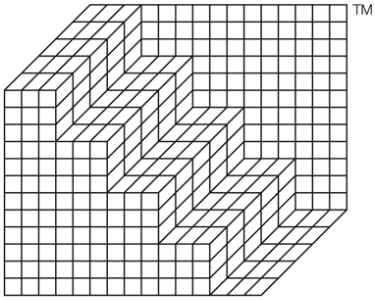

Buro Happold

Folkestone Seafront Development

Masterplan Report Transport Statement

027011

26 January 2012

Revision 01

Revision	Description	Issued by	Date	Checked
00	Internal Draft	RR	24/01/12	JDW
01	External Draft	RR	26/01/12	JDW

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author	**Robert Rossiter**
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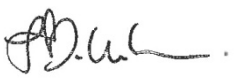
date	**26/01/12**
approved	**Jon Dare-Williams**
signature	
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Contents

1 Introduction

This document supplements the Masterplan Report submitted in support of the allocation of the Seafront site for development within Shepway District Council's Core Strategy. The strategy contained herein reflects the current status of the design process and updates the previously submitted Interim Transport Statement (June 2011). This report effectively provides a position statement in respect of the ongoing transport work and seeks to clarify that the mitigation required to deliver the Seafront development is deliverable. Further detailed assessment, including submission of the Transport Assessment, will continue as the development heads towards an Outline Planning Application.

The Seafront site presents an opportunity to regenerate approximately 14 Hectares of underutilised seafront, providing the delivery of a high quality development within the town, building upon the work that has already taken place in Folkestone's Creative Quarter. The need for regeneration on the Seafront Site has been necessitated through the loss of Harbour and Ferry operations that ceased in 2000.

The proposed Masterplan will provide a mixed use development enhancing the leisure and tourism provision alongside approximately 1,000 new residential units. The development will therefore create a lively and vibrant quayside area which will seek to improve connectivity between the Seafront, the Town Centre, Bus Stops and Bus Station, and Folkestone Central Railway Station.

2 The Site

The Seafront area of Folkestone is currently an underutilised area of the town that is in need of significant investment to realise its potential to assist in the wider regeneration of the area. The site currently accommodates a number of vacant and partially used commercial and harbour related buildings, Club Indigo, car parking and open areas of unused tarmac.

The Seafront Masterplan has undergone a thorough design process to establish viable options for development. Through further design iterations, balancing form and function with the practicality of delivering a viable development, definitive land use allocations will be determined. Notwithstanding this iterative design process, the following provides an indication of the potential Masterplan; again, this is subject to change.

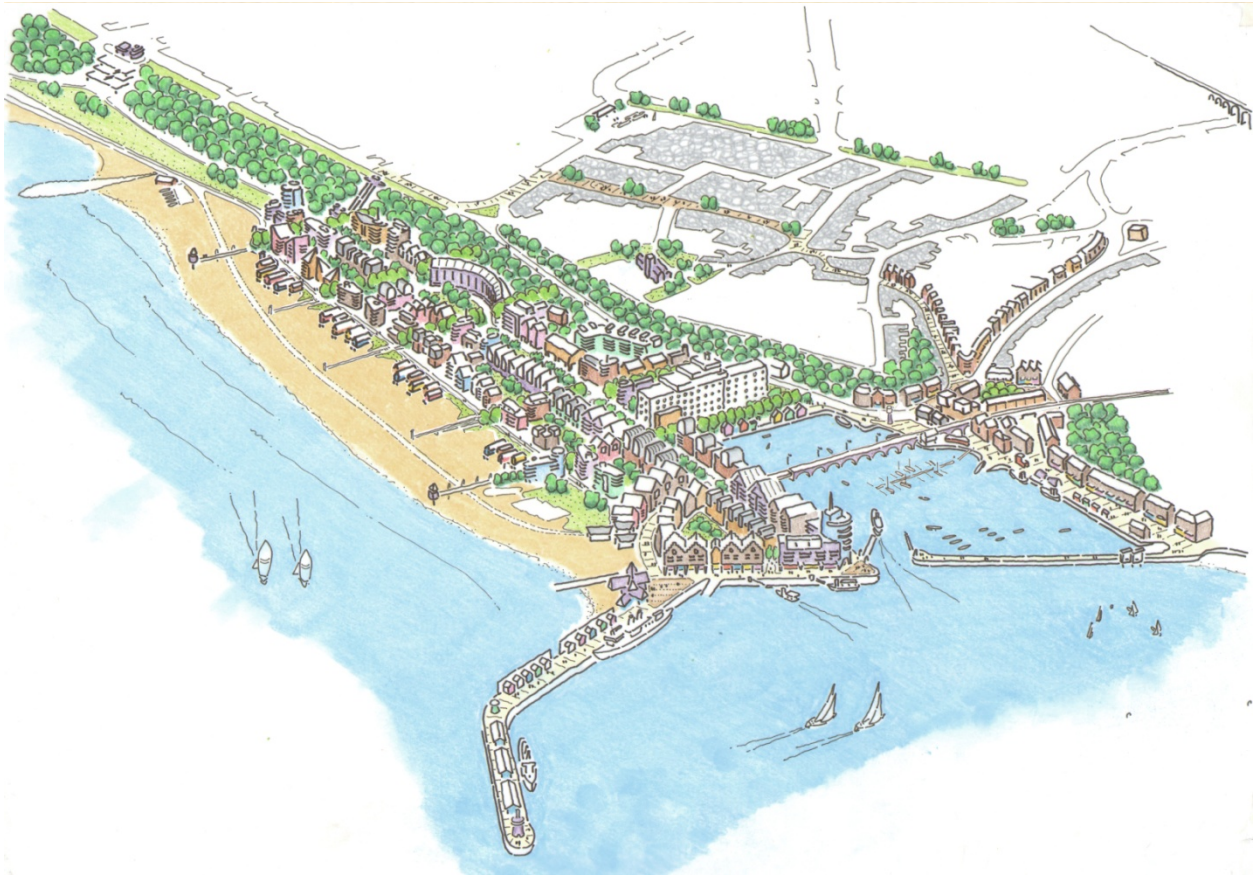


Figure 2-1: Illustrative Masterplan Option

The Masterplan for the development site is still evolving; however, the maximum capacity of the site has been confirmed for the basis of the Environmental Impact Assessment and reflects the following land use schedule:

Table 2-1: Land Use Schedule

Residential Units	Number of units
Apartments/ flats	597
Houses	403
Total Residential	**1,000**
Other uses	**Gross Floor Area**
Shops/ cafes/ bars	6,342
Sea sports	600
Beach sports	600
Kiosks	200
Nursery	200
Medical Centre	50
Office/ studio	2,350
Total Other uses	**10,342**

The Land Use Schedule demonstrates a suitable mix of Land Uses that will allow some 'internalisation' of trips, for example, linking home-based trips with commercial and leisure based uses. The provision of leisure and retail opportunities, also provide a suitable level of attraction to benefit the wider area.

3 Existing Connectivity

The Seafront is located at the base of the Leas Cliffs with the town centre, bus station and rail station (Folkestone Central) separated both horizontally and vertically from the site. Consideration has been given to the existing access arrangements by foot, cycle, bus and car facilitating travel to and from these destinations.

Walking

Walking distances to the key destinations have been calculated as follows:

- Town Centre (as represented by access to Rendezvous Street): 370 metres
- Bus Station at Bouverie Place: 850 metres
- Railway Station as served from Shorncliffe Road: 1,420 metres

Footpath links to the town centre and other destinations are provided towards the western end of the development site along high gradient footpaths up the cliff. From the top of the cliff, footway links are provided to each of the destinations following footways alongside roads. The Funicular Railway provides a pedestrian friendly route between the Seafront and the cliff top and has thus bridged the steep gradients attributed to pedestrian routes between the Seafront and other destinations since 1885.

Towards the eastern end of the development, pedestrian links are provided through the provision of footways along Marine Parade, Harbour St and Old High Street, leading into the Town Centre and thereafter.

Cycling

National Cycle Route 2 (NCR2) currently runs to the north of Marine Parade linking St Austell in Cornwall to Dover, through Hythe and rural Shepway. The route of NCR2 will be changed slightly from Lower Sandgate Road to Marine Parade, as a result of existing development proposals.

