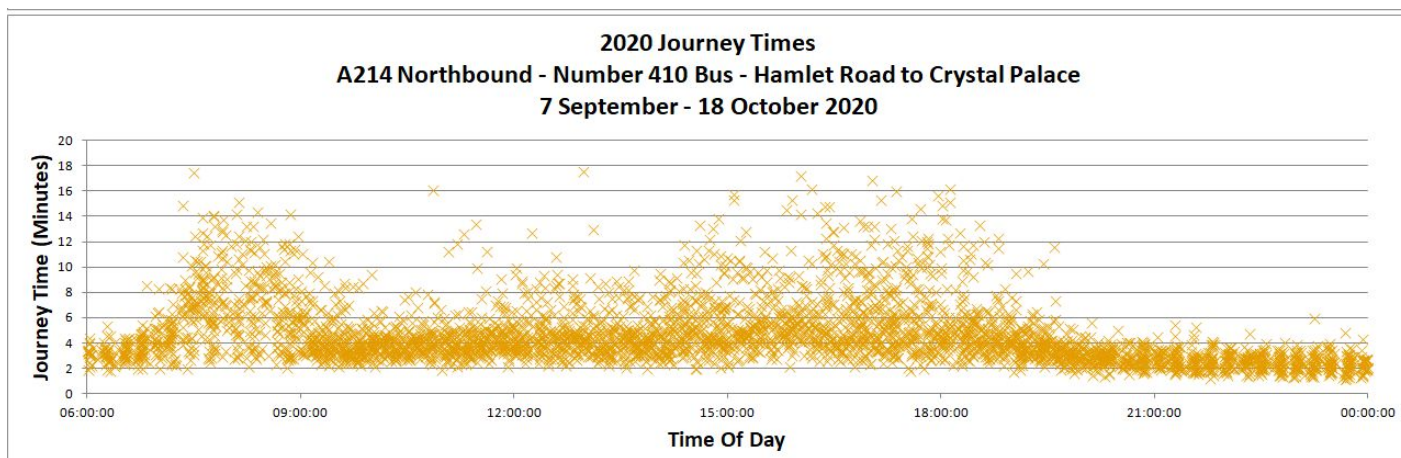
Before and after the LTN



Before the LTN



After the LTN



SOURCE: [TfL IBus journey time data](#)

Thank you

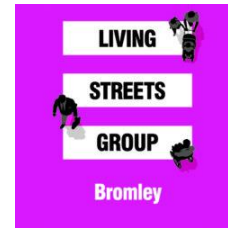
openourroadsnow@gmail.com

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SHAPE BETTER STREETS

Submission by Crystal Palace and South Norwood Shape Better Streets

Supported by



**friends of
the earth**
Croydon



Your voice for a
cycling borough



Who we are

Shape Better Streets is a resident campaign supporting the principle of a Low Traffic Neighbourhood in Crystal Palace and South Norwood. Our website address is: <https://crystalpalaceltn.org/> and our email address is CrystalPalaceLTN@gmail.com.

Bromley Cyclists forms part of the London Cycling Campaign - a group which campaigns for better cycling facilities and promotes cycling to all Londoners

Bromley Living Streets is a group of residents in the London Borough of Bromley, campaigning for safer, quieter, low-traffic neighbourhoods which encourage walking and cycling.

Cadence is a cycling hub open to every level of bike rider. We describe ourselves as being 'more than a bike shop and more than a club'.

Croydon Cycling Campaign is a group of Croydon locals who want to see Croydon transformed into a city that is welcoming to cyclists of all ages and abilities. We work with the council to encourage high quality provision for cycling, organise rides and socials and campaign tirelessly for a real cycling revolution.

Friends of the Earth Croydon is part of a national and international community dedicated to protecting the natural world and the wellbeing of everyone in it. We lead campaigns, provide resources and information and drive real solutions to the environmental problems facing us all.

Croydon Climate Action, founded in 2019, works in partnership with Croydon Friends of the Earth specifically to work on local campaigns relating to climate change. We are a group of passionate individuals who work with local councils, businesses, schools and communities to ensure the future of Croydon is climate-friendly.

Croydon Living Streets is a group of volunteers working to make everyday walking safer, easier and more enjoyable across our community.

Holmesdale Community Action Group is a community group bringing neighbours together who are dedicated to making our local area a safer, cleaner and better place to live.

Labour Cycles is a community of Labour members committed to ensuring active travel is the for the many, not the few.

London Cycling Campaign is a 11,500-strong membership charity, making sure that everyone who cycles, or wants to cycle, has a voice in Greater London.

Peddle My Wheels is a circular economy business that aims to make cycling accessible and affordable for everyone.

Key points

- The climate crisis, national and local policy all call for a local approach based on reducing private vehicle use and the air quality, noise and traffic danger it creates, to make neighbourhoods safe and pleasant and encourage active travel.
- The LTN experiment should therefore only be abandoned if there is strong evidence that any harms significantly outweigh the benefits and cannot be mitigated by changes to the scheme.
- Over the last decade, traffic volumes on some streets in the neighbourhood have more than doubled – to 12,000 movements a day, based on January 2019 data – comparable or more than some nearby main roads. This is consistent with the increase in vehicle use seen in London over recent years, which has almost all taken place on streets which are not part of the main road network.
- The majority of people rat-running through the neighbourhood have been flouting the law by exceeding speed limits and other dangerous and anti-social behaviour.
- The increase in traffic has led to completely unacceptable consequences for air quality, noise, and danger, especially for active travel. It has degraded the neighbourhood as a place to live. The official London cycling route through the neighbourhood was experiencing levels of traffic far higher than TfL's standards for back street, "quiet" routes without formal cycling infrastructure.
- The experimental LTN has, in only three months from inception, led to at least a two thirds reduction in vehicle traffic, with accompanying reductions in air pollution, noise and traffic danger, and a tripling of walking and cycling.
- The main genuine problem which has emerged is some increase in traffic on adjoining streets in the borough of Bromley – though on nothing like the scale previously experienced in the streets where LTN measures have been installed. This has eased, as a result of Church Road reverting to normal working. If the scheme changes to allow resident access from Church Road further south, it should reduce further traffic on these streets. If there continued to be a problem, it could be addressed without allowing 10,000 or more vehicles a day back on to Auckland Road and other streets.
- There is a complete lack of objective evidence for other claimed disbenefits – emergency services access, social safety, increases in congestion and pollution on surrounding roads, and damage to the Triangle town centre economy. The improvement in local congestion following the removal of the restriction in place on Church Road from March to October shows clearly that the LTN has not had an unacceptable impact on local main road capacity. Main roads remain congested at times, and hostile environments for active travel, as they have been for decades. That can and should be tackled as an issue in its own right.
- The streets in the LTN can either be a pleasant, safe neighbourhood to live, and an a quiet, safe, attractive corridor for active travel away from main roads. Or they can be a congested, polluted, dangerous, bypass for the Triangle and the main roads. They cannot be both. There is no credible basis for the council choosing the latter.

Policy context: Global, national, London

Climate Crisis

The world is experiencing a climate crisis, with 2019 concluding a decade of exceptional global heat, retreating ice and record sea levels driven by greenhouse gases produced by human activities. To prevent warming beyond 1.5 °C (the recognised limit for land and sea to cope is 1.5-2 °C), we need to reduce emissions by 7.6 % every year from this year to 2030.¹

The 2015 Paris Agreement was drawn up to limit global temperature rise to no more than 2° C above pre-industrial levels but also offered national pledges for countries to cut or curb their greenhouse gas emissions by 2030. The initial pledges are already insufficient to meet the target.²

Air Quality

The World Health Organisation estimates that air pollution costs the UK economy approximately £54 billion a year. This accounts for 3.7 % of GDP in Britain.³

Up to 36,000 deaths every year are linked to air pollution in the UK (based on figures from 2010-2017) and over 35 % of local authorities (including more than 22 million people) had areas with unsafe levels of fine particulate matter (PM_{2.5}) in 2018.

More locally, Transport for London (TfL) has undertaken research into the economic costs of the health impacts caused by air pollution in London. The research estimates an annual economic cost of up to £3.7 billion, made up of the cost of treatment, lost work hours and concern and inconvenience to family members.⁴

There is growing evidence of a link between poor air quality and vulnerability to COVID-19. A recent study estimated that about 14 % of deaths in the UK from COVID-19 – some 6,100 to date – could be attributed to long-term exposure to air pollution.⁵

Traffic and Travel

Congestion cost the UK economy £6.9 billion in 2019 and on average, UK road users lost 115 hours and £894 a year to congestion⁵. In terms of the human cost, over three quarters of deaths due to injury in the age bracket of 10–18-year-olds are related to traffic incidents.⁶

2,324 people were killed or seriously injured (KSI) on London streets in road traffic collisions in 2013. There are an estimated 5,900 deaths per year in London due to long-term exposure to NO₂, and 3,500 deaths due to long-term exposure to fine particulate matter (PM_{2.5}).⁷

London's population is projected to increase by 24 % by 2041. With this expansion, rising public transport demand means that, without further action, the majority of morning peak travel on both National Rail and London Underground would be in crowded conditions.⁸

The Mayor of London's own transport strategy is very clear on what action needs to be taken:

"At its heart is a bold aim for 80 % of all trips in London to be made on foot, by cycle or using public transport by 2041."

Private vehicle use is certainly not the answer to the public transport crisis. Household car ownership in Greater London is significantly lower than the average in England. In addition, over one third of all the car trips made by London residents are less than 2 km and could be walked in up to 25 minutes. Habit strongly influences the choice of travel mode.⁹

The Impact of COVID-19

Following unprecedented levels of walking and cycling across the UK during the pandemic, the Department for Transport (DfT) published plans to help encourage more people to choose alternatives to public transport when they need to travel. This should make it easier to follow healthier habits, and make sure the road, bus and rail networks are ready to respond to future increases in demand.¹⁰

In May 2020 the Emergency Active Travel Fund was formally announced. It supports local authorities to develop cycling and walking facilities and projects such as Low Traffic Neighbourhood schemes (LTN schemes). The accompanying Department for Transport guidance, reaffirmed and updated in November 2020, urges highways authorities to implement measures to reduce rat-run traffic on minor roads:

*"Modal filters (also known as filtered permeability); closing roads to motor traffic, for example by using planters or large barriers. Often used in residential areas, when designed and delivered well, this can create low-traffic or traffic-free neighbourhoods leading to a more pleasant environment that encourages people to walk and cycle, and improving safety."*¹¹

Survey results show clear support for these initiatives:

- Respondents overwhelmingly agreed that the government should act in local neighbourhoods to increase road safety (88 %), improve air quality (86 %), reduce traffic congestion (83 %) and reduce traffic noise (75 %).
- Three quarters of respondents supported the reduction of road traffic in towns and cities in England (77 %) and their local area / neighbourhood (78 %), and two thirds of respondents were supportive of reallocating road space to walking and cycling across towns and cities in England (66 %) and their local area / neighbourhood (65 %).¹²

In London particularly, where public transport use is usually high, the need was critical. TfL warned that due to social distancing, capacity on the Tube would be reduced to 15–20 % and 20–25 % on buses. If nothing was done, TfL's own modelling showed a doubling of car use in central London, assuming a third of pre-lockdown journeys returned and those who cannot get on to public transport shifted to cars.¹³

Mini-Hollands – the evidence from schemes in place

This national and London policy emphasis reflects evidence from pathfinder mini-Holland schemes. A study investigating the early impact of the mini-Holland schemes in Waltham Forest discovered that people in areas with active travel schemes were 24 % more likely to

have done any cycling in the previous week and walked or cycled for 41 minutes per week more than those where such improvements have not yet been made.¹⁴

More recent research has consistently found that living near interventions has led to a 40–45-minute weekly increase in active travel, providing confidence that even in more car-dependent, suburban areas, active travel infrastructure can spur take-up, and that such growth can provide high health economic benefits in relation to intervention costs. There is also a consistent trend towards people in the LTN area being less likely to own a car, with the largest decrease in car use always within the LTN group.¹⁵

Public Health

It is estimated that more than 14 % of children age 11 are overweight and more than 23 % are obese. Countries with the highest levels of cycling and walking generally have the lowest obesity rates. People who cycle live two years longer on average than people who do not and take 15 % fewer days off work through illness.¹⁶

The total cost of obesity to wider society is estimated at £27 billion. The UK-wide NHS costs attributable to excessive weight and obesity are projected to reach £9.7 billion by 2050, with wider costs to society estimated to reach £49.9 billion per year.¹⁷

The Mayor of London's Childhood Obesity Taskforce has called for a rapid increase in the number of 'public realm improvements that reduce traffic and support children's health, well-being and mobility' as one of its 10 ambitions for tackling childhood obesity in the capital.¹⁸

Children and School Travel

With the 'school run' a key contributor to rush hour traffic, this seems an easy target to reduce private car use, particularly given the potential benefits in health for the younger generation.

- 76 % of trips to school made by primary school children are under 2 miles, compared to 49 % of trips to school made by secondary school children. For secondary school children, trips to school are more likely to be between 2 and 5 miles (29 %).
- 88 % of children aged 7 to 10 were usually accompanied to school by an adult in 2013, this proportion drops to 31 % for children aged 11 to 13.
- 43 % of children are accompanied to school because of fear of road danger.¹⁹

If only a small fraction of these journeys were converted to active travel, it would have a huge positive impact on by reducing the volume of vehicular traffic on our roads.

Policy context: Croydon

Local policy and strategies on climate, transport and public health all point clearly towards reducing motor vehicle use and encouraging active travel.

Climate

In June 2019 Croydon Council declared a climate emergency, with an ambitious target of ensuring the borough is carbon neutral by 2030.²⁰ It has set up a Climate Crisis Commission, one of whose workstreams is on transport and energy.²¹ A Citizen's Assembly sponsored by the council and operating in early 2020 said "we want to see fewer cars in total on the borough's roads with shorter journeys in particular being cut."²²

Air Quality

In Croydon alone, background concentrations of PM_{2.5} have been measured as dangerous and in breach of World Health Organisation (WHO) limits. In 2018 an estimated 6.16 % of deaths in the borough were attributable to PM_{2.5} air pollution which was equivalent to 151.5 deaths.²³ Croydon's Air Quality Management Plan includes a commitment to reprioritise road space to enable walking and cycling.²⁴

Active travel

Croydon has developed a strong policy commitment to active travel in recent years. The 2018-23 Cycling Strategy, published in 2017, set out an approach, including establishing an inclusive cycling culture and establishing safe routes. One of the routes earmarked for improvement was the long-standing London Cycle Network route along Lancaster and Auckland Roads.²⁵ The Croydon Cycling Campaign has been arguing for several years that it should be improved by cutting rat-run traffic.²⁶

The controlling Labour Group's 2018 manifesto made strong commitments on active travel, with a particular focus on children and young people – to support initiatives "that encourage children to walk and cycle to school" and to put in place an approach to transport which "enable[s] people to get out of their cars... work[s] to achieve the principles of Vision Zero ...and makes Croydon... easy to get around and enjoy, especially for young people, older people and disabled residents."²⁷ These commitments are reflected in the council's current corporate plan.²⁸

How the policy context should shape a decision

The weight of national, London and local policy points overwhelmingly to the need to reduce motor vehicle use and encourage active travel. It also points to the importance of creating low-traffic environments in which the air and noise pollution associated with excessive traffic is removed, and in which active travel is encouraged.

That does not, of course, justify persisting with a particular scheme if it does not achieve these objectives, or results in significant unintended adverse consequences. But it does point strongly towards only abandoning a scheme if:

- there is clear evidence that the harm outweighs the benefits;

and

- any harm cannot be addressed by modifications to the scheme.

Our argument is:

- The scheme has resulted in very significant benefits.
- There are some harms, but many of the claims which have been made about adverse consequences are, at best, exaggerated, and in some cases are not supported at all by the evidence.
- Changes to the scheme could reduce the genuine harms significantly.

About the Crystal Palace and South Norwood LTN

Geography

The neighbourhood in which the LTN has been established is, in formal terms, the parts of Croydon's South Norwood, and Crystal Palace and Upper Norwood, wards bounded by: the A213 South Norwood High Street; the A215 South Norwood Hill; the A212 Church Road; the boundary with Bromley; and the railway line between Crystal Palace and Norwood Junction,

However, part of the boundary with Bromley does not follow any strong natural features, and a wider definition of the neighbourhood would extend to the A214 Anerley Hill and Anerley Road.

On this broader definition, the neighbourhood is about a mile and a half north to south, and around half a mile wide.

The neighbourhood occupies the eastern slopes of the southern end of the Norwood Ridge. Broadly, the difference in elevation between Church Road and South Norwood Hill on the western boundary of the neighbourhood, and the lower lying streets is greatest (around 50 m of elevation) towards the northern end, and less or negligible towards the south. A road, called successively Lancaster Road, Auckland Road and Hamlet Road, runs through the neighbourhood from south to north. Various streets run west from it to South Norwood Hill and Church Road. There are networks of streets east of it, to the south around Warminster Road, and to the north round Sylvan Road and Maberley Road. Travel (by any mode) to the east is completely blocked by the railway line, which can only be crossed on the main roads at the northern and southern ends of the neighbourhood. The Auckland Rise estate occupies a substantial area east of Church Road and south of Sylvan Hill, and there is a significant amount of social housing on the Bromley side, between Anerley Road and Belvedere Road.

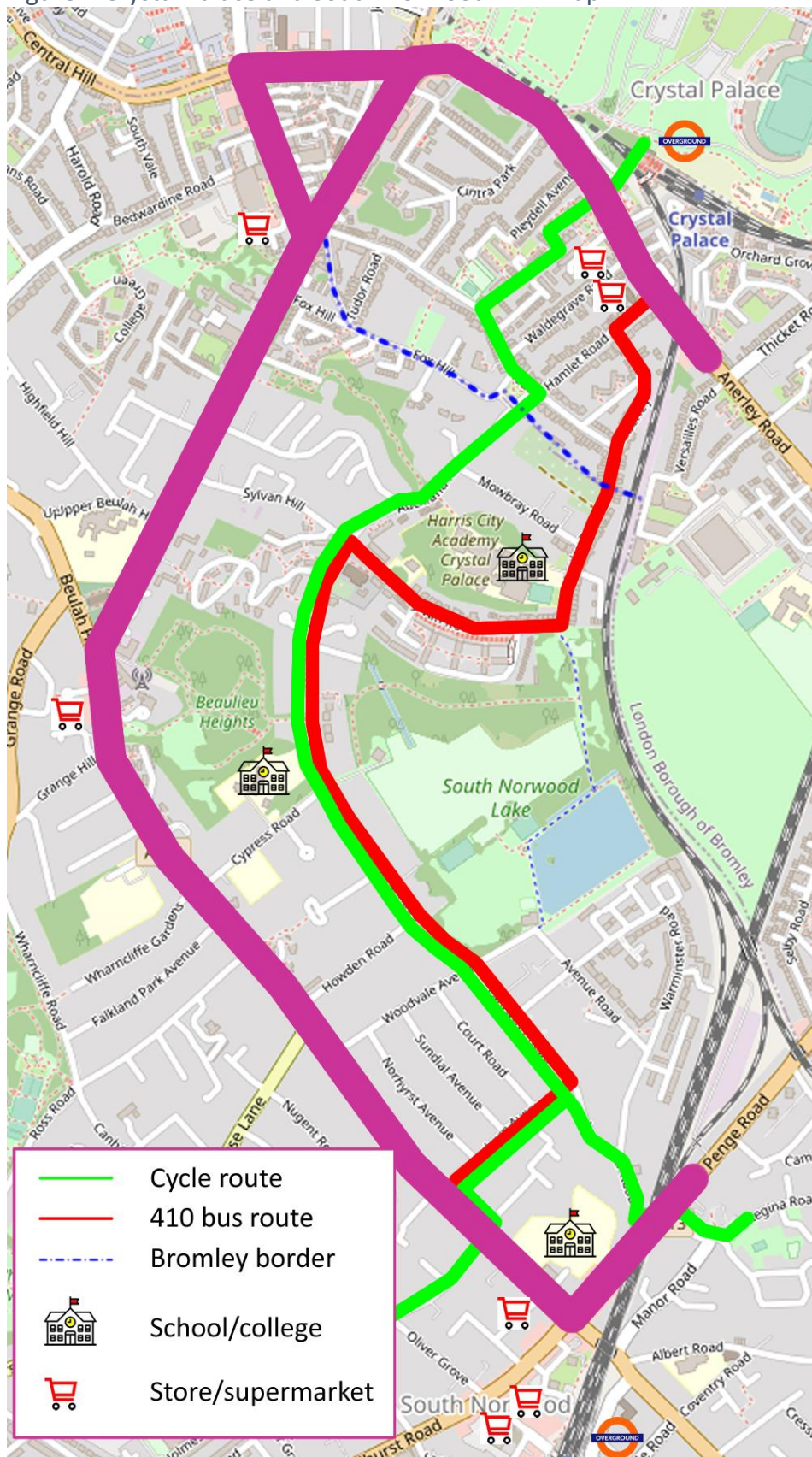
There are several areas of public open space in the neighbourhood, principally South Norwood Lake and Grounds, Beaulieu Heights and Stambourne Woodland.

