

Managing freight through Kent: Options Assessment Report

June 2016



Operation Stack - Summary of CONSULTATION RESPONSES

WSP | Parsons Brinckerhoff

Date: June 2016

WSP | Parsons Brinckerhoff

6 Devonshire Square

London

EC2M 4YE

Tel: +44 (0) 020 7337 1700

Fax: +44 (0) 020 7337 1701

www.wsp-pb.co.uk

TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	1
2	INTRODUCTION.....	3
3	STAKEHOLDER AND PUBLIC CONSULTATION	4
4	OPTIONS ASSESSMENT	6
4.2	STEP 1: UNDERSTANDING THE CURRENT SITUATION	6
4.3	STEP 2: UNDERSTANDING THE FUTURE SITUATION	9
4.4	STEP 3: ESTABLISHING THE NEED FOR INTERVENTION.....	10
4.5	STEP 4: IDENTIFYING OBJECTIVES AND DEFINING THE GEOGRAPHIC AREA OF IMPACT	10
4.6	STEP 5: GENERATING OPTIONS.....	11
4.7	STEP 6: INITIAL SIFTING OF OPTIONS	12
4.8	STEP 7: DEVELOPMENT AND ASSESSMENT OF POTENTIAL OPTIONS.....	23
4.9	ALTERNATIVE SITES ASSESSMENT	24
5	CONCLUSION	32

APPENDICES

APPENDIX 1	Options sift
APPENDIX 2	Alternative sites sift

1 Executive Summary

- 1.1.1 Delays at the Port of Dover and/or Eurotunnel, often caused by factors such as severe weather or disruption to services at the terminals, result in lorries being queued (stacked) on the M20 in a procedure referred to as Operation Stack.
- 1.1.2 2015 was unprecedented in that Operation Stack was more frequently implemented for longer periods of times than has been the case in the past. In August 2015, as an interim measure, Manston Airfield was leased by the government in order to reduce the need for and/or duration of some stages of Operation Stack.
- 1.1.3 The lorry stacking procedure has had adverse effects on many stakeholders including residents, local businesses, port and channel tunnel operators and lorry drivers. Consequently, Government was urged to find a solution. It is important to note that any scheme is unlikely to avoid the need for on road parking altogether. It would though lessen the frequency and/or duration of on-road lorry parking.
- 1.1.4 In response, in the 2015 Autumn Statement, the Government set funds aside to develop a site for a permanent lorry area as an alternative to the earlier stages of Operation Stack. If it emerges as the preferred option, Highways England may develop the permanent lorry area.
- 1.1.5 The purpose of this document is to assess the alternative options and sites that have been put forward by members of the public and other stakeholders during the non-statutory consultation Highways England undertook between 11 December 2015 and 26 January 2016. It is intended that this report will provide the Department for Transport (DfT) with information on, as well as a comparative assessment of the various options and sites, including those already consulted on.
- 1.1.6 The assessment process has seven steps and is aligned to that described in the first stage of the Transport Assessment Process in *'The Transport Analysis Guidance- the transport assessment process'*, DfT, (January 2014). This step is concerned with identifying the need for intervention and the process of option development and selection. Non-statutory consultation has informed this first step. A range of alternative options and sites were suggested by both the public and other stakeholders during the consultation. Several options were assessed between 26 January 2016 and 15 March 2016 and these have been rationalised into 10 alternative options and 19 alternative sites.
- 1.1.7 Options and sites are primarily constrained by: the need to provide enough capacity or equivalent capacity to take 3600 to 4000 lorries off the road; delivery in the short term (the next 18 months); benefits need to be delivered within 10% of up to a £250 million budget. The choice of site is additionally constrained by: environmental impacts; ownership and availability; the practicality of lorries being able to access/egress the site; the need to be off or in the vicinity of a highway for which Highways England would be the highways authority; and other environmental legislation, for example relating to air quality and noise.
- 1.1.8 There is an opportunity to improve regional lorry provision more generally, in the form of enhanced facilities for lorry drivers in Kent. As well as the more general benefits associated with this enhanced provision, it may also be possible to reduce incidences of 'fly parking', known to be a problem in Kent.
- 1.1.9 The following options have been identified for the assessment process:
1. Operation Stack (baseline);
 2. Technological solution guiding HGV drivers to closest parking facilities when disruption occurs, for example a phone app;
 3. State intervention/legal emergency solutions including forcing port operators to agree inter-availability and stop prioritising their own traffic during stack periods, as well as powers to require freight go to a

different port or to use next available space regardless of price;

4. Making other ports more attractive through improved facilities, road access;

5. Place more freight traffic onto the rail network - UK wide;

6. Develop a further channel tunnel terminal to the north of London, or in North Kent, potentially making use of HS1 line;

7. Increase overall capacity and resilience of the regional motorway network, for example by transforming the A2 into a motorway, installing a Lower Thames Crossing etc.;

8. Use of M26 for Operation Stack;

9. Maintain a two way flow on the M20 during Operation Stack, potentially with the use of contraflow and moveable barriers;

10. Widen M20 motorway to allow the permanent use of the motorway for Operation Stack; and

11. Establishing a lorry area.

1.1.10 Many of the options, for example: the use of technology; the increased use of rail for freight; an emergency power combined with improvements to other ports; and generally improving the resilience of the road network, all have potential to either reduce the impacts of the conditions that *cause* Operation Stack, or to reduce or better manage the *effects* of Operation Stack. They therefore have some merit. These options though are generally all considered to only be able to deliver the required benefits in the medium to long term and alongside other options.

1.1.11 Although it is an option that is likely to have more significant environmental effects than other options (due to the overall land take and extent of operational development), the only option that is able to deliver the short term requirements of the objectives, for less than £250 million, is Option 11 - the lorry area.

1.1.12 In order to develop this option further several sites were put through their own sifting process using the following criteria: accessibility; environmental impact; deliverability; capacity; affordability; and practicability. This sifting process included the two options that were originally consulted upon, plus the alternative sites put forward by the public and stakeholders during consultation.

1.1.13 Stanford West is the highest scoring site, but it is notable that the two split sites; 'Stanford West and Sandway', and 'Stanford West and Mersham' both out performed Option 2 'Junction 11, North' in the sifting process.

1.1.14 DfT's attention is therefore drawn to the potential environment benefits of developing the lorry area over two sites, which may provide the benefits of the lorry area with the opportunity to locate the development further from residential dwellings, and better assimilate it into the landscape.

2

Introduction

- 2.1.1 The purpose of this document is to assess the alternative options and sites that have been put forward by members of the public and other stakeholders during the non-statutory consultation described below. The assessment includes the two options that were specifically consulted upon in this consultation (known as Stanford West and Junction 11 North). These options are reassessed here, in the same manner and alongside, the alternative options.
- 2.1.2 It is intended that this report will provide DfT with information on, as well as a comparative assessment of, the various options and sites. The purpose is to inform and enable a decision by DfT on a scheme that will allow Operation Stack to be less frequently used, particularly its later steps. In doing so, it provides an opportunity, should they wish, for DfT to review the objectives of the project. For example, the timetable of the project, whether the scheme will be an off-road solution, and if an off-road solution remains the preferred option, the form the off-road solution might take, and where it should be situated.
- 2.1.3 The assessment process has seven steps and is aligned to that described in the first step of the Transport Assessment Process in *'The Transport Analysis Guidance- the transport assessment process'*, Department for Transport' (DfT), (January 2014). This step is concerned with identifying the need for intervention and the process of option development and selection.
- 2.1.4 The guidance advocates undertaking the assessment proportionately, applying a 'lighter touch' where appropriate, in order to minimise abortive work investigating undeliverable options which would fail to address the problem.
- 2.1.5 This assessment was undertaken between 29 January 2016 and 15 March 2016, largely as a desk-based exercise, using readily available data, supported by stakeholder engagement and consultation. The report contains comparative and qualitative commentary on the identified options and sites. Where various options and/or sites have emerged as worthy of note, this is highlighted.

3

STAKEHOLDER AND PUBLIC CONSULTATION

3.1.1 Step 1 of the options assessment process should be informed by engagement with stakeholders and the public, proportionate to the scale of the intervention.

OUTCOME OF CONSULTATION

3.1.2 As described above, in order to understand the views of the community and other stakeholders, Highways England undertook a non-statutory public consultation between 11 December 2015 and 26 January 2016. This was undertaken to engage with the public at an early stage and garner their opinions on two potential options for a permanent lorry area, both close to Junction 11 (known as Stanford West and Junction 11 North).

3.1.3 As part of the public consultation process alternative options and sites for the lorry area options were put forward by members of the public and other formal bodies that responded.

3.1.4 The consultation focused on one option, that of an off-road lorry area. Stemming from this, two potential sites for the lorry area were consulted at this consultation.

3.1.5 Alongside the consideration of two potential sites for the lorry area option, the public and other stakeholders were, however, asked for suggestions for both alternative sites and/or options to the proposal.

3.1.6 Some of the alternative options were put forward as standalone solutions to avoid Operation Stack's later phases. A number of them were also put forward as a part of suite of measures to complement Operation Stack.

3.1.7 The public and stakeholder consultation is documented in a separate report (dated March 2016).

3.1.8 Following the last day of the consultation the options and sites were rationalised and assessed during a period of approximately 2 months ending on the 15 March 2016.

3.1.9 The assessment of options necessarily precedes the assessment of sites. This is because the assessment of sites only becomes necessary if the off-road lorry area performs well against the options. The DfT guidance does not specifically cover the assessment of sites as has been undertaken in this report. Therefore, this assessment varies slightly from the guidance in this respect.

3.1.10 The guidance says at Paragraph 1.1.5 that genuine, discrete options, should be considered. The assessment should not be an assessment of a previously selected option against some clearly inferior alternatives. The assessment process is also iterative. If an option arising from the consultation is shown to perform better than an off-road solution, then this option could also be explored in greater detail.

3.1.11 This has not proven to be the case and the off-road solution remains the best option to provide the benefits of Operation Stack in the short term, when compared with the other suggested options on an equal footing. This is expanded upon in Section 2 of this report.

3.1.12 It is worth noting that this assessment distinguishes between short term (up to 18 months), medium term (18 months to 5 years) and long term (5 years plus) solutions. In this way, this result does not prevent future consideration of how an alternative option that might provide benefits in the medium or long term and/or be complementary to the best performing short term option (a lorry area).

3.1.13 The views of the Statutory Environmental Bodies, insofar as they relate to alternative options and sites, are outlined below:

- The Environment Agency provided no alternative options or sites.
- Historic England provided no alternative options or sites.
- Natural England had no preference on the site or alternative uses.

3.1.14 With regard to the consideration of alternative sites, Natural England stated that the location and design of the lorry area option should be guided by the landscape and ecological matters in addition to the operational requirements. They advised that, irrespective of which scheme/combination of schemes progresses the following measures should be fully explored:

- Softer engineering options such as reinforced grass surfaces;
- Breaking up the areas of the site which will not be used as the permanent lorry park with significant blocks of planting within the site itself;
- Creation of a woodland shaw(s) in keeping with the locality to help soften the boundary of the site rather than creating linear boundary edges;
- Undertaking landscape mitigation in the wider area, outside the confines of the scheme boundary;
- Ensuring that any landscape planting/mitigation measures link into the wider habitat network; and
- Use of innovative technology such as mobile infrastructure (lighting columns, facilities etc.) which will only be present on the site when it is operational.

3.1.15 Kent AONB Unit suggested a number of 'alternative solutions' to the problem, including:

- Further investigations/works to the M20 that would allow for continued two way traffic flow while implementation of operation stack is in place;
- Tackling the issue of growth in road freight volumes through Dover/Folkestone by promoting increased use of rail freight and use of other sea ports;
- Greater use of technology based traffic management – most HGVs are managed by GPS and if there are problems developing in Dover Docks or the Channel Tunnel, it should be possible to delay arrival of some lorries. This could disperse them to a series of motorway service areas across the country or slow their speed so they arrive in Dover later; and
- Lorry facilities elsewhere, further away from the AONB where there would be less harm and consideration of a multiple location solution.

3.1.16 Kent County Council has investigated potential overnight parking areas for lorry areas that might be used during Operation Stack.

CONCLUSION

3.1.17 A range of alternative options and sites were suggested by both the public and other stakeholders during a non-statutory consultation that ended on 26 January 2016.

3.1.18 Following this consultation the suggestions were rationalised into 10 options and 21 sites and assessed during a 2 month period ending on 15 March 2016.

4 Options Assessment

4.1.1 As well as producing this report (Step 8), there are 7 steps to the assessment process. These comprise:

- Understanding the current situation;
- Understanding the future situation;
- Establishing the need for intervention;
- Identifying objectives and defining the geographical area of impact;
- Generating options and sites;
- Initial sifting of options; and
- Development and assessment of potential options.

4.1.2 It should be noted that that this is not a proposal for a highway or a conventional transport development. For this reason, considering alternative options and sites for the Operation Stack procedure does not always perfectly align with DfT's Transport Assessment Guidance. Where this is the case it is noted.

4.2 STEP 1: UNDERSTANDING THE CURRENT SITUATION

4.2.1 The purpose of Step 1 is to develop an understanding of the current situation in the study area. As described above, since this assessment is not a response to a transport situation in a conventional sense, the assessment of options it does not align perfectly with the methods given in the DfT guidance.

4.2.2 In order to understand the current situation, it is necessary to outline the background and context to the Operation Stack procedure.

BACKGROUND

4.2.3 Delays at the Port of Dover and/or Eurotunnel, often caused by factors such as severe weather or disruption to services at the terminals, result in lorries being queued (stacked) on the M20 in a procedure referred to as Operation Stack.

4.2.4 Operation Stack comprises 4 stages. The capacity of each stage, and the length of motorway in which it occurs, is indicated below:

- Stage 1: M20 Junctions 8-9 2100 lorries
- Stage 2: M20 Junctions 9-11 1500 lorries
- Stage 3: M20 Junctions 9-8 2100 lorries
- Stage 4: M20 Junctions 11-9 1500 lorries

4.2.5 2015 was unprecedented in that Stages 1 to 3 were more frequently implemented for longer period of times than has been the case in the past. In August 2015, as an interim measure, Manston Airfield was leased by the government in order to avoid the need for Stages 3 and 4. It also aimed to reduce the need for and/or duration of Stage 2.

4.2.6 The lorry stacking procedure has had adverse effects on many stakeholders including residents, local businesses, port and channel tunnel operators and lorry drivers. Consequently, Government was urged to introduce a scheme that would avoid the need for Stage 1 to involve on-road lorry parking. It would

therefore, in effect, become the new 'Stage 1'. It is important to note that any scheme is unlikely to avoid the need for on road parking altogether. It would though lessen the frequency and/or duration of on-road lorry parking at times of port and channel tunnel disruption, with the overall aim of keeping Kent moving and freight flowing.

4.2.7 In response, in November 2015 the Chancellor announced in his Spending Review and Autumn Statement that Government would be "...providing up to £250 million for a major new permanent lorry park to increase resilience in Kent, by taking pressure off the roads in the event of Operation Stack."

4.2.8 If it emerges as the preferred option, Highways England may develop the permanent lorry area at a suitable site or sites using powers available under Section 115 of the Highways Act 1980, together with Part 9 of the Town and Country Planning (General Permitted Development) Order 2015.

CURRENT TRANSPORT AND OTHER POLICIES, INCLUDING RELEVANT LEGISLATION

Legislation

4.2.9 The pursuit of an appropriate alternative to the earlier stages of Operation Stack takes place within a legislative framework, the most relevant legislation is listed below. It must be noted that the below list is not exhaustive and other legislation, not listed here, may also be relevant.

4.2.10 None of the options or sites are considered to be a Plan, Policy or a Programme and so there is no requirement to undergo Sustainability Assessment. This would normally incorporate the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004 (commonly referred to as the 'Strategic Environmental Assessment Regulations'), which implement the requirements of European Directive 2001/42/EC.

4.2.11 For the development of a site the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 remain relevant. The lorry area option would require development that may have significant environmental impacts. It would therefore require Environmental Impact Assessment (EIA).