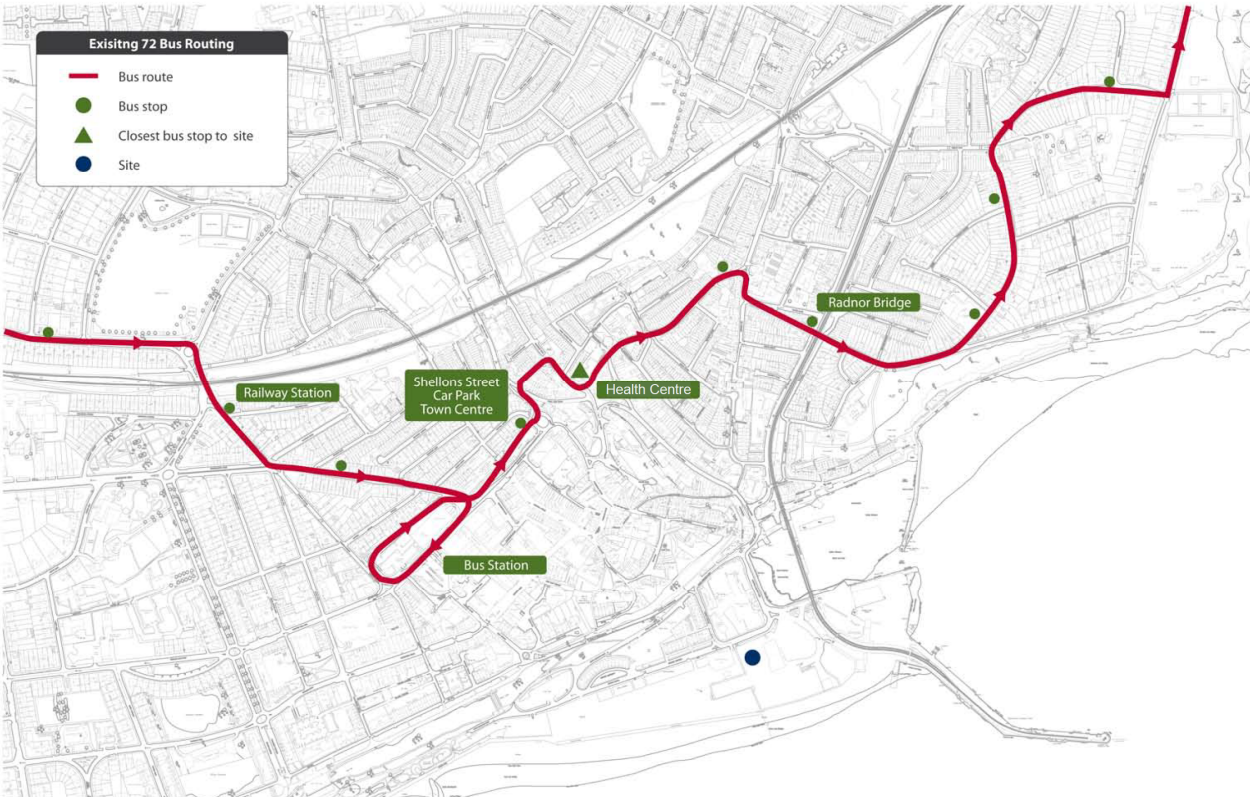
Public Transport

There are currently two bus services that serve the nearest bus stops to the site, these are service 72 (East Cliff to Cheriton) and service 127 (Holywell to Broadmead). For a westbound journey from the site, the closest bus stop is 330 metres away (stop adjacent to the Old High Street) which is within a reasonable walking distance. For an eastbound journey, the closest stop is 700 metres (stop on Dover Road, adjacent to the Health Centre) which may be considered outside of a reasonable walking distance.

From the assessment of walking connectivity considered above, it may be concluded that reasonable walking distances are exceeded for journeys to the Railway Station (which is 1,200 metres as 'the crow flies') and access to an eastbound bus service; the bus station is considered within reasonable walking distance due to its status as a Transport Interchange (1,000 metres is readily considered the maximum walking distance to such a destination for people who wish to make medium to long distance trips).

As a result of the one-way system that operates in Folkestone, both service 72 (East Cliff to Cheriton) and service 127 (Holywell to Broadmead) have very different eastbound and westbound routes, which mean that proximity to bus stops from the site varies significantly with direction of travel; as stated previously, 330m for a westbound service and 700m for an eastbound service. The routes of these eastbound and westbound services are illustrated in the following figures.

Folkestone Seafront Masterplan - **Existing 72 Bus Routing: Eastbound**



Folkestone Seafront Masterplan - **Existing 72 Bus Routing: Westbound**

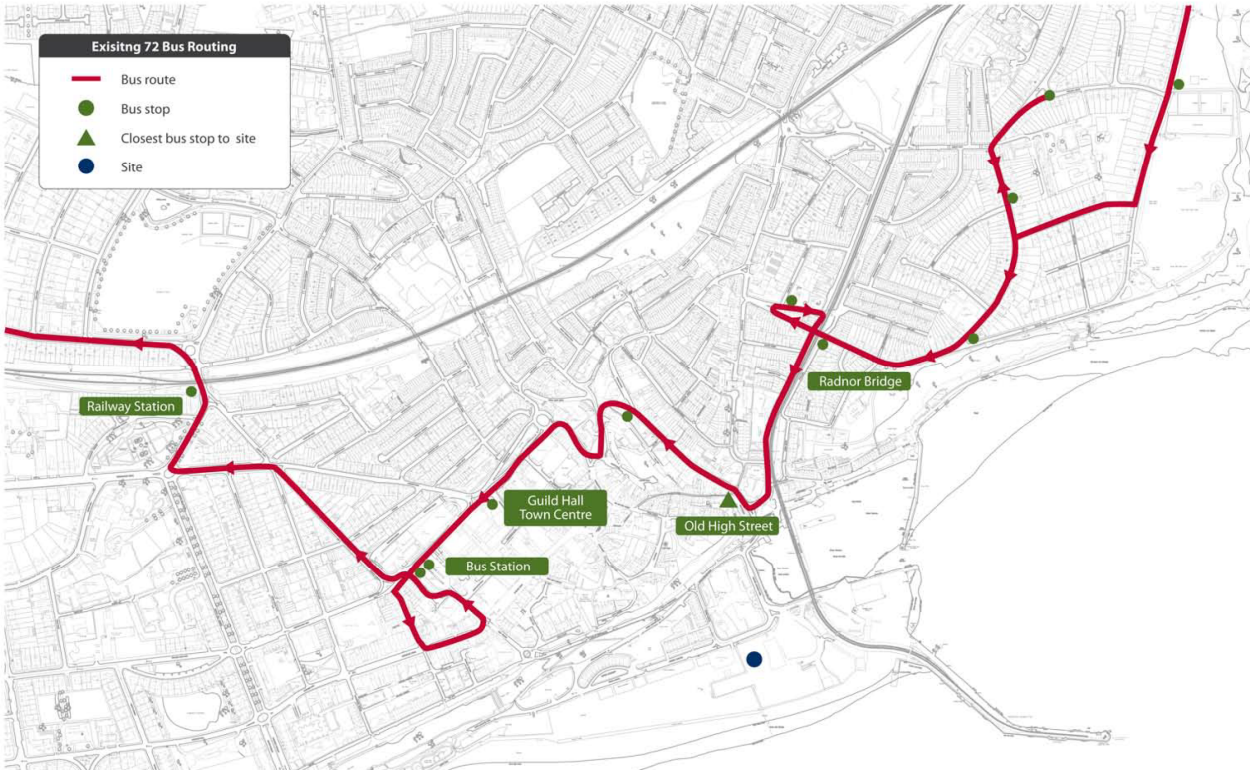
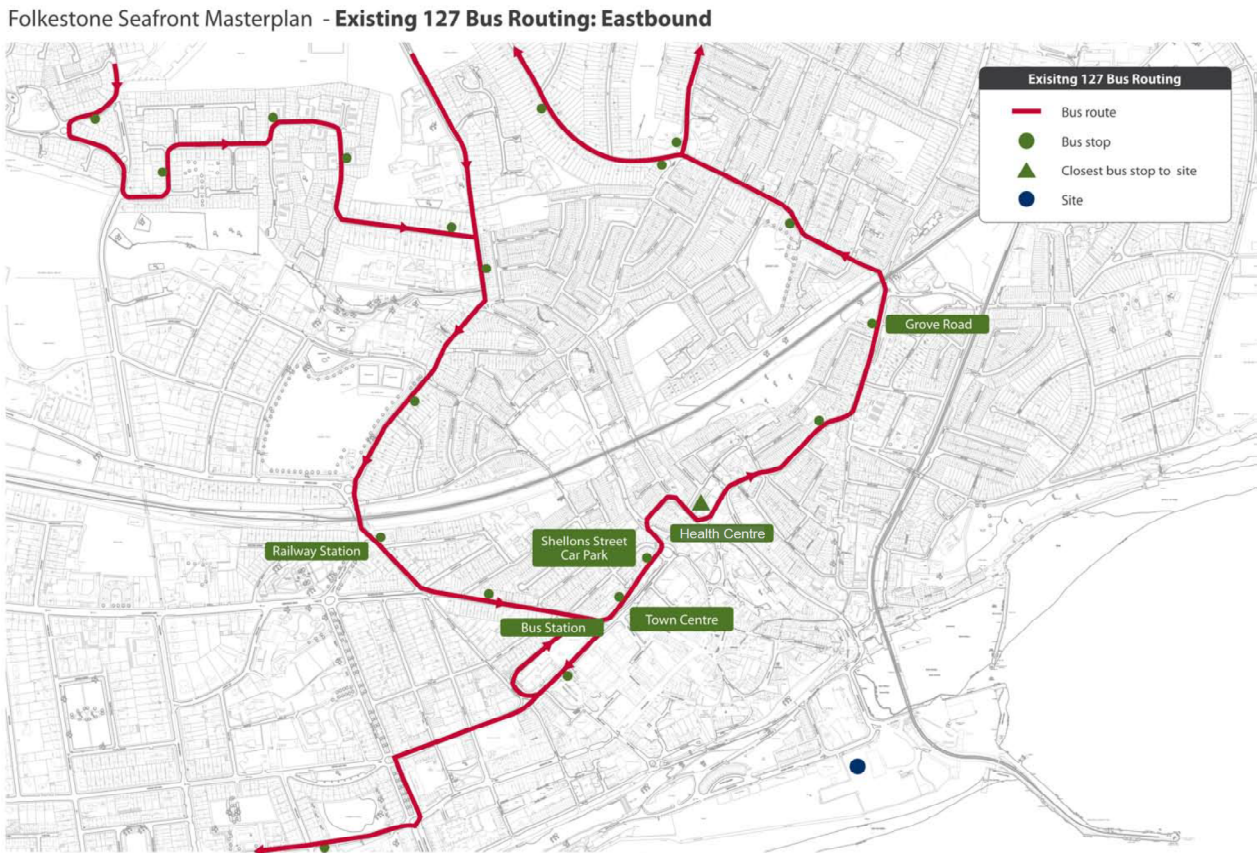


