SCRUTINY COMMITTEE

Tuesday, 21st October, 2014

10.00 am

Darent Room, Sessions House, County Hall, Maidstone

AGENDA

SCRUTINY COMMITTEE

Tuesday, 21st October, 2014, at 10.00 am
Darent Room, Sessions House, County Hall, Maidstone

Ask for: **Joel Cook**
Telephone: **01622 694764**

Membership

Conservative (6):	Mr R J Parry (Chairman), Mr J E Scholes (Vice-Chairman), Mr E E C Hotson, Mr A J King, MBE, Mr L B Ridings, MBE and Mrs P A V Stockell
UKIP (2)	Mr H Birkby and Mr R A Latchford, OBE
Labour (2)	Mr G Cowan and Mr R Truelove
Liberal Democrat (1):	Mrs T Dean, MBE
Church Representatives (3):	Mr D Brunning, Mr Q Roper and Mr A Tear
Parent Governor (2):	Mr P Garten and Mr G Lawrie

Refreshments will be available 15 minutes before the start of the meeting

Timing of items as shown below is approximate and subject to change.

County Councillors who are not Members of the Committee but who wish to ask questions at the meeting are asked to notify the Chairman of their questions in advance.

Webcasting Notice

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UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

A - Committee Business

A1 Introduction/Webcast Announcement

A2 Substitutes

A3 Declarations of Interests by Members in items on the Agenda for this Meeting

A4 Minutes of the meeting held on 25th September 2014 (Pages 5 - 10)

B - Any items called-in

C - Any items placed on the agenda by any Member of the Council for discussion

D - Items for discussion

D1 Lorry Park Network (Phase 1) (Pages 11 - 246)

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Peter Sass
Head of Democratic Services
(01622) 694002

Monday, 13 October 2014

Please note that any background documents referred to in the accompanying papers maybe inspected by arrangement with the officer responsible for preparing the relevant report.

KENT COUNTY COUNCIL

SCRUTINY COMMITTEE

MINUTES of a meeting of the Scrutiny Committee held in the Darent Room, Sessions House, County Hall, Maidstone on Thursday, 25 September 2014.

PRESENT: Mr R J Parry (Chairman), Mr J E Scholes (Vice-Chairman), Mr H Birkby, Mr G Cowan, Mrs T Dean, MBE, Mr A J King, MBE, Mr R A Latchford, OBE, Mr N S Thandi (Substitute) (Substitute for Mr R Truelove), Mr M J Angell (Substitute for Mr L B Ridings, MBE) and Mr C Simkins (Substitute for Mr E E C Hotson)

ALSO PRESENT:

IN ATTENDANCE: Mr D Whittle (Head of Policy and Strategic Relationships), Ms L Jackson (Policy Manager), Mr J Cook (Scrutiny Research Officer) and Ms D Fitch (Democratic Services Manager (Council))

UNRESTRICTED ITEMS

54. Introduction/Webcast Announcement
(Item A1)

55. Substitutes
(Item A2)

56. Declarations of Interests by Members in items on the Agenda for this Meeting
(Item A3)

57. Minutes of the meeting held on 15th July 2014
(Item A4)

1. RESOLVED that the minutes of the meeting held on 15 July 2014 be approved as a correct record and that they be signed by the Chairman.

58. Commissioning Select Committee Implementation Plan
(Item D1)

1. John Simmonds as Cabinet Member for Finance, stated that Cabinet and the Council had welcomed the draft implementation plan following the Select Committee report. He was pleased that it gave a positive indication that the plans to address the issues identified in the Select Committee report are moving in the right direction. A key concern, though, was ensuring that small providers are only chosen when they have sufficient capacity to deliver that which KCC needed. The emphasis should be on supporting smaller providers to develop their skills and capacity to meet the market needs.

2. Mr Whittle explained that the development of the new KCC Outcomes Framework and an updated Voluntary & Community Sector (VCS) policy were taking place in parallel to the implementation planning being discussed today and these were expected to greatly assist KCC in responding effectively to the Select Committee's recommendations.

3. To summarise the key aspects of how KCC is approaching the issue of commissioning, Mr Whittle highlighted the following points; that understanding and adapting the supply chain for services was vital and that is was crucial that the VCS and small – medium businesses (SMB) could access this in order to compete effectively. The planned approach to all future commissioning would be built around the need for proportionate and appropriate contracts with carefully designed specifications.

4. The Social Value Act imposes a duty on KCC to consider how its decisions will impact on the community beyond simple financial considerations. Mr Whittle commented that he believed that, as a Local Authority, KCC has always done this as part of its normal processes but that in future this would have to be made more explicit.
5. Lydia Jackson explained that further work was being undertaken relating to consulting on European Union directives and considering the abolition of Pre-Qualification Questionnaires (PQQs) as well as standardising contracts. This is all hoped to streamline the commissioning process.

6. Members commented that they were pleased that the Executive had responded positively to the Select Committee report. Of note, the review of PQQs and support for the VCS and SMB were welcomed because these sectors do not have the finance or time resources to effectively compete within the strict system at present.

7. Members raised the issue of the need for them to receive training on the new Frameworks so that they would be better able to support the process and effectively fulfil their more prominent role under the new approach.

8. Members commented that the implementation plan would have to shift and evolve as the commissioning landscape did likewise and that this should be viewed as a continuous process. It was also noted that KCC would take time to adapt to the new way of working.

9. Members highlighted that a case by case approach should be maintained for commissioning, particularly to ensure better value in-house provision is not abandoned in favour of short-term private sector outsourcing.

10. Mr Whittle responded to the comments positively, agreeing that Social Value considerations include an important element of Member involvement as they provide the democratic accountability and representation for the decision making

while officers can focus on option development. This approach should merge the benefits of professional expertise and Member led Social Value and community need judgement.

11. A Member spoke at length regarding their views on how important it was that all Members and the Authority embraced Social Value, ensured that it was embedded into all decision-making processes and held onto the idea that all KCC business should benefit the community. He congratulated the Chair of the Select Committee, Mike Angell, noting that its report represented an excellent piece of cross-party engagement with tangible positive outcomes.

12. The Member did express concerns about the need for KCC to retain control of services and businesses through retaining at least 51% of the shares. He stated that relinquishing control for short-term financial gain or savings was not an effective approach to ensuring long term quality of service and that doing so represented an unacceptable risk in this regard that was worth paying more to avoid. He emphasised that when considering Best Value, in his opinion, this did not mean 'the lowest price' as Value had to be assessed first and foremost on quality of service. In terms of maintaining good quality, he stressed that the recommendation to improve contract management was a key aspect of how KCC needed to do better to address past mistakes, where contracts had been left to run their course rather than being managed effectively.

13. The Member reiterated others comments regarding the capacity of the VCS, in that they are often the most suitable providers to deliver services but that they lack the strategic infrastructure to engage with the commissioning and procurement processes. He emphasised that it was in this strategic area that KCC could do most to assist the VCS.

14. The Member finished by reminding all Members that while savings were important and that outsourcing where most appropriate was the right thing to do, it should be kept in mind that in his opinion, KCC staff morale could be negatively impacted by the huge financial challenge and the associated fears of job losses as work is outsourced.

15. Members voiced support for the above contributions.

16. A Member gave examples from Japanese approaches to business that may be worth considering, notably that short, detailed contracts are preferred as they offer specificity and tight controls around breaches while remaining flexible due to their short term nature – new contracts can be developed to address changing needs.

17. The Member continued by commenting that it was important to have the Member involvement in Contract development in terms of the specifications as well as contract monitoring. This will ensure the Social Value requirements will be met and will be auditable, in the more explicit format described by Mr Whittle. To this

end, the Member asked for clarification as to when the new frameworks and strategies will be in place.

18. Mr Whittle explained that the various strands of the new policy approach were to be reviewed and potentially endorsed at meetings in December; Outcomes Framework, Communication framework, VCS engagement plan and Social Value Toolkit. The two former items will be going to Full Council in due course. Mr Whittle explained that several contracts are still and will continue to run under the old model as they remain fit for purpose and thus the transition to a fully commissioning authority will take several years.

19. John Simmonds thanked the Committee for their helpful comments, agreeing that KCC needed to improve its contact management as a priority. Mr Simmonds further commented that he was very pleased with how well KCC staff have dealt with the changes but understands the concern around staff welfare around job security and has been assured that extensive internal consultation is taking place to mitigate the negative impact.

20. John Simmonds reassured the Committee that an all-party panel would review significant contracts and that Cabinet and Leader fully anticipated Member involvement in the commissioning process to be key aspect of KCC's future business. The allocation of over £1million to develop an excellent procurement team to support this process was demonstrative of KCC's commitment to getting this commissioning system right.

21. A Member expressed support for the principles of Social Value, agreed with the idea of maintaining 51% control of services and stressed the fact that all parties and Members have a common aim in improving KCC's commissioning approach, praising Mr Whittle and his team for their work in this regard.

    RESOLVED that the Committee thank John Simmonds, Mr Whittle and Ms Jackson for attending and that the Committee note the Commissioning Implementation Plan. The Commissioning Select Committee will reconvene in May 2015, after which the Scrutiny Committee may review the Council's progress.

59. Select Committee Process report
(Item D2)

1. A Member stated that it was important that a guidance document was developed to assist Members understand the processes involved in Select Committees and included detailed guidance on interviewing and appropriate enquiry. The Member explained that previous work undertaken with young people and people with addictions had highlighted the problems that can arise due to lack of interviewing experience and any failures to appreciate sensitive subjects and how to best approach them in the Select Committee format.

2. The Member also suggested that the Select Committee Process more should more often include public involvement as per the Parliamentary system. Previous Select Committees have successfully been preceded with advertising for public involvement in terms of being open to suggested areas of interest or avenues of questioning and the capacity to use expertise from members of the public.

3. A discussion took place where the Member explained that this had been achieved through advertising for public involvement and that the Research Officers then followed up with those that were able to provide useful and positive input. It was highlighted by a Member that there was a risk that such public involvement could be hijacked by political activism that would be disruptive and not assist with meaningful investigation. It was agreed by Members that the risk needed to be managed carefully but such an approach should be trialled.

4. A Member expressed how pleasantly surprised they had been in their experiences of Select Committees where Members of all political parties had worked together to identify the best solution or way forward, regardless of previously held opinions or political ideology. This led the Member to express that it was important to strive to prevent Politics from intruding to severely and that all those involve should focus on key practical issues of each Select Committee.

5. Mrs Fitch listed the key recommendations included in the report so Members could confirm their approval:
    - Select Committees should remain as Sub-Committees of the Scrutiny Committee
    - A formal meeting of the Select Committee will be required to sign-off the final report but informal meetings will be held during its development.
    - Select Committee reports will continue to be taken to Cabinet for comment prior to be taken to Full Council for endorsement.
    - That the required constitutional changes will be submitted to Selection & Member services for review.

RESOLVED that the Committee approve the above recommendations.

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By: Denise Fitch – Democratic Services Manager (Council)

To: Scrutiny Committee – 21st October 2014

Subject: Lorry Park Network (Phase 1) discussion item

Summary: This report introduces the post-decision discussion item, outlining the background and raising to the Scrutiny Committee agenda. The responses from the Environment & Transport directorate to questions raised in relation to the decision to endorse the Lorry Park Network (Phase 1) project are covered in Appendices 1 – 3.

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1. Background

1.1 The proposed decision has been published on the list of Forthcoming Executive Decisions since May 2014.

1.2 The proposed decision for the Lorry Park Network was taken to Environment and Transport Cabinet Committee on 17 September with a detailed report (appendix 1) that was discussed at length.

1.3 The Cabinet Committee resolved to endorse the proposed decision to be taken by the Cabinet Member for Environment and Transport.

1.4 David Brazier, as Cabinet Member for Environment and Transport, took the formal decision on 3 October 2014.

2. Scrutiny Interest

2.1 Questions were raised via the Scrutiny Research Officer on Thursday 9th October in relation to the financial processes outlined in the Cabinet Committee Paper.

2.2 Requests were made by the Scrutiny Committee Spokespeople for more detail and the background documents supporting the decision to allow for an in-depth discussion on the subject.

2.3 Two formal requests to call-in this decision were received by Democratic Services but were not deemed by the Head of Democratic Services to meet the criteria for call in as set out in Paragraphs 7.14 - 7.15 of Appendix 4 Part 7 of the Constitution.

- Neither request provided evidence that the decision was not in line with the council's Policy Framework or Budget. The decision is referenced in in the Kent

and Medway Plan 'Unlocking the Potential' and page 32, line 4 of the 2014-15 KCC Budget Book.

- Neither request provided evidence that the decision was not in accordance with the principles of decision-making set out in Article 12 – The decision had been subject to detailed reporting and substantial debate and questions at the Environment and Transport Cabinet Committee, which was held in public. The Record of Decision and discussion considered alternatives and gave reasons why previous options had not been pursued and explained why the proposed site had been preferred over others after extensive options analysis.
- Neither request provided evidence that the decision was not taken in accordance with the arrangements set out in Appendix 4 Parts 6 & 7 – The decision was first published as part of the Forthcoming Executive Decisions list in May 2014, the proposed decision was considered by the Cabinet Committee with a full report, several appendices, detailed background papers and a comprehensive proposed record of decision. Relevant Officers were present to answer questions through a session that lasted more than an hour and a half. The main issues raised by those now requesting call-in were discussed at the Cabinet Committee meeting and addressed by the Officers at the meeting.

2.4 At the Scrutiny Committee agenda setting meeting on 13 October, the Chairman and Spokesmen agreed that an item would be placed on the agenda for this meeting to discuss concerns raised by Members. These concerns are:

- The appropriateness of the finance process used to fund the project – Public Works Fund
- The sustainability of the project and its capacity to provide return on investment.
- Evidence of comprehensive options analysis for the preferred site.
- The project not featuring in the relevant District's Core Strategy Local Plan.

2.5 Cabinet Member David Brazier has been invited to attend the Scrutiny Committee, supported by Ann Carruthers (Head of Policy and Planning) and Kevin Tilson (Finance Business Partner – Growth, Environment & Transport)

3. Recommendation

3.1 The Committee must decide whether to express comments on the proposal to Leader, Cabinet, Cabinet Member, the relevant officer or the Council.

KENT COUNTY COUNCIL – RECORD OF DECISION

DECISION TO BE TAKEN BY:	DECISION NO:
David Brazier - Cabinet Member for Environment and Transport	14/00055

For publication

Subject: Lorry Park Network (Phase 1)

Decision: As Cabinet Member for Environment and Transport I agree that:

a) the Council's previous proposal to address the impacts of Operation Stack through the construction of one large scale lorry park at Aldington as set out in "Growth without Gridlock" (December 2010) is not pursued;
b) the site off the M20 Junction 11 at Westenhanger is the preferred location for the construction of a lorry park as the first phase of the delivery of a network of lorry parks across Kent;
c) scheme development work to take forward the delivery of this preferred site be progressed immediately in conjunction with KCC Property and Infrastructure Group including necessary officer or member decisions, dependent on the particular governance requirements, regarding land acquisition and securing planning consent for the project;
d) two strands of work, one on HGV parking enforcement and the other on HGV signing in the event of Operation Stack being called, be progressed in parallel with the development work to deliver the first lorry park, and;
e) consideration of progressing a second lorry park site as part of the network of sites across the county with a view to delivering this second lorry park within the next 5-6 years is brought back to Cabinet Committee at the appropriate time.

Reason(s) for decision:

Decision required to establish agreed way forward in tackling the affects of inappropriate overnight lorry parking and Operation Stack to identify preferred locationand to enable project delivery to progress to next phase of work including land acquisition, public consultations, feasibility and detailed design, and further development work to produce a planning application and associated supporting documents for proposed lorry park.

Cabinet Committee recommendations and other consultation:

On 17th September 2014 members of the Environment & Transport Cabinet Committee voted on the recommendations set out the report. The results of the vote were as follows:

For (11)	Mrs P Stockell, Mr C Caller, Dr M Eddy, Mr M Harrison, Mr G Lymer, Mr B MacDowall, Mr J Ozog, Mr R Parry, Mr C Pearman, Mr C Simkins, Mr A Wickham
Against (2)	Mr M Baldock, Mr M Whybrow
Abstain (1)	Mr I Chittenden

It was RESOLVED that the Cabinet Committee agree the following recommendations:

a) the Council's previous proposal to address the impacts of Operation Stack through the construction of one large scale lorry park at Aldington as set out in "Growth without Gridlock" (December 2010) is not pursued;
b) the site off the M20 Junction 11 at Westenhanger is the preferred location for the construction of a lorry park as the first phase of the delivery of a network of lorry parks across Kent;
c) scheme development work to take forward the delivery of this preferred site be progressed immediately in conjunction with KCC Property & Infrastructure Group including necessary officer or member decisions, dependent on the particular governance requirements, regarding land acquisition and securing planning consent for the project;
d) two strands of work, one on HGV parking enforcement and the other on HGV signing in the event of Operation Stack being called, be progressed in parallel with the development work to deliver the first lorry park, and;
e) consideration of progressing a second lorry park site as part of the network of sites across the county with a view to delivering this second lorry park within the next 5-6 years is brought back to Cabinet Committee at the appropriate time.

The Cabinet Member for Environment & Transport also undertook to write to the Leader of Dover District Council to confirm that the White Cliffs site will not be pursued as a future lorry park location.

Any alternatives considered:

1.1 Alternatives considered include the delivery of one largescale lorry park sufficient to cater for Operation Stack by providing in excess of 2,000 HGV parking spaces. This initiative was one of the many projects identified as a priority in the Council's 20 year transport delivery plan "Growth without Gridlock" (December 2010) and a site at Aldington requiring new slip roads from the M20 between junctions 10 and 11, was identified.

Over the last two years however, in light of the national economic situation, it became evident that such a facility was unaffordable and hence undeliverable. Also, a facility on this scale catering for ad hoc occurrences of Operation Stack could not provide the economic case to attract transport capital funding from Government, nor could a viable commercial case be made that would enable the repayment of a loan funding the facility.

Prior to this consideration was given to transferring more freight onto rail to avoid HGV movements through Kent and hence reduce the need for lorry parking in the county. Issues of interoperability between UK and European rails networks and the fact that in many instances rail is only economic for freight where large quantities are being transferred from one origin to one destination, means the opportunity for such modal shift is limited, particularly in the short to medium term.

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In terms of location of a small_scale lorry park that could form the first of a network of lorry parks in the county to address both inappropriate overnight lorry parking and Operation Stack, over 50 different sites were considered. An assessment process considering site suitability (planning, environmental and transport constraints) and commercial viability was applied to support the identification of a preferred site.

Any interest declared when the decision was taken and any dispensation granted by the Proper Officer:

None

signed ..... date 3.10.14

From: Mike Austerberry, Corporate Director for Growth, Environment and Transport

To: David Brazier, Cabinet Member for Environment & Transport

Subject: 14/00055 Lorry Park Network (Phase 1)

Key decision Expenditure of greater than £1 million

Classification: Unrestricted

Past Pathway of Paper: Environment and Transport Cabinet Committee – 17 September 2014

Electoral Division: Divisions in Ashford, Dover and Shepway districts

Summary: This report summarises the work carried out to date to identify a potential lorry park site in Kent that will become Phase 1 of a wider initiative to address the issues caused by inappropriate overnight lorry parking and Operation Stack across Kent. In the medium to longer term it is envisaged that a network of lorry parks will be delivered. This current work seeks to identify the preferred location for the first of these lorry parks.

Recommendations:

That the Cabinet Member for Environment and Transport agrees:

a) the Council's previous proposal to address the impacts of Operation Stack through the construction of one large scale lorry park at Aldington as set out in "Growth without Gridlock" (December 2010) is not pursued;
b) the site off the M20 Junction 11 at Westenhanger is the preferred location for the construction of a lorry park as the first phase of the delivery of a network of lorry parks across Kent;
c) scheme development work to take forward the delivery of this preferred site be progressed immediately in conjunction with KCC Property and Infrastructure Group including necessary officer or member decisions, dependent on the particular governance requirements, regarding land acquisition and securing planning consent for the project;
d) two strands of work, one on HGV parking enforcement and the other on HGV signing in the event of Operation Stack being called, be progressed in parallel with the development work to deliver the first lorry park, and;
e) consideration of progressing a second lorry park site as part of the network of sites across the county with a view to delivering this second lorry park within the next 5-6 years is brought back to Cabinet Committee at the appropriate time.

1. Introduction

1.1 Due to its position as the gateway between the UK and Europe, Kent suffers from issues caused by inappropriate overnight lorry parking as well as the

effects of Operation Stack when it is called. It has long been an aspiration of the County Council to address these issues.

1.2 Over the last few years the County Council has been investigating the possibility of delivering one large scale lorry park of 2,057 spaces, sufficient to cater for Operation Stack. This initiative was one of the many projects identified as a priority in the Council's 20 year transport delivery plan "Growth without Gridlock" (December 2010) and a site at Aldington requiring new slip roads from the M20 between junctions 10 and 11, was identified.

1.3 Over the last two years however, in light of the national economic situation, it has become evident that such a facility is unaffordable and hence undeliverable. A facility on this scale catering for ad hoc occurrences of Operation Stack could not provide the economic case to attract transport capital funding from Government, nor could a viable commercial case be made that would enable the repayment of a loan funding the facility. As a result of this, alternative solutions to tackling both Operation Stack as well as inappropriate lorry parking which happens across the county on a nightly basis, has been sought.

1.4 The provision of a network of lorry parks across the county in addition to the existing lorry parking provision in Kent is intended to address both these matters. This would enable sufficient parking space for overnight parking and would act, at least initially in part, as a holding area for Operation Stack when it is called thus preventing the closure of the M20 between junctions 8 and 9.

1.5 This report sets out how this option of a network of lorry parks will address both HGV related issues. It also outlines the work carried out to date, presents more detailed information for the three shortlisted sites, and seeks comments on this work as well as the proposed decision that the Westenhanger site at Junction 11 of the M20 should be the preferred site for the delivery of the first lorry park.

2. Financial Implications

2.1 A decision on a preferred site will mean that capital within the Council's Medium Term Financial Plan can be drawn down to fund the next phase of detailed development work.

2.2 KCC has secured £12.7 million reduced rate borrowing from the Public Works Loan Board (PWLB) for the construction of this project.

2.3 Assessment work has shown that a lorry park would be commercially viable and subject to the chosen operating model and arrangement with a private sector operator, the lorry park could provide KCC with a revenue stream, in the medium to long term, over and above the repayment of capital and borrowing costs. This project therefore potentially offers KCC a future income stream.

3. Policy Framework

3.1 By seeking to minimise the disruption caused by Operation Stack as well as the perception it creates that Kent is not a good place to do business, the project

will positively help the Kent economy grow. Similarly by supporting the efficient and safe movement of freight it is supporting not only the Kent, but also the national economy.

3.2 By minimising the negative impact that inappropriate overnight lorry parking can cause to Kent communities in terms of noise, nuisance, litter and anti-social behaviour, the delivery of a new lorry park will help tackle disadvantage in those affected communities and will help put the citizen in control.

3.3 Tackling these lorry parking issues is also embedded within KCC's statutory Local Transport Plan and within the Council's 20 year transport delivery plan, Growth without Gridlock.

4. Other Implications

4.1 An Equalities Impact Assessment will be carried out for the preferred lorry park site.

4.2 In relation to public health implications resulting from this proposal it is anticipated that there will be improved welfare conditions for the lorry drivers currently unable or unwilling to use official lorry parking and instead parking in more inappropriate and unofficial locations as they will be able, or potentially required to, use official lorry parking sites in the future. In addition, for those residents who currently experience the anti-social behaviour, litter and noise arising from this inappropriate lorry parking, we would expect to see an improvement in terms of public health as a result of these proposals.

4.3 Depending on the lorry parking operating model and any contractual arrangement with a lorry park operator, the circumstance may arise where the Council's property portfolio is expanded through KCC retaining ownership of the lorry park site itself.

5. Developing a solution to Inappropriate HGV Parking and Operation Stack

5.1 Preliminary investigation and development work has been carried out on how best to tackle the issues of Operation Stack and inappropriate lorry parking over a number of years. Initially, a solution to Operation Stack of a single large scale lorry park was considered. The national economic situation, along with the fact that such a lorry park would only be used on an ad hoc basis, would not raise revenue and would offer poor value for money meant that alternative solutions were investigated. In addition, while the frequency of Operation Stack cannot be accurately predicted, it has been less frequent over the last few years with Phase 2 (closure of M20 between Junctions 8 and 9) being enacted only once since December 2009. This led to the conclusion that a network of smaller lorry parks (300-500 spaces) would offer a more deliverable and realistic solution to both lorry parking issues.

5.2 It should be noted however, that in order to cater for Operation Stack Phase 2 which closes the M20 between J8 and J9 (up to 2,300 spaces), the full network of lorry parks would need to be in place. In reality, new lorry parks will be delivered one at a time over a period of time.

5.3 At present across the four main lorry parking facilities in Kent there is capacity for 880 HGVs. This suggests up to a further 1,400 spaces would be needed to hold Operation Stack traffic. Both Port of Dover and Eurotunnel are currently expanding their holding areas and while this cannot be used as overnight parking, in the event of Operation Stack, it could act as a "buffering" area for HGVs either putting off the point at which Stack is called, or holding vehicles when Stack is on. These expansions will add a total of 520 spaces.

5.4 Given this level of provision, to be in a position to be able to hold the expected maximum number of Operation Stack HGVs, a further 900 parking spaces would be required. This could be provided across 2 to 3 new lorry parks.

5.5 The above considers how Operation Stack could be addressed through a network of additional lorry parks in the county. In terms of overnight lorry parking, through discussion with the operators of Ashford International Truckstop and Stop 24 we know they are full and turning HGVs away 5-7 nights per week. Based on survey work carried out for DfT in 2005 and again in 2011, we understand that there are in the region of 300-400 HGVs parking inappropriately each night in the county. Preferred sites tend to be lay-bys and industrial/business parks.

5.6 We also know that traffic is set to grow meaning that lorry parking and Operation Stack issues are likely to increase over time. Forecasts by the DfT indicate that general traffic growth on the strategic road network is set to grow by 46% between 2010 and 2040[1]. Within this the growth rate for HGVs is anticipated to be 21.5%, equivalent to 0.8% per annum. Port of Dover and Eurotunnel both predict higher growth rates as this includes higher percentages of international freight. In addition to this, legislation on sulphur emissions from shipping is set to come into operation in January 2015 and it is anticipated that this will further increase the movement of freight vehicles through Kent as the cost of shipping increases making the shorter Channel crossings even more attractive than they currently are.

5.7 These factors demonstrate that demand for lorry parking will only increase in Kent.

5.8 For a network of lorry parks to provide a potential solution to Operation Stack, an information system on the strategic road network would need to be put in place to direct HGV drivers to holding lorry parks. Subject to approval to proceed with delivering the first of these lorry parks, a parallel piece of work will be undertaken to develop this aspect. Similarly, work would be undertaken to ensure enforcement of inappropriate HGV is maximised where possible. Both of these additional workstreams will be vital if the network of lorry parks proposal is to achieve the outcomes KCC seeks.

5.9 Having established the benefits of providing a network of lorry parks, over the last 12-18 months preliminary investigatory work has been undertaken. This work has included:

- Site identification and assessment;

[1] **DfT Road Transport Forecasts 2013**

- Assessment of demand for additional lorry parking;
- Commercial viability assessment;
- Engagement with lorry park operators and freight sector to test and enhance the robustness of the work carried out, and;
- Consideration of enforcement of inappropriate lorry parking.

This work is detailed below.

6. Lorry Park Site Identification

6.1 The specifications for identifying potential lorry park sites in Kent were:

- sites should be capable of catering for a minimum of 300 spaces;
- sites should be close to the main strategic corridors through Kent (M20/A20 and M2/A2 corridors);
- there should be no requirement for major infrastructure improvements in order for the site to be delivered e.g. no requirement for new slip roads or significant alternations to motorway junctions;
- extension of existing lorry parking facilities should be considered.

6.2 The starting point for this work was to review all previous work considering potential sites for lorry parks including Operation Stack lorry parking facilities in the county. This led to a long list of 54 possible sites. Discussions took place with the relevant local planning authorities (Ashford, Dover, Shepway, Swale, Tonbridge and Malling, Gravesham, Maidstone, Medway), Kent Police, the Highways Agency and a number of KCC internal consultees which resulted in 31 sites going forward for further assessment. These sites did not include the Aldington site that was previously considered for a large scale Operation Stack lorry park on the basis of high land costs and need for the construction of slip roads to the M20. The work then assessed each site against a number of criteria under the broad headings of:

- Transport (access to site, strategic network junction capacity)
- Site characteristics (topography, capacity)
- Environmental considerations (designations, AONB, heritage, drainage)
- Planning considerations (current land use, local plan allocations, proximity to residential).

6.3 This assessment gave the top sites for the two strategic corridors through the county shown in the tables in Appendix B and on the plan in Appendix C. Five sites are on the M20/A20 corridor and three on the M2/A2 corridor reflecting the higher percentage of HGV that use the M20/A20 corridor. It should be noted that for a number of these sites, their capacity could be increased if necessary.

7. Assessment of demand for additional lorry parking

7.1 The second part of the study work undertaken was to take these eight sites and carry out an outline demand and commercial analysis to ascertain to what extent each site would be commercially viable. This work centred on consideration of likely lorry driver behaviour and various factors potentially influencing lorry park use as well as assessing future HGV parking demand.

7.2 As part of demand assessment, pricing needs to be considered. A recent study carried out by the South East Local Enterprise Partnership showed that 78% of those responding had a preference for a charge of under £20. At the same time the key facilities required were toilets, showers, secure parking that is close to their route as well as a hot food outlet. While unofficial parking continues to happen across Kent, the fact that the existing lorry parks are busier than ever shows that the greater proportion of drivers do have parking costs covered. Evidence from lorry park operators is that the vast majority of payments are made via fuel cards or company account. Overall, 76% of drivers have their overnight stay paid for them in some form. It is the remaining 24% who are most likely to park unofficially.

7.3 Another factor potentially affecting demand is the UK HGV Road User Levy. As of April 2014, HGVs using UK roads are required to pay a time based charge related to vehicle weight. DfT initially anticipated an income of £20 million per annum via this charge however figures just released show that for the first 4 months of the scheme £17 million has been raised. This would demonstrate that the international freight market is healthy and growing at a rapid rate. In addition, where annual permits are purchased which give unlimited use of UK roads, this could have the implication of little incentive to keep time in the UK to a minimum and hence greater need for lorry parking in Kent.

7.4 As well as considering factors that may currently influence driver behaviour, work was carried out to assess the level of demand for truck parking in future (2014 to 2060). HGV volumes were obtained from the Highways Agency and growth factors were applied from the DfT, Eurotunnel and Port of Dover in order to forecast volumes to 2060. The latter two were used to account for growth in international traffic which was used as the basis for demand for overnight parking.

7.5 Along with data on existing HGV capacity, this information was used to develop a demand model. Table 1 below shows the outcome of this modelling work in terms of forecast HGV volumes and therefore lorry parking demand for the M20 and A2/M2 corridors. The model calculates demand for parking every 5 years and shows a 330% increase over the time period to 2060 from demand for just below 1,000 spaces to just over 3,300 spaces.

Table 1 – Daily HGV Forecasts

Road	Year	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
M20	Volume	6,201	7,115	8,209	9,674	11,209	13,346	15,344	16,941	18,704	20,651
	Demand	706	810	935	1,102	1,276	1,520	1,747	1,929	2,130	2,352
A2/M2	Volume	1,215	1,395	1,609	1,896	2,197	2,616	3,007	3,320	3,666	4,048
	Demand	287	330	381	449	520	619	711	785	867	957
TOTAL	**Volume**	**7,416**	**8,510**	**9,818**	**11,570**	**13,407**	**15,961**	**18,351**	**20,261**	**22,370**	**24,698**
TOTAL	**Demand**	**994**	**1,140**	**1,315**	**1,550**	**1,796**	**2,138**	**2,459**	**2,714**	**2,997**	**3,309**

7.6 Figure 1 below indicates when need for an additional (550 space) lorry park would arise over time. It can be seen from this figure that over the period to 2060, based on the growth assumptions made, there would be sufficient demand to justify 5 lorry parking sites. Given that just over 80% of HGV flow is on the M20/A20 corridor, this would suggest that the first lorry park delivered should be on that corridor.

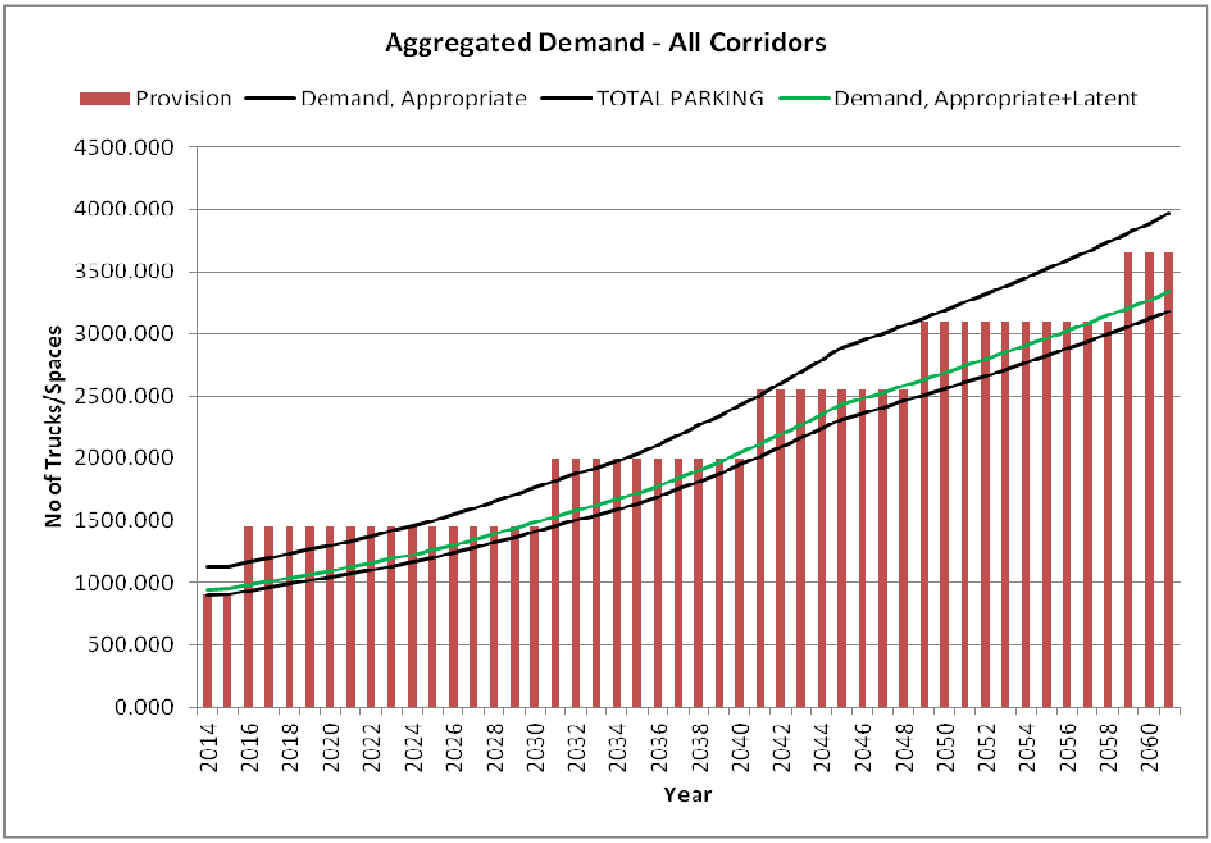

Figure 1 – Aggregated Daily Demand – All Corridors

7.7 In summary, from the work carried out, it is apparent that there will be sufficient demand for a network of lorry parks in Kent over time and that there is an immediate demand for one lorry park.

8. Commercial Viability Assessment

8.1 Given that the bulk of funding for this project will be via a loan, it is essential that we understand the commercial viability of the proposals. Work was therefore carried out using a financial analysis tool to identify the likely rate of return (IRR) that would be expected from each lorry park and its net present value. The IRR

provides an indication of the efficiency of the investment, which can be compared to the rate of return from other investments. The net present value provides an estimate of the magnitude of return.

8.2 As the construction and operation of the lorry parks is potentially a commercial venture, the discount rate of 7.5% based on Treasury Green Book guidance has been used. The financial analysis is based on a snapshot of each of the sites being built in 2016 and not on the basis of the sites being built on a sequential basis.

8.3 This work used a number of assumptions including HGV growth forecasts, lorry parking demand forecasts, cost of construction and operation, pricing strategy, discount rates, life of lorry park and operating period. Assumptions include a parking charge of £15 per night reflecting the basic but essential service provision envisaged, and added value revenue derived from assumptions of £3 spend for day parking and £6 per night parking. These estimates are considered to be reasonably conservative. The costs within the model include capital, operating and maintenance costs.

8.4 Outputs of this work demonstrated considerable variation between sites for the 25 and 40 year investment periods in terms of Internal Rate of Return and Net Present Value. The next phase of work was to consider this information along with the site assessment work to determine a shortlist of sites.

9. Detailed Development Work for Shortlisted Sites

9.1 Considering both the site assessment and commercial viability work led to a further shortlist of the three sites below. These site locations are shown in Appendix D, E and F.

- Westenhanger, adjacent to Stop24, M20 J11
- Extension to Ashford International Truckstop
- White Cliffs Business Park, Dover.

9.2 The White Cliffs Business Park site was the best performing M2/A2 corridor site when considering both site assessment and commercial viability although performing less well than the M20/A20 corridor sites. While the Lympne site performed well under the 40 year assessment scenario the limitation on site capacity and the 2.8 miles from the strategic road network including passing through a small community were key factors in its exclusion from the final short list of 3 sites. Westenhanger and Ashford International Truckstop Extension were included as the top performing M20/A20 sites.

9.3 Further assessment work has been carried out which included preliminary site layout designs to better determine site capacity, desktop environmental impact for each site for which details are provided in Appendix G, and site specific commercial analysis rather than the corridor assessment approach that had previously been used. This additional work has helped develop more detailed costings for each site and is presented in summary in Table 2 below.

9.4 The additional work on site design considering drainage, landscaping, visual impact and environmental constraints has reduced the number of parking

spaces feasible within the site areas being considered. An updated commercial assessment using reduced parking space numbers to keep this within the value of the PWLB loan was undertaken. This commercial assessment also used an overnight parking charge of £20 as discussions with the market has gauged that this level of charge will be more realistic. The outcome of this analysis is also shown in Table 2 below.

9.5 To support this additional work, further engagement has taken place with the relevant district authorities, Kent Police and Fire and Rescue as well as the operators of Stop24 and Ashford International Truckstop. These discussions have again, helped provide robustness to the site assessment and financial analysis work.

Table 2 Summary of Shortlisted Sites							
Site	No. Spaces	Land Cost*	Construction Cost	IRR**	NPV**	Traffic constraints	Planning/environmental constraints
Westenhanger	300	£422k	£10.8m***	23.5 – 23.8%	£6.9m-£9.4m	Access from M20 J11 which is under capacity. No additional highway works needed	Key issues likely to be visual and landscape impacts due to location immediately adjacent to and within the setting of Kent Downs AONB. Potential cultural heritage impacts. Land currently unallocated in Local Plan.
Extension to Ashford International Truckstop	278	£4.8m	£9.4m	17.6 – 18.2%	£4.7m-£6.7m	Access 1.4 miles from M20 J10 which is over capacity at peak times	Current Local Plan review may determine lorry parking as appropriate land use for this location. Currently zoned for mixed use development. Part of land Flood Zone 2 (1 in 1,000 year flooding). Land owner also owns Truckstop and is willing to expand operation in short and medium term but wishes to retain ownership. Significant ecology potential therefore considerable mitigation likely.
White Cliffs Business Park	237	£2.5m	£10.3m	8.7 – 10.8%	£526k-2.3m	Access off A2 into business park but need to ensure no HGV access through Whitfield	Potential visual impact of site particularly from Western Heights. Likely increased capacity to Southern Water sewer required. Potential question of compatibility of lorry park use within business park.

IRR = Internal Rate of Return NPV = Net Present Value
* Based on open market value
** Figurers represent 25 year and 40 year loan period and £20 overnight charge
*** Plus £61k for footpath connection or £2.6m for railway pedestrian overbridge if connecting to the existing Stop24 site

9.6 Overall, it can be seen that the Westenhanger site has the highest IRR and NPV of the 3 sites. The main reasons for this is it will be less expensive to deliver and provides marginally more spaces than the other 2 sites and hence provides a greater return in relation to cost. This will be aided by the fact that the Westenhanger site is in an ideal location in terms of access to the strategic road network. Similarly worth noting is the fact that the land owner of the Ashford site has indicated that they wish to retain ownership with a view to expand the site in terms of future development. This site therefore is only likely to provide a short to medium term option whereas there is no similar constraint at Westenhanger making it the preferred site for the first lorry park providing a longer term investment.

9.7 Key considerations for the Westenhanger site are likely to be visual and landscape impact of a lorry park in this location particularly in relation to the Kent Downs AONB.

10. Potential Operation Models

10.1 The recent engagement with Stop24 and Ashford International Truckstop, as well as two other lorry park operators, has assisted with work to consider future operating models for the lorry park. These include:

- KCC selling all interests in the lorry park to an operator,
- KCC entering into an agreement with an operator paying the Council a future income, or
- KCC retaining ownership and operation of the lorry park.

10.2 Each option has varying levels of risk for KCC and any private sector partner. Each option also has differing trading and tax implications which also need to be considered in detail. This work, in collaboration with KCC Finance Team, will be advanced in more detail once a preferred site is chosen as part of overall scheme development.

11. Financial review

KCC Finance Team has undertaken an initial review of the financial modelling analysis and support the methodology used and the resulting recommendation put forward. However this is subject to further detailed analysis, including sensitivity analysis, being undertaken in relation to the operating model to be adopted and the revenue implications for KCC during the initial years of the project.

12. Next Steps

12.1 Once a preferred site is selected, the next phase of work will commence that will include land acquisition, scheme design, environmental impact assessment and a number of other assessments that will support the submission of a planning application for the preferred site. The following outlines the key milestones:

- Public consultation on preferred site – January - February 2015
- Preliminary design completed - November 2015
- Planning consent – June 2016

- Detailed design completed – December 2016
- Construction start on-site – October 2017
- Construction complete – May 2018

12.2 In parallel with the lorry park development work it is proposed that 2 additional strands of work are progressed. These are:

a) HGV Parking Enforcement – in conjunction with the district authorities who have delegated authority for parking enforcement, work to ensure that everything that can be done to effectively enforce on inappropriate lorry parking in the county is being done, and;
b) Strategic Road Network signing for Operation Stack – this project will work with the Highways Agency and other partners to develop an information system that will direct HGV drivers to lorry parks in the event of Operation Stack being called. The objective of this is to avoid the situation of the M20 being closed to accommodate HGV parking.

12.3 Following on from the delivery of the first lorry park, on the assumption that the Council continues to pursue this strategy, work on delivering the second in the network of lorry parks would be undertaken. Given that Local Growth Funding is available until 2021 it would seem appropriate to begin the process to bid for funding for the next lorry park in the next 18-24 months. At the same time it would be hoped that the Government would have made its decision on the preferred corridor for a new Lower Thames Crossing which could be a significant influence on the location of a second lorry park. Furthermore, Local Plan reviews will have moved on which may also help influence the location of a future lorry park. The current intention would be to deliver a second lorry park within the next 5-6 years.

13. Conclusions

13.1 This report sets out the reasons why the option of one large scale lorry park to tackle the impacts of Operation Stack as set out in Growth without Gridlock (Dec 2010) is no longer being pursued and instead the option of delivering a network of small scale lorry parks across the county to tackle both the impacts of inappropriate lorry parking as well as in part, Operation Stack, is being investigated.

13.2 The report summarises the considerable work that has been undertaken in identifying potential lorry park sites across the county. This work has sought to establish the suitability of sites for a lorry park from the planning, environmental and transport perspectives as well as considering the commercial viability of each. It recommends that the first of the lorry park sites to be delivered should be the site at Westenhanger adjacent to M20 Junction 11.

13.3 In parallel to the lorry park development work it is proposed that 2 other strands of work are undertaken. The first is working with the district authorities to ensure we are doing all we can in terms of HGV parking enforcement to minimise inappropriate overnight lorry parking, and the second is to establish a strategic road network signing system that would direct HGVs to lorry parks when Operation Stack is called.

13.4 Finally, it is intended that a second lorry park in the network across the county be delivered within the next 5 – 6 years. Work to progress this will be brought back to Cabinet Committee at the appropriate time.

14. Recommendations

That the Cabinet Member for Environment and Transport agrees:

a) the Council's previous proposal to address the impacts of Operation Stack through the construction of one large scale lorry park at Aldington as set out in "Growth without Gridlock" (December 2010) is not pursued;
b) the site off the M20 Junction 11 at Westenhanger is the preferred location for the construction of a lorry park as the first phase of the delivery of a network of lorry parks across Kent
c) scheme development work to take forward the delivery of this preferred site be progressed immediately in conjunction with KCC Property & Infrastructure Group including necessary officer or member decisions, dependent on the particular governance requirements, regarding land acquisition and securing planning consent for the project;
d) two strands of work, one on HGV parking enforcement and the other on HGV signing in the event of Operation Stack being called, be progressed in parallel with the development work to deliver the first lorry park, and;
e) consideration of progressing a second lorry park site as part of the network of sites across the county with a view to delivering this second lorry park within the next 5-6 years is brought back to Cabinet Committee at the appropriate time.

15. Background Documents

15.1 Kent Lorry parks Feasibility Study, Final Site Assessment Report, Aecom, 28 February 2014

15.2 Kent Lorry Parks Feasibility Study, Demand Analysis and Business Model Report, Aecom, 28 February 2014

15.3 Kent Lorry Parks Feasibility Study – Phase 2 Report, Aecom, 28 February 2014

16. Contact details

Report Author:
Ann Carruthers, Transport Strategy Delivery Manager
03000 413347
ann.carruthers@kent.gov.uk

Relevant Director:
Paul Crick, Director of Environment, Planning and Enforcement
03000 413356
paul.crick@kent.gov.uk

Appendix A Proposed decision sheet
Appendix B Ranked Shortlist following Site Assessment

Appendix C	M20/A20 and M2/A2 Top sites Plan
Appendix D	Westenhanger Site Location Plan
Appendix E	Ashford International Truckstop Extension Site Location Plan
Appendix F	White Cliffs Business Park, Dover Site Location Plan
Appendix G	Summary of Environmental Constraints for 3 shortlisted sites

Lorry Park Network (Phase 1) Appendix 1

- Environment & Transport responses:

1. Key points

1.1 The service provided detailed responses to the specific issues and questions raised by the Spokespeople and call-in requesters.

1.2 Officers from Environment and Transport and Finance will be attending the Scrutiny meeting to explain the financing model and funding for the project.

1.3 In terms of sustainability of the project, the service has provided the Kent Lorry Parks Feasibility Study Phase 2 report (Appendix 2). This report investigated the commercial viability of a lorry park by refining assumptions made in the earlier pieces of work and the adopting of a realistic lorry demand model. Over 120 Lorry drivers were interviewed at STOP24, Ashford International Truckstop and Port of Dover to understand their willingness to pay for a new lorry park facility in Kent. The outcome of this survey, in addition to detailed discussions with existing lorry park operators, was employed to refine assumptions related to the lorry demand and commercial analysis.

1.4 The commercial case analysis was carried out for two scenarios:
(a)- all three shortlisted lorry parks are built and operated at the same time,
(b)- that only one lorry park is built and operated.
The latter scenario is the most feasible one due to the level of investment needed to deliver a lorry park, future demand for a lorry park and the lack of funding to deliver a lorry park. Tables 6.2 and 6.3 (in Chapter 6) of the attached report provide the results for this scenario. It is important to mention here that the analysis was undertaken for a relatively large lorry park (Westernhager 664 spaces and 534 Ashford).

1.5 Due to an unsuccessful Local Growth Fund application, the size of the lorry park was reduced so that the project can be delivered within the PWLB and KCC contribution. The updated analysis was then presented in the Cabinet Committee.

1.6 Extensive work was undertaken to identify and assess potential sites for the development as part of the Options Analysis work stream. Full details are covered in the Aecom Final Draft report – Site Assessment (Appendix 3) and Final Demand Analysis – Business Model Report (Appendix 4).

1.7 The first report looked at the potential 54 sites for a lorry park. Some of these sites were removed and few new sites were added after consulting with the local planning authorities and Highways Agency. The updated sites list was then assessed based on the site selection criteria followed by site visits. A list of the site selection criteria is given below:

- Transport

- Site Characteristics
- National and International Environmental Considerations
- Local Environmental Considerations
- Planning Considerations

A ranked list of 8 sites along the M20/A20 and the M2/A2 corridors was tested from the commercial viability viewpoint. The Westenhanger site was found the most preferred site in the site selection exercise.

1.8 The second report provides the details of assumptions and methodology adopted to undertake the commercial analysis of the 8 shortlisted sites. Table 6.3 (in Chapter 6) of the second report summarises that the Westenhanger site is also the most favourable site on the basis of the commercial analysis.

1.9 In terms of the location of the preferred option at Westenhanger it is acknowledged the fact that there is no allocation for such a use on the proposed preferred site within the Local Plan. Liaison has been ongoing with Shepway District Council since 2013 but the shortlisting and identification of the preferred site has only recently been completed. It was therefore impossible to pre-emptively include the Lorry Park provision into the Local Plan before it was adopted in 2013.

1.10 It is understood, however, that the next stage of the Local Plan process of the Regulation 18 consultation looking at site specific allocations will be undertaken later in 2014. KCC intends to work closely with Shepway Council with regard to identifying a site that is both deliverable and environmentally acceptable. Given that the current timetable for delivering the first lorry park involves seeking planning consent in the first half of 2016, it is expected that KCC will be closer to understanding the planning context for this area around Junction 11 by that time. It is also appreciated that in the scenario that the KCC proposal does not accord with land use allocation, there is a risk of a call in by the Secretary of State on the proposal and KCC would need to demonstrate why this site is required for a lorry park over alternative uses, or indeed alternative sites.

Kent Lorry Parks Feasibility Study - Phase 2 Report

17 March 2014

Within the commission AECOM is not giving investment advice. The truck park assessments as set out in this report are based on a series of assumptions as set out in the report and associated technical notes and as agreed between AECOM and Kent County Council. The outcome of assessments are directly driven by the assumptions and the data used for the assessments and subject to uncertainty. Whilst the uncertainty of the assessment can be the subject of a risk analysis, the remit of this work does not include undertaking of risk analysis.

Prepared by: .....
Dan Bowden / Jameel Hayat
Senior Consultant / Associate

Checked by: .....
Johan Els
Principal Consultant

Approved by: .....
John Hix
Regional Director

Kent Lorry Parks Feasibility Study - Phase 2 Report

Rev No	Comments	Checked by	Approved by	Date
1	Draft Kent Lorry Parks Feasibility Phase 2 Report	JE	JH	17 Feb 2014
2	Updated Draft Kent Lorry Parks Feasibility Phase 2 Report	JE	JH	25 Feb 2014
3	For final review by KCC	JE	JH	28 Feb 2014
4	Final Kent Lorry Parks Feasibility Phase 2 Report	JE	JH	17 March 2014

9th & 10th Floors, Sunley House, 4 Bedford Park, CR0 2AP
Telephone: 020 8639 3500 Website: http://www.aecom.com

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Executive Summary

Executive Summary

Introduction

AECOM was commissioned in August 2013 by Kent County Council (KCC) to produce a feasibility study for commercially operated lorry parks in Kent. Following the completion of the Phase 1 Kent Lorry Parks Feasibility Study, AECOM was further commissioned in December 2013 (Phase 2) to address a number of requests as set out by the Council:

- Refine existing demand model to provide site specific, rather than corridor specific demand estimates
- Refine the existing commercial models to update capital costs, land value, construction and other cost elements for each site
- Estimate operational cost and loan repayment cost for two operating models for each site and update the financial and commercial analysis for each site

Three sites are considered as follows:

E1 – Proposed Parking Capacity

PARKING CAPACITY	SITE		
	Site Behind STOP24 Site 8	**Extension of Ashford International Truck Stop Site 6**	**White Cliffs Business Park Site 57**
Oversize	25	13	21
Overnight	527	421	321
Operation Stack	112	100	-
Overall Total	664	534	342
Total for demand/financial model	**552**	**434**	**342**

The revised methodology is split into two key parts:

- Demand modelling
- Financial modelling

The demand methodology aims to provide site specific as opposed to aggregate corridor demand as provided in the Phase 1 demand model for the three shortlisted truck stop locations. The methodology on the financial analysis aims to provide updated and more accurate capital and operational costings for the sites as a result of further research undertaken by Kent County Council (KCC). It also incorporates different grant and loan scenarios and their impact on cash flow together with further sensitivity tests on price elasticity for overnight parking charges and discount rates used in the NPV calculations.

Driver Surveys

In addition AECOM undertook a face-to-face survey of over 120 international freight drivers at Port of Dover, Ashford Truck Stop and STOP 24. The key findings including; willingness to pay; importance of facilities; and willingness to divert from their route in order to find parking, are used to help inform the demand and financial models.

Example Driver Survey Result - If truck parking enforcement was tougher a third of drivers said they would not park in Kent

Demand Analysis

The outcome of the site specific demand forecasts is shown as follows:

E2 – Overnight Parking Demand

Year of operations	Overnight Parking Demand		
	Site 57 White Cliffs	Site 8 STOP 24	Site 6 Ashford
1	44	27	36
2	51	32	45
3	58	38	53
4	65	44	61
5	73	50	70
6	80	57	79
7	88	63	88
8	96	70	98
9	105	77	108
10	115	85	120
11	125	94	132
12	136	103	145
13	147	112	158
14	159	122	172
15	171	132	186
16	182	141	198
17	192	150	211
18	204	159	224
19	215	169	238
20	230	181	255
21	245	194	273
22	261	207	292
23	277	220	311
24	294	235	331
25	312	249	352

In terms of comparison between the Phase 1 corridor based demand forecast and the site based analysis, the level of growth in international freight traffic has obviously not changed, however the volumes of vehicles involved has been disaggregated and with the exception of the Dover site is significantly reduced. On the other hand this means that for the 25 year forecast period none of the sites become space constrained.

Financial Analysis

The financial model calculates annual revenue and costs based on assumptions regarding demand, lorry park utilisation, pricing strategy and lorry park costs. The financial analysis is based on estimating cash flow as a function of these, the rate of return and the present value. A 25 and a 40 year time period has been assumed.

The following table gives the Internal Rate of Return (IRR) and Net Present Value (NPV) outputs of the model taking into consideration a 25 and 40 year investment horizon. In broad terms the higher the IRR and NPV the better the investment is likely to be. It can be seen that across sites and between the 25 year and 40 year investment horizons there is either only a small or no return (indicated as "Not Applicable") on investment. The NPVs are negative in all cases.

E3 - IRR and NPV No Grant No Loan Scenarios

						Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost	Grant	Loan % of capital costs	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£12,560,641	£ -	0%	£1,289,273	£817,553	Not applicable	-£10,619,982
57	2016	40		£ -	0%	£1,849,220	£884,442	3.7%	-£8,216,127
8	2016	25	£17,123,208	£ -	0%	£989,054	£1,319,558	Not Applicable	-£22,781,768
8	2016	40		£ -	0%	£1,820,774	£1,427,521	Not Applicable	-£20,897,368
6	2016	25	£19,097,944	£ -	0%	£1,336,148	£1,037,479	Not Applicable	-£19,314,544
6	2016	40		£ -	0%	£2,088,348	£1,122,363	2.0%	-£16,550,948

Grant and Loan Scenarios

There is the possibility of a grant from the LEP and/or a Treasury loan. These would have a significant impact, avoiding the need to pay for construction up front (or at all in the case of a large grant) and in effect discounting the payment of the construction costs over a period of 25 or 40 years with a Treasury loan.

KCC asked for two scenarios to be tested:

- A mix of grant and loan is used to develop and deliver the project with a 40 points discounted interest rate of 3.74% over 25 years
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.06% over 40 years

The following summarises the IRR and NPV outcomes for each scenario.

E4 - IRR and NPV Loan and Grant Scenarios

Summary 25 and 40 year loans

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site	Development Year	Operational Life	Capital Cost after grant	Grant £10m + uplift 2013-2016	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Average Annual Operational: Op + Main Costs	IRR	NPV
57	2016	25	£2,757,530	Y	100%	£2,911,963	£ -	£1,289,273	£817,553	*8.3%*	*£292,102*
57	2016	40	£13,526,437	N	100%	£14,283,971	£ -	£1,849,220	£884,442	*4.5%*	*-£2,939,076*
57	2016	40	£2,757,530	Y	100%	£2,911,963	£ -	£1,849,220	£884,442	*12.2%*	*£2,877,252*
8	2016	25	£7,670,916	Y	100%	£8,100,518	£ -	£989,054	£1,319,558	*Not Applicable*	*-£10,275,864*
8	2016	40	£18,439,822	N	100%	£19,472,526	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£13,703,464*
8	2016	40	£7,670,916	Y	100%	£8,100,518	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£7,887,137*
6	2016	25	£9,797,491	Y	100%	£10,346,189	£ -	£1,336,148	£1,037,479	*Not Applicable*	*-£6,118,815*
6	2016	40	£20,566,397	N	100%	£21,718,197	£ -	£2,088,348	£1,122,363	*Not Applicable*	*-£8,527,407*
6	2016	40	£9,797,491	Y	100%	£10,346,189	£ -	£2,088,348	£1,122,363	*5.1%*	*-£2,711,079*

In comparison with the no grant and loan scenario it can be seen the NPV position is considerably improved but with the exception of the Site 57 25 and 40 year grant and loan scenarios, NPVs are all still negative. IRRs are positive for Site 57 and the IRR for Site 6 under the 40 year grant and loan scenario is also positive.

A grant and 25 year loan scenario offers a useful proposition to taking forward a lorry park, given that in effect a proportion of the cost of the lorry park construction will be 'written off' and the remaining costs will be discounted over a period of 25 years or 40 years, notwithstanding the need to undertake longer term forecasting, planning and risk assessments. However, this is dependent on a number of assumptions and would need to be fully explored if a decision was made to take the analysis further. Given the generally poor IRR and NPVs, even with a grant and 40 year loan, Site 57 would appear the most attractive proposition.

M20 Corridor Single Site Development

Having reviewed the Phase 2 modelling outcomes with particular respect to the relatively poor NPV and IRR values under many scenarios we conclude that a further scenario of a combined site on the M20 corridor should be 'tested' to ascertain its potential viability. This seems a sensible progression of the modelling in Phase 1 that is corridor based and the site specific analysis conducted in Phase 2. In combining the site specific demand the proximity of the sites is already accounted for in the even splitting of demand between the two locations. A 50 year time horizon was also added to the 25 and 40 year scenarios tested previously.

Table E5 provides the results using Site 8 and the following narrative provides an explanation of the model outputs. (Table E6 provides the equivalent results using Site 6).

In combining the two M20 corridor site demand forecasts whilst we still see negative NPV figures in the no grant / no loan scenarios, IRR figures are however positive and show a 4% - 5% return over the 40 and 50 year time line for both sites 8 and 6.

Applying the grant and loan scenarios return far more encouraging outcomes although in the case of the grant this is still an upfront costs to the public sector and should either be included as an upfront cost or subtracted from the benefits.

The following scenarios were tested:

- A mix of grant and loan is used to develop and deliver the project with a 40 points discounted interest rate of 3.74% over 25 years
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.06% over 40 years
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.08% over 50 years

The first column of Table E5 sets out scenarios A to G. The 25 and 40 years results in Scenario A (no grant and no loan) are identical to those presented in table E3. In addition, the results for 50 years have been included, indicating that there is still no return and a negative NPV.

Scenario B develops this further, but adding in the demand from Site 6 i.e. the combined demand forecast that is the purpose of this chapter. This does have a positive impact, with the increase in annual revenues (but the same annual costs as in Scenario A) resulting in returns of 1.6% - 5.5% over 25 – 50 years.

Scenarios C and D look at the impact of a grant with loan over 25 years (Scenario C) and over 40 years (Scenario D). Revenue and operating costs remain the same as in Scenario B, but annual cash flow is improved. If the IRR and NPV are calculated without taking into the account the grant (as is the case in the table), then the returns will look very high, as is demonstrated in the table.. Scenario F presents a similar set of results, but on the basis of a 50 year loan.

Scenario E examines the impact of a 40 year loan (no grant). This should be compared to Scenario B. The IRR increases, although NPV remains negative. Over 50 years, however, the NPV is almost positive. Scenario G presents a similar set of results, but on the basis of a 50 year loan (no grant); in this scenario there is a positive NPV over 50 years.

E5 - Develop Site 8 (Westenhanger Site behind Stop 24) With Combined Demand Forecast

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Average Annual Operational: Op + Main Costs	IRR	NPV
A: no grant or loan	8	2016	M20	552	25	£18,439,822					£989,054	£1,319,558	Not Applicable	-£22,781,768
	8	2016			40						£1,820,774	£1,427,521	Not Applicable	-£20,897,368
	8	2016			50						£2,362,783	£1,505,901	Not Applicable	-£19,934,121
B: no grant or loan	8 (+6 demand)	2016	M20	552	25	£18,439,822					£2,359,443	£1,319,558	1.6%	-£12,247,021
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	4.9%	-£8,346,648
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	5.5%	-£7,383,401
C: grant and 25 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*7.9%*	*£258,883*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*10.8%*	*£4,159,256*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*11.1%*	*£5,122,503*
D: grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*9.0%*	*£1,062,386*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*11.6%*	*£4,663,584*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*11.8%*	*£5,626,831*
E: no grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,359,443	£1,319,558	2.6%	-£4,333,940
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	6.7%	-£1,152,744
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	7.4%	-£189,498
F: grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*9.5%*	*£1,347,858*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*11.9%*	*£4,961,766*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*12.1%*	*£5,868,759*
G: no grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,359,443	£1,319,558	3.2%	-£3,647,705
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	7.2%	-£435,955
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	7.7%	£392,064

E6 - Develop Site 6 (Extension of Ashford International Truck Stop) With Combined Demand Forecast

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Average Annual Operational: Op + Main Costs	IRR	NPV
A: no grant or loan	6	2016	M20	434	25	£20,566,397					£1,336,148	£1,037,479	Not Applicable	-£19,314,544
	6	2016			40						£2,088,348	£1,122,363	2.0%	-£16,550,948
	6	2016			50						£2,355,010	£1,183,988	2.9%	-£15,843,371
B: no grant or loan	6 (+8 demand)	2016	M20	434	25	£20,566,397					£2,129,455	£1,037,479	1.5%	-£12,702,342
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	4.3%	-£9,823,085
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	4.8%	-£9,115,508
C: grant and 25 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*8.3%*	*£493,387*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*10.7%*	*£3,372,644*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*11.0%*	*£4,080,221*
D: grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*10.0%*	*£1,519,642*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*11.9%*	*£4,016,784*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*12.1%*	*£4,724,361*
E: no grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,129,455	£1,037,479	2.5%	-£3,876,684
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	6.1%	-£1,799,544
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	6.8%	-£1,091,967
F: grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*10.7%*	*£1,884,255*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*12.4%*	*£4,397,630*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*12.6%*	*£5,033,357*
G: no grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,129,455	£1,037,479	3.4%	-£3,111,308
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	6.7%	-£1,000,091
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	7.2%	-£443,337

Sensitivity Testing

Further sensitivity tests assuming a night time charge of £20 (as opposed to £15) and a discount rate of 3.5% (instead of 7.5%) have been undertaken and the results are set out in Appendix C. The impact of the higher charge and lower discount rate is to significantly improve the revenue line and potential returns and NPV.

