

# Radyr Primary School, Cardiff



Transport Projects,  
City Development,  
Cardiff County Council,  
County Hall  
CF10 4UW



## Highway Impact Report 22 November 2016

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# 1 Introduction

- 1.1 The Transport Projects team has been commissioned to assess the highway impact of a proposed increase of staff/pupils at Radyr Primary School. A site visit was undertaken to enable an assessment of the effect that the proposals will have on the highway infrastructure in the vicinity of the school and to identify any existing/potential road safety issues.

The information which has been provided sets out that the proposal is to increase capacity of the school from the published 315 pupil spaces of the school to 420 pupil spaces. This is against a background where the school is currently operating at around 380 pupil spaces through using demountable classrooms on site. The school configuration is slightly lower than the classroom requirements for a 2 Form of Entry (FE). There is also a nursery established on site which currently provides 20 pupil spaces in the AM and 24 in the PM, this will not be affected by the development proposals.

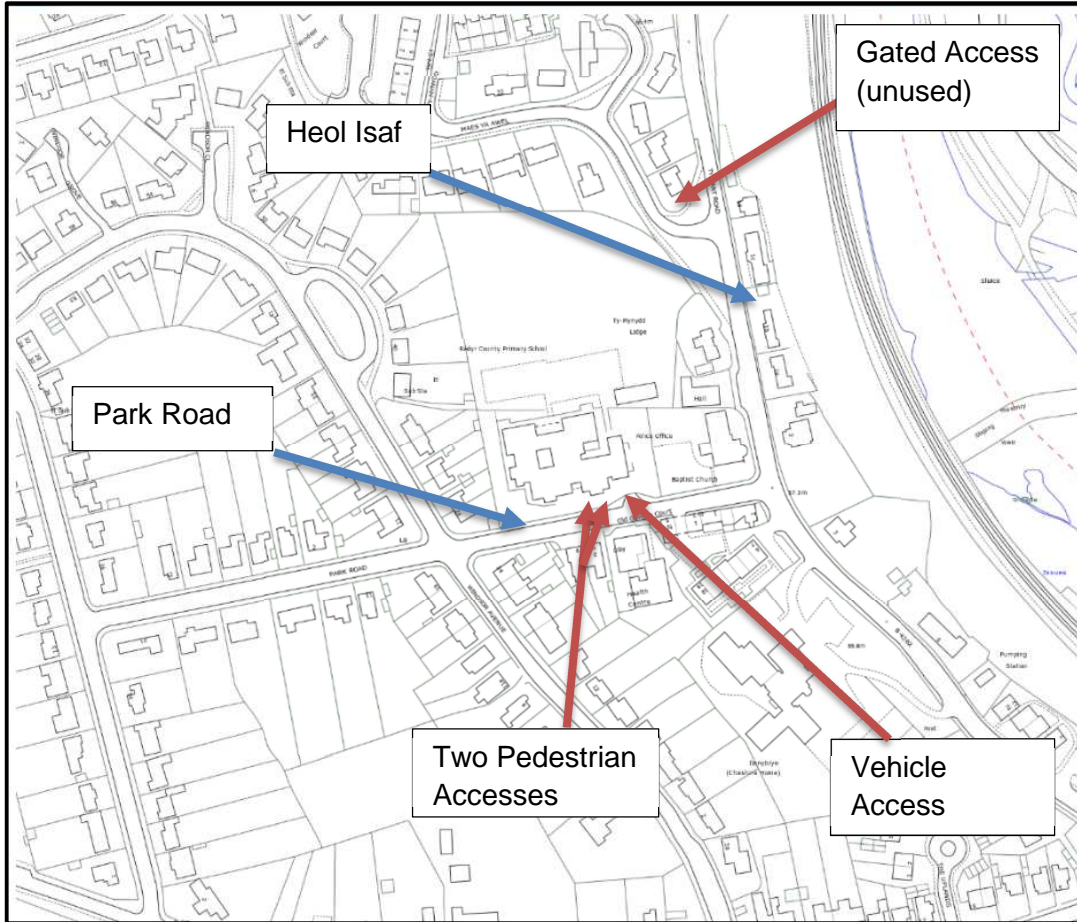
A site visit was undertaken on Thursday 22<sup>nd</sup> September 2016 between 1630 and 1745 hours. In addition to a site walkover survey this report has been informed through the following additional survey work:

- Speed Survey on Heol Isaf between 0800 and 0900 hours on Thursday 15<sup>th</sup> September;
- Peak hour turning count survey at the junctions of Park Road and Heol Isaf and Park Road with Windsor Avenue on Wednesday 14<sup>th</sup> September; and
- Parking surveys undertaken at and around peak network hours on Wednesday 14<sup>th</sup> September.