Figure 3-1: Bus Service Provision of Service 72.



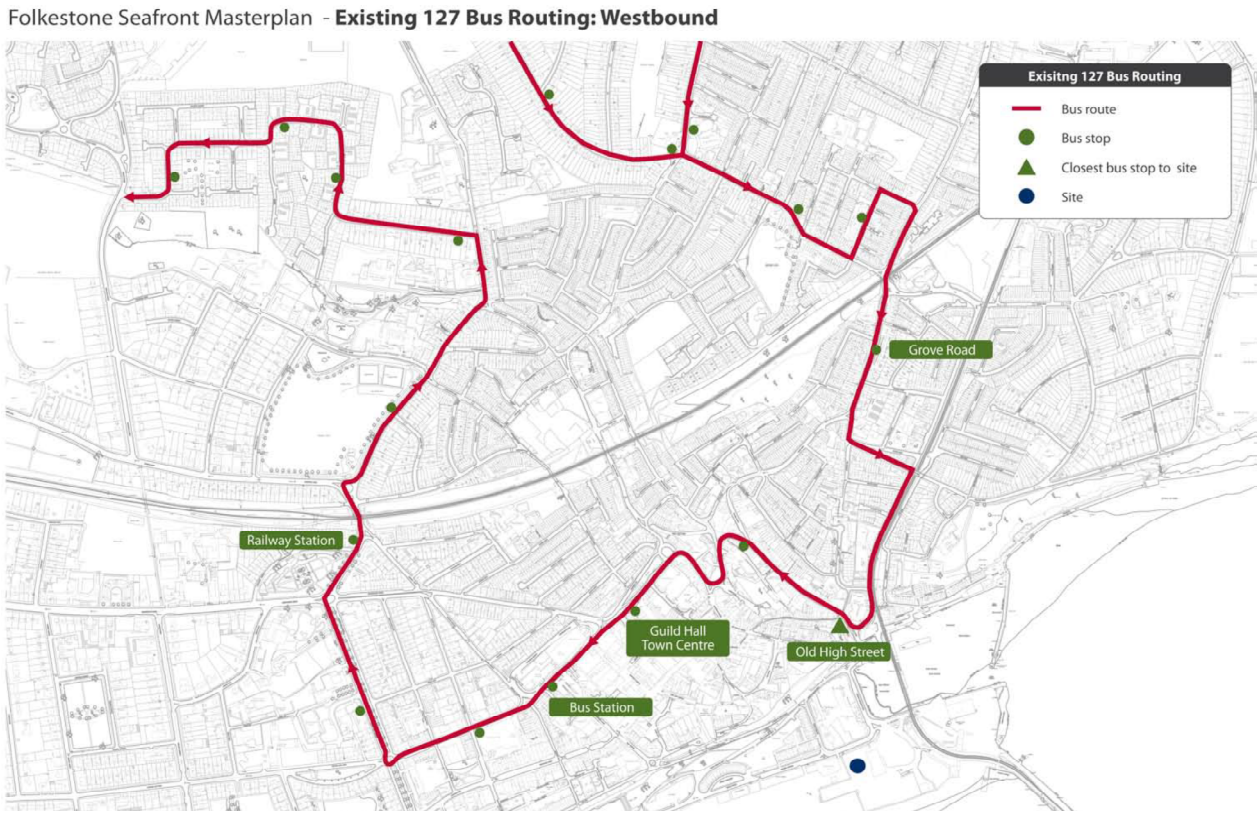


Figure 3-2: Bus Service Provision of Service 127

Vehicular

Access to the Seafront may be achieved via The Tram Road and egress achieved via Tontine Street, both of which form part of Folkestone's one way system; this one-way system is illustrated in the following figure.

