



West Berkshire  
Active Travel Insight Study

April 2023

ANALYTICAL  
SERVICES

agilysis



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## INTRODUCTION

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This report sets out the analysis undertaken using a variety of data sources to give insight into the degree to which identified parental barriers to active travel exist in West Berkshire and specifically in the vicinity of six primary schools and four secondary schools.

West Berkshire Council previously commissioned So-Mo, a Behavioural Science consultancy, to help them better understand the behavioural drivers behind active travel uptake and the resulting report highlighted transport-related barriers to independent active travel that include;

- Speeding traffic
- Busy roads
- Traffic collisions
- Absence of pedestrian crossings
- Conflict with parked vehicles obstructing visibility.

The report works through the analysis by first using the Open-Source Routing Machine (OSRM) engine to identify favoured walking, cycling or scooting routes between each primary school and its pupil's homes within a 1-mile radius. The Annual Average Daily Traffic (AADT) volume and average all day speed on those routes most likely to be used by pupils will be examined from the West Berkshire [Speed Compliance Tool](#) (SCT) to determine the level of traffic use and the extent of speeding on these routes. Data on collisions involving child pedestrians and pedal cyclists during the period 2017 – 2021 inclusive will also be captured from West Berkshire's [CrashMap Pro](#) (Local) to understand when, where and how children using sustainable travel modes were involved in collisions.

In addition, data on Bike ownership, propensity to exercise and congestion, shown as indices will be captured from the [Active Streets Assessment Tool](#) (ASAT) to illustrate additional potential barriers to independent active travel.

Finally, the iRAP [Active Travel Tool](#) will be used to carry out an assessment of the road network in the vicinity of and in areas of relevance to each of the schools to provide an objective measure of the level of safety that is 'built-in' to the road (Star Rating). In addition, a measure of the level of traffic stress encountered by those walking and cycling is provided. Four categories of Active Travel; Pedestrian Footway; Pedestrian Crossing, Cycleway & Shared Footway & Cycleway may be assessed depending on the facilities available at each location. Whilst the Active Travel Tool is normally used to assess the impact of potential or planned improvements, in this report it is being used to give an indication of the level of safety of the existing infrastructure. This assessment will be carried out using the latest street level imagery available via Google Streetview, so may not account for changes made more recently on some routes.

To give context to the data relating to individual schools the following section gives an overview of child pedestrian and pedal cyclist safety in West Berkshire.

## SAFETY IN WEST BERKSHIRE

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The following resident data analysis has been captured from the MAST Headliner for West Berkshire Child Casualties. It is based on the national STATS19 dataset provided to Road Safety Analysis by the Department for Transport for publication in MAST Online. In the five-year period of 2017 – 2021 a total of 80 West Berkshire resident children (U16) were reported via STATS19 as having been injured in a road traffic collision. This equates to 7% of all West Berkshire resident casualties during that period.

The following graph illustrates the age distribution of West Berkshire’s resident child casualties in which it can be seen a larger number of the casualties are aged 11-15.

Figure 1 - Resident child casualties by age (2017 - 2021)

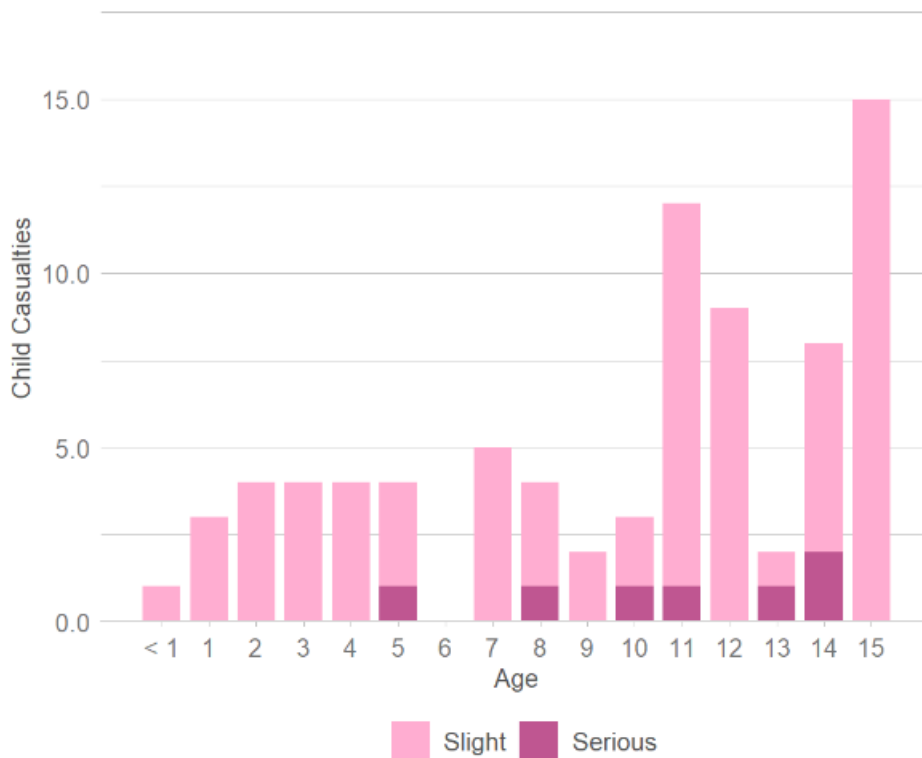
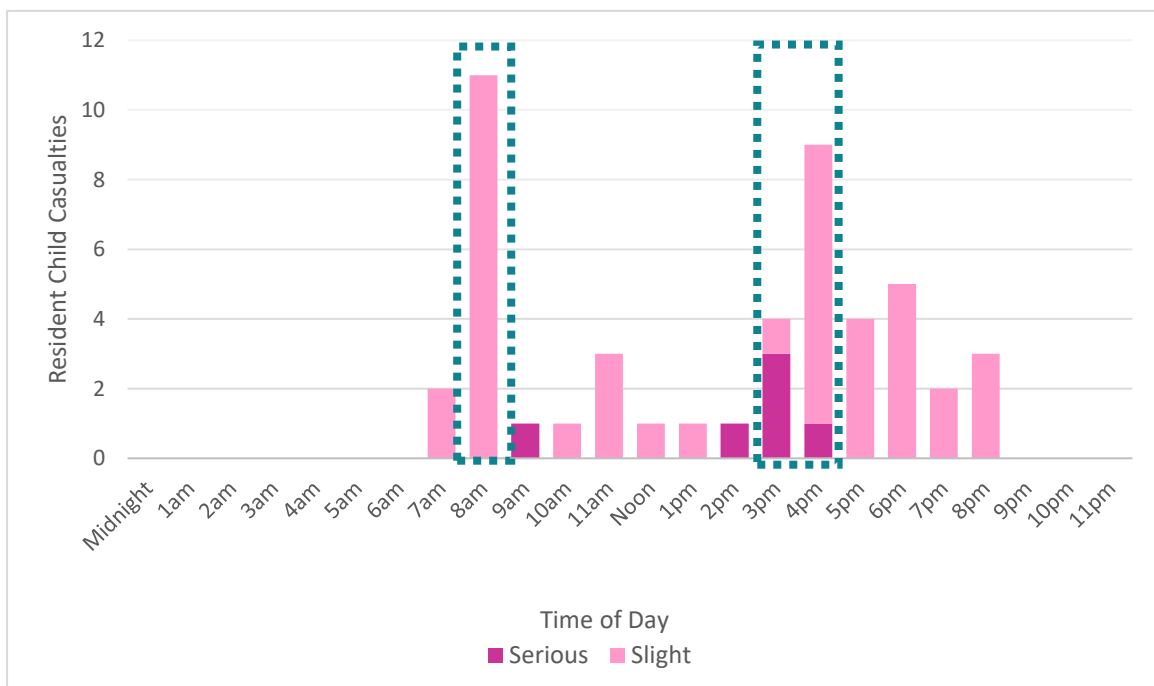


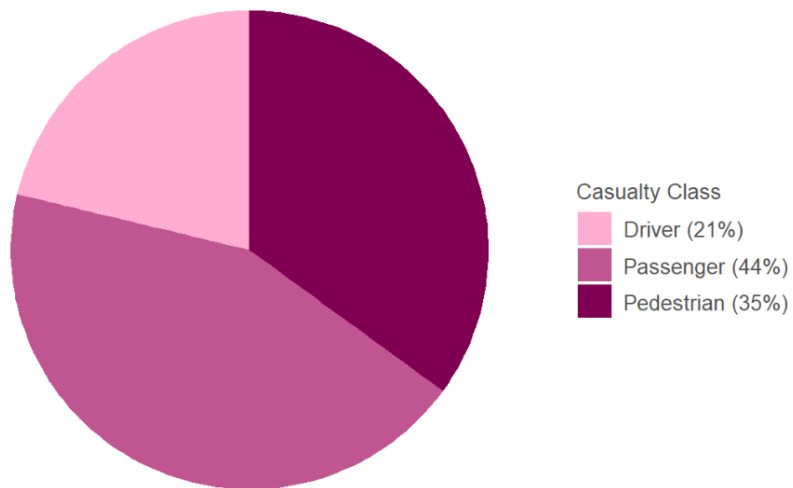
Figure 2 shows two distinct peaks in the time of day at which resident child casualties are injured on West Berkshire’s roads, those being 8-9am and 3-5pm which is consistent with, but not exclusive to, the start and end of the school day.

Figure 2 - Resident Child casualties in West Berkshire by time of day (2017 - 2021)



However, Figure 3 shows that the majority (44%) of resident child casualties are in fact passengers of vehicles and just 28 casualties (35%) are pedestrians. All resident child casualties reported as drivers (21% n.17) were riders of pedal cycles.

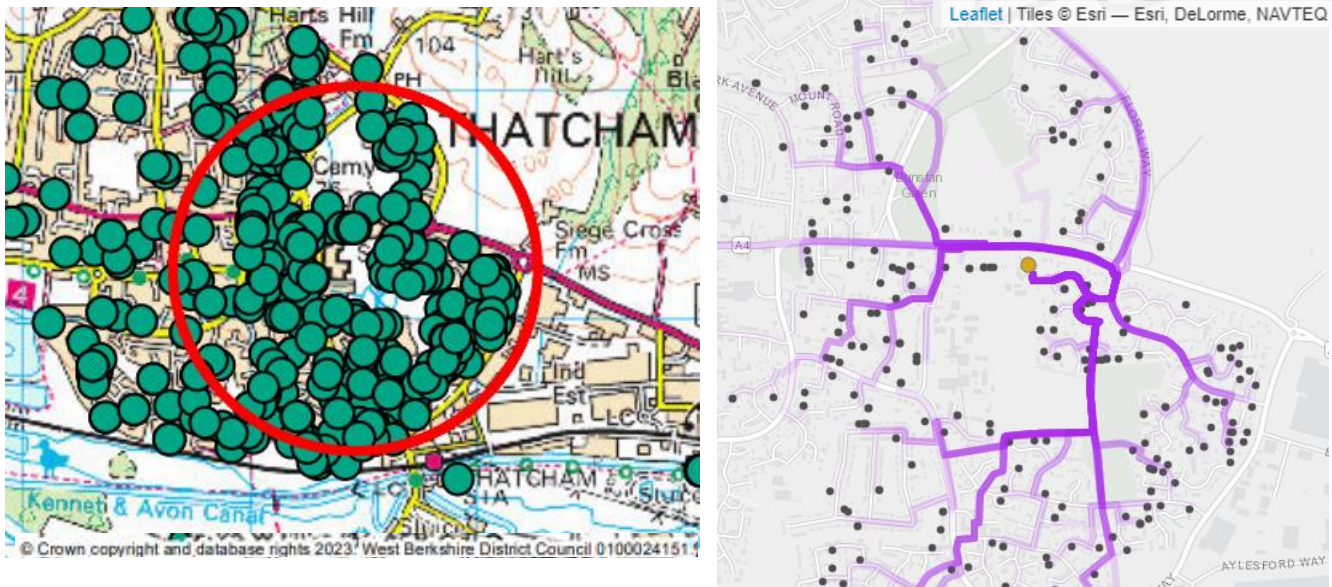
Figure 3 - Resident Child Casualties by Casualty Class (2017 - 2019)



## FRANCIS BAILY PRIMARY SCHOOL

The map excerpts below illustrate the location of the school and surrounding pupil home locations (green dots) on the left. The darker purple lines on the map to the right indicate favoured routes to school from pupil homes within a 1-mile radius (black dots). It should be acknowledged that the routing app has detected an off-road walking and cycling route to the south of the school and is recommending this as a favoured route for pupils travelling from the south. Evidence of traffic patterns on this route is, for obvious reasons, unavailable.

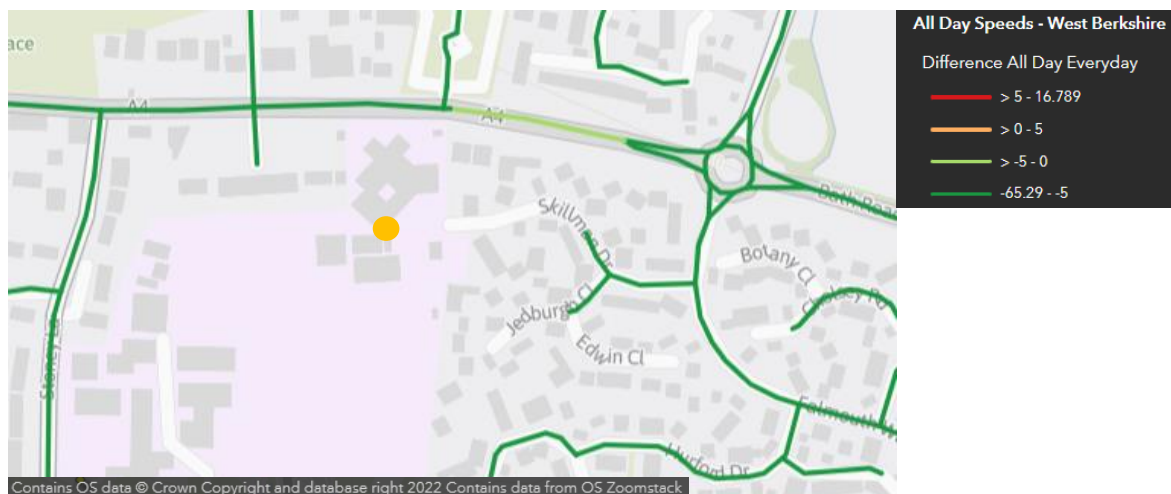
Figure 4 - School Location and Favoured Active Travel routes



## TRAFFIC SPEED

Using the [Speed Compliance Tool](#) (SCT), insight into All Day Average speeds on the roads surrounding the school can be collected. The extract from SCT below shows that All Day speeds are compliant with the 30mph speed limit that applies to both the A4, London Road to the north of the school site and Skillman Drive and Falmouth Way, roads leading to the vehicular entrance of Francis Baily Primary School.

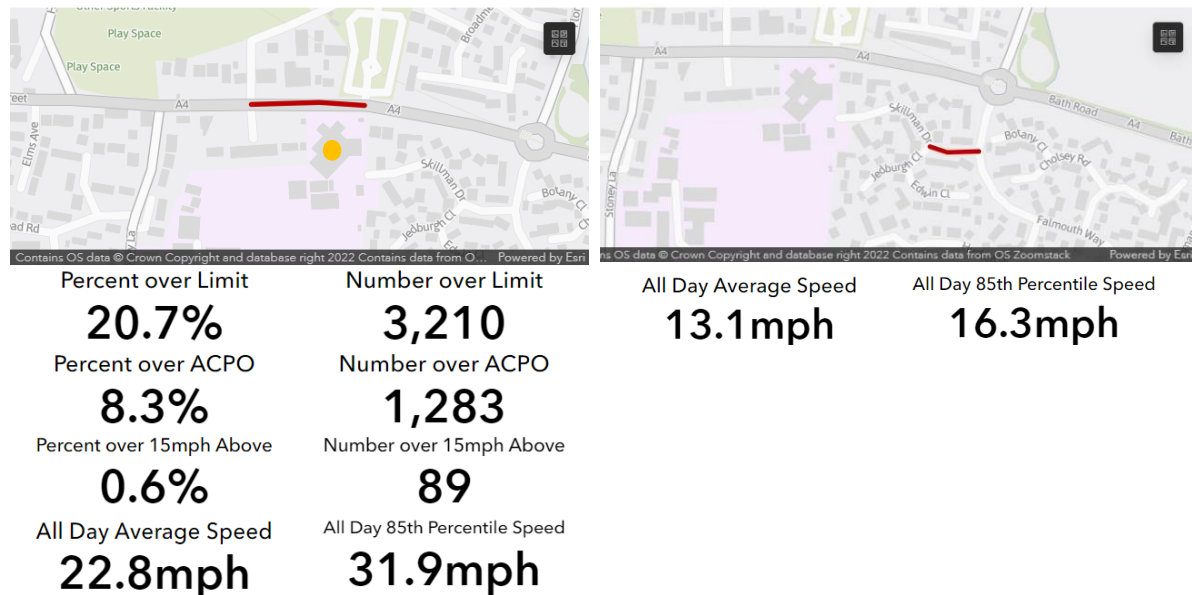
Figure 5 - All Day Average Speed Compliance





More specifically, the following excerpt provides more detail on the level of compliance on the A4, London Road on the immediate 100m stretch fronting the school. Here we can see 80% of drivers are travelling at or below the posted speed limit throughout the day.

Figure 6 - Speed compliance by road sections

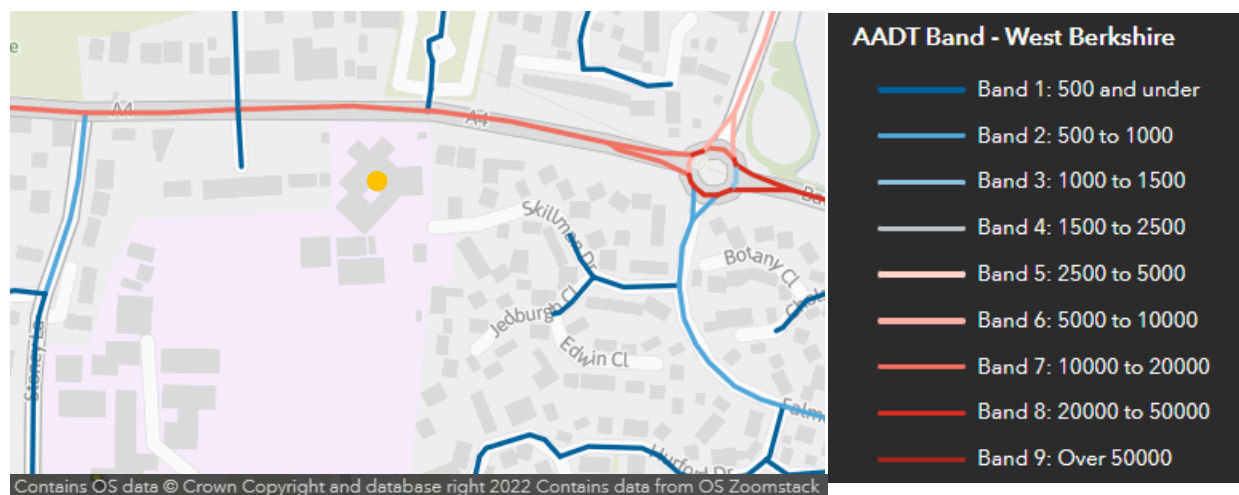


Likewise, detail on speeds on Skillman Drive (shown above on the right) reveals All Day average speeds are well below the posted speed limit and there is 100% compliance. Data is available for more specific time periods, such as the morning peak – 7am – 9am, however on low-flow roads such as Skillman Drive this data can be more suppressed and less reliable.

### TRAFFIC VOLUME

A second barrier to active travel was concern with children navigating busy roads. The Annual Average Daily Traffic (AADT) indicates the volume of traffic using each road and can be captured from modelled data in SCT. Unsurprisingly the A4, London Road carries a high volume of traffic, between 10,000 and 20,000 vehicles. Falmouth Way carries 1,000 to 1,500 vehicles each day on average whilst Skillman Drive, together with other residential roads in the vicinity, reports 500 vehicles or less.

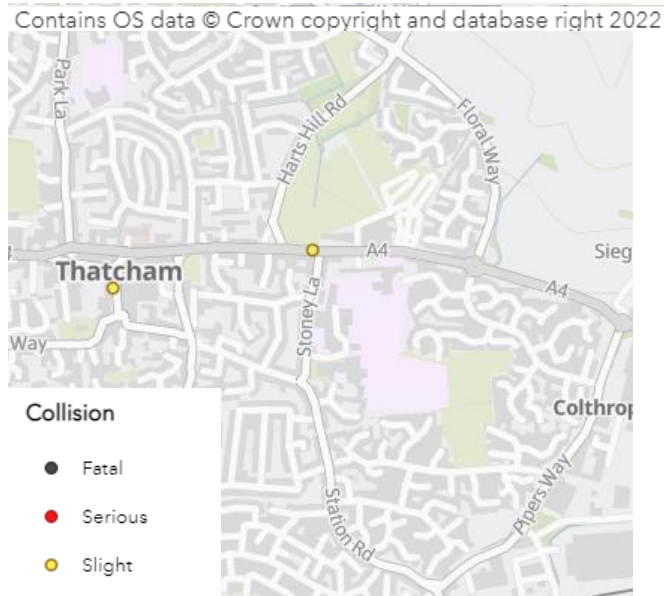
Figure 7 - Annual Average Daily Traffic (AADT) Levels



## COLLISION HISTORY

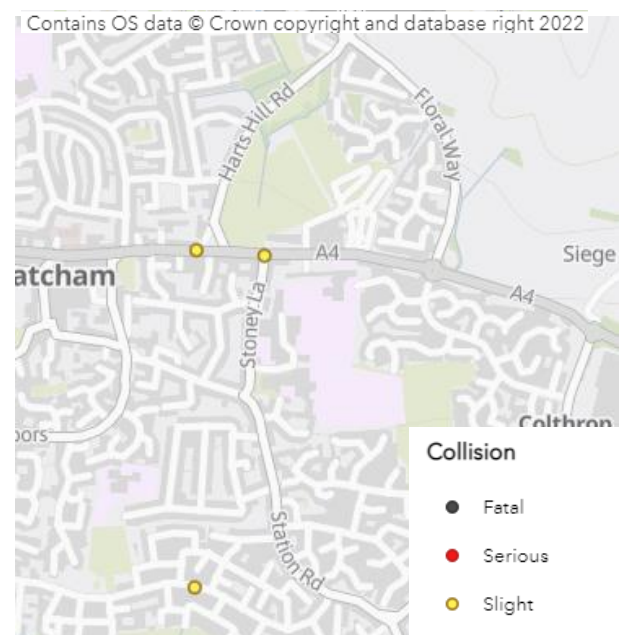
Having previously reported a total of 80 resident child casualties in West Berkshire between 2017 and 2021, we now look in more detail at the collisions that have occurred on the road network surrounding the school. Using STATS19 records captured in CrashMap Pro (Local) we can identify collisions involving child (U16) casualties, separated by class – pedestrians and pedal cyclists.

Figure 8 - Child Pedestrian Casualties 2017 – 2021



Between 2017 and 2021 there were just two reported collisions involving child pedestrians in the vicinity of the school. In both instances the child pedestrian casualties experienced slight injuries. Neither collision occurred during the typical school run journey times.

Figure 9 - Child Pedal Cyclist Casualties 2017 – 2021



During the same period there have been 3 collisions involving child pedal cyclists near Francis Baily School. Two of these 3 collisions involving child pedal cyclists occurred during typical school run journey times and 1 involved the pedal cyclist crossing the carriageway. All 3 collisions resulted in just slight injury.

Contributory factors (CFs) may be recorded against collisions that, in the Police Officer's view, were likely to be related to the incident. Whilst they may not be the result of extensive investigation they can be used as a general guide for identifying factors as possible concern and informing where skills or knowledge deficits may be addressed.

The pedestrian collisions detailed above were attributed with the contributory factors; CF802 'failed to look properly', CF808 'careless, reckless or in a hurry', CF806 'impaired by alcohol', all attributed to the child pedestrian injured on the A4. CF405 'failed to look properly', CF403 'poor turn or manoeuvre', CF602 'careless, reckless or in a hurry', CF601 'aggressive driving' and CF509 'distraction in vehicle' were attributed to the driver involved in the 2<sup>nd</sup> of the pedestrian collisions.

The pedal cyclist collisions were attributed CF403 'poor turn or manoeuvre', CF405 'failed to look properly', CF404 'failed to signal or misleading signal', CF407 'too close to cyclist, horse or pedestrian', and CF406 'failed to judge other person's path or speed' but it is not possible to identify which CF was attributed to which driver/rider.

#### ADDITIONAL ACTIVE TRAVEL BARRIERS

In addition to the barriers to independent active travel identified through the research by So-Mo data available through Experian's Mosaic segmentation of communities gives further insight into possible barriers to active travel.

Figure 10 - Bicycle Ownership Index

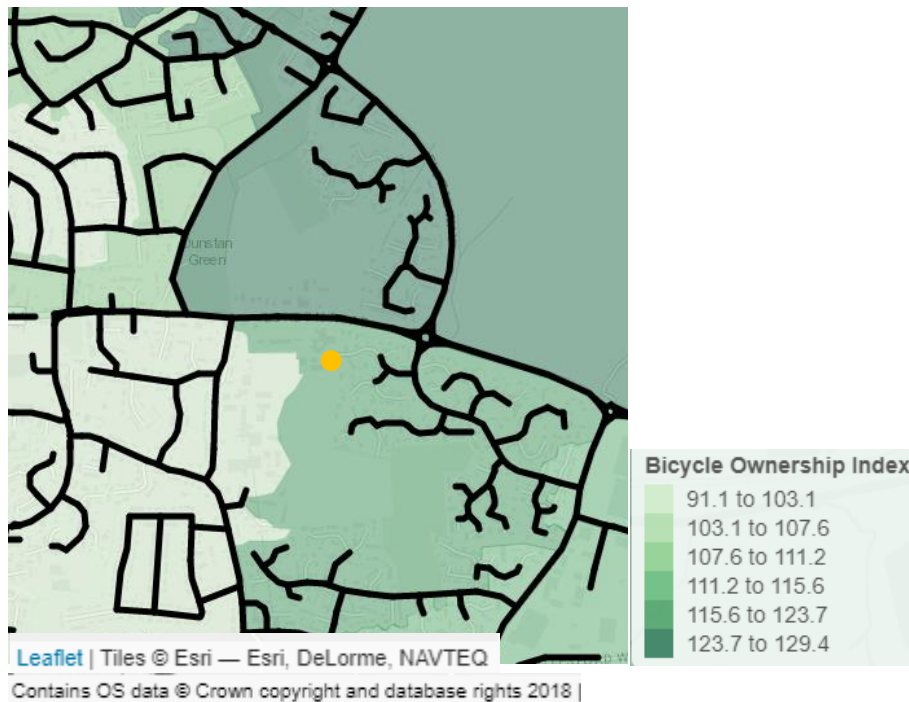


Figure 10 shows the level of bicycle ownership within the communities around Francis Baily Primary School. The data is expressed as 100-based indices, across Lower Super Output Areas (LSOAs) and reveals bike ownership is around 11% above the national average in residences to the north and south-east of the school but lower towards Thatcham Town to the west where bike ownership is slightly below the national average.

The above bike ownership index broadly inversely corresponds with the following image, Figure 11, illustrating a level of Exercise Index. Residents of Thatcham Town to the west of Francis Baily Primary School for whom bike ownership was low, have a higher No Exercise index. The residences to the south and south-east of the school, where most school pupils reside, have a No Exercise index below the national norm and are therefore more likely to do some form of exercise.

Figure 11 - Level of Exercise Index

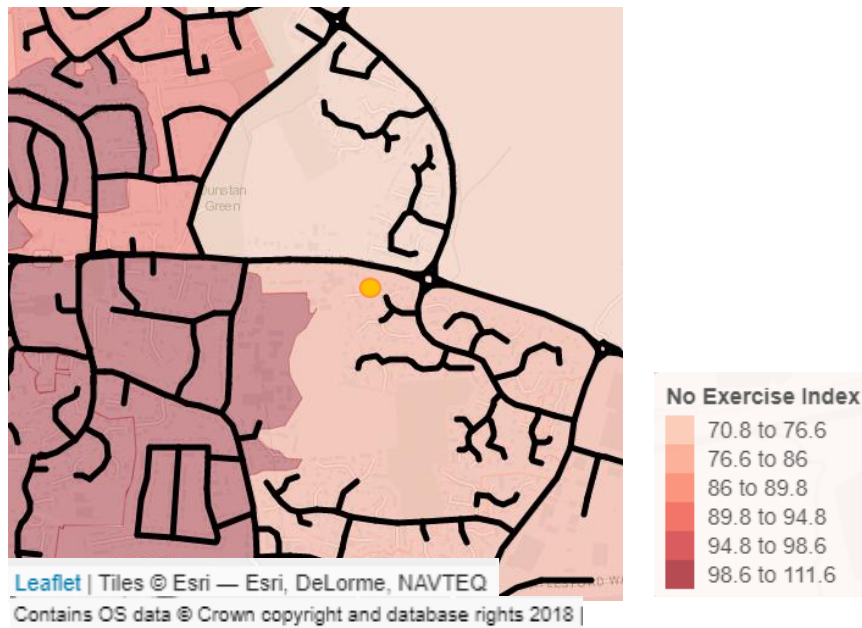
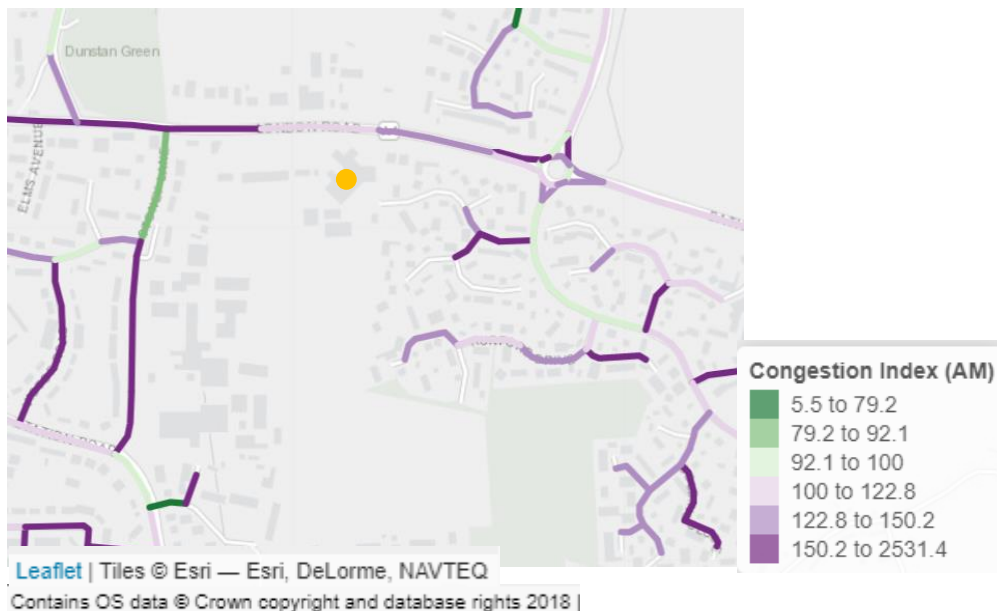


Figure 12 shows a congestion index (AM) for the roads around Francis Baily School. This index is calculated as the ratio between AM peak average speeds and free-flowing (night-time) average speeds. Perhaps unsurprisingly the congestion index shows greater difference between peak average speeds and free-flowing speeds, thereby indicating congestion, on Skillman Drive and the A4, London Road than other nearby roads, albeit the latter to a lesser degree.