Final Remarks

Ultimately, the choice of development may be determined by a multitude of external factors including land availability and willingness of existing or new commercial operators to develop sites. It is noting the point that if the Ashford site (site 6) is developed in the manner described to a capacity of 858 spaces this will cope with predicted demand to beyond 2040, whereas capacity would be exhausted at a combined STOP 24 site by 2035.

The IRR figures presented in this report indicate how much more attractive an investment the truck park becomes for KCC (as opposed to the public sector as a whole) once the proposed grant and loan financial supports are provided. These supports might also be used to incentivise a private sector firm to build and/or operate a truck park. For example, if a private sector firm was able to access these grants and low cost loans, the potential return to it from building and operating a truck park would increase as indicated by these IRR calculations. Alternatively, if KCC built the truck park and sold it to a private sector developer for a price net of the benefit of the grants and loans, the purchase and operation of the truck park would be a more attractive investment for a private sector buyer.

The analysis in this report is based on the commercial viability of additional lorry parks in Kent. However, there are wider costs and benefits that are likely to accrue but which would not be taken into account by a private operator seeking to make an investment decision. The Kent Multi-facility Lorry Park Scoping Strategy (2007)[1] undertook economic impact analysis to estimate a cash equivalent benefit to society resulting from the provision of sufficient overnight lorry parking capacity in Kent and a well managed off-highway alternative to Operation Stack. It suggested that first year benefits would be in the order of £2.5m and a £77m benefit (in 2004 prices) over a 30 year time frame. These benefits took into account impacts on local businesses, policing costs, and congestion.

There are likely to be broader socio-economic costs and benefits involved in the construction and operation of new lorry parks in Kent.

[1] A report by AECOM for the Department for Transport and Highways Agency

Introduction

1 Introduction

1.1 Overview

AECOM was commissioned in August 2013 by Kent County Council (KCC) to produce a feasibility study for commercially operated lorry parks in Kent. As part of the study AECOM undertook an initial evaluation and ranking of some 31 sites and developed a demand model and financial model to determine the feasibility of the top ranked sites. The outcome of this 'Phase 1' study provided a list of possible sites that may be feasible to develop as a lorry park.

In December 2013 AECOM was further commissioned (Phase 2) to address a number of requests as set out by the Council:

- Refine existing demand model to provide site specific, rather than corridor specific demand estimates
- Refine the existing commercial models to update capital costs, land value, construction and other cost elements for each site (information provided by KCC, see below)
- Estimate operational cost and loan repayment cost for two operating models for each site and update the financial and commercial analysis for each site

Following the Phase 1 report KCC undertook to determine addition and refined data and has provided AECOM with the following information:

- Land values
- Construction cost with associated layout drawings
- Market research with existing truck park operators

This information was used to update the existing demand and financial models. The operators market research was used to help further determine the current utilisation at existing truck parks as well as to determine more accurate maintenance and operating costs.

In addition to the above information, AECOM undertook face-to-face interviews with lorry drivers which are further discussed in Chapter 2.

The three sites that are considered are:

- Site behind STOP24 Westenhanger off M20 Junction 11 (Shepway)
- Extension of Ashford International Truck Stop, A2070 near M20 Junction 10 (Ashford) spaces
- White Cliffs Business Park, near A2/A256 junction (Dover)

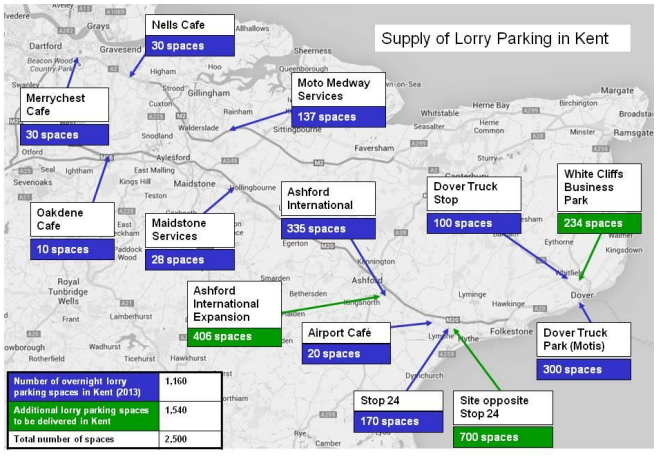

Figure 1.1: Current Truck Parking Provision in Kent and the Three Review Sites (note comments on spaces)

Figure 1.1, as provided by KCC, identifies current supply of truck parking in Kent and the three sites reviewed as part of this Phase 2 study. It should be noted that the parking spaces identified here have been refined as part of the process of KCC developing feasibility layouts for each of the sites. The capacities provided in these layouts are noted as follows:

Table 1.1: Proposed Parking Capacity at the Three Proposed Sites

PARKING CAPACITY	SITE		
	Site Behind STOP24 Site 8	**Extension of Ashford International Truck Stop Site 6**	**White Cliffs Business Park Site 57**
Oversize	25	13	21
Overnight	527	421	321
Operation Stack	112	100	-
Overall Total	664	534	342
Total for demand/financial model	**552**	**434**	**342**

AECOM notes that the layout drawings indicate a standard parking bay size of 15m x 3m, and that oversize spaces are provided (we assume for drawbar vehicles of 18.6m). We advise KCC that a standard international freight vehicle (articulated combination) is 16.5m and that the feasibility layouts should be re-drawn to take this into account. This may affect the parking capacity but a 'herringbone' layout may be adopted to re-optimise capacity.

KCC should also note that whilst we have included the 'oversize' bays in our demand/financial modelling we have not included the spaces reserved for use during Operation Stack as we have assumed that these must be reserved for that specific purpose.

1.2 Report Structure

The structure of the remaining sections of the report is as follows:

Chapter 2 – Model Refinement and Methodology

This chapter describes the methodology and assumptions for Phase 2 of the Kent Lorry Parking Study which refines the previous demand and financial models.

Chapter 3 – Driver Interview Analysis

This chapter sets out the results from the driver interviews.

Chapter 4 – Demand Forecasting

This chapter sets out the changes and new results to the demand model.

Chapter 5 – Financial Modelling

This chapter describes the updates and gives a summary of the new results from the financial model.

Chapter 6 – M20 Corridor Single Site Development

This chapter sets out the results if we combine the demand of the two proposed sites on the M20 corridor but only develop one site.

Appendices include:

Appendix A – HGV Driver Questionnaire

Appendix B – Comparison of Phase 1 and Phase 2 Financial Model Inputs

Appendix C – Sensitivity Testing of Higher Overnight Charge and Lower Discount Rate

Model Refinement and Methodology

2 Model Refinement and Methodology

2.1 Introduction

This section sets out the methodology for Phase 2 of the Kent Lorry Parking Study, which refines the previous demand and financial models and provides site specific analysis. This is achieved through additional and greater levels of information now available as well as the outputs of primary research (face-to-face surveys) undertaken with lorry drivers.

2.2 Methodology

The revised methodology is split into two key parts:

- Demand modelling
- Financial modelling

The demand methodology aims to provide site specific as opposed to aggregate corridor demand as provided in the Phase 1 demand model for the three shortlisted truck stop locations. The finance methodology aims to provide updated and more accurate capital and operational costings for the sites as a result of further research undertaken by Kent County Council (KCC). It will also incorporate sensitivity testing to examine different grant and loan scenarios and their impact on cash flow.

2.2.1 Demand Modelling

The demand model refinement included a survey of truck drivers to understand a number of variables including:

- Driver and Journey Profiles
- Facilities required
- Willingness to pay for truck parking and how much
- The distance they would wish to deviate from their route in order to find secure truck parking

It is this last question, in terms of the level of deviation from routes that was fundamental in determining the demand for truck parking as this consensus allowed us to draw isochrones around the truck stop to determine the area of demand. These isochrones indicate the count points both on Motorways (HATRIS) and Primary routes (AADT) that represent the specific demand for the truckstop. This converts corridor volumes, as in the previous model, into site specific volumes. This was then compared against gatehouse records (from Ashford International Truckstop and Stop 24) in order to add a further layer of validation.

Willingness to pay for truck stops introduced an added dimension that provides further information for KCC in terms of pricing policy and business operating models. It may also be worked into the financial model to provide more accurate revenue expectations. For the demand model, we can use it as a measure of price elasticity, by looking at the proportion of drivers responding to each pay band and change the levels of demand if fees increase or decrease.

Assumptions

- Where demand isochrones overlap, volume within such overlap was split equally amongst the relevant sites
- One count point from each road was taken
- Price preference directly affects demand

In the driver survey we also asked about why drivers are parked where they are as well as the ability to consistently park there and what happens if that particular location is full. This enabled us to gain a picture of latent demand without having to survey drivers in lay-bys.

All other aspects of the demand methodology remained the same as the previous version.

Journey and driver profiles helped to gain a wider picture of demand and driver activities within the region as well as providing an indication of facilities a new truck stop may want to provide.

2.2.2 Financial Modelling

The financial model was updated with new capital, maintenance and operating costs provided by KCC as part of their supporting research, through revision of figures in the costs and revenue sections.

The model was also adapted to take into account inputs from KCC on operating models and loan repayments, within the current structure of the model.

Assumptions

- Inputs as given/ provided by KCC and the demand modelling
- The financial model will work out the IRR and NPV, as previously
- The model incorporates loan repayments, as requested by KCC, to help determine overall cash flow
- The model does not incorporate any risk analysis or quantified risk assessment
- The model assumes a 25 and 40 year operational period *after* construction has been completed
- No assumption is made on asset value at the end of the appraisal period or depreciation
- Refurbishment only includes cost of resurfacing in year 26
- Modelled sites will not close in the refurbishment year, although capacity will be reduced by 10 percent to reflect disruption
- Construction will take place over a one year period (Year 0, followed by 25 or 40 years of operations)
- Ashford, STOP 24 and Dover will have 434, 552 and 342 parking spaces respectively
- Scenarios include:
    - Build without a grant or loan
    - Build with grant of £10m and loan for remaining amount over 25 years
    - Build with loan for full amount over 40 years

2.3 Summary

The following refinements provide KCC with a much better idea of the potential impacts of truck parking behaviour on demand as well as how different operating models may affect revenue and loan repayments.

Driver Interview Analysis

3 Driver Interview Analysis

3.1 Introduction

This section sets out the results from the recent HGV driver surveys. The driver interviews undertaken by AECOM's in-house team were undertaken at:

- Ashford International Truck Stop on the 22nd of Jan 2014, between 4pm and 8pm
- STOP24 on the 23rd of Jan 2014, between 4pm and 8pm
- Port of Dover on the 24th of Jan 2014, between 11am and 4pm

The key findings including willingness to pay, importance of facilities and willingness to divert from their route in order to find parking. Finally it details how the findings can be used in order to influence the demand and financial models for truck parking and driver rest areas in Kent. The questionnaire is contained in Appendix A.

3.2 Results

The survey gained 121 responses, exceeding our target by 21%, and adding greater validation to its conclusions. Samples are split across the survey sites according to Figure 3.1. The largest sample of surveys (42%) was taken from the Port of Dover, with 31% and 27% coming from Ashford and STOP 24 respectively.

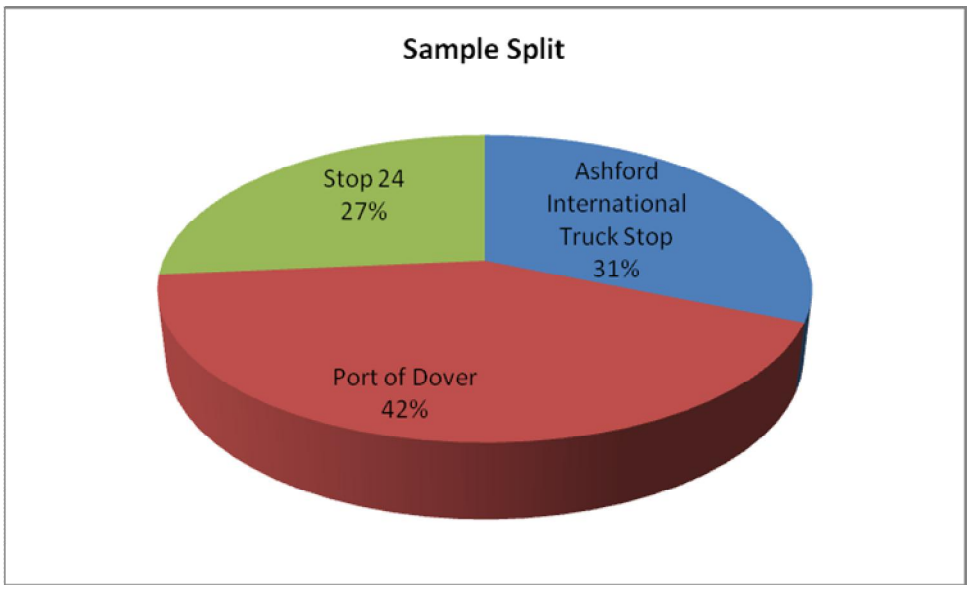

Figure 3.1: Survey Responses by Site

3.2.1 Geography

The origin of trucks varied, with vehicles being recorded from 16 different countries, as shown in Figure 3.2. The most prevalent country was Poland (PL), with 19% of the trucks surveyed. Traditional European logistics nations such as Germany (D) and the Netherlands (NL) featured less prominently with an 8% and 4% share respectively. UK vehicles (GB) accounted for 10% of the sample.

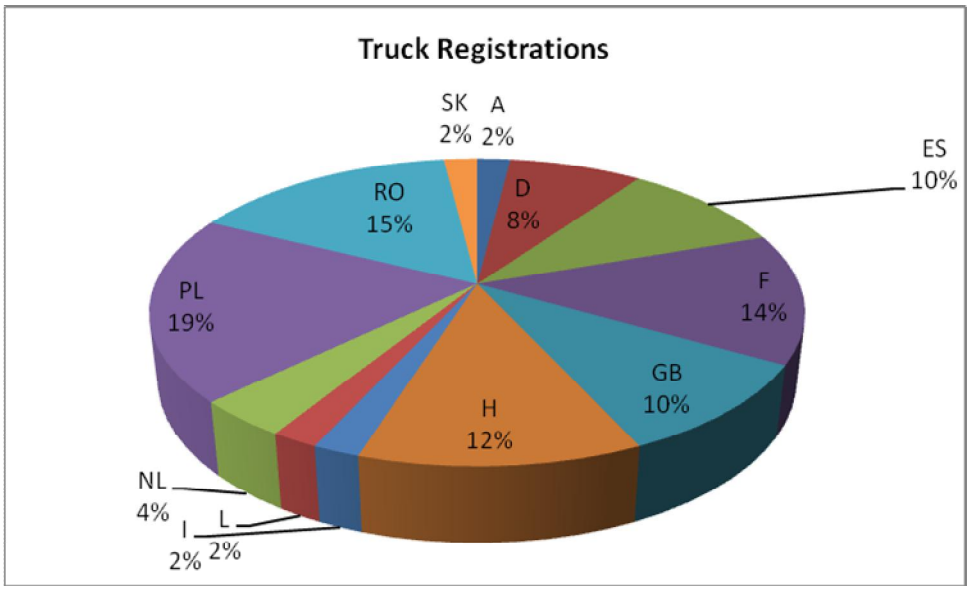

Figure 3.2: Registrations of Sample Vehicles

Should the truck rest areas provide facilities such as food and beverage, as well as information, this may be significant in determining the sort of foods and beverage on offer, language considerations and potentially price comparison, as buyers will inevitably compare costs with equivalent facilities in their home country.

3.2.2 Routing

Figure 3.3 shows the routing options picked by drivers interviewed. It shows that most vehicles use the A20/M20, either on its own or in combination with the A2/M2. Very few vehicles travel only on the A2/M2. From previous AECOM studies (notably the study for the HA on Dover route signing) and from the Phase 1 analysis of traffic volumes on the two corridors we know that the 'combination' element of the route preference identified in our driver survey means that the eastern section of the M20 is heavily utilised by cross-Channel traffic, with cross-over points principally at the A229 and A249 being used to connect to the M2. As such, the eastern end of the A20/M20 corridor seems the more preferable location for significant parking and driver facilities.

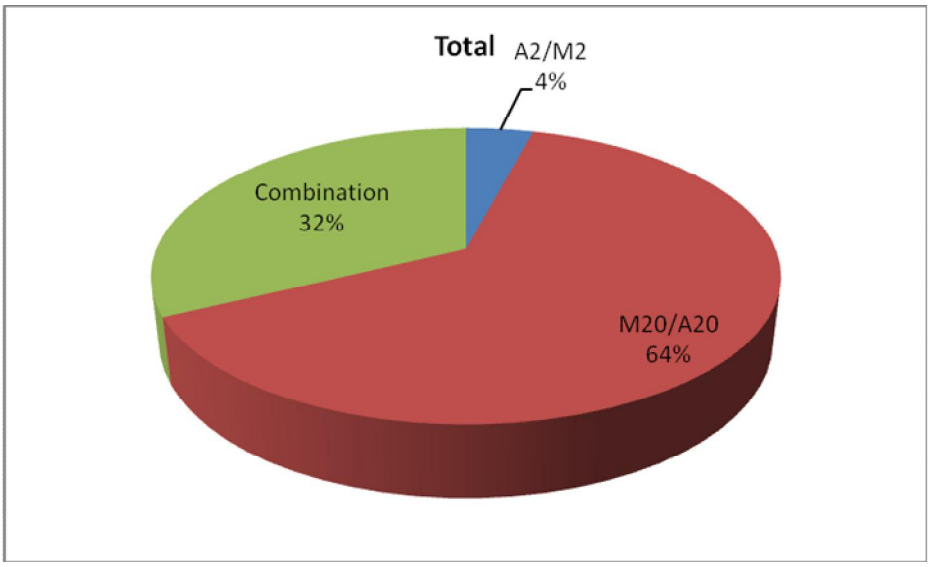

Figure 3 3: Routing Options

3.2.3 Typical Parking Locations

Drivers were asked about their typical parking locations, with an encouraging 61% of drivers responding they parked in an official truck park (Figure 3.4), lay-bys proved the next most popular, followed by industrial sites.

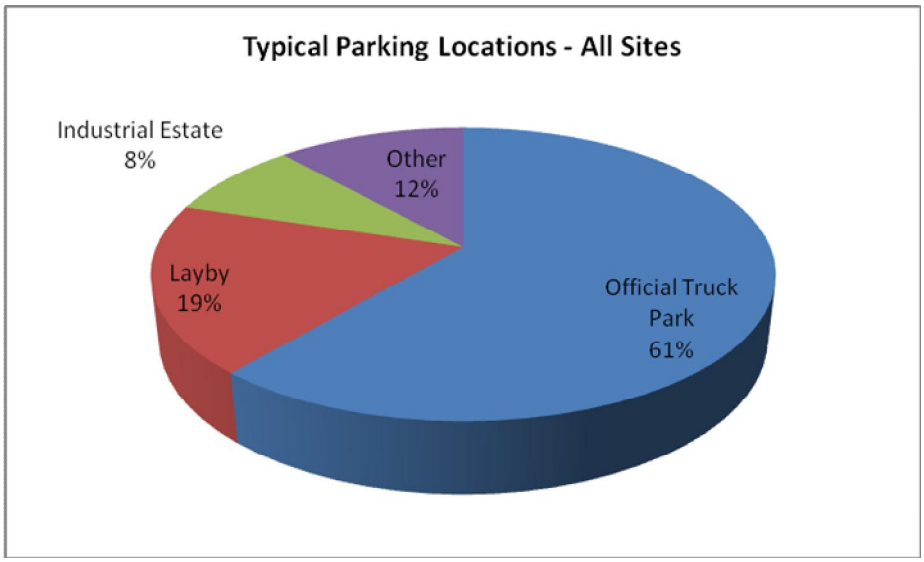

Figure 3.4: Typical Parking Preferences – All Sites

However, it is likely that this is skewed by the fact that 68% of the sample came from drivers parked in such a facility. If we discount these samples, taking only those interviewed at the Port of Dover, this number drops to only 37%, with lay-bys seeming to provide the alternative of choice (see Figure 3.5).

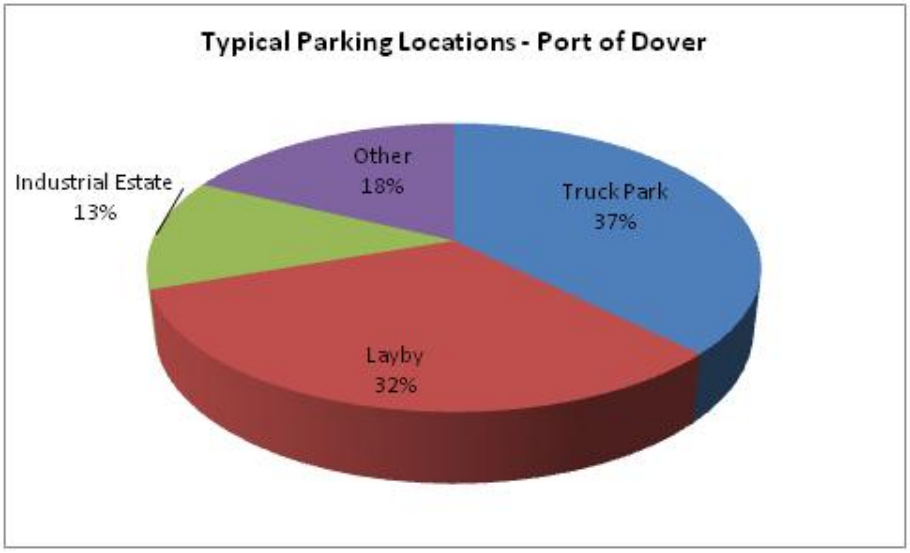

Figure 3.5: Typical Parking Preferences – Port of Dover

As such, it appears that around a third of people are choosing to park in a truck park. Further, 61% of those in a truck park typically park there. There could be a number of reasons for this difference, which may include local traffic, preferring truck stops, though there is little evidence from the interview to support this, with only 7% more UK registered vehicles than seen at truck stops, other possibilities could include Channel Tunnel traffic being more inclined to use truck parking facilities – perhaps if the cargo is typically of higher value than that coming through Dover, which has a slower crossing time. This may also be supported by the route preference data, with far more traffic using the M20/A20 than the M2/A2 as they might when heading from Dover.

Additional traffic may be accounted for through a combination of factors, including what's being carried in the vehicle, though only 14 of the total sample stated they were on company orders in terms of where they parked. Alternatively, they may not normally be able to access the site or parking is influenced by enforcement activity. These latter two are detailed more heavily in later sections.

3.2.4 Motivations

Drivers were asked about the motivations behind parking choices, of which there were several and these are summarised in Figure 3.6. Drivers scored attributes between 1 and 5, 1 being the highest priority, 5 being the lowest. The scores were summed and then taken away from 500 to provide the inverse (so highest score is the more important)

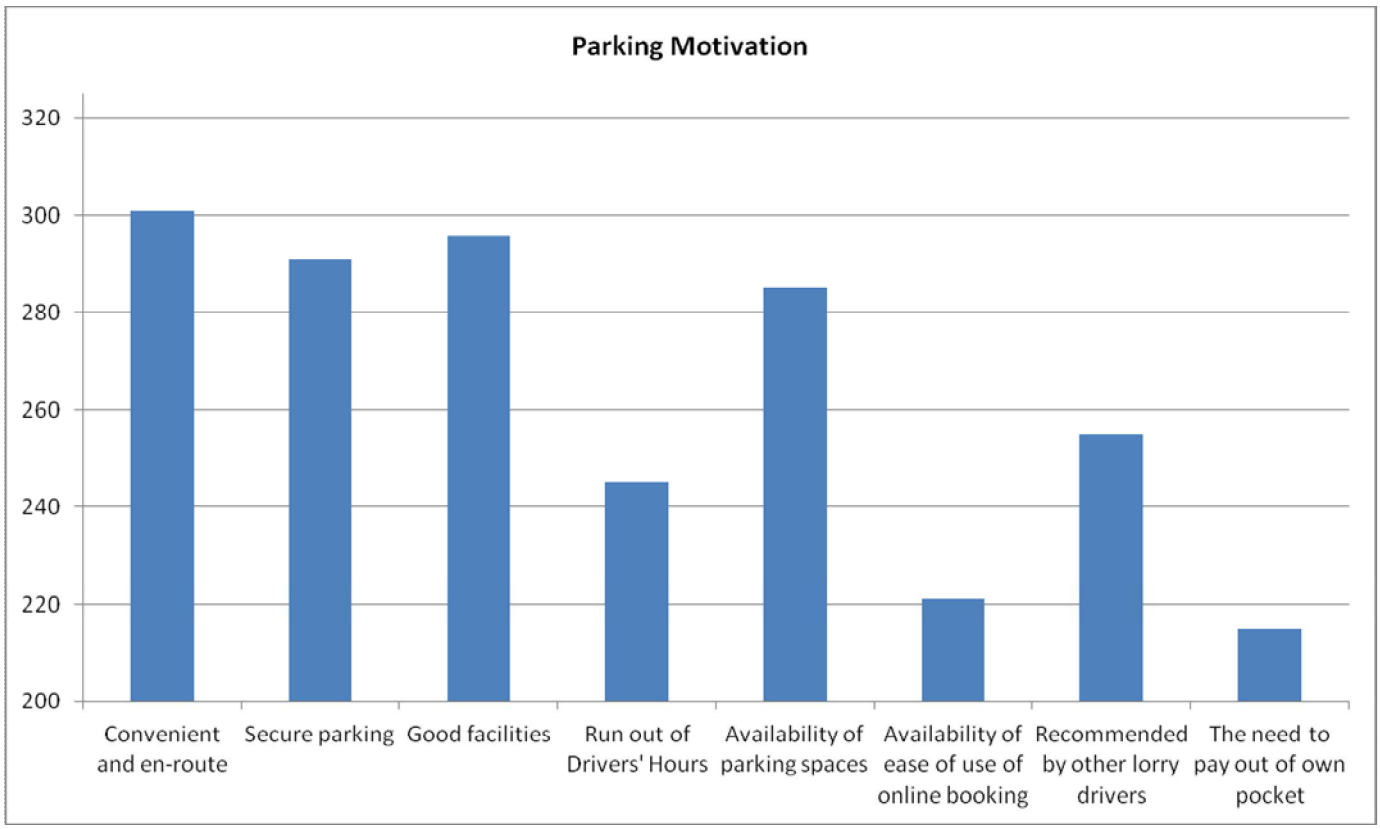

Figure 3.6: Driver Parking Motivations

3.2.5 Parking Availability

Drivers were asked about how much parking was typically available in the locations being surveyed.

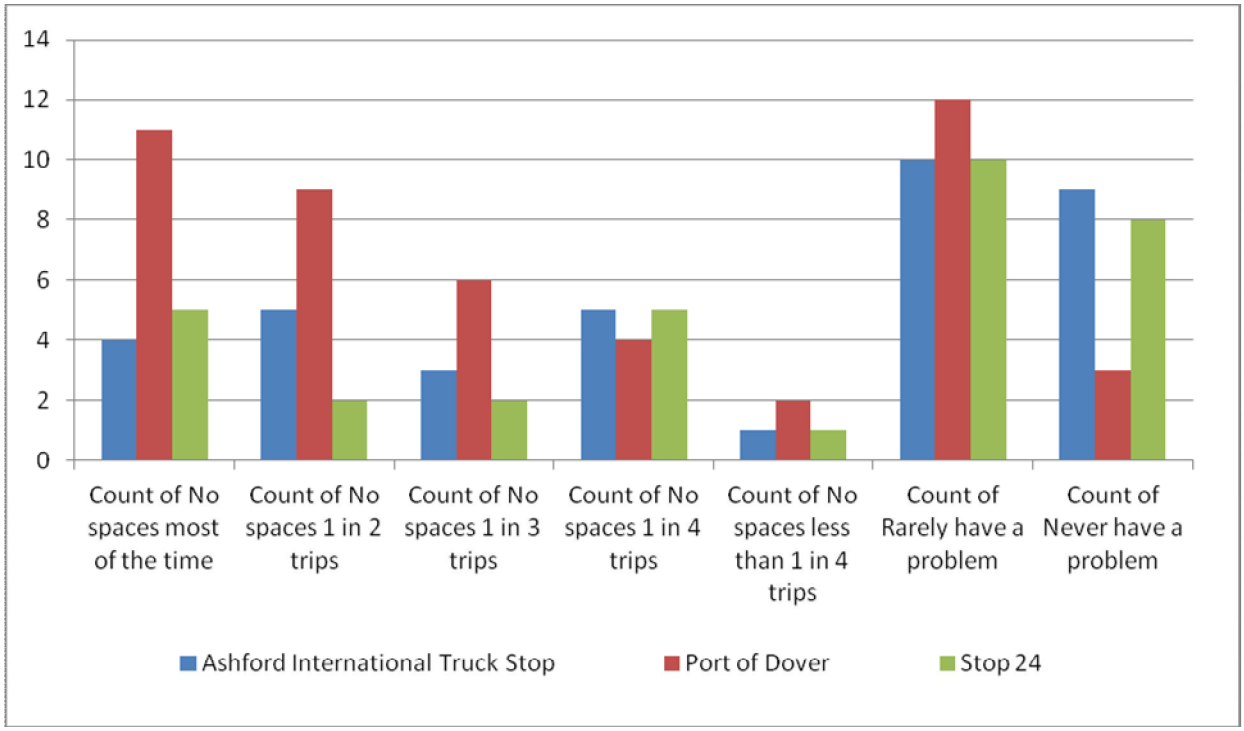

Figure 3.7: Level of Parking Availability

Figure 3.7 shows that whilst there are fewer capacity problems at Ashford or STOP 24, the drivers interviewed at Dover port appear to be having problems much more frequently. In terms of latent demand we can use this data in terms of the likelihood of them finding a space and the number of people affected.

Table 3.1: Latent Demand: Ashford Truck Stop

Times No Spaces	Population	Population (%)	Likelihood of Parking Problem	Latent Demand
Most of the time	4	11%	75%	8%
1 in 2 trips	5	14%	50%	7%
1 in 3 trips	3	8%	33%	3%
1 in 4 trips	5	14%	25%	3%
Less than 1 in 4 trips	1	3%	10%	0%
Rarely have a problem	10	27%	5%	1%
Never have a problem	9	24%	0%	0%
Total	**37**	**100%**	**-**	**23%**

'Likelihood' of a problem was derived by converting the time intervals into percentages (1 in 2 = 50%), 'Most of the time,' 'less than 1 in 4,' 'rarely' and 'never' were assigned likelihood values of 75, 10, 5 and 0% respectively.

'Population' was derived by the number of respondents stating a particular level of problem, as a percentage of the total number of respondents.

Through multiplying the likelihood by the number of people affected we can ascertain the number not being able to find a space (see Table 3.1).

Finally, this can then be summed to ascertain the latent demand for the site, in the case of Ashford, 23%. However, this may be impacted by the priority given to contracted operators as opposed to those that arrive on spec.

Applying the same methodology to the other two sites we can ascertain the following latent demands in Tables 3.2 and 3.3:

Table 3.2: Latent Demand: STOP 24

Times no spaces	Population	Population (%)	Likelihood of parking problem	Latent Demand
most of the time	5	14%	75%	11%
1 in 2 trips	2	5%	50%	3%
1 in 3 trips	2	5%	33%	2%
1 in 4 trips	5	14%	25%	4%
less than 1 in 4 trips	1	3%	10%	0%
Rarely have a problem	10	27%	5%	2%
Never have a problem	8	22%	0%	0%
Total	**33**	**100%**	**-**	**22%**

From Tables 3.2 and 3.3 we can see that latent demand for the STOP 24 site is 22% and 35% for drivers interviewed at Dover Port. As such we can apply these percentages to the demand forecasts as a robust measure of vehicles wanting to access a site but unable to. Checking these figures against gatehouse records will further add to the picture in terms of when the sites are full or not.

Table 3.3: Latent Demand: Drivers Interviewed at Port of Dover

Times no spaces	Population	Population (%)	Likelihood of parking problem	Latent Demand
most of the time	11	23%	75%	18%
1 in 2 trips	9	19%	50%	10%
1 in 3 trips	6	13%	33%	4%
1 in 4 trips	4	9%	25%	2%
less than 1 in 4 trips	2	4%	10%	0%
Rarely have a problem	12	26%	5%	1%
Never have a problem	3	6%	0%	0%
Total	**47**	**100%**	**-**	**35%**

3.2.6 Residual Parking

Given an average level of latent demand of around 27%, it is important to understand where people park if their initial choices are not available. Figure 3.8 shows where driver preferences are.

Figure 3.8: Driver Preference for Alternative Parking

Reassuringly, a third will look for an alternative truck stop, as opposed to opting for a lay-by or areas on industrial estates. Interestingly, many at STOP 24 would use Ashford but no one at Ashford said they would use STOP 24. A few others would look to Folkestone, Maidstone or a Motorway Service Area. This is assuming that the drivers interviewed were parked at their first choice, which may not necessarily be the case.

3.2.7 Facilities

A typical number of facilities, as set out in Table 3.4 were grouped against basic, intermediate and advanced. Drivers were asked which category of facilities they preferred and perhaps more importantly their willingness to pay for them.

Table 3.4: Driver Facilities Grouping

Toilets	**Basic facilities**
Off road parking	
Drinking water	
Showers	**Intermediate facilities (includes the basic facilities)**
Basic security – fence and gate control	
Fuel	
Hot food	
Internet	
Shop	
Very high security e.g. for vulnerable loads	**Advanced facilities (includes the intermediate and basic facilities)**
Plug in points for trailer refrigerators	
Other facilities not shown above	

Figure 3.9 shows their responses, with 46% of drivers wanting an intermediate level of facilities, i.e. a basic level of security, showers and hot food, as is currently supplied by most standard truck stop facilities. A further 35% would have like to see more advanced facilities such as higher security and plug in points. Relatively few, only 19% would have been happy with just basic facilities.

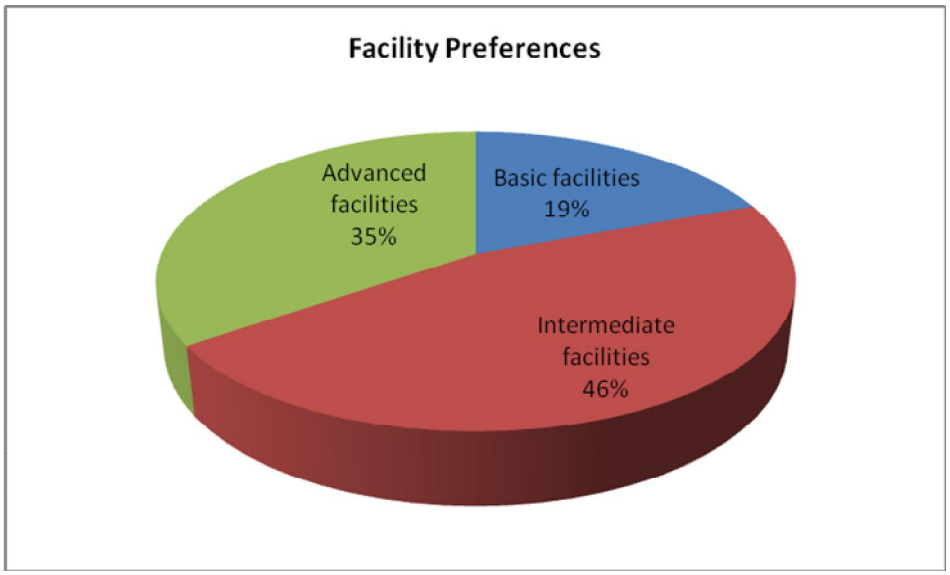

Figure 3.9: Facility Preferences of Drivers

More importantly, drivers were also asked to express how much they'd be willing to pay for such services (though more accurately it is often the company that pays). Figure 3.10 shows their responses.

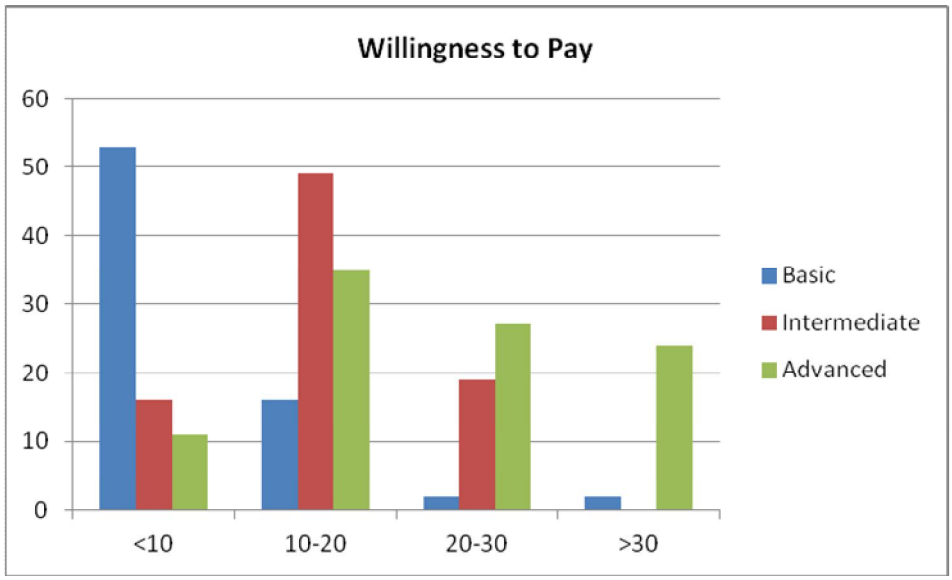

Figure 3.10: Willingness to Pay

Figure 3.10 shows drivers' willingness to pay, It is clear that the majority of drivers, are willing to pay a maximum of €10 for basic services but also that people are prepared to pay more for intermediate services, with most up to a maximum of €20. In terms of advanced services, willingness to pay is more spread out. It is clear that more advanced services are less valued, with many drivers still only willing to pay a maximum of €20 for the more advanced services, whilst a significant minority are willing to pay more than €30. This perhaps reflects the level of charges in Europe, which anecdotal evidence suggests is of lower cost.

This can be incorporated into the demand model as a measure of price elasticity through the following method:

1) Provide the option to specify the level of facilities for each Truck Park
2) Provide the option to specify the fee – linked to revenue in the financial model.
3) Based on the percentage of the sample willing to pay for each, this would be pro-rated to the forecasted volume of traffic, therefore factoring into demand predictions as a proportion of volume, as price is increased/decreased or the level of facilities is altered.

3.2.8 Route Deviation

Every driver will have a certain willingness to deviate from his route in order to find parking, there may be several factors affecting this including company procedures, load contents, drivers hours situation and driver attitude to name a few. Figure 3.11 shows driver preferences:

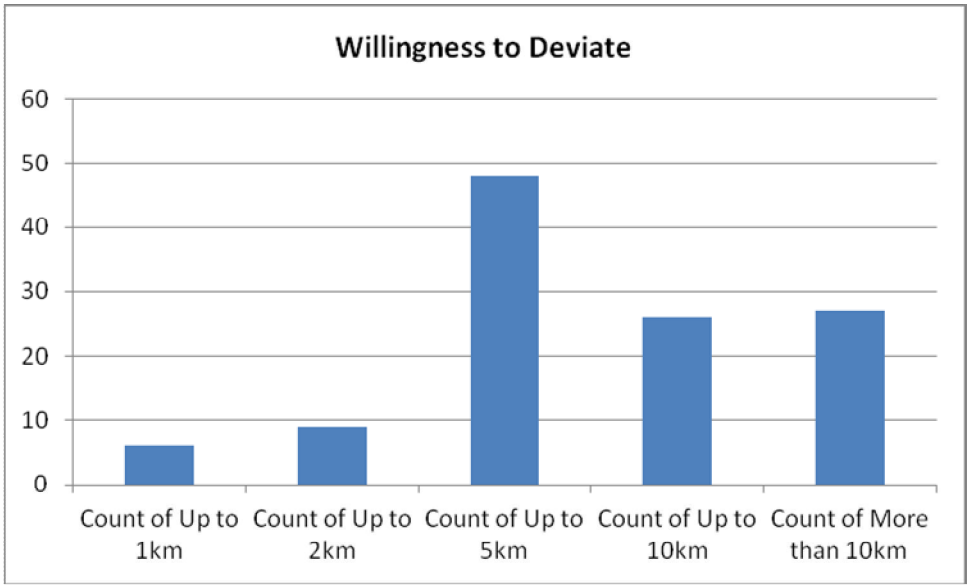

Figure 3.11: Distance Drivers are willing to deviate from their route

It can be seen that the majority of drivers 63/116 (54%) are willing to deviate 5km or less from their route and over three quarters 89/116 (77%) are willing to deviate 10 km or less from their route. As such, this provides a good indication as to the catchment areas of each site, assuming 10 km as a limit provides a safe assumption and if anything will underestimate the demand and therefore provide a robust model financially. As such, 1km, 2km, 5km and 10km Isochrones can be drawn in GIS to ascertain the roads within the catchment area and the through the road traffic counts, the volume of traffic within the demand area. This can be used in support of the gatehouse records in order to verify demand.

The way demand changes as you move further afield can also be reflected within the demand model, only taking into account a proportion of the potential traffic as being likely to use the site.

3.2.9 Enforcement

According to the survey, 82/117 (70%) of drivers who responded have encountered parking enforcement in Kent, suggesting a relatively high effectiveness. Typically, based on those responding, it appears drivers are fined and told to move on (or both). In certain circumstances they are escorted and rarely they are towed. Figure 3.12 shows the survey responses:

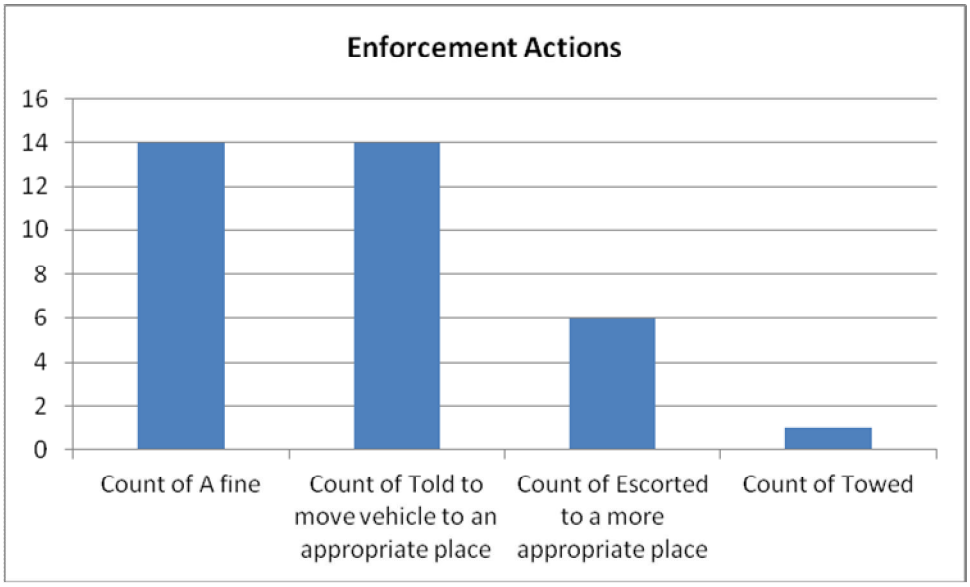

Figure 3.12: Consequences of Enforcement

Given the above, enforcement, ultimately is about changing behaviour, therefore the true indicator of its effectiveness is what drivers intend to do in future to avoid further enforcement, which Figure 3.13 shows.

Figure 3.13: How drivers intend to avoid enforcement

Encouragingly, many drivers (41%) would look to find a lorry park in the future, though it may be positively skewed due to the subject and where the survey was undertaken (however this does not differ substantially when looking at the Port of Dover data). 34% would avoid parking in Kent, and 25%, still a significant proportion, would look to take a risk on being caught. As such it shows that enforcement has significant effect in promoting the use of truck parks and that it can also have the effect of moving the problem onto another County.

The results however, do inform the demand model and we can incorporate its effects as to the additional demand for truck parking created through enforcement.

3.3 Summary

The driver survey has highlighted a number of important insights and considerations into behaviour of truck stops, particularly in the areas of willingness to pay, enforcement and latent demand, which were areas in the previous phase of work that we were only able to use an estimate.

Demand Forecasting

4 Demand Forecasting

4.1 Introduction

This section sets out the changes and new results to the demand model. It should be read in conjunction with the Phase 1 final report to gain a wider understanding of the methodology behind the model. The note also refers to a number of elements from the driver survey that took place in January 2014 and is set out in Chapter 3 of this report. Due to the options available, a large number of scenarios could be tested, however in the interests of time and length of the report, scenarios are often limited to those that will represent reality or client aspirations; e.g. in terms of the level of facilities. Where limited scenarios have been reported, this is clearly stated in both the Key Changes and Results sections.

4.2 Key Changes

In response to client feedback, a number of key changes/enhancements have been incorporated into the demand model. The following section sets out these changes.

4.2.1 Volume

In order to convert the demand model from a corridor based, to a site specific model, changes in the way truck volume were calculated had to be made. Feedback from the driver survey intimated that the majority more than 75% were willing to travel a maximum of 10km off route with the modal average being 7.5km. Use of GIS was made in order to calculate the Isochrones of 1, 2, 5, 7.5 and 10 kilometres away from each site and this can be seen in Figure 4.1. The use of Department for Transport, Annual Average Daily Traffic data (AADT), from count points within the 7.5 and 10km radii was used in order to calculate the level of traffic circulating within the area. This was averaged to avoid issues with double counting. The model is set up to allow the choice between a 7.5 and 10km catchment radius and will adjust the traffic volume accordingly. The results in the next section use a 7.5km radius to avoid excessive overlap between Ashford and STOP 24.

However, it is thought that the AADT data, due to many of the points being on local roads underestimates the HGV traffic accessing the site. As such, the nearest Highways Agency count points to each site (1 in each direction) have been included – bus/coach volumes as provided in the phase 1 model, to provide a better estimate of the level of traffic passing by the sites. The model has been set up so that either dataset can be used. However, this does not fundamentally affect the forecast, as it simply raises or lowers the proportion of trucks wanting to park per traffic volume. As such AADT scenarios are displayed here.

4.2.2 Truck Park Utilisation

In order to refine the overnight parking utilisation rates used in the Phase 1 calculations, additional ‘gatehouse’ data was sought from both Ashford Truck Stop and STOP 24. This has been used to help work out the average occupancy rate for both day and night time, with night assumed to be between 18:00 and 06:00. Again the user can determine if they wish to assess demand for both day or night demand. The results in the following section are for night demand as this is when capacity is at its most critical.

Ashford was able to provide a month’s worth of hour by hour occupancy data for November 2013. In the KCC market research work Ashford reported that they were full 6/7 days a weeks. This is borne out by the gatehouse data that shows for multiple hours during the night on multiple nights of the week there were no available spaces. Using the hour by hour gatehouse records the overall calculated overnight utilisation for the truck park used in the demand model is 84%.

Data for the month of January was provided by STOP 24. However this provides the number of vehicles entering the site and the number exiting by hour of the day. Whilst this is very helpful to determine patterns of arrivals and departures, it needs to be borne in mind that the site also provided Customs clearance services and the 40 new spaces (the bus transfer area) is not within the gated boundary. Having double checked with the site operator, and validated the response against KCC’s own market research exercise where the site reported 98% utilisation, we have used the 98% figure for the demand model.

Turning to the Dover White Cliffs Business Park site there is of course no existing parking profile to help calibrate site specific demand as opposed to corridor demand. In the absence of this we have assumed 100% utilisation at the nearby 100 space Dover Truck Stop site (operated by Priority Freight). The newly installed Dover Motis site (Western Docks) has informed the AECOM study team that as of December 2013 they were offering 300 spaces and were currently 50% utilised. Our demand model therefore assumes a 50% overall utilisation for the White Cliffs site. In response to the KCC market research exercise Motis reported that they expect demand to rise, especially when Dover Truck Park establishes on full site facilities. At present the facility is purely a secure parking facility which charges £10.

Overall it can be summarised that truck parking at the two established sites of Ashford and STOP 24 is nearing or is at capacity. Taking an overall utilisation of 84% for Ashford is, for the purposes of this study a conservative estimate as it masked the very real probability spaces are not available on multiple occasions throughout the week, meaning that drivers will be seeking alternative locations.

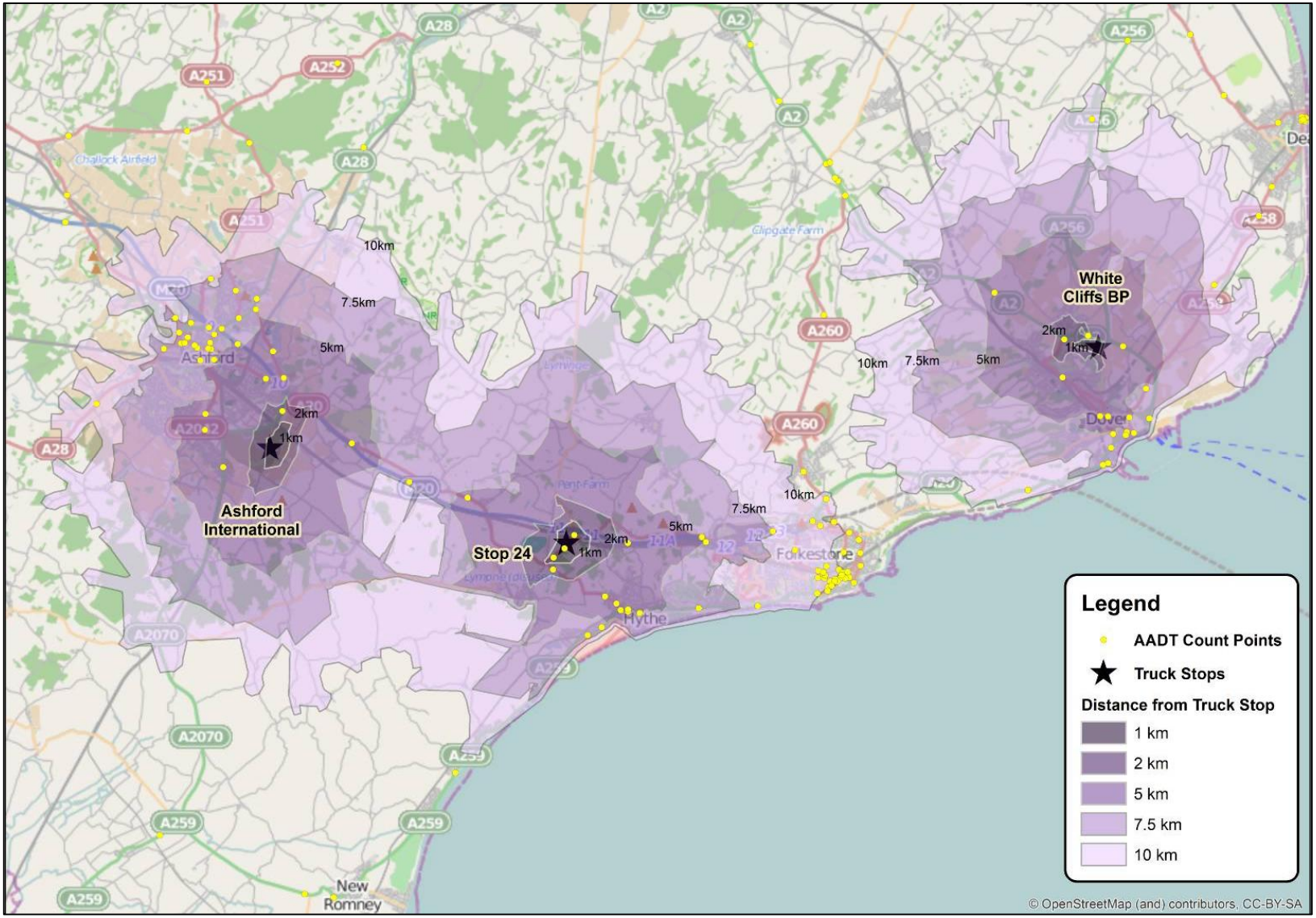

Figure 4.1: AADT Truckstop Isochrones

4.2.3 Price Elasticity

Based on driver feedback, the model now also incorporates an element of price elasticity. This has been incorporated through a cumulative matrix based on rates of charging and the level of facilities set by the user, the relevant proportion of drivers willing to pay is then inputted directly into the demand factor. The model is sensitive to change in multiples of €10. A number of scenarios are displayed in the results for intermediate facilities as this level provides the closest fit to the aspirations of Kent County Council. For the model, demand that is suppressed due to price is assumed to park illegally.

4.2.4 Latent Demand

A measure of latent demand has been ascertained from the driver survey results, based on the number of times drivers state they couldn't get a space. This feedback was incorporated into the model in the form of latent average demand for each site. This was applied to the average utilisation figures to provide an estimate of those wanting to access the site but unable to do so and therefore is added to total demand.

4.2.5 Unauthorised Parking

Unauthorised parking remains difficult to calculate as surveys done in truck stops are evidently not representative since the drivers clearly attempt to park legally. Looking at figures from the Port of Dover may be more accurate but that data cannot be reliably attributed to a site.

As such, to provide some level of estimate of unauthorised parking within the model, an assessment was based on feedback of drivers that attempt to park but cannot, and so park in unauthorised places which equates to 54% of latent demand. However, this invariably underestimates unauthorised parking as it takes no account of those that park in unauthorised locations from the outset, which is estimated to be around 45% of the total population based on driver feedback from the Port of Dover. Further unauthorised demand may come from people that have been captured in truck stops but only be there short term – parking for two hours before leaving to park in a lay-by over night.

As such unauthorised parking is not taken into account in the demand calculations in order to represent a proportion of the truck population that will choose to park elsewhere, when in reality that demand may in fact choose to park in a truck stop if it were available.

4.2.6 Impact of Enforcement

The driver survey results stated that 70% of driver experienced enforcement and that overwhelmingly drivers were fined and moved on. Once moved on, 41% would be inclined to look for an alternative lorry park. As such the model incorporates this number of vehicles, based on demand for unauthorised parking (70% x 41%) and feeds these back into the truck stop raw demand calculations. For the results, the enforcement rate is set at 70%, though this can be altered.

4.2.7 Truck Stop Expansion

As the revised model is site specific, it is assumed no further expansion of the sites will take place within the timeline of the project, as such this is set to zero but can still be altered to reflect further development if necessary.

4.2.8 Summary

The above improvements allow a far greater level of confidence in the data, backed up by raw data from both truck stops, in terms of gatehouse data as well as feedback from drivers as to their considerations in terms of willingness to deviate from their route, willingness to pay fees and levels of enforcement experienced and facilities desired.

4.3 Results

As a consequence of the changes set out in the previous section, a new set of results has been generated. The following table explains the meaning of the components of the graph.

Table 4.1: Legend Definitions

Colour	Title	Definition
Pink	Potential Provision	Planned provision for new truck stops based on technical drawings
Green	Total Parking	All parking demand (authorised, unauthorised & latent) within 7.5 km of the site
Blue	Truck stop Parking	Demand for parking at all truck stops within 7.5 km of the site
Purple	Net Authorised Parking	New demand for authorised parking from traffic growth not catered for by existing capacity at current levels of utilisation
Red	Unauthorised Parking	Vehicles parking in unauthorised areas (lay-bys and industrial estates)

4.3.1 Scenario 1 - Volumes:

- *Intermediate facilities*
- *No price impact (i.e. current prices – approximately €20)*
- *AADT Data at 7.5km*

The following scenario looks at intermediate facilities deemed most likely to reflect the level of facilities being built by KCC. Further to this, the scenario also reflects no change in prices above what is being charged at existing facilities, therefore skewing demand. In later scenarios, we will show how price impacts demand.

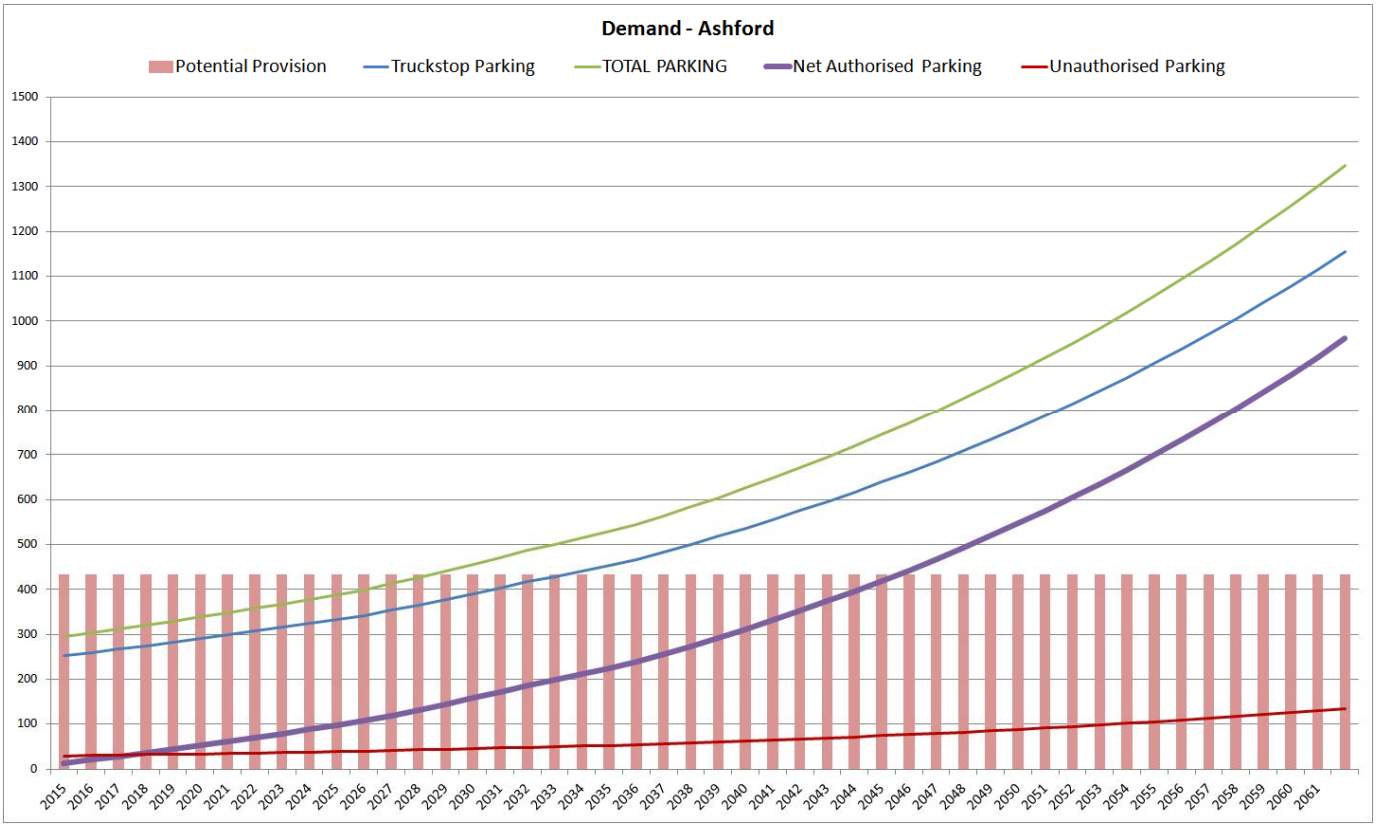

Figure 4.2: Extension of Ashford International Tuck Stop Scenario 1 Results

As can be seen for Ashford from Figure 4.2, similar patterns of demand exist to that seen in the first version of the model. Although the rate of growth is similar (with total demand doubling by 2039) it is from a much lower base due to the much lower AADT volumes and levels of parking provision. Based on current levels of average utilisation of 84%, it would be 2020 before authorised parking demand (purple line) exceeds the current capacity of 300 and the extension of 434 spaces proposed will serve well beyond the 2040 timeline of this forecast.

A similar story can be seen in Figure 4.3 for the site behind Stop 24 thought the rate of growth is slightly slower, just doubling by 2042. Based on current utilisation patterns and a capacity of 550 spaces, the extension to provision would serve until around 2057. Current capacity is full and will be reached by next year.