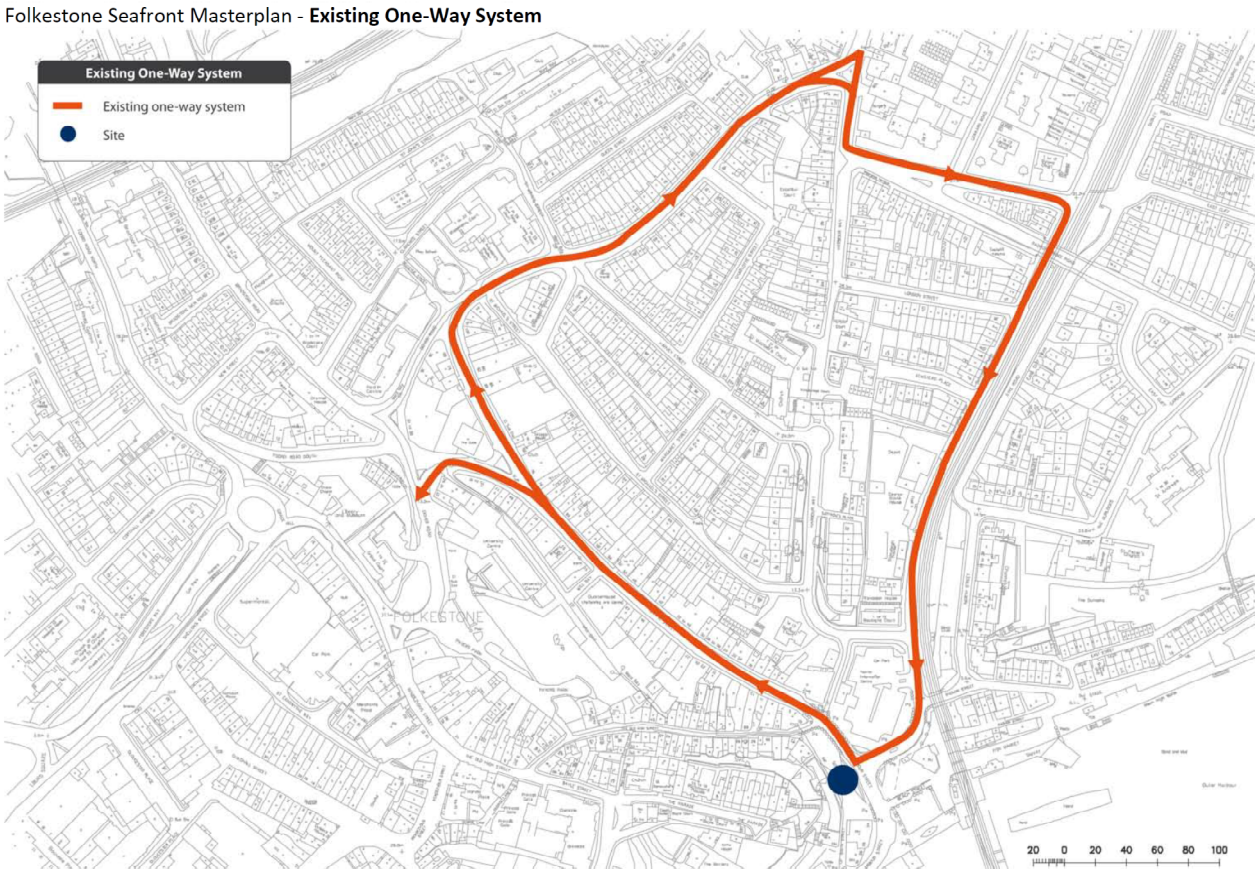


Figure 3-3: Folkestone One-Way system

In addition to the use of the one-way system, access to the seafront can also be gained from Road of Remembrance.

4 Improving Connectivity

It is important that the Seafront development responds to its environs and provides movement connections with the urban area that assist in fully integrating it with Folkestone. Consideration has been given to the pedestrian, cycle and public transport networks that currently exist and how the Seafront development can link into and improve this existing provision. Improved connectivity provides residents and visitors with a choice of mode with which to make their journey.

Walking

There are a number of existing pedestrian routes that link the Seafront development to the town centre. The Funicular Railway to the western end of the development provides an existing, historically relevant, facility to move people up and down the cliff. However, the Masterplan layout is such that the higher density of development is clustered towards the eastern end, with the apartments and commercial proposed on the Pier Headquarters; the development immediately adjacent to the beach represents much lower density residential units. This creates a focus of activity towards the western end, away from the Funicular Railway, as illustrated below.

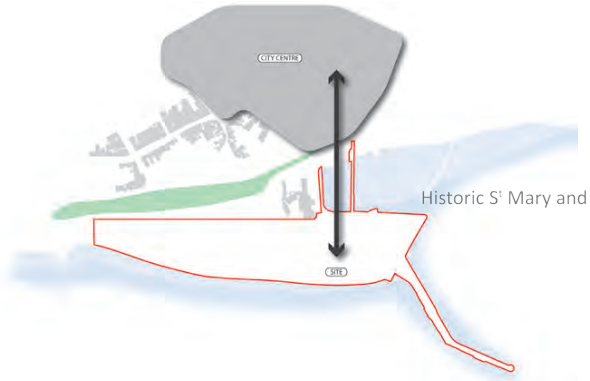
Figure 4-1: Density and generation of Development Trips

The densification of the development towards the west means that the town centre is within reasonable walking distance (for most people) of a large part of the proposed Masterplan. Furthermore, the conversion of the rail bridge across the harbour into a pedestrian link completes a pedestrian friendly route between the western end of the Masterplan and the town centre, via the Creative Quarter. This is illustrated clearly in Farrells' plan entitled 'Extending the Creative Quarter'.

Figure 4-2: Walking connectivity – Extending the Creative Quarter (Farrells)

Extending the Creative Quarter

The Cultural and Commercial Promenade revitalises the Harbour as a lively and vibrant Quayside

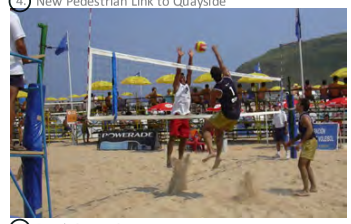


1. Artisans on the Old High Street

2. Rock Salt Restaurant

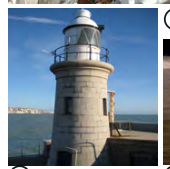
3. Local Fish Market

4. New Pedestrian Link to Quayside

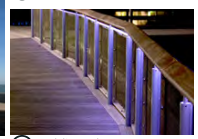


5. Beach Sports Centre

6. Harbour Moorings



7. Lighthouse



8. Public realm

FOLKESTONE SEAFRONT

SOUTH EAST REGIONAL DESIGN PANEL - JANUARY 2012

FOLKESTONE HARBOUR COMPANY

FARRELLS

Cycling

The Seafront development proposes to enhance Marine Parade, creating an enhanced street with considered interaction between all modes of travel. The introduction of NCR2 will be embedded within the design of Marine Parade. Additionally, a private roadway that runs through the houses to the south of Marine Parade will be created (known as the Boardwalk) and at this stage it is anticipated that public cycle access will be permitted along this route.

Public Transport

Opportunities exist to improve bus access to the site through reconsidering the current one-way operation. In this regard, the option to create contra-flow bus lanes to maximise the benefit to public transport and minimise the impact of providing additional highway capacity has been considered. Options to create two-way public transport flow along Tontine Street and/or Tram Road have been considered.

The long-term aspiration for Tontine Street is to deliver a improved public realm and present a high quality scheme that assists in raising the overall area. This is a significant undertaking and has benefits wider than the re-introduction of two-way operation.

It is potentially difficult to separate the benefit to the wider public transport network of reverting Tontine Street to two-way and measures that support the Seafront development. There are clear advantages to bus operation in Folkestone in delivering two-way operation along Tontine Street; however, the conversion of Tram Road alone to two-way operation will enable buses to serve the Seafront development and access the rail station and town centre. In this regard, careful consideration needs to be given to ensuring the effective use of the limited resources available from the development, in order to ensure that mitigation of the impact respects the five tests given in Circular 05/05; these are:

- Relevant to planning;
- Necessary to make the proposed development acceptable in planning terms;
- Directly related to the proposed development;
- Fairly and reasonably related in scale and kind to the proposed development; and
- Reasonable in all other respects.

Additionally, Tontine Street is populated by small retail units, restaurants and fast food outlets and currently accommodates limited waiting parking which provides an important facility for local businesses. Delivering two-way bus operation to Tontine Street will require the removal of all or some of the parking, even with the use of a system of priority give-ways.

Tram Road is populated along one side by residential units, with the opposing side bounded by an unused railway line. The conversion of this route to two-way could be facilitated using a system of priority give ways that would enable the retention of most of the residential parking. With regards to service provision, this route may either be accommodated by a shuttle bus, to ferry passengers between existing stops on the service route, or by contributing to the existing service provision. The option of creating a two-way bus function along Tram Road is represented in the following figure, which depicts the implications for the eastbound bus route bringing the service within close proximity to the Seafront Development Site.

