Maidstone Integrated Parking Strategy Research

Analysis Report

Report

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Job No. ST12118

Report No. 1

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Status DRAFT

Issue No. 1

Date 12 December 2011

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Contents Amendments Record

This document has been issued and amended as follows:

Status/Revision	Revision description	Issue Number	Approved By	Date
DRAFT		1	Peter Hardy	12/12/2011

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1 Introduction

Overview

1.1 Maidstone Borough Council (MBC) appointed JMP Consultants Ltd (JMP) to undertake a series of research tasks to support the development of the Council's Integrated Parking Strategy. The strategy aims to assess the current and future use of both Town Centre Car Parks, as well as Park & Ride facilities to support the development growth outlined within the Maidstone Core Strategy (2011).

Content

1.2 This report is the second output of the research study and presents the initial analysis of the park & ride and town centre car parking issues and opportunities. This includes a discussion of:

- Trip generation;
- Park & Ride Infrastructure appraisal;
- Town Centre Car Park appraisal;
- Outline Strategy Objectives

1.3 A summary of the analysis is presented in the following sections.

2 Trip Generation

Overview

2.1 This section provides a brief assessment of the development proposals that are set out within the Council's Core Strategy and the implications for future trip generation for the movements into and out from the town centre.

Core Strategy Development Assumptions

2.2 The Council's Core Strategy document sets outs the proposed development strategy between 2006 and 2026. The overall borough-wide strategy is to deliver 10,080 homes and around 10,000 additional jobs within this period.

2.3 In terms of the interrelationship between additional housing and jobs, the Core Strategy identifies:

"It is anticipated that the additional 10,080 dwellings would increase the resident labour supply by approximately 5,000 between 2006 and 2026. The resident labour supply will meet half the targeted 10,000 additional jobs within the borough over the same period. It is further anticipated that the remaining jobs would be filled by changes in travel to work patterns including reducing the levels of outcommuting, allowing more residents to live and work in the borough"

2.4 In terms of the spatial distribution of distribution of the development the Core Strategy identifies the need for it to focus upon sustainable locations where "*employment, services and facilities, together with a range of transport choices are available*". Based upon this approach, a 'Settlement Hierarchy' has been developed that identifies Maidstone as the key location for development.

"The County Town of Maidstone provides the most service and employment opportunities as well as the best range of transport options in the borough. For this reason it is to be the focus for a significant proportion of new housing, employment and retail development in the borough"

2.5 It is acknowledged, however, that the urban area of Maidstone cannot accommodate all the growth that will be required and so development at the edge of the urban area would prove to be the next most sustainable alternative.

2.6 The Town Centre Study identified capacity for up to 34,500m2 of floor space for comparison retailing, up to 31,300m2 of B1 offices and some 380 dwellings in the period up to 2026 with selected opportunities for additional convenience shopping, leisure, culture and tourism uses in response to demand. The requirement for Grade A office space will be predominantly met in the town centre. Analysis in the Employment Land Review concludes that a 70:30 split between office floor space in town centre compared with beyond centre locations would be reasonable.

2.7 Based upon this analysis the Core Strategy adopts the policy that "*Town Centre sites will be identified in the Central Maidstone Area Action Plan to provide for 29,950 sqm comparison retail floor space and some 380 new dwellings in addition to substantial provision for high quality office space*".

2.8 Beyond the immediate town centre, within the urban area, the policy is, first, for redevelopment or infilling of appropriate urban sites and to maintain and support current business and shopping areas.

2.9 Specific proposals are then made for the rural areas of Harrietsham, Headcorn, Lenham, Marden, and Staplehurst.

Trip Generation

2.10 Given the outline nature of some of the development proposals, at this stage, it is difficult to provide a traditional site specific assessment of trip generation and distribution. An overarching assessment of trip generation has, however, been undertaken as part of the transport modelling exercise for the area. The model has a land-use interaction module that is able to interpret population and employment data in order to forecast future trip productions and attractions across the modelled zones.

2.11 This output from this process is a forecast increase in peak period person trips of 14,000 by 2016, which represents a 23% increase above the current estimate of 60,000 person trips.

Trip Distribution

2.12 It is clear from the Core Strategy approach that there will be a significant impact upon trips to and from the town centre as a result of the proposed development levels. The focus of retail and office growth within the core Town Centre will be a strong attractor of trips, and whilst some of the additional housing provision will be in and around the town centre, there will also be development around the urban fridge and within rural area.

2.13 The Core Strategy has the vision that 50% of the increase in employment in the borough will be directly linked to the increase in residential dwellings, with the other 50% resulting from existing residents of the borough who currently work outside Maidstone, will instead obtain employment within the town. This would have the impact of reducing the level of outcommuting and increase the flow of trips towards the town centre in the AM peak period.

3 Park & Ride Infrastructure Appraisal

Introduction

3.1 This section presents an initial analysis of the proposed park & ride sites and infrastructure measures proposed as part of the development of the Integrated Parking Strategy.

3.2 A total of eight park & ride sites have been indentified, including the three current sites and five additional sites. Two variations for the London Road and Sutton Road sites are also proposed.

3.3 A total of nine bus priority infrastructure measures have been proposed, including bus lanes and prioritisation at junctions for park and ride sites.

3.4 The sections below provide an overview of the park & ride sites and the associated infrastructure measure along with an initial assessment of their deliverability.

Proposed Park & Ride Sites

Overview

3.5 Eight potential park & ride sites have been identified for assessment, including the existing three sites. They are as follows:

- London Road (518 spaces plus proposed extension of 200 spaces)
- Sittingbourne Road (610 spaces)
- Willington Street (400 spaces)
- Cobtree Roundabout (proposed 1,800 spaces)
- Bluebell Hill (proposed 500 spaces)
- Newnham Court (proposed 1,500 spaces)
- Sutton Road (proposed 1,800 spaces plus smaller option of 600 spaces)
- Linton Corner (proposed 400 spaces)

3.6 A brief description of the sits is provided below.

Existing Sites

3.7 The three existing sites have been operating since the late 1980's and provide park and ride facilities for travellers accessing Maidstone from the north and along the M20 corridor. Whilst the sites all have the same level of bus service provision, they do differ in terms of the standard of site infrastructure, with the Sittingbourne Road site considered to be of the lowest quality in terms of surfacing, demarcations and quality of environment.

