Department for Infrastructure

Jersey Future Hospital

Transport Assessment

JFH-ARP-ZZ-XX-TN-Y-0031

Issue | 11 April 2018

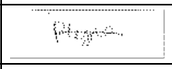
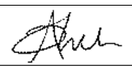
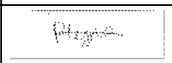
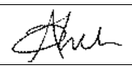
Job number 237035

Ove Arup & Partners Ltd
4 Pierhead Street
Capital Waterside
Cardiff CF10 4QP
United Kingdom
www.arup.com

ARUP

Document Verification

ARUP

Job title		Jersey Future Hospital			**Job number** 237035
Document title		Transport Assessment			**File reference**
Document ref		JFH-ARP-ZZ-XX-TN-Y-0031			
Revision	**Date**	**Filename**	JFH-ARP-ZZ-XX-TN-Y-0031.docx		
Draft 1	29 Feb 2018	**Description**	Draft for client review		
			Prepared by	Checked by	Approved by
		Name	Phill Ayres	Alex Welch	Ben Pritchard
		Signature			
Issue	11 Apr 2018	**Filename**	JFH-ARP-ZZ-XX-TN-Y-0031.docx		
		Description	For planning		
			Prepared by	Checked by	Approved by
		Name	Phill Ayres	Alex Welch	Ben Pritchard
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
Issue Document Verification with Document					✓

Contents

Figures

Drawings

Appendices

Appendix A
Framework Travel Plan

Appendix B
Transport Assessment Scoping Report

Appendix C
Minutes of Meetings with DfI Transport Policy

Appendix D
Minutes of Meetings with Key Stakeholders

Appendix E
Traffic Survey Data

Appendix F
Road Traffic Collision Data

Appendix G
Swept Path Analysis

Appendix H
Committed Development Traffic Flow Diagrams

Appendix I
Trip Generation Output Files

Appendix J
JFH and Westaway Court Construction Vehicle Movements

Appendix K
Development Distribution Calculations and Figures

Appendix L
Assessment Scenarios Traffic Flow Diagrams

Appendix M
Percentage Impact Assessment

Appendix N
Technical Note 4: Base Junction Models (2017 Planning Application)

Appendix O
ARCADY Output Files

Appendix P
PICADY Output Files

Appendix Q
LINSIG Output Files

Executive Summary

Introduction

Ove Arup & Partners Ltd (Arup) has been instructed by the Department for Infrastructure (DfI) to prepare a Transport Assessment in support of an outline planning application for new health care services in St Helier, including the development of a new hospital.

The content of the Transport Assessment was established through the preparation of a Transport Assessment Scoping Note and dialogue with the DfI Transport Policy section. This scoping document and associated meeting notes are provided as appendices and outline the agreed methodology and approach to assessing the impact of the development.

The development site is located approximately 500m west of St Helier town centre, within the Parish of St Helier (PoSH). As such, it is in a sustainable location, providing numerous opportunities to travel by a range of transport modes. The proposals prioritise car parking for the hospital having established there is sufficient capacity elsewhere in St Helier for other users.

Development Proposals

The proposed development consists of a new hospital and associated public realm through the demolition and redevelopment of the Jersey General Hospital site and 33-40 Kensington Place (Stafford and Revere Hotels and Sutherland Court) and 44 Kensington Place. Proposals also include the addition of a half deck on Patriotic Street multi-storey car park (MSCP) and a new medical facility at Westaway Court.

Whilst it is intended to retain or improve amenity for pedestrians during construction, the necessary temporary closure of roads and associated footways in the direct vicinity of the site may result in increased journeys for some pedestrians. The Construction Environment Management Plan (CEMP) will review the safety of pedestrians.

In keeping with best design practices for hospitals, the routes for emergency and operational vehicles associated with Jersey Future Hospital (JFH) have been designed where possible to be separate from those of general hospital associated traffic, the staff, visitors and patient routes. The proposed site configuration lends itself well to this approach, as described below.

Pedestrian access to the future hospital will be mainly from The Parade and Newgate Street via Patriotic Street MSCP. The proposed layout of the JFH site is designed to maximise the potential number of trips made to the hospital by walking, cycling and public transport. Proposals will also contribute to existing infrastructure for pedestrians and cycles by constructing signalised pedestrian crossings and improving footway widths.

Whilst staff, patient and visitor access to the future hospital will principally be from the north and east, access from emergency and operational vehicles will be from the south and west. The ambulance layby for the Emergency Department will be located on the extension to Newgate Street. In keeping with comments received from the Ambulance Service, at least two access and egress routes are achievable to the ambulance bay through the introduction of ambulance only lanes on Newgate Street and Kensington Place.

Vehicular access for New Build Westaway Court is proposed from Savile Street and consolidates the existing two access points of Maison Le Pape and Westaway Court into a single priority junction. A pedestrian access is also proposed from Parade Gardens which aligns with the existing footway link through the park towards Block C of JFH.

A Framework Travel Plan has been prepared in support of this application and includes a number of measures encouraging a reduction in the number of vehicle trips associated with JFH.

Future Travel Demand

Patient trip rates were calculated using a dataset provided by the Health and Social Services Department. The forecast ageing and growth of the Jersey population will result in a continuous increase in the number of patients visiting the hospital every year.

In order to reflect the overall forecast growth in patients for the period 2016-2025, a 12% growth factor has been applied to the existing number of staff. This growth factor will be applied to staff trips during construction and the final state. The combined vehicle trip rates for patient and staff are presented in Table 1 below.

Table 1: Combined Staff and Patient Vehicle Trips for JGH, JFH and Westaway Court

	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
	In	Out	Two-way	In	Out	Two-way
Existing	276	56	332	71	311	382
Final State	310	62	372	79	373	452
Net increase in vehicle trips	34	6	40	8	62	70

The development proposals are predicted to generate 40 additional two-way trips in the morning peak and 70 in the evening peak. This overall increase in patient and staff trips are a result of an ageing and growing population and would occur regardless of these development proposals.

Highway Capacity Assessment

The forecast traffic impact of the future hospital proposals on all junctions is below 5%, aside from the Gloucester Street/Seaton Place/Patriotic Place junction during Phase 1B. This traffic impact is a result of temporary road closures and therefore not surprising, and a junction improvement scheme is proposed at this location.

Whilst mitigation is only required at junctions with a traffic impact exceeding 5%, junction improvement schemes that will provide capacity benefits are proposed at a number of junctions including Gloucester Street/Newgate Street, St Aubin's Road/Peirson Road/Kensington Street and Rouge Bouillon/ Savile Street/Elizabeth Place/Parade Road. Signalised pedestrian crossings are also proposed at these junctions, improving connectivity to the hospital by sustainable modes of transport.

Parking

There are currently 704 parking spaces in Patriotic Street MSCP of which 59 are for patients, 25 for JGH staff and 6 are disabled parking spaces. The remaining 614 spaces are for public use and designated as long stay spaces by DfI Jersey Car Parking. The construction of a half deck on to Patriotic Street MSCP is proposed that equates to approximately 58 parking spaces.

In order to contribute towards the objective of reducing peak hour congestion by 15%, Policy TT 10 of the Revised 2011 Island Plan (2014) indicates additional off-street public parking spaces will not be granted permission in the Town of St Helier unless:

- The total level of public off-street car provision falls below 4,000 spaces (2009 levels); or
- Public off-street parking spaces are provided in lieu of private off-street parking provision.

Whilst proposals include constructing one half deck on to Patriotic Street MSCP (equating to approximately 58 spaces), this will be provided in lieu of hospital parking that will be removed including 64 staff parking spaces adjacent to the Granite Block and Newgate Street. The construction of an additional half deck on to Patriotic Street MSCP therefore complies with Policy TT 10.

To provide adequate parking for JFH, it is proposed to allocate additional parking for patients and staff within Patriotic Street MSCP and increase the provision of disabled parking. The remainder of the car park would be allocated for public long-stay parking. Analysis is provided that demonstrates that there is sufficient capacity within other St Helier car parks to accommodate any displaced long-stay car parkers.

Patient car parking is proposed at Westaway Court with up to nineteen parking spaces of which four will be disabled and one will be for drop-off.

1 Introduction

1.1 Background

Ove Arup & Partners Ltd (Arup) had been instructed by the Department for Infrastructure (DfI) to prepare a Transport Assessment (TA) in support of a planning application for a new hospital in St Helier, with associated highway works and public realm. The development proposals include the construction of additional parking at the Patriotic Street MSCP and the construction of a new medical facility at Westaway Court.

Outline planning approval is sought with all matters reserved aside from Means of Access, which is being applied for in detail. A summary of the access proposals are illustrated in Figures 17-21 and presented in detail on Drawings 1-37. These figures and drawings have all been submitted for approval.

Jersey Future Hospital (JFH) is proposed to be located on the site of the existing hospital, reinforcing the link between the past and the future. A new modern facility will look to the future through design and quality, whilst echoing the past by re-purposing the original 1860s Hospital Building.

The proposed location of the JFH responds to the following sustainable development themes:

- Using previously developed land; and
- Being in the most accessible position for its catchment area, in this case the entirety of the Island of Jersey, in order to reduce the need to travel by private car where possible, effectively exploiting existing or proposed transport infrastructure.

The development site is located approximately 500m west of St Helier town centre, within the Parish of St Helier (PoSH). The site is in a sustainable location, providing numerous opportunities to travel by a range of transport modes. The proposals prioritise car parking for the hospital having established there is sufficient capacity elsewhere in St Helier for other users.

In addition to a Transport Assessment, a Framework Travel Plan has been developed to support the JFH proposals and is included within Appendix A.

1.2 Scoping and Methodology

The content of the Transport Assessment was established through collaborative dialogue with the Department for Infrastructure (DfI) Transport Policy section. This included the preparation of a Transport Assessment Scoping Note that outlined key parameters for the technical work contained within this document.

The Transport Assessment Scoping Note (see Appendix B) was submitted to DfI Transport Policy for comment and subsequently discussed and agreed by the relevant Officer. This TA has been developed based on the Scoping Note.

Further engagement with DfI Transport Policy took place to discuss the scope, methodology, and content of the Transport Assessment. A record of these discussions are included within Appendix C. These meetings include:

- Transport update meeting on 1 March 2018;
- Joint meeting with The Parish of St Helier (PoSH) on 15 March 2018; and
- Junction modelling workshop on 22 March 2018.

In order to develop a scheme design that is fit for purpose, there have also been consultations with key stakeholders including:

- DfI Jersey Car Parks, DfI Public Transport and Liberty Bus (2017 Application);
- PoSH;
- The Ambulance Service and Patient Transport Services; and
- Jersey General Hospital Facilities Management.

Meeting notes for all of the above consultations and discussions are included within Appendix D. Whilst some discussions were undertaken as part of the previous application, they are still considered to be relevant given the site location has not changed.

As part of the Environmental Impact Statement, the transport proposals for the site were also displayed and discussed with interested members of the public and stakeholders during the engagement sessions during the week commencing 12th March 2018.

1.3 Previous Application (2017)

Initial proposals for the future hospital were drawn up in 2016-2017, and an outline planning application was submitted on 11th July 2017 (App. Ref. PP2017/0990), with a Public Inquiry held in November 2017. The Planning Inspector's report concluded that the proposals sought to accommodate too much development on the proposed site, resulting in a massing that caused unacceptable harm to listed buildings, the townscape of St Helier and neighbouring residential amenity. The planning application was subsequently refused by the Minister.

Following the Inspector's conclusions, DfI has revisited the scope of the project, and resolved that a two phase programme can be undertaken to construct the new hospital. As a result, more land within the existing general hospital site can be included for redevelopment, leading to a reduced height and massing, which moderates the previously unacceptable planning impacts. Therefore the new site, which is the subject of this planning application, is significantly larger in area than the previous scheme. The scheme proposals also include Westaway Court, located on Elizabeth Place and Savile Street. This site was always part of the SoJ healthcare strategy but was previously anticipated to come forward later, as a separate application.

This TA builds on much of the work presented in the 2017 JFH TA (Rev A).

1.4 Report Structure

The remainder of this report is structured as follows:

- Chapter 2 reviews existing policy and literature relevant to these proposals;
- Chapter 3 describes the existing site conditions;
- Chapter 4 sets out the Jersey Future Hospital and Westaway Court development proposals including the enabling works for construction;
- Chapter 5 sets out the Parking Strategy;
- Chapter 6 details the trip making methodology, and subsequent trip rates for movement generated by the proposed development;
- Chapter 7 presents the results of the highway capacity assessment and resulting mitigation;
- Chapter 8 sets out the range of mitigation measures that will be implemented as part of the scheme;
- Chapter 9 outlines the interim thinking in relation to Construction Traffic prior to a contractor being appointed;
- Chapter 10 provides details of the Framework Travel Plan provides as a separate standalone document; and
- Chapter 11 summarises the analysis and broader findings of this report together with providing recommendations.

2 Policy and Literature Review

Preamble

This policy review has been undertaken to establish the relevance of the proposals in the context of national and local strategy covering the key policy documents from the States of Jersey.

States of Jersey Revised Island Plan 2011 (2014)

The States of Jersey Island Plan was adopted in the summer of 2011, revised in 2014, and supersedes the 2002 Island Plan. The revised 2011 Plan includes a set of policies and proposals that provide a holistic and integrated approach to land-use planning in Jersey.

The transport chapter of the Island Plan 2011 identifies the following objectives relevant to the Jersey Future Hospital proposals:

- *To influence travel demand and choices of travel mode by achieving development forms and patterns which enable and encourage a range of alternatives and which positively enable and promote walking, cycling and public transport as a more sustainable mode of travel than the private car*;
- *To make efficient use of existing transport infrastructure and minimise new road construction; and*
- *To reduce pollution, noise and the physical impact and risk to health posed by traffic and transport.*

In order to achieve these objectives, the Island Plan sets out a number of policies. Those policies considered relevant to these proposals are summarised in Table 2.

Table 2: Summary of relevant policies

Ref	Summary
SP 6	New development must demonstrate it will reduce dependence on the private car by providing for more environmentally friendly modes of transport.
TT 2	New development should contribute towards the provision of improved footways and walking routes.
TT 4	Cycle parking provision will be required in all new developments.
TT 7	Developers will contribute towards improved waiting facilities and pedestrian access to/from bus stops and enhance information provision in order to meet modal split targets.
TT 8	Developments resulting in a significant movement of people should be within 400m of a bus stop
TT 9	Developments that are forecast to generate a significant amount of travel will be required to submit a travel plan.
TT 10	To contribute towards the objective of reducing peak hour congestion by 15%, additional public parking spaces will not be permitted within the Town of St Helier unless total provision falls below 4,000 spaces, or where it is in lieu of private off-street parking provision.
TT 13	The creation of new access points that are safe and adequate will be supported.
TT 14	The design of new or widened roads should consider the needs of pedestrians and cyclists.

Strategic Plan 2015-2018

The Jersey Strategic Plan (2015-2018) sets out the Council of Ministers' key priorities for its term in office. With regards to transport, the strategic plan identifies the following key areas of focus for the period 2015-2018:

- Develop public transport, road and cycle networks that meet the needs of the community; and
- Produce a clear and comprehensive plan for travel and transport in and around St Helier to ensure movement within St Helier is easy and convenient.

Jersey Sustainable Transport Policy 2010

Jersey Sustainable Transport Policy (2010) was prepared in response to the Strategic Plan (2009-2014) which proposed to protect and enhance the built and natural environment through the reduction in pollution and traffic, and the development of sustainable internal transport infrastructure.

The principal target of the policy document is to reduce peak hour traffic levels to and from St Helier by at least 15% by 2015. It is proposed to achieve this modal shift by:

- *Increasing bus use by at least 100% through improved bus services and awareness, marketing campaigns, travel plans and parking charge increases;*
- *Increasing cycling by 100% by improving the cycle network, awareness campaigns, travel plans and parking charge increases; and*
- *Increase walking by at least 20% through awareness campaigns, travel plans, parking charge increases and improvements to the pedestrian network.*

Sustainable Travel Policy Progress Report 2015

The Sustainable Travel Policy Progress Report was published in December 2015 to assess the outcomes of the policy document over the previous five years. The document notes that an amendment to the 2010 Sustainable Travel Policy was made which restricted disproportionate increases in the cost of motoring (including parking) until viable alternatives were in place for all. This is suggested to be the principal reasoning behind the reduction in peak hour congestion for the period 2010-2015 of 1.6%, significantly short of the "ambitious 15% target".

