Transport Strategy
London Borough of Camden
5th Floor
5 Pancras Square
London N1C 4AG

Feasibility Study Scheme Title:	New End School – Healthy School Street				
PRODUCED BY:	Michelle Jamieson	COST CODE:		YEAR:	2018-19
ENGINEER:	Michael Wijayangam	BUDGET:		DATE:	October 2018

BACKGROUND

New End School is a Community Primary School in the Hampstead Town Ward of the London Borough of Camden. There are currently 438 pupils attending between the ages of 3 and 11 years old. It is situated on Streatley Place, NW3 with the only access being from New End. New End is a one-way street between Heath Street and Well Road.

The school has participated in the TfL (Transport for London) STARS school travel planning project for the last eight years, and they are hoping to achieve a Gold accreditation this academic year. In the latest School Travel Plan carried out in 2018 and uploaded on to the TfL Stars website, a number of road safety issues were raised by the school. These mainly concerned pedestrian's (students) safety due to the congested road network around the school, insufficient pedestrian infrastructure (in some locations) and heavy parking activity. There have also been regular complaints made to both the school and Transport Strategy team, from local residents and councillors regarding bad driver behaviour and parking issues on New End near the school. There have also been reports of 'rat-running' traffic on New End and other nearby streets.

On this basis the Transport Policy Team have assessed options for a scheme to address these problems in order to provide a safer and more welcoming environment for the school's students and staff. This study, and potential measures, are funded by Camden under the "Healthy School Streets" initiative using Local Implementation Plan (LIP) funding allocated to the Borough by TfL.

AIMS OF STUDY & INITIAL OFFICER ASSESSMENTS

The aim of this scheme is to improve the road environment by prioritising pedestrians (and cyclists) arriving to the school in the morning and leaving the school in the afternoon, as well as to reduce 'rat running' traffic through the local area.

The following data shows that there have been some collisions in the area around the school, which could impact on road safety in the area:

Year	Pedal Cycle Serious	Car Slight	Grand Total
2016			
Jan	1		1
Jun		2	2
Dec		1	1
Grand Total	**1**	**3**	**4**

This proposed scheme aims to address key issues which are understood to be related to pedestrian/cycle road safety which is currently impacted by:

- **Relatively high volumes of traffic using Flask Walk, Willow Road and New End Square** – During site visits in January at school drop off and pick up times, the Project manager, Design Lead and Project Sponsor observed a large amount of through traffic on New End, New End Square and Well Road. A number of parents were observed at this junction, many of whom were dropping children off at Heathside Prep School, a private school which has sites on both New End and Heath Street. New End School parents were also observed to be dropping off at this location. However, it appeared from these observations that the percentage of traffic stopping to drop off children at school was small compared to 'through traffic' using New End in particular to cut across, eastbound, from Heath Street.
- **School Run traffic issues** - Officers observed children from Heathside Prep school being escorted across New End Square to enter their temporary classroom above The Old White Bear. Therefore the potential for a scheme to help reduce this, and the heavy traffic at the junction of New End, New End Square, Grove Place and Well Road was observed.
- **Air Quality** – Data collected in Spring 2017 by the Camden Air Quality Action Group showed NO2 levels around Heathside Prep School to be nearly 40 NO_2 μ/m_3(almost in breach of EU legal limits) and New End school to be just over 30 NO_2 μ/m_3, which is also high for an area where there are high numbers of children attending schools and above the World Health Organisation limits that Camden has set an aspiration meet.

