Old Portsmouth
Area traffic study

Undertaken by Portsmouth City Council in consultation with the Old Portsmouth Traffic & Road Safety Working Group

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Contents

Executive Summary

Following commission of a holistic study of traffic and travel issues in Old Portsmouth by the Cabinet Member for Traffic & Transportation, residents and stakeholders were invited to highlight those issues that most impacted their area. After a detailed examination of the issues raised, it is recommended that;

1. **This report and its findings are acknowledged formally by the member for Traffic & Transportation**

2. **Feasibility work to develop schemes as recommended in this report (Full list is included at Appendix A) in conjunction with members of the working group is progressed**

3. **Funding opportunities are explored to deliver preferred interventions developed to feasibility stage in conjunction with residents**

4. **A separate review of existing policy related to speed measurement and analysis, and pedestrian crossing assessment to reflect changes in National Policy is undertaken**

5. **Further work to establish the impact upon Air Quality near schools should be carried out with consideration to establishing a "school street" near St Jude's School**

6. **A review of the identified accident cluster at Cambridge Road Roundabout should be carried out as soon as practicable**

7. **Pursue funding opportunities to implement safety measures at the Kings' Road Roundabout**

1. Introduction

The Old Portsmouth area traffic study is the result of a collaborative working initiative set up to discuss and find solutions to transport-related issues in the Old Portsmouth area identified by residents and businesses.
The aim of this report is to examine the priority issues by collecting evidence and establishing whether the issues raised cause detriment to the operation of the highway, the safety of road users and/or the overall quality of life of residents and visitors in Old Portsmouth.

The report outlines the scope of the study as agreed with stakeholders, it consolidates various pieces of work previously undertaken, examines the further evidence collected as part of the study and discusses the findings. The report also makes several recommendations and includes indicative sketches of possible schemes to address identified issues.

Once agreed with the wider study group, this report and its recommendations shall be submitted to the Cabinet member of Traffic & Transportation at a decision meeting for formal recognition. This recognition will give significant weight and focus to the future funding bids that will be required to deliver the improvement schemes identified within this report.

2. Context

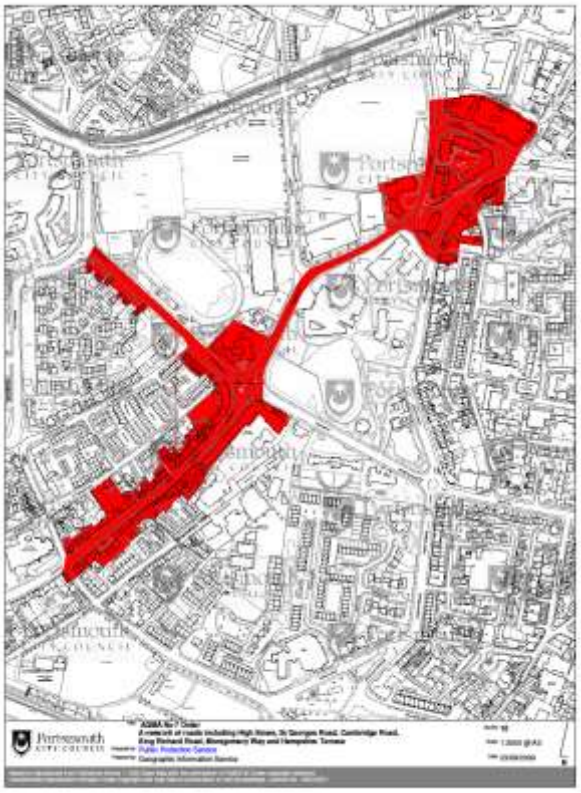
Old Portsmouth is an historic area of Portsmouth with conflicting travel demands. Although occupying a relatively small portion of Portsea Island, the area receives a disproportionate amount of visitors compared with other areas of the city.

The wider area has a number of strategically important links including a section of the A3, a busy ferry terminal linking the mainland with the Isle of Wight, the headquarters of a world-class sailing team, a large independent co-educational Grammar school, thriving Primary School and a number of heritage attractions.

The key highway routes passing through the area are High Street (A3), Pembroke Road, Broad Street, St Georges Road (B2154) and Museum Road (B2154); the study area is also bounded to the East by the A288 (Terraces). Speed limits on these roads vary from 20mph to 30mph and all form part of the classified road network, in recognition of their strategic importance.

The Old Portsmouth area has parking controls in the form of a Residents' Parking Zone and Pay & Display parking bays.

Of the five remaining Air Quality Management Areas (AQMA) in Portsmouth, AQMA 7 is located within part of the Old Portsmouth area, extending from Hampshire Terrace and St Michael's gyratory, along Cambridge Road and part of St George's Road and the High Street, as shown on the plan below.



The PCC 2018 Annual Status Report shows that there were no exceedances of the National Air Quality Objective (NAQO) for NO_2 at any of the monitored locations within AQMA 7 in 2017.

The PCC 2019 Annual Status Report shows that the National Air Quality Objective (NAQO) for NO_2 was exceeded at one of the monitored locations within AQMA 7 in 2018.

Following significant interest in traffic issues from residents living in Old Portsmouth, a decision was taken by the then incumbent Traffic & Transportation Portfolio holder (Cllr Ken Ellcome) to begin a community-working group formed of PCC officers, elected members and representatives of local residents' groups - the Old Portsmouth Traffic & Road Safety Working Group (OPTRSWG).

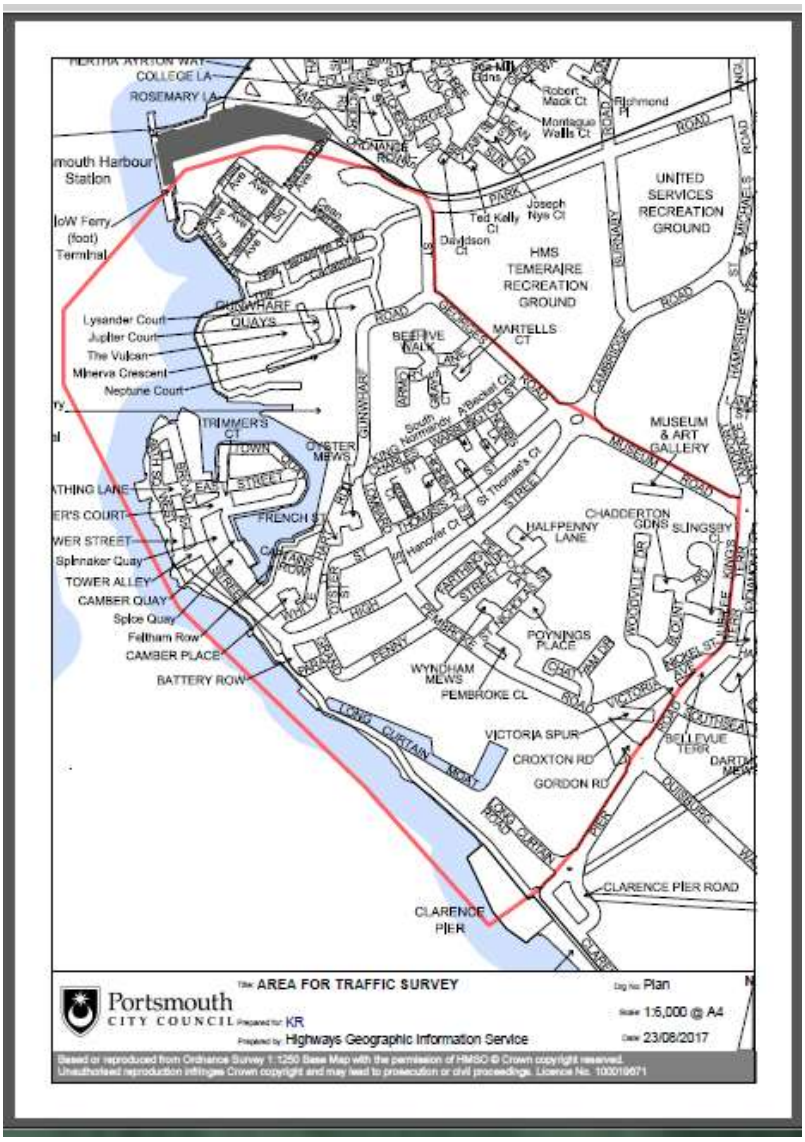
The purpose of the group was to hold informal discussion on matters relating to traffic and transportation within the area of Old Portsmouth and to ensure a consistent approach to enquiries/actions arising from the working group sessions.

In total, five meetings were held with many recurring themes raised. The commitment was made by the then Portfolio holder (Cllr Fleming) to commission a study of the area to consider all of the issues raised by the group in a holistic way and dependent on the findings, suggest potential remedial schemes/initiatives.

3. Scope of study

An initial workshop was held in October 2017, to form a picture of the key issues within the area with local groups and organisations. This meeting was attended by PCC staff and local Councillors, and included representatives from local residents' groups, schools and businesses, Wightlink and Police PSCO.

The agreed study area is shown below



During this initial meeting, attendees were split into two groups and asked to define potential issues relating to traffic and travel in the Old Portsmouth area. A wide range of issues was identified, providing valuable insight into local issues. The groups were also asked to note down any potential solutions that they felt could be considered. The comments received are shown below.

Concerns raised	Suggestions
Speeding • Noticeable increase in speed from vehicles turning into Pembroke Road • Speeding vehicles in Old Portsmouth, particularly along the High Street (doesn't feel like a 20mph zone) • Average vehicle speed times don't reflect peak/variable speeding • Repeated speeding by same vehicles (indicated by speeding data) • Speeding vehicles on the approach to the Kings Road/Museum Road roundabout.	**Speeding** • Introduce speed cameras/ Vehicle Activated Signs • Engineer the High Street to support slower vehicle speeds • Introduce traffic calming measures • Enforce the 20mph zone throughout the area • Make Pembroke Road a 20mph zone • Use engineering measures to narrow two way streets • Consideration of traffic calming measures, such as rumble strips, on the approach to the Kings Road/Museum Road roundabout.
Congestion • Congestion generated from Wightlink site • HGVs in White Hart Road causing congestion and air pollution • Portsmouth is a compact city, traffic volumes are too high, need to look at decreasing traffic volume • Congestion at the terraces - causes diverted traffic through Old Portsmouth • High St is a 'rat run' • Traffic radar survey boxes show a 35% increase in traffic between 2013 and 2015	**Congestion** • Move Wightlink traffic to the International Port. Look to have better marshalling directions/signs for people using Wightlink • Prevent HGV's going to/from Wightlink from using Gunwharf Road • Deter HGV's from using High Street by introducing signage - 'No through road' • Viviers post code to avoid White Hart sign - no through road • Consider a congestion charge • Introduction of residents only parking at select times of day
Air Quality • Concerns over air quality in Old Portsmouth- felt to be an un-healthy environment • Parents collecting/dropping off children to St Jude's School regularly leave their engines idling, increasing local air pollution	**Air Quality** • Discourage people from driving (where they could walk) • Carry out further checks on local air quality in the area • Send letter out to parents of St Jude's School pupils regarding idling vehicles/parking
Pedestrian/ Walking Environment • Traffic speeds/volume do not make the environment conducive to walking	**Pedestrian/Walking Environment** • Improve access on pavement in the local area - dropped kerbs for elderly