The report suggests improvements have been made to alternative forms of travel to the private car, however, there has been no progress in addressing the relative cost of travel. This was identified as an integral part of the Sustainable Travel Policy 2010.

South West of St Helier Planning Framework Draft (2018)

The South West of St Helier Planning Framework is planned to supersede the 2008 Esplanade masterplan following wider consultation. The draft version of the Transport and Connectivity chapter of the planning framework has been provided by DfI Transport Policy for information. The planning framework seeks to achieve the following objectives:

- *To consider existing movement patterns in the area, particularly of pedestrians and cyclists, in order to understand behaviours and identify potential barriers to movement;*
- *To review the role of the existing highway network and explore options for a change to the transport strategy to better cater for non-motorised users;*
- *To identify viable improvements to walking and cycling routes and to reconnect the town centre with the waterfront, taking into account broader transport needs; and*
- *To maximise sustainable transport opportunities within the South West St Helier district.*

The Transport and Connectivity chapter includes a number of committed highway schemes, including bus priority schemes and bus lanes at the Gloucester Street/Esplanade and West Park signalised junctions. These schemes are included in the baseline for this assessment and are described further in Section 7.4.

Revised North St Helier Masterplan (2011)

The Revised North St Helier Masterplan dated June 2011 replaces the plan dated May 2011 and the Masterplan document dated July 2010. The Masterplan identifies interventions that can be undertaken in the north of town and sites that can developed by either the States of Jersey or private developers. Revised interventions to the public realm focus on providing new pedestrian and cycle routes.

St Helier Parking Needs Study (2013)

The St Helier Parking Needs Study (2013) was prepared by Parsons Brinckerhoff on behalf of the Department of the Environment and TTS (now Department for Infrastructure) to provide a review of the provision and need for public and private parking in St Helier.

A review of the short stay public parking indicated of the 880 available spaces, 60% were occupied. In addition, 79% of the 520 on street short-stay spaces were occupied. The public long stay parking was recorded to have the highest demand with a maximum-recorded occupancy of 82%.

The study identifies potential initiatives that would assist reducing traffic within St Helier as per the Sustainable Transport Policy 2010. Potential measures identified include moving parking outside of the town centre, reviewing parking costs and charges, the introduction of a Community Infrastructure Levy and the introduction of mechanical parking systems.

St Helier Traffic Management Schemes Appraisal (2016)

The St Helier Traffic Management Schemes Appraisal (2016) was prepared by WSP PB on behalf of the Department of the Environment and DfI to provide an appraisal of all of the known traffic management schemes consistent with the Sustainable Transport Plan, Island Plan and other initiatives.

Of the 21 projects identified, the most feasible projects have been programmed into three tranches; 2016-18, 2019-21 and future projects. The projects that could impact upon the Jersey Future Hospital proposals are as follows:

- Traffic free route from Charing Cross to Sand Street MSCP (first tranche – 2016-2018);
- Closure of Gloucester Street within Parade Gardens to join two sides of the park (second tranche – 2019-2021);
- West Park bus priority (third tranche – future projects);
- One-way section on St John's Road to gain pedestrian space (not included in programme); and
- Footway widening on Gloucester Street (not included in programme).

The Charing Cross proposals involve the closure of a busy pedestrian street to traffic, resulting in improvement to public realm and provides a corridor improvement from the Jersey International Finance Centre to King Street.

The joining of Parade Gardens through the closure of Gloucester Street (East) is expected to result in improved pedestrian safety, public realm amenity and create key leisure space for west of town. However, the scheme will result in the loss of some parking, the diversion of a bus route and some localised increase in congestion.

The report suggests that the potential of introducing a one-way section on St John's Road is unlikely to be considered acceptable due to the impact on residential amenity, however there is potential for traffic calming to be introduced.

In discussions with DfI Transport Policy, it has been agreed that these proposals should not be assessed within the Transport Assessment for Jersey Future Hospital.

3 Existing Conditions

Overview

Site Location

The development site is located approximately 500m west of St Helier town centre, within the Parish of St Helier (PoSH). The proposed site for Jersey Future Hospital is principally occupied by the existing Jersey General Hospital. A mix of retail, residential and restaurants/cafes occupy the western section of the site adjacent to Kensington Place. Westaway Court is located 100m northeast of Jersey General Hospital, with Parade Gardens situated between the two sites. Owing to the town centre location, both sites provides numerous opportunities to travel by sustainable modes of transport, as described further in this chapter.

Pedestrians

An assessment of walking routes to the hospital indicates a number of footways are of insufficient in width to accommodate two wheelchair users passing. The potential for new controlled crossings will also be explored as part of the development proposals on Gloucester Street and The Parade.

Parade Gardens is situated between Jersey General Hospital and Westaway Court. There is a signalised crossing to the front of Jersey General Hospital and footway through Parade Gardens, which provides a traffic free route to Westaway Court.

Pedestrian crossing counts were undertaken throughout the study area. In the vicinity of the Gwyneth Huelin Wing ramped access with Newgate Street, there is a high volume of pedestrians crossing Newgate Street, principally between the hospital and the direction of Patriotic Street MSCP.

Cycles

There are existing facilities for cyclists including Cycle Route 1 adjacent to the Esplanade, which provides links to the First Tower and St Aubin's to the west, and Grouville to the east. There are 76 secured and sheltered cycle stands provided for staff within the basement staff car park accessed from Newgate Street.

Public Transport

The JFH site is located within 650m walking distance of Liberation Bus Station, which is served by all bus routes in Jersey. There are also a number of bus services within 400m of the hospital, including bus stops on the Esplanade, which are served by eight bus services. Westaway Court is served by the number 5 and 19 services which combined provide a 30-minute frequency to Liberation Bus Station.

Traffic Data Validation

The majority of traffic data used to inform the highway capacity assessment was collected in October 2016. To demonstrate the traffic counts still reflective of existing conditions, DfI Transport Policy provided ATC data collected on the Esplanade for the period January 2016 to December 2017. A review of the ATC data indicated there has been no overall growth in traffic between 2016 and 2017.

Road Traffic Collision Analysis

A single fatality was recorded in the five-year assessment period. This occurred at the Esplanade/Kensington Place junction, which has since been signalised. Small clusters of accidents involving pedestrians occurred on The Parade, Newgate Street and Gloucester Street, however junction and highway improvement schemes are being considered at these locations as part of the hospital development proposals.

Travel Surveys

To ascertain existing travel patterns of staff, patients and visitors, travel surveys were conducted at Jersey General Hospital in January 2017. The following assumptions can be ascertained from the results of the travel surveys and have been used to inform the trip making methodology:

- 43.3% of staff drive to work with an additional 7.1% travelling as a car passenger;
- 64.7% of patients arrive by car, of which 25.5% are dropped off;
- 50% of JGH staff indicated they parked in the public section of Patriotic Street MSCP; and
- Over 35% of patients park in public car parks. This is in excess of the current provision within Patriotic Street MSCP, suggesting there is insufficient patient parking

Car Parking

In agreement with DfI Transport Policy, thirteen public car parks have been included in the study area. Survey data has been provided by DfI Jersey Car Parking for the public car parks in the study area. An average of the previous two occupancy surveys undertaken outside of school holidays indicates there are 452 long-stay and 343 short-stay parking spaces currently available at 11am.

In addition to the public car parks, the following parking is allocated for Jersey General Hospital:

- Gloucester Street staff car park (46 spaces);
- Newgate Street staff car park (17 spaces);
- Newgate Street disabled car park (8 spaces);
- Patriotic Street MSCP patient parking (59 spaces); and
- Patriotic Street MSCP staff parking (25 spaces).

Parking surveys undertaken in February 2017 indicate the car parks are close to full occupancy at 11am. In addition to the above, there are five short-stay, three emergency and three disabled on-street parking spaces on The Parade to the front of Jersey General Hospital. It is understood that the emergency parking spaces are typically used for patient drop-off whilst the short-stay parking spaces are not reserved for hospital use.

At present, there are 39 resident parking spaces at Westaway Court and 15 employee car parking spaces at Maison Le Pape.

3.1 Introduction

This section sets out the existing conditions for the proposed development site and the surrounding transport network across all modes of transport.

The site for Jersey Future Hospital is located approximately 500m west of St Helier town centre, within the Parish of St Helier (PoSH). The site location is shown in Figure 1 overleaf.

Jersey General Hospital is bound to the northeast by The Parade and to the south-east by Gloucester Street. To the south-west, Newgate Street and Patriotic Street Multi-Storey Car Park (MSCP) beyond bound the hospital, whilst the service block is bounded by properties on Kensington Place. To the north-west, the application site is bound by Kensington Place. The application site is located approximately 200m northeast of the A1 Esplanade.

The proposed site for Jersey Future Hospital is principally occupied by the existing Jersey General Hospital. A mix of retail, residential and restaurants/cafes occupy the western section of the site adjacent to Kensington Place.

Westaway Court is located 100m northeast of Jersey General Hospital and bound to the northwest by Elizabeth Place, to the northeast by Savile Street and to the southwest and southeast by Parade Gardens ad Maison Le Pape respectively.

3.2 Pedestrian Access

Pedestrian access to Jersey General Hospital is from The Parade and Newgate Street. There are good quality walking facilities provided on The Parade with footways in excess of 2m wide provided on both sides of the road. There are pedestrian refuge islands on The Parade at the junctions with Elizabeth Place and Gloucester Street and a signalised crossing located in the vicinity of the main access into the hospital. Directly north-west of The Parade is Parade Gardens, a public park with footpaths providing links to Westaway Court and Savile Street.

There are multiple accesses into Jersey General Hospital from the south. The main entrance to the Gwyneth Huelin Wing is accessed via a ramp from Newgate Street. There is a segregated footway on the west side of the ramp with a width exceeding 1.8m along its entirety. There are footways provided on both sides of Newgate Street with dropped kerbs provided at all junctions with Gloucester Street, Patriotic Street and the hospital car park accesses.

Kensington Place is located north-west of Jersey General Hospital. There are currently no direct public accesses into the hospital from the road. Footways are provided on both sides of Kensington Place with widths of approximately 1.5m. Whilst there are no controlled crossings, there are a number of build-outs on Kensington Place that contribute to reducing traffic speeds.

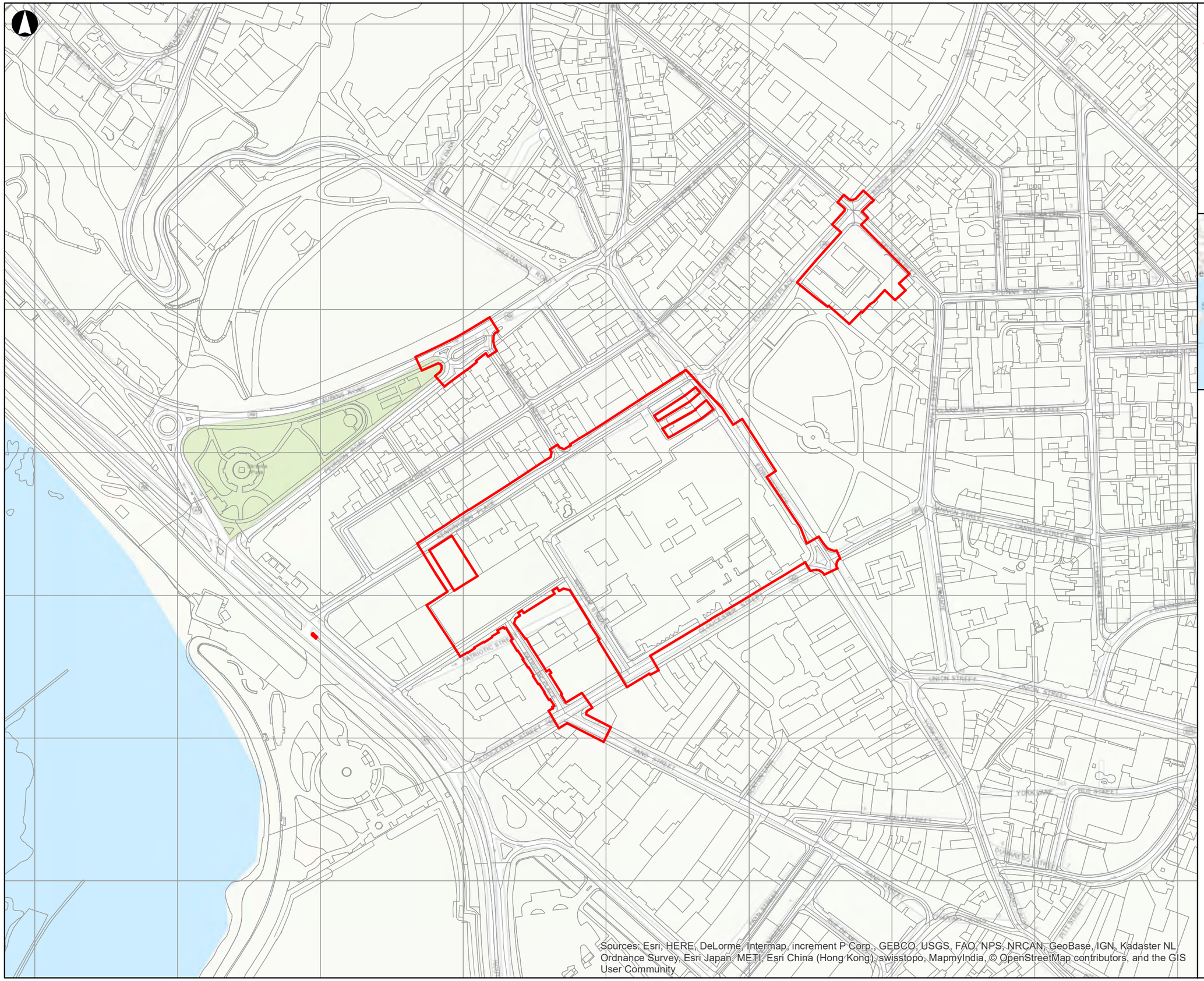
The development site is located within the built up area of St Helier and as a result, there are numerous pedestrian routes in the locality to neighbouring developments and facilities. The site is located within walking distance of a number of car parks and bus stops. The routes to the proposed development site are summarised in Table 3 below and illustrated in Figure 2.

Table 3: Walking Routes to the Development Site

Route	Walking Distance	Roads and Footpaths
Route from Westaway Court	165m	• Parade Gardens • The Parade • DCP/Gloucester Street
Route from Patriotic Street MSCP	75m	• Newgate Street
Route from Victoria Layby 1	550m	• Esplanade (West) • Patriotic Street
Route from Bus Stop on the Esplanade	375m	• Esplanade (West) • Gloucester Street
Route from Liberation Bus Station	675m	• Esplanade (East) • Gloucester Street
Route from Town Centre	575m	• King Street • York Street • The Parade • Gloucester Street

An assessment of the footways set out in Table 3 is provided in Table 4.

