



Manor Royal
Transport Strategy

Action Plan
January 2017

Manor Royal Business
Improvement District

Our ref: 22929401



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1 Introduction

Overview

- 1.1 Manor Royal Business District (MRBD) with support from West Sussex County Council (WSCC), Crawley Borough Council (CBC) and Gatwick Airport Ltd, has commissioned Steer Davies Gleave and The means to undertake a study to review the current transport situation within the MRBD and develop a deliverable transport strategy Action Plan.
- 1.2 The objective of the study was to respond positively to issues identified by MRBD businesses and staff and to propose solutions that can help retain staff and businesses and ultimately help support MRBDs continued growth.
- 1.3 The first stage of the commission involved undertaking a thorough review of the current conditions at Manor Royal. This comprised of the following activities:
 - detailed site observations;
 - reviewing previous studies (Grey and Green audits, GVA Grimley 2010 Masterplan, 2007 Regeneris Vision Study, 2013 Manor Royal Design Guide & Public Realm Strategy);
 - interviewing key stakeholders (West Sussex CC, Crawley BC, easit, Metrobus);
 - land agent interviews;
 - Manor Royal business employer survey (HR/facilities management);
 - Manor Royal business employee survey (open to all 30,000 employees);
 - Manor Royal business employer workshop; and
 - benchmarking Manor Royal against other similar business parks.
- 1.4 The information gathered from these work streams has been collated and forms a comprehensive Evidence Report which should be read in conjunction with this Action Plan. Following a detailed understanding of the issues, this Action Plan provides recommendations to address the key issues within Manor Royal - high car dependency for commuting to/from work and associated highway congestion and parking stress.

Context

- 1.5 Manor Royal Business District is located to the south of Gatwick Airport within the borough of Crawley in West Sussex. Manor Royal currently provides employment to over 30,000 people, however some sites within the business district are being redeveloped with increased density, thereby increasing the number of jobs further. Based upon current projections, Manor Royal has the potential to provide employment for a significantly increased number of people, but without providing additional parking (to enable development space to be maximised) this will require greater take up of sustainable modes.
- 1.6 The most recent Manor Royal Business District (MRBD) survey of businesses (mid-term survey) in May-June 2016 highlighted that transport was the most pressing issue for Manor Royal

businesses. All of the top five issues were transport related including condition of roads, ease of getting around (traffic circulation and congestion) and quality of the street scene.

- 1.7 The aspiration of the county and district councils, as well as the Local Enterprise Partnership Coast to Capital (C2C), is to increase the quantity and quality of employment within the Manor Royal and wider Gatwick Diamond area in order to increase the Gross Value Added of the area. In order to do this, retaining existing employers and employees is required as well as attracting future employers and employees. With the South East being home to other business parks and new business parks and strategic employment sites being proposed, including a new purpose-built park proposed in nearby Horley, addressing the perceived transport issues at Manor Royal is critical to its long term success; in both sustaining and growing its attractiveness.
- 1.8 In addition, new opportunity exists due to the proposed improvements to rail services from Gatwick Airport and Three Bridges in 2017/18 that could make travelling by train to other locations more attractive following significant improvements at London Bridge and on Thameslink services. This could also provide an opportunity for Manor Royal to attract a wider catchment of staff and encouraging travel by rail, but this is limited at present by constraints associated with the onward journey from Gatwick Airport and Three Bridges stations to Manor Royal.
- 1.9 A number of businesses are developing sites within Manor Royal at present, with many of these intensifying the use and employment densities of various sites. As a result of this intensification, some funds have been secured via Planning Permission (Section 106) in order to help mitigate the impact of the additional trips generated as a result.
- 1.10 The schemes identified as part of the planning process have been considered when developing this Action Plan and therefore it is intended some of the measures identified could be funded by this process. For junction improvements in particular, the costs presented therefore could be refined as wider works are considered. It is recommended that, wherever possible, these improvements are undertaken at the same time and jointly planned alongside required mitigation work, to help offset costs and maximise benefits through shared design, modelling and preliminaries.
- 1.11 When comparing Manor Royal to other business parks, it faces similar challenges to others with peak time highway congestion and increasing demand for parking. However the existing and proposed public transport offer provides a great opportunity to reduce car-based demand. The benchmarking against other business parks demonstrated that successful measures at other locations including increased parking enforcement, car sharing and car clubs (pool cars), all could help to reduce this demand at Manor Royal.

Report Structure

- 1.12 The report is formed such that a summary of all recommended measures are provided along with their relevant priorities and indicative costs.
- 1.13 As it is expected that not all of these will be able to be funded and due to the interdependencies of some of the measures, a package of highest priority measures has been provided. This is designed to provide a combination of measures that together will provide the greatest benefit with a mix of both infrastructure and behaviour change measures. Some measures become less important if others are undertaken and therefore the packages help to prioritise funding to maximise value for money.

1.14 The remainder of this report is divided into five chapters, of which this introduction forms the first. The remaining chapters are as follows:

- Chapter 2 provides further context;
- Chapter 3 summarises the rationale for the measures suggested and provides high level detail including a prioritised summary;
- Chapter 4 provides additional detail on the recommended actions including evidence, costs and interdependencies, to address the transport issues identified within the Evidence Report; and
- Chapter 5 summarises and concludes the report.

2 Action Plan

Overview

2.1 The Evidence Report has highlighted three key themes which are to be addressed in order to successfully respond to concerns related to transport provision by existing and future businesses and their employees at Manor Royal. These concerns specifically focus on reduced traffic congestion and parking stress;

- the perceived / actual journey time and cost differential between public transport and private car;
- lack of awareness of other options to using private car; and
- key infrastructure constraints (barriers to cycling, rail bus interchange and pedestrian accessibility).

2.2 Despite these challenges, there are however some key opportunities:

- 50% of employees live within a 30 minute cycling distance of Manor Royal and 17% within a 15 minute walk;
- excellent public transport services within the vicinity; and
- the area has significant stakeholder support, particularly to improve transport.

2.3 The stakeholder support for the Manor Royal area is evidenced not only by the support for this study but also because of the number of schemes planned or currently being implemented.

Planned Schemes and Funding Bids

2.4 There are a number of schemes under consideration or currently being progressed by transport operators and local authorities. These are:

Planned Metrobus upgrades

- New buses for routes 4, 5, 20 and 100;
- Enhanced frequency on Route 20 (serving Three Bridges station); and
- Wifi services on buses.

Gatwick Airport Limited

- Improved air/rail – bus interchange at Gatwick Airport by providing step free access to bus services, reduced walking distance and new bus shelters, due to be completed within 2017.

Network Rail / Govia Thameslink Railway

- Improved service frequency from Gatwick / Three Bridges on Thameslink from 2018; and
- New rolling stock to provide wifi and additional capacity by 2018.

Other works

- 2.5 In addition, CBC are currently undertaking Public Realm improvements in Crawley Town Centre, part funded by the LEP.
- 2.6 They are also bidding for further funding to undertake works to provide:
- a travel plan advisor for the Manor Royal area (CBC);
 - a cycling map update (CBC); and
 - other schemes as part of the Wider Town Centre Transport Package.
- 2.7 In addition to these schemes there are a number of schemes planned to mitigate the impact of development with funding secured, at least in part, through section 106 agreements:
- Gatwick Road/ Manor Royal – junction improvements;
 - Manor Royal/London Road – pocket park;
 - Gatwick Road/James Watt Way – junction improvements;
 - Hazelwick Avenue / Gatwick Road – signalisation;
 - Cycle improvements (by Crawter’s Brook entrance on Fleming Way and also on Gatwick Road); and
 - Pedestrian improvements – Gatwick Road (between Fleming Way and James Watt Way).
- 2.8 Although the S106-funded schemes identified in paragraph 2.7 are understood to help mitigate against the additional traffic impacts of the various associated developments, it is likely that further enhancements will be required to improve conditions for pedestrians, cyclists and buses. These are discussed in more detail in Chapter 3.

3 Recommended Measures

Overview

- 3.1 The Action Plan has been developed to provide a suite of recommended measures in order to help reduce the perceived and actual transport issues within Manor Royal. Having analysed the wide range of available data, both from our own observations, surveys, interviews and workshops and that provided by stakeholders, it is clear that the Action Plan requires a multi-strand approach with both infrastructure improvements and softer measures to encourage behaviour change.
- 3.2 The requirement for the combination is due primarily to the fact that the main issues are caused by the high level of travel to work by car. This high mode share is caused in part by habit, but also due to the perception that other alternatives are not suitable or sufficiently attractive to encourage a shift. This study has also identified some gaps in provision and infrastructure that serve as a barrier for some to consider reducing single occupancy car use.
- 3.3 It is therefore important to both relieve some of the key car related pressures whilst also ensuring measures are in place to successfully encourage mode shift in order to ensure that Manor Royal remains an attractive place for people to work and locate their business. This is particularly important as it is hoped to increase the number of employees within Manor Royal from over 30,000 to deliver the majority of the additional 16,500 jobs identified as required up until 2031 within the 2014 Economic Growth Assessment¹.
- 3.4 We now explore each theme and the measures suggested to address this. These are then summarised in Table 3.6, with specific (location specific schemes) shown in Figure 3.1.
- 3.5 Section 4 provides additional detail for each measure including evidence, benefits and costings. It should be noted that the estimated costs are to provide an indicative order of costs at this stage and will need to be refined following further feasibility studies and detailed design. A more detailed breakdown of costs and assumptions for infrastructure projects is included in **Appendix A**.

Tackling Parking

- 3.6 Ease of parking for visitors was mentioned by 57% of respondents to the mid-term BID survey as requiring action to improve the situation. Similarly but to a lesser extent, ease of parking for staff was mentioned by 47%. These results were mirrored by the dedicated employer survey as part of the development of this transport strategy with results of 52% and 42% for visitors and staff respectively. However, interestingly traffic congestion was rated more of an issue by employees.

¹ Crawley 2030: Crawley Borough Local Plan 2015-30, Crawley Borough Council (December 2015)

- 3.7 Concern regarding parking may be due to some of the businesses (6%) renting parking spaces from other companies. Increasing parking availability will only assist with one of these aspects, therefore a combination of measures are required.
- 3.8 Of those that drive to work (drivers only) and who responded to the employee survey, 88% park in a company car park (of which 6% are at alternative sites), therefore encouraging companies to promote car sharing by specifically providing and enforcing car sharing bays (could be on a booking system or with a permit) could help to significantly reduce demand for on-street parking². It would reduce congestion during peak hours and could also reduce the need for companies to rent car parking spaces in other businesses, helping them save money on an ongoing basis. It could also assist with meeting any travel plan targets they may have and improving corporate social responsibility. There are car sharing schemes available nationally, although to date these have not been successful here, which may be due to a lack of promotion. Having a fully branded Manor Royal scheme is likely to have greater traction. The use of a bespoke, branded, intelligent mobility system within which staff could search for a car sharing partner and ‘book’ or offer a place either on a regular or sporadic basis would be invaluable.
- 3.9 To mitigate the risk of people being concerned about not being able to get home in an emergency if they car share, or leaving their passenger stranded, providing a guaranteed ride home scheme is recommended. This provides a ‘safety net’ of a paid for taxi journey for those who car share in the event of an unexpected need to get home from work. This can be administered in two ways, by contracting with local taxi firm whereby car share scheme member show membership card and the cost of the trip is billed to either the car share scheme itself or Manor Royal BID, or the car pool member arranges own taxi trip, requests a receipt from the driver. Then uses an agreed form to submit an claim with the receipt. It is typical to place a limit on the number of rides home per year to prevent any abuse, usually between three and five. The trip reimbursement could be required to have validation from both passenger and driver that they have shared on that day. It is a successful scheme at both Loughborough and Edge Hill Universities in the UK.
- 3.10 In addition to encouraging businesses to provide car sharing bays, it is recommended that some key locations which experience high levels of verge parking are converted in part to formal bay parking but dedicated for those that car share only, as well as similarly converting some current on-street parking to car sharing only bays. This will help to formalise parking areas, provide some additional capacity and make the initiative of car sharing very visible. It will also help to improve the appearance of the area by providing dedicated bays rather than the informal and ‘messy’ ad hoc arrangements currently in place in some areas. A key location where the verge conversion is recommended is in zone 5 (Rutherford Way), but it is recommended that short stretches for approximately six vehicles could be converted at ten initial locations where parking pressures are at their greatest.
- 3.11 Due to the close proximity of Manor Royal to Gatwick Airport and the excellent Fastway bus service linking the two, it is understood by stakeholders that the unrestricted roads are used to varying extents for airport parking (both staff and passengers). In some cases, particularly in zone 5 (north east of Manor Royal), it is clear that some cars have been there for some time due to the dust / tree sap on them, and therefore potentially belong to airport passengers.

² Car Sharing bays on-street currently need to state “Car Club permit holders only” signage in accordance with Traffic Signs Regulations and General Directions 2016.

The impact of Airport parking is a key concern to stakeholders due to the reduced parking space available for staff and visitors.