• Some of the pavements in the area are too narrow • Limited dropped kerbs - problem for those with limited access (e.g. the elderly) • Lack of pedestrian crossings in the High St and wider area, such as by the Cathedral, Duke of Buckingham Public House and Broad Street, (on the bend and Feltham Road) • Parents collecting from Portsmouth Grammar School - vehicles often cause problems by parking on the pavement	and disabled (high residency of elderly people) • Widen the pavement in High Street • Install a zebra crossing at Broad Street, near the Hotwalls and in High Street • Consider a pedestrian zone or restrictive parking zone
Traffic/Parking Issues - St Jude's School • Parent parking has an impact on St Nicolas Street and Poynings Place • Many of the parents park in the area near to the school at school pick up and drop off times	**Traffic/ Parking Issues - St Jude's School** • Work with parents to reduce parking near St Jude's • Introduce double red lines at key areas around school location • Consider a daily closure of the road immediately outside the school • Introduce a 'tow zone' in the main roads surrounding the school • Use the museum car park for school pick up/drop off • ANPR enforcement during school times
Lack of alternative travel options • There is only 1 bus service available on a Sunday • Lack of cycle connectivity through the area from the Seafront to Old Portsmouth • Need to find sustainable travel solution to the traffic problems in Old Portsmouth	**Lack of alternative travel options** • Extend Park and Ride to cover the Old Portsmouth area • Make improvements to public transport, particularly consider increasing bus availability on a Sunday • Complete the Shipwright's Way
Preserving Conservation/Promoting Tourism • Old Portsmouth is a historic area, and this needs to be preserved. • It is important to balance the needs of tourists, businesses and conservation	**Preserving Conservation/Promoting Tourism** • Increase of parking charges (however, recognise this could be detrimental to business) • Need to have a reduction in traffic volumes and speed

• More events will be held at Hotwalls/Square Tower in the future - currently there is not adequate public transport options to support this **Enforcement** • Lack of adequate resources make it difficult to enforce traffic issues in the area.	• Develop a viable tourist public transport model or improvements to public transport for tourists • Introduce more prominent tourist signs for walking routes from Gunwharf Quays and The Hard (and increase marketing of this) **Enforcement** • Lack of enforcement resource increases importance of engineering measures to ensure speed limits are self-enforcing

4. Project Information

4a. Previous work

Over a number of years, a range of traffic related issues related to Old Portsmouth have been raised, including: vehicles speeding, lack of safe road crossing opportunities, parking difficulties, school pick up/drop off challenges, congestion arising from Wightlink and cycle connectivity to/from the area.

Each of these areas are considered below.

Speeding
A number of speed surveys have been carried out over the last several years. These have been predominantly focussed at High Street, as this road with its 20mph limit had been the greatest cause for concern for residents however surveys of Pembroke Road and Broad Street have also been undertaken.

The results of these surveys yielded mixed results with the accuracy of a survey undertaken in 2014 questioned due to equipment failure; these have not been included below for that reason. A summary of the results from the various surveys are displayed below;

Road	Date	Av.Speed	85%ile Speed
High Street (20mph)	2013	23mph	28mph
	2015	21mph	25mph
Pembroke Road (30mph)	2013	21mph	25mph
Broad Street (20mph)	2013	20mph	26mph

These results were analysed in terms of the city's 20mph network and ranked as to the level of compliance. Compliance has historically been accepted by PCC as the amount of vehicles travelling below the prosecutable limit[1] (taken as 10% +2mph), so 24mph in the case of a 20mph speed limit.

The results recorded at High Street were higher than would ordinarily be expected for a 20mph limit, hence surveys were repeated in 2014 (void due to equipment failure) and then again in 2015. Following these surveys, officers felt that the data recorded did not warrant investment into calming measures as several other 20mph roads surveyed in the city returned higher speeds and/or had a greater rate of casualties. Since 2013, of the 20mph roads surveyed in Portsmouth High Street ranked 15th based on the 2013 survey. As of December 2018, 11 of the roads ranking higher than High Street *(*ranking based upon quantitative survey data and Casualty KSIs)* have either received traffic calming measures or have schemes committed for delivery in 2020.

An audit of 20mph signage was carried out in 2015 along Broad Street and High Street that highlighted some inconsistency and deficiency in speed limit signage, especially with regard to repeater signage. In 2015, remedial works were undertaken to bring the signage up to the required standard.

1. [1] ACPO Speed Enforcement Policy Guidelines 2011-2015: Joining Forces for Safer Roads

With such a keen interest in local traffic issues, a number of residents approached the Police with a view to setting up a community speed watch group. This was ultimately successful with a member of the OPTRSWG championing this initiative. A number of operations have since been carried out mostly focussed at High Street. These studies have shown speeds to be generally higher than that recorded by the radar survey equipment. This difference could be explained by the relatively short duration of speed watch operations (usually around 1 hour) compared to the speed surveys that are generally undertaken 24hours per day over at least 1 week.

Crossing assessments

A number of crossing assessments have been carried out in recent years following requests for crossing facilities to be provided. Much like the speed surveys, these assessments have concentrated on locations at High Street, Broad Street and Pembroke Road.

The PV^2 formula has traditionally been an accepted way of fairly and quantitatively determining the need for a formal crossing facility however use of a more qualitative assessment is now recommended as outlined in the recently released (Dec 2019) Traffic Signs Manual Chapter 6 (Traffic Control). Many authorities still use PV^2 to provide initial triaging of sites to ensure limited resources are not used on those sites that would never likely be suitable for a crossing point; the sites that pass this triage are then subject to a more qualitative site assessment.

The standard approach in Portsmouth is to use an enhanced version of the PV^2 formula ($ADPV^2$) formally adopted by the Council in 2007[2], as this provides greater emphasis on local factors than the base PV^2 formula.

As well as taking into the account of Pedestrian movements (P) and Vehicle movements (V) at a location, the formula also included the Accident data (A) from the road and the Difficulty/Distance (D) to cross. Once all of these figures have been worked through the formula for each hour of the survey, an average of the four highest value is taken to give the result. Should the result be 100,000,000 (100 million) or more, the provision of a controlled crossing facility would be justified and the site would be added to a "primary" list to have a crossing installed once funding was available. Sites between 70 million and 100million are added to a "secondary" list however sites with values as low as 20million can be considered if there are other overriding local factors/issues.

The table below shows the previous crossing assessment locations and the results of those assessments.

Location	Date	$ADPV^2$ Result
High Street/Peacock Lane	Sept 2014	34,000,000 *or* 0.34 $x10^8$
	Apr 2015	39,000,000 *or* 0.39 $x10^8$
Pembroke Road/Peacock Close	Apr 2015	156,000,000 *or* 1.56 $x10^8$
Broad Street	Sept 2014	4,000,000 *or* 0.04 $x10^8$

[2] Cabinet Member for Traffic & Transportation meeting 12th July 2007 (Item 6) - https://democracy.portsmouth.gov.uk/CeListDocuments.aspx?CommitteeId=176&MeetingId=1864&DF=12%2f07%2f2007&Ver=2

The results show that aside from the Pembroke Road assessment, none of the sites yielded results high enough to justify a crossing as a result of the ADPV calculation alone. The result at Broad Street was extremely low and thus would not be considered further.

In terms of High Street, the results were not of a level to put the site onto the secondary list. When speeds and casualty data were considered, several other sites were ranked as higher priority to receive crossing facilities.

Whilst Pembroke Road did meet the necessary ADPV² value, the site already had a small pedestrian refuge and at that time had a school crossing patroller that covered school start and finish times that represented by far the two busiest hours of the day. For this reason, no further action was taken at that time.

As part of this study, a qualitative approach will be taken to consider other local factors into account in addition to the results of an ADPV² assessment.

Parking

Parking has proved a challenge within Old Portsmouth for a number of reasons. Primarily, the Residents' Parking Zone (KA Zone) has been oversubscribed (more permits issued than spaces available) since its inception. Therefore, residents have found that there often are not enough parking spaces to accommodate the demand. Residents living within controlled parking zones are able to purchase 2 permits per household; if the zone is undersubscribed residents can apply for a third permit.

In addition, there is a high demand for visitor parking throughout the day given the proximity to the seafront and historic attractions; there are also a number of popular pubs and restaurants attracting visitors throughout the day. Although there is a reasonable provision of pay & display parking, the residents' parking zone allowed for 2 hours free parking that often met the needs of many visitors thus removing parking opportunities from residents. This appeared especially prevalent amongst visitors to Gunwharf Quays, through the working group sessions there were many anecdotal accounts from residents witnessing shoppers parking in Old Portsmouth and walking across to the centre. It was felt that the close proximity made Old Portsmouth a popular place for shoppers to park as often 2-3hours would be enough to complete their visit and was an attractive gamble when considering the chances of being caught overstaying by Civil Enforcement Officers against the parking charges at Gunwharf Quays.

In order to combat the issue of visitors prioritising the use of 2hour limited wait parking over the available Pay & Display parking places, an amendment to the Traffic Regulation Order providing the control over KA Zone was advertised in December 2016. The proposal was to reduce the limited wait period from 2hours to 1hour, which came about following unprompted comments made during an earlier consultation regarding charging for parking permits. The consultation responses were presented to the Traffic & Transportation committee in February 2017 where the decision was taken by the Portfolio holder to implement the change. It was felt that by increasing the turnover of parked vehicles, there would likely be greater opportunity for residents and visitors alike to park in Old Portsmouth.

The council have also recently begun rollout of a network of smart parking sensors that will allow visitors to navigate to areas where parking is available thus reducing unnecessary mileage while searching for a space. The payment method for these smart parking bays also allow for a more flexible

tariff which only charge for the amount of time the bay is occupied rather than fixed hour-by-hour periods as is traditionally the case with pay & display parking.

Poynings Place

Residents of Poynings Place have experienced localised congestion and parking problems outside their properties at school pickup times for a number of years. Residents have experienced parents collecting children from St Jude's' primary school sat in idling vehicles, circling the close or parking across driveways preventing access to homes. Whilst localised congestion at school pick up/drop off times is not unique to this area/school, some residents have experienced verbal abuse and physical threats from a minority of parents in the past when being asked to move their vehicles.

Considerable efforts have been made to reduce these occurrences with residents, the school and PCC officers working together. Pay and Display parking spaces at Pembroke Road have been made available free of charge for parents at pick up and drop off times in order to encourage those pupils travelling to/from school to be dropped off at Pembroke Road and walking the last few hundred metres to school. This would prevent the parents of these pupils having to enter St Nicholas Street/Poynings Place to drop off/pick up thus relieving localised congestion after school. When available, Civil Enforcement Officers (CEOs) have been deployed to the area to discourage inconsiderate parking with some success; however, this is not a sustainable solution as many other schools also require enforcement and there is a limited number of CEOs to cover this.