Cobtree Roundabout

3.8 The proposed Cobtree site is located to the northeast of the Cobtree Roundabout, which provides interchange between the A229 and the M20 at Junction 6. The site would be accessed by general traffic directly from the roundabout. There are a number of potential options for access to the site by the park & ride buses, including access of the Cobtree roundabout or access from Boarley Lane.

Bus tunnel from northbound A229 to Old Chatham Road / Boarley Lane.

3.9 A bus tunnel was proposed to carry northbound P&R buses from the A229 to a proposed bus route via Boarley Lane to the Cobtree site.

3.10 If this tunnel was designed for buses only and was a one-way route, it would be reasonable to restrict the speed through the tunnel to 30mph, or even less. However there would still be a requirement to allow for some degree of forward visibility as buses are driven on 'line of sight' and not under a fully signalled system like a railway. Furthermore an allowance needs to be made for the bus to descend approximately 6m below the level of the A229. To enable this to happen, buses would need to leave the A229 in the vicinity of the Chatham Road/Gibraltar lane and loop round in the parcel of land bounded by Castle Dene and through some newly constructed buildings. It is understood that this parcel of land is privately owned and is not designated as highway. As such it is likely that Compulsory Purchase Order (CPO) powers would be required to secure this land.

3.11 A judgement needs to be made as to whether the Council could build a compelling case for the purchase of this land which would stand up to scrutiny at public inquiry. To do this it would be necessary to prove that the alternatives are not viable before proceeding with this option. If there is a feasible alternative which is predominantly on public highway, the bus tunnel is unlikely to succeed. As such we have not costed this option and have not considered it further.

Upgrade of Boarley Lane to take buses

3.12 Boarley Lane is a narrow country lane running from Old Chatham Road / Sandling Lane junction north-east, under the M20 motorway, meeting Tyland Lane east of the Cobtree roundabout. It runs on the eastern boundary of the proposed Cobtree P&R site, and as such has been considered as a route for buses into and out of the Park and Ride site.

3.13 The original concept involved linking the bus tunnel outlined above to Boarley Lane for northbound buses, and providing a link from Boarley Lane to the southbound A229 just west of Sandling Place Court. As noted above, the bus tunnel is considered unachievable, and therefore an alternative for north bound buses has been considered, comprising a link from the Sandling Lane A229 roundabout.

3.14 Boarley Lane varies in standard from a single track country lane of no more than 3m width at its narrowest point towards the southern end to a two-lane single carriageway road as it passes under the M20 bridge. Elsewhere it varies in width between these two extremes. The alignment is twisty and threads its way between ponds to the west and residential / agricultural land to the east. Visibility is poor, and it is assumed that the existing carriageway structure is incapable of carrying buses without significant improvement.

3.15 In order to carry a frequent P&R service it is necessary to widen the road to not less than 7.0m in width, taking out the sharper corners and improving visibility around the bends. A site inspection suggests that the land either side of the road is not public highway and as such will need to be purchased either by negotiation or through Compulsory Purchase.

3.16 An alternative scenario would be to improve Boarley Lane to single track road with passing places. If the P&R bus operates at a 10 minute interval in each direction, it is likely that buses will need to pass each other along the length of Boarley Lane which will delay the bus service. The road will still need upgrading such that the pavement can take the loading of 12 buses per hour, and note should be taken of the inconvenience caused to residents by the mix of a frequent bus service with residential traffic. Therefore, whilst there would be a cost saving through a reduced likelihood of

requiring additional land, this would be at the expense of delays to buses caused by single lane working with passing places and increased inconvenience to residents.

Link from Boarley Lane to Sandling Lane Southern Roundabout

3.17 On the corner of Boarley Lane and Old Chatham Road is an old timber framed cottage which is understood to be listed. The level of Boarley Road at this point is significantly lower than the level of the A229, and the cottage lies on the natural route for a new link into Boarley Lane, accounting for the level difference, and would need to be demolished unless a new bridge was built to carry the link across the southernmost pond. It is expected that both these options would be unacceptable on environmental grounds, and that the owner of the cottage would object to either scheme.

3.18 It is feasible to create a new link from the southbound off-slip to Old Chatham Road at this point but it is difficult to envisage how this would help a proposed P&R bus link to Cobtree.

3.19 Given that Boarley Lane needs significant widening along its entire length, and additional land will need to be secured to achieve this and a sensible link to existing highway, it is likely that CPO powers will be required to achieve this option. As with Bluebell Hill, it will therefore be necessary to demonstrate that there is a compelling case for constructing this route, which can only be done if there isn't a viable alternative that does not require CPO.

3.20 We have prepared a cost estimate for a Boarley Lane bus route, but note that this option will be extremely difficult to deliver because of the need for CPO.

Access to Cobtree using existing highway

3.21 Site access can be provided to and from the east side of the Cobtree roundabout for general traffic and will require the following elements of work to be carried out:

i. Realignment of up to 200m of the M20 on-slip so that it either leaves the roundabout further south, or it diverges from the A229 southbound on-slip away from the roundabout.

ii. Reconstruction of the footbridge across the P&R site access and the realigned M20 slip.

iii. Widening of the circulatory carriageway of the Cobtree roundabout making use of the over-wide bridge decks crossing the A229.

iv. Signalisation of the Cobtree roundabout to add capacity.

v. Widening of the A229 slips to provide additional capacity and a bus lane for P&R buses.

vi. Removal of the retaining wall under the westernmost span carrying the northbound slip road under the M20. This will facilitate construction of a bus lane for northbound P&R buses.

vii. Signalisation of the southern A229 roundabout (Sandling Lane) with widening of the A229 slips to provide a bus lane on key approaches.