A3



Legend

Site Boundary

Issue	Date	By	Chkd	Appd
F1	2018-04-05	MJ	RE	PT

Metres

0 30 60 120

ARUP

Client

Department for Transport

Job Title

Jersey Future Hospital

Figure 1: Site Location Plan

Scale at A3

1:2,500

Job No

237035

Drawing Status

Preliminary

Drawing No

Figure 1

Issue

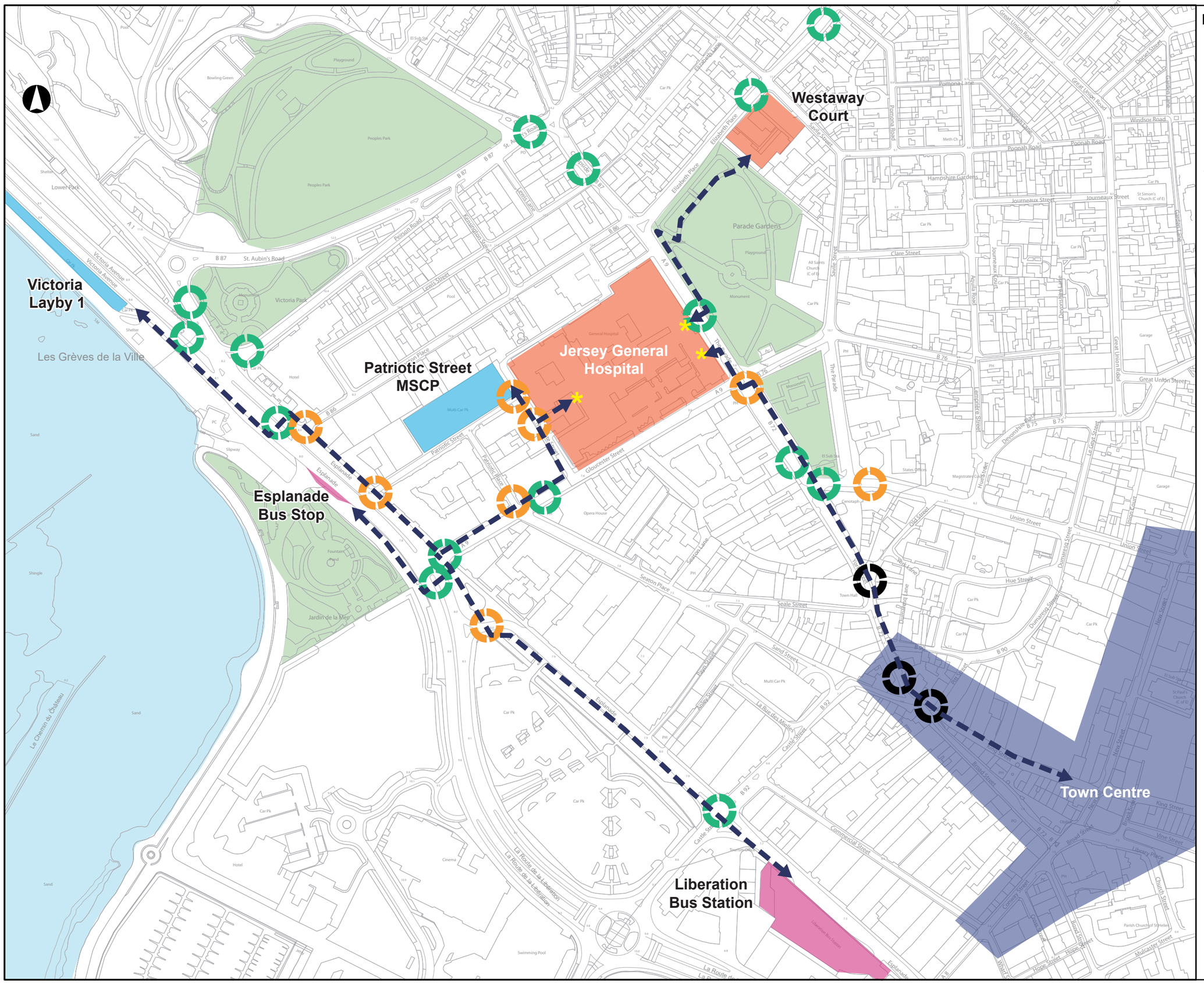
F1

\\global\europe\Cardiff\Jobs\237000\237035-00\4 Internal Project Data\4-80 GIS\4-84 Map Documents\ENV_Environment\JerseyHospital\UpdatedBoundary.mxd

Table 4: Assessment of Pedestrian Infrastructure

Road	Footways	Crossings	Environment
Gloucester Street	There are footways present on both sides of Gloucester Street with widths of approximately 2.5m.	There is a refuge island at the junction with The Parade and two signalised crossings; one directly north of the junction with Seaton Place, and at the junction with Esplanade. Given Gloucester Street is a highly trafficked route, it could be considered beneficial to provide an additional crossing facility.	Footways on Gloucester Street are in good condition and lit and it is understood there is an aspiration to increase the width of footways. Whilst Gloucester Street is restricted to 30mph, it is a highly trafficked route.
Newgate Street	Whilst footways are available on both sides of Newgate Street, they are less than 2m in width indicating two wheelchair users would be unable to pass (Manual for Streets).	Dropped kerbs providing an uncontrolled crossing are provided across Patriotic Street at the junction with Newgate Street and on Newgate Street directly north of the vehicular access to the hospital. Uncontrolled crossings would typically be considered acceptable in such low traffic volume and speed environments. It should be noted there have been two serious accidents involving pedestrians on Newgate Street. These are discussed further in Section 3.10.	Whilst Newgate Street is not heavily trafficked, the presence of on-street parking and a number of other car park accesses results in potential conflict with pedestrians. The road is lit and footways are in good condition.
Patriotic Street	The footways on Patriotic Street are under 2m in width.	There are no controlled crossings on Patriotic Street, however dropped kerbs are provided at the junctions with the Esplanade, Patriotic Place and Newgate Street	There are a number of potential conflicts between pedestrians on the north side of Patriotic Street and the vehicular accesses to the car parks.
A1 Esplanade northwest of the junction with Gloucester Street	Footways on both sides of the Esplanade are of a good quality and sufficient width. There is also a segregated cycleway on the south-west side of the Esplanade	There is a signalised pedestrian crossing at the Esplanade junction with St Aubin's Road, Kensington Place and Gloucester Street. However, pedestrians need to use three separate signals to cross from the south-west side of the esplanade to the north-east side of the Gloucester Street. In a meeting with DfI Transport Policy, it was indicated there is a concern that pedestrians on the Esplanade are unable to see the signal on the opposite side of the road when large vehicles are passing.	Whilst there are high traffic flows on the Esplanade, there are a number of signalised crossings. The road is lit and the footways are in good condition.
Esplanade southeast of the junction with Gloucester Street	Shared footway/cycleway on south-western side of the road with a width of at least 3m. Footway on the north-east side of the road appears to be 2m in width.	Signalised crossings are provided at all entries to the Esplanade crossroads with Castle Street. At the junction with the Route de la Liberation, (west) there is an uncontrolled crossing.	The shared footway/cycleway is set back from the road, which provides a more pleasant environment for pedestrians; however, there is a potential conflict with cyclists.
Elizabeth Place	Wide footway on the south-eastern side of the road adjacent to Parade Gardens	Uncontrolled crossing with a refuge island at the junction with The Parade and Cheapside.	Wide footway with an adjacent park provides for a pleasant environment for pedestrians.
Savile Street	Footways are narrow and lack sufficient width to allow two pedestrians to pass.	There is a signalised pedestrian crossing at the junction with Elizabeth Place, Parade Road and Rouge Bouillon.	Whilst Savile Street is not heavily trafficked, narrow footways result in a poor environment for pedestrians.
King Street	King Street is a traffic free route that runs through the town centre.	There is an uncontrolled crossing on New Cut.	The route is lit and the surfacing is in good condition.
York Street	Footway widths generally exceed 2m.	There are three zebra crossings provided on York Street and one on the junction with Seale Street.	York Street only consists of one lane of traffic and observed road speeds were low. The street is also lit and the paving is in good condition.

A3



Legend

- Existing/Proposed Health Facility
- Patrioitc Street MSCP
- Bus Layby/Station
- Town Centre
- Pedestrian Access
- Pedestrian Route
- Uncontrolled Pedestrian Crossing
- Signalised Pedestrian Crossing
- Zebra Crossing

Issue	Date	By	Chkd	Appd
02	10-04-2018	BOS	AW	BP
01	23-03-2018	BOS	AW	BP

Issue

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

Job Title

Jersey Future Hospital

Assesment of Pedestrain Routes

Scale at A3	Role
NTS	**Civil**
Job No	**Suitability**
237035-00	**Illustrative only**
Drawing No	**Issue**
Figure 2	**02**

3.2.1 Existing Pedestrian Movement Volumes

Pedestrian crossing counts were undertaken at all junctions within the study area and at four additional sites as detailed below:

- Site 1 is located on Kensington Place directly south-west of the junction with Kensington Street. This survey recorded pedestrian movements on both sides of Kensington Place and any crossings.
- Site 2 is located along The Parade adjacent to the main entrance to Jersey General Hospital. This survey recorded movements on the footways on both sides of the road, the signalised crossing on The Parade and the entrance to the hospital.
- Site 3 is located on Gloucester Street near the exit to the staff car park (southern hospital vehicle access) and Spectrum, a pedestrian route (but not public right of way) that runs south-east from Gloucester Street to an access lane with Seaton Place. This survey site recorded movements and crossings on Gloucester Street and captures the usage of Spectrum.
- Site 4 is located on Newgate Street and recorded the number of pedestrians crossing Newgate Street and Patriotic Street.

All surveys were undertaken on 19th October 2016 aside from the following:

- Pedestrian counts at the Esplanade/Kensington Place priority junction, surveyed on 30th November 2016; and
- Pedestrian crossing counts at the Gloucester Street/Seaton Place/Patriotic Street junction, surveyed on 7th February 2017.

All surveys were undertaken for the period 07:00-19:00 aside from the Gloucester Street/Seaton Place/Patriotic Street junction, which was surveyed in the peak hours only.

Figure 3 presents the pedestrian flows in the AM (07:30-08:30) and PM (16:30-17:30) traffic peak hours for consistency and the pedestrian interpeak hour (12:45-13:45).

The results of the surveys show that pedestrian movements on Gloucester Street are relatively consistent in the peak hours.

The counts indicate there are a number of pedestrians crossing The Parade at the junctions with Gloucester Street and Elizabeth Place, however there is limited use of the signalised pedestrian crossing adjacent to the main access to the hospital. This potentially suggests pedestrians prefer to use a refuge island than wait at a signalised pedestrian crossing or that the signalised crossing is poorly positioned in relation to pedestrian desire lines.

The signalised crossing on Gloucester Street at the junction with The Esplanade is regularly used, suggesting there may be demand for a second signalised crossing across The Esplanade, directly north of the junction.

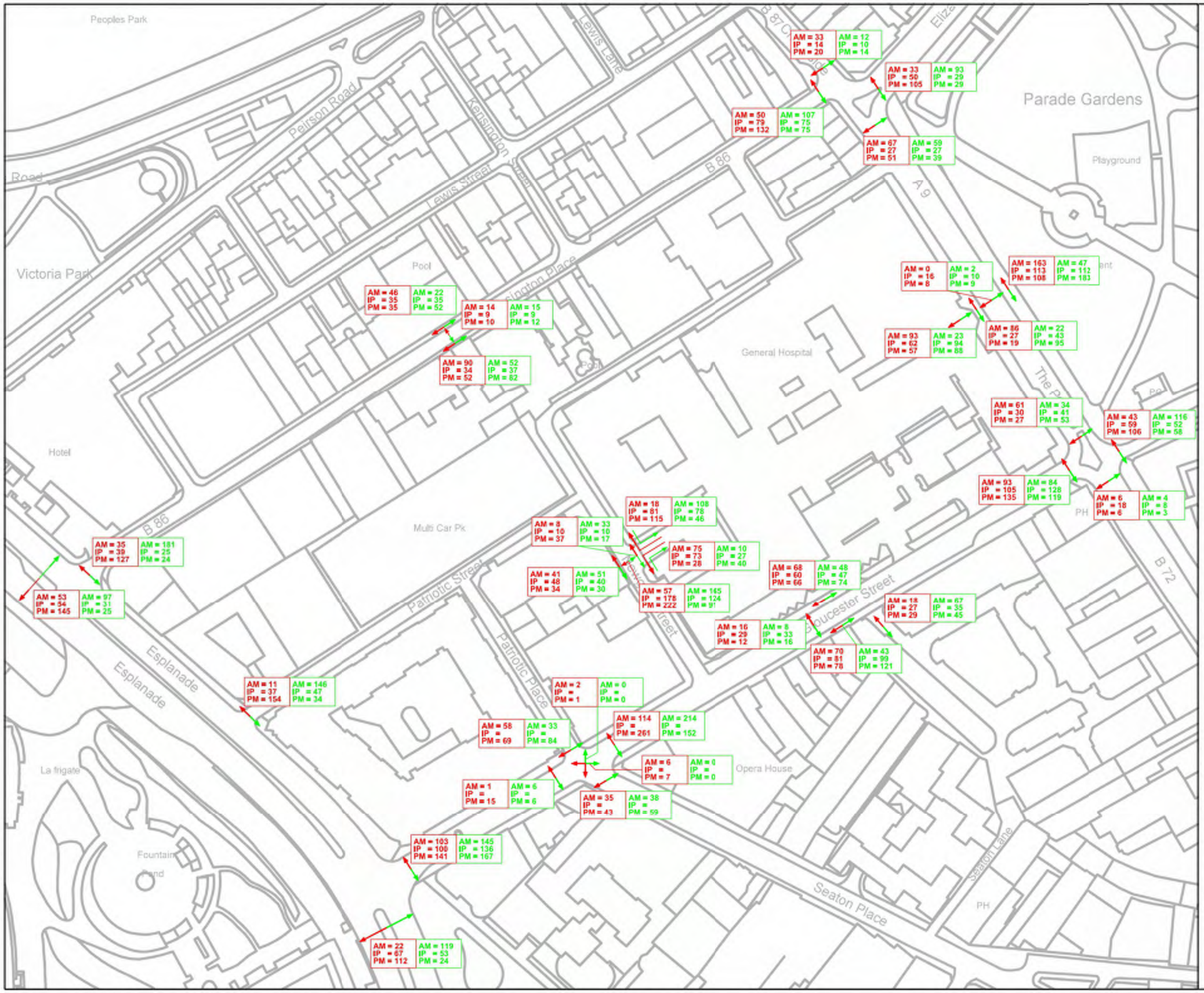
In the vicinity of the Gwyneth Huelin Wing ramped access with Newgate Street, there is a high volume of pedestrians crossing Newgate Street, principally between the hospital and the direction of Patriotic Street MSCP.

3.3 Access for Disabled People

For disabled people travelling by car, there are eight disabled parking spaces adjacent to the Gwyneth Huelin Wing entrance, three on-street spaces adjacent the entrance on The Parade and six spaces on the ground floor of Patriotic Street MSCP. The disabled parking adjacent to the Gwyneth Huelin entrance are shown in Photograph 1 below.

Photograph 1: Disabled Parking Adjacent to the Gwyneth Huelin Wing Access

The route from the disabled spaces located in Patriotic Street MSCP to the Gwyneth Huelin Wing entrance involves a ramp with an approximate gradient of 1:12. Inclusive Design (Department for Transport, 2002) states gradients steeper than 1:10 should only be used for short distances due the physical effort required to move up the hill and the potential for toppling. Given the ramp is under 20m, it is considered acceptable for most users. This ramp access will however be removed as part of the development proposals.



Legend

Pedestrian Movment

AM = 07:30 - 08:30
IP = 12:45 - 13:45
PM = 16:30 - 17:30

Issue	Date	By	Chkd	Appd
01	23-03-2018	MK	AW	BP

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client
Department for Infrastructure

Job Title
Jersey Future Hospital

Pedestrain Peak Peroid Analysis

Scale at A3	Role
1:1250	Civil
Job No	Suitability
237035-00	Illustrative Only
Drawing No	Issue
Figure 3	01

3.4 Cycle Access

An off-road cycle route (Route 1) is present on the south side of the Esplanade, 200m south of Jersey General Hospital and 400m southwest of Westaway Court. This cycle route follows the perimeter of the Island providing links to the First Tower and St Aubin's to the west and Grouville to the east.

Route 1A is a spur off Route 1 which loops south through the harbour Waterside development, providing a link to the recreational and residential developments. The cycle route network is illustrated within the Jersey Cycle Guide, an extract of which is presented in Figure 4 below.

Figure 4: Jersey Cycle Guide (Extract)

There are approximately 29 existing public cycle stands near the hospital and Westaway Court, located on The Parade, Gloucester Street and Newgate Street.

Cycle parking for staff is provided within the undercroft staff car park accessed from Newgate Street. There are 76 cycle stands which are sheltered and secured, as can be seen in Photograph 2.

Photograph 2: Existing Staff Cycle Parking

3.5 Public Transport

Liberty Bus operates bus services in Jersey and all route via Liberation Station, located 600m from the Jersey General Hospital. There are also bus stops located on The Parade, Gloucester Street and the Esplanade.

The bus stop on The Parade is located adjacent to the Emergency Department access into the hospital, approximately 50m from the junction with Gloucester Street. The bus stop is demarked by white lining on the road and there are no waiting facilities.

The bus stop on Gloucester Street is located directly south-west of the junction with The Parade and Cannon Street, approximately 100m from Jersey General Hospital. There is a shelter at this bus stop as illustrated in Photograph 3.

Photograph 3: Bus Shelter on Gloucester Street

The closest bus stops to Jersey General Hospital along the Esplanade are located in the vicinity of the junction with Patriotic Street, approximately 250m from the Gwyneth Huelin entrance to Jersey General Hospital. The eastbound stop is demarked by white lining on the road and has no waiting facilities.