- 3.12 As Manor Royal is currently subject to a number of different Traffic Regulation Orders (TRO), there are areas that have no restrictions at present which enable airport parking and add to parking pressure for businesses, as well as areas with very different restrictions. It is therefore suggested that a full review of TROs is undertaken, including provision of recommendations to address the issues. This will enable an area wide strategy for parking restrictions to restrict airport parking. It is also important that this is considered with regard to the surrounding residential population to create consistency to ensure that demand is not displaced between the two areas, in either direction.
- 3.13 As well as understanding how TROs could be made more consistent to stop airport parking, there is also a current issue with the lack of enforcement within the area. This has led to the knowledge by many staff that they can park wherever they wish due to the lack of enforcement, even if there are on-street restrictions. Within the stakeholder workshops, interviews and feedback received by the BID, it was noted that in some cases this parking blocks business critical movements, particularly movements of larger vehicles. In order to maintain the safe operation of the businesses on Manor Royal as well as encouraging modal shift by keeping a limit on parking supply, it is important that a strong enforcement culture is introduced. This will also help to improve pedestrian and cycle accessibility, as well as the overall look and feel of the area, by stopping the illegal parking on the footway or across cycle lanes or verges.
- 3.14 As well as providing parking enforcement for TROs, it is important to enforce dedicated car sharing bays. By providing a mechanism for both on the ground 'policing' whilst providing employees with an easy, approachable way of reporting any issues or non-compliance, the provision of dedicated Manor Royal wardens will be able to create an improved feel to the area.
- 3.15 Due to the desire by many people to drive, the introduction of a park and ride scheme has been previously explored, however for a number of reasons this has not been deemed to be practical. The additional journey time that would be required would act as a deterrent and therefore uptake is likely to be low, without significant restrictions or charges for parking at Manor Royal (90% of people who drive said that the speed of their journey in comparison with other options is a reason for choosing it). A park and ride scheme would also need enhanced bus services and land for peripheral parking, which is viewed as poor value for money in view of the focus on a few peak hours each weekday.
- 3.16 Without significant restrictions on parking space or introducing parking charges at Manor Royal, uptake would be very low. In addition, the large geographic spread of workforce would mean that one location would not be attractive to everyone and multiple sites would increase costs significantly. With the excellent public transport links on offer as well as large population within walking and cycling catchments, investment in these should be prioritised before investigating park and ride.

- 3.17 Similarly, the provision of additional parking within the Manor Royal area, through the introduction of multi-storey car park or similar, has been raised by stakeholders as a potential solution. Although providing additional parking would increase supply and therefore alleviate some of the parking pressures currently experienced, it is likely to encourage additional people to drive and would therefore add significantly to the congestion experienced at peak times, which is the most pressing concern for businesses. It is therefore considered to undermine the other measures identified and subsequently is not recommended. Focusing efforts on encouraging sustainable modes will help to provide a long term sustainable mode split for both existing and new businesses and staff.
- 3.18 In summary there needs to be a more formal and consistent approach to parking across Manor Royal. Therefore the measures in Table 3.1 are recommended.

Table 3.1: Recommended Parking Measures

Ref	Measure	Approx. Cost	Priority
A1	Conversion of some existing on-street parking (e.g. 10x30m stretches) and new bays created within key areas on verge parking (Rutherford Way - 2x24m) into car sharing bays	£180k	H
A2	Manor Royal area wide review of Traffic Regulation Orders and recommendations for alterations/an area wide Traffic Regulation Order, including on-street parking surveys	£50k	H
A3	Key junction restrictions	£TBC after TRO review	H
A4	Manor Royal Warden to provide greater enforcement of parking restrictions	£80k pa per 1.5 FTE	H
A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
A6	Guaranteed ride home for car sharing	£1k pa	H
A7	Encourage businesses to create dedicated car sharing bays at front of own car parks and enforce themselves and similarly dedicated visitor spaces	£2k pa	H

Easing Congestion

- 3.19 After the condition of roads, highway congestion was the noted as the biggest issue in the BID mid-term survey by 67% of respondents. Two key contributing factors result in the issue of high levels of congestion, the high mode share of people travelling by car to work (75% of which only about 10% are passengers.) and the fact that 80% of employees surveyed work standard office hours i.e. 0900-1700/1730 and therefore are travelling at similar times. This makes for quite large peaks on the network, particularly as these coincide with background traffic peaks too.
- 3.20 In order to address congestion it is therefore important to influence both the mode people use to travel and also the time at which they travel. This Action Plan therefore recommends working with businesses to reflect on their working hours and the impact that these have on the environment. This could be by encouraging more flexible working in terms of hours but also potentially in some cases, where possible encouraging working from home. Giving staff additional flexibility would help to spread the peak, but also could help improve enjoyment for staff and make Manor Royal attractive to new staff (the best talent). Additional measures to create mode shift include the provision of improved information, improved provision for and promoting car sharing and wider infrastructure improvements.

- 3.21 Although reducing overall highway demand at any one time will reduce congestion, there are some key locations where both buses and general traffic could benefit from junction improvements. These include the junction of Manor Royal / Gatwick Road which experienced high demand because of providing access towards the M23. At peak times traffic queues on Manor Royal are long enough to block the junction to past Faraday Road which therefore impacts journey reliability for bus route 10. It is therefore suggested that this junction is fully signalised, which would need to be considered first through traffic modelling. As part of this signalisation, full pedestrian phases should be provided, in addition to advanced stop lines for cyclists.
- 3.22 In order to understand how capacity can be improved further at the junctions identified as part of S106 works, it is recommended that comprehensive future year runs, (with background traffic growth plus additional Manor Royal growth) are undertaken in the WSCC Saturn model. The County Oak / London Road junction would also benefit from a review of signal timings, to enable potentially greater capacity out of County Oak during the PM peak. This should be reviewed within the modelling.
- 3.23 At present, vehicles using Metcalf Way within the County Oak area (zone 1) often experience delay because of the quantity of parking on both sides of the road which blocks traffic being able to pass in both directions. It is therefore suggested that a one-way operation is introduced, to help reduce the potential for conflict. This will assist businesses in being able to access their premises, particularly with larger vehicles. Although the distance travelled will be greater, using County Oak Way before turning into Metcalf Way at the western end, the reduction in congestion will help to offset this. A technical note setting out the advantages and risks is included in **Appendix B**.
- 3.24 This package of measures which focuses on highway congestion provides an Action Plan for influencing mode shift to help address this congestion. The mode shift is not possible through isolated packages, as car sharing is important to encourage, as discussed, but so too is influencing the time at which people travel.
- 3.25 With all these capacity highway capacity increasing and demand reducing measures there is a need to provide a careful balance to ensure they do not then encourage more to drive or reduce the incentive to switch to sustainable modes.
- 3.26 In addition, smart technologies (e.g. SCOOT) could be used to facilitate greater bus priority.
- 3.27 Table 3.2 summarises the recommended congestion-reducing measures.

Table 3.2: Recommended Congestion-reducing Measures

Ref	Measure	Approx. Cost	Priority
A8	Encourage businesses to work more flexible hours/working from home to spread peak hour demand	£5k	H
A9	Junction improvements at Manor Royal/Gatwick Road to improve capacity	£500k	M
A10	Undertake model runs at each major junction to understand if signal timings could be improved particularly for PM peak hour including County Oak/London Road	tbc	M
A11	Introduction of one-way working on Metcalf Way	£25-30k	M

Public Transport Infrastructure

- 3.28 Manor Royal has very good bus services linking the area to other residential areas across Sussex and Surrey as well as links to Crawley, Three Bridges and Gatwick Airport stations. These stations provide access to a range of services (Southern and Thameslink) linking northwards directly to London and Bedford, south to Horsham, Brighton, Portsmouth and Southampton and west to Reading. As mentioned these services are to be improved even further by Metrobus, Network Rail and the rail operators over the next 48 months. However, at present usage of these services by those working within Manor Royal is lower than it could be for a number of reasons.
- 3.29 Firstly, recent issues with regard to strikes and service cancellations on Southern routes have put some people off travelling by rail, both existing users and potential future users. These issues have been mentioned in stakeholder workshops and specifically within the employee surveys. This is a relatively short term issue however and the wider strategy for Manor Royal should note this current issue, but focus on the future state when the full suite of service upgrades have come into action following the completion of the rebuilding of London Bridge in 2018.
- 3.30 Secondly, the issue regarding the cost of transport services, both of the services themselves and their comparison to the cost of car use, has also been noted as a barrier. Due to the current fare structure, those using train services and then travelling onto Manor Royal by bus (a relatively short distance) feel that they are paying a disproportionately high fare for the bus in addition to their rail ticket. Although PLUSBUS is available enabling people to buy a reduced fare when buying a rail ticket, if bus travel is required at either end of the rail journey, two PLUSBUS tickets are required. The cost and lack of integrated ticketing was mentioned explicitly by a large number of people as a barrier both within the survey and stakeholder workshops. Providing either a reduced or free PLUSBUS or easit ticket for travel to / from Manor Royal to stations would help to encourage a number of additional people to commute by rail. The ticket could be restricted to the Manor Royal area only to help minimise the cost.
- 3.31 Reducing the perceived and actual difference in journey times by car and public transport is also a priority in helping to encourage mode shift. Improving journey time reliability for public transport is one aspect that will assist in delivering this. Metrobus have identified key locations where infrastructure does not adequately support their bus services, which has also been mirrored in many cases amongst the stakeholder workshops and survey results. This includes a lack of dedicated bus lane facilities on Manor Royal (eastbound) which results in buses being delayed by general traffic congestion, particularly in the PM peak on the route 10. It is therefore suggested an eastbound bus lane is installed along its length from London Road to Gatwick Road. This links to and is supported by the signalisation of Manor Royal / Gatwick Road junction. In addition, Metrobus have identified the need for a westbound bus lane on Fleming Way between Faraday Road and London Road to reduce PM peak westbound congestion affecting bus journey times. This should be investigated further through traffic modelling to inform the most suitable design layout. The cost will vary according to the design chosen.
- 3.32 The interchanges at Three Bridges and Gatwick Airport stations also currently act as disincentives to using combined rail and bus transport. This is exacerbated at Three Bridges for a number of reasons.

- 3.33 Gatwick has a higher frequency of bus services with a range of direct routes to Manor Royal and therefore waiting time is on average much shorter than at Three Bridges. Although at present the interchange between rail and bus is not obvious and quite convoluted, this is planned to be significantly improved in 2017, with the installation of step free access to the southbound bus stops, which will simplify the route and reduce the distance.
- 3.34 Three Bridges station serves Manor Royal with three bus routes, however two of these are via Crawley Town Centre but these have long journey times and are therefore unattractive. Only one serves Manor Royal via a direct route and has a 20-minute frequency. Furthermore, the route to/from bus stops is not intuitive and lengthy. In addition, the route along Hazelwick Avenue is often heavily congested causing poor journey time reliability for the direct bus service. Although Gatwick may therefore present a good alternative (especially post improvements), because 70% of all current Manor Royal employees live within 800m of a station travel from the south, this would mean travelling through Three Bridge station to Gatwick and then travelling south again on the bus. As well as being counter intuitive, in many cases this is more expensive in terms of rail fares. The poor interchange and low bus service frequency has been raised throughout workshops and surveys as a key barrier to those travelling from the south using rail services.
- 3.35 At present 26% of current employees surveyed live within 800m of a station that provides a direct link to Gatwick Airport or Three Bridges stations however only approximately 7% use rail services to commute to Manor Royal. By improving the interchange, and bus, walking and cycling facilities from the station it could help to encourage a number of staff and visitors to use rail services, thereby reducing the need for parking as well as reducing peak time highway congestion. We therefore recommend that in addition to undertaking bus priority improvements on Hazelwick Avenue and the interchange at the station itself (through a public realm scheme that incorporates buses within the station forecourt), bus service frequency should also be increased between Three Bridges and Manor Royal.
- 3.36 At present some of the businesses located on Manor Royal provide their own shuttle buses. They could potentially be encouraged to divert funding and support towards initial subsidy of an uplifted public transport service, as is happening at the Slough Trading Estate. However, it is likely to only be worth the investment if the bus priority and interchange improvements could be undertaken first.
- 3.37 Improving the journey time and reliability of public transport services, as well as perceived and in some cases actual cost differential may not be sufficient to make people change, moving away from the car, especially with recent negative press on Southern services. Therefore in order to maximise the investment in infrastructure and services, it is important to provide significant marketing of the improvements too alongside improved information. As part of this a campaign to highlight what else they could be doing whilst travelling by public transport as well as the health benefits, could help to encourage more people to make the switch, even if only on one or two days a week.
- 3.38 Providing a high quality experience on public transport is important to help reduce the perceived gap in terms of experience between car and public transport. Providing bus shelters at all bus stops is important as part of this, but also ensuring that accurate real time information is included so that people can wait in relative comfort and make informed decisions about any route choice or alternative measures in times of disruption. Providing route information at bus stops will assist with increasing knowledge of the services too. Not knowing which bus to catch or how long people may need to wait is a key barrier to people

switching from using the car (as mentioned by 24% of car drivers) so it is important to include within bus infrastructure. Specific locations with requirements for bus shelters and real time information include the following, in order of priority: Gatwick Road South (northbound) – especially with new development, County Oak (eastbound), Napier Way (j/w Gatwick Road) and Gatwick Manor on A23 (both directions).

- 3.39 The cost of public transport has been mentioned within the workshops and surveys as a key deterrent to using the services, particularly for the short bus journey between Gatwick Airport and Manor Royal. It is therefore suggested that a PLUSBUS or similar zone is created for Manor Royal to travel to / from the station for those people travelling by train to ensure that it is significantly cheaper than the current Crawley PLUSBUS ticket.
- 3.40 A summary of the measures suggested is presented in Table 3.3 with more detail available in section 4, but these should be considered in conjunction with other measures, particularly information and marketing to maximise the benefit.

Table 3.3: Recommended Public Transport Improvements

Ref	Measure	Approx. Cost	Priority
A12a	Provision of eastbound bus lane on Manor Royal (between London Road and Gatwick Road)	£3.5m	H
A12b	Investigation and traffic modelling of westbound bus lane on Fleming Way (between Faraday Road and London Road)	Tbc	H
A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
A13	Three Bridges Interchange scheme – public realm improvements and enabling buses to stop on station forecourt including Hazelwick Avenue improvements	£2m-£3m	H
A14	Shelters and real time information at five remaining bus stops in Manor Royal Gatwick Road South (northbound), County Oak (eastbound), Napier Way (j/w Gatwick Road) and Gatwick Manor on A23 (both directions)	£90k	M
A15	Bus priority to be provided at all signals without existing technology. In most locations signal upgrades as part of wider junction improvements. Further investigation as to costs for remaining junctions.	WSCC to confirm	M
A16	Real time information at all bus stops on Manor Royal and ideally within wider Metrobus area	tbc	H
A17	Additional services / diverted services to Three Bridges station (once interchange has been improved) for 5 years	£2m	H
A18	Creation of new Manor Royal PLUSBUS zone to make it free/very low cost	tbc	H

Note: in order to maximise the benefit of these investments, some need to be delivered in combination (i.e. Three Bridges station interchange and Hazelwick Avenue improvements prior to any uplift in bus service frequency to three bridges) ensure that these are delivered alongside behaviour change campaign and 'launch' of any major improvements.