Figure 12 – AM Congestion Index



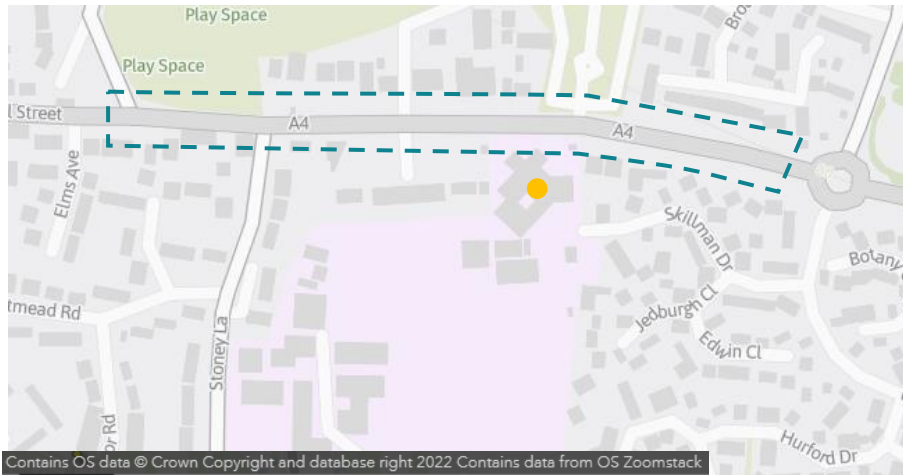
## INFRASTRUCTURE RATING

The Active Travel Tool has been created to allow road authorities to model the variables that make active travel safer, more pleasant and less stressful and to be able to assess how different facilities would perform both in terms of iRAP Star Ratings and the level of traffic stress on different roads.


For Francis Baily School two areas of network have been assessed to understand the current Star Rating and level of stress associated with the existing facilities. Basic descriptors and a range of attributes have been changed to most closely reflect the assessed area’s characteristics.

*A4, London Road*



Figure 13 – Assessed Area 1





The existing pedestrian footway on the southern side of London Road is given a 4-Star Rating and a level of traffic stress evaluation of ‘Moderate’. Moderate stress is considered the level of stress most adults will tolerate.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |





















The shared footway and cycleway on the north is given a 5-Star Rating for Pedestrians and Cyclists and again a moderate level of traffic stress.

| Footway and cycleway   | Pedestrian  |  | Bicycle     |  |
|--|-------------|--|-------------|--|
|  | Star Rating | Level of Traffic Stress evaluation   | Star Rating | Level of Traffic Stress evaluation   |
| Light segregation from motorised traffic (off-road footway/cycleway) | ★★★★★       | <br>Moderate stress | ★★★★★       | <br>Moderate stress |

The A4, London Road has an intermittent mandatory on-road cycle-lane facility for cyclists travelling westbound. Whilst there are WandOrca products providing light segregation, this feature is not recognised by iRAP and therefore for the purposes of this assessment the facility is considered un-segregated. Overall the facility is scored as a 5-Star Rating for cyclists with a moderate traffic stress level.

| Cycleway in direction of motorised traffic | Bicycle   |   |
|--|---|---|
|  | Star Rating   | Level of Traffic Stress evaluation  |
| No segregation (on-road lane)              |  | <br>Moderate stress |

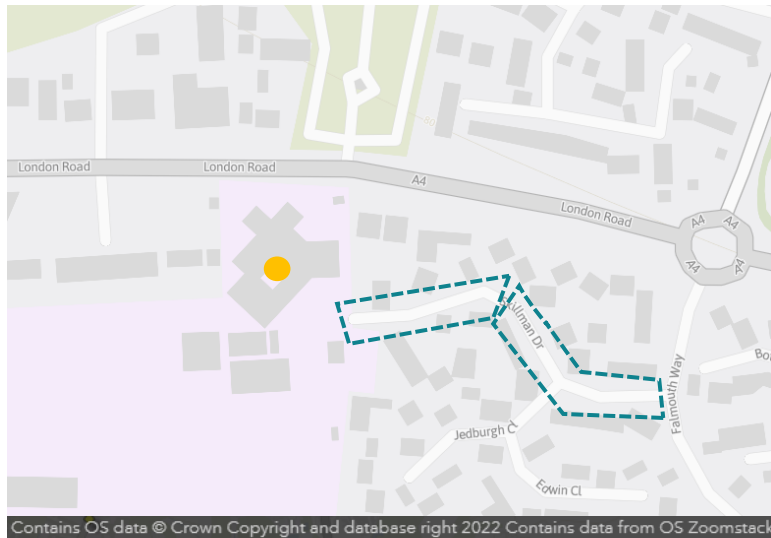
For pedestrian crossing, the tool provides values for a variety of different facilities. The characteristics of the section have been used to determine that the existing signal-controlled crossings on the A4 within the assessed area achieve a 5-star rating and are also attributed a moderate level of stress.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |  | <br>Moderate stress |
| Raised informal crossing without traffic island |  | <br>High stress     |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |


### Skillman Drive

The second area of road infrastructure to be assessed is Skillman Drive, the vehicular access road to Francis Baily Primary School. Due to the length of this road from its junction with Falmouth Way it has been assessed in two parts as shown in Figure 14.

Figure 14 - Assessed Area 2



The footways on Skillman Drive offer no segregation between pedestrians and motor vehicles. Based on the attributes of the 2 assessed areas both are given a 3-Star rating and evaluated as areas of moderate stress.

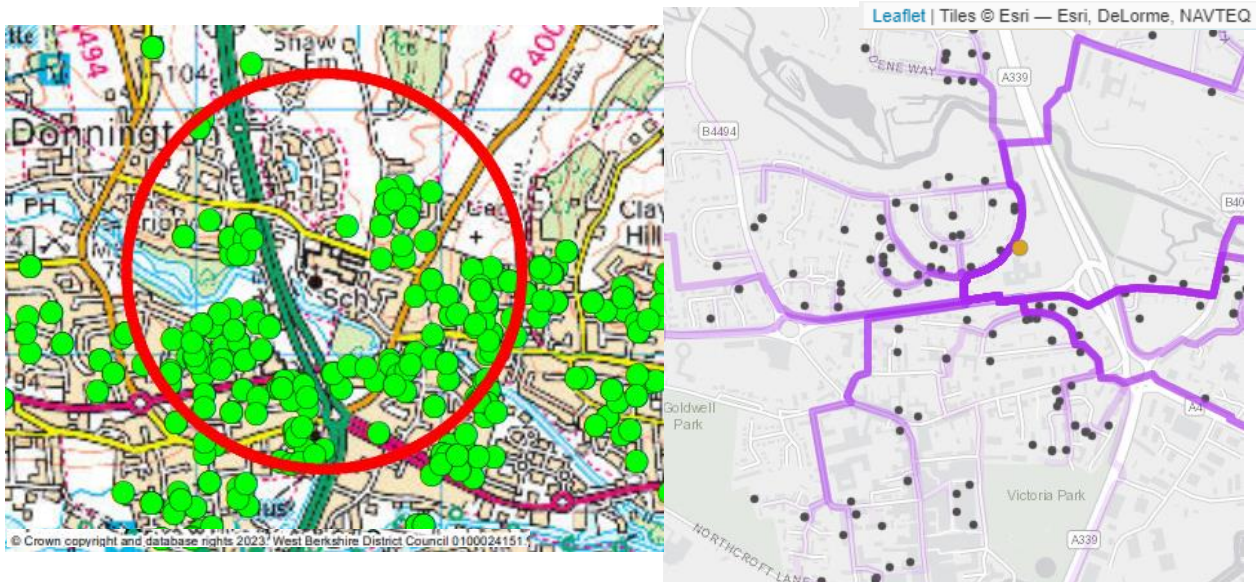
| Pedestrian Footway                | Pedestrian  |  |
|-----------------------------------|-------------|--|
|                                   | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation<br>(0-1m) | ★★★☆☆       | <br>Moderate stress |

As there is no shared facility or cycleway on Skillman Drive no assessment has been carried out on these active travel categories. Skillman Drive is a residential cul-de-sac and it is unlikely that a formal pedestrian crossing would be appropriate so no further assessment has been undertaken on this active travel category either.

## WINCHCOMBE PRIMARY SCHOOL

Wincombe Primary School is on the north-west side of Newbury as shown by the excerpt below with pupils residing in all directions to the school. Shown on the right-hand side are the favoured walking and cycling routes based on pupil starting points on their home to school (& vice versa) journeys.

Figure 15 - School Location & Favoured Active Travel Routes



## TRAFFIC SPEED

All day average speeds are shown, in Figure 16, to be below the posted speed limit on all roads around Wincombe Primary.

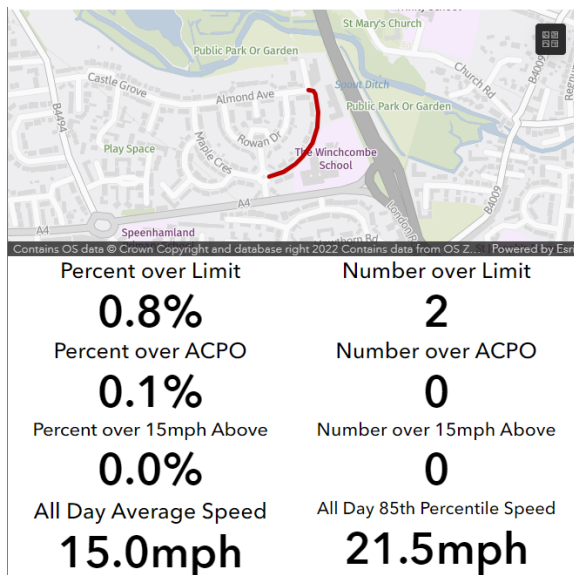
Figure 16 - All Day Average speed compliance



Compliance with the speed limit is further evidenced in the detailed speed data for Maple Crescent, from which Wincombe Primary is accessed. As Figure 17 illustrates average all day speeds are 15mph below the speed limit.



Figure 17 - Speed compliance by road sections



## TRAFFIC VOLUME

Figure 18 shows that traffic volumes on Maple Crescent are low with an estimated volume of less than or equal to 500 vehicles per day. Referring back to the output from the routing app one of the favoured walking/cycling routes to & from the school incorporates the A4, Western Avenue where traffic volumes are estimated at 10,000 – 20,000 vehicles per day.

Figure 18 - Annual Average Daily Traffic (AADT) Levels



## COLLISION HISTORY

Based on STATS19 collision reports there have been no collisions involving child pedestrian or pedal cyclists between 2017 and 2021 in the immediate vicinity of the school. Figure 19 and Figure 20 show that there have been a small number of collisions resulting in injury to child vulnerable road users approximately 400+ metres from the school (as the crow flies) but the location of these collisions are not on routes expected to be well-used by pupils walking or cycling to/from school and therefore pupils wider exposure to risk while walking or cycling remains low.

Figure 19 - Child Pedestrian Casualties (2017 - 2021)



Figure 20 - Child Pedal Cycle Casualties (2017 - 2021)



Only the pedestrian-involved collision shown in Figure 19 was attributed any contributory factors and this was CF802 'failed to look properly'.

#### ADDITIONAL ACTIVE TRAVEL BARRIERS

Data from the Active Streets Assessment tool has been collated to give further detail on possible additional barriers parents and pupils of Winchcombe Primary School face in adopting active travel.

Figure 21 shows that Bike ownership immediately surrounding Winchcombe Primary is below the national norm and this corresponds with the higher No Exercise index values for the same areas shown in Figure 22. This indicates that parents, and children, closest to the school are less likely to own a bike and less likely to spend time exercising. Pupils that reside further away from school are however more likely to cycle to school with higher bicycle ownership levels and a higher propensity to exercise.

Figure 21 - Bike Ownership Index

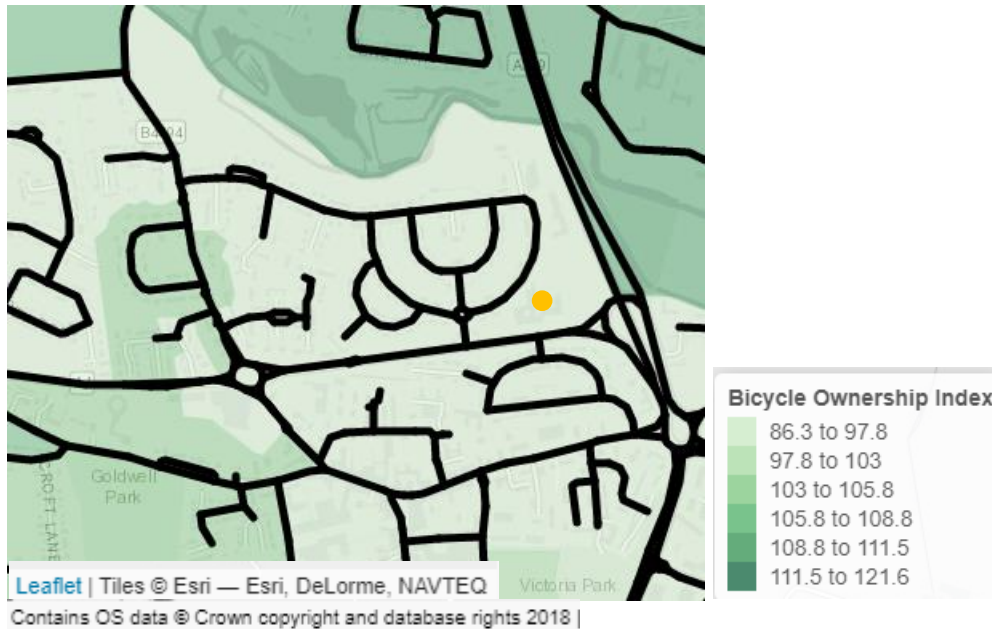
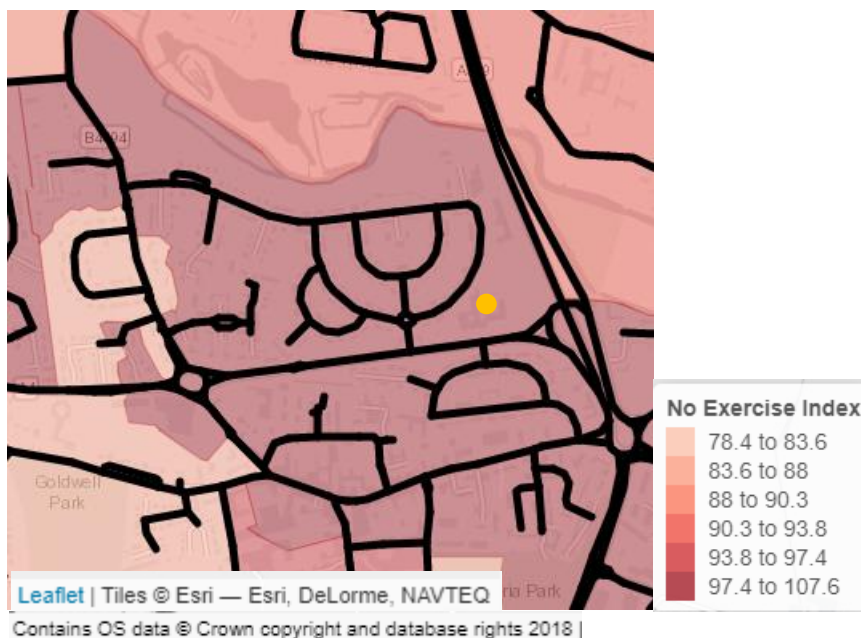
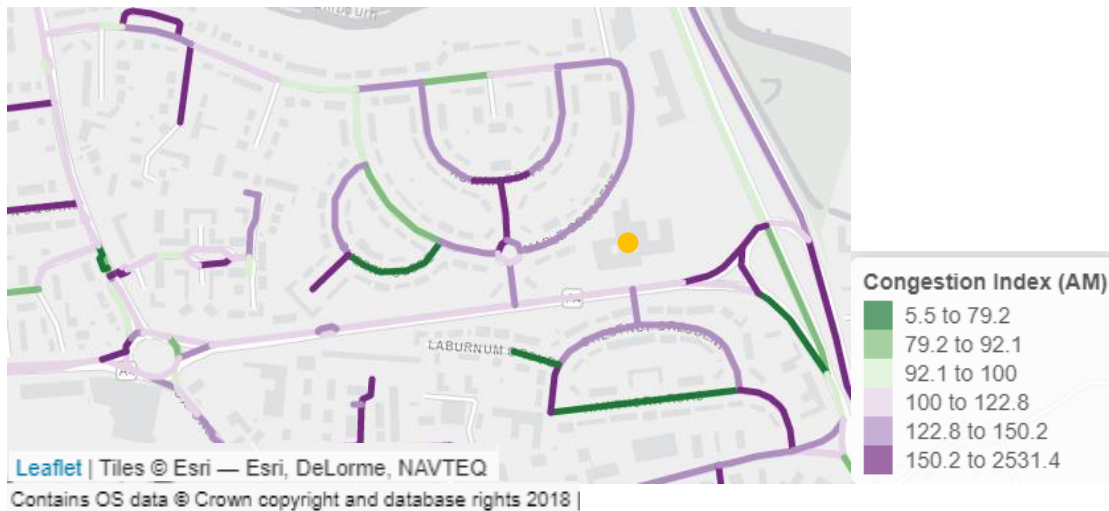


Figure 22 - Level of Exercise Index



The roads around a school can often become congested at peak times however the congestion index value for Maple Crescent during the AM peak is 130, suggesting that whilst peak speeds aren't quite free-flowing, congestion levels are not considered to be any worse than average.

Figure 23 – AM Congestion Index



### INFRASTRUCTURE RATING


Based on the outputs from the routing engine on pupil favoured routes to and from school, plus local knowledge three areas of network in the vicinity of Winchcombe Primary have been assessed using the Active Travel Tool.





















#### Maple Crescent East

Figure 24 - Assessed Area 1



There is a footway on either side of Maple Crescent at Winchcombe Primary although no formal pedestrian crossing within 100m of the school entrance. From the four categories of Active Travel in the Active Travel Tool, the pedestrian footway has been assessed to understand the level of existing ‘built-in’ safety as a Star Rating and level of traffic stress. Secondly the star rating and level of associated traffic stress of different pedestrian crossing types is examined, if a pedestrian crossing were to be considered for Maple Crescent.

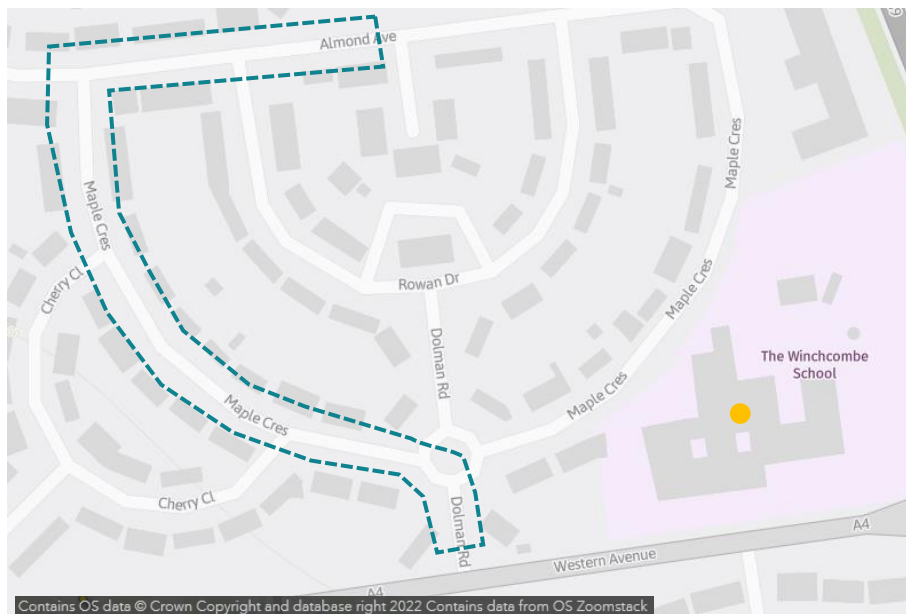
| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |    | <br>Moderate stress   |
| Raised informal crossing with traffic island    |   | <br>High stress      |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |


### Maple Crescent West & Almond Avenue

The second area to be assessed for its level of 'built-in' safety and the level of traffic stress pedestrians and cyclists are exposed to is the western side of Maple Crescent and the western end of Almond Avenue.

Figure 25 - Assessed Area 2



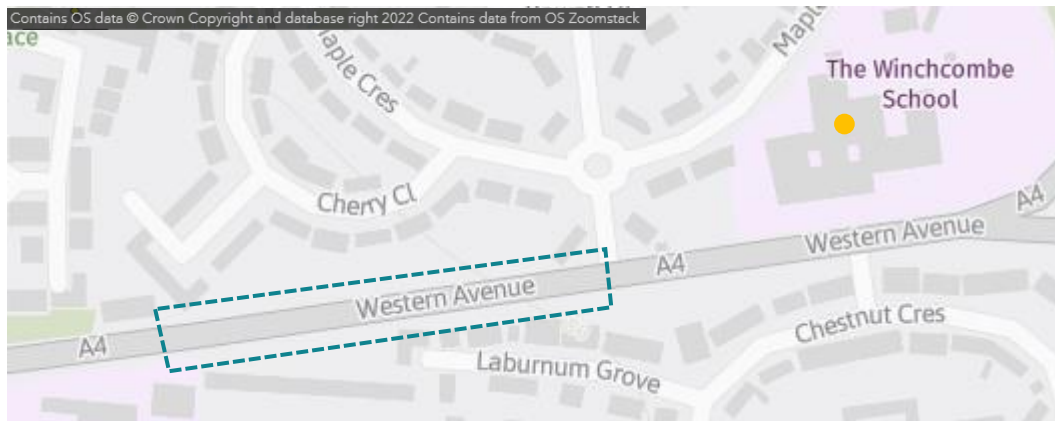
The pedestrian footway facilities here are very similar to those outside the school and as such are also awarded a 4-star rating and a moderate level of traffic stress.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |


### Western Avenue

The final area to be assessed for pupils walking or cycling to Wincombe Primary is Western Avenue and primarily relates to those pupils travelling from homes to the south of the school. Western Avenue is a 40mph road with operating speeds (85<sup>th</sup> percentile) close to 40mph and traffic volumes of between 10,000 and 20,000 vehicles.





















Figure 26 - Assessed Area 3



The higher level of risk associated with the higher speed, higher trafficked route is reflected in the 3-star rating and high level of stress for pedestrians using the adjacent footway, despite the light segregation from the carriageway edge.

| Pedestrian Footway                    | Pedestrian  |   |
|---------------------------------------|-------------|---|
|                                       | Star Rating | Level of Traffic Stress evaluation  |
| Light segregation (non-physical 0-1m) | ★★★★★       | <br>High stress |

There is an existing 2-stage signal-controlled crossing on Western Avenue with a central island. Based on the attributes of the road this existing facility is awarded a 5-star rating with a moderate level of stress. Interestingly the presence of pedestrian fencing on the approach to the existing crossing has raised the star rating of an informal crossing to 5-stars although the level of stress is very high.

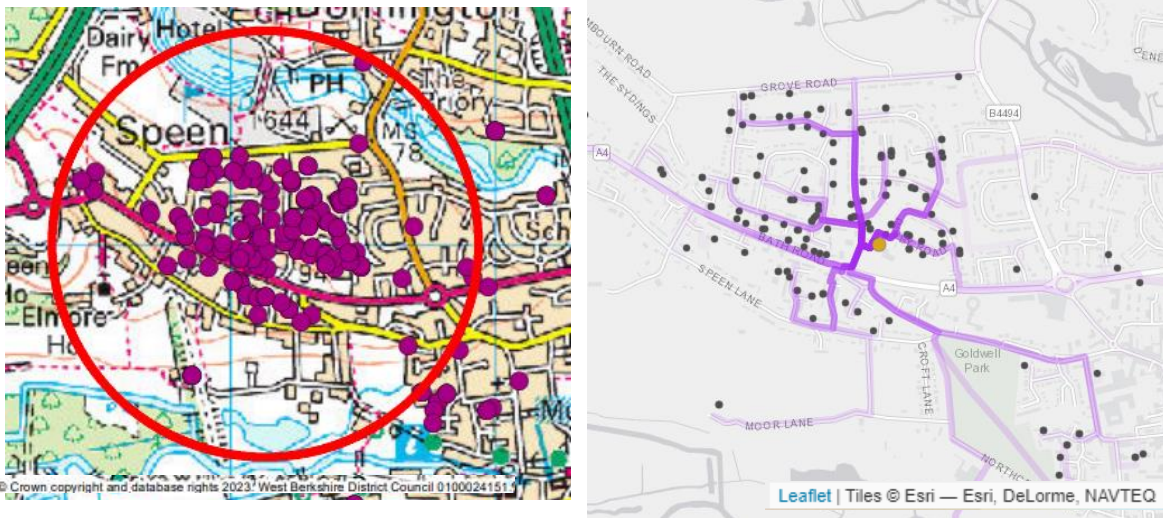
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>Very high stress  |
| Traffic island                                  |    | <br>Very high stress  |
| Zebra (Unraised; no traffic island)             |    | <br>High stress       |
| Raised informal crossing without traffic island |    | <br>NA                |
| Unraised zebra with traffic island              |    | <br>High stress       |
| Raised informal crossing with traffic island    |    | <br>NA                |
| Raised zebra without traffic island             |  | <br>NA              |
| Raised zebra with traffic island                |  | <br>NA              |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Moderate stress |



## ROBERT SANDILANDS PRIMARY SCHOOL

Robert Sandilands Primary School is relatively close to Winchcombe Primary School, being just 1km further west along the A4. The school has two entrances, Digby Road to the northeast and Brummell Road to the west. The routing app has only identified the entrance from Digby Road and therefore highlights a route through the school from the west. For the purposes of this study we can disregard this route through the school and focus on those leading to the perimeter of the school site.

Figure 27 - School Location & Favoured Active Travel routes



### TRAFFIC SPEED

Data from the Speed Compliance Tool (SCT) indicates there is no evidence of speeding on the roads around Robert Sandilands Primary with all day average speeds compliant with the posted speed limit. This applies to both the residential streets of Brummell Road and Digby Road subject to a 30mph limit and the A4, Western Avenue that is subject to a 40mph limit.

Figure 28 - All Day Average speed compliance



Looking in more detail at Brummell Road, speed compliance figures confirm all day average speeds are less than half the speed limit and 85<sup>th</sup> percentile speeds below 20mph. All day average speeds on

Digby Road, the eastern approach road to the school, are lower still with all day average speeds of 11mph. Again 85<sup>th</sup> percentile speeds are less than 20mph.

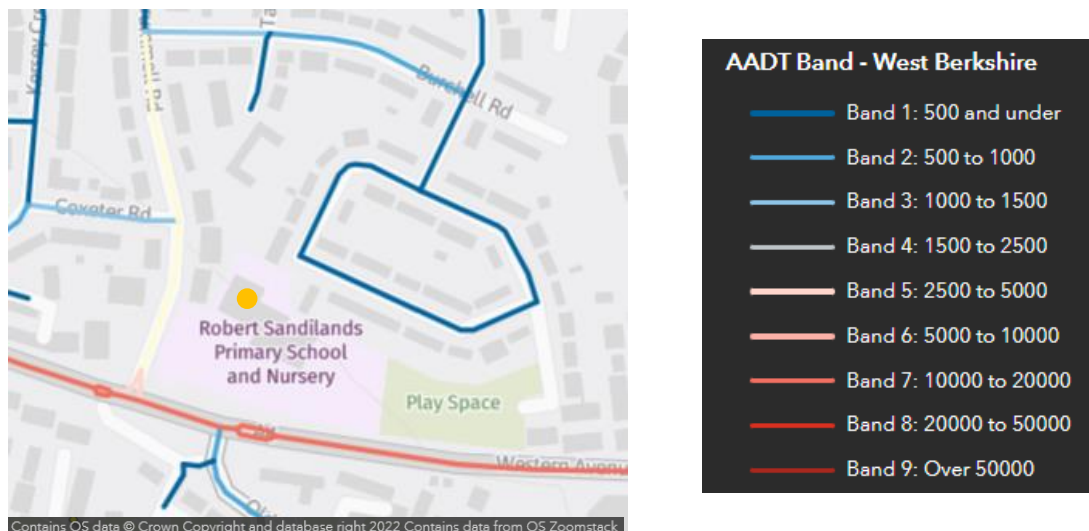
Figure 29 - Speed Compliance by road sections



### TRAFFIC VOLUME

Daily traffic volumes on Digby Road are very low at 500 vehicles or less although this is not surprising given the nature of this road as a residential access road. Traffic volumes on Brummell Road, a residential distributor to this area of Speen are higher at between 2,500 to 5,000 vehicles daily. The A4, Western Avenue has higher estimated traffic volumes still, with daily volumes between 10,000 – 20,000.