The survey work and the findings will be discussed later in this report.

The general location of the existing primary school is shown in the context of its local environs below on Figure 1.

**Figure 1 – Site Location and Access**



## 2 Existing conditions

2.1 **Pedestrian Routes to School** – There is only one current access approach route to the school this is on the north side of Park Road. A vehicular access is provided and two pedestrian accesses all within close proximity and gated. A further gated access is located to the north of the school entrance, this is accessed from Maes Yr Awel. These two residential streets, Park Road and Maes Yr Awel, are accessed from the local distributor route the B4262 Heol Isaf.

Heol Isaf connects Radyr to Morganstown, the A470 and the M4 to the north and Llantrisant Road, Danescourt and the city centre to the south. As the primary route through Radyr it is a busy commuter corridor. There have been numerous traffic schemes over the recent years to Heol Isaf. In the vicinity of the school a road narrowing and zebra crossing facility is provided to the north of the junction with Park Road. Photo set 1, below, shows the junction with Park Road and the crossing facility.

### **Photo Set 1 – Heol Isaf Junction with Park Road and Zebra Crossing**



Photo 1a



Photo 1b



Photo 1c



Photo 1d

Park Road is a short connecting route between Heol Isaf in the east to Dan-Y-Bryn Avenue to the west, passing through Windsor Avenue. The section of Park Road between Heol Isaf and Windsor Avenue is primarily of a community character, with some residential dwellings. There are multiple vehicular access points on Park Road, these include The Church Rooms car park, a residential courtyard, Radyr Library, Radyr Primary School, a salon and café.

There is a zebra crossing facility provide near the school pedestrian accesses. Park Road is a bus route and a bus stop for travel in either direction is located close to the school entrance adding to the busy street scene. Photo set 2, below, shows Park Road and the crossing facility.

### **Photo Set 2 – Park Road and Zebra Crossing**



Photo 2a

Photo 2b

Beyond the four arm junction with Windsor Avenue, Park Road is residential in character. The Park Road junctions with Heol Isaf and Windsor Road are built out, narrowing the Park Road width and provided dropped kerb and tactile paving crossing points. Built out parking areas are also provided in Park Road.

### **Photo Set 3 Park Road and Windsor Avenue Junction**



Photo 3a

Photo 3b



The northern gated access from Maes Yr Awel is signed as 'keep out' and 'danger men at work'. Maes Yr Awel is a residential cul de sac which appears to be quiet. Windsor Avenue and Maes Yr Awel route northwards and have links to Public Right of Way footpaths Numbers 12 and 11, respectively. These access onto a route named Pentwyn which is a part distributor of a wider residential estate. The access and Maes Yr Awel is shown below in the section 'School Access'.

The existing pedestrian desire lines to the school are split, east from Heol Isaf and west from Park Road and Windsor Avenue.

To the east the zebra crossing location on Heol Isaf allows safe movement across this busy route from Radyr north and south. To the north of the junction with Park Road, the western footway ends at the junction with Maes Yr Awel.

From the west the local roads are residential in character and likely to be easy to cross in comparison to Heol Isaf.

The Zebra Crossing to the school is positioned near the school pedestrian entrances. The southern side of Park Road is built out for the crossing. The existing guard rail on the school side limits the footway width at the pedestrian access points.

- 2.2 **School Access** – As described earlier, the school has two existing pedestrian accesses off Park Road, both close to the crossing facility (see photo set 4). The vehicular access is located further east and the footways do not extend inside the school entrance (see photo set 5). School gates are opened at 0730 hours and locked at 1800 hours. School Keep Clear and the crossing markings prohibit parking across the school frontage.

Park Road has double yellow line TROs around the bellmouths of the Heol Isaf junction and the Windsor Avenue junction. There are traces of previous TROs along Park Road. Parking is contained within built out parking bays, although vehicles can access the Salon and café area parking on both sides of the Zebra Crossing.

The guard rail, on the school side, which channels pedestrians to the Zebra Crossing reduces the effective footway width from 1.8 metres to 1.6 metres. This width is further reduced by the placement of a lighting column.