Walking and Cycling Infrastructure

- 3.41 As demonstrated by the 'grey audit' previously undertaken which reviewed the condition of Manor Royal streets including pavements and cycling infrastructure, as well as by additional site observations and stakeholder workshops and survey results, the walking and cycling infrastructure within Manor Royal is both inconsistent and of poor quality in many places. The area feels vehicle dominated for a number of reasons (due to ad hoc and verge parking and

poor walking and cycling facilities) and this has resulted in a lower mode share of walking and cycling than could be achieved considering the very large current working population that lives within the local area.

- 3.42 17% of current Manor Royal employees live within a 15 minute walk and 50% within a 30 minute cycle of Manor Royal. Current mode share of those that walk to work is 4-6% and for cycling is approximately 3% respectively. There is therefore a huge potential for people to be able to shift their current pattern. The surrounding terrain is broadly flat, however some locations act as key barriers to people entering / exiting Manor Royal, such as London Road and Gatwick Road, as well as navigating through the business district.
- 3.43 The feeling of vehicle dominance within Manor Royal is increased by the lack of pedestrian crossings across the area. At many of the key junctions there are no dedicated pedestrian crossings and therefore pedestrians are either discouraged from walking or they find it unpleasant, experiencing significant delays or taking risks, both of which reduce the chance of mode shift. Providing dedicated pedestrian phases at every junction is essential to improve pedestrian accessibility, although to minimise the costs of such, design and works should be incorporated into wider junction improvements where appropriate, alongside works required as part of new development, where applicable e.g. S106 mitigation works. The suggested crossings would need to first be considered through a modelling exercise.
- 3.44 In addition to providing crossings at key junctions, it is important to enable access more generally and particularly to improve access to public transport services. Additional crossings have been identified to help improve this, making each experience as good as possible to encourage people to walk and/or use public transport again. Furthermore ensuring that consistent accessibility across the area is really important to ensure that all users can travel around by their chosen mode. Therefore providing dropped kerbs and associated tactile paving across the whole of the business district (where not already present) is also recommended. Alternatively, and better still, providing raised entrances at each crossover and junction – to allow pedestrian access to continue at one level would help to reduce the feel of vehicle dominance, instead increasing pedestrian priority. Both approaches will help to address the complaints received by the BID regarding wheelchair user access across the area.
- 3.45 Ideally a consistent surfacing type of all footways and shared cycle paths would be provided across the business district to improve the consistency as well as improving the look and feel of the area. As there are some privately owned roads and associated footways, this is unlikely to be achievable. Instead however, it is recommended that a materials palette is agreed (i.e. blacktop for footways with green resin for cycle lanes, building on the 2013 Manor Royal Design Guide) and whenever works are undertaken either as maintenance or through delivery of S278 or S106 works, everything is delivered in a consistent format. This will help to address the fact that within the BID mid-term survey 57% of respondents commented that the condition of footpaths and similarly the condition of the street scene needs improving.
- 3.46 Cycling infrastructure is also inconsistent and this, along with other factors has resulted itself into a low cycling mode share of approximately 3% despite 50% of current Manor Royal employees (according to those surveyed) being within a 30 minute cycle. It is therefore suggested that a package of measures are provided to address the barriers to people cycling both in terms of physical infrastructure and cycle training, information and other supporting measures.

- 3.47 In terms of infrastructure, the following are suggested to help address specific concerns and improve the perception of safety:
- provide advanced stop lines at junctions to enable correct positioning;
 - improved signage and refreshing of cycle lane markings on routes to / from Gatwick Airport station and Horley;
 - improved signage and refreshing of cycle lane markings to Three Bridges station and across the Manor Royal business district; and
 - upgrades to the London Road / Manor Royal junction to provide safe access for cyclists to the large residential area to the west of Manor Royal.
- 3.48 These improvements will complement the existing signed ‘quiet’ routes on residential roads to the south and east.
- 3.49 In addition, according to those who responded to the employer survey a third of businesses do not provide cycle parking facilities. This is essential in promoting cycling and reducing car use and should be located in a visible prominent location in order to advertise cycling facilities and make it easy and convenient for those using the facilities. Providing a grant to businesses to provide or improve areas could help to encourage uptake of cycling.
- 3.50 According to the employee survey, 36% of people who currently drive consider that them not owning a bicycle is a barrier to changing their commuting mode. Therefore, providing a set of pool bicycles that employees could use temporarily to try out their commute could help to encourage people to try cycling to see if it might work for them. These bicycles could also be made available during the day to undertake business related travel. Easit and WSCC both have schemes available to businesses, however uptake has not been significant and therefore by either providing greater promotion or a Manor Royal specific scheme could have greater benefit by increasing awareness of opportunities. Support could then be provided to them to obtain tax free bicycles as part of cycle to work schemes, administered through businesses and therefore at minimal cost to the build other than the marketing of such schemes to managers.
- 3.51 50% of current car drivers wouldn’t consider changing their mode to bicycle as they don’t feel confident riding on roads to / from Manor Royal, so in addition to the infrastructure improvements, providing cycle training, route planning and a cycle route buddying scheme will all help to address this perception.
- 3.52 Similarly to pool bicycles, providing a provision of pool cars could help support the small proportion of existing car drivers that need to use their car for work change their commute to non-car modes whilst still being able to undertake their work. According to the employee survey only 9% of people need to use their car on a daily basis, whereas 21% only need to use their car occasionally. These could therefore benefit from a pool car and/or bicycle system where they could book and use cars/bicycles on an ad hoc basis. The Access Fund for Sustainable Travel bid which is currently under consideration by the Department for Transport includes a bid to support a car club (as well as Travel Plan officer for Manor Royal).
- 3.53 Where works are being undertaken to provide higher quality, continuous priority cycle routes and improvements to these facilities, could be combined in some cases to improve pedestrian accessibility at the same time. Works should be coordinated.
- 3.54 The recommended walking and cycling improvements are set out in Table 3.4.

Table 3.4: Recommended Walking and Cycling Improvements

Ref	Measure	Approx. Cost	Priority
A19a	Provide dropped kerbs / tactile paving at every junction, crossing and crossover (site entrance) to ensure accessibility and consistency across the business district (circa 80 locations)	£350k	H (not needed with 19b)
A19b	Raised treatment at each junction and crossover to provide increased feel of pedestrian dominance (circa 170 locations at cost of £25k per junction and 125 crossover locations at £10k per crossover)	£5.5m	M (not needed with 19a)
A20	Provide additional pedestrian crossings to improve pedestrian priority at junctions (6) reduce walking distances and increase access to bus stops (3)	£2.8m	H
A21	Advanced stop lines at junctions – exact cost will depend on other planned junction improvements and whether modelling is being undertaken already	£100-500k	H
A22	Allowance for cycling infrastructure refresh (resign/signage across Manor Royal)	£200k	H
A23	Cycle route improvements particularly at Manor Royal / London Road junction	£200k	H
A24	Improved signage / wayfinding (including painted bicycle markings) on route to Gatwick Airport and Horley, surface improvements and access to Gatwick Station	£50k	M
A25	Marked cycle route to Three Bridges station via Pond Wood Road, The Birches, Mill Road and Hazelwick Road joining to Hazelwick Avenue. Ensuring toucan crossings are incorporated into Three Bridges Scheme.	£25k	H
A26	Cycle confidence training - 25-50 1:1 sessions per year	£2-5k pa	H
A27	Cycle security and Safety Events (2 per year)	£400-£1k pa	H
A28	Cycle maintenance service (Dr Bike) – 5 sessions per year for 25-30 cycles	£2k	H
A29	Cycle Parking grant for businesses to install cycle parking on their premises (depends on uptake – 10 space cycle shelter = £1.5-2K)	£1-10k	M
A30	Cycle Loan Scheme (fleet of 10 hybrid bikes) [This could also be supplemented with a Car Club Scheme at additional cost]	£5k	M
A31	Development of agreed 'materials palette' for the Manor Royal district to ensure all future works all contribute towards the same vision (cost for creation of document to be shared with developers / engineers) building on work done within the 2013 Manor Royal design guide	£2k	M
A32	Encourage employers to implement Cycle to Work Salary Sacrifice Schemes – no cost assumed as the marketing of schemes to employers can occur alongside other marketing efforts.	£0k	M

Note: providing sufficient information and marketing material is critical to ensuring the benefits of these measures are maximised.

Information and Marketing

- 3.55 With the number of current Manor Royal employees living within walking or cycling distance or within a short distance of public transport routes there is a good potential for mode shift from commuting by car. However, at present it is clear that the information currently available is not provided in such a way that it is easily acknowledged by Manor Royal staff.

- 3.56 easitCRAWLEY provides a range of information on their website as well as discounts and offers for public transport fares as well as bicycles and low emission vehicles. Although easit membership is available to all businesses and subsequently staff within the MRBD, as reported within the employer and employee survey not everyone was aware of the easitCRAWLEY scheme (65% were aware) and less (33%) were actively using the easit card (£4 per annum) which entitles people to the benefits mentioned. Increasing the marketing of this scheme will help to increase awareness and usage of services.
- 3.57 In addition, the survey highlighted a lack of awareness of walking / cycling distances and public transport services which has posed a barrier to people considering alternative modes. 33% of people who currently drive said that not knowing where bus services go or how long they may need to wait is a barrier to them not considering to use the bus.
- 3.58 Although there is a huge range of information available regarding bus and rail information as well as cycling maps and car sharing schemes, this is not currently in a single location to provide both seamless public transport journeys or enabling all potential options to be easily compared either for regular journeys or on an ad-hoc or real-time basis. It has therefore become easier for many people to simply 'jump in their car' than to carefully consider other options available to them.
- 3.59 As each person has a different combination of factors that influence their decisions (cost, time, ease, fitness, linked journeys e.g. childcare, impact on environment etc.) it is important that this information can be provided that helps them to clearly assess the benefits of each and is sufficiently personalised to ensure it is applicable to them. Understanding what the different factors are is a key element of being able to provide people with relevant bespoke information. This can be achieved through personalised travel planning, with trained travel plan ambassadors working with employees on an individual basis encouraging them to try one or more alternative options through the provision of applicable information, resources (e.g. pool bicycles) and in some cases money-off vouchers.
- 3.60 With advances in technology, people expect information to be available more easily in advance as well as in real-time. Although the existing provision of this information is available (e.g. rail timetables and ticket prices, walking distances and travel times between locations), it is important that it is brought together in one place to enable informed comparisons and decision making. A combined information portal could also help to deliver a seamless journey by providing ticket purchasing where applicable.
- 3.61 Although technology is very useful, it is important to ensure that information is available for everyone, including existing and future staff, visitors, customers and future businesses. It is therefore important that in addition to technological solutions via apps, business intranets, external facing websites and interactive information boards, information (albeit not real time) can be provided in more traditional paper formats. This could be useful for those without smartphones and new starters along with other relevant information and potentially free or subsidised bus tickets for example. As an example, walking maps centred on each business with walking distances could help to show how quickly places could be reached by foot.
- 3.62 Having regular events and campaigns to re-engage with current staff is important to maintain knowledge of the different information sources as well as services, particularly as new services or infrastructure are introduced to maximise the benefit of such investment. These can also act as a conduit for information to be provided back to operators, local authorities and Manor Royal Business District to enable early identification of any issues or barriers.

- 3.63 For some people, providing information alone (even if personalised) is not enough to encourage them to make a change. An example of this is that 50% of current car drivers feel that being too scared of cycling to/from Manor Royal is stopping them from swapping from car to bicycle which equates to 34% of all Manor Royal employees. In this case providing a buddying scheme where other staff act as champions and show them a safe route to cycle to/from their home could build their confidence sufficiently to be able to cycle alone. This could also be combined with cycle safety training.
- 3.64 In addition, providing a buddy system to use public transport is also likely to be very valuable. This will show people how to undertake a full bus / rail journey including planning the journey and buying a ticket to show every aspect of the journey to help build their confidence to be able to do so alone. Both buddying schemes could be strongly supported by a bespoke information technology system that both ‘matches’ buddies but also provides real time personalised journey information.
- 3.65 At present 34% of car drivers wouldn’t consider car sharing as they wouldn’t know who to share with. It is therefore very important to provide them with an easy mechanism to ‘match up’ with suitable people This is recommended through the intelligent mobility information portal. Providing incentives too such as earning points to spend at local businesses or prize draws can help to encourage people to take up car sharing without needing to transfer money.
- 3.66 The recommended information and marketing measures are shown in Table 3.5.

Table 3.5: Recommended Information and Marketing Measures

Ref	Measure	Approx. Cost	Priority
A33	New starter travel information packs – a full suite of relevant information including identifying where real-time and journey planning information can be found online. Potentially to include travel vouchers / incentives to encourage trialling services. (Cost of vouchers excluded).	£2-3k pa	H
A34	Business centred walking maps – identifying where can be reached within 15/ 30 minute walking at average speed	£2-5k pa	M
A35	Email alerts to provide real time information such as highway congestion to encourage spreading of demand	£1-2k pa	M
A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
A36	Transport Information Boards providing live information, potentially journey planning information and static directional signage. For use by those travelling in vehicles and by pedestrians (10 signs)	£50k	L
A37	Transport Roadshows – providing information about key services, launching any new infrastructure or services.	£500/show	M
A38	Personalised travel planning for Manor Royal employees	£250k	H

Summary of measures and quick wins

- 3.67 To gain the greatest benefit from the investment, a combination of infrastructure improvements as well as services, information and marketing information are required. Some measures should be investigated as a package in order to ensure that they are considered in an holistic manner and implemented as such. This is particularly important for parking related measures (A1, A2, A3, A4, A6 and A7) to ensure that they are not implemented in a piecemeal manner.

3.68 Table 3.6 summarises the measures and gives them High, Medium, Low priority with all those marked as high priority being those most immediately recommended. The priority of some of these will change if some of them are not funded (i.e. there will not be as much benefit from uplifting bus services to Three Bridges station if the interchange (public realm) is not improved. Of these there are a number of measures which could be delivered as “quick wins”, and these are shown where the priority is labelled in bold.