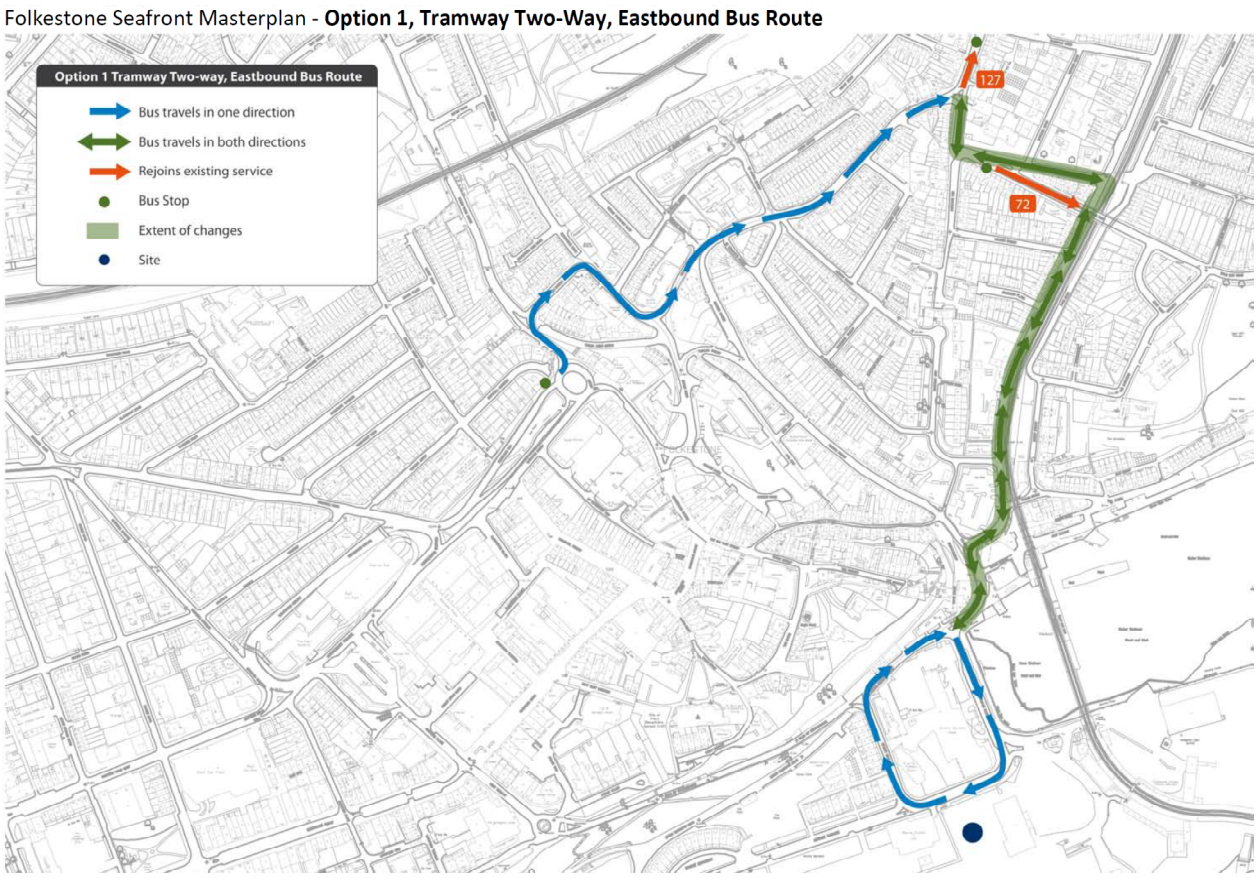


Figure 4-3: Tram Road Two-Way Option

Kent County Council is currently pursuing the conversion of Tram Road to two-way operation and it is anticipated that this will be implemented (subject to consultation) before the submission of the Outline Planning Application. This will therefore provide improved access to the Seafront site.

With regards to Tontine Street, there is an ongoing collaboration exercise with Kent County Council considering the opportunity to provide an 'interim' scheme along this route that facilitates contra-flow operation for buses. Initial concepts have been discussed with Kent County Council to determine whether there is an opportunity to deliver a scheme that provides a 'stepping stone' towards a comprehensive upgrade of Tontine Street. The following illustrate the work to date.

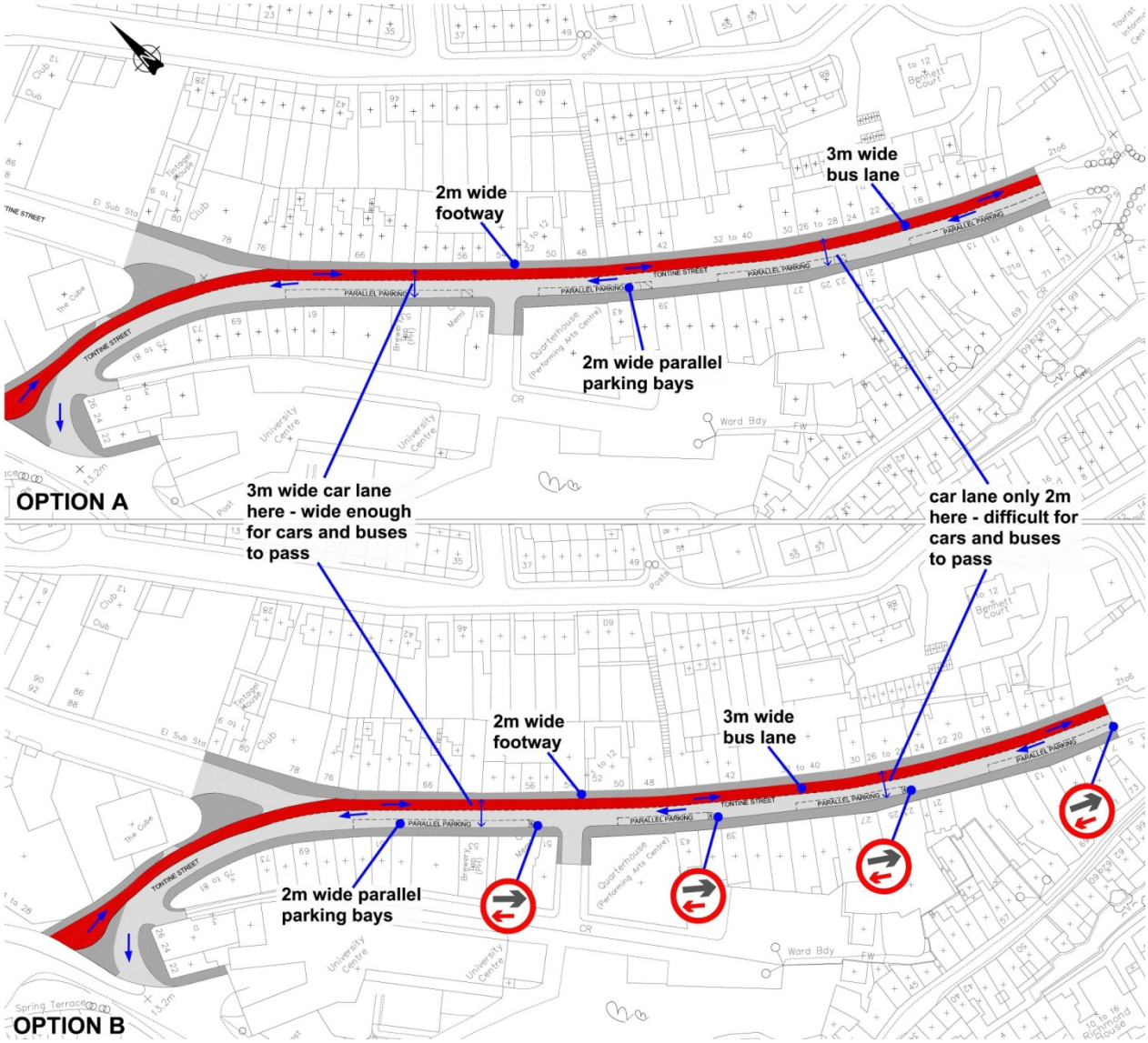


Figure 4-4: Tontine Street Interim Scheme Options

Whilst the option assessment provides confirmation of possible two way operation of Tontine Street, the link between this provision and the Seafront development has not been established.

Overarching Transport Strategy

The following figure depicts the committed Transport Strategy associated with the Seafront development.

Figure 4-5: Overarching Transport Strategy

Folkestone - **Overarching Transport Stategy**

5 Highway Impact

In order to assess the transport impact of the development, it is necessary to estimate how many trips it generates, where those trips are to and from (the trip distribution) and the mode choice of those making the trips. The transport modelling work for the Seafront development has included assessment of all three of these aspects, and the resultant trip numbers have been used to test the impact of the development on the surrounding transport networks. This is part of an ongoing process and will be refined as the Masterplan continues to develop through consultation with Kent County Council, leading to the formal submission of the Transport Assessment to support the Outline Planning Application.

Trip Generation

To estimate the numbers of trips generated by the development, two sources of data have been used: TEMPRO (the Government's travel demand model) for residential trips, and TRICS (a database of surveyed sites) for non residential trips. This approach is consistent with that agreed for the 'Transport Strategy Spreadsheet Model Report', January 2011, produced by Scott Wilson for Shepway District Council. In keeping with best practice the assessment has considered the impact of the development five years after submission of the Outline Planning Application, namely 2017.

The number of trips generated by the development in 2017 is as shown in Table 5-1 below.

Table 5-1: 2017 Development Trip Generation in AM and PM Peaks.