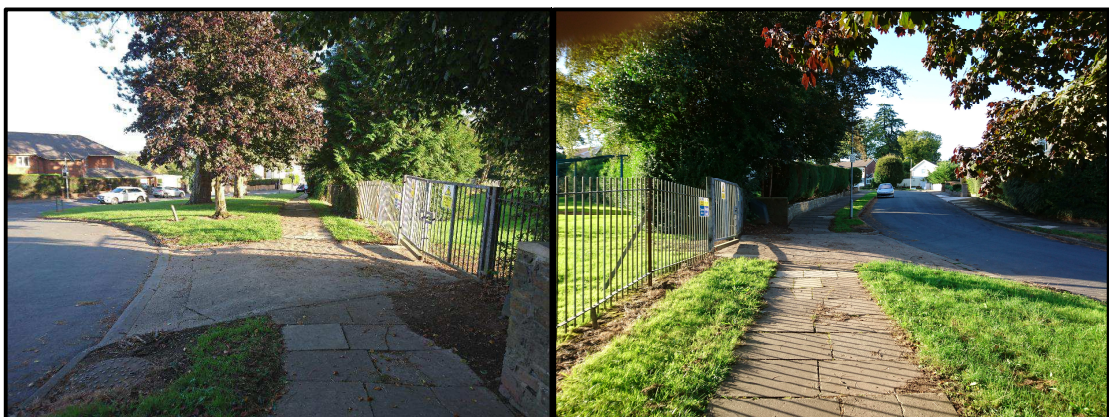
**Photo 4 –Pedestrian Access**



**Photo 5 –Vehicular Access**



**Photo Set 6 Northern School Access**

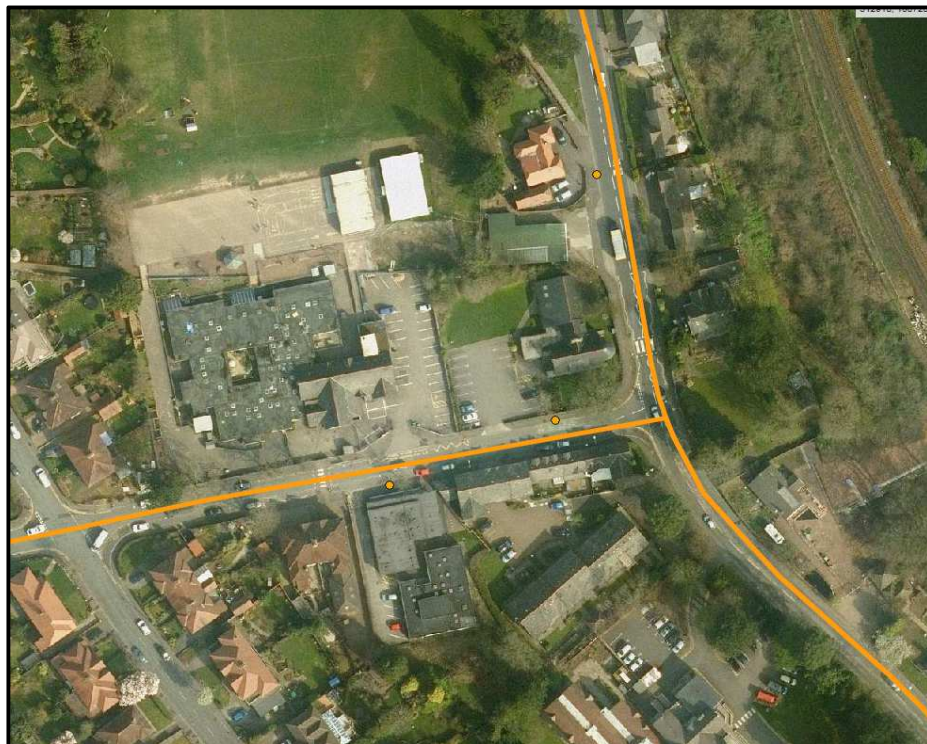


**Public Transport**

2.3 There is no school bus transport provision for this site.

Bus service Route 63 serves the bus stops on Park Road. The bus stops are located opposite the school entrance for westbound travel (Radyr Library Stop) and near the Heol Isaf junction for eastbound travel (Radyr Police Station Stop). The bus stops are simple flag and pole arrangement but do include raised kerbed boarding areas and marked out bus stop areas on the carriageway.