There is one primary school in the neighbourhood (Pegasus Academy Cypress School), and two secondaries: Harris City Academy Crystal Palace towards the north, and Harris South Norwood on the South Norwood Hill boundary road at the southern end. There is a community centre (Waterside) adjacent to the South Norwood Lake.

There are railway stations (Norwood Junction and Crystal Palace) close to the northern and southern ends of the neighbourhood. Buses run along the main roads bounding the neighbourhood, and there is a service (410) running through the neighbourhood itself from south to north via Southern Avenue, Lancaster Road, Auckland Road, Sylvan Road, Maberley Road and Hamlet Road. A long-standing London Cycle Network route runs through the area along Lancaster Road, Auckland Road, Belvedere Road and Chipstead Close.

Figure 1 is a map of the area.

Figure 1: Crystal Palace and South Norwood LTN: Map



Demography

Figure 2 shows key demographic information.²⁹ The population is around 7,400 (Croydon only) or 11,400 (including the Bromley streets). Over 40 % of the population is Black, Asian and Minority Ethnic (BAME). There are around 3,200 households in the Croydon section, a further 1,800 in the Bromley section. 43 % of households do not have access to a private vehicle. Taken as a whole, the neighbourhood is around the bottom of the middle third of the income distribution. The census districts within it range from two within the 30 % poorest in England to one around the middle of the income distribution. The neighbourhood is more affluent than some of the area to the south of it (the other side of South Norwood High Street), and less affluent than much of the area to the west (the other side of Church Road).

Figure 2: Key demographic information

Census LSOA		Income decile (lower number=poorer)	Population	% BAME	Households	No car	%no car
Croydon	008A	3	1272	57.8	568	243	42.8
	007D	4	1868	52.1	620	194	31.3
	007C	4	1638	44.7	773	310	40.1
(part)	001A	4	1052	37.6	438	173	39.5
	001B	5	1523	34.8	774	306	39.5
Bromley	005B	3	1917	30.1	842	480	57.0
	005E	4	2125	29.7	949	450	47.4
Total (Croydon only)		3.5	7353	45.8	3173	1226	38.6
Total (including Bromley)		3.4	11395	40.1	4964	2156	43.4

There is no data about the income status of households within the neighbourhood as opposed to the boundary roads. The two main areas of social housing both have some frontage on main roads, but most of the properties in them do not front main roads. There is no reason to believe that, taken as a whole, there is any difference in income levels between the boundary roads and the rest of the neighbourhood.

Summing up:

- The neighbourhood has a large population.
- It is diverse.
- It is not particularly well-off.

It is a long way from the “small, wealthy, white, enclave” scheme opponents have claimed.

Traffic in the neighbourhood before the LTN

Data

There are three sources of quantitative data about traffic in the neighbourhood before the LTN:³⁰

1. Council data from January 2013 recording vehicle numbers and speeds westbound on Auckland Road at the junction with Stambourne Way. These record numbers of motor vehicles (only) and speeds in one direction only (west/south towards South Norwood. They do not record vehicle type (car, van, etc).
2. Data downloaded by the council in January 2019 from the speed display device in Auckland Road just east of the junction with Stambourne Way, containing the same information as 1, though distinguishing between speeds below 20 mph and between 20 mph and 30 mph. (There is also data for August 2019, but that was, of course, at a time of year without school traffic, and which generally tends to be less busy.)
3. Counts carried out manually by residents in June and July 2020 in Sylvan Hill and Auckland Road. These include pedestrians and cyclists as well as vehicles, recorded by type, but do not record speeds. These counts both took place after the LTN's first phase with planters in South Norwood and on Auckland Road; and before the conversion into a bus gate on Auckland Road and the installation of planters on Sylvan Hill. However, they were carried out in the earlier phases of the lifting of the spring lockdown, when traffic levels still had not recovered from their very low levels. In particular, the schools were only open to a minority of pupils.

Rat-runs

Before the LTN was introduced, vehicles were able to make through journeys across the neighbourhood. The main rat-runs were:

1. Southern Avenue and Lancaster Road (and vice versa) as a route between South Norwood Hill and South Norwood High Street.
2. Hamlet Road, Auckland Road and Sylvan Hill, with some traffic also using Fox Hill and Stambourne Way, (and vice versa) as a route between Anerley Road and Church Road.
3. Hamlet Road, Auckland Road, Lancaster Road, and either Southern Avenue or the south end of Lancaster Road (and vice versa) as a route between Anerley Road and South Norwood.
4. As 3, but using Sylvan Hill, Stambourne Way and Fox Hill to travel to or from Church Road.

These routes (2 in particular) were indicated on navigation apps as preferable to the main roads even when traffic on the main roads was light.

Traffic volumes

In just over 6 years, the daily one-way total had well over tripled – equivalent to traffic increasing by nearly 23 %, year after year. Assuming broadly equal numbers of vehicles going both ways in the course of a day, the 2019 total is equivalent to around 12,000 vehicles a day. Figure 3 below shows the 2013 and 2019 daily totals

Figure 3: Vehicle movements, Auckland Road, Westbound, January 2013 and January 2019
Source: Croydon Council

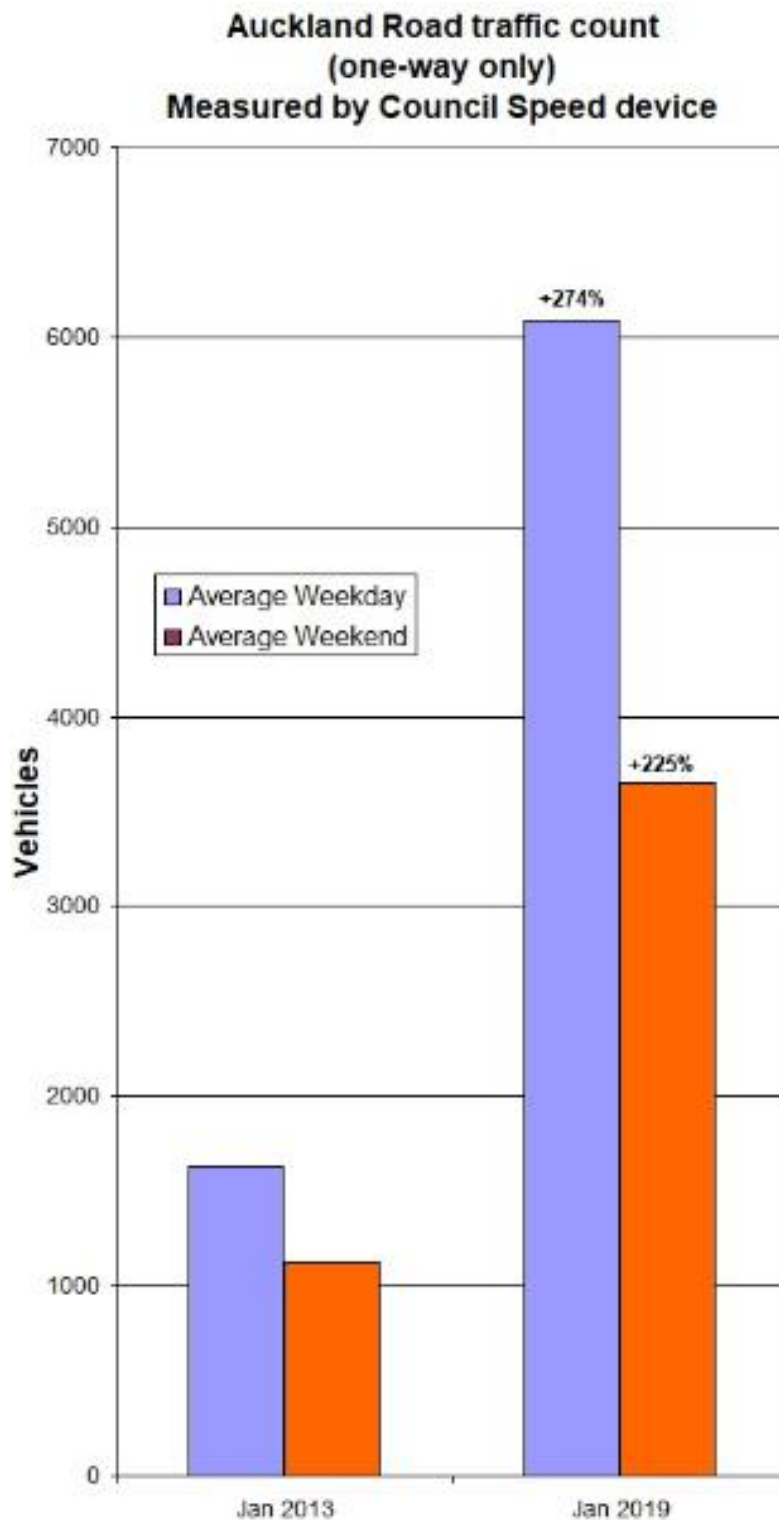
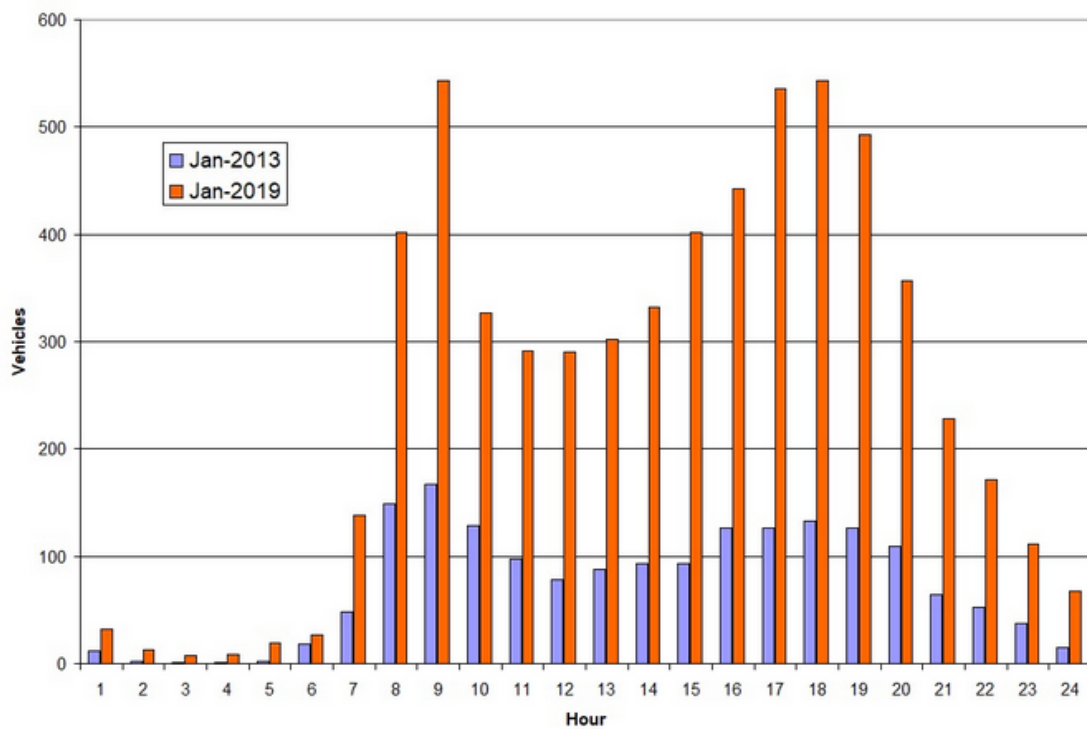


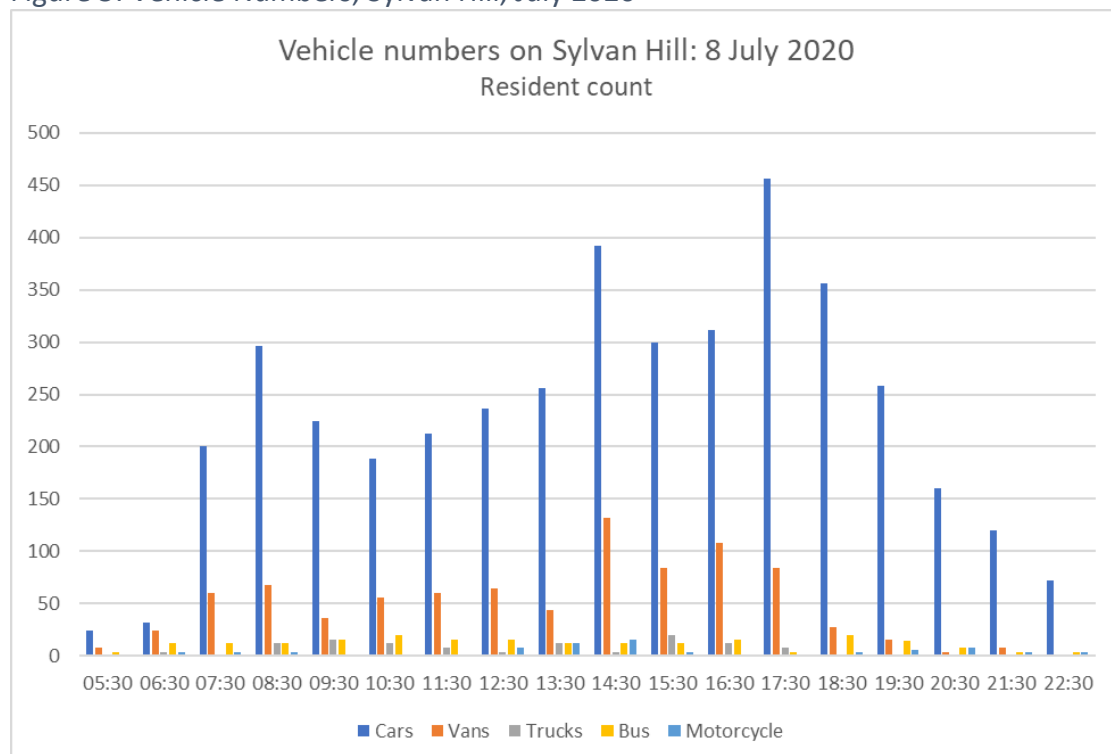
Figure 4 shows the hourly distribution in the two years. In 2013, one-way traffic only exceeded 100 vehicles per hour for 8 hours in the day. In 2019, high traffic was constant from early morning until well into the evening: over 290 vehicles an hour (one way) from 8 am to 9 pm.

Figure 4: Auckland Road traffic - 2013 and 2019: weekday hourly
Auckland Road hourly traffic count (one-way only)
Measured by Council Speed device



In June and July 2020, residents carried out weekday manual counts on Auckland Road and Sylvan Hill. The results of the July counts (the lower of the two) are shown in Figure 5 below.

Figure 5: Vehicle Numbers, Sylvan Hill, July 2020

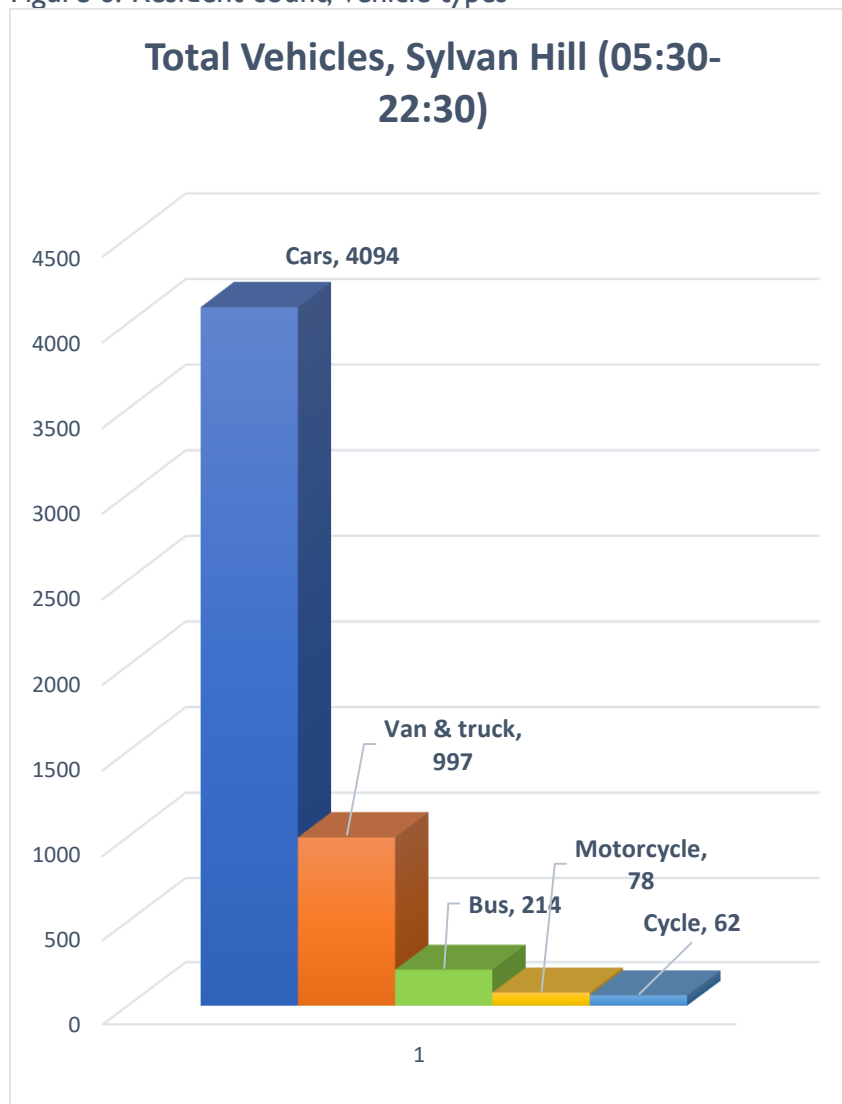


The daily total from this count, around, 5,400, is somewhat lower than the August 2019 council data, but still over 50 % higher than 2013. A number of factors may have been in play:

- In early July 2020, lockdown restrictions had not been fully lifted. In particular, schools were only operating for a limited number of pupils.
- Because, at that time, Auckland Road was closed to vehicles further south, Sylvan Hill was carrying traffic which would otherwise have been on Auckland Road. The 410 bus was using Sylvan Hill, but only accounts for at most 5 % of the vehicle movements recorded.

As Figure 6 shows, Light Commercial Vehicles, vans and smaller trucks, accounted for about 20 % of the total.