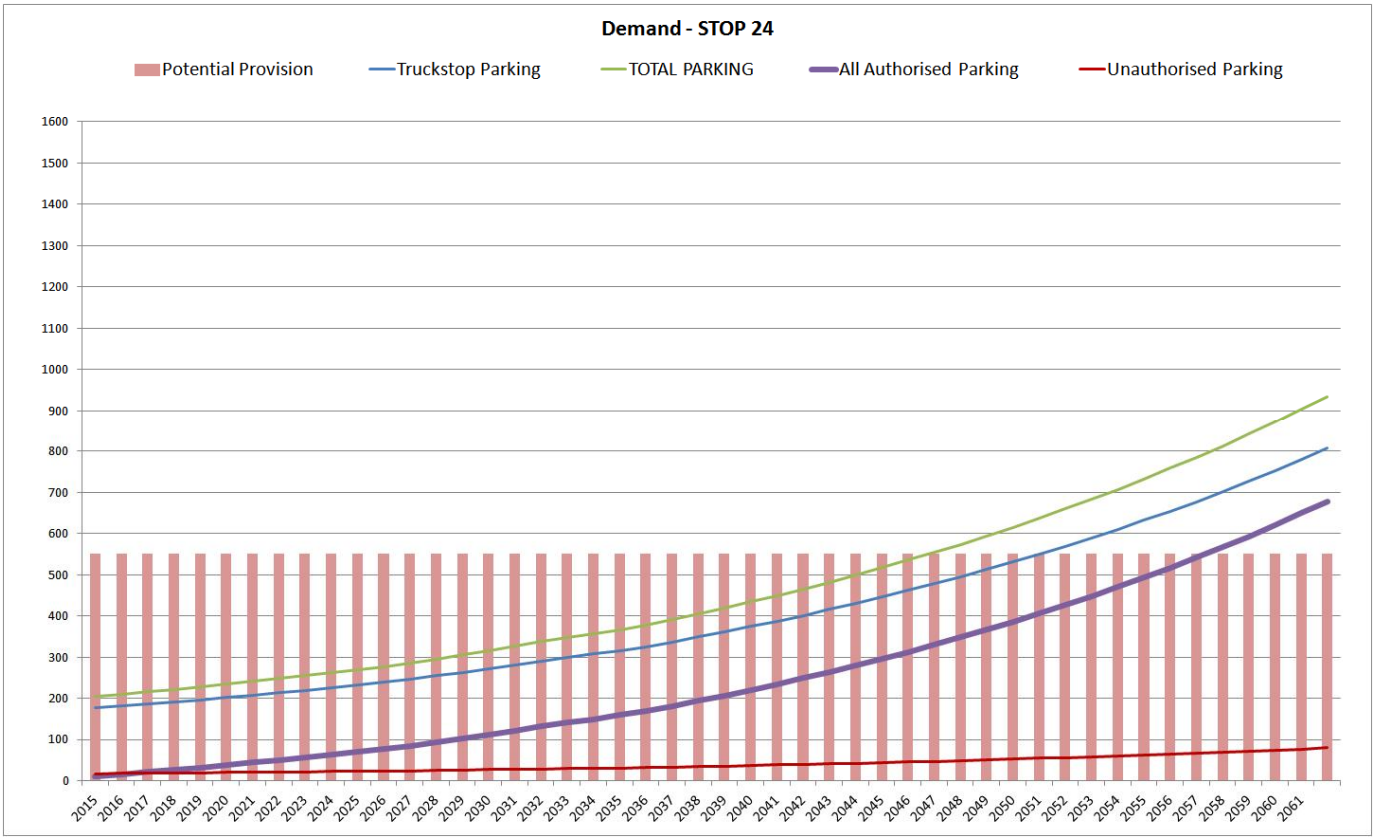

Figure 4.3: Site Behind STOP 24 Westenhanger Scenario 1 Results

Figure 4.4, for White Cliffs shows similar rates of growth to Ashford and from a similar base. Planned developments would be adequate to 2043 assuming all further demand goes to White Cliffs, it is likely therefore that capacity will last longer as other parks within the region cater for a proportion of demand, however, this would negatively impact on the financial case and this is discussed later.

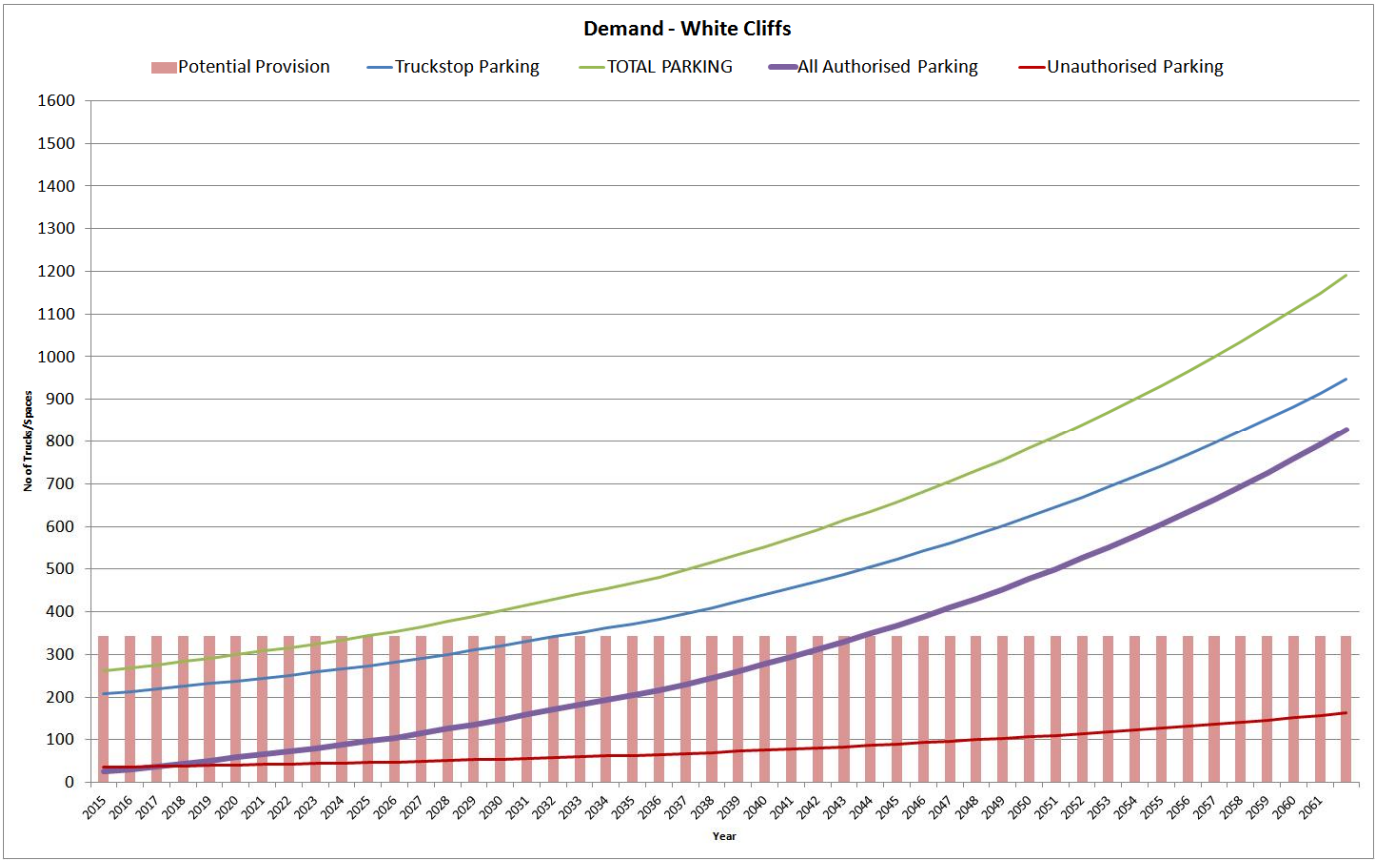

Figure 4.4: White Cliffs Business Park Scenario 1 Results

4.3.2 Scenario 2a - Price Elasticity – Ashford Example Intermediate Facilities

- *Intermediate facilities*
- *Price Increase to €25*
- *AADT Data at 7.5km*

In the following example scenario, simulating a fee increase to €25 per night at Ashford (Figure 4.5) utilisation is significantly reduced and growth declines by 19% with users turning to alternatives. There is a similar pattern of reduce demand at the other sites under this price increase scenario.

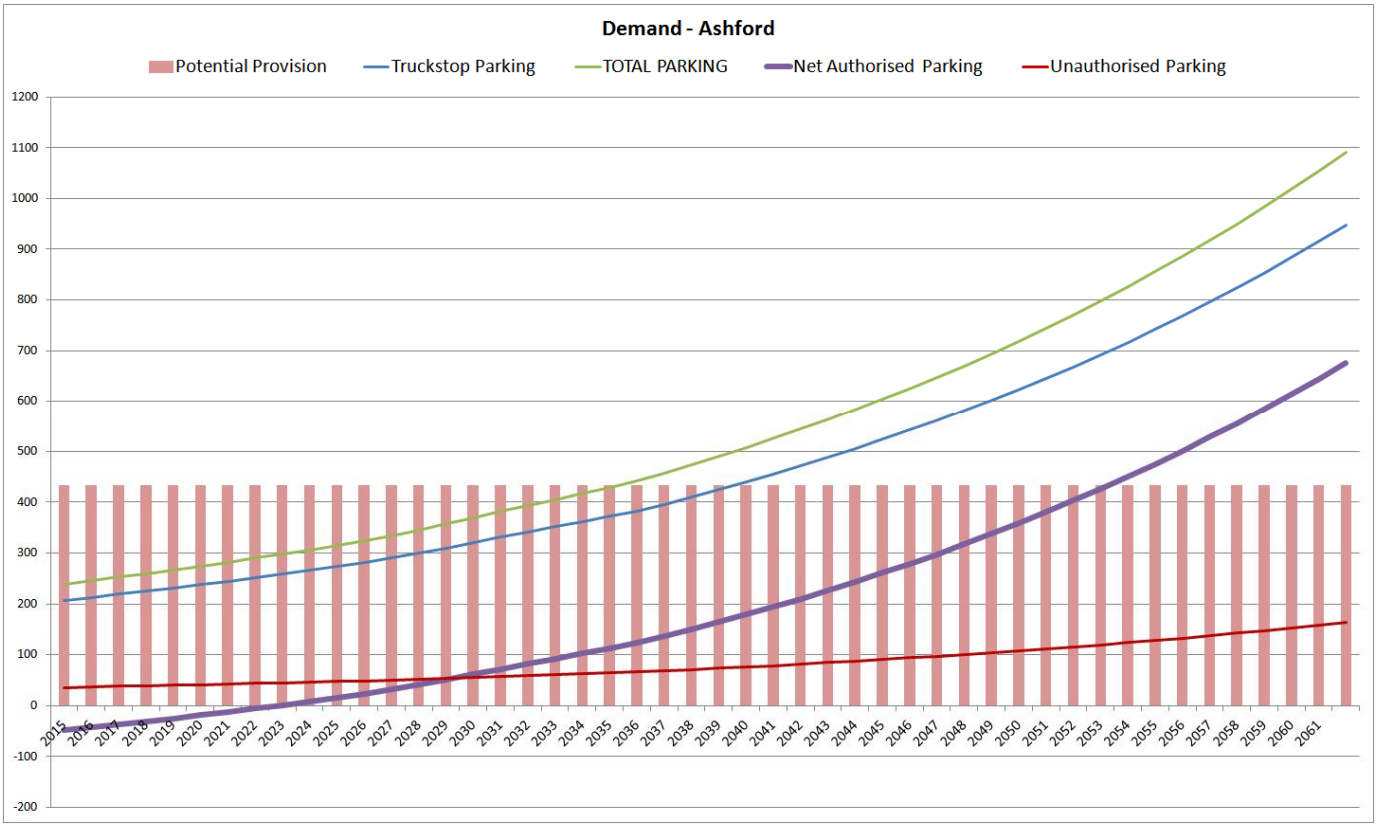

Figure 4.5: Extension of Ashford International Tuck Stop Scenario 2a Results

4.3.3 Scenario 2b - Price Elasticity – Ashford Example Advanced Facilities

- *Advanced facilities*
- *Price increase to €25*
- *AADT Data at 7.5km*

We have seen from the driver interviews that having advanced facilities provides much more scope to increase fees, as drivers are less price sensitive. In the intermediate scenario, demand reduced dramatically when the fee was raised to between €20 and €30.

In this example scenario for Ashford with advanced facilities we can see that demand is reduced by around 17% (Figure 4.6).

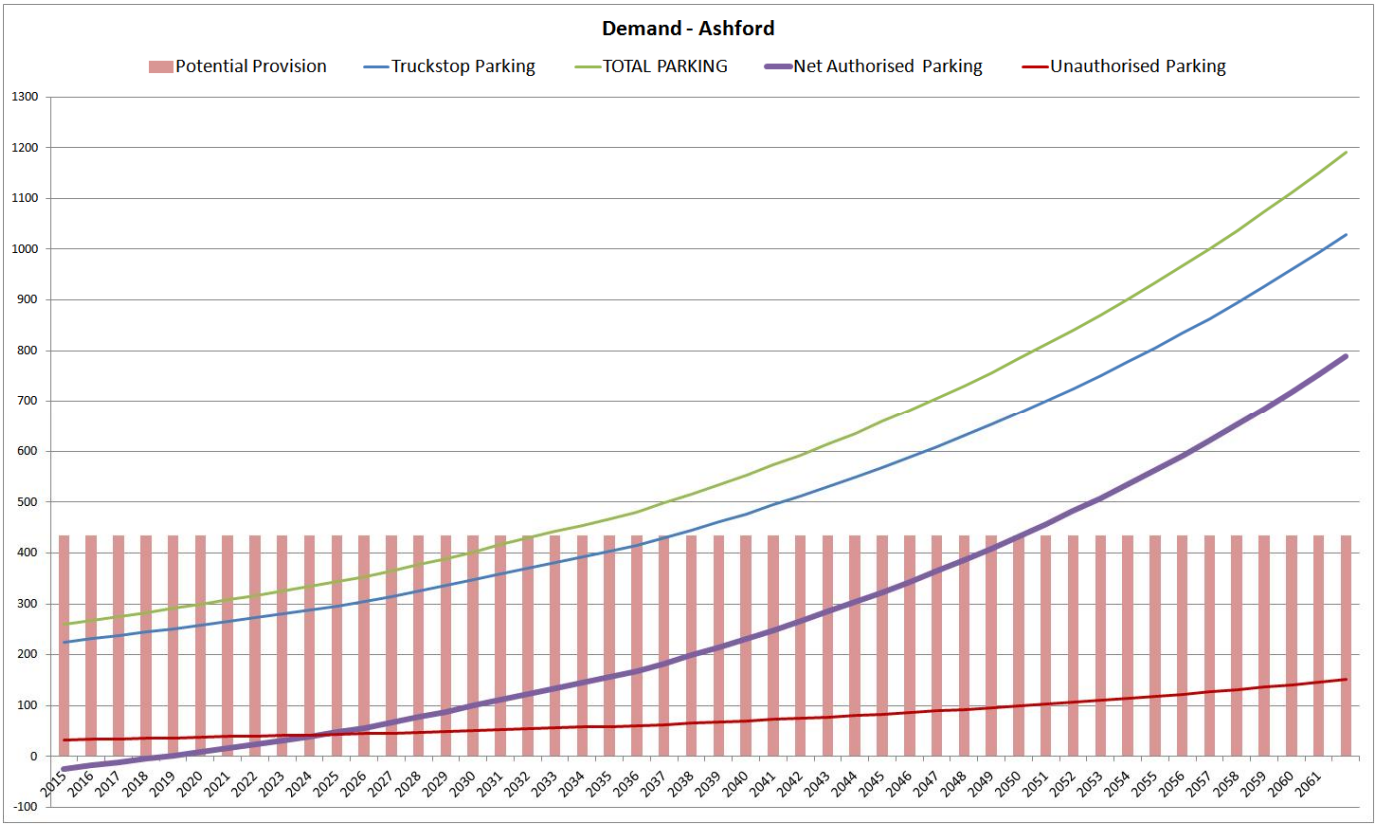

Figure 4.6: Extension of Ashford International Tuck Stop Scenario 2b Results

STOP 24 is in a similar position, losing around 15% of its demand (Figure 4.7). If the level of additional revenue offsets the loss of demand, it may be a solid business case, and a breakeven comparison may be worth undertaking to determine this feasibility. However there is some increase in illegal parking as people start to become displaced.

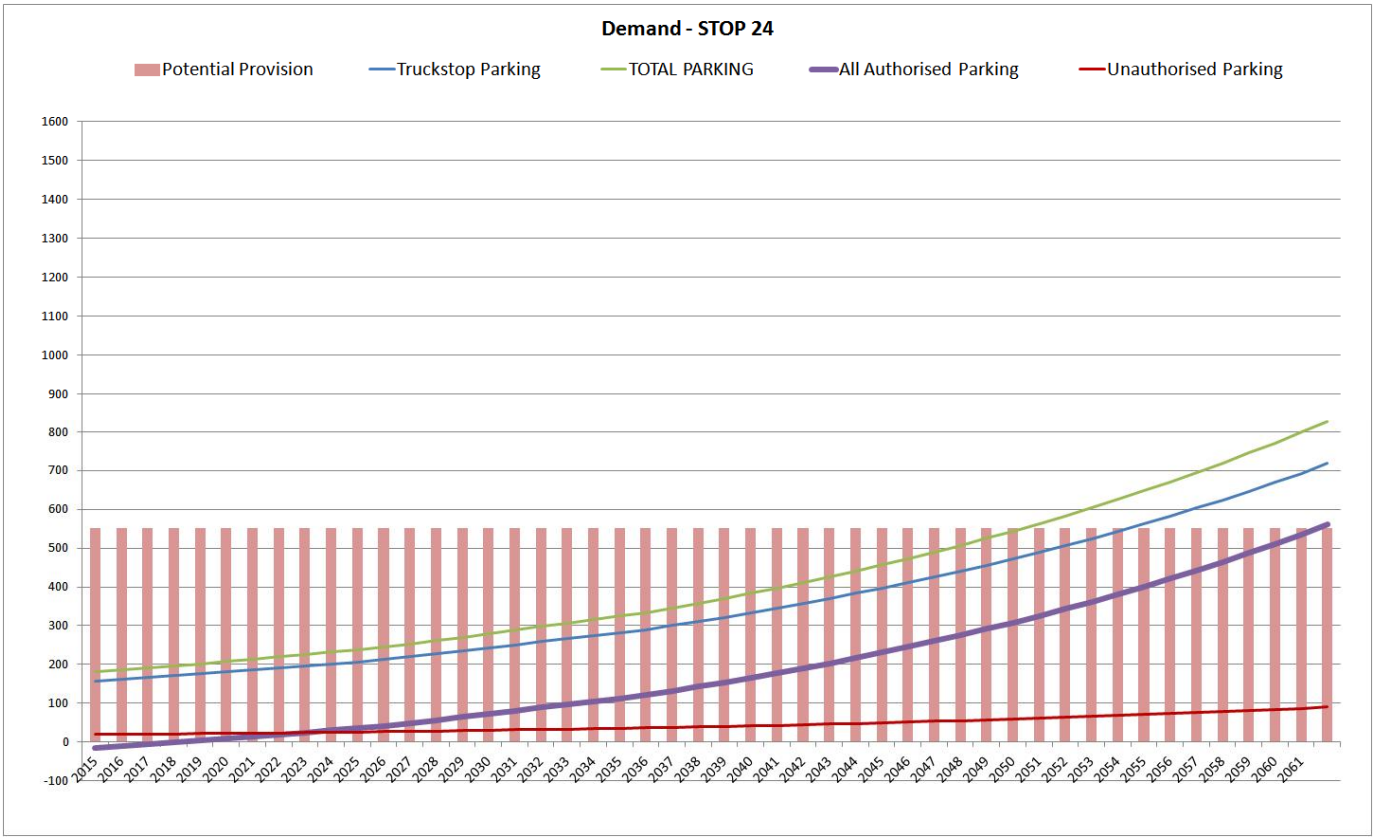

Figure 4.7: Site behind STOP 24 Westenhanger Scenario 2b Results

4.4 Summary

The section provides a number of updates to increase the robustness and flexibility of the demand model, though many of the variables have only a small impact on the overall picture, such as the level of enforcement being undertaken, due to the low levels of unauthorised parking in relation to the very large volume of traffic. The key change has been the move from corridor based to a sited base assessment meaning we can look at each on an individual basis.

In terms of comparison between the Phase 1 and Phase 2 analysis, the level of growth in international freight traffic has not changed, however the volumes of vehicles involved has been disaggregated.

An interesting point, on the assumption that only one site is to be developed, is that the proposed increase of spaces to an overall total of 858 at Ashford would be able to cope with all of Ashford and STOP 24's predicted growth by 2040 (Figure 4.8) whereas the proposed size of development at STOP 24 would not. And another site would have to be developed by around 2035 (Figure 4.9).

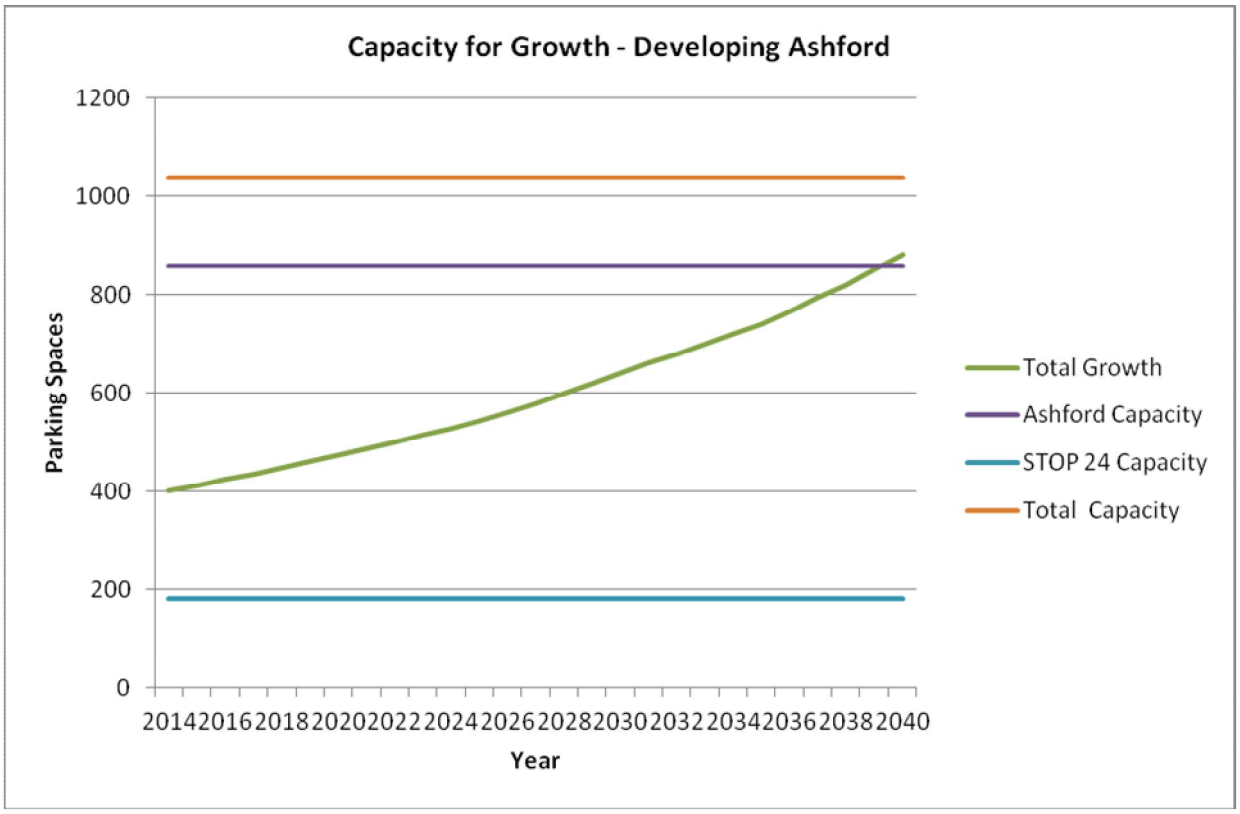

Figure 4.8: Extension of Ashford International Tuck Stop

It shows that even if STOP 24 was to close, capacity at Ashford would only be exceeded in 2039 should the full development takes place. Whereas in Figure 4.9, the STOP 24 site development would be at capacity by 2019 should there be no Ashford, and both sites would be at capacity by 2038.

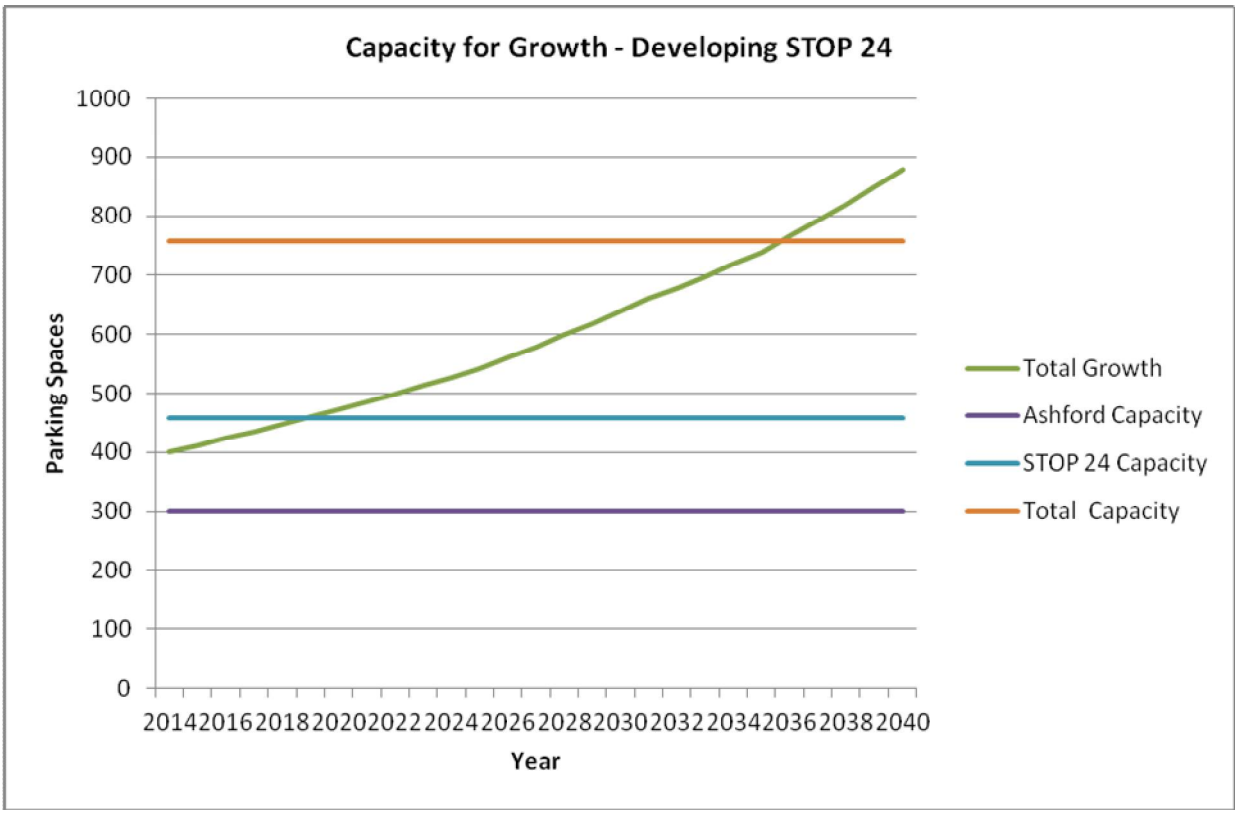

Figure 4.9: Developing Site behind STOP 24 Westenhanger

Following consultation with the Client in concluding this Phase 2 analysis we have further modelled the scenario for a single M20 corridor site and the results are set out in Chapter 6.

Financial Modelling

5 Financial Modelling

5.1 Introduction

AECOM developed a financial analysis tool for KCC to identify the likely internal rate of return for one or more lorry parks based on the assumptions set out in the preceding chapters and costs estimates for building and operating a lorry park. The Phase 1 report set out a number of fundamental issues and caveats, which are not repeated here, that KCC need to understand in order to make the case for promoting a number of new lorry parks and pursuing the most appropriate method of ownership. As with the Phase 1 report, there are a number of assumptions and caveats:

- There has been no risk adjustment to the cost and revenue assumptions. Ideally a quantified risk analysis should be undertaken of revenue and costs to examine the impact on the business case
- There has been no consideration of wider economic or social costs and benefits, as would be the case if putting forward a webTAG compliant business case for investment by the public sector
- The assumptions on demand, utilisation, pricing strategy, discount rates, life of the lorry park/ operating period and costs are all subject to refinement and sensitivity tests
- No assumption has been made on asset value at the end of the appraisal period or depreciation
- Assumptions regarding grants and public sector loans have been provided by Kent County Council

A comparison of the Phase 1 and Phase 2 financial model inputs is shown in Appendix B.

Revenue Derivation

5.1.1 Demand and Lorry Park Utilisation

Revenue within the model is derived as a function of truck parking demand, charges, and added value services such as the restaurant or cafe. Chapter 4 sets out the assumptions on demand and utilisation over time. The main driver of revenue relates to overnight lorry parking. Table 5.1 summarises utilisation over 25 years for each site. It should be noted that Year 1 is the first year of operation and not the construction year. The model is set up for a year ‘0’ build year with operations for the next 25 years / next 40 years and refurbishment in year 26.

Table 5.1: Site Specific Nightly Demand by Year of Operation

Year of operations	Site 57 White Cliffs	Site 8 STOP 24	Site 6 Ashford
1	44	27	36
2	51	32	45
3	58	38	53
4	65	44	61
5	73	50	70
6	80	57	79
7	88	63	88
8	96	70	98
9	105	77	108
10	115	85	120
11	125	94	132
12	136	103	145
13	147	112	158
14	159	122	172
15	171	132	186
16	182	141	198
17	192	150	211
18	204	159	224
19	215	169	238
20	230	181	255
21	245	194	273
22	261	207	292
23	277	220	311
24	294	235	331
25	312	249	352

Demand is calculated using the model from 1 year after construction to the point at which it reaches capacity, whereby growth stops and the site remains full, with the exception of Year 26 (when modelling a 40 year lorry park) when capacity is assumed to decrease by 10% for one year due to refurbishment.

5.1.2 Pricing Strategy

The pricing strategy assumes a charge structure of:

Table 5.2: Pricing Strategy

	£ per lorry
Overnight	£15
Day < 2 hours	Free

It is possible to change these assumptions in the model, for example to bring charges in line with those charged elsewhere. This can have a significant impact on the business case.

Charges are not assumed to change over time, although in practice there may be scope to increase them depending on average returns and wages in the freight industry.

5.1.3 Estimated Added Value Services Revenue

The potential revenue that could be generated from the provision of added value services such as a restaurant and shop may be an important consideration. For the purposes of this study AECOM have been relatively modest in their assumptions and have not taken into account potential revenue that would be generated from other provisions such as fuel. However, these may be necessary to build a stronger business case for a given site.

The average additional spend on value added services e.g. in the restaurant, is assumed to be:

Table 5.3: Average Additional Spend

	£
Overnight	£6
Day	£3

This average additional spend is assumed to apply to all lorry drivers, overnight lorry drivers are expected to spend £6 each with daytime drivers spending much less – around £3 on sundries such as drinks or newspapers. Revenue within the model is therefore the level of overnight demand multiplied by overnight fees added to day time drivers multiplied by daytime fees.

5.2 Costs

5.2.1 Introduction

When modelling development projects, there are a number of key components that need to be considered within the model. These are:

- Capital Costs
- Operating Costs
- Maintenance Costs

The following section looks at these in turn, highlighting the method of estimation and any assumptions and limitations the estimates have in this high level model.

5.2.2 Capital Costs

Capital costs are items such as land purchase, design and construction and facilities.

Purchase/Lease Property Costs
Table 5.4 summarises the assumptions on land costs for the three sites as provided by KCC. It has been assumed that the land will be purchased. This will be a one off payment that will need to be set against the projected revenue of the lorry park in the future.

Table 5.4: Land Value Estimates by Site

Site ID	Name/Description	Located On	Nearest Trunk Road/ Junction	Authority/ District	Number of Truck Parking Spaces	Land Value Estimate £m (Phase 1 estimates)
A2/M2/A2 Corridor						
57	White Cliffs Business Park 1	A2	A2/A256	Dover	234	2.52 (2.75)
M20/A20 Corridor						
8	Westenhanger (site behind STOP 24)	M20	J11 M20	Shepway	552	0.64 (agricultural land) (0.105)
6	Site Adjacent to Ashford Int'l Truck Stop	M2070	J10 M20	Ashford	434	6.47 (10.1)

5.2.3 Construction Costs
The site development, infrastructure and security costs have been provided by KCC and was based on layout drawings for the specific sites. Cost estimates include earthworks, site clearance, and surfacing, with prices factored up to current values.

There may also be considerable professional services costs, dependent on what services are required. The following are likely to be required:

- Architectural services
- Planning Permission and associated fees
- Structural Engineers
- Contractor & Project Manager

Though these costs will be individually tendered, for the purposes of this study the costs for these services have been assumed as factored into the infrastructure and equipment costs.

5.2.4 Operational Costs
Operational costs are incurred when the facilities are open including utilities, labour, tax and insurance and must be accounted for in the outline financial analysis. Based on additional information since the Phase 1 Report, a maintenance cost of £450 per space per year and an operating cost of £1,666 per space per year have been assumed. The updated maintenance and operational costs have been determined from the Market Research outcomes provided by KCC. The annual maintenance and operational cost for each of the existing truck parks have been divided by the number of spaces. The maintenance cost at Ashford International Truck Stop was much lower per space than at Stop 24 and Dover Truck Stop while the operating costs were much higher. It was therefore decided to use similar maintenance and operational costs per space as at Stop 24.

Many of these costs are dependent on the operational model of the truck stop; as such the model only seeks to evaluate the commercial case for a truck park irrespective of its operational model.

Staff

Operational staff costs will be determined by the level of security and the additional services provided. Furthermore, staff may also require relevant training (e.g. health and safety).

Associated Taxes & Insurances

As well as those costs discussed above, it will also be necessary to consider the relevant local/national taxes and insurances. The following should be considered as a minimum:

- Business rate
- Staff taxes
- Public liability taxes
- Contents insurance
- Buildings insurance

Such taxes and insurances have been factored into the business case but should be amended when the correct rates have been determined.

5.3 Model Outputs

This section sets out the results of the financial model runs for the three sites.

This analysis is based on a snapshot of each of the sites being built in 2016 and not on the basis of the sites being built on a sequential basis.

The financial model calculates annual revenue and costs based on assumptions regarding demand, lorry park utilisation, pricing strategy and lorry park costs. The financial analysis is based on estimating cash flow as a function of these, the rate of return and the present value. A 25 and a 40 year time period has been assumed. If necessary, different time periods could be investigated.

The model then determines the **Internal Rate of Return** (or economic rate of return). This is in effect the discount rate that makes the net present value of the cash flows equal to zero. It provides an indication of the efficiency of the investment, which can be compared to the rate of return from other investments and a minimum acceptable rate of return, which will vary by operator, sector and appetite for risk. This can be used as the basis for determining and how and whether to take forward the investment and the most appropriate ownership model.

A **Net Present Value** for the investment is also calculated, providing an estimate of the magnitude of the return. As the construction and operation of the lorry parks is potentially a commercial venture, the social discount rate of 3.5% (3% after 30 years) cited in the Green Book may not be appropriate. Instead, the rate should reflect the potential commercial returns by operators in the market place facing a similar level of risk. This can be assumed to be somewhere between 5 – 10% (7.5% is assumed in the model, but can be changed), although a higher value may be appropriate if cost and revenue risks are considered to be particularly high.

It is important to note that within this commission AECOM is not giving investment advice. The truck park assessments as set out in this report are based on a series of assumptions as set out in the report and associated technical notes and as agreed between AECOM and Kent County Council. The outcome of assessments are directly driven by the assumptions and the data used for the assessments and subject to uncertainty. Whilst the uncertainty of the assessments can be the subject of a risk analysis, the remit of this work does not include undertaking of risk analysis.

Table 5.5 gives the Internal Rate of Return (IRR) and Net Present Value (NPV) outputs of the model taking into consideration a 25 and 40 year investment horizon. In broad terms the higher the IRR and NPV the better the investment is likely to be. It can be

seen that across sites and between the 25 year and 40 year investment horizons there is either only a small or no return (indicated as “Not Applicable”) on investment. The NPVs are negative in all cases.

Table 5.5: IRR and NPV Model Outputs

						Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost	Grant	Loan % of capital costs	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£12,560,641	£ -	0%	£1,289,273	£817,553	Not applicable	-£10,619,982
57	2016	40		£ -	0%	£1,849,220	£884,442	3.7%	-£8,216,127
8	2016	25	£17,123,208	£ -	0%	£989,054	£1,319,558	Not Applicable	-£22,781,768
8	2016	40		£ -	0%	£1,820,774	£1,427,521	Not Applicable	-£20,897,368
6	2016	25	£19,097,944	£ -	0%	£1,336,148	£1,037,479	Not Applicable	-£19,314,544
6	2016	40		£ -	0%	£2,088,348	£1,122,363	2.0%	-£16,550,948

Figures 5.1-5.3 show the results of each site in terms of revenue, costs and cash flow. Overnight demand is also shown (using the secondary vertical (y) axis). Construction and land costs have not been included on the charts.

The decrease in Year 26 is due to a 10% decrease in capacity for one year to reflect a more substantial refurbishment or upgrade in that year. Cash flow slowly declines once the park has met capacity, due to the assumption that there are real increases in cost (1% has been assumed) but that the charge for using the park will not rise (in real terms). Both assumptions can be changed.

At Site 57 demand increases to capacity within 27 years, with a concomitant increase in revenue from £364k in year 1 to £2.81m by year 27. Cash flow increases until year 27 (except in year 26 when there is a decrease due to additional refurbishment), before decreasing slightly assuming operating and maintenance costs increase in real terms but revenue (and charging levels) remains constant. At Site 8, revenue increases from £220k in year 1 to £4.45m in year 40 when the park has still not reached capacity. At Site 6, revenue increases from £288k in year 1 to £3.42m in year 29. The charts do not take into account the upfront costs of construction and land, although these are accounted for in the IRR and NPV calculations in Table 5.5.

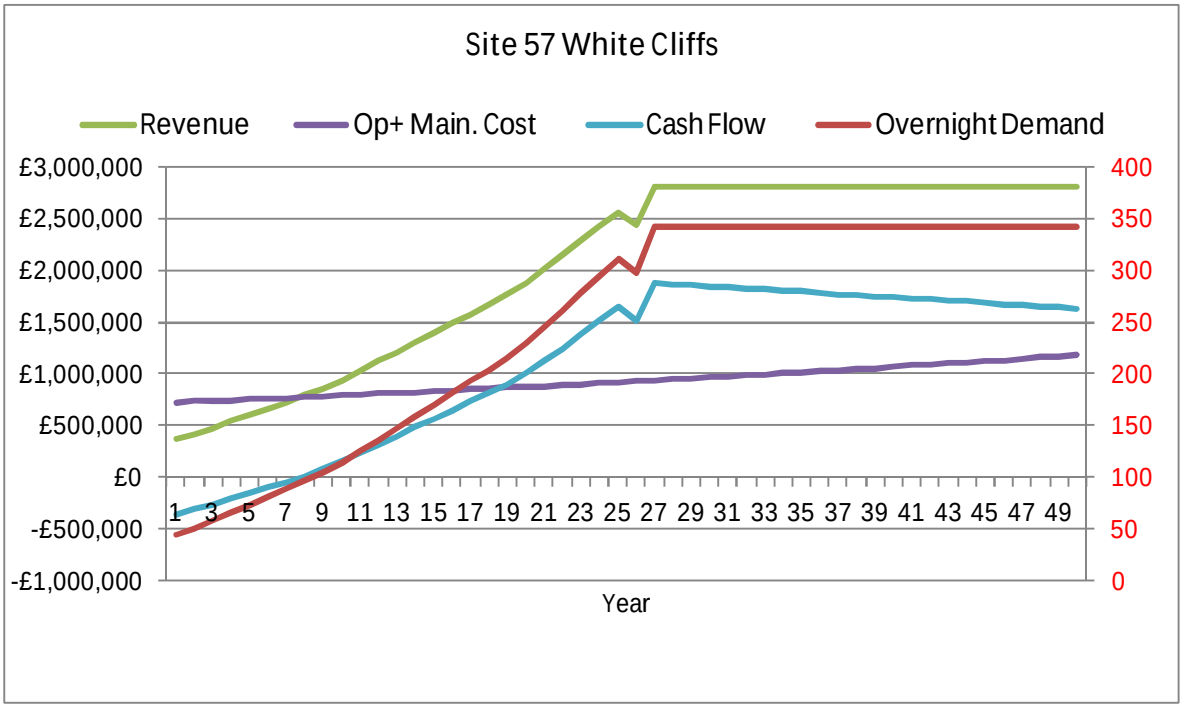

Figure 5.1: Site 57 Revenue, Operating and Maintenance Costs, Cash Flow (primary vertical axis) and Demand (secondary vertical axis) post-Construction

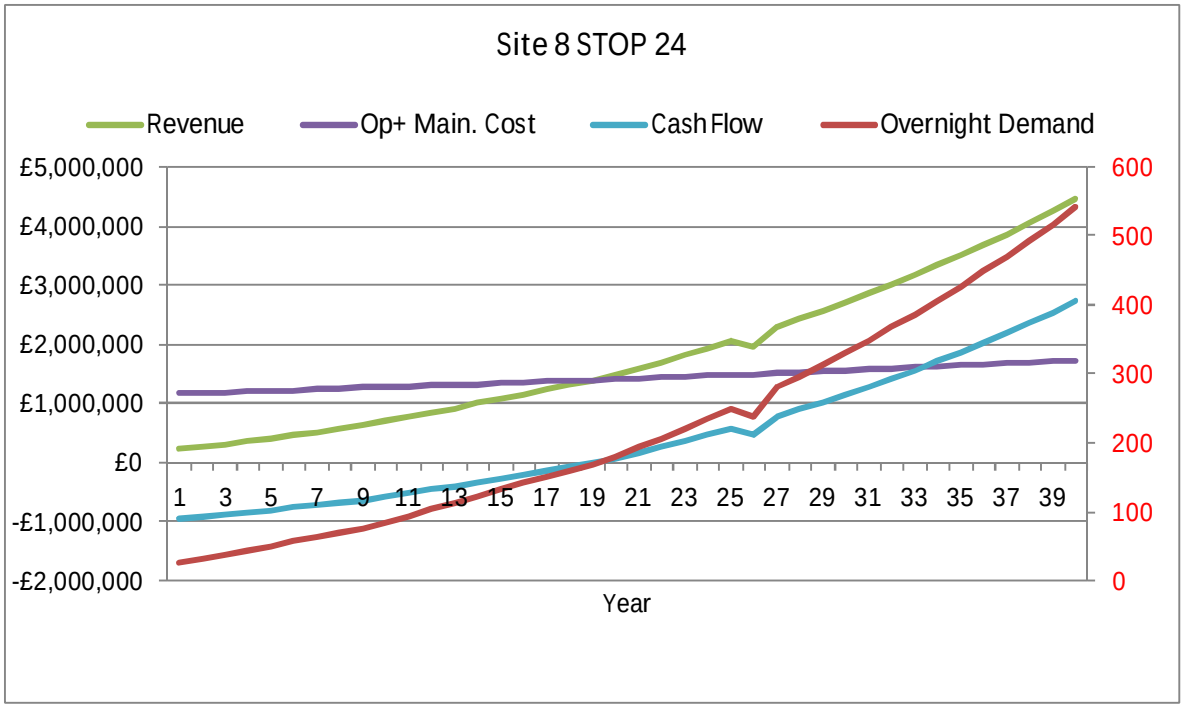

Figure 5.2: Site 8 Revenue, Operating and Maintenance Costs, Cash Flow (primary vertical axis) and Demand (secondary vertical axis) post-Construction

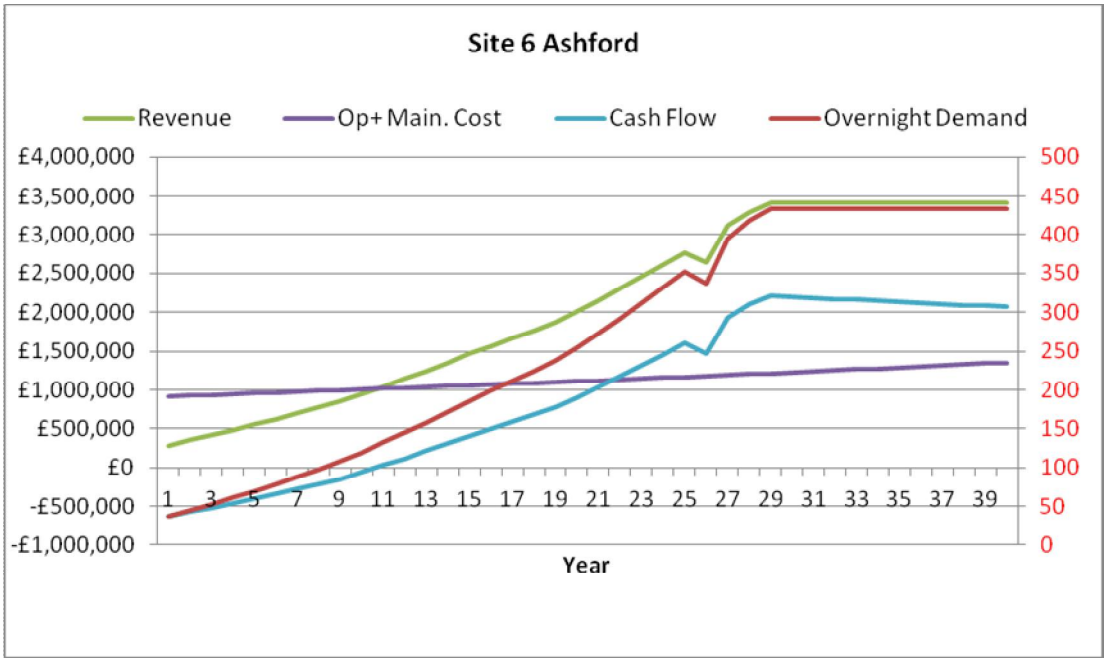

Figure 5.3: Site 6 Revenue, Operating and Maintenance Costs, Cash Flow (primary vertical axis) and Demand (secondary vertical axis) post-Construction

5.4 Grant and Loan

There is the possibility of a grant from the LEP and/or a Treasury loan. These would have a significant impact, avoiding the need to pay for construction up front (or at all in the case of a large grant) and in effect discounting the payment of the construction costs over a period of 25 or 40 years with a Treasury loan.

KCC asked for two scenarios to be tested:

- A mix of grant and loan is used to develop and deliver the project with a 40 points discounted interest rate of 3.74% over 25 years; and
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.06% over 40 years.

Tables 5.6 – 5.9 detail the results for each scenario. In comparison with the no grant and loan scenario it can be seen the NPV position is considerably improved but with the exception of the Site 57 25 and 40 year grant and loan scenarios, NPVs are all still negative. IRRs are positive for Site 57 and the IRR for Site 6 under the 40 year grant and loan scenario is also positive.

It should be noted that the loan value takes into account inflation in order to state the actual amount that might need to be borrowed in 2016. However, one caveat is that the calculations assume that the £10m grant will also be linked to inflation (i.e. £10m in 2013 values will be available in 2016). If this is not the case, the total amount borrowed may need to increase slightly. The £10m figure is in any case indicative and could be altered on the basis of other decisions.

The model calculates the IRR and NPV for building and operating a lorry park, assuming that an upfront payment is made to construct the park. By taking a loan, these large upfront costs can be spread out and hence discounted over a number of years. However, whilst there may be a case to determine the IRR and NPV for loan only scenarios, this is not the case for the grant.

In the case of the grant this is still an upfront cost to the public sector, and this should either be included as an upfront cost or subtracted from the benefits.

As such, the IRR and NPV for scenarios with a grant are misleading as currently construed in the attached results. It can be shown that a scenario with no grant will result in the same IRR and NPV as a scenario with a 100% grant - the only difference is that in the latter a source of the funding for the upfront capital costs has been identified, but in the no grant scenario a source of funding has still to be found.

Table 5.6: Summary of Grant and Loan Scenarios

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Summary 25 and 40 year loans

								Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost after grant	Grant £10m + uplift 2013-2016	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£2,757,530	Y	100%	£2,911,963	£ -	£1,289,273	£817,553	*8.3%*	*£292,102*
57	2016	40	£13,526,437	N	100%	£14,283,971	£ -	£1,849,220	£884,442	*4.5%*	*-£2,939,076*
57	2016	40	£2,757,530	Y	100%	£2,911,963	£ -	£1,849,220	£884,442	*12.2%*	*£2,877,252*
8	2016	25	£7,670,916	Y	100%	£8,100,518	£ -	£989,054	£1,319,558	*Not Applicable*	*-£10,275,864*
8	2016	40	£18,439,822	N	100%	£19,472,526	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£13,703,464*
8	2016	40	£7,670,916	Y	100%	£8,100,518	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£7,887,137*
6	2016	25	£9,797,491	Y	100%	£10,346,189	£ -	£1,336,148	£1,037,479	*Not Applicable*	*-£6,118,815*
6	2016	40	£20,566,397	N	100%	£21,718,197	£ -	£2,088,348	£1,122,363	*Not Applicable*	*-£8,527,407*
6	2016	40	£9,797,491	Y	100%	£10,346,189	£ -	£2,088,348	£1,122,363	*5.1%*	*-£2,711,079*

Table 5.7: 25 Year Loan and £10m Grant Scenario

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

25 year loan and £10m grant

								Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£2,757,530	£10,000,000	100%	£2,911,963	£ -	£1,289,273	£817,553	*8.3%*	*£292,102*
57	2016	40						£1,849,220	£884,442	*11.6%*	*£2,695,957*
8	2016	25	£7,670,916	£10,000,000	100%	£8,100,518	£ -	£989,054	£1,319,558	*Not Applicable*	*-£10,275,864*
8	2016	40						£1,820,774	£1,427,521	*Not Applicable*	*-£8,391,464*
6	2016	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£1,336,148	£1,037,479	*Not Applicable*	*-£6,118,815*
6	2016	40						£2,088,348	£1,122,363	*4.8%*	*-£3,355,219*

Table 5.8: 40 Year Loan and No Grant Scenario

40 year loan, no grant

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

								Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£13,526,437					£1,289,273	£817,553	*Not Applicable*	*-£4,815,382*
57	2016	40		£ -	100%	£14,283,971	£ -	£1,849,220	£884,442	*4.5%*	*-£2,939,076*
8	2016	25	£18,439,822					£989,054	£1,319,558	*Not Applicable*	*-£14,868,687*
8	2016	40		£ -	100%	£19,472,526	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£13,703,465*
6	2016	25	£20,566,397					£1,336,148	£1,037,479	*Not Applicable*	*-£10,488,886*
6	2016	40		£ -	100%	£21,718,197	£ -	£2,088,348	£1,122,363	*Not Applicable*	*-£8,527,407*

Table 5.9: 40 Year Loan and £10m Grant Scenario

40 year loan and £10m grant

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

								Average Annual Operational:			
Site	Development Year	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£2,757,530					£1,289,273	£817,553	*9.3%*	*£580,945*
57	2016	40		£10,000,000	100%	£2,911,963	£ -	£1,849,220	£884,442	*12.2%*	*£2,877,252*
8	2016	25	£7,670,916					£989,054	£1,319,558	*Not Applicable*	*-£9,472,360*
8	2016	40		£10,000,000	100%	£8,100,518	£ -	£1,820,774	£1,427,521	*Not Applicable*	*-£7,887,137*
6	2016	25	£9,797,491					£1,336,148	£1,037,479	*Not Applicable*	*-£5,092,559*
6	2016	40		£10,000,000	100%	£10,346,189	£ -	£2,088,348	£1,122,363	*5.1%*	*-£2,711,079*

Annual cash flows are illustrated in Figures 5.4-5.6. These figures show the cash flow break even points for the various scenarios tested for each of the sites (cash flow break even is indicating where the x-axis is crossed).

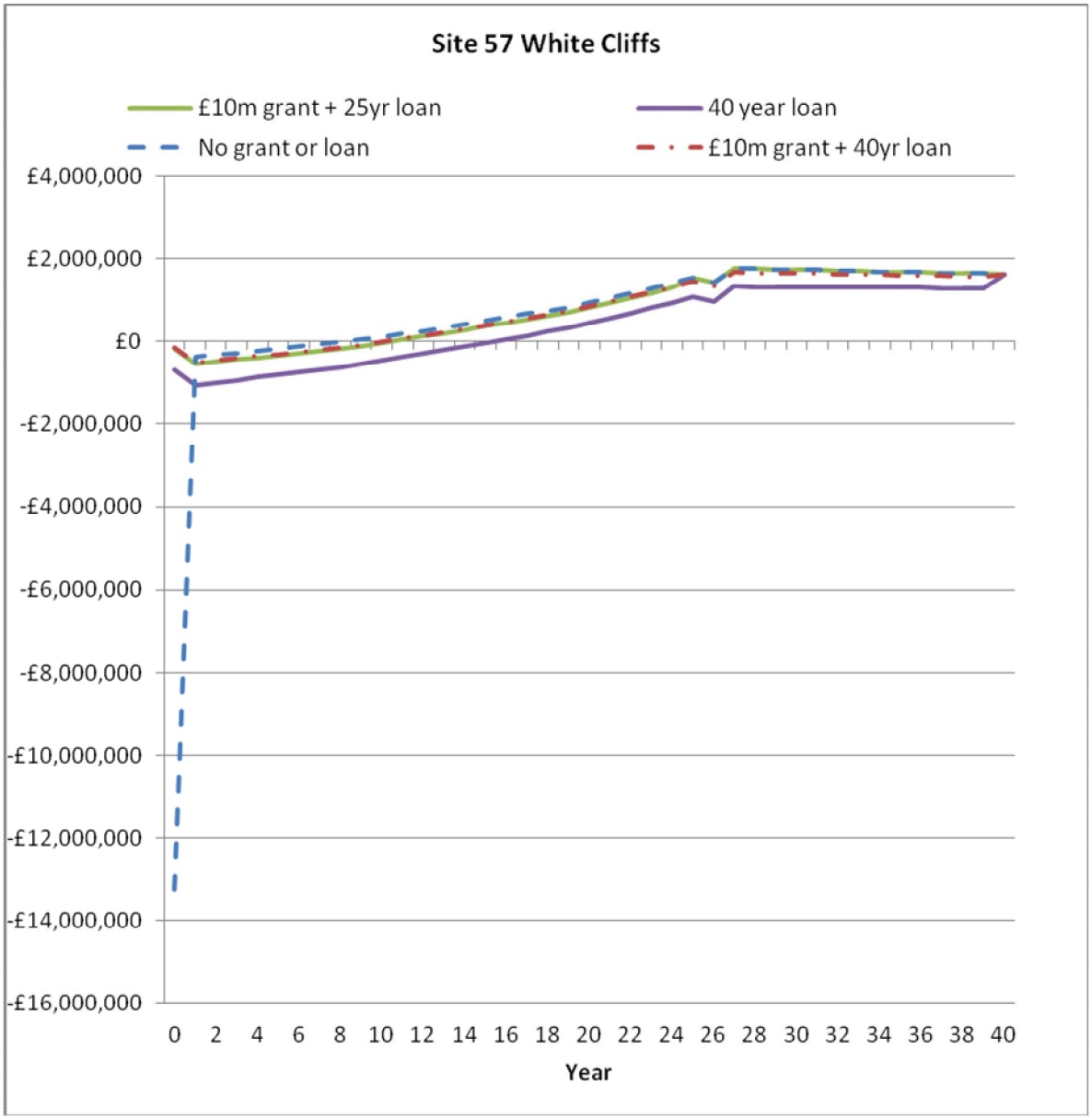

Figure 5.4a: Cash Flow under Different Scenarios for Site 57 White Cliffs Business Park Indicating Break Even Points

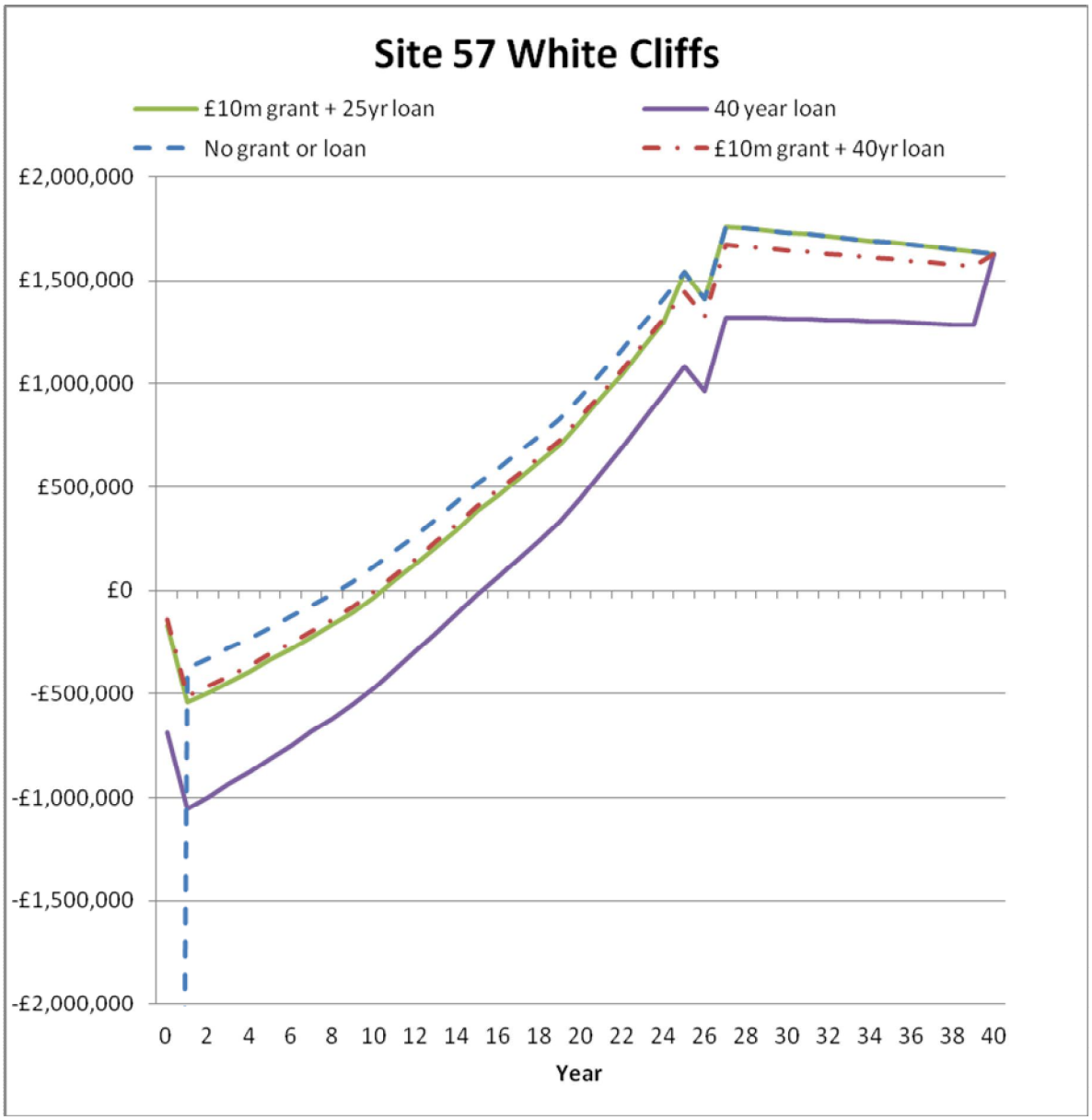

Figure 5.4b: Zoomed In (cash flow break even)

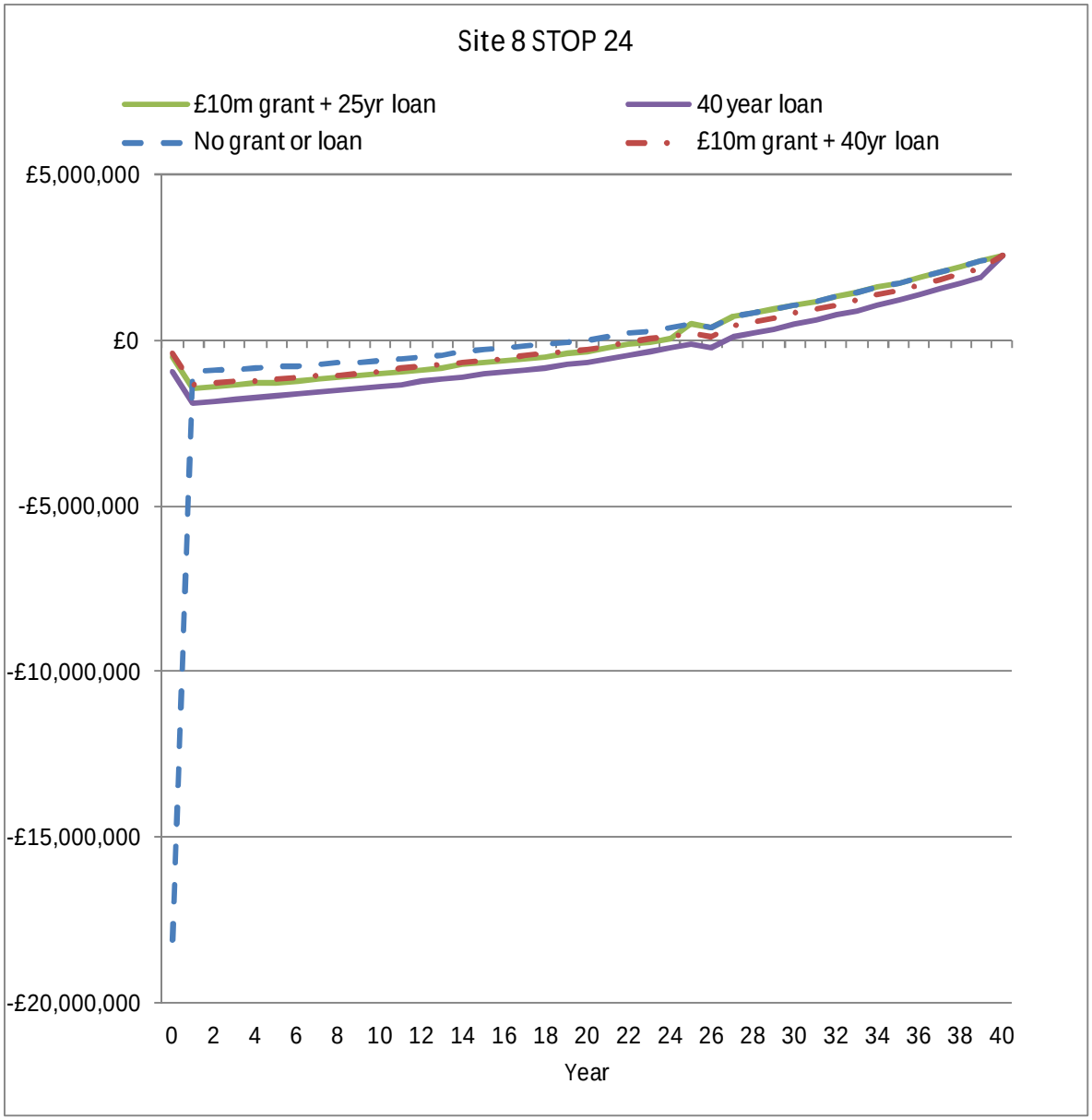

Figure 5.5a: Cash Flow under Different Scenarios for Site 8 Westenhanger Site Behind Stop 24 Indicating Break Even Points

