



**A307 Portsmouth Road  
Long Ditton, Elmbridge**

**Pedestrian Safety  
Improvements  
Feasibility Study Report**

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### 1. INTRODUCTION:

Since the beginning of January 2014, and up until the end of September 2017, there have been 11 recorded injury collisions on the A307 Portsmouth Road between Cholmley Road and Prospect Road. Over half of these incidents have involved motorized vehicles colliding with vulnerable road users, pedal cyclists and pedestrians. Of the two incidents involving pedestrians, one resulted with serious injuries the other with a fatality.

The seriousness of the collisions, plus local concern, led to the funding of a feasibility study by Elmbridge Local Committee. This report documents the investigation into the causes of the pedestrian injury incidents; considers feasible improvements that have the potential of making the environment safer and more accessible for pedestrians; and provides recommendations.

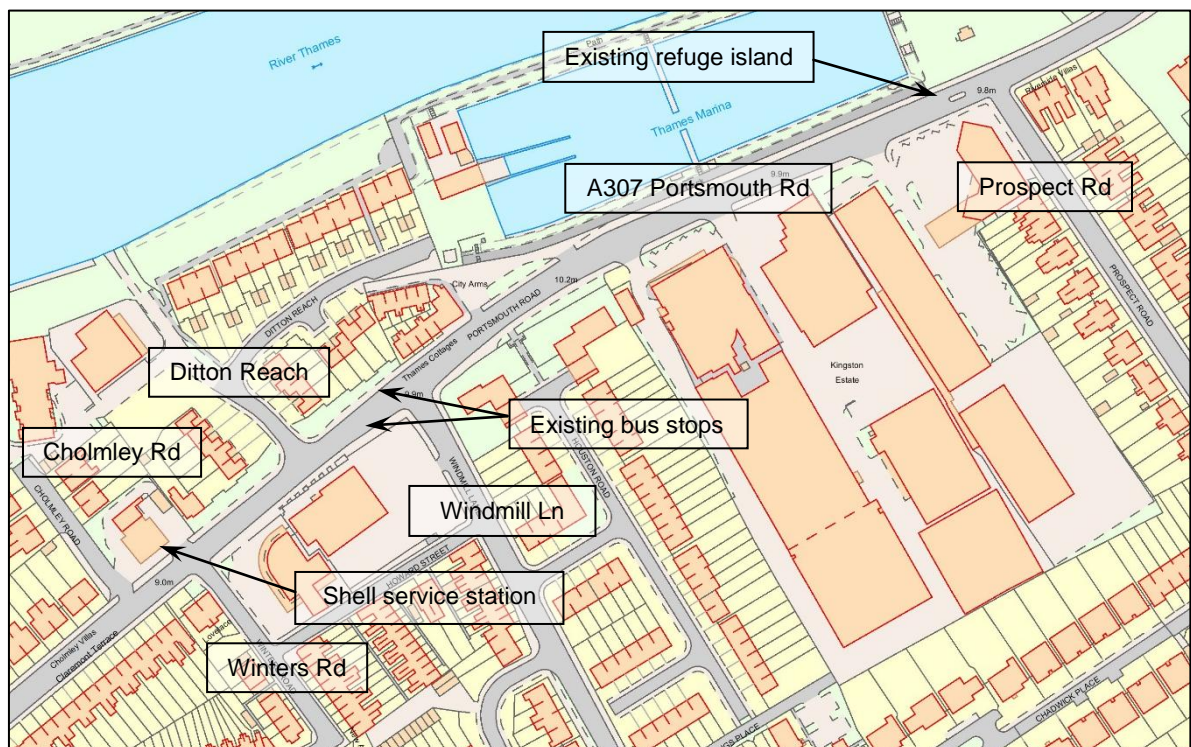


Figure 1: Location plan of A307 Portsmouth Road, between Cholmley Road and Prospect Road

This study seeks an investigation into feasible designs for improvements to the pedestrian route of the A307 Portsmouth Road between Cholmley Road and Prospect Road. Particular emphasis is made to the installation of a pedestrian refuge island, the main aim of which is to enhance safer crossing and accessibility to the bus stops. Additional improvements along Portsmouth Road, for example to side roads and commercial access points, are also considered.