Various permanent solutions have been consulted upon including temporary road closures of St Nicholas Street consulted upon in 2014 and most recently, one-way traffic only in St Nicholas Street and Poynings Place. Thus far none of the options discussed and/or consulted upon have proven viable or acceptable to a clear majority of residents. The school continues to circulate letters at the beginning of each school year to remind parents of their responsibilities and to encourage them to be considerate toward residents.

Wightlink

There is been a long history of concern from local residents toward Wightlink as a result of Highway congestion experienced during delays to ferry services. A series of consultations with relevant stakeholders and residents several years ago resulted in an agreement between the Highway Authority and Wightlink to allow the closure of Gunwharf Road on a limited number of occasions through the year. These closure days were planned for peak demand days (generally bank holidays and weekends at the start and end of school holidays) and gave access to ABar and Viviers fish market via White Hart Road (requiring removal of bollard and temporary relaxation of prohibition of driving). The road closure was needed in order to stack vehicles on the road due to the terminal being too small to accommodate two ferry loads of vehicles. This agreement included the installation of diversion signage to be installed and removed by Wightlink staff on these allocated days.

In 2016, permission was granted for the construction of an upper deck to the terminal stacking area to increase capacity and facilitate double-deck loading onto ferries. The Old Portsmouth area experienced severe congestion during the build period despite PCC working closely with Wightlink to ensure the best use was being made of available stacking areas. Residents and businesses were left frustrated at

the impact upon the highway network often preventing or severely delaying access to Gunwharf residents and to businesses at the Camber but also to the High Street.

The upper deck was completed in late 2017 and when services are operating to time, the terminal copes comfortably with storing vehicles and loading/un-loading vehicles however congestion continues to be an issue when sailings have been delayed. This has resulted in businesses at the Camber and residents of Gunwharf Quays being unable to get to their respective destinations. Following meetings, Wightlink has committed to putting internal contingency plans in place to deal with incidents when they occur. Whilst this is welcomed and when implemented has been shown to work, recent incidents during the summer of 2018 has shown that there is still work to do to ensure that the port reacts quickly and effectively to avoid severe impacts upon the road network.

PCC have trialled a temporary "snapshot" camera facing along St George's Road, access to which is afforded to the Wightlink controllers. This has proved valuable as it allows port controllers to keep "eyes on" the network and react accordingly. Issues with reliability of the temporary camera's 4G communication link has meant that PCC is now exploring a more permanent camera for this location with a fixed communication link. Temporary signage used during the construction of the upper deck was deployed to separate ferry traffic from local traffic and provide residents and businesses a greater chance of reaching their destination. It had been reported that there was confrontation between ferry customers and Gunwharf residents with the ferry customers wrongly believing that the Gunwharf residents were "queue jumping". One possible solution that improves road markings and signage to better deal with the occasions when excessive queuing occurs on the network is appended to this report.

Air Quality studies -

PCC has a wide NO_2 Diffusion Tube Network (NDDT), which monitors NO_2 around the city. A significant number of new passive NO_2 diffusion tube monitoring locations were added to this network last year in order to strengthen the information on levels of NO_2 at key locations in Portsmouth. Within the Old Portsmouth Study Area, there are five NO_2 monitoring locations included within the NDDT network at Chadderton Gardens, High Street, St Georges Road and two in Gunwharf Road.

The table below, from the PCC 2018 Annual Status Report shows the annual mean NO_2 monitoring results gathered at these locations over the past 5 years. Only 1 year of data is available for Gunwharf Road and St Georges Road, as monitoring was only started last year at these locations.

Annual Mean NO_2 Monitoring Results for locations within Old Portsmouth Study Area

Site ID	Location	NO_2 Annual Mean Concentration ($\mu g/m^3$)					
		2013	2014	2015	2016	2017	2018
2	Chadderton Gardens	16.5	16.55	15.74	17.4	16.38	17.09
3	High Street	22.1	25.67	24.07	25.75	23.7	24.13
55	Gunwharf Road					30.40	25.38

56	Gunwharf Road					36.17	35.09
58	St Georges Road					33.80	29.32

This data demonstrates that all sites within the NDDT network that are in the Old Portsmouth Study area are below the National Air Quality Objective for nitrogen dioxide of 40(µg/m$^{3)}$, some significantly so. However, although NO_2 is below NAQO limits in the OP study area, the results of the 2019 ASR show that air quality remains a significant concern in another part of AQMA7 and in other parts of the city.

Environmental campaign organisation ClientEarth has challenged the government's Air Quality plans in the High and Supreme Courts for failing to include any actions necessary to achieve legal limit value for nitrogen dioxide in the shortest possible time. As a result of this legal action, Portsmouth City Council has been issued with four Ministerial Directions. These place a legally binding duty on the Council to undertake a number of steps to improve air quality in the city, in particular to reduce air pollution concentrations across the city to within legal limits in the shortest possible time.

Government require Portsmouth City Council (PCC) to implement a Class B charging Clean Air Zone (CAZ) in order to reduce the nitrogen dioxide emissions to within legal limits across the city, with a focus on the exceedance locations. If legal limits of concentrations of nitrogen dioxide are not met by the end of 2022, PCC could be required to implement a more stringent CAZ i.e. charging more vehicles. A full business case to support the implementation of the CAZ will be completed by the end of 2020 with the CAZ due to be implemented by autumn 2021.

A number of local initiatives and events were run through 2018/19, which have provided further opportunities to raise the profile of air quality and encourage positive changes to support pollution reductions, such as involvement in Clean Air Day in June 2018 and 2019. An anti-idling campaign was run during January to March 2019, to raise awareness of the need to reduce vehicle idling and encourage drivers to switch off vehicle engines when stationary. During this campaign, banners were displayed on lamp columns in some AQMA areas, information was displayed on billboards at key locations in the city, there was a four-week radio campaign, information was provided on social media and anti-idling posters were circulated to schools and some businesses, shopping centres and city attractions.

Shipwright's Way

The Shipwrights Way is a 50-mile long-distance walking, cycling and Bridal route which links villages and towns in East Hampshire through some beautiful countryside. It runs from Alice Holt Forest near Farnham, down across the South Downs to the sea at Portsmouth. The name reflects the use of oak grown at Alice Holt Forest for Tudor shipbuilding, linking this site with Portsmouth Historic Dockyard, home of the Mary Rose and HMS Victory[3].

The last section of the route, between Hayling Island and Portsmouth Dockyard travels the length of the seafront, from the Hayling ferry at Eastney to Old Portsmouth and finally onto the Historic Dockyard. Whilst defined on the route maps, the route from the Garrison Church to the Dockyard is yet

[3] Extract taken from https://www.visit-hampshire.co.uk/things-to-do/shipwrights-way-p1344341

to be formally signposted. This is predominantly due to the severance posed by High Street and the difficulty encountered in providing a safe crossing for pedestrians and cyclists whilst being sympathetic to the historic surroundings.

Work to find a solution that is acceptable in terms of the visual impact upon the local street scene, adequately slows traffic and provides a safer environment for pedestrians/cyclists, and is feasible within the available budget has been ongoing for a number of years. The official route for the Shipwright's Way travels from the Garrison Church, along Grand Parade and across High Street to White Hart Road; however the observed "desire line" is along Battery Row emerging at the junction of High Street and Broad Street. The road geometry at this location is very wide creating a significant obstacle for persons wishing to cross and inviting high traffic speeds, however the challenging geometry makes a technical solution both difficult and costly to implement without significantly impacting upon the conservation area and provision of parking spaces.

It is currently intended to implement a scheme during 2020 subject to agreement with councillors and residents. Any schemes put forward as a result of this study should complement the Shipwright's Way scheme and follow similar principles of increasing the comfort and safety of pedestrians and cyclists. There is also an opportunity to extend the Shipwrights' Way along to the Hotwalls to increase footfall in this area; the route could then make use of any future crossing facility across Broad Street to Feltham Row (before re-joining White Hart Road).

4b. Key issues for investigation

As highlighted within the scope at section 3, the scoping meeting held with members of the OPTRSWG and other stakeholders yielded some key areas of focus for this study.

The top issues identified by the study group were;

- Speeding
- Lack of road crossing facilities
- Air Quality
- School parking

Another key issue raised was that of parking, specifically the alteration of parking restrictions to allow only residents to park within the KA Zone at certain times of day, in part to give residents a greater chance to find a space when returning from work for instance. It was also seen as a potential solution for issues experienced at Poynings Place to prevent parents collecting their children from St Jude's' school. Whilst this is a reasonable suggestion worth consideration, it is felt that since the area has been subject to two separate consultations in the past 3years directly related to the operation of the residents' parking zone, further changes could cause confusion and public engagement would likely be low. In terms of the school, the short period of time that parents are present in the vicinity of the school would make enforcing the residents only parking very difficult to enforce. For these reasons, we have not investigated further alterations to the residents parking zone at this time however would not rule out the possibility of doing so in future. Potential solutions for Poynings Place are discussed later in the report.

Other issues raised included congestion caused by delays at the Wightlink ferry terminal, this issue was especially prevalent during the 2017 spring/summer period whilst construction works were ongoing at the Wightlink terminal however the is also risk of similar occurrences on peak days especially if services are disrupted in any way. Peak days typically include bank holiday weekends, weekends at the beginning/end of school holidays and the IOW festival weekend.

4c. Evidence gathering

In order to form an accurate picture of the traffic conditions/patterns present in Old Portsmouth, it was important to gather as much data as possible relating to the main issues raised within the scoping exercise.

As detailed in section 4a, significant work has previously been carried out on a variety of different issues in Old Portsmouth. This has resulted in the production of various data streams, predominantly relating to traffic speeds/counts and pedestrian crossing assessments. With the key issues identified within section 4b, it was decided that a fresh series of surveys should be undertaken to include traffic surveys (speed & volume), pedestrian surveys and a localised Air Quality study.

Anecdotal evidence has also been collated predominantly from enquiries and complaints received by the Council but also from officers, Councillors and residents with links to Old Portsmouth.

An additional data set was provided by the Old Portsmouth Community SpeedWatch (CSW) group. The group aspires to conduct a speed education exercise for one hour every fortnight during periods when speeding is known to be worse. This target has been constrained by defective equipment and being limited to daylight hours. Nevertheless, the data set has shown that at peak periods even when traffic speeds are curtailed by congestion, 23 per cent of drivers exceed 24 mph; making them liable to prosecution by the police.

Traffic surveys

With input from members of the OPTRSWG, it was decided to conduct three surveys using PCC's own radar survey equipment. This equipment has previously been used to gather information and although the use of Automatic Traffic Counters (ATCs) was considered, the ability to accurately compare new data to existing data was considered important and as such, three radar survey units were deployed to High Street, Pembroke Road and Broad Street. The locations of these surveys were agreed with working group members prior to deployment of the equipment. The surveys began on 22nd January 2018 with the survey units at High Street and Pembroke Road running until 14th February 2018, the survey unit at Broad Street was still collecting data up until 16th February 2018 when the units were collected.