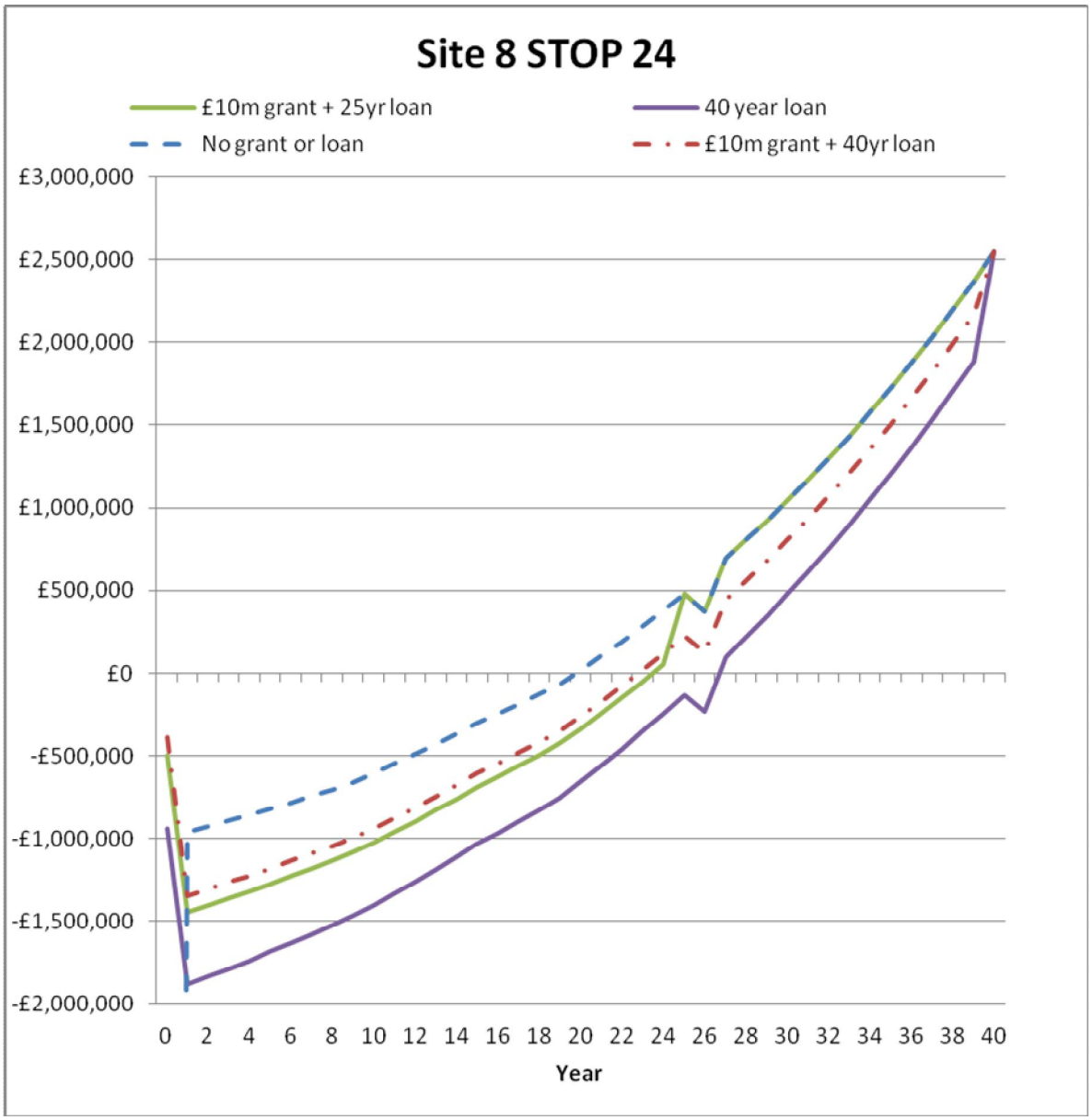

Figure 5.5b: Zoomed In (cash flow break even)

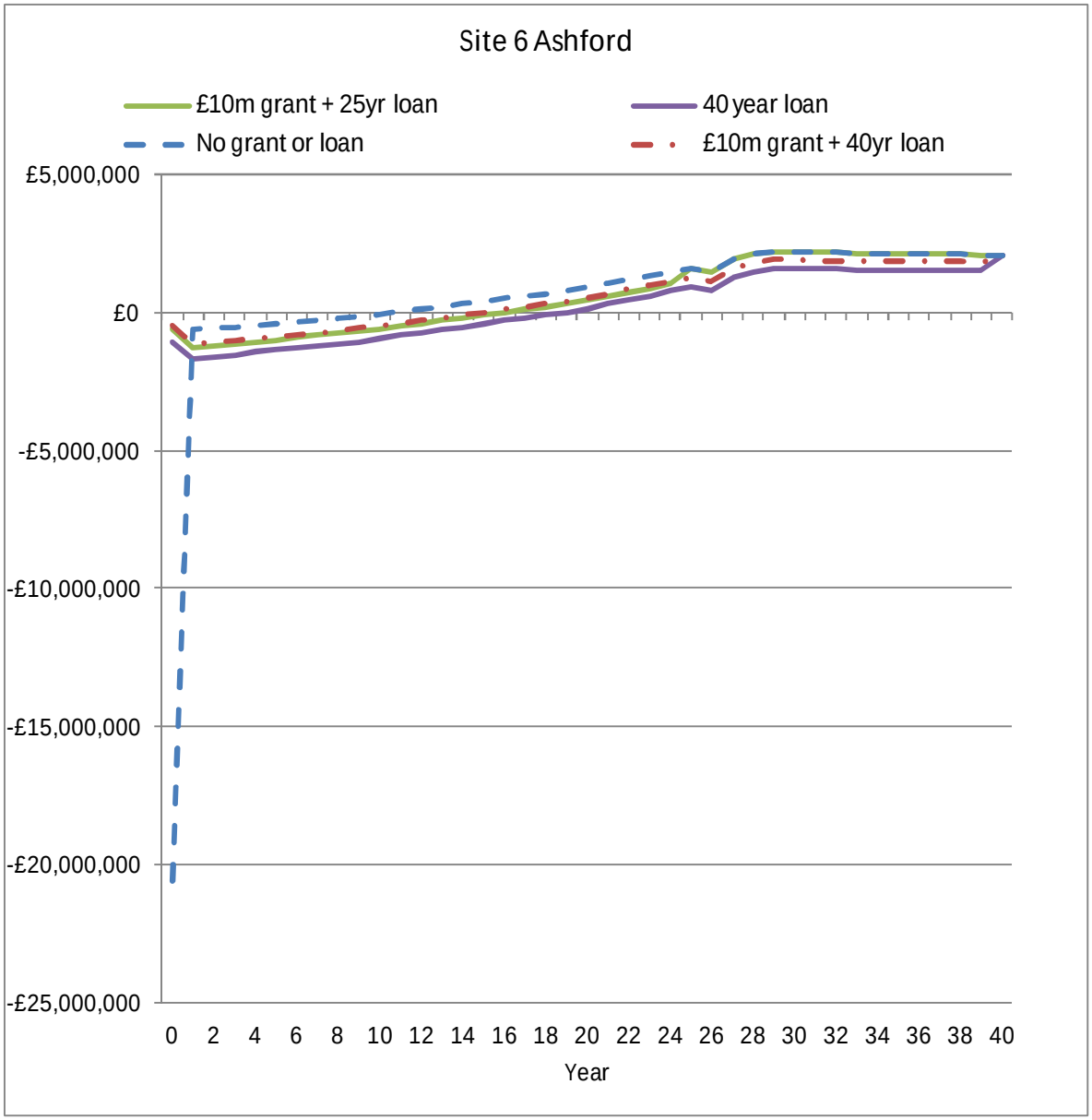

Figure 5.6a: Cash Flow under Different Scenarios for Site 6 Extension of Ashford International Truck Stop Indicating Break Even Point

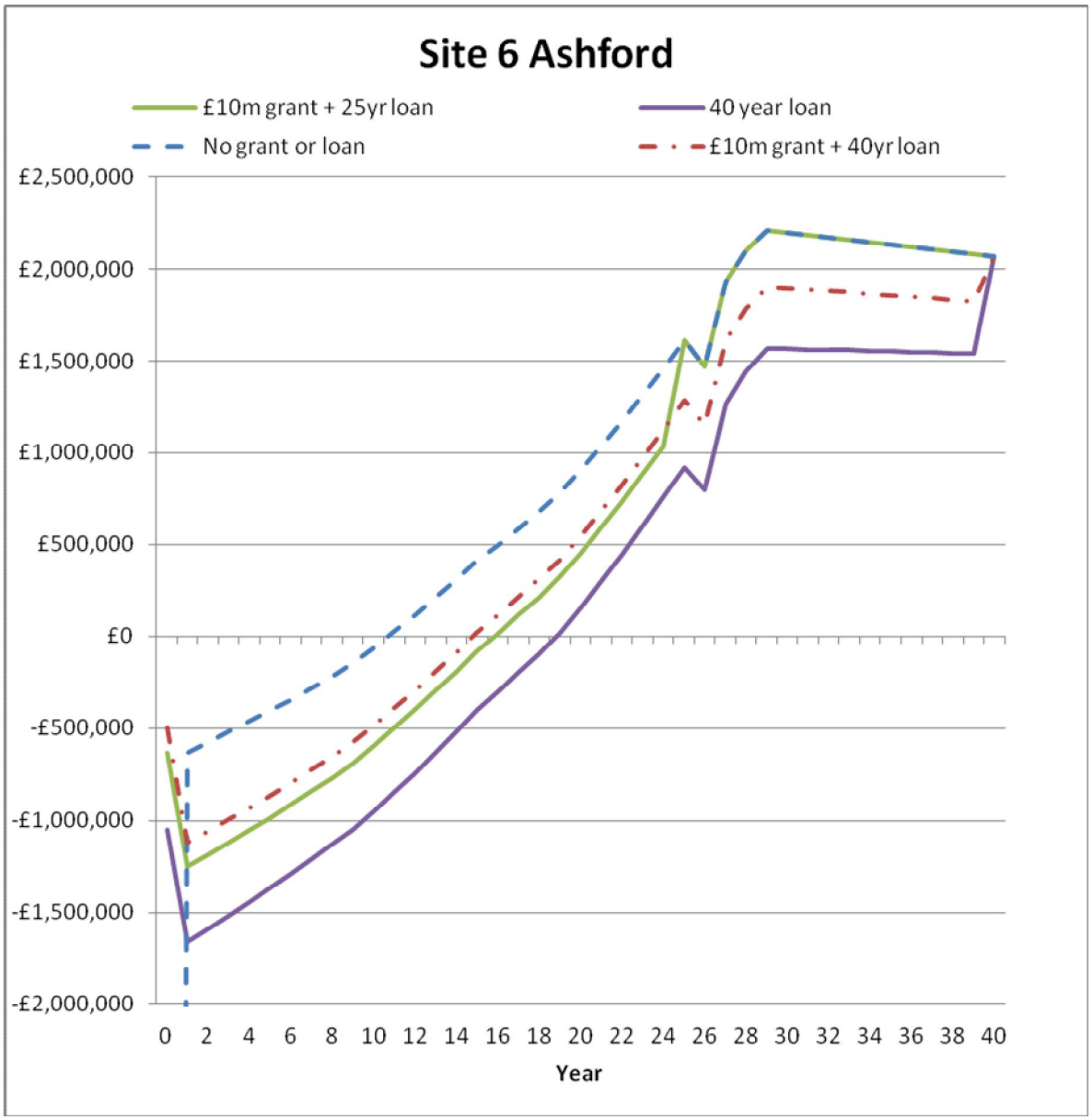

Figure 5.6b: Zoomed In (cash flow break even)

5.5 Implications for Ownership Models

AECOMs initial analysis of the feasibility of truck parks in Kent also examined the options for the structures to put in place to own and operate the truck parks. The potential structures available fall into three broad types:

- Local authority built and operated
- Local authority built and operated by a private company

- Private developer built and operated

Where KCC builds and operates a truck park it will have full control of the level of provision of truck parking, and the standard of facilities available. However it will have to finance the capital cost of building the park itself, and will bear all of the operational risk i.e. the risks that the revenue will be lower or the operating costs higher than forecast.

Where a truck park is built by the local authority and operated by a private company a range of sub-options exist for the basis on which the private company would operate the truck park. Four illustrative models have been identified:

A. Outsourcing. The private company operates the park in return for a fixed fee from KCC. All of the operating risk remains with KCC

B. Risk sharing agreement. An agreement is made with a private company for it to operate the truck park and collect revenue in return for an a fee to be determined at least in part by the revenue or profits earned by the truck park. This results in the private firm and KCC sharing the operational risks of the truck park

C. Concession. A long term agreement with a private firm where the private firm operates the truck park, collects revenues and keeps the resulting profits. All of the operational risk of the truck park is transferred to the private company in this situation

D. Outright Sale. KCC sells the truck park outright to a private firm. All of the operational risk passes to this firm

If a private developer builds and operates the truck park it, rather than KCC, will have to finance the capital costs and bear the operational risks of the truck park. A private firm will only come forward and do this if the expected return from owning and operating the truck park represents attractive compensation for making this investment and bearing this risk.

As described elsewhere in this report, LEP Funding and/or Public Works Loan Board loans may be available for a project to provide a truck park in Kent. As is shown by the modelling work, these could have the effect of significantly increasing the return obtained by KCC or a private firm from a truck park. For example the availability of this support could be used to make participation in a truck park more attractive for a private sector partner.

The IRR figures indicate how much more attractive an investment the truck park becomes for KCC (as opposed to the public sector as a whole) once these financial supports are provided. These supports might also be used to incentivise a private sector firm to build and/or operate a truck park. For example, if a private sector firm was able to access these grants and low cost loans, the potential return to it from building and operating a truck park would increase as indicated by these IRR calculations. Alternatively, if KCC built the truck park and sold it to a private sector developer for a price net of the benefit of the grants and loans, the purchase and operation of the truck park would be a more attractive investment for a private sector buyer.

5.6 Other Costs and Benefits

The analysis in this section is based on the commercial viability of additional lorry parks in Kent. However, there are wider costs and benefits that are likely to accrue but which would not be taken into account by a private operator seeking to make an investment decision. The Kent Multi-facility Lorry Park Scoping Strategy (2007)[1] undertook economic impact analysis to estimate a cash equivalent benefit to society resulting from the provision of sufficient overnight lorry parking capacity in Kent and a well managed off-highway alternative to Operation Stack. Whilst the analysis indicated it did not include all the likely benefits and costs, it suggested that first year benefits would be in the order of £2.5m and a £77m benefit (in 2004 prices) over a 30 year time frame. These benefits took into account impacts on local businesses, policing costs, and congestion.

There are likely to be broader socio-economic costs and benefits involved in the construction and operation of new lorry parks in Kent.

[1] A report by AECOM for the Department for Transport and Highways Agency

5.7 Summary

In this section we have sought to identify the financial attributes of the 3 shortlisted sites, using the Internal Rate of Return and Net Present Value as key metrics. We show revenue, costs and cash flow against demand over a 40 year period. Further to this, we have also examined the impact on cash flow of a mixture of grant and loan. A grant and 25 year loan scenario offers an attractive proposition to taking forward a lorry park, given that in effect a proportion of the cost of the lorry park construction will be 'written off' and the remaining costs will be discounted over a period of 25 years or 40 years, notwithstanding the need to undertake longer term forecasting, planning and risk assessments. However, this is dependent on a number of assumptions and would need to be fully explored if a decision was made to take the analysis further. Given the poor IRR and NPVs, with a grant and 40 year loan Site 57 would appear the most attractive proposition.

M20 Corridor Single Site Development

6 M20 Corridor Single Site Development

6.1 Introduction

This chapter sets out the results of the demand and financial model if we combine the demand of the two proposed sites on the M20 corridor and develop either one of the two sites – Site 6 Extension of Ashford International Truckstop and Site 8 Westerhanger Site behind Stop 24. We also extend the forecast to include a 50 year time horizon.

Having reviewed the Phase 2 modelling outcomes with particular respect to the relatively poor NPV and IRR values under many scenarios and as described in Chapter 5 we conclude that a further scenario of a combined site on the M20 corridor should be 'tested' to ascertain its potential viability. This seems a sensible progression of the modelling in Phase 1 that is corridor based and the site specific analysis conducted in Phase 2. In combining the site specific demand the proximity of the sites is already accounted for in the even splitting of demand between the two locations.

For the M20 single site development with combined demand we have tested the following scenarios:

- A mix of grant and loan is used to develop and deliver the project with a 40 points discounted interest rate of 3.74% over 25 years
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.06% over 40 years
- Full loan utilised to develop and deliver the project with a 40 points discounted interest rate of 4.08% over 50 years

6.2 Demand Forecast

Table 6.1 sets out the individual as well as the combined demand forecasts for the proposed sites on the M20 Corridor.

Table 6.1: Combined Demand Forecast

Year of operations	Site 8 STOP 24	Site 6 Ashford	Develop Site 8 (Site 8 and Site 6 Demand Combined)	Develop Site 6 (Site 8 and Site 6 Demand Combined)
1	27	36	63	63
2	32	45	77	77
3	38	53	91	91
4	44	61	105	105
5	50	70	120	120
6	57	79	136	136
7	63	88	151	151
8	70	98	168	168
9	77	108	185	185
10	85	120	205	205
11	94	132	226	226
12	103	145	248	248
13	112	158	270	270
14	122	172	294	294
15	132	186	318	318
16	141	198	339	339
17	150	211	361	361
18	159	224	383	383
19	169	238	407	407
20	181	255	436	434
21	194	273	467	434
22	207	292	499	434
23	220	311	531	434
24	235	331	552	434
25	249	352	552	434

6.3 Financial Modelling

This section sets out the results for the option to develop a single site on the M20 Corridor. Tables 6.2 (Develop Site 8 (Westenhanger Site behind Stop 24) With Combined Demand Forecast) and Table 6.3 (Develop Site 6 (Extension of Ashford International Truck Stop) With Combined Demand Forecast) summarise the assumptions for the various scenarios described in section 6.1. It should be noted that the loan value takes into account inflation in order to state the actual amount that might need to be borrowed in 2016. However, one caveat is that the calculations assume that the £10m grant will also be linked to inflation (i.e. £10m in 2013 values will be available in 2016). If this is not the case, the total amount borrowed may need to increase slightly. The £10m figure is in any case indicative and could be altered on the basis of other decisions. Annual cash flows are illustrated in Figures 6.1-6.4.

The model calculates the IRR and NPV for building and operating a lorry park, assuming that an upfront payment is made to construct the park. By taking a loan, these large upfront costs can be spread out and hence discounted over a number of years. However, whilst there may be a case to determine the IRR and NPV for loan only scenarios, this is not the case for the grant.

In the case of the grant this is still an upfront cost to the public sector, and this should either be included as an upfront cost or subtracted from the benefits.

As such, the IRR and NPV for scenarios with a grant are misleading as currently construed in the attached results. It can be shown that a scenario with no grant will result in the same IRR and NPV as a scenario with a 100% grant - the only difference is that in the latter a source of the funding for the upfront capital costs has been identified, but in the no grant scenario a source of funding has still to be found.

The following provides an explanation of the results, using Site 8 (Table 6.2) as an example. The first column sets out scenarios A to G. The 25 and 40 years results in Scenario A (no grant and no loan) are identical to those presented in the previous chapter. In addition, the results for 50 years have been included, indicating that there is still no return and a negative NPV. Scenario B develops this further, but adding in the demand from Site 6 i.e. the combined demand forecast that is the purpose of this chapter. This does have a positive impact, with the increase in annual revenues (but the same annual costs as in Scenario A) resulting in returns of 1.6% - 5.5% over 25 – 50 years.

Scenarios C and D look at the impact of a grant with loan over 25 years (Scenario C) and over 40 years (Scenario D). Revenue and operating costs remain the same as in Scenario B, but annual cash flow is improved. If the IRR and NPV are calculated without taking into the account the grant (as is the case in the table), then the returns will look very high, as is demonstrated in the table. As previously discussed, care should be taken in such an interpretation, as in practice the loan is still a cost to the public sector. Scenario F presents a similar set of results, but on the basis of a 50 year loan.

Scenario E examines the impact of a 40 year loan (no grant). This should be compared to Scenario B. The IRR increases, although NPV remains negative. Over 50 years, however, the NPV is almost positive. Scenario G presents a similar set of results, but on the basis of a 50 year loan (no grant); in this scenario there is a positive NPV over 50 years.

Table 6.2: Develop Site 8 (Westenhanger Site behind Stop 24) With Combined Demand Forecast

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
A: no grant or loan	8	2016	M20	552	25	£18,439,822					£989,054	£1,319,558	Not Applicable	-£22,781,768
	8	2016			40						£1,820,774	£1,427,521	Not Applicable	-£20,897,368
	8	2016			50						£2,362,783	£1,505,901	Not Applicable	-£19,934,121
B: no grant or loan	8 (+6 demand)	2016	M20	552	25	£18,439,822					£2,359,443	£1,319,558	1.6%	-£12,247,021
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	4.9%	-£8,346,648
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	5.5%	-£7,383,401
C: grant and 25 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*7.9%*	*£258,883*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*10.8%*	*£4,159,256*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*11.1%*	*£5,122,503*
D: grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*9.0%*	*£1,062,386*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*11.6%*	*£4,663,584*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*11.8%*	*£5,626,831*
E: no grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,359,443	£1,319,558	2.6%	-£4,333,940
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	6.7%	-£1,152,744
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	7.4%	-£189,498
F: grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,359,443	£1,319,558	*9.5%*	*£1,347,858*
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	*11.9%*	*£4,961,766*
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	*12.1%*	*£5,868,759*
G: no grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,359,443	£1,319,558	3.2%	-£3,647,705
	8 (+6 demand)	2016			40						£3,162,381	£1,427,521	7.2%	-£435,955
	8 (+6 demand)	2016			50						£3,436,068	£1,505,901	7.7%	£392,064

Table 6.3: Develop Site 6 (Extension of Ashford International Truck Stop) With Combined Demand Forecast

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Average Annual Operational: Op + Main Costs	IRR	NPV
A: no grant or loan	6	2016	M20	434	25	£20,566,397					£1,336,148	£1,037,479	Not Applicable	-£19,314,544
	6	2016			40						£2,088,348	£1,122,363	2.0%	-£16,550,948
	6	2016			50						£2,355,010	£1,183,988	2.9%	-£15,843,371
B: no grant or loan	6 (+8 demand)	2016	M20	434	25	£20,566,397					£2,129,455	£1,037,479	1.5%	-£12,702,342
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	4.3%	-£9,823,085
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	4.8%	-£9,115,508
C: grant and 25 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*8.3%*	*£493,387*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*10.7%*	*£3,372,644*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*11.0%*	*£4,080,221*
D: grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*10.0%*	*£1,519,642*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*11.9%*	*£4,016,784*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*12.1%*	*£4,724,361*
E: no grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,129,455	£1,037,479	2.5%	-£3,876,684
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	6.1%	-£1,799,544
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	6.8%	-£1,091,967
F: grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,129,455	£1,037,479	*10.7%*	*£1,884,255*
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	*12.4%*	*£4,397,630*
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	*12.6%*	*£5,033,357*
G: no grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,129,455	£1,037,479	3.4%	-£3,111,308
	6 (+8 demand)	2016			40						£2,605,477	£1,122,363	6.7%	-£1,000,091
	6 (+8 demand)	2016			50						£2,768,712	£1,183,988	7.2%	-£443,337

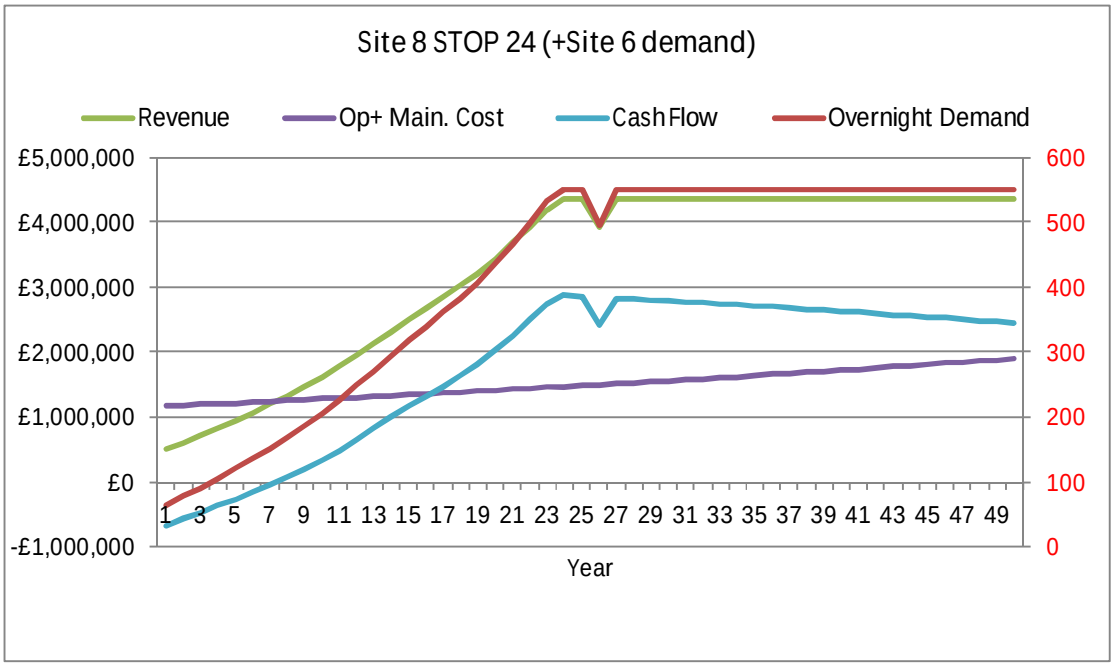

Figure 6.1: Develop Site 8 (Westenhanger Site Behind Stop 24) with Site 6 Demand Combined

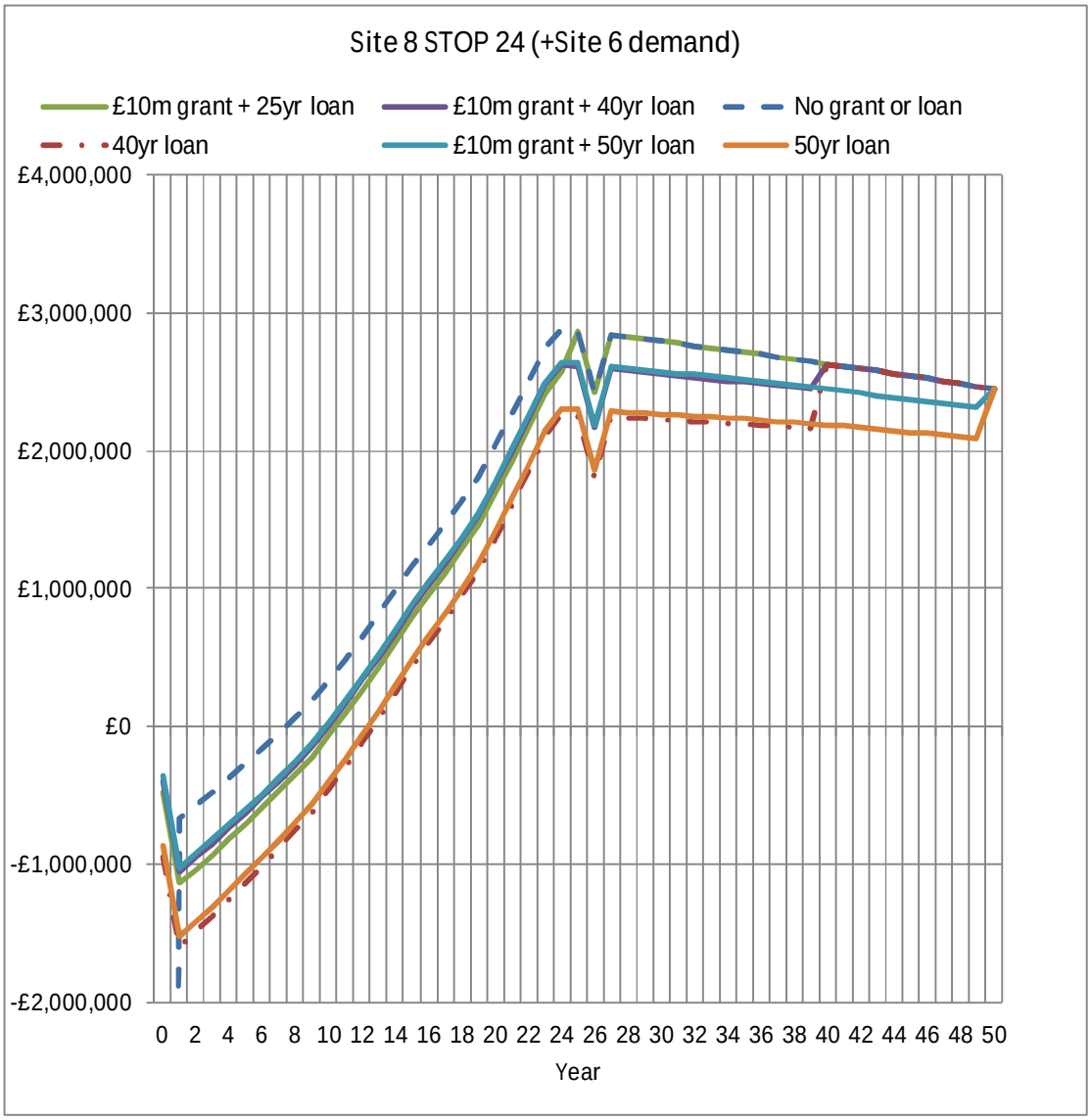

Figure 6.2: Site 8 (Westenhanger Site behind STOP 24) Cash Flow Scenarios

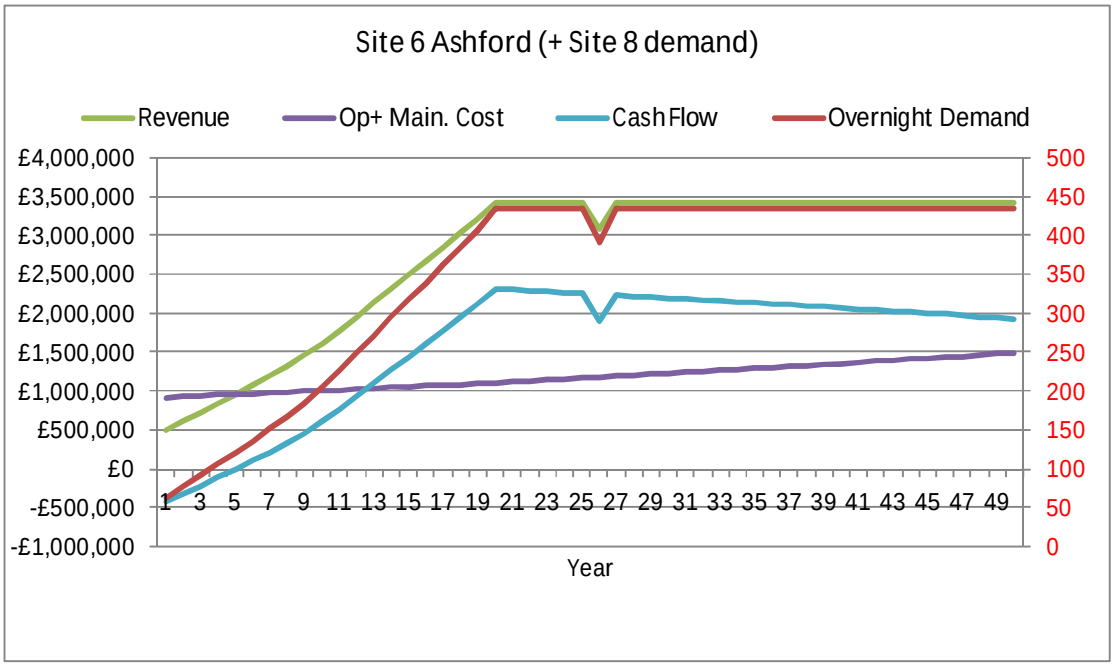

Figure 6.3: Develop Site 6 (Extension of Ashford International Truck Stop) with Site 8 Demand Combined

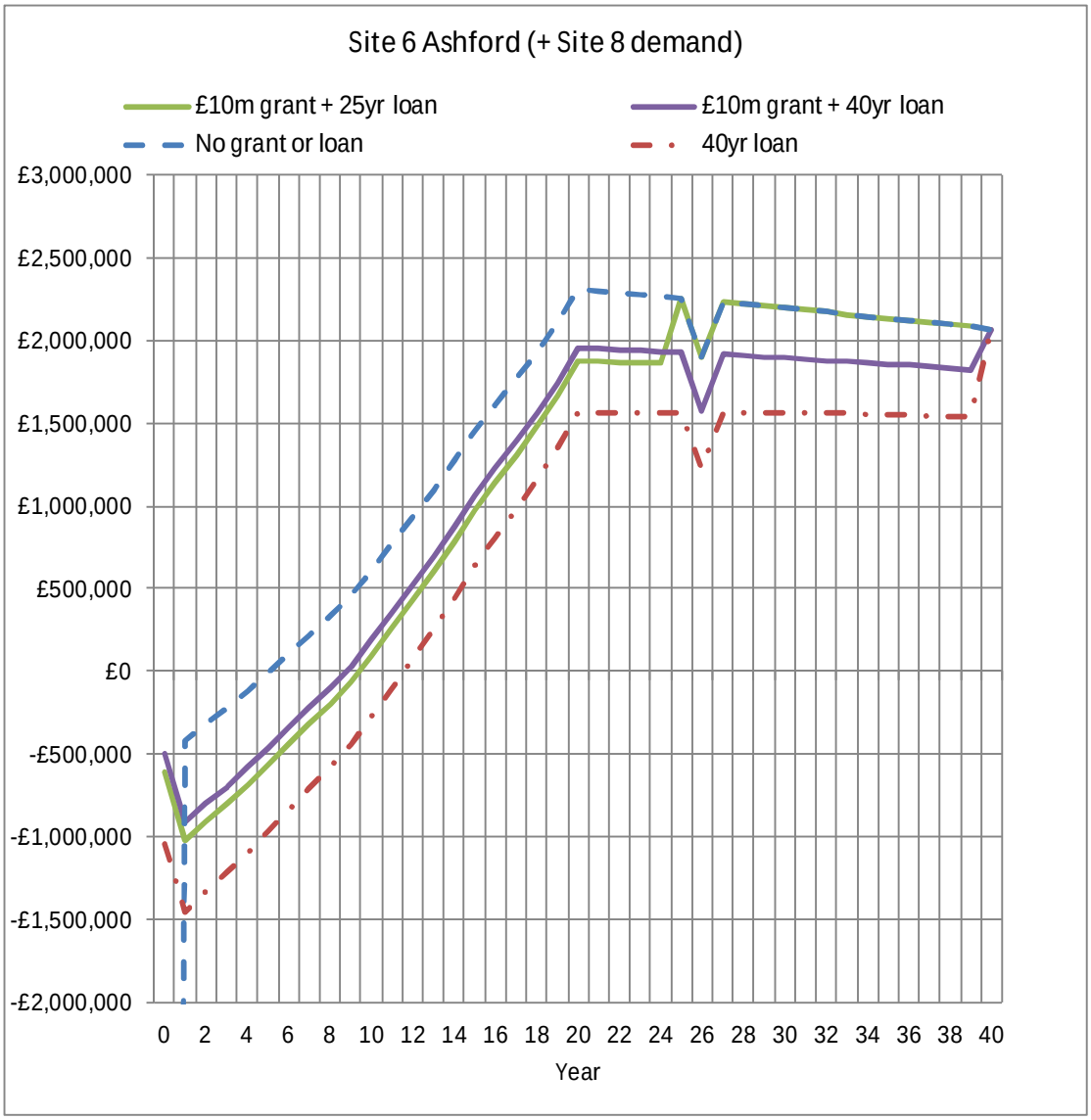

Figure 6.4: Site 6 (Extension of Ashford International Truck Stop) Cash Flow Scenarios

6.4 Summary

In combining the two M20 corridor site demand forecasts whilst we still see negative NPV figures in the no grant / no loan scenarios, IRR figures are however positive and show a 4% - 5% return over the 40 and 50 year time line for both sites 8 and 6. Break-even points for the combined sites in terms of cash flow are around 5 – 12 years.

Applying the grant and loan scenarios return far more encouraging outcomes although in the case of the grant this is still an upfront cost to the public sector and should either be included as an upfront cost or subtracted from the benefits.

Ultimately, the choice of development may be determined by a multitude of external factors including land availability and willingness of existing or new commercial operators to develop sites. It is worth re-iterating the point made in our summary of chapter 4 that if the Ashford site is developed in the manner described to a capacity of 858 spaces this will cope with predicted demand to beyond 2040, whereas capacity would be exhausted at a combined STOP 24 site by 2035.

Further sensitivity tests assuming a night time charge of £20 (as opposed to £15) and a discount rate of 3.5% (instead of 7.5%) have been undertaken and the results are set out in Appendix C.

Appendix A – HGV Driver Questionnaire

Appendix A – HGV Driver Questionnaire

Name of Interviewer	
Location	
Date (DD/MM/YY)	
Time (24 hour)	

1. Truck Registration Origin (check number plate)

2. Company Name

3. What is your usual route to the Channel Crossing? Tick one only ✓

A2 / M2	
M20 / A20	
Combination of both routes	

4. If you park overnight in Kent, where do you normally park? Tick one only ✓

Official Truck Park	
Layby	
Industrial Estate	
Other (Please Specify)	

5. If you park in a truck park, which one(s) do you normally use? Tick relevant boxes ✓

Ashford International Truck Stop	
Stop24	
Dover Truck Stop (within Industrial Estate)	
Port of Dover Truck Stop (Motis)	
Other (Please Specify)	

6. How important are the following factors in influencing why you park at this location? If you have a choice, please use the scale below to identify the importance of each factor.

No choice – specified by company	

Most important Least important
1 2 3 4 5

Score between 1 and 5	**1-5**
Convenient and en-route	
Secure parking	
Good facilities e.g. food/showers	
Run out of Drivers' Hours	
Availability of parking spaces whenever you arrive	
Availability and ease of use of online booking system	
Recommended by other lorry drivers	
The need to pay out of your own pocket	
Other (please specify)	

7. How often do you find that authorised trucks parks in Kent are full and cannot park there? Tick one only ✓

No spaces most of the time	
No spaces 1 in 2 trips	
No spaces 1 in 3 trips	
No spaces 1 in 4 trips	
No spaces less than 1 in 4 trips	
Rarely have a problem	
Never have a problem	

8. Where do you park if your preferred truck stop is not available? Tick all relevant boxes and add comments ✓

Find another Truckstop (state which one)	
Park in Layby	
Park in an Industrial Estate	
Other Please Specify:	
Further Comments:	

9. In broad terms, which of these boxes best describes your truck parking needs? Tick one only – Basic, Intermediate or Advanced

Toilets	**Basic facilities**	
Off road parking		
Drinking water		

Showers and Toilets	**Intermediate facilities**	
Off road parking		
Drinking water		
Basic security – fence, CCTV and gate control		
Hot food		
Internet		
Shop		

Showers and toilets	**Advanced facilities**	
Off road parking		
Drinking water		
Hot food		
Internet		
Fuel		
Very high security e.g. for vulnerable loads		
Plug in points for trailer refrigerators		
Other facilities not shown above		
Other: (Specify)		

10. What do you think is a reasonable charge for Basic, Intermediate and Advanced facilities? Circle your answer.

Less than €10 per night	BASIC	INTERMEDIATE	ADVANCED
€10-€20	BASIC	INTERMEDIATE	ADVANCED
€20-€30	BASIC	INTERMEDIATE	ADVANCED
More than €30	BASIC	INTERMEDIATE	ADVANCED

11. When paying for parking, who pays? Tick relevant box ✓

Driver	
Company	

12. How far are you willing to travel off route to find appropriate parking facilities? Tick relevant box ✓

Up to 1 km	
Up to 2 km	
Up to 5km	
Up to 10 km	
More than 10 km	

13. Have you ever experience any parking enforcement in Kent? Tick relevant box ✓

Yes	
No	

14. If yes, what? Tick relevant box ✓

A fine	
Told to move vehicle to an appropriate place	
Escorted to a more appropriate place	
Other: (Specify	

15. If there was more rigorous enforcement of roadside parking in Kent, what would you do? Please use the scale below to identify the probability of each scenario.

Most probable 1 2 3 4 Least probable 5

Score between 1 and 5	1-5
Carry on to park in an inappropriate area running the risk of getting a fine	
Avoid parking in Kent altogether	
Be more inclined to use an official lorry park	
Other: (Specify)	

16. Do you have any other comments?

Appendix B – Comparison of Phase 1 and Phase 2 Financial Model Inputs

Appendix B - Comparison of Phase 1 and Phase 2 Financial Model Inputs

Table 1: Site Size Comparison

Site ID	Land Value Estimate £m	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	234	342
Site 8 Westenhanger (site behind STOP 24)	468	552
Site 6 Extension of Ashford International Truck Stop	858	434

Table 2: Demand Forecasts Comparison

Year of operations	Site 57 White Cliffs		Site 8 Westenhanger (behind STOP 24)		Site 6 Extension of Ashford International Truck Stop	
Phase	Phase 1 (corridor based)	Phase 2 (site specific)	Phase 1 (corridor based)	Phase 2 (site specific)	Phase 1 (corridor based)	Phase 2 (site specific)
1	16	44	53	27	26	36
2	25	51	81	32	53	45
3	33	58	110	38	81	53
4	42	65	139	44	110	61
5	52	73	170	50	139	70
6	61	80	201	57	170	79
7	71	88	233	63	201	88
8	81	96	265	70	233	98
9	93	105	306	77	265	108
10	106	115	348	85	306	120
11	119	125	391	94	348	132
12	133	136	435	103	391	145
13	147	147	468	112	435	158
14	161	159	468	122	482	172
15	174	171	468	132	529	186
16	187	182	468	141	571	198
17	200	192	468	150	614	211
18	214	204	468	159	659	224
19	232	215	468	169	704	238
20	234	230	468	181	763	255
21	234	245	468	194	824	273
22	234	261	468	207	858	292
23	234	277	468	220	858	311
24	234	294	468	235	858	331
25	234	312	468	249	858	352

Table 3: Land Value Comparison

Site ID	Land Value Estimate	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	£2,757,000	£2,515,030
Site 8 Westenhanger (site behind STOP 24)	£105,000	£642,335
Site 6 Extension of Ashford International Truck Stop	£10,109,000	£6,468,750

Table 4: Construction Cost Comparison

Site ID	Construction Costs	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	£4,698,494	£10,045,611
Site 8 Westenhanger (site behind STOP 24)	£7,775,245	£16,480,873
Site 6 Extension of Ashford International Truck Stop	£12,890,939	£12,629,194

Table 5: Capital Cost Comparison (Construction + Land Costs)

Site ID	Capital Costs	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	£7,455,494	£12,560,641
Site 8 Westenhanger (site behind STOP 24)	£7,880,245	£17,123,208
Site 6 Extension of Ashford International Truck Stop	£22,999,939	£19,097,944

Table 6: Maintenance Cost Comparison

Site ID	Maintenance Costs	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	£22,366	£153,900
Site 8 Westenhanger (site behind STOP 24)	£23,641	£248,400
Site 6 Extension of Ashford International Truck Stop	£38,060	£195,300

Table 7: Operating Cost Comparison

Site ID	Operating Costs	
	Phase 1	Phase 2
Site 57 White Cliffs Business Park	£585,000	£569,772
Site 8 Westenhanger (site behind STOP 24)	£585,000	£919,632
Site 6 Extension of Ashford International Truck Stop	£585,000	£723,044

Appendix C – Sensitivity Testing of Higher Overnight Charge and Lower Discount Rate

Appendix C - Sensitivity Testing of Higher Overnight Charge and Lower Discount Rate

Introduction

This appendix sets out the results based on a sensitivity test assuming a night time charge of £20 (as opposed to £15) and a discount rate of 3.5% (instead of 7.5%). These tests reflect requests from KCC rather than a realistic assessment of charging structure, rate of return or risks around the investment and returns.

Results

The impact of the higher charge and lower discount rate is to significantly improve the revenue line and potential returns and NPV.

Table C.1 presents the results for Site 57, and indicates that even without a loan or grant the IRR will be over 5% over a 40 or 50 year appraisal period. The NPV would still be negative with an assumed 7.5% discount, but over 40 and 50 years would be positive assuming a 3.5% discount rate.

Site 6 and Site 8 (Tables C.2 and C.3) still have no or very low returns assuming demand is not combined for both sites. At Site 8, assuming only this site operates and includes relevant demand from Site 6, returns range from 3.9% (25 years) to 7.1% (50 years), assuming no grant or loan. The equivalent figures for Site 6 (including Site 8 demand) are 3.7% - 6.4%. At both sites the impact of the low interest loan (no grant) is relatively significant, especially over longer repayment timescales.

The model calculates the IRR and NPV for building and operating a lorry park, assuming that an upfront payment is made to construct the park. By taking a loan, these large upfront costs can be spread out and hence discounted over a number of years. However, whilst there may be a case to determine the IRR and NPV for loan only scenarios, this is not the case for the grant. In the case of the grant this is still an upfront cost to the public sector, and this should either be included as an upfront cost or subtracted from the benefits.

As such, the IRR and NPV for scenarios with a grant are misleading as currently construed in the results. It can be shown that a scenario with no grant will result in the same IRR and NPV as a scenario with a 100% grant - the only difference is that in the latter a source of the funding for the upfront capital costs has been identified, but in the no grant scenario a source of funding has still to be found.

The impact of the grant should not be taken into account in calculating the IRR and NPV, as in effect it is simply identifying a source of money to help pay the costs, and the grant is still a cost to the public sector. Nevertheless, results are presented in the tables which decrease the cost of construction by the grant, as requested by KCC, to demonstrate the returns possible to an operator independent of the cost of the grant (i.e. the operator does not have to worry about the grant or where the money came from, only that the upfront cost of construction and /or the size of loan needed is reduced).

Table C.1: Site 57 White Cliffs Business Park

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site 57 White Cliffs	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
no grant or loan	57	2016	A2/M2	342	25	£13,526,437					£1,572,008	£817,553	1.7%	-£3,863,687
	57	2016			40						£2,254,750	£884,442	5.3%	£7,415,096
	57	2016			50						£2,488,347	£933,004	5.9%	£12,080,257
grant and 25 year loan	57	2016	A2/M2	342	25	£2,757,530	£10,000,000	100%	£ 2,911,963	£ -	£1,572,008	£817,553	*14.6%*	*£6,807,055*
	57	2016			40						£2,254,750	£884,442	*16.5%*	*£18,085,838*
	57	2016			50						£2,488,347	£933,004	*16.6%*	*£22,750,999*
grant and 40 year loan	57	2016	A2/M2	342	25	£2,757,530	£10,000,000	100%	£ 2,911,963	£ -	£1,572,008	£817,553	*15.9%*	*£7,204,188*
	57	2016			40						£2,254,750	£884,442	*17.5%*	*£18,115,851*
	57	2016			50						£2,488,347	£933,004	*17.6%*	*£22,781,012*
grant and 50 year loan	57	2016	A2/M2	342	25	£2,757,530	£10,000,000	100%	£ 2,911,963	£ -	£1,572,008	£817,553	*16.3%*	*£7,352,805*
	57	2016			40						£2,254,750	£884,442	*17.9%*	*£18,275,553*
	57	2016			50						£2,488,347	£933,004	*18.0%*	*£22,827,028*

Table C.2: Site 8 (Westenhanger Site behind Stop 24)

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site 8 STOP 24	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
no grant or loan	8 (+6 demand)	2016	M20	552	25	£18,439,822					£2,876,865	£1,319,558	3.9%	£1,382,940
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	6.6%	£19,656,767
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	7.1%	£27,186,500
no grant or loan	8	2016	M20	552	25	£18,439,822					£1,205,952	£1,319,558	Not Applicable	-£21,782,411
	8	2016			40						£2,220,067	£1,427,521	Not Applicable	-£11,505,016
	8	2016			50						£2,880,937	£1,505,901	Not Applicable	-£3,975,282
grant and 25 year loan	8	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£1,205,952	£1,319,558	*Not Applicable*	*-£10,637,706*
	8	2016			40						£2,220,067	£1,427,521	*Not Applicable*	*-£360,311*
	8	2016			50						£2,880,937	£1,505,901	*5.1%*	*£7,169,423*
grant and 40 year loan	8	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£1,205,952	£1,319,558	*Not Applicable*	*-£9,532,957*
	8	2016			40						£2,220,067	£1,427,521	*Not Applicable*	*-£276,820*
	8	2016			50						£2,880,937	£1,505,901	*5.2%*	*£7,252,914*
no grant and 40 year loan	8	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£1,205,952	£1,319,558	Not Applicable	-£17,347,973
	8	2016			40						£2,220,067	£1,427,521	Not Applicable	-£9,525,542
	8	2016			50						£2,880,937	£1,505,901	Not Applicable	-£1,995,808
grant and 50 year loan	8	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£1,205,952	£1,319,558	*Not Applicable*	*-£9,119,533*
	8	2016			40						£2,220,067	£1,427,521	*Not Applicable*	*£167,440*
	8	2016			50						£2,880,937	£1,505,901	*5.3%*	*£7,380,920*
no grant and 50 year loan	8	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,876,865	£1,319,558	7.8%	£6,811,192
	8	2016			40						£3,855,886	£1,427,521	10.6%	£22,704,179
	8	2016			50						£4,189,592	£1,505,901	10.9%	£29,473,683

Table C.3 Site 6 (Extension of Ashford International Truck Stop)

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site 6 Ashford	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
no grant or loan	6 (+8 demand)	2016	M20	434	25	£20,566,397					£2,615,633	£1,037,479	3.7%	£640,650
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	6.0%	£14,351,543
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	6.4%	£19,986,278
no grant or loan	6	2016	M20	434	25	£20,566,397					£1,641,205	£1,037,479	Not Applicable	-£13,436,160
	6	2016			40						£2,565,140	£1,122,363	3.5%	-£130,025
	6	2016			50						£2,892,683	£1,183,988	4.3%	£5,504,709
grant and 25 year loan	6	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£1,641,205	£1,037,479	*Not Applicable*	*-£2,086,318*
	6	2016			40						£2,565,140	£1,122,363	*7.5%*	*£11,219,817*
	6	2016			50						£2,892,683	£1,183,988	*8.1%*	*£16,854,551*
grant and 40 year loan	6	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£1,641,205	£1,037,479	*2.8%*	*-£675,304*
	6	2016			40						£2,565,140	£1,122,363	*8.0%*	*£11,326,454*
	6	2016			50						£2,892,683	£1,183,988	*8.6%*	*£16,961,189*
no grant and 40 year loan	6	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£1,641,205	£1,037,479	Not Applicable	-£8,490,320
	6	2016			40						£2,565,140	£1,122,363	4.2%	£2,077,732
	6	2016			50						£2,892,683	£1,183,988	5.3%	£7,712,467
grant and 50 year loan	6	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£1,641,205	£1,037,479	*3.3%*	*-£147,268*
	6	2016			40						£2,565,140	£1,122,363	*8.4%*	*£11,893,873*
	6	2016			50						£2,892,683	£1,183,988	*8.9%*	*£17,124,681*
no grant and 50 year loan	6	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£1,641,205	£1,037,479	Not Applicable	-£7,381,895
	6	2016			40						£2,565,140	£1,122,363	4.6%	£3,268,830
	6	2016			50						£2,892,683	£1,183,988	5.5%	£8,055,661

Table C.4: Develop Site 8 (Westenhanger Site behind Stop 24) With Combined Demand Forecast (3.5% Discount Rate and £20 Overnight Charge)

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site 8 STOP 24	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
no grant or loan	8	2016	M20	552	25	£18,439,822					£1,205,952	£1,319,558	Not Applicable	-£21,782,411
	8	2016			40						£2,220,067	£1,427,521	Not Applicable	-£11,505,016
	8	2016			50						£2,880,937	£1,505,901	Not Applicable	-£3,975,282
no grant or loan	8 (+6 demand)	2016	M20	552	25	£18,439,822					£2,876,865	£1,319,558	3.9%	£1,382,940
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	6.6%	£19,656,767
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	7.1%	£27,186,500
grant and 25 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,876,865	£1,319,558	*13.0%*	*£12,527,645*
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	*14.9%*	*£30,801,472*
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	*15.0%*	*£38,331,205*
grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,876,865	£1,319,558	*14.5%*	*£13,632,395*
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	*16.0%*	*£30,884,963*
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	*16.1%*	*£38,414,697*
no grant and 40 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,876,865	£1,319,558	7.1%	£5,817,378
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	10.1%	£21,636,241
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	10.4%	£29,165,975
grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£7,670,916	£10,000,000	100%	£ 8,100,518	£ -	£2,876,865	£1,319,558	*15.0%*	*£14,045,818*
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	*16.5%*	*£31,329,222*
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	*16.6%*	*£38,542,702*
no grant and 50 year loan	8 (+6 demand)	2016	M20	552	25	£18,439,822	£ -	100%	£19,472,526	£ -	£2,876,865	£1,319,558	7.8%	£6,811,192
	8 (+6 demand)	2016			40						£3,855,886	£1,427,521	10.6%	£22,704,179
	8 (+6 demand)	2016			50						£4,189,592	£1,505,901	10.9%	£29,473,683

Table C.5: Develop Site 6 (Extension of Ashford International Truck Stop) With Combined Demand Forecast (3.5% Discount Rate and £20 Overnight Charge)

IRR and NPV do not take into account the 'costs' to the public sector of the grant / loan.

Site 6 Ashford	Site	Development Year	Location	Capacity	Operational Life	Capital Cost	Grant 2013	Loan % of remaining capital costs	Loan needed in 2016	Up front capital payment	Average Annual Operational: Revenue	Op + Main Costs	IRR	NPV
no grant or loan	6	2016	M20	434	25	£20,566,397					£1,641,205	£1,037,479	Not Applicable	-£13,436,160
	6	2016			40						£2,565,140	£1,122,363	3.5%	-£130,025
	6	2016			50						£2,892,683	£1,183,988	4.3%	£5,504,709
no grant or loan	6 (+8 demand)	2016	M20	434	25	£20,566,397					£2,615,633	£1,037,479	3.7%	£640,650
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	6.0%	£14,351,543
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	6.4%	£19,986,278
grant and 25 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,615,633	£1,037,479	*13.7%*	*£11,990,492*
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	*15.2%*	*£25,701,386*
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	*15.3%*	*£31,336,120*
grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,615,633	£1,037,479	*15.9%*	*£13,401,506*
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	*17.0%*	*£25,808,023*
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	*17.0%*	*£31,442,757*
no grant and 40 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,615,633	£1,037,479	7.5%	£5,586,490
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	9.8%	£16,559,301
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	10.2%	£22,194,035
grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£9,797,491	£10,000,000	100%	£10,346,189	£ -	£2,615,633	£1,037,479	*16.8%*	*£13,929,542*
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	*17.7%*	*£26,375,442*
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	*17.8%*	*£31,606,250*
no grant and 50 year loan	6 (+8 demand)	2016	M20	434	25	£20,566,397	£ -	100%	£21,718,197	£ -	£2,615,633	£1,037,479	8.4%	£6,694,915
	6 (+8 demand)	2016			40						£3,200,334	£1,122,363	10.5%	£17,750,399
	6 (+8 demand)	2016			50						£3,400,839	£1,183,988	10.8%	£22,537,230

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Final Draft Site Assessment Report

11 October 2013

Prepared by:  .....
Johan Els
Principal Consultant

Checked by:  .....
Jonpaul Simpson
Project Manager - Transportation

Approved by:  .....
John Hix
Regional Director

Final Final Draft Report - Site Assessment

Rev No	Comments	Checked by	Approved by	Date
1	Draft Site Assessment Report	JS	JH	20Sept2013
2	Draft Interim Report – Site Assessment	JS	JH	4 Oct 2013
3	Final Draft Report – Site Assessment	JS	JH	11 Oct 2013

9th & 10th Floors, Sunley House, 4 Bedford Park, CR0 2AP
Telephone: 020 8639 3500 Website: http://www.aecom.com

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Introduction

1 Introduction

1.1 Overview

This final draft interim report provides details on the site selection assessment process and confidential discussions carried out with key stakeholders. It concluded with a list of proposed most suitable sites for lorry park development.

Kent County Council (KCC) has commissioned AECOM to produce a feasibility study for commercially operated lorry parks in Kent. The objective of this study is to undertake the necessary work to:

- Identify a network of low cost small-scale lorry parks (200-500) spaces) adjacent to the M20/A20 and M2/A2 in Kent suitable for overnight lorry parking or a dual function lorry park catering for both overnight lorry parking and an element of overflow parking to help address operation stack when it is called
- Carry out consultation with the relevant district council on identified sites as well as the Highways Agency and Kent Police
- Carry out outline financial and commercial analysis for each identified site to ascertain to what extent each could be commercially viable
- Recommend the implementation of a network of lorry parks including priority and model for delivery

The minimum facilities to be provided at each lorry park are showers, toilets and security/secure parking.

The nature of this work and the early stage of development mean that this study into the feasibility of lorry parks remains confidential. It is important that the study remains such until further work is completed based on the recommendations made.

Background and Methodology

2 Background and Methodology

2.1 Introduction

In this section of the report we discuss the background of the situation of lorry parking in Kent as well as the methodology used to undertake the site assessment.

2.2 Background

Lorry parking issues in Kent have been highlighted regularly both at regional and national level for a number of years. They relate to the high concentration of international freight vehicles and their use of 'unofficial' roadside parking on the main routes serving the Channel ports and Eurotunnel. Kent is the main gateway for road freight traffic between the UK and Europe. As such it is subjected to many pressures such as congestion, intensive road use and demand for safe and secure lorry parking facilities.

Previous studies have consistently shown that there are a large number of HGVs parking in lay-bys and industrial estates in Kent. The national lorry parking study AECOM conducted for the Department for Transport in 2011 found a shortage of provision in the majority of districts in the County. This study found an average lorry park utilisation of 73%, around 434 vehicles parking off-site locations and a shortfall in capacity of over 300 vehicles.

Crime was also found to be a significant issue in the area: Truckpol figures found that 119 lorry related crimes had been reported across the County in 2010. This indicates the requirement for future lorry parking facilities to provide a secure and safe environment for lorry drivers to park and rest.

The DfT Lorry Parking Baseline Report conducted by AECOM in 2009 found that many drivers who parked in lay-bys did so in order to save money, however parking in lay-bys is usually an ad-hoc decision. As such, given the right encouragement and incentive, coupled with effective enforcement, many of these drivers would use official parking areas. Parking in official areas with adequate facilities can help to avoid problems such as littering/noise near to residential areas and damaged curbs and verges. In addition, consistently busy lay-bys can create safety issues as this removes areas where drivers can stop for short rests.

With regards to new developments, a planning application for the extension of STOP 24 with an additional 47 truck and coach parking bays has recently been submitted. Over the last year there have been a number of developments at both the Port of Dover and Eurotunnel. In 2012 Port of Dover opened an overnight lorry park that can accommodate 300 trucks. The Port is currently extending its lorry parking by 220 spaces and this extended buffer facility is due to be operational by the end of 2014. Similarly, Eurotunnel is currently at the design stage of increasing its lorry holding by 300 spaces taking its total capacity to 600 spaces. The additional capacity is due to be operational by early 2015. Both of these expansions, while not the complete answer to Operation Stack parking issue, will act to help put off the point of Operation Stack need to be called.

2.3 Methodology

This section of the report sets out the methodology that AECOM used to identify the potential sites that are most suitable for lorry park development. Figure 1.1 gives a schematic layout of the process undertaken.

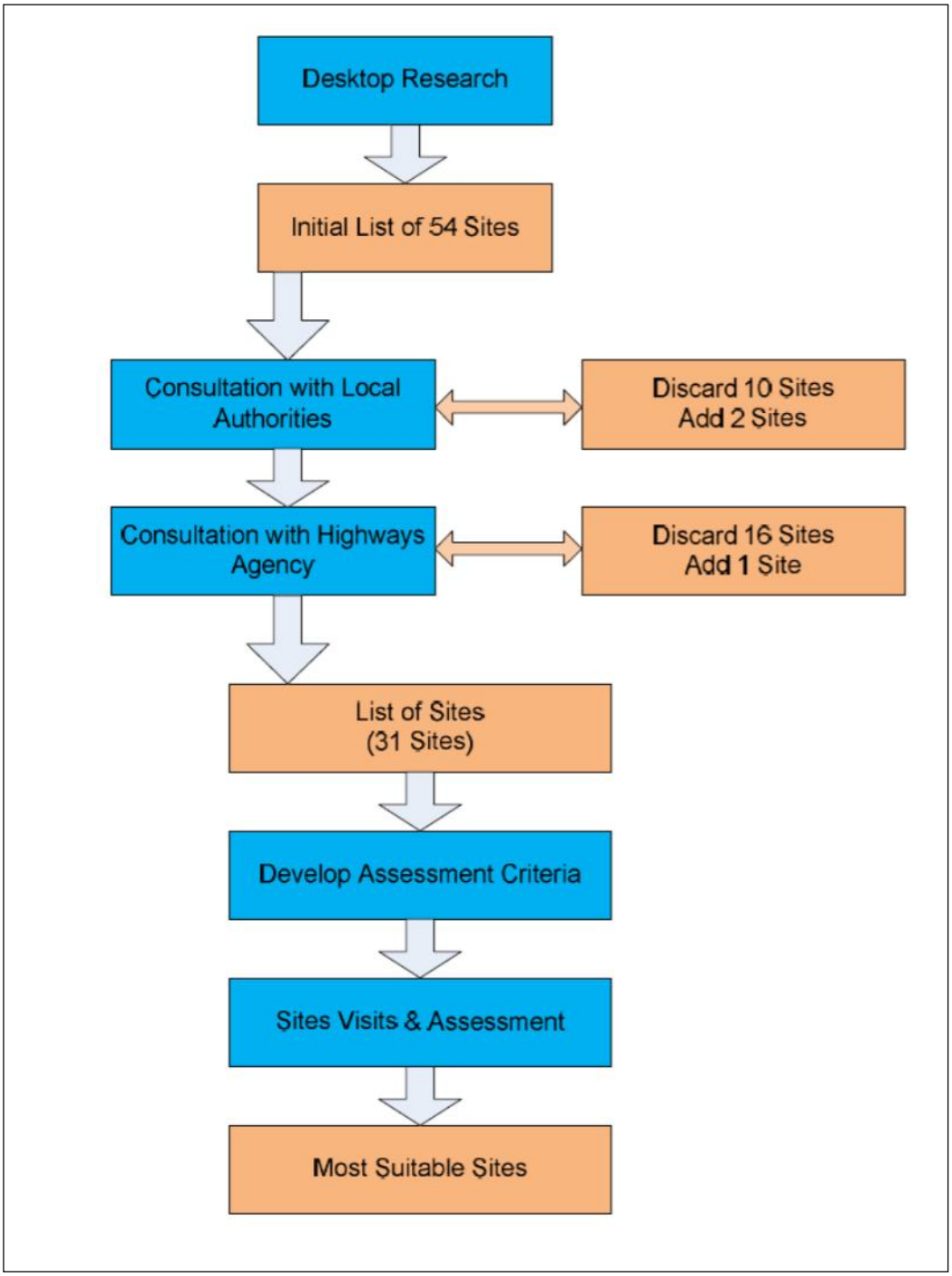


Figure 2.1 – Methodology - Site Assessment

After the inception meeting the Client provided AECOM with a short list and long list of sites that have previously been identified. AECOM then identified further potential sites as part of a desktop research process which included the following papers and documents:

- Growth Without Gridlock, December 2010, KCC
- Operation Stack: Cross Channel Traffic Management, Final Report – Part 2, November 2005, Faber Maunsell
- Operation Stack: High level Feasibility analysis, 2010, Jones Lang Lasalle
- "Draft short list of sites"
- M20 Corridor: Overnight Lorry Park / Operation Stack Facility, September 2005

A total of 54 sites were identified.

