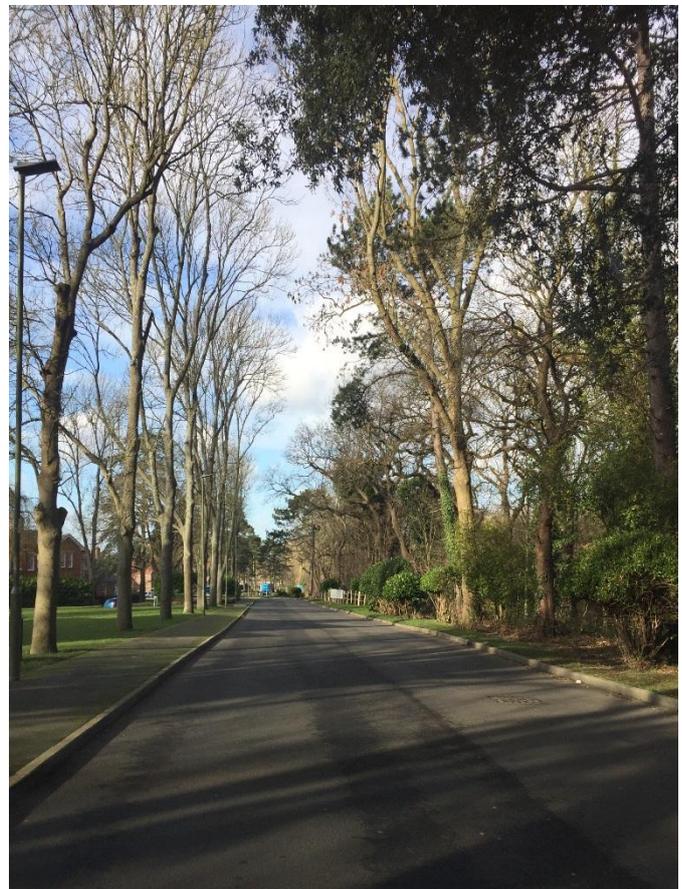


West Park Road (Noble Park), Epsom

Speed limit and safety measures

Feasibility Report



February 2018

Project Title: West Park Road, Epsom
Speed Limit and Safety Measures

Document Title: Feasibility Report

Client Reference: PC0866

Date: February 2018

Prepared By: Harry Blake

Authorised By: Jamie Daly

Amendment List

Issue / Rev	Issue / Rev Date	Removed		Inserted	
		Page	Issue / Rev	Page	Issue / Rev

File path: I: \EAI \ PC all \ Resource Pool \ Projects\NE Epsom & Ewell \ PC0866 Noble Park (West Park Road) \ 4. Reports