PCC undertake surveys over a 24hour period to give a complete picture of traffic conditions; however it is acknowledged that in areas where congestion occurs, the overall speed results may be lower than if only free flow conditions were analysed (as is recommended by DfT[4]). The speed analysis undertaken in the next section has been done using the 24hour data; however given the known congestion issue that occurs adjacent to the survey site at High Street a further level of analysis has been undertaken at this site following concerns of the working group about whether the 24hour speed results at High Street were reflective of the conditions actually experienced by residents.

Note: Owing to concerns about the reliability of the initial survey, a further survey was carried out at High Street in January 2019. Further information on this is include in section 4d(i).

[4] DMRB CA185 http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol5/section1/CA%20185%20Vehicle%20speed%20measurement-web.pdf

Pedestrian counts

Crossing assessments have been carried out at a number of locations. Potential locations were discussed and agreed with members of the working group based on local knowledge and user experiences. The consensus amongst the working group is that there is a general lack of crossing facilities across the Old Portsmouth area and some very clear desire lines. These areas were focussed on, several of which have previously been subject to crossing assessments as detailed in section 4. Two sessions of pedestrian counts were undertaken, the first undertaken on a Sunday in December chosen due to the Christmas market that was being held at the ARTches (in the Hotwalls) on that day thus reflecting the greatest chance of a surveying a day that would give a reasonable reflection of the road conditions. The survey locations for this session were Broad Street/Feltham Row and Broad Street/Trimmers Court. The second session of counts was carried out on 10th January 2018 between 7am-7pm; these counts were undertaken at High Street/Pembroke Road, High Street/Peacock Lane and Pembroke Road/Pembroke Close.

Air Quality

As detailed above, part of Old Portsmouth is included within AQMA 7. In addition, following concerns from residents regarding congestion and air pollution in the Old Portsmouth area, particularly around local schools, PCC began the process of undertaking monitoring of the air pollution outside of St Jude's School, using a diffusion tube monitor. This monitoring began in December 2017, and continued for a period of 1 year, in order to obtain the annual mean concentration of NO2 at this location.

Other data sources

Enquiries and complaints received by Portsmouth City Council - Member of public reported numerous incidents of vehicles colliding with the traffic island in Pembroke road. This generally only happens during clear summer evenings when the sun is setting, vehicles travelling west are blinded by the glare obscuring their view of the pedestrian refuge and preceding road markings. Further examples of this occurred in July of 2018 with at least one vehicle colliding with the traffic island resulting in PCC putting in temporary measures in 2019 & 2020 to prevent further occurrences.

Casualty data - Stats 19 data extracted for key areas focussing on sites identified for potential pedestrian crossing locations.

4d. Findings

The following section examines the results of the data collected and picks out the key findings. A full representation of the data collected is appended to this report.

4d(i) Speed data

High Street

Following further analysis of the traffic volumes recorded during the survey period, a significant reduction was observed over previous surveys. Although the initial survey for this report took place at a different time of year to the previous surveys (referenced in part 4a), the reduction in volume exceeded what would normally be expected in terms of seasonal variation.

It was not possible to undertake a full set of surveys again; however, a repeat 1-week survey was carried out at High Street in November 2018 to validate the earlier results. An analysis of these results is below; the initial results and analysis of those results have been retained in the appendices for completeness.

Speed Figures [V in mph]

	Vmin	Vmax	Vavg	V15	V50	V85	Vexc %
Cross-section	3	59	24	19	24	29	73.1
SB	3	52	24	19	24	29	69.6
NB	3	59	25	19	24	31	76.2

Descriptions

Vmin: Minimal velocity
Vmax: Maximal velocity
Vavg: Average velocity
V15: Critical velocity for the first 15% of vehicles
V50: Critical velocity for the first 50% of vehicles
V85: Critical velocity for the first 85% of vehicles
Vexc %: Speeding in %

The repeated survey registered a peak daily flow of 5496 vehicles, the average over the 7days was 4752 per day. The 5-day average was 5106. These averages are still well below the figures recorded in 2015, which suggests that traffic levels are in fact reducing albeit anecdotally the feeling is that traffic levels have increased in recent years.

In terms of speed, the results returned were higher than those of the initial survey with an 85th percentile speed (the speed that 85% of vehicles were travelling at or below) of 29mph and an average of 24mph; a significant increase over the earlier recorded figures of 23mph and 19mph respectively. Whilst this could in part be explained by the longer period of the earlier survey, the results are still significantly higher than would be expected on a 20mph road. The speeds for northbound traffic were noticeably higher than southbound traffic with northbound speeds of 31mph (85th percentile) and 25mph (average). Southbound speeds were 29mph (85th percentile) and 24mph (average). This is likely due to the presence of on-street parking along the southbound kerbside that can cause drivers to be more cautious and thus reduce speed.

Overall 73.1% of vehicles were found to be travelling above 20mph and 49% travelling above 24mph. The maximum speed recorded was 59mph; the vehicle was travelling northbound during the early

hours of the morning. The highest southbound speed was 52mph. Over the survey period, six vehicles were recorded travelling in excess of 50mph with 156 vehicles recorded between 41-50mph. Although concerning, this represents 0.5% of the total vehicles recorded. The highest speeds generally occur late in the evening or during the early hours of the morning likely due to the significantly reduced traffic volume affording drivers the opportunity to speed and the belief that they may be less likely to be caught speeding. Whilst the number of pedestrians and cyclists will also likely be significantly reduced at these times, and thus the probability of an RTI occurring also reduced; the likely severity of a casualty were it to occur will be greatly increased as a result of these high speeds.

The above analysis is based upon the 24-hour counts; High Street does suffer from known congestion especially during school pick up/drop off times and as such, the traffic during these times is not free flowing. As a result, it is possible that the 24-hour counts underestimate the average and 85th percentile speeds recorded especially given that congestion usually occurs on a delay basis during term time. As a "stress-test", the speeds recorded on weekdays between 0900-1100 & 1300-1500 have been reviewed to provide a basic comparison of "free flow" conditions against the 24-hour survey.

This review covered 5901 vehicles, of these vehicles only 708 were recorded travelling below the speed limit in these off-peak, free-flow conditions. 5193 vehicles travelled at or above the 20mph speed limit; 88% of all traffic recorded during these times. The average speed was 25mph and the 85th percentile speed was 30mph, each 1mph higher than the 24-hour figures. Overall, an additional 15% of vehicles were recorded travelling over the speed limit when compared with the 24hour figures.

Whilst the majority of each day (*when reviewed hour-by-hour) returned similar speeds, the peak hour between 0800-0900 had noticeably lower speeds. This suggests that the congestion caused by significant volumes of vehicles dropping off pupils to the two schools nearby does have an impact upon the overall (24-hour) results.

Broad Street

The survey captured 24 days of data recording in excess of 47k vehicles during that period. This represents an average of approx. 2000 vehicles per day over the survey period. The data is presented as a series of "speed bins" with recorded vehicles sorted according to their speed. An extract from the results is replicated below showing the "headline" figures.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Date	Time	Class	C1 / 1 - 15	C2 / 16 - 1	C3 / 20 - 2	C4 / 25 - 3	C5 / 31 - 3	C6 / 37 - 5	C7 / 51 - 5	C8 / 56 - 6	C9 / 61 - 150			Total	Average [	Excess. sp	V85 [Mile
767	553		Total volume	0	0	0	0	0	0	0	0	0			0	0	0	0
768	/ 1	Total	glot (M)Bikes	1322	389	293	160	23	5	0	0	0			2192	14	9	22
769	/ 2	Total	glot Cars	3099	6059	15788	12166	2290	302	3	0	0			39707	23	37	28
770	/ 3	Total	glot Vans	341	677	1890	1680	331	40	1	0	0			4960	23	41	29
771	/ 4	Total	glot HGV/Bus	39	92	175	116	11	0	0	0	0			433	22	29	27
772																		
773	Statistics		Total volume	4801	7217	18146	14122	2655	347	4	0	0			47292	22	36	28

As is shown in the above table, the average speed recorded during the survey was 22mph. The 85th percentile speed was recorded at 28mph. To put this in context, the speed limit of the road is 20mph and therefore the 85th percentile speed is higher than expected and represents an increase over the previous survey conducted at this location.

As with High Street, a greater proportion of vehicles exceed 24mph between 20:00-08:00; however, the results show that approx. 25% of vehicles regularly travel faster than this during daytime hours; overnight this figure is approx. 60-70%. Weekday traffic volumes average approx. 140-160 vehicles/hour during off peak hours and slightly less at approx. 100-120 vehicles/hour during the AM/PM peaks. Overnight volumes were much lower as is to be expected; it was normal to have no vehicles recorded at all during the early hours however generally overnight an average of approx. 10 vehicles per hour was recorded.

The highest speeds recorded of 51-55mph were recorded on four separate occasions between the hours of 17:00-22:00. The next lowest speed bin (37-50mph) recorded 347 vehicles, these occurrences were recorded mostly during the evenings with some instances spread through "working hours". 3006 vehicles were recorded travelling over 30mph during the survey period, a considerable number of vehicles representing approx. 6.5% of the overall vehicles. Incidences of excessive speeding (>30mph) occurred fairly uniformly throughout the day suggesting that road conditions afford drivers the opportunity to speed at most times of the day.

When assessing the northbound and southbound results independently, the speeds recorded were marginally faster for vehicles travelling Southbound than Northbound. An average speed of 23mph and 85th percentile speed of 29mph was recorded for vehicles travelling Southbound whereas the northbound speeds were 22mph and 27mph respectively. The percentage of vehicles exceeding the prosecutable threshold (>24mph) was also higher for Southbound traffic at 40% opposed to Northbound traffic at 33%. One reason for this could be the proximity of the echelon parking bays located at the west side of Broad Street to vehicles travelling northbound; the presence of which may cause vehicles to proceed more cautiously due to the possibility of a vehicle emerging and/or a perceived narrowing of the road caused by the angle of the parked vehicles. Much of the parking in Broad Street is does not fit with the latest guidance of the laying out of echelon bays in a Reverse-In/Drive-out (RIDO) configuration.