Figure 6: Resident count, vehicle types



These are extraordinarily high volumes for side streets not part of the main road network. They are higher than recent data for the nearby A214 Central Hill and not much less than Anerley Road and Church Road.³¹ They are higher than the guideline figures suggested for

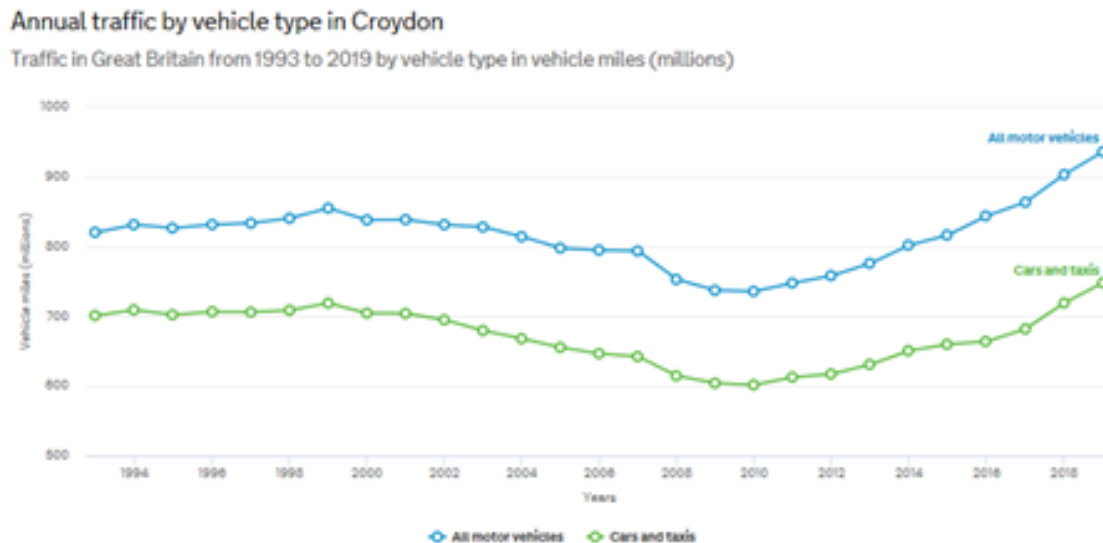
“Quietway” cycle routes in TfL guidance – critical since Lancaster Road and Auckland Road are designated as part of such a route.³²

The extent to which, within the last decade, Auckland Road and other streets have become, in effect, main roads, reflects broader trends across the borough and London as a whole.

Figure 7 below shows that in Croydon, there has been a 200-million-mile increase in miles driven in Croydon over the last 25 years, an increase of nearly 20 %.

Figure 7: Annual traffic by vehicle type: Croydon

Source: Department for Transport



But, as Figure 8 shows, the location of this increase has been very uneven. Across London as a whole, volumes on main roads have changed little. The entire increase has been on other streets, like Auckland Road and the other streets in the neighbourhood which have become rat-runs, and over the last 10 years or so. This increase is largely down to increased usage of satnav with traffic functionality, increased use of delivery services and lack of adequate cycling infrastructure.

Auckland Road and other now-busy streets in the neighbourhood are therefore the “canaries in the coal mine.” Their state, before the experimental LTN was introduced, was a consequence of an unsustainable growth in traffic volumes, and the diversion of that traffic off the main road network enabled by navigation apps.

Congestion

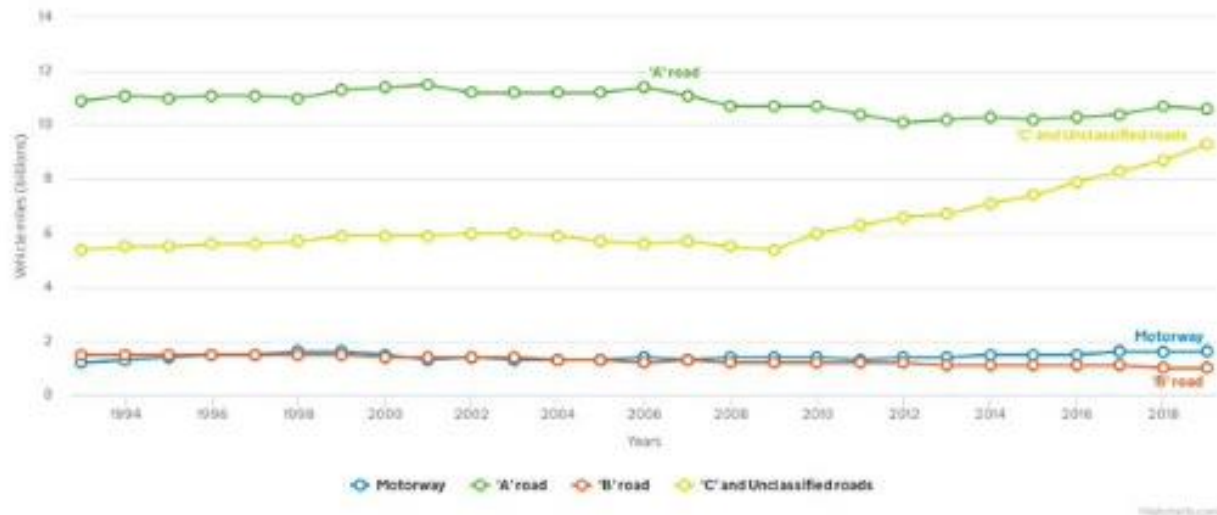
Because of the volume of traffic using streets not managed as main roads, and in particular with unrestricted parking, there was frequent congestion at pinch points such as the junction of Southern Avenue and Lancaster Road, on Hamlet Road, and on Auckland Road near the doctors’ surgery. On Hamlet Road, eastbound traffic often backed up as much as 300 m from the junction with Anerley Road. This would cause severe delays to the 410 bus and occasionally caused emergency vehicles to become stuck. It was common for altercations to take place between angry and frustrated drivers, both physically and verbally.

Figure 8: Traffic volumes: London and Croydon comparisons

Source: Department for Transport

Annual traffic by road type in London

Traffic in Great Britain from 1993 to 2019 by road type in vehicle miles (billions)

*Traffic danger*

The impact of traffic volumes was made worse by driver behaviour. On average, more than 80% of vehicles exceeded the posted 20mph limit. The median speed recorded on the road was 26.4mph – nearly a third above the speed limit. Half of all vehicles drove faster than this. The 85th percentile speed recorded was 33mph. That is, 15% of vehicles were being driven more than two thirds above the speed limit. The highest speed recorded was 70mph, at about 8:50pm in the evening. Most hours of the day, at least one vehicle was recorded at over 45mph.

This section of Auckland Road is used, and crossed, by large numbers of students walking to and from Harris City Academy Crystal Palace.

These streets have therefore recently been carrying volumes of traffic similar to main roads, with high levels of disregard for speed limits. But they are not managed or laid out with the features characteristic of main roads:

- Parking is much less restricted than is typical on main roads of similar width, and there are typically parked vehicles on both sides for significant stretches, leaving insufficient width for opposing vehicles to pass, and contributing to poor conditions for cycling when there are high volumes of traffic.
- Auckland Road contains a number of blind bends and crests. Combined with large numbers of parked vehicles, this means sight lines are poor in many places.
- There are no formal pedestrian crossings, only refuges at three locations along the whole length of Hamlet Road, Auckland Road and Lancaster Road, and no such features on any of the other roads. Sight lines are often blocked by parked vehicles.
- There are speed humps along the southern part of Auckland Road, and cushions further north on Auckland Road, Hamlet Road and on Sylvan Hill and Stambourne

Way. The cushions in particular do not appear to be effective in restraining speed, as the speed data summarised above shows.

- At the main junctions of streets in the neighbourhood with main roads – namely Hamlet Road/Anerley Road, Sylvan Hill/Church Road, Southern Avenue/South Norwood Hill and Lancaster Road/South Norwood Hill – there are no traffic signals or roundabouts.

Figure 9 is a photograph of Auckland Road, showing how the topography and high levels of on street parking make it unsuitable for high volumes of traffic.

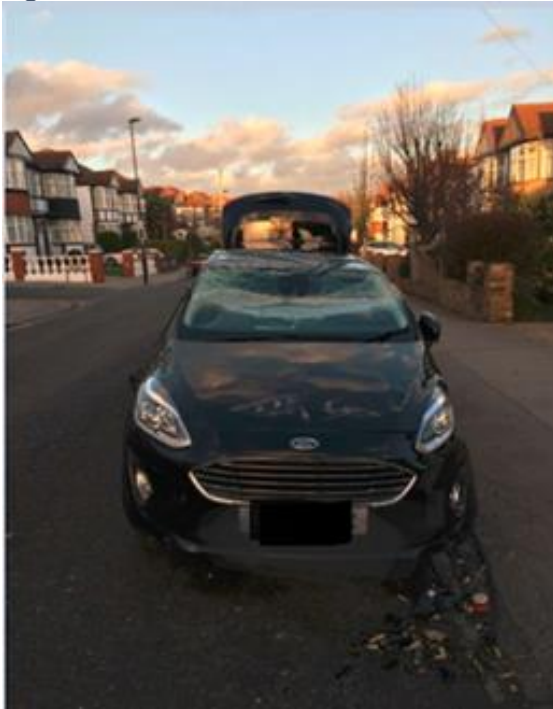
Figure 9: Auckland Road: Typical look of street



As a result, the neighbourhood and its main road junctions have seen high volumes of traffic collisions. Junctions on Auckland Road within the neighbourhood also have a poor safety record (Figure 10).

There was a serious cycle injury on Sylvan Hill in July 2020, sadly illustrative of how large numbers of motor vehicles, many of them recklessly driven, created a dangerous environment, above all for people not in a motor vehicle. A driver overtook another travelling uphill, in the path of someone cycling downhill. The cyclist swerved off the road to avoid a head-on collision and hit a wall. The photograph below (Figure 11) shows a car that was involved in a collision on Southern Avenue last year. The car involved was driving fast enough for the car to mount the pavement on its roof. Luckily there were no pedestrians on the pavement at the time. There have been many other examples of speeding vehicles losing control on these residential roads.

Figure 11: Crashed vehicle in Southern Avenue



Subjective safety for pedestrians and cyclists was poor. Pedestrians, in particular older and less able people, found crossing the roads, especially at the junctions of the 'hill roads' (Sylvan Hill, Stambourne Way and Fox Hill) extremely intimidating because of the speed and careless manner in which drivers took the turns.

"I felt like I was taking my life into my hands crossing Stambourne Way and Fox Hill at their junctions with Auckland Road. I was nearly hit several times and drivers frequently honked at me and verbally abused me." (Woman, 60, walking impairment)

"Before the LTN I would never have let my children walk or cycle to Cypress School alone. I used to have my heart in my mouth when my youngest (5) scooted off ahead of me." (Parent)

Before the LTN was in place very few parents would allow their children to walk to Cypress School due to safety concerns. In addition to this many parents would drive their children to local schools, including Harris Crystal Palace and Harris South Norwood. This would create pinch points and increased congestion at Lancaster Road, Southern Avenue and Auckland Road, which in turn caused delays to the bus and made the environment less safe for any children and adults not in cars.

Air quality

There has been, so far as we are aware, no air quality monitoring within the LTN. However, with Auckland Road and other streets carrying volumes of traffic comparable to nearby main roads, it is reasonable to assume that parts of the LTN were experiencing comparably poor air quality.

Noise

Likewise, there has not, so far as we are aware, been any monitoring of noise. Yet the volumes of traffic passing through some streets in the neighbourhood was clearly resulting in high levels of insidious noise pollution.

Impact on well-being

A survey of residents carried out in summer 2020 found that large majorities were concerned about air quality, noise and vibration.³⁴

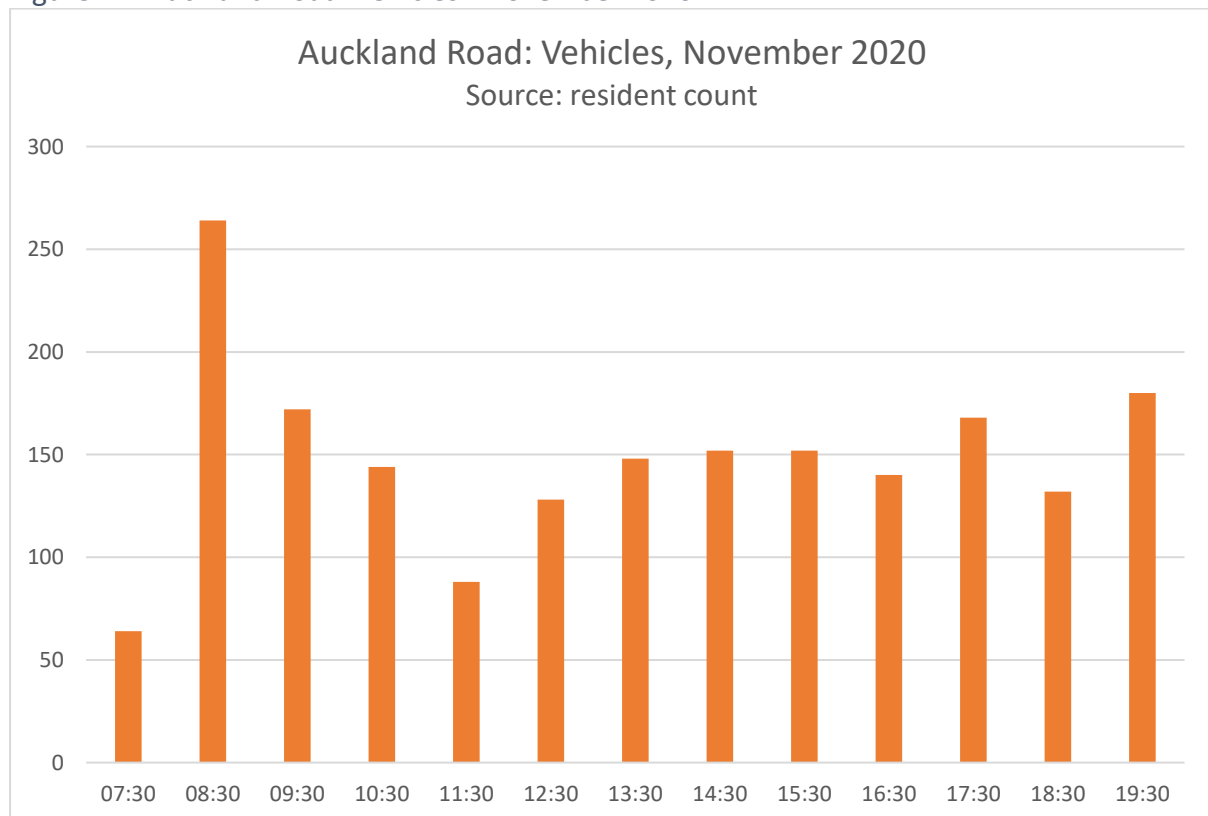
Positive Impact of the LTN

The introduction of the LTN has resulted in a dramatic reduction in motor traffic volumes on the previously busy roads in the neighbourhood (see pages 10–19 above). It has also led to more people walking and cycling.

Reduction in motor traffic movements, air and noise pollution, and traffic danger

Resident traffic counts carried out in the weeks beginning 16 and 23 November 2020 suggest a fall in motor traffic movements along Auckland Road and Sylvan Hill to around 1,700 per day, a two thirds reduction compared with July 2020 and three quarters compared with August 2019 (Figure 12). Only between 8 and 9am did numbers exceed 100 per hour.

Figure 12: Auckland Road: vehicles - November 2020



This fall in motor vehicle movements has had three main consequences for the local environment:

- A dramatic fall in air pollution. While there are no before or after measurements of air pollution, it is completely reasonable to assume that a two-thirds fall in vehicle movements will have resulted in much lower air pollution, and the experience of residents is certainly that the air is fresher.
- Likewise, a drop in noise pollution, as experienced on streets and in homes.

- A significant improvement in road safety. While a minority of vehicle drivers unfortunately continue to disregard the speed limit, and drive dangerously in other ways, the total volume of traffic has fallen so much that the incidence of dangerous driving and speeding is much less. The safety benefits are not just in the interior of the LTN. The intersections of the streets connecting the neighbourhood to the main roads (see pages 16–17 above) are also much safer for pedestrians and drivers because of the significant reduction in turning movements.

Travel to school

As well as the general reduction in traffic, the school run now has much less impact on the neighbourhood. Supported by positive communication from Harris City Academy Crystal Palace (HCACP), those parents who continue to drive their children to school are now dropping them or picking them up beyond the filters in Stambourne Way and Sylvan Hill. This means the street outside the main school entrance is now much quieter at the beginning and the end of the school day. This creates a safer environment for students and staff, supports social distancing, and reduces nuisance to local residents.

With the additional school street restriction further reducing motor access to Cypress Road, the great majority of home-school journeys to Cypress School are now by walking or cycling.

“Two girls from my class [Cypress School] now cycle to school regularly because the streets are now safe and school had a “Ride to School Week”. (Resident, 9)

“My son now cycles to school every day, on his own, as the roads are safe enough. He is really enjoying the freedom and getting fit.” (Parent)

Active travel

Figure 13 shows hourly estimates* of the numbers of people walking (in both directions) between 7 am and 7 pm in July and November.

The comparison is not like-for-like in an important respect. In July, there were few if any students of Harris City Academy Crystal Palace attending, whereas the school is currently functioning fully. Students account for a large proportion of the distinct peaks seen in the graph in the early morning and mid-afternoon, since Sylvan Hill is one of the main walking routes to the school. However, even removing 500–600 Harris student movements from the total, there has still been around a threefold increase in walking.

*Based on 15 minute counts at the half hour.

Figure 13: Sylvan Hill: Pedestrians

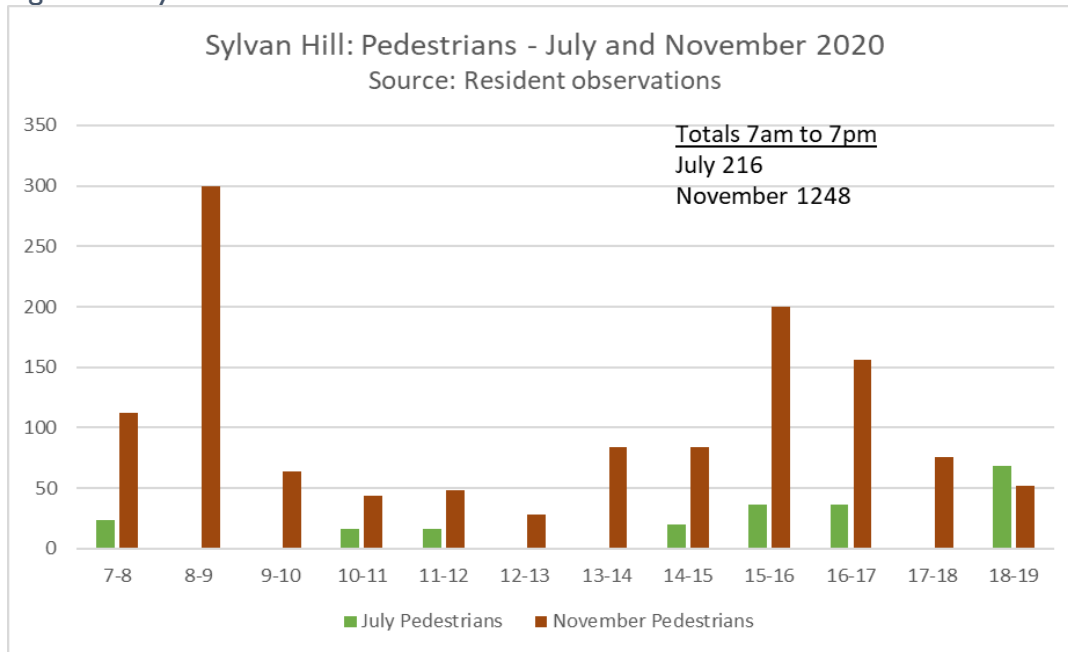


Figure 14 (below) shows hourly estimates of the numbers of people cycling (in both directions) between 7 am and 7 pm in July and November.