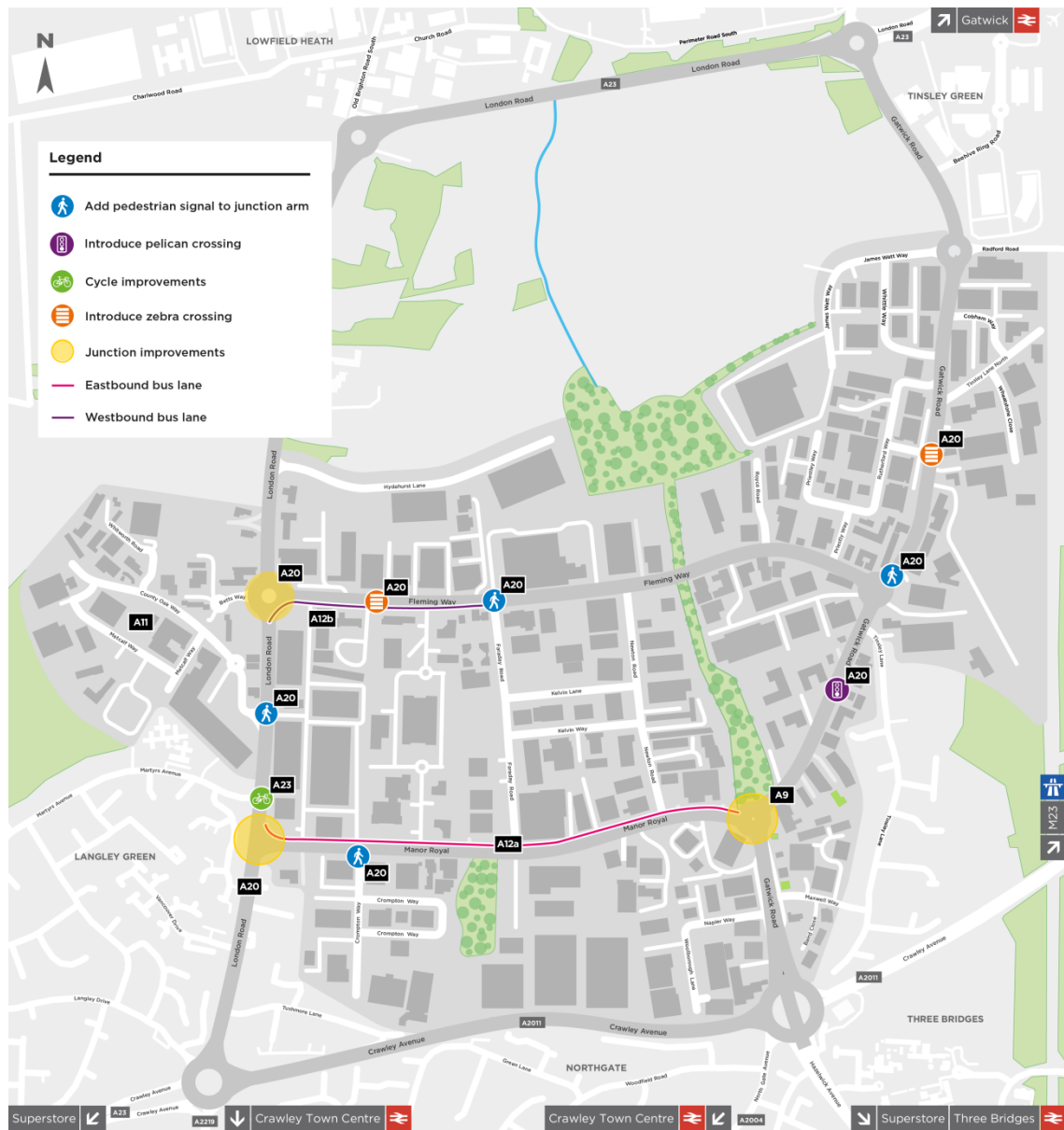
Table 3.6: Summary of measures

Theme	Ref	Measure	Approx. Cost	Priority
Parking	A1	Conversion of some existing on-street parking (e.g. 10x30m stretches) and new bays created within key areas on verge parking (Rutherford Way - 2x24m) into car sharing bays	£180k	H
	A2	Manor Royal area wide review of Traffic Regulation Orders and recommendations for alterations/an area wide Traffic Regulation Order including on-street parking surveys	£50k	H
	A3	Key junction restrictions	£TBC after TRO review	H
	A4	Manor Royal Warden to provide greater enforcement of parking restrictions	£80k pa per 1.5 FTE	H
	A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
	A6	Guaranteed ride home for car sharing	£1k pa	H
	A7	Encourage businesses to create dedicated car sharing bays at front of own car parks and enforce themselves and similarly dedicated visitor spaces	£2k pa	H
Congestion	A8	Encourage businesses to work more flexible hours/working from home to spread peak hour demand	£5k	H
	A9	Junction improvements at Manor Royal / Gatwick Road junction to reduce congestion on Manor Royal, including full signalisation	£600k	M
	A10	Undertake model runs at each major junctions to understand if signal timings could be improved particularly for PM peak hour including County Oak/London Road	tbc	M
	A11	Introduction of one-way working on Metcalf Way	£25-30k	M
Public Transport Infrastructure	A12a	Provision of eastbound bus lane on Manor Royal (between London Road and Gatwick Road) (High priority London Road to Faraday Road, lower priority between Faraday Road and Gatwick Road)	£3.5m	H
	A12b	Investigation and traffic modelling of westbound bus lane on Fleming Way (between Faraday Road and London Road)	Tbc	H
	A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
	A13	Three Bridges Interchange scheme – public realm improvements and enabling buses to stop on station forecourt including Hazelwick Avenue improvements	£2m-£3m	H

Theme	Ref	Measure	Approx. Cost	Priority
Walking & Cycling	A14	Shelters and real time information at five remaining bus stops in Manor Royal Gatwick Road South (northbound), County Oak (eastbound), Napier Way (j/w Gatwick Road) and Gatwick Manor on A23 (both directions)	£90k	M
	A15	Bus priority to be provided at all signals without existing technology. In most locations signal upgrades as part of wider junction improvements. Further investigation as to costs for remaining junctions.	WSCC to confirm	M
	A16	Real time information at all bus stops on Manor Royal and ideally within wider Metrobus area	tbc	H
	A17	Additional services / diverted services to Three Bridges station (once interchange has been improved) for 5 years	£2m	H
	A18	Subsidised Manor Royal PLUSBUS ticket for rail and bus users to travel to/from station only	tbc	H
	A19a	Provide dropped kerbs / tactile paving at every junction, crossing and crossover (site entrance) to ensure accessibility and consistency across the business district (circa 80 locations)	£350k	H (not needed with 19b)
	A19b	Raised treatment at each junction and crossover to provide increased feel of pedestrian dominance (circa 170 locations at cost of £25k per junction and 125 crossover locations at £10k per crossover)	£5.5m	M (not needed with 19a)
	A20	Provide additional pedestrian crossings to improve pedestrian priority at junctions (7) reduce walking distances and increase access to bus stops (3)	£2.8m	H
	A21	Advanced stop lines at junctions – exact cost will depend on other planned junction improvements and whether modelling is being undertaken already	£100-500k	H
	A22	Allowance for cycling infrastructure refresh (resin/signage across Manor Royal)	£200k	H
	A23	Cycle route improvements particularly at Manor Royal / London Road junction	£200k	H
	A24	Improved signage / wayfinding (including painted bicycle markings) on route to Gatwick Airport and Horley, surface improvements and access to Gatwick Station	£50k	M
	A25	Marked cycle route to Three Bridges station via Pond Wood Road, The Birches, Mill Road and Hazelwick Road joining to Hazelwick Avenue. Ensuring toucan crossings are incorporated into Three Bridges Scheme.	£25k	H
	A26	Cycle confidence training – 25-50 1:1 sessions per year	£2-5k pa	H
	A27	Cycle security and Safety Events (2 per year)	£400-£1k / annum	H
	A28	Cycle maintenance service (Dr Bike) – 5 sessions per year for 25-30 cycles	£-2k pa	H
	A29	Cycle Parking grant for businesses to install cycle parking on their premises (depends on uptake – 10 space cycle shelter = £1.5-2K)	£1-10k pa	H
	A30	Cycle Loan Scheme (fleet of 10 hybrid bikes)	£5k	M

Theme	Ref	Measure	Approx. Cost	Priority
Information and Marketing	A31	Development of agreed 'materials palette' for the Manor Royal district to ensure all future works all contribute towards the same vision (cost for creation of document to be shared with developers / engineers) building on work done within 2013 Manor Royal design guide	£2k	H
	A32	Encourage employers to implement Cycle to Work Salary Sacrifice Schemes – no cost assumed as the marketing of schemes to employers can occur alongside other marketing efforts.	£0k	M
	A33	New starter travel information packs – a full suite of relevant information including identifying where real-time and journey planning information can be found online. Potentially to include travel vouchers / incentives to encourage trialling services. (Cost of vouchers excluded).	£2-3k pa	H
	A34	Business centred walking maps – identifying where can be reached within 15/ 30 minute walking at average speed	£2-5k pa	M
	A35	Email alerts to provide real time information such as highway congestion to encourage spreading of demand	£1-2k pa	M
	A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
	A36	Transport Information Boards providing live information, potentially journey planning information and static directional signage. For use by those travelling in vehicles and by pedestrians.	£50k (10 signs)	L
	A37	Transport Roadshows – providing information about key services, launching any new infrastructure or services.	£500/show	M
	A38	Personalised travel planning with Manor Royal employees	£250k	H

Figure 3.1: Plan of location specific infrastructure schemes (excluding area-wide measures)



4 Actions – Detailed evidence & risks

4.1 The following section details the actions identified, building on the evidence gathered throughout this study. Additional detail is provided for each of the actions summarised in Table 3.6. It should be noted that potential Delivery Partners have been suggested for each scheme as organisations that will be integral to successfully deliver the schemes, which may be through partnership with other organisations. They will not necessarily be the funding organisation, but as each scheme is investigated further the potential funding sources and other delivery partners will be explored.

Table 4.1: Car Sharing Bays Creation

A1	Car Sharing Bays
Indicative Cost: £180k	Priority: H
Benefits:	<p>Converting some on-street parking to car sharing bays will assist in encouraging more people to car share to commute to work. These could be supplemented by additional bays created formally in locations where verges are currently parked on.</p> <p>Costs are from converting say 10 x 30m stretches into marked car sharing bays and the conversion of 2 x 24m lengths of verge into formal car parking spaces.</p>
Evidence:	Current mode share by car is high (circa 75%), but the survey results have shown that people are willing to try car sharing if they knew who to share with.
Risks:	The wardens are unable to ‘police’ them sufficiently and they become abused.
Impact of not Implementing:	Car sharing does not become visible and verge parking continues to reduce the quality of the appearance of the business district.
Implementation Timescale & Interdependencies:	It is suggested that this is undertaken following the TRO review so that the TRO’s can be put in place at the same time. It could be implemented in circa 6 months.
Delivery Partner(s):	West Sussex County Council

Table 4.2: Reviewing on-street parking provision and junction protection

A2 and A3	On-street parking provision and junction protection	
Indicative Cost: £50k		Priority: H
Benefits:	<p>The roads around Manor Royal are often at capacity, particularly within zone 5, closest to Gatwick Airport. By understanding the current restrictions in more detail, a consistent area wide approach will be able to be taken to provide consistent restrictions.</p> <p>By creating a more consistent zonal approach with restrictions to long stay parking, in conjunction with adequate enforcement it should help to remove some of the long stay parking pressure from Manor Royal which will free up some capacity for staff and business visitors, particularly those that are car sharing.</p> <p>Once reviewed, junction protection will be able to be identified and become part of the overarching TRO policy.</p> <p>Cost includes on-street parking audit</p>	
Evidence:	The current streets are highly congested with parking, often parking on footways as well as blocking junctions, which inhibits larger vehicles from being able to travel around Manor Royal at some times.	
Risks:	Creating a consistent area wide approach for Manor Royal could push airport related parking further afield, potentially into residential areas.	
Impact of not Implementing:	Concern regarding airport parking will increase and cause increasing concern amongst businesses. Dangerous parking on junctions will continue which may cause some businesses to want to relocate if they cannot operate effectively.	
Implementation Timescale & Interdependencies:	This could be undertaken within 2-3 months. Any new measures should go hand in hand with increased enforcement by parking wardens.	
Delivery Partner(s):	West Sussex County Council / Manor Royal BD	

Table 4.3: Manor Royal Wardens

A4	Manor Royal Wardens	
Indicative Cost: £80,000 pa per 1.5 FTE		Priority: M
Benefit:	<p>One/two dedicated wardens working across the MRBD who would be responsible for:</p> <ul style="list-style-type: none"> reporting environmental issues to Crawley Borough council or West Sussex County Council, such as overgrown bushes, road or paving repairs, street lighting replacement, fly-tipping etc. patrolling areas where on-street parking is not allowed and issuing penalty charge notices to illegally parked vehicles. Managing shared car parking spaces / car share parking spaces 	
Risks:	Recruiting suitably qualified personnel to undertake the role, as well as introduction of a robust management regime to manage staff rotas and tasks.	
Impact of not implementing:	Insufficient resources to manage environmental and parking issues on the ground that impact upon the uptake of non-solo car use	
Implementation Timescale & Interdependencies:	12-18 months. Time will be needed to be dedicated for role definition and recruitment followed by training.	
Delivery Partner:	Manor Royal BD with Crawley Borough Council, West Sussex County Council, Sussex Police (accreditation)	