3.22 Works to the A229 south of the Sandling Lane roundabout are dealt with elsewhere.

3.23 Bus lanes can also be provided as part of the Cobtree roundabout upgrade for general traffic and as such, this would appear to be the most deliverable option as most of the land lies within public ownership.

Bluebell Hill

3.24 The proposed Bluebell Hill site is located off the A229 approximately 1.6km to the north of Junction 6 of the M20. It is a site that is owned by MBC and is located between Old Chatham Road and the High Speed 1 railway line.

3.25 The site is relatively constrained in terms of access opportunities due to both restrictions in space but also the grade changes associated with the A229.

3.26 Immediate access to the site is via the Old Chatham Road which offers a good link for cars to leave the southbound A229 adjacent to the Shell Petrol Filling Station and enter the P&R site.

3.27 Northbound general traffic does not have a direct route into the site. There is a northbound exit slip road from the A229 north of the site which provides a link to Rochester Road. There is a T Junction left off this slip which loops back via a narrow link, under the A229, and round the back of the Shell Filling Station and into Old Chatham Road at the point where the southbound exit slip leaves the A229. To avoid a dangerous vehicle conflict and to improve this route from the northbound A229, the existing route would need to be widened and realigned to form a larger radius requiring agricultural land, and looping round the outside of the filling station to enter the P&R site at its northernmost extremity.

3.28 Northbound exiting general traffic could make use of the same route, rejoining the northbound A229 via Chatham Road. It is likely that the existing underpass under the A229 would not be wide enough for two-way traffic, and as such will need to be re-built.

3.29 Southbound general traffic could rejoin the A229 via a new link from the south end of the P&R site across a field to the A229.

3.30 Park and Ride buses could either join the southbound A229 via a new link south of the filling station, or could make use of Chatham Road to Tyland Lane, turning right to join the southbound A229 Cobtree off-slip.

3.31 Northbound P&R buses could either share the northbound general traffic route via the existing underpass, or would need to cross the A229 by a new bridge. Given the gradients in the area, the length of any new build road would be long on the west side of the new bridge if it passes over the A229, or on the east side of the bridge if it passes under the A229 in order to avoid making the gradient too steep for the buses to use economically. It therefore seems sensible for P&R buses to share the general traffic route, albeit using a dedicated bus lane, as the existing underpass would need to be rebuilt anyway, just to accommodate general traffic.

3.32 There are significant disadvantages associated with the Bluebell Hill site. Firstly it is situated 1.6km (1 mile) north of the M20. It would serve traffic approaching from the Medway towns well but would require a 4km detour away from Maidstone for traffic arriving or departing via the M20 corridor (4km includes arrival and departure car trip and a loop to enter the site from the A229 northbound). This journey is in the wrong direction from the M20 and would offer no journey time saving over driving into the town centre and parking there.

Newnham Court

3.33 The proposed 1500 space Newnham Court site is located to the southeast of Junction 7 of the M20 and would be accessed off the A249. It provides a larger, alternative site to the current Sittingbourne Road site located just to the west of the A249.

3.34 Access for cars and buses is provided by upgrading the existing Newnham Court link from the A249 Bearsted Road link to the M20 junction 7. It is assumed that it is not necessary to provide capacity upgrades to either the M20 roundabout or to the Bearsted Road roundabout

Sutton Road

3.35 The proposed Sutton Road site is located along the A274 just beyond the current urban limit at Bircholt Road. The site is currently greenfield and would have access directly onto the A274, Sutton Road, probably via a signal controlled junction incorporating bus priority measures to facilitate the efficient operation of the bus service.

Linton Corner

3.36 The proposed Linton site is located along the A229 Linton Hill on the southwest corner of the junction with the B2163 Heath Road. The site is currently greenfield and would have access directly onto the A229, Linton Hill by means of a new signal controlled junction. The site is situated at a lower level than the road so the access will need to include a ramp for all vehicles into the site. The site is deliverable, however the space required for the ramp will reduce the space available for parking.

Proposed Bus Priority Measures

Overview

3.37 Successful operation of a park and ride system depends not only on efficient park and ride site design but on achieving a fast and reliable journey time from the park and ride site to the town centre. The following schemes have been identified to link the various park and ride sites to the town centre.

- Southbound bus lane on A229 between M20 (Junction 6) and Sandling Road / Royal Engineers Road
- Northbound bus lane on A229 between M20 (Junction 6) and Sandling Road / Royal Engineers Road
- Northbound bus lane on A274 between Bircholt Road and Wheatsheaf Junction
- Southbound bus lane on A274 between Bircholt Road and Wheatsheaf Junction
- Bus lane from Wheatsheaf Junction around the town centre gyratory system
- Bus only junction at Sandling Road / Royal Engineers Road
- Bus priority measures at Sittingbourne Road / Penden Heath Road Junction
- Bus priority measures at Huntsman Lane / Ashford Road Junction
- Bus priority measures at Willington Street / Ashford Road Junction

3.38 A brief description of each bus priority measures is provided below

A229 Bus Lanes

Southbound

3.39 This section considers provision of a bus lane southbound along the A229 from the Sandling Lane roundabout (M20 J6) and the junction with Sandling Road adjacent to the Shell filling station, a distance of approximately 1300m.

3.40 Over much of this length there is sufficient width to construct a third lane southbound and use it as a dedicated bus lane. However there are a few constraints which prevent the bus lane from being continuous.

3.41 The footbridge opposite Gibraltar Lane spans a little over half the width of a bus lay-by. By narrowing the central reserve at this point it may be possible to fit a three lane carriageway under the bridge, however it is likely that the footbridge will need to be replaced to a larger span.

3.42 A retaining wall on the southbound approach to the Chatham Road / Flowers Rise roundabout needs to be relocated further east to provide space for the bus lane.