The next stage in our site assessment was to consult with the relevant local authorities within the area of jurisdiction of Kent County Council and the Highways Agency on our list of sites. During this phase of the project three more sites were identified and included within our proposed list of sites. At the same time 26 sites were discarded due to access arrangements, planning allocations and/or developments that have taken place.

To develop a set of assessment criteria, the legislative framework of relevant national, regional and local policies was reviewed. A set of criteria which capture all relevant aspects of decision making has been developed. Based on our previous lorry park site assessment work, a simple weighting and scoring system was developed to be applied to each site.

Whilst much of the information used to evaluate each site was obtained through desk based research, we felt that there was a real value to gain from site visits as these actively highlighted limitations of the site and potential accessibility issues.

Once the sites were ranked, it was further assessed in terms of network coverage to identify the five most suitable sites that can form a network of lorry parks with good coverage across Kent County Council. This process is further explained in this document.

2.4 Report Structure

The structure of the remaining sections of the report is as follows:

Chapter 2 – Background and Methodology

This chapter gives a brief description of the current situation in Kent as well as a description of the methodology used to undertake the site assessment

Chapter 3 - Legislative Framework

This chapter provides an overview of the current policy background to lorry parking in the UK and Kent from local, regional and national perspective

Chapter 4 – Confidential Discussions

This chapter gives a summary of the confidential discussions that took place, in person or by telephone, with a range of stakeholders, concerning their views on lorry parking in Kent

Chapter 5 – Assessment Criteria

This chapter described the assessment criteria that was developed and used to assess the potential sites

Chapter 6 – Site Assessment against Criteria

This chapter provides the outcome of the ranking system as well as further assessment in terms of coverage and conclude with the proposed five most suitable sites.

Legislative Framework

3 Legislative Framework

3.1 Introduction

This chapter sets out the relevant national, regional and local legislation that is relevant to the development of lorry parks in Kent.

3.2 National

3.2.1 The National Planning Policy Framework 2013

The National Planning Policy Framework set out the Government's planning policies for England and how these are expected to be applied.

Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration in planning decisions.

The Framework does not contain specific policies for national significant infrastructure projects for which particular considerations apply. These are determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant national policy statements for major infrastructure, as well as any other matters that are considered both important and relevant.

There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for planning systems to perform a number of roles:

- An **economic** role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure
- A **social** role – supporting growth, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations, and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being
- An **environmental** role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy

These roles should not be taken in isolation, because they are mutually dependent. Economic growth can secure higher social and environmental standards, and well-designed buildings and places can improve the lives of people and communities. Therefore, to achieve sustainable development, economic, social and environmental gains should be south jointly and simultaneously through the planning system. The planning system should play an active role in guiding development to sustainable solutions.

In the case of a lorry parking development all three dimensions to sustainable development will be addressed.

The UK economy is highly dependent upon the movement of freight with around 70% of all goods being moved by road. In terms of the split for cross channel traffic, the proportion of road freight is much higher. Despite the high level of reliance on road freight transport, there has been little coordinated attention given to meeting the needs of HGV drivers through the provision of facilities.

Lorry parking facilities undoubtedly support the local and national economy. In the first instance this is through the direct benefit of the economic activity conducted at the facility site, particularly where added value services are provided. The second benefit is that of service support to the wider overall economic prosperity of Kent.

Road transport still remains the main mode for the distribution of goods within the UK. In Kent the vast majority of freight is through traffic and a number of freight trade associations' sources believe that up to 4,000 vehicles are parked overnight in Kent. The impacts of unformalised lorry parking on local communities and the general public are at best tolerable and at worst disruptive. Where there is contact between HGV drivers and local residents, there can also inevitably be conflict. Lorry parking can be an issue where unsafe or inconsiderate parking can bring considerable disturbance or upset to nearby residents. This can often take the form of noise and air pollution, littering and other antisocial or illegal activities.

Driver rest facilities and lorry parking areas contribute to road safety by enabling vehicles to be parked in a location away from the main road, thus not being in conflict with moving traffic. Vehicles can be parked in a formal and well-designed location, offering safe access and egress to and from the road network. This is in preference to HGVs parking in roadside lay-bys, or parking directly on or adjacent to minor roads. The second and vital contribution to improving road safety concerns the ability of drivers to have proper rest in terms of the physical human need for rest and relaxation. Drivers of most goods vehicles over 3.5 tonnes maximum permissible weight are required to take both daily driving breaks and overnight rest by the European Directive 2002/15/EC. Even when drivers of goods vehicles are not mandated to stop by legislation they may have a legitimate need to stop and rest in locations away from base or their designated destination.

Lorry parking facilities are vitally important to support services to national and international road freight operations. More generally, they help ensure road safety, preserve local amenity and reduce opportunities for lorry related crime, as well as addressing the general needs of HGV drivers.

The National Planning Policy Framework does not change the statutory status of the development plan as the starting point for decision making. Proposed development that accords with an up-to-date Local Plan should be approved, and proposed development that conflicts should be refused unless other material considerations indicate otherwise. It is highly desirable that local planning authorities should have an up-to-date plan in place.

Currently not all local authorities within Kent County Council's Local Plans are up-to-date. Some of the authorities for e.g. Swale and Gravesham are currently in the process of updating their Local Plans.

3.2.1.1 Core planning principles

Within the overarching roles that the planning system ought to play, a set of core land-use planning principles should underpin both plan-making and decision-taking. There 12 principles are that planning should:

- Be genuinely plan-led, empowering local people to shape their surroundings, with succinct local and neighbourhood plans setting out a positive vision for the future of the area. Plans should be kept up-to-date, and be based on jointly working and co-operation to address larger than local issues
- Not simply be about scrutiny, but instead be creative exercise in finding ways to enhance and improve the places in which people live their lives
- Proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs. Every effort should be made objectively to identify and then meet the housing, business and other development needs
- Always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings
- Take account of the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it
- Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources
- Contribute to conserving and enhancing the natural environment and reducing pollution
- Encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value

- Promote mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production)
- Conserve heritage assets in a manner appropriate to their significance, so they can be enjoyed for their contribution to the quality of life of this and future generations
- Actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable
- Take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs

Where relevant these 12 core principles are taken into our assessment in determining possible sites suitable for lorry park development.

The Framework further discusses 12 points to deliver sustainable development. The points most relevant to a lorry park development include:

- Building a strong, competitive economy
- Promoting sustainable transport
- Requiring good design
- Promoting healthy communities
- Protecting Green Belt land
- Meeting the challenges of climate change, flooding and coastal change
- Conserving and enhancing the natural environment
- Conserving and enhancing the historic environment
- Facilitating the sustainable use of minerals

Paragraph 31 specifically mentioned that local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas. The primary function of roadside facilities for motorists should be to support the safety and welfare of the road user. It is therefore important that infrastructure be provided for truck drivers for the safety and welfare of all road users.

The Framework only addresses parking for mixed use development and town centres. No mentioned is made of truck parking.

3.2.2 Strategic Road Network and the Delivery of Sustainable Development (Department of Transport Circular 02/2013)

For any planning application (e.g. a lorry park) that affects the strategic road network the Highways Agency needs to be engaged with. This document sets out the way in which the Highways Agency will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network. It replaces the policy set out in Department for Transport (DfT) Circular 02/2007 Planning and the Strategic Road Network and DfT Circular 01/2008 Policy on Service Areas and other Roadside Facilities on Motorways and All-purpose Trunk Roads in England. Annex A provides additional policy specific to certain types of development, whilst Annex B sets out the requirements for roadside facilities that are eligible for permanent signing from the strategic road network.

As the operator of the strategic road network, the Highways Agency supports the economy through the provision of a safe and reliable strategic road network, which allows for the efficient movement of people and goods. Such a network can play a key part in enabling and sustaining economic prosperity and productivity, while also helping support environmental and social aims by contributing to wider sustainability objectives and improved accessibility to key economic and social services.

Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed. However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Where proposals are not consistent with the adopted Local Plan then a full assessment of their impact will be necessary, which will be based on the performance and character of the strategic road network as determined by the presumption that the Local Plan proposals will be fully implemented.

3.2.2.1 Access to the Strategic Network

The creation of new accesses to the strategic road network can impact on its ability to fulfil the function of facilitating the safe and effective movement of goods and people in support of economic growth by compromising traffic movement and flow.

In delivering economic growth at a local level, it is essential that the wider economic needs of the country are not compromised. New accesses to busy high speed strategic roads lead to more weaving and turning manoeuvres, which in turn create additional risk to safety and reduce the reliability of journeys, resulting in a negative impact on overall national economic activity and performance.

Access to motorways and routes of near motorway standard for other types of development will be limited to the use of existing junctions with all-purpose roads. Modifications to existing junctions will be agreed where these do not have an adverse impact on traffic flows and safety. In line with the standards contained in the Design Manual for Roads and Bridges, for safety and operational reasons, direct connections to slip roads and/or connector roads will not be permitted.

3.2.2.2 Appendix B

Appendix B of this Circular particularly deals with spacing between motorway service areas, location, signage access and facilities. In particular it describes the minimum truck parking requirements for the various types of roadside facility that may be eligible for signing from the strategic road network, such as opening hours, facilities and the use of sites as operating centres.

3.3 Regional

Kent County Council has made strong steps towards tackling the issues caused by inadequate lorry parking through their recent policy reviews. Lorry parking is discussed in Growth Without Gridlock: A transport delivery plan for Kent published in December 2010, the Local Transport Plan for Kent 2011-16 and the Freight Action Plan 2012-16. These three documents set out Kent County Council's aims in relation to solving the overnight lorry parking issue.

3.3.1 Growth Without Gridlock

This document outlines the important role that transport must play if Kent is to achieve continued growth and prosperity. It also highlights the problems and potential solutions to increased growth in the future. One of the proposed plans is for a lorry park between Junctions 10 and 11 of the M20 to serve as a solution to Operation Stack and a separate solution to overnight lorry parking in industrial estates and residential areas.

3.3.2 Local Transport Plan 2011-16

This document recognises the findings of the AECOM report in 2005 that there is a general shortfall in parking provision and that additional capacity is required. It also rightly highlights that poor signage from the motorway is making the situation worse as drivers are unwilling to travel off their route as they are worried about getting lost.

3.3.3 Freight Action Plan 2012-16

The Freight Action Plan realises the fact that freight is essential to the UK economy and an integral part of modern life. Freight can be transported over long distances, for example across or within countries, as well as via shorter distribution networks. The Plan predominantly focussed on road freight and specifically Heavy Goods Vehicles. Kent is the UK Gateway which means that a high proportion of HGV traffic heading to and from Europe uses the country's road network. Consequently there are negative impacts on Kent's residents, visitors and the road network itself. The Plan has identified six objectives. This project aims to address Objective 1 (To take appropriate steps to tackle the problem of overnight lorry parking in Kent), Objection 2 (To find a long-term solution to Operation Stack) and Objective 3 (To effectively manage the routing of HGV traffic to ensure that such movements remain on the Strategic Road Network for as much of their journey as possible) of the Freight Action Plan.

3.4 Local

This section sets out the relevant local planning legislation against which any planning application for a lorry park in a specific local area will be assessed. These documents have been reviewed as part of the process to develop the assessment criteria for the site selection.

The Core Strategies are key planning documents under the new planning regime. It sets out the Councils' visions, aims and objectives which will determine the future pattern of development in the Boroughs over a period of time and the way in which the social, economic and environmental needs of the areas can be delivered in the most sustainable way.

Whilst none of the documents listed hereafter make specific reference to lorry parking, the policies contained in these documents will be used to assess a lorry park planning application.

Some of these documents are outdated and in the process of updated while some still needs to be updated. It should be noted that some of the Local Maps do not contain certain allocations.

3.4.1 Ashford Borough Council

The existing Local Development Framework (LDF) contains a collection of local development documents in addition to the Core Strategy 2008, that are geographical or issue specific and together these documents deliver the spatial planning objectives and policies for the borough. These documents are referred to as Development Plan Documents (DPDs), Area Action Plans (AAPs) and Supplementary Planning Documents (SPDs).

The Adopted Statutory Development Plans in force for the borough are:

- Core Strategy 2008
- Town Centre Area Action Plan 2010
- Tenterden and Rural Sites Development Plan Document 2010
- Urban Sites and Infrastructure Development Plan Document 2012
- Chilmington Green Area Action Plan - Adopted July 2013
- Borough Local Plan 2000 (Saved Policies Only) Including Supplementary Planning Guidance (SPG)

3.4.2 Dartford Borough Council

The Adopted Statutory Development Plans in force are:

- The Core Strategy (2011) is the Council's main development plan document
- Together with saved policies from Dartford's Local Plan (1995), it provides the policies that will be used to determine planning applications in the Borough
- Northern Gateway Supplementary Planning Document (2012)

3.4.3 Canterbury City Council

The current planning documentation for Canterbury City Council include:

- Canterbury District Local Plan Preferred Option Draft Consult 2013
- Herne Bay Area Action Plan April 2010
- Balanced Housing Provision: SPD on Housing in Multiple Occupation
- Core Strategy Options Report

3.4.4 Dover District Council

The Local Development Framework consists of:

- Dover District Local Development Framework Core Strategy (Adopted February 2010)

3.4.5 Gravesham Borough Council

The current Development Plan for Gravesham comprises the "saved" policies in the Gravesham Local Plan 1st Review and the "saved" policies from the Kent Minerals and Waste Local Plans.

The Council is currently preparing the Local Plan Core Strategy which will replace a number of the Local Plan 1st Review saved policies.

3.4.6 Maidstone Borough Council

Maidstone Borough Council prepared the Core Strategy Strategic Site Allocations document and the interactive policies map for consultation in August 2012. The document includes three elements of the Maidstone Borough Local Plan:

- The inclusion of a new policy for the presumption in favour of sustainable development;
- The allocation of strategic housing and employment sites; and
- The setting of individual housing targets for the five rural service centres.

3.4.7 Sevenaoks District Council

The Local Development Framework consists of:

- The Core Strategy (Adopted February 2011)

3.4.8 Shepway District Council

The Shepway District Council Core Strategy Local Plan is expected to be presented to full Council for adoption in Autumn 2013.

3.4.9 Swale District Council

The Local Development Frameworks consists of:

- Bearing Fruits 2031 the Draft Local Plan which is currently under consultation.

3.4.10 Tonbridge and Malling Borough Council

The Tonbridge and Malling Borough Council's Local Development Framework Core Strategy was adopted in September 2007.

3.5 Conclusions

Any planning application for a lorry park will be assessed against the above statutory planning documents. International and National allocations will take precedence and is reflected in our assessment criteria as set out in Chapter 5. The Highways Agency also needs to be involved in any application that affects the strategic road network. Our recommendations will align with these policies and frameworks to create consistency.

Confidential Discussions

4 Confidential Discussions

4.1 Introduction

This chapter gives an overview of the confidential discussions that took place as part of Task 2 of the Project. The list of key consultees has been agreed with the Client. This section is further discussed under the following headings:

- Local Authorities within Kent County Council's Area of Jurisdiction
- Kent County Council
- Neighbouring Councils
- Highways Agency
- Kent Police
- Existing Truckstops and Motorway Service Areas
- Port of Dover and Eurotunnel
- Trade Associations FTA and RHA
- Other Entities Engaged
- Conclusions

4.2 Local Authorities within Kent County Council's Area of Jurisdiction

Table 4.1 gives an indication of the local authorities within Kent County Council that have been consulted. The table sets out the Department, contact person and the date on which the consultation took place.

Local Authority	Department	Contact Person	Date of Consultation
Ashford Borough Council	Head of Planning and Development	Ian Grundy	29 August 2013
Dover District Council	Head of Regeneration and Development	Mike Ebbs	29 August 2013
Dartford Borough Council	Planning Services Manager	Teresa Ryszkowska	29 August 2013
Shepway District Council	Planning Policy and Economic Development	Mark Aplin on behalf of Dave Shore	30 August 2013
Swale Borough Council	Planning Policy Manager	Gill Harris	5 September 2013
Tonbridge and Malling Borough Council	Planning Policy Manager	Ian Bailey & Mike O'Brien	19 September 2013
Gravesham Borough Council	Principal Planning Officer	Tony Chadwick on behalf of Wendy Lane	20 September 2013
Maidstone Borough Council	Head of Planning	Michael Murphy & Tim Hapgood on behalf of Rob Jarman	24 September 2013

Table 4.1 – Consultation with Local Authorities within Kent County Council

The local authorities have been consulted on the identified sites within their areas of jurisdiction. Appendix A contains location maps of all the sites that were discussed. The meetings lasted between 1 to 2 hours during which each of these sites were

discussed in terms of local development framework policies. Due to the confidentiality of the project, only sites within each local authority have been discussed with that relevant authority.

Apart from these sites the local authorities were also requested to identify further possible sites. Two authorities responded to the request namely Shepway and Dover District Councils. Both these authorities proposed additional land within existing industrial business parks. At the time of writing this report, Gravesham Borough Council, Maidstone Borough Council, Canterbury City Council, Tunbridge Wells and Sevenoaks District Council have not been consulted yet.

4.3 Kent County Council

Table 4.2 sets out discussions that took place with officials from Kent County Council.

Authority	Department	Contact Person	Date of Consultation
Kent County Council	Head of Kent Planning Applications	Sharon Thompson	24 September 2013
	Planning Applications Group	Jerry Crossley	24 September 2013
	Flood Risk & Natural Environment Manager	Liz Milne	24 September 2013
	Biodiversity Officer	Stefanie Buell	24 September 2013
	Landscape Officer	Ruth Chilels	24 September 2013
	Archaeological Officer	Simon Mason	24 September 2013
	Transport Strategy Delivery Manager	Ann Carruthers	4 October 2013
	Project Manager	Fayyaz Qadir	2/4 October 2013
	County Transport & Development Manager	Nasser Sarrafan	8 October 2013
	Transport Officer	Lisa Daniels	8 October 2013
	Transport Officer	Paul Lulham	8 October 2013
	Transport Officer	James Hammond	8 October 2013

Table 4.2 – Consultation with Kent County Council Officials

The purpose of the meeting that took place on the 24th of September with staff from the planning and environmental teams was to discuss the site assessment criteria and the actual assessment of sites. The meeting with Ann Carruthers and Fayyaz Qadir was to agree the list of shortlisted sites. These sites were then discussed with the County Transport Team in terms of access arrangements and safety around these sites.

Table 4.3 sets out the discussions that took place with adjacent councils. Again the table sets out the Council, Department, contact person and the date of consultation.

Local Authority	Department	Contact Person	Date of Consultation
Medway Council	Integrated Transport Manager	Steve Hewlett & Martin Morris	30 August 2013

Table 4.3 – Consultation with neighbouring Councils

The only potential site within the Medway area is the Medway service station, but the site is constrained and no further extension can take place. It is reported by the Council that overnight truck parking is taking place within the Gillingham Business Park and Medway City Business Park. It was not clear whether these trucks are local trucks or trucks using the channel crossing. The Council is also against developing truck parks within these business parks as it is not on the trunk road network.

4.4 Highways Agency

Kevin Bown and Peter Bridgman from the Highways Agency have been consulted on 13 September 2013 regarding the proposed sites along the M20/A20 and M2/A2 Corridor.

The table below gives an overview of the junction capacities on the M20/A20 and M2/A2 corridors.

Junction	Capacity
M20	
Junction 1/M25 Junction 1	AM/PM Peaks very busy - will require upgrade to accommodate already known proposed local development
Junction 2a	Is M26 J2a as well - under capacity
Junction 3	AM westbound/ PM Eastbound - M26 traffic - very busy but not yet at capacity
Junction 4	Full capacity – only AM/PM peaks - KCC seeking to deliver additional capacity via a 3rd lane eastern overbridge using S106 monies
Junction 5	Full capacity - HA working at pre-application with developers to assess potential impacts of growth around the junction and any necessary mitigation
Junction 6	Approaching capacity especially AM peak
Junction 7	Full capacity – already seeking agreement with developers regarding junction upgrade
Junction 8	Under capacity
Junction 9	Full capacity – taking account of already known development at Ashford. Junction was upgraded several years ago to accommodate this planned growth
Junction 10	Full capacity. The proposed Junction 10a should create appropriate additional capacity but some way/time to go before principles and practicalities agrees and any scheme implemented
Junction 11	Under capacity
Junction 11a	Under capacity – Eurotunnel only but does back up when problems occur at tunnel
Junction 12	Under capacity
Junction 13	Approaching capacity – PM peaks

Junction	Capacity
A20	
A260	Mitigation already required – issues with tailing back onto main carriageway
Rest of A20 to Dover	OK
A20 in Dover	Various issues related to port flows. If Terminal 2 goes ahead, A20 junction changes will occur
A2	
A2/B255	Bean/Ebbsfleet Junctions – both require major improvements (probably in early 2020's). Matters complicated by Paramount Park proposal and Lower Thames Crossing proposals
A2/A2260	
A2/B262	Hall Road – Capacity OK
A2/A227	Full capacity – three roundabouts easily blocks up
A2/Hever Court/Henhurst Rd	Rest of A2 in this section seems OK
A2/Brewers Road	OK
A2/M2	OK
M2	
Junction 1	Some spare capacity
Junction 2	Some spare capacity
Junction 3	Full capacity – Lodge Hill is a new settlement proposed by Medway Council (5,000 homes and 4,000 jobs, etc) at the old Chattenden Barracks. If it goes ahead mitigation required at this junction
Junction 4	Full capacity
Junction 5	Full capacity. Key East-West/North-South junction of M2/A249 – very busy AM & PM. Most of small improvements already completed, therefore likely to require major works to improve capacity
Junction 6	Under capacity
Junction 7	Sometimes at capacity. Over the years the desire line for traffic has changed from original coastal resort bound to Dover bound. HA is looking at whether any short-term improvements possible. Longer term more substantial works likely to be required to improve capacity/flows
A2	
A2/A2050	Under capacity
A2/A28	Can be an issue – KCC ambition to create full junction – presently not all directions
A2/B2068	Not a junction – only for emergency vehicles
A2/A2050	Proposed urban extension at SE Canterbury. Will replace A2050 and Bridge junctions with a

Junction	Capacity
	new dumbbell. Likely current on/off slips retained as local route to Bridge/Patrixbourne only
A2/Coldharbour Lane	No major issues – but junction geometry not great for HGV use
A2/A260	Upgrades required to accommodate additional housing planned for area
A2/Wick Lane/A260	B2046 – industrial estate at Aylesham already used by HGVs for "fly-parking"
A2/Coxhill Road	Race day issues but otherwise OK
A2/Lydden Hill	Major HGV site already (Husk)
A2/Church Road	No major issues
A2/Coldred Hill	No major issues
A2/Whitfield	Whitfield urban extension will result in upgrade
A2/A256	AM Peak capacity constraints
A2/A258 (Jubilee Way)	Guston Roundabout (aka Duke of York Roundabout) – AM peak and port traffic when platooning

Table 4.4 – Junction Capacity

In the event of any lorry parking being proposed, a full Traffic Impact Assessment would be required as impact would very much depend on the scale of the development, operational characteristics, distance form Strategic Road Network and any other development proposed in meantime.

Order 2013 No 1315 of the Secretary of State for Transport requires the closure of six lay-bys on the coastbound carriageway of the A2 (Dover Road):

- between points 860 metres and 1020 metres east of its junction with Lydden Hill
- between 905 metres and 1065 metres north of Temple Farm underbridge
- between 300 metres and 470 metres south of Temple Farm underbridge or the Londonbound carriageway of the A2 (Dover Road)
- between points 830 metres and 990 metres east of its junction with Lydden Hill
- between 935 metres and 1095 metres north of Temple Farm underbridge
- between 290 metres and 460 metres south of Temples Farm underbridge

The order came into effect on the 21st of May 2013 for a period of 18 months and includes a total number of 18 truck parking spaces. The Highways Agency will monitor the impact of these lay-by closures on residential areas and industrial estates. The reasons for the closures are:

- These lay-bys are too close together
- There are no proper parking markings and trucks park in such a way that part of the vehicles encroaching the A2
- There are no barriers between the A2 and the lay-bys
- Crime to vehicles and neighbouring properties

4.5 Kent Police

Kent Police	Contact Person	Date of Consultation
Kent Police	PC Nott	2nd October 2013

Table 4.5 – Kent Police

Parking

PC Nott states there is a need to make parking a sensible price so drivers can afford it – if had facilities for parking could then put in more parking restrictions. For Bulgarians, Latvians, Lithuanians, Romanians and Turkish the pricing point for overnight parking is between £5 and £10. East European wages is the problem.

Orbital Park now has a 7.5t overnight weight restriction and they have enforcement purges.

Operation Stack

PC Nott considers the area adjacent to Ashford truckstop is an ideal Stack site, it has access and hard-standing. A single Stack site is the only viable model, ideally 4,000 vehicles and as a minimum 2,000. The whole Stack operation can be controlled from Junction 10. Multiple small sites would be a problem when moving people off to the port. Police, DHB and ET would need a common system.

During Stack 150 trucks are despatched to Dover at a time, 20 to ET. A coloured paper system used to make sure drivers are not jumping the queue. There are problems with the Port saying its full when it's not – (they want the space for tourist traffic).

- Phase 1 = 1 Sergeant and 18 PCs min
- Phase 2 = 2 Sergeants and 34 PCs min

Clearing the backlog takes time a 3 week event will be 10 days of backlog.

The moveable concrete barrier system took 4 times longer than Stack to set up which is about 40mins once resources are in place. HA can't participate as they don't have the required powers to direct traffic as it's not an 'incident'. They will do minor tasks and 'backfill' for the Police.

4.6 Existing Truckstops and Motorway Service Areas

This section sets out the areas of discussions that took place with existing truckstops and motorway service areas. For confidentiality reasons we have not reported all the detail of these discussions.

Existing Truckstops & Motorway Service Area	Contact Person	Date of Consultation
Ashford International Truckstop	Darren Smith	1 October 2013
Channel Port Ltd (Stop24)	Paul Wells	2 October 2013
Maidstone Motorway Service Area	David Lewis	2 October 2013

Table 4.6 – Existing Truckstops and Motorway Service Areas

4.6.1 Ashford International Truck Stop Junction 10 M20

Ashford International Truck Stop is located within the Waterbrook area and is owned by GSE. The site contains 300 truck parking spaces and is a secured truck park with access gates. It is in operation 24/7. The truck stop is full six out of seven nights per week with Friday nights approximately 50 spaces available. The majority of HGVs that use the truck stop overnight start to arrive from approximately 4pm and by 10pm the truck park closes due to the fact that the truck park is full. A total of approximately 2700 lorries park per week with approximately 78% overnight users.

The split between UK, European and Eastern European Lorries is set out in Table 4.5.

Days	Split
Monday to Thursday	60% European 20% Eastern European 20% British
Friday to Sunday	60% Eastern European 20% European 20% British

Table 4.7 – Split between UK, European and Eastern European Lorries per day of week

From the table it is clear that during the week the majority of HGVs are Europeans and over weekends they are Eastern Europeans. The reason being that Eastern Europeans park for the weekend due to driving restrictions in Europe over weekends.

In 2012 Ashford Truck Stop undertook a study into the split between inbound and outbound traffic and found a 50/50 split at any given time.

According to Mr Smith, the reasons for increase usage of truck parks in Kent are as follow:

- General increase in freight traffic
- During the recession more trucks were robbed and insurance companies started to force companies to use truck parks
- DfT and ESPOG that convince insurance companies to force truck companies to make use of secure truck parks

It was mentioned that it is not a good idea to share a truck stop with public facilities for two reasons:

- Drivers don't want to mix with the general public

- According to the LABEL system, if a truck park is shared with public facilities, the truck park can only get rated 2 'locks' which is below insurance standards

Ashford believes their success is due to the fact that they provide a home for drivers away from home.

4.6.2 Stop 24 Junction 11 M20

Background info

Channel Ports LLP (CP) operates Stop 24. It is a Customs clearance agency and decided to move out of Dover. It processes customs documents for non Euro traffic that still needs to be cleared (EU traffic largely does not). Thus it needs parking space.

Henry Boot bought the site as a private development, originally as a pre-arrival centre for channel traffic (mainly tourists) but with 20 truck spaces. Car traffic has dropped off with the end of the 'booze cruise' era.

By July 2011 82 spaces were full every night. A further 50 were added in May 2013. The coach park has just been converted to give an additional 40 truck spaces. Shearings use the site as a continental interchange so for 4 hrs a week (4 times) the coach park is needed, but at night it can be a lorry park quite happily.

UK trucks use site during day for rest breaks eg Sainsbury and Iceland, overnight its 90% foreign. Some hauliers eg Link create entire delivery schedules to stop at the site overnight. People are employed at night to turn lorries away. They are at 96% capacity all week including weekends.

Facilities

The Food court is shared use with cars / coaches. Interestingly food is on from 6am – 10pm therefore not 24hrs. There are 8 showers, these are very busy and cleaned 4 x a day.

The main truck parking area has a security fence, CCTV, ANPR and 'self service' entry / exit ticketing system. Thus the gate is not manned and this saves a lot of money. The system has entirely been developed by themselves. Wi-fi is provided across the parking areas. There is a modest driver's lounge.

Most transactions are cash or DKV, UTA or fuel card.

4.6.3 Maidstone MSA Junction 8 M20

Truck parking at the site was extended from 20 to 30 spaces 2 years ago, they are now at the boundary of their development area and can't expand further. Pricing: free for first two hours, £29 for 24hrs. 75-80% are foreign trucks. The truck park is full midweek, less at weekends.

There is no security or barrier, driver pay inside the MSA. Enforcement is difficult. When Junction 8 is used as a Stack splitting point the MSA revenue is badly hit and 60% of sales can be lost.

4.7 Port of Dover and Eurotunnel

Table 4.6 sets out the contact person and date of discussions with Port of Dover

Port of over and Eurotunnel	Contact Person	Date of Consultation
Port of Dover	Nigel Bodell and Tim Godden	1 October 2013

Table 4.6 – Port of Dover and Eurotunnel

4.7.1 Port of Dover

Port of Dover has approximately 1000 assembly spaces in the dock areas. They are currently busy with a Traffic Management Initiative (TMI) to clear a large area on the eastern dock to serve as a buffer area in advance of border control. This area will accommodate 220 spaces and will be operational by Q2 of 2015. On peak days (Tuesday, Wednesday and Thursday) the port handles approximately 9000 HGVs, with approximately 5000 on Fridays and Mondays, and 2000 to 3000 per day on a Saturday and Sunday.

The Port of Dover has developed their own truck park that is managed by Motist. It was mentioned that Port of Dover would consider developing more truck parks if it will help to attract more lorry drivers to use the Port as a means of crossing the channel.

Their annual forecasts are between 3 to 4% per annum up to 2018 and then 2% per annum thereafter.

4.7.2 Eurotunnel

TBC

4.8 Trade Associations

Trade Associations	Contact Person	Date of Consultation
RHA	Chrys Rampley	3 October 2013
FTA	Malcolm Bingham Natalie Chapman	3 October 2013

Table 4.7 – Trade Association

4.8.1 Road Haulage Association – RHA

Stack

Stacking and parking issues are totally different and must be dealt with separately according to RHA.. There is no justification for a single site, RHA considers its an expensive white elephant. Costs of managing Stack could be reduced if the Territorial Army or event site marshals are used instead of so many Police.

Overnight Parking

Drivers will typically want to cross the channel and then stop – hence park in Kent. GSE is looking for more sites and the area but land around Ashford Truckstop is designated for housing in the Local Plan.

RHA notes that DfT Circular 2 of 2013 seems to be moving responsibility for truck parking to Local authorities.

Willingness to Pay

An Ashford truckstop survey showed choice to park was 50% determined by the company and 50% driver. Many foreign sites are free so that builds a resistance to pay in UK.

Norbert Dentressangle has a policy to pay for parking. Ashford trucksop has won a contract with large a haulier. HMRC subsistence rules may change in April and have an impact on UK drivers' ability to pay for parking.

4.8.2 Freight Transport Association – FTA

Overnight Parking

FTA's policy on truck parking in Kent is no different to its national policy – it wants more secure lorry parks on or near the SRN. Secure means suitable in two ways:

- Security of driver, vehicle and load
- Planning concerns are often around nuisance issues and security sorts that out

The problem is of insufficient capacity but how do you encourage drivers to use parks? This is part the fault of drivers and part about knowing where sites are. The HA Truckstop guide is now out of date. Systems like IRU's Transpark for identifying sites are not fully set up and there needs to be co-operation between LAs and park operators.

Lay-bys should not be removed before sufficient capacity is given. Decisions on lay-bys are by HA not KCC. They do serve an important purpose for daytime rest breaks. The ones removed on A2 were done on a safety basis according to HA but they were suppose to provide signs as to the location of alternative parking.

Stack

Regarding Stack – there is more resilience in the system now with parking at Dover Port and ET plans. Multiple sites for parking is ok but for Stack would be very difficult to manage. FTA suggests two holding areas, one for each crossing, could work. Better communications are needed across a wider area so trucks may be held back at loading points.

Lorry charging

The time based charge to be introduced next April may mean that trucks park up in Calais and not Kent to avoid the cost of the daily fee. The French have expressed concerns about a bottleneck according to FTA. FTA members have said that the £10 charge won't make a large enough difference to the market, so the predominance of non UK vehicles will prevail.

4.9 Other Entities Engaged

Jane Scott, Senior Planning Consultant and Willie Woods of Lydden Race Circuit were consulted by telephone regarding Lydden Race Circuit's future expansion plans. Lydden Circuit owners have approached Kent County Council regarding making some land available for a lorry park. Willie Woods informed AECOM that their thinking is a lay-by type of development along the ¾ mile proposed access road. The current application for the site includes a further upgrade of the entrance/exit of the A2 which will be suitable to accommodate HGVs.

4.10 Conclusions

During the stakeholder consultation, 16 consultees were seen to discuss the potential sites identified within each of the areas of jurisdiction. As a result of this process 21 sites were discarded due to access arrangements, planning allocations and/or developments that have taken place. The local authorities were requested to identify further potential sites and an additional four sites were identified.

Table 4.8 sets out the sites that have been discarded as a result of the discussion process:

Site Nr	Site
15	Sevington, Ashford
43	M20 (J10) (N) / A2070 The Warren
52	Land North of Leacon Lane, Westwell Leacon
55	West of Station Road, North East of Hothfield
36	A2 Pepperhill Junction (S) between B262 and A2
37	A2 Pepperhill Junction (S) between B262 and dismantled railway
38	A2 (S) B262/B259 Springhead
39	A2 Bean Junction (N) / A296 Bean Triangle
40	A2 Bean Junction (S) west of B255 and Bean village
41	M25 (J2) Trolling Down, Green Street Green Road
4	Dover Truck Stop, Whitfield
16	A20 Court Wood, Aycliff
22	A2 West Court (opp Lydden Circuit)
33	A2 Tollgate Junction (S) south of A2
34	A2 Tollgate Junction (N) between old A2 and Coldharbour Road
35	A2 Pepperhill Junction (S) between A2 and CTRL
1	Medway MSA
13	West of Stanford
42	M20 (J12) (S) St Martin's Plain, Cheriton (adj former Eurotunnel customer centre)
53	Eurotunnel Terminal
45	M20 (J5) (S) Allington Quarry (west side)
46	M20 J4 (S) Spiders Hall

Site Nr	Site
48	Wrotham Heath (Nepicar) M26 J2a
24	M2 (J7)/A299/A2 Brenley Corner (Homestall Lane) West
28	M2 (J7)/A299/A2 Brenley Corner (Brenley Lane) East
25	M2 (J7)/A299/A2 Brenley Corner (Homestall Lane) East
27	M2 (J7)/A299/A2 Brenley Corner (Brenley Lane) West

Table 4.8 – Discarded Sites

Assessment Criteria

5 Assessment Criteria

5.1 Introduction

This chapter sets out the criteria devised to allow the assessment of possible sites for a lorry parking facility in Kent, taking into account a range of factors including transport, site characteristics, environmental and planning considerations. These criteria were devised to allow the comparable assessment of all sites under consideration. This set of criteria has been discussed and agreed with the Client.

5.2 Description of Assessment Criteria

The criteria against which each site was assessed are grouped into five areas. Within each group, a number of criteria are used to assess the potential sites, and Table 5.1 sets out these criteria. It must be emphasised that the criteria used are, out of necessity, simplified – and so further assessment will be carried out for those sites recommended following this stage of the study.

Criteria Grouping	Criteria
Transport	
	Junction capacity
	Access safety
	Access arrangements
	Proximity to A2/M2 and A20/M20
	Proximity to Port of Dover/Channel Tunnel
Site Characteristics	
	Capacity
	Shape
	Topography
	Shared facility potential
Environmental – Conservation	
	Listed or locally listed buildings
	Ancient monuments
	Archaeological sites
	Registered or historic parks and/or gardens
Environmental – National and International Designations	
	Metropolitan Green Belt
	Areas of Outstanding Natural Beauty (AONB)
	Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), Wetlands designated under the Ramsar Convention (Ramsar), Special Protection Areas (SPA), National Nature Reserves (NNR)
Environmental – Nature Conservation and Landscaping	
	Conservation areas
	Local Wildlife Site (LWS)
	Local nature reserves
	Hedgerows, trees, woodlands, traditional orchards & ancient woodlands
	Tree Preservation Orders
	Roadside verges
	Rural lanes
	Public rights of way
	Flood Zones
	Ponds and watercourses
	Agricultural Land Classification
	Special and Strategic Landscape Areas
	Core Biodiversity Areas

Planning Considerations	
	Brownfield/greenfield/abandoned or underused industrial facilities
	Mineral and waste sites
	Proximity to residential development
	Environmental characteristics
	Local Plan/LDF land allocations
	Planning conditions/ Govenants

Table 5.1 – List of assessment criteria

A scoring system was developed for use with the criteria set out in Table 5.1, where the maximum score for each criterion was 10, and the minimum 0. The following sections seek to further explain the assessment criteria for each grouping.

5.2.1 Transport

To minimise environmental impact and congestion, and also maximise the use of any lorry parking facility, the site must be capable of having direct (or near-direct) access to the primary route network. The site should also not be a significant distance from the Port of Dover and/or the Eurotunnel terminal. The tables below set out the scoring system in terms of transport-related assessment criteria.

The below criterion of junction capacity refers to whether the primary route junction closest to the proposed site currently has any spare capacity, when considering current levels of traffic and is based on junction information provided by the Highways Agency and set out in Table 4.3 in Chapter 4 of this report. Traffic flow also proves an important factor in terms of the commercial viability of a site – although with the sites under consideration only being located along the M2/M20 corridors, this was not considered a critical factor as both routes see high levels of traffic from goods vehicles travelling to/from the Port of Dover and the Channel Tunnel. More specific demand forecasting will be undertaken once the five sites have been agreed upon.

Junction capacity	Score (10 = maximum)
Under design capacity	10
At design capacity	5
Over design capacity	0

Table 5.2 – Junction capacity scoring

The below criterion assesses the possibility of providing access via an existing junction or whether the sites are located in close proximity to an existing junction. Previous studies suggested that truck drivers are not willing to travel too far of the main route for parking.

Access arrangements	Score (10 = maximum)
Via existing junction	10
Close to junction (within 1 mile)	5
Via local roads	0

Table 5.3 – Access arrangements scoring

Proximity to A2/M2 and A20/M20	Score (10 = maximum)
Within 1 mile	10
Within 2 miles	5
More than 2 miles	0

Table 5.4 – Proximity to major transport corridors scoring

The below criterion, of proximity to the Port of Dover/Channel Tunnel, was assessed by using the distance to the closest crossing point from the proposed site; whether that proved to be the Port of Dover or the Channel Tunnel. Nevertheless this is not considered a critical factor in terms of overnight parking, with the Highways Agency observing – as part of this study's consultation process – that, while the drivers of goods vehicles on a cross-Channel journey would often look to stop overnight as

close to the crossing point as possible, more recently a trend of parking more distantly has been observed. Accordingly, it is believed that the drivers of goods vehicles would be willing to stop at any location within Kent where a suitable lorry parking facility was available. However, proximity to the Port of Dover/Channel Tunnel is relevant when considering the possible use of sites to help manage Operation Stack events.

Proximity to Port of Dover/Channel Tunnel	Score (10 = maximum)
0 – 5 miles	10
5 – 10 miles	8
10 – 15 miles	6
15 – 20 miles	4
More than 20 miles	2

Table 5.5 – Proximity to Port of Dover/Channel Tunnel scoring

5.2.2 Site Characteristics

This group of criteria seeks to ensure that any site recommended possesses the characteristics to permit its development to the fullest extent possible. For example, ideally a site should be large enough to be able to host a lorry parking facility with at least 250 parking spaces, so as to be financially viable (this widely believed to be the 'tipping point' of commercial viability, as determined by previous studies and consultation with lorry park operators). Moreover, with lorries being heavy vehicles, it is important that any parking facility can offer relatively flat terrain to permit vehicle manoeuvring. The below tables set out the proposed scoring system in terms of those assessment criteria within this grouping.

Although some sites might be large enough to accommodate say approximately 250 parking spaces, it is not to say that due to its topography that it will ultimately be the case, and therefore a more detailed assessment of capacity is determined after the site inspections.

Capacity	Score (10 = maximum)
Large – 150+ parking spaces	10
Small – less than 150 parking spaces	0

Table 5.6 – Site capacity scoring

Examples of some of the most advanced lorry park facilities across Europe, located in the South East England, West Germany, France and the South of Belgium have been researched and are set out in Appendix B. According to the survey an average size of 39,333m² is required for a truck park that can accommodate 305 truck parking spaces. This includes an area for facilities and car parking which accounts for approximately 22% of the total site. Taking these space allocations into consideration, the average size requirement for a 150 space lorry park is approximately 20,000m².

Shape	Score (10 = maximum)
Regular	10
Linear	5
Irregular	0

Table 5.7 – Site shape scoring

Topography	Score (10 = maximum)
Flat	10
Minor gradient	5
Steep (+10%)	0

Table 5.8 – Site topography scoring

The criterion in Table 5.9, assessing a site's potential to house a shared-use facility including a lorry park, was qualitatively assessed during the course of a site visit – based on attributes such as the location of the site in relation to the primary route, the proximity of existing facilities, and the size of the site.

Shared facility potential	Score (10 = maximum)
Potential to share with public	10
Potential to share with other commercial uses	5
No potential to share	0

Table 5.9 – Shared facility potential scoring

5.2.3 Environmental Considerations

Kent contains many areas of rich environmental significance, and strong local pressure can be exerted against planned developments; campaigning for land to instead be kept undeveloped, thus preserving the county's natural assets.

5.2.3.1 Conservation

This grouping of criteria includes land and property designations that are likely to significantly reduce the likelihood of being granted permission to develop an affected site.

Listed or locally listed buildings	Score (10 = maximum)
No listed or locally listed buildings	10
Adjacent to a site containing listed or local listed buildings	5
Site contains listed or locally listed buildings	0

Table 5.10 – Listed or locally listed buildings scoring

This study recognises that listed buildings form only a part of the historic buildings resource; many non-listed buildings also contribute to local historic character.

Ancient monuments	Score (10 = maximum)
No ancient monuments	10
Adjacent to a site containing ancient monuments	5
Site contains ancient monuments	0

Table 5.11 – Ancient monuments scoring

Registered or historic parks and/or gardens	Score (10 = maximum)
Not close to registered or historic parks and/or gardens	10
Adjacent to a site containing registered or historic parks and/or gardens	5
Site contains registered or historic park and/or garden	0

Table 5.12 – Registered or historic parks and/or gardens scoring

These include sites in the English Heritage Register of Parks and Gardens, and sites in the Kent Gardens Compendium.

5.2.3.2 National and International Designations

This grouping of criteria includes land designations (nationally or internationally recognised) that are likely to mean the development of a lorry parking facility would not be possible. These designations typically permit only extremely limited development on designated areas of land.

Metropolitan Green Belt	Score (10 = maximum)
Outside Metropolitan Green Belt	10
Within Metropolitan Green Belt	0

Table 5.13 – Metropolitan Green Belt scoring

Areas of Outstanding Natural Beauty (AONB)	Score (10 = maximum)
Not close to AONB	10
Adjacent to or overlooks AONB	5
Within AONB	0

Table 5.14 – Areas of Outstanding Natural Beauty scoring

SAC/SSSI/Ramsar/SPA/NNR*	Score (10 = maximum)
Not close to any of these protection areas	10
Adjacent to a site containing any of these protection areas	5
Within any of these protection areas	0

Table 5.15 – SAC/SSSI/Ramsar/SPA/NNR scoring

5.2.3.3 Nature Conservation and Landscaping

This grouping of criteria includes environmental designations that are likely to reduce the likelihood of being granted permission to develop an affected site. Some criteria also affect the suitability of certain sites; for example whether a site is likely to be at risk from flooding.

Conservation areas	Score (10 = maximum)
Not close to a conservation area	10
Adjacent to a conservation area	5
Site contains a conservation area	0

Table 5.16 – Conservation areas scoring

Historic Landscape features (trackways, hedgerows, field boundaries)	Score (10 = maximum)
Site does not contain landscape features	10
Adjacent to a site containing landscape features	5
Site contains landscape features	0

Table 5.17 – Historic landscape features

The historic landscape features were assessed according to the Ordnance Surveyors Field Drawings.

Local Wildlife Sites (LWS)	Score (10 = maximum)
Not close to a Local Wildlife Site	10
Adjacent to a site containing a Local Wildlif Site	5
Within a Local Wildlife Site	0

Table 5.18 – Sites of Nature Conservation Interest/Local Wildlife Site scoring

Local nature reserves	Score (10 = maximum)
Not close to a local nature reserve	10
Adjacent to a local nature reserve site	5
Site contains a local nature reserve	0

Table 5.19 – Local nature reserves scoring

Hedgerows, trees, woodlands & traditional orchards	Score (10 = maximum)
No hedgerows, trees, woodlands, or traditional orchards on site	10
Adjacent to a site containing Hedgerows, trees, woodlands, or traditional orchards	5
Hedgerows, trees, woodlands, or traditional orchards are present on the site	0

Table 5.20 – Hedgerows, trees, woodlands and traditional orchards scoring

Ancient Woodland	Score (10 = maximum)
Not close to Ancient Woodland	10
Adjacent to a site that contains Ancient Woodland	5
Site contains Ancient Woodland	0

Table 5.21 – Ancient Woodland scoring

Tree Preservation Orders	Score (10 = maximum)
Not close to preserved trees	10
Adjacent to a site containing preserved trees	5
Site contains preserved trees	0

Table 5.22 – Tree Preservation Orders scoring

Roadside verges	Score (10 = maximum)
No roadside verges on route or on site	5
Roadside verges present	0

Table 5.23 – Roadside verges scoring

Rural lanes	Score (10 = maximum)
No rural lanes on site on on route	10
Rural lanes in close proximity	5
Rural lanes on site or on route	0

Table 5.24 – Rural lanes scoring

Public rights of way	Score (10 = maximum)
No public rights of way on site	10
Adjacent to a site that contains a public rights of way	5
Site contains public rights of way	0

Table 5.25 – Public rights of way scoring

Flood Zones	Score (10 = maximum)
Outside designated floodplain	10
Within Flood Zone 2	4
Within Flood Zone 3	2
Within Special Protection Zone	0

Table 5.26 – Flood Zones scoring

Ponds and watercourses	Score (10 = maximum)
No ponds or watercourses within 500m of site	10
Ponds or watercourses within 500m of site	5
Ponds or watercourses on site	0

Table 5.27 – Ponds and watercourses scoring

Agricultural Land Classification	Score (10 = maximum)
Not classified as agricultural land	10
Grade 5 Agricultural Land	8
Grade 4 Agricultural Land	6
Grade 3 Agricultural Land	4
Grade 2 Agricultural Land	2
Grade 1 Agricultural Land	0

Table 5.28 – Agricultural Land Classification scoring

The Agricultural Land Classification Map, London & South East has been used to assessed the Agricultural Land Classifications

Special and Strategic Landscape Areas	Score (10 = maximum)
Not in Special or Strategic Landscape Area	10
Will have an impact on Special or Strategic Landscape Area	5
Within Special or Strategic Landscape Area	0

Table 5.29 – Special and Strategic Landscape Areas scoring

BAP Habitats	Score (10 = maximum)
Outside Core Biodiversity Area	10
Adjacent to a BAP Priority Habitat Site	5
Within a BAP Priority Habitat	0

Table 5.30 – Core Biodiversity Areas scoring

The UK BAP Habitats Priority Area maps have been used to score the sites. A scoring of '10' was given to sites located further than 1km away from a BAP Site.

5.2.4 Planning Considerations

It is likely that the process of any planning application for a lorry parking development would be complex, lengthy, and expensive; possibly involving a public inquiry. Accordingly, it is likely that a brownfield site, or a site within an area that is already developed, would be preferred due to the relative ease of obtaining planning permission. Moreover, as lorries can create a significant level of noise, even when parked, the proximity of a proposed site to existing residential development must be taken into account.

Brownfield/greenfield/abandoned or underused industrial facilities	Score (10 = maximum)
Uses abandoned or underused industrial facilities	10
Uses brownfield site	5
Uses greenfield site	0

Table 5.31 – Brownfield/greenfield/abandoned or underused industrial facilities scoring

Mineral and waste sites	Score (10 = maximum)
Not close to identified mineral and waste sites	10
Adjacent to an identified mineral and waste sites	5
Located on an identified mineral and waste site	0

Table 5.32 – Mineral and waste sites scoring

Proximity to residential development	Score (10 = maximum)
Away from residential development, and will not cause any nuisance	10
In close proximity to residential development, but not adjacent	5
Adjacent to, or within, residential development	0

Table 5.33 – Proximity to residential development scoring

The criterion set out in Tables 5.34 – 5.37, assessing the compatibility of the environment around a proposed site in terms of the possible development of a lorry parking facility, was assessed qualitatively by the consultant during the course of the site visits undertaken. The scoring for this criterion is likely to depend primarily on the location of the proposed site in relation to its surrounding environment; for instance whether the site would be overlooked by surrounding hills. It is recognised that this criterion is based upon a qualitative assessment, and so further investigation would be likely to be required as to whether, in strict planning terms, the environmental setting of a proposed site would be deemed to be suitable.

Environmental characteristics	Score (10 = maximum)
Will fit in with surrounding environment	10
Would have limited impacts on surrounding environment	5
Does not fit within the surrounding environment	0

Table 5.34 – Environmental characteristics scoring

Local Plan/LDF land allocations	Score (10 = maximum)
Land use that will permit a lorry parking facility	10
Land use that will permit a lorry parking facility, with planning permission	5
Land use that is totally opposed to a lorry parking facility, for example residential development	0

Table 5.35 – Local Plan/LDF land allocations scoring

Planning conditions/govenants	Score (10 = maximum)
No planning conditions or covenants	10
Planning conditions or covenants that could be reversed	5
Planning conditions or covenants that will totally restrict the development of a lorry parking facility	0

Table 5.36 – Planning conditions/covenants scoring

CTRL safeguarding	Score (10 = maximum)
Outside safeguarded area	10
Within safeguarded area	0

Table 5.37 – CTRL safeguarding scoring

5.2.5 Financial and Commercial Considerations

It is important from an early stage to take into consideration the criteria that are likely to affect the commercial viability of any lorry parking facility. At this stage, an approximate value of the land for each site was determined, along with the distance of each site from the nearest existing lorry parking facility.

5.3 Conclusions

We developed a set of detailed assessment criteria which capture all relevant aspects of decision making to assess the list of sites to determine the most suitable sites for lorry park development. Based on previous work and refined with local policies for Kent we have developed a comprehensive assessment process. Whilst this can never provide a perfect answer and evaluate every single criteria, it has been used to refine the list of 57 sites to a much shorter list of possible sites. The next chapter assess the sites against the criteria.

Site Review and Assessment

6 Site Review and Assessment

6.1 Introduction

This chapter sets out the process undertaken to score the list of sites against the assessment criteria detailed in Chapter 5. The sites' scores were then used to produce a ranking of sites in terms of likely suitability for the creation of a lorry parking facility. And finally an overall 'sense check' assessment was carried out against the top ten ranked sites, primarily to make sure the network is covered proportionally.

6.2 Site Assessment

In order to produce a shortlist of sites to be taken forward for a final stage of detailed assessment, an initial assessment was conducted of all sites under consideration. This assessment was based around the criteria laid out in Chapter 5, and covered a variety of aspects – including the physical characteristics of the site, access constraints, and planning and environmental considerations. The assessment criteria were scored through a combination of site visits by the consultant, and desktop research – with these scores then allowing the sites to be ranked, thus creating a shortlist of sites for further assessment.

All sites under consideration were visited in person by the consultant, in order to assess each site's physical characteristics. This allowed access to the site to be assessed, along with aspects such as the site's shape and topography, and the character of the environment around the site.

6.2.1 Ranking of Sites

Figure 6.1 sets out the process used to rank the sites. The initial process was to compile a list of previously identified sites through a desk based research exercise. These sites were then discussed with the relevant local authorities and the Highways Agency after which some of the sites were discarded (26 sites) and new sites proposed (3 sites).

The sites have been split between those along the M20/A20 corridor and those along the M2/A2 corridor. These two groups of sites were then assessed separately.

The next step was to examine the sites on the basis of national and international environmental designations (Metropolitan Green Belt, Area of Outstanding Natural Beauty, and SAC/SSSI/Ramsar/SPA/NNR). If a site was affected by any of these designations, it was 'relegated' to the bottom of the list. The sites were then ranked according to the transport criteria as well as against site characteristics, local environmental policies and planning considerations. These rankings were then added to get a final list of ranked sites, with '1' being the most suitable and '17' (for M20/A20) or '11' (for M2/A2) being the least suitable site in terms of the assessment criteria.

Appendix C contains a spreadsheets indicating the scoring and ranking of the sites along the M20/A20 and M2/A2 corridors.

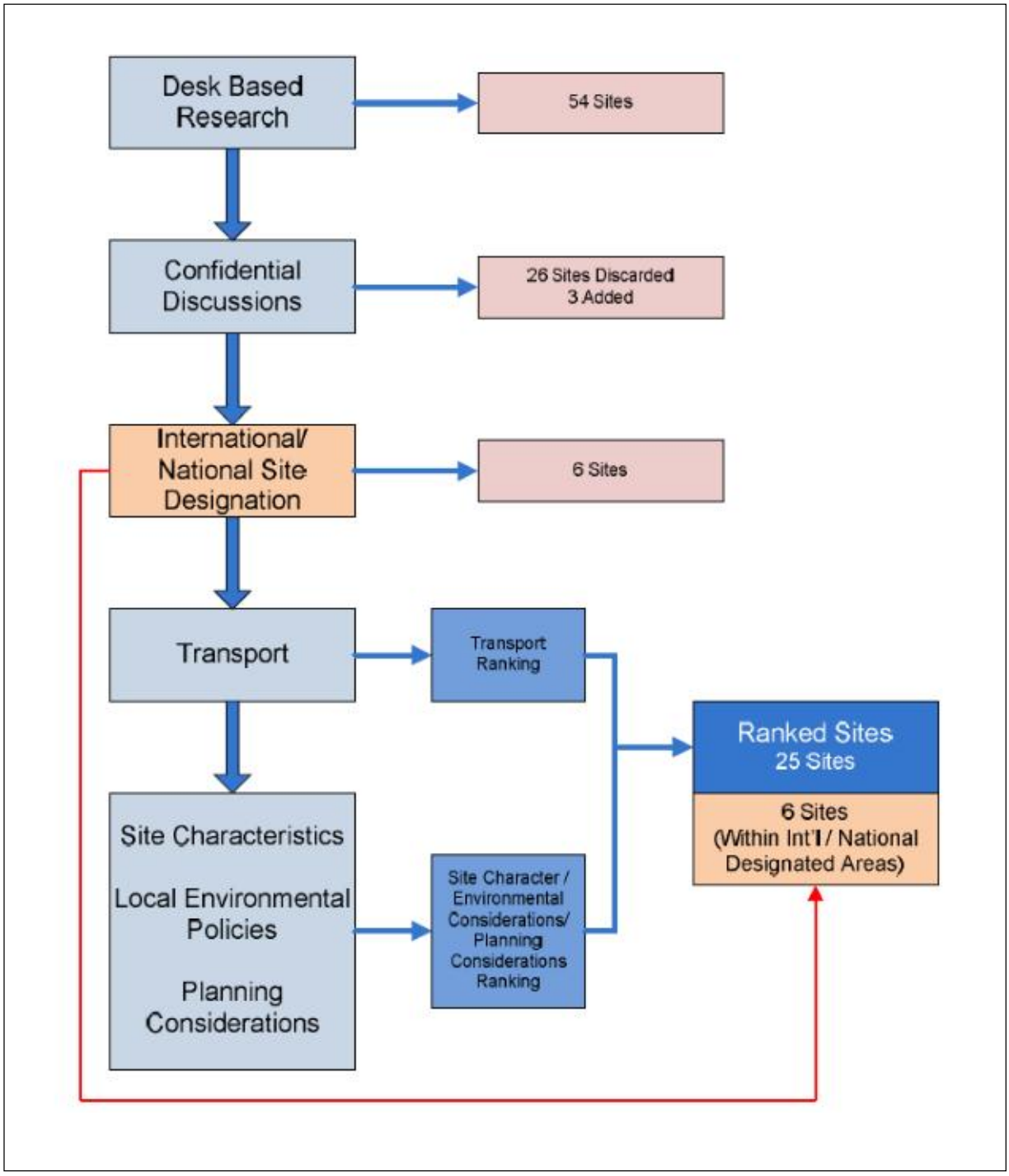


Figure 6.1 – Process of Ranking Sites

6.3 Most Suitable Sites According to the Ranking System

According to the previous studies and discussions with the Highways Agency more than 80% of Port of Dover and Eurotunnel traffic use the M20/A20, instead of the M2/A2 corridor and therefore it is recommended that we provide the same split in lorry parks along these corridors. Table 6.1 sets out the list of top 3 sites along the M2/A2 corridor and Table 6.2 sets out the list of top 5 sites along the M20/A20 corridor according to our ranking.

Site ID	Name/Description	Located On	Nearest Trunk Road/ Junction	Authority/ District	Size (Ha)	Number of Truck Parking Spaces	Site Ranking
57	White Cliffs Business Park 1	A2	A2/A256	Dover	3	234	1
21	A2/Coxhill Road, Shepherdswell (east)	A2	A2/Coxhill Rd	Dover	24	1872	2
20	A2/Coxhill Road, Shepherdswell (west)	A2	A2/Coxhill Rd	Dover	4	312	3

Table 6.1 – Top Ranked Sites Along the M2/A2 Corridor

Site ID	Name/Description	Located On	Nearest Trunk Road/ Junction	Authority/ District	Size (Ha)	Number of Truck Parking Spaces	Site Ranking
8	Site opposite STOP 24 Westenhanger	M20	J11 M20	Shepway	6	468	1
56	Lympne Industrial Estate	M20	B2067	Shepway	2 (more space are underdeveloped)	156	2
6	Ashford Int'l Truck Stop Extension	M2070	J10 M20	Ashford	11	858	4
12	East of Stanford	B2068	J11 M20	Shepway	16	1248	5
5	Maidstone MSA, Hollingbourne	M20	J8 M20	Maidstone	11	858	3

Table 6.2 – Top Ranked Sites Along the M20/A20 Corridor

Appendix D contains maps indicating the location of each of these sites.

6.4 Conclusions

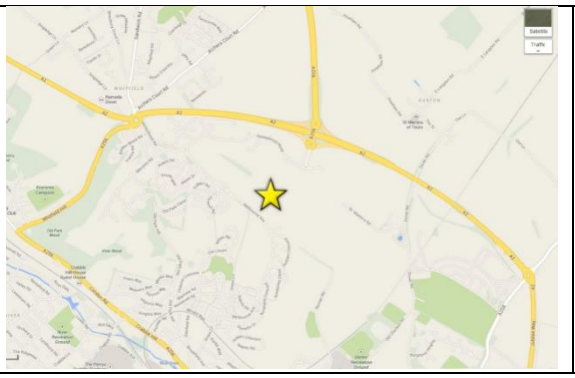
Based on the split of HGV traffic on the M20/A20 and A2/M2/A2 corridors, we therefore recommend that four of the proposed suitable sites should be located along the M20/A20 corridor and one along the M2/A2 corridor. Of those on the M20 corridor we sought a reasonable dispersal along the route, although 'bunching' of sites is useful in terms of management of Operation Stack. Based on network coverage, access, our professional judgement and discussions with KCC we recommend the sites in tables

6.1 and 6.2 as most suitable sites for further investigation for lorry park development. The sections hereafter give an overview of the location of these sites.

6.4.1 Proposed Sites on the M2/A2 Corridor

This section gives an overview of the location as well the site characteristics, significant environmental aspects and planning considerations for each of the short listed sites on the M2/A2 corridor.