Pembroke Road

The survey captured 24 days of data recording in excess of 116k vehicles during that period. This represents an average of approx. 4800 vehicles per day over the survey period. The data is presented as a series of "speed bins" with recorded vehicles sorted according to their speed. An extract from the results is replicated below showing the "headline" figures.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Date	Time	Class	C1 / 1 - 15	C2 / 16 - 19	C3 / 20 - 24	C4 / 25 - 30	C5 / 31 - 35	C6 / 36 - 50	C7 / 51 - 55	C8 / 56 - 60	C9 / 61 - 80			Total	Average	Excess. sp	V85 [Mile
2758	/ 1	Total	gbit	(M)Bikes	1614	814	389	710	339	141	0	0	0		4487	19	3	29
2759	/ 2	Total	gbit	Cars	5523	5468	20744	17679	12495	1878	37	7	8		63839	26	5	32
2760	/ 3	Total	gbit	Vans	416	796	2975	9765	6020	2217	18	1	0		22208	29	10	34
2761	/ 4	Total	gbit	HGV/Bus	142	405	1208	1454	636	117	0	0	0		3962	25	3	32
2762																		
2763	Statistics			Total volume	7695	7483	25796	29608	19490	6353	55	8	8		116496	26	6	32

As is shown in the above table, the average speed recorded during the survey was 26mph. The 85th percentile speed (the speed that 85% of vehicles were travelling at or below) was recorded at 32mph. To put this in context, the speed limit of the road is currently 30mph and therefore the speeds recorded would suggest that the speed limit is set at an appropriate level. It should be noted however that many residents feel that Pembroke Road should be consistent with High Street (and adjoining roads) and

have a 20mph limit where at present the 30mph limit in place around the seafront area continues into Old Portsmouth (via Pembroke Road).

A greater proportion of vehicles exceed 35mph between 20:00-08:00; however the results show that approx. 5% of vehicles regularly travel faster than the prosecutable threshold during daytime hours; overnight this figure is approx. 15%. Weekday traffic volumes average approx. 800-900 vehicles/hour during the AM peak and approx. 500 vehicles/hour during the PM peak. During off-peak hours, approx. 300-400 vehicles/hour were recorded. Overnight volumes were much lower as is to be expected; it was not uncommon to have less than 5 vehicles per hour recorded during the early hours however generally overnight an average of approx. 15-20 vehicles per hour was recorded.

The highest speeds recorded of 61-80mph were recorded on eight separate occasions, these occurred at various times of day including two occasions overnight. The next lowest speed bin (56-60mph) recorded a further eight vehicles with 51 vehicles recorded between 51-55mph, these occurrences were recorded mostly during the evenings with some instances spread through "working hours". A total of 6424 vehicles were recorded travelling over 35mph during the survey period, a considerable number of vehicles representing approx. 5.5% of the overall vehicles. Just short of 26k vehicles were recorded as travelling over the 30mph speed limit, this represents close to quarter of all vehicles (22.2%).

When assessing Eastbound and Westbound separately, the westbound flow is considerably greater than the eastbound flow by approximately 20k over the study period. There was some fluctuation in traffic flows recorded on weekdays ranging from approx. 2100 to 2500 vehicles per day eastbound. The traffic flow in a westbound direction has similar fluctuation with between approx. 3100-3500 vehicles on average per day travelling along Pembroke Road. The additional westbound flow could be as a result of the wide catchment for St Jude's' primary school attracting Pupil from across Portsmouth but could also lend weight to the observations of residents that drivers use Pembroke Road and High Street (and sometimes parallel routes such as Warblington St) to avoid the Terraces route which is often congested. This is attractive for traffic travelling northbound as once at A3 Cambridge Road, vehicles have priority over those travelling north along the Terraces - vehicles at Hampshire Terrace must give way to vehicles travelling around the Gyratory.

In terms of speed, vehicles travelling eastbound were recorded at far greater speeds than westbound traffic. Eastbound traffic was recorded at an average speed of 29mph and an 85th percentile speed of 35mph whereas Westbound traffic was recorded at an average of 24mph and an 85th percentile speed of 30mph. 11% of Eastbound traffic exceeded the prosecutable speed limit (>35mph) while just 2% of Westbound traffic was found to do this. This could in part be due to traffic queuing back from the junction of Pembroke Road with High Street. However, a more likely explanation is that Pembroke Road has two quite distinct environments; an area to the west with residential housing and narrow carriageway widths and an area to the east that is wider and provides a link to the Southsea Common/seafront area and significant on-street parking opportunity. The survey was carried out close to the transition of these areas and as such, there could be value in surveying each area independently to compare results.

The survey unit was placed to ensure that the known traffic queues that form back from the junction of High Street did not affect upon the survey results, however as per the High Street results, a basic review of free flow speeds has been undertaken. The average of 85th percentile speeds recorded

between 0900-1100 was 32.5mph; during the period 1300-1500, the average 85th percentile speed was 31.7mph. This broadly aligns with the 24hour figures however, contrasts with the average 85th percentile speed recorded during the AM peak of 29.5mph. This is likely a result of either congestion stemming from the junction with High Street or Pupil drop offs to St Jude's' school (or possibly a combination of the two).

4d (ii) Pedestrian counts

High Street/Peacock Lane

A 12hr pedestrian count was undertaken on Wednesday 10th January 2018, a neutral day during school term time. Peacock Lane is a one-way road exiting onto High Street; however, the enumerator observed that there were numerous occurrences of vehicles turning around in the junction and/or parking on double yellow lines at the junction to pick up/drop off children attending the local schools.

During the count period, 321 pedestrians were observed crossing the road, with the hour between 15:00-16:00 the busiest period of the day. The next busiest hour being 08:00-09:00. This would support the assertion that this site is popular for schoolchildren crossing the road. Overall, the hours outside of these two peak hours were quiet typically seeing approx. 20 pedestrians using the crossing point. Interestingly, the number of children crossing in the afternoon was considerably higher than in the morning suggesting that some children travel to school via different modes in the morning/afternoon.

When putting the recorded pedestrian numbers into the $ADPV^2$ formula (including weightings for vulnerable users - children & elderly), the top four values are averaged to give a result of 0.55 ($x10^8$). This is below the result that would automatically justify the provision of a controlled crossing facility (e.g. Zebra or PUFFIN crossing) however other local factors such as the school can be considered alongside the $ADPV^2$ result to determine whether a crossing facility should be provided.

High Street/Pembroke Road

A 12hr pedestrian count was undertaken on Wednesday 10th January 2018, a neutral day during school term time. Pembroke Road is a two-way road joining High Street to the seafront area/Southsea Common. There are small traffic islands on the north and south sides of the junction with dropped kerbs at either side of High Street however the crossing point to the south is lacking the correct tactile paving.

During the count period, 1261 pedestrians were observed crossing High Street on either the north or south side of the junction. More pedestrians were observed crossing at the north side of the junction, approx. 100 more than at the south side. A large number of cyclists were observed travelling Northbound, some 290 cyclists opposed to just 31 travelling Southbound. The busiest period was again 15:00-16:00 however the afternoon into the evening was consistently busy with the morning period noticeably quieter. This could be in part due to the presence of a convenience store at the corner of High Street/Pembroke Road.

Overall, the $ADPV^2$ formula yielded a result of 0.27 ($x10^8$). This is considerably below a result that would justify the provision of a controlled crossing and below the figure to be added to a secondary priority

list however is great enough to justify the site being considered for crossing facilities based upon local factors. (E.g., schools, high proportion of older residents and high level of visitors around the area).

Pembroke Road/Pembroke Close

A 12hr pedestrian count was undertaken on Wednesday 10th January 2018, a neutral day during school term time. The traffic count was centred upon a small set of traffic islands forming a pedestrian refuge close to the junction of Pembroke Road with Pembroke Close. The traffic island is used heavily by schoolchildren at the start and end of the school day and is manned by a School Crossing Patroller to aid children in crossing the road safely.

During the count period, 416 pedestrians were observed crossing Pembroke Road at the pedestrian refuge. The busiest period is between 08:00-09:00 reflecting the use by schoolchildren, the next busiest period was 15:00-16:00 again reflecting use following the end of the school day.

Overall, the ADPV² formula yielded a result of 0.93 ($x10^8$). This is only slightly under the result that would justify a controlled crossing however given the proximity of a school and the heavy use by school children, there would be a case for this site to be included on a primary list for the provision of a controlled crossing facility - this might free up the SCP to cover another crossing point in the area that does not benefit from a controlled crossing facility.

Broad Street/Feltham Row

After consultation with members of the working group, it was decided that in order to obtain a more accurate picture of the quantum of pedestrians wishing to cross Broad Street, a survey would be carried out in December 2017 to coincide with a Christmas market at the Hotwalls Studios. It was felt that this area is very much dependent on visitor numbers and the use of this crossing point in particular is seasonal. Due to the time constraints we had in collecting data, it was felt this represented the best opportunity to capture an accurate representation of the road conditions.

A pedestrian count was carried out between 09:00-17:00 (beginning/ending an hour either side of the market opening time) on Sunday 3rd December. The site surveyed has an informal crossing point between Feltham Row (part of the Millennium chain walking route) and the west side of Broad Street adjacent to the Hotwalls Studios. There are dropped kerbs either side of the road but no tactile paving. Feltham Row is extremely popular for pedestrians travelling between Gunwharf Quays and the Hotwalls/Spice Island area with a natural desire line existing across Broad Street where Feltham Row ends.

During the count period, 1585 pedestrians were observed crossing Broad Street in the 8hr period; 789 of these crossed from east to west and 796 crossed west to east. This would suggest that the vast majority of visitors travelling on foot from Gunwharf Quays (or from the general direction of) return via the same route. There was a clear peak in numbers around lunchtime with numbers gradually building up to this through the morning and then tailing off through the afternoon.

Overall, the ADPV² formula yielded a result of 0.41 ($x10^8$). This is below the figure where provision of a controlled facility would be justified although could be considered as secondary priority if local factors were considered sufficient to justify such provision.

Broad Street/Seager's Court
A count at the junction of Broad Street with Seager's Court was also carried out at the same time as that described above. This route is well used by pedestrians following the Millennium chain walking route; the count indicates that the route is considerably more popular for pedestrians following the route back to Gunwharf Quays from Spice Island with over 6 times more pedestrians travelling this direction than toward Spice Island.

400 pedestrians were recorded during the count period, 347 of which crossed from North to South and 53 from south to north. The count profile reflected that experienced at Broad Street/Feltham Row with numbers gradually increasing through the morning, peaking around lunchtime and then gradually tailing off through the afternoon.

Overall, the $ADPV^2$ formula yielded a result of just 0.036 ($x10^8$). This figure is well below a result that could justify the provision of a controlled facility; that said, the uncontrolled crossing point does not have the required tactile paving and could risk the safety of visually impaired pedestrians. While a controlled facility may not be appropriate at this location, the uncontrolled crossing point should be brought up to standard.

4d(iii) Casualty Data

Casualty data has been extracted for the key roads within Old Portsmouth. This does not include near misses or accidents that did not result in a casualty which for the most part go unrecorded. The City Council has been trialling a system to collect cycling near misses. Some relevant data collected through this system is also included in this review.