4.2.12 Also relevant when considering sites, is the following legislation:

- The Countryside and Rights of Way Act (CROW) Act 2000
- EU Directive 2009/28/EC on the conservation of habitats (Habitats Directive)
- EU Directive 2009/147/EC on the conservation of wild birds (Birds Directive)

4.2.13 The Human Rights Act 1998 must be considered in the background against all activity undertaken by a public authority. At Article 8, it states:

'Everyone has the right to respect for his private and family life, his home and his correspondence.'

'There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.'

4.2.14 The pursuit of an option or site that would affect individuals not in accordance with the provisions of this Act would therefore be inappropriate. It is noteworthy that objectives of the scheme are considered necessary to ensure the economic well-being of the country.

4.2.15 Highways Act 1980, Section 115, this gives the highway authority (in this case the Secretary of State for Transport), the power to create 'a lorry area' on 'land adjoining, or in the vicinity of a highway, or a proposed highway', for which he is the highway authority. Any lorry area progressed by the Secretary of State using Section 115 is permitted development under Part 9 of the Town and Country Planning (General Permitted Development Order) 2015 (as amended).

4.2.16 By virtue of section 1A of the Highways Act 1980, Highways England is the highway authority for the purposes of the M20 and is therefore empowered to provide a Lorry Area under section 115 of the Highways Act 1980.

Policy

In coming to a decision on alternative options and, if relevant, sites for managing freight in Kent the Secretary of State must have regard to relevant national policy. The most relevant body of national policy is the National Planning Policy Framework (NPPF). This confirms that the purpose of the planning system is to contribute to the achievement of sustainable development and identifies three mutually dependent aspects of sustainable development: economic; social; and environmental.”

4.2.17 The alternative sites sift does not explicitly consider social and economic impacts as discreet criteria. This is because the social and economic benefits are considered to flow from the off-road lorry area option, rather than the characteristics of the site. For the purposes of this exercise then, the social and economic impacts are considered to be broadly equivalent for all alternative sites and so it is not necessary to apply scores for these criteria in the sifting process. The environmental context of each alternative site is though different, and so environmental impacts are considered and scored in the sifting process.

OPPORTUNITIES AND CONSTRAINTS

4.2.18 Any option that is developed to overcome the social and economic impacts of Operation Stack presents a number of opportunities and constraints. Identified opportunities and constraints are reflected in the choice of criteria used in the sifting process.

Constraints

4.2.19 Options and sites are primarily constrained by:

- The need to provide enough capacity or equivalent capacity to take 3600 to 4000 lorries off the road.
- To be able to address in the short term (in other words within the next 18 months), the effects that cause Operation Stack to be implemented. For example, a scheme that would be classified as a Nationally Significant Infrastructure (NSIP) requiring a Development Consent Order (DCO), or the need to develop new technology would probably delay delivery and so not allow the effects to be addressed in the short term.
- The benefits need to be delivered within 10% of up to a £250 million budget.

4.2.20 The choice of site is additionally constrained by:

- Environmental impacts, for example impacts on heritage, soils and water, ecology and landscape¹.
- Land ownership and availability.
- The practicality of lorries being able to access/egress the site
- The need to be off or in the vicinity of a highway, or future highway, for which Highways England would be the highways authority. This enables the site to be developed as a lorry area under Section 115 of the Highways Act.

¹ Options are subject to environmental constraints too, for example some options may cause congestion leading to impacts on air quality. Environmental constraints are though more of a constraint on the choice of site.

- Other environmental legislation, for example legislation relating to air quality and noise, or to habitats (listed above).

4.2.21 Some constraints, such as the inability to provide capacity or to be implemented in a reasonable timescale (up to three years), or are considered to be 'showstoppers'.

Opportunities

4.2.22 There is an opportunity to improve regional lorry provision more generally, in the form of enhanced facilities for lorry drivers in Kent. As well as the more general benefits associated with this enhanced provision, it may also be possible to reduce incidences of 'fly parking', known to be a problem in Kent.

4.2.23 Where an option or site involves improvements to the road network or an additional junction, there may also be residual benefits to the economy and society.

4.2.24 Environmental enhancements, such as landscape enhancements, as well as improved connectivity, which would have beneficial social effects, could be incorporated into any option that requires operational development, in particular the off-road lorry area solution.

4.3 STEP 2: UNDERSTANDING THE FUTURE SITUATION

4.3.1 Step 2 normally requires the development of a range of scenarios for the future against which options and subsequent further assessment would be undertaken. For the purposes of this exercise, it is only considered necessary and proportionate to consider one future scenario. That is the 'do nothing', or 'without scheme' scenario.

'WITHOUT SCHEME' SCENARIO

4.3.2 Operation Stack, whilst successful in that it enables lorries to queue when these circumstances arise, requires the closure of significant stretches of the M20 motorway. One impact of this is that traffic is driven elsewhere onto the road network, causing congestion and delay. There are undesirable consequences for the economy as local, regional and national businesses are unable to function in the usual way. It is also likely to impact on consumer spending in the area, in that consumers are less able to reach a destination where they might otherwise be spending money. There may also be related and wider impacts on the national economy.

4.3.3 For the same reason, there are harmful impacts for society as a result of on-road lorry parking, including for local communities, visitors, and those passing through the area to reach the continent. In particular, emergency services are less able to function and the public are less able to perform tasks and trips necessary for daily living.

4.3.4 The severity of these impacts increases with the frequency and number of stages of Operation Stack that are implemented within any given period. It is therefore necessary to find a resilient and sustainable alternative to the earlier stages of Operation Stack, so that on-road lorry parking is less frequently required to deal with the effects of port and channel disruption, and involves less off the road network when it is.

4.3.5 This solution should have similar benefits to current arrangements, in that it would be able to accommodate lorries when the port and/or channel tunnel terminals are not operating normally. These benefits should however cause less harm to the economy and society². Without this alternative it can be

² Operation Stack may also impact on the environment. This has been considered elsewhere in the assessment. It is the harm to the economy and to society that are though the main drivers for seeking an alternative to its earlier stages.

reasonably assumed that the harmful impacts on the economy and society would at least continue, and may even get worse.

4.3.6 For clarity, continuing to implement Operation Stack, with the all benefits and impacts that result from its implementation, is the 'without scheme' scenario. This scenario (Operation Stack), for comparison and completeness, has been assessed in the same manner alongside the other options.

4.3.7 It is possible that the conditions that create the need for Operation Stack may not reoccur as predicted. There is a risk then that an alternative solution to the early stages of Operation Stack may be implemented without need. This is a risk, but it is not considered to be likely.

4.4 **STEP 3: ESTABLISHING THE NEED FOR INTERVENTION**

4.4.1 This step assesses and develops the case for that intervention.

4.4.2 Operation Stack has not been needed since August 2015. However, the various causes of Operation Stack, such as severe weather, strike action, and cross-channel equipment failure remain and could reoccur at any time. According to European Gateway Strategic Delivery Group (EGSDG), the current annual demand at both the Port of Dover and the Channel Tunnel is over 3.6 million HGVs and this is forecast to increase somewhere in the order of 4.7 to 5.7 million freight vehicles by 2024. Thus any given strike or bout of severe weather will have a greater impact, simply because there will potentially be more lorries seeking to cross the channel. It is therefore reasonable to assume that the circumstances creating the need for Operation Stack will continue to occur. The case for intervention also arises from a clear and robust stakeholder request and is considered by Government to be a national priority.

4.4.3 For both the above reasons, it is considered that the case for intervention is established and there is less of a requirement to provide evidence or to develop the case for intervention, as would normally be required in this assessment process.

4.5 **STEP 4: IDENTIFYING OBJECTIVES AND DEFINING THE GEOGRAPHIC AREA OF IMPACT**

OBJECTIVES

4.5.1 The main objective is to avoid the harmful effects to economy and society³ that occur at times of operational difficulties at the Port of Dover and the channel tunnel by seeking a viable alternative to the earlier stages of Operation Stack.

4.5.2 Any alternative to Operation Stack's earlier phases must:

- Provide enough capacity or equivalent capacity to take 3600 to 4000 lorries off the road. In other words to provide the equivalent capacity to stages 1 and 2 of Operation Stack. On all except two occasions during summer 2015 this would have been sufficient to avoid needing to use the M20 to park lorries.
- To be able provide this capacity in the short term (in other words in the next one to three years), without a lengthy consents process, or the need to develop new technology.
- To be delivered within 10% of up to a £250 million budget.

³ Operation Stack may also impact on the environment. This has been considered elsewhere in the assessment. It is the harm to the economy and to society that are though the main drivers for seeking an alternative to its earlier stages.

4.5.3 These are parameters that have been set by Government and reflected in the Client Scheme Requirements provided to Highways England by the DfT.

GEOGRAPHIC AREA OF IMPACT

4.5.4 Impacts associated with operational difficulties at the port are felt across the region. For example, disruption to traffic flows at the port may be felt as far back as the London M25 orbital. Beyond this, the impacts would be more diluted into the wider road network, but nonetheless may still exist. For example, the impacts are felt on both official diversion routes and the rest of network as road users seek to avoid congestion.

4.5.5 It is considered that impacts are most keenly experienced within 35 miles of the Port of Dover and in particular from Maidstone to Dover. They then radiate outwards north and south as drivers seek to avoid congestion by taking ever wider routes.

4.5.6 Reflecting this, an off-road solution is considered to lose its effectiveness the further it is away from the port or terminal.

4.6 STEP 5: GENERATING OPTIONS

4.6.1 The purpose of option generation is to develop a range of alternative measures or interventions that are likely to achieve the objectives identified in Step 4.

4.6.2 In this case options have primarily been generated through consultation with the public and stakeholders. Alternative Options are documented in the consultation response spreadsheet (provided as an Appendix to the consultation Report). These options have been rationalised into 10. Including the 'Without Scheme' option (Operation Stack), 11 options have therefore been sifted and ranked according to both weighted and unweighted criteria.

OPTIONS

4.6.3 The following options have been identified for the assessment process:

1. Operation Stack (baseline);
2. Technological solution guiding HGV drivers to closest parking facilities when disruption occurs, for example a phone app;
3. State intervention/legal emergency solutions including forcing port operators to agree inter-availability and stop prioritising their own traffic during stack periods, as well as powers to require freight go to a different port or to use next available space regardless of price;
4. Making other ports more attractive through improved facilities, road access;
5. Place more freight traffic onto the rail network - UK wide;
6. Develop a further channel tunnel terminal to the north of London, or in North Kent, potentially making use of HS1 line;
7. Increase overall capacity and resilience of the regional motorway network, for example by transforming the A2 into a motorway, installing a Lower Thames Crossing etc.;
8. Use of M26 for Operation Stack;
9. Maintain a two way flow on the M20 during Operation Stack, potentially with the use of contraflow and moveable barriers;
10. Widen M20 motorway to allow the permanent use of the motorway for Operation Stack; and

11. Establishing a lorry area.

4.7 STEP 6: INITIAL SIFTING OF OPTIONS

4.7.1 The below tables show the results of the sift process, using both weighted and unweight criteria. The options have been colour coded to depict which options are considered to be worthy of further review (in other words, Step 2 of DfT's Transport Assessment Process).

4.7.2 A green rating indicates that it is strongly advised that the option be further reviewed. An amber rating indicates that the option should be considered for further review. A red rating indicates that the option is probably not worth reviewing further as it is unlikely to achieve the objectives of the scheme.

4.7.3 Of course, the nature of a sifting process is not a perfect art, and the results can be significantly affected by even slight changes in variables, as well the quality of and quantity of available information that informs the scoring. It is also by nature not completely objective, and to a certain extent relies on professional judgement. Each option should therefore be considered more qualitatively and using common sense, before either taking forward or eliminating from the process.

4.7.4 If new information emerges or the objectives and/or priorities of the scheme changes then the results of the sift process could change significantly. For example, a short term solution that addresses the effects becomes less important than a solution that targets the causes in the medium or long term).

Cut-off weighted score for weighted sift:

<=300 Further Review Advised
>300 <=350 Potential for Further Review
>350 Reject

Weighted rank	Option Number	Option name	Rating
1	11	Lorry Area	140
2	1	Operation Stack ('without scheme')	215
3	2	Technology	315
4	9	Use of contraflow	325
5	3	State intervention	335
6	5	Use rail for freight	360
7	6	Develop further channel tunnel terminal	360
8	10	Widen M20	375
9	8	Use M26 for Operation Stack	375
10	7	Improve resilience of regional road network	375
11	4	Improving other ports	455

Cut-off weighted score for un-weighted sift:

<=15 Further Review Advised
>15 <=25 Potential for Further Review
>20 Reject

Un-weighted rank	Option Number	Option name	Rating
1	11	Lorry Area	12
2	1	Operation Stack	19
3	2	Technology	19
4	9	Use of contraflow	23
5	3	State intervention	23
6	5	Use rail for freight	24
7	10	Widen M20	25
8	6	Develop further channel tunnel terminal	25
9	7	Improve resilience of regional road network	26
10	8	Use M26 for Operation Stack	27
11	4	Improving other ports	29

The following table shows the categories against which each option was assessed and the relative scoring of the sift process:

1.Social Impact	Weight 5
1 most positive impact to 5 the worst. Includes accessibility to services, schools, hospitals, leisure, care and community facilities, public health, communities including their displacement or severance, and impact on rights of ways.	
2.Economic Impact	10
1 most positive impact to 5 the worst. "Keeping Kent moving" includes residual benefits to business.	
3.Environmental Impact	10
1 most positive impact to 5 the worst. Includes effects on landscape and views, ecology, noise, air quality, water, flood risk, soils, geology, and heritage. Includes how these impacts could affect the amenity of local residents.	
4.Delivery	20
1 can deliver short term (18 months); 3 can deliver medium term (3 to 5 years); 5 can deliver long term (5 years plus).	
5.Capacity	15
1 can provide >3600 to 4000 spaces ; 3 can provide 1800-3600 spaces ; 5 can provide <1800 spaces.	
6. Affordability	15
1 Likely to be delivered in £250m; 3 could be delivered within a 10% range £250m; 5 unlikely to be delivered within a 10% range of £250m.	
7. Practicability	20
1 fully workable; 3 workable but with complications; 5 unlikely to be workable	

4.7.5 **Social, economic and environmental impacts** are all given a weighting of 5.

4.7.6 **Capacity and affordability** are both given a weighting of 15. Whilst still important objectives of any scheme, these are considered to be the most flexible. For example, if an option doesn't provide sufficient capacity then it could be combined with another option to create the capacity. Also budgets, whilst difficult to adjust, can conceivably be added to or taken from. In other words, these factors, whilst

important, are not considered to be 'show stoppers'. Collectively though they to equate to 30, which is of equal weight to the sustainability criteria.

4.7.7 **Delivery** and **practicability** are concerned with the timescale for implementation, and the ability for the option to be realised. They are both given a weighted score of 20. They are weighted higher than other criteria for a number of reasons. The weighted sift process is explicitly and consciously biased towards a solution that can deliver the benefits of Operation Stack, without the associated harm to the economy and society. Since the conditions that give rise to Operation Stack are predicted to occur in the near future, it is imperative that the solution is able to be delivered in time to prevent these negative impacts occurring in the short term, hence the relatively high weight given to 'delivery'. If a similarly significant weight is given to practicability, as if the option is unable to be implemented, then it is not suitable for further consideration. In other words then, both these aspects are considered to be 'showstoppers', reflected in the relatively high aggregate weighting of 40.

4.7.8 To clarify, the weightings given in the sift process therefore intentionally prioritises options with more acceptable environmental, social and economic impacts, and which can realistically be delivered in the short term (defined as within 18 months).

4.7.9 To provide a baseline and to reveal the impact of the chosen weightings, the options have also been sifted with equal weight given to each criterion (Appendix 2). It is notable that this does not produce a significantly different result. In fact the top five rankings remain the same.

4.7.10 Below some comparative commentary is given regarding how the options performed under each criteria in the options sift process, followed by some discreet comments relating to each specific option.

4.7.11 Specific comments and reasons for the score are also given within the sift spreadsheet itself (Appendix 1).

COMPARATIVE COMMENTARY ON EACH CRITERIA

Environmental, Social and Economic Impacts

4.7.12 The main causes of the need for a new scheme are the unacceptable social and economic impacts of Operation Stack - the 'Without Scheme' scenario. This option therefore scores the worst (a 5) for both social and economic effects. Other options are assessed based on the relative environmental, social and economic benefits or harm of the option, taking into account the harm caused by Operation Stack. Generally, schemes that involve the most operational development score worse for environmental impacts. For example, the lorry area option scores well for social and economic impacts, as it is likely to solve the harmful impacts caused by stack, but less well for environmental impacts, as the option requires a significant amount of land to be developed.