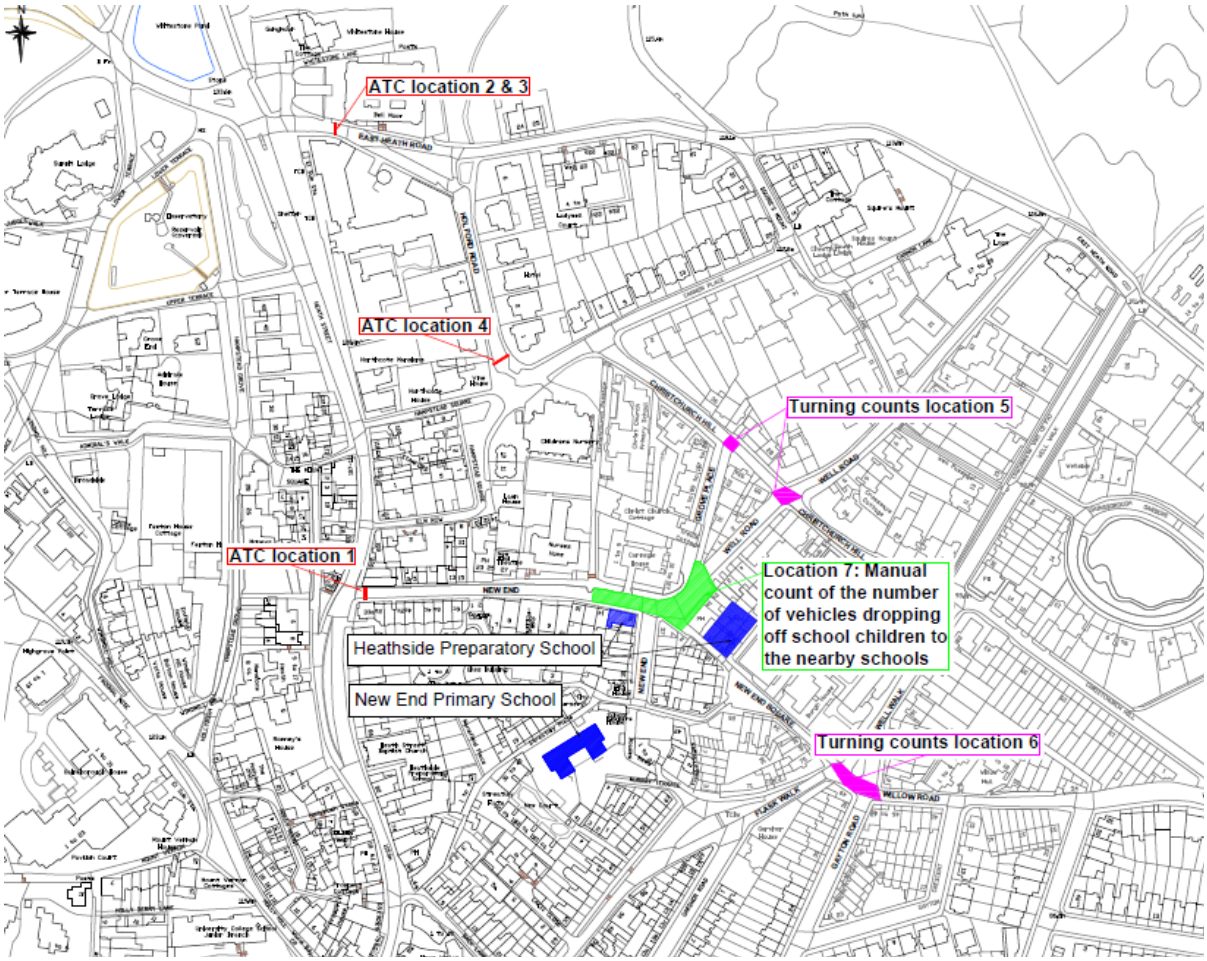
TRAFFIC DATA SURVEYS

In order to provide further information to develop these initial observations, in early 2018 officers commissioned various surveys as per below:

1. Automated traffic count surveys on New End, East Heath Street and Holford Road. These were commissioned over a 1 week period, during school term time, from 26th February 2018 - 4th March 2018, to better understand baseline traffic levels in both the affected area and on other streets which may be impacted by any traffic displacement as a result of any options brought forward for consultation. Those sites could then be re-assessed post implementation to understand any such impacts.

2. Turning count surveys of vehicles at the New End Square/Well Walk/Flask Walk/Willow Road/Gayton Road junction, and separately at the Well Road/Christchurch Hill junction. These were commissioned over 3 days (Tuesday 27th February, Thursday 1st March and Saturday 3rd March 2018) for 16 hours per day to better understand the onward direction of vehicles entering the potential Healthy School Street area, and what those vehicles might therefore be using New End for.

3. Manual counts were also commissioned to assess the amount of vehicles being used for school pick-ups/ drop offs on Monday 26th February - Friday 2nd March 2018, including as a percentage of total vehicle flows in the area. A diagram of where the counts took place is below:



The school also did their own 'hands up surveys' with the pupils on 29th January 2018, to find out how the children are travelling to/from school. This showed that 20% of pupils were being dropped off/picked up to/from New End School by car as below:

Mode of Travel	**Percentage of Pupils**
Active Travel Total	**43%**
Walking	40%
Scooting	2%
Buggy	0%
Cycling	1%
Public Transport Total	**35%**
Rail/Overground	3%
Tube	14%
DLR	0%
Tram	0%
Public Bus	16%
School bus/Taxi	2%
River	0%
Car Total	**22%**
Car/Motorcycle	20%
Car Share	2%