**Figure 2 – Bus stop locations**

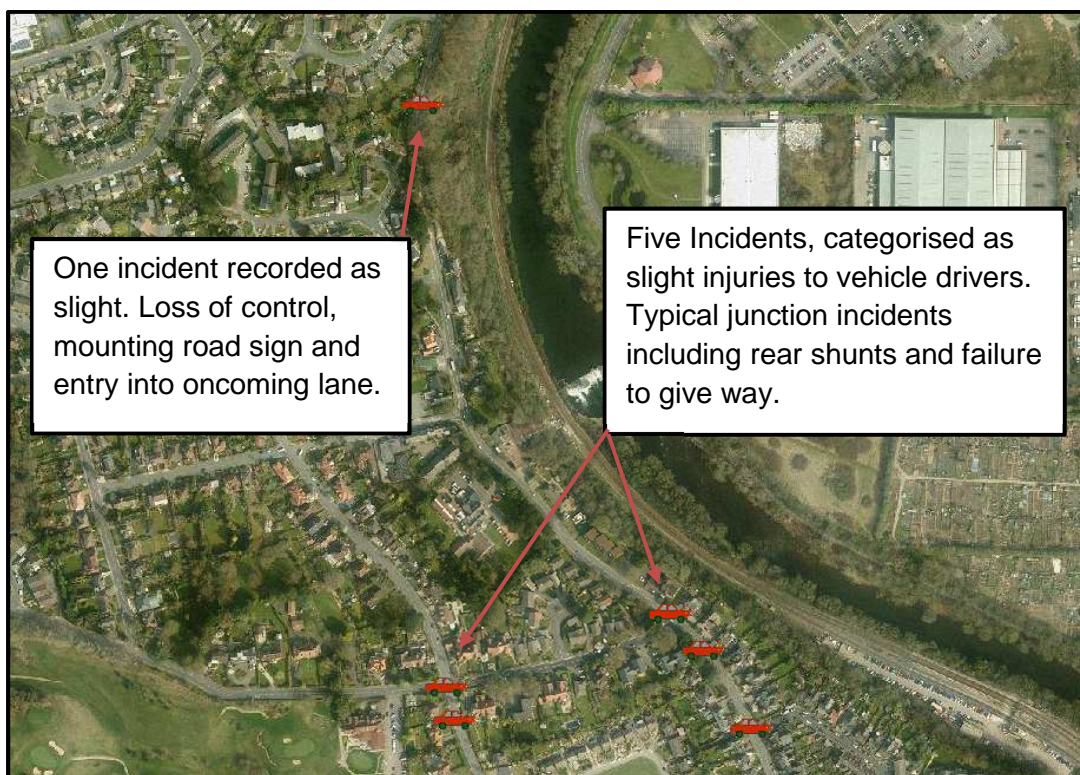


### **Injury Collision Report**

- 2.4 Police road casualty data for the most recently available 5 year period has been examined. There are no incidents recorded in the immediate vicinity of the school or the accesses. There are incidents recorded further out from the school site these are shown below. On inspection these do not raise particular concern given the small amount of cluster and the locations near junctions. The incident to the north was isolated but may allude to issues due to speed.

Full details of the collisions are contained at Appendix A; Figure 3 shows a plot of the Road Casualty Collisions.

**Figure 3 – Road Casualty plot**



### **Speed Survey Analysis**

2.5 A speed survey was carried on Heol Isaf at the junction with Park Road. The survey recorded speeds between 0800 and 0900 hours on Wednesday 15<sup>th</sup> September 2016.

The survey data has been interrogated and it can be reported that there appears to be no speed related issues. Heol Isaf is subject to a 30 mph speed restriction, the survey captured the free flow speeds of 101 vehicles. The 85<sup>th</sup> percentile speed result was confirmed as 29 mph, one vehicle was recorded as travelling 31 mph and exceeding the speed limit.

### **Traffic Survey**

2.6 Junction turning count surveys were undertaken at the junctions at either end of Park Road at the school location. The surveys were undertaken at the AM and PM network peak hours and an additional school peak PM peak survey.

The survey results confirm that in the school and network AM peak 66 vehicles were recorded travelling east and 36 entering Park Road from Heol Isaf. In the school PM peak 40 vehicles were recorded travelling east and 38

from Heol Isaf. The survey undertaken on Windsor Avenue generally reports less traffic in and out of Park Road. This confirms that parking and stopping occurs on Park Road, there were also vehicles recorded performing u turns to leave via Heol Isaf.

A pedestrian crossing survey was undertaken at the Park Road Zebra facility at the same survey times as the vehicle traffic. The survey recorded 144 crossings in the AM peak, 101 in the school PM peak and 33 in the network PM peak. The crossing is well used despite narrow footways and parking and accesses on the southern side of Park Road.