4.7.13 It is worth noting that the options have been assessed as concepts rather than with regard to specific details. For example, at this step the lorry area and motorway widening options have been scored without regard to the characteristics of specific sites, but since they involve land-take and operation development would have higher environmental impacts. The technology option would have fewer spatial impacts and so is less likely to impact on the environment.

4.7.14 In the same respect the use of rail to transport freight, state intervention and legal solutions all score lower for environmental impact. Use of the M26 and contraflow are all assessed a having neutral environmental impacts, economic and social factors are scored similarly, using Operation Stack as a baseline.

4.7.15 Sometimes a balance between adverse and beneficial impacts results in a neutral score or shifts its direction. For example, the technology option may have some beneficial social impacts, as if successfully implemented, it would avoid the need to close the M20, but reduced facilities for others as a result of occupation of spaces is a more harmful social impact. It therefore falls one short of the best score (a 1) for social impacts.

Delivery

- 4.7.16 The delivery criterion concerns the timescale for implementation. Short, medium and long term are defined for the purposes of the sift as: short term (18 months); medium term (3 to 5 years); and long term (5 years plus).
- 4.7.17 Operation Stack, as the baseline 'Without Scheme' Option, can already be implemented at short notice. It therefore receives the best score of '1' under the delivery criteria.
- 4.7.18 Most options score high on delivery. This is in part due to complexity or lack of definition of the solution, as well as the number of stakeholders involved. For example, improving the attractiveness of a port may involve, not exclusively: new infrastructure; development of new facilities, and government subsidies. Most options would also involve a combination of different private and public sector actors, including Highways England, port operators, and private investors. Cooperation with other national authorities and governments may also be required to make fully realise the benefits of some options. They may be subject to lengthy consents process, for example if they are considered to be Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008. Even if all of these projects and factors are in place, it may take several years to fully realise the benefits and therefore avoid the need to implement 'Operation Stack'.
- 4.7.19 These factors are particularly relevant to the 'putting more freight traffic onto the rail network', 'develop a further channel tunnel', and 'increase the overall capacity of the regional motorway' options. These result in a high score for the deliverability criteria for these options and it is likely to be more than five years before the early stages of Operation Stack are able to be avoided.
- 4.7.20 The use of the M26 motorway for Operation Stack, or the use of contraflow, are both given median scores under the deliverability criteria. They would require less operational development, but are still considered to only be deliverable within a three to five year timeframe, due to complications. For example, whilst in theory the M26 could be used straight away for a later step of Operation Stack, it currently is not possible to turn left into it from the M25. A safe and efficient process for managing contraflow on the M20, including the use of moveable barriers, has yet to be developed. These factors are likely to delay delivery.

Capacity

- 4.7.21 The solution should provide enough capacity, or equivalent capacity (in other words, if not providing physical capacity, like a lorry park, it should result in the equivalent of the same amount of lorries being taken off the road) to avoid the need for the first three steps of Operation Stack. This equates to a capacity, or equivalent capacity, of at least 3600 lorries.
- 4.7.22 'Operation Stack', of course scores highly, as it is known to be able to accommodate this amount of lorries in its first three steps.
- 4.7.23 Some assumptions have been made from limited information. The technology solution, for instance, is assumed to be able to accommodate an equivalent amount if successfully implemented, even though the technology has not been yet been developed, and it is not known if sufficient lorry facilities are available both in the south east and the rest of the UK.
- 4.7.24 State intervention, making other ports more attractive, and the use of the M26 for Operation Stack, all score badly, either due to their complexity and the uncertainty involved at this step in whether they could deliver this capacity, or well as because they are known to not have the required capacity. For example, the M26 is not long enough and the option would not avoid the need for Operation Stack.

Affordability

- 4.7.25 As a baseline, 'Operation Stack' scores well as it would not require any additional expenditure over and above what is already being spent. 'State intervention' also scores well as it is unlikely that new legislation would cost more than £250 million to develop or operationalize.

4.7.26 On the other hand, options such as ‘Making ports more attractive’ and ‘increasing the overall capacity and resilience of the regional motorway network’, are highly likely to require significant investment amounting to more than £250 million. This is due to the complexities involved and the likely requirement for Government to subsidise longer and less commercially attractive routes between the UK and the continent.

Practicability

4.7.27 This criterion is arguably the most important, as if a scheme cannot be practically delivered, then it should not be considered further. In this way, this criterion is the one closest to being a ‘showstopper’.

4.7.28 ‘Operation Stack’ is already proven to work, but in this case it has not been awarded with the best score. This is because the effects of this scheme are not acceptable and so continuing it cannot be considered practical. For this reason it has been given a median score of 3.

4.7.29 The majority of options scored badly under this criterion. For example, the technological solution is unlikely to be workable without further development of a model for compliance. In other words, how would lorries be forced to make use of the app and use the next available space?

4.7.30 Generally, the considerable amount of uncertainty around each option contributes to the generally low scores.

4.7.31 The one option that scores highly under this criterion is the lorry area option. There are several sites available, the costs are relatively well known and the development required is conventional. It is also a relatively simple option to manage and so is considered a highly practical option. It scores 1 in the sift process for this reason.

Discussion

4.7.32 Operation Stack scores high in the rankings (in both sifts it is second). This is counter intuitive considering that the main objective is to find a viable alternative to the earlier stages of Operation Stack, which has the same benefits but without the harmful social and economic impacts. In explanation, it has scored highly due to the criteria that have been chosen and the need be consistent with other options when scoring. Whilst it scores badly for the social and environmental impacts, it is known to have the required capacity, and can be delivered within budget, in a very short timescale. The favourable scoring for these criteria pushes it up the rankings.

4.7.33 The lorry area option scores the best for both the un-weighted and weighted options, but especially so in the weighted sift. This reflects the fact that it can be quickly delivered, easily managed and have beneficial social and economic impacts. It would though have one of the higher environmental impacts of all the options.

4.7.34 The technology option also performs well across most criteria, although for various reasons the solution is unlikely to be delivered on time or in budget. It’s generally high ranking does though indicate that it could be further investigated as a possible medium or long term complementary alternative to the earlier stages of Operation Stack (alongside a better performing option).

4.7.35 The un-weighted sift, whilst not significantly affecting the rankings, isn’t so polarising, and leaves more options considered worthy of further investigation (in other words they score amber). In the un-weighted sift 7 emerge amber, against only 3 in the weighted sift. These are: Operation Stack; technology; use of contraflow; state intervention, using rail for freight, widening the M20, develop a further channel tunnel terminal.

4.7.36 All of these options could be explored further as medium to longer term complement to a higher scoring option.

COMMENTARY ON SPECIFIC OPTIONS

Below is a more qualitative commentary on the various options, which picks out the most relevant considerations. Reasons for specific scores are given where appropriate, but for a more complete record of justification for each scoring, the text in the alternative options sift process should be referred to (Appendix 1).

They are listed in order of ranking from the weighted sift process.

Rank 1, Option 11 - Lorry Area Option	
Weighted score 140	Un-weighted score 12
<p>Due to the overall land take and extent of operational development required the environmental impacts are likely to be higher than options without these characteristics. These impacts can be reduced with the selection of a suitable site and by potentially using two or more sites, only the first of which would be intensively developed for everyday use. Additional sites would then be developed less intensively for occasional use, for example with the lower impact surfacing and increased land given to green infrastructure, landscaping and SUDs.</p> <p>On the other hand, it is known that this option can be delivered in the short term and within the required budget. It would also provide the required capacity removing the need to implement the later steps, and potentially the first steps, of Operation Stack.</p> <p>This option is considered to be the most likely to meet the objectives of the scheme, hence its position at the top of the ranking following the sifting process.</p>	

Rank 2, Option 1: Operation Stack (baseline)	
Weighted score 215	Un-weighted score 19
<p>Operation Stack is described at Paragraph 3.2.3.</p> <p>It is the 'Without Scheme' scenario, as described at Paragraph 3.3.2.</p> <p>Environmental impacts are more limited than other options although its operation has the potential for increased noise, air quality and visual impacts on nearby dwellings and settlements. It provides the required capacity and has been already been delivered on numerous occasions. This is reflected in the favourable scores given for the delivery, capacity and affordability criteria in the sift process.</p> <p>It is proven to deliverable, but at the same time has unacceptable social and economic impacts and so cannot be a practical solution. Therefore it is given a median score for this criterion.</p> <p>The objective of the project is to find an alternative to the earlier stages of Operation Stack, which delivers the same benefits but without the associated economic or social harm. This is described in Paragraphs 3.5.1 to 3.5.3. Its place in the overall ranking is therefore irrelevant.</p>	

Rank 3, Option 2: Technological solution guiding HGV drivers to the closet parking facilities when disruption occurs, for example a phone app.	
Weighted score 320	Un-weighted score 19

This option entails appropriate digital infrastructure for the use of Smart phone and ITS technologies to guide HGV lorry drivers to the closest parking facilities at times of ports experiencing operational difficulties.

Whilst infrastructure of some form for signals, signs and messaging already exist on our motorways, this option is effectively an entirely new system and as such requires system engineering which has a clear process to follow. Whilst some existing strategic VMS may be able to display tactical messages but need to comply with relevant standards and policy.

To increase the understanding of the messages to the drivers more signs would be required. Also for the system to be fully effective, it is advisable to integrate it with lorry parks, fleet and port management system. Critical to the success of this scheme would depend on cooperation of both public and private sector organisations to use a common technology system.

The system would inform lorry drivers of disruption and advice or instruct them to the nearest lorry parks that have spaces. In addition to the use of digital infrastructure and ITS technologies, this option would require a number of sites on the main motorway corridors leading to port of Dover. It is assumed that some existing sites may be expanded and modernised plus some new sites developed acknowledging both would create additional environmental impact; the latter more than the former.

It is considered, there are no notable social or economic net benefits due to the proposed solution in the wider sense, other than lessening the social and economic harm caused by Operation Stack.

Unless there is requirement for the port and freight operators to use the same technology, its effectiveness could be minimal. Hence, enforcement through some form of legislation may be required, postponing the benefits of this option, and adding to its cost.

Its unproven efficacy and the extent to which these benefits could be achieved in the short term reduce its attractiveness as an alternative option. It is, however, considered that the proposal has enough merit and potential to be further explored as a medium to long term option, which may complement a better scoring option.

Overall, it is considered a relatively sustainable solution

Rank 4, Option 9: Maintain a two way flow on the M20 during Operation Stack, potentially with the use of contraflow and moveable barriers

Weighted Score 325

Un-weighted score 23

This is variation to the operating procedure of Operation Stack as it is currently enacted and so is not a true 'alternative option'.

The requirement to find a safe, efficient and effective method of implementing this option has not yet been achieved, meaning that it could not be delivered in the short term. It may also result in loss of capacity for lorries and hence a need to disrupt more of the road network.

Overall, this is not considered to be a comprehensive or effective alternative to the earlier stages of Operations Stack, which could be delivered in the timescale required.

Rank 5, Option 3: State intervention/legal emergency solutions including forcing port operators to agree inter-availability and stop prioritising their own traffic during stack periods, as well as powers to require freight go to a different port or to use next available space regardless of price

Weighted score 335

Un-weighted score 23

This option would give Government an emergency power to require freight to access and egress the UK in ways that are not necessarily the most economical and/or convenient, such as using the next available space regardless of price or preferred route. This option would require the creation and enactment of new legislation.

The intention of this power would be to improve the flow of freight. The efficiency of freight movement would temporarily, and as an emergency measure, be prioritised over commercial choice.

Whilst there would be some benefits to this option, it is also considered that it is unlikely to provide a total solution, and could only be delivered in the medium to long-term.

This option is also considered to be somewhat illogical, in that it assumes that there is availability in other ports and at the channel tunnel terminal at times when disruption is sufficient to implement Operation Stack. There is no current robust evidence base to support this. In fact, the current assumption is that at these times there is lack of available places. Without such evidence we do not know if the option would be effective, even if such a power was put in place.

It would also cause additional freight traffic to use routes that may be already congested and in this way there may be some adverse impacts on the environment.

Subject to legal costs it is likely to be achieved within the £250 million budget, although this solution would need to be properly costed to be support this view.

Overall, successful implementation of this emergency power would mean that some lorry traffic would likely be removed from the congested area in Kent. There are however many uncertainties and so at this time it is not considered to be a total or practical alternative to the early stages of Operation Stack.

Rank 6, Option 10: Widen M20 motorway, or provide a parallel duelled A20 to allow the permanent use of the motorway for Operation Stack.

Weighted score 375

Un-weighted score 25

This option would see the M20 Motorway widened to four lanes in either direction to allow lorries to be 'stacked' without losing the normal capacity of the motorway. It is likely that associated upgrades to junctions would also be required.

There would be no need for the M20 to close, which would improve the economic and social problems associated with Operation Stack. There would likely be more general social and economic benefits to increasing capacity of the motorway.

On the other hand, due to the length and extent of the required land take, the widening of a motorway would have a high environmental impact in comparison with other options that do not require any operational development. These environmental impacts may not be justified if there is no evidence to suggest that the increased capacity is necessary or would be used more generally.

Furthermore, due to the nature of the scheme Development Consent would be required,

significantly delaying any benefits as the examination and determination process alone would take a minimum of 18 months. Furthermore, the costs of widening sections of motorway to a length capable of catering for Operation Stack are not considered possible within the £250 million budget.

Overall, it is not considered to be a practical, deliverable or affordable alternative to Operation Stack's early phases.

Generally, it is not considered that operational difficulties at the port and terminal could alone justify such a widening, the environmental impacts of which could potentially exceed even that of the lorry area option (although they have been scored the same in the sift process). Accordingly, a case for the widening of the M20 should also include evidence that there is a more general requirement for an increase in capacity.

Rank 7, Option 8: Use of M26 for Operation Stack

Weighted score 375

Unweighted score 27

This option would involve using the M26 as an alternative location for Operation Stack.

Being a shorter stretch of motorway than is currently used for Operation Stack, it is considered that it could not alone provide the required capacity. Furthermore, use of M26 has already been considered by Highways England. The M26 has only two lanes plus a hard shoulder and therefore provides little stacking capacity. Furthermore, there is currently no M25 southbound left turn, which would be required for this option to work. It would not be possible to deliver a left turn in the short-term due to the lengthy consents process.

Generally, it is not considered to be a workable option and this is reflected in the high overall score given in the sift process.

Rank 8, Option 5: Put more freight traffic onto the rail network - UK wide

Weighted score 360

Un-weighted score 24

Putting more freight onto the rail network is a strategic solution that aims to remove lorries from the road and as a result, avoid the conditions that lead to Operation Stack. In this way it seeks to address both the cause and effect of Operation Stack.

Overall, it was considered that although some operational development in the form of improvements to the UK rail network are likely to be required, any harmful environmental impact arising from development of land is likely to be outweighed by the reduction of emissions as a result of reducing lorries on UK roads.

The solution would cost significantly more than £250 million and would require both political will and the support of private business. Even if the rail network was successfully developed in such a way, it is not clear that the market would choose to switch from road to rail in order to transport goods. Significant public and private funding would also likely be required to facilitate such a strategic change of direction.

The above is reflected in the less favourable scores given for the practicability, affordability, delivery criteria in the sifting process.

If such a change were achieved, some HGV lorry traffic would likely be removed from the

bottleneck that occurs at Dover and Folkestone at times of port disruption.

Overall though, this solution would be a disproportionate response to solving the economic and social issues associated with Operation Stack, the benefits of which would only be seen in the long term. Avoiding the social and economic impacts of Operations Stack alone is unlikely to be sufficient to drive such a significant change in direction for national policy and market behaviour.

Rank 9, Option 6: Develop a further channel tunnel terminal to the north of London, or in North Kent, potentially making use of HS1 line.

Weighted score 360

Un-weighted score 25

Developing a second channel tunnel terminal has been suggested as an option as a result of consultation from the public as it may result in less lorry traffic on routes to Folkestone, and to Dover.