Total numbers have nearly tripled since the summer. During the morning commuting phase (7–9 am), there were approximately 60 cycle movements. While not counted separately, a considerable proportion of these were parents with children (on child seats or in cargo bikes or trailers). (Respect to these parents who are tackling the hill!)

Figure 14: Sylvan Hill: cycles

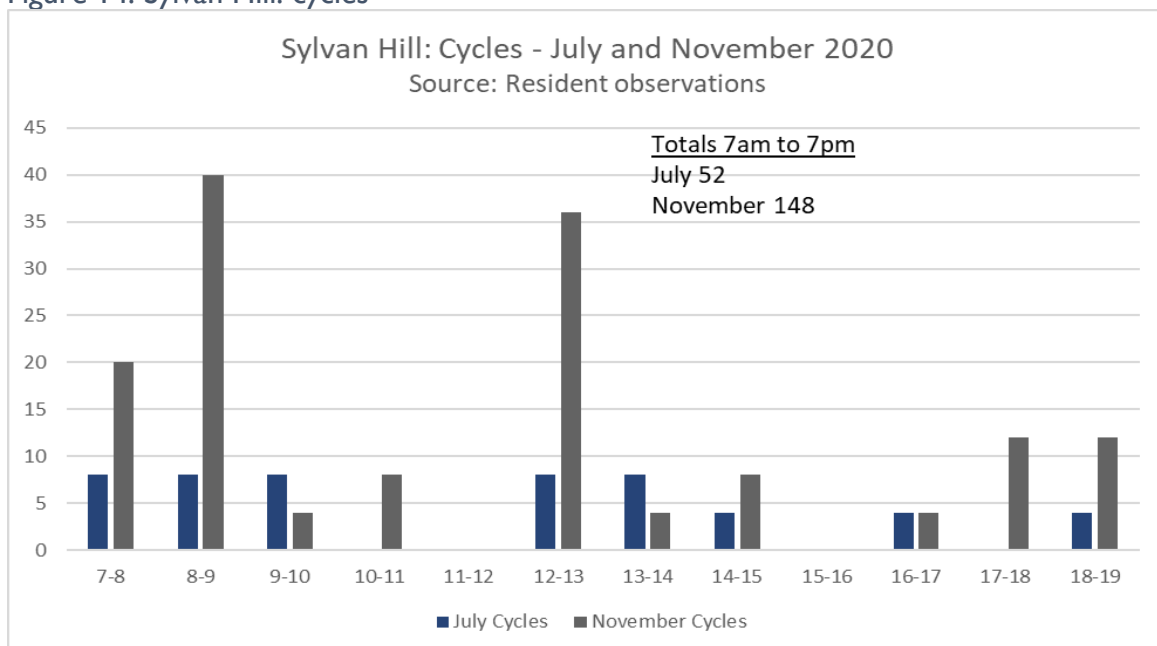


Figure 15 below shows the results of a pedestrian and cycle count at the Sylvan Hill/Auckland Road crossroads. There is no July data, but the results are nonetheless

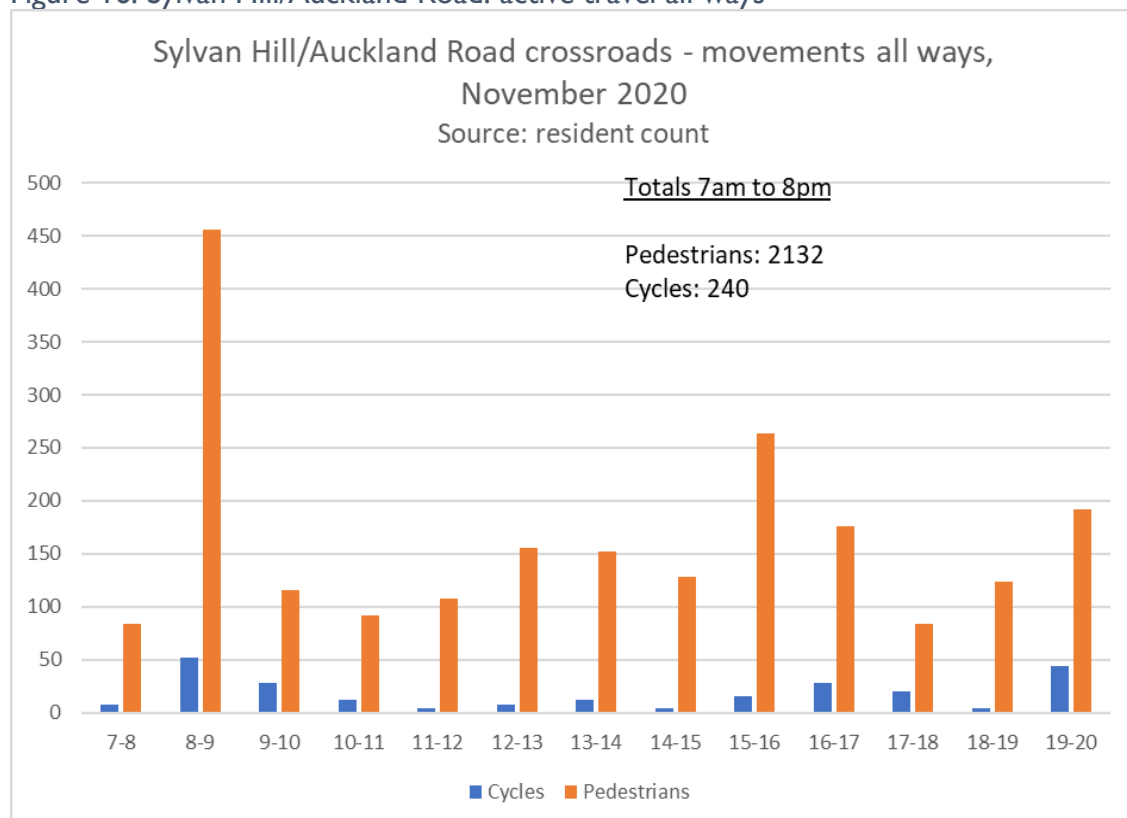
informative: some 240 cyclists passing through the junction during the course of the day, or around one every three minutes; and over 2100 pedestrians passing through the junction. As with the Sylvan Hill count, several hundred of these movements are of Harris students, but there is an enormous amount of general footfall at this location too.

The figures show the importance of Sylvan Hill and Sylvan Road as the main pedestrian access for HCACP students. Sylvan Hill is now a much safer environment for these high volumes of young pedestrians. It is possible to maintain social distancing because stepping in the road (with care) is now possible when it was impossible when the road was carrying several hundred vehicles an hour at peak times. Another important walking route to the school — from Anerley Road, via Hamlet Road and Maberley Road — is likewise much safer, since there is much less traffic using Hamlet Road.

The usefulness and safety of the designated cycle route through the neighbourhood (see pages 5 and 7 above) is much improved. This is reflected in the higher cycle numbers in the November traffic counts. A number of residents in middle or later years have commented that they have been able to cycle more, or resume cycling after having been frightened into stopping, and are consequently using bikes for local journeys which they would previously have made by car.

“I am back on a bike after over three years of being scared off by dangerous traffic. With other filtered streets in South Norwood and Woodside, it is now possible to ride most of the way into Croydon on a regular trip for which I used to drive. I am also now doing my weekly supermarket shop by bike, rather than car. I enjoy my rides and feel fitter.” (Resident, 50s)

Figure 16: Sylvan Hill/Auckland Road: active travel all ways



Public Transport

The 410 bus was previously affected adversely by congestion in Hamlet Road and Southern Avenue and had to negotiate stretches of road narrowed by parked cars with high volumes of opposing traffic. It can now pass through the neighbourhood with a minimum of conflict and delay and does not have to queue to join the main roads.

Active travel for disabled people

Much commentary on LTNs seems to rest on an assumption that the only way people with limited mobility can get around is by motor vehicle. In fact, people with limited mobility travel less by car than the rest of the population, both as drivers and passengers.³⁵ At least as much as everyone else in society, disabled people get around by a variety of means other than motor vehicles. Contrary to the stereotypes, many people with limited mobility can and do walk, often using aids like walking sticks and rollators, often with limitations on how far and fast they can go. People who cannot walk much, or at all, can likewise travel by a variety of means: manual or powered wheelchairs, or mobility scooters, most obviously. Contrary to much received wisdom, many disabled people can and do cycle, either on conventional bikes or a variety of adapted manual or e-assist bikes.³⁶ Like everyone else, most people with limited mobility use a variety of means of transport, depending on the length and nature of their journey and personal preference.

None of the non-car options are, of course, adversely affected by a Low Traffic Neighbourhood. Indeed, they are likely to be safer and more pleasant than in other neighbourhoods with high volumes of rat-running traffic. Tasks like crossing roads when there is a lot of traffic are much more difficult for disabled people walking or using mobility devices, because they usually cannot move as quickly as other people. They are more likely, as a consequence, to have to extend their journey to find a safe place to cross. In many ways, moving around on streets in residential neighbourhoods with high volumes of traffic may be more difficult than on main roads, which are engineered with features like pedestrian crossings and refuges. These real difficulties aside, like other non-motor users of streets, disabled people's experiences of walking, cycling or travelling by chair or scooter in Low Traffic Neighbourhoods are likely to be healthier and more pleasant because of the much lower levels of fumes, noise and aggressive behaviour from drivers.³⁷

Well-being benefits

There are well-evidenced associations between low noise, good air quality and regular moderate exercise, and physical and mental health (see pages 2-4 above). While it is very early days, it is reasonable to assume that, if the LTN continues, its direct impacts will over time translate into substantial well-being benefits.

Enabling children to walk or cycle to school is hugely beneficial for children's mental and physical well-being.³⁸ Multiple studies have shown the benefit active travel can have on children's academic attainment and behaviour for learning, as well as allowing them to build in physical activity to the daily routine. Furthermore, setting up healthy travel habits in childhood and adolescence leads to healthier adult travel habits.³⁹

Women are more likely to be responsible for educational escort trips and are less likely to feel confident cycling on busier roads, especially when travelling with children.⁴⁰ Families with lower incomes are more likely to be dependent on walking and our most deprived communities are also up to six times more likely to see their children killed walking or cycling to school than our least deprived.⁴¹

Another reported benefit is sociability. In the quieter and less stressed streets, it is now possible to stop on the street and have a conversation with acquaintances or strangers. So long as socialising indoors remains restricted, this will be particularly important for maintaining social contact and hence well-being.⁴²

The impact of the LTN is most noticeable on the roads which were previously busiest – the Hamlet Road, Auckland Road and Lancaster Road north-south route, and the streets connecting it to the main roads. However, the benefits are also experienced by people not living on those streets:

- The other streets, estates and cul-de-sacs in the neighbourhood. Their residents use what were the busier roads to enter and leave the neighbourhood. Nearly half of them do not have access to a motor vehicle so will normally either be walking, cycling or using the 410 bus. They are enjoying greater safety and convenience.
- People living outside the LTN but who travel through it. As mentioned above, large numbers of HCACP students and staff travel to and from the school through the LTN. People living outside the LTN walk or cycle through it to access amenities including the public open spaces, doctors' surgery, and places of worship.

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Negative impacts of the LTN

A variety of negative impacts have been observed or claimed. They are:

- Longer journeys and inconvenience for residents who need to drive, including disabled people.
- A reduction in social safety for pedestrians in the neighbourhood.
- Obstruction and delays to emergency vehicles.
- Diversion of traffic on to the Bromley side streets adjacent to the northern boundary of the LTN.
- Diversion of traffic on to the surrounding main roads, with consequent adverse impacts on air quality, footfall and economic vitality in the 'Triangle' town centre of Crystal Palace.
- Diversion of traffic through other side streets, west of Church Road and South Norwood Hill.

In this section we review each in turn.

Longer journeys and inconvenience for residents who need to drive

As implemented up to August 2020, it is indisputable that some driving trips have become longer. For example, a driving journey from Auckland Road just north of the Cypress Road junction to the Crystal Palace Triangle has increased from 0.8 miles to 1.4 miles. A journey from the same location to Croydon town centre has increased from about 3.5 miles to 5 miles. Especially at busy times, this may add appreciably to journey times. While the longer journey time might encourage some people to switch from private car to other modes, in line with the intention of the LTN approach, there is likely to be some genuine delay and inconvenience for, for example, key workers who need to drive for their work, and disabled people for whom a vehicle is the only feasible means of transport.

However, the option suggested in the consultation of allowing resident access controlled by ANPR would mitigate this adverse impact in many cases. The consultation is also proposing to move the bus gate on Auckland Road to a location which will allow motor access to the doctor's surgery from both directions.

Disabled people who need to drive for some or all journeys will have experienced some adverse impact because some trips within, in or out of the neighbourhood are somewhat longer than they were previously. However, all properties in the neighbourhood can still be accessed by vehicle. Any increased journey lengths for disabled people using vehicles need to be weighed up against the benefits of safer streets for disabled people travelling by other modes (see pages 24-5 above). If the current filters are replaced by ANPR-controlled access, there will be no adverse impact on disabled residents who use vehicles.

Social safety

Claims have been made on social media that the reduction in motor traffic has resulted in the streets becoming unsafe for pedestrians, in terms of vulnerability to street crime. In our view, this is implausible. Government street design guidance suggests that high traffic tends to be associated with higher fear of crime by pedestrians, while pedestrians generally feel safe where their route is overlooked by buildings, and other people are using the street.⁴³

Most or all of any walking trips along streets in the neighbourhood are continuously overlooked by buildings, and, as set out above, there have been dramatic increases in walking and cycling in the neighbourhood since the LTN measures were installed.

At the risk of stating the obvious, the greater risk to pedestrians, being hit by a motor vehicle, is now much reduced.

The LTN has not been in place long enough for any reliable before-and-after conclusions. But we observe that recorded crime in the square mile including the LTN has in fact fallen from around 850 a month in June and July to 669 in October.⁴⁴

Emergency services

We assume the council has included emergency services in the current consultation. Clearly, their feedback, based on their operational data, should be conclusive in determining whether the changes have adversely affected their performance. So far as we are aware, despite frequent scaremongering on social media, there is no evidence of any material impact on emergency service response. Before and after comparisons in the Waltham Forest mini-Holland suggested that there was little impact on emergency service response, indeed a slight improvement.⁴⁵ The London Ambulance Service said at its annual meeting, in relation to schemes across London, that they were “not aware of any LTNs that have led to any patient safety concerns or any significant delays.”⁴⁶

Emergency service vehicles can, of course, pass through the Auckland Road bus gate and, we assume, if necessary, could disregard the school street restriction on Cypress Road. If the council retains the LTN with Automatic Number Plate Recognition (ANPR)-controlled access at the current filters, there will, of course, be no reason why there should be any effect at all on emergency vehicles.

Diversion to Bromley streets

Some Bromley streets have unequivocally benefited from the LTN, certainly Hamlet Road. It no longer experiences high volumes of traffic, including long queues of standing vehicles eastbound. However, the closure of Croydon borough streets further south to through traffic means that the only route from Hamlet Road or Auckland Road to Church Road, avoiding the main A214, is via Belvedere Road, Cintra Park, Patterson Road and Milestone Road. Residents have reported increases in vehicle numbers on these streets, including, at times, standing traffic, and confrontations between drivers attempting to navigate between parked vehicles.

These streets certainly offer a route from the northern part of the LTN to Church Road without going on to the A214. They also offer a potential diversion northbound away from the A214 to Church Road. Observation of navigation apps suggests drivers are being routed away from the main road at times of high congestion, but not at other times. However, unlike the currently closed roads, they do not offer a useful diversion route for traffic heading towards Anerley Hill from Church Road, since Milestone Road can only be accessed after travelling all the way round the Triangle. Once a driver has reached the Westow Hill/Anerley Hill junction, continuing into Church Road and down Milestone Road would take much longer than simply continuing along the main road.

In September 2020, volunteers from Shape Better Streets carried out observations in these streets to assess the scale and nature of this problem. Their findings were as follows:

- There appears to be a morning peak between 8 and 9am, of around 250 vehicles in the hour, mostly uphill, taking the four observations together, though there clearly are significant upward spikes from time to time.
- It is highly likely that the reaction of navigation apps to congestion on Anerley Hill may contribute to the higher levels of traffic at this time. That said, observations at the Auckland Road junction suggest that around 40 % of uphill movements originate from the south, within the LTN, not from Anerley Road.
- At other times, including the evening peak, it looks like the traffic does not exceed 100 vehicles an hour and is often significantly less.
- Many more vehicles drive uphill than downhill, especially in the morning peak. Cycle and pedestrian movements are more balanced.
- From the data collected, a guesstimate of vehicles per day would be 1,000-2,000, compared with over 10,000 a day in the Croydon streets further south before the LTN was implemented. At worst, no more vehicles are using these streets than continue to use Auckland Road for access (Figure 12, page 20 above).
- At the morning peak, traffic levels are comparable, though somewhat lower, than those observed in Auckland Road and Sylvan Hill before the Croydon LTN was implemented. At other times, however, they are around 25 % or less of those observed in the Croydon streets.⁴⁷

There is clearly a relationship between traffic on these streets and congestion on Anerley Hill. At the time of the observations, there was frequent congestion at peak times in the northern part of Church Road, back from the temporary lights then in place at the Westow Street junction. This tended in turn to knock on to Anerley Hill, as one of the roads feeding into Church Road. With the removal of the temporary lights, congestion on Church Road and Anerley Hill has reduced significantly (see following sections). So, the frequency and impact of episodes of high traffic on these streets should reduce (Figure 17).

Figure 17: Milestone Road, reported location of high volumes of diverted traffic, view west to Church Road, 8.45am, 3 December 2020



If the council introduces ANPR access on the streets accessing Church Road further south, the element of traffic which is using these streets for journeys from the neighbourhood to Church Road should reduce.

It remains to be seen how far there will be a recurrence of heavy traffic phases on these streets with the nearby main roads now being clearer following the removal of the Church Road temporary lights. However, there would be better answers to tackling the problem than allowing far larger volumes of traffic to start rat-running again through the streets further south. For example, a further modal filter (fixed barrier or ANPR device) could be installed, or the section of Milestone Road nearest Church Road could be made one-way from Church Road only. We understand, of course, that such measures would be a matter for Bromley Council.

Diversion of traffic on to nearby main roads

The Low Traffic Neighbourhood approach, by design, seeks to end the diversion of traffic from main roads, which are designated and designed to carry high levels of traffic, on to other streets, which are not, with the consequences explained above (pages 10-19 above).

However, if the result were that the main roads became unacceptably congested, that would clearly be a significant consequence to weigh up against the benefits set out above.

Before examining the evidence on this point, it is important to emphasise that the Triangle, South Norwood town centre and the main roads approaching them have experienced frequent serious traffic congestion for decades. This congestion is a consequence of high volumes of motor traffic on roads laid out in the 19th century with no conception of use by motor vehicles, let alone at today's traffic levels. While for much of the 168 hours in a week, these roads can and do carry high volumes of traffic without significant congestion, they become busy at peak times, and are vulnerable to incidental disruptions, for example road works, breakdowns, obstructive parking or collisions.

Congestion during the experimental period

Assessing the impact, if any, of the LTN measures on nearby main roads during the experimental period is very problematic:

- There was a general rise in traffic across London as lockdown restrictions eased, from May through to October.
- From March to late October, Church Road was reduced to alternate one-way working at the junction with Westow Street, and the right turn normally permitted from Westow Street was not available. This was because a car had collided with and seriously damaged a building, which had to be supported by a large scaffolding installation. As lockdown eased, before the completion of the LTN in early August, this was already resulting in lengthy queuing traffic along Church Road in both directions.
- At times during the experimental period, there have also been road works at various locations, including on South Norwood Hill during August, on at least two occasions at the crossroads in South Norwood, at Crown Point, and at the junction of Crystal Palace Park Road and Thicket Road.