CONTENTS

1. INTRODUCTION

2. SITE ANALYSIS AND DATA COLLECTION

2.1 Site Analysis

2.2 Personal Injury Collision Data

2.3 Speed Data

2.4 Traffic Orders

3. DISCUSSION AND OPTIONS

3.1 Option 1 – Gateways only

3.2 Option 2 – Road markings and gateways

3.3 Option 3 – Speed cushions and gateways

3.4 Option 4 – Signage and gateways

3.5 Option 5 – Road tables

3.6 Option 6 – Road markings, signage and gateways

3.7 Option 7 – Pedestrian crossings / islands / refuges

3.8 Option 8 – 20mph limit

3.9 Option 9 – Lane width restrictions

3.10 Option 10 – Do nothing

4. RECOMMENDATION

5. APPENDICES

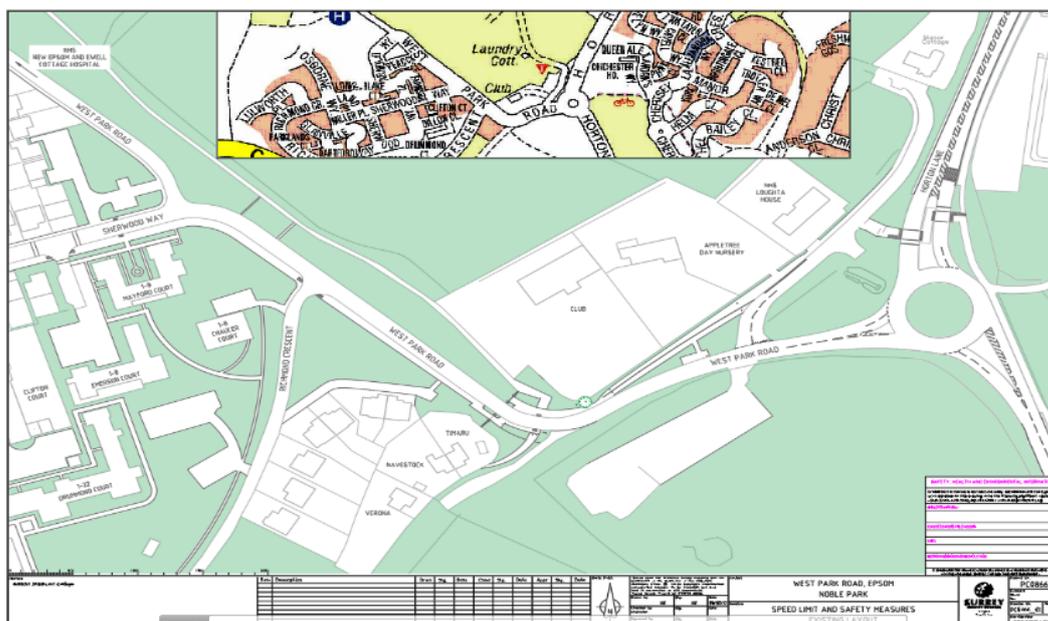
1. INTRODUCTION:

This feasibility study is to look into the potential measures on the adopted highway of the estate that can highlight safety issues and improve driver awareness of potential hazards. In addition, the best location for terminal signs to highlight the 30mph speed limit will be discussed as these were omitted in the original construction of the estate.

2. SITE ANALYSIS AND DATA COLLECTION:

2.1 Site Analysis

West Park Road is the main road linking the Horton Lane roundabout to the rest of the Noble Park housing estate, and is 1.2 miles from Epsom Town Centre. The site was formerly the location for the West Park Hospital until 2011, but now holds over 200 homes and still has NHS buildings within the grounds. West Park Road and surrounding roads are on a bus route, and due to the NHS buildings there are a number of ambulances using the road. West Park Road is classified as a 'D' road and has a Surrey Priority Network (SPN) rating of 4a. This means that West Park Road is classed as a link road between the main and secondary distributor network, with frontage access and frequent junctions. The housing estate does not have any road markings and the speed limit of the estate is 30mph. West Park Road also has a system of street lighting. West Park Road has no houses and only has footway on the western side of the carriageway. The western side of the carriageway is verge and lined with trees. West Park Road and the surrounding roads in the Noble Park estate are within a conservation area, as well as being part of Epsom & Ewell's Green Belt Land. **For a more detailed location plan see drawing number PC0866_00.**



2.2 Personal Injury Collision Data

There have been no recorded accidents in the last five years.

2.3 Speed Data

Speed data for this location has been assessed (by using a handheld speed gun, between 10am and 12am, on Tuesday 6 February, near the junction with Richmond Crescent). The results are shown in the following table:

	<i>Total Readings</i>	<i>Mean Speed</i>	<i>Mode Speed</i>	<i>85th Percentile</i>
<i>North-West bound traffic (towards estate)</i>	139	24mph	24mph	28mph
<i>South-East bound traffic (towards Horton Lane)</i>	134	25mph	25.5mph	29mph

The above table shows that, according to Surrey County Council's 'Setting Local Speed Limits', a signed 20mph limit can be enforced without traffic calming measures.