This option would involve significant development of land, along with associated infrastructure and so has potential for a significant environmental impact. It is also likely that the proposal would bring economic benefits to both the UK and the area to which it is situated.

The solution would cost significantly more than £250 million and significant public and private funding would be required. It would also be subject to the Development Consent Order process, which would delay any benefits for several years.

Furthermore, based on WSP | PB's experience of rail and freight projects, it is not clear that enough freight could be carried by rail through a second terminal (assuming there are no associated rail upgrades) to effectively remove the required amount of lorries from the congested part of the UK. It could only therefore be considered as a partial solution. Further research would be needed to be more robustly evidence this assertion.

A parallel terminal would also need to be developed in France, which could add complexity to the project.

Taken together, the above aspects are reflected in the less favourable scores given for the practicability, affordability, delivery, and capacity criteria in the sift process.

Whilst it is possible that some of the lorry traffic would be removed from congested areas, overall, it is not considered to be a practical or sustainable alternative to Operation Stack's earlier phases.

Due to the significant cost and complexity involved in developing such a second terminal the disadvantages of Operation Stack could not alone be sufficient to drive such a project and a broader case should be made.

Overall it would be a disproportionate response to solving the economic and social issues associated with Operation Stack.

Rank 10, Option 7: Increase overall capacity and resilience of the regional motorway network, for example by transforming the A2 into a motorway or installing a Lower Thames Crossing.

Weighted score 360

Un-weighted score 26

This option would require various measures all contributing to the more general aim of improving the ability of the wider road network to absorb the congestion that occurs at times of port disruption.

The exact nature of the improvements is undefined and not currently delimited to particular measures, but could include transforming the A2 into a motorway and/or installing a Lower Thames Crossing.

In essence, this option seeks to address the wider adverse effects of Operation Stack. It is therefore not a true alternative option, but rather a means of managing the impacts of Operation Stack across the wider road network, making its use more acceptable.

Since it would not eliminate the need for either Operation Stack or provide an alternative to Operation Stack's early phases, it is unlikely to alone improve the undesirable social and economic impacts of this procedure, especially in the south east of Kent. It may be possible to alleviate some of the impacts further down the road network, for example in South East London and the north east of Kent.

Improving the resilience of the road network more generally is a desirable aim in itself, and relieving the symptoms of disruption to the flow of freight through the terminal and the Port of Dover is another driver for this.

The option though is not clearly defined at and so will not deliver benefits in the short or even medium term. It does not provide a comprehensive alternative to Operation Stack's early phases but could complement a more specifically defined, practical alternative option that can be delivered in the short term.

The harmful economic and social effects of Operation Stack could be used as part of a wider rationale for more general improvements to the road network in the south east of England. However, the further from Dover and Folkestone, the less compelling is the case to use the effects of Operations Stack as part of a justification for more general transport improvements and upgrades.

Rank 11, Option 4: Making other ports more attractive to the market.

Weighted score 455

Un-weighted score 29

This option could involve any measure that would increase the attractiveness of alternative ports to commercial operators. Potential measures have not at this step been clearly defined, but could include (in and around other UK ports): new or improved transport infrastructure and access; new or improved facilities, such as food outlets, rest rooms and parking; and/or government subsidies on less commercially attractive routes.

In essence, this is a market-led option involving incentivising or encouraging commercial operators to make use of routes and ports that may be less commercially attractive due to longer crossing times and/or price.

It is intended to create a more even spread of freight across the various access/egress points to and from the UK, reducing the 'bottleneck' that occurs at Dover and Folkestone at times of port disruption. To be effective, other ports must be willing to increase capacity in the hope of either temporarily or permanently acquiring Dover Straits trade.

It would require political will, including a shift in national policy, and the support of business. Some kind of state power (Option 3) may still be required to force freight through the alternative ports, even where improvements are made.

Some specific ports were mentioned by the public in response to the consultation, in particular Ramsgate and Hull, but the option has been assessed as a concept rather than with regard to a specific location. At this step, the exact measures that it might entail also remain undefined. If it were decided that this option be further explored then specific ports and measures could be identified and viability of the proposal, as well the site-specific implications for the environment, economy and society be re-assessed.

Due to the lack of a clear definition as to what it might involve it is not possible to definitively cost this option. It is thought likely that this option would cost significantly more than £250 million to enact. This is due to the uncertainties around how and where measures would be taken, the possible necessity of on-going government subsidy, and the scale and extent of measures that may be required to make this option effective. Since these measures may also include new or improved infrastructure then this may involve a lengthy consent process.

Due to the above factors, it can also be said with some certainty that the benefits of this option would only be realised in the long term, if at all.

Overall, it is not considered that it would meet the objective of providing a practical or affordable short term alternative to the harmful economic and social impacts caused by Operation Stack. This does not preclude further exploration of this option as a long term complementary measure to address the effects of port and channel tunnel disruption.

CONCLUSION

4.7.49 The objectives of the scheme are clear. A deliverable, affordable and practical alternative to Operation Stack's early phases must be found.

4.7.50 Many of the options, for example: the use of technology; the increased use of rail for freight; an emergency power combined with improvements to other ports; and generally improving the resilience of the road network, all have potential to either reduce the impacts of the conditions that *cause* Operation Stack, or to reduce or better manage the *effects* of Operation Stack. They therefore have some merit. These options though are generally all considered to only be able to deliver the required benefits in the medium to long term and alongside other options.

4.7.51 Although it is an option that is likely to have more significant environmental effects than other options (due to the overall land take and extent of operational development), the only option that is able to deliver the short term requirements of the objectives, for less than £250 million, is Option 11 - the lorry area.

4.8 STEP 7: DEVELOPMENT AND ASSESSMENT OF POTENTIAL OPTIONS

4.8.1 This step involves developing potential options to a sufficient level of design/specification and collecting sufficient evidence to be able to distinguish the relative costs, benefits and impacts of the options under consideration.

4.8.2 In this case, the lorry area option is the only option that can be delivered in the short term, meeting the objectives of the scheme.

4.8.3 In order to develop this option further several sites were put through their own sifting process. This sifting process included the two options that were originally consulted upon, plus the alternative sites put forward by the public and stakeholders during consultation.

4.8.4 Some of the environmental impacts of the lorry area solution could be managed by using two related sites, only the first of which would be intensively developed for everyday use, with additional sites being able to be developed less intensively, for occasional use. For example the lower impact surfacing and increased land given to green infrastructure, landscaping and SUDs. This is known as either a 'split site'

or 'dual site' solution. Three potentially 'split sites' have been created from six sites and put through the sifting process. These are described at Paragraph 3.9.11.

4.9 ALTERNATIVE SITES ASSESSMENT

- 4.9.1 The Alternative Sites Assessment has been carried out on the basis that the lorry area option has emerged as the only option that can meet the objectives of the scheme, at least in the short term. It is important to note that the further investigation of this option does not preclude the further investigation of medium to long term options. An alternative to Operation Stack does not necessarily involve the pursuit of just one option.
- 4.9.2 2 of the sites, known as Option 1, Stanford West and Option 2, 'Junction 11, North' have been put forward as potentially suitable sites by Highways England. All other sites were suggested or are based upon suggestions of either the public or stakeholders as a result of consultation.
- 4.9.3 86 of the overall 1279 respondents to the public and stakeholder consultation suggested discreet alternative sites. Not all sites were taken forward exactly as described as the quality of description varied. Furthermore, plans depicting precise boundaries were rarely available.
- 4.9.4 135 of the overall 1279 respondents also stated their preference for the development of a multiple site option utilising smaller sites throughout the UK as an alternative to a single or dual site lorry area. In the main this was suggested as upgrades or expansion to existing facilities. It is known that the use of more than one site would create operational complexities and so is not a practical solution. It was therefore not considered expedient to put forward anything with more than two sites for the sifting process, neither was it considered pragmatic to assess individual service stations. The multiple site suggestion has though been accounted for in siting process as a more general concept; 'Site 9: Upgrade multiple service stations'.

METHOD

- 4.9.5 The proposed 'alternative site' locations were identified where possible. As described above, some respondents suggested specific sites and provided identifiable boundaries. Others provided more general alternative locations where a lorry parking area could be developed. In this respect it is more accurate to talk of suggested 'areas' than 'sites' as only exceptionally were precise site boundaries either described or provided. Some respondents also suggested the use of alternative sites in conjunction with additional on road options. A certain amount of common sense and professional judgement was therefore applied in refining a set of sites or 'areas' that could be put through the sifting process.
- 4.9.6 In respect of 'areas', various parties suggested land around Westenhanger, south of the M20, albeit slightly different parts (for example some included the race course, others mentioned nearby fields). This general area has therefore been termed 'Folkestone Racecourse, Westenhanger triangle' for the purposes of the sift. Various sites were also suggested around Ashford. What they all have in common is that they are south east of Ashford, and south of the M20.
- 4.9.7 Where 'areas' are identified they may include several of the suggested sites. What these sites all have in common is that it is considered that the issues of developing them are likely to be similar and as such they can be scored as one in the sifting process. Where an 'area' survives the sifting process it would then be a candidate for further investigation, which may include identifying precise boundaries and even land ownership.
- 4.9.8 Appendix 2 contains a worksheet entitled 'alternative site suggestions' where alternative sites suggestions are detailed in their unrefined original form.
- 4.9.9 For ease of reference, all areas and sites are from here on in referred to as 'sites' even if they have been derived from several sites and lack precise boundaries. Where possible, they are assumed to comprise at least 64 hectares of land, being the minimum area of land that it is considered to be able to

accommodate the required number of spaces (3600 lorries) without introducing multi-storeys or underground parking⁴.

- 4.9.10 A split site is considered to have the benefit of allowing for the same benefits of an off road lorry area, but with less environmental impact. For example, it may allow the lorry area to be built further away from residences.
- 4.9.11 Professional judgement has been applied and alongside the single sites, three 'split sites' that are considered to have potential have been formed. Two of which are 'Stanford West & Sandway', and 'Stanford West & Mersham'. It is considered that roughly 40 hectares of land at each of these sites could be developed. A third site combines multi-storey parking at the Port of Dover and Eurotunnel, as lorry parking capacity would be required at both these facilities in order for this to be a potentially effective scheme.
- 4.9.12 The Stanford West half of the 'split site' would allow the land between the M20 and HS1 to be used daily and as a replacement scheme for early stages of Operation Stack. It would therefore accommodate more permanent lorry facilities. The second half of the site could, whether at Sandway or Mersham, be less intensively developed to accommodate additional lorries only at times of more severe disruption at the ports and terminal. This could have less environmental impact than a single site.
- 4.9.13 From this initial sift, 21 'alternative sites' were therefore identified, including the Stanford West and Junction 11 options put forward by Highways England. These are as follows:
- Site 1. Eurotunnel & Port Dover
 - Site 2. Land south east of Ashford south of the M20
 - Site 3. Land East of J11, Sandling
 - Site 4. A20, Courtwood
 - Site 5. Mersham, M20, converter station
 - Site 6. Land north of M20, east of Ashford Road;
 - Site 7. Folkestone racecourse/Westenhanger triangle
 - Site 8. Manston airfield
 - Site 9. Upgrade multiple service stations
 - Site 10. Sandway
 - Site 11. Land reclamation at Dover
 - Site 12. Land around Lympne
 - Site 13. Army barracks at Folkestone
 - Site 14. Aylesford papermill
 - Site 15. Lydden area
 - Site 16. Land adjacent Guston Solar farm
 - Site 17. Land between Fawkham Rd & Crowhurst Lane, near Brands Hatch

⁴ In order to reduce the visual impact and successfully accommodate SUDS, green infrastructure and landscaping, it is likely that closer 70 hectares would be required. Furthermore, if two sites are used ('a split-site') then it is likely that 80 hectares would be required across the two sites in order to accommodate access/egress, SUDS, green infrastructure and landscaping.

- Site 18. (split site): Stanford West and Sandway
- Site 19. (split site): Stanford West & Mersham
- Site 20. Option 1: Stanford West (as put forward as part of the public consultation); and
- Site 21. Option 2: Junction 11 North (as put forward as part of the public consultation)

4.9.14 These 21 sites were then sifted using the criteria set out below to identify potentially suitable alternative sites. The following table shows the criterion that each site was assessed against and the relative scoring of the sift process.

4.9.15 Table 3.1 shows the criterion used to apply scores in the sifting process:

Table 3.1 – Sifting Criterion

1 - Accessibility	Score of 1 - <15miles; Score of 3 - = 15-35 miles; Score of 5 - = >35miles Distance to the port or terminal, whichever the greater, or scoring explained in notes.
2 - Accessibility	1 <30mins ; 2 30 to 1 hour on major roads ; 5 more than 30 mins Journey time. The scoring broadly follows this criteria. Some judgement is applied. For example, the ability of the connecting road to accommodate lorries is also taken into account and the score adjusted accordingly. Where this is done it is noted.
3 - Environmental Impact	Score of 1 - Indirect impact on a local asset; Score of 2 - Direct impact on a local asset; Score of 3 - Indirect impact on a national asset; Score of 4 - Direct impact on a national asset; Score of 5 - Either indirect or direct impact on an international asset. The scoring broadly follows this criteria. Where professional judgement has been applied on the extent of likely impact the reasons for this are noted in Appendix 2.
4 - Deliverability	Score of 1 - can deliver short term (18 months); Score of 3 - can deliver medium term (3 to 5 years); Score of 5 - can deliver long term (5 years plus).
5 - Capacity	Score of 1 - >64ha (3600 to 4000 spaces) ; Score of 3 - 35 to <64 ha (1800-3600 spaces) ; Score of 5 - <35 ha (<1800 spaces)
6 - Affordability:	Score of 1 - Likely to be delivered in £250m; Score of 3 - could be delivered within a 10% range £250m; Score of 5 - unlikely to be delivered within a 10% range of £250m.
7 Practicability:	Score 1 - fully workable; Score of 3 - workable but with complications; Score of 5 - unlikely to be workable

WEIGHTING THE CRITERION

4.9.16 The **Environmental impact criteria** is given a weighting of 15 based on potential conflicts with national planning policy and the severity of impact on the environment.

4.9.17 The **Capacity** criteria are also given a weighting of 15. Whilst still an important objective of any scheme, this is considered to be somewhat flexible. For example, if a site doesn't provide sufficient capacity then it could be combined with another site or option to create the capacity.

4.9.18 The **Affordability** criteria are given a weighting of 10. Whilst difficult to adjust, budget can conceivably be added to or taken from. In other words, whilst important, it is not considered to be a 'show stopper'.

4.9.19 The **Delivery** and **practicability** criteria are concerned with the timescale for implementation, and the ability for the site to be realised. They are each given a weighted score of 20. They are weighted higher than other criteria for a number of reasons. The weighted sift process is explicitly and consciously biased towards a solution that can deliver the benefits of Operation Stack, without the associated harm to the economy and society. Since the conditions that give rise to Operation Stack are predicted to occur in the near future, it is imperative that the solution is able to be delivered in time to prevent these negative impacts occurring in the short term, hence the relatively high weight given to 'delivery'. A similarly significant weight is given to practicability, as if the site is unable to be implemented, then it is not suitable for further consideration. In other words then, both these aspects are considered to be close to 'showstoppers', reflected in the relatively high weighting.

4.9.20 To clarify, the weightings given in the sift process therefore intentionally prioritises sites that can realistically be delivered in the short term (defined as within 18 months).

4.9.21 The cut-off weighted scores for the weighted sift are set out in Table 3.2:

Table 3.2 Cut-off weighted score

Cut-off weighted score
<=200 next step
>200 <=250 carry out further review
>250 reject

4.9.22 To provide a baseline and to reveal the impact of the chosen weightings, the options have also been sifted with equal weight given to each criterion (Appendix 2).

4.9.23 The additional cut-off weighted scores for this un-weighted sift are set out in Table 3.3:

Table 3.3 Cut-off un-weighted score

Cut-off un-weighted score
<=15 next step
>=16 <=20 carry out further review
>21 reject

4.9.24 Tables 3.4 and 3.5 show the results of the sift process, using both the weighted and unweighted criterion. These has been colour coded to depict which sites are considered to be worthy of further review (in other words, Step 2 of DfT's Transport Assessment Process).