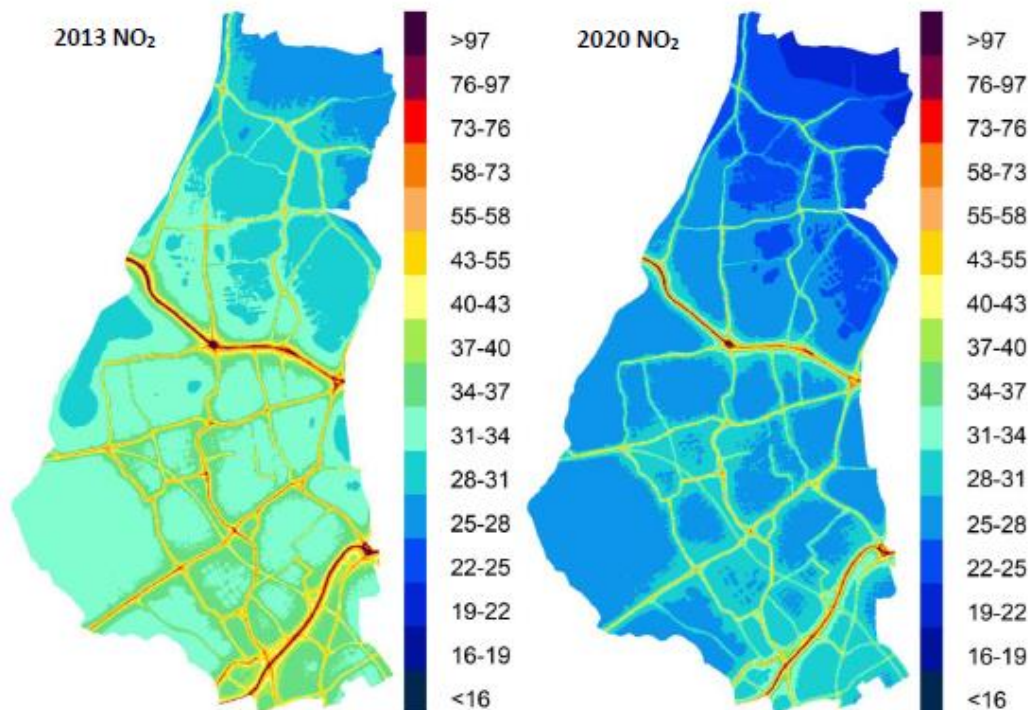
Aside from Church Road, which was badly affected by the alternate one-way restriction, it does not appear to us that, so far as one can generalise from the significant day-to-day variations, congestion on the main roads was any worse than it has been for many years. It would certainly go far beyond any evidence of which we are aware to suggest that vehicles no longer being able to drive through the LTN was decisive.

The removal of the scaffolding and one-way restriction in Church Road at the end of October made a big and immediate difference, however, to congestion in and around the Triangle. That suggests strongly that, to the extent vehicles are now using main roads which would otherwise have driven through the LTN, the main roads are able to carry the additional demand.

Air quality

Air quality on adjoining roads and in the two town centres is beyond doubt frequently poor. However, if, as we argue above, the heavy traffic and congestion which causes it cannot reliably be attributed to the LTN, opening the LTN roads again to rat-running would not assist. The Waltham Forest mini-Holland, including progressively rolling out LTNs, has reduced air pollution on 90 % of the borough's streets without worsening it on the main roads. (Figure 18)⁴⁸

Figure 18: Change in Nitrogen Dioxide emissions, Waltham Forest, 2013-2020



Local economy

Opponents of the LTN claim it has damaged the economy of the Triangle. Their chain of logic appears to be:

1. Businesses suffering loss of footfall and turnover, because:
2. Streets are unpleasant and access difficult for car-borne customers, because:
3. The Triangle and approaching main roads are congested, because:

4. The LTN has diverted traffic on to main roads.

We have seen nothing other than anecdote and assertion to support this line of argument. We have dealt above with the impact of the LTN on main road congestion (3 and 4). As for 1 and 2, so far as we are aware, only two retail or hospitality businesses have closed in the last six months. At weekends especially, the Triangle appears busy, in terms of walking footfall. Both closed premises have been taken over by new tenants. Despite the pandemic, several new businesses have opened in recent weeks. Tens of thousands of people live within walking distance; there are two nearby rail stations and numerous bus routes, and there is, so far as we know, no recent or reliable data on how customers travel to the Triangle. National research suggests retailers tend to over-estimate the proportion of customers travelling by car and under-estimate the proportion walking, cycling or using public transport.⁴⁹

It may be that some businesses are experiencing reduced footfall and turnover. However, aside from the implausibility of attributing traffic congestion to the LTN, there are many other current factors affecting customers' ability to spend and shopping choices, including uncertainty about employment and earnings, and reluctance to visit busy environments. Older residents in the LTN have commented to us that they feel unable to maintain social distancing using the narrow pavements in the Triangle, particularly since the removal of the temporarily widened footways installed in the spring.

Diversion of traffic into other residential neighbourhoods

We are aware of concern about rat-running in two nearby neighbourhoods, the streets between Beulah Hill and Central Hill, around Harold Road, and west of South Norwood Hill. In the latter area, the council has installed modal filters which prevent Holmesdale Road from being used for east-west motor journeys, but the north-south streets remain open.

Rat-running may well have been increasing in these neighbourhoods, for the same reasons it had been increasing in the LTN before its inception (see pages 10-19 above). We are not aware of any evidence that the introduction of the LTN has made a significant difference, on top of the other factors contributing to congestion on main roads. In any event, a more effective response than re-opening the LTN to rat-running would be to make these neighbourhoods LTNs as well. We understand that some residents are beginning to campaign for that.

Next steps

We hope and trust that, in the light of this submission and other contributions to the consultation, the council will decide to retain the LTN, with modifications.

We support the proposed re-siting of the bus gate to improve access to the doctors' surgery.

There are differences of view within our group about the respective merits of retaining physical barriers to vehicles and replacing them with ANPR-controlled access. As a group, we are content for the council to make that judgement, on the basis of the views of residents and the reasons they give for them. Both approaches would bring about the important result, which is a continuation of the reduction in vehicle movements brought about by the LTN.

If the LTN is retained, there will need to be strong communication with residents and others about the following:

- If the decision is to proceed with ANPR access, the location of 'gates', and how to obtain permits. The routes which will be open to those without permits should be well publicised and signed.
- Encouraging further increased take-up of cycling. From what we can see, there is not enough awareness either outside the LTN of the safe, pleasant, cycling routes which have now been opened up, nor inside and outside the LTN about how, combined with other measures along Holmesdale Road and Albert Road, it is now possible to ride most of the way to Croydon town centre with minimal use of busy main roads.
- Continued explanation of the intent and benefits of LTNs, and myth-busting.

As a group, we offer our support to work alongside the council in these communication challenges.

It is regrettable that relationships between the two neighbouring boroughs, Croydon and Bromley, have not been managed well. Neither council emerges with much credit from recent history. We hope that they will now start to co-operate to the benefit of residents, who are very much part of one community, whichever side of the boundary they happen to live. In particular, there should be continuing engagement with residents of Belvedere Road and other streets which have experienced periodic spikes of rat-run traffic and dangerous driving, to find a solution. We hope that the newly established cross-boundary councillor group can assist with this.

We do not accept that the LTN has worsened, or will, worsen congestion, air quality, traffic danger or other characteristics of surrounding main roads and town centres. If anything, the behaviour change which it is intended to bring about should help by encouraging shift from private cars to other modes. However, that does not alter the fact they have been for many years, and, without action, will continue to be, poor environments for people living and travelling on them by active modes. We encourage the council to develop plans to improve them, working with other boroughs around the Triangle. Again, the councillor forum is a good platform for making this happen.

Conclusion

Over the last decade, rat-running in the neighbourhood has increased to the point where it has been having a completely unacceptable impact on residents' health and quality of life, because of air quality, noise, and traffic danger. These impacts affected the whole neighbourhood, not just the busy streets, since the latter are the main access routes from anywhere in the neighbourhood to nearby main roads and amenities. Over 40 % of households do not have access to a vehicle, so were experiencing nothing but detriment from uncontrolled motor vehicle access through the neighbourhood.

Traffic levels also made active travel unpleasant and unsafe, for residents and those passing through on foot or cycling. There could be no realistic prospect of the Lancaster Road/Auckland Road cycle route being brought up to the required London standards without either suppressing motor vehicle use of it, or engineering solutions such as cycle lanes and junction improvements which would both be hugely costly and not achievable without removing all or most on-street parking.

Safe active travel through the neighbourhood is critical, not only as a means of maintaining a decent cycling network in the borough, but as a means of enabling local families, inside and nearby the LTN, to use active travel to access the park, their children's school and other services and amenities.

The global climate emergency, and the weight of national, London and local policy on air quality, public health and local transport all point overwhelmingly towards the adoption of measures such as those put in place or now proposed for the LTN. Though far from perfect, the experimental scheme has shown that the approach can produce strong improvements in local health and well-being, and, only three months on, has produced very significant increases in active travel.

By contrast, the claims of opponents about the adverse consequences of the scheme are almost entirely based on assertion and anecdote. The concerns which are more credible: disproportionate diversions for residents who need to use vehicles, including disabled residents, and the intermittent heavy traffic on some of the Bromley streets, can be addressed effectively without reopening the whole neighbourhood to rat-running.

If the LTN trial is removed, we can expect traffic volumes and speeds once again to return to levels which would have huge adverse impacts on residents' health and well-being and make healthy travel choices less convenient, less attractive and less safe.

Children and young people cannot vote and families with young children are often least able to participate in debate around local issues. These voices are so often lost in our local decision-making processes. They must not be ignored.

The streets in the LTN can either be a pleasant, safe neighbourhood to live, and an active travel corridor. Or they can be a congested, polluted, dangerous, bypass for the Triangle and the main roads. They cannot be both. There is no credible basis for the council choosing the latter.

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HOUSE OF COMMONS
LONDON SW1A 0AA

Katherine Kerswell
Chief executive
London Borough of Croydon
Bernard Weatherill House
8 Mint Walk
Croydon
CR0 1EA

December 17th

Dear Katherine Kerswell,

Initially, I wrote to Croydon Council on the 27th July to raise concerns about the impact of the LTN scheme. I also spoke to the former Croydon Cabinet Member for transport and expressed my deep concerns with the scheme, as well as having written to the Secretary of State for Transport to raise my concerns and request any further assistance he can provide. Unfortunately, this matter remains a major issue locally - my constituents have continued to be impacted with reports of increased road rage, traffic and road closures.

London Borough of Bromley challenged the legality of the LTN scheme, due to the failure of Croydon to consult with LBB before implementing the scheme. I welcomed the news that Croydon Council allowed a formal consultation on the final agreed proposals, allowing residents to comment formally on the proposals. However, I was disappointed to have been informed last week that the consultation was extended by another 14 days as local businesses were not included in the first consultation. It is right that local businesses are consulted, but I had hoped that this would have been done at the outset. The consultation, therefore, ends on Friday and the outcome will not be known until early January causing further delay and distress to those affected.

My view remains unchanged, I believe that if a better scheme can work for both Boroughs, it should be trialled first. If this isn't possible then the current roadblocks should be voted out and the idea abandoned as it simply has not worked in practice.

There is a great strength of feeling on this issue and I have heard from residents about the significant impact that this is having on their lives.

I, therefore, ask again, that if a new scheme is voted for it is first tested in the community to establish its efficiency. If this can not happen I would welcome the LTN zone being removed due to the impact on Bromley residents.

I request my views are formally submitted in the consultation and would greatly appreciate an update on the outcome in January.

Best wishes,

Ellie Reeves
Member of Parliament for Lewisham West and Penge

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Petitions

Online petition submitted by Open Our Roads calling for the reopening of Southern Avenue and Lancaster Road to through traffic

29 June to 11 November, 2089 'Signatures' 26 of which non UK

Petition submitted in spreadsheet for as a list of names and addresses. As this is 'personal information' post codes have been plotted at the UK, London and local level

Reopen Southern Avenue/ Lancaster Road Junction, in South Norwood



Sonia M started this petition to Croydon council

As many local residents will know, the junction of Southern Avenue/ Lancaster Road has been closed under the guise of Covid 19 there is no clear reason for this action and it lacks transparency.

This approach to traffic management has failed to consider the health of pedestrians or other road users.

This change has led to significant congestion, and is likely to lead to an increase of accidents involving vehicles and pedestrians.

The traffic can go on for miles on South Norwood Hill and Penge Road. No other traffic calming measures have taken place such as changes to the traffic lights, again causing risk to pedestrians.

Another ill conceived idea by Croydon Council.

The aim of this petition is to reopen the junction, reduce congestion and make it safe again.

<https://www.google.co.uk/amp/s/insidecroydon.com/2020/05/15/south-norwoods-road-closures-cause-mile-long-tailbacks/amp/>

2,085 have signed. Let's get to 2,500!

Tanya Puri signed this petition

Richard Charles signed this petition

Croydon council: Reopen Southern Avenue/ Lancaster Road Junction

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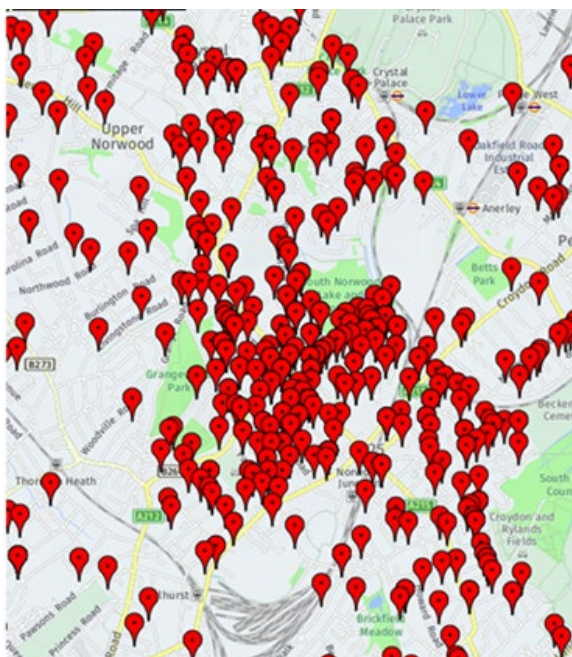
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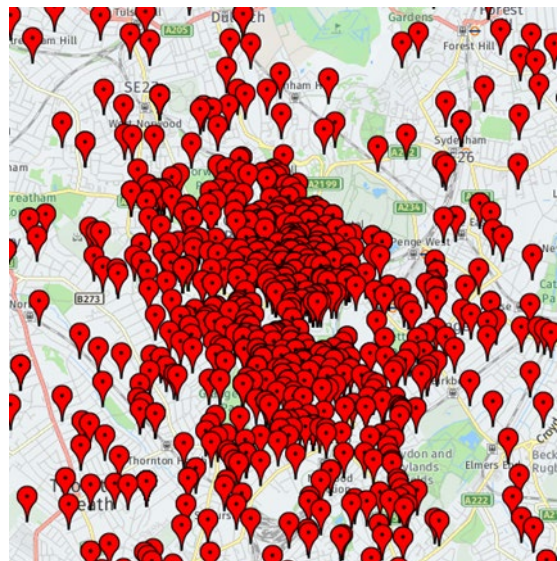
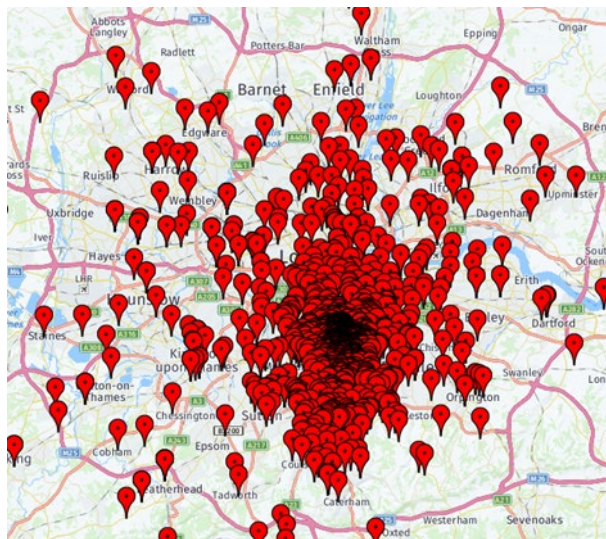
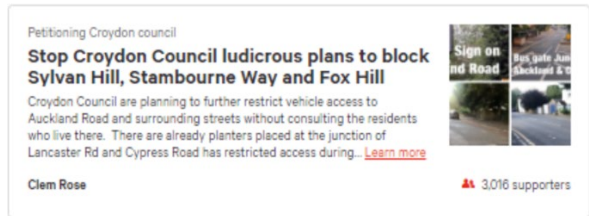
Promote this petition



Online petition submitted by Clem Rose, calling for “Stop Croydon Council ludicrous plans to block Sylvan Hill, Stambourne Way and Fox Hill”

20 July to 21 November, 3002 ‘Signatures’

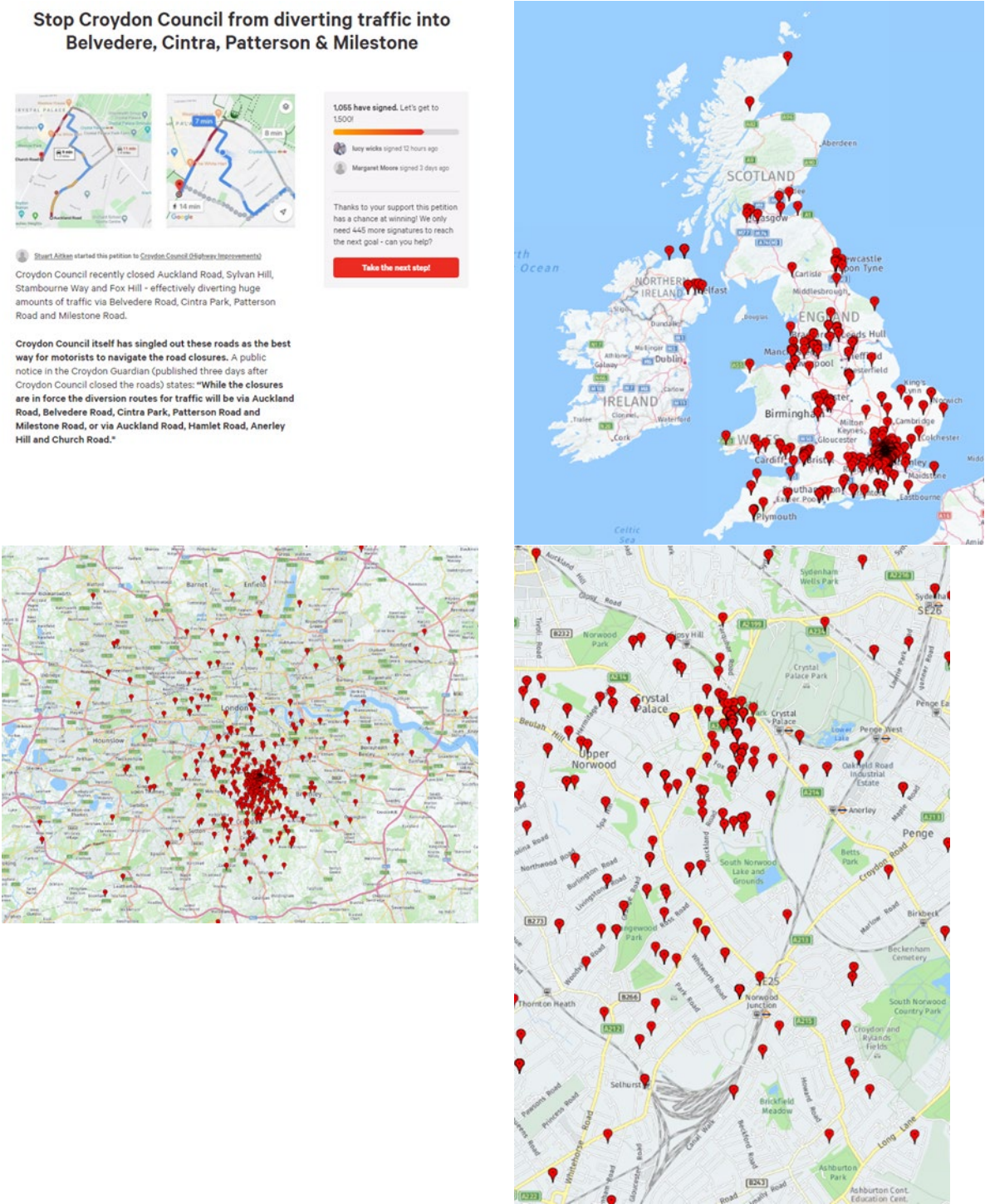
Petition submitted in spreadsheet form as a list of names, city, state, post code, country and date. As this is ‘personal information’ post codes have been plotted at the UK, London and south London levels