Table 4.4: Intelligent Mobility Platform

A5 Bespoke Manor Royal branded Intelligent Mobility Platform	
Indicative Cost: £25-100k	Priority: M
Benefit:	<p>An intelligent mobility platform can assist businesses and employees make informed and smart travel choices using live information. Employees would sign-up to the platform (either by desktop or mobile app), with data on their travel behaviours then provided to businesses.</p> <p>Specifically for the user (employee), this platform can be used to hold their tickets for the local public transport services, provide a dynamic mobility planner (assisting with mode choice and routing), and communicate to users about congestion within the local area. The app would have the ability to also plot a user’s route to work alongside their speed to understand the mode that they are using. This can then be associated with an incentive system, rewarding those travelling sustainably.</p> <p>For employers, specific information can be obtained on their employees travel behaviour. With this information, for example, employers may be able to reduce the amount of the car travel to their business and ultimately sell their spare car parking spaces to generate further revenue. This information can also be used to inform public transport bodies (such as MetroBus) to potential new routes if there is demand generated from areas they do not currently serve.</p>
Evidence:	<p>Although these is no direct evidence, greater information provided to employees within the MRBD on their modal choices will further influence the potential modal shift from car dominated travel to more sustainable modes. If the application is capable of providing incentives to employees travelling sustainably then it is likely that the potential modal shift will be realised quicker.</p>
Risks:	<p>The uptake of such a platform is likely to require marketing both from individual businesses and from the Manor Royal BID. This is easily achieved if held in conjunction with some of the actions identified below (Transport Roadshows etc).</p>
Impact of not implementing:	<p>It is unlikely a reduction in car travel will occur without marketing and incentivising those working on Manor Royal to do so. The modal shift is likely to be achieved more rapidly if implementing an intelligent mobility platform. Furthermore, most business parks/districts do not currently offer this type of product, and as such this could act as an unique selling point for Manor Royal.</p>
Implementation Timescale & Interdependencies:	<p>The platform could take up to 6 months to design and build, for an original product to be available for a small initial release. Upon release, the platform would be tested over 3 months to iron out ‘bugs’ and improve the service, a full product would then be released after that.</p>
Delivery Partner:	<p>Local Businesses, in conjunction with transport operators to provide data ***</p>

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

Table 4.5: Car Sharing – Encouraging Businesses to provide bays & Guaranteed Ride Home scheme

A6 & A7	Car Sharing Bays within Businesses and Guaranteed Ride Home	
Indicative Cost: £1k pa for ride home function, cost of bay installation met by businesses	Priority: H	
Benefit:	Car sharing match service aimed at linking up those who live nearby and could share the commute journey to and from Manor Royal. Ideally linked to an emergency ride home feature funded by Manor Royal, whereby those that have shared but need to get home / elsewhere in an emergency can use a local taxi service free of charge.	
Evidence:	The results of the employee survey show that 19% of respondents would be open to the idea of car sharing. Through the promotion of this scheme it is likely that this percentage would increase, as long as those driving were incentivised to ride share.	
Risks:	Resource required to market and enforce. System development resource heavy but not able to be shared out with all easit partners. Low take up if not combined with parking enforcement / reduction measures	
Impact of not implementing:	Poor alternatives to solo car journeys and parking space take up for those that can only drive to work	
Implementation Timescale & Interdependencies:	easit are currently developing their own system that could be rolled out, but this could also be linked to the Intelligent Mobility portal. Dependent on easit and interest of other easitCRAWLEY partners. 6-12 months	
Delivery Partner:	Easit or intelligent mobility provider, local taxi firms, BID business members with off-street car parking ***	

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

Table 4.6: Introduction of Flexible Working

A8	Introduction/Promotion of Flexible Working across the MRBD	
Indicative Cost: £5k promotion Internal Costs - Businesses time (HR Department)	Priority: M	
Benefit:	The introduction of flexible working by businesses would allow employees to spread the main arrival and departure profiles to reduce road congestion. Employees would be able to arrive earlier and leave earlier (or arrive later and leave later) to avoid the peak periods of congestion, thus reducing the number of vehicles on the road at any one time.	
Evidence:	<p>During the PM peak, between 17:00 and 17:30, it was observed that a large number of employees were leaving work for their journey home. The number of cars on the roads increased exponentially, causing long queues across the estate (550 metres along Manor Royal from the Manor Royal/ Gatwick Road roundabout, and 465 metres from the roundabout entrance along Manor Royal and along Newton Road). The queues also extended along Gatwick Road for 1.2 kilometres towards the north at its worst point.</p> <p>The employee survey respondents were asked to provide their working hours. 80% of respondents currently work between 09:00 and 17:00, providing further evidence that the peak travel hours (of 08:00-09:00 in the AM peak, and 17:00-18:00 in the PM peak) are likely to be the busiest for arrivals and departures across the MRBD, without changes to such working hours.</p> <p>West Sussex County Council has commissioned the production of a SATURN model to assess the congestion observed on the highway network along the key roads of the MRBD and the wider area. This evidence is likely to be available in November 2016 and will further assist with the evidence case for implementation.</p>	
Risks:	Employees may be subject to specific shift patterns for business needs, meaning that the ability to promote flexible working is difficult for some job roles.	
Impact of not implementing:	With intensification of the MRBD, the number of vehicles leaving at peak times is likely to increase. This increase, without promotion of flexible working, will increase the amount of congestion across the estate.	
Implementation Timescale & Interdependencies:	The introduction of flexible working could begin immediately with the correct marketing and promotion through the Manor Royal BID. The uptake is dependent on the specific employers' ability to enable employees to use such a system.	
Delivery Partner:	Manor Royal BD Members	

Table 4.7: Junction Improvements at Manor Royal / Gatwick Road junction

A9	Gatwick Road / Manor Royal Roundabout	
Indicative Cost: £500k	Priority: M	
Benefits:	<p>Introduction of signals at a key roundabout (Gatwick Road/Manor Royal) would assist with alleviating the queuing observed in the PM peak. Currently a low but constant number of vehicles approaching this roundabout from the south receive priority over the larger number of vehicles queuing for entry. By holding the smaller number of vehicles at a signal, congestion can begin to be relieved from the other arms, thus decreasing air pollution levels and providing overall journey-time benefits.</p>	
Evidence:	<p>During the PM peak, between 17:00 and 17:30, it was observed that a large number of employees were leaving work to head home. The number of cars on the roads increased exponentially, causing long queues across the estate. Specifically heading toward the south of the MRBD. Vehicles were observed queuing along the following routes:</p> <ul style="list-style-type: none"> • Manor Royal (Eastbound) - From Gatwick Road roundabout along Manor Royal to its junction with Faraday Road (496m) • Newton Road (Southbound) - From its junction with Manor Royal to Kelvin Way (252m) • Gatwick Road (Southbound) - From Fleming Way roundabout to Tinsley Lane North (439m) • Gatwick Road (Southbound) - From Manor Royal roundabout to the Oakwood Industrial Park (221m) <p>Congestion across the MRBD is not just an issue for those using private cars to access their place of work. During a stakeholder interview with MetroBus it was mentioned that the congestion caused by the eastbound queuing vehicles (for 550 metres) along Manor Royal regularly blocks back to the junction of Manor Royal and Faraday Road, which delays buses travelling northeast in the PM peak.</p> <p>Further to the observations on site, West Sussex County Council has commissioned the production of a SATURN model to assess the congestion on the highway network along the key roads of the MRBD and the wider area. This evidence is likely to be available in November 2016 and will further assist with the evidence case for implementation of signalising this junction.</p>	
Risks:	<p>Signal timings need to be carefully modelled to understand the wider impacts on the highway network, to ensure smooth and continuous traffic flow. It should also be noted that during the installation of signals disruption is likely to be observed.</p>	
Impact of not Implementing:	<p>The congestion may reduce the chance of modal shift to buses due to the delay experienced for peak time bus journeys. There is also a risk that without improving peak hour vehicle movement, Manor Royal may become less attractive to existing and also new tenants.</p>	
Implementation Timescale & Interdependencies:	<p>The implementation of this scheme could be achieved within approximately one year, including the planning, design and build of the junctions. Data would have to be made available from Crawley Borough Council and West Sussex County Council. The schemes would be subject to consultation with local residents and businesses. The scheme is closely linked to the installation of an eastbound bus lane on Manor Royal.</p>	
Delivery Partner(s):	West Sussex County Council	

Table 4.8: Infrastructure – Signal Modelling

A10	Re-timing of signalling at key junctions
Indicative Cost: tbc	Priority: H
Benefits:	<p>By adjusting the signal timings at key junctions, priority movements can be granted longer ‘green-time’ to assist with easing congestion. Providing a flexible peak/off-peak timing strategy would provide the greatest benefit. Junctions to be assessed are as follows:</p> <ul style="list-style-type: none"> • London Road/Manor Royal • London Road/County Oak Way • Manor Royal/Faraday Road • Gatwick Road/Fleming Way • London Road/Crawley Avenue
Evidence:	<p>Congestion is observed across the MRBD within the AM and PM peaks, with signal timings being highlighted as an issue within the Stakeholder Workshop undertaken as part of this study. The stakeholders in attendance at the workshop identified the introduction of signalling on a part-time basis only, instead of continuously controlled, and at the Tushmore roundabout could assist with traffic congestion in the area.</p> <p>Concern was also highlighted by stakeholders relating to the operation of the Gatwick Road/Manor Royal roundabout, which only has signals on one arm (southern arm of Gatwick Road).</p> <p>West Sussex County Council has commissioned the production of a SATURN model to assess the congestion on the highway network along the key roads of the MRBD and the wider area. This evidence is likely to be available in November 2016 and will further assist with the evidence case for implementation of retiming signals across the estate.</p>
Risks:	<p>Signal timings need to be carefully modelled to understand the wider impacts on the highway network, to ensure smooth and continuous traffic flow across the whole network. It is important to provide relief to traffic congestion whilst also encouraging sustainable measures so as not to reduce modal shift by making highway conditions for private car use more attractive.</p>
Impact of not Implementing:	<p>Without adjustment at key signals, the observed congestion on site will continue to inhibit bus journeys, reducing the chance of increased modal shift from private car to bus. The congestion may also restrict the area for future growth as increased volumes would make it unattractive.</p>
Implementation Timescale & Interdependencies:	<p>Once data is obtained on the existing situation, a suggested alternative sequence could be modelled within 2-3 months.</p>
Delivery Partner:	West Sussex County Council

Table 4.9: One Way Working

A11 One-way working – Metcalf Way	
Indicative Cost: £25-30k	Priority: M
Benefit:	Relieving congestion caused by vehicles parking on both sides of the carriageway which blocks two way running in some cases. By providing one-way working, vehicles could still park on both sides, but the access to businesses could be improved. It is likely to support improved cycle safety due to reducing the number of queuing HGVs and LGVs passing each other. It could also allow for more formalised parking arrangements, helping to improve the pedestrian environment and with the reduction of vehicle queuing emissions could be reduced.
Evidence:	This change has been requested at stakeholder workshops and also the BID presentation at Manor Royal Matters where the draft measures were presented to local businesses and stakeholders.
Risks:	Local businesses and residents may object to the proposal at consultation. Making it easier to travel along this road could increase traffic speeds, however the carriageway width is still likely to keep these low.
Impact of not implementing:	Vehicles will continue to be delayed whilst travelling in this area, making additional investment into or intensification of the area less likely.
Implementation Timescale & Interdependencies:	The Traffic Regulation Order (TRO) would require public consultation prior to implementation and therefore 4-6 months is appropriate.
Delivery Partner:	West Sussex County Council / Crawley Borough Council

Table 4.10: Provision of bus lanes

A12a and A12b Introduction of eastbound bus lane on Manor Royal – between London Rd & Gatwick Rd Investigation (modelling) of potential westbound bus lane on Fleming Way – between Faraday Rd and London Rd	
Indicative Cost: A12a - £3.5m, A12b - tbc	Priority: H
Benefit:	<p>A12a The introduction of an eastbound bus lane between London Road and Gatwick Road on Manor Royal will assist with both buses travelling northbound from London Road, along Manor Royal to Faraday Road and also those travelling southbound down Faraday Road along Manor Royal to Gatwick Road. This will require rebuild of two signalised junctions and two signalised pedestrian crossings. The main benefit is journey time savings for buses, helping to encourage further mode shift.</p> <p>A12b Investigating the provision of bus lane on Fleming Way (westbound) between Faraday Road and London Road will reduce PM peak congestion and improve journey times for buses helping to encourage mode shift.</p>
Evidence:	At present buses are caught in queues along Manor Royal particularly in the PM peak due to traffic queuing from the Manor Royal / Gatwick Road junction which blocks back past the junction with Faraday Road. Similar issues are experienced on Fleming Way (westbound). Metrobus services experience delays due to the lack of eastbound bus lane on Manor Royal and lack of westbound bus lane on Fleming Way (east of Faraday Road).
Risks:	Bus lanes will require the removal of some verge along the length of Manor Royal and potentially Fleming Way if found to be required through modelling. Although £400k estimate has been included for utility works on Manor Road, there is potential that additional works may be required. Similar could be true on Fleming Way.
Impact of not implementing:	With intensification of the MRBD, the number of vehicles leaving at peak times is likely to increase. Without the introduction of the bus lane(s), bus delays will increase and make services less attractive to users, reducing the chance of mode shift from the car.
Implementation Timescale & Interdependencies:	The schemes would take approximately 12 months to design and implement following detailed modelling assessments.
Delivery Partner:	West Sussex County Council / Metrobus

Table 4.11: Three Bridges Interchange Scheme, with additional buses and Hazelwick Avenue improvements