The westbound service is demarked by a bus bay and a flag however there are no waiting facilities. In a meeting with DfI Public Transport and Liberty Bus (dated 12/01/2017), it was indicated that improvements are planned for this bus stop which will be partially funded by voluntary contributions from a local developer. These proposals are presented in the South West St Helier Planning Framework (2018).

Table 5: Local Bus Services

Service	Destination from Liberation Station	Service Frequency		Arrival of first bus (AM)	Departure of last bus (PM)
		Monday-Saturday	Sunday & Bank Holidays		
Bus Services from The Parade and Rouge Bouillon					
19	La Pouquelaye	60 mins	-	07:48	18:10
Bus services from Gloucester Street (Parade Gardens) and Rouge Bouillon					
5	St John's Church	60 mins	120 mins	07:34	22:25
Bus services from the Esplanade (A1)					
7/7a	St John's Church	60 mins	120 mins	07:50	21:10
8	Portinfer	120 mins	-	07:54	19:00
9	Greve de Lecq	60 mins	60 mins	07:09	23:15
12/12a	Corbiere	60 mins	60 mins	07:20	23:20
14	St Brelades Bay	30 mins	30 mins	10:15	17:25
15	Airport	15 mins	30 mins	06:30	23:45
22	L'Etacq	120 mins	120 mins	10:05	18:20
28	St Mary	60 mins	60 mins	10:28	16:00
Remaining bus service from Liberation Bus Station					
1/1a/1g	Gorey Pier	12 mins	30 mins	06:58	23:40
2/2a	St Catherine	60 mins	120 mins	07:45	19:05
3	Durrell	60 mins	60 mins	07:00	23:15
4	Bonne Nuit	120 mins	-	08:00	19:15
13	Durrell	120 mins	-	07:30	18:30
16	Le Marais	30 mins	30 mins	06:45	19:50
20	Langley Park	120 mins	-	11:05	15:15
21	Five Oaks	120 mins	-	07:40	18:25
23	Durrell Wildlife Park	60 mins	60 mins	07:35	17:45

The bus routes summarised above are illustrated on the Liberty Bus Route Map in Figure 5.

Given the relatively close proximity to Liberation Bus Station (600m), most of the developed areas of Jersey are accessible by bus. Some of the service frequencies are relatively low (60-120mins) which is likely to make buses unattractive to those with access to a private car and may deter use. There are also limited services overnight, which could be a potential barrier to staff working shifts.

Westaway Court is served by the number 5 and 19 services which combined provide a 30-minute frequency to Liberation Station.

Figure 5: Liberty Bus Route Map

3.6 Local Highway Network

The local highway network is illustrated in Figure 6. This section describes the role and nature of the local highway network in providing access to the hospital site. All roads in the vicinity of the site have a posted speed limit of 30mph. Jersey General Hospital is currently accessed from numerous priority junctions with Kensington Place, The Parade, Gloucester Street and Newgate Street. Staff parking is accessed from three priority junctions with Gloucester Street and a single junction with Newgate Street. Disabled parking (see Section 3.3) for patient and visitors is accessed via a second access on Newgate Street located directly north-west of the staff parking.

Ambulances access the emergency department via the northern access off Gloucester Street whilst ambulances and Patient Transport Services also share the access for the disabled parking off Newgate Street.

Service vehicles utilise the private road located directly north-west of the hospital which is accessed via junctions with Kensington Street, The Parade and Newgate Street. There is an additional service road from The Parade located 65m north-west of the junction with Gloucester Street which is used by engineers and shared with Patient Transport Services.

The Parade is a one-way, tow lane street running along the north-east boundary of Jersey General Hospital. Elizabeth Place is a two-way road that runs north-east from The Parade to a signalised crossroad with Savile Street and Parade Place. The parking to Westaway Court is accessed via Savile Street, approximately 40m south-east of the signalised junction.

From the junction with Elizabeth Place, The Parade runs south-east to Gloucester Street, a one-way two or three lane street that runs along the south-eastern boundary of Jersey General Hospital. Newgate Street runs along the south-western boundary of the hospital and forms a priority junction with Gloucester Street.

To the south-west, Gloucester Street forms a crossroads with Seaton Place and Patriotic Place and then intersects the Esplanade with a signalised junction.

The Esplanade carriageway consists of three lanes in each direction. To the east, the Esplanade can be used for journeys to St Clement and Grouville. To the west, the Esplanade provides a link towards St Brelade and St Lawrence via the A1 St Aubin's Road.

Vehicular access to the existing doctor and nurse accommodation at Westaway Court is achieved via a priority junction with Savile Street. The junction provides access to approximately 38 parking spaces. Savile Street is a one-way road (north-west bound) that runs between The Parade and the signalised junction with Elizabeth Place, Rouge Bouillon and Parade Road.

3.7 Study Area

The extent of the transport network falling within the study area was agreed with DfI Transport Policy as part of the scoping exercise (see Appendix B) and incorporates the following existing junctions:

Junction 1: Gloucester Street / Esplanade signalised junction;

Junction 2: Elizabeth Place/The Parade/Kensington Place/Cheapside staggered junction;

Junction 3: Peirson Road/Victoria Avenue/Esplanade/A1 St Aubin's Road signalised junction;

Junction 4: Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction;

Junction 5: Union Street/The Parade signalised junction with staggered priority;

Junction 6: St Aubin's Road/A1 roundabout;

Junction 7: St Aubin's Road/Kensington Street/Peirson Road staggered junction;

Junction 8: Patriotic Street/Esplanade junction signalised junction;

Junction 9: Gloucester Street/The Parade junction;

Junction 10: St Aubin's Road/Westmount Road priority junction;

Junction 11: St. John's Road/West Park Avenue/Cheapside/St Aubin's Road/ Old Saint John's Road staggered priority junction;

Junction 12: Esplanade/Kensington Place;

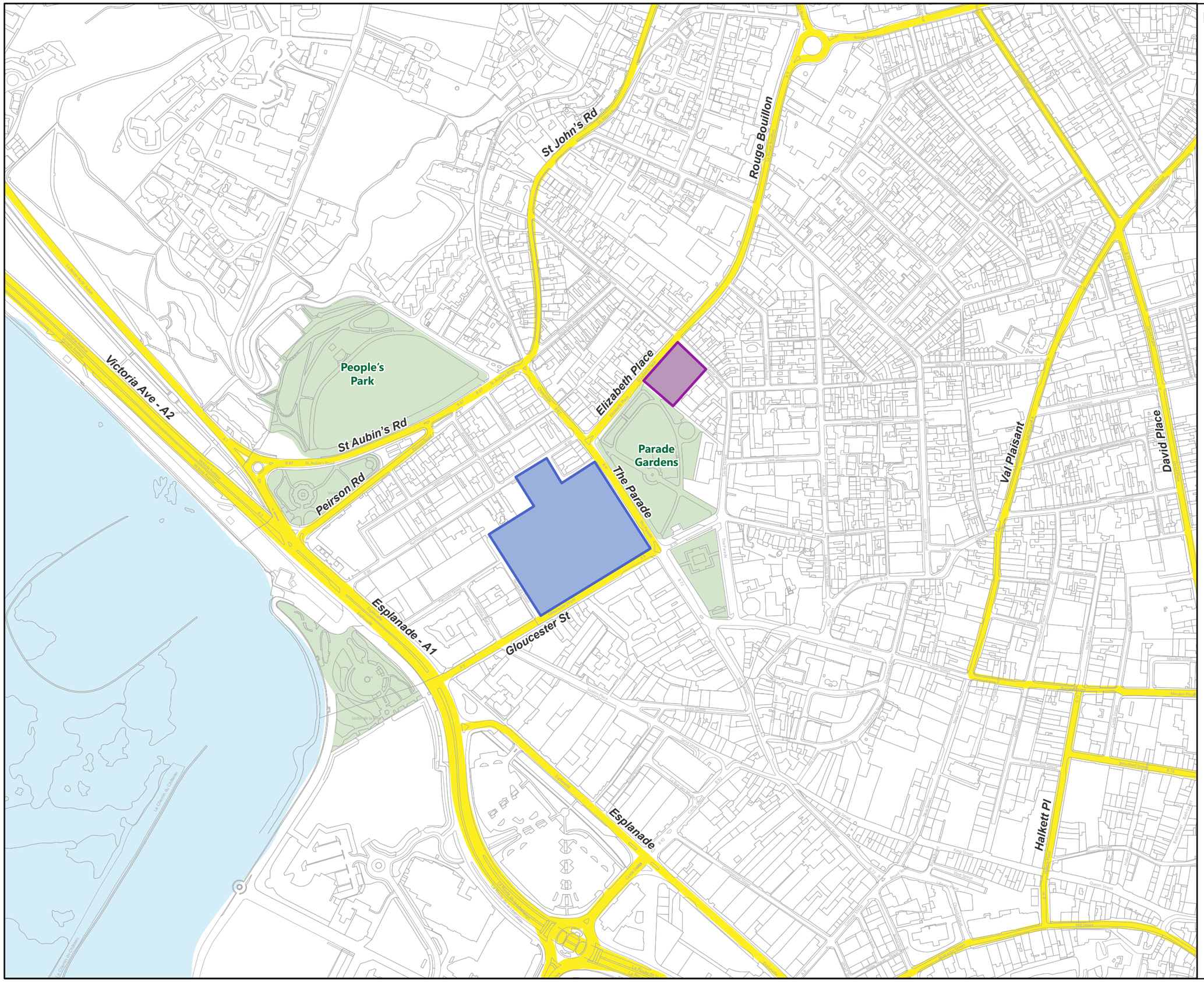
Junction 13: Gloucester Street/Seaton Place/Patriotic Place junction; and

Junction 14: Newgate Street/Gloucester Street priority junction.

The location of these junctions is illustrated in Figure 7. They reflect the principal routes to and from Jersey General Hospital, Patriotic Street MSCP and Westaway Court.

In addition to the above junctions, the Lewis Street junctions with Kensington Place and Kensington Street have also been assessed for the construction period.

A3



Legend

- Jersey General Hospital
- Westaway Court

Issue	Date	By	Chkd	Appd
01	23-03-2018	MK	AW	BP

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

Job Title

Jersey Future Hospital

Local Highway Network

Scale at A3	Role
NTS	**Civil**
Job No	Suitability
237035-00	**Illustrative Only**
Drawing No	Issue
Figure 6	**01**

A3

Existing Junctions To Be Assessed:

1. Gloucester Street/Esplanade signalised junction;
2. Elizabeth Place/The Parade/ Kensington Place/Cheapside staggered junction;
3. Peirson Road/Victoria Avenue/Esplanade/A1 St Aubin's Road;
4. Rouge Bouillon/Savile Street/ Elizabeth Place/Parade Road signalised junction;
5. Union Street/The Parade signalised junction;
6. St Aubin's Road/A1 Roundabout;
7. St Aubin's Road/Kensington Street/Peirson Road staggered junction;
8. Patriotic Street/Esplanade junction;
9. Gloucester Street/The Parade junction;
10. St Aubin's Road/Westmount Road priority junction;
11. St Aubin's Road/St. John's Road/ West Park Avenue/Cheapside/Old Saint John's Road staggered priority junction;
12. Esplanade/Kensington Place;
13. Gloucester Street/Seaton Place/ Patriotic Place signalised junction;
14. Newgate Street/Gloucester Street priority junction.

01	23-03-2018	MK	AW	BP

Issue	Date	By	Chkd	Appd

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

Job Title

Jersey Future Hospital

Study Area

Scale at A3	Role
NTS	**Civil**
Job No	Suitability
237035-00	**Illustrative Only**
Drawing No	Issue
Figure 7	**01**

3.8 Existing Traffic Flows

Classified traffic turning count surveys were all undertaken on 19th October 2016 at all locations aside from the following:

- Junction 12: Esplanade/Kensington Place priority junction was surveyed on 30th November 2016;
- Junction 13: Gloucester Street/Seaton Place/Patriotic Street Signalised Junction was surveyed on 7th February 2017;
- Classified turning counts at the accesses into Patriotic Street MSCP were surveyed on 7th February 2017; and
- Classified turning count at the Lewis Street/Kensington Place junction was surveyed in March 2018.

All surveys were undertaken outside of school holidays and in a 'neutral month' as agreed with DfI Transport Policy. The traffic survey data can be found within Appendix E.

Table 6 overleaf provides details of the total flows at each study area junction. The AM and PM peak hours have been identified as 07:30-08:30 and 16:30-17:30 respectively, aside from Junction 4 (Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road) and Junction 5 (Union Street/ The Parade) which has an earlier peak hour of 15:45-16:45.

These assessment periods have been agreed with DfI Transport Policy. The AM and PM peak hour traffic flows are also illustrated diagrammatically in Figure 8 and Figure 9 respectively overleaf.

3.9 Traffic Survey Data Validation

Classified turning count data for the majority of the junctions being assessed was collected in October 2016. To demonstrate the traffic counts still reflective of existing conditions, DfI Transport Policy provided ATC data collected on the Esplanade for the period January 2016 to December 2017.

Average weekday traffic has been compared for the corresponding weeks in 2016 and 2017, as presented in Figure 10 below. There was some missing information in the ATC data and therefore some weeks have been removed from the assessment.