TRAFFIC DATA ANALYSIS (1): ATC LOOPS AND MANUAL COUNTS

The peak traffic flows on a weekday (Tuesday) and weekend day during term time in the New End area are reported in the tables below:

Table 1: A weekday (Tuesday) school AM/PM and 'interpeak' flows

Count Point	Location	**AM peak 1.5 hour flow** on a typical weekday in term time (time period in brackets)	**INTERPEAK flow** typical weekday in term time (time period in brackets)	**PM peak 1.5 hour flow** (time period in brackets)
1	**New End (western end) near junction with Heath Street**	294 vehicles [08:00-09:30]	68 (11:45-13:15)	110 vehicles [14:45-16:15]
2	**East Heath Road (eastbound)**	950 vehicles [08:00-09:30]	696 (11:45-13:15)	651 vehicles [14:45-16:15]
3	**East Heath Road (westbound)**	429 vehicles [08:00-09:30]	590 (11:45-13:15)	645 vehicles [14:45-16:15]
4	**Holford Road (southbound)**	40 vehicles [08:00-09:30]	0 (11:45-13:15)	13 vehicles [14:45-16:15]

Table 2: Saturday AM/PM and 'interpeak' flows

Count Point	Location	**Am Saturday flow** (time period in brackets)	INTERPEAK flow typical weekday in term time (time period in brackets)	**PM Saturday flow** (time period in brackets)
1	**New End (western end) near junction with Heath Street**	29 (8:00-09:30)	66 (11:45-13:15)	33 (14:45-16:15)
2	**East Heath Road (eastbound)**	315 (8:00-09:30)	507 (11:45-13:15)	533 (14:45-16:15)
3	**East Heath Road (westbound)**	192 (8:00-09:30)	479 (11:45-13:15)	479 (14:45-16:15)
4	**Holford Road (southbound)**	5 (8:00-09:30)	13 (11:45-13:15)	9 (14:45-16:15)

School children observed to be picked up/dropped off near Heathside Prep (junction of New End/Well Road/New End Square on a typical Tuesday during term time are shown in the Table below:

Table 3: School-related traffic (manual counts of pick ups/drop offs near Heathside Prep School and estimates for New End from STP data)

Count Point	Location	AM - vehicles	PM - vehicles
7	**Drop offs/pick ups near Heathside Prep school**	28 (08:00-09:30)	19 (14:45-16:15)
STP Hands Up Data (New End School)	**Far southern end of New End (near Streatley Place, estimate)**	77	52
Total		105	71

**The New End School data has been estimated as follows: 22% of 438 pupils are currently driven to school (Hands Up Survey data) ie 96 pupils on average per day. Of these, 2% are car share trips with other pupils, and it is reasonable to expect a further percentage are (i) also car sharing with siblings, not just car sharing with others ie more than 1 pupil per car and (ii) not dropped off in the far southern end of New End but in other locations that will be convenient for parents to use (e.g. Flask Walk and New End Square, both a short walking distance from the site). Therefore of the 96 pupils, 20% has been taken off this figure to estimate the vehicle drop offs at the far southern end of New End in the morning peak (77). As less pick ups in the PM were observed at Heathside Prep than drop offs, the same percentage change has been applied to New End in the PM period*

Finally the table below summarises observed total traffic flows in the New End/Heathside Prep schools area and the percentage of that traffic estimated to be school traffic/other traffic, on an average weekday:

Table 4: total traffic flows in the New End/Heathside Prep schools area

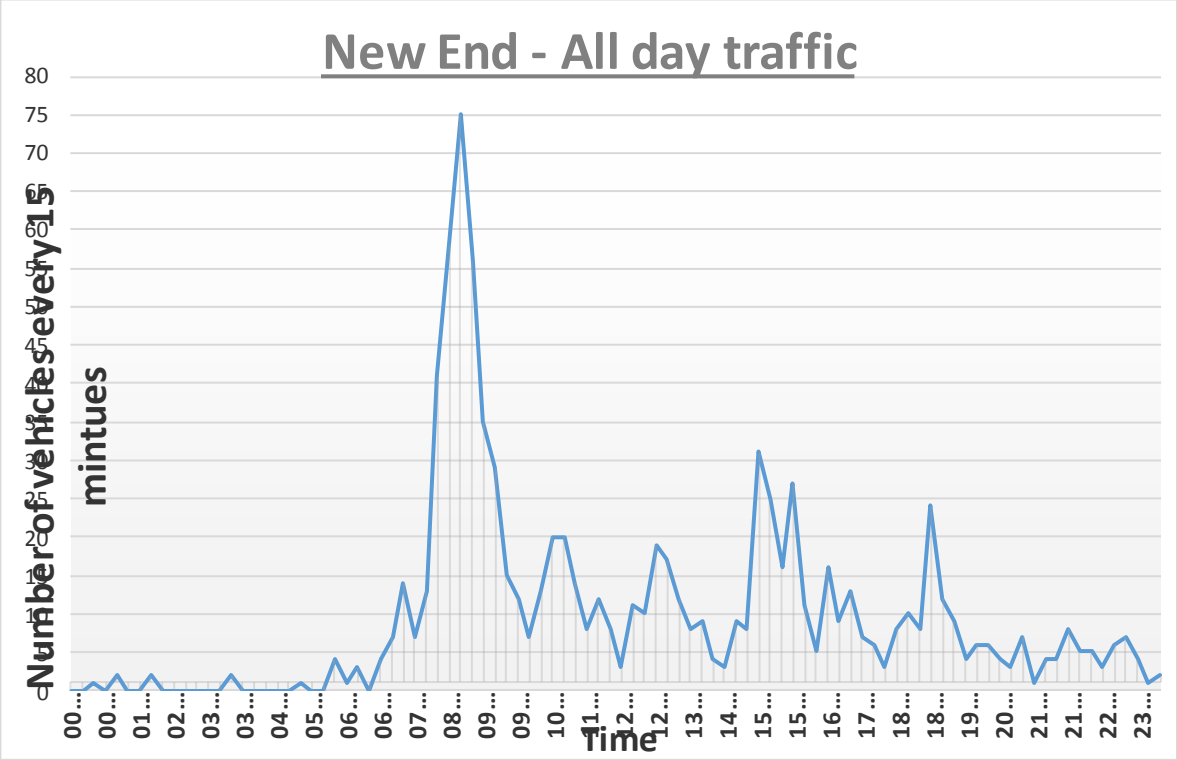
	AM peak 1.5 hour data (08:00 to 09:30)	**PM peak 1.5 hour** data (14:45 to 16:15)
Traffic heading into area from New End (western end) near junction with Heath Street (from ATC loop data on the Tuesday 27th Feb 2018)	294 vehicles (08:00-09:30)	110 vehicles (14:45-16:15)
Traffic heading into schools area on Well Road (from junction with Christchurch Hill) (from turning count data on the same day – Tuesday 27th Feb 2018)	85 vehicles (08:00-09:30)	42 vehicles (14:45-16:15)
Total	**379**	**152**
Of which		
Estimated school-run traffic (total of count point 7 and estimates from STP data)	105 (28% of all observed traffic)	71 (46% of all observed traffic)
Other traffic	266 (72% of all observed traffic)	91 (54% of all observed traffic)

It is estimated that, due to the limited number of residential properties in this area and other inferences from the turning count data, that the vast majority of 'other traffic' is through-traffic cutting through rather than local use.

In summary, the above data shows the following:

- during school AM/PM opening/closing times very high levels of traffic were observed on New End coming from Heath Street in an easterly direction
- this traffic flow appears to be predominantly through-traffic (54% - 72% of all observed traffic) rather than dropping off/picking up school children. A measure to reduce this rat-running traffic would also impact on the ability of parents to drop off/pick up their children so reducing the remaining 28% to 46% of traffic as well.
- the problems appear to be related to AM and PM school run peaks rather than interpeak or weekend times.
- baseline traffic flow levels on other streets in the area where displaced traffic could be relocated to have been observed and recorded to use as 'pre' data ahead of implementation of any scheme, and to compare to 'post' data if approved.

GRAPH SHOWING THE ABOVE:



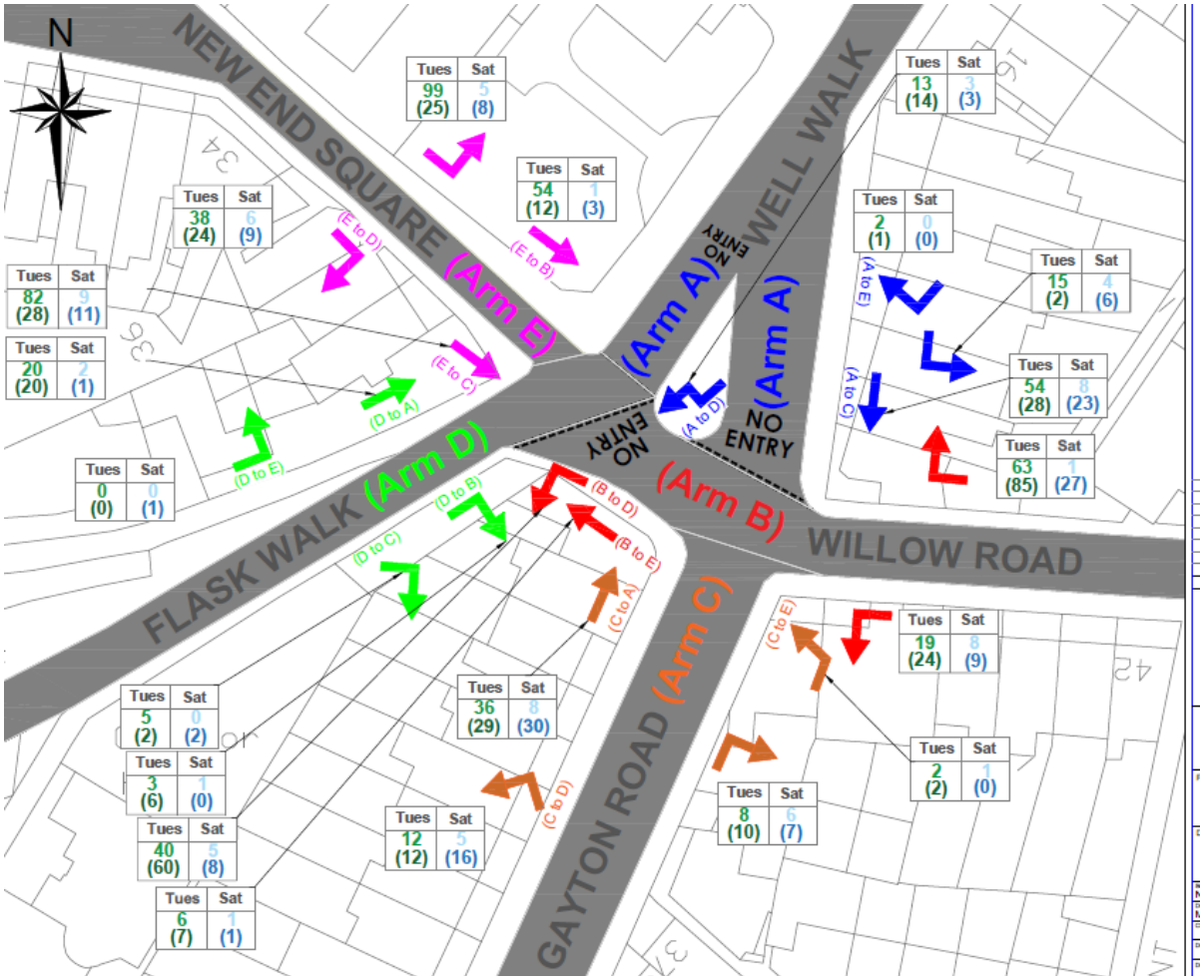
TRAFFIC DATA AND ANALYSIS (2): TURNING COUNTS