Land Use	AM		PM	
	Arrivals	Departures	Arrivals	Departures
Residential	**329**	**889**	**809**	**398**
Retail	85	80	360	356
Shops/Cafes/Bars	34	32	172	170
Office/Studio space	37	4	4	30
Seas sports	1	1	2	2
beach sports	1	1	2	2
Kiosks	0	0	0	0
Nursery	12	9	8	9
Medical Centre	2	1	1	2
Total Non-Residential	**172**	**128**	**549**	**569**
Total Trips	**501**	**1,017**	**1,358**	**968**

The trips generated by the site will travel to and from a variety of different locations both within Folkestone and external to it. When assessing the trip patterns associated with the development, it is important to consider the proposals as regeneration rather than as an integral part of the existing fabric of Folkestone. In this regard, consideration has further been given to an increase in the number of people who would consider living in Folkestone and utilising HS1 to work in London, in addition to a study of the existing demographical trip distribution.

In order to predict the travel distribution for the Seafront development, the trips have been broken down into a number of trip purposes: residential employment trips, residential education trips and non-residential trips (the dominant trip purposes in weekday peak hours). Appropriate distribution patterns for each type of trip have been derived based on Census (2001) travel to work surveys, TEMPRO household and employment information, school locations and pupil numbers.

Using all this information, overall trip distribution patterns have been derived for the development for AM and PM peak periods in each of the assessment years. This assessment concludes that the majority of trips (over 60%) are expected to take place entirely within Folkestone, so the trip distribution exercise has further considered distribution between Wards within the town. Trips have been assigned to the shortest possible (and appropriate) route between the development and the destinations.

The trips generated by the development will be accommodated by a number of modes, with mode choice being dependent on the nature of the trip being made, the distance being travelled and availability of each mode on that route. To determine modal choice, Folkestone data from the 2001 Census, TEMPRO and TRICS has been utilised.

The TEMPRO mode split reflects some of the future trends in trip making behaviour, whilst the census data is simply a snapshot of the travel patterns in the year in which the surveys took place, i.e. 2001. The advantage of the census data, however, is that different mode splits are available for each of the individual trip destinations and thus is still afforded credibility for the impact assessment.

The mode splits for this development have been generated by combining data from both TEMPRO and 2001 Census. TEMPRO overall modes shares have been used, but have been disaggregated according to the Census area breakdowns to ensure that the mode splits being used for each individual area are accurate.

Since the time the Census surveys were carried out in 2001, the HS1 high speed rail line has opened in the area and is thus not represented in this data; HS1 is also not represented in later TEMPRO forecast information. The implication of this infrastructure provision is a significantly reduced travelling time to London. It is therefore expected that the mode choice of those travelling to London from Folkestone has been significantly altered and that the quantum of people undertaking this journey has also increased. The mode train mode share for this movement to London has therefore been increased by approximately 10%.

The following charts illustrate the calculated mode shares by area.

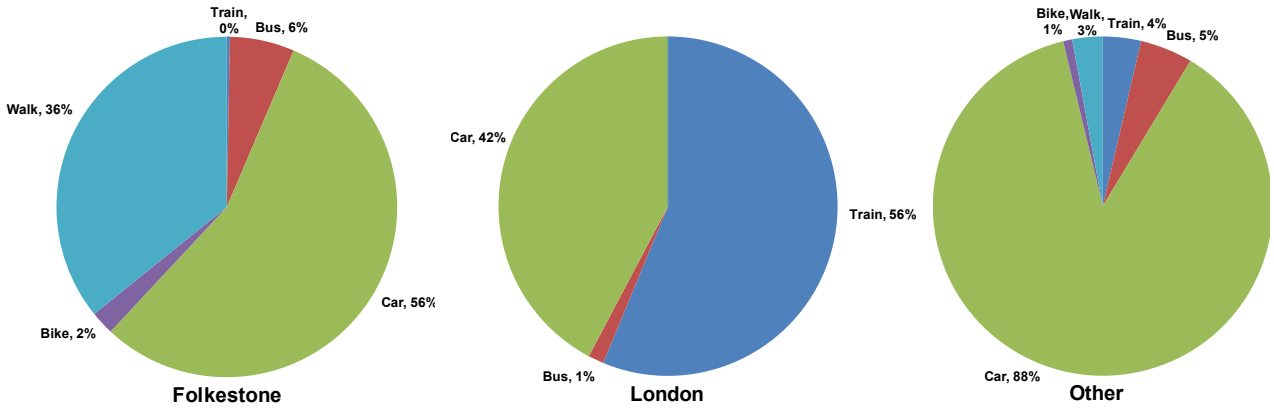


Figure 5-1: Estimated Mode Share by Area

Impact Assessment

To determine the traffic impact arising from the development, five junctions were modelled. These junction locations are shown in the following figure and reported in the subsequent table.

Figure 5-2: Junctions modelled

Table 5-2: Junctions modelled

Junction	Type	Description
1	Give-Way	Remembrance Road / Marine Terrace / Lower Sandgate Road
2	Give-Way	Lower Sandgate Road / Harbour Approach / Harbour Street
3	Give-Way	Harbour Street / Tram Road / Tontine Street
4	Give-Way	Dover Road (Southbound) / Tontine Street
5	Roundabout	Grace Street (S) / Shellons Street / Forester Way / Grace Street (N)

The five junctions were modelled for the following scenarios:

- AM and PM peak periods in 2010 (without the proposed development)
- AM and PM peak periods in 2017 (without the proposed development)
- AM and PM peak periods in 2017 (with the proposed development)
- The results of the modelling (ratios of flow to capacity) are shown in Table 5-3with values over the acceptable threshold of 85% coloured in red.

Table 5-3: Results of modelling

Junction	2010 no dev		2017 no dev		2017 with dev	
	AM	PM	AM	PM	AM	PM
1	18%	38%	18%	38%	41%	95%
2	5%	5%	5%	5%	24%	53%
3	70%	55%	74%	59%	77%	61%
4	61%	37%	64%	40%	75%	44%
5	81%	130%	87%	135%	91%	138%

From the previous table certain conclusions can be drawn, these are:

- Junctions 1 through 4 work well in all periods, with the exception of Junction 1 for the '2017 PM with development' scenario
- In 2017, with the development, Junction 1 will require mitigation in the form of works to increase junction capacity or mitigation at the development site through reduced traffic generation
- Junction 5 is congested now, and will continue to do so into the future
- Junction 5 will therefore require increased junction capacity to accommodate baseline levels of traffic and the addition of development traffic.

Mitigation

Consideration has been given to the types of mitigation measures that could be delivered to address the issues identified above.

Mitigation: Junction 1 – Remembrance Road / Marine Terrace

Junction 1 experiences congestion in the '2017 PM peak with development' scenario. The modelling results indicate that the problem may be due to the higher inbound traffic flows along Remembrance Road, with this traffic giving way to traffic on Marine Terrace which is turning right at this location. Two possible mitigation strategies are suggested to address this:

- Mitigation strategy 1 – Reverse the priority of the junction, so that traffic turning right on Marine Terrace must give-way to traffic on Remembrance Road (Figure 5-3).

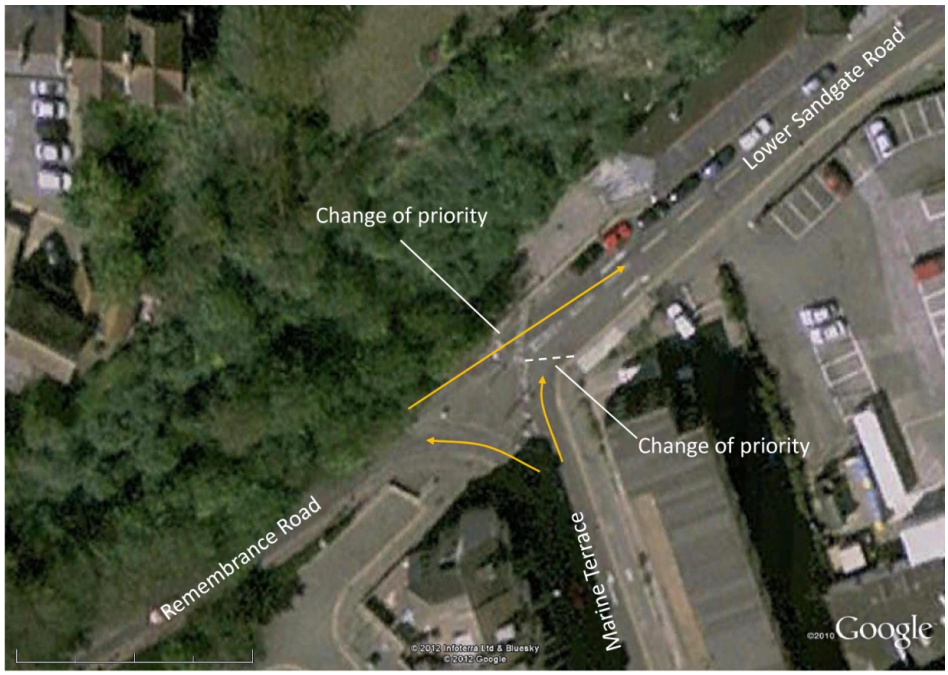


Figure 5-3: Possible priority mitigation

- Mitigation strategy 2 – Change the nature of the junction from a priority give-way junction, to a merge. In the following figure the give-way line is deleted and white line marking and kerb extensions used to merge the traffic on Lower Sandgate Street (Figure 5-4).