4.9.25 A green rating indicates that it is advised that the site be further reviewed. An amber rating indicates that the site should be considered for further review. A red rating indicates that the site is probably not worth reviewing further, although an iterative approach to assessment would suggest that any site could be resurrected for further investigation if new more favourable information came to light, or if there were changes to the context or objectives of the scheme.

Table 3.4 Weighted Ranking

Weighted			
Rank	Site Number	Option name	Rating
1		Option 1: Stanford West	170
2	18	Stanford West and Sandway (split site)	170
3	19	Stanford West and Mersham (split site)	185
4		Option 2: Junction 11 North	185
6	10	Sandway	190

5	5	Mersham, M20, converter	195
7	8	Manston Airfield	195
8	2	Land south east of Ashford south of the M20	250
9	4	A20, Courtwood	250
10	11	Land reclamation at Dover	285
11	15	Lydden area	295
12	16	Land around Guston solar farm	295
14	3	Land East of J11, Sandling	305
15	7	Folkestone racecourse	310
16	6	Land north of M20, east of Ashford Road	315
13	12	Land around Lympe	320
17	14	Aylesford papermill	320
18	1	Eurotunnel and port of Dover (split site)	330
19	17	Land between Fawkham Rd & Crowhurst Lane	335
21	13	Army barracks at Folkstone	355
20	9	Upgrade multiple service stations	370

Table 3.5 Un-weighted Ranking

Rank	Site Number	Option name	Rating
1		Option 1: Stanford West	13
2	18	Stanford West and Sandway (split site)	13
3	5	Mersham, M20, converter	14
4	19	Stanford West and Mersham (split site)	14
5		Option 2: Junction 11 North	14
6	4	A20, Courtwood	15
8	8	Manston Airfield	15
9	10	Sandway	15
7	2	Land south east of Ashford south of the M20	17
10	11	Land reclamation at Dover	19
11	12	Land around Lympe	19
13	6	Land north of M20, east of Ashford Road	20
14	7	Folkestone racecourse	20
15	16	Land around Guston solar farm	20
12	3	Land East of J11, Sandling	21
16	1	Eurotunnel and port of Dover (split site)	21
17	15	Lydden area	21
18	14	Aylesford papermill	23
19	13	Army barracks at Folkstone	24
20	17	Land between Fawkham Rd & Crowhurst Lane	24
21	9	Upgrade multiple service stations	27

4.9.26

When the un-weighted ranking is used, the rankings are not significantly affected with the top 2 alternative sites remaining the same (Stanford West and the Stanford West and Sandway (dual site) option). The top 5 sites also remain the same albeit in a different order at the lower end.

4.9.27 Below comparative commentary is given regarding how the sites performed under each criterion. Specific comments and reasons for the scores are also given within the sift spreadsheet itself (Appendix 2).

COMPARATIVE COMMENTARY ON EACH CRITERION

Accessibility 1 and 2

4.9.28 These criteria measure the distance from the alternative sites to the port or tunnel as well as the standard of the route (major/minor road) and hence their ability to allow adequate access HGV traffic levels when disruption occurs at the port or tunnel. The distance (and location) and the time it takes to get to the port or terminal from the alternative site is a key consideration in terms of the ability of any site to provide a workable solution to Operation Stack.

4.9.29 For example Site 1. Eurotunnel& Port of Dover therefore score the best (a 1) for both these criterion as these provide parking at the source, with the existing access off the strategic road network already being of a high standard.

4.9.30 In contrast Site 14. the Aylesford papermill site is noted to be located over 45 miles from the Port of Dover, which equates to an approximate travel time of 50 minutes +.

4.9.31 The standard of access route from the strategic road network (the M20) to this site would also require additional online works to make it suitable as a solution to Operation Stack.

Environmental Impact

4.9.32 It is worth reiterating the 'lorry area' option as a concept has the potential for greater environmental impacts compared to other options. This is due to the extent of land-take and the amount of operational development involved. However, depending on the characteristics of each site, some sites may have less environmental impacts than others.

4.9.33 The scoring broadly follows this criteria described in table 3.1 Where professional judgement has been applied on the extent of likely impact the reasons for this are noted in Appendix 2. The scorings are based on a worst case scenario and could be reduced with further investigation.

4.9.34 Generally, brownfield sites, such as Aylesford Papermill and Manston Airfield (which is currently being used as an interim measure) score better under this criterion than those requiring greenfield.

4.9.35 All other sites generally scored either a 3 or 4 reflecting the fact that the development of a lorry parking area catering for 3,600 spaces or more has the potential to have negative environmental impacts. Environmental mitigation has been presumed to form part of any development.

4.9.36 The higher scores generally reflect sites that would have direct impacts on national assets, such as ancient woodland and listed buildings or indirect impacts on internationally designated assets, such as SACS or SPAs.

Deliverability

4.9.37 The deliverability criterion concerns the timescale for implementation. Short, medium and long term are defined for the purposes of the sift as: short term (18 months); medium term (18 months to 3 years); and long term (3 years plus).

4.9.38 At this step, there is limited information on land ownership and availability for most sites. For the purposes of the sifting process it has been assumed that most conventional sites, whether greenfield or brownfield could be purchased and developed by Highways England using powers available under Section 115 of the Highways Act 1980 and Part 9 of the Town and Country Planning (General Permitted Development) Order 2015 and in a timeframe of less than 3 years.

4.9.39 Where this is not considered to be true for a particular site the reason is given in Appendix 2. This is in the main due to known constraints in gaining access to and from the site from the M20, which may require new infrastructure. For example, the Army Barracks at Folkestone would require significant works to enable lorries to safely access and egress the site, and Site 7 'Folkestone/Westenhanger Triangle' would require a crossing over the HS1 Line, which is known to have the potential to introduce delay due to the consents potentially required.

4.9.40 It is likely that most conventional sites would require a Side Road Order, and so be subject to a Public Inquiry. It is though considered that this process does not preclude the potential delivery of a site within 18 months from the point that a decision is made to proceed with a particular site.

4.9.41 Conversely, sites with less conventional characteristics such as the deliverability of a multi-storey lorry parking area or the reclamation of land in the sea score worse as it is considered to have complexities that may cause delay. For example, there may need to be a high level of input and agreement from the operators or a new innovative engineering solution would be required.

4.9.42 Similarly for 'Site 9; Upgrade Multiple Service Stations', it is considered that the geographic spread of these sites and the complexities of consenting and developing multiple sites would result in longer timescales for delivery.

Capacity

4.9.1 The solution should provide enough capacity to avoid the need for the first three steps of Operation Stack. This equates to a capacity, or equivalent capacity, of at least 3600 lorries⁵.

4.9.2 Unless a site is obviously enclosed, such as Site 3, 'Land East of Junction 11, Sandling' or Site 13. 'Army barracks at Folkestone', or Site 14 'Aylesford Papermill', then it is generally assumed that at least 64 hectares of land could be made available.

4.9.3 Land ownership and local plan allocations would need to be further explored for each site to establish with more certainty if the required capacity could be achieved.

Affordability

4.9.4 The development of a lorry parking area on any of the alternative sites needs to be delivered within 10% of a £250 million budget. It is considered possible to develop the majority of the alternative sites within 10% of this budget with 15 of the sites scoring a 1.

4.9.5 However, the affordability of developing a lorry parking area at Site 1. Eurotunnel and Port Dover is scored as a 5 as it is considered that there would be a high cost to the new innovative engineering solution that would be required to enable the multi-story parking of lorries at the site.

4.9.6 Similarly for Site 9. Upgrade Multiple Service Stations, it is considered that due to the geographic spread of these sites and the complexity of the consenting, development and management of same would result in high development and future management costs.

Practicability

⁵ As described also described in Footnote 4, In order to reduce the visual impact and successfully accommodate SUDS, green infrastructure and landscaping, it is likely that closer 70 hectares would be required. Furthermore, if two sites are used ('a split-site') then it is likely that 80 hectares would be required across the two sites in order to accommodate access/egress, SUDS, green infrastructure and landscaping.

- 4.9.7 Similar to the Options Sift, this criterion is arguably the most important, as if a site cannot practically deliver the objectives of DfT's Client Scheme Requirements, then it should not be considered further. In this way, this criterion is the one closest to being a 'showstopper'.
- 4.9.8 All of the above criterion feed into the scoring given under this criterion. In many cases, common sense and professional judgement has been applied when scoring. For example, due to its coastal, cliff top location, Site 4 'A20, Courtwood' is known to experience severe weather, which makes it unsuitable for the proposed use. Where this is case notes are made in the relevant box in Appendix 2.
- 4.9.9 A number of alternative sites scored a 1 including Site 5. Mersham, Site 10 Sandway as well as the two options put forward as part of the public consultation.
- 4.9.10 The complexity of consenting, developing and managing Site 9. 'Upgrade Multiple Service Stations' would make this site unlikely to work under the current objectives.
- 4.9.11 Sites such as Site 6. ' Land north of M20, east of Ashford Road' and Site 13. 'Army Barracks at Folkestone' are not considered practicable noting their limited size, lack of access and their potential negative environmental impacts. Likewise Site 1, 'Eurotunnel and Port of Dover' scores low due to the uncertainties involved around developing the site for multi storey lorry parking; only one international example can be found of multi-storey lorry parking (in Hong Kong).

5

CONCLUSION

- 5.1.1 The main objective is to avoid the harmful effects to the economy and society that occur at times of operational difficulties at the Port of Dover and the Channel Tunnel by seeking a viable alternative to Operation Stack within the parameters detailed in the Client Scheme Requirement, provided to Highways England by the DfT.
- 5.1.2 In order to achieve this, several options were assessed between 26 January 2016 and 15 March 2016 in a method that broadly aligns with DfT's guidance to the Transport Assessment Process (January 2014). These options include the lorry area as a discreet option, alongside 'Operation Stack' as the 'Without Scheme' option. Two sites were put forward by Highways England (Option 1, 'Stanford West', and Option 2 'Junction 11, North'). The remainder were generated following public and stakeholder consultation.
- 5.1.3 Paragraph 2.5.9 of the guidance states that it is crucial that the causes of the problems are investigated before solutions are generated:
- 'Focusing on problems (rather than underlying causes) as the stimulus for option development may result in solutions which 'patch up' the symptoms without addressing the real underlying causes'.*
- 5.1.4 In this case the known harmful economic and social impacts of Operation Stack have resulted in the need for a scheme that can be quickly delivered within budget. In this way the weighted sift (Appendix 1) deliberately biases options that can be practically and affordably delivered in a short timescale (defined as less than 18 months). Only one option emerged as a viable contender in this respect, (Option 11, the lorry area).
- 5.1.5 This does not though preclude the further exploration of options by DfT that are either able to form part of a medium to long term package of alternatives to Operations Stack, alongside the lorry area, or perhaps seek political or economic solutions aimed at addressing the causes, rather than the effects of port disruption. For example, the use of technology, contraflow, and a legislative solution all scored relatively high in the options sifting process.
- 5.1.6 Regarding potential sites for the lorry area, Stanford West remains as the highest scoring site, but it is notable that the two split sites; 'Stanford West and Sandway', and 'Stanford West and Mersham', both outperformed Option 2 'Junction 11, North' in both the un-weighted and weighted sifting process.
- 5.1.7 DfT's attention is therefore drawn to the potential environment benefits of developing the lorry area over two sites, which may provide the benefits of the lorry area with the opportunity to locate the development further from residential dwe

Appendix 1

OPTIONS SIFT

Cut-off weighted score:
 <=300 Further Review Advised
 >300 <=350 Potential for Further Review
 >350 Reject

		1. Operation Stack (baseline)		2. Technological solution guiding HGV drivers to closest parking facilities when disruption occurs, for example a phone app.		3. State intervention/legal emergency solutions including forcing port operators to agree inter-availability and stop prioritising their own traffic during stack periods, as well as powers to require freight to go to a different port or to use next available space regardless of price.		4. Making other ports more attractive to the market		5. Put more freight traffic onto the rail network - UK wide.		6. Develop a further channel tunnel terminal to the north of London, or in North Kent, potentially making use of HS1 line.		7. Increase overall capacity and resilience of the regional motorway network, for example by transforming the A2 into a motorway, installing a Lower Thames Crossing etc.		8. Use of M26 for Operation Stack		9. Maintain a two way flow on the M20 during Operation Stack, potentially with the use of contraflow and moveable barriers.		10. Widen M20 motorway to allow the permanent use of the motorway for Operation Stack.		11. Lorry Area		
	Weight	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	
1. Social Impact	5	5	25	2	10	3	15	3	15	2	10	3	15	3	15	2	10	3	15	3	15	2	10	
1 most positive impact to 5 the worst. Includes accessibility to services, schools, hospitals, leisure, care and community facilities, public health, communities including their displacement or severance, and impact on rights of ways.		Involves the closure of the M20 creating impacts for accessibility of services.		Occupations of existing parking facilities may lead to reduced facilities for others. Re-routed traffic may cause congestion elsewhere creating difficulties for emergency services. If implemented successfully will have beneficial impacts as will avoid need to close M20.		Priority given to lorries may prevent public transport. Could though improve congestion and prevent road closures caused by stack.		Improvements to the road network around the ports could improve accessibility of services.		There would be social benefits as a result of a more agile road network resulting from the decrease in lorries.		More connectivity would have beneficial social impacts.		Locally, the social issues created as a result of Operation Stack would still present a problem, the benefits only felt elsewhere.		The closure of the motorway would create accessibility issues.		If implemented would ease some of the social issues arising from the closure of the motorways. Traffic flows would though be slower.		Improves accessibility to services.		Likely to solve the social issues created by the closure of motorways. Depending on the site may interrupt rights of ways and/or sever links between communities.		
2. Economic Impact	10	5	50	1	10	3	30	3	30	4	40	4	40	3	30	3	30	3	30	2	20	1	10	
1 most positive impact to 5 the worst. "Keeping Kent moving" includes residual benefits to business.		Effective closure of the M20 impacts on businesses.		No residual economic impacts are expected. If implemented successfully will have beneficial impacts as will avoid need to close M20.		If implemented successfully could improve the congestion and prevent closure of the M20, preventing the harmful economic impacts of "Stack". Would force companies to take a more expensive option.		Unlikely to get a return on investment, although there may be some local economic stimulation as a result of improvements to roads and increased business to the ports.		Majority of journeys to short too make rail an economic option.		Unlikely to get a return on investment, although there may be some economic stimulation as a result of improved connectivity to the continent.		Locally, the social issues created as a result of Operation Stack would still a problem, the benefits only felt elsewhere.		No local economies served by the M26 and so its closure would not have the same detrimental impact as the closure of the M20 (as is the case with Operation Stack).		If implemented would ease some of the economic issues arising from the closure of the motorways. Traffic flows would though be slower.		Will keep traffic moving allowing businesses to function.		Avoiding motorway closures would eliminate the economic problems created.		
3. Environmental Impact	10	3	30	1	10	2	20	3	30	2	20	5	50	4	40	3	30	3	30	5	50	5	50	
1 most positive impact to 5 the worst. Includes effects on landscape and views, ecology, noise, air quality, water, flood risk, soils, geology, and heritage. Includes how these impacts could affect the amenity of local residents.		No operational development required, but causes congestion, which causes air pollution from idling engines.		No operational development.		No operational development although may increase vehicle miles if lorries required to go to another port, with impacts on air quality.		Some operational development may be required but is also likely to ease congestion, by spreading the use.		Reduced emissions would result from the increased use of rail.		Significant operational development would be required.		Road improvements would encourage car use. Easing of congestion would improve air quality.		Additional vehicle miles created through diversion.		Impacts would be similar to Operation Stack.		Significant length of motorway to widen. Impacts arise from both the operational works and from increased emissions. Encourages car use.		Significant operational development required, possibly on a greenfield site.		
4. Delivery	20	1	20	5	100	4	80	5	100	5	100	5	50	5	100	3	60	3	60	5	100	1	20	
1 can deliver short term (18 months); 3 can deliver medium term (3 to 5 years); 5 can deliver long term (5 years plus).		Already being delivered.		Due to complexities in developing the technology and successfully rolling it out.		Would require new legislation.		This would be a long term project and even after implementation results would likely be seen only in the long term.		A long term project requiring a significant shift in national policy.		A long term project requiring investment and a lengthy consents process.		Would require lengthy consents processes, planning and investment.		An M25 to M26 left turn would be required, for which there would be a lengthy consents process.		Further work required to be able to implement this solution safely.		Lengthy consents process.		Subject to environmental assessment, this timeframe is likely achievable as can be done under permitted development.		
5. Capacity	15	1	15	1	15	5	75	5	75	1	15	2	30	1	15	5	75	3	45	1	15	1	15	
1 can provide >3600 to 4000 spaces ; 3 can provide 1800-3600 spaces ; 5 can provide <1800 spaces.		Proven capacity.		Assumes there is capacity UK wide to accommodate lorries required to park up outside of Kent.		Unlikely to be a standalone solution.		Unlikely to be a standalone solution.		If implemented to its full potential, it is likely to create enough freight capacity equivalent to taking at least 4000 lorries off the road.		If implemented to its full potential, it is likely to create enough freight capacity equivalent to taking at least 4000 lorries off the road.		Would not provide any additional capacity for lorry parking, would only ease the symptoms of Stack felt elsewhere.		Does not have the required length.		Not likely to completely avoid the need for stack.		If implemented is likely to provide sufficient spaces.		It is likely that a site could be found of a sufficient scale to deliver the benefits of this option.		
6. Affordability	15	1	15	5	75	1	15	5	75	5	75	5	75	5	75	5	75	3	45	5	75	1	15	
1 Likely to be delivered in £250m; 3 could be delivered within a 10% range £250m; 5 unlikely to be delivered within a 10% range of £250m.		No additional expenditure.		Infrastructure needed to deliver real time information and costs to roll out and enforce technology.		It is likely that new legislation could be enacted for less than £250m.		Would require expensive improvements and likely government subsidies.		Would require extensive infrastructure improvements.		Significant public and private investment required.		New infrastructure and improvements at the level required to be effective would be expensive.		Works would be required to allow lorries to turn into the M26, this would likely stretch the budget.		Solving the safety issues and implementation may stretch the budget.		Similar schemes would be more expensive than £250m.		It is known that a lorry area could be progressed within this budget.		
7. Practicability	20	3	60	5	100	5	100	5	100	5	100	5	100	5	100	5	100	5	100	5	100	1	20	
1 fully workable; 3 workable but with complications; 5 unlikely to be workable		Already proven to work.		Unlikely to be workable without a proven model for compliance. Many uncertainties.		Not likely to be workable because there isn't currently capacity in other ports to take them. Could not work if either the channel terminal or the port is shut.		Uncertainties around its effectiveness.		Not likely to be workable without significant investment and shift in national policy.		Not likely to be workable without significant investment.		Does not solve the problem, only eases the issues further down the road network.		Use of M26 has already been considered by Highways England. The M26 has only two lanes plus hardshoulder and therefore provides little stacking capacity. Furthermore, there is currently a...		A safe or sufficient way of implementing has yet to be determined.		This would involve a long consent process, environmental constraints. Too much uncertainty. A widened M20 would only work if able to safely separate freight and other traffic. For example, with a distributor road similar to that at between Junctions 5-7 of the M20 at Maidstone.		Several sites could deliver.		
Total			215		320		335		455		360		360		375		375		325		375		140	