Figure 30 - Annual Average Daily Traffic (AADT) Levels



## COLLISION HISTORY

Examining local traffic collision reports, there have been no collisions involving child pedestrians or pedal cyclists between 2017 and 2021 in the vicinity of Robert Sandilands Primary.

Figure 31 - Child Pedestrian & Pedal Cycle casualties (2017 - 2021)



## ADDITIONAL ACTIVE TRAVEL BARRIERS

Like Winchcombe Primary the Bicycle ownership index values immediately around Robert Sandilands Primary are low, increasing as distance from the school increases. Conversely, the No Exercise index values, shown in Figure 33 increase as distance from the school increases.

Figure 32 - Bike Ownership Index

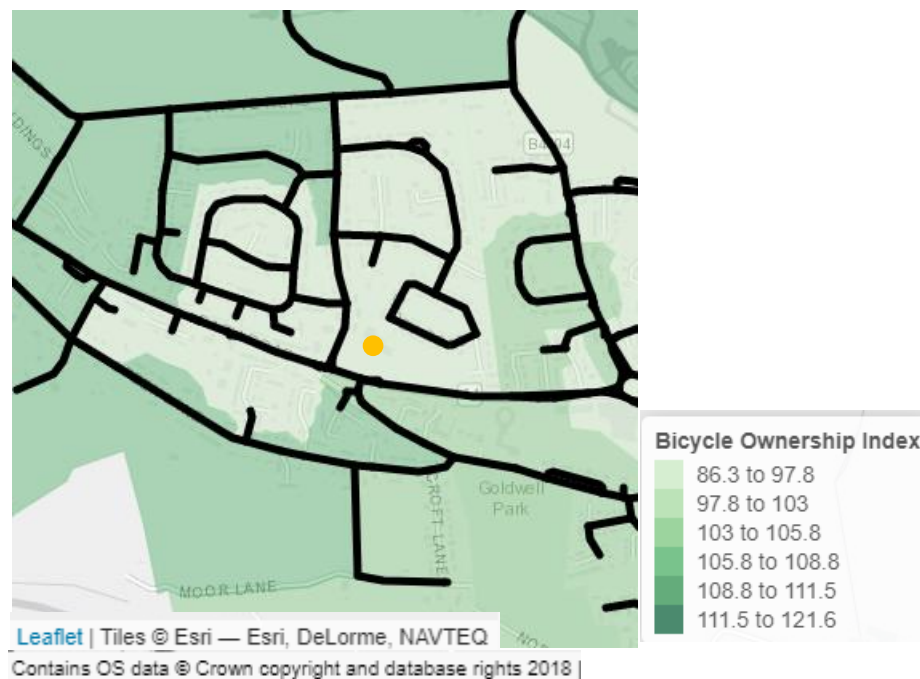
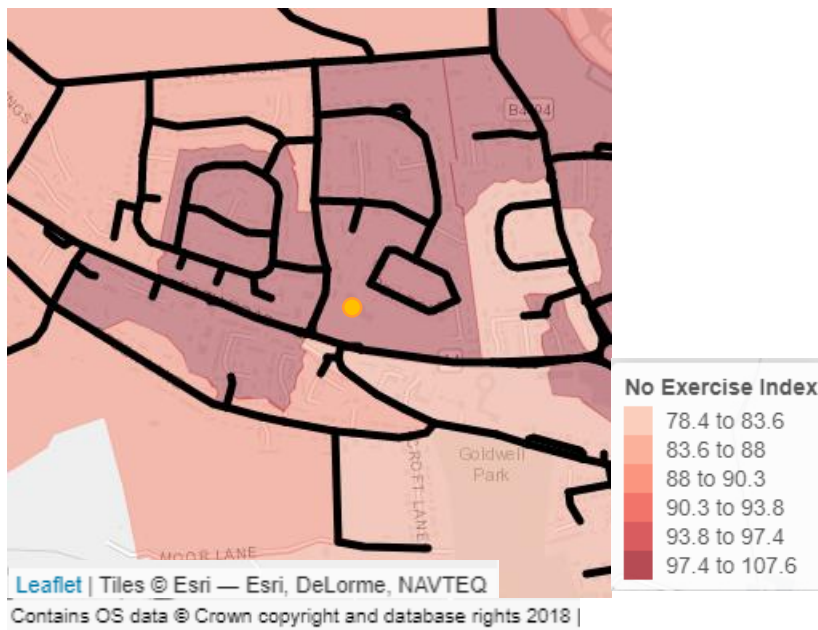


Figure 33 - Level of Exercise Index



The AADT volumes for roads around Robert Sandilands have confirmed Brummell Road is the busier of the two approach roads to the school. Despite this the congestion index for Brummell Road is 136 indicating free-flowing speeds tend to be around 30% higher than peak speeds which is the average level of congestion for a road so whilst the route will be busy, it is unlikely to be overly congested.

Figure 34 – AM Congestion Index

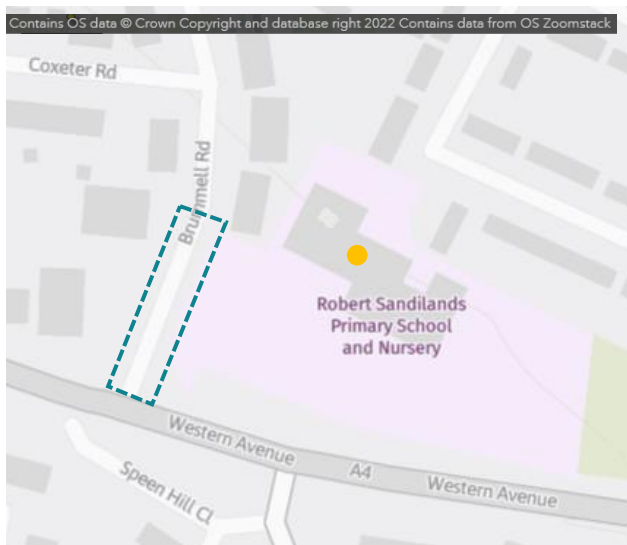


## INFRASTRUCTURE RATING


### *Brummell Road*

The infrastructure on Brummell Road has been assessed using the Active Travel Tool as this has been identified as the most likely favoured route to school. More detail on the area assessed is shown Figure 35.





















Figure 35 - Assessed Area 1



The footways on Brummell Road are set back from the edge of carriageway offering some segregation between vehicles and pedestrians; they are given a 4-Star rating and assigned a moderate level of traffic stress.

| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|-------------|--|
|                                       | Star Rating | Level of Traffic Stress evaluation   |
| Light segregation (non-physical 0-1m) | ★★★★☆       | <br>Moderate stress |

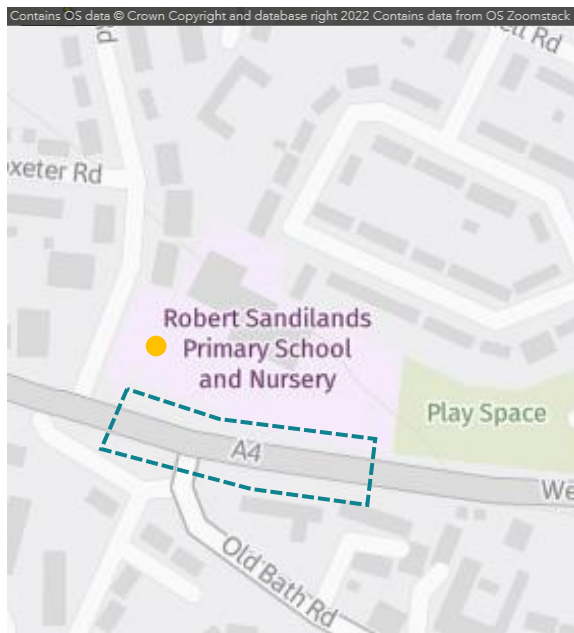
There is evidence that improvements have been made on Brummell Road for pedestrians accessing the school with a new raised Zebra crossing having been installed sometime between 2019 and 2021. This type of crossing facility is awarded a 5-Star Rating and a moderate level of stress.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |  | <br>Moderate stress  |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |


### *Western Avenue*

With the knowledge that some pupils travel from the south, crossing Western Avenue via an existing signal-controlled crossing with central island this section of Western Avenue has also been examined using the Active Travel tool.





















Figure 36 - Assessed Area 2



The speed limit on this length of Western Avenue is lower than the stretch near Winchcombe Primary being subject to a 30mph limit. Hence the lightly segregated pedestrian footway is given a better 4-star rating and attributed a lower level of traffic stress at 'moderate'.

| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|-------------|--|
|                                       | Star Rating | Level of Traffic Stress evaluation   |
| Light segregation (non-physical 0-1m) | ★★★★☆       | <br>Moderate stress |

The change in speed limit also influences the star ratings attributed to the various pedestrian crossing types with significant improvement in the star ratings awarded to each type compared to the earlier assessment of another crossing on Western Avenue. The existing signal-controlled crossing with a central island is awarded a 5-star rating and an indication that pedestrians would encounter a low level of stress whilst using the crossing.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |    | <br>Moderate stress   |
| Raised informal crossing with traffic island    |    | <br>High stress       |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |



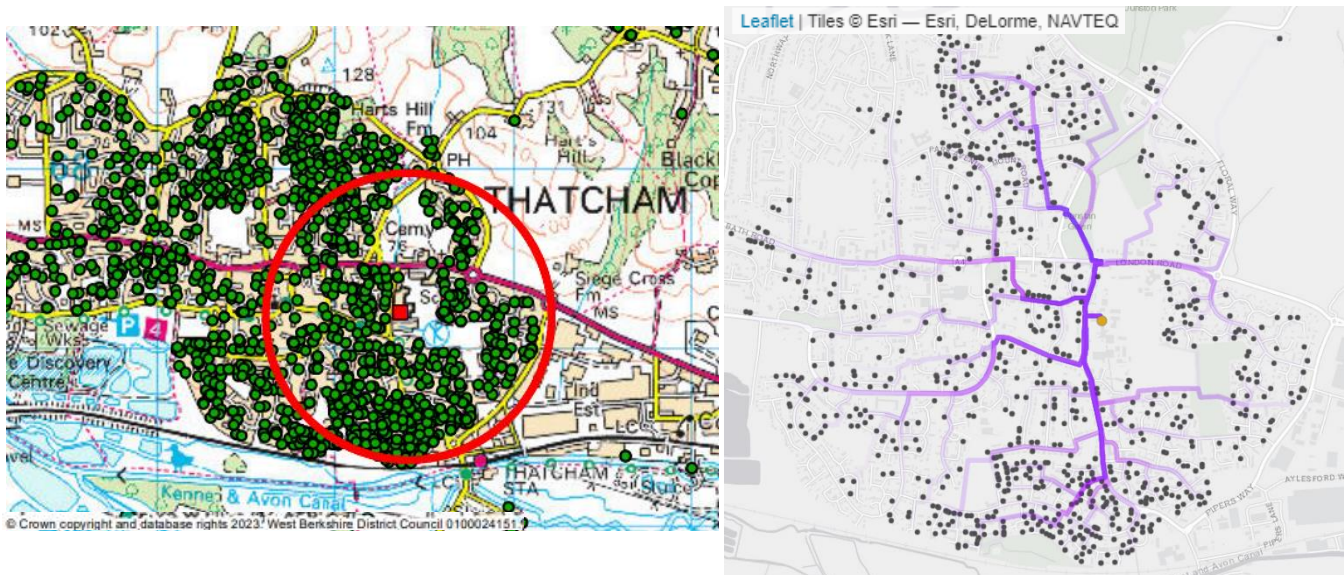
The study by So-Mo into independent travel barriers identified that “Some parents think primary age children are not ready to travel to school independently due to their young age and lack of practical skills.”<sup>1</sup> Children attending secondary school are however often considered more able and responsible to travel to school independently, despite the evidence from West Berkshire’s collision statistics indicating that as age increases, particularly between 11-15 years, the number of casualties increases.

Having looked at the infrastructure around Primary Schools in the west of the authority the report will now examine transport related data, driver behaviour and review the level of ‘built-in’ safety within existing infrastructure around two secondary schools on the west side of the authority to see how the evidence differs to Primary Schools. In understanding the differences (or not as the case may be) this might help in breaking down barriers to independent travel for primary age children.

## KENNET SECONDARY SCHOOL

Kennet Secondary School is located in Thatcham, in close proximity to Francis Baily Primary School and therefore a likely secondary school that pupils from Francis Baily move onto attend from Year 7. Inevitably with a higher pupil population the distribution of pupil homes is greater with a higher density of pupils living beyond a 1-mile radius (as shown in Figure 37). Also shown in Figure 37 are the favoured routes for pupils walking or cycling to school that focus on Stoney Lane and Station Road providing a north-south link to the school.

Figure 37 - School Location & Favoured Active Travel Routes

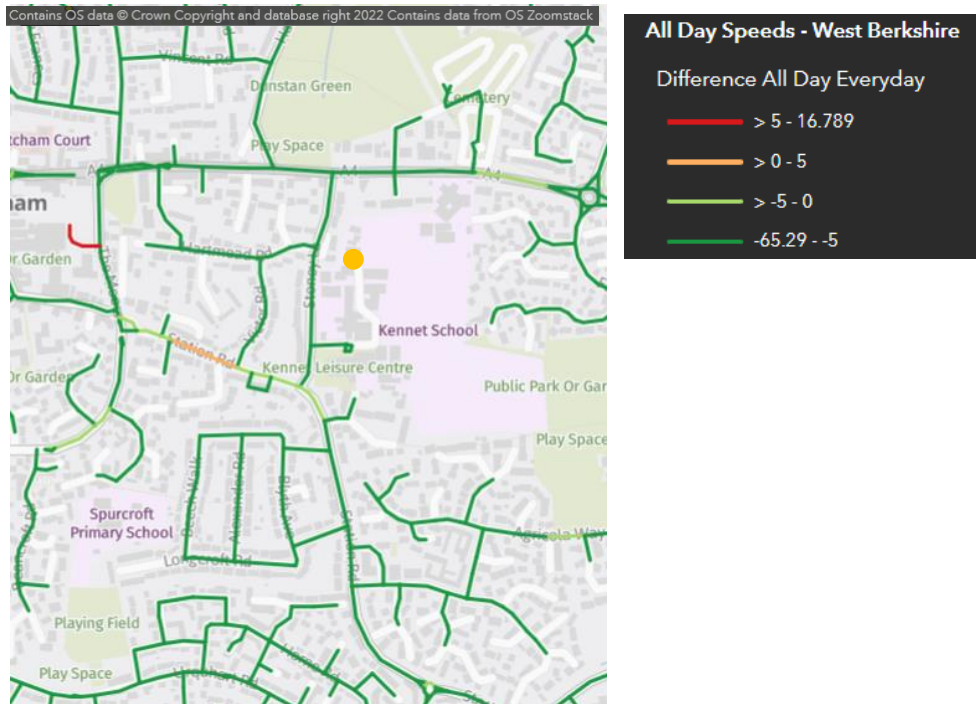


## TRAFFIC SPEED

Kennet Secondary is located within a residential area, subject to a 20mph zone with traffic calming. Figure 38 shows that there are some short links on the road network around Kennet Secondary where All Day average vehicle speeds are closer to the speed limit; within 5mph either above or below the speed limit. However, overall speed limit compliance is good and there is no indication of excessive speeding.

<sup>1</sup> Dr H Hope Smith & L Kruminia, Active Travel in West Berkshire 2022

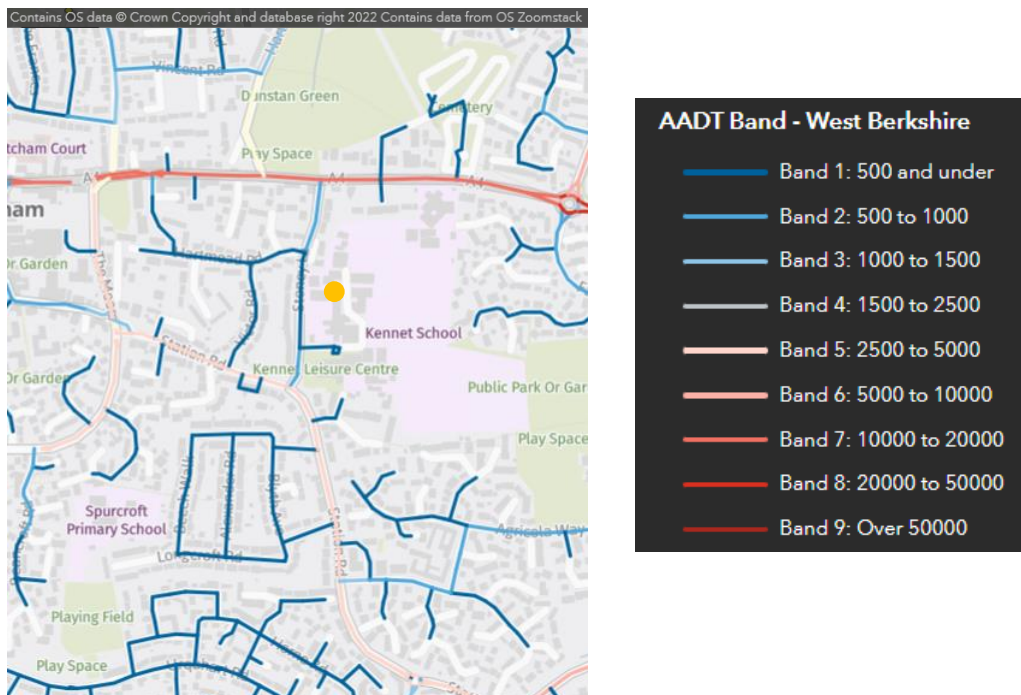
Figure 38 - All Day Average Speed compliance



## TRAFFIC VOLUME

Traffic volumes around Kennet Secondary are variable with the effect of the traffic calming measures on Stoney Lane fronting the school evident in the low traffic volumes (500 vehicle or less) on this section. Station Road to the south acts as a residential distributor road and as such traffic volumes here are slightly higher at 2,500 – 5,000 vehicles a day on average.

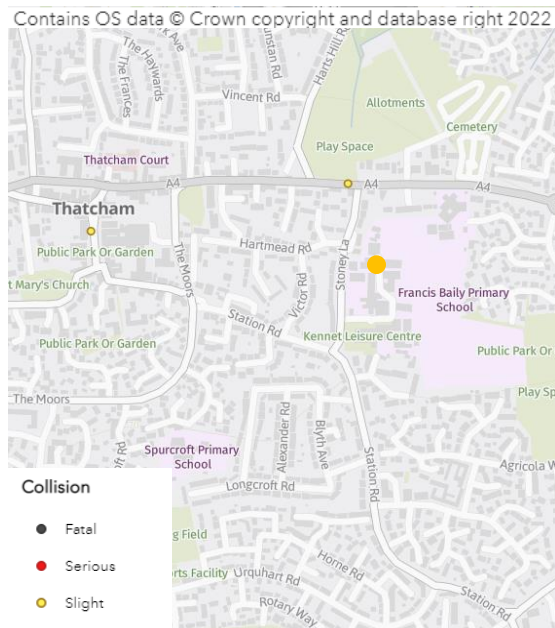
Figure 39 - Annual Average Daily Traffic (AADT) Levels



## COLLISION HISTORY

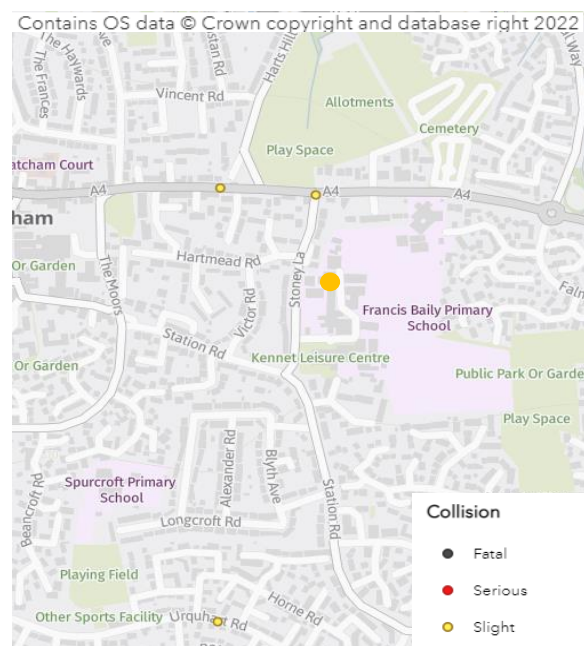
Given the close proximity to Francis Baily Primary school, interrogation of the injury collision records involving child (U16) pedestrian or pedal cycle casualties returns the same results as earlier with 2 child pedestrian casualties and 3 child pedal cyclists casualties. One of the child pedestrian casualties shown in Figure 40 is aged 15 although the casualty was not journeying to or from school at the time of the collision.

Figure 40 - Child Pedestrian Casualties (2017 - 2021)



The child pedal cycle collision records indicate 2 of the 3 casualties were aged between 11 and 15 and were injured whilst crossing the carriageway and navigating a junction. However again, neither casualty was reported to be making a school-related journey at the time.

Figure 41 - Child Pedal Cycle Casualties (2017 -2021)



As detailed previously, the pedestrian collisions detailed above were attributed with the contributory factors; CF802 'failed to look properly', CF808 'careless, reckless or in a hurry', CF806 'impaired by alcohol', all attributed to the child pedestrian injured on the A4. CF405 'failed to look properly', CF403 'poor turn or manoeuvre', CF602 'careless, reckless or in a hurry', CF601 'aggressive driving' and CF509 'distraction in vehicle' were attributed to the driver involved in the 2<sup>nd</sup> of the pedestrian collisions.

The pedal cyclist collisions were attributed CF403 'poor turn or manoeuvre', CF405 'failed to look properly', CF404 'failed to signal or misleading signal', CF407 'too close to cyclist, horse or pedestrian' and CF406 'failed to judge other person's path or speed' but it is not possible to identify which CF was attributed to which driver/rider.

## ADDITIONAL ACTIVE TRAVEL BARRIERS

The bike ownership index values immediately surround Kennet School are low, indicating below average bike ownership. However, recognising the larger pupil population at Kennet; their distribution across a wider area and likelihood that those pupils living further from school are those more likely to

cycle it is perhaps the higher bike ownership levels to the south and north of the school, as shown in Figure 42, that are more relevant.

Figure 42 - Bike Ownership Index

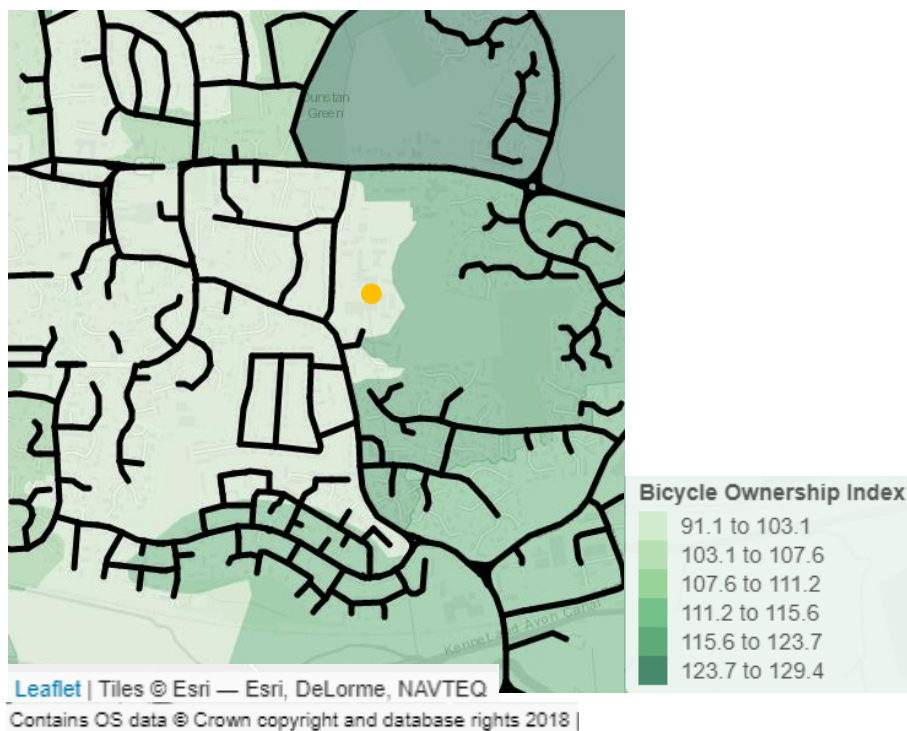
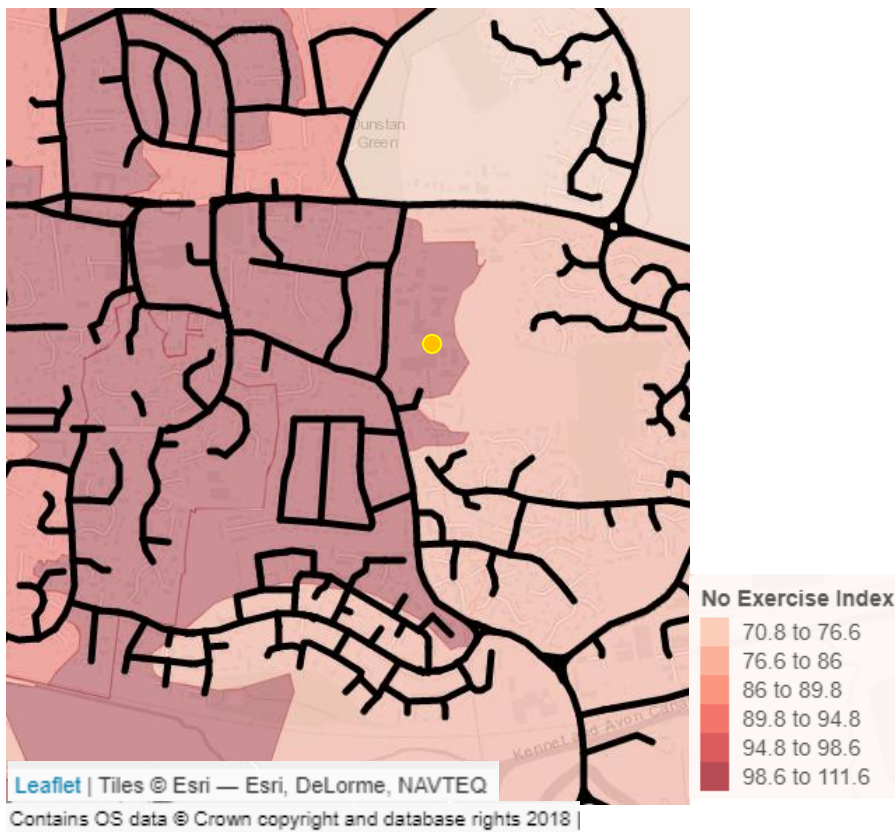


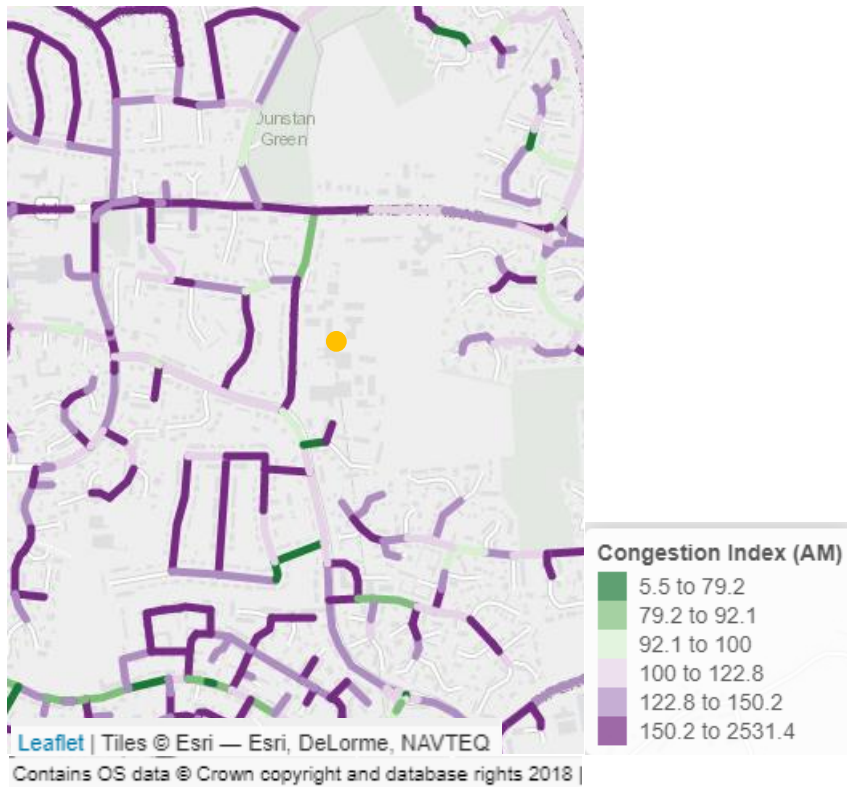
Figure 43 shows that exercise levels to the west of the school are closer to or lower than the national norm whilst residents to the east are more likely to be active.