A13, A17	Additional / redirected bus provision between Three Bridges and Manor Royal	
<p>Indicative Cost: £2-3m for station interchange & Hazelwick, £2m for additional buses across 5 years</p>	<p>Priority: H</p>	
<p>Benefit:</p>	<p>Provide fast, direct rail interchange to Three Bridges for commuters arriving by rail from the south. Some businesses already run their own individual shuttle services for staff so this could allow them to be combined whilst providing services for smaller organisations that could not run their own shuttles.</p> <p>Providing improved interchange, including Hazelwick Avenue improvements will help to improve the interchange, reducing journey times both on foot during interchange and on bus journeys making the station an attractive option to use.</p>	
<p>Evidence:</p>	<p>From the survey responses, it is apparent that a total of 136 out of 527 (26%) respondents are within 800m of a station that provides a link to Gatwick Airport or Three Bridges Station. Of the 136, 95 travel to Manor Royal from south of Three Bridges Station (70%) and therefore Three Bridges is likely to be a more suitable interchange station than Gatwick Airport, from both a fare cost and time perspective.</p> <p>In addition to the potential uptake, there have also been a number of comments raised within the surveys, in response to the question: what would encourage you to use public transport to travel to/from work. These comments included:</p> <ul style="list-style-type: none"> • “I don't use the bus to Three Bridges station as frequency too low. Can this be more frequent?” • “Better bus service and easier route/ access from the train station to the bus stop at three bridges.” <p>Existing bus services are currently irregular to Three Bridge with the 14 minute journey time, every 20 minutes (MetroBus Route 20). Otherwise journey times are doubled using other services. These factors are currently leading to a number of businesses running their own services for employees to and from Three Bridges.</p>	
<p>Risks:</p>	<p>Bus service has been trialled previously but patronage did not support continuation. Need to ensure that businesses are on board, especially those that will provide funding and it is introduced as part of a wider information campaign.</p> <p>The additional buses and two improvement schemes are both required in order to gain the full benefit.</p>	
<p>Impact of not implementing:</p>	<p>Without investment in existing (or introduction of new) bus services and associated interchange and bus priority improvements, it is likely that the number of people using rail services will decrease, because their journey time saving could be made using their car instead of rail services.</p>	
<p>Implementation Timescale & Interdependencies:</p>	<p>The public realm interchange scheme and improvements on Hazelwick Avenue will be required prior to improving bus services and are likely to take 12-18 months to design and implement.</p> <p>Intensification of existing bus services and/or the introduction of a dedicated service are likely to take up to 6 months. However this needs to have strong links with an information and marketing campaign to ensure uptake in the service.</p> <p>Linking this to an Intelligent Mobility portal, could enable this to be a reactive/bookable service thereby linking closely with passenger needs as well as operational requirements to reduce costs.</p>	
<p>Delivery Partner:</p>	<p>West Sussex County Council, Network Rail, MetroBus, supported by initial business funding supplement.</p>	

Table 4.12: Bus Shelter Improvements

A14, A16 Bus Shelters and Real Time information	
Indicative Cost: £90k for shelters & real time at 5 locations, tbc for real time upgrade	Priority: M
Benefit:	<p>Providing shelters and real time information at five remaining bus stops on Manor Royal that do not currently have shelter or real time information will help to ensure that the level of service for buses is consistent across Manor Royal. Locations required, in order of priority: Gatwick Road South (northbound), County oak (eastbound), Napier Way (j/w Gatwick Road) and Gatwick Manor on A23 (both directions).</p> <p>In addition, bus real time information should be upgraded across the whole of the Manor Royal area to provide accurate real time information rather than timetable information.</p>
Evidence:	Metrobus have identified these as the remaining bus stops within the Manor Royal area that do not have shelters or real time information. This will help to ensure a comfortable waiting time, with information which was mentioned within the survey results as a key reason that people do not use the bus as they don't know how long they may need to wait.
Risks:	Although this will improve the waiting areas at the Manor Royal end of people's bus journeys, they may not have equal facilities at the origin/ destination. Power is a requirement for the real time information.
Impact of not implementing:	Not providing adequate information and comfortable waiting areas may mean that people do not choose to travel by bus from some areas of Manor Royal.
Implementation Timescale & Interdependencies:	The scheme would take approximately 6 months.
Delivery Partner:	West Sussex County Council, Metrobus

Table 4.13: Bus Priority within signals

A15 Introducing bus priority within signals	
Indicative Cost: tbc following the review	Priority: M
Benefits:	Introducing bus priority within all signals within the Manor Royal area would help to provide some increase to bus journey times and reliability thereby making them more attractive for people to use.
Evidence:	Congestion within Manor Royal reduces bus movements in some key locations. Providing bus priority will assist in helping to facilitate more reliable bus journeys, a key issue for Metrobus at present. Once it is known how many signals this is required at a full set of costs could then be identified.
Risks:	Congestion for general traffic could increase if signals prioritised for buses.
Impact of not implementing:	Without adjustment at key signals, the observed congestion on site will continue to inhibit bus journeys, reducing the chance of increased modal shift from private car to bus. The congestion may also restrict the area for future growth as increased volumes would make it unattractive.
Implementation Timescale & Interdependencies:	Once data is obtained on the existing situation, a suggested alternative sequence could be modelled within 2-3 months, assuming the signals are priority-capable.
Delivery Partner:	West Sussex County Council

Table 4.14: Manor Royal PLUSBUS Zone

A18	Manor Royal PLUSBUS Zone	
Indicative Cost: tbc following the review	Priority: H	
Benefits:	Providing a free or subsidised PLUSBUS or easit ticket for travel to / from the stations from Manor Royal only will assist in delivering a more comparable cost of travel between public transport (rail, bus combined journeys) to driving, helping to reduce the barriers for those currently driving who could otherwise use the train and bus.	
Evidence:	The cost of the bus tickets (even with the current PLUSBUS Crawley zone) was mentioned both in surveys and stakeholder workshop as significant barrier to people using public transport to commute to / from Manor Royal by public transport.	
Risks:	Uptake is large and an ongoing subsidy is required.	
Impact of not Implementing:	It is currently mentioned repeatedly as a barrier and therefore by not doing so, there is a risk that modal shift will not occur to its full potential.	
Implementation Timescale & Interdependencies:	A 6 month introduction regime following funding agreement.	
Delivery Partner:	Metrobus, Train Operating Companies, Manor Royal BD	

Table 4.15: Infrastructure - Dropped Kerbs and Tactile Paving

A19a / A19b	A19a Footway Improvements - Dropped Kerbs & Tactile Paving A19b Raised junctions and crossovers	
	[Implement one, not both of the two options]	
Indicative Cost: £350k / £5.5m	Priority: H	
Benefits:	<p>Installing tactile paving and dropped kerbs across MRBD at all existing crossing points that do not currently have them (circa 80) as well as those identified as desire lines without crossings currently would assist with making MRBD more accessible to everyone, including those with reduced mobility or visual impairments.</p> <p>Alternatively raising all crossovers to increase pedestrian dominance, make all surfaces the same level and step free. This will reduce the dominance of the car and create a large step change in the feel of the area for pedestrians.</p>	
Evidence:	<p>Observations on site as well as the “grey audit” have highlighted that the inconsistency of footways and crossing points across MRBD, lacking tactile paving or dropped kerbs in many locations. Furthermore, improvements to the pedestrian environment are likely to encourage more people to walk, as currently only 6.6% of employees walk to Manor Royal according to the 2011 Journey to Work Census. However there is the potential that this could be increased to 16%, given the number of people that live within an 15 minute walk of the MRBD.</p> <p>MRBD has received a request from one employee who is a wheelchair to improve the pedestrian accessibility as he presently cannot travel around effectively.</p>	
Risks:	<p>Implementation needs to be coordinated with other junction improvements to ensure that these are not installed in advance of future larger schemes that may require the crossings to be moved as a result. Changes in the businesses within the MRBD could mean that desire lines across the area could change (i.e. a new café or restaurant could generate additional pedestrian movements).</p>	
Impact of not Implementing:	<p>Without improving the pedestrian environment, it will be difficult to encourage those that are within walking distance of MRBD to walk to work. Similarly, the current lack of tactile paving and dropped kerbs could be inhibiting some people from walking around the area altogether.</p>	
Implementation Timescale & Interdependencies:	<p>All informal crossings and driveways could be replaced with tactile paving and dropped kerbs within a 2-3 month programme. Disruption would be minimal but local traffic management would need to be applied to aid construction.</p> <p>Raising all crossovers and junctions would take 6-9 months, particularly to seek permissions from landowners and businesses as access would be impacted during the works.</p>	
Delivery Partner:	West Sussex County Council, Crawley Borough Council	

Table 4.16: Infrastructure - Crossing Facility Review

A20 Footway Improvements - Crossing Facility Review	
Indicative Cost: £2.8m	Priority: H
Benefits:	<p>At present, the crossing facilities within Manor Royal are inconsistent and do not always cater for pedestrian desire lines. For example at some locations, including on Manor Royal (west) the existing crossing points do not cater for people wanting to use bus services in more than one direction. An informal crossing point and associated path could help to increase the attractiveness and accessibility of the bus services.</p> <p>A further seven additional pedestrian crossings are recommended to improve pedestrian priority at junctions as well as a further 3 that will help to reduce walking distances and increase access to bus stops.</p>
Evidence:	Employee surveys, site observations and the Manor Royal Grey Audit all demonstrate that there are inconsistencies with pedestrian facilities across Manor Royal.
Risks:	Adding further formal crossings may have an impact on traffic flow, therefore consideration as to the exact type is required for each location (formal / informal) and ensuring that they are provided on desire lines.
Impact of not Implementing:	Encouraging additional walking trips will be difficult without increasing the perceived accessibility of the MRBD.
Implementation Timescale & Interdependencies:	An upgrade in the provision of crossings should be coordinated with a wider information and awareness campaign to maximise the benefit and increase their usage. The implementation timescales will depend on crossing type and whether or not they require signalisation and therefore traffic modelling but could be achieved within 6-9 months.
Delivery Partner:	West Sussex County Council

Table 4.17: Infrastructure - Cycling Route Enhancements

A21, A22, A23, A24, A25	Cycle Route Improvements, including advanced stop lines	
	<p>Indicative Costs: £100-500k ASLs, £200k Manor Royal wide resin & signage upgrade, £200k route improvements at Manor Royal / London Road, £50k signage & minor improvements to Gatwick, £25k signage & lines to Three Bridges.</p>	<p>Priority: H</p>
<p>Benefits:</p>	<p>Providing safe and dedicated cycle routes throughout Manor Royal, linking to key residential areas and transport hubs, will assist with modal shift away from cars. Including delivering advanced stop lines (cost varies according to whether these can be incorporated into existing works). Specifically providing cycle routes improvements in these locations:</p> <ul style="list-style-type: none"> • From the North - London Road entering the MRBD via Gatwick Road (connection with Gatwick Airport) - 2.1km (route needs better signing only) • From the South – from Three Bridges station via Pond Wood Road, The Birches, Mill Road and Hazelwick Road joining to Hazelwick Avenue. • From West - Martyrs Avenue to join with Manor Royal via London Road, to provide improved crossing facilities and cycle lane. - 400m 	
<p>Evidence:</p>	<p>The Manor Royal employee surveys showed that the existing mode share for cycling is low (3.9%). Furthermore the journey to work data (2011 census) shows that only 5% (778) of all employees living within a 30 minutes cycling distance of the MRBD (15,243) currently cycle to work, compared to 73% (11,132) that currently arrive on site by car. This shows that over 50% of the MRBD employees are within cycling distance and could present opportunity for modal shift.</p> <p>Within the employee survey a number of comments were made to the question “If you don’t already, what would encourage you to walk, cycle or use public transport”, relating to the barriers to cycling to work. Comments included:</p> <ul style="list-style-type: none"> • “cycling is just too dangerous coming from pound hill and I would only cycle if there was a cycle lane” • “a dedicated cycle route from Horsham to Crawley as roads are too congested” • “safer roads and dedicated cycle lanes” • “would cycle more if there was more secure bike parking facilities”. <p>The Manor Royal BID survey highlighted that 38% of respondents would like the condition of cycle paths addressed. Furthermore, 47% of respondents to the Employee survey conducted as part of this study stated that they would happily do without their car to travel to work, showing the potential for modal shift.</p> <p>Finally, as part of a stakeholder interview, it is understood cycling is a key consideration for Crawley Borough Council, with the route from Three Bridges to Manor Royal of particular concern. To assist with improvements, the Crawley Cycle Forum is developing schemes addressing access to the MRBD and in the wider area.</p>	
<p>Risks:</p>	<p>Although investment in the cycling facilities across the MRBD will help to assist in encouraging modal shift, it is likely not to be enough alone to encourage the full potential of modal shift and needs to be undertaken in conjunction with marketing the improvements and an overarching awareness and marketing campaign. This is demonstrated by the employee survey results where people who live within a 30 minute cycle have commented that it is too far for them to cycle but with improved information and infrastructure may not feel this way.</p>	
<p>Impact of not Implementing:</p>	<p>If not implemented cycling facilities will deteriorate further over time, meaning likely reverse modal shift away from cycling (potentially to public transport, but likely to cars). This will add to the highway congestion, associated vehicle delay and reduce both the attractiveness and air quality of MRBD.</p>	
<p>Implementation Timescale & Interdependencies:</p>	<p>The planning, design and build of better cycle infrastructure-ways is likely to take 9-12 months. This will need to be supported by public consultation of residents and local businesses.</p> <p>In addition, greater promotion of the easitCRAWLEY scheme is likely to further the uptake of cycling, due to their offer of discounted cycles for members of the scheme.</p>	
<p>Delivery Partner:</p>	<p>West Sussex County Council / Crawley Borough Council – physical delivery. Crawley Cycle Forum, easitCRAWLEY / other partners to also assist with the marketing of schemes</p>	

Table 4.18: Cycle Confidence Training

A26 Cycle Confidence Training	
Indicative Cost: £2,000 - £5,000 - 25-50 1:1 sessions per year	Priority: M
Benefit:	Enable those new to cycling to receive one to one training on the road within the local area to learn how to cycle safely, with confidence and find out their best route to work.
Evidence:	From the employee survey conducted as part of this study only 14% of respondents would consider cycling as an alternative mode of transport. This could be related to low confidence in cyclist safety across the MRBD.
Risks:	Very little take up if routes are not already in place that are of a sufficient quality.
Impact of not implementing:	One of the most significant barriers to cycling is not addressed: namely confident cycling in traffic.
Implementation Timescale & Interdependencies:	2-3 months. Link to cycle loan, cycle maintenance, cycle safety events.
Delivery Partner:	Local cycle training providers (e.g. those trained in Bikeability for schools), West Sussex County Council, Manor Royal BID