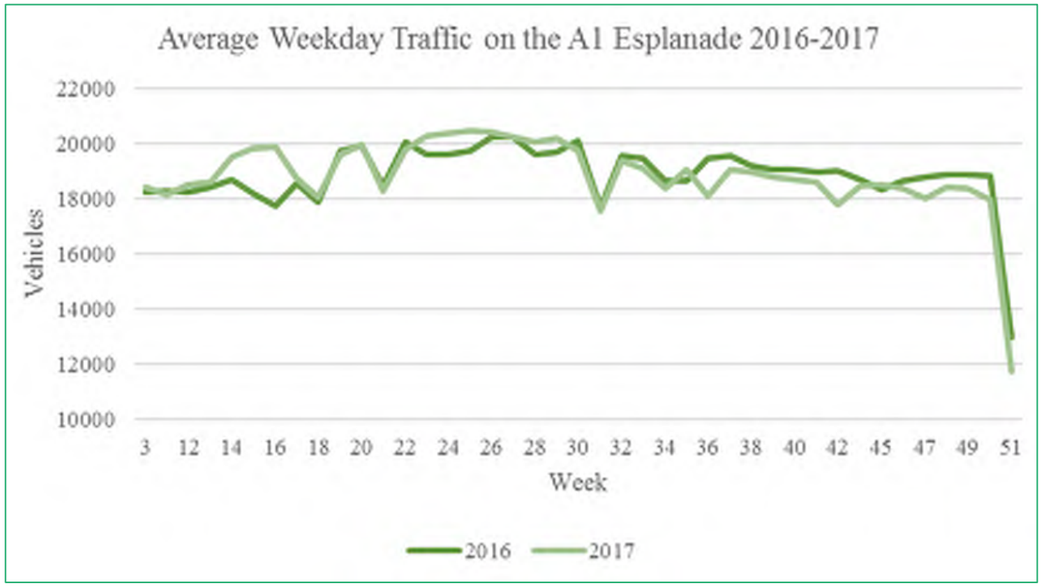


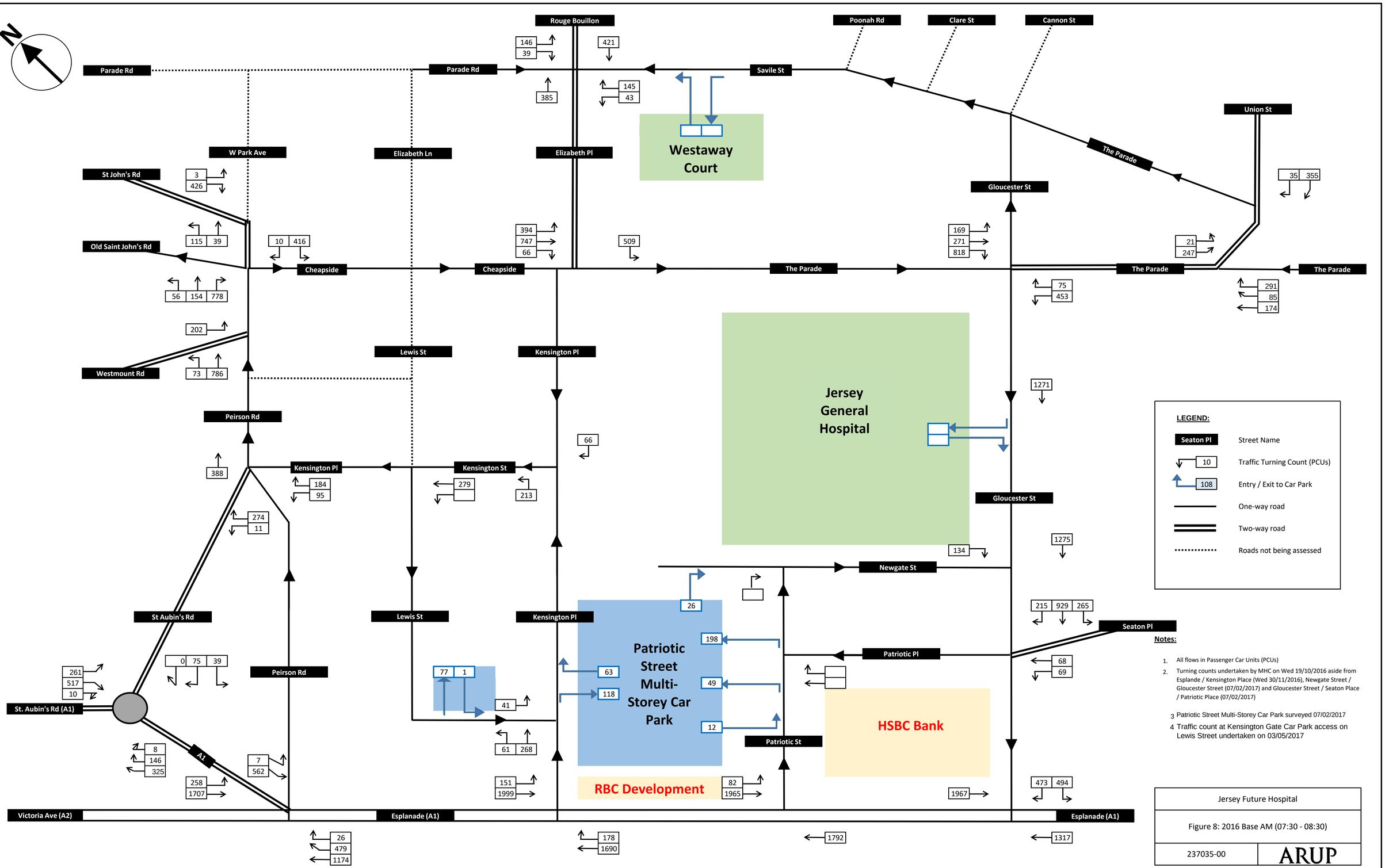
Figure 10: Average Weekday Traffic on the A1 Esplanade 2016-2017

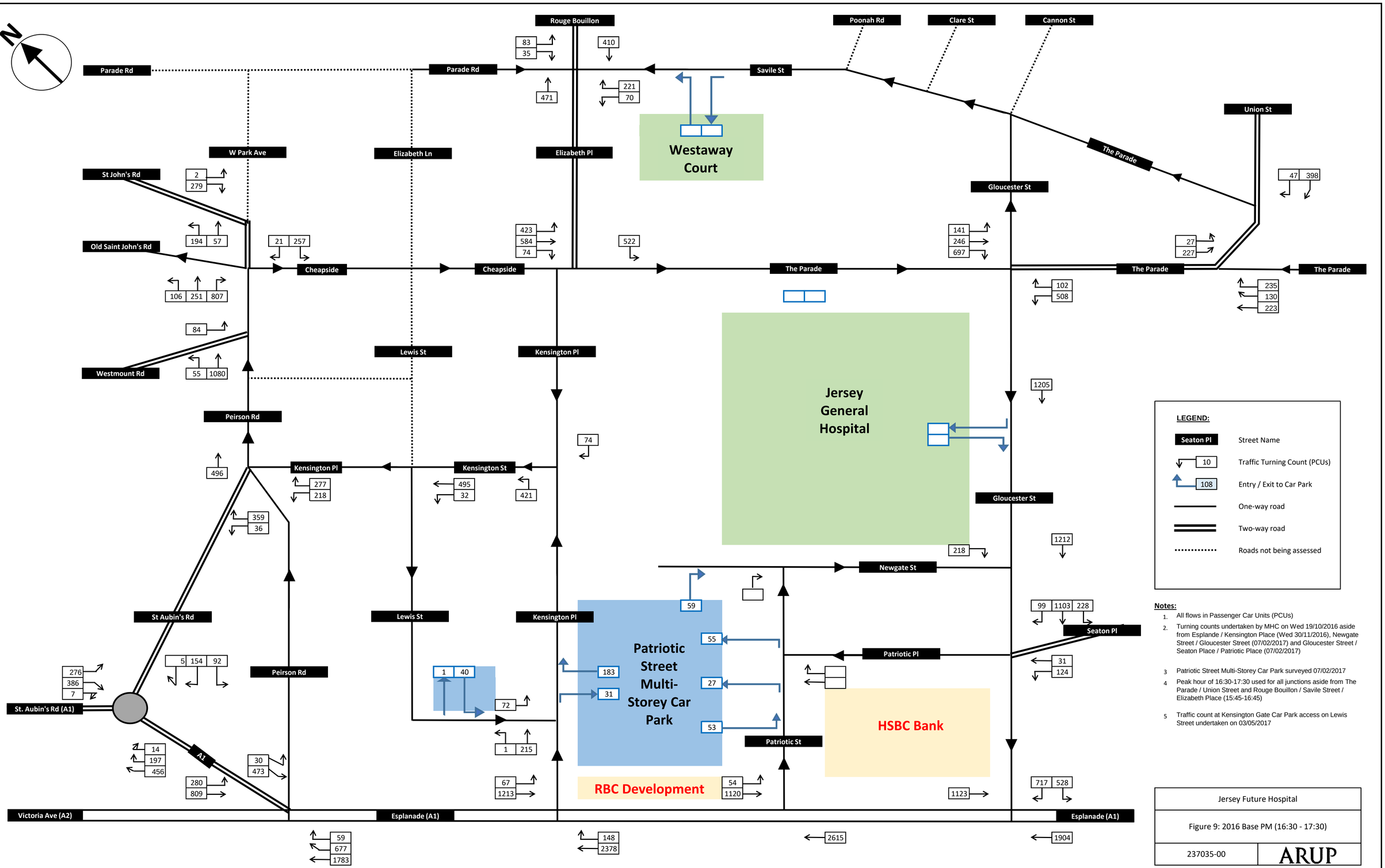
A comparison of the ATC traffic counts for 2016 and 2017 on the A1 Esplanade indicates there has been minimal change in traffic between 2016 and 2017. When considering the average weekday traffic for 2016 and 2017, there has been a 0.1% reduction in traffic flow. Given some of the committed developments have become operation in this period, it is considered that the traffic survey data collected in October 2016 is still reflective of existing conditions.

Table 6: All Movements Traffic Volume Analysis (total PCUs)

Hour	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14
AM Peak Hour														
07:00-08:00	3829	1644	3943	1138	1035	1317	1057	3444	1533	1065	1365	3677	1373	1274
07:15-08:15	4176	1716	4177	1186	1137	1380	1037	3745	1692	1099	1447	3974	1485	1364
07:30-08:30	4251	1716	4212	1178	1207	1380	952	3838	1786	1061	1437	4018	1546	1409
07:45-08:45	4182	1652	4158	1160	1172	1350	881	3773	1772	1020	1390	3998	1533	1390
08:00-09:00	4047	1646	4003	1173	1138	1323	903	3671	1752	993	1359	3938	1517	1376
08:15-09:15	3881	1655	3906	1181	1168	1341	988	3510	1727	1028	1357	3835	1501	1372
08:30-09:30	3708	1611	3710	1183	1153	1295	983	3313	1669	1011	1282	3634	1489	1380
08:45-09:45	3446	1589	3447	1158	1141	1290	1059	3062	1612	1063	1275	3351	1409	1318
09:00-10:00	3276	1535	3250	1143	1148	1288	1106	2852	1541	1095	1249	3084	1366	1290
PM Peak Hour														
15:30-16:30	3969	1602	3817	1234	1238	1488	1281	3473	1699	1210	1399	3637	Not surveyed	
15:45-16:45	4076	1632	3923	1289	1289	1536	1347	3595	1694	1274	1463	3789		
16:00-17:00	4086	1622	3985	1275	1264	1563	1359	3620	1712	1255	1466	3809	1545	1453
16:15-17:15	4150	1623	4052	1224	1234	1576	1395	3675	1685	1253	1479	3792	1580	1443
16:30-17:30	4272	1602	4111	1200	1179	1587	1385	3789	1694	1219	1460	3806	1585	1430
16:45-17:45	4234	1541	4060	1140	1154	1543	1349	3760	1682	1171	1412	3840	1562	1384
17:00-18:00	4215	1456	3981	1094	1198	1511	1313	3750	1639	1140	1368	3859	1556	1363
17:15-18:15	3914	1438	3668	1108	1210	1416	1272	3473	1605	1123	1359	3638	1538	1373
17:30-18:30	3585	1449	3380	1111	1237	1329	1257	3153	1562	1141	1382	3415	1490	1334

* Green shading indicates the peak period being assessed within the Traffic Impact Assessment


N
Rouge Bouillon
Parade Rd
Parade Rd
Savile St
Poonah Rd
Clare St
Cannon St
Union St
The Parade
Gloucester St
W Park Ave
Elizabeth Ln
Elizabeth Pl
St John's Rd
Old Saint John's Rd
Cheapside
Cheapside
The Parade
The Parade
The Parade
Westaway Court
Jersey General Hospital
Lewis St
Kensington Pl
Westmount Rd
Peirson Rd
Kensington Pl
Kensington St
Gloucester St
Newgate St
St Aubin's Rd
Lewis St
Kensington Pl
Patriotic Pl
Seaton Pl
Peirson Rd
Patriotic Street Multi-Storey Car Park
HSBC Bank
Patriotic St
St. Aubin's Rd (A1)
A1
RBC Development
Victoria Ave (A2)
Esplanade (A1)
Esplanade (A1)
LEGEND:
Seaton Pl Street Name
10 Traffic Turning Count (PCUs)
108 Entry / Exit to Car Park
One-way road
Two-way road
Roads not being assessed
Notes:
1. All flows in Passenger Car Units (PCUs)
2. Turning counts undertaken by MHC on Wed 19/10/2016 aside from Esplande / Kensington Place (Wed 30/11/2016), Newgate Street / Gloucester Street (07/02/2017) and Gloucester Street / Seaton Place / Patriotic Place (07/02/2017)
3 Patriotic Street Multi-Storey Car Park surveyed 07/02/2017
4 Traffic count at Kensington Gate Car Park access on Lewis Street undertaken on 03/05/2017
Jersey Future Hospital
Figure 8: 2016 Base AM (07:30 - 08:30)
237035-00
ARUP



Notes:

1. All flows in Passenger Car Units (PCUs)
2. Turning counts undertaken by MHC on Wed 19/10/2016 aside from Esplande / Kensington Place (Wed 30/11/2016), Newgate Street / Gloucester Street (07/02/2017) and Gloucester Street / Seaton Place / Patriotic Place (07/02/2017)
3. Patriotic Street Multi-Storey Car Park surveyed 07/02/2017
4. Peak hour of 16:30-17:30 used for all junctions aside from The Parade / Union Street and Rouge Bouillon / Savile Street / Elizabeth Place (15:45-16:45)
5. Traffic count at Kensington Gate Car Park access on Lewis Street undertaken on 03/05/2017

Jersey Future Hospital

Figure 9: 2016 Base PM (16:30 - 17:30)

237035-00 | ARUP

3.10 Traffic Speeds

In the vicinity of Jersey General Hospital, eight one-week Automatic Traffic Count (ATC) surveys were undertaken during the week commencing 17th October 2016. The locations of the survey sites and results of the recorded vehicle speeds are summarised in Table 7 below.

Table 7: ATC 85th Percentile Recorded Speed Limits (surveyed w/c 17/10/2016)

Site	Location	Posted Speed Limit	Recorded 85th Percentile Speeds
1	Patriotic Place	30 mph	18.2
2	Newgate Street	30 mph	18.1
3	Gloucester Street (south-west of access)	30 mph	25.9
4	Gloucester Street (north-east of access)	30 mph	24.9
5	Kensington Place (between parking access)	30 mph	19.1
6	Kensington Place (south-west of Kensington St)	30 mph	11.4
7	Kensington Street (south-east of Lewis Street)	30 mph	20.3
8	Kensington Street (north-west of Lewis Street)	30 mph	22.6

MHC Traffic limited undertook the survey with count locations being recorded by GPS as shown in Figure 11.

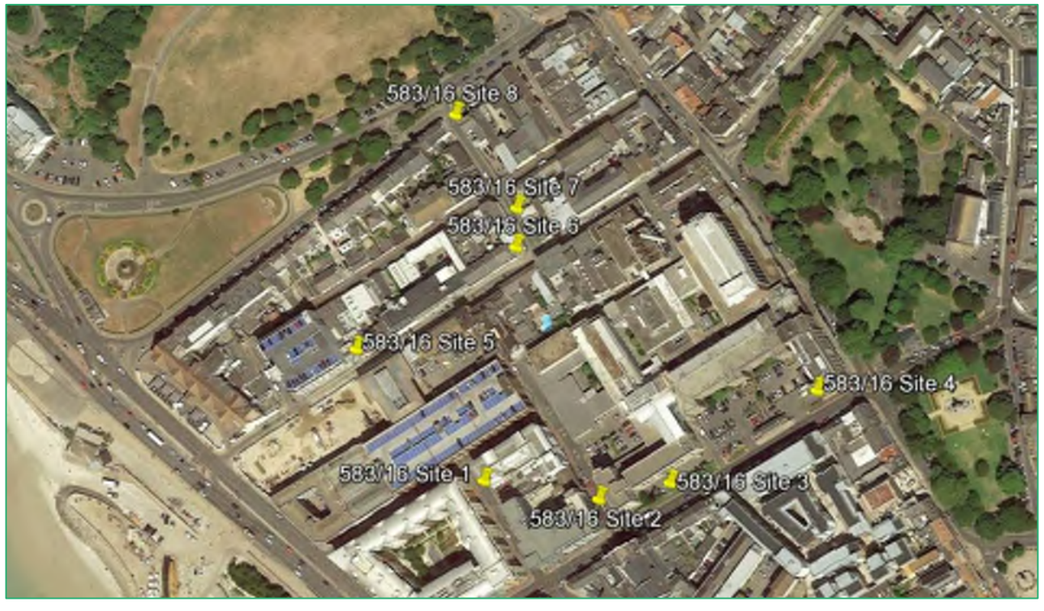


Figure 11: ATC Site Locations

Additional (ATC) surveys were undertaken during the weeks commencing 8th March 2018 and 21st March 2018. The results of the recorded vehicle speeds are presented in Table 8 below.

Table 8: ATC 85th Percentile Recorded Speeds

Date (week commencing)	Location	Posted Speed Limit	Recorded 85th Percentile Speeds
8th March 2018	Lewis Street (south of Kensington Street)	30 mph	22.3
21st March 2018	The Parade (from Cheapside)	30 mph	22.3
21st March 2018	The Parade (from Elizabeth Place)	30 mph	13.9

The results of the speed surveys above indicate the recorded 85th percentile speeds are lower than the posted speed limits.

3.11 Road Traffic Collision Assessment

Road Traffic Collision (RTC) data for the most recent five-year period (January 2012–February 2017) has been obtained from DfI Transport Policy for the surrounding highway network. The output files together with a plan presenting the location and severity of the collisions are included within Appendix F. An extract of the plan is presented in Figure 12 below.

Figure 12: Road Traffic Collisions (source: DfI Transport Policy)

The police record RTC data when they attend the scene of an accident and medical assistance is required by one or more parties; therefore damage only collisions are omitted. Collisions are categorised according to their severity:

- Slight – medical attention was required but no hospital stay was necessary;
- Serious – medical attention involving a hospital stay was required; and
- Fatal.

A summary of collisions at the main highway links and junctions are presented in Table 9 and Table 10.