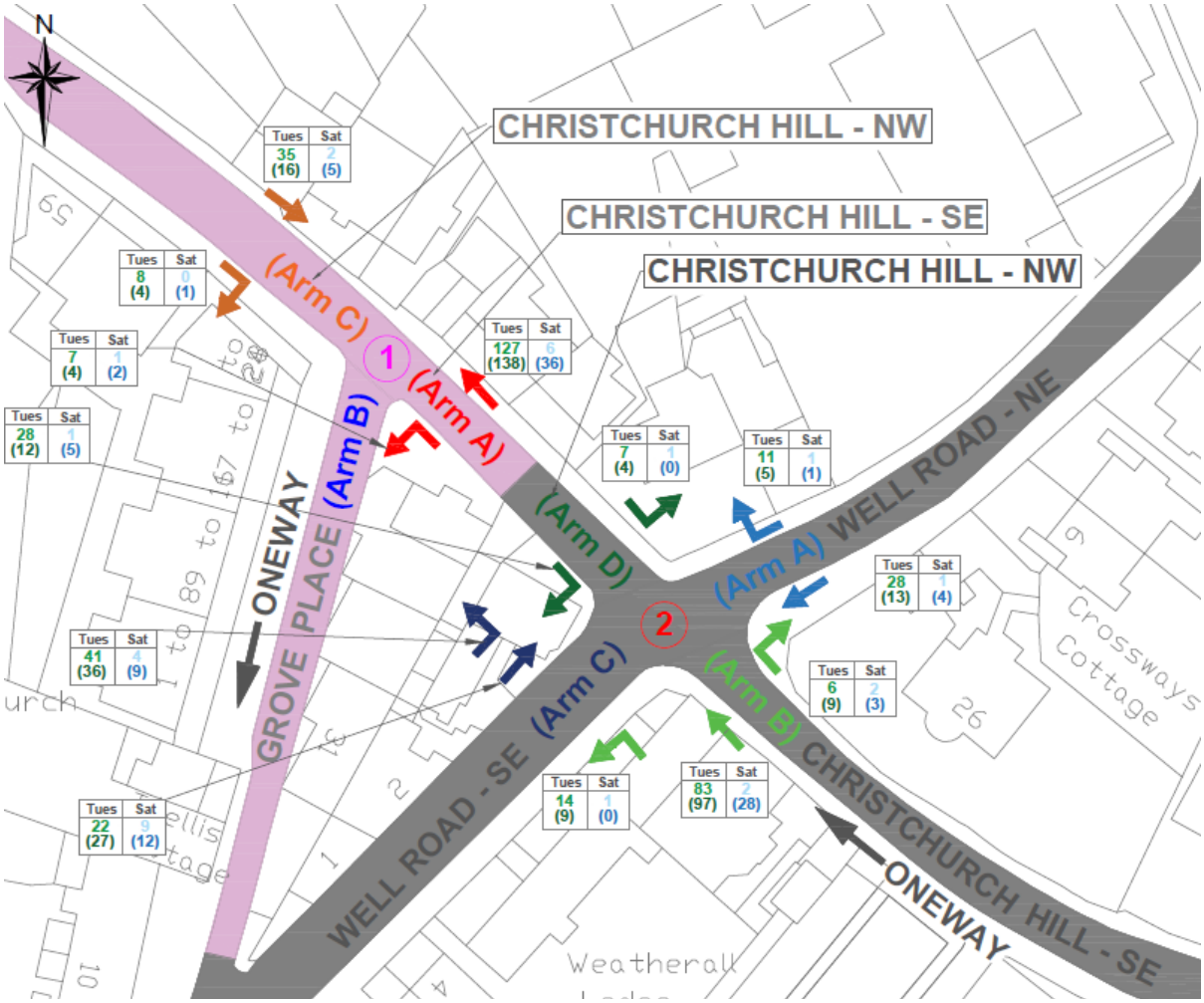
Table 1 and map: Typical weekday (Tuesday) school AM/PM and 'interpeak' flows

Count Point	**Location**	**AM peak 1.5 hour flow** on a Tuesday in term time (time period in brackets)	**INTERPEAK flow** Tuesday in term time (time period in brackets	**PM peak 1.5 hour flow** (time period in brackets)
5	**Vehicles coming towards the T**	85 vehicles (08:00-09:30)		42 vehicles (14:45-16:15)

	junction of New End, from Christchurch Hill, Well Road and Grove Place		44 (11:45-13:15)	
6	**Vehicles leaving New End towards New End Square**	273 (08:00-09:30)	91 (11:45-13:15)	89 (14:45-16:15)

Turning Count Maps: Figures on the below maps which are NOT in brackets are AM peak flows, and figures in brackets are PM peak flows.





The above data and maps show the following:

- A large amount of vehicles are travelling towards New End Square in the morning peak, probably to avoid the Hampstead High Street and Heath Street junctions.
- Specifically, of the 273 vehicles observed on a typical day (Tuesday) exiting New End Square in an eastbound direction, the main movements were:
    - to Gayton Road (82 vehicles), suggesting using New End/Gayton Road as a ‘rat-running’ route to avoid the Hampstead High Street/Heath Street junction,
    - to Well Walk (99 vehicles), suggesting using New End/Well Walk and connecting roads to avoid East Heath/Heath Street junction in direction of Hampstead Heath area
    - to Willow Road (54) vehicles, suggesting the same issue as second bullet point above
- Therefore the issues are not all due the school run, there is clearly a ‘rat running’ issue in the area.
- Figures on the Thursday were distorted by snow as the schools may have been closed.

ANALYSIS: FEASIBILITY OF POSSIBLE OPTIONS

As shown previously, the data infers that the majority of traffic in the area is not necessarily caused by New End (or Heathside Prep) schools, but instead largely 'rat-running' through traffic. Therefore the need for a scheme on New End appears clear to meet the scheme aims and objectives.