High Street
Casualty stats for High Street are low with just three incidents recorded in a 5-year period. The two incidents are detailed below:

Crash Date: Thursday, October 02, 2014 Time of Crash: 08:30:00
Vehicle 1: Pedal cycle Vehicle 2: Car Casualty 1: Rider
Description: Pedal cycle proceeding along carriageway, vehicle turning left from High Street collides with cycle

Crash Date: Tuesday November 18, 2014 Time of Crash: 19:20:00
Vehicle 1: Car Casualty 1: Pedestrian
Description: Car turning right from Peacock Lane collided with pedestrian crossing from Driver's nearside and masked by parked vehicle

Crash Date: Wednesday November 8, 2017 Time of Crash: 16:15:00
Vehicle 1: Car Vehicle 2: Car Casualty 1: Pedestrian (driver of Vehicle 1)
Description: Pedestrian in carriageway (not crossing road) taking pupil to/from school

Each of these incidents occurred in different parts of High Street with different classes of road users involved, it could therefore be concluded that there is not a pattern to the incidents in High Street. The first incident occurred as a result of a driver failing to look properly when pulling out into a junction and cannot be attributed to the road layout.

The information provided for the second incident does not detail whether the vehicle masking the pedestrian was legally parked however the fact a pedestrian was crossing at this location concurs with the assertion that a desire line exists across High Street near Peacock Lane and perhaps if a crossing facility were present, the accident could have been averted. Equally, if the car masking the view of the pedestrian was illegally parked, the incident could have been averted had the vehicle not been there.

Anecdotally, the enumerator observed several vehicles pull up on Double Yellow lines on High Street at the junction of Peacock Lane to collect/drop off children and therefore an illegally parked vehicle could well have been the cause of the incident. That said, whilst there is evidence of a vehicles stopping on double yellow lines on a regular basis, there have not been any other accidents here thus without a clear pattern it is difficult to be sure that this was the cause of the accident.

The third incident would appear to involve a parent dropping off a child being struck as they stepped out of their vehicle. That vehicle is described as being parked in the carriageway and is therefore likely to have been parked on Double Yellow Lines while taking a child to Portsmouth Grammar School. It is therefore reasonable to conclude that the incident has occurred because of the way the vehicle was parked rather than the lack of suitable crossing facilities (the zebra crossing was within close proximity).

Cambridge Road/ Museum Road roundabout

There were two accident clusters at this site, at the junction of High Street there were two reported incidents and at the junction of Cambridge Road a cluster of six incidents, one of which on the 26 Jun 2015 was brought to the council's attention by a member of the working group.

Crash Date: Thursday, October 2, 2014 Time of Crash: 8:30:00
Vehicle 1: Pedal Cycle Vehicle 2: Car Casualty 1: Rider
Description: Vehicle 1 proceeding normally along the carriageway, not on a bend; Vehicle 2 is in the act of turning left.

Crash Date: Friday, December 18, 2015 Time of Crash: 15:50:00
Vehicle 1: Car Vehicle 2: Pedal Cycle Casualty 1: Rider
Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is in the act of moving off (entering roundabout).

Crash Date: Monday, May 7, 2018 Time of Crash: 15:30:00
Vehicle 1: Pedal Cycle Vehicle 2: Car Casualty 1: Rider
Description: Vehicle 1 proceeding normally along the carriageway, not on a bend; Vehicle 2 is in the act of turning left (exiting roundabout).

Crash Date: Friday, June 26, 2015 Time of Crash: 18:07:00
Vehicle 1: Car Vehicle 2: Pedal Cycle Casualty 1: Rider

Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is in the act of moving off (entering roundabout).

Crash Date: Wednesday, January 31, 2018 Time of Crash: 14:20:00
Vehicle 1: Car Vehicle 2: Pedal Cycle Casualty 1: Rider
Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is in the act of moving off (entering roundabout).

Crash Date: Friday, April 20, 2018 Time of Crash: 11:45:00
Vehicle 1: Taxi/PHV Vehicle 2: Pedal Cycle Casualty 1: Rider
Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is proceeding normally along the carriageway, not on a bend. Front of Veh 1 impacts nearside of Veh 2.

Crash Date: Monday, October 26, 2015 Time of Crash: 08:10:00
Vehicle 1: Pedal Cycle Vehicle 2: Goods vehicle >7.5t Casualty 1: Rider
Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is proceeding normally along the carriageway, not on a bend. Front of Veh 2 impacts rear of Veh 1.

Crash Date: Friday, April 27, 2018 Time of Crash: 17:22:00
Vehicle 1: Car Vehicle 2: Pedal Cycle Casualty 1: Rider
Description: Vehicle 2 proceeding normally along the carriageway, not on a bend; Vehicle 1 is proceeding normally along the carriageway, not on a bend. Front of Veh 1 impacts nearside of Veh 2.

What is abundantly clear from these stats, is that cyclists are most vulnerable at this junction (as they are at many junctions) of all users. The larger cluster is to the north east side of the roundabout and could perhaps be explained by the good visibility to the right (towards St Georges Rd) when travelling south along Cambridge Road.

Each of the incidents are extremely similar in nature and would seem to suggest that drivers are not noticing cyclists that are already travelling around the roundabout. None of these incidents have occurred in a period of darkness and therefore this cluster of incidents cannot be put down to the cyclists not being visible enough.

It is recommended that possible future interventions are explored by the road safety team; in the immediate term, new "Think Bike" signage is to be installed at the roundabout to reinforce the presence of cyclists to drivers entering the roundabout.

Broad Street
Casualty stats for Broad Street are low with just two incidents recorded in a 5year period. The two incidents are detailed below;

Crash Date: Friday, May 30, 2014 Time of Crash: 8:49:00
Vehicle 1: Van/LGV Casualty 1: Pedestrian
Description: Van proceeding along Broad Street collided with pedestrian crossing from Driver's offside

Crash Date: Saturday, April 18, 2015 Time of Crash: 14:52:00
Vehicle 1: Van Casualty 1: Pedestrian
Description: Van proceeding around left hand bend collided with pedestrian crossing from Driver's nearside and masked by parked vehicle

Each of these incidents occurred in different parts of Broad Street however both involved pedestrians attempting to cross the road, at least one of which did so from behind a parked vehicle thus obscuring the view between driver and pedestrian.

This particular incident occurred at the bend when Broad Street meets High Street, a site characterised by an extremely wide stretch of road with the added complexity of a minor road junction (Battery Row) on the apex of the bend. The need for a facility to aid pedestrians/cyclists to cross High Street has previously been identified to be delivered as part of the completion of the Shipwright's Way route.

The first incident happened further north on Broad Street between Feltham Row and Tower Alley where the road is broadly straight with a significant amount of car parking on both sides of the road. Again the casualty was a pedestrian attempting to cross the road, it is unknown whether the pedestrian was obscured by a vehicle however given the lack of formal crossing points and high level of on-street parking provision it is certainly possible that this was the case.

Pembroke Road
Pembroke Road has a higher level of recorded casualties than both High Street and Broad Street with 5 incidents in a 5year period. The details of each incident are recorded below;

Crash Date: Saturday, December 28, 2013 Time of Crash: 9:37:00
Vehicle 1: Car Casualty 1: Driver of vehicle
Description: Car proceeding along Pembroke Road collided with Lamp Post

Crash Date: Thursday, May 21, 2015 Time of Crash: 17:45:00
Vehicle 1: Pedal cycle Vehicle 2: Car Casualty 1: Cyclist
Description: Car turning right from Victoria Avenue into Pembroke Road and collided with cyclist

Crash Date: Wednesday, November 30, 2016 Time of Crash: 14:36:00
Vehicle 1: Car Vehicle 2: Car Casualty 1: Driver (vehicle 2)
Description: Vehicle 1 passing vehicle 2 collided with rear of vehicle 2 and subsequently collided with wall off carriageway

Crash Date: Friday, January 20, 2017 Time of Crash: 14:36:00
Vehicle 1: Car Casualty 1: Driver (vehicle 1)
Description: Vehicle 1 proceeding along Pembroke Road and collided with wall off carriageway

Crash Date: Tuesday, February 07, 2017 Time of Crash: 13:30:00
Vehicle 1: Car Vehicle 2: Car Casualty 1: Driver (vehicle 1) Casualty 2: Passenger (vehicle 1) Casualty 3: Passenger (vehicle 1) Casualty 4: Passenger (vehicle 2)
Description: Vehicle 1 proceeding along Pembroke Road and collided with Vehicle 2 parked in carriageway

Only one of the incidents involved a vulnerable road user, a cyclist struck by a right turning vehicle which can be attributed to a careless driver rather than any fault with the road layout. The other four incidents all involve drivers colliding with stationary objects either on or off carriageway however the causes of these incidents is not known.

Anecdotal evidence related to the incident of January 20, 2017 suggested that the incident occurred as a result of a medical incident and therefore cannot be attributed to the road layout. The remaining three incidents are less clear, it is possible that speed played at least a part in these incidents however there is no way to confirm this. It is however notable that the number of incidents is somewhat higher on Pembroke Road, a 30mph road, than both High Street and Broad Street which are both subject to a 20mph limit.

Although not officially recorded, the Highway Authority were made aware of a series of incidents that have occurred over a number of years around the time of the summer solstice. Local residents have reported that vehicles travelling west along Pembroke Road are often met by severe glare from the sun as it sets generally between 19:30-20:00hrs for a 5-6week period. At approximately the point at which vehicles experience this glare, a traffic island is present just beyond a series of echelon parking bays on the nearside of the westward travelling vehicles. The glare obscures the view of this island which has resulted in several vehicles overrunning the island and colliding with the bollards located on top of the islands. This is especially concerning as the traffic island is used as a pedestrian refuge, fortunately none of the incidents have involved pedestrians thus far however following incidents in consecutive years, it is clear that there is a problem even if the problem is only present for a few weeks per year. A revision of the road markings/parking bays was carried out in June 2020 to address the problem; the measures appear successful however were combined with the temporary barriers. The scheme will be reviewed again following next year's solstice. This should not preclude any potential review of the speed limit/crossing facilities at Pembroke Road should this be seen as appropriate as an outcome of this report.

St Georges' Road

St George's Road is at the edge of the study area however is a key route linking the Wightlink ferry terminal to the strategic road network. A total of 4 incidents were recorded in a 5year period.

Crash Date: Wednesday, October 30, 2013 Time of Crash: 17:03:00
Vehicle 1: Car Vehicle 2: Car Casualty 1: Driver (vehicle 2)
Description: Vehicle 1 proceeding along St Georges Road when vehicle 2 turns right out of Armory Lane and collides with Vehicle 1

Crash Date: Thursday, March 05, 2015 Time of Crash: 17:32:00
Vehicle 1: Car Vehicle 2: Car Casualty 1: Driver (vehicle 2)
Description: Vehicle 1 performing a U-turn in the road collides with Vehicle 2

Crash Date: Thursday, April 23, 2015 Time of Crash: 7:45:00
Vehicle 1: Car Vehicle 2: Motorcycle Casualty 1: Rider (vehicle 2)

Description: Vehicle two passing another moving vehicle when Vehicle 1 collides with Vehicle 2 whilst turning right to Warblington Street

Crash Date: Wednesday, October 28, 2015 Time of Crash: 19:56:00
Vehicle 1: Car Vehicle 2: Car Vehicle 3: Car Casualty 1: Passenger (vehicle 2)
Description: Vehicle 1 coming to a stop when Vehicle 2 stops suddenly and vehicle 3 collides with Vehicle 2 causing vehicle 2 to impact with vehicle 1

Only one of the incidents involved a vulnerable road user (motorcycle); this seemingly occurred as a result of a right turning vehicle not expecting the motorcycle to be overtaking another vehicle and can be put down to driver error/carelessness.