Table 9: Link accident summary by severity

Link (excluding junctions)	Number of recorded incidents 2012-2017			
	Slight	Serious	Fatal	Total
Cheapside	4	1	0	5
The Parade	2	0	0	2
Gloucester Street	2	0	0	2
Esplanade	3	1	0	4
Kensington Place	2	0	0	2

Table 10: Junction accident summary by severity

Junctions	Number of recorded incidents 2012-2017			
	Slight	Serious	Fatal	Total
Cheapside/St John's Road/Old St John's Road	4	1	0	5
Cheapside/ Elizabeth Place	4	1	0	5
Rouge Bouillon/Savile Street/Elizabeth Place	4	0	0	4
The Parade/ Gloucester Street	2	2	0	4
Newgate Street/Gwyneth Huelin Wing	1	2	0	3
Gloucester Street /Patriotic Place	3	1	0	4
Esplanade/ Gloucester Street	8	2	0	10
Esplanade/ Kensington Place	3	0	1	4
St Aubin's Road/Peirson Road/Kensington Street	5	0	0	5

There was one fatal collision recorded within the study area within the five-year assessment period. It occurred at the Esplanade/Kensington Place junction and involved a collision between a truck turning from the Esplanade northeast into Kensington Place and a motorcycle traveling eastbound on the Esplanade. Traffic signals have subsequently been constructed at this junction alongside the existing signalised pedestrian crossing.

One serious and four slight incidents were recorded at the Cheapside/St John's Road/Old St John's Road/West Park Avenue priority junction. The serious incident involved a pedestrian crossing between slow moving traffic and was struck by a motorcycle deemed to be traveling at an inappropriate speed. The slight collisions involved either motorcyclists or cyclists and were attributed to wet conditions, oil on the road or careless driving. In summary, these collisions have been attributed to driver error or poor conditions and therefore no mitigation is proposed at this junction

One serious and four slight collisions were recorded on Cheapside between the junctions with St John's Road and Elizabeth Place. Three slight and one serious accident all involved pedestrians crossing Cheapside and stepping in front of vehicles without due care and attention. There is a signalised crossing near these collisions, which was not used in each incident. Given the limited traffic impact associated with the JFH proposals, no mitigation is proposed at this location.

One serious and four slight collisions were recorded at the Elizabeth Place/The Parade/Kensington Place/Cheapside junction. The serious incident involved a collision between a pedestrian and vehicle on Cheapside. This collision was attributed to actions of the pedestrian. One slight collision occurred on Kensington Place involving a pedestrian being clipped by the wing mirror of a vehicle. No mitigation is therefore proposed at this junction as a result of the recorded collisions.

Four slight collisions were recorded at the Rouge Bouillon/Savile Street/Elizabeth Place signalised junction. All recorded incidents involved a collision between two vehicles, of which three can be attributed to drivers running a red light. Coloured road surfacing could be provided on Rouge Bouillon in advance of the traffic signals to improve awareness of the junction on approach. Given the traffic impact of the JFH proposals at this location is minimal, it is not considered appropriate for this to be delivered as part of these proposals.

Two serious and two slight incidents were recorded at The Parade/Gloucester Street junction. Both serious accidents involved pedestrians stepping in front of vehicles at this junction. It is proposed to widen the footway on The Parade as part of the development proposals, which is intended to reduce traffic speeds. During construction, the size of the pedestrian refuge island will be reduced to accommodate the swept path of HGVs, however road markings are proposed so the effective traffic lanes are not widened, as presented in Drawing 36. The CEMP can explore additional mitigation such as a banksman to improve pedestrian safety at this junction.

Two serious collisions involving pedestrians occurred near the Gwyneth Huelin Wing access from Newgate Street. A collision occurred at the top of the ramp from Newgate Street. This area will be demolished as part of the development proposals. The other collision occurred on Newgate Street southeast of the ramp when a vehicle was reversing into a parking space and was attributed to careless driving. It is proposed to remove these parking spaces as part of the development proposal.

Three slight collisions involving pedestrians occurred at the Gloucester Street junction with Seaton Place and Patriotic Place. There is an existing signalised crossing on Gloucester Street in the vicinity of this junction. Whilst it is noted that there are no controlled crossings on Seaton Place and Patriotic Place, all three accidents recorded occurred on Gloucester Street. A junction improvement scheme will also be implemented here as part of the development proposals. A serious accident also occurred at this junction however it was attributed to careless driving. Notwithstanding the cause of the accidents, this junction will be amended as part of the scheme.

Five slight accidents were recorded at the St Aubin's Road/Peirson Road/Kensington Street junction. A single collision involved a pedestrian and this was attributed to their actions. The remaining collisions involved vehicles and were stationary shunts or attributed to careless driving.

In summary, a small number of accident clusters have been identified to the north and east of JGH however, these have been principally attributed to pedestrian or driver error. Given the limited traffic impact associated with JFH and the junction improvement schemes proposed, no further mitigation is considered to be required as a result of this assessment.

3.12 Jersey General Hospital Travel Surveys

To ascertain existing travel patterns of staff, patients and visitors, travel surveys were conducted at Jersey General Hospital in January 2017. A detailed analysis of the findings of the travel surveys is set out in the Framework Travel Plan included with Appendix A, and summarised below.

Separate travel surveys were developed for both staff and for patient and visitors to reflect varying characteristics in travel. Staff travel surveys were distributed electronically by email and in hard copy and received 517 responses. Patient travel surveys were conducted face-to-face over a three-day period and received 566 responses. Staff were questioned how they principally travel to work every day. Patients and visitors were also asked how they travelled to the hospital on the day of the survey. The results are summarised Table 11 below.

Table 11: Staff and Patient Modal Split (2017 Travel Survey Responses)

Mode	Staff		Patients	
	Responses	Modal Split (%)	Responses	Modal Split (%)
Car (as driver)	224	43.3%	197	39.2%
Car (as passenger)	37	7.1%	128	25.5%
Motorbike / Scooter / Moped	20	3.8%	3	0.6%
Bus	41	8.0%	31	6.2%
Electric Bike	2	0.5%	0	0%
Bicycle	47	9.1%	3	0.6%
Walk	142	27.4%	113	22.5%
Taxi	-	-	9	1.8%
Patient Transport	-	-	13	2.6%
Ambulance	-	-	3	0.6%
Other	4	0.8%	2	0.4%
Total	517	100%	502	100%

The survey responses above demonstrate the site is located in an accessible location with only 43.3% staff driving to work and 64.7% of patients arriving by car. For those travelling by car, respondents were questioned where they typically parked to inform the parking strategy and trip distribution calculations. The results are summarised Table 12 below.

Table 12: Staff and Patient Car Parking Locations (2017 Travel Survey Responses)

Car Park	Staff		Patients and Visitors	
	Responses	Split (%)	Responses	Split (%)
Hospital designated parking	58	26.3%	137	42.9%
Patriotic Street MSCP	112	50.0%	40	12.5%
Victoria Layby 1	8	3.6%	-	-
Dropped off (patient only)	-	-	65	20.4%
Other	42	19.1%	77	24.1%

3.13 Parking

3.13.1 Study Area

The study area has been agreed within DfI Transport Policy as part of the scoping process for the Parking Study. The study area includes 13 parking areas as illustrated on Figure 13 and summarised in Table 13 below.

Table 13: Summary of Car Parks

Car Park	Capacity[1]	Maximum Stay	Walking Distance to Jersey General	Walking Distance to Westaway Court
Patriotic Street	620	All day	190m	550m
People's Park	55	All day	500m	400m
Inn on the Park	38	All day	550m	600m
Elizabeth Lane	44	All day	400m	150m
Esplanade	119	3 hours	400m	700m
Les Jardins	540	All day	500m	800m
Sand Street	531	All day[1]	270m	750m
Victoria Layby 1	61	All day	700m	750m
Victoria Layby 2	79	All day	950m	1,000m
Pier Road	57	Level 1: 3 hours	1,000m	1,175m
Pier Road	658	Level 2-12: all day	1,000m	1,175m
Minden Place	234	3 hours	700m	1,050m
Nelson Street	32	All day	800m	875m
Victoria Layby 3	64	All day	1,200m	1,375m

[1] Capacity taken from DfI Jersey Car Parking data (26/02/2018) [2] Additional parking allocated to staff and patients

In addition to the public car parks outlined above, the hospital-designated car parks were also included within the study. These include:

- Staff parking accessed from Gloucester Street;
- Staff parking accessed from Newgate Street;
- Disabled parking accessed from Newgate Street;
- Staff parking designated within Patriotic Street MSCP; and
- Patient and Visitor parking designated within Patriotic Street MSCP.

On-street parking has also been surveyed near the hospital in order to understand the impacts of construction on resident parking and understand if mitigation is required.

3.13.2 Public Car Parks

DfI Jersey Car Parking provided survey data collected on 26-27 February 2018 and 25 April 2017 for the car parks located within the study area. An average of the survey data for the two dates is set out in Table 14 below.

Table 14: Public Car Parking (surveyed 25 April 2017 and 26 February 2018)

Car Park	Capacity[1]	Short/ Long Stay	Spaces Available at 08:00[1]		Spaces Available at 11:00[1]		Spaces Available at 14:00[1]	
Patriotic Street	620	Long	231	45%	0	0%	17	2%
People's Park	55	Long	14	36%	2	0%	9	9%
Inn on the Park	38	Long	20	71%	1	0%	4	8%
Elizabeth Lane	44	Long	24	77%	10	34%	16	41%
Esplanade	119	Long	76	78%	33	34%	37	38%
Les Jardins	540	Long	69	13%	3	1%	19	5%
Sand Street	531	Short [2]	473	91%	164	31%	201	43%
Victoria Layby 1	61	Long	6	3%	1	0%	0	0%
Victoria Layby 2	79	Long	61	71%	15	0%	2	0%
Pier Road L1 (Shopper)	57	Short	47	73%	27	36%	31	66%
Pier Road L2-12	658	Long	412	90%	204	47%	226	50%
Minden Place	234	Short	197	82%	153	76%	146	61%
Nelson Street	32	Long	3	12%	0	0%	1	2%
Victoria Layby 3	64	Long	49	72%	49	64%	49	59%
Total (Long)	2315	-	963	54%	316	18%	378	21%
Total (Short)[3]	822	-	716	87%	343	45%	378	50%
Total	**3338**	-	1679	50%	659	20%	755	23%

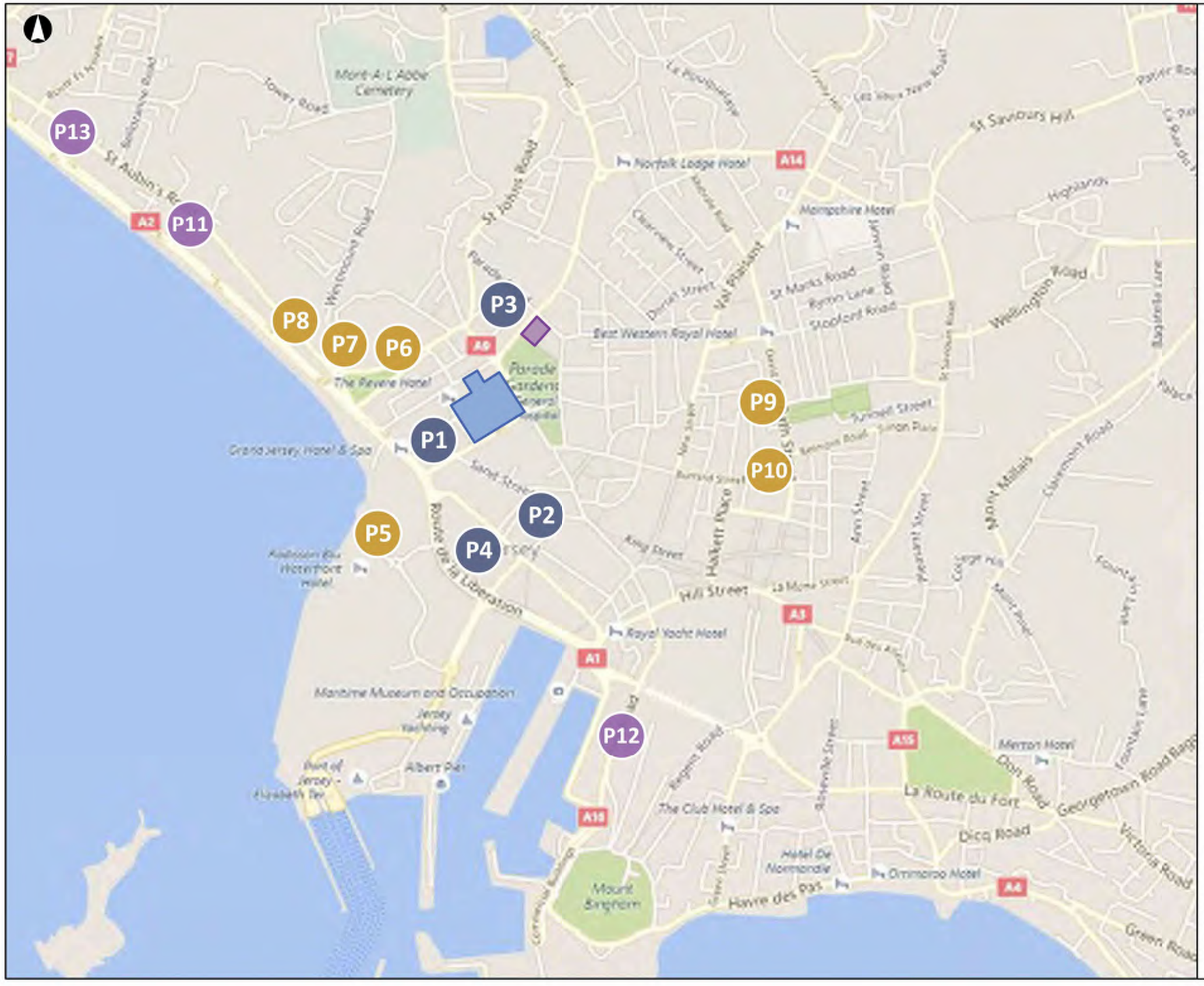
[1] Capacities taken from data supplied by DfI Jersey Car Parking

[2] Parking over three hours incurs a proportionately higher charge

[3] Includes Sand Street multi-storey car park

The results of the parking survey set out in the table above indicates that the car parks within the study area have spare capacity.

A3



Legend

- Jersey General Hospital
- Westaway Court
- Car Parks >400m from Jersey General
- Car Parks 400-800m from Jersey General
- Car Parks 800-1200m from Jersey General

P1 - Patriotic Street MSCP
P2 - Sand Street MSCP
P3 - Elizabeth Lane
P4 - Esplanade
P5 - Les Jardins
P6 - People's Park
P7 - Inn on the Park
P8 - Victoria Layby 1
P9 - Nelson Street
P10 - Minden Place MSCP
P11 - Victoria Layby 2
P12 - Pier Road MSCP
P13 - Victoria Layby 3

Issue	Date	By	Chkd	Appd
01	29-03-2018	MK	AW	BP

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client
Department for Infrastructure

Job Title
Jersey Future Hospital

Parking Strategy
Study Area

Scale at A3	Role
NTS	Civil
Job No	Suitability
237035-00	Illustrative Only
Drawing No	Issue
Figure 13	01

In addition to the data provided by DfI, accumulation surveys were undertaken on 9 February 2017 at the following public car parks:

- Patriotic Street MSCP;
- People's Park;
- Inn on the Park;
- Les Jardins; and
- Elizabeth Lane.

The occupancy survey was undertaken in 15-minute intervals between the hours 07:00 and 20:00. The surveyed occupancy of the car park at 08:00, 11:00 and 16:00 is set out in Table 16.

Table 15: Car Park Capacities and Occupancy (9 February 2017)

Car Park	Capacity[1]	Spaces Available		
		08:00	11:00	16:00
Patriotic Street MSCP	620	366	620	465
People's Park	55	23	2	1
Inn on the Park	44	23	3	13
Les Jardins	544	198	13	122
Elizabeth Lane	48	29	5	10

[1] Capacities recorded on day of parking survey

The results of the parking survey indicate the public car parks are close to capacity. Figure 14 below presents the number of parking spaces occupied within the public car parks combined. It can be seen that the car parks are reaching capacity shortly after the AM peak hour.