The current proposals are as described below:

- **Option 1** – Create 'Healthy School Street' (HSS) timed road closure (during New End Schools opening and closing times) of the short stretch of New End from the T-Junction of New End and New End (west) (north to south) by installing collapsible bollards there. A build out of the footway at the junction is also proposed to create a safe crossing point for school pupils and pedestrians
- **Option 2 –** Create a timed road closure at the junction of New End and Heath Street. This would be enforced by using Automatic Number Plate Recognition cameras (ANPR) which would be placed at the Heath Street and New End junction. Residents of New End, Well Road, New End Square, Streatley Place and Grove Place would be exempt from the closure, subject to detailed design.
- **Option 3 -** Same as option 2 but extending the restriction zone to New End Square, Well Rd and Grove Place.
- **Option 4 –** Same as option 2 and 3 but have the restrictions in the morning peak only
- **Option 5 –** do nothing

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
Option 1 Timed closure of the short stretch of New End from the T-Junction of New End and New End (West) (north to south) by installing collapsible bollards there.	• This option proposes installing collapsible bollards to enforce a timed road closure on the far southern end of New End by placing such bollards at the T-junction of New End (West) (north to south) and New End (see map for details) • Signage would be installed to warn vehicles of the closure, and the bollards would create a physical barrier for the closure • The footway would be built out at the junction to create a crossing point for pedestrians • School staff would be expected to raise and	1. This option would potentially solve the parking issues created by parents picking up/ dropping off at the far southern end of New End, near Streatley Pl where the school entrance is 2. This may improve air quality & road safety around the school by reducing the amount of cars picking up and dropping off 3. The footway build out would reduce the distance for	1. This would not solve the issues of 'rat running' through the area using the western end of New End as a cut-through 2. It could make the already busy junction of New End/Well Road/New End Square potentially more dangerous as more vehicles are likely to drop off in that area 3. The build out would mean a car club bay and residents parking bay would have to be	• Discard delivering this option on its own because it does not address the following issues: • Through-traffic 'rat running' in the area. • Residents could not drive into the restriction

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
	lower the bollards during school opening and closing hours and in term time only, as currently occurs on Macklin Street for St. Joseph School • Air Quality monitors will be installed in the appropriate locations during the early stages of the project, so 'before' and 'after' data can be collected • Cost Estimate: Bollards approximately £5,000 for 3, build out construction and associated costs £15,000 **Total Estimated cost £20,000**	pedestrians crossing, therefore creating a safe pedestrian crossing point at the junction 4.This is a reasonably cheap option	removed/relocated 4. Local residents on the far southern end of New Road are restricted from driving into the closure area during hours of operation due to the presence of physical bollards	during operation • There may be concerns from the school relating to a staff member raising and collapsing the bollards at the busy junction to enforce the timed closure
Option 2 Timed closure during school opening hours (HSS) from the junction of New End and Heath St, up to the junction of New End Square	• This option proposes installing one Automatic Number Plate Recognition (ANPR) cameras at the junction of New End and Heath Street. Signage would also be installed to warn drivers of the restriction. This would prevent all (non-exempt) vehicles from entering the western (one-way) end of New End during restricted times • Residents and properties of the western section of New End, from Heath Street to New End Square, would be exempt from the closure, as would Blue Badge holders • The hours of restriction are to be confirmed with the school but approximately an hour and a half in the morning and the same in the	1. This may deter traffic 'rat running' in the area as it creates a restriction zone for drivers passing through and particularly prevents 'through-traffic' 2. Parents of both New End School and Heathside Prep school would be more restricted from picking up/dropping off children and therefore encourages more sustainable travel modes to/from both schools	1. Some school-related traffic may still enter the area via Well Road and Grove Place~~,~~ and potentially use the eastern section of New End Square to get close to the sites, though this is unlikely to be significant given the data collected so far 2. Lots of traffic could be displaced on to Well Rd, Grove Pl and New End Square	• Develop this option for consultation under an experimental traffic order for 12 months. Consider consulting on two options: option 2, or option 2 plus option 1 (using ANPR cameras) in the same scheme

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
	afternoon • Air quality monitors would be placed around the restriction zone in order to assess the impact in the area that the restrictions have on air quality • The penalty for infringement of the restriction is £80 • Possibility of including a variant of Option 1 with Option 2 by adding a secondary ANPR camera at the T-junction of New End (south) and New End (west) subject to budget availability, Under that option residents on that section of New End (south) would also be exempted • Cost Estimate: 1 ANPR camera approximately £25,000 and associated costs **Total Estimated Cost £30,000**	3. There would be less vehicles around both schools during the hours of restriction therefore making walking/cycling in the area more pleasant and improving road safety 4. Air quality in the area may be improved due to less vehicles 5. The cost of one ANPR camera is around £25,000. The total cost of the scheme would be around £30,000, which is in line with the budget available 6. Relatively simple to manage scheme with exempted properties restricted to a relatively small part of New End	3. Parents of both schools may still be tempted to drop off on the edges of the restriction zone i.e on Well Rd, and particularly New End Square 4. Potentially more expensive than option 1, depending on the cost of the build out (may be more costs if drainage is an issue) 5. Potential for some 'through-traffic' displacement onto Holford Road and East Heath Street	• To monitor the scheme extensively during the ETO period, including repeating traffic surveys (ATC loops and turning counts) carried out during feasibility stage, to assess impacts and any amendments ahead of consulting on potentially making the scheme permanent