Figure 43 - Level of Exercise Index



The congestion index, shown in Figure 44, indicates there is higher than average congestion immediately outside the school during the morning peak. However, speeds during the morning peak on adjoining roads such as Station Road to the south are roughly the same as free-flowing (night-time) speeds indicating there is little congestion on the surrounding network

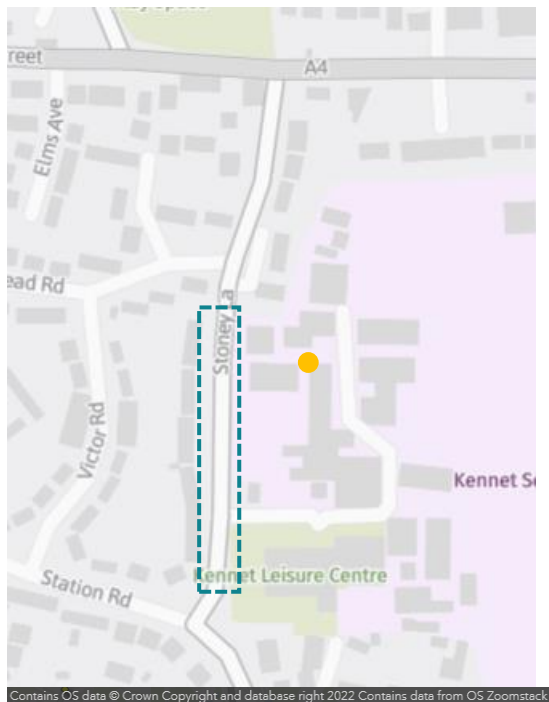
Figure 44 - Congestion Index (AM)



## INFRASTRUCTURE RATING



### Stoney Lane

Figure 45 - Assessed Area 1







Stoney Lane is the main access road to and from Kennet Secondary and therefore the level of 'built-in' safety associated with Stoney Lane will inform the extent of risk most pupils will be exposed to, regardless of their mode of travel.

















There is a pedestrian footway on the western side of Stoney Lane that offers pedestrians light segregation from motor vehicles. This together with the local speed limit of 20mph and low traffic volumes contributes to a 5-Star rating and an estimated level of traffic stress for pedestrians of 'low'.

| Pedestrian Footway                    | Pedestrian  |   |
|---------------------------------------|---|---|
|                                       | Star Rating   | Level of Traffic Stress evaluation  |
| Light segregation (non-physical 0-1m) |  | <br>Low stress |

There is also a segregated footway/cycleway on the eastern side of Stoney Lane across the frontage of Kennet School. There could be scope to improve this facility by widening the provision for cyclists and improving connectivity to the wider network but despite this, assessment of the local conditions assigns the facility a 5-Star Rating and a low level of traffic stress for both pedestrians and cyclists.

| Footway and cycleway   | Pedestrian  |   | Bicycle   |   |
|--|---|---|---|---|
|  | Star Rating   | Level of Traffic Stress evaluation  | Star Rating   | Level of Traffic Stress evaluation  |
| Light segregation from motorised traffic (off-road footway/cycleway) |  | <br>Low stress |  | <br>Low stress |

There is an existing raised informal crossing point just to the north of the school entrance on Stoney Lane that would currently be star rated at level 5 with an associated stress level of moderate. Upgrading this to a zebra crossing would reduce the level of stress for pedestrians to low.

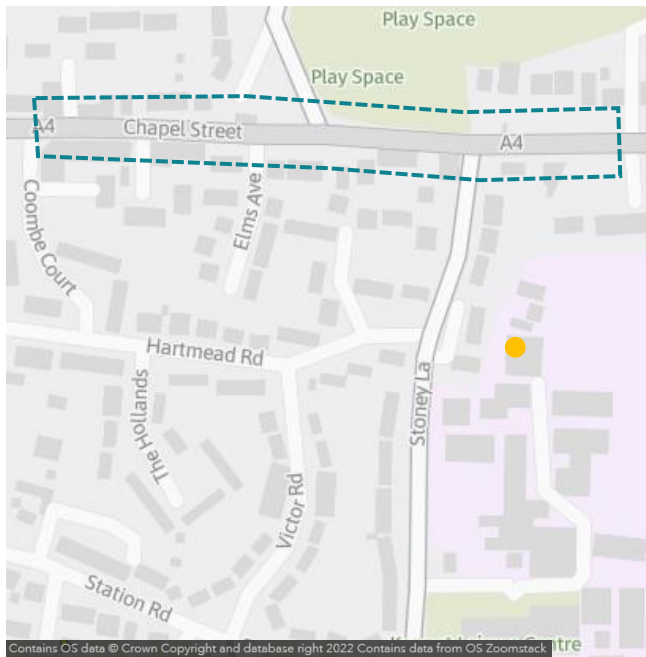
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>Moderate stress |
| Traffic island                                  |    | <br>Low stress      |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress |
| Raised informal crossing without traffic island |    | <br>Moderate stress |
| Unraised zebra with traffic island              |    | <br>Low stress      |
| Raised informal crossing with traffic island    |  | <br>Low stress     |
| Raised zebra without traffic island             |  | <br>Low stress    |
| Raised zebra with traffic island                |  | <br>Low stress    |

#### *A4, Chapel Street*


There is a proportion of Kennet Secondary pupils that live north of the A4 and therefore have to navigate crossing this busy A' road on their journey to or from school. As such the stretch between the junctions with Stoney Lane and Harts Hill Road to the north has also been reviewed.



Figure 46 - Assessed Area 2




The characteristics of the A4 vary little as it passes through Thatcham, with the exception of a variation in what parking restrictions exist. The presence of parked vehicles on one side of the carriageway between Storey Lane and Harts Hill Road is sufficient to reduce the star rating of the pedestrian footway to 3-stars.


















| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★ ★ ★ ★ ★   | <br>Moderate stress |

The shared footway and cycleway has not been continued through the entire length of this section of the A4 so no further assessment has been made.

The attributes of the un-segregated on-road cycle facility however remain unchanged and the associated star rating and level of traffic stress also therefore remain unchanged from earlier assessments, with a 5-star and moderate level of stress being maintained.

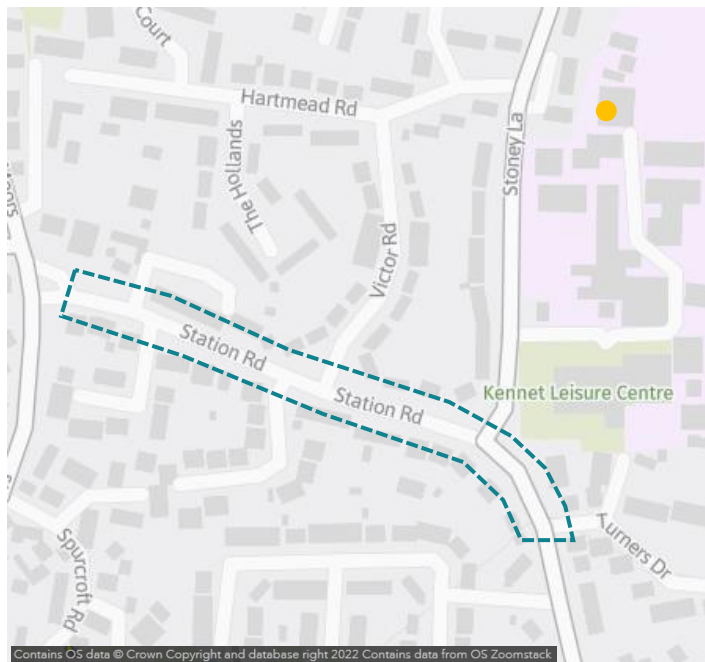
| Cycleway in direction of motorised traffic | Bicycle     |  |
|--|-------------|--|
|  | Star Rating | Level of Traffic Stress evaluation   |
| No segregation (on-road lane)              | ★ ★ ★ ★ ★   | <br>Moderate stress |

The presence of parked vehicles and absence of school warning signs result in a change to the star ratings attributed to different pedestrian crossing types. Although it can be seen that the existing signal controlled crossings are awarded the highest 5-star rating with a moderate level of traffic stress in the absence of a central island.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |   | <br>Moderate stress  |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

## Station Road

Figure 47 - Assessed Area 3




Given the proportion of Kennet Secondary pupils that also live to the south of the school, Station Road is the third area of infrastructure to be considered through the Active Travel tool.





















Station Road is part of the same 20mph zone applied to Stoney Lane and the presence of traffic calming assists in keeping operating speeds low.

The resulting risk score for pedestrians can thereby be interpreted as low with the pedestrian footway facilities given a 5-star rating and a moderate level of

traffic stress.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★★       | <br>Moderate stress |

There is no formal pedestrian crossing facility on Station Road and little evidence of any designated informal crossing points. However if improvements to the pedestrian crossing provisions were to be considered then any type of crossing would be attributed a 5-star rating but with varying degrees of traffic stress dependant on the crossing type.

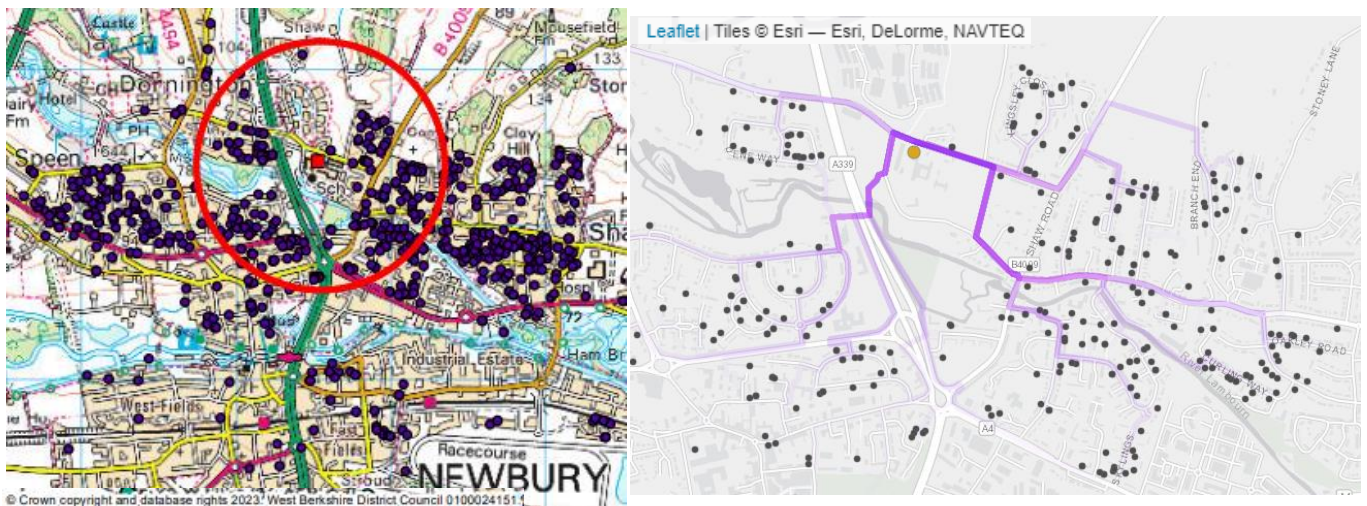
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |    | <br>Moderate stress   |
| Raised informal crossing with traffic island    |   | <br>High stress      |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

The strong results of the infrastructure assessments around Kennet Secondary where the surrounding roads are within a 20mph zone, illustrates the contribution speed has in reducing the level of risk road users, and particularly vulnerable road users, are exposed to when navigating the road network.

## TRINITY SECONDARY SCHOOL

Trinity Secondary School is also located to the west of the county, on the north side of Newbury. Robert Sandilands and Winchcombe Primary are both close by and based on the pupil home locations shown in Figure 48, would understandably be seen as feeder schools to Trinity Secondary. The favoured active travel routes shown in darker purple on the right-hand side of the image acknowledge the additional draw of pupils from the east.

Figure 48 - School Location & Favoured Active Travel Routes



## TRAFFIC SPEED

Trinity Secondary is accessed via Love Lane that is subject to a 30mph limit at the western end transitioning to a 20mph zone just east of the school entrance. All Day Average speeds along its length are closer to the respective speed limits with 85<sup>th</sup> percentile speeds above the posted speed limit. Compliance on other roads surrounding Trinity Secondary is however good with speeds more than 5mph under the speed limit.

Figure 49 - All Day Average speed compliance

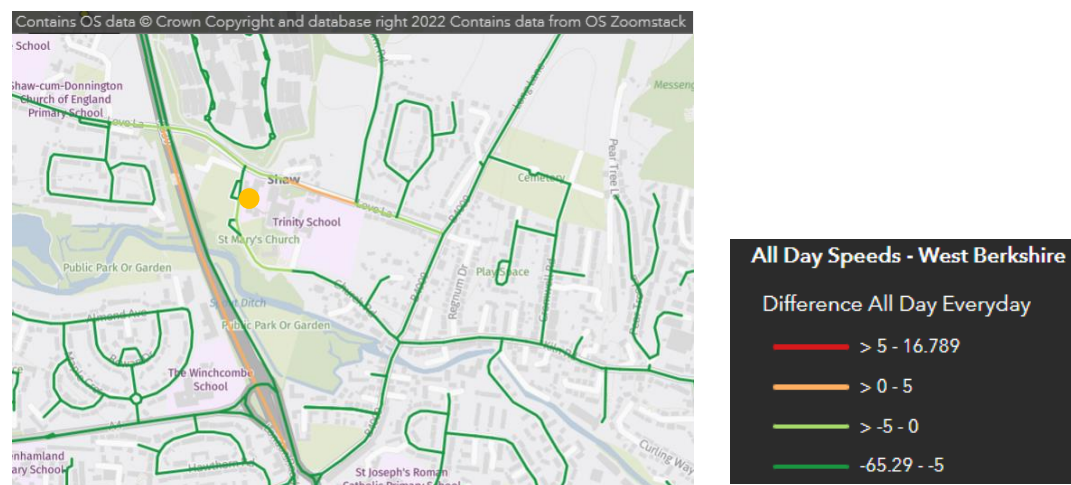
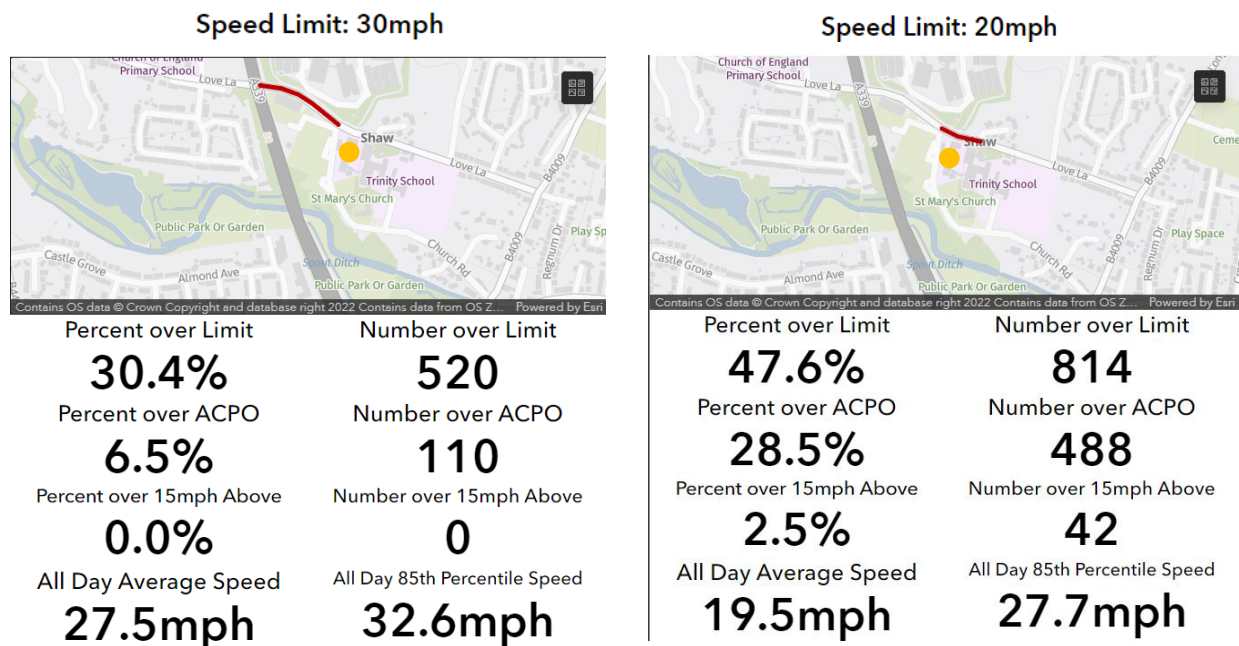


Figure 50 shows the detailed speed statistics for the sections on Love Lane either side of the entrance to Trinity School

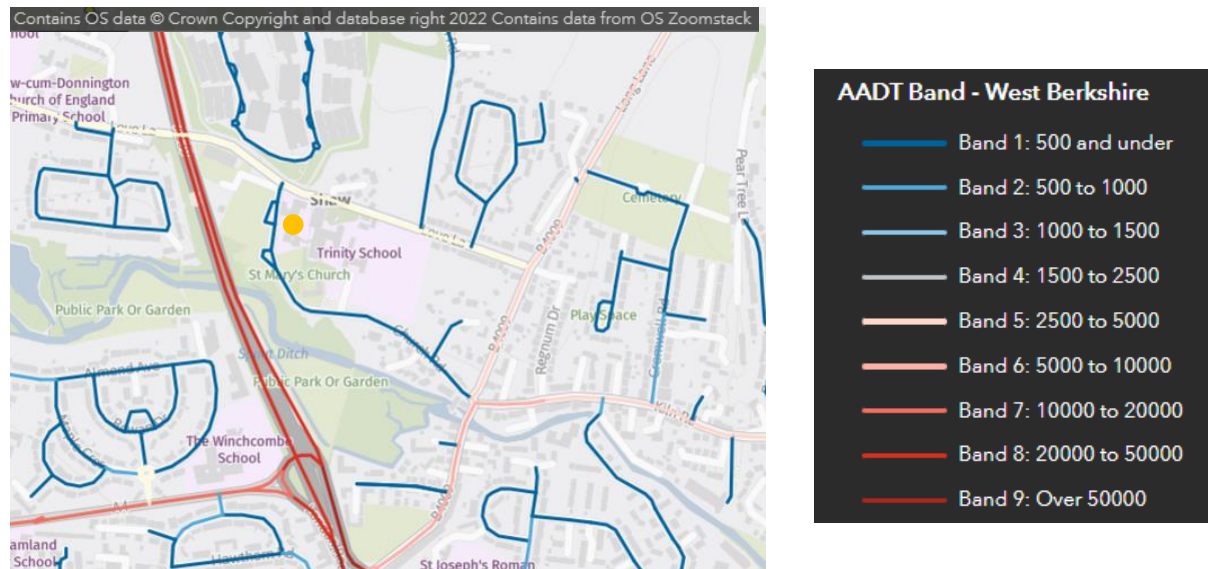
Figure 50 - Speed Compliance by road sections



### TRAFFIC VOLUME

Traffic volumes are a bit more varied on the roads surrounding Trinity Secondary compared to some other schools. Love Lane is estimated to be used by between 2,500 and 5,000 vehicles a day, based on modelled AADT, which together with the limited number of premises accessed from Love Lane (particularly near Trinity School) suggests it is a popular east-west link between the B4494 and B4009.

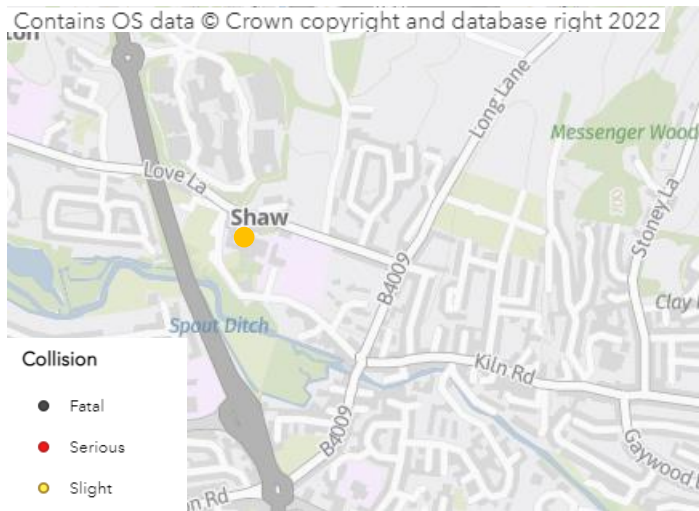
Figure 51 - Annual Average Daily Traffic (AADT) Levels



### COLLISION HISTORY

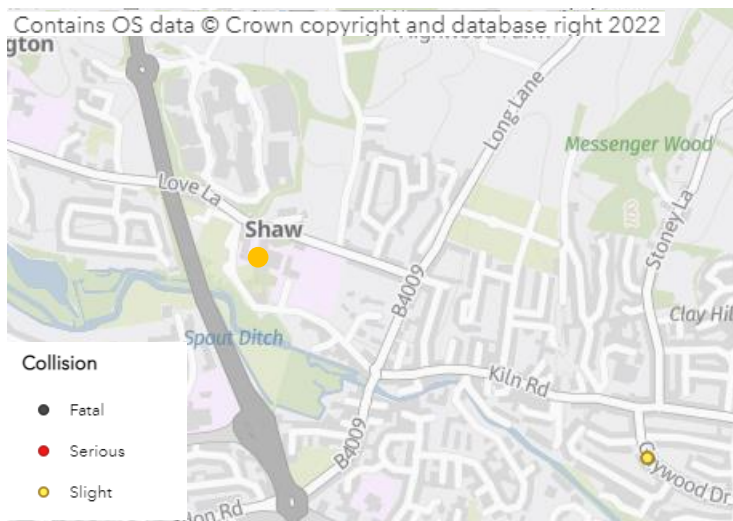
Figure 52 shows that there have been no reported injury collisions involving child pedestrians in the most recent 5 years of data in the area around Trinity Secondary.

Figure 52 - Child Pedestrian Casualties (2017 - 2021)



There has been one reported pedal cyclist collision in the 5-year period in which the casualty was of primary age. Despite the age of the casualty involved understanding the factors associated with the collision can offer insight into solutions that may assist in preventing such events, or similar, recurring. The contributory factor associated with this collision was CF405 'failed to look properly'.

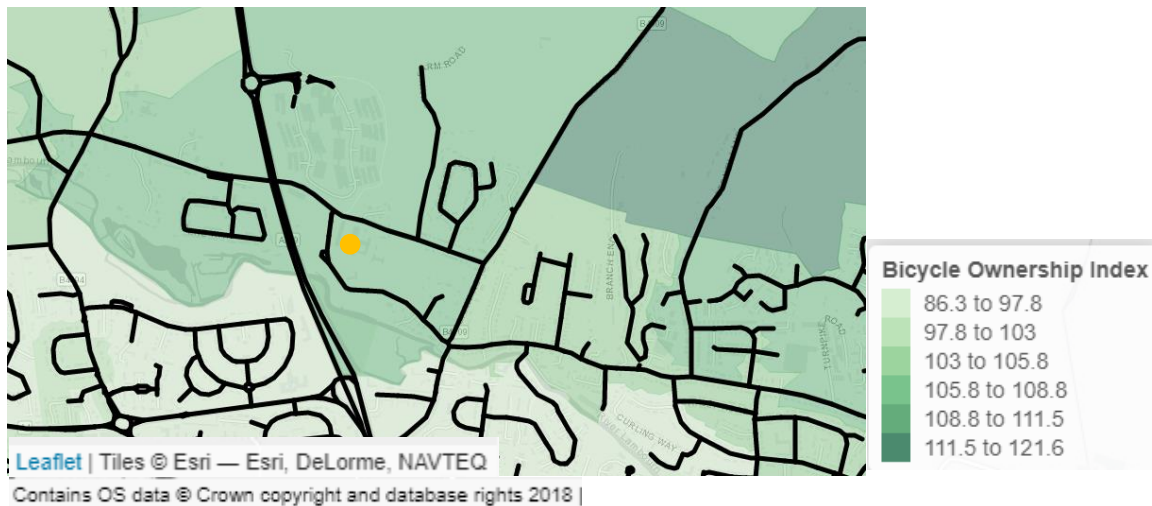
Figure 53 - Child Pedal Cycle Casualties (2017 - 2021)



#### ADDITIONAL ACTIVE TRAVEL BARRIERS

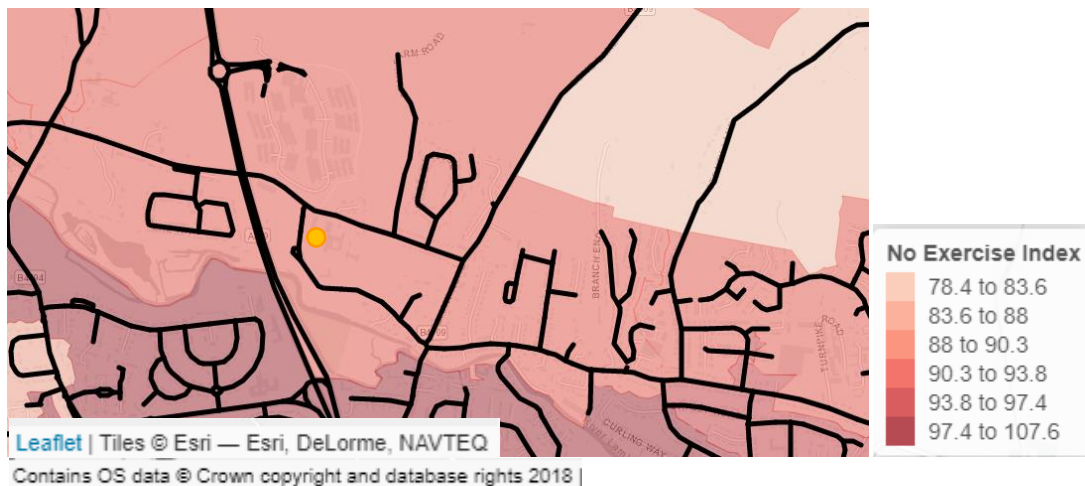
Cross-referencing back to the pupil postcode plot and favoured active travel routes in Figure 48, pupil home locations tend to be east and west of the school. Across this same area, bike ownership levels are in line with the national average with index values close to 100, as shown in Figure 54.

Figure 54 - Bike Ownership Index



This is replicated with the Level of Exercise Index values shown in Figure 55 that are up to 30% below the national average and therefore indicating higher levels of exercise by the communities living around Trinity Secondary.

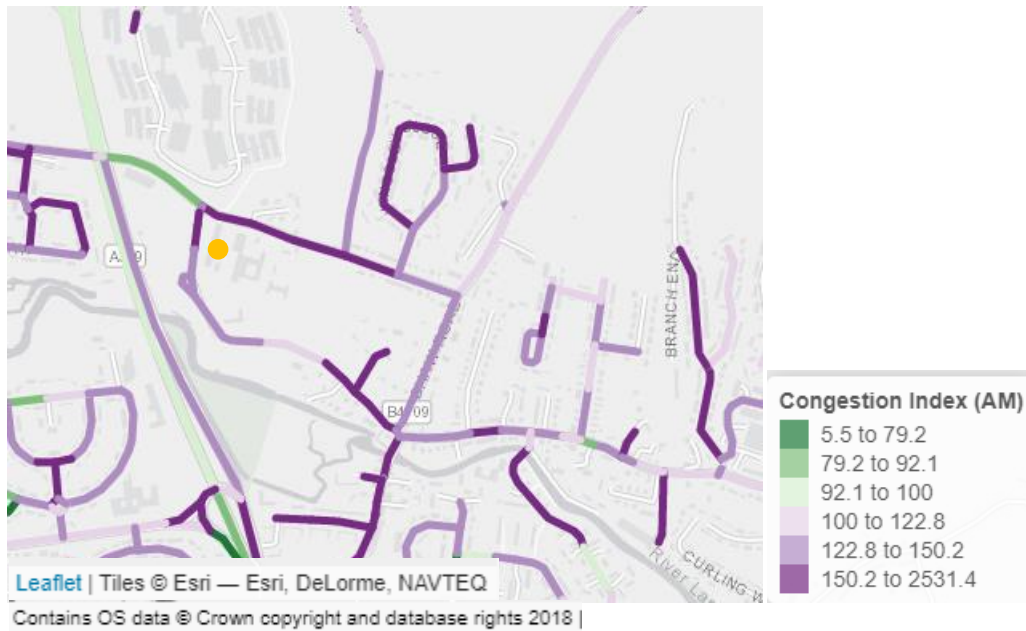
Figure 55 – Level of Exercise Index



The congestion index for the morning peak, between 7am and 9am, suggests some congestion to the east of the school entrance however this is likely to be largely due to the presence of traffic calming features combined with the higher traffic flows during the peak travel times. Elsewhere the difference between peak time speeds and free-flowing speeds is not identified as sufficient to suggest heavy congestion anywhere.



Figure 56 - Congestion Index (AM)



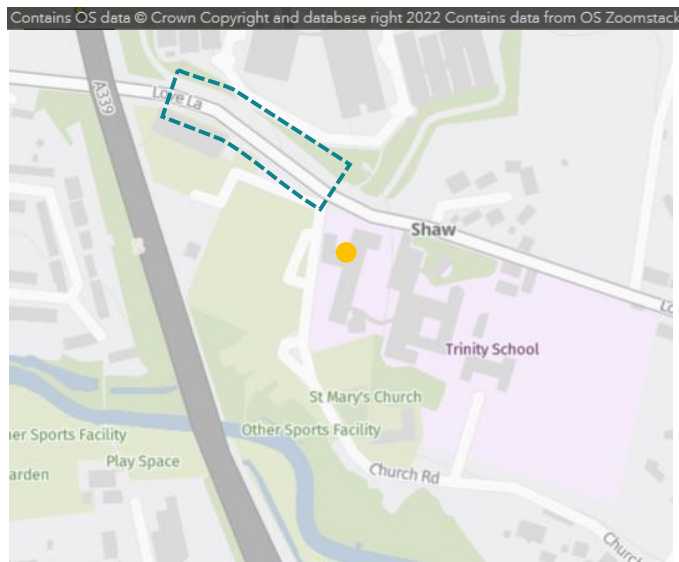
#### INFRASTRUCTURE RATING

Aligned with the favoured active travel routes and known routes used by pupils travelling to and from Trinity Secondary two routes, each in two parts have been assessed using the Active Travel Tool to determine the level of 'built-in' safety for these secondary school pupils.