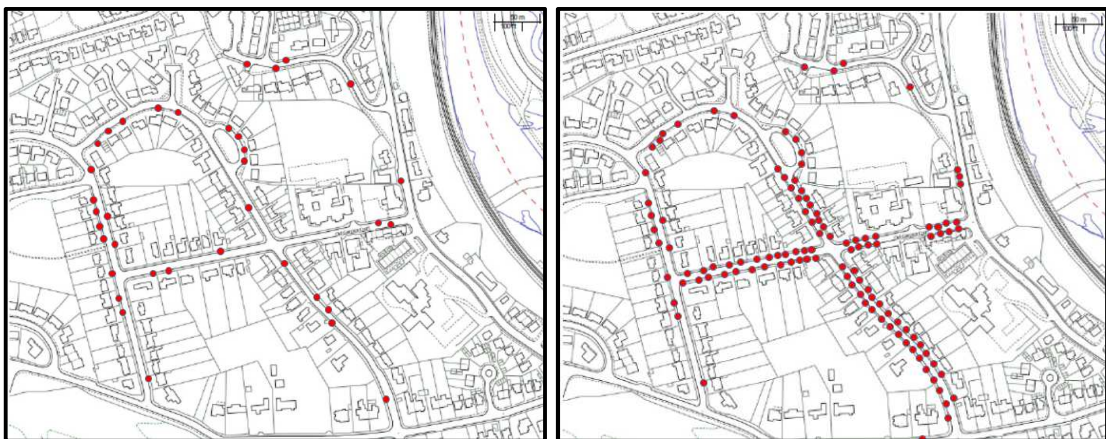
### **Parking Surveys**

2.7 Parking surveys were undertaken to establish the impact of the school start and finish times on the local area. The surveys were undertaken on Wednesday 14<sup>th</sup> September 2016 and comprised of four walkover surveys:

- 0700 hours, before school starts and residents leave for work to compare to below;
- 0900 hours, at school time to quantify parental parking;
- 1500 hours, school finish times to quantify parental parking; and
- 1630 hours, after school finish to compare to above.

The survey results are contained in Appendix B.

**Figure 4 – AM Parking Survey 0700 and 0900 hours**



**Figure 5 – PM Parking Survey 1500 and 1630 hours**



The surveys confirm that parents are willing to walk up to 5 minutes from a parking space to take their child to school. The local available parking is heavily used, an increase in pupils being driven to school will push the parking cordon out further and also increase the potential for illegal parking nearer the school and on Heol Isaf.

### **Existing Travel**

- 2.8 It has not been confirmed that there is an active Travel Plan at the Radyr Primary school site, although one will be required as part of a planning application. The school does record travel choices and provide this information to Cardiff Council to record and monitor the modal travel choices. The most recent data has been obtained and is shown in the table below

### Percentage Mode Splits for Travel to School

Radyr Primary School	
Walk	30%
Cycle	0%
Scoot/Skate	2%
Bus	14%
Car	41%
Car Share	4%
Park/Walk	8%
Park/Cycle	0%
Taxi	0%
Other	0%

The modal split suggests that walking and private car are the two most popular travel choices, these could be higher if considered with the park and walk percentage. Bus use is higher than normally seen at other schools and could be a result of the close proximity of the bus stops and regular services.

### **3 Development Proposals**

- 3.1 There is no development proposal masterplan which can be reviewed.

The information which has been provided sets out that the proposal is to increase capacity of the school from the published 315 pupil spaces of the school to 420 pupil spaces. This is against a background where the school is currently operating at around 380 pupil spaces through using demountable classrooms on site.

The school configuration is slightly lower than the classroom requirements for a 2 Form of Entry (FE). There is also a nursery established on site which provides 20 AM pupil spaces and 24 in the PM, this will not be affected by the development proposals.

The current school operations are supported by around 40 staff. The level of additional teaching and support staff that would be required for the proposed development has not yet been determined.

#### **Vehicular Access and Parking**

- 3.2 It is likely that the existing vehicular access will remain as per the current arrangements. There are no concept plans at present to review and therefore assumptions have been made.

The current level of car parking provision on site is 29 and 1 disabled use space. It is therefore assumed that additional on-site parking will need to be catered for to meet the increase in demand.

It appears that the existing Traffic Order for the School Keep Clear will cover the current access layout, however these should be reconsidered should any alteration to the access points be undertaken. There are also outdated TROs on Park Road with single yellow lines at the parking bays near the library and older double yellow lines in parking bay near Heol Isaf junction.