## **2. SITE ANALYSIS:**

The A307 Portsmouth Road is a strategic route, forming part of the primary road network. It provides a link between Kingston and Esher and beyond. A speed limit of 30mph is in place on this section of the highway.

Five bus services emanating from Kingston travel to various locations including Esher, Hersham, Walton-on-Thames, Staines and Guildford. There is regular use of the two southwest bound and two northeast bound bus stops in Portsmouth Road.

The Portsmouth Road corridor is formed from a mix of adjoining commercial, leisure and residential properties that have either direct or indirect access. Waiting restrictions between 8.30am and 6.30pm Monday-Saturday are in place. Off-street parking is utilized by a number of domestic properties, which is supplemented when on-street parking is permitted.

Between Cholmley Road and Prospect Road the carriageway width varies from a maximum of 11.6m to a minimum of 8.5m, the average width being 9.8m. An advisory cycle lane is present along most of both sides of the road, these narrow the total running lane width (two way) for motorized vehicles down to between 8.6m and 5.1m, average width of 6.6m. The adjacent footways range from a minimum width of 1.8m to a maximum of 3.4m providing an average width of 2.4m. Grass verges beyond the footways exist in short sections, but are not congruent.

## **3. DATA COLLECTION:**

As the feasibility study has been initiated by concerns over the severity of injury incidents affecting pedestrians crossing Portsmouth Road the most relevant data, personal injury incidents, has been collected and analysed.

### **3.1. Personal Injury Incidents**

Personal injury incident data is based on all road traffic incidents where injury and or fatality has occurred; and as a consequence the police have recorded the details. The personal injury incident data used in this study is from records held for the period 1st January 2014 to 30th September 2017.

#### **Analysis of data.**

In the past three years and year to date there have been 11 recorded collisions with resulting injury on the A307 Portsmouth Road between Cholmley Road and Prospect Road. Over half of these incidents have involved motorized vehicles colliding with vulnerable road users, pedal cyclists and pedestrians. The injuries sustained as a result of the four incidents involving pedal cyclists were slight in severity. Of the two incidents involving pedestrians, one resulted with serious injuries the other with a fatality.

Both of the collisions with pedestrians were the result of them attempting to cross Portsmouth Road. The report of the incident, where the pedestrian received serious injuries, the attempt was made to cross the road between the Ditton Reach and Windmill Lane junctions. This occurred on a week day at just after

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5pm in fine weather.

The incident that led to the pedestrian receiving fatal injuries occurred as they crossed from the Shell service station side of Portsmouth Road to Winters Road. In the incident report the driver of a van turned right out of the service station forecourt and collided with the pedestrian. This incident occurred on a week day at 8.30am in fine weather.

All four slight injury incidents to pedal cyclists occurred as the result of motorized vehicles turning across the advisory cycle lanes, with the exception of one, during daylight hours.

Latest three year and year to date collisions (01/01/14 to (30/09/17)				
Year	Type	Slight	Serious	Fatal
2014	Ped		1	
	P/C	2		
	Other	1		
2015	Ped			
	P/C	1		
	Other	1		
2016	Ped			
	P/C			
	Other	1		
2017 (Jan to Sep)	Ped			1
	P/C	1		
	Other	1	1	
<b>Totals</b>	<b>Ped</b>		<b>1</b>	<b>1</b>
	<b>P/C</b>	<b>4</b>		
	<b>Other</b>	<b>4</b>	<b>1</b>	
Ped: Collision involving pedestrian P/C: Collision involving pedal cyclist Other: Collision not involving either pedestrian or pedal cyclist				

Figure 2: Personal injury incident data

### 4. DISCUSSION AND OPTIONS:

Consideration has been given to:

- Pedestrian desire lines.
- Bus stop locations.
- Refuge island, encouraging maximum usage.
- Signs and markings to highlight hazards / slow down motorized vehicles.
- Personal injury incidents data.