Online petition submitted by Stuart Aitken, calling for “Stop Croydon Council from diverting traffic into Belvedere, Cintra, Patterson and Milestone”

19 August to 26 November 1055 ‘Signatures’

Petition submitted in spreadsheet form as a list of names, city, state, post code, country and date. As this is ‘personal information’ post codes have been plotted at the UK, London and local level

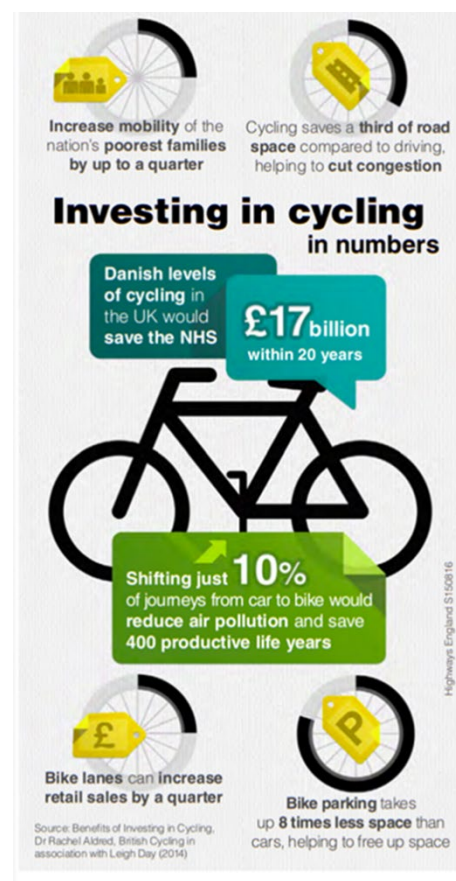


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Further Information on Environmental Impacts Including Air Quality

Air Quality Strategy

- 1.1 The 'UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (July 2017)¹ explains that over recent decades, UK air quality has improved significantly, with emissions of nitrogen oxides (NO_x) falling by almost 70% between 1970 and 2015 and by 19% between 2010 and 2015. However, it makes clear that the most immediate air quality challenge is tackling the problem of NO₂ concentrations around roads, it being the only statutory air quality limit that the UK as a whole is currently failing to meet. The Plan highlights the fact that the issue is particularly experienced in towns and cities. The Plan explains what action central government is taking, including providing £1.2 billion – for Cycling and Walking via the 2017 Cycling and Walking Investment Strategy. It also explains that the Mayor of London is responsible for air quality in the capital. Just like that of central government, the Mayor's approach to reducing air pollution from road transport is to encourage and facilitate more active and healthy travel, and to shift to cleaner vehicle technology for those motorised trips that remain.
- 1.2 Central government's 'Clean Air Strategy' (2019) highlights some of the benefits to be derived from encouraging more cycling and walking for short journeys, including reduction in traffic congestion and emissions from road transport, as well as health benefits from more active lifestyles. It describes the investment sums and channels central government has put in place to



¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf

Mayor's Transport Strategy and Croydon LIP

- 1.3 The Mayor's Transport Strategy focus on the Healthy Streets approach is aimed at making streets healthy places supporting active travel, in turn more active travel leads to reduced pollution emissions. It sets a target for 80% of Londoners' journeys to be by walking, cycling or public transport by 2041. To support this the Croydon LIP includes the target of 63% of journeys by Croydon residents to be by walking, cycling or public transport by 2041 (from a 2013/14 - 2015/16 baseline of 49%). In response to the Strategy Outcome 3 'London's streets will be used more efficiently and have less traffic on them', the Croydon LIP sets a series of targets including that for vehicle kilometres driven in Croydon, the target for which is for vehicle kilometres to be 10% less in 2041 than in 2015.
- 1.4 The Strategy also includes reducing and cleaning emissions from motor vehicles. When the assessment was undertaken in 2016 to produce pollutant concentration isochrones maps within the PJA report, London was subject to the London-wide Low Emission Zone (LEZ). This requires all heavy vehicles to meet the Euro 4 Particulate Matter (PM) standard or pay a daily charge of £200. Subsequently there has been the introduction of the Ultra-Low Emission Zone (ULEZ) in central London. The Mayor set out further proposals as part of the Clean Air Action Plan announced in July 2016. They are:
- 1) Stronger LEZ – the introduction of a Euro VI requirement London-wide for heavy vehicles (HGVs, buses, coaches and other specialist vehicles) from 26 October 2020 through changes to the current London-wide LEZ; and
 - 2) Expanded ULEZ – the extension of the ULEZ emission requirements from central London up to, but not including, the North and South Circular Roads for light vehicles (cars, vans, minibuses and other light vehicles), from 25 October 2021
- 1.5 Whilst the Mayor's action on reducing emissions from vehicles is focused on the most polluted parts of the capital, i.e. central and inner London, these strengthening measures are predicted to have a significant pollution reduction effect in outer London including Croydon. The figure below is taken from the 'Ultra Low Emission Zone - Further Proposals: Integrated Impact Assessment' (2017) ². It shows the predicted total population-weighted NO₂ concentrations as a percentage of the study baseline, following introduction of both the stronger London-wide LEZ and expansion of the ULEZ across inner London. It is important to note that the tighter London-wide LEZ emissions standards will now come into force from 1 March 2021. This was postponed to give affected businesses time to meet the new standards as they face intense demands from the Covid19 Pandemic. This may have some effect in relation to the 2021 predicted concentrations.

² https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-3b/user_uploads/integrated-impact-assessment.pdf

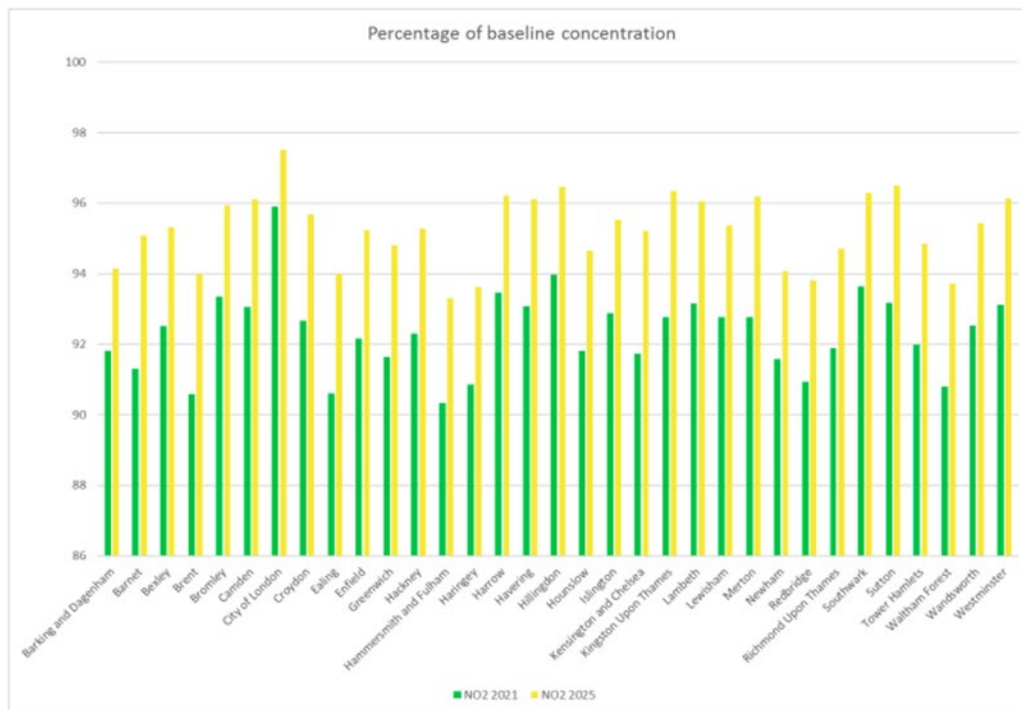


Figure 1-3: Total population-weighted NO₂ concentrations as a percentage of baseline following introduction of the additional proposals for stronger LEZ and expanded ULEZ

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Health Impacts Further Policy Information

- 1.1 In his foreword to the Cycling and Walking Plan for England¹ (27 July 2020), the Prime Minister states:

‘This unprecedented pandemic has also shown many of us, myself very much included, that we need to think harder about our health. We need to think harder about how we can make lifestyle changes that keep us more active and fit – the way we travel is central to this.’

The Plan explains that:

- Increasing cycling and walking can help tackle some of the most challenging issues we face as a society – improving air quality, combatting climate change, improving health and wellbeing, addressing inequalities and tackling road congestion:
- Physical activity, like cycling and walking, can help to prevent and manage over 20 chronic conditions and diseases, including some cancers, heart disease, type 2 diabetes and depression. Physical inactivity is responsible for one in six UK deaths (equal to smoking) and is estimated to cost the UK £7.4 billion annually (including £0.9 billion to the NHS alone).

It includes the summary infographic:



It sets ‘a bold future vision for a new era’, namely:

‘England will be a great walking and cycling nation. Places will be truly walkable. A travel revolution in our streets, towns and communities will have made cycling a mass form of transit. Cycling and walking will be the natural first choice for many journeys with half of all journeys in towns and cities being cycled or walked by 2030.’

¹<https://www.gov.uk/government/publications/cycling-and-walking-plan-for-england>

Mayor's Transport Strategy and Croydon LIP

1.2 The Mayor of London's Transport Strategy '*Outcome 1: London's streets will be healthy and more Londoners will travel actively*' is expressed as Londoners doing at least the 20 minutes of active travel that they need to stay healthy each day. This is translated into a target in the Croydon LIP. The target is based on the proportion of Croydon residents doing at least 2x10 minutes of active travel a day (or a single block of 20 minutes or more). The Croydon baseline (2013/14-2016/17) is 26% of residents achieving this level of activity. The LIP target is 70% by 2041, with an interim target of 35% in 2021.

1.3 The LIP explains:

'2.2.14 Inactivity is having profound health effects and is a major contributory factor to the levels of obesity in Croydon. One in five children in the school reception year is overweight or obese and this rate more than doubles between reception and year 6. Early childhood is a critical time to tackle childhood obesity as children are developing and learning healthy or unhealthy behaviours from a young age. By year 6 (age 10 to 11 years) a greater proportion of children in Croydon carry excess weight than in London or nationally. Two in five children aged 10 to 11 years in Croydon are overweight or obese and this proportion is increasing over time.'

2.2.15 For adults the situation is more serious. A staggering two in three adults or 62% of the population are overweight or obese and one in thirty one working age people in Croydon have diabetes, a figure which is predicted to increase by 10% by 2025. Amongst older adults (over 65) one in eight are predicted to have diabetes and one in four are obese. Children in Croydon are growing up in a borough where it is normal to be overweight.'

The Croydon Cycling Strategy 2018 to 2023

1.4 The Croydon Cycling Strategy² sets out the reasons why we need to help people get cycling, the first being to help Croydon residents become fitter and healthier, as:

- more than one in three of our ten to eleven year-olds are overweight or obese
- nearly two in three Croydon adults are overweight or obese
- young people in Croydon are growing up in a borough where it's normal to be overweight

explaining that we need infrastructure and cultural changes to enable everybody to incorporate exercise into their daily travel routine.

² <https://democracy.croydon.gov.uk/documents/s5603/Croydon%20Cycling%20Strategy%202018-2023%20-%20appendix.pdf>

Croydon Council Equality Analysis Form

Stage 1

At this stage, you will review existing information such as national or local research, surveys, feedback from customers, monitoring information and also use the local knowledge that you, your team and staff delivering a service have to identify if the proposed change could affect service users from equality groups that share a “protected characteristic” differently. You will also need to assess if the proposed change will have a broader impact in relation to promoting social inclusion, community cohesion and integration and opportunities to deliver “social value”.

Please note that the term ‘change’ is used here as shorthand for what requires an equality analysis. In practice, the term “change” needs to be understood broadly to embrace the following:

- Policies, strategies and plans
- Projects and programmes
- Commissioning (including re-commissioning and de-commissioning)
- Service Review
- Budgets
- Staff structures (including outsourcing)
- Business transformation programmes
- Organisational change programmes
- Processes (for example thresholds, eligibility, entitlements, and access criteria)

You will also have to consider whether the proposed change will promote equality of opportunity; eliminate discrimination or foster good relations between different groups or lead to inequality and disadvantage. These are the requirements that are set out in the Equality Act 2010.

1.1 Analysing the proposed change

1.1.1 What is the name of the change?

Proposed Crystal Palace and South Norwood Experimental Low Traffic Neighbourhood

1.1.2 Why are you carrying out this change?

Please describe the broad aims and objectives of the change. For example, why are you considering a change to a policy or cutting a service etc.

The change is a response to past decisions and current trends. It is a response to the Mayor of London's Transport Strategy (in particular the Healthy Streets objective) and his / TfL's Streetspace Plan for London. It is a response to the continuing Covid19 Pandemic and to Secretary of State for Transport statements and guidance relating to it.

Past decisions were taken without any formal consideration of the equality implications. These include parliament in the 1930's allowing streets to be given over to motor vehicles, the consequences of which began to be considered formally in the 1960's. In 1961 Ernest Marples MP chaired a Steering Group for a Ministry of Transport study looking at the 'Long Term Problem

of Traffic in Towns'. The study considered the '*Deterioration of Environment*' identifying the issues relating to '*drivers are seeking alternative routes, mainly through residential areas, in order to avoid congested areas on main roads*'. The study highlighted some of the effects this was having relating to 'age', namely children. It reported '*Journey to school. In 1962, 4,287 child pedestrians between the ages of 5 and 9 years were killed or seriously injured*'. It proposed traffic levels that were compatible with play in the street and with a reasonable quality of environment. It suggested the creation of Environmental Areas (areas free of extraneous traffic) in between the Distributor Roads which would largely need to be rebuilt as major urban highways in order to accommodate the predicted levels of traffic. This approach was clearly not fully taken forward in the UK. The response to the high road casualty rate in children age 5 to 9, has largely been to deny them access to the street and to curtail their independent mobility (unlike in the Netherlands where in response to the 'Stop Child Murder' public campaign in the 60s and early 70s, Woonerf or Living Streets in which the car is the visitor, were created).

In the early 2000s, Croydon Council led a partnership of the four Councils whose boroughs meet at the 'Upper Norwood Triangle' to deliver a Single Regeneration Budget programme. The centrepiece of the programme was a project to 'improve' the Triangle itself. Several traffic arrangements were considered. The one selected and implemented was to turn the Triangle into a one-way traffic gyratory. It was known at the time that to do so would increase the traffic going around the Triangle by around 50%. This was not because the scheme was predicted to generate more traffic, rather the same traffic would need to travel along more sides of the Triangle to get to its destination. The strategy to protect the environment within the Triangle from this increased traffic, was to use the traffic signals at each corner of the Triangle to queue traffic on the approach arms to the Triangle, rather than within it. Such a strategy only works if traffic cannot find alternative routes to avoid the ques, and seeks to sacrifice one 'environment' for the protection of another.

Since 2009, vehicle miles on London's streets has grown significantly. The growth has been entirely on the minor unclassified roads / streets, such that the minor street network is now carrying almost as much traffic as the A Road network.

The above changes were not subject to any formal equality assessment. The following equality analysis relates to a proposed trial project (the Crystal Palace and South Norwood Experimental Low Traffic Neighbourhood) that aims to address some of the effects arising from above.

1.1.3 What stage is your change at now?

See **Appendix 1** for the main stages at which equality analyses needs to be started or updated.

The current temporary Low traffic Neighbourhood was implemented in stages in a reactive manner as a response to the Covid19 Pandemic. Options for the future of the temporary scheme are being considered, including removal or keeping the scheme largely as is. It is proposed to move to trial LTN with camera enforced restrictions, rather than physical closures, with exemptions for vehicles belonging to residents living within the trial LTN.

1.2 Who could be affected by the change and how

1.2.1 Who are your internal and external stakeholders?

For example, groups of council staff, members, groups of service users, service providers, trade unions, community groups and the wider community.

The main internal stakeholders are the Council administered, Mobility Forum, the Cycle Forum, the Public Transport Liaison Panel, the Councilors for the Crystal Palace and Upper Norwood and the South Norwood wards, Cypress School, the SEN Transport Service, Public Health, the Active Lifestyles Service and Council contractors including Veolia.

External stakeholders include:

- Residents living within the proposed trial LTN area, those living on the main streets that form the edges of the trial LTN, and those living beyond the LTN.
- Businesses including those at the Upper Norwood Triangle
- Non-local authority schools namely Crystal Palace and South Norwood Harris Academies
- St John the Evangelist Church
- The Auckland Surgery
- St Pauls Church, Hamlet Road
- Transport for London
- The emergency services

1.2.2 What will be the main outcomes or benefits from making this change for customers / residents, staff, the wider community and other stakeholders?

The proposed trial is a continued response to the Covid Pandemic following the Secretary of States call for continuing action to help people to walk and to cycle rather than to use public transport or to drive. It is also intended to deliver the Mayor of London's Healthy Streets objective within the trial LTN area. It is intended to provide quieter streets facilitating healthy and active travel, play and social interaction / community building. By facilitating active travel the proposal is a part of enabling people to exercise as part of their daily travel routine, to help them be a healthy weight, to stay healthy longer, to improve air quality and to help address the climate change emergency.

1.2.3 Does your proposed change relate to a service area where there are known or potential inequalities issues?

Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response. If you don't know, you may be able to find more information on the Croydon Observatory (<http://www.croydonobservatory.org/>)

Yes. It relates to:

Public Health and known health inequalities in Croydon, inequalities strongly associated with

deprivation

<https://www.croydonobservatory.org/wp-content/uploads/2016/11/JSNA-Geographical-Health-Inequalities-2009-10.pdf> and the Health and Wellbeing Strategy aiming to tackle the inequalities <https://democracy.croydon.gov.uk/documents/s13992/Health%20and%20Wellbeing%20Strategy%20-%20Final.pdf> the objectives of which include:

- Ensure children and young people have the best physical and emotional environments for growing up.
- Reduce health inequalities by developing strong, inclusive and well-connected communities.
- Make improving mental health and wellbeing everyone's business.
- Get more people more active, more often. Reducing social isolation and driving improvement in health through social, cultural and physical activities.
- Support people to remain healthy and independent for longer by preventing the conditions that cause ill health.

Air Quality Management and the known (largely age related) inequalities relating to poor air quality. The Mayor of London's Environment Strategy tells us that:

- 'Human health is affected by poor air quality. This is particularly true for disadvantaged people like children, older people, and those with pre-existing health conditions.'
- '.... younger children are among the most vulnerable to its health impacts. Eight and nine year-olds living in cities with high levels of fumes from diesel cars have up to ten per cent less lung capacity than normal.'
- '... air pollution has a big impact on health at all life stages, from development in the womb to the end of life. A baby born in 2010 and exposed to that same level of air quality for its entire life would lose around two years of life expectancy. There is also strong evidence that poor air quality affects children's lung development, and emerging evidence that improving air quality can reverse those effects. There is also increasing evidence of the link between exposure to pollution and dementia.'