It should be noted that any process to extend or alter the associated Traffic Regulation Order will need to be started well before alterations commence. The process usually takes a minimum of 6 months.

With the increase in the number of pupils at the school, there will be an increase in the number of parents using the Heol Isaf, Windsor Road and Park Road as pick-up/ drop off areas and parking motor vehicles. The parking survey confirms that almost all available parking opportunities in close proximity to the site are taken.

The existing access arrangements around the Zebra Crossing create a number of opportunities for conflict to occur with pedestrians. Access to the library is next to the access to the salon and both the salon and café have



perpendicular shop front parking at the back of the footway. Access to the shop front parking appears to be from over the footway to either side of the crossing.

### ***Suggested action***

- 3.3 Refresh existing school keep clear signs and remove any outdated TROs.

The provision of bollards around the Zebra Crossing to create a safe crossing area. This should help to achieve a formalisation the shop front parking to the salon access and moving the café parking access further west.

The introduction of a 20 mph speed restriction and school safety zone for the Park Road section between Heol Isaf and Windsor Avenue.

### **Public Transport**

- 3.4 As there are frequent services and good bus stop provision on Park Road, there are no further requirements as a result of this proposal. The general condition of the carriageway surface is degraded including the bus stop markings. Consider refreshing the road markings as part of the above scheme.

### **Pedestrian Facilities**

- 3.5 The number of pedestrians accessing the site from outside the site boundary will increase; through either being dropping off/collected in close proximity, by dropped off/collected within a 5 minute walking distance, or through living within walking distance of the school.

The short section of Park Road, the two pedestrian accesses being located close to each other and the proximity of various accesses could create an unsafe situation.

The footway width along Park Road varies from 1.7 to 1.8 metres. The guard rail at the school side of the crossing reduces the effective usable width to 1.6 metres. This width is below modern standard and is exacerbated further by the location of a lighting column in that section of footway.

### ***Suggested action***

Consider opening the northern gated access to pedestrians. This route could serve the pupils who live to the north and potentially shorten journeys to the school grounds, reducing the need for private car use.

The public right of way through to Maes Yr Awel offers a traffic free route into this cul de sac which in itself is a safer environment than Park Road.

Reconfigure the Zebra Crossing locating the built out area on the school side instead of the opposite side. This will increase the footway width and could be undertaken with the above provision of bollards.

***Suggested further actions***

There is an existing Cardiff Future Scheme which relates to the provision of a crossing facility on Heol Isaf. The location of the proposed crossing is to the north of Maes Yr Awel and in the vicinity of the Min-Y-Coed junction, which provides residential access. The footway provision in this area is poor with no footway on the western side of the carriageway, between the Min-Y-Coed junction bellmouth and Maes Yr Awel. Pedestrians need to cross Heol Isaf to access the eastern footway at a point which visibility is not ideal. A formal crossing is required in this area to ensure pedestrian safety.

The data base also shows an Area of Concern at the Park Road Zebra Crossing. The entry suggests a scheme to raise the crossing providing a speed restraint measure.

**Figure 6 – Suggested Measures**



### **Collision Analysis**

- 3.7 Due to relatively good safety record in the vicinity of the site, there are no suggested requirements in relation to casualty reduction in the area. The future scheme is proposed near the location of the incident which could have been caused speed issues.

## **4 Summary and conclusion**

The following works are recommended to mitigate any detrimental effects on the adjacent transport infrastructure.

### **Cycling**

Cycling has reviewed and there are no official cycle routes in the vicinity of the school. Given the age of pupils cycling to school would likely be undertaken on the footways and guided by parents. The footway on Park Road is narrow and the guard rails reduce width to an unsuitable level.

### **Pedestrian routes**

Introduce new pedestrian formal crossing facility on Heol Isaf in the vicinity of Min-Y-Coed to enable pupils to cross safely where the western footway ends.

Open the northern gate to form an additional pedestrian entrance to encourage more walking on quieter residential routes and alleviate congestion outside the school entrances on Park Road.

### **Access**

Refresh the road lining on Park Road, included the school keep clear markings, bus stops and removal of any outdated TRO markings. Install a school safety zone and reduce speeds to 20 mph on Park Road between Heol Isaf and Windsor Avenue.

Enhance the existing Park Road crossing to a raised Zebra, build out the school entrance footway. Additionally provide bollards on the opposite side to protect vulnerable road users from parking manoeuvres.

### **Public Transport**

Consider increasing the school bus services (if applicable) raise awareness of the public services and the convenient location of the bus stops.