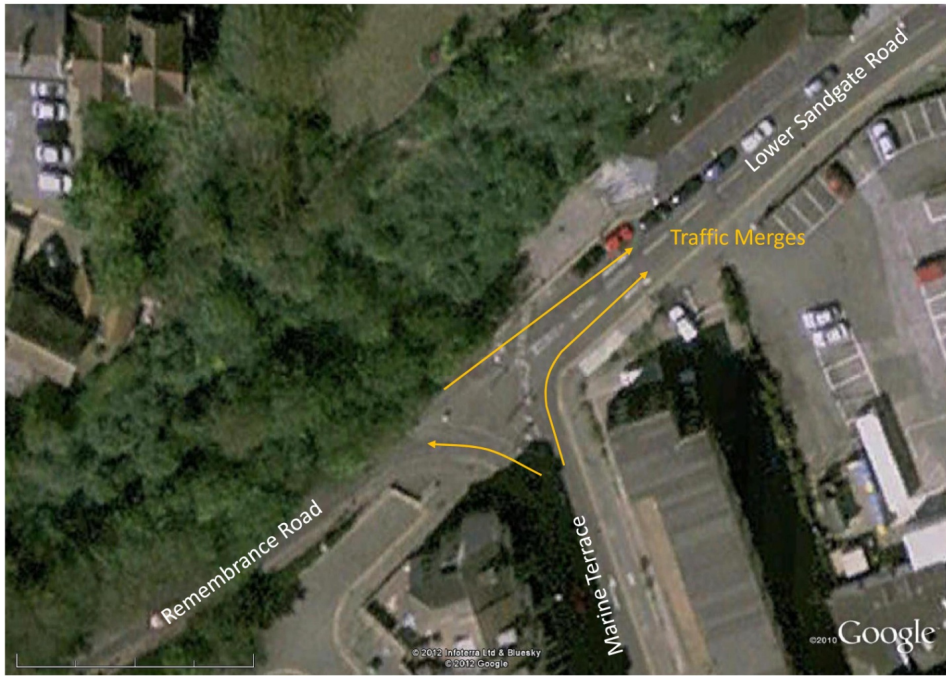


Figure 5-4: Possible merge mitigation

Mitigation: Junction 5 – Grace Hill / Foresters Way

It has been concluded that the junction of Grace Street (S)/ Shellons Street/ Forester Way/ Grace Street (N) would exceed its design capacity without the development proposals being occupied. In this instance, works associated with the development present an opportunity to address this congestion to the wider benefit of existing traffic movements.

The modelling indicates junction 5 is congested in 2010 and in future years, resulting from heavy traffic flows along Forester Way being channelled down from two lanes to one lane, and then further restricted by the use of hatching.

Buro Happold proposes three possible mitigation strategies.

- Mitigation strategy 1 – This involves the partial signalisation of the junction (Figure 5-5), with traffic signals controlling the Forester Way approach. This mitigation strategy is predicted to improve the capacity of the Forester Way approach, and thereby improve the capacity of the whole junction. The implication for circulation traffic flow is anticipated to be negligible, given the very low traffic levels on the circulation lanes, and it is predicted that only one or two cars will have to stop at any one time on the circulating carriageway. This level of queuing is shown to be easily accommodated, within a queuing capacity of four cars being measured (estimated queuing capacity = 24m).

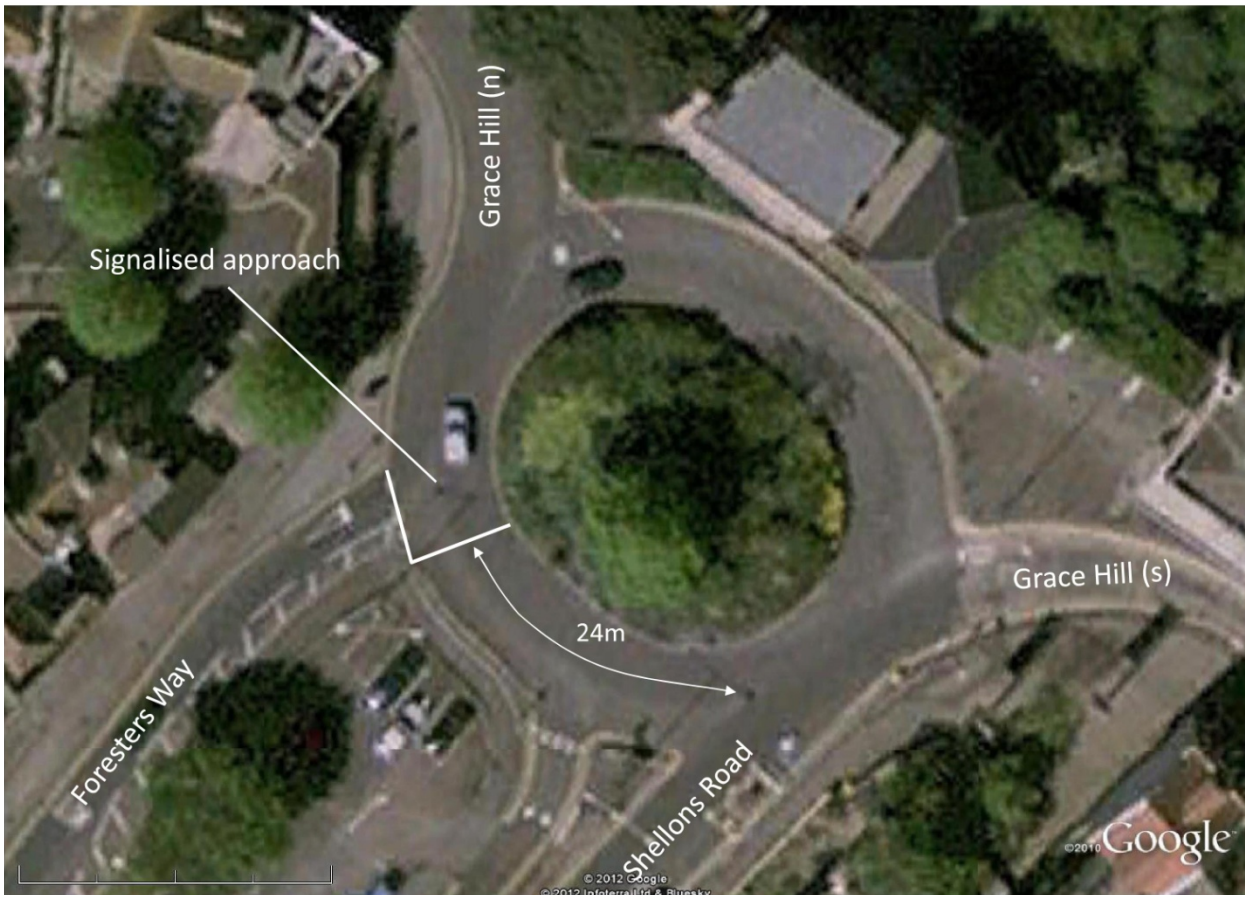


Figure 5-5: Possible signalisation mitigation

- Mitigation strategy 2 – The Forester Way approach may be widened to two lanes, the circulating carriageway marked as two lanes, and the Grace Hill (North) exit configured as two lanes, rather than the current one lane (Figure 5-6). The extra capacity provided by this doubling of available lanes, is anticipated to address the capacity problems at the Foresters Way approach and across the junction.