#### Love Lane

The first area assessed is Love Lane to the west of the school entrance, as shown in Figure 57.

Figure 57 - Assessed Area 1



The pedestrian footway leading towards Trinity Secondary from the west is attributed a 4-star rating and a level of stress most adults are willing to tolerate.


| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

The second area to be assessed is again Love Lane to the east of the school entrance where the speed limit is lower at 20mph. Although passing from an area of open space to residential with direct frontages the facilities for pedestrians and cyclists remain the same throughout the assessed area highlighted in Figure 58.











Figure 58 - Assessed Area 2



The first category of Active Travel – Pedestrian Footway - captures variables that make walking on the existing pavements either side of Love Lane safer, more pleasant and less stressful. In this instance the existing infrastructure has been assigned a 5-Star rating and a level of stress that most adults will tolerate.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★★       | <br>Moderate stress |

There is no cycleway or shared footway & cycleway on the approach to Trinity Secondary so these two categories of Active Travel cannot be assessed. The existing zebra crossing can be however and is given a 5-Star rating with, like the adjoining pavements, a moderate level of traffic stress.

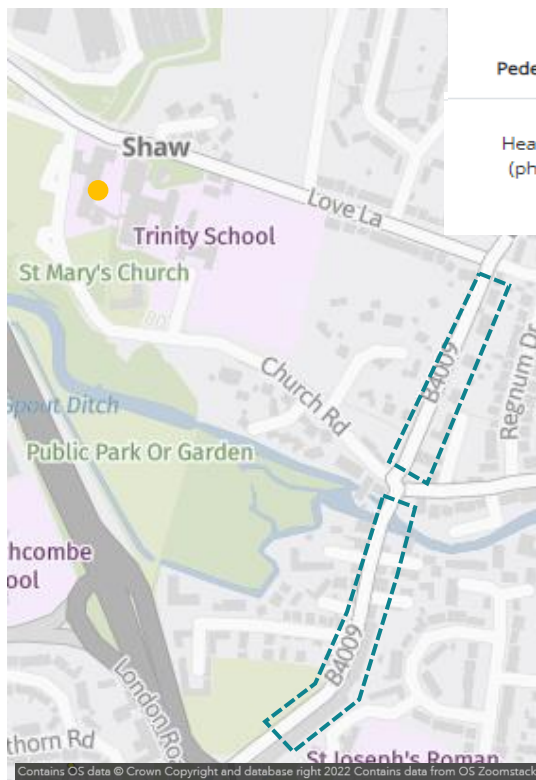
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|-------------|--|
|   | Star Rating | Level of Traffic Stress evaluation   |
| Informal  | ★★★★★       | <br>High stress       |
| Traffic Island                                  | ★★★★★       | <br>High stress       |
| Zebra (Unraised; no traffic island)             | ★★★★★       | <br>Moderate stress   |
| Raised informal crossing without traffic island | ★★★★★       | <br>High stress       |
| Unraised zebra with traffic island              | ★★★★★       | <br>Moderate stress   |
| Raised informal crossing with traffic island    | ★★★★★       | <br>High stress      |
| Raised zebra without traffic island             | ★★★★★       | <br>Moderate stress |
| Raised zebra with traffic island                | ★★★★★       | <br>Low stress      |
| Signal controlled (no traffic island)           | ★★★★★       | <br>Moderate stress |
| Signal controlled with traffic island           | ★★★★★       | <br>Low stress      |


### Shaw Hill

The second active travel route to be assessed is Shaw Hill, and due to the changes in characteristics along Shaw Hill it has been assessed in two parts, distinguished in Figure 59.

The pedestrian footway on Shaw Hill north is elevated above the carriageway separated by a retaining wall and pedestrian safety fencing. This heavy segregation determines a low level of traffic stress that is suitable for everyone and supplements a 4-star rating for pedestrians.

Figure 59 - Assessed Area 3




| Pedestrian Footway                   | Pedestrian  |   |
|--------------------------------------|-------------|---|
|                                      | Star Rating | Level of Traffic Stress evaluation  |
| Heavy segregation (physical barrier) | ★★★★★       | <br>Low stress |


















The road layout with its elevated footway does not lend itself to the provision of a pedestrian crossing so this active travel category has not been assessed.

The section of Shaw Hill south of its junction with Church Road has continuous property frontages along the eastern side and hence the pedestrian footway is at grade with the carriageway.

Returning to this more common road layout is reflected in the star rating of 4-stars with a moderate level of traffic stress that has been typical of many other pedestrian footways.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★★       | <br>Moderate stress |

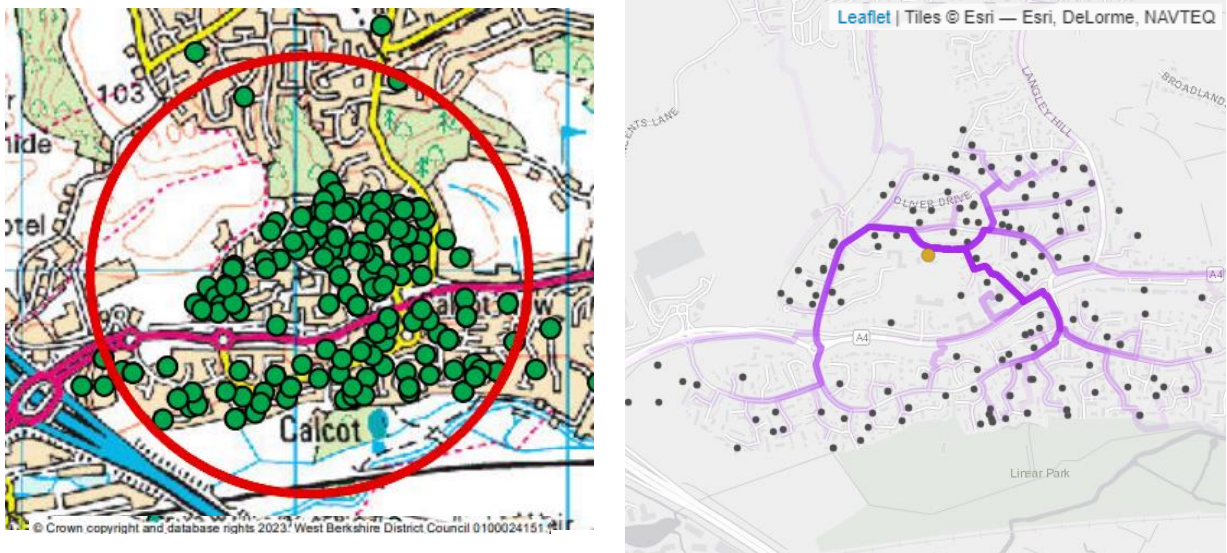
There are existing signal-controlled crossings at either end of Shaw Hill south of its junction with Church Road. Assessing the characteristics of this stretch of road using the Active Travel tool, these crossings are awarded a 5-star rating with a moderate level of traffic stress.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |    | <br>Moderate stress   |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

## CALCOT JUNIOR SCHOOL

The following images show the location of Calcot Junior School and the home location of pupils within a 1-mile radius. Also shown are most likely active travel routes to and from the school for those pupils living within walking, cycling or scooting distance of the school site.

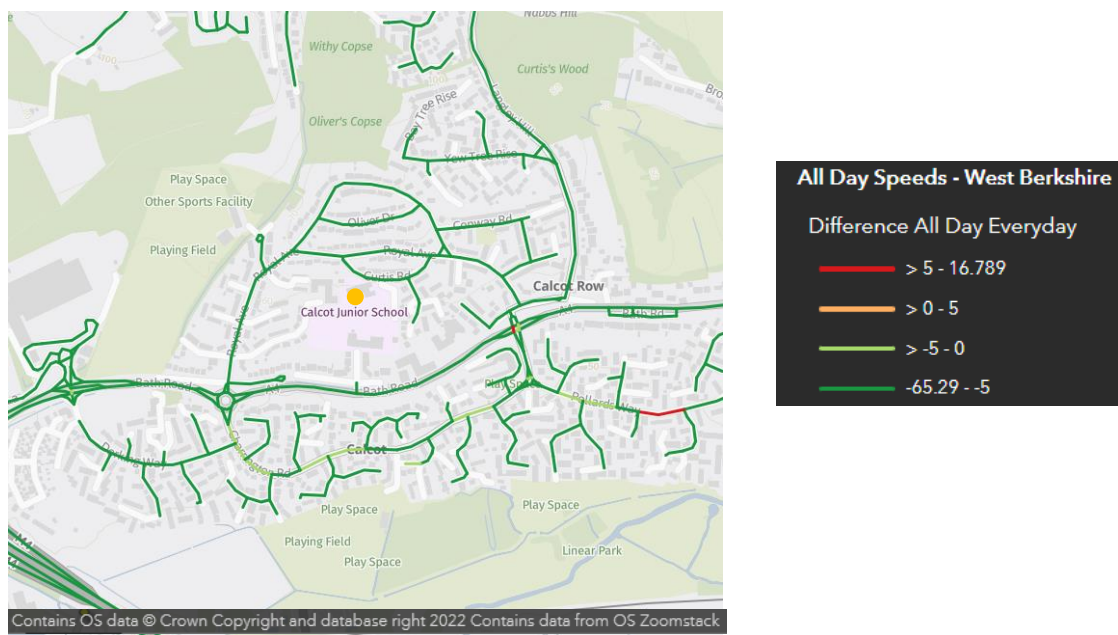
Figure 60 - School Location & Favoured Active Travel routes



## TRAFFIC SPEED

Calcot Junior School is surrounded by residential streets subject to a 30mph speed limit. Figure 14 shows that on roads near the school, average vehicles speeds are consistently lower than the posted speed limit.

Figure 61 - All Day Average Speed Compliance



Looking in more detail at the road from which Calcot Junior School is accessed, Curtis Road, data reports strong compliance with virtually 100% compliance and evidence that average all day speeds are more than 15mph under the posted speed limit.

Figure 62 - Speed compliance by road sections



|                          |                               |
|--------------------------|-------------------------------|
| Percent over Limit       | Number over Limit             |
| <b>0.5%</b>              | <b>0</b>                      |
| Percent over ACPO        | Number over ACPO              |
| <b>0.0%</b>              | <b>0</b>                      |
| Percent over 15mph Above | Number over 15mph Above       |
| <b>0.0%</b>              | <b>0</b>                      |
| All Day Average Speed    | All Day 85th Percentile Speed |
| <b>12.3mph</b>           | <b>19.3mph</b>                |



|                          |                               |
|--------------------------|-------------------------------|
| Percent over Limit       | Number over Limit             |
| <b>4.7%</b>              | <b>2</b>                      |
| Percent over ACPO        | Number over ACPO              |
| <b>2.0%</b>              | <b>1</b>                      |
| Percent over 15mph Above | Number over 15mph Above       |
| <b>0.3%</b>              | <b>0</b>                      |
| All Day Average Speed    | All Day 85th Percentile Speed |
| <b>7.7mph</b>            | <b>21.5mph</b>                |

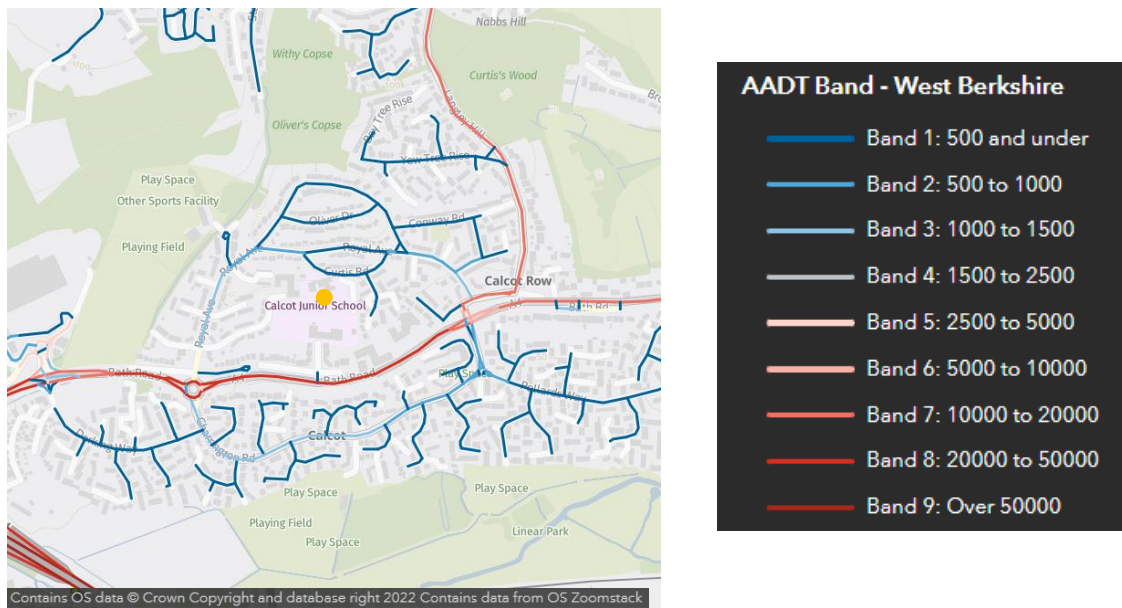


|                          |                               |
|--------------------------|-------------------------------|
| Percent over Limit       | Number over Limit             |
| <b>0.0%</b>              | <b>0</b>                      |
| Percent over ACPO        | Number over ACPO              |
| <b>0.0%</b>              | <b>0</b>                      |
| Percent over 15mph Above | Number over 15mph Above       |
| <b>0.0%</b>              | <b>0</b>                      |
| All Day Average Speed    | All Day 85th Percentile Speed |
| <b>13.0mph</b>           | <b>16.9mph</b>                |

### TRAFFIC VOLUME

There is some variance in the number of vehicles travelling on roads around Calcot Junior School. Unsurprisingly the A4, Bath Road carries the highest volume of traffic with between 10,000 and 20,000 vehicles on average each day. Roads leading from the A4 are estimated to carry approximately 1,000 vehicles with Curtis Road estimated to have an Annual Average Daily Traffic (AADT) volume of 500 or less vehicles.

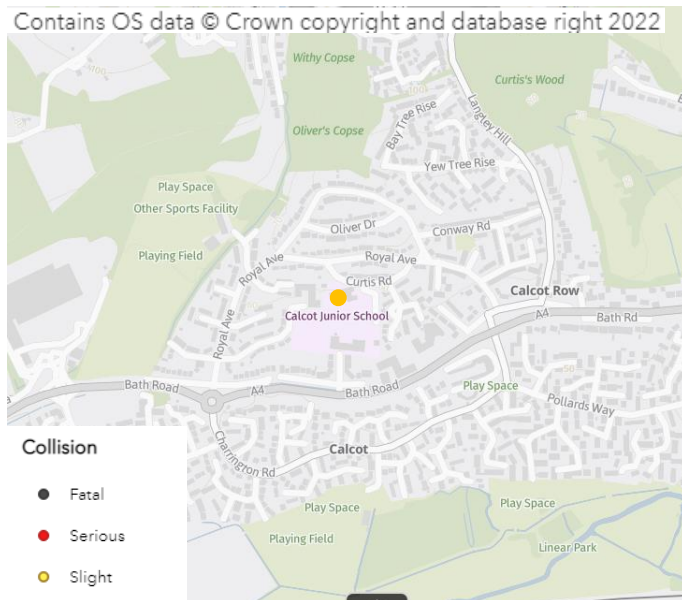
Figure 63 - Annual Average Daily Traffic Levels



### COLLISION HISTORY

STATS19 reports of injury collisions reveal that of the 80 resident child casualties injured in West Berkshire between 2017 – 2021, no child vulnerable road users were injured in the vicinity of Calcot Junior School. This is evidenced by the excerpt from CrashMap Pro shown below illustrating the absence of any child pedestrian or pedal cyclist casualties in or around the school.

Figure 64 - CrashMap Pro excerpt

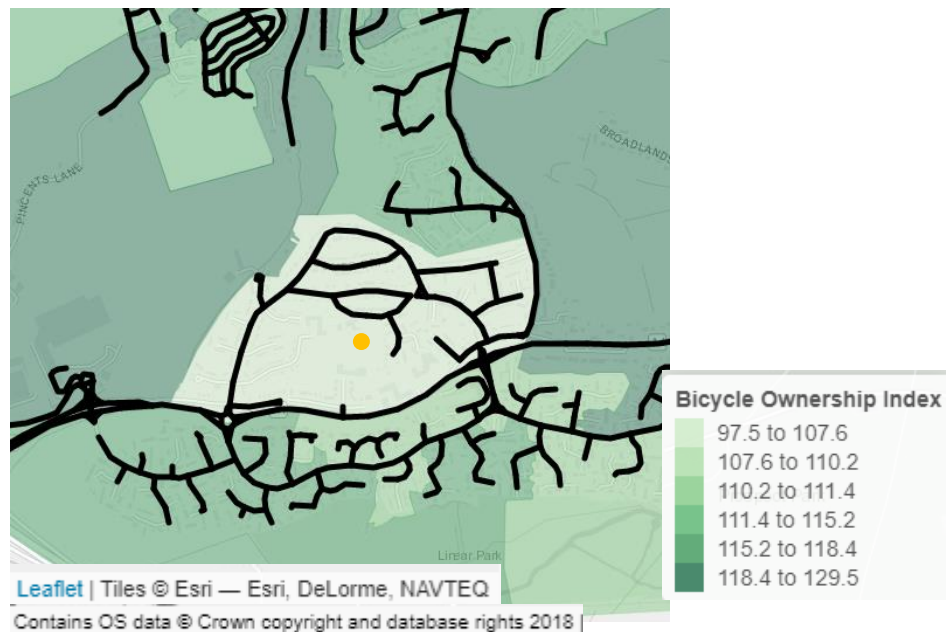




### ADDITIONAL ACTIVE TRAVEL BARRIERS

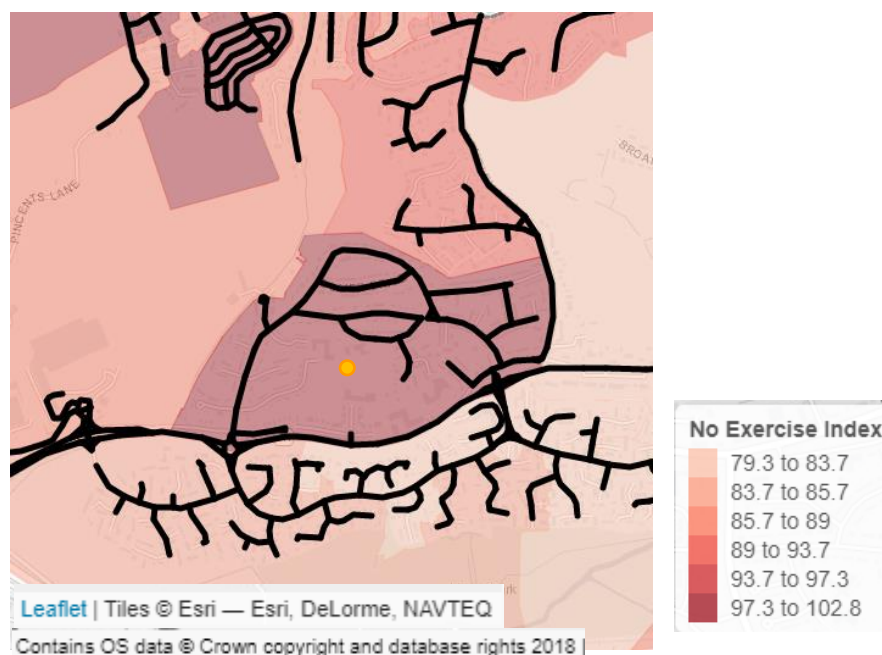
Calcot Junior School is situated in an area of low bike ownership compared to the surrounding areas, however with an index band of 97.5 to 107.6 the level of bike ownership is not substantially lower than the national average.

Figure 65 - Bike Ownership Index



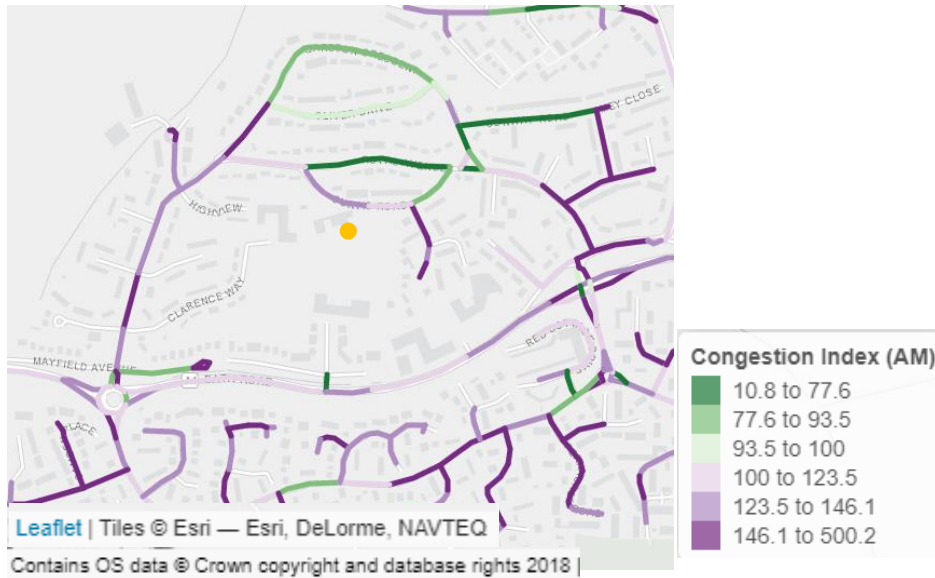
Likewise, whilst the level of no exercise around Calcot Junior School appears high in Figure 66, the index value is between 97.3 and 102.8 so exercise levels are about level or fractionally higher than the national norm.

Figure 66 - Level of Exercise Index



A snapshot of the morning vehicle speeds compared to night-time is shown in the AM Congestion Index in Figure 67. The colour-banding suggests most vehicular traffic might approach the school from the western end of Curtis Road due to the slightly higher differences between free-flowing speeds and AM peak time speeds, however the index value indicates that the level of congestion is no worse than average at this time of day.

Figure 67 - Congestion Index (AM)



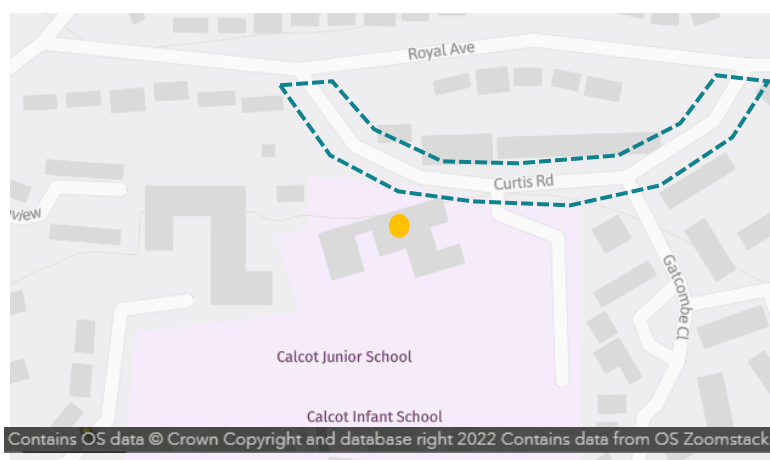
### INFRASTRUCTURE RATING

Calcot Junior (& Infant) School has been West Berkshire’s pilot School Streets scheme since September 2021 and 2 ‘Park & Stride’ schemes have been established to support the initiative. As a result a wider extent of infrastructure has been assessed using the iRAP Active Travel Tool, to understand the level of ‘built-in’ safety of routes that pupils might take between the school and the Park & Stride sites.


#### Curtis Road

Curtis Road as the immediate access road to Calcot Junior School is the first area to be assessed.

Figure 68 - Assessed Area 1



The pedestrian footway on either side of Curtis Road is given a 4-Star Rating and moderate level of traffic stress for pedestrians, an indication that most adults will tolerate conditions on this road.

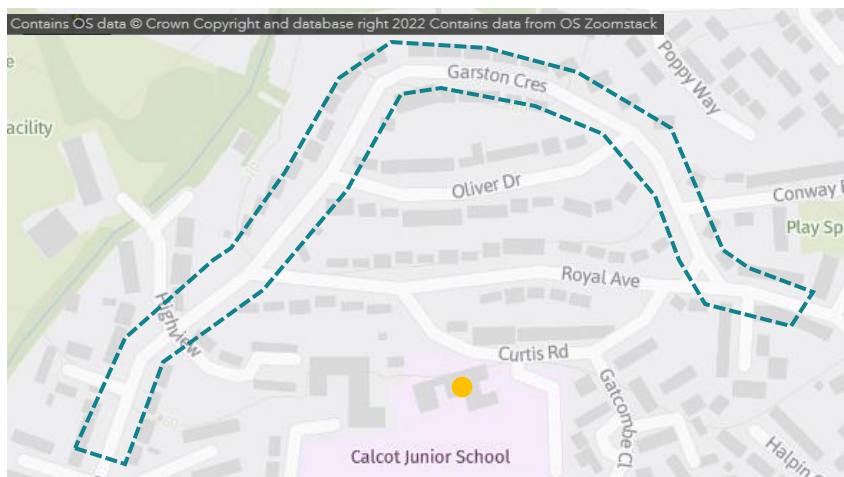
| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

There are no dedicated pedestrian crossing points on Curtis Road, but as a short residential street the provision of a formal crossing facility is unlikely so this active travel category has not been assessed.


*Royal Avenue & Garston Crescent*

Figure 60 shows that a good proportion of Calcot Junior School’s pupils live north of the school and would navigate Royal Avenue and Garston Crescent as they walk or cycle to school.





















Figure 69 - Assessed Area 2



Both Royal Avenue and Garston Crescent are quieter residential streets with low traffic volumes, operating speeds below the speed limit and pedestrian facilities adjacent to the carriageway. Based on variables most closely reflecting the conditions for road users the pedestrian footway is given a 4-star rating and deemed to present pedestrians with a moderate level of traffic stress.

| Pedestrian Footway             | Pedestrian  |   |
|--------------------------------|-------------|---|
|                                | Star Rating | Level of Traffic Stress evaluation  |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

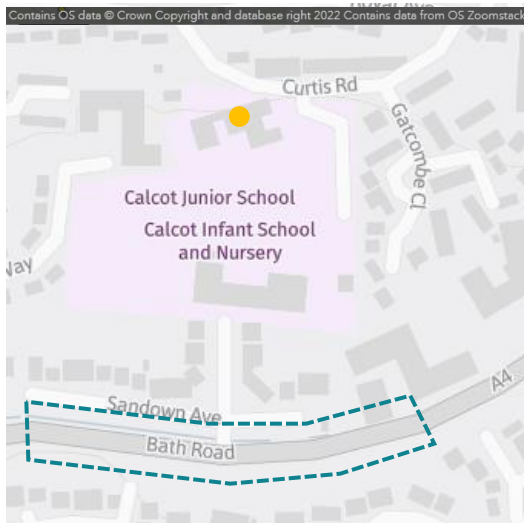
There is no provision for cyclists so this category of active travel has not been assessed. In the event that a pedestrian crossing were provided for those walking from The Calcot Centre (one of the Park & Stride sites) assessment of the various pedestrian crossing types, based on the local attributes, indicate a raised zebra crossing with a traffic island would achieve the highest star rating and the lowest level of traffic stress.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |  | <br>Moderate stress  |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |


#### *A4, Bath Road*

There is a second access to Calcot Junior School from Bath Road and a second Park & Stride site at The Beansheaf Community Centre meaning pupils travelling from the south will navigate both Charrington Road and the A4, Bath Road so these 2 roads are covered by assessment areas 3 and 4.



Figure 70 - Assessed Area 3



The A4, Bath Road is a busier, faster road with a pedestrian footway on the south side and shared footway/cycleway on the north. Neither vulnerable road user provision is offered any protection from the carriageway. Consequently the pedestrian footway is attributed just a 2-star rating and a very high level of traffic stress that “only the strong and fearless will tolerate”<sup>2</sup>.





















|                                | Pedestrian  |   |
|--------------------------------|-------------|---|
|                                | Star Rating | Level of Traffic Stress evaluation  |
| Pedestrian Footway             |             |   |
| No physical segregation (0-1m) | ★ ★ ★ ★ ★   | <br>Very high stress |

The shared footway and cycleway on the north side of the A4, Bath Road offers pedestrians a higher star rating and a lower level of traffic stress whilst for cyclists the level of stress continues at ‘very high’ but with a 4-star rating.

| Footway and cycleway   | Pedestrian  |  | Bicycle     |   |
|--|-------------|--|-------------|---|
|  | Star Rating | Level of Traffic Stress evaluation   | Star Rating | Level of Traffic Stress evaluation  |
| Light segregation from motorised traffic (off-road footway/cycleway) | ★ ★ ★ ★ ★   | <br>High stress | ★ ★ ★ ★ ★   | <br>Very high stress |

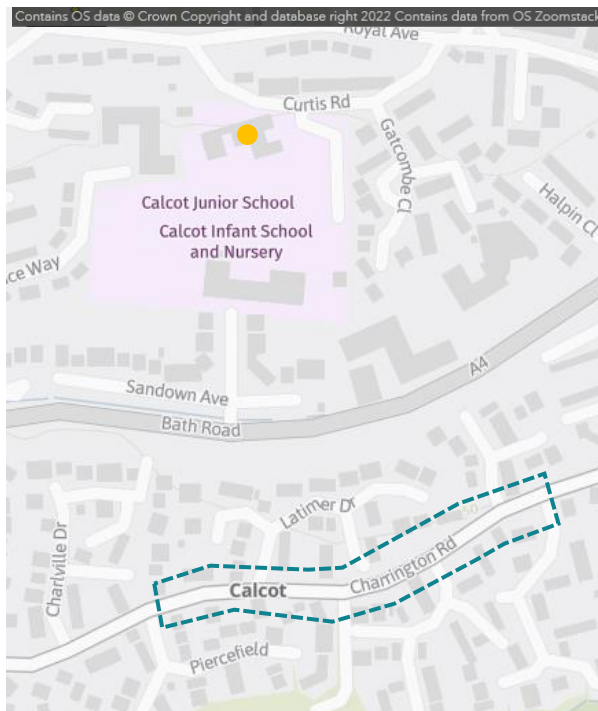
There is an existing signal-controlled crossing on the A4, Bath Road which is attributed a 4-star rating, albeit still with a high level of traffic stress for those using it.