Hence the relevance of the Council's Air Quality Management Plan

<https://www.croydon.gov.uk/environment/pollution/air-pollution/final-air-quality-action-plan-2017>

and in particular the action:

- 'Provision of infrastructure to support walking and cycling '

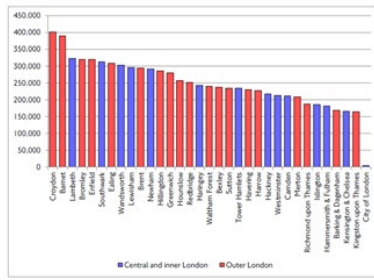
Climate Change and Croydon being Carbon Neutral by 2030

<https://www.croydonclimate.org.uk/about-croydon-climate-crisis-commission> . Unlike older people, those who are children and young people today will increasingly experience the effects of Climate Change.

Transport Planning

Cycling is potentially available to nearly all. TfL has assessed Croydon having the greatest Cycling Potential (largest number of journeys that could be cycled) of all London boroughs. However, Croydon has the lowest cycle mode share of all the London Boroughs at 1%. Consequently a lot of Croydon people from all groups are being denied the health, access an economic benefits of cycling.

Figure 4.2: potentially cyclable trips by borough of residence



It is known that there are fewer women cyclists although in Croydon more women take up Cycle Training. Children, young people, older people and members of certain BME groups are under represented amongst cyclists.

1.2.4 Does your proposed change relate to a service area where there are already local or national equality indicators?
 You can find out from the Equality Strategy <http://intranet.croydon.net/corpdept/equalities-cohesion/equalities/docs/equalitiesstrategy12-16.pdf>). Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response

Croydon Council 'Opportunity and Fairness Plan' 2016-2020

https://www.croydon.gov.uk/sites/default/files/articles/downloads/Opportunity_and_Fairness_Plan.pdf In particular addresses the inequality around:

SOCIAL ISOLATION: A CONNECTED BOROUGH WHERE NO ONE IS ISOLATED

COMMUNITY COHESION: VIBRANT, RESPONSIBLE AND CONNECTED COMMUNITIES

HEALTH: HELP PEOPLE FROM ALL COMMUNITIES LIVE LONGER, HEALTHIER LIVES (in particular 'Create and develop healthy and sustainable places and communities')

https://lbcccloudadcroydongov.sharepoint.com/sites/col-15/ic/Documents/WEB_200009_Equalities_Annual_Report%202019.pdf

The above three areas of inequality are interrelated. Research

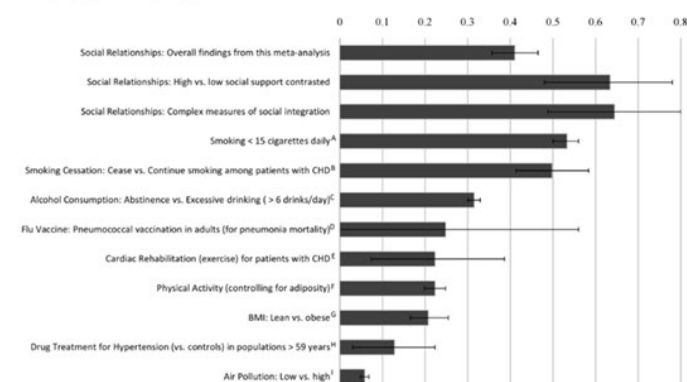
<https://journals.plos.org/plosmedicine/article%3Fid=10.1371/journal.pmed.1000316#pmed-1000316-g006> indicates how that lack of social relationships is one of the biggest health risk factors

Social Relationships and Mortality Risk: A Meta-analytic Review

Figure 6

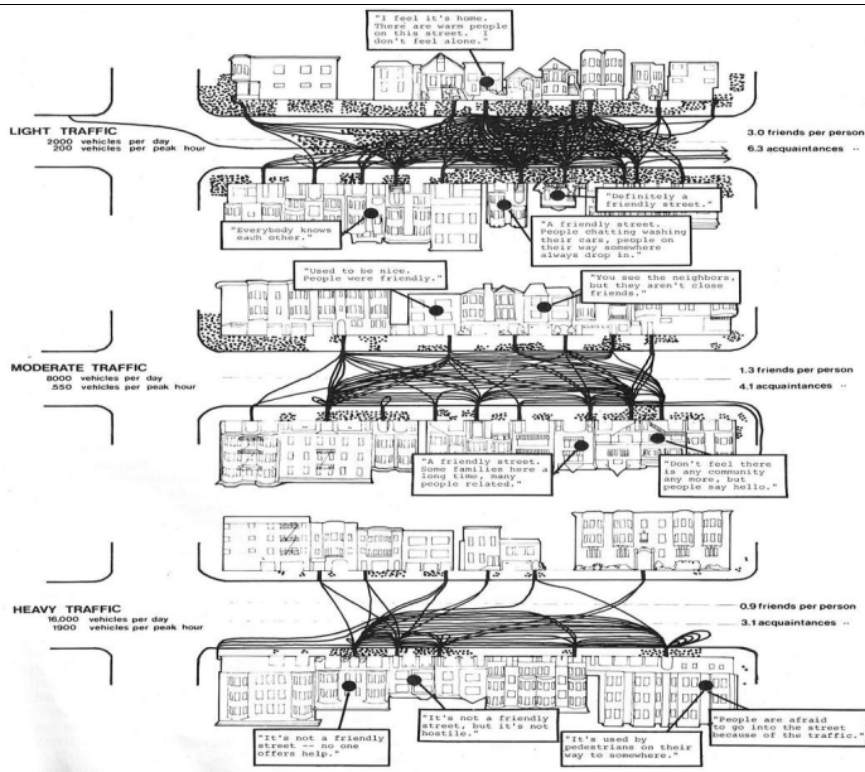
Comparison of odds (INOR) of decreased mortality across several conditions associated with mortality

Note: Effect size of zero indicates no effect. The effect sizes were estimated from meta-analyses: A = Shavelle, Paolitto, Strauss, and Kusch, 2008 [205]; B = Critchley and Capewell, 2003 [206]; C = Hojman, English, Milne, and Winter, 1998 [207]; D = Fine, Smith, Carson, Maffei, Sankar, Weissfeld, Desky, and Kapoor, 1994 [208]; E = Taylor, Brown, Ebrahim, Jolliffe, Noorani, Rees et al., 2004 [209]; F = Katzmarzyk, Janssen, and Ardern, 2003 [210]; H = Inoue, Sacks, Lau, Lau, Reisman, Pagano, and Chalmers, 1994 [211]; I = Schwartz, 1994 [212].



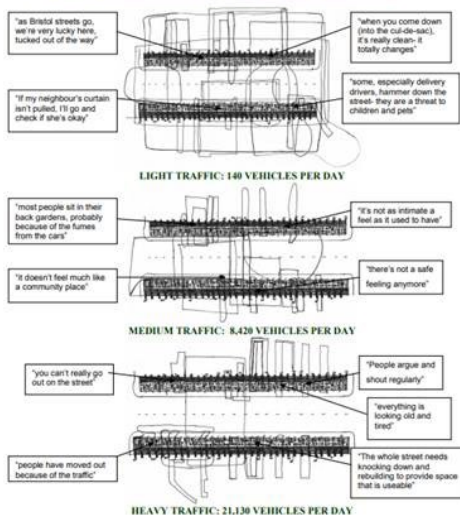
doi: <https://doi.org/10.1371/journal.pmed.1000316.g006>

The number of social relationships in turn is influenced by the speed and volume of traffic in the street where a person lives. Donald Appleyard as far back as 1969, demonstrated that people living on a street with relatively heavy traffic had only one-third as many social connections as people living on a relatively light-traffic street. Subsequent studies investigated street design, traffic, and neighbourhood quality of life; work that culminated with the publication of *Livable Streets* (Appleyard, 1981). *Livable Streets* revealed the social impacts of motor traffic in fine detail through interviews and street observations, demonstrating that casual conversations, children's play, and other street-based social life tend to be suppressed, particularly as vehicle volumes and speeds increase. The 1969 study included the iconic diagram which visually represented the erosion of social interaction as traffic volumes increase.



A decade ago, researchers replicated Appleyard's methodology in Bristol producing the report 'Driven To Excess: Impacts of Motor Vehicles on the Quality of Life of Residents of Three Streets in Bristol UK'. They reported that quality of life in cities and towns is of increasing concern to the public, and to policymakers and a major threat to quality of life is the high volume of motor vehicle traffic, associated with a wide range of mental and physical health detriments. The results confirmed that Appleyard's findings are applicable to the UK in the 21st century; specifically that the number of friends and acquaintances reported by residents was significantly lower on streets with higher volumes of motor traffic. The extent of people's 'home territories' also diminished as motor traffic increased. Other notable outcomes from the research include the finding that individuals' perceptions of road safety in their neighbourhood may be disproportionately influenced by the traffic conditions on their street of residence, especially affecting the degree of independence granted to children.

Figure 3. Composite Home Territory Diagrams for Interviews from each Street



TfL's 'Attitudes Towards Walking: Segmentation Study' (2014)

<http://content.tfl.gov.uk/attitudes-to-walking-2014-summary.pdf> reports on the key 'drivers' of walking. These are gender, age & lifestage, car ownership, income and whether live in central, inner or outer London, concluding:

I Females travel more stages per day and walk more stages per day compared to males, although females travel and walk a shorter distance per stage compared to males

I People aged 20-44 walk more stages per day than older people

I Combining age and gender makes the differences greater (see Figure 2):

■ Females aged 20-44 walk the most stages per day. There is a particular difference in walking activity between females and males aged 35-44

I Lifestage appears to be a key differentiating factor:

■ Single adults, with or without children, walk more stages per day than adults in couples

I Further differences are seen by gender

■ Males in a couple with children walk the fewest stages per day, particularly compared to single adult males

■ Females with children, either in a couple or single, walk more than those without children

TfL undertook an annual Attitudes Towards Cycling survey <http://content.tfl.gov.uk/attitudes-to-cycling-2016.pdf> which contains a good many indicators relating to gender, age ethnicity

Profile of cyclists (Sept 2016)



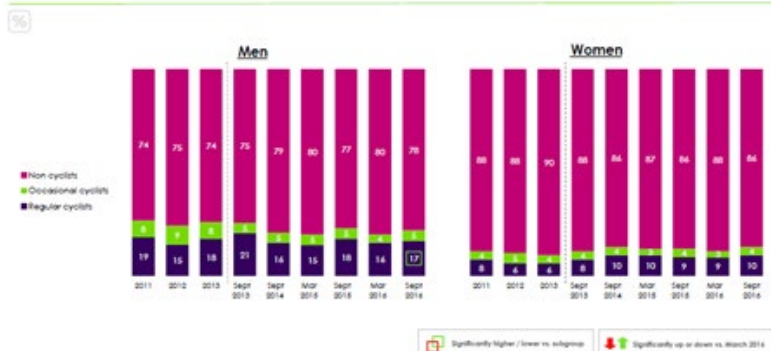
Profile of cyclists (Sept 2016)



Demographic questions
Base: All - Sept 2016

33

Profile of cyclists (trend)

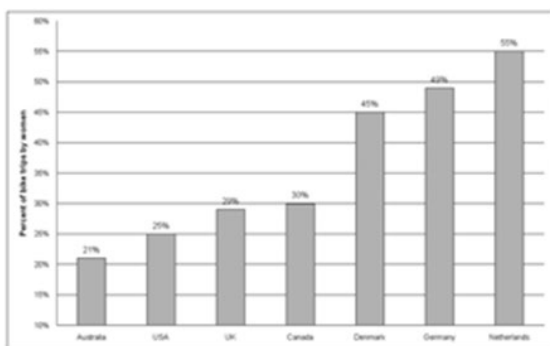


Percentage able to ride a bike (Sept 2016)



QRIE1: Can you ride a bicycle?
Base: All respondents Sept 2016 (2316)

The study '**Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany**', JOHN PUCHER and RALPH BUEHLER (2008) looked at gender and age differences in cycling across countries. On the difference rates of cycling amongst men and women, the study reported that not only do the Netherlands, Denmark and Germany have high and growing levels of cycling, but their cyclists comprise virtually all segments of society. Women are just about as likely to cycle as men, making 45% of all bike trips in Denmark, 49% in Germany and 55% in the Netherlands.



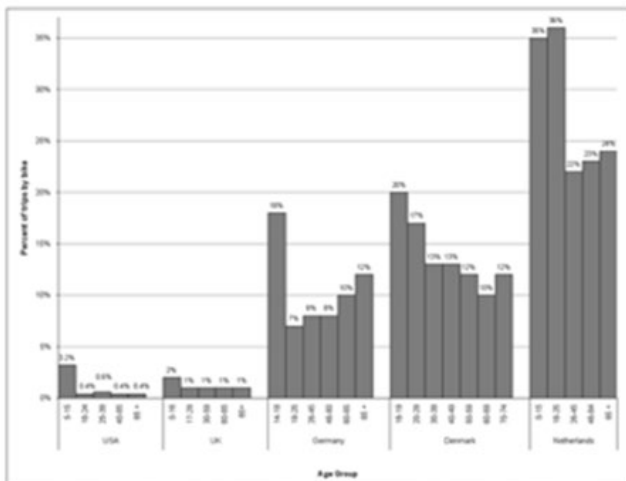
Sources: German Federal Ministry of Transport (2007); U.S. Department of Transportation (2005); Danish Ministry of Transport (2005); Statistics Netherlands (2005); Australian Bureau of Statistics (2007); Department for Transport (2007) and information provided directly by bike planners in Canadian provinces and cities

Figure 8. Women's share of total bike trips in Australia, the USA, the UK, Canada, Denmark, Germany and the Netherlands (2000-2005).

While cycling is gender-neutral in those three countries, men dominate cycling in the UK and the USA, where they make 72% and 76% of all bike trips, respectively.

Regarding 'age' the study reported that another dimension of cycling's universality in the Netherlands, Denmark and Germany is the representation of all age groups. Children and adolescents have the highest rates of cycling in almost every country. As shown in Figure 9, however, cycling levels in the Netherlands, Denmark and Germany remain high even among the elderly. In Germany, the bike share of trips rises steadily from 7% among 18- to 24-year olds to 12% for those 65 and older. The bike share of trips declines with age in Denmark, but even among those aged 70-74 years old, cycling accounts for 12% of all trips, the same as among Germans who are 65 and older. The Dutch elderly double that percentage, making 24% of all their trips by bike. Cycling rates are low for all age groups in the USA, but they also decline with age: from 3.2% among children 5-15 years old to only 0.4% of trips for those 40 and older. Similarly, the bike share of trips falls from 2% among British children to 1% among older age groups. The bike share of trips for the Dutch elderly is 24 times higher than for British elderly. The bike share of trips for

both the German and Danish elderly is 12 times higher than for British elderly.



Sources: German Federal Ministry of Transport (2003); U.S. Department of Transportation (2003); Danish Ministry of Transport (2005); Statistics Netherlands (2005); Department for Transport (2007)

Figure 9. Bicycling share of trips by age group in the USA, the UK, Germany, Denmark and the Netherlands (2000-2002).

Age Differences in Independent Mobility

The Policy Studies Institutes study 'Children's Independent Mobility: A Comparative Study in England and Germany 1970 – 2010'

http://www.psi.org.uk/images/uploads/CIM_Final_report_v9_3_FINAL.PDF

reported on the dramatic decline in children's independent mobility in England relative to Germany and the psychological and other consequences this was having for English children. The study also looked at race and gender difference in children's independent mobility.

The Policy Studies Institute (and others) has continued to research this topic including a study <https://www.nuffieldfoundation.org/project/independent-mobility-and-child-development-2> which looked at the degree to which children of different ages have the freedom to travel to school, friends, shops and other destinations unaccompanied by adults across ten countries in order to identify factors affecting the independent mobility of children and the implications for child development.

Summary of results

- Overall, Finland is the top-performing country across almost every independent mobility indicator in this study, coming second only to Germany for children's self-reported freedom to travel on local buses alone.
- In 2013, Unicef published a comparative overview of child well-being across twenty-nine OECD and EU countries (Unicef, 2013) using national data from 2009 and 2010, coinciding with the start of data collection for this study of children's independent mobility. The Policy Studies Institute report found that there is a positive correlation between Unicef well-being scores and the rank scores measuring children's degree of freedom to travel and play without adult supervision in these countries. There is also a positive correlation between the education attainment of children, based on national Programme for International Student Assessment (PISA) rankings in 2009 and children's degree of freedom to travel and play without adult supervision in these countries.
- Of the three factors examined, traffic seems to be the strongest factor affecting the granting of independent mobility, with 'strangers' showing a weak effect and community supervision not being a factor. However, the correlation between traffic deaths and the

ranking of countries for independent mobility is weak. On the other hand, almost all of the countries with the highest levels of children's independent mobility have national policies to promote walking or cycling, and the local authorities in these countries are permitted to set lower speed limits than those defined at the national level.

Arising from the research findings and discussion, the report makes four observations and seven recommendations.

Observations

1. Unsafe environments for children are widely tolerated
2. Withholding independent mobility may only defer risk to older children
3. Action is needed to address parental concerns, road user behaviour, the physical environment, social and cultural factors
4. Change in transport policy and behaviour may be resisted but it actually happens all the time

Recommendations

1. Implement and enforce stringent road safety measures
2. Reduce car dependency and the dominance of traffic in the public realm
3. Put the needs of children at the heart of urban development ' cities that work for children, work for everyone
4. Explicitly incorporate children's independent mobility into policy
5. Adopt Daylight Saving Time to allow children to better utilise daylight hours and reduce road casualties
6. Invest in research to consolidate and develop knowledge on children's independent mobility
7. Create a national challenge fund to catalyse and drive action to improving children's independent mobility

Cycling by People with a Disability

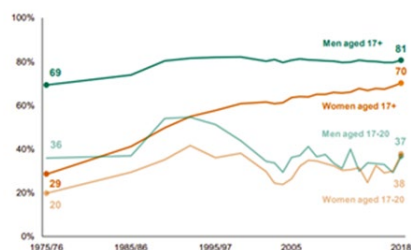
The Wheels for Wellbeing annual survey 'Assessing the needs and Experiences of Disabled Cyclists' (2018) <https://wheelsforwellbeing.org.uk/wp-content/uploads/2019/04/Survey-report-FINAL.pdf> was based on responses from over 200 disabled cyclists across the UK. It reports that 72% of disabled cyclists use their bike as a mobility aid, and 75% found cycling easier than walking. Survey results also show that 24% of disabled cyclists bike for work or to commute to work and many found that cycling improves their mental and physical health. Inaccessible cycle infrastructure was found to be the biggest barrier to cycling.

Age and Gender Difference in Travelling

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/823068/national-travel-survey-2018.pdf

In England as a whole, the percentage of women having a driving licence has increased considerably since the mid 1970's but is still below the percentage of men. The trend is different amongst the youngest drivers.