Cut-off unweighted score:
 <=15 Further Review Advised
 >15 <=25 Potential for Further Review
 >20 Retest

	1. Operation Stack (baseline)		2. Technological solution guiding HGV drivers to closest parking facilities when disruption occurs, for example a phone app.		3. State intervention/legal emergency solutions including forcing port operators to agree inter-availability and stop prioritising their own traffic during stack periods, as well as powers to require freight to go to a different port or to use next available space regardless of price.		4. Making other ports more attractive to themarket.		5. Put more freight traffic onto the rail network - UK wide.		6. Develop a further channel tunnel terminal to the north of London, or in North Kent, potentially making use of HS1 line.		7. Increase overall capacity and resilience of the regional motorway network, for example by transforming the A2 into a motorway, installing a Lower Thames Crossing etc.		8. Use of M26 for Operation Stack		9. Maintain a two way flow on the M20 during Operation Stack, potentially with the use of contraflow and moveable barriers.		10. Widen M20 motorway to allow the permanent use of the motorway for Operation Stack.		11. Lorry Area	
	Weight	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	
1. Social Impact 1 most positive impact to 5 the worst. Includes accessibility to services, schools, hospitals, leisure, care and community facilities, public health, communities including their displacement or severance, and impact on rights of ways.	1	5	5	1	3	3	3	3	3	2	2	3	3	3	4	4	3	3	2	2	2	2
2. Economic Impact 1 most positive impact to 5 the worst. "Keeping Kent moving" includes residual benefits to business.	1	5	5	1	3	3	3	3	4	4	3	3	3	2	2	3	3	2	2	2	1	1
3. Environmental Impact 1 most positive impact to 5 the worst. Includes effects on landscape and views, ecology, noise, air quality, water, flood risk, soils, geology, and heritage. Includes how these impacts could affect the amenity of local residents.	1	3	3	1	2	2	3	3	2	2	5	5	4	4	3	3	3	5	5	5	5	5
4. Delivery 1 can deliver short term (18 months); 3 can deliver medium term (3 to 5 years); 5 can deliver long term (5 years plus).	1	1	1	5	5	4	4	5	5	5	5	5	5	5	3	3	3	5	5	5	1	1
5. Capacity 1 can provide >3600 to 4000 spaces; 3 can provide 1800-3600 spaces; 5 can provide <1800 spaces.	1	1	1	1	5	1	5	5	1	1	1	1	1	5	5	3	3	1	1	1	1	1
6. Affordability 1 Likely to be delivered in £250m; 3 could be delivered within a 10% range £250m; 5 unlikely to be delivered within a 10% range of £250m.	1	1	1	5	5	1	5	5	5	5	5	5	5	5	5	3	3	5	5	5	1	1
7. Practicability 1 fully workable; 3 workable but with complications; 5 unlikely to be workable	1	3	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	1
Total			19		19		23		29		24		25		26		23		25			12

Weighted

Rank	Option Number	Option name	Rating
1	11	Lorry Area	140
2	1	Operation Stack	215
3	2	Technology	315
4	9	Use of contraflow	325
5	3	State intervention	335
8	5	Use rail for freight	360
9	6	Develop further channel tunnel terminal	360
6	10	Widen M20	375
7	8	Use M26 for Operation Stack	375
10	7	Improve resilience of regional road network	375
11	4	Improving other ports	455

Unweight

Rank	Option Number	Option name	Rating
1	11	Lorry Area	12
2	1	Operation Stack	19
3	2	Technology	19
4	9	Use of contraflow	23
5	3	State intervention	23
7	5	Use rail for freight	24
6	10	Widen M20	25
8	6	Develop further channel tunnel terminal	25
9	7	Improve resilience of regional road network	26
11	8	Use M26 for Operation Stack	27
10	4	Improving other ports	29

Appendix 2

ALTERNATIVE SITES SIFT

HE Questionnaire	Comments
Sites already put forward by WSP/HE	Multi storey parking at Eurotunnel terminal - CW Site 1a Multi storey parking at Port of Dover terminal - CW Site 1b Land East of Ashford and West of Mersham - CW Site 3 Land east of Junction 11, near Sandling - - CW Site 4 Land either side of A20, east of Courtwood - CW Site 6 Land east of Mersham - CW Site 7 Trucks Hall Site - CW Site 8 Site adjacent to Eastern Flank of Dover - CW Site 11 Axa Site, east of Ashford - CW Site 12 Site off the M20 Junction 10. On the A2070 (AXA site) - CW Site 13 Land near Sellindge - CW Site 14
HE001	Lorry park between Capel-Le-Ferne turn off and Dover - This site description is too unclear in terms of location
HE015	Westenhanger Racecourse - This is Folkestone Racecourse - CW Site 9
HE021	I think a site next to Junction 11 but outside of the rail tracks with a pedestrian footbridge over the tracks to the service area at J11 would be better than any of the proposals, especially as regards impact on the people living in Stanford
HE027	There should be a smaller lorry park for M20 Eurotunnel traffic and another A2/M2 park for Dover bound traffic
HE031	Multiple smaller locations, including a facility of around 400 lorries in the J11 region of the M20 but similar smaller parks distributed between J4 and J11 as the M20 for emergency use.
HE033	I am prepared to see 1500-2000 lorry spaces created to Stanford West but I think another site, possibly near J9 should be found.
HE036	Another location possibly to the south of the M20 adjacent to Stop 24. To accommodate 500 lorries for overnight parking only.
HE069	I believe that a coastal site at Dover north of the harbour would be best. Stanford West and Junction 11 North are too near old buildings, residences and areas of outstanding beauty and rare plants
HE071	I suggest the holding area be designed as a showground/ planned in a coordinated way with the SAM/Grade I of Westernhanger Castle, a resisted station(develop Stop 24 both sides of the track) and a properly designed 'secondary village' around the junction. A Stone Street/Railway/M20 nodal hub with additional housing all wrapped up in a Section 106 agreement to release the 'E's' required to achieve this - See Sketch HE071 Tab
HE082	Existing truck stop developer - more parking. Dual carriage A2. Build truck stop between Lydden/Whitfield/Duke of York. Force lorries to eastern Docks to use A249 to M2/A2. M2/A2 Junction 7 would be used as access to Manson Airport - extra parking there if required (back into Dover via Sandwich A256/dual carriage - already done
HE085	Extend Stop 24
HE102	Another location e.g. Aylesford, Dollands Moor (Rail) or North of J9 are either brownfield sites or away from residences and not subject to serious blighting as Stanford - Not clear enough on what locations are being put forward here - Aylesford elsewhere
HE107	Aylesford. Vacant brownfield site. 100 acres and adjacent to the M20 with good links to M2/A2 London.
HE131	Smaller lorry parks to cope with Emergency Services, better traffic flow. See proposal for Dover East Extension - enclosed. Extend Stop 24. Expand Ashford Lorry park. Create two clockwise and two anticlockwise M25 - ie. Stopping lorries short. Two on M20 (possible use land offered by farmer between Canterbury and Dover). All these operational minimum of 300 + cap for additional 1000 in emergencies.
HE132	Brown field site - Stour Park, Ashford near Junction 10 M20? continue to use the M20 J8-9 Coastbound then M20 J9-8 London bound plus use the money to widen the J8-9 Coastbound towards the railway line to create extra Operation Stack capacity/ rest areas and possible slip road coast bound from South of Harriesham and Lentam villages and improve information to locals with new display boards to advise Operation Stack has begun to allow them to avoid the M20. Thank you.
HE135	Dover area - land reclamation from the sea? - Brownfield site- closed down Papermill site at Avlesford near Maidstone Alternatives : The fields at Chazing/Westwell Hothfield put to use in fueling and marshalling yards during high speed rail construction. No re-grassed over previous works and spoil ie. Brown field sites). A larger HGV up to 1000 vehicles feeding from a layby pre 119 slip to tunnel. a truckstop on A2 prior to Dover. A suitable holding area on M25 prior to the Kent and Queen Elizabeth Bridge.
HE141	Manston Airport, Clacket Lane services, other major service areas should be developed
HE150	Aylesford Paper Mills - By using Stone Street you will cripple the only route to Canterbury and - encourage other traffic to use it. It is very narrow in places with frequent accidents (almost daily). This facility should be in an industrial area i.e. Aylesford Paper Mills where there is access to M20 and M2.
HE156	Put in lorry park east of A20 at the Saltwood Junction and another either side of the A20 before Western Heights on both carriageways east of the Capel Junction run by Dover Port. Upgrade M2/A2 to Dover and Ramsgate and open other major parks
HE157	However not in one huge lorry park. Parks adjacent or close to Dover Docks and EuroTunnel would work better.
HE163	Stanford Parish Council Site - three site options put forward NB
HE164	Sellindge - Evegate (south) site - Shepway Core Strategy
HE169	Flatland outside Ashford - No more location details provided
HE182 - amended 1-2-16 via new questionnaire	About 2000 should be the limit. Another 2000 should be located between M20 junction 8 to 9, looking at Google Earth, we have located land off the South bound carriage, near Sandway, where the land is between the M20 and the High Speed Rail line. This area is away from residential properties. The two sites would act in tandem, when the site near Junction 11 has sent 500 or so, then another 500 could be sent down from the site between Junction 8 and 9. Eurotunnel are just completing work to enlarge the entry lanes from 3 to 8, increasing the capacity.
HE188	Saltwood - 3 Alternative sites put forward - one at Dover, the Stanford Parish Council option and one at Saltwood - SEE HE180 Tab
HE197	Extend Stop 24 in relation to the largest lorry park in Kent. 390 lorries in Ashford, No additional lorry park on Green belt lane. Use brownfield sites.
General Comments (GC)	Comments
GC19	Land at Lydden but not clear where - Lydden race course - Lydden site also noted in General Comment 208 from Stanford Parish Council
GC20	Therefore the proposal for there to be a joint lorry park for the Channel Tunnel and the Port of Dover is simply not viable. My suggestion is for the Channel Tunnel LGV and tourist traffic to be routed along the M20 as is now, with access along the A 20 for Euro Tunnel traffic approaching from Dover and Folkestone . The perimeter of the Euro Tunnel should be extended to encompass additional land for lorry parking beside the M 20 and the railway tracks. Being inside the International perimeter, the check in procedure, cargo inspection customs and booking on to trains could be carried out in a secure environment with facilities for lorry drivers paid for as part of the ticket price. Much of the land in that area is blighted by the noise of the Euro Tunnel trains and there are few residential properties. LGVs could be parked safely in secure positions, whilst the drivers use the facilities paid for by their employers as part of the ticket. Rules re Schengen zones, the border of UK for incoming vehicles and incoming passengers both legal and illegal could all be better administered inside the International area. None of this would be achieved by the current proposals put forward by Highways England because the LGVs have to leave the lorry park to get to Eurotunnel and LGVs cannot be forced to use the Lorry park. My suggestion for the Port of Dover is for all LGVs en route to the Port of Dover to be routed via the M 2 A 2 away from the residential areas. All LGVs approaching the Port of Dover from the A2 will be turned away at the Roundhills Tunnel save in the case of an emergency at the Eurotunnel when the A 20 is the most viable route to Dover Port and out of UK . All LGVs should approach Dover along the A 2 then turn into a lorry park constructed on level agricultural land adjacent to the A 2 next to the Guston Solar farm and under the A 258 on to land where the MOD listening posts , aerals are situated. As before the perimeter of the Dover Port should be extended to encompass this additional land with access to the ferries via Jubilee Way only, which route would be encompassed by and become part of the Port. All Port traffic including passenger cars and foot passengers would enter and exit the Port via Jubilee way. No other traffic would have access on to Jubilee way which would no longer serve the town of Dover. Traffic from the town of over would not have access onto the Jubilee Way I would suggest that the Lorries cross the A258 by means of a tunnel to prevent disruption to the Duke of Yorks school and roundabout. and traffic from the A258 . The Lorry parks for both Dover Port and Euro Tunnel should be a secure area screened by trees which would also assist to reduce the levels of pollution to comply with European standards “ .Humans can be adversely affected by exposure to air pollutants in ambient air. In response, the European Union has developed an extensive body of legislation which establishes health based standards and objectives for a number of pollutants in air. These apply over differing periods of time because the observed health impacts associated with the various pollutants occur over different exposure times” Being inside the perimeter of Dover Port the check in procedure, cargo inspection customs and booking on to ferries could be carried out in the lorry park in a secure environment with facilities for lorry drivers paid for as part of the ticket price. Much of the land in that area has few residential properties and the A2 is already well screened by high hedges and trees. LGVs could be parked safely in secure positions in accordance with their time of ferry such as at an airport car park Electric vehicles