<sup>2</sup> Active Travel Tool Guidance, [Active Travel Tool \(irap.org\)](http://irap.org)

| Pedestrian Crossing Type                        | Pedestrian  |   |
|---|---|---|
|   | Star Rating   | Level of Traffic Stress evaluation  |
| Informal  |    | <br>Very high stress |
| Traffic island                                  |    | <br>Very high stress |
| Zebra (Unraised; no traffic island)             |    | <br>Very high stress |
| Raised informal crossing without traffic island |    | <br>NA               |
| Unraised zebra with traffic island              |    | <br>Very high stress |
| Raised informal crossing with traffic island    |    | <br>NA               |
| Raised zebra without traffic island             |  | <br>NA              |
| Raised zebra with traffic island                |  | <br>NA             |
| Signal controlled (no traffic island)           |  | <br>High stress    |
| Signal controlled with traffic island           |  | <br>High stress    |



## Charrington Road

Figure 71 - Assessed Area 4




Charrington Road is a residential distributor with pedestrian footways on both sides. Through the assessment area both footways are at some point segregated from the carriageway by a wide grass verge.

However, the results of the active travel assessment show that a pedestrian footway either with no physical segregation or with light segregation offers the same 4-star rating and the same 'moderate' level of traffic stress to pedestrians.

| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|-------------|--|
|                                       | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m)        | ★★★★☆       | <br>Moderate stress |
| Light segregation (non-physical 0-1m) | ★★★★☆       | <br>Moderate stress |





















Charrington Road has an un-segregated on-road cycleway on both directions and this is attributed a 5-star rating and a moderate level of traffic stress for cyclists using it.

| Cycleway in direction of motorised traffic | Bicycle     |  |
|--|-------------|--|
|  | Star Rating | Level of Traffic Stress evaluation   |
| No segregation (on-road lane)              | ★★★★★       | <br>Moderate stress |

There are informal pedestrian crossing points on Charrington Road either side of the entrance to the Beansheaf Community Centre, one of which is at a priority-working traffic calming feature. The results

of the Pedestrian Crossing active travel category assessment indicate these informal crossing points are attributed a 4-star rating but present pedestrians with a high level of traffic stress.

An upgrade of these crossing points to a raised zebra crossing with no island would improve the star rating to 5-star and reduce the level of traffic stress to moderate. The same score would also be attributed to a signal-controlled crossing.

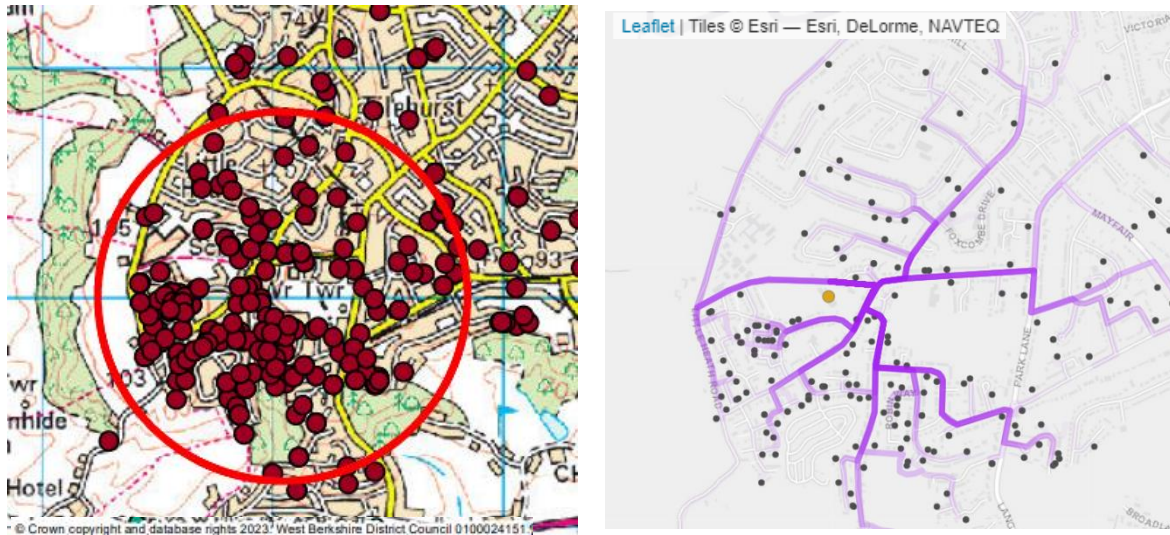
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |   | <br>Moderate stress  |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |



## SPRINGFIELD PRIMARY SCHOOL

Springfield Primary is located to the east of West Berkshire, in the Reading suburb of Tilehurst. Figure 72 shows the school location and surrounding pupil home locations together with the favoured active travel routes to and from school. This area is close to the boundary between West Berkshire and Reading Borough so data may not be available for all routes in the vicinity, particularly to the east of the school.

Figure 72 - School Location & Favoured Active Travel routes



## TRAFFIC SPEED

Springfield Primary School is surrounded by residential streets that are all subject to a 30mph speed limit. Visualisation of All Day Average speeds compared to the posted speed limit in the Speed Compliance Tool (SCT) confirms there is good compliance with the speed limit and all day average speeds are 5mph or more under 30mph.

Figure 73 - All Day Average Speed Compliance

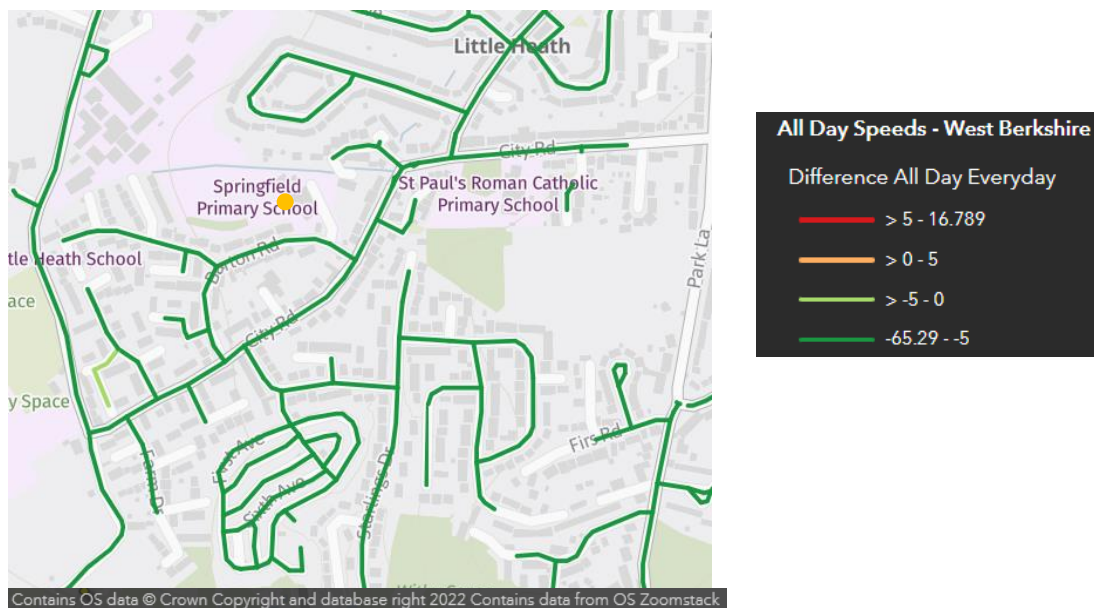
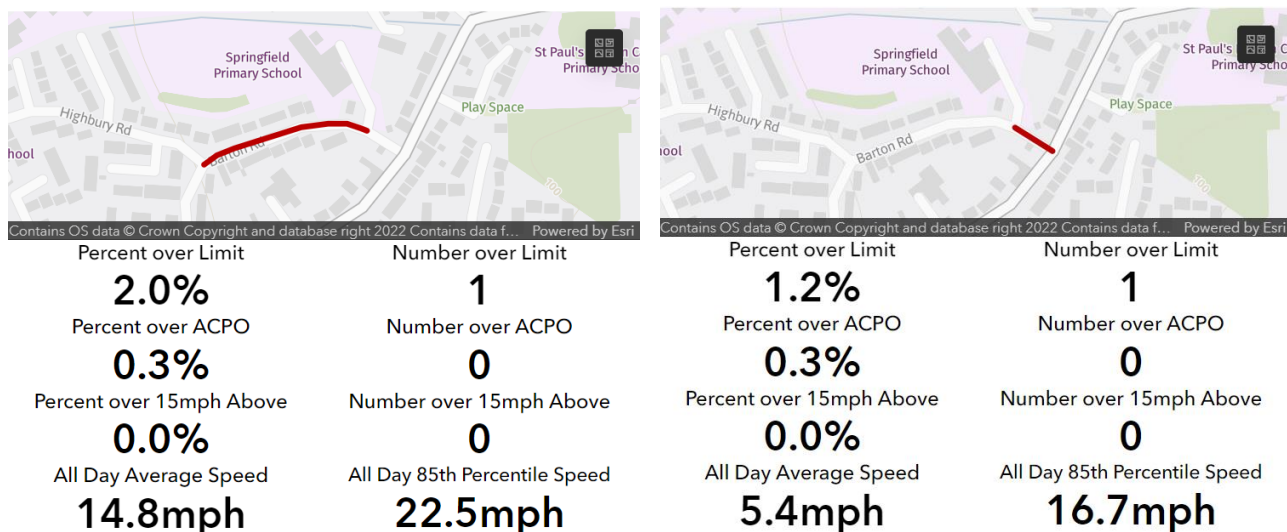


Figure 74 - Speed Compliance by road sections

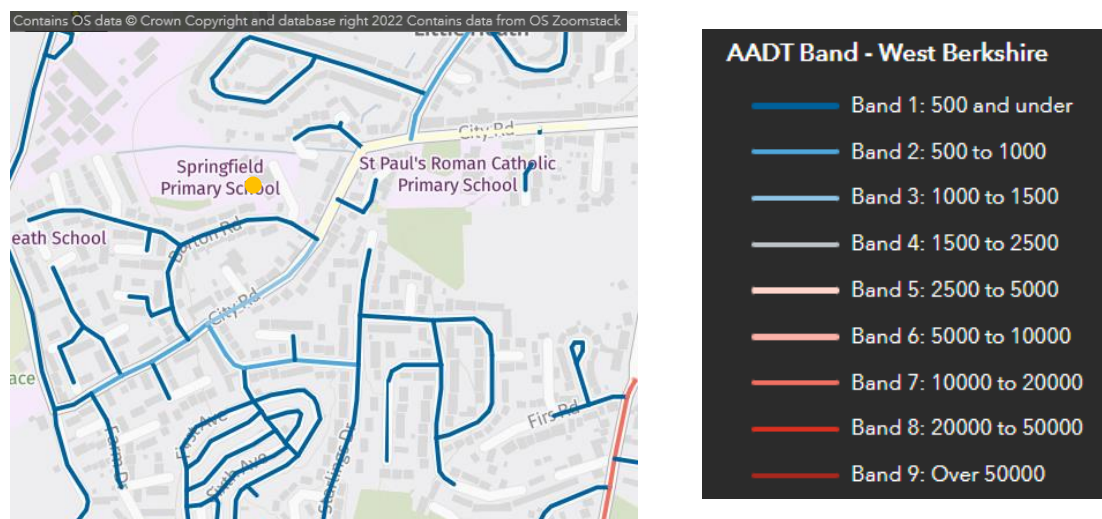


Drilling in to speeds on Barton Road, from which Springfield Primary is accessed, shows that all day average speeds are approximately 15mph and 85<sup>th</sup> percentile speeds approximately 20mph. A very small number of vehicles are shown to be exceeding the speed limit.

TRAFFIC VOLUME

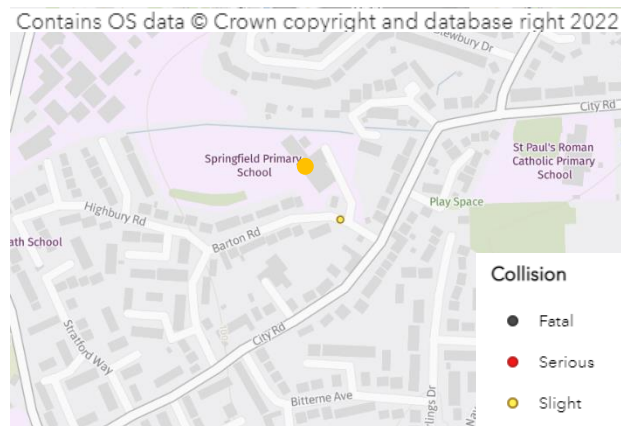
Traffic volumes on the roads in Tilehurst are generally low-trafficked with many routes carrying the lowest band of traffic volume – 500 vehicles and lower. Traffic volumes on City Road are higher, up to 5,000 vehicles a day suggesting this could be the main access route to/from Barton Road.

Figure 75 - Annual Average Daily Traffic (AADT) Levels



## COLLISION HISTORY

Figure 76 - Child Pedestrian Casualties (2017 - 2021)



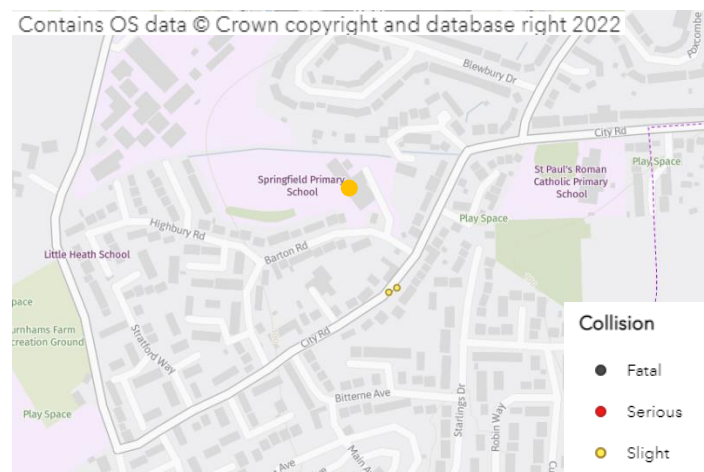
Collision records show that one child pedestrian has been injured near the school. The collision involved a primary age child crossing between parked vehicles and was subsequently attributed with the contributory factor 802 'failed to look properly' although the incident did not occur during a school-related journey.

Figure 77 reveals two collisions involving pedal cyclists in the vicinity of Springfield Primary.

However the age of one casualty is unknown so it cannot be confirmed that this casualty was indeed a child. The confirmed primary age child pedal cyclist casualty was injured around 8am so may have been journeying to school although the collision record does not confirm this.

Neither of these collisions involving pedal cyclists were attributed with any contributory factors.

Figure 77 - Child Pedal Cycle Casualties (2017 - 2021)



## ADDITIONAL ACTIVE TRAVEL BARRIERS

Figure 72 showed that pupils of Springfield Primary live within relatively close environs of the school itself. Across the area surrounding the school bike ownership is approximately 10% above the national norm. The likelihood to exercise linked with bike ownership levels is confirmed by the Level of Exercise Index shown in Figure 79 where no exercise levels immediately around the school are lower than national levels.

Figure 78 - Bike Ownership Index

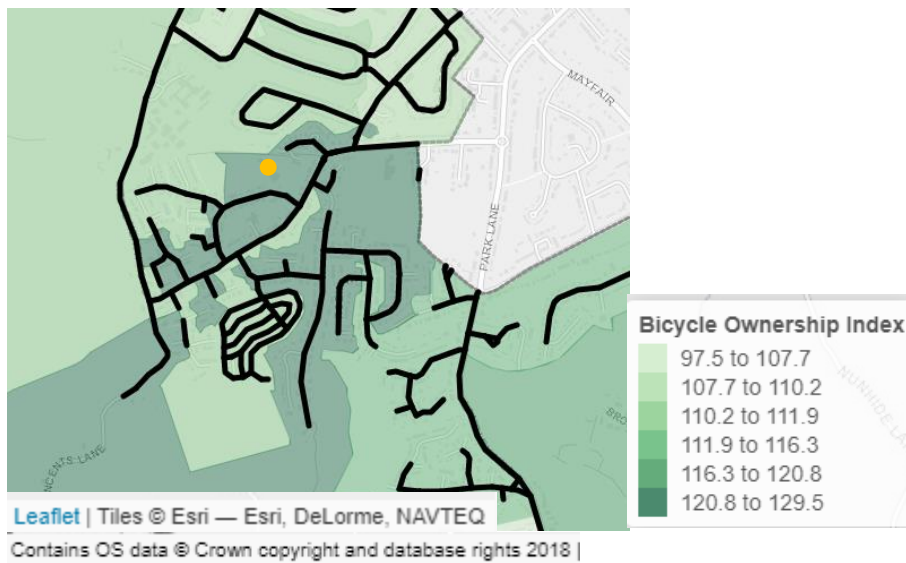
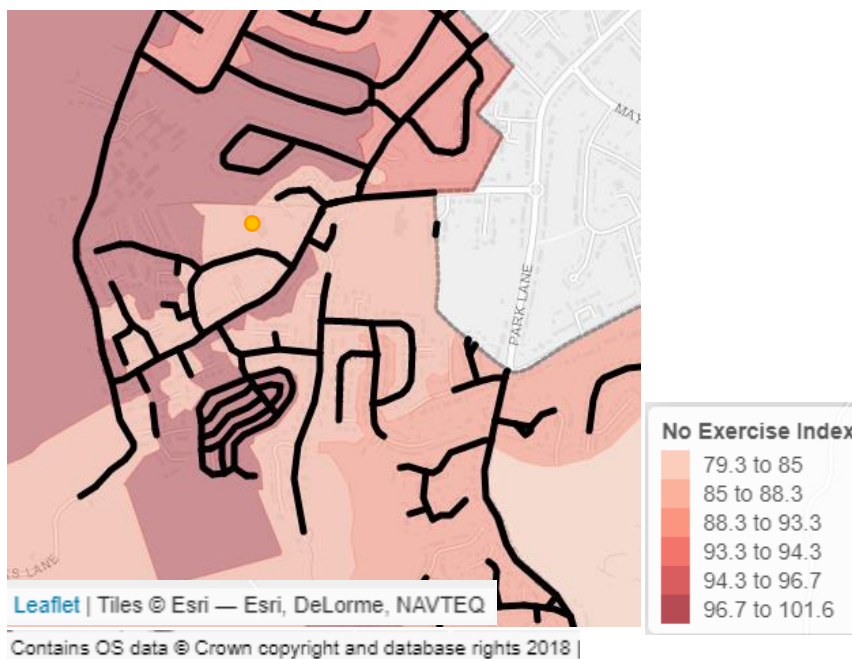
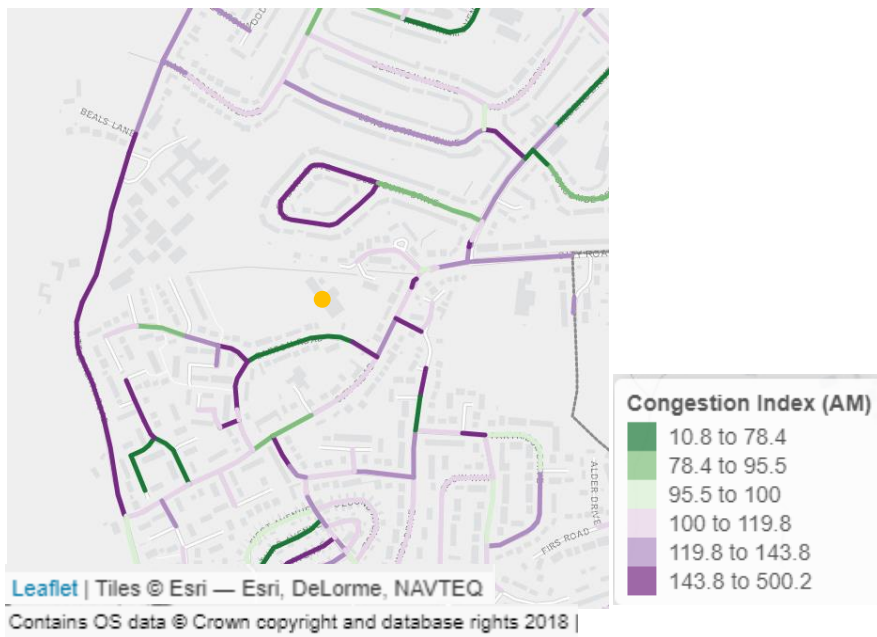


Figure 79 - Level of Exercise Index



So-Mo’s report into active travel in West Berkshire reported concerns with parked vehicles obstructing pedestrian visibility as a barrier to independent travel. The presence of parked vehicles can add to congestion on the network and therefore an index value for congestion during the morning peak journey times can indicate a pedestrian’s likelihood to encounter parked vehicles. The congestion index values around Springfield Primary are low indicating little difference between peak hour speeds and free flowing (night-time) speeds and therefore the likelihood of few parked vehicles around the school is also low. Areas of increased speed differentials are limited to junction approaches.

Figure 80 - Congestion Index (AM)

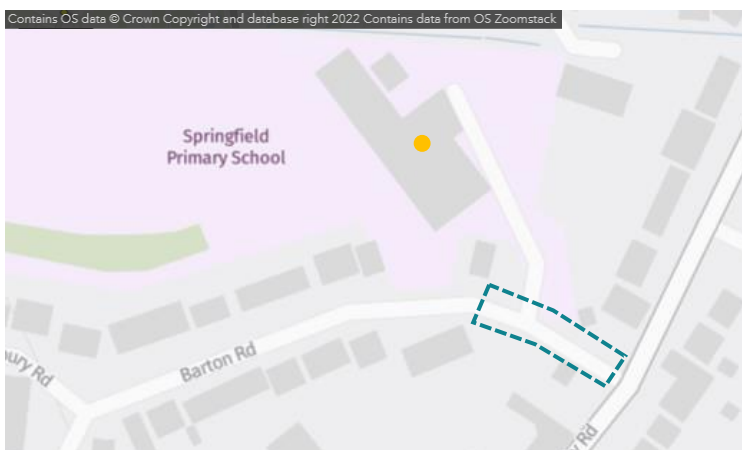


## INFRASTRUCTURE RATING



### *Barton Road*

Springfield Primary is accessed from a relatively quiet residential street – Barton Road, the first 100m of which (as shown in Figure 81) has been assessed using the iRAP Active Travel Tool to understand what risks road users are exposed to as they travel to and from school.





















Figure 81 - Assessed Area 1



Barton Road has pavements on both sides of the road, pedestrians walking on the north-east side of the carriageway are offered extra protection by a row of bollards defining the edge of the pavement and deterring pavement parking. The features of the road layout are given a 4-Star rating and assigned a moderate level of stress.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|---|--|
|                                | Star Rating   | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) |  | <br>Moderate stress |

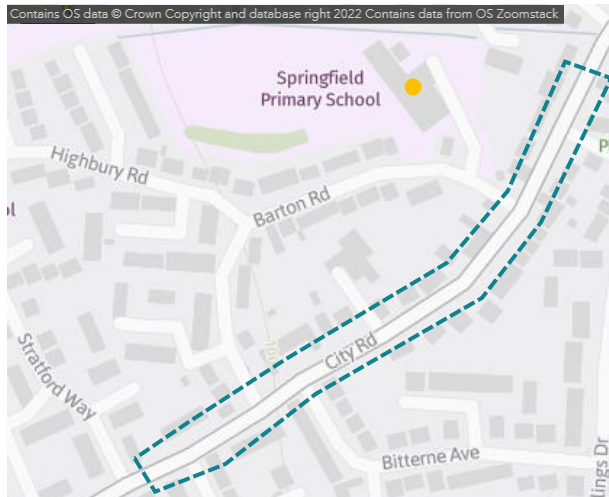
There is an existing informal crossing point near the junction of Barton Road with City Road. Assessing this crossing it is given a 4-star rating but attributed with a high level of stress, this is described as the level of stress that only the strong and fearless group will tolerate. Providing a zebra crossing would reduce this level of stress to Moderate although it would not alter the star rating.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |  | <br>High stress      |
| Zebra (Unraised; no traffic island)             |  | <br>Moderate stress |
| Raised informal crossing without traffic island |  | <br>High stress     |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

## City Road

The feeder road to Barton Road, City Road, has also been assessed as a route pupils travelling from the North, East and South are likely to navigate on their journeys to/from school.

Figure 82 - Assessed Area 2



The pedestrian footway provisions on City Road are scored as a 4-star route for pedestrians who are also estimated to experience a moderate level of traffic stress.

| Pedestrian Footway             | Pedestrian  |                                    |
|--------------------------------|-------------|------------------------------------|
|                                | Star Rating | Level of Traffic Stress evaluation |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress                |

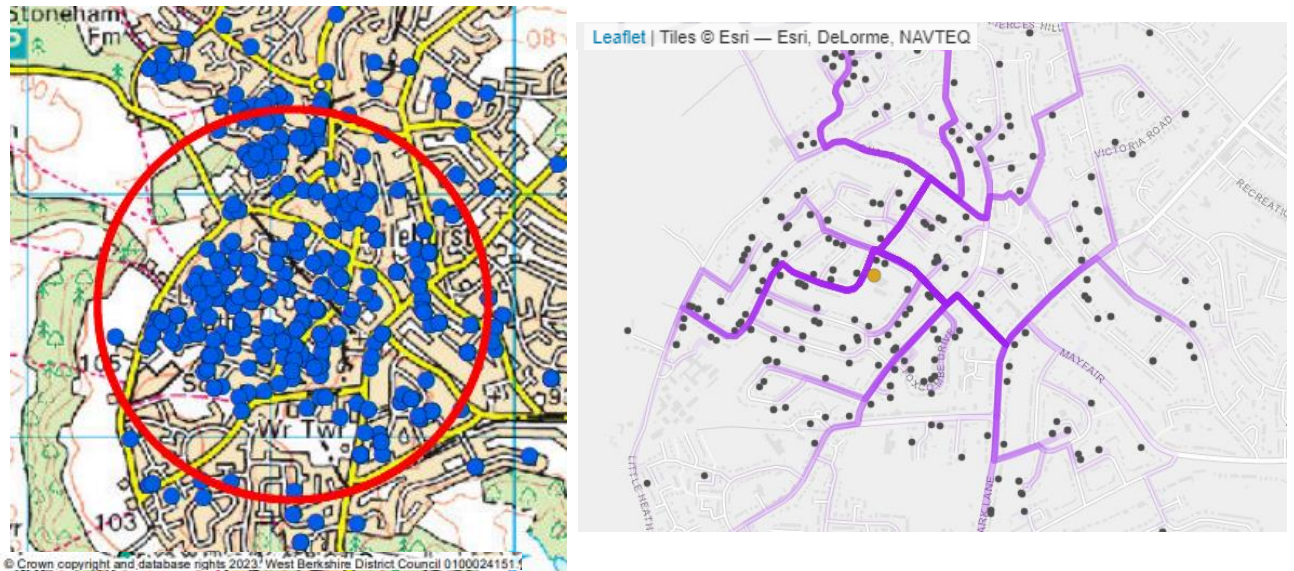
The existing PELICAN signal-controlled crossing on City Road is given a 5-star rating and deemed to expose pedestrians to a moderate level of traffic stress.

| Pedestrian Crossing Type                        | Pedestrian  |                                    | Pedestrian Crossing Type                     | Pedestrian  |                                    |
|---|-------------|------------------------------------|--|-------------|------------------------------------|
|   | Star Rating | Level of Traffic Stress evaluation |  | Star Rating | Level of Traffic Stress evaluation |
| Informal  | ★★★★☆       | <br>High stress                    | Raised informal crossing with traffic island | ★★★★★       | <br>High stress                    |
| Traffic island                                  | ★★★★☆       | <br>High stress                    | Raised zebra without traffic island          | ★★★★★       | <br>Moderate stress                |
| Zebra (Unraised; no traffic island)             | ★★★★☆       | <br>Moderate stress                | Raised zebra with traffic island             | ★★★★★       | <br>Low stress                     |
| Raised informal crossing without traffic island | ★★★★☆       | <br>High stress                    | Signal controlled (no traffic island)        | ★★★★★       | <br>Moderate stress                |
| Unraised zebra with traffic island              | ★★★★☆       | <br>Moderate stress                | Signal controlled with traffic island        | ★★★★★       | <br>Low stress                     |

## BIRCH COPSE PRIMARY SCHOOL

The location of Birch Copse Primary and its pupil's home locations are shown below in Figure 83, Also shown are favoured walking and cycling routes to/from school generated through the OS routing engine. Birch Copse Primary is located within 1 mile of Springfield Primary so it is likely there will be some overlap in the data displayed.