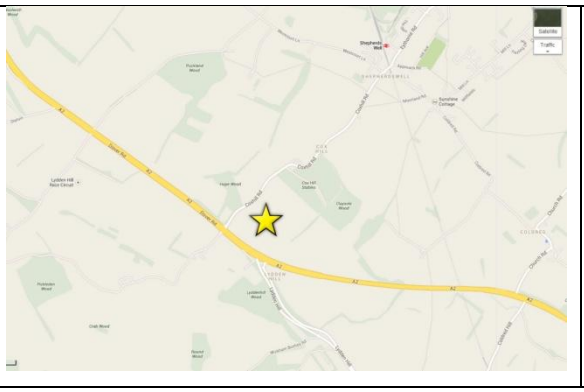
Site 57 – White Cliffs Business Park



Description:

Ranking (A2/M2 Corridor):	1
Local authority:	Dover
Route served:	A2
Transport:	Access not directly from A2, but from a roundabout on Honeywood Parkway. The access road (suitable for HGV traffic) has already been built. There are plans to implement a BRT on Honeywood Parkway and that needs to be taken into consideration for additional HGV movements.
Site characteristics:	Medium-sized site of a regular shape on a flat area of land.
Significant environmental aspects:	The site is within the White Cliff business park, so environmental impacts would not be as severe as a Greenfield site. Planning permission has been granted for a trailer builders development in the past.
Planning considerations:	The site benefits from the grant of outline planning permission for employment development (Classes B1, B2 and B8) together with internal access.
Consultant's comments:	The A2 is extremely close, with the route to the site suitable for heavy vehicles. The site itself is on the periphery of the Business Park, and is currently undeveloped.

Site 21 – A2/Coxhill Road, Shepherdswell (east)



Description:

Ranking (A2/M2 Corridor):	2
Local authority:	Dover
Route served:	A2
Transport:	Accessed directly from recently upgraded at-grade, traffic light-controlled junction with A2. Traffic light-controlled junctions at either end of site on the A2. Lydden Circuit has recently submitted a planning application to upgrade the intersection with the A2 as part of their development.
Site characteristics:	Large site (possibility of over 250 spaces), of regular shape and on a flat area of land.
Significant environmental aspects:	Adjacent to an AONB (on the opposite, south side of the A2) and within a Special Landscape Area. Hedgerows and verges present around site. The site is classified Grade 2 Agricultural Land.
Planning considerations:	Greenfield site, land bordering A2 is subject to planning safeguarding for future A2 dualling.
Consultant's comments:	Large and relatively flat site with good access directly from A2. Traffic light-controlled junctions at either end of site mean the implementation of a uni-directional traffic flow through the site may prove possible.

Photographs:

Site overview

Site overview

Capabilities on project:
Transportation

Site 20 – A2/Coxhill Road, Shepherdswell (east)

Description:

Ranking (A2/M2 Corridor):	3
Local authority:	Dover
Route served:	A2
Transport:	Access to the site would be off Coxhill Road which would require upgrades to Coxhill Road. The alignment of Coxhill Road might be unsafe in terms of entrance/egress to the site.
Site characteristics:	Although a large site, the site surrounds residential property.
Significant environmental aspects:	The site is adjacent to an ancient woodland. Hedgerows and verges present around site. Site is classified Grade 2 Agricultural Land. The site is located within a Special Landscape Area.
Planning considerations:	Greenfield site located adjacent to residential development.
Consultant's comments:	Although the junction with the A2 is traffic light controlled, upgrades to Coxhill Road will be required and the alignment might proof to be unsafe for entrance/egress to the site. The site is adjacent to ancient woodlands and residential properties.

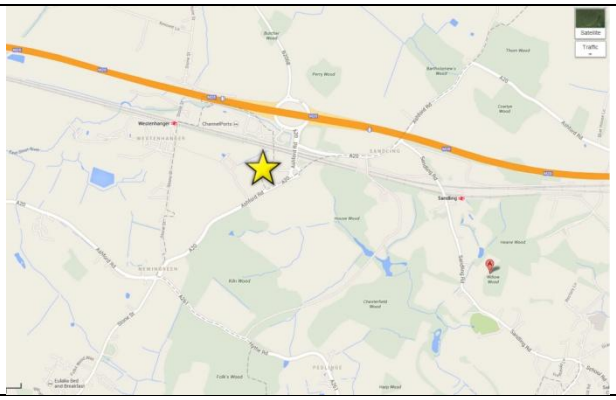
Photographs:

Site overview

6.4.2 Proposed Sites on the M20/A20 Corridor

This section gives an overview of the location as well the site characteristics, significant environmental aspects and planning considerations for each of the short listed sites on the M2/A2 corridor.

Site 8 – Opposite STOP 24 Westenhanger



Description:

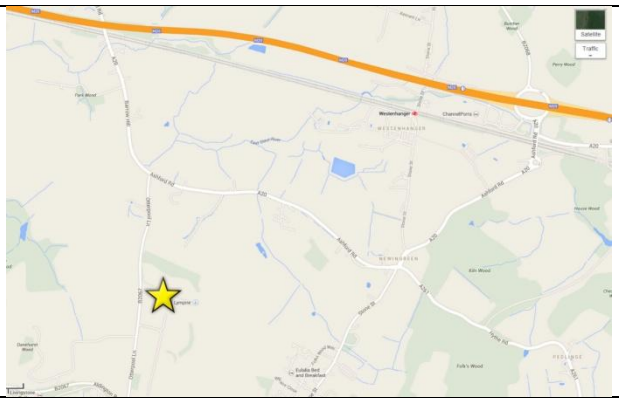
Ranking (A20/M20 Corridor):	1
Local authority:	Shepway
Route served:	M20 Junction 11
Transport:	Graded access, suitable for heavy vehicles, already exists from roundabout just off M20 Junction 11.
Site characteristics:	Large site (possibility of over 250 spaces), of regular shape and on a flat area of land.
Significant environmental aspects:	A Greenfield site adjacent to an AONB and registered parkland. Classified as Grade 2 Agricultural Land. Special protection area for water.
Planning considerations:	Part of the site has previously been reserved in local plans for the development of a hotel.
Consultant's comments:	Large and flat site with good access from M20. Across railway line from STOP 24, an MSA with good facilities for lorry drivers. If a pedestrian bridge over the railway could be provided then this site can be considered an extension to the MSA's existing provision.

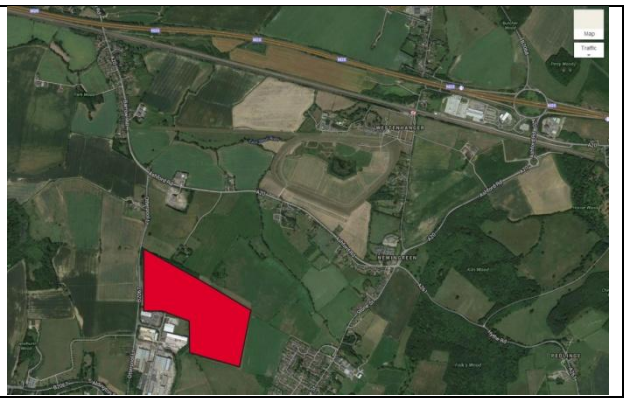
Photographs:

Site overview

Site overview

Site 56 – Lympne Industrial Estate





Description:

Ranking (A20/M20 Corridor):	2
Local authority:	Shepway
Route served:	M20
Transport:	Access to the site is off the B2067. The Otterpool Lane/Ashford Road junction has been signalised in accordance with the permission for employment development. A new access road onto Otterpool Lane to serve industrial land to the north, south and east. The access is satisfactory to serve the industrial park (and the design of the junction caters for the future expansion of employment space). Newingreen junction might needs to be upgraded in future.
Site characteristics:	The site is within a business park with fairly flat topography.
Significant environmental aspects:	Some archaeological remains present on site. Hedgerows and verges exist around site. Possible impact on public footpath. Site classified Grade 1 Agricultural Land
Planning considerations:	The site benefits from the grant of outline planning permission for the erection of up to 30,668 m² of employment development (Classes B1, B2 and B8) together with internal access.
Consultant's comments:	Although not adjacent to the M20 the site has good access from the M20 with recently upgraded intersection that can accommodate HGV movements. The site has already been granted planning permission for Classes B1, B2 and B8 uses).

Photographs:

Site overview

Site overview

Site 6 – Ashford International Truck Stop extension

Location:

Description:

Ranking (A20/M20 Corridor):	3
Local authority:	Ashford
Route served:	M20
Transport:	Access via M20 Junction 10, then (dual-carriageway) A2070, from which the site itself is accessed via a roundabout. The M20 is at capacity but the proposed Junction 10a development will spare up some capacity on Junction 10
Site characteristics:	Large site (possibility of over 250 spaces), of regular shape and on a flat area of land
Significant environmental aspects:	The site contains archaeological potential. Floodzone 2 allocation (a risk of possible flooding at a frequency of 1 in 1000 years) on portion of site.
Planning considerations:	The area is earmarked for mixed use development, but currently vacant land.
Consultant's comments:	The existing lorry parking facility is surrounded by undeveloped and unappealing land, suitable for an extension of the current site.

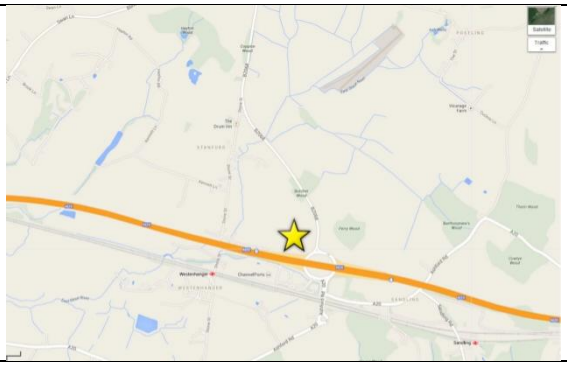
Photographs:

Gateway to current site

Site overview

Site 12 – East of Stanford

Location:



Description:

Ranking (A20/M20 Corridor):	5
Local authority:	Shepway
Route served:	M20 Junction 11
Transport:	Access to the site is off Junction 11 of the M20 and an access head already exists from the B2068 that could serve the site.
Site characteristics:	A large site with a minor gradient
Significant environmental aspects:	Within a floodzone 3 area. Grade 2 Farmland. Adjacent to Butcher Woods.
Planning considerations:	None
Consultant's comments:	The site has good access of the M20. And close to the Eurotunnel. Although close to Stop24 it can alleviate the problem of trucks parking illegally when Stop24 is full.

Photographs:

Site overview

Site overview

Site 5 – Maidstone MSA, Hollingbourne

Description:

Ranking (A20/M20 Corridor):	4
Local authority:	Maidstone
Route served:	M20
Transport:	Access to the M20 via Junction 8 is very good. Junction 8 is under capacity.
Site characteristics:	The area towards the east of the existing MSA has a slight slope. The site has an irregular shape.
Significant environmental aspects:	There may be some concerns about the effect on the setting of the North Downs AONB, and the residents of Eyhorne. The site is within 1km from a Local Wildlife site as well as ancient woodland.
Planning considerations:	There is already a truck park as part of the Motorway Service area.
Consultant's comments:	The site has good access to the M20 via Junction 8 which is currently under capacity. A planning application has been submitted for the erection of Class B1, B2 and B8 mixed commercial development (with ancillary hub facility) and associated servicing, car parking, landscaping and access arrangements at land to the south of the A20 Ashford Road, off M20 Junction 8. According to KCC Strategic Transport and Development Planner there will still be sufficient capacity at Junction 8 even with the proposed development.

Photographs:

Site overview

Site overview

6.4.3 Final Proposed Sites

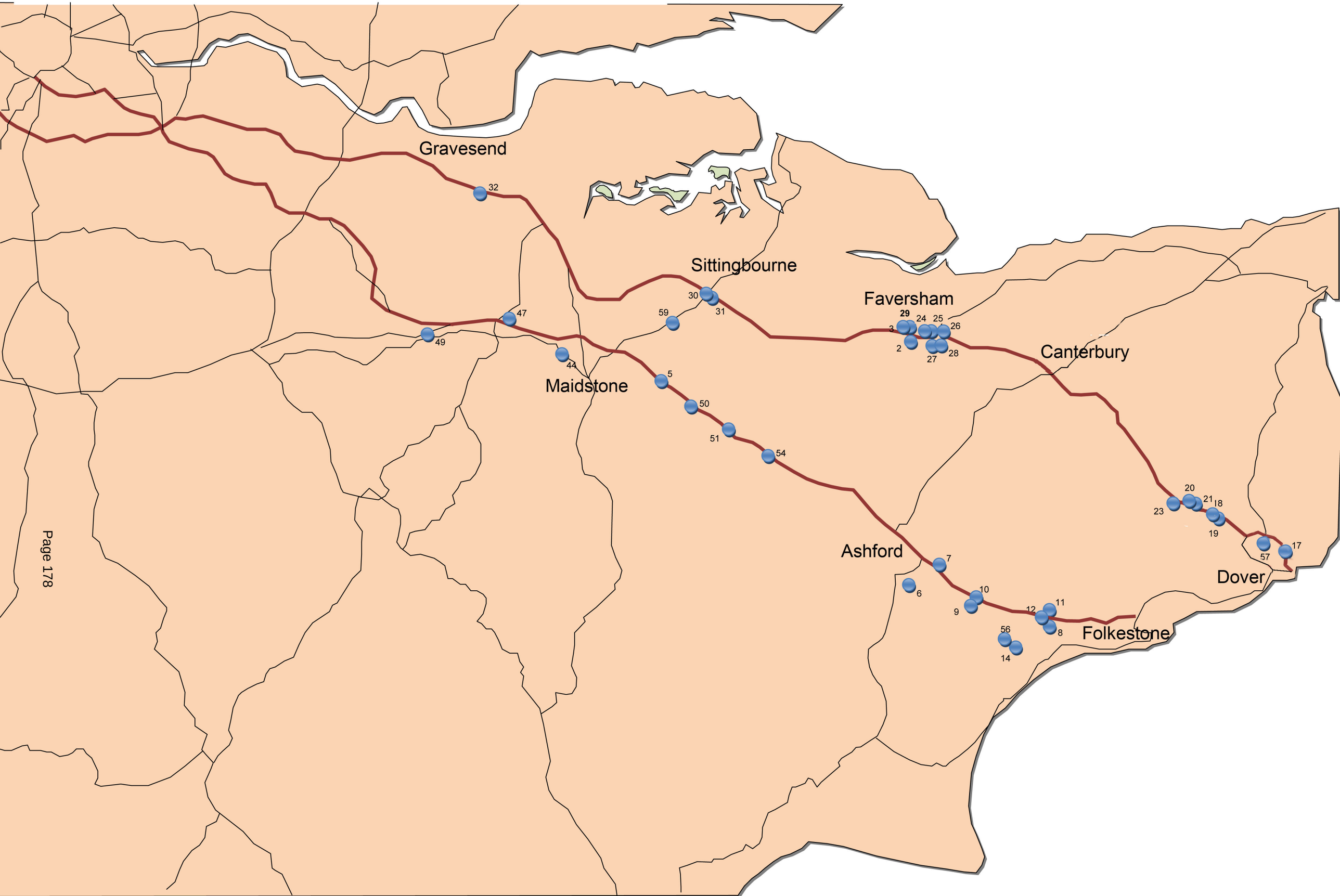
The final list of sites that will be taken forward for our high level financial modelling process is set out in Table 6.3:

Site ID	Name/Description	Located On	Nearest Trunk Road/ Junction	Authority/ District	Size (Ha)	Number of Truck Parking Spaces
57	White Cliffs Business Park 1	A2	A2/A256	Dover	3	234
8	Site opposite STOP 24 Westenhanger	M20	J11 M20	Shepway	6	468
56	Lympne Industrial Estate	M20	B2067	Shepway	2 (more space are underdeveloped)	156
6	Ashford Int'l Truck Stop Extension	M2070	J10 M20	Ashford	11	858
12	East of Stanford	B2068	J11 M20	Shepway	16	1248

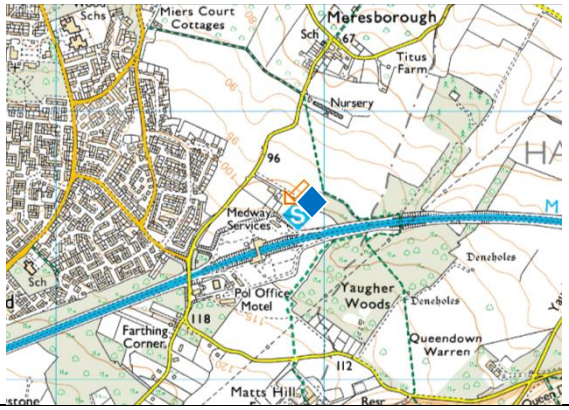
Table 6.3 – Final Proposed Sites

Appendix A – Site Location Maps

List of Ranked Sites (rankings not shown)



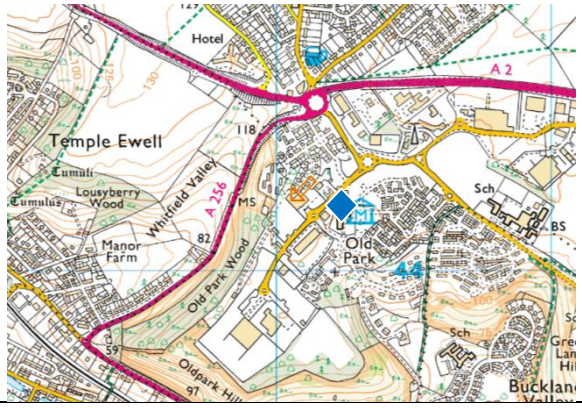
Site ID 1 Medway MSA



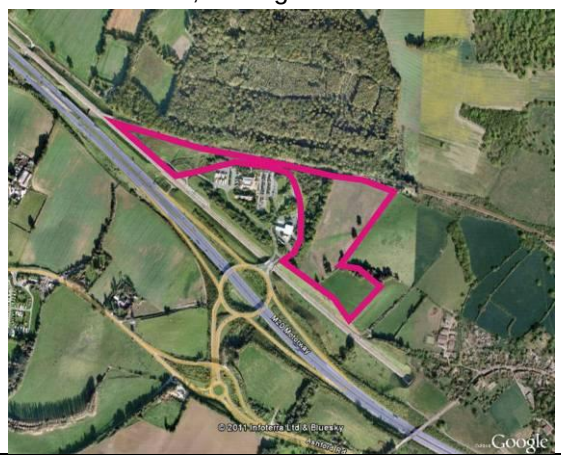
Site ID 2 Salters Ln, Faversham

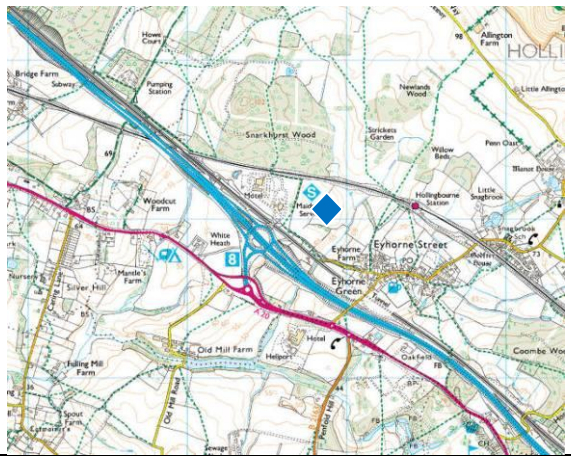
Site ID 3 Ashford Rd, Faversham

Site ID 4 Dover Truck Stop, Whitfield

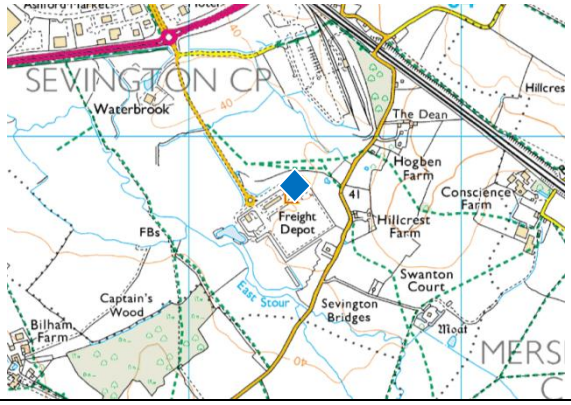


Site ID 5 Maidstone MSA, Hollingbourne

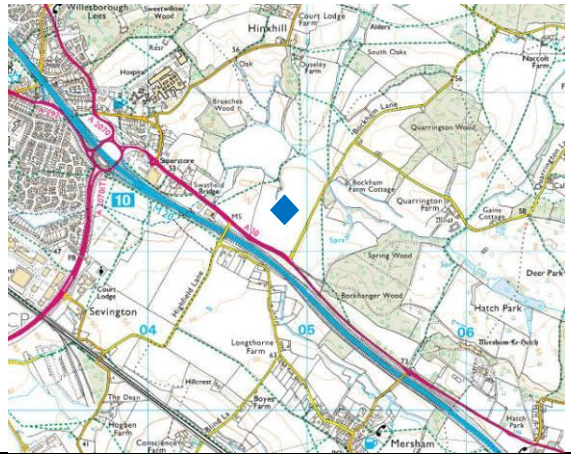




Site ID 6 Ashford Int'l Truck Stop

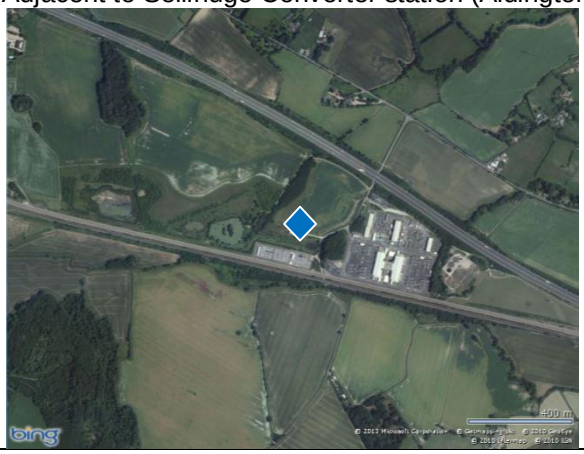


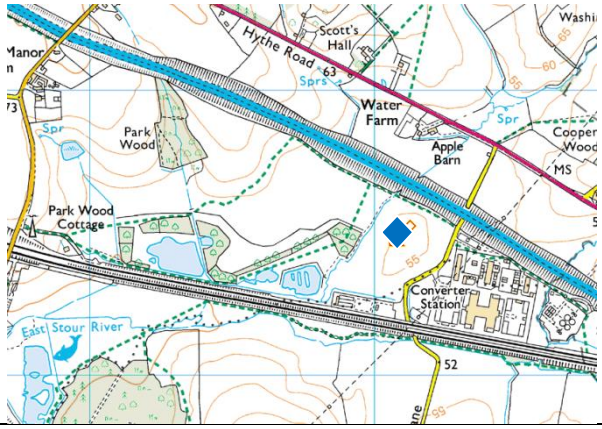
Site ID 7 Bockham Ln, Ashford



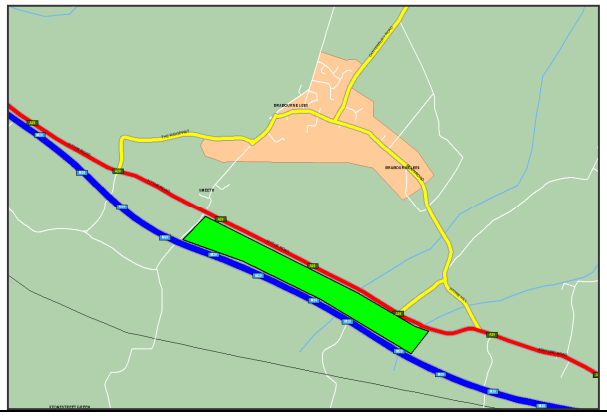
Site ID 8 STOP 24 Westenhanger

Site ID 9 Adjacent to Sellindge Converter station (Aldington)

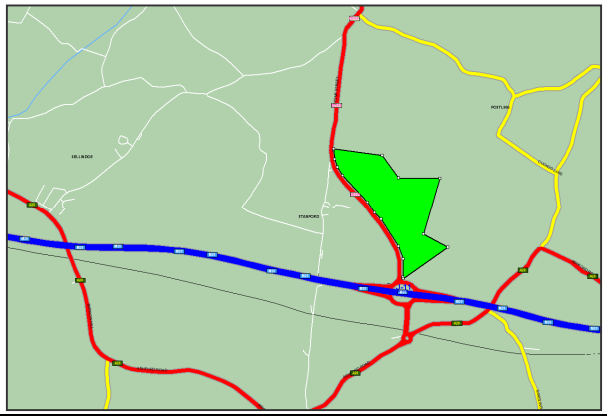




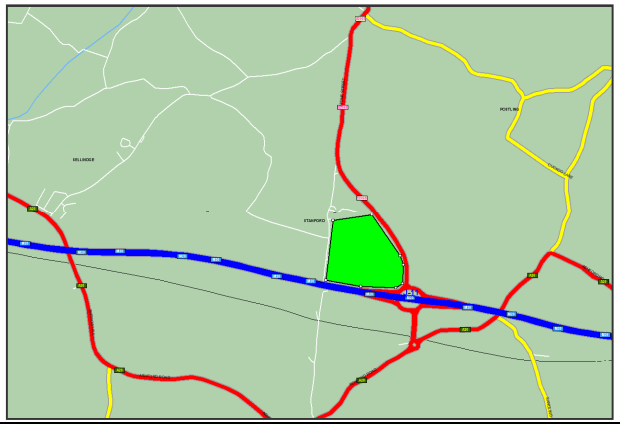
Site ID 10 West of Sellindge



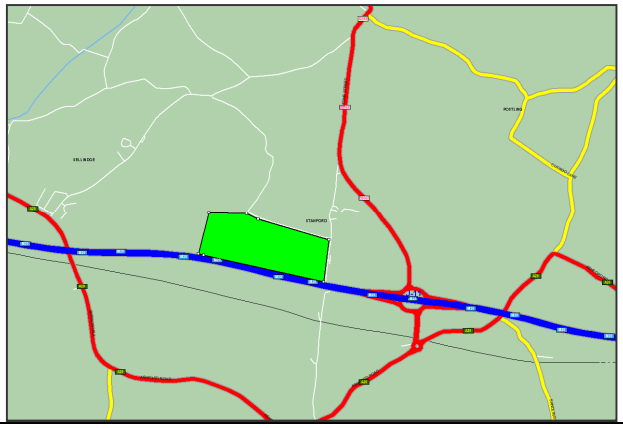
Site ID 11 Postling Wents



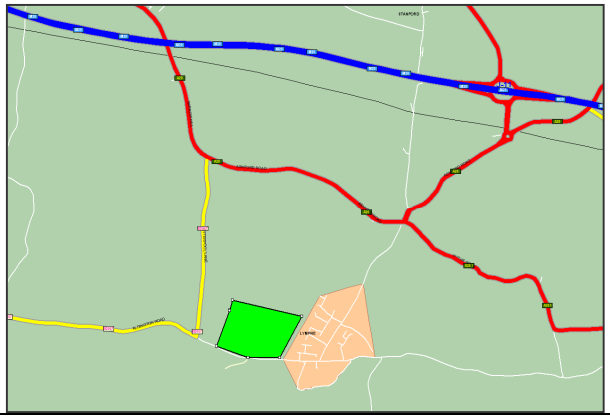
Site ID 12 East of Stanford



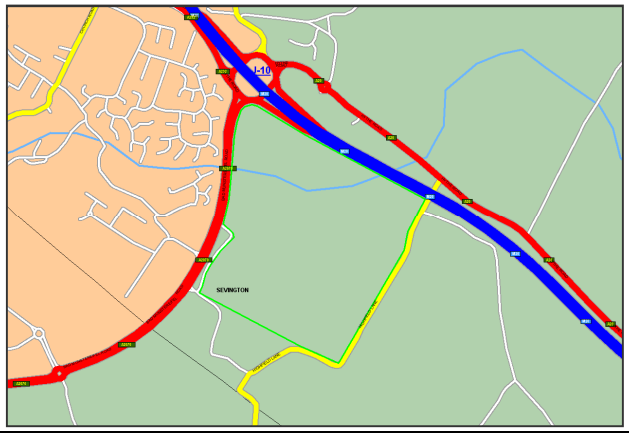
Site ID 13 West of Stanford



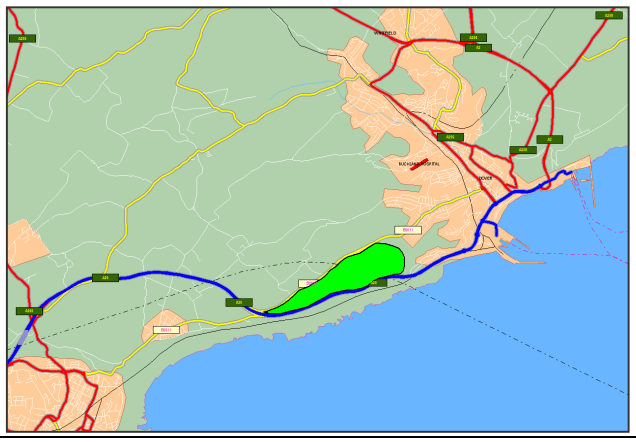
Site ID 14 Former Ashford Airport, Lympne



Site ID 15 Sevington, Ashford

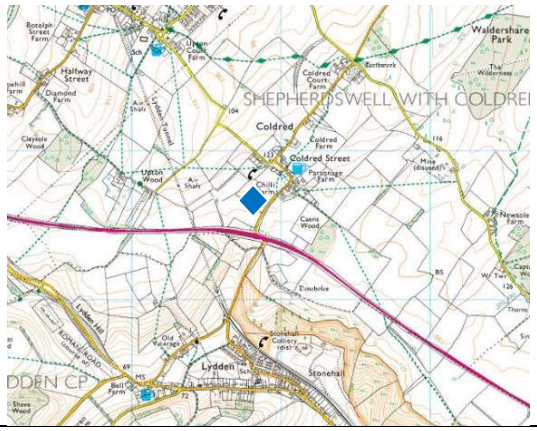


Site ID 16 A20 Court Wood, Aycliff



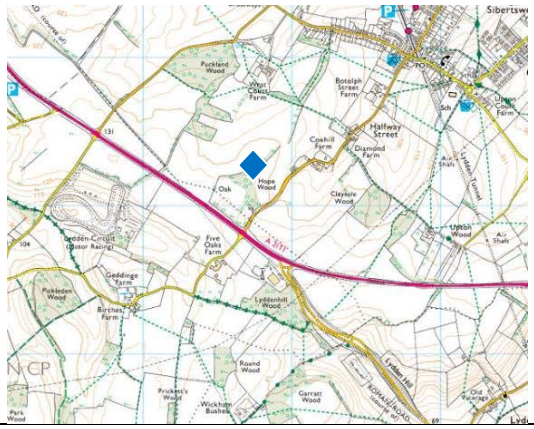
Site ID 17 A2/A258 Guston between A2 and A258

Site ID 18 A2/Coldred Hill, Coldred (west)

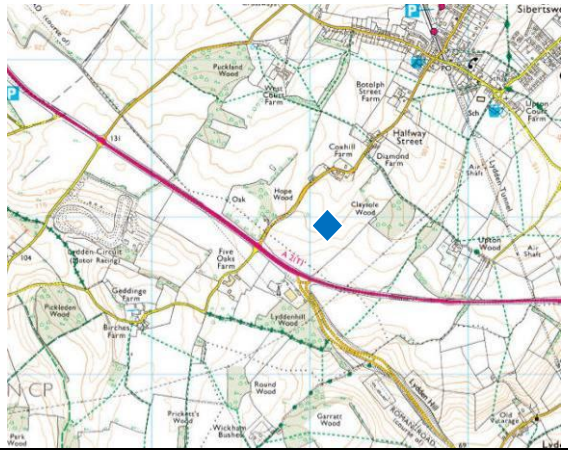


Site ID 19 A2/Coldred Hill, Coldred (east)

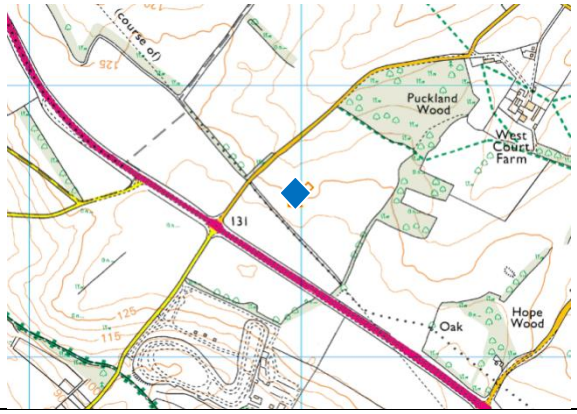
Site ID 20 A2/Coxhill Road, Shepherdswell (west)



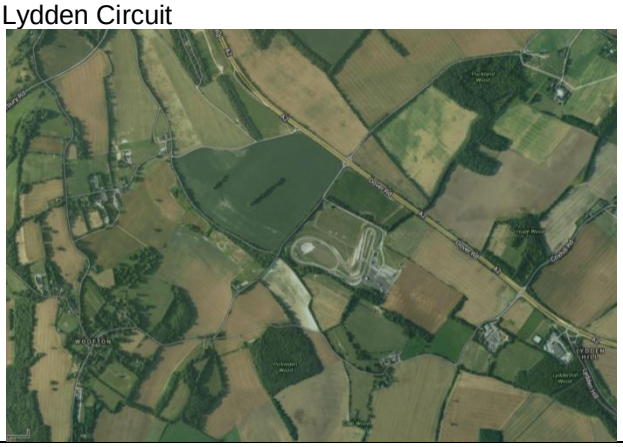
Site ID 21 A2/Coxhill Road, Shepherdswell (east)

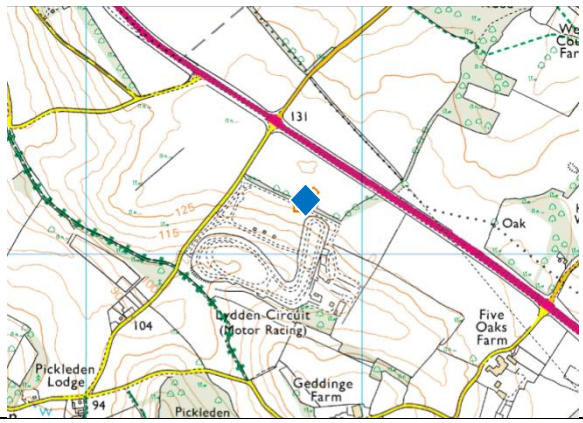


Site ID 22 A2 West Court (opp Lydden Circuit)

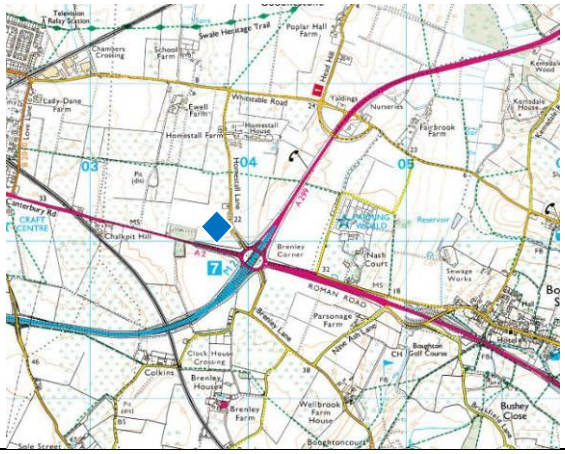


Site ID 23 Lydden Circuit

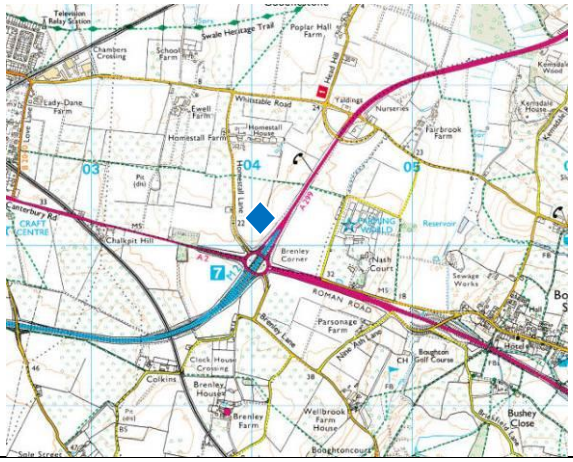




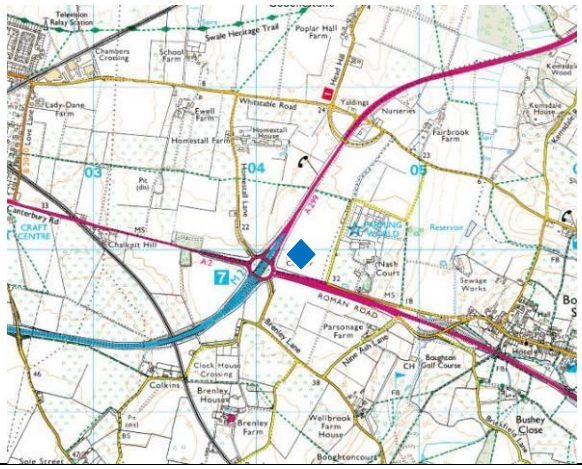
Site ID 24 M2 (J7)/A299/A2 Brenley Corner (Homestall Lane) west



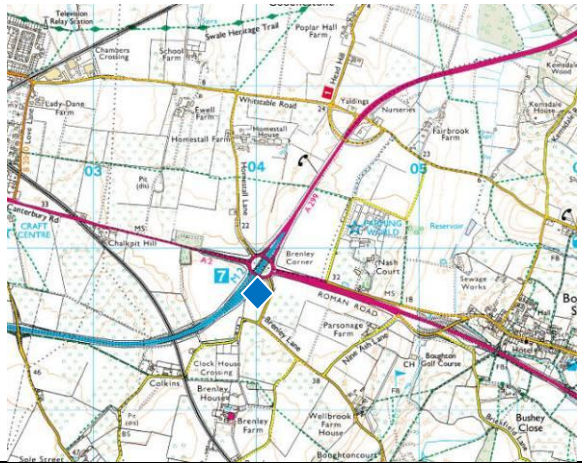
Site ID 25 M2 (J7)/A299/A2 Brenley Corner (Homestall Lane) east



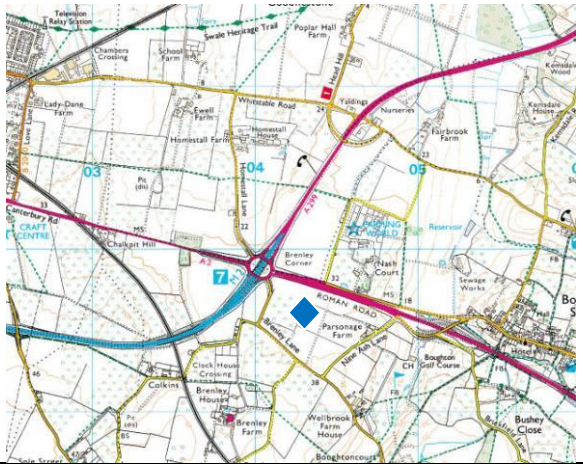
Site ID 26 M2 (J7)/A299/A2 Brenley Corner at Canterbury Road



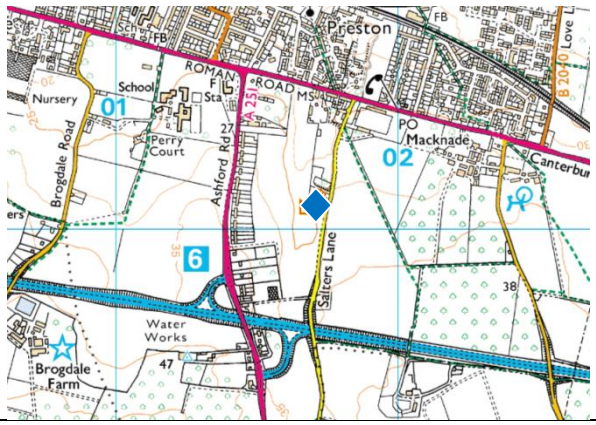
Site ID 27 M2 (J7)/A299/A2 Brenley Corner (Brenley Lane) west



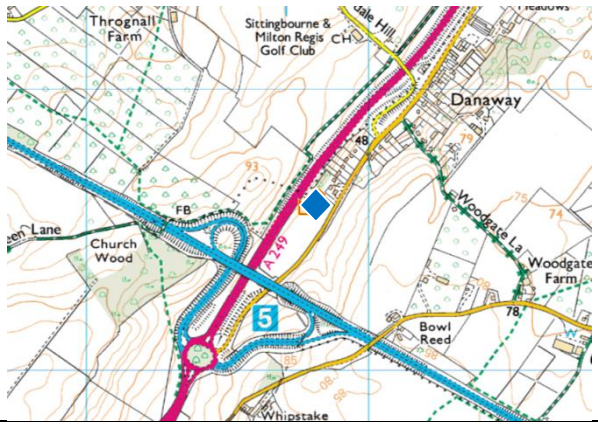
Site ID 28 M2 (J7)/A299/A2 Brenley Corner (Brenley Lane) east



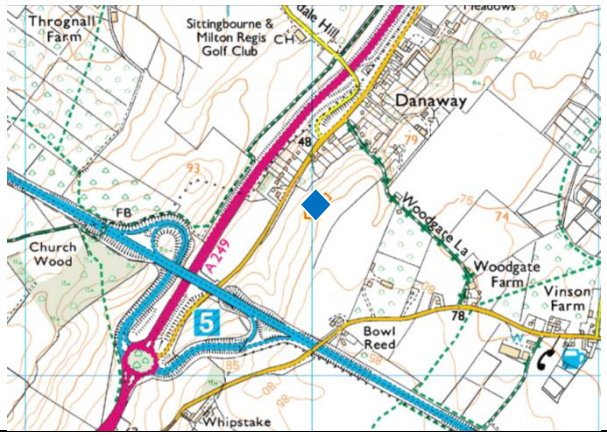
Site ID 29 M2 (J6)/A251 (N) Faversham, Salters Lane - Ashford Road



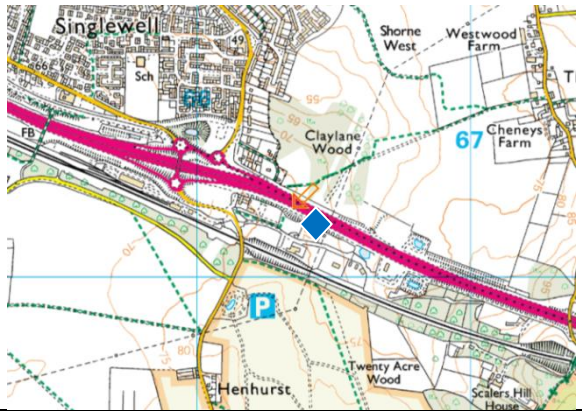
Site ID 30 M2 (J5)/A249 (N) Stockbury (west)



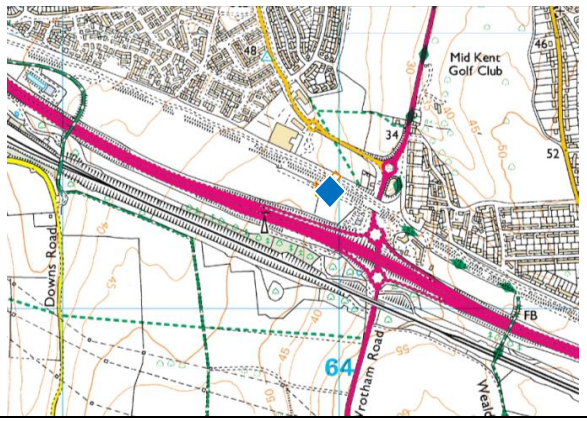
Site ID 31 M2 (J5)/A249 (N) Stockbury (east)



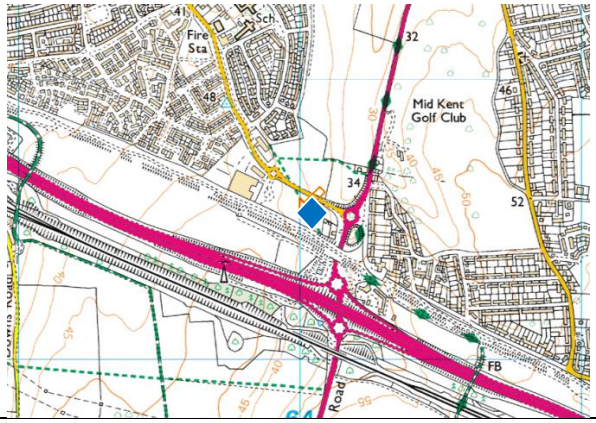
Site ID 32 A2 (S) Marling Cross



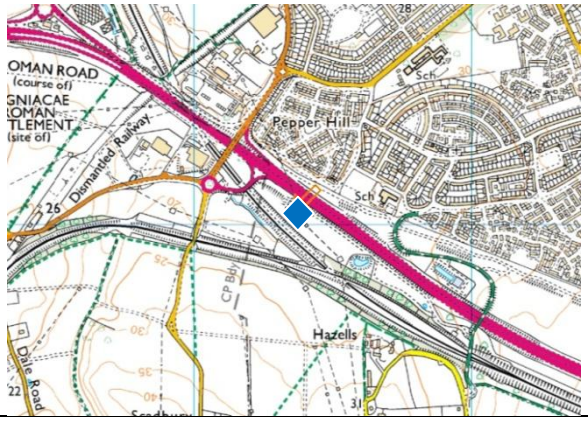
Site ID 33 A2 Tollgate Junction (S) south of A2



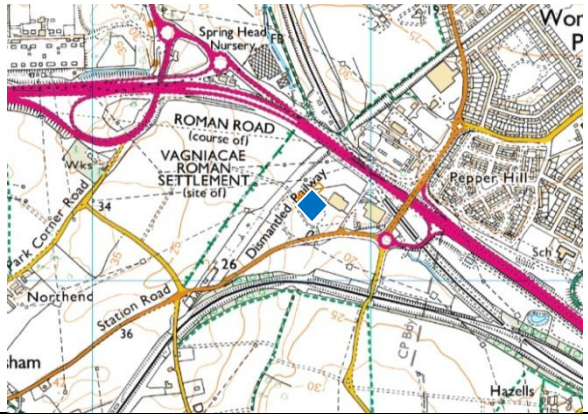
Site ID 34 A2 Tollgate Junction (N) between old A2 and Coldharbour Road



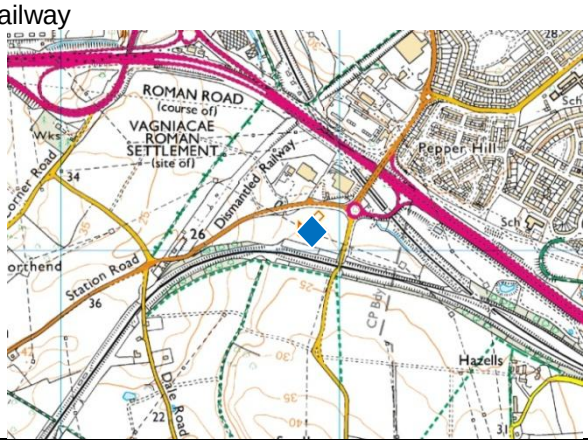
Site ID 35 A2 Pepperhill Junction (S) between A2 and CTRL



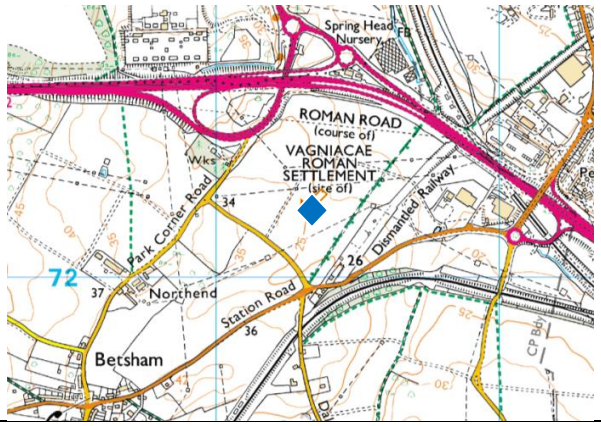
Site ID 36 A2 Pepperhill Junction (S) between B262 and A2



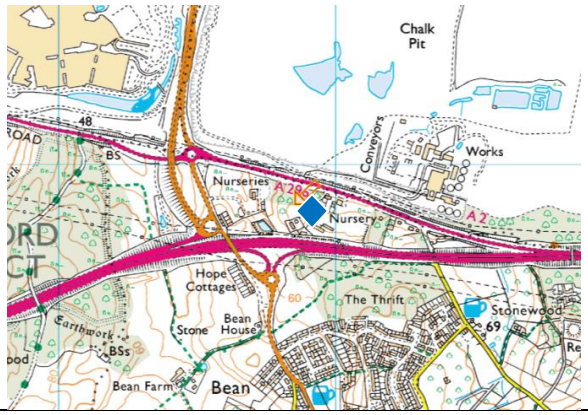
Site ID 37 A2 Pepperhill Junction (S) between B262 and dismantled railway



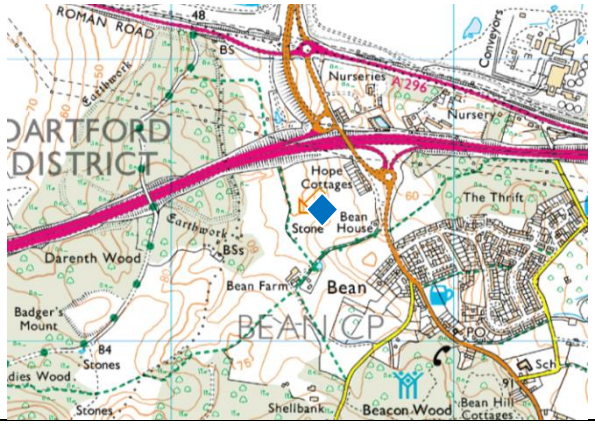
Site ID 38 A2 (S) B262/B259 Springhead



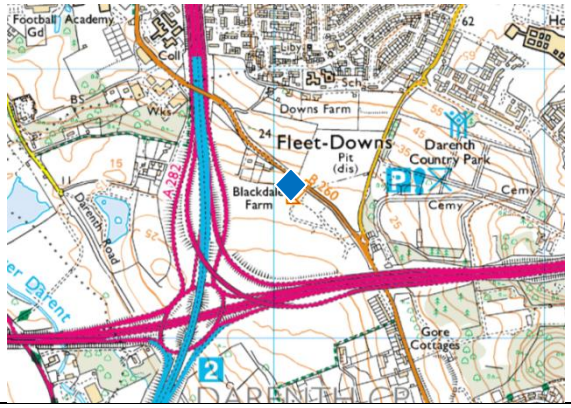
Site ID 39 A2 Bean Junction (N) / A296 Bean Triangle



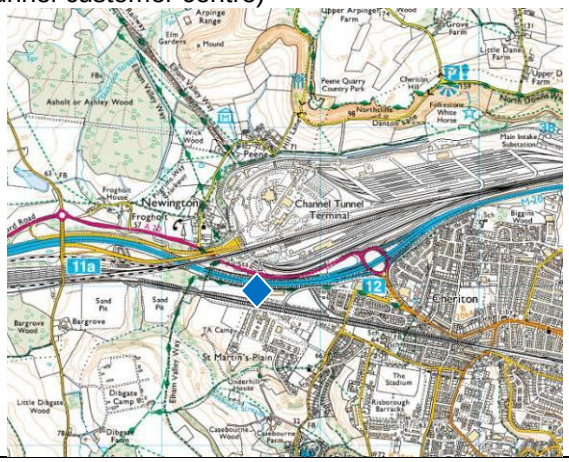
Site ID 40 A2 Bean Junction (S) west of B255 and Bean village



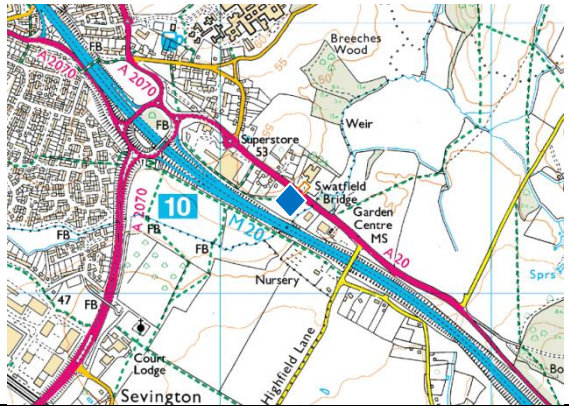
Site ID 41 M25 (J2) Trolling Down, Green Street Green Road



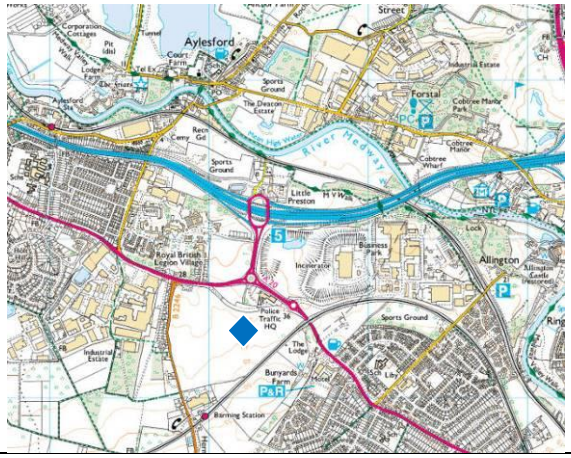
Site ID 42 M20 (J12) (S) St Martin's Plain, Cheriton (adj former Eurotunnel customer centre)



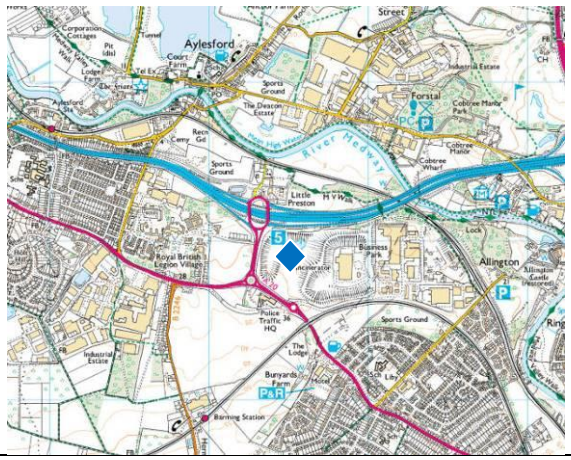
Site ID 43 M20 (J10) (N) / A2070 The Warren



Site ID 44 M20 (J5) (S) Coldharbour south of A20 roundabout

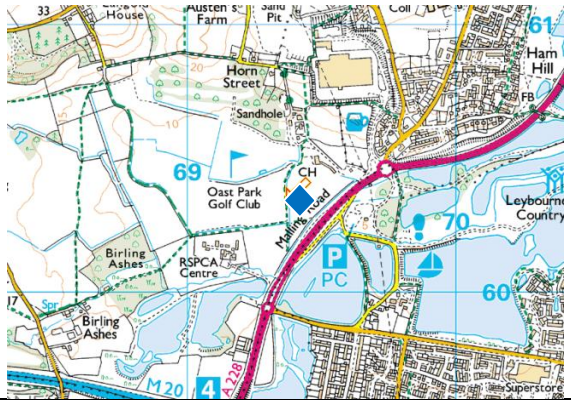


Site ID 45 M20 (J5) (S) Allington Quarry (west side)

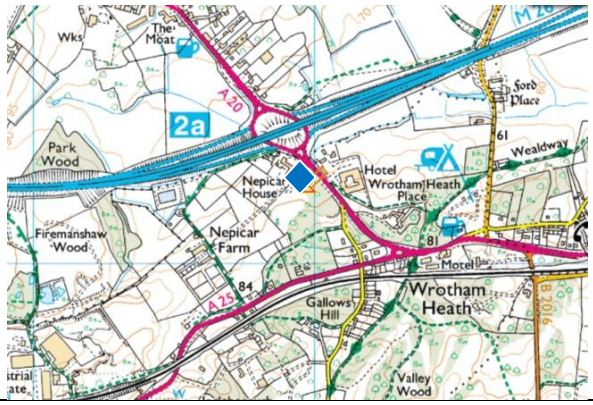


Site ID 46 M20 J4 (S) Spiders Hall

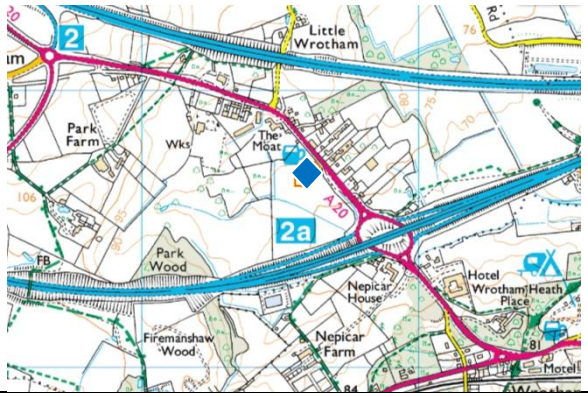
Site ID 47 Oast Park (A228 off M20 J4)



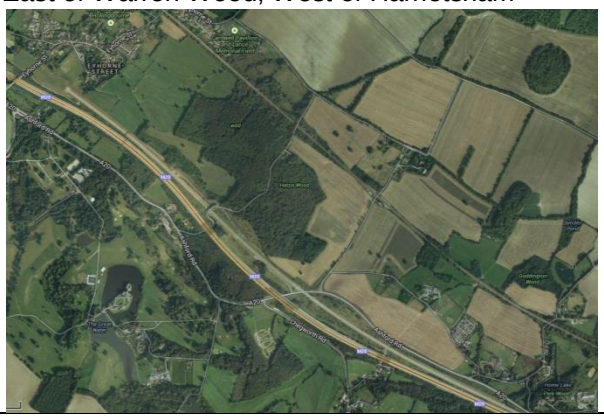
Site ID 48 Wrotham Heath (Nepicar) M26 J2a

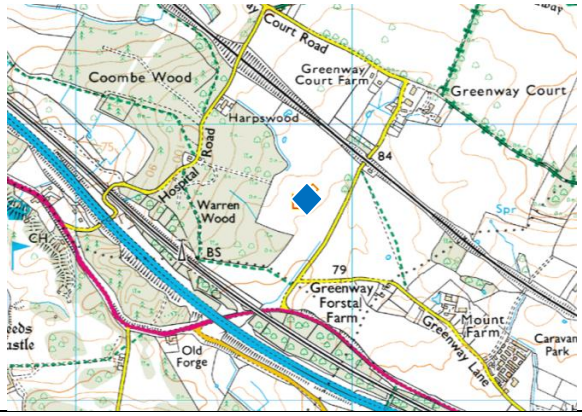


Site ID 49 Wrotham Moat: A20 (west side) between M20 J2 and M26 J2a

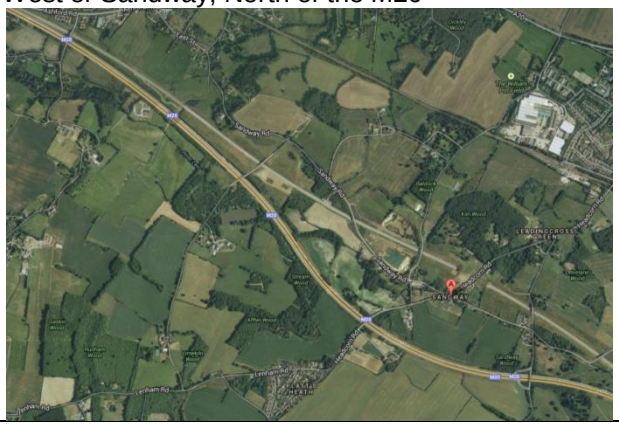


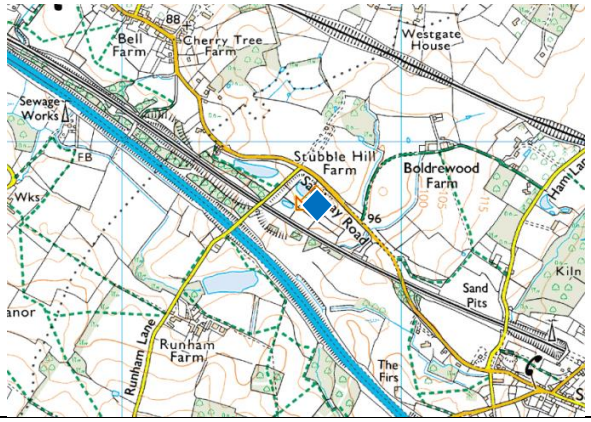
Site ID 50 East of Warren Wood, West of Harrietsham



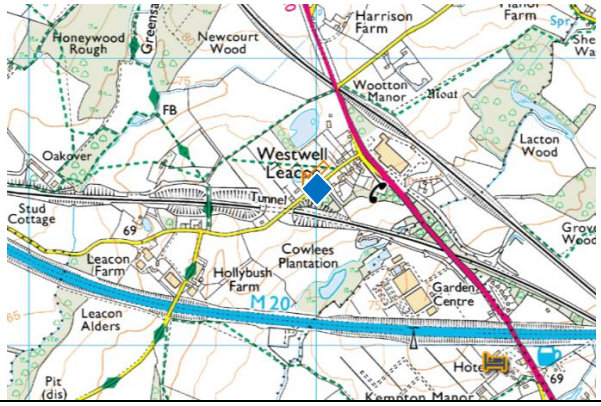


Site ID 51 West of Sandway, North of the M20





Site ID 52 Land North of Leacon Lane, Westwell Leacon



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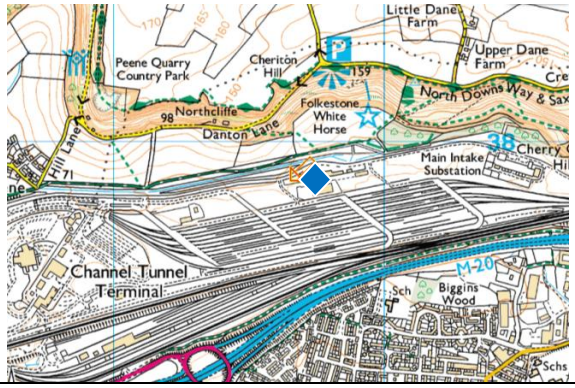
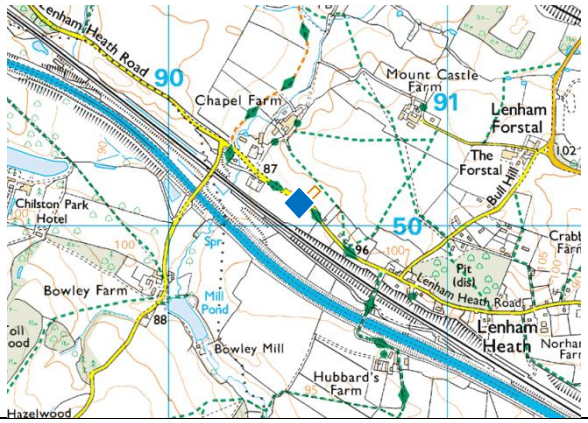
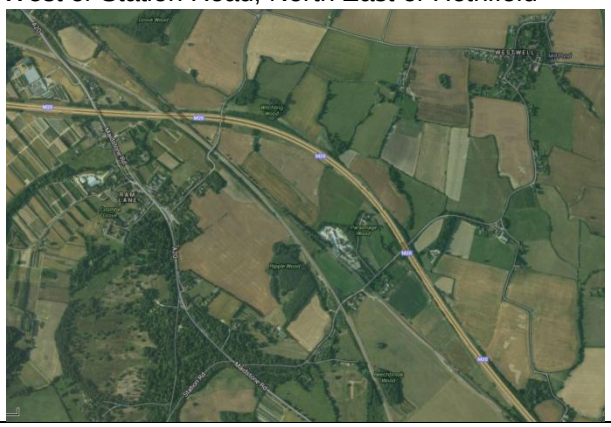
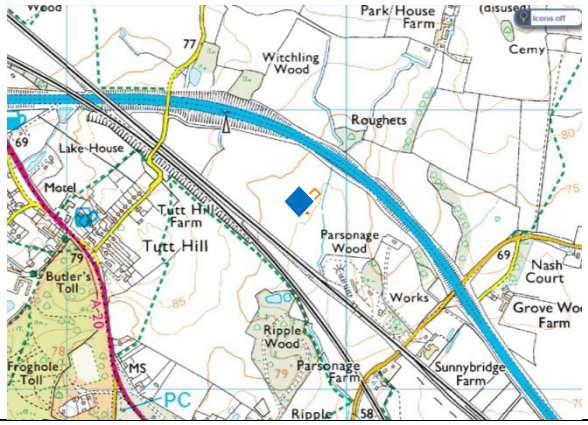