3.43 It is likely that the same roundabout will need to be signalised to provide additional capacity.

3.44 The lane terminates just to the south of a Shell filling station. The bus lane will continue onto Sandling Road at this point and is dealt with under another section.

Northbound

3.45 The northbound bus lane mirrors the southbound A229. Some third party land may be required, however it may be possible to avoid this by narrowing the central reserve and moving the entire road slightly east of its present centre line. It is likely to be cheaper to buy the land.

A274 Bus Lanes

Northbound

3.46 This comprises a new bus lane (northbound lane only) adjacent to the A274 between Bircholt Road and Wheatsheaf Junction. The lane is new-build, achieved by widening into the existing verge. It is expected that most of this lane can be achieved within highway land.

Southbound

3.47 This comprises a new bus lane (southbound lane only) adjacent to the A274 between Bircholt Road and Wheatsheaf Junction. The lane is new-build, achieved by widening into the existing verge. It is expected that most of this lane can be achieved within highway land.

Wheatsheaf Junction / Gyratory Bus Lane

3.48 This bus lane links the Wheatsheaf junction with the town centre along Loose Road and the A229 gyratory. Loose Road is a four-lane single carriageway operating as two lanes in each direction, separated by a narrow strip of hatching. The gyratory is not less than two lanes operating as a large circulatory carriageway. The bus lanes are achieved by converting the left hand lane of two in each direction of Loose Road, and the left hand lane of the gyratory into a bus lane. No further carriageway widening is required, however modifications will be required to some of the junctions to accommodate the gyratory.

Junction Enhancements

Sandling Road / Royal Engineers Road

3.49 This scheme comprises removal of the existing boundary wall at the Shell Station to provide access for southbound buses travelling on the A229 onto Sandling Road. The following measures to improve the junction would be required as part of this scheme:

- Carriageway widening along the section of the A229 Royal Engineers Road on approach to its junction with Sandling Road to provide an additional bus lane;
- The installation of retractable bollards at the junction of the A229 Royal Engineers Road / Sandling Road to provide access for southbound buses only; and
- Installation of traffic signals at the A229 Royal Engineers Road / Sandling Road junction.

Sittingbourne Road / Penden Heath Road Roundabout

3.50 This scheme involves signalisation of the Sittingbourne Road / Penden Heath Road roundabout to provide priority access into the roundabout for buses in the AM and PM peak periods. Measures required to implement this scheme include:

- Signalisation of all arms of the roundabout; and
- Carriageway widening and installation of a 'bus only' lane on Sittingbourne Road on approach to the roundabout.

Huntsman Lane / Ashford Road Junction

3.51 This scheme involves reorganisation of Huntsman Lane / Ashford Road junction in order to provide a bus only lane through the junction. Measures required to implement this scheme include:

- Widening of the existing carriageway on both the northern side of Ashford Road to enable a 'bus only' lane to be installed through the junction;
- Provision of turning pocket for right turning vehicles from Ashford Road into Huntsman Lane; and
- Installation of traffic signals to improve traffic movement at the junction.

Willington Street / Ashford Road Junction

3.52 This scheme involves the installation of a 'bus only' lane for buses travelling from Willington Street into Ashford Road. Measures required in order to implement this scheme include:

- Construction of a 'bus only' lane from Willington Street through a section of the Mote Park onto Ashford Road; and
- Reorganisation and improvement of Ashford Road / Willington Street / Lord Romney's Hill junction to provide improved access for buses and general traffic at this junction.

Construction Costs

Overview

3.53 This section provides an initial estimate of the construction costs associated with the park & ride sites and bus priority infrastructure measures outline above.

3.54 It is important to note that these are very much budgetary costs and are not based on any significant design work. No utility searches have been carried out. The costing exercise was based on rates found in Spons Civil Engineering Price Guide. High and low range costs have been identified to account for the fact that there is little detail on which to base costings.

3.55 Land costs for the actual park and ride sites has not been included in these costs, though an allowance has been made for land where it is required to improve bus links outside of the park and ride sites.

3.56 The cost estimates are summarised under two Scenarios, namely:

- Scenario 2 – Park and Ride Radial Sites Option; and
- Scenario 3 – North / South Park and Ride Spine Option.

3.57 These scenarios are presented graphically in Appendix A.

Scenario 2 – Park and Ride Radial Sites Option

3.58 Table 3.1 provides the cost of each of the schemes identified under Scenario 2.

Table 3.1 Cost estimates for Scenario 2

Scheme No.	Scheme description	Scheme cost (£)	
		Low Cost (£)	High Cost (£)
1a	A bus lane (southbound lane only) adjacent to the A229 between the M20 (junction 6) and the junction of Sandling Rd / Royal Engineers Road.	6,578,550	7,928,219
2a	A bus lane (northbound lane only) adjacent to the A274 between Bircholt Road and Wheatsheaf Junction.	10,069,404	12,374,220
6	Constructing a new P&R site on A274 Sutton Road for 600 vehicles.	1,976,680	2,791,527
7	Constructing a new 0.9ha P&R site on Linton Corner on the south-western corner of the junction (400 spaces)	1,534,441	2,168,373
8	Construction of a new 3.2ha P&R site on Newnham Court directly south of Junction 7 of the M20 (1500 spaces). Assumes no work is required to M20 J7 roundabout or to Bearsted Road roundabout.	4,924,940	6,945,893