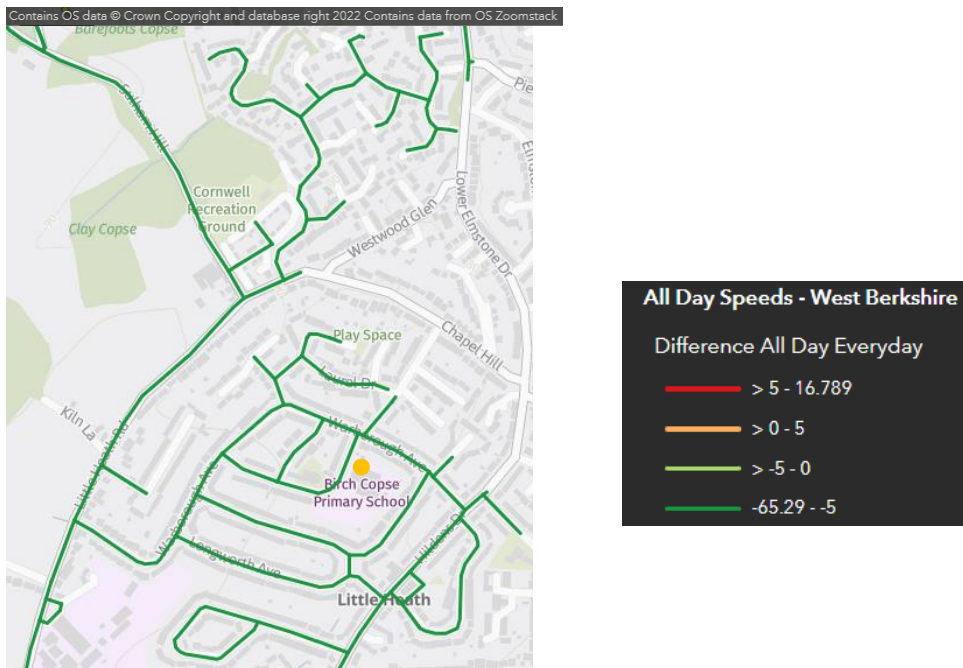
Figure 83 - School Location & Favoured Active travel routes



## TRAFFIC SPEED

Like Springfield Primary, Birch Copse is located in a dense residential area of 30mph streets. Speeds are low and therefore the differences between all day average speeds and the 30mph speed limit are inversely high.

Figure 84 - All Day Average Speed compliance





Speeds on the access road to Birch Copse – Wittenham Avenue - are shown in Figure 85 and confirm no vehicles were detected to be travelling above the speed limit.

Figure 85 - Speed compliance on road sections



All Day Average Speed

**14.0mph**

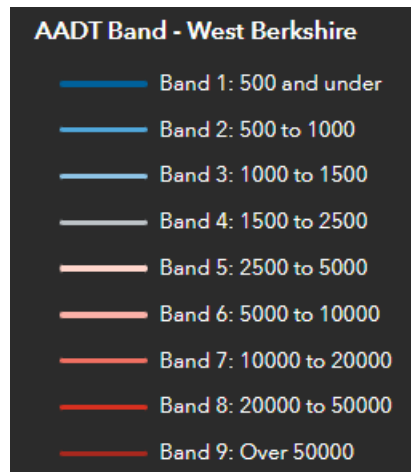
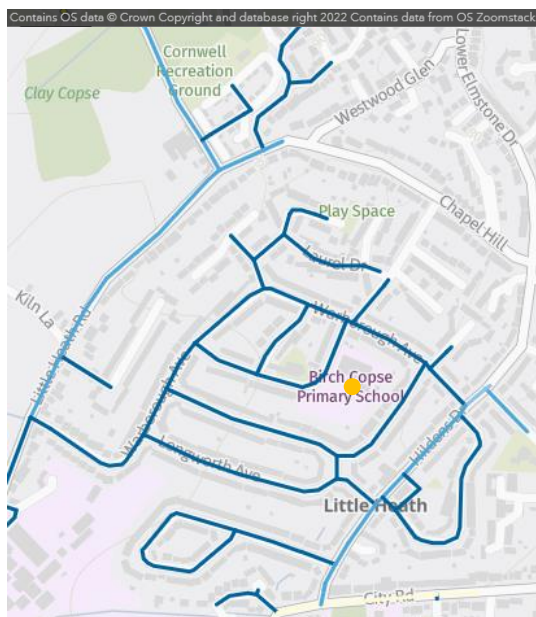
All Day 85th Percentile Speed

**9.9mph**

### TRAFFIC VOLUME

The number of vehicles navigating the roads around Birch Copse Primary is again low with many roads modelled to carry 500 or less vehicles each day.

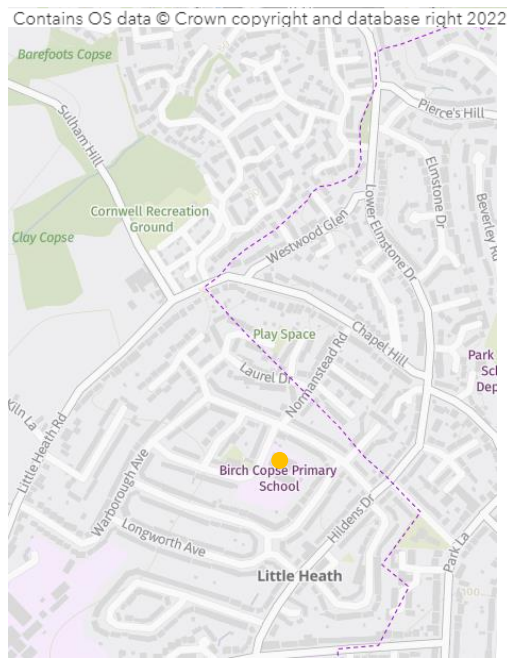
Figure 86 - Annual Average Daily Traffic (AADT) Levels



### COLLISION HISTORY

Interrogation of STATS19 collision stats reveals there have been no reported injury collisions involving child pedestrians or pedal cyclists in the five-year period between 2017 and 2021, inclusive.

Figure 87 - CrashMap Pro Excerpt



ADDITIONAL ACTIVE TRAVEL BARRIERS

Pupils attending Birch Copse Primary tend to reside within the suburb of Tilehurst, across which Bike ownership varies. Figure 88 shows that immediately around the school bike ownership tends to be slightly below the national average with areas of higher bike ownership to the north.

Figure 89 shows that the amount of exercise undertaken by those living around Birch Copse Primary is low with index values below 100; the national norm.

Figure 88 - Bike Ownership Index

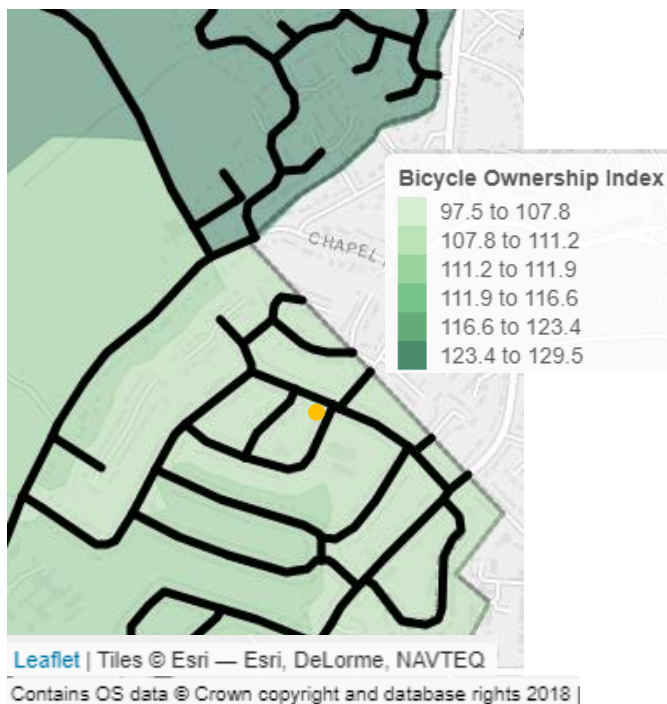
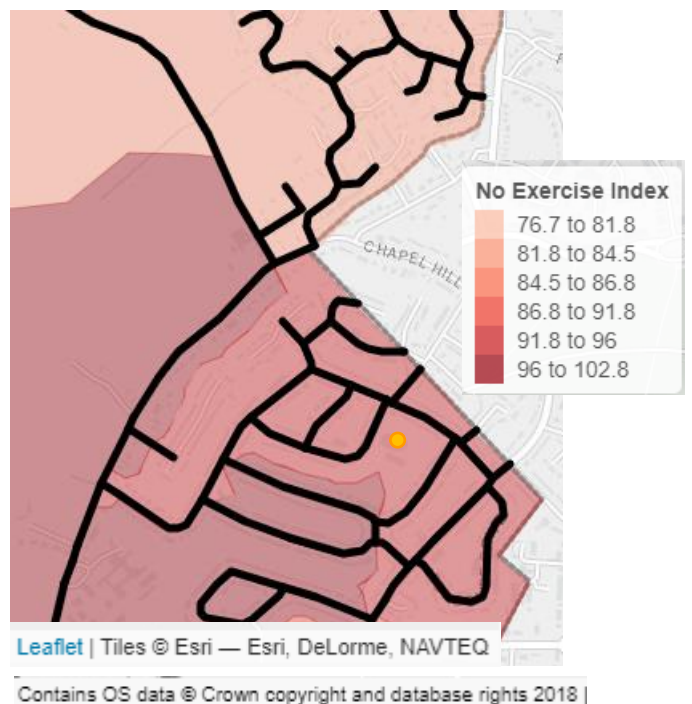
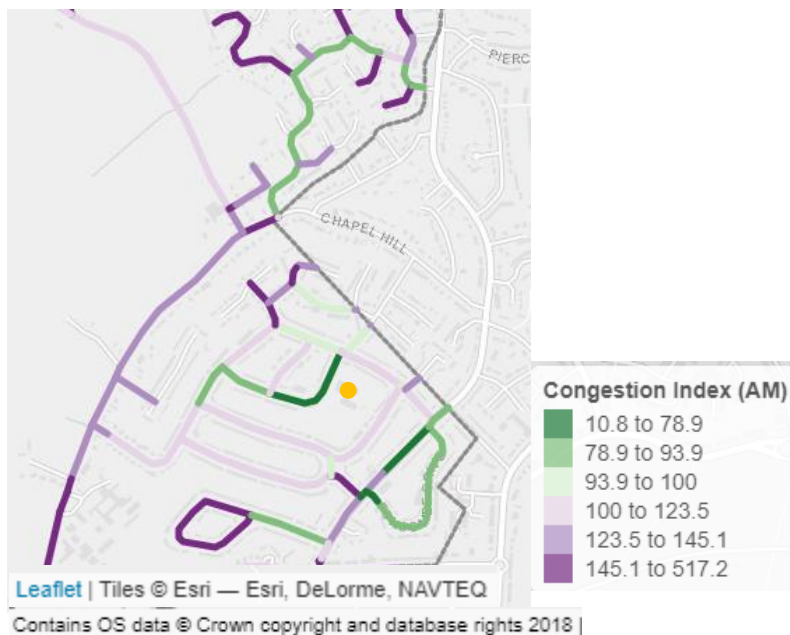


Figure 89 - Level of Exercise Index



With low daily traffic volumes on the roads around Birch Copse it is no surprise that congestion levels are also low with little difference between free-flowing speeds and speeds during the morning peak, 7am – 9am.

Figure 90 - Congestion Index (AM)

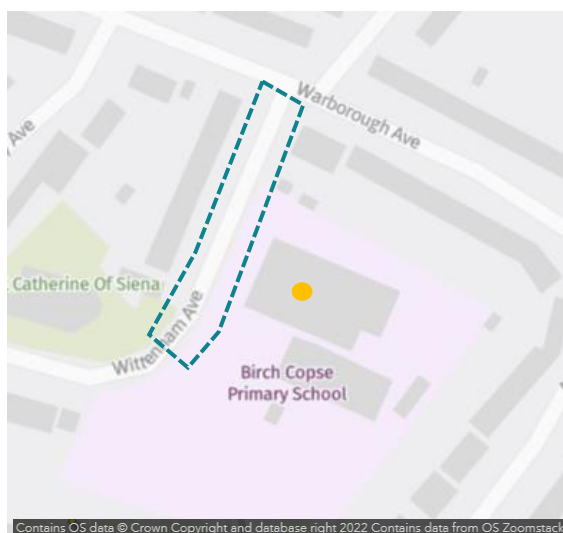


#### INFRASTRUCTURE RATING



Birch Copse Primary School is very similar in being accessed from Wittenham Avenue a quiet residential road. The first assessed area shown in Figure 91 extends from the junction with Warborough Avenue to a point roughly 50m southwest of the school entrance.

#### Wittenham Avenue










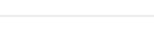

Figure 91 - Assessed Area 1



On Wittenham Avenue the pavements are lightly segregated from the carriageway by a grass verge, this time occupied by verge marker posts to deter verge parking. The light segregation however does not effect the star rating level attributed to the street with the pedestrian footway scoring 4 out of 5 stars and a moderate level of traffic stress.

| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|---|--|
|                                       | Star Rating   | Level of Traffic Stress evaluation   |
| Light segregation (non-physical 0-1m) |  | <br>Moderate stress |

Whilst there is no existing pedestrian crossing point on Wittenham Avenue, formal or informal, the star rating and associated level of traffic stress associated with the range of pedestrian crossing types available would be very similar to that seen for Springfield Primary School on Barton Road.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |   | <br>Moderate stress  |
| Raised informal crossing without traffic island |  | <br>High stress     |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |



### Warborough Avenue

Noting the potential to introduce a School Street on Wittenham Avenue and the possible subsequent increase of vulnerable road users walking along Warborough Avenue the stretch between either end of Wittenham Avenue has also been assessed.










Figure 92 - Assessed Area 2



The characteristic of Warborough Avenue are very similar to those of Wittenham Avenue although speeds are a little higher. Despite that the pedestrian footway provision is awarded the same 4-star rating whether the footway is immediately adjacent to the carriageway or segregated by grass verge.

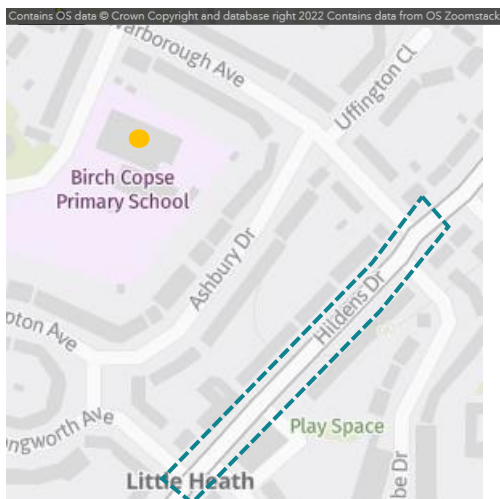
| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|-------------|--|
|                                       | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m)        | ★★★★☆       | <br>Moderate stress |
| Light segregation (non-physical 0-1m) | ★★★★☆       | <br>Moderate stress |

The higher operating speeds however do influence the star ratings attributed to different pedestrian crossing types. A raised zebra without traffic island on Warborough Avenue would score a 4-star rating rather than a 5-star rating on Wittenham Avenue whilst the levels of traffic stress remain the same between sites.



| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|-------------|--|
|   | Star Rating | Level of Traffic Stress evaluation   |
| Informal  | ★★★★☆       | High stress<br>       |
| Traffic island                                  | ★★★★☆       | High stress<br>       |
| Zebra (Unraised; no traffic island)             | ★★★★☆       | Moderate stress<br>   |
| Raised informal crossing without traffic island | ★★★★☆       | High stress<br>       |
| Unraised zebra with traffic island              | ★★★★☆       | Moderate stress<br>   |
| Raised informal crossing with traffic island    | ★★★★☆       | High stress<br>       |
| Raised zebra without traffic island             | ★★★★☆       | Moderate stress<br>   |
| Raised zebra with traffic island                | ★★★★★       | Low stress<br>      |
| Signal controlled (no traffic island)           | ★★★★★       | Moderate stress<br> |
| Signal controlled with traffic island           | ★★★★★       | Low stress<br>      |

### Hildens Drive




















Figure 93 - Assessed Area 3



Hildens Drive is very similar in character to other surrounding routes. Pedestrian footways are separated from the carriageway by wide grass verges, nevertheless the star rating and level of stress is consistent with other routes with a 4-star rating and a moderate level of traffic stress.

| Pedestrian Footway                    | Pedestrian  |  |
|---------------------------------------|---|--|
|                                       | Star Rating   | Level of Traffic Stress evaluation   |
| Light segregation (non-physical 0-1m) |  | <br>Moderate stress |

There is a raised informal crossing point outside the Hilden Drive shops, that based on an assessment of the variables associated with the pedestrian crossing active travel category is given a 4-star rating with high stress level. Upgrading this crossing to a raised zebra with no island would improve the star rating to 5-star and reduce the level of traffic stress to moderate.

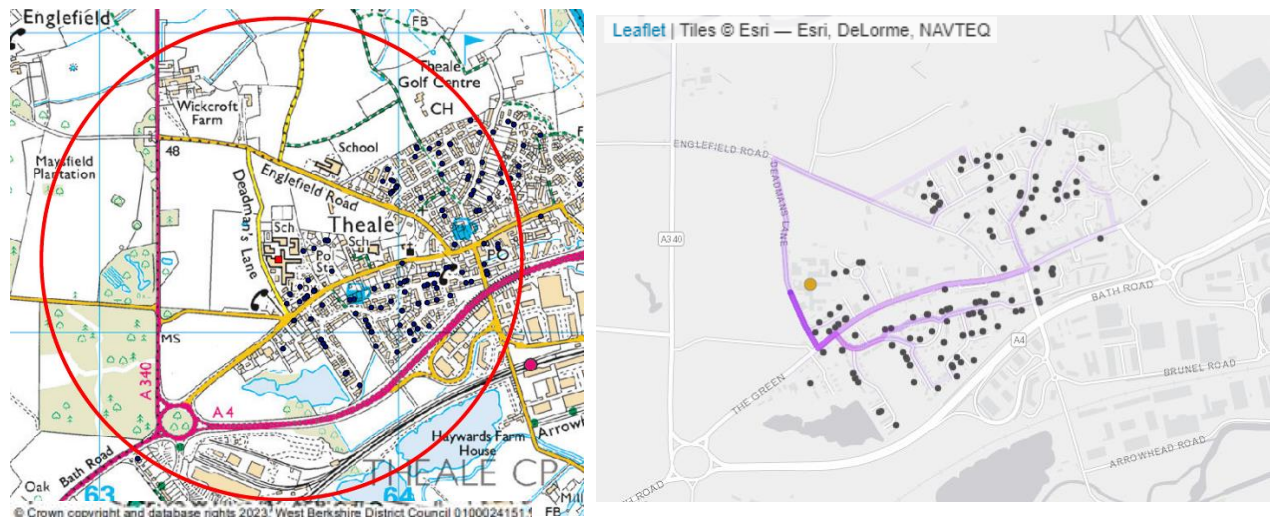
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |  | <br>Moderate stress |
| Raised informal crossing without traffic island |  | <br>High stress     |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

As the report has previously covered for schools in the west of West Berkshire, having examined independent travel indicators around 3 primary schools in the east of the county the following sections examine the same datasets for 2 secondary schools in east West Berkshire to understand how influencing factors might differ for pupils here as they transition from primary school to secondary school.

## THEALE GREEN SECONDARY SCHOOL

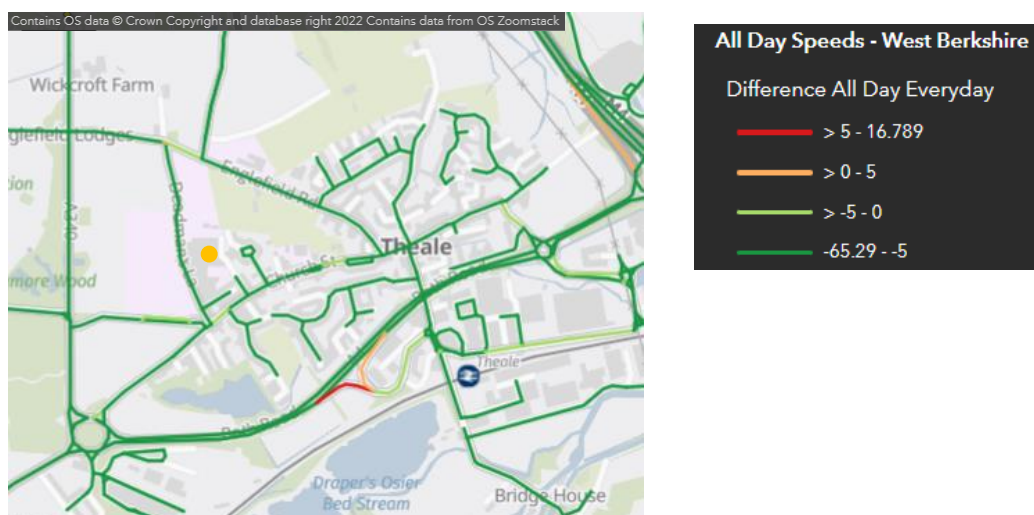
Theale Green Secondary School is in the village of Theale, on the west side of the M4 motorway from Reading. Whilst the pupil catchment from the immediate area appears small from the images below, it is likely that more pupils will travel from Reading and the surrounding area.

Figure 94 - School Location & Favoured active travel routes



## TRAFFIC SPEED

Figure 95 - All Day Average Speed Compliance

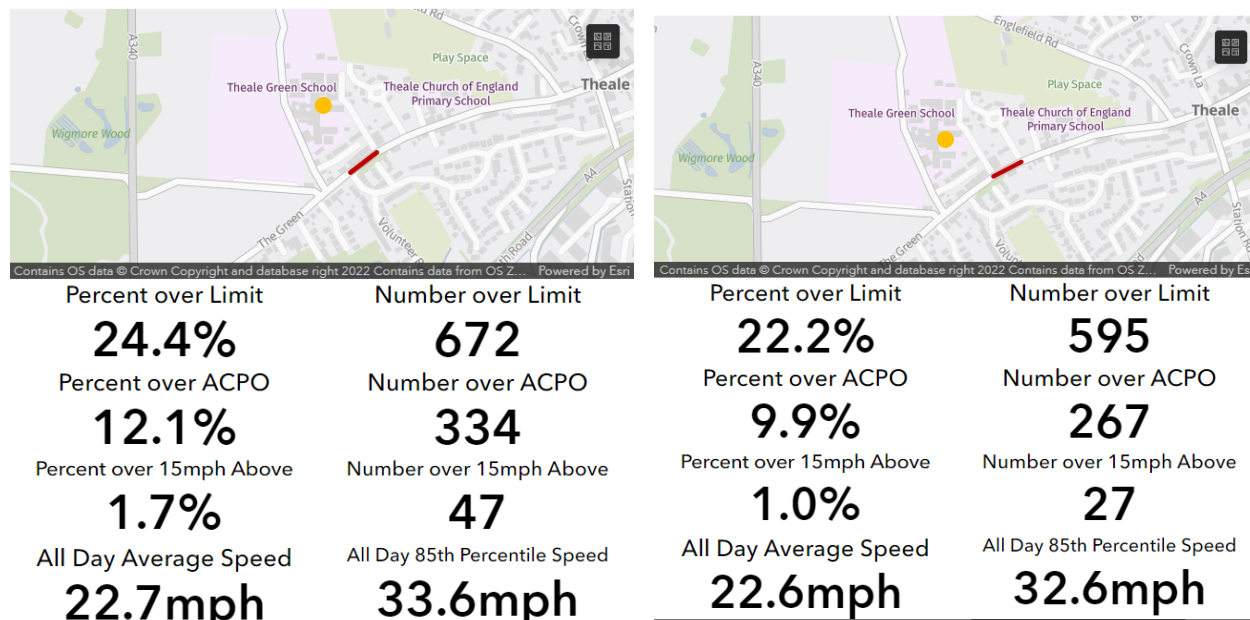




Throughout the village of Theale traffic speeds are low resulting in good compliance with the predominant speed limit of 30mph.

Figure 96 shows that 24hour average speeds on Church Street, (from which Theale Green Secondary is accessed) are 22mph with 85<sup>th</sup> percentile speeds around 33mph. Approximately 23% of the vehicles travelling past the school entrance are exceeding the posted speed limit, with approximately 12% travelling at speeds more than 35mph.

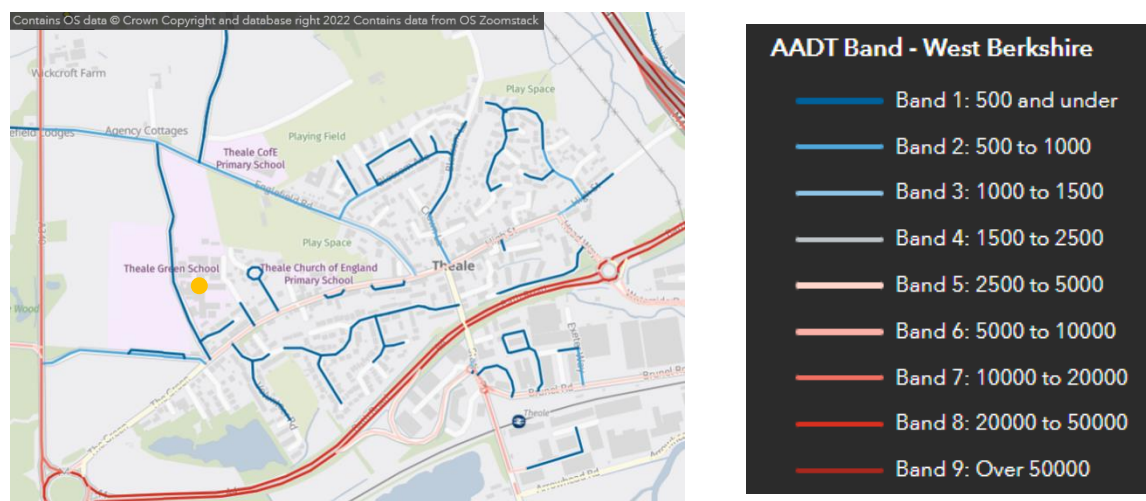
Figure 96 – Speed compliance on road sections



### TRAFFIC VOLUME

As the main access road from the A4 into Theale, traffic volumes on Church Street are not excessive; they are estimated between 2,500 and 5,000 vehicles per day.

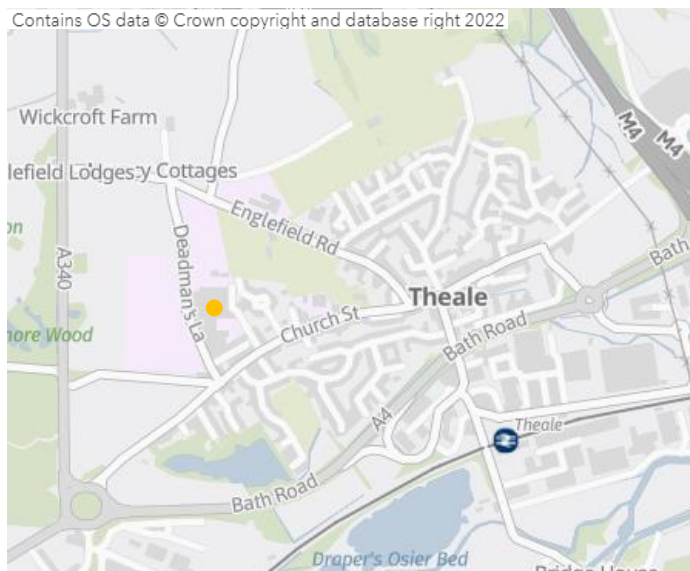
Figure 97 - Annual Average Daily Traffic (AADT) Levels



### COLLISION HISTORY

As shown in Figure 98, analysis of collision records reveals there have been no recorded injury collisions involving pedestrians or pedal cyclists under the age of 16 between 2017 and 2021 in the vicinity of the school.

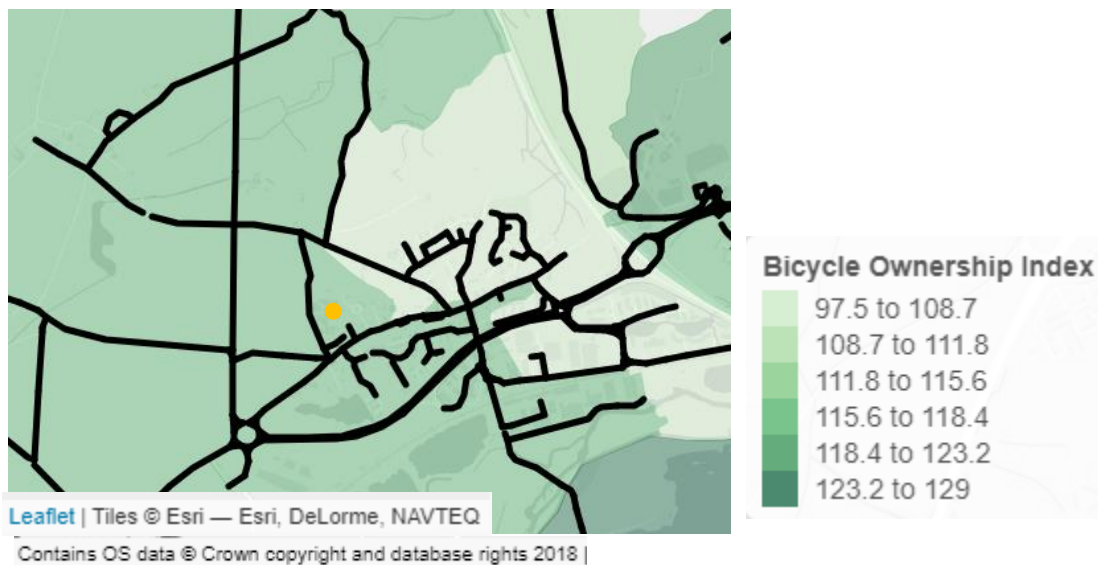
Figure 98 – CrashMap Pro excerpt (2017 - 2021)



#### ADDITIONAL ACTIVE TRAVEL BARRIERS

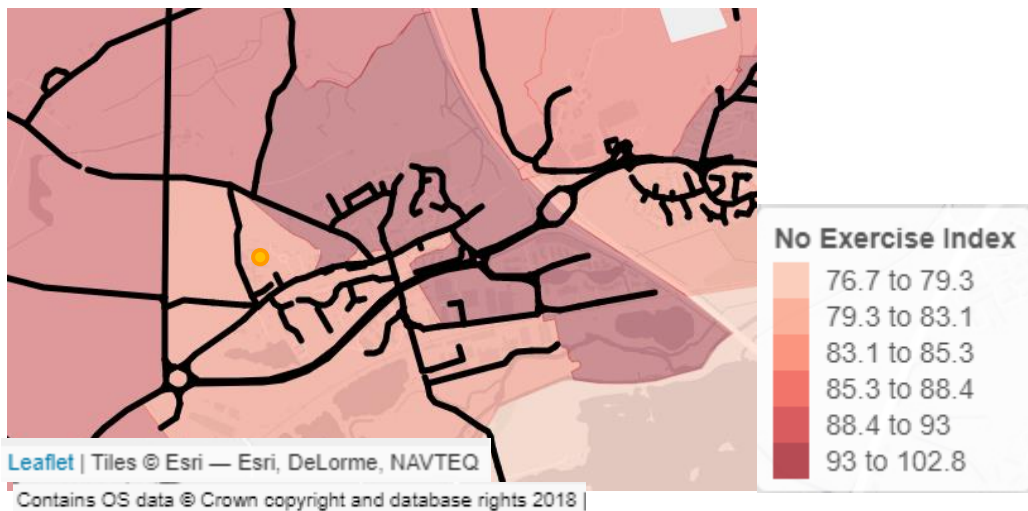
As Theale Secondary is located outside the suburbs of Reading, in contrast to some of the primary schools closer to the main urban area that have already been looked at bike ownership is slightly higher than the national average immediately surrounding the school.