Change from urban and rural 30 mph speed limit to 20 mph speed limit (without traffic calming)																					
Measured mean speed before	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Predicted mean speed after	19.9	20.6	21.4	22.2	23.0	23.7	24.5	25.3	26.1	26.8	27.6	28.4	29.2	29.9	30.7	31.5	32.2	33.0	33.8	34.6	35.3
	New lower speed limit allowed					New lower speed limit only allowed with supporting highway measures															

2.4 Traffic Orders

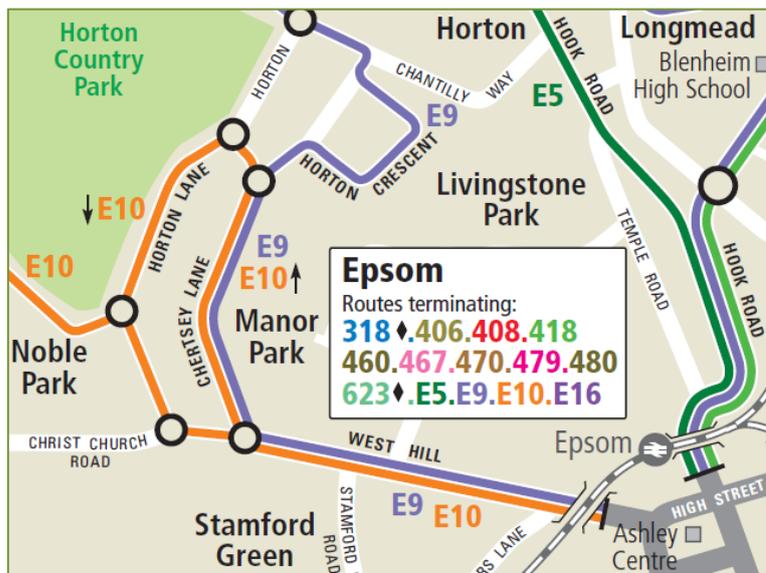
There are currently no 30mph traffic orders in place at West Park Road and surrounding roads in the Noble Park estate. The speed limit is 30mph by virtue of street lighting. There are currently no speed limit terminal signs distinguishing between the 40mph limit on Horton Lane (which does have a supporting traffic order) and West Park Road. The exact point as to where the 40mph traffic order finishes cannot be determined but it is recommended to install the speed limit terminal signs at the nearest feasible point to the roundabout with Horton Road where the system of street lighting starts.

3. DISCUSSION AND OPTIONS:

According to the Department for Transport's documentation, traffic calming is a useful way of controlling drivers' speeds where speeds are either excessive and/or inappropriate for the type and use made of a road. Justification for installing traffic calming is often based on improving safety by reducing accidents. Existing road usage and characteristics that need to be considered are:

1. Bus routes:

West Park Road forms part of the E10 bus route that help to form an important part of the integrated transport system. Buses on the E10 route travel through Manor Park every 30 minutes. Introducing physical traffic calming measures has the potential for creating issues likely to impact on passenger comfort and patronage, drivers' health, bus journey times and vehicle maintenance costs. This may affect the viability of a service, which should be considered.



2. Emergency service vehicles:

Consideration should be given to the cumulative effect physical traffic calming schemes can have on the ability of fire and ambulance services in meeting response times. Certain types of traffic calming features, e.g. chicanes, can unwittingly lead to increased patient discomfort, or cause damage to equipment carried in ambulances or fire appliances. Objections may be raised by the emergency services to proposed traffic calming schemes.

Whilst the number of accidents on residential roads is often relatively low and usually scattered over a wide area with highly variable annual accident rates, the use of traffic calming enables an area-wide approach to be adopted to address such isolated incidents. There are a number of different

traffic calming options available for use and some of the most appropriate ones have been explored below:

3.1 Option 1 – Gateways only

A way to make drivers aware of the speed limit is to install village gateways, speed limit terminal signs, roundels and red high friction surfacing at the entrance to Noble Park. Gateways are used to indicate to drivers where the road changes character, for example at the start of a traffic calming scheme or at the entry to a village/housing estate. Reducing vehicle speeds at this location will also reduce the chances of collisions with oncoming cars at the bend.

The cost of the changes in PC0866_01 is approximately £6,000.

3.2 Option 2 – Road markings and gateways

According to the TSRGD, a centre line should be installed on any two lane road, not less than 5.5m in width. Therefore, West Park Road should have the markings to suit. Installing junction markings at the junctions with Richmond Crescent and West Park Road will create a more formal stopping point for vehicles entering West Park Road. When visiting site, a number of vehicles overran the junction onto the main carriageway, potentially causing danger to other vehicles travelling along West Park Road.