9a	Creating a 'bus only' junction at the Sandling Rd / Royal Engineer's Road junction by removing the existing wall across the road and installing a 'bus only' bollard to allow only buses to use Sandling Road	350,770	474,641
9b	Bus priority measures at the Sittingbourne Rd / Peneden Heath Rd roundabout to include traffic lights that give priority to buses entering the roundabout over vehicles entering from Peneden Heath Road and Sittingbourne Rd during the am peak; and then gives priority over vehicles from Bearsted Rd in the pm peak	318,226	565,491
9c	Bus priority measures at the Huntsman Lane / Ashford Rd junction to reorganise the junction to enable a small bus only lane to pass vehicles turning right into Huntsman Lane from Ashford Rd	402,452	616,183
9d	Bus priority measures at the Willington St / Ashford Rd junction. This would include taking some of existing parkland and creating a small bus only lane that bypasses this junction from Willington St and then re-enters Ashford Rd a short/safe distance west of the junction	758,104	1,045,166
11	Constructing a 1.1 ha P&R site at Blue Bell Hill (500 spaces) and connecting it to the A229	8,910,232	12,601,622
12	Expand the London Rd P&R site by 200 spaces	1,281,666	1,744,524
Total		**37,105,465**	**49,255,859**

3.59 Table 3.2 provides the individual costs identified for each scheme under Scenario 3.

Table 3.2 Cost estimates for Scenario 3

Scheme No.	**Scheme description**	**Scheme cost (£)**	
		Low Cost (£)	**High Cost (£)**
1b	Two bus lanes (one in each direction) either side of the A229 between the M20 (junction 6) and the junction of Sandling Rd / Royal Engineers Road (NB Bus Lane)	11,571,634	13,983,457
2b	Two bus lanes (one in each direction) either side of the A274 between Bircholt Road and Wheatsheaf Junction (SB Bus Lane)	20,253,411	24,752,305
3	A bus lane for the A229 from Wheatsheaf junction including the Loose Rd / Hayle Rd / Palace Ave / Upper Stone St gyratory	479,480	643,280

5a	Constructing a new 4.0ha P&R site east of Cobtree Roundabout (1800 spaces) with access ramps to Cobtree Roundabout.	10,715,859	14,329,035
5b	Resurfacing / upgrading Boarley Lane and Old Chatham Rd to a sufficient specification to carry P&R buses and other existing traffic. The length of lane would be between the proposed Cobtree P&R site (just south of Tyland Lane) and the A229. This would include the widening of the lane to accommodate P&R buses with ease and other light traffic. In addition, this would also include a connecting ramp to the A229 to connect to the proposed southbound bus lane (see 1b). This scheme is shown in pink in 'Potential Cobtree P&R Site and Bus Routes'	4,753,711	5,916,743
5d	Constructing a single bus only lane (northbound) adjacent to the current A229 to connect the other northbound bus lane described in (1b) above with the Cobtree P&R site. This scheme is shown in orange in 'Potential Cobtree P&R Site and Bus Routes'.	2,540,473	3,368,124
5e	Option for accessing the Cobtree P&R site via the roundabout south of Junction 6. Assume Boarley Lane is upgraded elsewhere.	1,947,802	2,431,602
6	Constructing a new 3.6ha P&R site on A274 Sutton Rd at urban area limits just east of Bircholt Rd (1800 spaces).	5,514,592	7,776,766
9a	Creating a 'bus only' junction at the Sandling Rd / Royal Engineer's Road junction by removing the existing wall across the road and installing a 'bus only' bollard to allow only buses to use Sandling Road	350,770	474,641
12	Expand the London Rd P&R site by 200 spaces	1,281,666	1,744,524
Total		**59,409,398**	**75,420,477**

4 Park & Ride Scenario Assessments

Introduction

1.1 This section presents an initial assessment of the potential operation of the park and ride sites. The analysis has been conducted on the basis of the three proposed scenarios initially proposed by MBC. These are presented graphically in Appendix A.

1. **Existing park & ride provision**
2. **Park & Ride Radial Sites Option**
3. **North / South Park & Ride Spine Option**

1.2 Park and Ride traditional works most effectively on corridors of high traffic demand. As a parking measure to intercept trips before they reach sensitive or congested area key determinants of demand are location, frequency of bus link operation, differential parking charges between Park and Ride and town centre and town centre car parking capacity.

1.3 To undertake an initial assessment we shall consider the interception rates for the current Park and Ride operations and consider the spatial opportunities created by the three strategy options proposed by the Council.

Approach

1.4 We shall make a spatial assessment of the possible locations for Park and Ride in relation to the key corridors into Maidstone town centre. We shall consider alternative journey attractors that may be susceptible to park and ride.

1.5 We shall commence by calculating the traffic inception rate at the current Park and Ride sites and scale this for peak and off-peak times including Saturdays.

1.6 In parallel to this we shall assess the potential location for sites in the general area of Maidstone not already identified in the Council's options.

1.7 We shall identify current traffic flows on the core radial routes and using this in conjunction with the traffic model data supplied by Jacobs establish the percentage of traffic heading for town centre locations which are most likely to be intercepted by park and ride in the morning peak. We shall then take this inception rate (peak, off-peak and Saturday) and apply this to the traffic flow past proposed new sites.

1.8 The Council has identified the following possible sites:

- Existing - London Road (518 spaces);
- Existing - Sittingbourne Road (610 spaces);
- Existing - Willington Street (400 spaces);
- Site 5 – Cobtree roundabout (1,800 spaces);
- Site 6 – Sutton Road (1,800 spaces or smaller option of 600);
- Site 7 – Linton Corner (400 spaces);
- Site 8 – Newnham Court (1,500 spaces);
- Site 10- Blue Bell Hill (500 spaces); and
- Site 11 – London Road Extension (additional 200 spaces).

1.9 From this list of possible sites the Council has developed three scenarios. Scenario 1 is development of the current sites. Scenario 2 represents a more dispersed approach to Park and Ride provision with sites on the majority of radial routes into the town centre. Scenario 3 represents the development of north – south axis Park and Ride corridor.

General Comments

1.10 The Council's draft LDF Core Strategy 2011 places most growth to the north-west and south-east of the of the town centre - around 2000 new dwellings. Proposed developments at junction 7 (medical) and junction 8 (warehousing) of the M20 may also be relevant to the possible use of park and ride bus services 'against the peak flow'

1.11 At the outset JMP would note that the concept of 'micro' park and ride using less formal car park sites and passing bus services has not been explored. Whilst from a quality perspective this approach will retain the high quality and distinctive Park and Ride services it may not offer full effective coverage across all radial routes.