Figure 99 - Bike Ownership Index



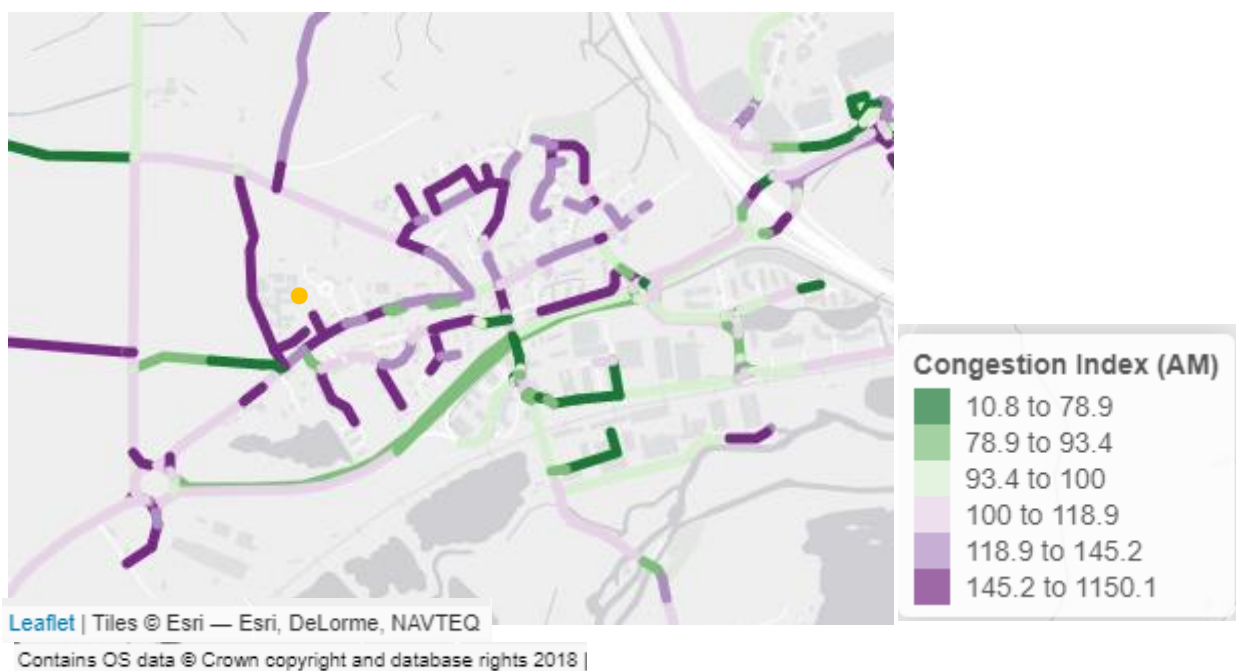
This finding corresponds with evidence in Figure 100 that shows the likelihood of residents around Theale not taking part in exercise is lower than the national norm.

Figure 100 - Level of Exercise Index



The congestion index for the roads around Theale Secondary show that there is some congestion on the school access road. This is not surprising given the school is located at the end of a short access road that drivers may use to drop off / pick up pupils as well as access facilities also located on this access road, such as Theale Library.

Figure 101 - Congestion Index (AM)



## INFRASTRUCTURE RATING


### Church Street

Acknowledging that secondary age pupils can walk or cycle a longer distance to and from school Church St from its junction with Englefield Road to The Green has been assessed through the iRAP Active Travel Tool.



Figure 102 - Assessed Area 1



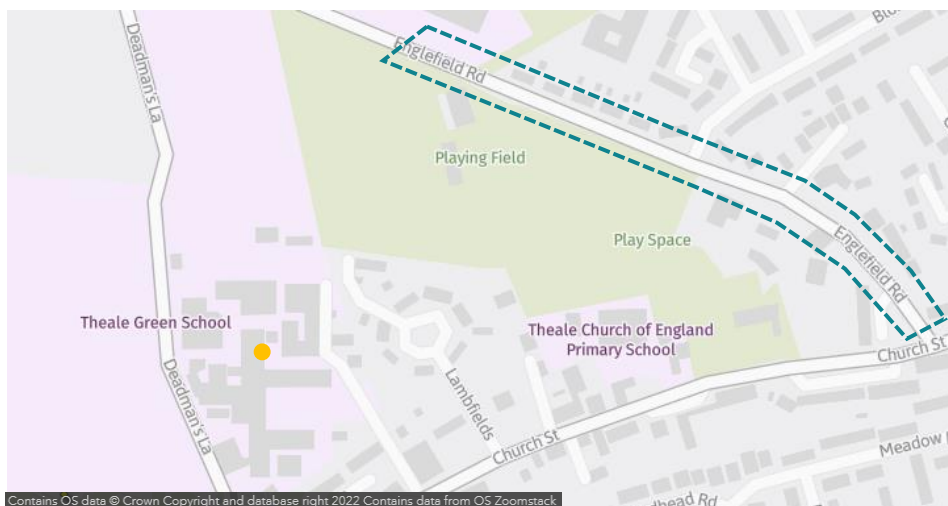
Despite being on the main route into and out of Theale village, Church Street is given a 4-star rating for its pedestrian footway facilities and evaluated as having a moderate level of traffic stress that is manageable by most adults.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|-------------|--|
|                                | Star Rating | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

There is an existing zebra crossing almost opposite the school access road offering pedestrians that live to the south of Church Street or perhaps using local business car parks as a 'Park+Stride' type facility a safer place to cross the road. There is a second zebra crossing by Trinity Court that pedestrians approaching from further east might use. Using the mechanism of the iRAP Active Travel Tool both these facilities are given a 4-star rating and evaluated as a moderate level of traffic stress. Upgrading these crossing points to a raised zebra or a signal-controlled crossing would improve it to a 5-star rating.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|-------------|--|
|   | Star Rating | Level of Traffic Stress evaluation   |
| Informal  | ★★★★☆       | High stress<br>       |
| Traffic island                                  | ★★★★☆       | High stress<br>       |
| Zebra (Unraised; no traffic island)             | ★★★★☆       | Moderate stress<br>   |
| Raised informal crossing without traffic island | ★★★★☆       | High stress<br>       |
| Unraised zebra with traffic island              | ★★★★☆       | Moderate stress<br>   |
| Raised informal crossing with traffic island    | ★★★★☆       | High stress<br>       |
| Raised zebra without traffic island             | ★★★★★       | Moderate stress<br>  |
| Raised zebra with traffic island                | ★★★★★       | Low stress<br>      |
| Signal controlled (no traffic island)           | ★★★★★       | Moderate stress<br> |
| Signal controlled with traffic island           | ★★★★★       | Low stress<br>      |

Englefield Road  
Figure 103 - Assessed Area 2

























Englefield Road is the route that links Theale Secondary with Theale Primary School and may be used by older siblings walking between the schools.

The characteristics of Englefield Road are very similar to many others with a

30mph speed limit, consistent operating speeds and low traffic volumes. As such the star rating is also similar to many others at 4-star and a moderate level of traffic stress.

The absence of on-street parking and presence of speed management features on Englefield Road contribute to the 5-star rating of a number of different pedestrian crossing types if an upgrade to the existing informal crossing were to be considered.

| Pedestrian Footway             | Pedestrian  |  |
|--------------------------------|---|--|
|                                | Star Rating   | Level of Traffic Stress evaluation   |
| No physical segregation (0-1m) |  | <br>Moderate stress |

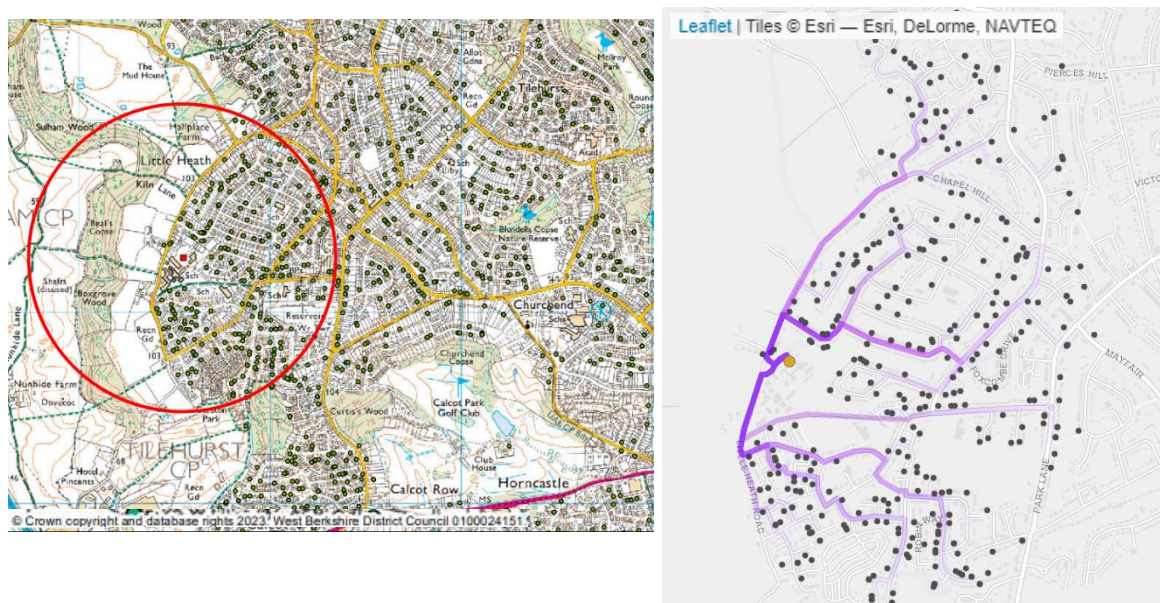
| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |   | <br>High stress      |
| Zebra (Unraised; no traffic island)             |  | <br>Moderate stress |
| Raised informal crossing without traffic island |  | <br>High stress     |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

## LITTLE HEATH SECONDARY SCHOOL

Little Heath is the second Senior school in the east of the county to be examined in relation to independent travel barriers. The school location and pupil home plot in Figure 104 shows that this school's 'catchment' is large and extends beyond the West Berkshire boundary to the west and the extent of the datasets being used in this report. However the favoured routes for those pupils walking or cycling within a tighter radius of the school are also shown and remain broadly within the county boundary.

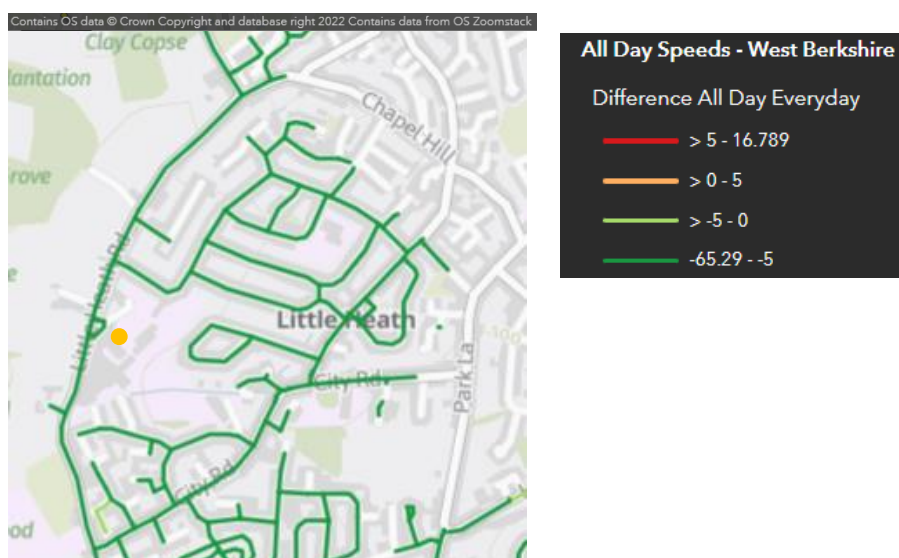
The OSRM has identified Little Heath Road as the predominant favoured route to and from the school. A review of the infrastructure around the school suggests there is a pedestrian access point on the east side of the campus that hasn't been detected by the routing engine which, in reality, might be more desirable than Little Heath Road. For the purposes of this review the results of the routing engine will be used.

Figure 104 - School Location & Favoured Active Travel routes



## TRAFFIC SPEED

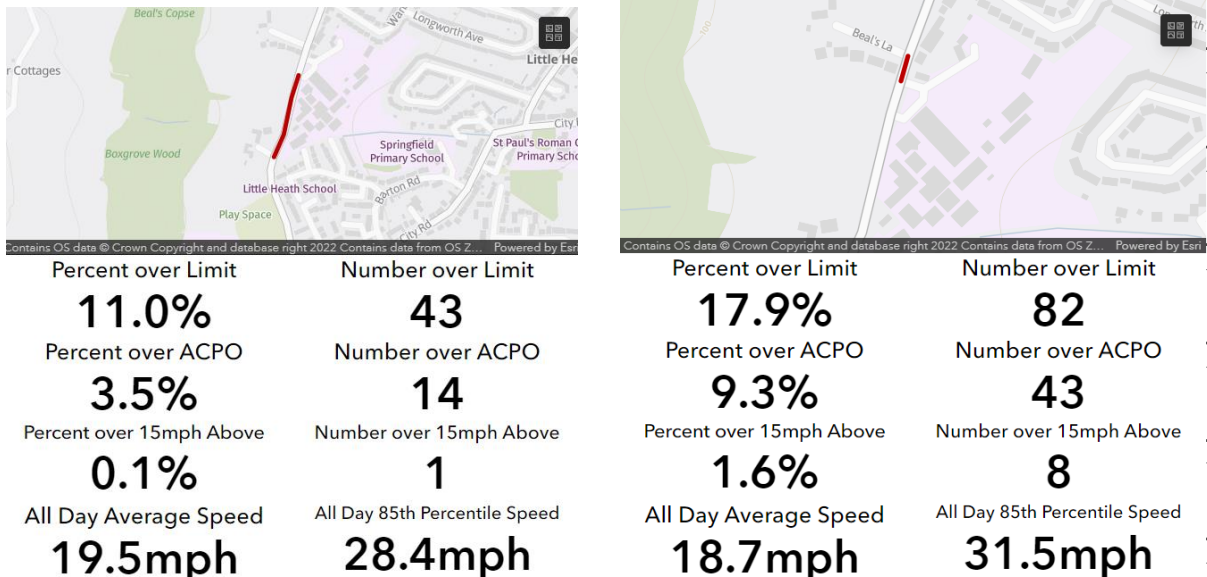
Figure 105 - All Day Average Speed Compliance



All day average speeds on roads to the west and east of Little Heath Secondary are consistently below the speed limit of 30mph.

Interrogation of vehicle speeds on Little Heath Road immediately approaching the main school entrance, Figure 106, indicate that all day average speeds in either direction are approximately 19mph with 85<sup>th</sup> percentile speeds closer to the speed limit. The data indicates that speeds north of the school are slightly faster and on further analysis the speed of traffic travelling north is slightly faster than traffic travelling south on Little Heath Road.

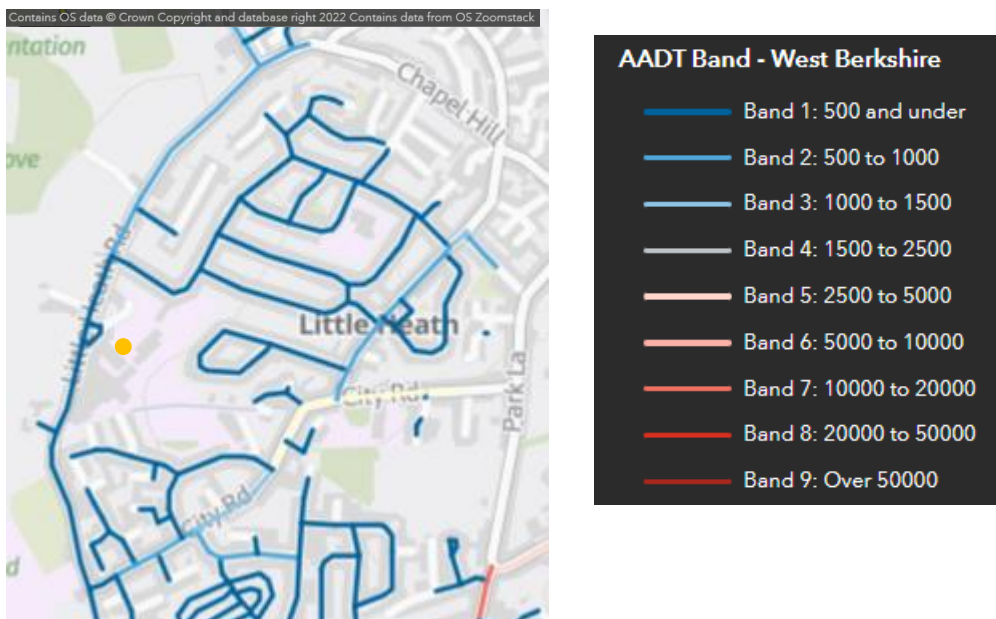
Figure 106 - Speed Compliance by road sections



### TRAFFIC VOLUME

Modelled Annual Average Daily Traffic (AADT) volumes captured from West Berkshire's Speed Compliance Tool indicate low traffic volumes on Little Heath Road and the residential streets to the north-east of the school site.

Figure 107 - Annual Average Daily Traffic (AADT) Levels





## COLLISION HISTORY

Perhaps as a result of the low traffic volumes in the area there have been very few reported injury collisions during the 5-year analysis period. The only collisions involving children under the age of 16 years walking or cycling in the area are those already identified in the immediate vicinity of Springfield Primary. Whilst none of the casualties injured in the collisions shown in Figure 108 or were reported to be journeying to or from school, neither were they children of secondary school age so unlikely to be travelling to or from Little Heath School.

Figure 108 - Child Pedestrian Casualties (2017 - 2021)



Figure 109 - Child Pedal Cyclist Casualties (2017 - 2021)



## ADDITIONAL ACTIVE TRAVEL BARRIERS

Data sourced from Experian's Mosaic Segmentation and provided through the Active Streets Assessment Tool (ASAT) shows that an average number of residents living around Little Heath School will own a bike and as such the local community is likely to do more exercise than compared to the national average level of exercise.

Figure 110 - Bike Ownership Index

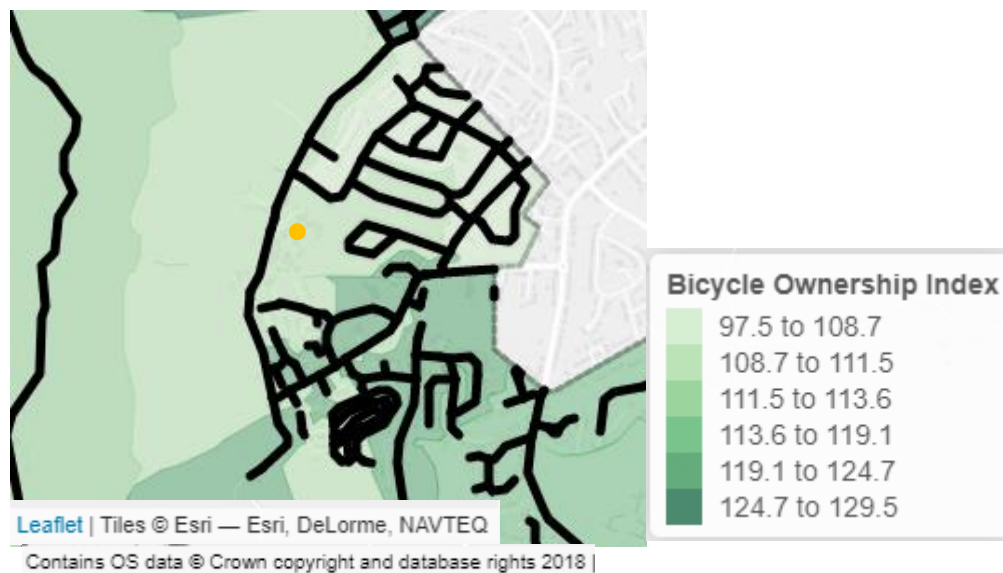
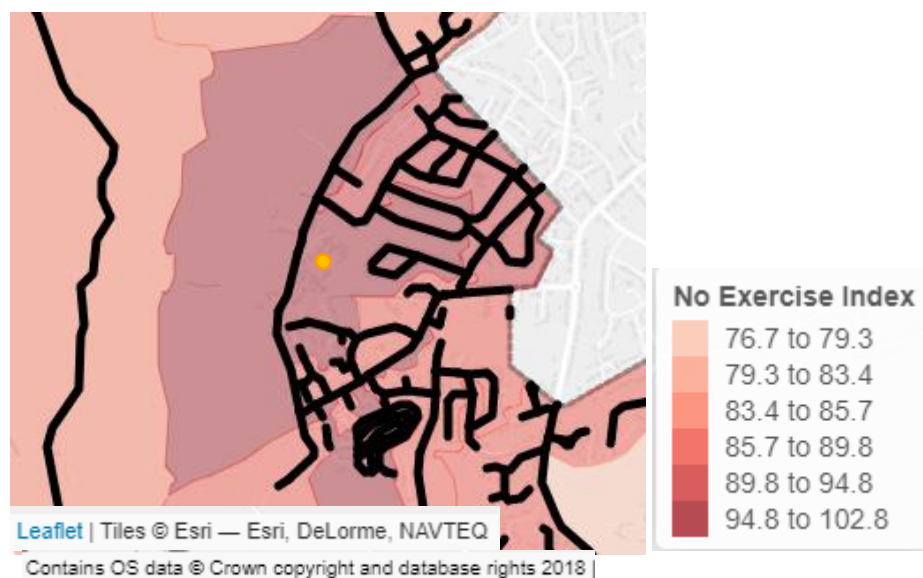


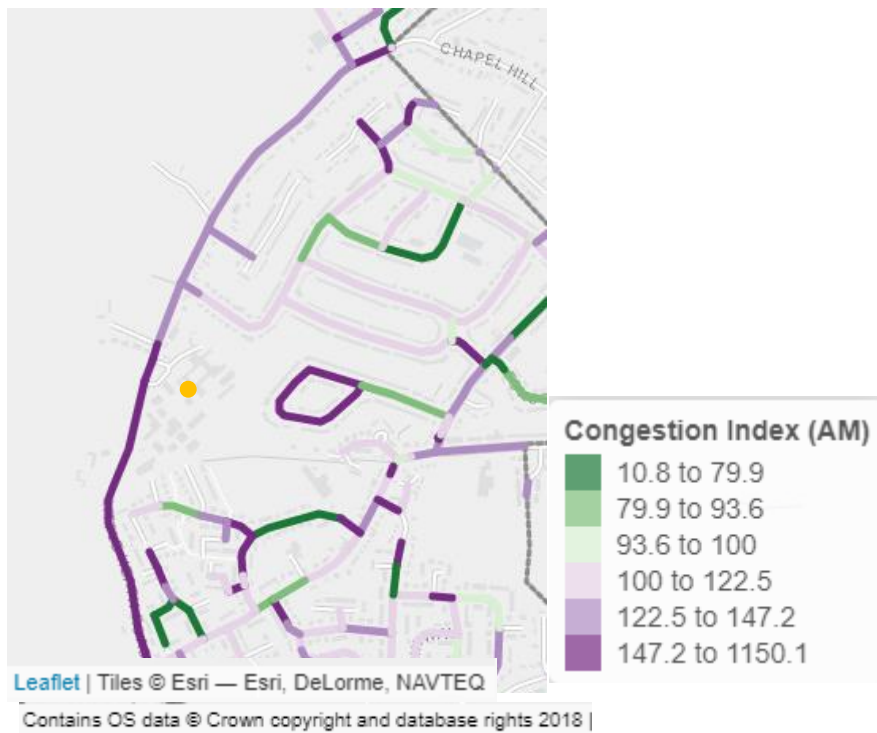
Figure 111 - Level of Exercise Index



The bike ownership and level of exercise indices are the 2 datasets most affected by Little Heath Secondary School's proximity to the West Berkshire county border and an absence of data for areas further east of the school where pupils were shown, in Figure 104, to reside.

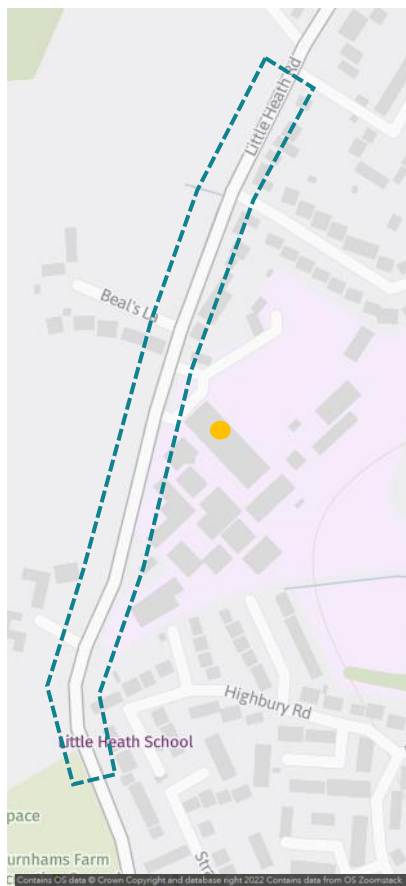
The AM Peak congestion index indicates that there is some level of congestion around the school entrance on Little Heath Road with AM peak speeds being 40% higher than free-flowing speeds. There is evidence of parking on Little Heath Road so this may contribute to slower AM peak speeds as traffic travelling at busier time seek to navigate parked cars on one side of the road.

Figure 112 - Congestion Index (AM)




## INFRASTRUCTURE RATING

Figure 113 - Assessed Area











There are few distinguishing features in the infrastructure on Little Heath Road to influence the Star rating significantly from other sites. With a typical speed limit of 30mph, a straight or gently curving alignment with good sight distance and medium lane width, like many other sites the pedestrian footway facility is given a 4-Star rating and evaluated to offer a moderate level of stress.

| Pedestrian Footway             | Star Rating | Level of Traffic Stress evaluation   |
|--------------------------------|-------------|--|
| No physical segregation (0-1m) | ★★★★☆       | <br>Moderate stress |

There is no evidence of facilities for cyclists travelling to Little Heath Secondary and therefore the active travel categories of Cycleway or Shared Footway & Cycleway has not been assessed although if improvements to cycle connections to and from the

school were under consideration this tool could be used to understand the risk associated with different options.

The presence of traffic calming and parking controls on Little Heath Road contribute to more pedestrian crossing types offering a 5-star rating than elsewhere however with so many of the pupils living to the east of the school site there would be limited demand for a facility serving pedestrians approaching from the west and crossing Little Heath Road.

| Pedestrian Crossing Type                        | Pedestrian  |  |
|---|---|--|
|   | Star Rating   | Level of Traffic Stress evaluation   |
| Informal  |    | <br>High stress       |
| Traffic island                                  |    | <br>High stress       |
| Zebra (Unraised; no traffic island)             |    | <br>Moderate stress   |
| Raised informal crossing without traffic island |    | <br>High stress       |
| Unraised zebra with traffic island              |  | <br>Moderate stress |
| Raised informal crossing with traffic island    |  | <br>High stress     |
| Raised zebra without traffic island             |  | <br>Moderate stress |
| Raised zebra with traffic island                |  | <br>Low stress      |
| Signal controlled (no traffic island)           |  | <br>Moderate stress |
| Signal controlled with traffic island           |  | <br>Low stress      |

## CONCLUSION

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This report sought to give insight into the degree to which identified parental barriers to independent travel exist in West Berkshire and specifically in the vicinity of ten selected schools across the county. Considering each of the identified transport-related barriers, we can make some conclusions on the extent to which the evidence verifies them as challenges to active travel.

All day average speed data from the Speed Compliance Tool indicates that vehicles travelling on roads surrounding schools are travelling at speeds compliant with the posted speed limit. In only one location was the all day 85<sup>th</sup> percentile speed found to be higher than the speed limit.

Traffic volume on the network around schools varies depending on their location. Many schools are sited in residential areas where traffic volumes are estimated to be very low, with AADT less than 1,500 vehicles. A few schools are located close to main A roads on which traffic volumes are significantly higher and that, depending on pupil's home locations, they may have to cross to get to and from school.

The third identified parental barrier to independent travel was risk of collision involvement, however few injury collisions involving child casualties have been reported near schools. Only 11 child pedestrian or pedal cyclist casualties have been reported over the 5-year analysis period in the vicinity of four of the ten schools studied. Of these, based on the information available, just 2 are suspected to have occurred on a journey to or from school.

The Active Travel tool assessments have identified a number of controlled pedestrian crossing facilities on roads used by pupils journeying to and from school and where these exist they are shown to deliver the highest safety ratings and lowest levels of traffic stress for road users. However there are a number of schools whose pupils have no designated crossing points to assist them in safely crossing the road. Use of the Active Travel tool could help to determine the most appropriate facility to provide these vulnerable road users.



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