- 33 Folkestone Racecourse - There is a lorry services on the M20 opposite the Tunnel, this has the closed Folkestone Racecourse behind it.
- 42 Detling Hill area (probably within North Downs of Kent - AONB) or along the expanse between Junctions 8-9
- 54 Alternative site near Dover docks within AONB - Has offered to provide further details but not enough to establish exact extent of site
- GC101** Specific site at Sellindge-Evegate/ Aldington (SEA) put forward -WYG document
- 105 M20 J10. On the A2070, as you come off here you run down towards Ashford retail centre. On the left as you drive down there is plenty of land
- 108 Same site as noted above in GC 101 - Specific site at Sellindge-Evegate/ Aldington (SEA) put forward -WYG document
- 113 Several possible locations exist between Ashford and Maidstone including those 'dead' areas between the railway line and the M20, all of which would have a lesser effect on the countryside and local residents than the larger sites proposed at Stanford.
- 120 About the land by the motorway, the railway and the A20 near Hothfield on the way to Ashford. It was a railway yard where they built HS1, so must be brownfield
- GC124** I believe that a much more appropriate site could be found in the area of Ebbsfleet, North Kent - Government owned land at Ebbsfleet, North Kent
- GC126** **200 acres of Yew Tree Farm**
- 130 Please look at the alternative site that has been produced by Stanford Parish Council, please consider it openly and fairly especially transparently.
We would like this third site to be considered over and above of the sites HE have recently considered. With this plan there is no devastation of the Kent countryside, and the op stack would be alleviated
- 135 Two sites put forward, one close to Eurotunnel (site unclear) and 120 acres situated about a mile before Dover on the left hand side of the A20. Also suggested land reclamation at the Port
- 139 Site North West to the junction 11A and next to Channel Tunnel site prepared by Peter Brett Associates on behalf of Stanford Parish Council
- 144 Supports Site North West to the junction 11A and next to Channel Tunnel site prepared by Peter Brett Associates on behalf of Stanford Parish Council - same as above
- 160 Hythe Race course has closed and it is very near the M20 it has access for large lorries already and is near the motorway and ferry port
- 162 Folkestone Racecourse
- GC172** Alternative 2 storey Lorry Park for The Port of Dover - The adoption of Samphire Hoe Country Park, which was built with Eurotunnel tailings, as the site for the lorry park in lieu of Stanford West or Junction 11 North.
- 180 Aylesford which is a brown field site and has been put forward by the Residents of Stanford Village
- GC194** Manston already mentioned - There should be two sites. Shared as follows: M2 onto Thanet Way utilising the Manston Airport Site and M20 Junction 11 A20... (Leeds Castle Junction) Off M20
- 197 we need to manage freight throughout the country and not just in Kent. There needs to be proper lorry parks from Lands End to John O'Groats . They need to be on Motorways and A roads and have very similar facilities as in France and other countries on the continent. They do not have to accommodate 4000 lorries at a time as the load would be spread along motor way routes. This would alleviate parking in residential areas or hard shoulder parking when drivers need to stop because they have run out of time.
- Some Solutions**
- Upgrading of the A2 link to Dover for ferry traffic and lorry parking areas to be in the Dover area
- M20 to be used for Eurotunnel traffic
- More use of overhead gantry signs and technology to direct freight traffic
- Use of brown field sites
- 198 Whilst I understand that Dover is the cheapest route, why when the ferries/shuttle are disrupted can the lorry traffic not be diverted to other east and south coast ports. There is sufficient information signs on the Motorways to inform lorry drivers and the Police have the powers to direct traffic. Last summer drivers began to do this of their own accord rather than get stuck in Stack. This would ease the pressure on Kent and reduce the need for using sensitive land.
Rather than just creating a lorry park surely measures need to be brought forward to reduce the level of existing and future traffic. These could include;
1. The transfer of freight from road to rail in northern Europe. The majority of the freight paths through the Channel Tunnel remain unused because of the cost and the migrant problem, and Dolands Moor is largely empty. Surely this issue should be actively addressed so as to reduce road traffic now and in the future which would reduce the need for Stack.
 2. **Dover Harbour Board want to extend the freight facility at Western Dock. This will be largely road freight as the Shakespeare Tunnel is not capable of taking modern rail freighters. If Dover wants to increase its freight traffic surely they should be required to increase their lorry holding areas so they consume some of their own smoke.**
 3. Finally, if freight traffic is to double and the need for Operation Stack arises when it has then the need would be for 7200 spaces not 3000. You would need to build extra sites
- 200 5. I'd like to suggest that you have several smaller parking areas further back down the motorway. Then lorries have the option of being redirected to the M2 if required. Perhaps all Dover stack traffic should be separated off to a Manston lorry park leaving only Channel Tunnel traffic on the M20, hence speeding up the process and not inflicting all the pollution to one area.
- 201 There is I believe an extensive unused brownfield site available **at Maidstone at the former Paper Works**. To use this as a Lorry Park would not break any hearts and this would equally be on the direct route to Dover and the Channel Tunnel. But inexplicably it appears to be thought preferable to spend a great deal of Taxpayers money on a hugely expensive Lorry Park and at the same time sacrifice the unspoiled rural area of Stanford.
- 202 3.4. It is too easy at present for lorry drivers to evade police controls and so some sort of automated system is needed (perhaps using smart-phones or a card system). This could be combined with an advanced ticketing system.
- 205 We feel that perhaps once operation stack is underway lorries should be stopped from crossing the Dartford crossing and parked up in Thurrock area.
- 208 Stanford PC along with other local parish councils have come up with an alternative solution.
The PBA report goes on to suggest a **3rd site at Lydden** and we fully recognise the need for a lorry park on the A2 and that this should be delivered at the same time along with improvements to the Whitfield roundabout and duelling of the A2 between the site and Whitfield.
We also recognise that the Stanford PC option will involve multiple land ownership issues, but this should not be the reason for you to discard it as a viable option to take forward. We believe that the Stanford PC smarter option will be a cost effective solution and will provide you with more truck parking spaces for less cash outlay.
Operational fairness has been considered under the Stanford PC option and again is workable, but we also would like to see smarter IT solutions used whereby virtual queuing can start from the point of truck release (collection or drop off).
We endorse CPO where necessary and also request that any compensation is paid upfront and not after the opening of any truck park, again this is a point of fairness.
Stanford PC technical reps:
As a result, a dispersed solution has been developed, using three highly cost effective locations, with two adjacent to the M20 corridor and one adjacent to the A2 corridor. The primary sites, on the M20 at the existing J11A Channel Tunnel access and on the A2 at Lydden, are both located on the north side of the road, and so lend themselves to use in both Op Stack and TAP situations. Moreover, these two sites seek to use land as efficiently as possible by adopting a "lay-by" style of access that lends itself to straight-forward self-management of the facilities. The primary site on the M20 is close to the access to the Channel Tunnel, with a secondary facility to the west of the "Stop 24" service area and accessed from M20 J11 (see map in report). For ease of reference, the preferred option discussed here using the three sites is referred to as the "Dispersed Locations Option".
M20 J11A – Channel Tunnel site (Figure 1)
This site lies parallel and to the north of the M20, between it and the A20 corridor to the south of Etchinghill. It is estimated from the work that has been done that this site could accommodate c.3,000 lorries – excluding the use of the distributor road within the site, which could provide additional capacity in extremis.
Access is gained from a new slip road that leaves the M20 around a kilometre east of the J11 coastbound on-slip, and then provides a new collector – distributor road alongside the M20 main carriageway. This collector – distributor provides the access into and out of the lorry park, provides a slip back on to the M20 to the east of the lorry park access and then replaces the existing M20 off-slip into the Channel Tunnel terminal. Hence, all Channel Tunnel traffic would use the collector –

- 212** I completed your consultation questionnaire and felt very strongly that the wording gave little opportunity to express my belief that one giant lorry park is a catastrophic idea and that a series of smaller parks are very clearly a more flexible and less damaging idea. Stanford Parish Council, MY Parish Council have come up with an excellent 3rd option which I urge you to consider on an equal footing with the two other sites, J10 North and Stanford West.
I fully support the third, dispersed parking proposal attached.
 Since the questionnaire website was not working for several hours yesterday on what was the last day of consultation, I understand that the consultation period has been extended by 24 hours.
 Therefore please ensure my request that you consider this option is properly registered and counted.
 Ian Bull Consultancy Ltd alternative summary:
 The solution proposed by **Peter Brett Associates** comprises a scheme which is both environmentally and operationally, superior to either of the two options put forward by Highways England. It is a "deliverable" solution which maximises the benefit of the government funding and addresses the adverse impacts of operation stack and creates a facility which will provide long term improvements to the operation of the freight industry and, in turn, the UK economy.
This submission is supported by a technical paper (attached), prepared by Peter Brett Associates. The alternative prepared is supported by the Parish Councils, Parish Meeting and Residents Association in the event that the consultation concludes that Lorry Parks must be used to provide a "stand alone" solution to the Operation Stack rather than a strategic solution incorporating a range of improvements to the UK's freight transport infrastructure. They support the use of a dispersed network of smaller lorry parks to deliver a solution in conjunction with a fully developed strategic solution delivering a range of improvements to the UK's freight transport infrastructure.
 Notwithstanding their overarching views, the alternative sites proposed are well related to both the M20, A2 and the existing Channel Tunnel and Port facilities. It will represent a superior solution compared to those proposed by Highways England in terms of operational capability, visual impact, impact on residential amenity and compliance with highway standards.
- 216** Further to comment 105 by Mr Scanlan:
 The Area it near Ashford of the M20 J10. A2070 the name of the road is Waterbrook ave. Very near the Ashford International Truck Stop. The land is very large and only 20 mile to Dover. Please have a look here as it will not cause Disturbance to people who live around here.
- 219**
 What about a dispersed lorry park idea, there are various unused strips of land between the M20 and Train line, there are also various brown field sites available.
- 220** I feel that the holding areas need to be further away from junction 11 maybe out of the county Surrey/Essex just remember big is not always beautiful as these are large areas in Stanford.
 This would give some relief to Kent Police as I can see why they would like it in one large area easier to control.
 However there is a need for a bigger overnight truck stop at junction 11 but then the whole of Kent suffers from a shortage of overnight truck stops then problem arises getting foreign truckers to pay to stop there maybe add truck stop fee to purchase of rail or ferry ticket.
- 221** It seems ludicrous not to use the technology we have today to enable the hauliers to advise their drivers re leaving their depots or not. They must be aware when there is a problem on the M20, or other motorways for that matter, for whatever reason.
 We keep hearing about freight traffic growing, wouldn't it make sense to put more on the railways.
 What about the other ports around our coast, surely they could be used.
 In the Folkestone Herald on Thursday 21st January, there was a very interesting article entitled 'Seafront lorry park is far better option'. An idea put forward by a resident with regard to building a truck park on the eastern flank of Dover harbour which would protect our White Cliffs and could be controlled by the Dover Harbour Board. This development could also be seen not to be just a lorry park "but could eventually be an important part of the eastern side of the Dover docks".
- 234** Go Folkestone feels that either of the two options left in the consultation will deleteriously affect the villages of Stanford and either Postling or Sellindge. It urges the Government to look at other alternatives once more and set out clearly why the following options are not favoured :
- Spreading the lorry numbers through smaller lorry parks in Southern England that would be less individually damaging. In addition control numbers by technology and police together ordering lorry drivers to stop outside the South Kent area when necessary
 - Improving the M2/A2 to provide a serious alternative to the CURRENTLY faster M20. Is this not inevitable, particularly if traffic is going to double in ten years?
 - Using the closing paper mills at Aylesford as a lorry park site. The practicalities of this are unknown but some members found it a very attractive brown-field alternative to concreting the countryside.

GC238

The proposal is to reclaim an area from the sea from below Shakespeare Cliff as part of the Dover Western Dock Revival scheme with capacity to hold 3600 lorries. We suggest reclaiming an area to the east of Shakespeare Cliff as part of the Western Dock Revival Scheme to accommodate 3600 vehicles.
 Why Build the facility at Dover Harbour?
 There is no doubt that Dover will see an exponential growth in freight traffic in the next decade. There will always be occasions when the port may have to cease operations temporarily due to weather condition or the occasional wild cat strike.
 DHB should not be totally reliant on the national road network and other agencies to handle what essentially is its problem. DHB should be willing and able to make brave decisions and invest in a facility which can at least cope with a short term closure of the port within its own confines.
 The facility would come under the control of the Dover Harbour Authority and hence be policed by Dover Harbour Constabulary and not be a burden on the Kent Police Constabulary. DHB will immediately be aware of any potential traffic issues and only when necessary implement Phase 1 of Operation Stack if required. There should be little or no need to implement phase 2 and 3 of Operation Stack. Should Operation Stack be required to be put into operation as a result of overspill from the lorry facility, the resultant traffic will be confined to the approaches to Dover rather than disrupt the rest of Kent.
 Customs and Excise would have a larger area in which to contain vehicles for inspection.
 The facility would provide overnight parking for freight traffic prior to and post boarding channel ferries and for those travelling to the continent.
 It would provide much needed employment to the town of Dover during construction and post construction.
 There is no doubt that if road freight traffic continues growing at its present rate the need to introduce further parking facilities along the M20 corridor will prove irresistible. However the government should be acting now to develop other ports on the SE Coast e.g. Ramsgate to ease the load on Dover and perhaps moving more freight traffic to rail.
 This location also meets the criteria laid out in the governments consultation document
 " Managing freight vehicles through Kent."

'Enable efficient and fair marshalling of lorry drivers so they are not disadvantaged by entering the lorry area, and therefore to be a single, rather than multiple location site.'

"Minimise disruption to local roads by being as close as possible to the M20 "

"Minimise vehicle miles and local and strategic network disruption by facilitating easy access from and to the M20 in the desired direction of travel i.e. Coast-bound; and In achieving these benefits also meet any relevant environmental, social and/or economic

- 246** we total agree with Mr Howard Graves idea in last weeks local paper (Thursday, January 21, 2016).

Summary of paper:

The answer: A dedicated truck park built on the eastern flank of Dover Harbour on the foreshore and coming under the control of Dover Harbour Board.

- will protect White Cliffs of Dover.
- will remove the inevitable problems of segregation inherent in the one size fits all truck park proposed by Kent Highways at Stanford.
- mean truck park positioned east of the Channel Tunnel can be proportionately smaller.
- will not require alteration to any A or B roads or costly flyovers.
- other roads will remain unaffected
- would solve the overnight problem in Dover and the surrounding area.
- eliminate police involvement
- whole site could be fully automated and because of the enclosed environment, the potential for security procedures to be tighter up could also be more focused.
- unlimited potential to be expanded.
- no concreting over farmland
- backbone for the eventual development of the eastern side of Dover docks.

247 Operation stack has to go , however the plans presented by highways England wrongly and potentially misleadingly conflate two ideas:-

- Short term / overnight lorry parking , and
- the need for emergency parking of lorries when the ports close. Ports closed approx. 30days last year and previously on a few – approx. 10 p.a. There is no expectation/forecast than other than “normal” 10day needs.

These are distinct and separate propositions with different objectives; one is for regular use – the other emergency

Solution:-

No one solution will suffice. The recent public meetings have identified a powerful group of solutions that together will meet the needs of today and tomorrows traffic requirements.