The Current Offer and Scenario 1

1.12 This represents the existing Park and Ride offer. A further site at Coombe Quarry to the south of the town centre was opened but had since closed. The sites involved are:-

- London Road (518 spaces)
- Sittingbourne Road (610 spaces)
- Willington Street (400 spaces)

1.13 The sites are located near to key radial routes into the town centre but it is understood that limited bus priority is available.

1.14 Each site has a bus link to the town centre only

1.15 The London Road Site has the key target market of traffic from the M20 eastbound heading for the town centre but located some way from M20 junction 5. Apart from M20 traffic the target market is effectively the settlements of East / West Malling and Aylesford.

1.16 The Sittingbourne Road site is located directly south of M20 junction 7 but suffers from a lack of direct access from the motorway junction. DfT circular 02/2007 (and predecessor circulars) generally prevents new accesses in situations such as this. The convoluted access to the site may lower the site's attractiveness to passing motorists heading for the town centre.

1.17 The effective market for the Sittingbourne Road site is to the north of M20 motorway with some traffic from either direction on the M20 also possibly using the site.

1.18 The Willington Street site is located off the main A20 road into the town centre. Again the less than straightforward access from the main radial route may make this site less attractive than a site located directly adjacent to the main road.

1.19 The Willington Road site has a wide target audience from south east Maidstone, the M20 corridor east of the town, accessed through M20 junction 8 and the Willington / Downswood areas of the Maidstone urban area.

1.20 Scenario 1 shows estimated peak hour traffic interception rates of 13.7% of peak hour traffic heading for the town centre. Off peak traffic based on the highest level of car parking at each site

is 2.03 times the car demand intercepted in peak hours. Saturday traffic intercepted is 1.50 x the Monday to Friday peak hour quantum.

1.21 The current performance of Option 1 shows a general trend of declining patronage. The site access arrangements may not present an attractive front to attracting 'passing trade' and the lack f destinations other than the town centre.

1.22 The contract information supplied indicates that the services to these Park and Ride sites require 6.5 buses to operate a service at least every 15 minutes. This equates to a subsidy level of £837,000 per annum with the Council taking full revenue risk on the operation. JMP has highlighted a number of options to increase patronage and reduce the cost of bus service operation.

1.23 Option 1 includes a possible extension of the London Road site by 200 spaces to 718 spaces. On current evidence the car park has a maximum occupancy of 56%. To increase patronage to 2.5 times the existing level would require raising the interception rate to the equivalent of circa 80% of the current peak traffic flow past the site. To cater for the additional patronage the frequency of the current bus service would need to increase to at least every 10 minutes which would increase the combined peak vehicle requirement to 8.0 vehicles. It is suggested this would require extensive traffic restraint, the possible closure of the other current north-of-town park and ride to consolidate the market and a radical change to the current town parking quantum and price.

Scenario 2 - Radial Sites Option

1.24 The development of a radial route based Park and Ride strategy is dependent on the offer of a suitable Park and Ride on each radial road and the retention of the existing sites.

1.25 The new sites to the south of the town centre based on the current peak hour intercept rates have the following indicative Monday to Friday demand:-

- Site 6 – Sutton Road – 302
- Site 7 – Linton Corner – 204

1.26 To provide a typical Park and Ride bus service the following peak vehicle requirement is identified:-

- Site 6 – Sutton Road – 2 vehicles
- Site 7 – Linton Corner – 2 vehicles (3 vehicles peak hours based on the additional distance involved to site 3)

1.27 The new site to the north of M20 on the A229 (Site 10- Blue Bell Hill - 500 spaces) has an indicative Monday to Friday usage based solely on interception rates of 848 vehicles, however, it highly probable that this initial demand figure is artificially high due to the M20 being located between the site and the town centre. In essence, to use the Park and Ride traffic exiting the motorway would need to drive away from the town centre to access the site.

1.28 A bus services from site 10 would require at least two vehicles with a possible third peak hour vehicle to combat congestion on the A229.

1.29 On this basis, Scenario 2 would require an additional 6 buses to be operated with a possible requirement for up to 2 additional vehicles in peak hours. Pro rata costs for this would be in the region of £772k for six vehicles and £1,030 for eight vehicles. At current fares levels this would require an additional 309,000 journeys at the current peak fare of £2.50 to cover the cost of the basic six vehicle service.

1.30 Due to the dispersed nature of the sites providing effective bus priority measures would be a challenging process under this option due to the need to deal with the majority of radial corridors into the town centre.

Scenario 3 - North / South Park & Ride Spine

1.31 The development of a Park and Ride spine provide an opportunity to concentrate Park and Ride activity in a clearly defined route through the town centre. The proposal would involve the closure of the existing Park and Ride locations and the development of new sites at:-

- Site 5 – Cobtree roundabout (1,800 spaces)
- Site 6 – Sutton Road (1,800 spaces or smaller option of 600)

1.32 Whilst it is reasonable to assume that a degree of existing users would be retained vehicle demand for park and ride based solely on interception rates would be:-

- Site 5 – Cobtree roundabout – 848 vehicles
- Site 6 – Sutton Road – 302 vehicles

1.33 This compared to the highest surveyed demand being for 959 spaces at the existing Park and Ride. Naturally should the existing Park and Ride sites close one could expect some redistribution of demand to the new sites, especially to the northern site where the greater proximity of the new site to the M20 compared to the old northern sites could allow the retention of a significant proportion of the extant demand.

1.34 Given the concentration of Park and Ride demand into two sites bus service frequency, especially to the north site would need to increase to cater for the likely demand. Typical peak vehicle requirements would be

- Site 5 – Cobtree roundabout – 3 vehicles on a circa 10 minute frequency (4 vehicles peak)
- Site 6 – Sutton Road – 2 vehicles, 15 minute frequency

1.35 The cost of this operation at current rates would be in the region of £772k but patronage is likely to higher than the current operation thus aiding the financial operating case for Park and Ride.