The cost of the changes in PC0866_02 is approximately £7,000.

3.3 Option 3 – Speed cushions and gateways

An option to reduce the speeds along West Park Road is to install a number of speed cushions along the route. Speed cushions are the most widely used form of traffic calming device because they have proved to be effective at controlling speeds and are generally applicable to most road layouts and also means that drainage will not have to be altered, saving on costs. With Noble Park being on a bus route and with a high number of emergency vehicles using the estate, speed cushions are the preferred vertical deflection measure as they generally have less impact on buses than speed tables but slow vehicles to a desirable speed.

The cost of the changes in PC0866_03 is approximately £15,000.

3.4 Option 4 – Signage and gateways

Although for much of West Park Road it is a straight carriageway, there are tight bends at both ends which require vehicles to reduce their speeds in order to manoeuvre correctly, especially at the northern end. Therefore it would be beneficial to install a bend warning sign in advance to make drivers aware of the upcoming hazard.

The cost of the changes in PC0866_04 is approximately £6,750.

3.5 Option 5 – Road tables

Much like road humps, road tables are an effective ways of reducing speeds and do not severely affect bus routes (if they are 7.5m long). However, road tables will have an effect on the emergency services, as they have no way of bypassing the feature. In addition, a lot of drainage work will have to be undertaken which will make the scheme very expensive and require a lot of the carriageway to be excavated and reconstructed. From a buildability point of view, traffic management is also an issue as a road closure would be required and this is not possible due to West Park Road being the only entrance into the estate and NHS buildings.

The cost of the changes in PC0866_05 is approximately £33,500.

3.6 Option 6 – Road markings, signage and gateways

An option which includes all of the elements found in Options 2 and 4.

The cost of the changes in PC0866_06 is approximately £7,500.

3.7 Option 7 – Pedestrian crossings / islands / refuges

This option has been considered but due to West Park Road only having footway on one side of the carriageway and with only a small number of pedestrians, there is no justification for any type of pedestrian crossing.

3.8 Option 8 – 20mph limit

A 20mph speed limit throughout the estate was explored. The Department for Transport Circular 01/2013 emphasises that research into signed only 20mph speed limits shows that they generally lead to only small reductions in traffic speeds. Signed only 20mph speed limits are therefore most appropriate for areas where vehicle speeds are already low. If the mean speed is already at or below 24mph on a road, introducing a 20mph speed limit through signing alone is likely to lead to general compliance with the new speed limit. The speed results taken on site show that the road could be changed to a signed 20mph limit but would require traffic calming to

influence vehicle speeds. However, it is felt that West Park Road does not warrant a decrease to the speed limit due to its good safety record.

3.9 Option 9 – Lane width restrictions

Narrowing lanes, using traffic islands and/or road markings can give the impression of a more confined road and results in reduced speeds. However, the road widths at West Park Road only average 6.6m meaning that there is no allowance for narrower lanes.

3.10 Option 10 – Do nothing

With no reported accidents in the last five years, it would seem as though the existing layout is not creating any cause for concern and would not require any additional work.

4. RECOMMENDATION

It is recommended that the local committee considers Option 6. The gateways will inform drivers that they are entering a residential area. The bend warning sign will highlight the bend in the carriageway and the road markings encourage lane discipline in line with the regulations in the Traffic Signs Regulations and Directions 2016. Given the results from the speed survey and the good safety record, it is considered that physical traffic calming and/or alterations to the speed limit are not appropriate at this time

5. APPENDICES

A) Drawings showing proposed options:

PC0866_00 – Existing Layout.

PC0866_01 – Option 1 – Gateways Only.

PC0866_02 – Option 2 – Road Markings and Gateways.

PC0866_03 – Option 3 – Speed Cushions and Gateways.

PC0866_04 – Option 4 – Signage and Gateways.

PC0866_05 – Option 5 – Road Tables.

PC0866_06 – Option 6 – Road Markings, Signage and Gateways.