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
Option 3 - Same as option 2 but extending the restriction zone to New End Square, Well Road (south section) and Grove Place	• This option would install 3 ANPR cameras at all possible entry points into the schools area to prevent access for all (non-exempt) vehicles into the area. This would include one on the Heath St and New End junction, one on the Christchurch Hill and Well Rd junction and one on the New End Square, Flask Walk, Well Road junction • Change the one way traffic direction on Grove Place to northbound only to prevent this being used as entry road into the area • All residents and properties of New End, Well Road (southern section), New End Square and Streatley Place would be exempted from the restriction, as would Blue Badge holders • Air quality monitors would be placed around the restriction zone in order to assess the impact in the area that the restrictions have on air quality • Cost estimate 3 cameras and associated costs £80,000. **Total estimated costs: £80,000**	1. This option goes the furthest in addressing both traffic 'rat running' and school drop offs/pick ups in the area 2. Would be much less busy with vehicles in the area, creating a safer environment pedestrians and cyclists 3. Air quality in the area may be improved due to less vehicles 4. Parents of both New End School and Heathside Prep school would be completely prevented from picking up/dropping off children in the immediate vicinity of those schools, therefore encouraging more sustainable travel modes to/from both schools	1. As there are a lot of residential properties in the restriction zone, if we exempt them there may still be lots of vehicles travelling in and out of the zone. 2. Size of the exempted zone and number of properties would be very difficult to manage operationally 3. Potential for some 'through-traffic' displacement onto Holford Road and East Heath Street 4. The cost of the scheme would be circa £80,000 – 3 ANPR cameras and other associated measures – which is substantially more than the budget available 5. Strong possibility of school children being dropped off/picked up on residential streets just outside the	• This option addresses the 'rat running' issues in addition to the school run traffic issues. However it is the most costly and the most restrictive and difficult to implement

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
			restricted area that are currently unaffected by this activity, creating concerns amongst residents on those streets	
Option 4 – Same as option 2 and 3 but have the restrictions in the morning peak only (7.30am-9.30am)	• 3 ANPR cameras would still be needed as described above • The restriction would only be enforced during the morning peak (e.g between 7.30-9.30am) • Exempt the whole CPZ plus those with private access (crossovers/driveways)	• Would address the rat running' issue, which the data shows is more significant in the morning peak • Parents of both New End School and Heathside Prep school would be completely prevented from picking dropping off children in the immediate vicinity of those schools in the morning (unless they have a resident parking permit for CPZ CA-H), therefore encouraging more sustainable travel modes to both schools.	• As in points 1-5 in the above column, but the restriction would only apply in the morning, therefore would not address the issues in the afternoon pick up.	• This option addresses the 'rat running' issues in addition to the school run traffic issues in the morning only. However it is the most costly

Option	Information/Analysis	Advantages	Disadvantages	Recommendation
		The hope being that this behaviour would transfer to the afternoon pick-up also		
Option 5 – Do nothing	If during the consultation process, the options discussed above are deemed to be inappropriate we can do nothing.	The allocated budget for this scheme could be spent elsewhere	The issues discussed would not be resolved	Consult on one of the options 1-3, however if the majority of affected residents state that they do not want a scheme of this nature in the area, we state in the decision report that do nothing was the most popular choice amongst residents.

*Please note proposals are subject to detail design.

RECOMMENDATION

Based on the background issues, analysis of traffic data and advantages/disadvantages of each scheme, Officers recommend developing option 2 for public consultation under an experimental traffic order for a year. During this time ongoing monitoring of traffic counts, AQ information and school drop off behaviour will be undertaken.

It is recommended to present two options at consultation stage, within the preferred option:

1. Option 2 'on its own' – principally addressing the 'rat-running' traffic issue to reduce such traffic at school opening and closing times
2. Option 2 with Option 1 – addressing both rat-running traffic and vehicles entering the southern part of New End nearest to New End school
3. Option 4 - principally addressing the 'rat-running' traffic issue in the morning

APPENDICES:

Option 1 plan
Option 2 plan
Option 3 plan
Map of the New End area
Line graph of traffic survey data

REPORT ENDS.