1.36 The concentration on two corridors could allow for a suite of effective (but capital intensive) bus priority measures to be designed. The simple nature of the direct route between the sites via the town centre could allow the development of route options to serve the hospital west of the town centre.

1.37 The cost of closing the current sites and any resale values (e.g. the Sittingbourne Road site is leased and would not generate a capital receipt) would need to be considered in the making of a business case as would the need for capital expenditure to most likely be a sunk cost to the scheme. Effective value engineering of bus priority measures may be key to generating a economic case for investment as will conformation that capital receipts could be reinvested.

Summary

1.38 The options presented offer a range of solutions to the same key questions:-

- Can Park and Ride viability be improved?
- Does Park and Ride have a role to play in the Borough's growth strategy?
- Can a more attractive Park and Ride offer allow a wider range of spatial planning choices in the town centre?

1.39 If capital funding is not a barrier Scenario 3 has much to commend itself. A concentrated corridor for improvement focuses Park and Ride demand and is amenable to the development of effective bus priority measures.

1.40 Scenario 2 in our view could only be developed if alternative and lower operational cost approaches such as micro Park and Ride are considered due to the spreading of demand over a wider number of sites.

1.41 The retention of the status quo in retaining three sites would not seem to be viable in the long term unless aligned to market growth either through more effective interaction with town centre parking policies or through cost reduction measures. The proposed extension of the London Road site would appear on initial assessment to be unnecessary.

5 Town Centre Car Park Appraisal

Introduction

5.1 The 'Data Report' presented a detailed site audit, and wider spatial assessment, of each of the 17 MBC town centre car parks. This data is now combined with operational data in order to provide an initial assessment of the on-going viability of the town centre car parks.

Assessment Matrix

Overview

5.2 The matrix analysis of the town centre car parks is used to identify the level of performance of each individual car park site against a range of operational and policy criteria.

5.3 The criteria that have been used to assess the car parks is as follows:

- Size;
- Short/long stay;
- Physical condition;
- Safety & security provision;
- Physical vehicular access;
- Physical pedestrian access;
- Local highway network access;
- Strategic highway network access;
- Proximity to key Town Centre locations (retail, employment, services, leisure function)
- Proximity to other car parks;
- Local pedestrian access
- Utilisation;
- Primary reasons for use;
- Durations of stay;
- Perceptions of safety & security;
- Revenue generation;
- Operating costs; and
- Operating Surplus.

5.4 For each of the categories above the data for each car park has been collated. In some instances, (size, stay length, revenue, operating costs) the specific data has been entered. For most of the other criteria a ranking system has been used to identify the level of performance.

5.5 Figure 5.1 sets out the populated matrix for each car park.

Figure 5.1 Town Centre Car Park Appraisal – Matrix Analysis

Element	Barker Road	Brewer Street Upper	Brunswick Street	College Road	King Street	Lucerne Street	Sittingbourne Rd	Medway Street	Mill Street	Mote Road	Palace Avenue	Union Street West	Union Street East	Well Road	Wheeler Street	Brooks Place	Lockmeadow
Size	76	71	66	72	219	18	99	59	132	105	41	35	55	29	67	7	598
Stay Length	Long	Short	Long	Long	Long	Long	Long	Short	Short	Short	Short	Long	Long	Long	Short	Long	Long
Physical Condition	2	3	2	2	3	3	3	2	3	3	3	3	3	3	3	3	3
Safety & Security	1	2	2	3	4	1	3	2	2	2	1	3	3	1	3	1	3
Physical vehiclar access	1	1	2	1	1	1	1	2	2	1	1	1	1	2	1	1	2
Physical pedestrian access	3	2	3	3	3	3	3	1	3	2	3	1	3	1	3	1	3
Local highway network access	2	2	1	1	1	2	2	1	1	2	1	2	2	2	2	1	2
Strategic highway network access	2	1	1	3	1	1	2	3	2	2	2	2	2	1	1	2	2
Proximity to Key Locations	1	1	1	2	3	1	1	3	3	2	3	2	2	0	1	3	1
Proximity to other Car Parks	2	2	0	2	2	2	1	1	3	1	3	2	2	0	2	2	2
Local Pedestrian Access	2	3	2	2	3	3	2	2	2	2	2	3	3	3	3	3	2
Utilisation	4	4	4	3	4	4	1	4	2	2	4	3	3	3	3	3	1
Primary reason for use	SHOP	SHOP	SHOP	SHOP	SHOP	SHOP	WORK	SHOP	SHOP	SHOP	SHOP	WORK	WORK	SHOP	SHOP	LEIS	LEIS
Duration of stay	2-3	2-3	1-2	4-6	2-3	3-4	1-2	2-3	2-3	2-3	2-3	6+	3-4	2-3	2-3	3-4	2-3
Perceptions of safety	1	2	2	2	1	2	1	2	1	2	1	2	1	2	1	1	2
Revenue Generation	102.2	125.2	47.5	64.6	181.4	21.9	45.5	135.2	122.5	54.2	101.2	60.1	33.4	19.2	132.5	5.6	n/a
Operating Costs	20.5	26	17.9	20.4	88.8	10.5	17.3	23.9	26	16.2	17.8	22.1	12.9	11.9	25.5	9.8	383.9
Operating Surplus / Deficit	81.7	99.2	29.6	44.2	92.6	11.4	28.2	111.3	96.5	38	83.4	38	20.5	7.3	107	-4.2	n/a
% Operating Surplus / Deficit	399%	382%	165%	217%	104%	109%	163%	466%	371%	235%	469%	172%	159%	61%	420%	-43%	n/a
Revenue ranking	4	4	2	2	2	2	2	4	3	3	4	2	2	1	4	0	

Physical Characteristics

Size

5.6 The matrix identifies the size and stay length for all the car parks. There is a large range in car park size with the smallest, Brooks Place, offering only 7 spaces, whilst the largest, Lockmedow, offering 598.