Table 4.19: Services - Cycle Safety

A27 Cycle Security and Safety Events	
Indicative Cost: £200-500 per event depending on number of cycles marked	Priority: L
Benefit:	Cycle security marking so that stolen cycles can be returned to their owners and thieves prosecuted. Could be combined with cycle safety briefings or 'exchanging places' events where cyclists learn safe riding techniques around lorries and other large vehicles.
Evidence:	Providing security can help to raise awareness of cycling and also create an enhanced feeling of safety to help some of the 14% of people that said they would consider cycling to start cycling.
Risks:	Staff time intensive and complicated to organise if no support available stakeholders
Impact of not implementing:	Poor safety awareness amongst cyclists in area with high volumes of HGV traffic
Implementation Timescale & Interdependencies:	2-3 months. Link to cycle loan, cycle maintenance, cycle confidence training
Delivery Partner:	West Sussex County Council Safer Roads Partnership, Crawley Borough Council, Sustrans

Table 4.20: Services - Cycle Maintenance

A28	Cycle Maintenance Service (Dr Bike)
Indicative Cost: £300-400 per session (each of 25-30 cycles). Assuming 5 sessions per year: £1500-2000	Priority: M
Benefit:	Encourage take up and then keeping up of cycling. Free or low cost basic repairs at the workplace or very close nearby (neighbouring business within 5 minutes' walk) to make it highly accessible. Helps to promote cycling as a valued mode and ensure cycles are safe and well maintained.
Evidence:	Within the stakeholder workshop, participants emphasised the need for cycle maintenance schemes to be implemented across Manor Royal to encourage potential cyclists to use this mode.
Risks:	Only benefits existing cyclists. Relies on finding appropriate space within workplaces to take place.
Impact of not implementing:	New cyclists give up when they have some kind of repair need. Cycles not roadworthy due to poor maintenance therefore contributing to a reduced mode share on cyclists across the MRBD.
Implementation Timescale & Interdependencies:	1 month. Links to cycle loan, cycle security marking, cycle confidence training.
Delivery Partner:	Local cycle mechanics. (Linked to local cycle retailer or Cycle Group) Manor Royal BID, Manor Royal BD Members

Table 4.21: Services- Cycle Parking

A29	Cycle parking grant for businesses
Indicative Cost: £1,000-£10,000 pa depending on take up (10 space cycle shelter = £1.5-2K)	Priority: M
Benefit:	Grant to install cycle parking on parking spaces within business premises (10 cycle parking spaces possible per one car parking space (stands and contract with installer)
Evidence:	Cycle parking facilities are limited across the MRBD, as evidenced by comments obtained within the stakeholder workshop. Participants of the workshop requested that improved cycle security measures were implemented across the site and that dedicated cycle parking was provided for all units/buildings across the site.
Risks:	If car parking facilities are replaced by cycle parking, this could have adverse effects upon informal parking on-street if modal shift does not occur.
Impact of not implementing:	Low provision of cycle parking except in BID member businesses where they have high demand. Difficult to achieve modal shift to cycling if convenient parking is unavailable.
Implementation Timescale & Interdependencies:	6 months. Links to cycle confidence training, cycle loan scheme, and cycle maintenance. Beneficial to link with cycle infrastructure improvements.
Delivery Partner:	Crawley Borough Council. easitCRAWLEY

Table 4.22: Services - Cycle Loan Scheme

A30	Cycle loan/ trial scheme	
	Indicative Cost: £5,000 for pool of 10 cycles (could double up as pool bikes)	Priority: M
Benefit:	Provide opportunity for those considering cycling to borrow a bike for a couple of weeks. Could be combined with a pool bike loan for BID members.	
Evidence:	A cycle loan scheme, or pool bikes, is likely to increase the uptake of cycling across the MRBD. 49% of the employee survey respondents stated that they would happily do without their car to travel to work. Making cycles accessible for use could assist with this modal shift. EasitCRAWLEY currently provide the option for this service at present, however usage is low, so additional promotion and bicycles will help to improve uptake, either through Easit or an alternative provider.	
Risks:	Bikes need to be easily accessible, well maintained and suitable for all riders. Need a business / land to be made available for secure storage of bikes.	
Impact of not implementing:	Potential new cyclists have to invest in a suitable bike before they can start cycling to work which is likely to discourage many of them.	
Implementation Timescale & Interdependencies:	Assuming a local cycle partner can be found 1-2 months (could potentially be led by MR tenant Evans Cycles). Link with other cycle offers, welcome pack, personalised journey planning	
Delivery Partner:	EasitCRAWLEY / local cycle retailer ***	

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

Table 4.23: Development of Materials Palette

A31	Development of materials palette	
	Indicative Cost: £5k	Priority: H
Benefit:	Developing an agreed materials palette will help to ensure consistency of materials used across the area to help improve the 'look and feel' without requiring investment across the whole area. The improvements could be delivered as part of S106 or S278 works associated with new development.	
Evidence:	57% of those responding to the Manor Royal mid-term BID survey noted that the general appearance of the business district required improvement.	
Risks:	Planning permission may need to be granted for a different suite of materials for use surrounding a development.	
Impact of not implementing:	Increased inconsistency of materials across the area.	
Implementation Timescale & Interdependencies:	6 months.	
Delivery Partner:	Crawley Borough Council, Manor Royal BID, West Sussex County Council	

Table 4.24: Information & Marketing - Transport Welcome Pack

A32 Manor Royal Welcome Pack (Travel elements)	
Indicative Cost: £2,000 -3,000 pa	Priority: M
Benefit:	A branded pack including useful information to new employees on Manor Royal and including details of: easit offers, cycle purchase scheme, cycling and walking map, personalised journey planning offer, Metrobus maps and timetables etc.
Evidence:	A number of respondents to the surveys noted that they didn't have information about bus services for example and therefore full pack of information will help to encourage sustainable travel habits.
Risks:	Pack needs to be constantly kept up to date and information kept succinct
Impact of not implementing:	Information and marketing efforts undermined with 'churn' in employee populations. Lose the opportunity to influence travel patterns at a key point of change in somebody's life.
Implementation Timescale & Interdependencies:	Could be developed within a few weeks using existing printed information. Dependent on businesses knowing that they are available and asking for new supplies when required. Could become redundant in time with large uptake of intelligent mobility platform.
Delivery Partner:	Easit, Metrobus, Crawley Borough Council, Manor Royal BID & members***

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

Table 4.25: Businesses Implementing Salary Sacrifice Cycle to Work Scheme

A33 Encourage businesses to administer cycle to work schemes	
Indicative Cost: £0k (as included within other marketing campaigns to businesses)	Priority: M
Benefit:	Encouraging businesses to be able to offer salary sacrifice schemes and therefore enable employees to buy bicycles at reduced cost (saving tax) will help to encourage those that are new to cycling and at no cost to the businesses.
Risks:	If not provided alongside promotion of cycling and infrastructure improvements it may not be as effective as hoped, however as there is very minimal cost to businesses except the administrative time, this risk is limited.
Evidence:	Some survey respondents didn't have a bicycle and therefore providing a cheaper way to purchase it could assist in increasing the mode share.
Impact of not implementing:	Staff could be discouraged from cycling if unable to afford or justify the cost of a new bicycle.
Implementation Timescale & Interdependencies:	Businesses could offer the scheme almost instantly once they have set up their own internal processes. It should be linked to the provision or improvement of cycle parking facilities to ensure greatest benefit.
Delivery Partner:	Manor Royal BID and businesses

Table 4.26: Business Centred Walking Maps

A34 Walking Maps with Time-bands	
Indicative Cost: £2-5k pa	Priority: M
Benefit:	<p>Providing mapping centred on each business will assist with providing increased accuracy walking times and therefore more applicable for users. Providing information in a handy foldable paper map will assist in encouraging people to walk to / from work, to meetings or at lunchtimes.</p> <p>In addition, a digital version of the mapped information, linked to an intelligent mobility platform as mentioned above.</p>
Evidence:	Introducing these facilities, especially if widened to include the wider local area, could enable a catchment of 4,996 MRBD employees who live within walking distance to have sufficient information to enable them to walk to work. Of these 4,996 employees, 2,914 currently drive to work, however with better information on walking; it is possible that this number could be reduced significantly.
Risks:	As time progresses and the MRBD will intensify with development, it is likely those maps will become outdated. Maps will need to be reviewed at regular intervals, with budget anticipated to provide updates. This could be reduced through the digital provision of an intelligent mobility portal.
Impact of not implementing:	It is likely that relatively short walking journeys will still be perceived to be too long, with cars used instead to make the journey, contributing to congestion and air quality issues across the site.
Implementation Timescale & Interdependencies:	Paper based personalised business maps could be produced within 3-4 months.
Delivery Partner:	Manor Royal BID

Table 4.27: Information & Marketing - Email Alerts

A35 Manor Royal Travel Alerts	
Indicative Cost: £12k pa	Priority: M
Benefit:	Collate monthly or bi-monthly travel information email bulletin (or include section in regular news bulletin) with details of any upcoming travel related projects or changes (road closures, road works, predicted strikes, changes to bus timetables etc.). Make provision for ad-hoc alerts when required (emergency road works, severe accident on M23 etc.).
Risks:	All relevant stakeholders need to feed information through to the BID team to maintain the live information and scheme value.
Evidence:	All though no direct evidence, it is known that providing travel information in advance can help to alter behaviour.
Impact of not implementing:	Manor Royal BID not seen as key provider or ‘trusted source’ of relevant transport related information
Implementation Timescale & Interdependencies:	1-2 months maximum (depending on establishing links for regular updates from WSCC, CBC, Highway Agency, Metrobus, Network Rail, etc.)
Delivery Partner:	Manor Royal BID

Table 4.28: Information & Marketing - Transport Information Boards

A36 Manor Royal Transport Information Boards	
Indicative Cost: £10,000 - £20,000	Priority: L
Benefit:	<p>Create simple version of transport portal information available via digital screens within building reception areas or outside near Manor Royal signage. This could include real time congestion information, real time bus departures, real time rail departures at nearby stations and any roadworks/ time limited information. This could provide a journey planner capability to enable people to search how to walk / use public transport to a specific destination e.g. station, home, shopping centre, sports centre or another business.</p> <p>Providing live traffic information could help to encourage car drivers to stagger their departure times from Manor Royal to help alleviate congestion.</p>
Evidence:	The employee survey identified that staff did not have the relevant information regarding travel options to make informed decisions about their mode choice. Providing information in an easily accessible format should assist with encouraging a range of travel options. It should also reduce the intensity of the peak period by encouraging the staggering of departures from offices.
Risks:	Requires hosting by individual Manor Royal members or multi-tenanted spaces and/ or on main highways. Requires a maintenance contract.
Impact of not implementing:	Travel information remains only available to those with their own digital access.
Implementation Timescale & Interdependencies:	Linked with development of transport portal. 6-12 months
Delivery Partner:	West Sussex County Council for any installations on highways

Table 4.29: Information & Marketing - Transport Roadshows

A37 Manor Royal Transport Roadshows	
Indicative Cost: £500 per show	Priority: M
Benefit:	Make information about alternative options to the car available within individual business or buildings (e.g. reception areas, canteens, communal outside space). This would include all the easit offers (rail, bus, cycle purchase, electric bike, electric car) and promotion of the transport information portal.
Risks:	Requires hosting by individual Manor Royal members or multi-tenanted spaces and regular programme to maintain effectiveness.
Evidence:	These should help to improve the awareness of all travel behaviour schemes and increase the awareness of easit from the current level of 67% of survey respondents.
Impact of not implementing:	Lack of awareness of the complete Manor Royal travel offer. Individual information about marketing measures are not seen by users. Lack of take up of easit offer.
Implementation Timescale & Interdependencies:	To take place as many times of year as possible. Could start within 2-3 months. Needs to link with update of easit offer and availability of other marketing materials (but could precede transport portal development).
Delivery Partner:	Easit or other businesses***

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

Table 4.30: Information & Marketing - Personalised Travel Planning

A38 Personalised Travel Planning for 30,000 employees	
Indicative Cost: £250,000	Priority: H
Benefit:	Working with individual employees to provide specification information for them. This would help to understand what individuals barriers are to walking, cycling or public transport as well as the incentives that would make them consider to change mode (i.e. the type of information and service that would suit them most appropriately). It could encourage significantly increased modal shift, particularly in conjunction with some infrastructure improvements or where new businesses are locating to the site.
Risks:	Requires individual business buy in to assist with advertising or providing meeting room space to make it as easy as possible for staff to be engaged with and regular programme to maintain effectiveness.
Evidence:	Stakeholders, business workshops and survey results all indicate that employees are unaware of the full suite of travel options available to them and therefore by providing this to each individual person they will be able to make informed decisions.
Impact of not implementing:	Without PTP, the information made available to people may not be tailored sufficiently for the needs of each individual person, so only a small amount of the potential modal shift is achieved. PTP delivered by 1:1 support from Travel Advisors provides greater opportunity to influence car drivers who may otherwise ignore other information.
Implementation Timescale & Interdependencies:	One year programme, although could be split to tie in with specific infrastructure improvements. <i>Grant application to DfT underway, awaiting outcome.</i>
Delivery Partner:	Crawley Borough Council / external provider***

***It should be noted that there are a number of potential providers for this service, including Easit and when taking this forward MRBD will determine the most suitable.

5 Summary

- 5.1 This Action Plan has been produced by Steer Davies Gleave and The means, and presents the transport schemes and initiatives in relation to the issues identified as part of the evidence gathering process. The actions detailed within this report address the issues in the most cost effective and succinct approaches to achieving the overall goals.
- 5.2 A combination of measures is required to address the concerns across Manor Royal and sustain and support future growth. The measures suggested focus on encouraging behavioural change, as well as infrastructure improvements to ease traffic flow and parking congestion across the MRBD.
- 5.3 The highest priority schemes are summarised in Table 5.1, however if some of these are not progressed it may increase the priority of the other schemes. This scheme package is estimated to cost approximately £9.5m to deliver. Some of the ‘quick wins’ which are highly visible and simpler to deliver are highlighted in bold.