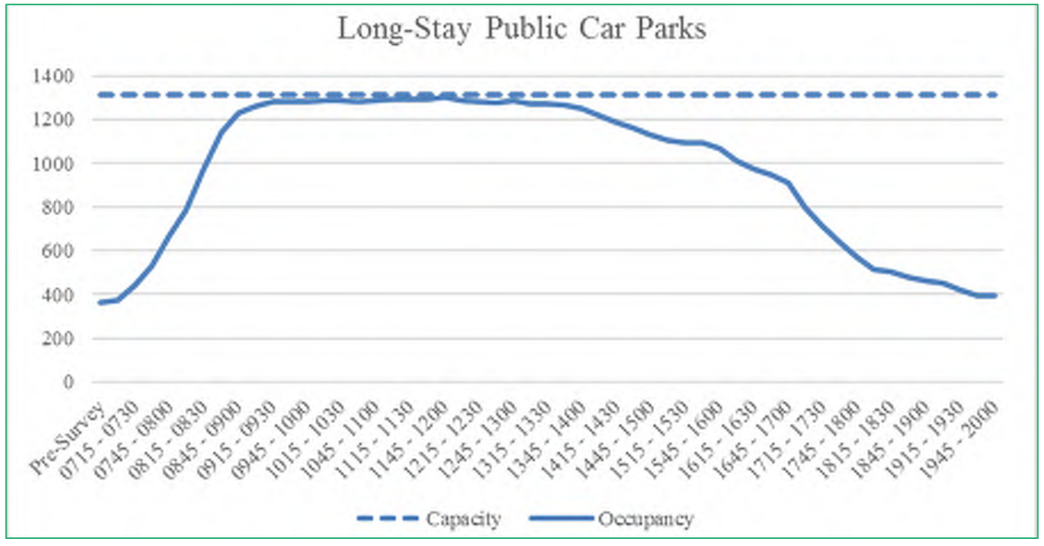


Figure 14: Public Car Park Capacities

3.13.3 Hospital Car Parks

A parking survey of the hospital-designated car parks was undertaken on the 7th and 8th February 2017. The occupancy survey was undertaken in 15-minute intervals between the hours 07:00 and 20:00. The surveyed occupancy of the car park at 08:00, 11:00 and 16:00 is set out in Table 16.

Table 16: Car Park Capacities and Occupancy (7/8 February 2017)

Car Park	Capacity	Spaces Available		
		08:00	11:00	16:00
Gloucester Street (staff)	46	13	1	0
Newgate Street (staff)	17	8	1	5
Newgate Street (disabled)	8	5	1	2
Patriotic Street MSCP (Patient)	59	44	2	2
Patriotic Street MSCP (Staff)	26	13	0	1

The results of the parking survey indicate hospital car parks are close to capacity. Figure 15 below presents the number of parking spaces occupied within the hospital designated car parks. It can be seen that all car parks are reaching capacity during or shortly after the AM peak hour.

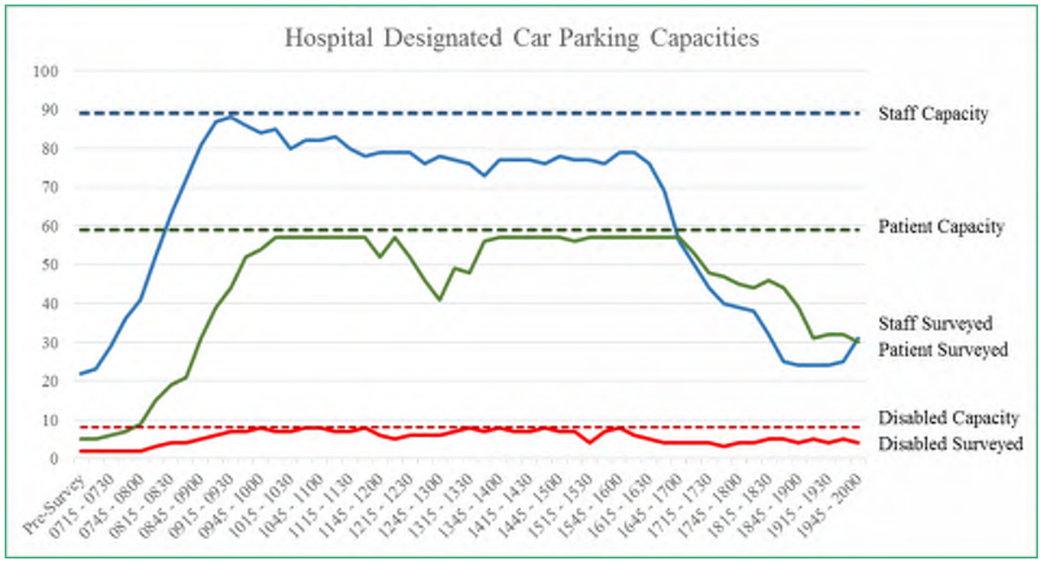


Figure 15: Hospital Designated Parking Capacities (Surveyed 7/8 February 2017)

3.13.4 Patient Drop-off

Parking surveys of the patient drop-off parking near the hospital were undertaken on the 8th February 2017. The occupancy survey was undertaken in 15-minute intervals between the hours 07:00 and 20:00. The surveyed occupancy of the parking spaces at 08:00, 11:00 and 16:00 is set out in Table 17 below.

Table 17: Patient Drop-Off Parking Capacities and Occupancy

Car Park	Capacity	Spaces Available		
		08:00	11:00	16:00
The Parade (Emergency)	4	2	1	3
The Parade (Public)	5	1	1	1

The results of the parking survey indicate the drop-off areas are close to capacity.

3.13.5 Motorcycle, Scooter and Moped Parking

There are two principal parking areas for motorcycles, scooters and mopeds within the vicinity of Jersey General hospital. Parking surveys were undertaken in 15-minute intervals between the hours 07:00 and 20:00. The surveyed occupancy of the car park at 08:00, 11:00 and 16:00 as summarised in Table 18 below.

Table 18: Motorcycle, Scooter and Moped Parking Capacities and Occupancy (7/8 February 2017)

Car Park	Capacity	Spaces Available		
		08:00	11:00	16:00
Gloucester Street (staff only)	16	8	6	5
Patriotic Street MSCP (Public)	23	0	0	0

Figure 16 below illustrates the number of motorbike, scooter and moped parking spaces occupied in comparison with the total capacity. The survey results indicate there is minimal spare capacity in motorbike parking.

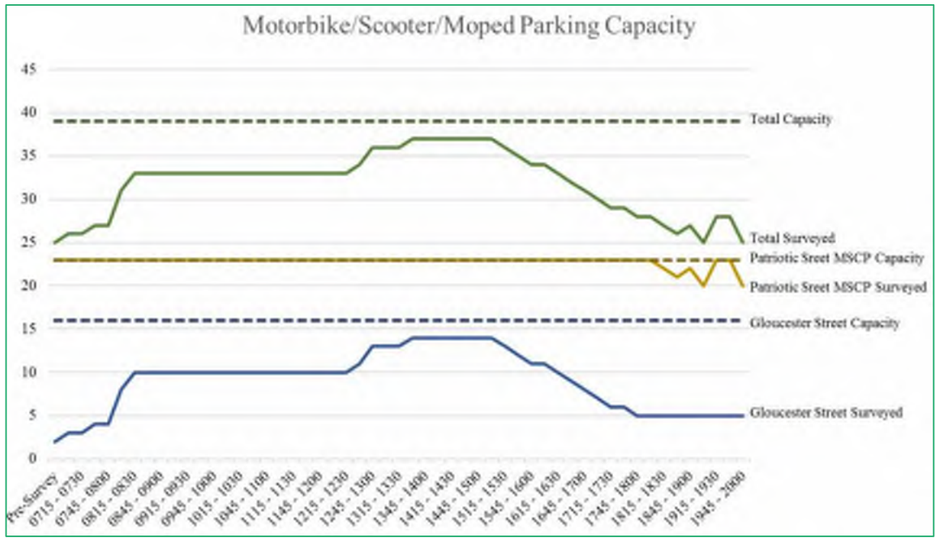


Figure 16: Motorcycle/Scooter/Moped Parking Capacities (Surveyed 7/8 February 2017)

4 Development Proposals

Overview

Development Phases

This chapter is split into four principle sections that detail the transport proposals for each phase of the development:

- Phase 1A: Estimated for the period 2018-2022 and involves constructing one-half deck onto Patriotic Street MSCP, redevelopment of Westaway Court for clinical use, the demolition of acquisitions on Kensington Place and the construction of Block A.
- Phase 1B: Estimated for the period 2022-2024 and following Block A and Westaway Court becoming operational, Phase 1B involves the demolition of Peter Crill House and Gwyneth Huelin Wing and the construction of Block B.
- Phase 2 Interim State: Estimated for the period 2025-2026 and following Block B becoming operational, Phase 2 (Interim State) involves the demolition of 1980s and 1960s blocks and the construction of Block C (entrance building); and
- Phase 2 Final State: Post 2026 when JFH will be fully operational including Block C (entrance building) and all associated transport infrastructure will be provided.

Phase 1A

To enable the construction of Block A and the half deck on Patriotic Street MSCP, the following highway works are proposed

- Road closure on part of Kensington Place and direction of one-way traffic flow on Lewis Street reversed;
- Junction improvement scheme at the St Aubin's Road/Kensington Street/Peirson Road priority junction and minor works to the A1 Esplanade/Kensington Place junction; and
- Relocation of hospital parking adjacent from Gloucester Street to Patriotic Street MSCP.

Whilst it is intended to retain or improve amenity for pedestrians during construction, the necessary closure of roads and associated footways in the direct vicinity of the site may result in increased journeys for some pedestrians. The Construction Environment Management Plan (CEMP) will review the safety of pedestrians

Phase 1B

Following Phase 1A, Block A will be fully operational and therefore servicing and refuse will be relocated to the Service Block on Kensington Place:

- Road closure on Newgate Street, two-way running of Patriotic Place, signalisation of the Gloucester Street/Seaton Place/Patriotic Place junction and the reconfiguration of Patriotic Street accesses and egresses;
- Pedestrian access from Patriotic Street MSCP to Block A of JFH; and
- Relocation of parking on Newgate Street, reassignment of parking on The Parade and a temporary layby for PTS on Kensington Place.

Phase 2: Interim State

There will be a period following Block A and Block B becoming operational when not all transport infrastructure can be delivered, mainly the patient and Patient Transport Services drop-off facility. In this interim state, estimated for the period 2025-2026, it is proposed for patient and Patient Transport Services drop-off to be located to the front of the Granite Block before relocating to The Parade in the final state.

Phase 2: Final State

In keeping with best design practices for hospitals, the routes for emergency and operational vehicles associated with the hospital have been designed where possible to be separate from those of general hospital associated traffic including staff, visitors and patient routes.

The proposed layout of the Jersey Future Hospital site has been designed to maximise the potential number of trips made to the hospital by walking, cycle and public transport. The development site will not only create routes for staff and patients, but for existing pedestrians and cyclists in the local community.

The principle pedestrian accesses in to JFH are proposed via Block C adjacent to The Parade and from Patriotic Street MSCP. There will also be secondary accesses into JFH from Kensington Place and Gloucester Street, adjacent to the Granite Block.

The following measures are proposed to enhance connectivity to the future hospital:

- Introduce traffic signals at the Gloucester Street/Newgate Street junction and a signalised pedestrian crossing on Gloucester Street;
- Retain signalised crossings on Patriotic Place and Seaton Place at the junction with Gloucester Street;
- Relocate the signalised crossing on The Parade, remove on street parking and reduce the carriageway width to 6m to reduce traffic speeds and improve public realm;
- Extension of Newgate Street to be made available for hospital vehicles (ambulances and service vehicles); and
- Relocation of ED and ambulance bay from Gloucester Street to Newgate Street.

Westaway Court

Pedestrian access to new build Westaway Court is proposed from Parade Gardens and Savile Street. The access from Parade Gardens aligns with the existing footway link through the park towards Block C of JFH. It is proposed to improve the width of the footway on Savile Street along the front of the site and introduce a signalised pedestrian crossing on Savile Street at the entry to the junction with Rouge Bouillon, Elizabeth Place and Parade Road.

Vehicular site access for New Build Westaway Court consolidates the existing two access points of Maison Le Pape and Westaway Court into a single priority junction serving approximately 19 car parking spaces. A layby is proposed on Elizabeth Place that will serve as a drop-off for PTS vehicles and ambulances.

4.1 Introduction

This chapter provides an overview of the development proposals that will form the basis of the travel demand assessment in the subsequent chapters of this report. This chapter is split into four principle sections that detail the transport proposals for each phase of development:

- Phase 1A: Estimated for the period 2018-2022 and involves constructing one-half deck onto Patriotic Street MSCP, redevelopment of Westaway Court for clinical use, the demolition of acquisitions on Kensington Place and the construction of Phase A.
- Phase 1B: Estimated for the period 2022-2024 following Block A and Westaway Court becoming operational, Phase 1B involves the demolition of Peter Crill House and Gwyneth Huelin Wing and the construction of Block B.
- Phase 2 Interim State: Demolition of 1980s and 1960s block and the construction of Block C (entrance building); and
- Phase 2 Final State: Post 2026 when JFH will be fully operational including Block C (entrance building) and all associated transport infrastructure will be provided.

In addition to the above, a separate section is also included which details the Westaway Court proposals.

Phase	Period	Demolition and Construction	Operational
Phase 1A	2018-2022	Demolition of acquisitions in Kensington Place, the energy centre and engineering block, Westaway Court. Construction on Block A, New Build Westaway Court and a single half deck on to Patriotic Street MSCP.	Jersey General Hospital including 1980s block, 1960s block, Peter Crill House and the Gwyneth Huelin Wing.
Phase 1B	2022-2024	Demolition of the Gwyneth Huelin Wing and Peter Crill House and the construction of Block B.	Block A of JFH, New Build Westaway Court and the 1980s and 1960s blocks of Jersey General Hospital.
Phase 2 Interim State	Post 2024	Demolition of the 1980s and 1960s blocks and construction of Block C.	Jersey Future Hospital (Block A and Block B) and New Build Westaway Court.
Phase 2 Final State	Post 2026	-	Jersey Future Hospital (including Block C) and New Build Westaway Court.

As set out in the opening section, outline planning permission is being sought with all matters reserved aside from Means of Access. A summary of the access proposals are illustrated in Figures 17-21 and presented in detail on Drawings 1-37. Whilst these figures and drawings are all submitted for approval, the highway schemes will all be subject of a Stage 1 Road Safety Audit which are envisaged to be secured by a planning condition.

4.2 Relocation Schemes

The proposed development will be partially located on the existing Jersey General Hospital site. In order to enable the demolition elements of the existing hospital, some services will need to be relocated internally or offsite, either temporarily or permanently. A summary of these relocation schemes is provided in Table 19 below.

Table 19: Summary of Relocation Schemes

Ref	Department	Description	Traffic Impact
ES-01	Catering	Relocation to an offsite unit.	Results of the JGH Staff Travel Survey indicated catering staff typically start and finish work outside of the peak hours. The traffic impact of relocating catering from JGH to an offsite location is considered minimal and has therefore not been assessed.
ES-02	Plant and Engineering	Relocation of plant from the energy centre to the staff car park in the Granite Block forecourt during construction on Block A and B.	Staff trips redistributed from the Granite Block to Patriotic Street MSCP.
ES-06	Corporate offices and, training functions	Relocation from Peter Crill House to a new facility in the vicinity of JGH	Staff anticipated to park in the same location and therefore no impact on the distribution of trips.
ES-07	Westaway Court (see Section 4.7)		
ES-08	1960's Block and Granite Block	Internal relocation of functions to accommodate phased approach to construction of JFH	No traffic impact
ES-09	Critical Plant and Support Systems	Relocation and maintenance of hospital critical plant, equipment and services	No traffic impact aside from a limited number of construction movements
ES-10	Staff Accommodation	Relocation of staff accommodation from Westaway Court and Peter Crill House	Minimal traffic impact associated with the relocation of residents to existing residential developments.

4.3 Phase 1A

A summary of the transport proposals during Phase 1A are set out on Figure 17 overleaf and listed below:

- Road closure on part of Kensington Place and direction of one-way traffic flow on Lewis Street reversed;
- Junction improvement scheme at the St Aubin's Road/Kensington Street/Peirson Road priority junction and minor works to the A1 Esplanade/Kensington Place junction; and
- Relocation of hospital parking adjacent from Gloucester Street to Patriotic Street MSCP and reassignment of parking on The Parade.