Condition

5.7 Car parks were rated on a scale of 1 to 3;

1. Poor
2. Reasonable
3. Good

5.8 All of the car parks were considered to be at least reasonable, with most rated good. The lowest ranking car parks were Barker Road, Brunswick Street, College Road, and Medway Street.

Safety and Security

5.9 Car parks were rated on a scale of 1 to 4;

1. Minimal lighting
2. Good Lighting
3. Lighting and CCTV
4. Lighting, CCTV and staffing

5.10 There is quite a range of provision with some car parks only having minimal lighting Barker road, Lucerne Street, Palace Avenue, Well road, and Brooks Place. In contrast King Street has lighting, CCTV and staffing.

Vehicle Access

5.11 The number of vehicle access points to the car park was recorded. The majority only have a single point of access/egress, however, Medway Street, Mill Street, Well Road, and Lockmeadow had multiple point of entry/exit.

Pedestrian Access

5.12 Car parks were rated on a scale of 1 to 3;

1. Access only by vehicle access point
2. One dedicated access point
3. Two or more dedicated access points

5.13 The majority of car parks had two or more dedicated access points for pedestrians. Medway Street, Union Street West, Well Road, and Brooks Place can only be accessed via the vehicular access.

Spatial Characteristics

Local Access

5.14 Car parks were rated on a scale of 1 to 2;

1. Restricted local access
2. Good local access

5.15 There was a complete range of scores with some car parks having access only off one-way roads or having limited access due to blocked off streets.

Strategic Access

5.16 Car parks were rated on a scale of 1 to 3;

1. Poor access from strategic road network
2. Reasonable access from strategic road network
3. Good access from strategic road network

5.17 The assessment examined how easy a car park is to reach from one or more of the strategic routs leading into the town centre. Medway Street was considered to have a prominent strategic location where the A229, A20 and A26 converge. Other car parks either located off the strategic road network, or more embedded within the town centre scored low marks.

Proximity to key locations

5.18 Car parks were rated on a scale of 1 to 3;

1. Poor access to key locations
2. Reasonable access to key locations
3. Good access to key locations

5.19 The assessment examined how easy it is to reach key town centre locations from the car park. Car parks located on the edge of the core retail and civil functions areas scored highly.

Proximity to other car park

5.20 Car parks were rated on a scale of 0 to 3;

0. Isolated from other car parks
1. Relatively isolated from other MBC car parks but potentially close to an private car park
2. Close to some other MBC car parks
3. Close to many other MBC car parks

5.21 The assessment was undertaken relatively to the context of a town centre, therefore a score of zero reflected that a car park was not within an estimated 250 metres of another car park. Two car parks, Brunswick Street and Well Road were considered to be isolated. Mill street and Palace Avenue were considered to be in close proximity to a number of alternative MBC car parks.

Pedestrian Highway Access

5.22 Car parks were rated on a scale of 1 to 3;

1. Poor local pedestrian highway access
2. Reasonable local pedestrian highway access
3. Good local pedestrian highway access

5.23 This assessment examined the condition of pavements and pedestrian crossing facilities leading to and from the car parks. All of the car parks were considered to have reasonable pedestrian highway access, with many rated good.

Use of the Car Parks

5.24 The Town Centre Car Park occupancy survey data and the customer survey information have been used to assess a range of criteria relating to the use of the car parks.

Utilisation

5.25 The weekday car park occupancy data presented within the 'Data Report', was used to provide rating for each car park on a scale of 1 to 4;

1. Low utilisation
2. Medium utilisation
3. Relatively high utilisation
4. Operating at capacity

5.26 The results demonstrate that a large number of car parks are operating at capacity, with most of the rest operating at a relatively high level of utilisation. Five car parks were considered to have significant spare capacity with Lockmeadow and Sittingbourne Road having the most.

Primary reason for use

5.27 The weekday customer survey data was used to assess the primary reason for using each car park. This demonstrates that shopping (SHOP) is the primary reasons for use of most car parks. The car parks are primarily used for work purposes Sittingbourne and Union Street east and West. Lockmeadow and Brooks Place had a leisure (LEIS) as their primary use.

Primary duration of stay

5.28 The weekday customer survey data was used to assess the primary duration of stay each car park. Most car parks had an average duration of stay of 2 to 3 hours, which ties in with the primary reason for use as shopping. Brunswick Road and Sittingbourne Road had shorter primary duration of stay, whilst Union Street West had the highest.

Perceptions of safety

5.29 The weekday customer survey data was used to assess the perceptions of safety at each car park. A three-scale rating was applied

0. Less than 90% perceive the car park to be safe
1. Around 90% perceive the car park to be safe
2. 100% perceive the car park to be safe

5.30 Generally the response was that most individual perceived the car park that were using was safe. At some car parks limited numbers of individuals indicated they did not always feel safe but no car park was given the lowest rating.

Costs and Revenues

5.31 Revenue and operation cost data was provided by MBC for the car parks that they operate. The exception to this was for Lockmeadow where revenue data was not available.

5.32 The matrix presents the individual revenue generation for the year 2010/11 along with the operating costs. An operating surplus/deficit is then provided, both in absolute terms and relative to operating costs. This data has then been used to generate a 'revenue ranking' for each car park.

5.33 The results indicate that nearly all the car parks generate a significant revenue surplus. Brooks Place, however, appears to be operating at a loss, although this is a very small car park so it may relate to how costs are allocated.

Appendix A

Spatial Presentation of Scenario Options

Scenario 1:
Existing Park and Ride Sites


Scenario 2:
Park and Ride Radial Sites Option
10
1a
11
London Road
9a
9b
8
9c
9d
Willington Street
2a
6
7


Scenario 3:
North / South Park Spine Option
5a,b,d,e
1b
9a
3
2b
6