#### **4.1. Option 1 – Portsmouth Road pedestrian refuge island (Appendix A – Drawing PC0807/03)**

There are two locations along Portsmouth Road where bus stops, a stop for each travel direction, can be found. In the case of the Prospect Road bus stops, these are catered for with a nearby pedestrian refuge island. The other location is between Ditton Reach and Windmill Lane that does not currently have a refuge island.

Taking into consideration the location of the pedestrians that sustained fatal injuries (one pedestrian) and serious injuries (one pedestrian) when attempting crossing the road, the preferable location of a refuge island would be between the service station and the Ditton Reach bus stops.

Two options, Option 1A and Option 1B have been considered for this facility. Option 1A locates the refuge island at the preferable location, Option 1B at the sustainable location. (For simplicity, minor improvements to the side roads of Winters Road and Windmill Lane are considered alongside these options.)

##### **4.1.1. Option 1A – Pedestrian refuge island adjacent to Ditton Reach junction**

This is the best location to provide a crossing facility for the bus stops and the service station.

Widening of the carriageway at this location is required to accommodate the island. While there is space within the highway boundary to obtain the minimum necessary width, the overall length is insufficient to accommodate the required tapers. Shortening the tapers has an impact on the lane widths between the island and carriageway edge, this would impact on pedal cyclist's safety.

There are indications that utility plant services run below the footway and verge. It is likely alterations to the kerb alignment will affect these; and corresponding diversionary works necessary. The cost of such work can prove prohibitive: an example of this is a scheme where the anticipated diversion costs to accommodate a 24m long lay-by in a footway is in the region of £60,000.

Because of site restrictions—highway features & boundaries and utility plant & services—this option is not considered sustainable.

##### **4.1.2. Option 1B – Pedestrian refuge island adjacent to Windmill Lane junction**

Compared to Option 1A, the location of this option may be less preferable when considering the needs of those seeking to cross the road for the bus stops and service station.

Whilst the location is further away from the combined desired line for the bus stops and service station. However, it is a good location for those crossing the road to and from the public house, and is still within a short distance of the bus stops. An added benefit is that there is sufficient space within the existing carriageway to accommodate the island, without need to alter the carriageway alignment.

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Compared to Option 1A, Option 1B is considered a more sustainable option.

Budget cost estimate: £10,000 to £15,000

### **4.2. Option 2 – Portsmouth Road side roads crossing point improvements (Appendix A – Drawing PC0807/04)**

At present pedestrians are poorly served when crossing the side roads in Portsmouth Road. Where dropped kerbs exist they are uneven and lack tactile paving, a necessary provision for those with impaired or no vision. Upgrading of the crossing points will improve the pedestrian route.

Minor improvements to Windmill Lane, Ditton Reach and Winters Road include for adjusting the existing dropped kerbs and installing tactile paving. In the case of Winters Road, the minor improvement is the installation of dropped kerbs and tactile paving.

Budget cost estimate: £6,000 (£2,000 per location).

### **4.3. Option 3 – Portsmouth Road side roads buildouts (Appendix A – Drawing PC0807/05)**

The junctions of both Windmill Lane and Ditton Reach are not in themselves extremely wide; however, the bell mouths of these side roads create a sizable distance pedestrians need to travel to cross them. This is not the case at the Winters Road junction where the road width is narrow and the bell mouth very small.

A solution to reducing the distance of travel across the Windmill Lane and Ditton Reach junctions can be achieved by installing buildouts in the bell mouths. The benefits would be: a reduction in the time needed for pedestrians to cross the junction; reduced speeds of vehicles entering the side road.