Site ID 54 Between Chapel Mill and Lenham Heath

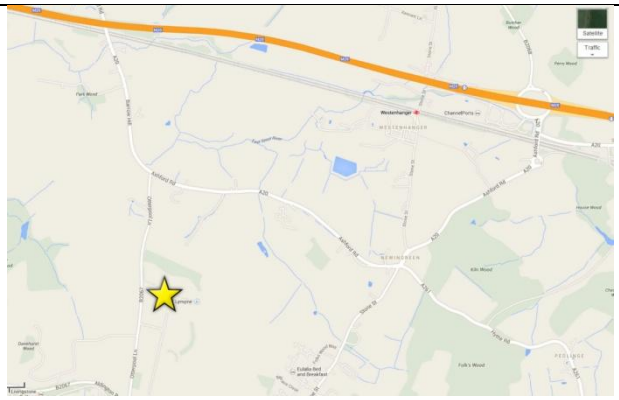


Site ID 55 West of Station Road, North East of Hothfield

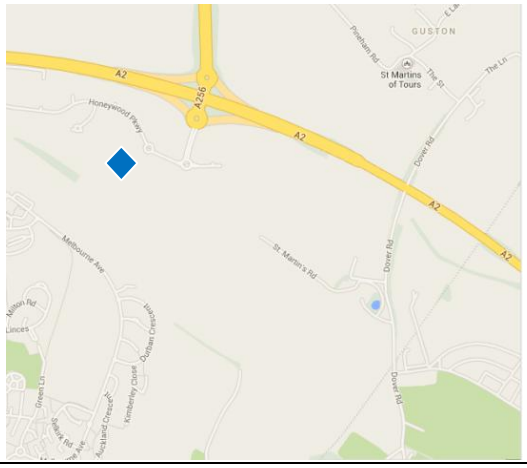




Site ID 56 Lympne Industrial Estate



Site ID 57 White Cliffs Business Park



Appendix B – Lorry Park Size Comparisons

Appendix B – Lorry Park Size

Location	Security measures	Total Land area requirement*	Total area for facilities (incl car parking)*	Total area for truck parking*	Truck parking spaces	Facilities on site
South East England	CCTV systems, Security fence, Parking cards to gain entry, Security patrols and Floodlit parking area	40,000m²	25% 10,000m²	75% 30,000m²	338 spaces	WC/toilets, showers, reception and shop, restaurant and bar; and fuel and truck wash, internet access, laundry services, currency exchange.
West Germany	CCTV systems, Security guards, and External fencing	31,000m²	19% 6,000m²	81% 25,000m²	260 spaces	Bakers shops, barbers, bistro, internet-terminal, petrol station, playground, restaurant, sauna, shop, showers, TV, truck repair shop, tyre service and solarium
France	CCTV systems, access control, 24hour surveillance and Security patrols	47,000m²	23% 11,000 m²	77% 35.000 m²	300 spaces	Security for trucks and drivers, showers, toilets, laundry, TV room, Restaurant, bar and sop, services for freight forwarders such as fuel distribution, dropping trailers, dangerous load, cleaning services etc
South of Belgium	CCTV systems and access controls	N/A	N/A	N/A	323 spaces	Security for trucks and drivers, showers, toilets, TV room, fax, phone, Wi-Fi access, photocopier, restaurant, bar, shop, sauna, truck wash, truck mechanical workshop, truck dealers, truck assembly workshop and security for freight forwarders
Average		39,333m²	22%	78%	305 spaces	

**Scaled from areal images/plans*

Examples of most advanced facilities across Europe

Appendix C – Site Assessment Spreadsheets

					Transport					Site Characteristics					National and International Designation					Environmental Considerations																										Planning Considerations						Scoring				
																				Conservation																																									
Site ID	Name/Description	Located On	Nearest Trunk Road/Jct	Authority/District	Junction capacity	Access arrangements	Proximity to A2/M2 and A20/M20	Proximity to Port of Dover/Channel Tunnel	TOTAL	Rank	Capacity	Size (ha)	Shape	Topography	Shared facility potential	Metropolitan Green Belt	AONB	SAC/SSSI/Ramsar/SPA/NNR	Nat'l or Int'l Score	Any Nat'l or Int'l?	Listed or locally listed buildings	Ancient monuments	Archaeological sites **	Registered or historic parks and/or gardens	Conservation areas	SNCI/LWS	Local nature reserves	Hedgerows, trees, woodlands & traditional orchards	Ancient Woodland	Tree Preservation Orders	Roadside verges	Rural lanes	Public rights of way	Flood Zones	Ponds and watercourses	Agricultural Land Classification	Special and Strategic Landscape Areas *	BAP Habitats	Brownfield/greenfield/industrial	Mineral and waste sites	Proximity to residential development	Environmental characteristics	Local Plan/LDF land allocations	Planning conditions/covenants	TOTAL	Rank	TransportRank	CombineScore	CombineRank
57	White Cliffs Business Park 1	A2	A2/A256	Dover	10	5	10	10	35	4	5	3	10	10	5	10	10	10	30	N	10	10	10	10	10	10	10	10	10	0	10	10	10	10	10	10	10	0	10	10	10	10	10	10	240	1	4	0.2	1
21	A2/Coxhill Road, Shepherdswell (east)	A2	A2	Dover	10	10	10	8	38	1	10	24	10	10	10	10	5	10	25	N	10	10	10	10	10	10	10	0	5	0	0	5	10	10	10	4	0	10	0	10	5	5	5	5	194	5	1	0.166667	2
20	A2/Coxhill Road, Shepherdswell (west)	A2	A2	Dover	10	10	10	8	38	1	10	4	10	10	0	10	5	10	25	N	10	10	10	10	10	10	10	0	5	0	0	5	10	10	10	4	0	10	0	10	0	5	5	5	179	11	1	0.083333	4
3	Ashford Rd, Faversham	A251	J6 M2	Swale	10	0	10	2	22	9	10	7	10	10	10	10	10	10	30	N	10	10	10	10	10	10	10	0	10	10	0	10	0	0	10	0	0	10	0	10	10	0	10	10	200	4	9	0.076923	5
17	A2/A258 Guston between A2 and A258	A2	A2	Dover	5	10	10	10	35	4	10	9	10	0	0	10	5	10	25	N	10	10	10	10	10	10	10	10	10	0	10	10	10	0	5	4	0	0	0	10	10	0	5	5	179	11	4	0.066667	7
30	M2 (J5)/A249 (N) Stockbury (west)	A249	J5 M2	Swale	0	0	10	2	12	13	5	2	10	10	10	10	10	10	30	N	10	10	10	10	10	10	10	10	10	5	10	10	0	5	0	10	0	10	10	10	0	10	10	10	225	2	13	0.066667	7
26	M2 (J7)/A299/A2 Brenley Corner at Canterbury Road	M2	J7 M2	Swale	5	5	10	2	22	9	10	15	10	5	10	10	10	10	30	N	10	10	0	10	10	10	10	0	10	10	0	10	0	10	0	0	10	0	0	10	5	5	10	10	185	8	9	0.058824	9
2	Salters Ln, Faversham	A251	J6 M2	Swale	10	0	10	2	22	9	10	5	10	5	10	10	10	10	30	N	10	10	10	10	10	10	10	0	10	10	0	0	0	0	10	0	10	0	0	10	5	5	10	10	185	8	9	0.058824	9
18	A2/Coldred Hill, Coldred (west)	A2	A2	Dover	10	5	10	8	33	6	10	6	10	10	10	10	10	10	30	N	10	10	10	10	10	5	10	0	10	0	0	0	0	0	0	4	0	10	0	10	5	0	5	5	154	13	6	0.052632	11
19	A2/Coldred Hill, Coldred (east)	A2	A2	Dover	10	5	10	8	33	6	10	6	10	10	10	10	10	10	30	N	10	10	10	10	10	5	10	0	10	0	0	0	0	0	0	4	0	10	0	10	5	0	5	5	154	13	6	0.052632	11
29	M2 (J6)/A251 (N) Faversham, Salters Lane - Ashford Road	A251	J6 M2	Swale	10	0	10	2	22	9	10	5	10	5	0	10	10	10	30	N	10	10	10	10	10	10	10	0	10	10	0	0	10	0	10	0	10	0	0	10	5	0	10	10	180	10	9	0.052632	11
31	M2 (J5)/A249 (N) Stockbury (east)	A249	J5 M2	Swale	0	0	10	2	12	13	10	20	10	0	0	10	10	10	30	N	10	10	10	10	10	10	10	5	10	10	5	10	10	0	5	0	10	0	0	10	0	5	10	10	190	6	13	0.052632	11
23	Lydden Circuit	A2	A2	Dover	10	10	10	6	36	3	5	2	5	10	0	10	0	10	20	Y	10	10	10	10	10	10	10	10	10	0	5	10	10	10	10	4	10	10	0	10	10	5	5	5	214	3	3	0.166667	2
32	A2 (S) Marling Cross	A2	A2	Gravesham	10	5	10	2	27	8	10	8	10	5	0	0	10	10	20	Y	10	10	10	10	10	10	10	10	10	0	5	10	0	10	0	0	10	0	0	10	5	5	10	10	190	6	8	0.071429	6

* Sites have not been assessed according to the Landscape Assessment Criteria

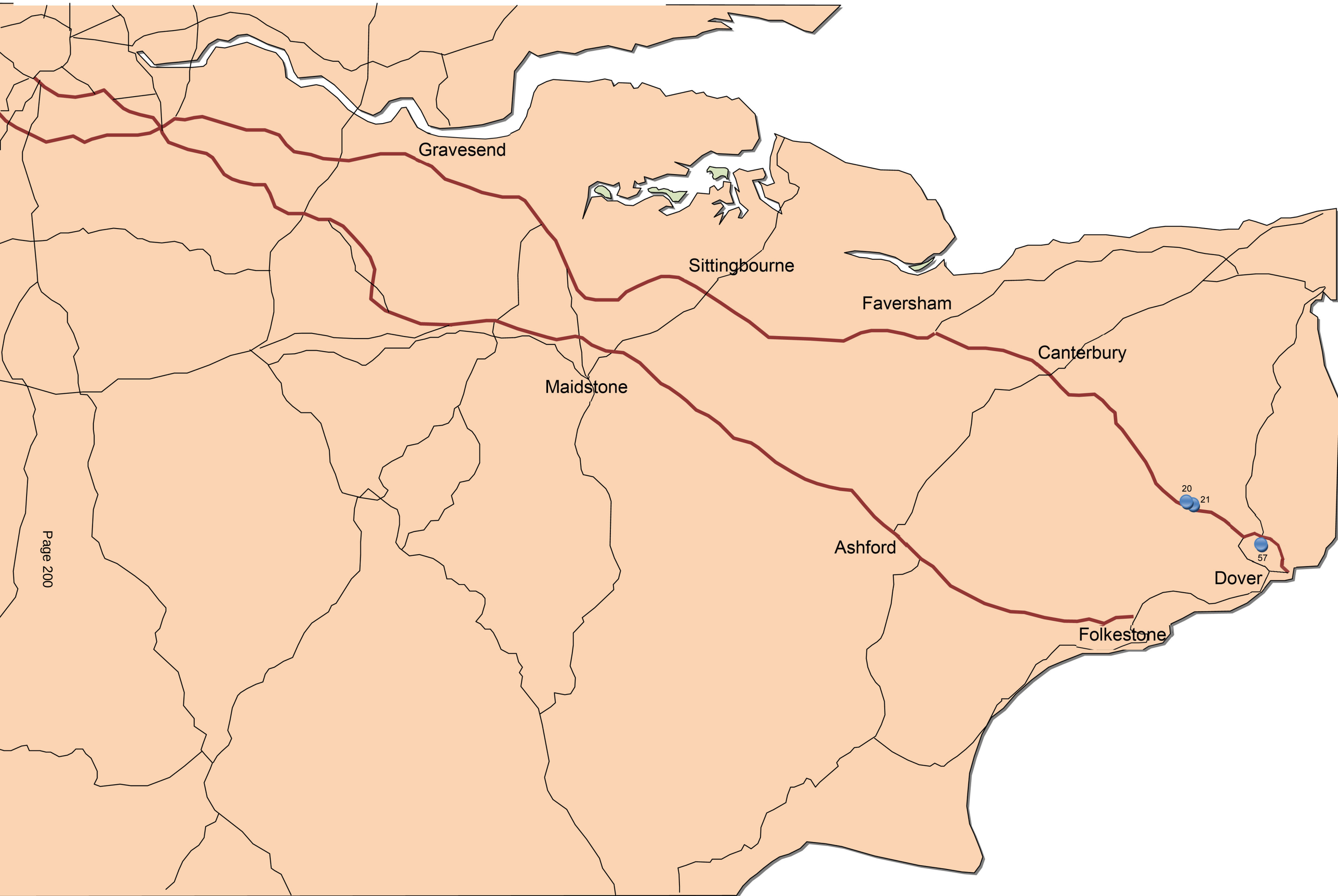
** Archaeological sites and sites adjacent to Archaeological sites need further investigation

					Transport					Site Characteristics					National and International Designation				Environmental Considerations																				Planning Considerations					Scoring				
																			Conservation																													
Site ID	Name/Description	Located On	Nearest Trunk Road/Jct	Authority/District	Junction capacity	Access arrangements	Proximity to A2/M2 and A20/M20	Proximity to Port of Dover/Channel Tunnel	TOTAL	Rank	Capacity	Size (ha)	Shape	Topography	Shared facility potential	Metropolitan Green Belt	AONB	SAC/SSSI/Ramsar/SPA/NNR	Nat'l or Int'l Score	Any Nat'l or Int'l?	Listed or locally listed buildings	Ancient monuments	Archaeological sites **	Registered or historic parks and/or gardens	Conservation areas	SNCI/LWS	Local nature reserves	Hedgerows, trees, woodlands & traditional orchards	Ancient Woodland	Tree Preservation Orders	Roadside verges	Rural lanes	Public rights of way	Flood Zones	Ponds and watercourses	Agricultural Land Classification	Special and Strategic Landscape Areas *	BAP Habitats	Brownfield/greenfield/industrial	Mineral and waste sites	Proximity to residential development	Environmental characteristics	Local Plan/LDF land allocations	Planning conditions/covenants	TOTAL	Rank	TransportRank	CombineScore	CombineRank
8	Site opposite STOP 24 Westenhanger	M20	J11 M20	Shepway	10	10	10	8	38	1	10	6	10	10	10	10	5	10	25	N	10	10	10	5	10	10	10	10	10		10	10	10	10	4	10	0	0	10	10	5	10	5	224	3	1	0.25	1
56	Lympne Industrial Estate	M20	B2067	Shepway	10	5	0	8	23	6	10	2	10	10	5	10	10	10	30	N	10	10	10	10	10	10	10	10	10		5	10	5	10	5	10	10	10	10	10	10	10	10	250	1	6	0.142857	2
6	Ashford Int'l Truck Stop extension	A2070	J10 M20	Ashford	0	5	10	6	21	8	10	11	10	10	10	5	10	10	25	N	10	10	5	10	10	10	10	10	10	10	10	10	10	10	4	10	4	10	0	0	10	10	10	10	10	243	2	8	0.1	3
12	East of Stanford	B2068	J11 M20	Shepway	10	5	10	8	33	2	10	16	10	5	10	10	10	10	30	N	10	10	10	10	10	10	10	0	5		5	10	10	2	10	2	0	0	0	10	5	5	10	189	9	2	0.090909	4
5	Maidstone MSA, Hollingbourne	M20	J8 M20	Maidstone	10	10	10	2	32	4	10	11	0	5	10	10	5	10	25	N	10	10	10	10	10	5	10	10	5		5	10	0	10	0	4	0	0	0	10	10	10	10	184	10	4	0.071429	6
14	Former Ashford Airport, Lympne	B2067	J11 M20	Shepway	10	0	0	8	18	10	10	26	10	5	5	10	5	10	25	N	10	10	10	10	10	10	10	10	10		0	5	10	10	10	2	5	0	0	10	0	5	10	197	5	10	0.066667	7
7	Bockham Ln, Ashford	A20	J10 M20	Ashford	0	5	10	6	21	8	10	6	10	10	10	10	10	10	30	N	5	10	5	5	10	10	10	5	5	10	5	5	0	10	0	4	0	0	0	10	10	5	10	184	10	8	0.055556	9
11	Postling Wents	B2068	J11 M20	Shepway	10	5	10	8	33	2	10	28	10	0	10	10	5	10	25	N	10	10	10	10	10	0	10	0	0		0	10	0	0	0	2	0	0	0	10	5	0	10	137	16	2	0.055556	9
9	Adjacent to Sellindge Converter station (Aldington)	A20	J10-11 M20	Ashford	0	0	5	6	11	12	10	5	10	5	10	10	10	10	30	N	10	10	5	10	10	10	10	5	10	10	5	5	0	4	0	4	0	0	0	10	10	10	10	193	7	12	0.052632	12
10	West of Sellindge	A20	J10-11 M20	Ashford	0	0	5	6	11	12	10	7	10	10	10	10	10	10	30	N	10	10	5	10	10	10	10	0	10	10	0	10	10	2	0	4	0	0	0	10	5	5	10	191	8	12	0.05	13
51	West of Sandway, North of the M20	Runham Ln	J8-9 M20	Maidstone	0	0	0	2	2	15	10	3	10	0	0	10	10	10	30	N	10	10	10	10	10	10	10	0	5		0	0	5	10	0	4	10	0	0	10	5	0	10	159	14	15	0.034483	15
54	Between Chapel Mill and Lenham Heath	M20	J8-9 M20	Maidstone	0	0	0	2	2	15	0	1	5	0	0	10	10	10	30	N	10	10	10	10	10	5	10	0	5		0	0	5	10	5	4	10	0	0	10	0	0	10	139	15	15	0.033333	16
50	East of Warren Wood, West of Harrietsham	A20	J8 M20	Maidstone	0	0	0	2	2	15	5	3	10	10	0	10	10	10	30	N	10	10	10	10	10	0	10	0	0		0	0	0	0	0	4	0	4	0	0	10	10	0	5	10	128	17	15	0.03125	17
44	M20 (J5) (S) Coldharbour south of A20 roundabout	A20	J5 M20	Tonbridge & M	0	10	10	2	22	7	10	18	10	10	10	0	10	10	20	Y	10	10	10	10	10	10	10	0	10		0	10	10	0	5	0	0	10	0	10	5	5	10	10	195	6	7	0.076923	5
49	Wrotham Moat: A20 (west side) between M20 J2 and M26 J2a	A20	J2A M26 / J2 M20	Tonbridge & M	10	5	10	2	27	5	10	13	10	5	10	0	5	10	15	Y	10	10	10	10	10	10	10	10	10		0	10	10	0	0	4	0	0	0	10	0	5	10	184	10	5	0.066667	7
59	A249 (S) ex-Little Chef restaurant site, Detling	A249	J5 M2/J7 M20	Maidstone	0	0	5	0	5	14	0	1	10	10	0	10	0	10	20	Y	10	10	10	10	10	10	5	10	10		10	10	0	10	5	10	0	10	5	10	0	5	10	200	4	14	0.055556	9
47	Oast Park (A228 off M20 J4)	A228	J4 M20	Tonbridge & M	0	5	10	2	17	11	10	17	10	5	5	0	0	10	10	Y	10	10	10	10	10	10	5	5	5		5	10	0	4	0	4	0	0	0	10	10	5	5	163	13	11	0.041667	14

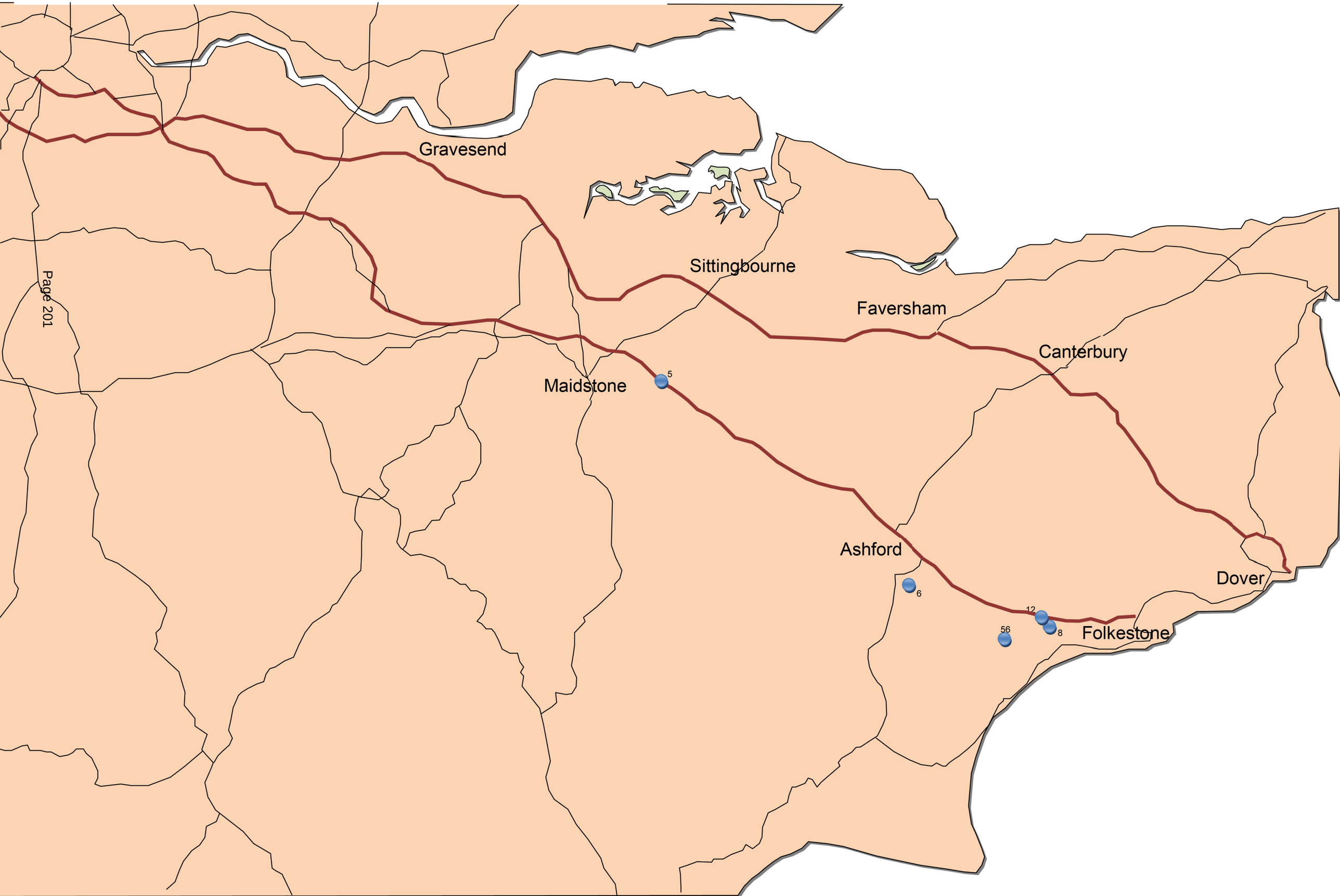
* Sites have not been assessed according to the Landscape Assessment Criteria
** Archaeological sites and sites adjacent to Archaeological sites need further investigation

Appendix D – Maps of Proposed Sites

Highest ranked sites (M2 / A2 Corridor)



Highest ranked sites (M20 / A20 Corridor)



Kent Lorry Parks Feasibility Study

Demand Analysis and Business Model Report

28 February 2014

Within this commission AECOM is not giving investment advice. The truck park assessments as set out in this report are based on a series of assumptions as set out in the report and associated technical notes and as agreed between AECOM and Kent County Council. The outcome of assessments are directly driven by the assumptions and the data used for the assessments and subject to uncertainty. Whilst the uncertainty of the assessments can be the subject of a risk analysis, the remit of this work does not include undertaking of risk analysis.

Prepared by: ..... Checked by: .....

Johan Els
Principal Consultant

Jonpaul Simpson
Project Manager - Transportation

Approved by: .....

John Hix
Regional Director

Rev No	Comments	Checked by	Approved by	Date
1	Draft Final Report		JH	15 Oct 2013
2	Final Demand Analysis and Business Model Report		JH	28 Feb 2014

9th & 10th Floors, Sunley House, 4 Bedford Park, CR0 2AP
Telephone: 020 8639 3500 Website: http://www.aecom.com

Job No 60305766 Reference Date Created 28 Feb 2014

Table of Contents

Introduction

1 Introduction

1.1 Introduction

In this report we provide a short recap on the locations identified as potential sites for truck parking as detailed in the demand and analysis business model. Section 2 gives an updated view on international freight drivers' parking choice behaviour including the possible impact of the proposed UK HGV levy. Section 3 provides a brief commentary on risks and benefits of the various 'ownership' models for KCC and this will be further informed by the outcomes of the financial analysis. Our demand forecasting methodology, assumptions and outcomes are laid out in Section 4. Section 5 explains our adopted approach to the financial modelling of the selected sites and outcomes are detailed in Section 6. Finally in Section 6 we draw conclusions on the possible selection of a preferred single site.

1.2 Proposed Suitable Sites

AECOM went through an iterative process to arrive at a list of shortlisted sites that will be most suitable for lorry parks in Kent. The process started by developing a list of sites that were identified from previous studies.

The next stage of the process was to have confidential discussions with the Local Authorities within Kent County Council and the Highways Agency regarding the list of sites.

In conjunction with KCC the study team developed a set of detailed assessment criteria which captured all relevant aspects of decision making to assess the list of sites to determine the most suitable sites for lorry park development. The criteria against which each site was assessed are grouped into five areas:

- Transport
- Site Characteristics
- National and International Environmental Considerations
- Local Environmental Considerations
- Planning Considerations

All sites under consideration were visited in person by the consultant, in order to assess each site's physical characteristics. This allowed access to the sites to be assessed, along with aspects such as the site's shape and topography, and the character of the environment around the sites.

1.3 Shortlisted Sites

The table below shows the short listed sites identified by the site assessment process as most suitable for lorry park development within Kent. The list of sites is in the order of ranking.

Site ID	Name/ Description	Size Ha	Capacity (Trucks)	Located On	Nearest Trunk Road/ Junction	Grid Ref	Authority/ District	LAT	LONG
	A2/M2 Corridor								
57	White Cliffs Business Park 1	3	234	A2	A2/A256	TR313443	Dover	51.15125	1.30541
21	A2/Coxhill Road, Shepherdswell (east)	24	1,872	A2	A2	TR249469	Dover	51.17708	1.21624
20	A2/Coxhill Road, Shepherdswell (west)	4	312	A2	A2	TR247469	Dover	51.17716	1.21338

Site ID	Name/ Description	Size Ha	Capacity (Trucks)	Located On	Nearest Trunk Road/ Junction	Grid Ref	Authority/ District	LAT	LONG
	M20/A20 Corridor								
8	Westenhanger (site behind STOP 24)	6	468	M20	J11 M20	TR136369	Shepway	51.09162	1.04890
56	Lympne Industrial Estate	2	156	M20	B2067	TR112359	Shepway	51.08319	1.01395
6	Site adjacent to Ashford Int'l Truck Stop	11	858	A2070	J10 M20	TR033397	Ashford	51.12051	0.90360
12	East of Stanford (site opposite M20 from STOP 24)	16	1,248	B2068	J11 M20	TR133375	Shepway	51.09712	1.04498
5	Site Adjacent to Maidstone MSA, Hollingbourne	11	858	M20	J8 M20	TQ828551	Maidstone	51.26574	0.61885

Table 1.1 - Short-listed Sites

1.4 Report Structure

The structure of the remaining sections of the report is as follows:

Chapter 2 – Parking Choice Behaviour

This chapter examine the various aspects of why freight drivers choose to park in Kent and the factors that influence their parking preference.

Chapter 3 – Potential Ownership Models for Truck Parking

This chapter provides a short overview of the different types of 'ownership' models that might be deployed for truck parking facilities.

Chapter 4 – Demand Forecasting

This chapter sets out the methodology on how the project team has forecasted the level of demand for truck parking between 2014 and 2060.

Chapter 5 – Financial Modelling

This chapter gives a description of the financial model developed for the financial analys.

Chapter 6 – Modelling Outcomes

This chapter sets out the results of the financial model runs for the various sites.

Parking Choice Behaviour

2 Parking Choice Behaviour

2.1 Introduction

In this section we examine the various aspects of why freight drivers choose to park in Kent and the factors that influence their parking preferences. A reasonable amount of primary data has been gathered over recent years on this matter and we seek to identify any major shifts that will influence trends going forwards, including the forthcoming HGV Levy.

2.2 Reasons for Stopping in Kent

The reasons why international freight drivers have a tendancy to take an overnight rest in Kent were explored in the work undertaken for KCC by AECOM in 2005[1]. Almost half of the drivers stated that the main reason they parked overnight in Kent was to do with running out of Drivers' Hours (Figure 2.1). This went up to 65% of Central European Drivers. At the time concerns over immigrants getting into vehicles in France, while the vehicle was parked was the number one reason for 20% of drivers.

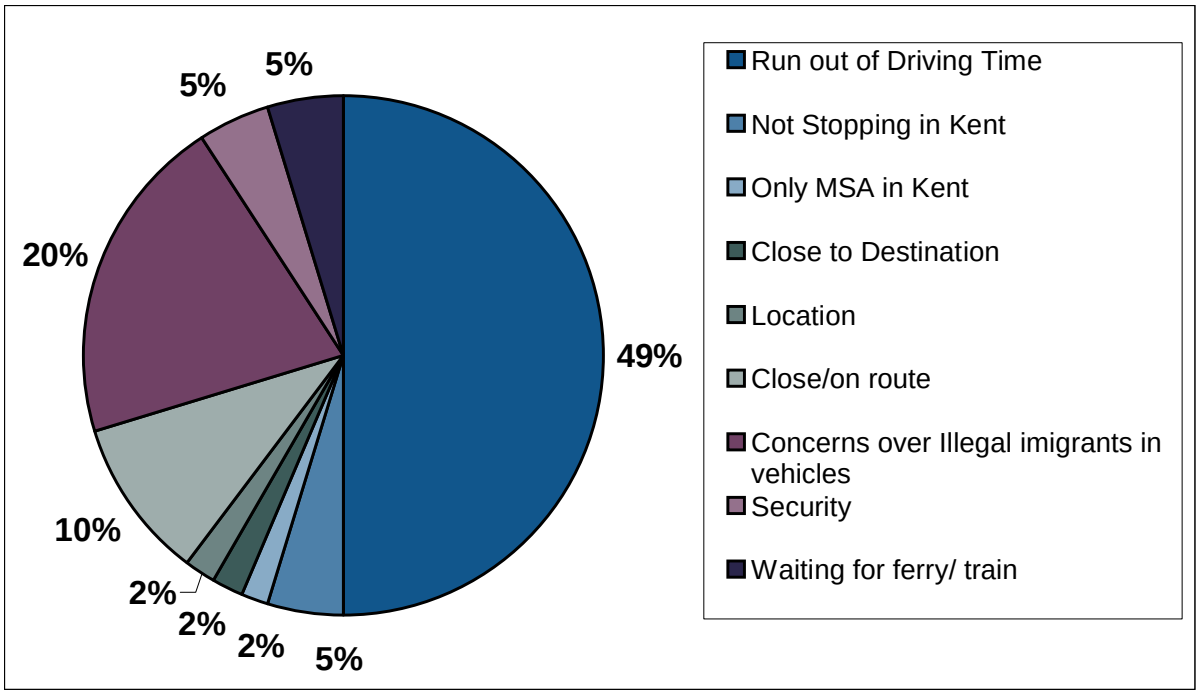


Figure 2.1 - Reasons for Stopping in Kent

Whilst such concerns about stowaways have subsided, the behavioural trait of making the Channel crossing then taking a break does not seem to have subsided and there has been no change in Drivers' Hours legislation to indicate that simply running out of driving time wouldn't still be a significant reason for stopping in Kent today. Indeed there is evidence from the current providers of truck parking in Kent that some operators will in-fact create their European distribution schedules to specifically factor in overnight rests at a particular truck park.

An interesting trait does seem to have developed in recent years and that is the apparent increasing demand for weekend parking, principally by eastern European hauliers. The split between UK, European and eastern European lorries is set out in Table 2.1.

[1] Kent Overnight Lorry Parking Study, July 2005, AECOM

Days	Split
Monday to Thursday	60% European 20% Eastern European 20% British
Friday to Sunday	60% Eastern European 20% European 20% British

Table 2.1 – Split between UK, European and Eastern European Lorries per day of week (reported by a truckstop in Kent, 2013)

From the table it is clear that during the week the majority of HGVs are Europeans and over weekends they are Eastern Europeans. It is not entirely clear the reasoning behind this activity but the ongoing opening of the haulage market, including cabotage, to the EU-12 member states (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia) and their continued increase in the share of international markets (see Figure 2.2) means there are likely to be more trucks from these destinations 'camped out' across European destinations who spend little or no time in their home country.

Figure 2.2 shows who is responsible for which international flows. In the biggest market, between EU-15 Member States, the majority of work is conducted by EU-15 hauliers, however in each of the other markets EU-12 hauliers conduct the majority of the work. This is due to a range of factors including those relating to lower operating costs.

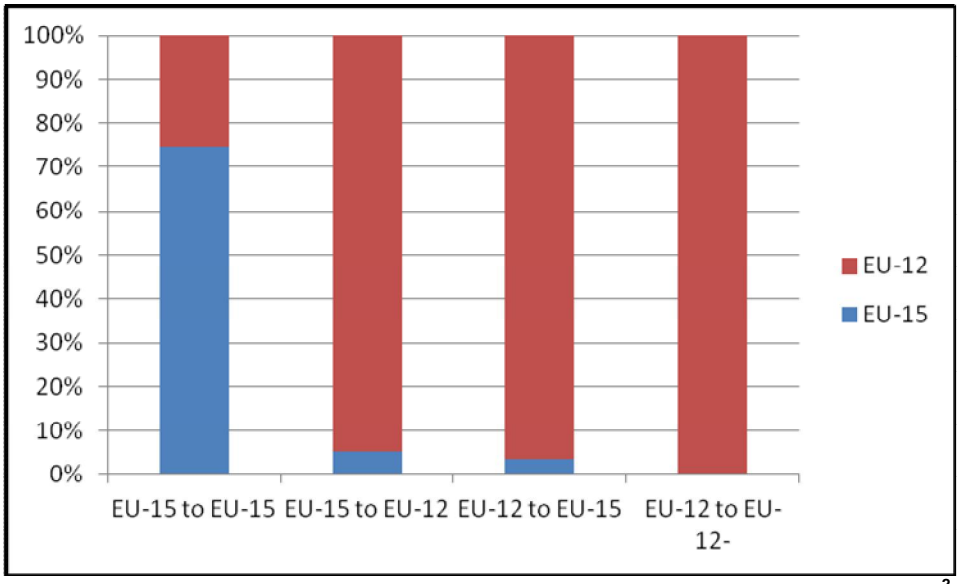


Figure 2.2 – Role of EU-12 Member States in International Movements - % of Tonne Kilometres (2011)[2]

[2] AECOM analysis of Eurostat, [road_go_ia_tc], 2013, *Eurostat*

2.3 Routing Behaviour

The majority of international freight drivers make the cross Channel trip on a regular basis – 94% on a monthly or more regular basis according to AECOM's survey undertaken for the HA in 2006. Their routing, certainly in terms of planning and way-finding to and from the Channel ports tends to be knowledge based.

Routes tend to be planned in advance, but drivers show flexibility in their routing behaviour once underway – in particular drivers will use the M2/A2 route and the 'cross' routes of the A249, A229 and A260 to avoid accidents, road works and general traffic congestion. Many say that their main source of traffic information is radio travel news bulletins.

Where a truck operator has a choice between using a ferry and Eurotunnel, just under a half do not make the final selection until their journey is underway.

Not unsurprisingly, Eurotunnel traffic uses the M20 route. For Dover, around 60% of the freight traffic makes use of the M25/M26/M20/A20 route south of London. Around 20% uses the M25/M20/A20 route via the Dartford crossing. Around 15% of traffic uses the M25/A2/M2/A2 route via the Dartford Crossing.

There is evidence that some drivers will seek to avoid the Dartford toll charge and route M25 south.

Drivers will actively select M2/A2 because of the greater availability of road-side rest locations and services.

From this evidence base, it is concluded that international freight drivers will continue to show flexibility in their choice of routes to and from the Channel Ports.

2.4 The UK HGV Levy and its Possible Impact on Overnight Truck Parking

As of April 2014, lorries seeking to use roads in the UK will need to pay a time based charge related to the weight of the vehicle. It is hoped that this will go some way to equalising the costs of operation between EU- and UK-based operators, for whilst the charge will be applied to all drivers, regardless of nationality, the UK government plans to reduce Vehicle Excise Duty (VED) by the same amount, thus making the new charge broadly cost neutral for UK operators. This charge will essentially be equal to the European vignettes or toll systems which charge all lorry drivers, whilst the UK's system was based mostly on VED and fuel duty, which foreign truck companies were able to avoid paying.

The charged is based on the length of time that the lorry will be in the UK and its weight, with charges for the heaviest vehicles (of around 40,000kg) being equivalent to £10 a day or £1,000 for the year (the corresponding lightest charges are £1.70 and £85 – with gradations in between based on weight). There are also options for weekly and monthly passes, which will be offered at a discount to the price of the equivalent daily permits.

As to how this will impact on the use of Kent Lorry Parks, this need to be assessed in two separate contexts; the direct financial impact of the levy and how long foreign-based vehicles spend in the UK.

2.4.1 Consultation and research undertaken by the AECOM project team

The following were directly consulted on the potential impacts on truck parking of the proposed levy:

- Freight Transport Association (FTA)
- Road Haulage Association (RHA)
- French Road Haulage Association (FNTR)
- French Ministry of Transport (International Affairs Department)
- UK Department for Transport (HGV Levy and Charging section)

Interestingly FTA reported that it had 'heard' but could not substantiate that parking would increase around Calais as drivers would wish to avoid paying the levy for what would effectively be 'downtime'. None of the other consultees could substantiate

this possibility and were not aware of the issue. A search on Google France and of the French newspaper 'Voix du Nord' has not revealed any further information either.

The Department for Transport contact reported that foreign operators were likely to consolidate the number of vehicles used for UK/International haulage to reduce overall payments but that this would not impact on overall trips.

2.4.2 UK Department for Transport Consultation Exercise on the HGV Levy[3]

The following provides an analysis of the UK Department for Transport Consultation on the levy that was conducted between January and April 2012 and published in October 2012.

Cost Impacts

Essentially this comes down to a question of how price-sensitive hauliers are. The Government, in its own consultation on the introduction of the Levy, set out to find this information, asking two questions, with selected responses appearing below:

Question 6: The Government is not aware of any specific evidence on the price sensitivity of transport by foreign-registered HGVs in the UK, or whether there are markets which are particularly price sensitive. Do you have any information on this issue?

"In general the haulage industry operates a business model of high volumes and low margins to achieve profitability. This does make the industry price sensitive, particularly to rising input costs including fuel and staffing costs".

The Government's response: The consultation elicited many views suggesting that charging would have an impact, but quantifying the impact remains a challenge.

Question 7: If you are a road transport operator licensed elsewhere in the EU or a customer of such an operator, how might the HGV user charge affect your business (please justify by evidence where possible)?

"£10 per day will not affect foreign hauliers or anyone else"

"Many of our contracts contain provisions that allow 'legislative costs' to be recharged to the customer who will decide whether to pass on costs to the end-user"

"The cost of the proposed road tax would be absorbed without any effect on the customer as it would be less than 0.5% of the freight cost"

The Government's response: Again, the consultation elicited views suggesting that charging could have some impact, but quantification is difficult.

Average Length of Stay

Furthermore, the Government fully expects the majority of permits sold to be for periods of longer than one day:

[3] https://www.gov.uk/government/consultations/charging-heavy-goods-vehicles-consultation

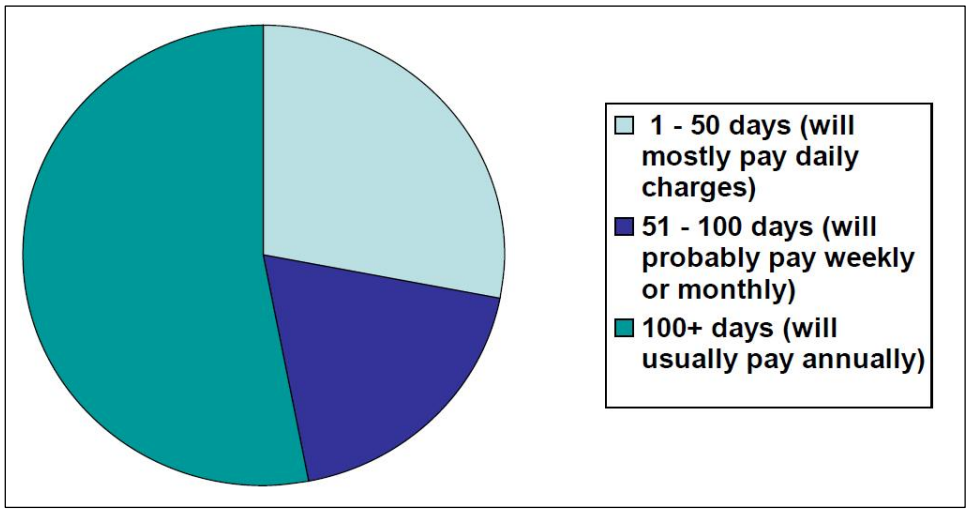


Figure 2.3 – Average Length of Stay

This would suggest that over half of levy purchases will be for the maximum price anyway, allowing unlimited use of the UK road network and therefore not having an impact on these drivers' use of Kent Lorry Parks.

In 2009, the average length of stay of a foreign vehicle in the UK was 45 hours, with median being 33 hours. In either case, a permit for two days would be required. Unless over 9 hours could be cut from the median journey time in the UK then numbers are unlikely to fall. Indeed, depending on the quality of truck stop on either side of the Channel and the various price factors that affect ferry bookings, there is potential that, having already "paid" for their time in the UK of up to 48 hours, they may be tempted to stay in Kent rather than cross the channel with unused time, potentially increasing the usage of lorry parks in Kent.

2.5 Access and Facilities

Proximity to the strategic route network is an important factor in parking choice. Surveys have shown that whilst some drivers are willing to deviate off route for some distance to go to a parking place of choice, the majority do not wish to deviate more than a few Km, and nearly 25% will never travel away from the 'main line'. The preferred sites selected as part of this current commission are all adjacent to the strategic route network and thus distance to travel to them will not be a factor in suppressing potential demand.

Repeatedly surveys show that secure parking, showers and toilets and the quality of food are key factors when determining parking choice. Table 2.2 shows the outcomes of the 2008 survey work undertaken by AECOM.

Attribute	MSAs		Truck stop		Lay by	
	British %	European %	British %	European %	British %	European %
Secure parking	63	65	63	43	9	0
Facilities e.g. showers	39	49	46	57	1	0
Cost	6	0	20	21	62	30
Company policy	44	37	23	14	5	20
No choice, run out of driver time	15	21	13	14	24	60
Do not have to detour	16	16	9	21	14	40
Quiet	3	26	14	21	14	30
24 hour opening	18	30	21	36	9	10
Know there will be space	10	7	15	36	6	10
Quality of food	6	12	23	7	5	0

Attribute	MSAs		Truck stop		Lay by	
	British %	European %	British %	European %	British %	European %
Beds	2	0	1	0	0	0
Base	**62**	**43**	**94**	**14**	**78**	**10**

Table 2.2 - Parking Attributes

More recently (March 2013) to help inform its response to consultation on the Lower Thames Crossing the South East Local Enterprise Partnership (SELEP) undertook a sector survey which included a question on minimum requirements for overnight lorry parking. A total of 102 organisations responded to the online survey. Figure 2.4 shows that toilets, showers, security and food are the most required attributes, whilst bars and entertainment are the least required.

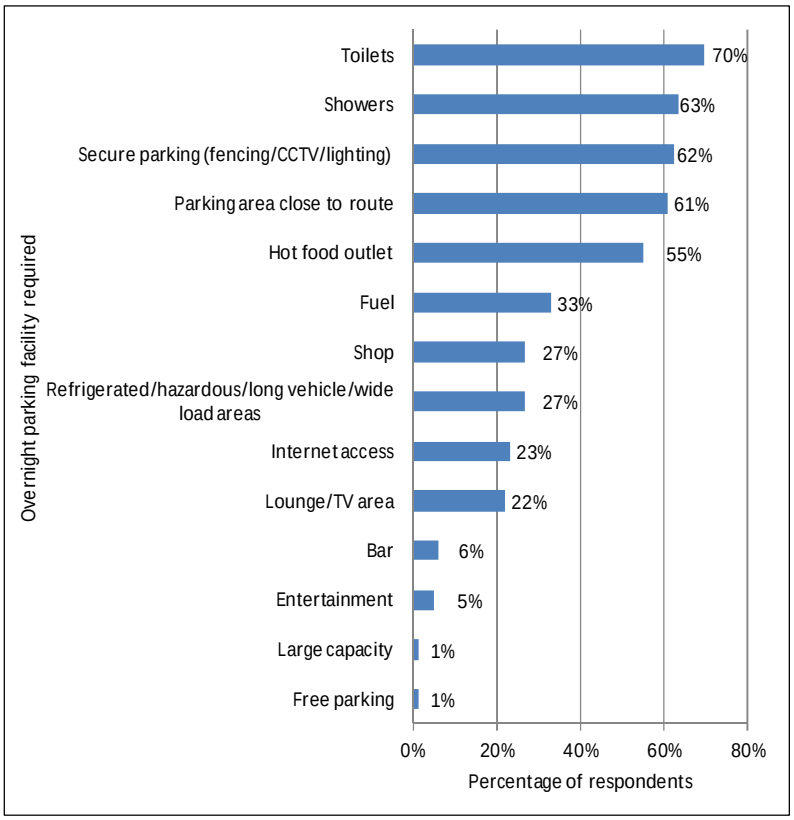


Figure 2.4 - Facilities required at overnight lorry parks

The issue of security is becoming more and more prominent. One commentator informed our study team that the recession has prompted an uplift in truck crime and as a result insurance companies started to mandate the use of secure truck parks. Initiatives such as the European Secured Parking Organisation (ESPORG) and LABEL, the auditable standard for truck parking are gaining traction and an ongoing and uplifted demand for secure parking spaces seems to be evolving.

Interestingly major foreign logistics enterprises from both west and eastern Europe are reportedly setting policies that require drivers to use secure sites, and as a result of negotiating contracts with sites, discounted rates are available.

2.6 Expenses

Again from the 2005 study it is evident that a large proportion of HGV operators reimburse drivers for overnight expenses, or had some kind of allowance (Figure 2.5), although it was reported that some drivers were encouraged not to park in official parking areas if the vehicle was empty. Eastern European drivers interviewed indicted that they too were encouraged to find free parking and the cost represented the equivalent of a day's wages in many cases.

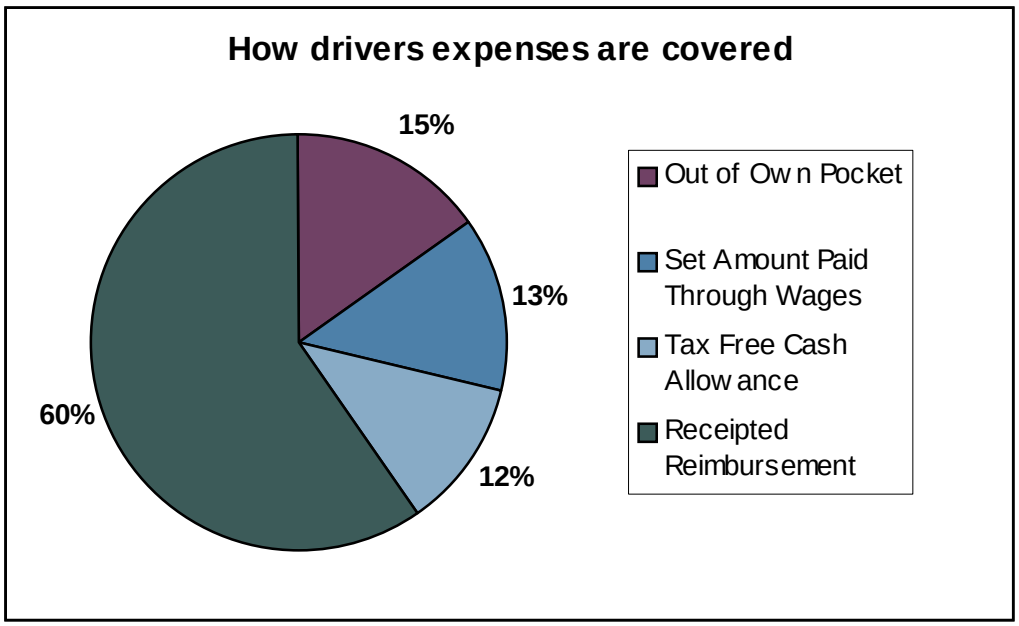


Figure 2.5 – Drivers' Expenses

Given the continued presence of inappropriate parking in the County we can assume that there are still drivers either un-able or unwilling to expend money on overnight parking, but that the fact that the official parks are so well utilised today, even at weekends, indicates that the greater proportion of drivers do have parking costs covered by their employer or they are reimbursed. Indeed through the engagement on this current study with truck park operators it was revealed that the vast majority of 'payments' are made via fuel cards such as DKV or UTA, or are by way of company account.

Overall, 76% of drivers have their overnight stays paid for them in some form. The 24% who have to pay out of their own pocket are, unsurprisingly, most likely to use lay-bys overnight. However, those who do receive subsidy in cash can actually pocket this as a tax free allowance, again meaning it is not whether drivers have expenses paid, it is also how they have them paid that is a contributing factor to driver motivation.

From the SELEP survey an indication of pricing sensitivity is given with 78% of respondees indicating a preference for a charge of under £20.

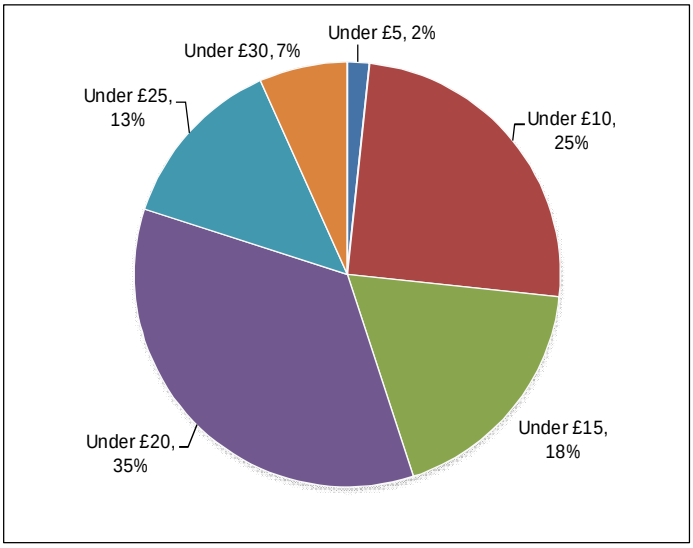


Figure 2.6 – Stated Acceptable Payment for Overnight Lorry Parking

Recent dialogue with the Kent Police Commercial Vehicle Unit revealed that they felt there is a need to make parking a sensible price so drivers can afford it and that if there were more facilities for parking more parking restrictions could be invoked to deter inappropriate parking. For Bulgarians, Latvians, Lithuanians, Romanians and Turkish the pricing point for overnight parking is between £5 and £10 according to the Police.

2.7 Summary

From our discussions with truck parking providers in Kent it is clear that demand for good quality parking is outstripping supply, with trucks regularly being turned away (for example around 18 a night from Stop 24 and up to 15 from Ashford). There may of course be an element of double counting here, but we deduce there is a proportion of freight traffic that is willing to pay for parking provision but can't obtain it, or in other words 'suppressed demand'.

Whilst initiatives such as ESPORG and the general 'tightening' of insurer controls do seem to be increasingly influential, and more logistics companies negotiate contracts for parking provision, the Police report the need for enforcement action to tackle on-going inappropriate parking and it seems certain that high levels of inappropriate parking will be a common feature well into the future.

Pricing policy will clearly be influential in the ability of KCC to impact on the volume of trucks using proper parking facilities. £20 seems to be an important pricing point, with the Police suggesting a figure of around £5 - £10 being attractive to those hauliers least willing to pay. However, our demand forecasts suggest that with the ongoing increase in international freight traffic, whilst suppressed demand for parking may be catered for, there would need to be a huge uplift in parking provision to cope with all truck parking.

The general tone of responses to the DfT consultation on the HGV levy is that whilst it won't discourage foreign owned hauliers from operating in the UK, it should go some way towards rebalancing the discrepancy in costs between UK and European-based operations. Extrapolating from this, therefore, it could be argued that the industry does not expect there to be a significant change in the amount of haulage or the routes taken by foreign trucks, pointing towards a negligible influence on the number of foreign lorry drivers staying at Kent lorry parks. Overall then, our analysis would broadly suggest that there will be little impact on the usage of lorry parks, but Her Majesty's Government themselves find this a difficult area to quantify.

Recent surveys have confirmed that drivers want good basic facilities that are secure. Stop 24 may provide a good security model and whilst it does not meet LABEL's top security standard, with its secure fencing, CCTV and key-coded ANPR barrier

system it offers a satisfactory level of security. The increase in the volume of weekend parking, particularly from EU-15 hauliers looks to be an emerging trend, that will further enhance the business case for paid for parking.

Whilst rather subjective in nature we have attempted to reflect these factors of driver parking behaviour, willingness and ability to pay in our demand forecasting – in particular a pricing point of under £20, the desire for good facilities and security, and a high level of demand, including weekend parking. Ultimately though, levels of enforcement will be a key driver of paid-for parking demand.

Potential Ownership Models for Truck Parking

3 Potential Ownership Models for Truck Parking

3.1 Introduction

This section provides a short overview of the different types of 'ownership' models that might be deployed for truck parking facilities. We understand also that KCC are seeking to secure LEP Funding and Public Works Loan Board financing. Four possible operational models have been suggested by KCC. Under these scenarios KCC builds the lorry park and the revenue/financial risk can be retained by KCC or transferred in part or wholly to a private developer/operator.

Operating Model	Operate the lorry park	Revenue owner	Financial risk owner
A	Outsourced: fixed cost contract and operator's profit not linked with revenue	KCC	100% KCC
B	An agreement is made with a private sector to run and maintain the site and collect revenue over a certain period of time	Any financial risk/profit is shared equally between KCC and a private sector. KCC owns the site.	Up to 50% KCC
C	An agreement is made with a private sector to run, maintain and be responsible for renewal of the site and to collect revenue over a longer period of time	Any financial risk would be taken by private sector and a certain proportion of the profit would be shared with KCC	0% KCC
D	KCC sells a lorry park to a private sector and gets all investment plus repayments back from the private sector	Private sector owns the site with no involvement from KCC	0% KCC

Table 3.1 – Operating models

These options will impact the eventual ownership/operational model and will need to be further investigated following the conclusion of the financial modelling being undertaken on the five selected sites. AECOM does not seek to provide specific recommendations with this regard and a quantitative risk analysis could be undertaken to understand sensitivities in cost and revenue and the impact on commercial viability in more detailed follow-on work if appropriate.

Pending this outcome the following provides the basic characteristics and associated benefits and risks of each model in operational terms of the three standard models for the provision of overnight truck parking. These are:

- Local Authority Built and Operated
- Local Authority Built and Operated by Private Company
- Private Developer Built and Operated

Importantly, a complete network of truck park and driver rest facilities need not simply adopt one model, but instead the network can be made up of a combination of the operation models. For example, KCC could build and operate truck parks at key strategic locations and then create a standard that other private developers need to adhere to if they wish to provide additional provision on the strategic road network.

3.2 Local Authority Built and Operated

Local Authority Built and Operated Truck Parking Area Considerations		
Land	**Infrastructure**	**Operation**
If the land is not already in public ownership it will need to be purchased or leased. Compulsory purchase powers may be invoked.	The infrastructure, including the parking and the facilities, will be designed and constructed by the local authority.	Once constructed the operation of the truck parking area, including the security, restaurant, shop, etc. will be operated by local authority or contracted employees. This is often done by council or local authority employees. This model enables the local authority to provide free or below market rate parking if that is deemed to be agreed strategy.

Table 3.2 – Local Authority Built and Operated Truck Parking Area Considerations

The table below sets out the benefits and risks of this model.

Benefits	Risks
Helps ensures that provision meets demand	Financial outlay and rate of return
Guarentee that the right facilities are built and operated	Potential to discourage private developers or accusations of unfair subsidies
Ensures that a better quality of life is available for truck drivers when away from base	If they are not operated correctly then bad publicity for the local authority

Table 3.3 – Local Authority Built and Operate Benefits and Risks

3.3 Local Authority Built and Operated by a Private Company

Local Authority Built and Operated Truck Parking Area Considerations		
Land	**Infrastructure**	**Operation**
If the land is not already in public ownership it will need to be purchased or leased. Compulsory purchase powers may be invoked. It is important that when the operation of the truck is handed over to a private developer that the land can only be used for truck parking and not for any other uses such as residential, commercial or retail.	The infrastructure, including the parking and facilities, will be designed and constructed by the local authority. If the private company wishes to add more facilities (e.g. a truck wash) this should be encouraged as long as it relates to truck parking and does not jeopardize the capacity required to meet demand.	The entire operation of the truck park is normally operated by the private company, which includes security and facility provision (i.e. restaurant, toilets and showers, etc). In order to maintain high standards, the private company should agree to standards of compliance in the contract and be audited regularly by the local authority. This model enables the local authority to provide free or below market rate parking if that is deemed to be the agreed strategy.

Table 3.4 – Local Authority Built and Operated by a Private Company

The table below sets out the benefits and risks of this model.

Benefits	Risks
Ensure that provision meets demand	Financial outlay and rate of return
Guarantee that the right facilities are built and operated	Potential to discourage private developers or accusations of unfair subsidies
Removes the burden of operation from the local authority	Poor standards of operation reflecting poorly on the local authority

Table 3.5 – Local Authority Built and Operated by a Private Company Benefits and Risks

3.4 Private Developer Built and Operated

Local Authority Built and Operated Truck Parking Area Considerations		
Land	**Infrastructure**	**Operation**
The land is often purchased by a private developer at the market rate. This is the main substantial cost to building a truck park. It is possible for the local authority to provide land on a long term lease which stipulates that the land can only be used for a truck park. They could lease this land to the private developer at a favourable rate to encourage private investors to invest in truck parks. However, the term of the lease must be substantial enough to give developers confidence in their investment.	The infrastructure, including the parking area and facilities, is often designed and constructed by the private developer at their own cost. This is normally considerable and therefore a developer will charge a market rate for parking.	The entire operation of the truck park will be operated by the investor or a sub-contractor, which includes security and facility provision (i.e. restaurant, toilets and showers, etc). An investor or sub-contractor will look to be as efficient and cost effective as possible to maximise returns.

Table 3.6 – Developer Built and Operated Truck Parking Area Considerations

The table below sets out the benefits and risks of this model.

Benefits	Risks
Creates competition in the provision of facilities	May lead to cost cutting and low standards
Encourages innovation entrepreneurialism	Prices can discourage drivers to use the facility and result in unauthorised parking.

Table 3.7 – Private Developer Built and Operated Benefits and Risks

3.5 Summary

In this section we have set out the broad parameters of the various options for local authority involvement in truck parking development and operations. KCC has specific financial risks to weigh up and these will be examined further in the study.

Demand Forecasting

4 Demand Forecasting

4.1 Introduction

A successful truck parking strategy has two critical elements that need to be determined. The first is **location** which can be determined by a variety of factors including the routes vehicles take, the level of provision already available and policy regarding the length of time drivers can work without breaks. The second factor to consider is the **quantity** of parking to be provided. Determining factors will be volume of traffic, the propensity of drivers to take breaks and to some extent the location of the truck park. The two factors are to a degree, interdependent

This section addresses how the project forecasts the level of demand for truck parking between 2014 and 2060. This has been done primarily through a spreadsheet model that determines demand based primarily on the volume of truck traffic on key corridors.

4.2 Methodology

The methodology for building the model is set out in the following four key stages.

4.2.1 Corridor Analysis

Preliminary work identified that the suitable sites were to be located on either the M20 or A2/M2 corridors, the principle truck routes between London and the Channel Tunnel/Port of Dover. Figure 4.1 shows the location of the key corridors and the modelled sites.