The latest incident involved rear-end shunts amongst several vehicles. What is not clear is whether the incident was caused as a result of standing traffic (an occurrence that does sometime occur as a result of delays to IOW ferries) or simply as a lack of concentration on the part of Vehicle 3.

The remaining two incidents appear to have occurred as a result of drivers not taking due care and not as a result of any inherent fault with the road layout.

Near miss initiative
Portsmouth City Council have launched a near miss reporting tool to allow cyclists to report "near miss" incidents that are ordinarily not recorded anywhere else. It was launched in the hope of providing a richer dataset to identify areas of the road network that are particularly hazardous to cyclists.

The tool has provided very successful with a high number of reports received during the 6month trial period. When reviewing the data, it is possible to focus on the study area covered by this report to look for any clusters/patterns. The wider Old Portsmouth area saw 6 individual reports (5 shown below - a further incident was reported directly to PCC Traffic). These weren't grouped in any noticeable way and appear to be isolated incidents.

King's Road roundabout

The roundabout at the junction of King's Road and Museum Road is outside of the study area however at the specific request of Councillor Wood (Ward Councillor for St Thomas ward) this junction has been included in the report. There have been 15 recorded accidents in the past 5years either at the roundabout or on the immediate approaches to the roundabout; 14 of these involved cyclists.

The number of accidents makes it impractical to reproduce each incident within the main body of the report however; a full representation is included within the appendices. As above, all but one of the accidents involved pedal cycles and previous works at the roundabout have been aimed at reducing these incidents. The numbers of accidents have been reasonably consistent over each of the 5 years with the exception of 2016 that had a single recorded accident. The remaining years had 3, 3, 4 & 4 accidents respectively in 2013, 14, 15 &17.

The majority of accidents involving cyclists have involved cycles travelling east-west (or vice-versa) being impacted by vehicles travelling north-south (or vice-versa). This would suggest that the vehicles involved in these accidents are perhaps arriving at the junction too quickly and then failing to see the cyclists navigating the roundabout and/or that the forward visibility for vehicles travelling north-south is great enough to encourage higher than appropriate approach speeds.

The junction has significant areas of high friction surfacing marking out ghost-islands to create the illusion of deflection with the intention of slowing vehicles. The evidence would however suggest that these ghost island markings are regularly overrun and therefore fail to adequately slow vehicles entering and existing the roundabout. The junction requires further improvements including the implementation of engineering measures to address the aforementioned issues; funding should be sought as a priority measure.

4d(iv) Air Quality

Following the installation of a diffusion tube monitor near St Jude's school, data for 2018 &2019 is available. The first 18mo approx. were recorded close to St Judes' school on Lighting column 7, this was raised by members of the working group as perhaps not an optimal location for monitoring vehicle emissions. The diffusion tube was then moved in July 2019 to be closer to where the majority of traffic passes; this unit was placed near 23 St Nicholas Street:

Site ID	2018 - NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.891) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
141	19.09	26.56	25.51	21.45	29.03	18.17	22.60	19.02	21.14	26.27	23.29	21.51	22.80	20.32	

Site ID	2019 - NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.84) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
141	28.68		16.88	24.91	19.10	16.23							21.16	16.92	
142							18.97	16.03		19.83	24.18	16.12	19.03	17.67	

The results above illustrate that the levels of NO2 at both locations are relatively low. Whilst the mean was slightly higher in 2019 once relocated, the overall mean was higher in the original position in 2018. This could be for a number of reasons, including natural upgrade of the fleet to cleaner vehicles, measures to encourage park and walk and the "Stomper" initiative promoted to school children to increase active travel. The National Air Quality Objective for nitrogen dioxide is 40ugm^3 and all of the readings recorded above are significantly below this amount.

4d(v) School streets

As discussed in section 4a, residents of Poynings Place and St Nicholas Street have suffered congestion and inconsiderate parking at school pick-up and drop-off times associated with the nearby St Jude's Primary School. Residents have previously been consulted upon restricting access to the roads at school pick-up and drop-off times or restricting travel to one-way only to prevent "circling" of Poynings Place however each of these proposals were rejected by residents.

The issue of congestion around schools is not unique to this school or the city of Portsmouth; Sustrans have pioneered a "school streets" initiative beginning in Hackney, East London. The aim of the scheme was to encourage more pupils (and their families) to walk and cycle to school and improve air quality by reducing traffic movements and congestion directly outside schools.

This was achieved in Hackney by applying restrictions on motor traffic entering the roads around the school between 8.15-9.00 and 15.15-16.00 with an exception made for residents with parking permits for that zone. This is similar to the proposal previously consulted upon with residents with the addition of an exception for residents' access. It is not however clear how or if this is practically enforced which would present the biggest stumbling block to such a scheme in Portsmouth. It would in theory achieve the desired outcome to remove school traffic from the road considerably reducing the amount of traffic movements and greatly reducing the likelihood of conflict between parents and residents. Parents could still make use of the parking available at Pembroke Road and walk their children the last few hundred yards to the school gates which could be made more attractive if improvements to the crossing facilities can be made at Pembroke Road.

Road Safety officers have previously worked on a proposal to introduce school streets across Portsmouth. Assessment of a number of school sites was carried out taking into account a number of factors including rate of casualties nearby, parking enforcement records and proximity to Air Quality management areas amongst other parameters and concurrently looking at whether these schools had already had already had interventions by the Road Safety team. The interventions from the road safety team that have traditionally been used at schools in Portsmouth with a perceived road safety issue are educational programmes such as Pompey Monsters and Bikeability or infrastructure delivered through safer routes to school. By applying scoring to these measures, this allowed the various school sites to be ranked in order of the greatest perceived need of further, more significant intervention.

Of 50 schools scored, St Jude's school ranked 32nd in terms of perceived need, however many of the schools between 11th-27th places scored relatively similarly, the top 10 were noticeably higher scoring in terms of need. Therefore, at this stage given the need in terms of road safety and due to the local residents' previously rejecting the proposal of a temporary road closure the road safety team are not currently considering pursuing a school street at St Nicholas Street (Poynings Place).

5. Other issues arising

During the production of this report, the PCC Traffic & Network Management Team were approached by residents of both Gunwharf Quays and the Gunwharf Gate development with regard to specific traffic issues they had experienced. These issues were outside of the original scope of the study however, given that the areas are within the Old Portsmouth area, they are pertinent to this report.

5a. Gunwharf Quays

Representatives of the two management companies responsible for the residential areas of Gunwharf Quays raised issues with the number of vehicles entering the south gate of Gunwharf Quays, many of which are Taxis, to pick up and drop off and even park in spaces reserved for residents. The residents also expressed concern at the interaction between vehicles and pedestrians crossing Gunwharf Road, a concern shared with residents at Gunwharf Gate and subsequently explored in the next section (5b).

To combat this, enforcement of the area has been stepped up, as is the right of the management companies given that none of this area is public highway. This however has resulted in Taxis dropping off outside the gates on Gunwharf Road, often pulling onto pavements and waiting on Double Yellow Lines. This causes obstructions for vehicles disembarking the Wightlink ferry services but more so, presents a hazard for pedestrians; given the extremely high footfall through this area during the summer season, this is a cause for concern.

Outside of the main gates, Gunwharf Road is subject to No Waiting and No Loading restrictions and therefore Civil Enforcement Officers are able to robustly enforce the area when required. However, many drivers that flout the restrictions will simply drive away when an enforcement officer is in the area, and without the ability to enforce moving traffic offences using cameras, these behaviours are difficult to police. The enforcement of moving traffic offences can currently only be carried out by the Police; whilst the Traffic Management Act 2004 (TMA) allows for civil enforcement of such outside of London, secondary legislation is required to be passed by Parliament before these powers can be used by Local Authorities.

A simple solution to prevent the risk to pedestrians is to install bollards along the kerb edge, this will prevent vehicles mounting the pavement and therefore it is recommended that this be explored further.

5b. Gunwharf Gate

A resident representative for the Gunwharf Gate development has raised a number of issues experienced by their community related to traffic movements within and immediately surrounding the development.

The main issues were related to speed of vehicles through the development and the difficulty for residents crossing Gunwharf Road to Gunwharf Quays when making use of a private gated entrance. The roads within the development are a series of cul-de-sacs and private parking courts all subject to a 30mph speed limit; an anomaly when considered against the approach taken (20mph for residential roads) in other similar roads in the city. A further issue was identified at the junction of Armory Lane with St Georges Road where residents have witnessed vehicles performing turning movements in the mouth of the junction and running over pavements in the process. This is a similar issue to that

occurring at Gunwharf Quays (as described above) and could be solved by the installation of bollards on each of the corners at the junction.

To address the speeding and crossing concerns, a radar survey was carried out in Armory Lane in May 2019 and a crossing assessment carried out on a weekday and a Saturday in July 2019 to review the behaviour of vehicles and pedestrians and ascertain whether any further action was required. The results of each of these surveys are detailed below;

5b (i) Speed survey

A radar survey was carried out in Armory Lane for approx. 2 weeks to monitor traffic movements. In total, a little over 6000 vehicle movements were recorded during the survey with an average of 418 movements on weekdays and 348 on weekend days.

Overall, the survey returned an average speed of 19mph and an 85th percentile speed of 24mph. When considering the recommended speed measurement periods of 0900-1100 & 1300-1500, speeds for each were measured at 23.25mph & 23.85mph respectively. These results are, in the context of a 30mph limit, very good. However, the characteristics of the road are more representative of a 20mph road, and the results returned are more reflective of results of surveys in other residential roads subject to a 20mph limit in the city.

When assessed as a 20mph limit, the number of drivers exceeding 20mph is 2494 (approx. 46%). Those exceeding 24mph (the discretionary threshold for prosecution) totalled 727, or 12%. These figures, whilst clearly not perfect, represent at least as good as, if not better performance than many other 20mph residential roads in Portsmouth. Therefore, it is recommended that the areas of public highway in Armory Lane (and Beehive Walk, Gray's Court) be taken forward to consultation on the reduction of the speed limit to 20mph to remain consistent with PCC's approach to setting speed limits in residential roads.

5b (ii) Crossing assessment

The Gunwharf Gate development has a private gated access onto Gunwharf Road that only residents have the use of. This access is broadly opposite the south gate for Gunwharf Quays and provides a pedestrian route into Gunwharf Quays. Anecdotal evidence suggests that there is a pedestrian desire line across Gunwharf Road for pedestrians travelling between Gunwharf Quays and St Georges' Road, but also for the residents of Gunwharf Gate. The residents at Gunwharf Gate have requested a Zebra Crossing in this location to help pedestrians cross the 3 traffic lanes present.