Table 5.1: Summary of high priority schemes for Manor Royal

Theme	Ref	Measure	Cost	Priority
Parking	A1	Conversion of some existing on-street parking (e.g. 10x30m stretches) and new bays created within key areas on verge parking (Rutherford Way - 2x24m) into car sharing bays	£180k	H
	A2	Manor Royal are wide review of Traffic Regulation Orders and recommendations for alterations/an area wide Traffic Regulation Order including on-street parking surveys	£50k	H
	A3	Key junction restrictions	£TBC after TRO review	H
	A4	Manor Royal Warden to provide greater enforcement of parking restrictions (1.5 FTE)	£80k pa	H
	A5	Bespoke Manor Royal branded Intelligent Mobility Platform incorporating journey planner, car sharing booking and incentive points earning, walking / cycling / public transport buddying scheme and ticket buying etc	£25-100k	H
	A6	Guaranteed ride home for car sharing	£1k pa	H
	A7	Encourage businesses to create dedicated car sharing bays at front of own car parks and enforce themselves and similarly dedicated visitor spaces	£2k pa	H
Congestion	A8	Encourage businesses to work more flexible hours/working from home to spread peak hour demand	£5k	H

Theme	Ref	Measure	Cost	Priority
Public Transport Infrastructure	A12	Provision of eastbound bus lane on Manor Royal (between London Road and Gatwick Road) (High priority London Road to Faraday Road, lower priority between Faraday Road and Gatwick Road)	£3.5m	H
	A13	Three Bridges Interchange scheme – public realm improvements and enabling buses to stop on station forecourt including Hazelwick Avenue improvements	£2m-£3m	H
	A16	Real time information at all bus stops on Manor Royal and ideally within wider Metrobus area	tbc	H
	A17	Additional services / diverted services to Three Bridges station (once interchange has been improved) for 5 years	£2m	H
	A18	Subsidised Manor Royal PLUSBUS ticket for rail and bus users to travel to/from station only	tbc	H
Walking & Cycling	A19a	Provide dropped kerbs / tactile paving at every junction, crossing and crossover (site entrance) to ensure accessibility and consistency across the business district (circa 80 locations)	£350k	H (not needed with 19b)
	A19b	Raised treatment at each junction and crossover to provide increased feel of pedestrian dominance (circa 170 locations at cost of £25k per junction and 125 crossover locations at £10k per crossover)	£5.5m	M (not needed with 19a)
	A20	Provide additional pedestrian crossings to improve pedestrian priority at junctions (7) reduce walking distances and increase access to bus stops (3)	£2.8m	H
	A21	Advanced stop lines at junctions – exact cost will depend on other planned junction improvements and whether modelling is being undertaken already	£100-500k	H
	A22	Allowance for cycling infrastructure refresh (resin/signage across Manor Royal)	£200k	H
	A23	Cycle route improvements particularly at Manor Royal / London Road junction	£200k	H
	A25	Marked cycle route to Three Bridges station via Pond Wood Road, The Birches, Mill Road and Hazelwick Road joining to Hazelwick Avenue. Ensuring toucan crossings are incorporated into Three Bridges Scheme.	£25k	H
	A26	Cycle confidence training – 25-50 1:1 sessions per year	£2-5k pa	H
	A27	Cycle security and Safety Events (2 per year)	£400-£1k / annum	H
	A28	Cycle maintenance service (Dr Bike) – 5 sessions per year for 25-30 cycles	£-2k pa	H
	A29	Cycle Parking grant for businesses to install cycle parking on their premises (depends on uptake– 10 space cycle shelter = £1K)	£1-10k pa	H
	A31	Development of agreed ‘materials palette’ for the Manor Royal district to ensure all future works all contribute towards the same vision (cost for creation of document to be shared with developers / engineers) building on work done within 2013 Manor Royal design guide	£2k	H

Theme	Ref	Measure	Cost	Priority
Information and Marketing	A32	New starter travel information packs – a full suite of relevant information including identifying where real-time and journey planning information can be found online. Potentially to include travel vouchers / incentives to encourage trialling services. (Cost of vouchers excluded).	£2-3k pa	H
	A37	Personalised travel planning with Manor Royal employees	£250k	H

5.4 It should be noted that a number of different options are available with regard to delivery partners and these will need to be considered in more detail by MRBD as the designs and planning progresses.

Next Steps

5.5 Following adoption of this Action Plan, it is recommended that the following further steps are taken:

- further detailed studies on the highest priority measures, including funding appraisals;
- further engagement with key stakeholders in Manor Royal;
- develop a funding plan for the quick wins and other measures (agreeing budgets, funding bids and other sources etc), including measures that need to be considered as a group; and
- develop a communications strategy with stakeholders to communicate the conclusion of the transport strategy and make public the planned improvements, focusing initially on quick wins and how they fit into the wider strategy.

5.6 Due to the nature of the measures requiring input both in terms of funding and delivery across a wide number of partners, it is suggested that a monthly Manor Royal steering group is set up to drive progress, enable any barriers to delivery or other issues to be discussed openly and to monitor progress against funding availability.

A Infrastructure Scheme Cost Estimates

**Manor Royal Business District
Transport Strategy & Action Plan
Infrastructure Schemes**

High Level Cost Estimates

Ref	Scheme	Cost Estimate	Assumptions*
A1	Conversion of some existing on-street parking (e.g. 10x30m stretches) and new bays created within key areas on verge parking (Rutherford Way - 2x24m) into car sharing bays	£180,000	<p><u>Line Works & Signage</u> - (28% Management & Preliminary Costs, 5% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Lower design contribution due to non-intrusive works. - Lower cost overall as amending existing bays, not constructing new parking areas. <p><u>Verge Swapping</u> - (28% Management & Preliminary Costs, 20% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Increase design contribution due to intrusive works and civil engineering requirement. - Installation of new signage instead of swapping out existing signage. - Allowance for potential utility works. - Construction/civil works increase the costs of the verge swapping.
A9	Junction improvements at Manor Royal/Gatwick Road junction to reduce congestion on Manor Royal, including full signalisation	£600,000	<p>(28% Management & Preliminary Costs, 20% Design Costs + £15k for survey and modelling, 40% Contingency)</p> <ul style="list-style-type: none"> - Substantial civil works costs, as well as cost of signal installation and ducting. - Large allowance for utility works as a result of new ducting for signal cables.
A12	Provision of eastbound bus lane on Manor Royal (between London Road and Gatwick Road) (High priority London Road to Faraday Road, lower priority between Faraday Road and Gatwick Road)	£3,500,000	<p>(28% Management & Preliminary Costs, 10% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Includes re-designing, constructing and signalling two junctions and two signalised pedestrian crossings. - Reduced design contribution as a result of the linear nature of the scheme. - Large civil and utility allowance due to the length of the scheme.
A14	Shelters and real time information at five remaining bus stops in Manor Royal: Gatwick Road South (northbound), County Oak (eastbound), Napier Way (j/w Gatwick Road) and Gatwick Manor A23 (both directions)	£90,000	<p>(15% Management & Preliminary Costs, 5% Design Cost, 40% Contingency)</p> <ul style="list-style-type: none"> - Price is for 5 new shelters with real-time information provisions. - Allowances made for utility and cabling/ducting works. - Lower design contribution due to low impact of shelter inclusion. - Reduced management and prelim costs due to the low impact of shelter inclusion.
A19	Provide dropped kerbs/tactile paving at every junction, crossing and crossover (site entrance) to ensure accessibility and consistency across the business district (circa 80 locations)	£350,000	<p>(28% Management & Preliminary Costs, 20% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Approximately 80 crossing points costed. - Inclusion of allowance for civil works and utility amendments. - Approximate cost of £4.5k per crossing (2arm)
A20**	Provide additional pedestrian crossings to improve pedestrian priority at junctions (7) reduce walking distances and increase access to bus stops (3)	£2,300,000	<p>(28% Management & Preliminary Costs, 20% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Utility allowances made for all crossings - Cost for 10 crossings in total. - Informal crossings not costed with highway survey & modelling requirements. - Estimate inclusive of cabling, ducting, signal equipment and dropped kerbs/tactiles (as required) at the 10 locations.
A22	Allowance for cycling infrastructure refresh (resin/signage across Manor Royal)	£200,000	<p>(28% Management & Preliminary Costs, 20% Design Costs, 40% Contingency)</p> <ul style="list-style-type: none"> - Costs provided for existing Manor Royal cycle routes only. - Small allowance made for utility works due to non-intrusive works.

* All estimates provided are subject to 40% additional cost for contingency (as highlighted in the table above) due to the stage of the project lifecycle. As further investigation is undertaken on site, estimates will be refined with lower allowance for risk and potentially reduced design overheads, both due to increased certainty of requirements.

****Breakdown of Costs for individual Junctions to improve pedestrian accessibility**

Location	Scheme	Cost Estimate
London Road / Manor Royal	Re-time the junction and improve the pedestrian crossing facilities across all arms of the junction. This includes an allowance for potential carriageway civil works (kerb alignment), cable ducting and pulls, new signalling equipment which include pedestrian signals, tactile paving at pedestrian crossing points and an allowance for utility works.	£560,000
Manor Royal / Crompton Way	Add pedestrian phase across all arms of the junction, introducing tactiles and dropped kerbs in 4 new locations.	£200,000
Gatwick Road (Zone 4)	Introduce a new Pelican Crossing between two bus stops on Gatwick Road to allow pedestrians to reach businesses from Northbound buses and vice-versa	£120,000
Gatwick Road / Fleming Way Roundabout	Add signal and provide pedestrian phase to 3rd arm	£200,000
Gatwick Road / Rutherford Way	Convert the Crossing from an informal crossing with a central island, to a zebra crossing with no central island.	£60,000
Fleming Way / Faraday Road	Re-signalise the junction to include pedestrian phase on two additional arms. This includes an allowance for potential carriageway works (widening), cable ducting and pulls, new signal heads, compliant tactile paving at pedestrian crossing points and an allowance for utilities work.	£270,000
Fleming Way (West)	Convert the Crossing from an informal crossing with a central island, to a zebra crossing with no central island.	£60,000
London Road / Fleming Way Roundabout	Introduce signal controls on all arms with associated pedestrian crossing points on three arms. This includes an allowance for potential carriageway works (widening), cable ducting and pulls, new signal heads, compliant tactile paving at pedestrian crossing points and an allowance for utilities work.	£590,000
London Road Country / Oak Way	Introduce pedestrian phase on the fourth junction arm to allow all movements across the junction. This includes an allowance for potential carriageway works (widening), cable ducting and pulls, new signal heads, compliant tactile paving at pedestrian crossing points and an allowance for utilities work.	£240,000

END

B Metcalf Way Technical Note

To Manor Royal BID
From Steer Davies Gleave
Date December 2016
Project Manor Royal Transport Study

Project No. 22929401

One Way Working – Metcalf Way

This technical note has been prepared by Steer Davies Gleave to provide details regarding the proposed one-way traffic movements on Metcalf Way, Manor Royal. Currently Metcalf Way operates with two-way traffic movements.

Existing Arrangement

1. Metcalf Way is located in Zone 1 of Manor Royal and is accessed from Country Oak Way. Figure 1 provides an illustration of Zone 1 of Manor Royal and Metcalf Way.

Figure 1: Manor Royal - Zone 1



2. At present there are no restrictions on parking or waiting on Metcalf Way. As a result there are a large number of vehicles parked on the carriageway, restricting the available width for vehicles to use when driving. Figure 2 shows an image of vehicles parked on Metcalf Way.

Figure 2: Metcalf Way



3. Metcalf Way provides access to a number of light industrial businesses, as well as to the servicing area for the County Oak retail park. Due to the land uses located in this area the vehicle types tend to be large transit-type vans or HGVs.
4. Given the restricted width due to parked vehicles, and the vehicle types using Metcalf Way, it becomes difficult for vehicles to pass causing congestion on Metcalf Way and further within Zone 1. In turn, this also inhibits access to the businesses located on Metcalf Way.

Potential One Way Operation

5. The amendments in highway operation are suggested to assist with relieving congestion currently caused by parked vehicles on the highway. The introduction of one way working would allow vehicles to continue to park on the carriageway as well as maintain access to the all business units/servicing areas.
6. Potentially vehicles would access Metcalf Way from the westernmost point of County Oak Way to ensure that, if congestion occurs, queuing vehicles do not begin to impact near the County Oak Way roundabout that provides access to the County Oak Retail Park.
7. Figure 3 illustrates the proposed one-way arrangements for Metcalf Way.

Figure 3: Metcalf Way: One-way Operation



Considerations

8. In order to understand the potential benefits and limitations of operating Metcalf Way as a one-way system, a SWOT (Strengths, Weaknesses, Opportunities and Threats) has been undertaken. Table 1 provides the SWOT Analysis.

Table 1: SWOT Analysis: Metcalf Way One-Way Operation

Strengths	Weaknesses
<ul style="list-style-type: none"> • Potential to minimise congestion caused by vehicles waiting to pass each other • Access to businesses likely to be improved • Likely to improve cycle safety due to reducing the number of queuing HGVs and LGVs passing each other • Less civil works, and therefore potentially cheaper, than removing grass verges to formalise parking spaces 	<ul style="list-style-type: none"> • Removal of two-way working may encourage more informal on-street parking • Increased vehicle mileage (approx. 800 metres) although offset by time savings • Accesses to businesses may need to be amended to accommodate new turning movements • To implement changes, a closure of Metcalf Way is likely to re-line and install signage. This is likely to have localised disruption for businesses although weekend working could be considered to minimise impacts
Opportunities	Threats
<ul style="list-style-type: none"> • Allows for more formalised traffic regulation when implementing the one-way system, such as formalising parking on street • Formalised parking, it is likely to enable a better pedestrian environment, encouraging walking in Manor Royal • With less vehicles queuing as a result of congestion, air quality could improve in the local area 	<ul style="list-style-type: none"> • Local residents and businesses may reject the proposal at consultation • Driver sat-nav systems will need updating to reflect one-way operation • Vehicle speeds could increase

Recommendation

9. This technical note recommends amending the operation of Metcalf Way from a two-way to one-way carriageway and the considerations required prior to implementation. As a result of the assessment, the potential amendments are considered to be negligible in transport terms, resulting in no significant impacts.
10. Prior to implementation a detailed design will need to be produced as well as wider stakeholder engagement to obtain agreement for the amendments.

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22929401

Client contract/project number

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Distribution

Client: *SDG:*

Version control/issue number

V1

Date

24 November 2016



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