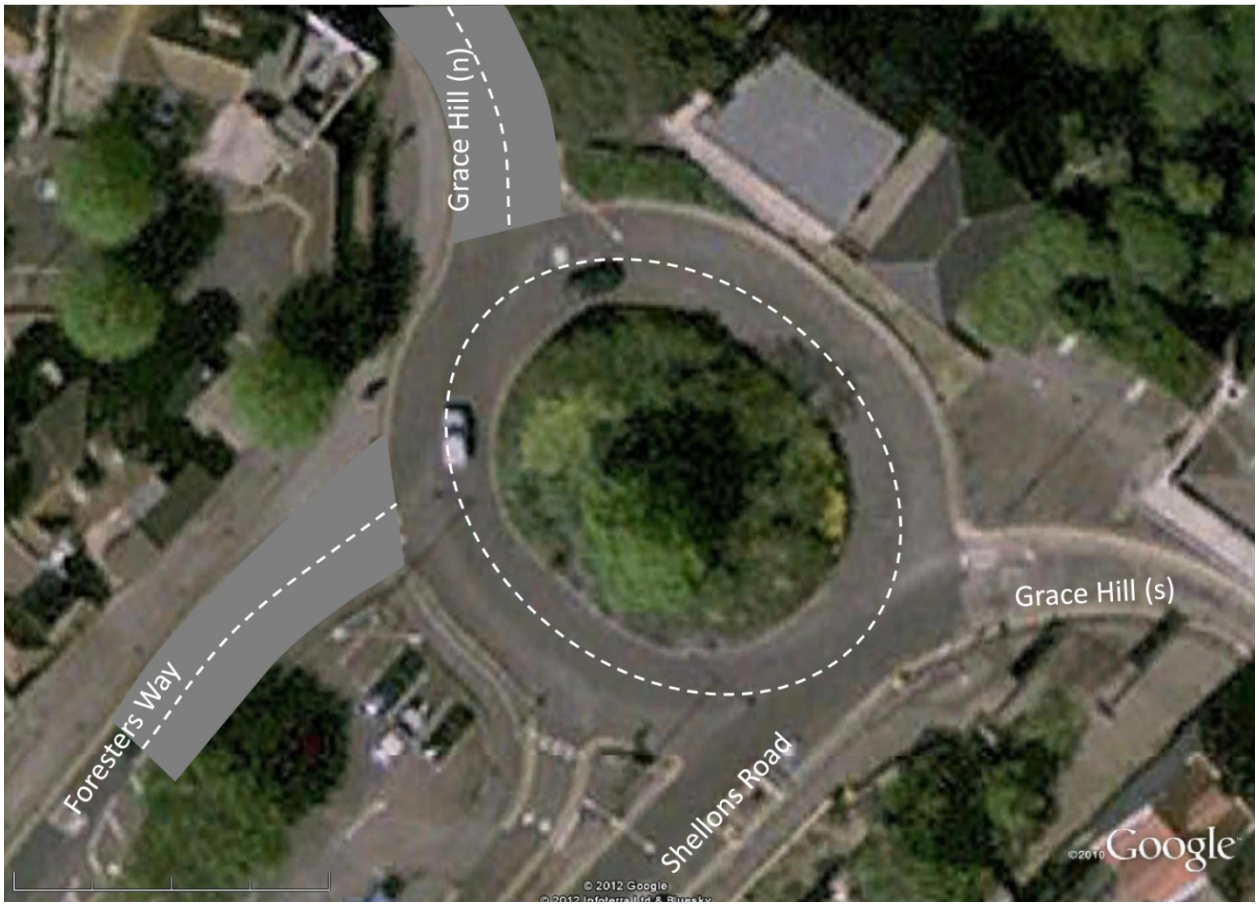


Figure 5-6: Possible widening mitigation

- Mitigation strategy 3 – The priority of the roundabout may be changed, so that the major traffic flows from Grace Hill (South) to Shellon Street and from Foresters Way to Grace Hill (North) are prioritised, with the minor traffic flows giving way on the circulatory carriageway (Figure 5-7). Along with other measures to downplay the significance of this roundabout, this mitigation strategy could resolve the capacity problems envisaged at minimum cost.

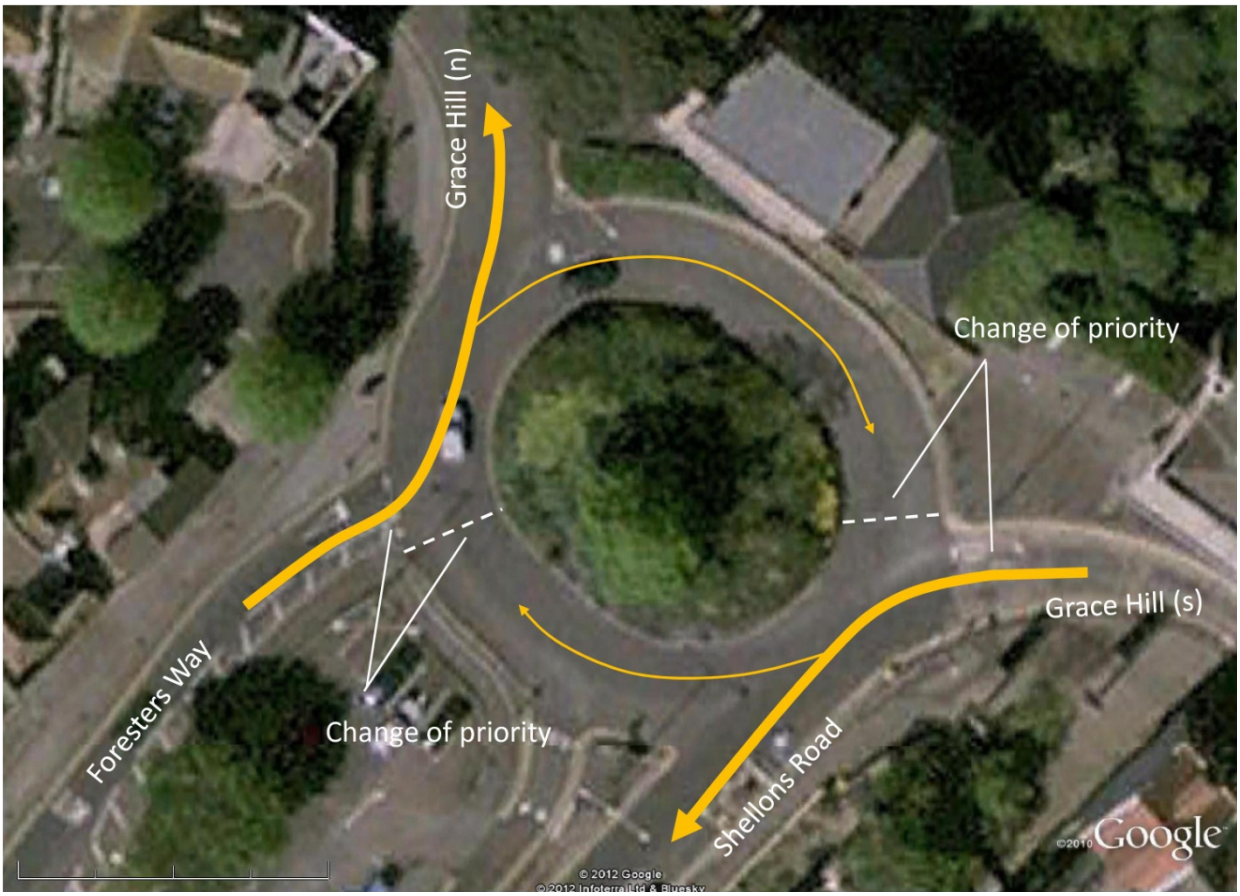


Figure 5-7: Possible priority mitigation

6 Parking Strategy

Parking within the red line of the development Outline Planning Application boundary, will accommodate the needs of the residential and commercial elements of the site and further public car parking provision in surrounding areas. The parking provision is summarised thus:

- Residential parking provided in accordance with local standards, with larger units having multiple spaces and smaller units (flats/ apartments) having lower provisions
- Spaces for non-residential uses, are potentially shared with the residential allocation to reflect efficiencies that can be achieved with varying patterns of demand
- Specific spaces to accommodate the day to day operation and use of the Sea and Beach Sports facility

It is anticipated that the Sea and Beach Sports centres could, at some point, attract events of National and International importance. These are considered to be 'special events' and the travel demand, including parking, will be managed separately in consultation with Kent County Council at the time. It is considered not realistic to provide space within the Masterplan to accommodate the levels of parking demand predicted for this type of infrequent event.

Public parking within Folkestone demonstrates peak occupancy levels for all car parks during the summer months, however it is understood that there is spare capacity to absorb further demand. In addition, proposals are being considered, by the local authorities, to introduce payment for on street parking which could improve the efficiency of the on-street parking stock, by increasing turnover.

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