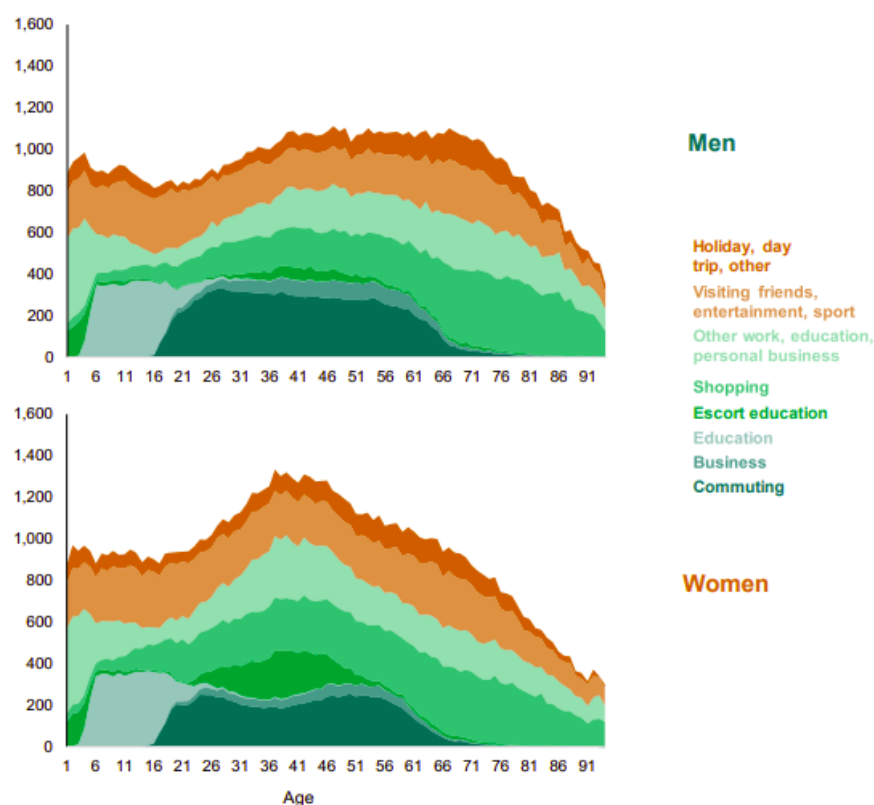
Chart 5: % of people owning a full driving licence: England 1975/76-2018 [NTS0201]



Older women make fewer journeys than older men. Women make more journeys escorting children to education

Chart 22: Average trips per person per year, by purpose, age and gender: England 2002/2018 average [based on NTS0611]

Trips per person per year



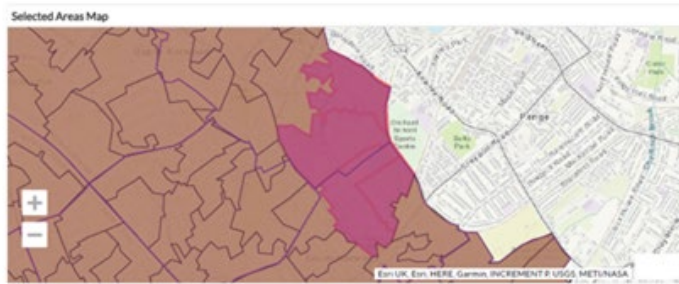
'Young People's Travel – What's Changed and Why? Review and Analysis' (2018)

<https://www.gov.uk/government/publications/young-peoples-travel-whats-changed-and-why>

Young adults (age 17 to 29) in Great Britain and other countries are driving less now than young adults did in the early 1990s.

1.2.5 Area Baseline: The Croydon Observatory Custom Area Reporter enables selected information to be extracted based on small output areas. Those areas cannot exactly equate to the area of the notional boundary of the temporary and proposed trial LTN. The areas selected /

approximating to the LTN and for which data have been extracted, are indicated below in purple.



Car Availability

39% of households have no car available



1%

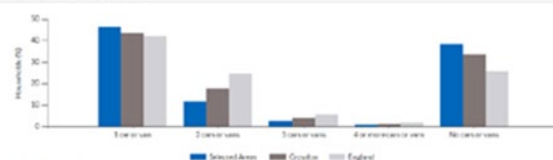
Households with 4+ cars or vans
(2011) [View metadata](#) (20946)



39%

Households with no car/van
(2011) [View metadata](#) (20946)

Number of cars or vans per household



Source: ONS Census 2011

	Selected Areas		Croydon		England	
	Count	%	Count	%	Count	%
1 car or van	1,274	48.8	63,583	43.6	9,301,776	43.2
2 cars or vans	317	11.6	25,836	17.8	5,441,592	14.7
3 cars or vans	68	2.5	5,571	3.6	1,203,865	5.5
4 or more cars or vans	23	0.8	1,897	1.3	424,883	1.9
No cars or vans	1,052	38.5	48,523	33.5	5,891,251	29.8

Health and Disability



50%

Population with very good health
(2011) [View metadata](#) (20753)



1%

Population with very bad health
(2011) [View metadata](#) (20754)



6%

Population whose activity is limited a lot
(2011) [View metadata](#) (1263)

Age



23%

Percentage of the population aged 0-17
(2019) [View metadata](#) (21474)

Gender



6,301

Total population estimate
(2019) [View metadata](#) (351)



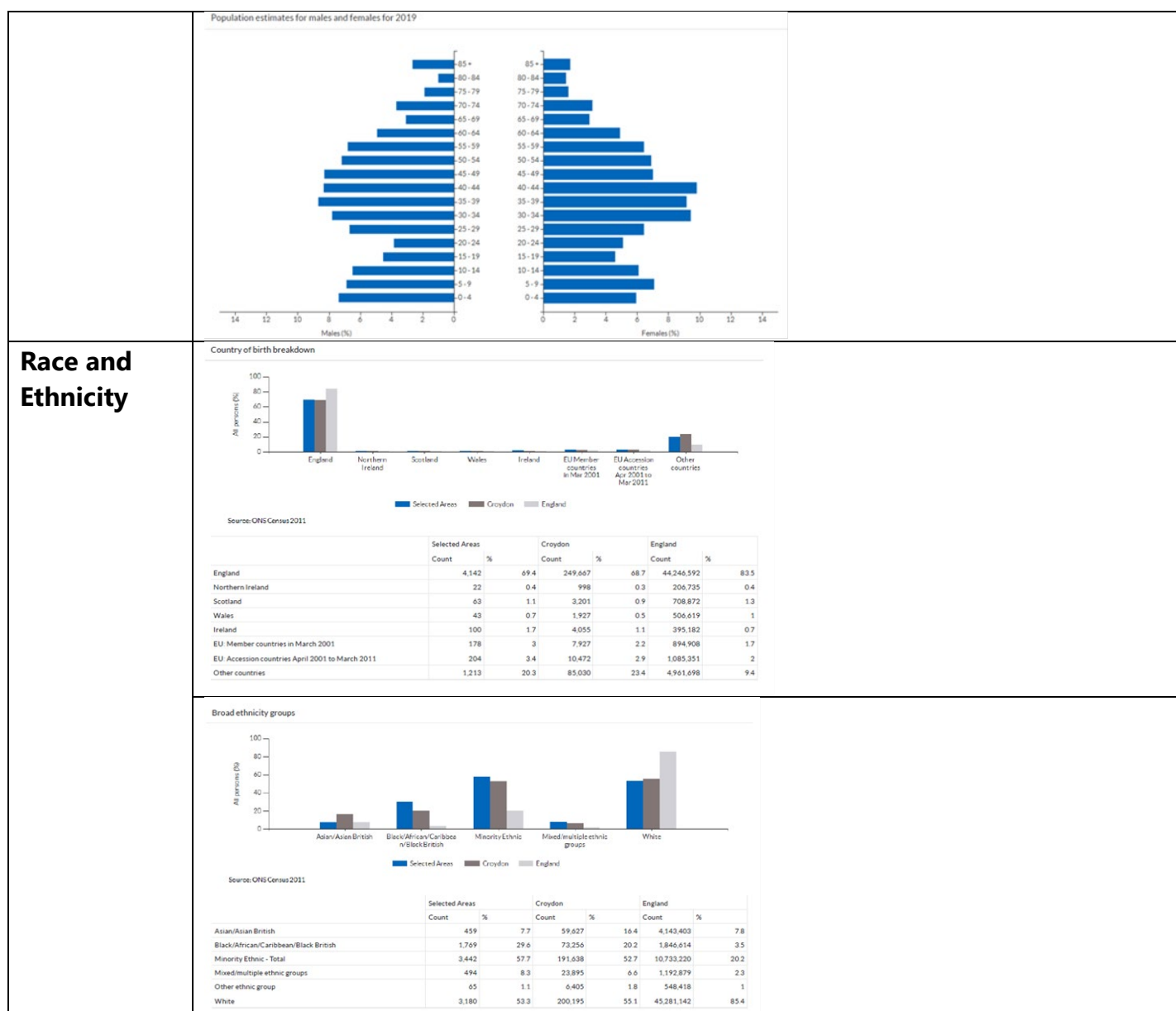
3,034

(48.2%)
Male population estimate
(2019) [View metadata](#) (234)



3,267

(51.8%)
Female population estimate
(2019) [View metadata](#) (117)



1.2.6 Analyse and identify the likely advantage or disadvantage associated with the change that will be delivered for stakeholders (customers, residents, staff etc.) from different groups that share a “protected characteristic”

Please see Appendix 2 (section 1) for a full description of groups.

	Likely Advantage 😊	Likely Disadvantage ☹️
Disability	Under the proposed trial, residents living within the notional LTN area, having a car registered to their home address and needing to use a car, will be able to use their car with the same ease they enjoyed before the temporary LTN was introduced.	In 2011, the percentage of people living in the area with very bad health or whose activity was limited a lot, was 7%. The proposal is intended to help people choose to travel actively to help stay healthy longer. For those that already are in very bad health and needing care, the proposed trial restriction

	<p>A number of people and the Auckland Surgery have pointed out the need for some older and disabled residents living outside of the LTN area to access the Surgery by car. By moving the bus gate to be by the Surgery, patients will be able to drive to it from either direction in Auckland Road.</p> <p>People with disabilities who currently cycle will be aided by the proposal as will those that do not currently cycle but would like to.</p> <p>Users of the Disabled Persons Freedom Pass should enjoy a quicker and more reliable journey on the 410 as it passes through the trial LTN area. TfL's monitoring of the Temporary scheme suggests that buses on routes bounding the Temporary LTN were not significantly affected by the temporary scheme, compared to the effect of the temporary scaffolding in Church Road.</p> <p>Users of Dial-a-Ride and SEN Transport buses, and people with a disability using Community Transport, should have a quicker and more reliable journey via Auckland Road.</p> <p>Taxicard users will have an improved journey via Auckland if in a Taxi. If in a Private Hire vehicle, they will not be able to pass through the 'bus gate' necessitating a different route.</p>	<p>on motor vehicles includes an exemption for district nurses. However, not all carers will be provided with an exemption and for some accessing particular premises by car will require a longer route.</p> <p>People with a disability living beyond the trial LTN area, reliant on cars for travel, needing to access premises within the trial LTN area, may have to take a longer route compared to those walking, cycling or using the 410 bus.</p> <p>People with a disability living beyond the trial LTN area, reliant on cars for travel who previously used Auckland Road to avoid congestion on the A Roads, would not be able to. However in this respect, they would not be disadvantaged relative to non-disabled people living beyond the LTN.</p> <p>Users of Dial-a-Ride and SEN Transport buses, and people with a disability using Community Transport, may have an increased journey time, if the journey previously involved going via streets that will be subject to the 'No Motor Vehicle' restrictions.</p> <p>SEN Transport drivers using cars, and Private Hire cars hired for SEN Transport will not be able to pass through the 'No Motor Vehicle' restrictions</p>
Race/ Ethnicity	None specific (see community Cohesion)	None specific
Gender	TfL's Attitudes to Walking study indicates that women travel more stages per day and walk more stages per day compared to men, although women travel and walk a shorter distance per stage compared to men. Men and women should both be helped by	None specific

	<p>the improved walking environment, but helped differently. Women helped to make the more frequent but shorter trip stages they walk.</p> <p>Both the TfL Attitudes to Cycling research and Sustrans' 'What Stops Women Getting on Their Bikes' study, report that fear of road danger is the biggest thing deterring women cycling. Providing quieter and safer street space is intended to address this.</p>	
Transgender	None specific	None specific
Age	<p>The proposed trial is intended to create a network of quieter and safer streets to foster walking and cycling. Children and young people are amongst those likely to be benefiting the most. A quarter of the population in the Trial LTN area is under the age of 18 and consequently cannot drive. Many will be living in the households in the area which do not have access to a car or a van. Nationally, young adults are significantly less likely to hold a driving licence and driving less than they did in the past. Aiding walking and cycling including to public transport will benefit this group.</p> <p>Children are the group whose independent mobility has been curtailed the most as streets have been taken over by more and more cars. Providing quieter and safer streets provides space in which children can more easily regain their independent mobility, play and socialise. The same quieter streetspace can help them get a little closer to the levels of cycling seen amongst their north European counterparts.</p> <p>Quieter streets may well be a factor in enabling older people to keep cycling or to choose cycling</p>	None specific. Disadvantage may be Disability related. See 'Disability above'

	<p>and could help the percentage of cycle trips made by older people get a little closer to some of those in northern Europe, something made feasible at Crystal Palace my modern E-bikes.</p> <p>The degree to which children's access to active travel and to play in the street puts them at risk of being overweight and associated medical conditions, both in childhood and later in life. Behaviours (including travel behaviour) learnt in childhood are often taken into later into life. Facilitating active travel in early life is part of ensuring good health as an adult and older adult.</p> <p>The Mayor's Healthy Streets objective is a key part of his approach to tackling climate change. Those that are young today, are the ones that will be experiencing the worst effects of climate change when older adults.</p> <p>As people get older, particularly beyond the age of 70 when the driving licence has to be renewed every five years, fewer may have driving licenses / be driving.</p>	
Religion /Belief	None specific	None specific
Sexual Orientation	None specific	None specific
Pregnancy and Maternity	Information has not been found specifically relating to Pregnancy and Maternity. However TfL's Attitudes Towards Walking research indicates that women with children, either in a couple or single, walk more than those without children, and it is likely that amongst these women, some will be pregnant and / or in maternity	Some women in the latter stages of pregnancy, may feel walking is difficult, but If they have a car available may still be able to drive. Those living outside of the trial LTN area but needing to reach premises within the LTN may have an extended driving route / journey time but will still have access.
Social inclusion issues	The work of Appleyard in the 1960s and replicated in Bristol a decade ago shows how the number of friends and acquaintances a resident of a	Many living outside of the trial LTN may wish to drive to visit a friend or relative living within the LTN. If they chose to do so, they will still be able to do so, but the journey time /

	street has declines, as the volume of traffic increases. Creating a quieter and calmer street environment is a means of increasing social inclusion and reducing isolation.	distance might be increased.
Community Cohesion Issues	See above. The street has historically been where much of the life of the town/city takes place. It was community space which also happened to have a movement function. Lowering traffic levels has the potential for the role of the street as community space to return to a degree depending on the residual traffic level. This in turn fosters community cohesion and enables the fostering of good relations between members of groups with protected characteristics and others (something difficult to achieve if everyone travels to and from their own home, in their own car).	See above
Delivering Social Value	The trial project is intended to support delivery of the Mayors Health Streets objective, in turn delivering value and savings in relation to mental and physical health	None

1.2.7	<p>In addition to the above are there any other factors that might shape the equality and inclusion outcomes that you need to consider?</p> <p>For example, geographical / area based issues, strengths or weaknesses in partnership working, programme planning or policy implementation</p>
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<p>Crystal Palace is at the top of a hill. There is likely to be need for additional action to help people consider the use of E-Bikes.</p>

1.2.8	<p>Would your proposed change affect any protected groups more significantly than non-protected groups?</p> <p>Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response. For a list of protected groups, see Appendix.....</p>
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<p>Yes. The project is intended have a significant positive effect on children and young people.</p>
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1.2.9	<p>As set out in the Equality Act, is your proposed change likely to help or hinder the Council in advancing equality of opportunity between people who belong to any protected groups and those who do not?</p> <p>In practice, this means recognising that targeted work should be undertaken to address the needs of those groups that may have faced historic disadvantage. This could include a focus on addressing disproportionate experience of poor health, inadequate housing, vulnerability to crime or poor educational outcomes <i>etc.</i></p> <p>Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response.</p>
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Yes. The project is intended to increase the opportunity for children to travel independently and to socialise and play.

1.2.10	<p>As set out in the Equality Act, is the proposed change likely to help or hinder the Council in eliminating unlawful discrimination, harassment and victimisation in relation to any of the groups that share a protected characteristic?</p> <p>In practice, this means that the Council should give advance consideration to issues of potential discrimination before making any policy or funding decisions. This will require actively examining current and proposed policies and practices and taking mitigating actions to ensure that they are not discriminatory or otherwise unlawful under the Act</p> <p>Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response.</p>
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Do Not Know. No means have been identified by which the trial scheme might help or hinder the Council in eliminating unlawful discrimination, harassment and victimisation in relation to any of the groups that share a protected characteristic.

1.2.11	<p>As set out in the Equality Act, is your proposed change likely to help or hinder the Council in fostering good relations between people who belong to any protected groups and those who do not?</p> <p>In practice, this means taking action to increase integration, reduce levels of admitted discrimination such as bullying and harassment, hate crime, increase diversity in civic and political participation <i>etc.</i></p> <p>Please answer either "Yes", "Don't know" or "No" and give a brief reason for your response</p>
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Yes. The proposed change has the potential to very strongly help foster good relations between people who belong to most of the protected groups and those who do not, by better enabling friendships and acquaintances to develop in streets with less traffic, and enabling the street to regain some of its historic community space function.

1.3 Decision on the equality analysis

If you answer "yes" or "don't know" to ANY of the questions in section 1.2, you should undertake a full equality analysis. This is because either you already know that your change or review could have a different / significant impact on groups that share a protected characteristic (compared to non-protected groups) or because you don't know whether it will (and it might).

Decision	Guidance	Response
No, further equality analysis is not required	<p>Please state why not and outline the information that you used to make this decision. Statements such as 'no relevance to equality' (without any supporting information) or 'no information is available' could leave the council vulnerable to legal challenge.</p> <p>You must include this statement in any report used in decision making, such as a Cabinet report</p>	
Yes, further equality analysis is required	<p>Please state why and outline the information that you used to make this decision. Also indicate</p> <ul style="list-style-type: none">• When you expect to start your full equality analysis• The deadline by which it needs to be completed (for example, the date of submission to Cabinet)• Where and when you expect to publish this analysis (for example, on the council website). <p>You must include this statement in any report used in decision making, such as a Cabinet report.</p>	<p>This document is the start of the Equality Analysis. The Analysis should be informed by research conducted during the trial, research focused on the experiences of those of groups with protected characteristics predicted to be affected by the trial.</p> <p>There should be a dialogue with Dial-A-Ride, Community Transport and SEN Transport operators and with users to help refine the operation of the trial and this Analysis.</p> <p>The Croydon Mobility Forum has been unable to meet during the Pandemic. The Forum should be engaged with during the operation of the trial, its views</p>

Decision	Guidance	Response
		<p>informing the Analysis, the operation of the trial and the design and operation of any scheme that might follow the trial</p> <p>The Equality Analysis should be concluded before any decision is made on the outcome of and the future for the trial and should be published as part of the documents used in making the recommendation.</p>
Officers that must approve this decision	Name and position	Date
Report author	Ian Plowright, Head of Transport	9/12/2020
Director	Steve Iles, Director of Public Realm	18/12/2020

1.4 Feedback on Equality Analysis (Stage 1)

Please seek feedback from the corporate equality and inclusion team and your departmental lead for equality (the Strategy and Planning Manager / Officer)

A Full analysis is required because we already know that the change could have a different / significant impact on individuals with disabilities. A full analysis will enable us the Council to ensure the decision is informed by research conducted during the trial, research focused on the experiences of those of groups with protected characteristics predicted to be affected by the trial. This will provide the opportunity for those most likely to be impacted by the trial to informing the Analysis, the operation of the trial and the design and operation of any scheme that might follow the trial

Name of Officer	Yvonne Okiyo	
Date received by Officer	16.12.20	Please send an acknowledgement
Should a full equality analysis be carried out?	Yes	.