A pedestrian survey was undertaken on a neutral weekday, but also at a weekend when footfall is known to be greater; these figures are also likely to be more reflective of school holiday periods. In total, 962 pedestrians were observed crossing the road in this location on the weekday with the busiest hour between 1800-1900; however numbers were fairly consistent from 1300 onwards and throughout the afternoon.

On the Saturday, 1082 pedestrians were recorded, which meets the expectation that footfall is usually busier on the weekends, however not significantly so. The busiest hour was 1400-1500 with approx. 180 people crossing (both directions); as would be expected at a weekend, the quietest period was between 0700-1000.

When putting the recorded pedestrian numbers into the ADPV² formula (including weightings for vulnerable users - children & elderly), the top four values are averaged to give a final result of 0.4 ($x10^8$) for the weekday, and 1.31 ($x10^8$) for the weekend. Despite, only slightly higher numbers of pedestrians crossing, there were considerably more vehicles using the road on the weekend, likely in relation to the IOW ferry service, thus increasing the difficulty in crossing the road and returning a significantly higher value. The weekend results would automatically justify the provision of a controlled crossing facility (e.g. Zebra or PUFFIN crossing) however the weekday result could make a secondary list when considering other local factors. Overall, the location is a reasonable contender for a facility should a technical solution be available.

Given the width of the road, high density of HGV traffic and speed of traffic at times; also the increased likelihood of standing traffic associated with the ferry terminal, a Zebra style crossing is not suitable. A traffic light controlled crossing (PUFFIN) would be the correct solution should a scheme be progressed in this location.

6. Summary

Whilst the issues experienced in Old Portsmouth are not necessarily unique to that area, the demands placed upon it in terms of traffic & transport are more exceptional given the numerous attractors in the area conflicting land-uses and blend of more modern residential development overlaid on a historical road layout.

There is a high demand for road space, especially in terms of parking spaces, generated by residents and visitors alike. This is reflected by high levels of permit issue for the controlled residents' parking zone in place across Old Portsmouth and pressure on pay & display parking areas, especially during the summer season. With the exception of St George's Road, the main roads within the study area could not be described as "through roads" and are predominantly used by drivers with a need to be in this area (residents, tourists, businesses etc.). That said, there is a feeling that congestion on other routes has led to vehicles rat-running along Pembroke Road and High Street in order to avoid this congestion. The findings of the traffic surveys would go some way to support this with considerable increases of traffic during the AM peaks although the presence of two schools could in part explain this.

Overall, speed surveys undertaken on the major roads in Old Portsmouth suggest significant levels of non-compliance with the posted speed limits. Based on the 24hour results, all of the roads recorded 85th percentile speeds in excess of the speed limit with High Street and Broad street significantly so. Each had significant numbers of drivers breaking the speed limit, as high as 73% at High Street; with 85th percentile speeds 8mph and 9mph above the posted speed limit at Broad Street and High Street respectively. Both of these sites also showed a significant number of vehicles exceeding the discretionary limit at which the Police will consider prosecution (24mph - following the 10% +2 theory). Following issue of this report, further consideration should therefore be given to speed reduction measures in Broad Street and High Street with input from the wider project group as to the nature and location of these.

At Pembroke Road, there were also significant numbers of drivers not adhering to the posted speed limit albeit the scale to which this occurred was not as great as at Broad Street and High Street especially. The 85th percentile speed recorded was 32mph, 2mph over the posted speed limit with approx. 22% of drivers exceeding the 30mph limit. Taken at face value, it would appear that the speed limit is broadly suitable for the road however it is recommended that further surveys be carried out for each of the different areas of the road to study any difference in driver behaviour. At this stage, it is not recommended to consider speed reduction measures in isolation until further work has been carried out. It may however be beneficial to consider other measures such as new crossing points to aid with the calming of traffic.

A later request for a traffic survey at Armory Lane returned results that would suggest a change from the existing 30mph limit to a 20mph limit would be appropriate. This would be consistent with other similar roads in Portsmouth and with national guidance[5] for this type of road. It is recommended that a proposal to reduce the speed limit is progressed to feasibility and consultation.

The crossing assessments undertaken to establish the key desire lines were, unlike the speed surveys, less conclusive and in isolation would be unlikely to merit an intervention. The results did however

[5] Manual for Streets 7.4 "Achieving appropriate traffic speeds" & DfT circular 01/2013 "Setting Local Speed Limits"

clearly demonstrate that a desire line did exist in the majority of the locations surveyed and whilst perhaps the results did not meet the usual qualifying thresholds (based on quantitive data), when considering the local environment and the results of the speed/volume surveys, there is an opportunity to positively affect both issues with a single measure. Therefore whilst comprehensive traffic calming schemes are perhaps unfeasible, it is recommended that isolated features be investigated to provide a level of traffic calming but also a clearer, safer pedestrian crossing point in several locations. A later crossing survey at Gunwharf Road did exceed the ADPV² value to justify a controlled crossing facility without also considering other local factors and as such should be progressed to a feasibility stage.

The casualty analysis undertaken in this study did not identify specific areas for concern other than the roundabout at the junction of Cambridge Road/Museum Road and Kings Road/Museum Road (included in the study area at the request of Cllr Rob Wood). The latter junction has long been an area whereby the quantum of cycle casualties are relatively high and various improvement works have been carried out in an attempt to address this. It is now proposed to install cycle lane dividers in the hatched sections at the roundabout to improve lane discipline for vehicles and ensure cycles select the correct lane for the turn they wish to make at the junction. The Cambridge road roundabout has experienced a flurry of cycle casualties in the past 18-24months establishing a distinct "cluster". It is recommended that a feasibility study be undertaken to review the likely causes, and possible solutions, to this cluster of casualties.

Aside from the roundabouts detailed in the previous paragraph, the key roads within Old Portsmouth do not appear to have any "hotspots" in terms of where accidents are occurring, nor any correlation as to the demographics of those involved in the recorded casualties. The High Street and Broad Street accidents have largely involved vulnerable users (pedestrians/cyclists) whereas accidents at Pembroke Road and St George's Road have predominantly involved vehicles colliding with other vehicles or objects off of the carriageway. It should be noted that some of the pedestrian casualties at High Street & Broad Street have occurred close to known desire lines perhaps suggesting the need for more/improved crossing points. As a result, improved crossing facilities at known desire lines are being proposed as part of the recommendations within this report. The cause of incidents at St Georges Road and Pembroke Road are more difficult to determine with queuing vehicles, driver error/carelessness and speed all being possible causes.

The completion of the Shipwright's Way route has been a long standing ambition of not only PCC, but also local interest groups and neighbourhood forums involved in this study. As the last remaining section required to complete the route, it is recommended that in conjunction with other recommended works, the remaining infrastructure for the Shipwright's Way be installed along an agreed route (as detailed in previous sections).

The Old Portsmouth area has experienced considerable disruption as a result of delays to Wightlink ferry services. This affects residents and businesses and can at times see the localised road network becoming near gridlocked. Wightlink have invested in a second parking level to increase their on-site capacity and allow faster loading/un-loading of ferries. Wightlink now have internal processes to reduce their impact upon the highway network in the event of delays however whilst the process works, there have been some concerns at how effectively Wightlink react to delays to prevent/lessen impact on local people. PCC have little control over how Wightlink operate, however there are some changes that could be made to ease the impact and improve access for some residents/businesses. One potential option is represented within the appendices.

In addition to this, it is proposed to undertake trials of a queue warning system which will alert PCC's Traffic Management Centre (TMC) when queues begin to form on the approach to the IOW ferry terminal and Gunwharf Quays. Traffic monitoring equipment will be installed at 3 locations in St Georges Road and Park Road, which will relay data to PCC's cloud-based traffic data store where the data can be evaluated and appropriate queue alerts sent to the TMC. Permanent traffic monitoring cameras will be installed to visualise actual conditions on the road network; to help identify the cause and scale of the problem. This will enable pro-active action to be taken, early engagement with stakeholders, (e.g. Wightlink & Gunwharf), to take place and information to be provided to the public via social media, variable-message signs etc. Results from the project will build a business case for moving the trial into a production system that could be utilised in other locations.

Aside from considering the issues identified during the initial workshop, the production of this report has highlighted that some of the previously held policies related to speed measurement and assessment, and the assessment of crossing provision are perhaps no longer suitable. Further, recent releases of new formal guidance from the DfT[6] related to traffic engineering procedures provide a sensible opportunity to review these policies to ensure they best meet the needs of Portsmouth residents and their changing travel behaviours. Whilst a review of such policies is outside of the scope of this report, it is recommended that the more holistic approach developed within this study is now built upon to produce new "toolkits" for the measurement and assessment of speed, and assessment of future crossing locations.

[6] Traffic Signs Manual (TSM) Chapter 6 Traffic Control (2019) & DMRB CA185 Vehicle Speed Measurement Rev 0 (2019)

7. Recommendations

1. **Once agreed by stakeholders, this report is acknowledged formally by the member for Traffic & Transportation at a Cabinet meeting**
2. **Progress with feasibility work to develop schemes as recommended in this report (Full list is included at Appendix A) in conjunction with members of the working group**
3. **This report is used to support a bid to fund delivery of the interventions developed in conjunction with residents**
4. **Undertake a review of existing policy related to speed measurement and analysis, and pedestrian crossing assessment to reflect changes in National Policy**
5. **Further work to establish the impact upon Air Quality near schools should be carried out with consideration to establishing a "school street" near St Jude's' School**
6. **Review identified accident cluster at Cambridge Roundabout and take action if necessary as soon as practicable**
7. **Pursue funding opportunities to implement safety measures at the Kings' Road Roundabout**

APPENDIX 1

Full list of recommended schemes for further consideration;

Location	Intervention type	Options	Cost (approx.)*
High Street/Peacock Lane	Crossing	Zebra Crossing Kerb build outs Pedestrian refuge	£70k £45k £25k
High Street	Speed reduction	Horizontal/vertical deflection Isolated interventions (crossing points, additional parking bays) 20MPH Zone	£30k** £- (scheme specific)
Broad Street/Feltham Row	Crossing	Kerb Build outs Zebra crossing	£45k £70k
Pembroke Road	Traffic Calming	Revised parking layout Upgraded pedestrian refuge/crossing facilities	£20k £25-70k
St Nicholas Street	School street	Limit access to residents at school ingress/egress	£TBC
Armory Lane	Speed reduction	Reduce speed limit to 20mph	£5k
Gunwharf Road	Crossing	PUFFIN crossing	£100k

Recommended further work;

Policy	Speed survey measurement & analysis
	Pedestrian crossing assessment
Speed Limit	Pembroke Road - review 20mph boundary
Low Traffic neighbourhood	Roads immediately North-East of Portsmouth Cathedral - investigate deterrent to rat-running/speeding vehicles through Lombard St/ Warblington St

*All costs are approximate based on previous work. Site specific circumstances and materials may lead to higher costs
** Cost based upon simple bolt-down rubber cushions installed elsewhere in the city. Harder engineering measures/sympathetic materials will significantly increase this cost