- Improved regular Overnight lorry parking is required – allow expansion of stop 24 (increased rateable values & employment for the community?) either at current site or alternative commercial propositions
ADD
- The Technological solution. The Lorry scheduling app (LSA). This will:-
 - To be developed by the Eurotunnel and Dover Port together with the Highways commission. It will automatically assist in scheduling crossings – throughout the year delayed lorries can be rescheduled and early lorries can be accommodated.
 - As in France it will warn Lorries to stay in depots and away from Kent until their opportunity to board is available. Lorries can be advised of real time delays at the sailing point.
ADD
- The working together facility . As in the past when Ferries had difficulties in emergency situations and accepted each other's tickets so Eurotunnel and the Ferries must be advised to take each other's tickets as the Lorries come to the channel. Only one lorry queue is allowed.
ADD
- Operation Lorry Loop.
Loop lorries around each section of motorway on Coast bound and, London bound hard shoulders. Each section between the junctions becomes a LORRY LOOP – with no contra flow
HOW? Erect overhead lane advisory & compulsory control gantries at suitable points down the motorway. Similarly erect lane control gantries at each junction (as in toll booth controls).
When congestion occurs open the coast bound hard shoulder to channel lorry traffic only (build in additional emergence bays as per M42). Close lane 1 adjoining as a safety corridor. Apply speed limit to lanes 2 & 3. Halt hard shoulder lorries by closing hard shoulder a safe distance back from the next junction

**HE Online
Questionnaires (HEOL)**

Comments

HEOL40	I think the suggestion to build the lorry park in an area reclaimed (from the sea) near Dover Harbour would be a better option than ruining the Kent countryside.
HEOL80	Land north of the M20 at Westwell situated between Watery Lane & Kingsland Lane & incorporating Westwell lane. This site is of much the same size as both of the proposed Stanford sites but is more isolated from the nearest communities. Like Stanford there are a small number of residences & businesses that would need to be demolished & or relocated. In common with the Stanford sites its close proximity to the carriageway mean it could be connected to the motorway with ease. Once constructed, its use would have little or no impact on nearby J9 unlike the Stanford & J11.
HEOL96	Multiple sites. A smaller park at Stanford, or expansion of the Stop24 services (and or other nearby facilities such as the Airport Cafe and / or Lympne Industrial Park's currently unused land) would be an acceptable option as part of a network of smaller parks that would offer resilience to road problems throughout the network and also offer HGV drivers options other than illegal parking on junctions and the hard shoulder when they ran out of driving time.
HEOL132	Dover beach to the east of Admiralty Pier would provide a better alternative
HEOL148	Race course and new junction 10a site
HEOL152	
HEOL439	The obvious solution, which does not seem to have occurred to those that should know, is for the Dover Eastern Docks to be extended on the foreshore with a lorry park to handle the equivalent of the 2015 peak ferry backlog & a similar lorry park near to the Eurotunnel which would cope in the same way not allowing any queuing lorries & trailers on the M20 as can be seen all too regularly. EU funded??? Load should be split to have half the capacity at J11 (ie 1800) and half the capacity closer to London e.g. J8 (1800). This results in less immediate impact on community, and one or other can be in "mothballed" state (ie no vehicles parked, 'lights out') . Also mitigates risk of on large site being out of action due to incident, weather, congestion etc. Manage the flow between the two by full traffic management system with overhead gantries between J6 and J11a.
HEOL473	There should be TWO independent routes, each with their own lorry park so that each route can operate completely independently from the other. Dover traffic to use the M2/A2 with a lorry park at Lydden, where land is available, and Eurotunnel to use the M20 with a smaller lorry park adjacent to the Converter Station at Sellindge. If there were only one Lorry Park and, say, major problems at Eurotunnel only, the situation will be exacerbated by having to segregate traffic for Dover and allow it to re-join the motorway. Looking at the worse scenario in this particular case will require two separate lorry parks, each with no more than, say, 1500 places.
HEOL697	Ashford area junctions 9 and 10 have far more space and more suitable with ready and easy access already.
HEOL703	At junction of M25 and M20
HEOL728	I would like to see the area west of Sellindge Converter Station used. Bordered by the motorway & the railway. I know it would need a bridge, but so would your option no. 1
HEOL774	Ashford International Truckstop should be extended, preferably with a better access / exit. It could possibly be split into two sections, section one overnight parkers, section two for those who are queuing for a channel crossing, which will have two parts, one part for Dover and the other for the channel tunnel

Sifting Tool

Cut-off weighted score
<=200 next stage
>200 <=250 carry out further review
>250 reject

	Site 1. Eurotunnel & Port Dover		Site 2. Land south east of Ashford south of the M20.		Site 3. Land East of J11, Sandling		Site 4. A20, Courtwood		Site 5. Mersham, M20, converter		Site 6. Trucks Hall		Site 7. Folkestone racecourse/Westenhangar triangle		Site 8. Manston airport		Site 9. Upgrade multiple service stations		Site 10. Sandway		
	Weight	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
Accessibility 1: 1 <15miles; 3= 15-35 miles; 5= >35miles Distance to the port or terminal, whichever the greater, or scoring explained in notes.	10	1	10	3	30	1	10	1	10	3	30	1	10	2	20	5	50	5	50	5	50
Accessibility 2: 1 <15mins on minor roads; 3 <15mins on major roads ; 5 >15mins Journey time. The scoring broadly follows this criteria. It also takes account of standard of access route from the strategic road network to the site.	10	1	10	3	30	3	30	1	10	1	10	3	30	3	30	5	50	3	30	5	50
Environmental Impact: 1 Indirect impact on a local asset; 2 Direct impact on a local asset; 3 Indirect impact on a national asset; 4 Direct impact on a national asset; 5 Either indirect or direct impact on a international asset. The scoring broadly follows this criteria. Where professional judgement has been applied on the extent of likely impact the reasons for this are noted.	15	3	45	3	45	4	60	3	45	4	60	4	60	3	45	2	30	3	45	3	45
Deliverability 1 can deliver short term (18 months); 3 can deliver medium term (18 months up to 3 years); 5 can deliver long term (3 years plus).	20	5	100	3	60	1	20	3	60	1	20	3	60	3	60	1	20	5	100	1	20
Capacity 1>64ha (3600 to 4000 spaces) ; 3 35 to <64 ha (1800-3600 spaces) ; 5 <35 ha (<1800 spaces)	15	1	15	1	15	5	75	1	15	3	45	3	45	3	45	1	15	1	15	1	15
Affordability: 1 Likely to be delivered in £250m; 3 could be delivered within a 10% range £250m; 5 unlikely to be delivered within a 10% range of £250m.	10	5	50	1	10	1	10	1	10	1	10	1	10	1	10	1	10	5	50	1	10
Practicability: 1 fully workable; 3 workable but with complications; 5 unlikely to be workable	20	5	100	3	60	5	100	5	100	1	20	5	100	5	100	2	40	3	60	1	20
Total			330		250		305		250		195		315		310		215		350		210

Site 11. Land reclamation at Dover		Site 12. Land around Lympne		Site 13. Army barracks at Folkestone		Site 14. Aylesford papermill		Site 15. Lydden area		Site 16. Land adjacent Guston Solar farm		Site 17. Land between Fawkham Rd & Crowhurst Lane		Site 18 (split site): Stanford West and Sandway		Site 19 (split site): Stanford West & Mersham		Option 1: Stanford West		Option 2: Junction 11, north		
Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	
2	20	1	10	3	30	5	50	5	50	3	30	5	50	3	30	3	30	3	30	3	30	
				Less than 15 miles to Dover but score reduced as would not realistically be an accessible site for addressing						Less than 15 miles to Dover but score reduced as would not realistically be an accessible site for addressing problems at Folkestone.			Remote from ports and terminal.									
1	10	3	30	3	30	5	50	3	30	3	30	5	50	1	10	1	10	1	10	3	30	
				Minor road access only, approximately 1.5km south of the M20. Less than 15 minutes journey time						Less than 15 minutes to Dover but score reduced as would not realistically be an accessible site for addressing problems at Folkestone.			Remote from ports and terminal.									
4	60	3	45	4	60	3	45	4	60	4	60	5	75	3	45	4	60	3	45	4	60	
				There are several Grade II listed buildings within 2km, whose setting may be affected.				Brownfield site not close to residential dwellings.		Part of the site is within the AONB.			Many listed buildings and structures adjacent and likely views from Dover castle. Partially within the AONB.			Indirect impacts on Grade II listed buildings at Sandway and on SSSI at Stanford West. Also setting of Westenhanger to be considered. There would be more potential to mitigate potential environmental impacts where a split site is proposed, which lowers the score overall.			Indirect impact on SSSI.		Very visible and in setting of AONB.	
3	60	3	60	3	60	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	
				Uncertainties regarding delivery.				New infrastructure would be required to provide lorry access to the site, stalling delivery.														
3	45	3	45	3	45	3	45	2	45	3	45	2	30	1	15	1	15	1	15	1	15	
				Could only address half the capacity as would not				Would not address issues connecting														
3	30	1	10	3	30	1	10	1	10	1	10	1	10	3	30	3	30	1	10	1	10	
				Finding material to reclaim the land could add to the cost.				Successfully developing access for lorries is likely to be in excess of the budget.														
3	60	5	100	5	100	5	100	3	60	5	100	5	100	1	20	1	20	1	20	1	20	
				Due to topography and other site constraints, it is unlikely that more than 30 hectares of land is available. This is not enough for the site to work on its own. Distance from M20 makes it unsuitable as a twin site.				Site is too constrained and it would not be possible to successfully provide for a suitable access/egress for lorries.			Not enough capacity as a standalone site. Could only really address the issues at Dover.			Site constrained and so unlikely to be able to deliver the amount of land required. It would also involve some woodland clearance.								
	285		300		355		320		295		295		335		170		185		150		185	

Sifting Tool

Cut-off un-weighted score	
<=15 next stage	
>=16 <=20 carry out further review	
>21 reject	

	Site 1. Eurotunnel & Port Dover			Site 2. Land south east of Ashford south of the M20.		Site 3. Land East of J11, Sandling		Site 4. A20, Courtwood		Site 5. Mersham, M20, converter		Site 6. Trucks Hall		Site 7. Folkestone racecourse/Westenhangar triangle		Site 8. Manston airport		Site 9. Upgrade multiple service stations		Site 10. Sandway	
	Weight	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
Accessibility 1: 1 <15miles; 3= 15-35 miles; 5= >35miles Distance to the port or terminal, whichever the greater, or scoring explained in notes.	1	1	1	3	3	1	1	1	1	3	3	1	1	2	2	5	5	5	5	5	5
Accessibility 2: 1 <15mins on minor roads; 3 <15mins on major roads; 5 >15mins Journey time. The scoring broadly follows this criteria. It also takes account of standard of access route from the strategic road network to the site.	1	1	1	3	3	3	3	1	1	1	1	3	3	3	3	5	5	3	3	5	5
Environmental Impact: 1 Indirect impact on a local asset; 2 Direct impact on a local asset; 3 Indirect impact on a national asset; 4 Direct impact on a national asset; 5 Either indirect or direct impact on an international asset. The scoring broadly follows this criteria. Where professional judgement has been applied on the extent of likely impact the reasons for this are noted.	1	3	3	3	3	4	4	3	3	4	4	4	4	3	3	2	2	3	3	3	3
Deliverability 1 can deliver short term (18 months); 3 can deliver medium term (18 months up to 3 years); 5 can deliver long term (3 years plus)	1	5	5	3	3	1	1	3	3	1	1	3	3	3	3	1	1	5	5	1	1
Capacity 1>64ha (3600 to 4000 spaces) ; 3 35 to <64 ha (1800-3600 spaces) ; 5 <35 ha (<1800 spaces)	1	1	1	1	1	5	5	1	1	3	3	3	3	3	3	1	1	1	1	1	1
Affordability: 1 Likely to be delivered in £250m; 3 could be delivered within a 10% range £250m; 5 unlikely to be delivered within a 10% range of £250m.	1	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	1	1
Practicability: 1 fully workable; 3 workable but with complications; 5 unlikely to be workable	1	5	5	3	3	5	5	5	5	1	1	5	5	5	5	2	2	3	3	1	1
Total			21		17		20		15		14		20		20		17		25		17

Site 11. Land reclamation at Dover		Site 12. Land around Lympne		Site 13. Army barracks at Folkestone		Site 14. Aylesford papermill		Site 15. Lydden area		Site 16. Land adjacent Guston Solar farm		Site 17. Land between Fawkham Rd & Crowhurst Lane		Site 18 (dual site): Stanford West and Sandway		Site 19 (dual site): Stanford West & Mersham		Option 1: Stanford West		Option 2: Junction 11, north	
Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
2	2	1	1	3	3	5	5	5	5	3	3	5	5	3	3	3	3	3	3	3	3
Parking provided at source although does not address issues at tunnel terminal.				Less than 15 miles to Dover but score reduced as would not realistically be an accessible site for addressing problems at Dover.						Less than 15 miles to Dover but score reduced as would not realistically be an accessible site for addressing problems at Folkestone.		Remote from ports and terminal.									
1	1	3	3	3	3	5	5	3	3	3	3	5	5	1	1	1	1	1	1	3	3
		Minor road access only, approximately 1.5km south of the M20. Less than 15 minutes journey time anticipated but the scoring is also based on the quality of the roads.		Less than 15 miles to Folkestone but score reduced as would not realistically be an accessible site for addressing problems at Dover.						Less than 15 miles to Dover but score reduced as would not realistically be an accessible site for addressing problems at Folkestone.		Remote from ports and terminal.									
4	4	3	3	4	4	3	3	4	4	4	4	5	5	3	3	4	4	3	3	4	4
Ecological impacts on the seabed from land reclamation. SSSI at Shakespeare Cliff.		There are several Grade II listed buildings within 2km, whose setting may be affected.		Proximity to residential dwellings could cause issues for the living conditions of occupants in relation to noise and air quality, especially in providing a suitable access/egress to and from the site. This raises the score in spite of the lack of specific constraints.		Brownfield site.		Part of the site is within the AONB.		Many listed buildings and structures adjacent and likely views from Dover castle. Partially within the AONB.		Direct impact on BAP Priority Habitat (deciduous woodland). In the setting of a Grade I listed building.		Indirect impacts on Grade II listed buildings at Sandway and on SSSI at Stanford West. Also setting of Westenhangar to be considered. Indirect impacts on Grade II listed buildings at Sandway and on SSSI at Stanford West. Also setting of Westenhangar to be considered. There would be more potential to mitigate potential environmental impacts where a split site is proposed, which lowers the score overall.		Would affect the setting of a listed building at Mersham. This is an indirect impact but the heritage asset is graded II*, and is of higher value. There would though be more potential to mitigate potential environmental impacts where a split site is proposed, which could lower the score overall. However, in this case it is considered that due to the high value heritage asset there		Indirect impact on SSSI.		Very visible and in setting of AONB.	
3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Uncertainties regarding delivery.		New infrastructure would be required to provide lorry access to the site, stalling delivery.																	
3	3	3	3	3	3	3	3	2	3	3	3	2	2	1	1	1	1	1	1	1	1
Could only address half the capacity as would not solve issues around tunnel terminal.								Would not address issues emanating from tunnel terminal.													
3	3	1	1	3	3	1	1	1	2	1	1	1	1	3	3	3	3	1	1	1	1
Finding material to reclaim the land could add to the cost.				Successfully developing access for lorries is likely to stretch the budget.																	
3	3	5	5	5	5	5	5	3	3	5	5	5	5	1	1	1	1	1	1	1	1
		Due to topography and other site constraints, it is unlikely that more than 30 hectares of land is available. This is not enough for the site to work on its own. Distance from M20 makes it unsuitable as a twin site.		Site is too constrained and it would not be possible to successfully provide for a suitable access/egress for lorries.		Site is too constrained and it would not be possible to successfully provide for a suitable access/egress for lorries.				Not enough capacity as a standalone site. Could only really address the issues at Dover.		Site constrained and so unlikely to be able to deliver the amount of land required. It would also involve some woodland clearance.									
	19		19		24		23		21		20		24		13		14		11		14

Weighted

Rank	Site Number	Option name	Rating
1		Option 1: Stanford West	150
2	18	Stanford West and Sandway split site)	170
3	19	Stanford West and Mersham split site)	185
4		Option 2: Junction 11 North	185
5	5	Mersham, M20, converter	195
6	10	Sandway	210
7	8	Manston airport	215
8	2	Land south east of Ashford south of the M20	250
9	4	A20, Courtwood	250
10	11	Land reclamation at Dover	285
11	15	Lydden area	295
12	16	Land around Guston solar farm	295
13	12	Land around Lympne	300
14	3	Land East of J11, Sandling	305
15	7	Folkestone racecourse	310
16	6	Trucks Hall	315
17	14	Aylesford papermill	320
18	1	Eurotunnel and port of Dover (dual site)	330
19	17	Land between Fawkham Rd & Crowhurst Lane	335
20	9	Upgrade multiple service stations	350
21	13	Army barracks at Folkstone	355

Un-weighted

Rank	Site Number	Option name	Rating
1		Option 1: Stanford West	11
2	18	Stanford West and Sandway (split site)	13
3	5	Mersham, M20, converter	14
4	19	Stanford West and Mersham (split site)	14
5		Option 2: Junction 11 North	14
6	4	A20, Courtwood	15
7	2	Land south east of Ashford south of the M20	17
8	8	Manston airport	17
9	10	Sandway	17
10	11	Land reclamation at Dover	19
11	12	Land around Lympne	19
12	3	Land East of J11, Sandling	20
13	6	Trucks Hall	20
14	7	Folkestone racecourse	20
15	16	Land around Guston solar farm	20
16	1	Eurotunnel and port of Dover (dual site)	21
17	15	Lydden area	21
18	14	Aylesford papermill	23
19	13	Army barracks at Folkstone	24
20	17	Land between Fawkham Rd & Crowhurst Lane	24
21	9	Upgrade multiple service stations	25