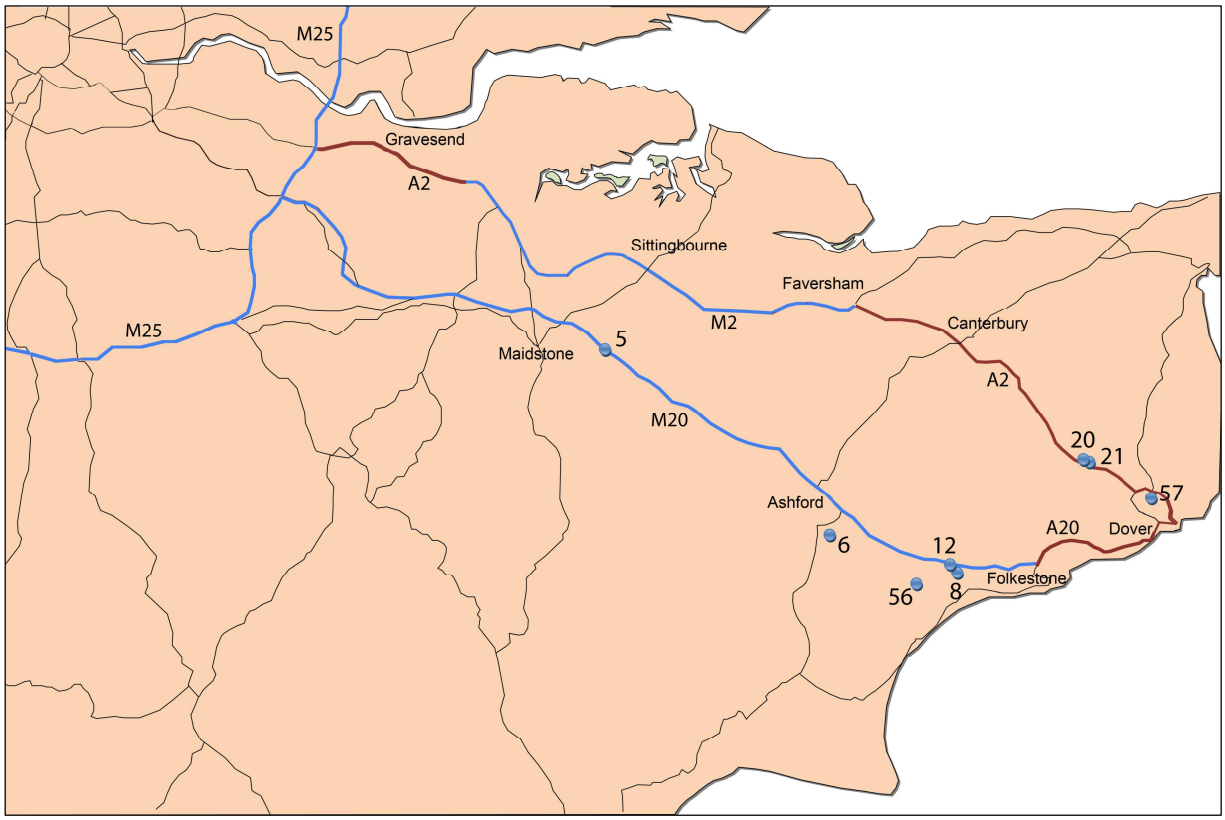


Figure 4.1 – Modelled Truck Stop Sites

As such, truck volumes were obtained for those corridors as the key driver of demand. Volumes were obtained from the Highways Agency TRADS database, providing real count data as well as the Lower Thames model (LTM) undertaken by AECOM for another project providing a readily available forecasting model.

The LTM was compared to the TRADS Data, and whilst it was found to be indicative, figures provided by TRADS were significantly higher than the LTM model. This, coupled with advice from the AECOM modelling team regarding the efficacy of the model for the purpose of determining truck stop demand – largely as it was not designed to look at HGVs specifically, created some concerns regarding its robustness.

As such, the decision was taken to use Highways Agency TRADS data and apply growth factors from the DfT, Eurotunnel and Port of Dover in order to forecast volume to 2060. Further details are provided in the 'Growth Factors'.

4.2.2 Network Sectors

HA TRADS provides detailed data for traffic volumes across the vast majority of the trunk road network, classified by vehicle length. A reading can be taken nearest to each truck stop site in order to gain a snapshot of traffic at that point. However, this does not account for traffic flow and changes to the volume as traffic enters or exits at different junctions.

To account for this, readings were taken across the entire corridor and averaged out to provide a volume indicative of flow along the entire length of the corridor. This average was used to determine base volume of traffic.

As large vehicles are classed by vehicle length over and above 6.6m, the classification will capture both HGVs and coaches (buses form an insignificant proportion of traffic on these routes). As such, Port of Dover and Channel Tunnel coach volumes were subtracted from the overall total.

4.2.3 Growth Forecasts

Three key measures of growth were used to predict the uplift in traffic for the model. These were:

- DfT National Travel Model – HGV Growth
- Channel State of Freight Report 2006
- Port of Dover 2009 Master Plan

The DfT National Travel Model, predicts the overall growth of HGV traffic across the network, and has been used to forecast growth in Local Traffic, which accounts for around 6% on the M20 and M2/A2, when comparing Port of Dover /Channel Tunnel daily averages with the overall volume averages.

Channel Corridor and Port of Dover Forecasts were added together to provide growth for international traffic. Table 4.1 shows the factors used.

	Annual	2015	2020	2025	2030
General Growth Factor	0.8				0
Eurotunnel Growth Factor	0.49				
Dover Port Growth Factor	-	2.3	2.85	3.55	0

Table 4.1 – Channel Crossing Growth Factors

General growth factors predicted a growth of 21.5% by 2040, equating to an annual average growth of 0.8% per annum. It is assumed that this rate continues beyond 2040.

Eurotunnel has not provided us with growth forecast, as such we have taken the Channel Corridor forecasts of 2.43% per annum to 2030 and we have assumed that the Channel Tunnel accounts for about 20% of this growth. Growth is expected to flat line after 2030 as the tunnel will be at capacity.

The Port of Dover provides an accelerating annual growth forecast to 2025, and this has been incorporated as above.

Parking requirements are determined by overnight parking rather than short term daytime parking. As such, demand is based on international traffic volumes as local traffic is unlikely to be stopping overnight en-route.

Local Traffic will provide a level of day time use that can be inputted into the financial model, calibrated by observations and feedback on current levels of day time truck park usage reported by site operators to the study team.

4.2.4 Parking

Having established base volumes and determined how traffic will grow, the data now needs to be linked to determine parking. As a measure of parking, figures were used from observational audits of lorry parking across the UK produced by AECOM for the DfT in 2005 and 2011, covering both **appropriate parking** (truck stops and MSAs) and **inappropriate parking** (Lay-bys, industrial estates).

Appropriate Parking

The audits counted the number of trucks parked along key strategic routes including the M20 and M2 as well as the capacity of appropriate parking sites. These figures were used to establish the base level of parking undertaken along the corridors.

Night Time Uplift

Evidence from truck stop interviews as well as sample observations conducted for this project suggests that sites are consistently 100% full overnight, in light of recent changes to insurance policies for certain freight operations, as such, capacity observations were taken and used to indicate appropriately parked traffic.

Inappropriate parking volumes were taken from the 2005 and 2011 audits for the following districts shown in Table 4.2 and then distributed proportionately to the volume on each corridor.

Local Authority Districts
Swale District
Canterbury District
Maidstone District
Tonbridge and Malling District
Dover District
Medway
Shepway District
Ashford District
Dartford District
Gravesham District

Table 4.2 – Local Authority Districts

This is expected to grow in line with international traffic as local traffic is unlikely to be parking overnight in inappropriate places. An enforcement factor of 3% per year is also applied that will slow the rate of growth in order to represent improving levels of enforcement. This is based on the difference between the 2005 and 2011 audits that show an 18% reduction. This 3% was then added to the appropriate parking simulating them being forced into truck stops or motorway service facilities.

A third factor, not considered in the report is latent demand – covering drivers who have tried to park but been turned away from existing truck parks, a measure that was obtained by asking truck stops how many vehicles are turned away, though it's difficult to tell if there's any double counting, with trucks being turned away from multiple sites. This is assumed to apply across both corridors.

Table 4.3 shows the level parking across each category and on each route.

Corridor	Appropriate	Latent	Inappropriate
M20	642	32	247
M2/A2	261	13	134

Table 4.3 – Level of Parking Accross the Network

Truck stop demand therefore will be taken on the basis of appropriate + latent demand.

4.2.5 Demand Forecasting

Having established both the traffic volumes and the level of appropriate and latent parking on each route the two figures can be divided to establish the proportion of vehicles parking on each corridor. That ratio can then be applied to the volume forecasts per annum to 2060 in order to predict the anticipated need for truck parking in Kent.

The next section outlines the results of the model.

4.3 Analysis

4.3.1 Volume Split

Figure 4.2 shows the HGV traffic volume split between the two main corridors based on average traffic levels across their entire length. It shows the majority of traffic, 84% travelling on the M20/A20. Volume indications outside Dover indicate an 81%, 19% split in favour of the M20 with additional traffic coming from the M20. Taking the demand across both corridors we get the following figures.

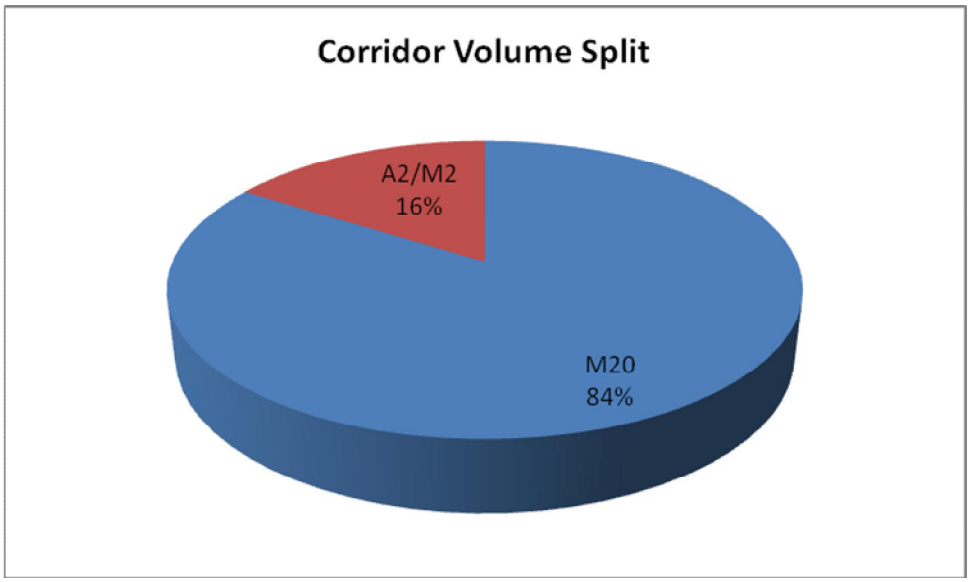


Figure 4.2 – Traffic Volume Split (Highways Agency TRADS Database)

Table 4.4 summarises the model outputs and shows the daily overnight parking demand and volumes every 5 years to 2060 for each corridor. Data is available for every year in the model if required. It can be seen that the demand for parking spaces increases between 2014 and 2060 by 330% from around 990 to over 3,300 spaces.

Road	Year	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
M20	Volume	6,201	7,115	8,209	9,674	11,209	13,346	15,344	16,941	18,704	20,651
	Demand	706	810	935	1,102	1,276	1,520	1,747	1,929	2,130	2,352
A2/M2	Volume	1,215	1,395	1,609	1,896	2,197	2,616	3,007	3,320	3,666	4,048
	Demand	287	330	381	449	520	619	711	785	867	957
TOTAL	**Volume**	**7,416**	**8,510**	**9,818**	**11,570**	**13,407**	**15,961**	**18,351**	**20,261**	**22,370**	**24,698**
TOTAL	**Demand**	**994**	**1,140**	**1,315**	**1,550**	**1,796**	**2,138**	**2,459**	**2,714**	**2,997**	**3,309**

Table 4.4 – Daily HGV Forecasts

4.3.2 Aggregated Demand Analysis

Figure 4.3 shows the demand forecast graphically, and demonstrates a rapid and increasing growth in volume, the driver primarily being growth at Dover and supported by a consistent 0.5% growth of Channel Tunnel Ro-Ro traffic. Current levels of provision are shown, and it can be clearly seen that current facilities are already full.

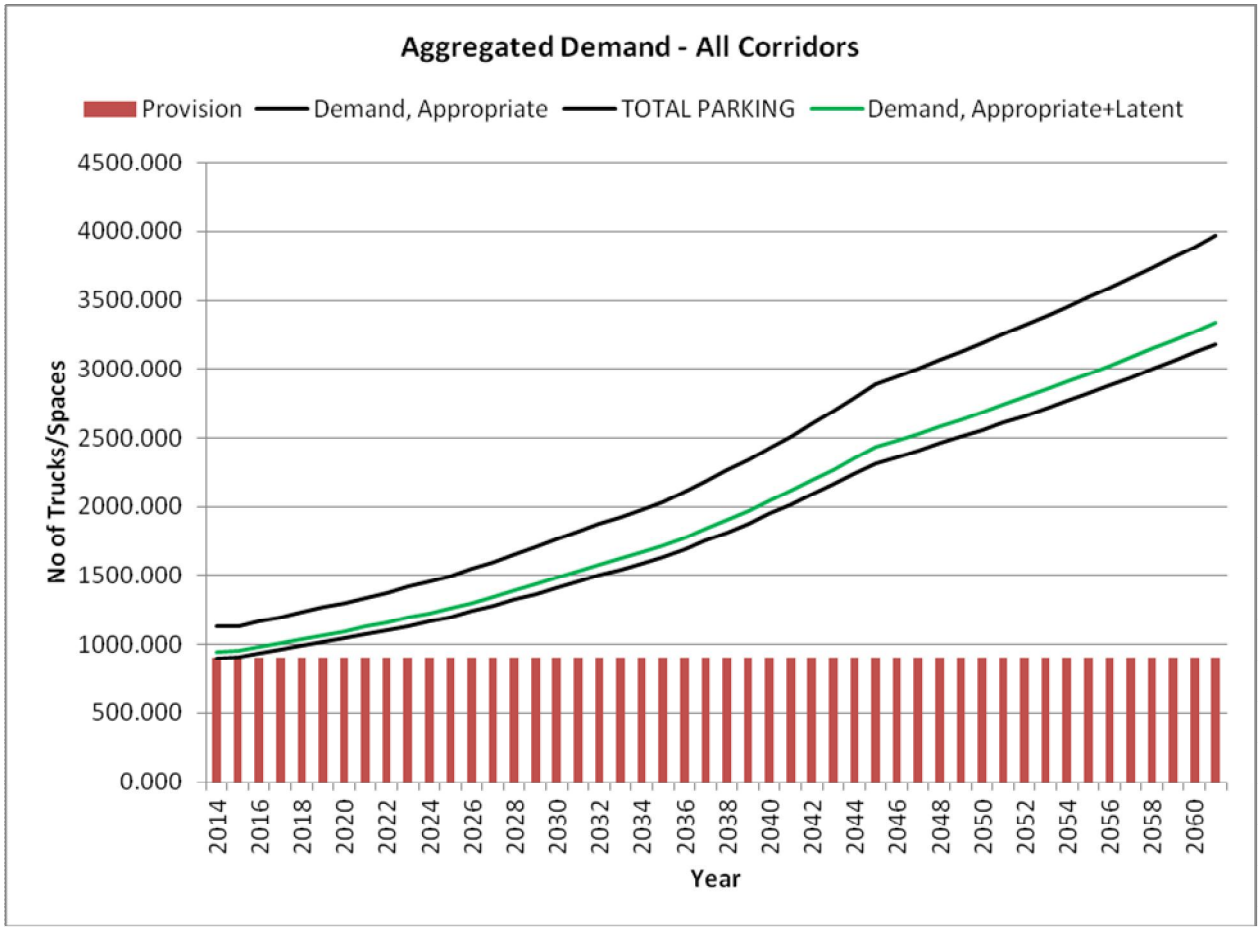


Figure 4.3 – Aggregated Daily Demand – All Corridors

Figure 4.4 takes the volume of traffic as a whole to show aggregated demand and provides a plan of future provision to develop the requisite 5 sites envisaged, an average size of 550 spaces is required, which provides 10% capacity above the maximum size for the sites, providing a strong indication of adequate demand to justify the proposed five sites. The model automatically provides a new site when demand gets to within **1**% of provision. It is assumed that there are no competitive factors involved and that demand for the current truck stops does not alter allowing an indicative timetable to be produced.

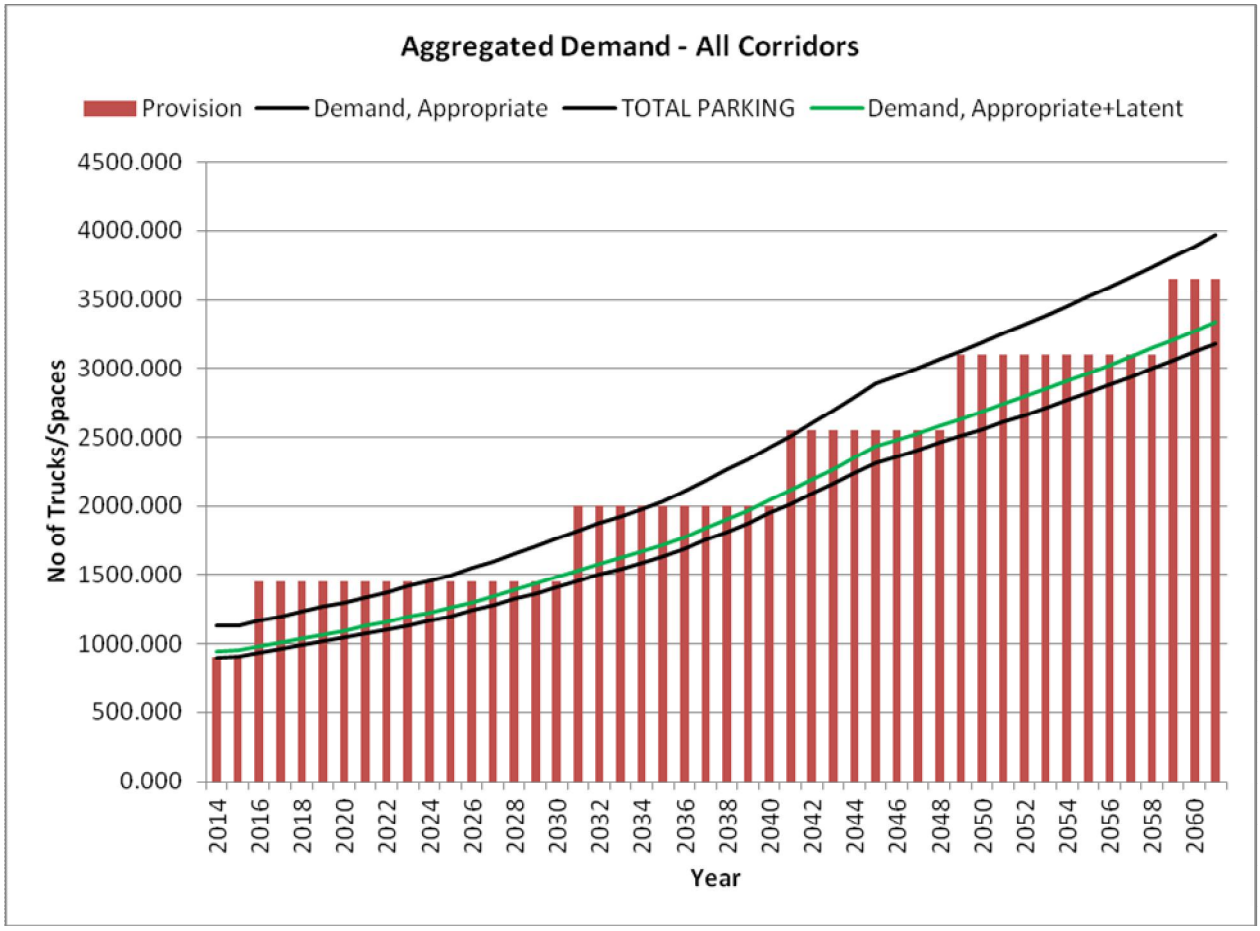


Figure 4.4 – Aggregated Daily Demand – All Corridors

4.4 Summary

The demand model has provided a forecast that balances robustness with the limitations of information and timescale available. It provides an indication of both the capacity required as well as an approximate timetable, based on an average site capacity that meets the specification of 5 sites. It is apparent that there is an immediate demand for truck parking and this is forecasted to grow at an increasing rate towards 2030.

Financial Modelling

5 Financial Modelling

5.1 Introduction

AECOM developed a financial analysis tool for KCC to identify the likely internal rate of return for one or more lorry parks based on the assumptions set out in the preceding chapters and costs estimates for building and operating a lorry park. There are a number of fundamental issues that KCC need to understand in order to make the case for promoting a number of new lorry parks and pursuing the most appropriate method of ownership.

- What is the likely demand and utilisation and how will it change over time? This is set out in chapter 4 and is a key input to the financial model.
- Where, how many and what size of lorry parks are feasible? This needs to take into account the findings in both chapters 2 and 4, and is a key input to the financial model.
- What pricing strategy or other revenue raising mechanisms are feasible? This will be a function of a number of variables, including demand and willingness to pay. The demand and pricing strategy are key inputs to the financial model, estimating likely annual revenue.
- What are the costs of constructing and operating the lorry parks and the desired facilities? This is another key input, noting that there it may be feasible to phase the construction of lorry parks in response to demand.
- What is the annual cash flow? This is based on the above inputs. The financial model calculates the internal rate of return over a specified number of years. This provides a benchmark with which to evaluate the investment, its commercial viability and appropriate methods of ownership.

There are a number of assumptions and caveats that are relevant to this chapter:

- There has been no risk adjustment to the cost and revenue assumptions. Ideally a quantified risk analysis would be undertaken of revenue and costs to examine the impact on the business case.
- There has been no consideration of wider economic or social costs and benefits, as would be the case if putting forward a webTAG compliant business case for investment by the public sector in a transport scheme.
- The assumptions on demand, utilisation, pricing strategy, discount rates, life of lorry park/ operating period and costs are all subject to refinement and sensitivity tests.
- No assumption has been made on asset value at the end of the appraisal period or depreciation.
- No account has been made of the availability of commercial or public sector loans and guarantees or grants. These should, in practice, be based on the business case for a lorry park.

5.2 Revenue Derivation

5.2.1 Demand and Lorry Park Utilisation

Revenue within the model is derived as a function of truck parking demand, charges, and added value services such as the restaurant or cafe. Chapter 5 sets out the assumptions on demand and utilisation over time. The main driver of revenue relates to overnight lorry parking. Table 5.1 summarises utilisation over 25 years for each site. It should be noted that Year 1 is the first year of operation and not the construction year. The model is set up for a year ‘0’ build year with operations for the next 25 years / next 40 years and closure in year 26 for major refurbishment.

Year	White Cliffs Business Park 1	Westenhanger (site behind STOP 24)	Lympne Industrial Estate	Site Adjacent to Ashford Int'l Truck Stop	East of Stanford (site opposite STOP 24)	Site Adjacent to Maidstone MSA	A2/Coxhill Road, Shepherds-well (east)	A2/Coxhill Road, Shepherds-well (west)
1	16	53	26	26	53	53	16	16
2	25	81	53	53	81	81	25	25
3	33	110	81	81	110	110	33	33
4	42	139	110	110	139	139	42	42
5	52	170	139	139	170	170	52	52
6	61	201	156	170	201	201	61	61
7	71	233	156	201	233	233	71	71
8	81	265	156	233	265	265	81	81
9	93	306	156	265	306	306	93	93
10	106	348	156	306	348	348	106	106
11	119	391	156	348	391	391	119	119
12	133	435	156	391	435	435	133	133
13	147	468	156	435	482	482	147	147
14	161	468	156	482	529	529	161	161
15	174	468	156	529	571	571	174	174
16	187	468	156	571	614	614	187	187
17	200	468	156	614	659	659	200	200
18	214	468	156	659	704	704	214	214
19	232	468	156	704	763	763	232	232
20	234	468	156	763	824	824	251	251
21	234	468	156	824	886	858	270	270
22	234	468	156	858	951	858	290	290
23	234	468	156	858	1019	858	310	310
24	234	468	156	858	1088	858	331	331
25	234	468	156	858	1161	858	353	353

Table 5.1– Lorry Park Utilisation over Time. Note, Shepherdwell East is not expected to reach capacity within the life of the forecast

Demand is calculated using the model from 1 year after construction to the point at which it reaches capacity, whereby growth stops and the site remains full. It is assumed that each site will be built when the previous site reaches 100% capacity. Table 6.1 shows the level of growth for each site, where year 1 is the first revenue generating year, as such years indicate the life of the site, rather than years from 2014.

Assuming that a given site reaches capacity at a faster rate than the assumptions set out above will result in a better NPV and return. These assumptions may also impact on the case for building more than one lorry park. Changing these assumptions, in particular in the early years of operation, can have a substantial impact on the business case.

5.2.2 Pricing Strategy

The pricing strategy assumes a charge structure of:

	£ per lorry
Overnight	£15
Day < 2 hours	Free

Table 5.2 – Pricing Strategy

It is possible to change these assumptions in the model, for example to bring charges in line with those charged elsewhere. This can have a significant impact on the business case.

Charges are not assumed to change over time, although in practice there may be scope to increase them depending on average returns and wages in the freight industry.

5.2.3 Estimated Added Value Services Revenue

The potential revenue that could be generated from the provision of added value services such as a restaurant and shop may be an important consideration. For the purposes of this study AECOM have been relatively modest in their assumptions and have not taken into account potential revenue that would be generated from other provisions such as fuel. However, these may be necessary to build a stronger business case for a given site.

The average additional spend on value added services e.g. in the restaurant, is assumed to be:

	£
Overnight	£6
Day	£3

Table 5.3 – Average Additional Spend

This average additional spend is assumed to apply to all lorry drivers, overnight lorry drivers are expected to spend £6 each with daytime drivers spending much less – around £3 on sundries such as drinks or newspapers. Revenue within the model is therefore the level of overnight demand multiplied by overnight fees added to day time drivers multiplied by daytime fees.

5.3 Costs

5.3.1 Introduction

When modelling development projects, there are a number of key components that need to be considered within the model. These are:

- Capital Costs
- Operating Costs
- Maintenance Costs

The following section looks at these in turn, highlighting the method of estimation nd any assumptions and limitations the estimates have in this high level model.

5.3.2 Capital Costs

Capital costs are items such as land purchase, design and construction and facilities.

Purchase/Lease Property Costs

Due to reasons of confidentiality regarding site assessment it has not be advisable to do a detailed investigation into specific land plot values. For the purposes of this project we have taken an overall agricultural land value for the area derived from a range of sources of £17,500/ha. A higher rate of £920,000/ha has been applied to the two sites that are located in areas where industrial usage is permitted, again derived from a range of general sources – these site are 56 Lympne Industrial Estate and 57 Dover

White Cliffs. This rate has also been applied for the sake of argument at site 6 adjacent to Ashford truckstop where it is believed an uplifted land value will apply.

Site ID	Name/Description	Located On	Nearest Trunk Road/ Junction	Authority/ District	Size (Ha)	Number of Truck Parking Spaces	Land Value Estimate £m
A2/M2/A2 Corridor							
57	White Cliffs Business Park 1	A2	A2/A256	Dover	3	234	2.75
21	A2/Coxhill Road, Shepherdswell (east)	A2	A2	Dover	24	1,872	0.42 (agricultural land)
20	A2/Coxhill Road, Shepherdswell (west)	A2	Coxhill Rd	Dover	4	312	0.12 (agricultural land)
M20/A20 Corridor							
8	Westenhanger (site behind STOP 24)	M20	J11 M20	Shepway	6	468	0.105 (agricultural land)
56	Lympne Industrial Estate	M20	B2067	Shepway	2	156	1.8
6	Site Adjacent to Ashford Int'l Truck Stop	M2070	J10 M20	Ashford	11	858	10.1
12	East of Stanford (site opposite M20 from STOP 24)	B2068	J11 M20	Shepway	16	1248	0.28 (agricultural land)
5	Site Adjacent to Maidstone MSA, Hollingbourne	M20	J8 M20	Maidstone	11	858	0.2 (agricultural land)

Table 5.4 – Land Value Estimates by Site

It has been assumed that the land will be purchased (if it is not already in KCC's ownership). This will be a one off payment that will need to be set against the projected revenue of the lorry park in the future.

5.3.3 Construction Costs

The site development, infrastructure and security costs have been estimated for the potential sites, based on reports from quantity surveyors for a number of existing truck parks, taking into account relative sizes of the candidate sites. Cost estimates include earthworks, site clearance, and surfacing, with prices factored up to current values..

With regards to security, the estimates assume a minimum best standard based on our previous research. This includes secure site access, CCTV and security staff.

An additional 20% contingency has been assumed to cover sensitivity in pricing as well as risk, with a full engineering assessment yet to be carried out at the sites. As such, the model aims to provide the 'worst case' in terms of capital costs.

There may also be considerable professional services costs, dependent on what services are required. The following are likely to be required:

- Architectural services;
- Planning Permission and associated fees;
- Structural Engineers; and
- Contractor & Project Manager.

Though these costs will be individually tendered, for the purposes of this study the costs for these services have been assumed and factored into the infrastructure and equipment costs.

5.3.4 Operational Costs

Operational costs are incurred when the facilities are open including utilities, labour, tax and insurance and must be accounted for in the outline financial analysis. Table 5.5 provides a full breakdown of operating costs used. As the sites are likely to be of a similar size, it has been assumed that they will be the same across all candidate sites are bespoke to each site and therefore carry a degree of uncertainty and as such as indicative.

Component	Cost
Management fees	£65,000
Security/Labour	£230,000
Electricity	£70,000
Gas	£1,500
Gardening	£4,500
Maintenance & repair	£28,000
Marketing	£74,000
Vehicle Wash	£1,000
Restaurant Building	£5,000
Restaurant Fixtures & Fittings	£5,000
Taxes	£13,000
Insurance	£9,000
Accounting	£14,000
Other (Contingency)	£65,000

Table 5.5 – Operating Costs

A further complication exists in that many of these costs are dependent on the operational model of the truck stop, as such the model only seeks to evaluate the commercial case for a truck park irrespective of its operational model

Staff

Operational staff costs will be determined by the level of security and the additional services provided. Taking these into consideration, a forecast budget for staff shall be estimated in the outline financial analysis. Furthermore, staff may also require relevant training (e.g. health and safety).

Associated Taxes & Insurances

As well as those costs discussed above, it will also be necessary to consider the relevant local/national taxes and insurances. The following should be considered as a minimum:

- Business rate;

- Staff taxes;
- Public liability taxes;
- Contents insurance; and
- Buildings insurance.

Such taxes and insurances have been factored into the business case but should be amended when the correct rates have been determined.

Table 5.6 shows the average costs for each site over 25 and 40 years.

				Average Annual	
Site	Development Year	Life	Capital Cost	Revenue	Op + Main Costs
57	2016	25	£ 7,455,494	£ 1,032,785	£ 686,159
57	2016	40	£ 2,349,247	£ 1,302,265	£ 720,022
21	2016	25	£ 26,586,739	£ 1,149,204	£ 690,422
21	2016	40	£ 13,083,369	£ 1,993,281	£ 723,304
20	2016	25	£ 8,713,480	£ 1,149,204	£ 750,998
20	2016	40	£ 4,297,240	£ 2,039,008	£ 761,164
8	2016	25	£ 7,880,245	£ 2,563,752	£ 687,598
8	2016	40	£ 3,887,623	£ 2,834,037	£ 721,539
56	2016	25	5,230,783	£ 1,179,684	£ 804,943
56	2016	40	£ 3,887,623	£ 2,834,037	£ 721,539
6	2016	25	£ 22,999,939	£ 3,538,412	£ 705,233
6	2016	40	£ 6,445,470	£ 4,617,092	£ 760,130
12	2016	25	£ 18,279,798	£ 3,775,542	£ 722,844
12	2016	40	£ 8,999,899	£ 5,843,812	£ 758,669
5	2016	25	£ 13,083,439	£ 3,538,412	£ 660,891
5	2016	40	£ 6,445,470	£ 4,617,092	£ 714,963

Table 5.6 – Average Cost per Site

5.4 Other Costs and Benefits

The analysis in this section is based on the commercial viability of additional lorry parks in Kent. However, there are wider costs and benefits that are likely to accrue but which would not be taken into account by a private operator seeking to make an investment decision. The Kent Multi-facility Lorry Park Scoping Strategy (2007)[4] undertook economic impact analysis to estimate a cash equivalent benefit to society resulting from the provision of sufficient overnight lorry parking capacity in Kent and a well managed off-highway alternative to Operation Stack. Whilst the analysis indicated it did not include all the likely benefits and costs, it suggested that first year benefits would be in the order of £2.5m and a £77m benefit (in 2004 prices) over a 30 year time frame. These benefits took into account impacts on local businesses, policing costs, and congestion.

There are likely to be broader socio-economic costs and benefits involved in the construction and operation of new lorry parks in Kent.

[4] A report by AECOM for the Department for Transport and Highways Agency

Modelling Outcomes

6 Modelling Outcomes

6.1 Introduction

This section sets out the results of the financial model runs for the various sites. We also examine the results to identify a possible single 'priority site' meriting KCC's further careful attention.

This analysis is based on a snapshot of each of the sites being built in 2016 and not on the basis of the sites being built on a sequential basis, although the financial model can be adjusted to reflect the latter.

The financial model calculates annual revenue and costs based on assumptions regarding demand, lorry park utilisation, pricing strategy and lorry park costs. The financial analysis is based on estimating cash flow as a function of these, the rate of return and the present value. A 25 and a 40 year time period has been assumed. If necessary, different time periods could be investigated.

The model then determines the **Internal Rate of Return** (or economic rate of return). This is in effect the discount rate that makes the net present value of the cash flows equal to zero. It provides an indication of the efficiency of the investment, which can be compared to the rate of return from other investments and a minimum acceptable rate of return, which will vary by operator, sector and appetite for risk. This can be used as the basis for determining and how and whether to take forward the investment and the most appropriate ownership model.

A **Net Present Value** for the investment is also calculated, providing an estimate of the magnitude of the return. As the construction and operation of the lorry parks is potentially a commercial venture, the social discount rate of 3.5% (3% after 30 years) cited in the Green Book may not be appropriate. Instead, the rate should reflect the potential commercial returns by operators in the market place facing a similar level of risk. This can be assumed to be somewhere between 5 – 10% (7.5% is assumed in the model, but can be changed), although a higher value may be appropriate if cost and revenue risks are considered to be particularly high.

It is important to note that within this commission AECOM is not giving investment advice. The truck park assessments as set out in this report are based on a series of assumptions as set out in the report and associated technical notes and as agreed between AECOM and Kent County Council. The outcome of assessments are directly driven by the assumptions and the data used for the assessments and subject to uncertainty. Whilst the uncertainty of the assessments can be the subject of a risk analysis, the remit of this work does not include undertaking of risk analysis.

6.2 Model Outputs

Table 6.1 gives the Internal Rate of Return (IRR) and Net Present Value (NPV) outputs of the model taking into consideration a 25 and 40 year investment horizon. It can be seen that across sites and between the 25 year and 40 year investment horizons there is a large variation in both IRR and NPV. In broad terms the higher the IRR and NPV the better the investment is likely to be.

				Average Annual			
Site	Development Year	Life	Capital Cost	Revenue	Op + Main Costs	IRR	NPV
57	2016	25	£ 7,455,494	£ 1,032,785	£ 686,159	1.14%	-£5,674,868.34
57	2016	40	£ 2,349,247	£ 1,302,265	£ 720,022	3.84%	-£4,616,436.21
21	2016	25	£ 26,586,739	£ 1,149,204	£ 750,998	-3.66%	-£23,598,536.29
21	2016	40	£ 13,083,369	£ 2,039,008	£ 761,164	1.21%	-£21,994,054.49
20	2016	25	£ 8,713,480	£ 1,149,204	£ 690,422	1.60%	-£6,366,252.97
20	2016	40	£ 4,297,240	£ 1,993,281	£ 723,304	5.59%	-£3,621,719.08
8	2016	25	£ 7,880,245	£ 2,563,752	£ 687,598	13.45%	£7,835,325.70
8	2016	40	£ 3,887,623	£ 2,834,037	£ 721,539	13.94%	£10,553,299.21
56	2016	25	5,230,783	£ 1,179,684	£ 804,943	5.65%	-£896,444.29
56	2016	40	£ 3,887,623	£ 2,834,037	£ 721,539	13.94%	£10,553,299.21
6	2016	25	£ 22,999,939	£ 3,538,412	£ 705,233	7.15%	-£1,073,053.73
6	2016	40	£ 6,445,470	£ 4,617,092	£ 760,130	8.79%	£5,614,663.58
12	2016	25	£ 18,279,798	£ 3,775,542	£ 722,844	8.98%	£4,167,909.54
12	2016	40	£ 8,999,899	£ 5,843,812	£ 758,669	10.82%	£14,537,439.97
5	2016	25	£ 13,083,439	£ 3,538,412	£ 660,891	11.15%	£8,151,597.43
5	2016	40	£ 6,445,470	£ 4,617,092	£ 714,963	12.26%	£14,804,105.63

Table 6.1 – IRR and NPV Model Outputs

A comparison of M20 corridor sites is provided in the next section. It is noted from the above table that the M2 corridor sites (57, 21, 20) do not show very positive financial outcomes at this stage of the analysis. However, changes in pricing point (say increasing the parking fee from £15 to £20 or £25) has a significant effect. For example an uplift in fee to £25 for site 57 yields over a 40 year horizon a positive NPV and IRR of 7.75%. Similarly an uplift in demand, say for example from drivers utilising the M20 route but willing to divert the reasonably short distance to the M2/A2 corridor sites near Dover, would again change the financial outcomes. For these sites it should be noted that the demand model does not account for 'switching' to an alternative corridor in search of good overnight parking.

Figures 6.1-6.8 show the results of each site in terms of revenue, costs and cash flow. Construction costs have not been included on the charts.

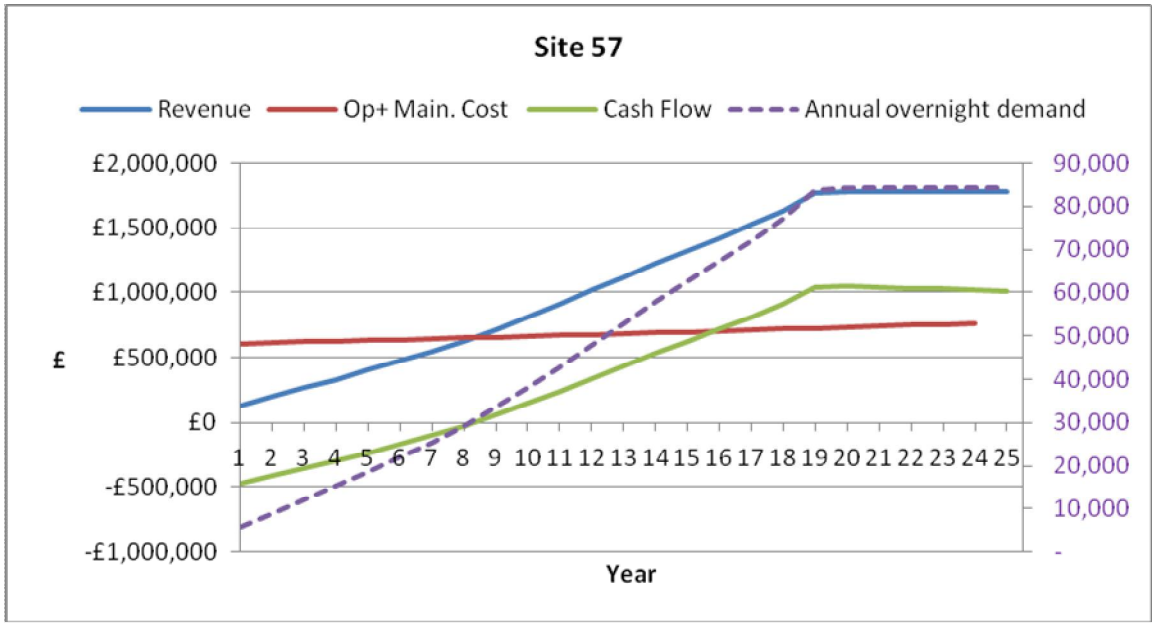


Figure 6.1 – Site 57

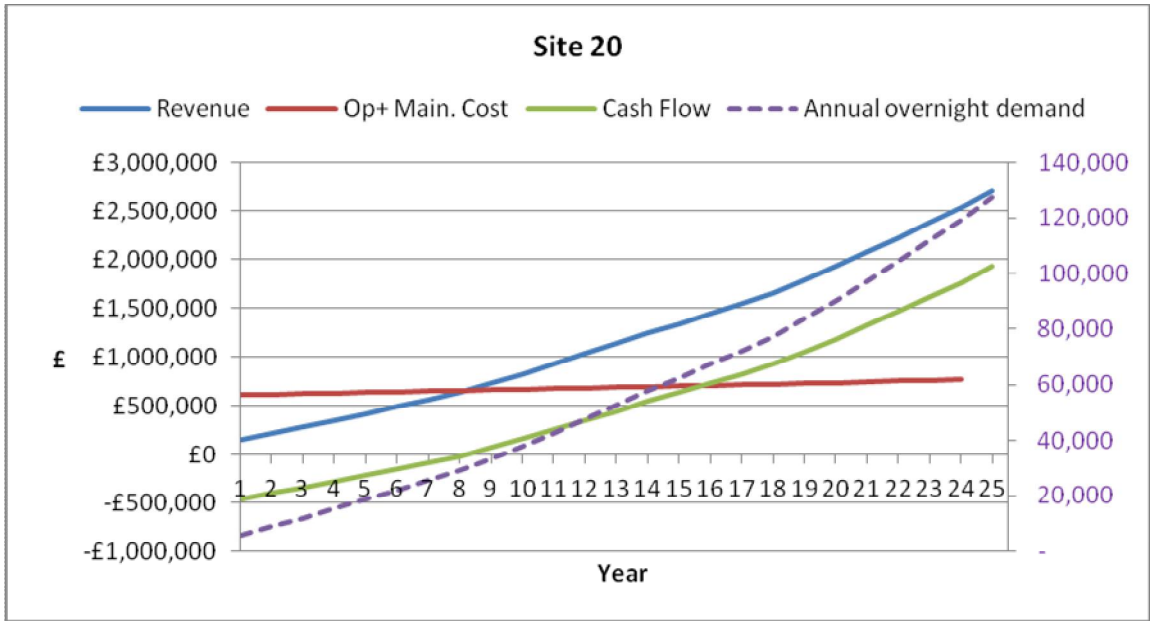


Figure 6.2 – Site 20

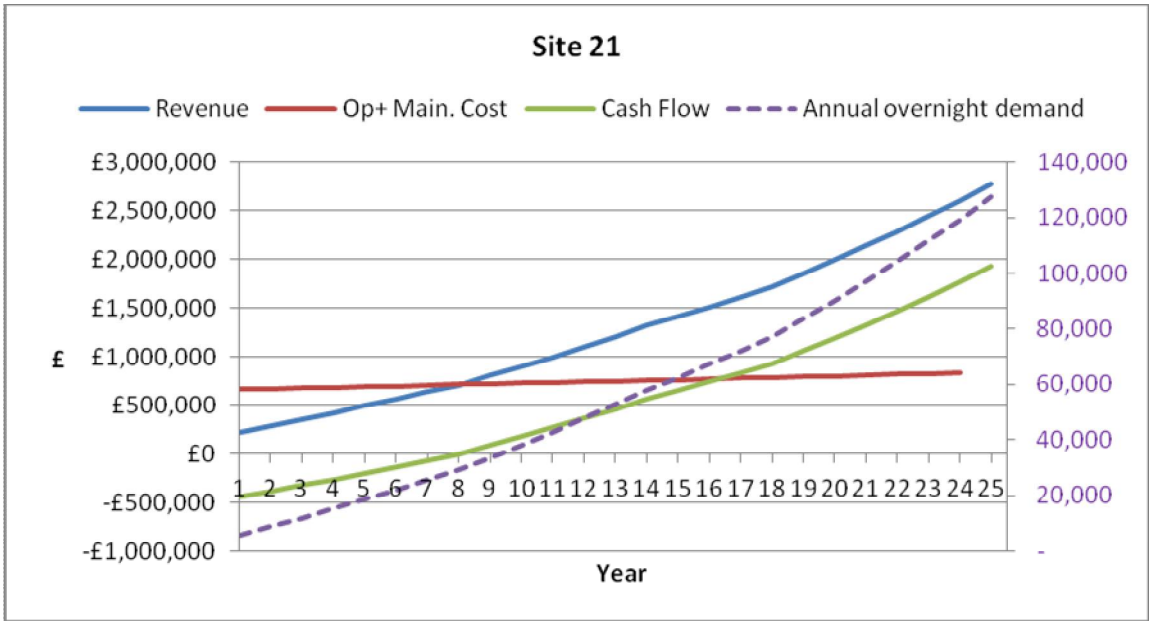


Figure 6.3 – Site 21

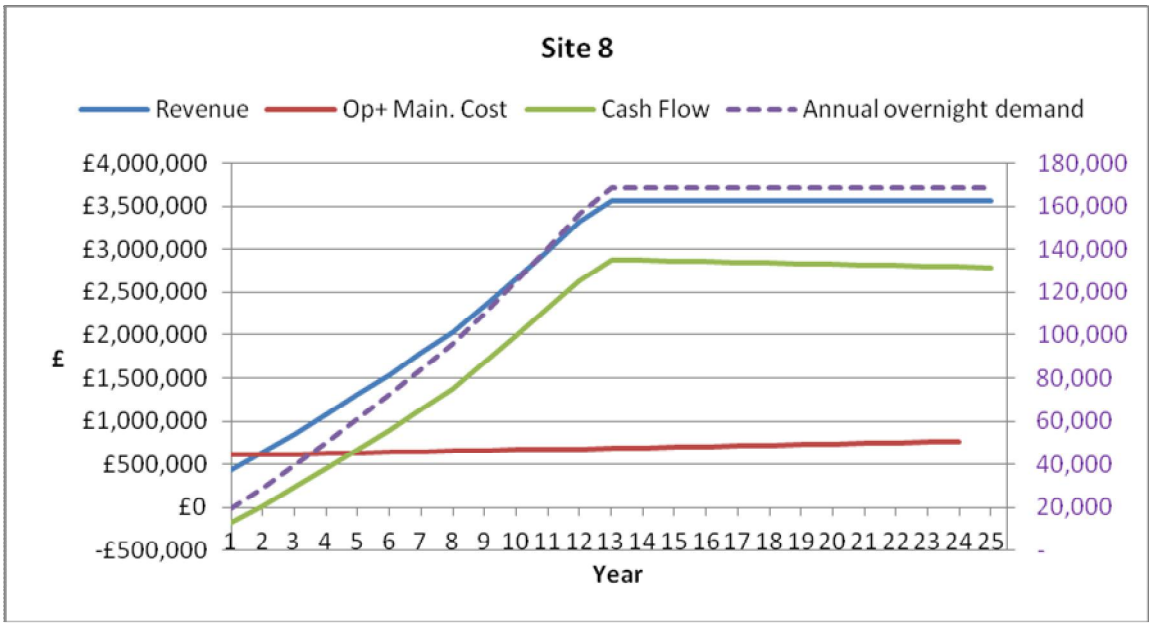


Figure 6.4 – Site 8

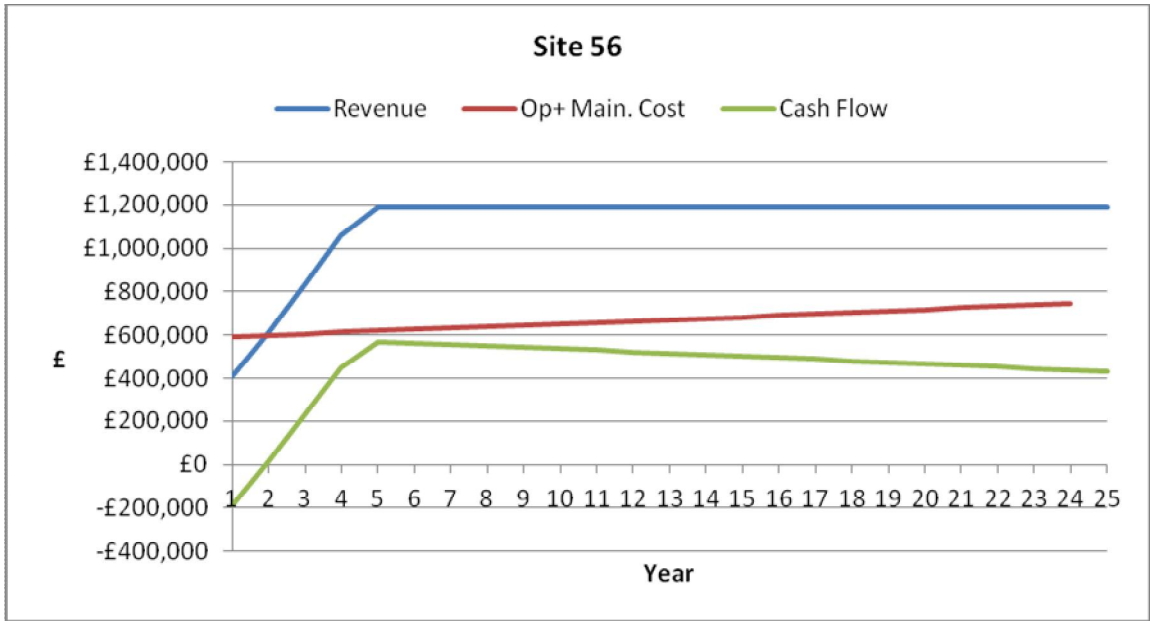


Figure 6.5 – Site 56

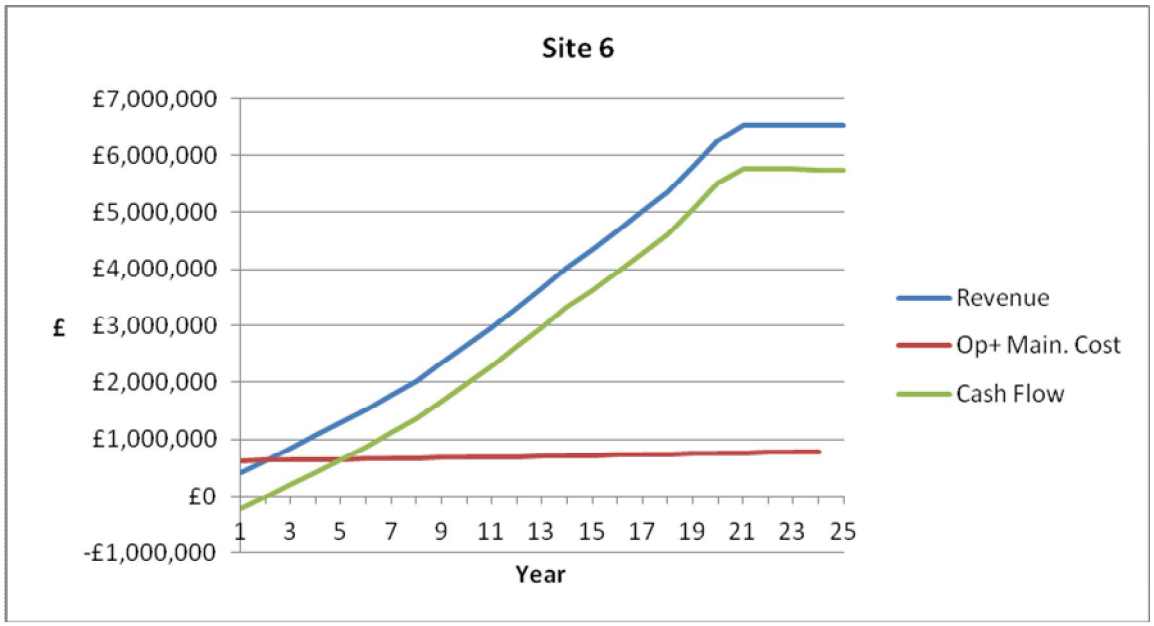


Figure 6.6 – Site 6

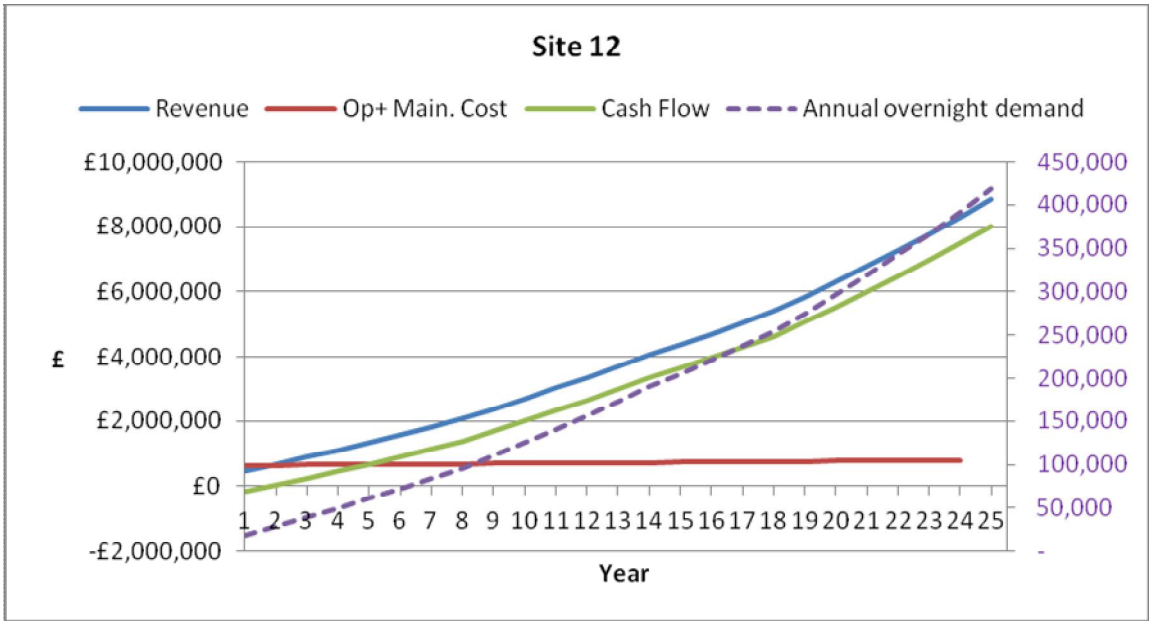


Figure 6.7 – Site 12

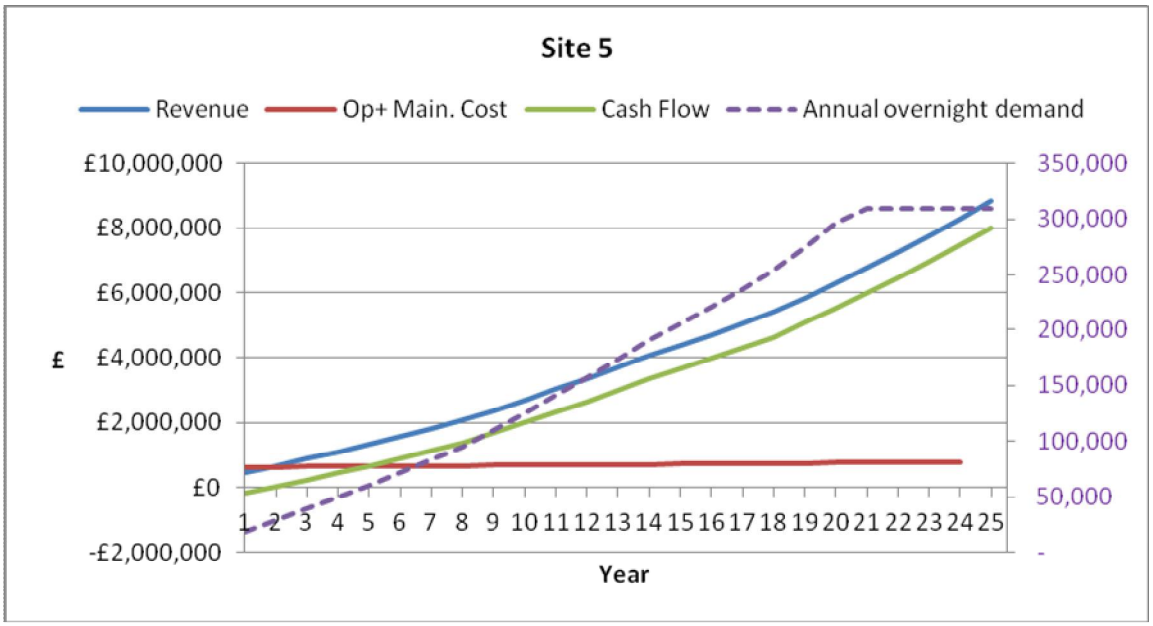


Figure 6.8 – Site 5

6.3 Single Site Recommendation for the M20 corridor

The study team has been directed by KCC to identify a single M20 corridor site that may be taken forward as the prime site for further investigation.

Having undertaken the overall site assessment process to determine preferred sites on the two corridors in terms of transport and site characteristics, environmental and planning considerations and having performed the financial assessment to determine the most attractive sites in a commercial sense it is possible to provide some commentary on what may be considered to be the most appropriate single site to consider for possible development. This can be viewed as the 'priority site' meriting KCC's further careful attention as well as the first of a series of developments as part of a strategy to secure truck parking capacity as demand builds to the 2060 horizon.

In the process of recommending a single site we rely on the outcomes of the original site assessment ranking detailed in full in the Site Assessment Report and the financial modelling (specifically Internal Rate of Return and Net Present Value) set out in this report, and we apply the study team's professional judgement based on our understanding the current and future situation in Kent with respect to the issues of high volumes of international freight traffic transiting the County. In this respect we provide a further qualitative narrative to help support our recommendation based around the following wider issues for consideration:

Qualitative Aspect	Comment
Environment aspects – are there no significant aspects?	The absence of significant and specific concerns on environmental aspects such as effect on the setting, proximity to ancient woodland and so on is a very positive attribute for a site.
Scale-ability – can the site be expanded in the future?	The degree to which the sight many be 'built-out' over a period of time, depending on actual demand, capacity provided by other sites and so on. Current and future Motorway Junction capacity is also an important consideration here.
Use for Operation Stack – could the site have a possible role in a Stack event?	A larger site can have potential to provide space for trucks during a Stack event, providing a further pre-assembly or buffer zone delaying or preventing a phase II event being called. To maximise its use for this it would be best located directly on the M20 west of the Eurotunnel Terminal.
Proximity to existing sites – is the site co-located with an existing one?	A site that is adjacent to an existing facility has specific advantages in that the construction of new facilities may not be immediately needed and indeed the current operators may be interested in developing the site. In addition separate but co-located sites may be advantageous in terms of competitive pricing and where one park is full the truck driver does not have to travel far to the alternative site.

Table 6.2 – Wider Issues for Consideration

Additionally, the availability of the actual land to buy or lease must ultimately play a significant part in determining the development potential of a site. This has not been a feature of the study team's current commission and therefore is not commented on. The Council's powers of compulsory purchase may come into play here, but this will be determined by the ultimate operational model adopted.

6.3.1 Single Site Ranking and Supporting Narrative

Table 6.3 sets out the ranking of sites according to the order of the overall site assessment ranking, the IRR and the NPV. Please note that this ranking does not correlate with the site assessment ranking as it also takes into consideration the outcomes of the financial model (IRR and NPV).

Rank order	Overall assessment ranking	IRR	NPV
1st	Site 8 – Westenhanger (site behind STOP 24)	Site 8 - Westenhanger (site behind STOP 24)	Site 5 - Site Adjacent to Maidstone MSA, Hollingbourne
2nd	Site 56 - Lympne Industrial Estate	Site 5 - Site Adjacent to Maidstone MSA, Hollingbourne	Site 8 – Westenhanger (site behind STOP 24)
3rd	Site 6 - Site adjacent Ashford Int'l Truck Stop	Site 12 - East of Stanford (site opposite M20 from STOP 24)	Site 12 - East of Stanford (site opposite M20 from STOP 24)
4th	Site 12 - East of Stanford (site opposite M20 from STOP 24)	Site 6 - Site adjacent Ashford Int'l Truck Stop	Site 56 - Lympne Industrial Estate
5th	Site 5 - Site Adjacent to Maidstone MSA, Hollingbourne	Site 56 - Lympne Industrial Estate	Site 6 - Site adjacent Ashford Int'l Truck Stop

Table 6.3 – Site Ranking by Overall Site Assessment, IRR and NPV

Whilst in reality the actual differences in any one site's overall rank and financial outcome may not be huge, the table does provide a useful comparison 'snapshot' to help determine a single site. It can be seen in terms of financial outcome sites 8 and 5 might be judged to be of equal standing. Indeed site 5 is large, adjacent to the existing motorway MSA with the potential to assist with a Stack operation. However, there may be concerns about the effect on the setting of the North Downs AONB and the site is within 1Km of a local wildlife site and ancient woodland.

Site 56 Lympne Industrial Estate is well ranked in the overall general assessment. It does have some archaeological interest but does enjoy outline planning permission for B1,2 and 8 uses. The site is large but being somewhat off the 'mainline' may have limited uses in a Stack situation. The site is less well regarded in terms of its financial outcomes with a negative NPV in the 25 year time horizon.

Site 6 adjacent to the current Ashford Truck stop is mid-placed in the overall assessment ranking and somewhat lower down the financial scale. For the purposes of our modelling we have judged this plot of land to be costly to acquire. However the site should not be ignored as the current operator of Ashford Truck stop may be interested in expanding operations at this or another site. If this is done on site then expansion costs would be less than building a new site from scratch.

Finally, our appraisal exposes site 8 Westenhanger near to Stop 24 as the favoured option both in terms of the general and the financial assessment. It is large and may benefit from being able to share facilities with the existing Stop 24. It is well positioned on Junction 11 for both Dover and Eurotunnel traffic and could therefore play a role in Stack. Furthermore, when capacity is exhausted, site12 on the opposite site of the M20 could provide the next parking opportunity in what could become a clustered zone of parking facilities.

6.4 Summary

In this section we have sought to identify the financial attributes of the 8 selected sites, using Internal Investment Return and Net Present Value as key metrics. We show revenue, costs and cash flow against demand over a 25 year period. Utilising the outcomes of the financial assessment, the ranking process of the earlier overall site assessment process and through the application of profession judgement against a range of relative parking related issues, AECOM considers that site 8 Westenhanger at M20 Junction 11 represents the single site on the M20 corridor to be taken forward as the prime site for further

investigation. Further work on site specific demand modelling and corresponding financial modelling including grant and loan scenarios is detailed in the Phase 2 Kent Lorry Parks Feasibility Study Report.