Construction of the buildout would necessitate reducing the radii of the bell mouths, preferable to six metres. The buildout would incorporate dropped kerbs and tactile paving, thereby improving the route for pedestrians as a whole.

Budget cost estimate: £8,000 (£4,000 per location)

### **4.4. Option 4 – Portsmouth Road side roads refuge islands (Appendix A – Drawing PC0807/06)**

Refuge islands take away the need to travel across a wide side road in one movement, there is a safety benefit to pedestrians from such islands. At first appearance both Windmill Lane and Ditton Reach junctions are suitable for this type of improvement; however, Winters Road is too narrow for consideration.

Further investigation into the use of refuge islands at Windmill Lane and Ditton Reach junctions identified some issues that are not easily surmountable. In the case of Ditton Reach, the existing road width is insufficient to accommodate a minimum width island. To do so would entail widening the mouth of the junction.

With regard to Windmill Lane, there is room to accommodate an island if taken in isolation. However, if the refuge island in Portsmouth Road (Option 1B) were to



be installed large vehicles would not be able to negotiate a left turn from Portsmouth Road into Windmill Lane (see Appendix C: AutoTURN vehicle plots).

Budget cost estimate: N/A

#### **4.5. Option 5 – Portsmouth Road access improvement options (Appendix B – Access improvement options)**

Currently, there are eleven vehicle access points to commercial properties on this section of Portsmouth Road. All these access points pass through the footways, giving vehicles precedence over pedestrians. By constructing vehicle crossovers at these locations it is feasible to change the priority of the access points from vehicles to pedestrians. The minor accommodation works required would improve the pedestrian route and reduce the risk of pedestrian injuries.

Three of the vehicles accesses, all outside the Trust Ford premises, are no longer used. In this situation, it would seem appropriate to remove them and re-profile the footway accordingly.

Of all the access points mentioned above the two for the car park belonging to the 'The City Arms' public house are more difficult to adjust than the other nine. This is because the car park threshold levels are similar to, if not the same as, the edge of carriageway levels. A flush footway across the accesses would be a suitable solution.

It would prove to be more economical, and provide consistency, if all the access points are adjusted as a whole.

Budget cost estimates: £28,000 (£2,500 per location)

### **5. RECOMMENDATIONS:**

An investigation has been undertaken into feasible designs for improvements to the pedestrian route of the A307 Portsmouth Road between Cholmley Road and Prospect Road. Particular emphasis has been made to the installation of a pedestrian refuge island, the main aim of which is to enhance safer crossing and accessibility to the bus stops. Although consideration of a refuge island in Portsmouth Road is prominent in the feasibility designs other improvements that can be made to the pedestrian route have also been considered.

To improve the safety of pedestrians crossing Portsmouth Road, a refuge island cannot easily be accommodated between Winters Road and Ditton Reach due to site restrictions. The best alternative is to place it to the east of Windmill Lane.

Improvements to the pedestrian route along the A307 can be achieved by upgrading the crossing facilities of the side roads (Windmill Lane, Ditton Reach, Winters Road and Cholmley Road). Adjusting the existing access points, which presently cut across the footways to commercial properties, enhances the route further.

Summary of recommendations:

Option 1B (pedestrian refuge island adjacent to Windmill Lane junction)

Option 3 (improvements at Winters Road, Ditton Reach and Windmill Lane)

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### Option 5 (Portsmouth Road access improvement options)

Cost estimate: £50,000

## **APPENDIX A: Option drawings**

Drawing PC0807/03 – Portsmouth Road pedestrian refuge island Options 1A & 1B

Drawing PC0807/04 – Portsmouth Road side roads crossing point improvements

Drawing PC0807/05 – Portsmouth Road side roads side roads refuge islands

Drawing PC0807/06 – Portsmouth Road side roads refuge islands

## **APPENDIX B: Access improvement options – Photographs**

## **APPENDIX C: AutoTURN Vehicle Plots**

Drawing PC0807/07 – AutoTURN plots

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