4.3.1 Pedestrians

Where possible, it is intended to retain or improve amenity for pedestrians during each phase of construction. Temporary road closures and associated footways in the direct vicinity of the site may result in increased journeys for some pedestrians. The Construction Environment Management Plan (CEMP) will review and prioritise the safety of pedestrians, as set out in Section 9. When road and footway closures are deemed to be necessary and have been agreed with DfI, appropriate hoarding and signage will be installed to protect the safety and amenity of pedestrians.

It is anticipated that the footway on the southeast side of Kensington Place between the egress from the MSCP and the junction with Kensington Street will need to be closed for a significant extent of Phase 1A. Given the demolition of the acquisitions on Kensington Place, it is anticipated that pedestrian demand will be limited on this section of footway.

To enable construction vehicles to exit the demolition site via Kensington Street, improvements are proposed at the St Aubin's Road/Kensington Streets/Peirson Road junction. The proposed junction arrangement is presented in Drawing 28.

It can be seen that the proposed arrangement provides benefits for pedestrians in comparison to the existing layout with the provision of signalised crossings on St Aubin's Road and Peirson Road. A dropped kerb crossing is also provided on Kensington Street.

4.3.2 Cycles

As set out in Section 3.4, the existing staff cycle parking is located in the basement of the Gwyneth Huelin Wing and will therefore be unaffected by the demolition and construction proposals associated with Phase 1A

4.3.3 Public Transport

The development proposals are not anticipated to have any significant impact on patients or staff that travel by public transport. No improvements to the public transport network are proposed during Phase 1A and road closures are not anticipated to impact any of the local services.

4.3.4 Vehicles

To enable the demolition of the acquisitions on Kensington Place, and the construction of Block and the half deck on Patriotic Street MSCP, phased road closures are proposed on Kensington Place north-east of the Patriotic Street MSCP vehicular egress and south of the Jersey General Hospital Service Road. This section of the road will still be in use for construction vehicles.

To accommodate the phased road closures on Kensington Place, the following works are proposed:

- Two-way running of Kensington Place between the junction with Lewis Street and the exit to Patriotic Street MSCP. This will involve the removal of a build out between the entrance and exit to Patriotic Street MSCP on the south-east side of Kensington Place;
- A build-out is proposed on Kensington Place directly south-west of the junction with Lewis Street to encourage traffic traveling southwest bound to turn into Lewis Street;
- The element of Lewis Street that is two-way running between the junction with Kensington Place and the access to Kensington Gate Car Park will become one-way; and
- The direction of traffic flow on the existing one-way section of Lewis Street until the junction with Kensington Street will be reversed from south-west bound to northeast bound.

These proposals are illustrated in Drawing 25 and will be subject to a Road Safety Audit.

A junction improvement scheme is proposed at the Peirson Road/Kensington Street/St Aubin's Road junction to accommodate the largest construction vehicles associated with the development leaving the site. This junction is illustrated within Drawing 28 and includes the provision of traffic signals.

4.3.5 Ambulance and Patient Transport Services

It is proposed to retain the existing access for ambulances to the ED department via Gloucester Street. PTS is anticipated to continue dropping patients off from The Parade and via the Gwyneth Huelin Wing entrance.

4.3.6 Delivery and Service Vehicles

Delivery and service vehicles associated with the Jersey General Hospital will continue to use the service road accessed from The Parade and Kensington Place. The access to this service road from Newgate Street will be removed to enable the construction of Block A. This will have a minor impact on capacity and require all vehicles to exit the service block via Kensington Place.

It is proposed to address the reduction in the capacity of the service road by improving the management of deliveries and collections. The relocation of catering services during Phase 1A from Jersey General Hospital to an off-site location will also alleviate pressure.

A3

People's Park

Proposed junction improvement scheme

Direction of one-way traffic reversed to enable the closure of Kensington Place. Potential for 20mph speed limit to be introduced for the duration of the closure

Phased road closure of Kensington Place and buildouts removed to enable construction

Residential parking on Kensington Place to be temporarily relocated (potentially to People's Park)

Service road between JGH and Block A will removed to enable construction

Proposed alterations the to pedestrian refuge isalnd to accomondate construction vehicles

Construction vehicles only

Block A

Jersey General Hospital

Granite Block

Plant

Ambulance access retained

Plant relocated to Granite Block forecourt to enable demolition of the energy centre. Staff parking relocated to Patriotic Street MSCP

Proposed alteration to junction

Barrier to MSCP access removed to avoid queuing on Kensington Place

MSCP access

Patriotic Street MSCP

MSCP egress relocated from Newgate Street to Patriotic Street

Motocycle access only

Proposed works to Patriotic Street MSCP including an additional half deck, improvements to core and a pedestrian link to Block A

Westaway Court

Parade Gardens

Cheapside

Elizabeth Place

Peirson Road

Lewis Street

Kensington Street

Kensington Place

The Parade

Savile Street

Newgate Street

Patriotic Street

Patriotic Place

Gloucester Street

Union Street

York Street

Legend

- Operational Hospital
- Demolition & Construction Site
- Plant
- Service Road
- Ambulance Access
- Direction of Traffic
- Junction Works

Issue	Date	By	Chkd	Appd
02	10-04-2018	BOS	AW	BP
01	23-03-2018	BOS	AW	BP
Issued For Approval				

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client
Department for Infrastructure

Job Title
Jersey Future Hospital

Figure 17: Overview of Proposals Phase 1A

Scale at A3	Role
NTS	Civil
Job No	Suitability
237035-00	Approval
Drawing No	Issue
JFH-ARP-ZZ-XX-DR-Y-1003	02

4.3.7 Construction Vehicles

The proposed routing of construction vehicles to the development site for Block A and Patriotic Street MSCP will be detailed within the full CEMP following consultation with the relevant parties including DfI.

Whilst the location of the compound area has not yet been confirmed, there are a limited number of roads in Jersey that can accommodate the largest delivery vehicles associated with the development. It can therefore be assumed that delivery vehicles will arrive and depart on the A1 Esplanade, accessing the site from Kensington Place. During Phase 1A, construction vehicles will exit the site via a combination of Kensington Street and St Aubin's Road.

Minor works are proposed to the Esplanade/Kensington Place junction to enable the largest vehicles associated with construction to turn right from the Esplanade onto Kensington Place. These works are illustrated within Drawing 30.

Arup have prepared a report setting out the estimated quantum of construction vehicle movements associated with the demolition and construction of JFH and Westaway Court. The report is summarised in Section 9 of this report and included within Appendix J.

Construction workers will have limited access to parking near the construction site given the high demand for public parking and the constrained nature of the site. It is therefore proposed for construction workers that are not living/staying within walking distance of the site to be transported by bus. The details of this service will be developed once a contractor has been brought on board.

4.4 Phase 1B

A summary of the transport proposals during the Phase 1B are set out on Figure 18 overleaf and listed below:

- Road closure on Newgate Street, two-way running of Patriotic Place and signalisation of the Gloucester Street/Seaton Place/Patriotic Place junction as presented on Drawing 9 and Drawing 18.
- Reconfiguration of Patriotic Street MSCP accesses and egresses;
- Pedestrian access from Patriotic Street MSCP to Block A of JFH;
- Relocation of parking on Newgate Street and reassignment of parking on The Parade; and
- Servicing and refuse vehicles relocated to Service Block on Kensington Place.

4.4.1 Pedestrians

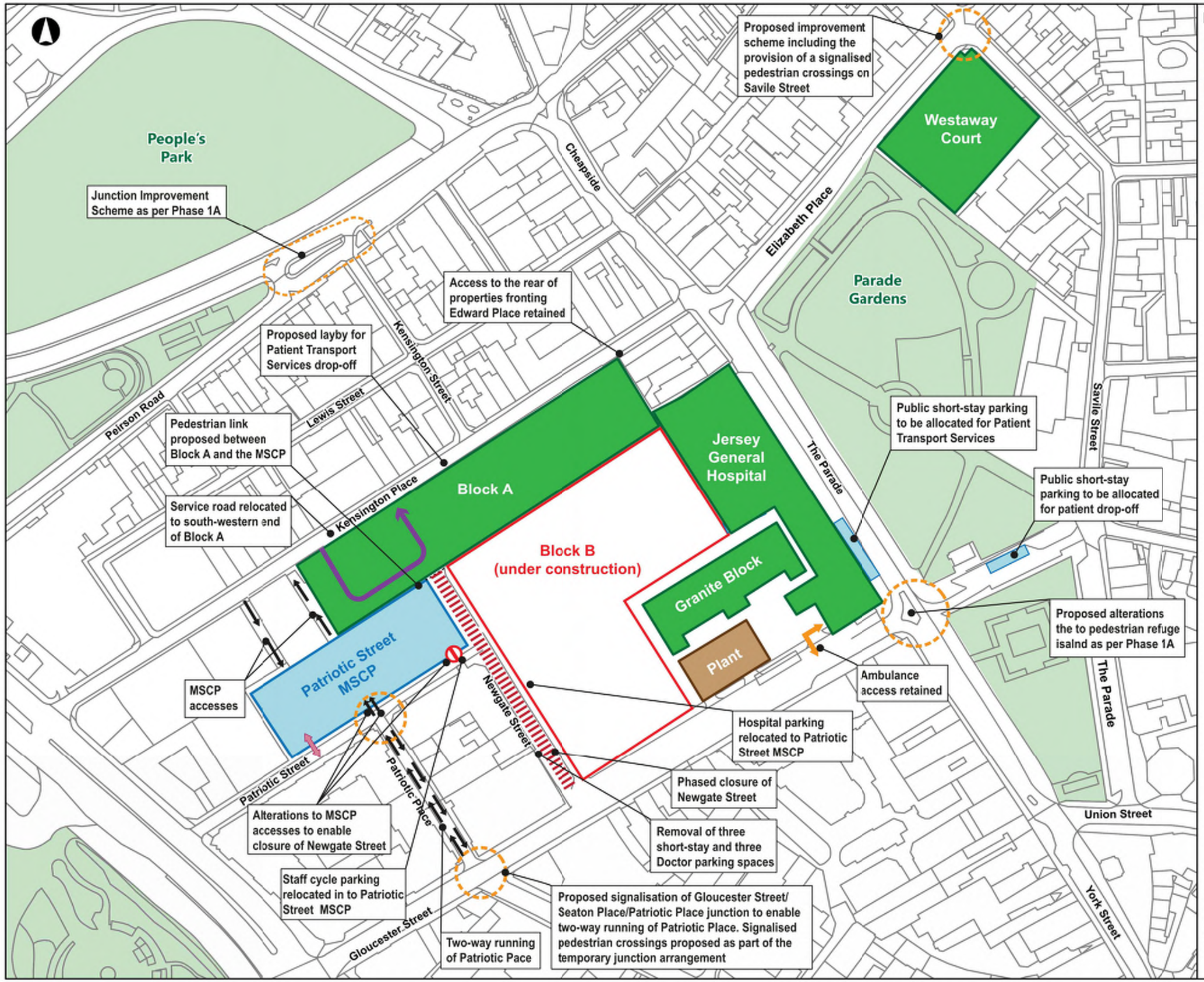
As previously noted, it is intended to retain or improve amenity for pedestrians during each phase of construction. However, the necessary closure of roads and associated footways in the direct vicinity of the site may result in increased journeys for some pedestrians. The Construction Environment Management Plan (CEMP) will review the safety of pedestrians, as set out in Section 9. When road and footway closures are deemed to be necessary and have been agreed with DfI, appropriate hoarding and signage will be installed to protect the safety and amenity of pedestrians.

As part of the demolition and construction associated with Phase 1B, the pedestrian accesses into the Gwyneth Huelin Wing will be removed. A new pedestrian access into the hospital will be created between Patriotic Street MSCP and (the now operational) Block A of JFH. A pedestrian access is also proposed into Block A on Kensington Place, between the junctions with Newgate Street (extended) and Kensington Street. The existing hospital accesses into JGH located on The Parade will be retained throughout the duration of Phase 1B.

As part of the proposed signals at Gloucester Street/Seaton Place/Patriotic Place junction, pedestrian crossings will be provided on the Seaton Place and Patriotic Place entries to the junction, as illustrated on Drawing 9. These crossings are anticipated to benefit pedestrians traveling to the hospital from Sand Street MSCP and Liberation Bus Station.

As with all other proposed signalised junctions, there is potential for pedestrian crossings to be either Pelican or Puffin crossings. Whilst Puffin crossings are considered to provide benefits over Pelican crossings, it is understood that all crossings in Jersey currently reflect a Pelican design. Guidance will therefore be sought from DfI on which design to progress.

A3



Issue	Date	By	Chkd	Appd
02	10-04-2018	BOS	PA	PT
01	23-03-2018	BOS	PA	PT
Issued For Approval				

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

Job Title

Jersey Future Hospital

Figure 18: Overview of Proposals Phase 1B

Scale at A3	Role
NTS	Civil
Job No	Suitability
237035-00	Approval
Drawing No	Issue
JFH-ARP-ZZ-XX-DR-Y-1004	02

4.4.2 Cycles

As set out in Section 3.4, the existing staff cycle parking is located in the basement of the Gwyneth Huelin Wing and will therefore be demolished in Phase 1B. For the duration of this phase, staff cycle parking will be relocated to Patriotic Street MSCP in the area currently used for motorcycle parking. It is proposed to provide a cage that only hospital staff can access.

As with the existing motorcycle parking, cyclists will have a dedicated access. This approach was previously discussed with DfI Jersey Car Parking during the preparation of the 2017 JFH application at the meeting dated 3 May 2017. As detailed within the parking strategy, motorcycle parking will be relocated within Patriotic Street MSCP.

The relocation of staff cycle parking to Patriotic Street MSCP is anticipated to have limited impact on staff, as they already need to cycle on Patriotic Street to access the existing cycle stands on Newgate Street. Therefore, the only impact of these proposals on staff cyclists is the increased walking distance from the proposed cycle storage to JGH of approximately 170m.

There is potential that construction vehicles route along Patriotic Street outside of peak hours, which creates a potential conflict with cyclists. This potential conflict will be addressed within the CEMP. Given this is a temporary proposal for Phase 1B, it is considered to be acceptable.

4.4.3 Public Transport

The development proposals are not anticipated to have any significant impact on patients or staff that travel by public transport. No improvements to the public transport network are proposed for Phase 1B and road closures are not anticipated to impact any of the local services. There is potential for lane closures on the A1 Esplanade and Gloucester Street in the off-peak hours; however, these are not anticipated to impact services.

The only impacts for public transport users relate to the removal of the Gwyneth Huelin Wing entrance to the hospital. However public transport users walking from Liberation Bus Station and the bus stops on the Esplanade will be able to enter the hospital via a new access in to Block A via Patriotic Street MSCP.

4.4.4 Vehicles

To enable the demolition of the Gwyneth Huelin Wing and Peter Crill House, the phased closure of Newgate Street is proposed. To enable this phase closure, the following works are proposed:

- Patriotic Place to become two-way between the junctions with Gloucester Street and Patriotic Street;
- Closure of the Patriotic Street MSCP exit onto Newgate Street;
- Temporary alternations to the Patriotic Street MSCP accesses opposite Patriotic Place to improve visibility; and
- Traffic signals at the Gloucester Street/Seaton Place/Patriotic Place junction.

To accommodate the closure of the MSCP egress onto Newgate Street, it is proposed to make the existing central entrance from Patriotic Street into an exit. To improve visibility for vehicles exiting the car park, temporary kerbing is proposed, as presented on Drawing 18.

Traffic signals are proposed at the Gloucester Street/Seaton Place/Patriotic Place junction as a result of the proposals to make Patriotic Place two-way. This proposed junction arrangement for Phase 1B is presented in Drawing 9 and discussed further within the Mitigation Strategy.

4.4.5 Ambulance and Patient Transport Services

It is proposed to retain the existing access for ambulances to the ED department via Gloucester Street.

With the removal of the Newgate Street access into JGH, it is proposed to relocate the drop-off area for Patient Transport Services (PTS) to The Parade and Kensington Place. As set out in the Parking Strategy, it is proposed for The Parade PTS drop-off to be relocated directly north-west of the junction with Gloucester Street, replacing the existing on-street short stay public parking. PTS drop-off on Kensington Place is proposed adjacent to Block A, as presented on Drawing 22.

4.4.6 Delivery and Service Vehicles

A service block is proposed directly northeast of Patriotic Street MSCP and will be accessed from Kensington Place via a proposed priority junction. Deliveries to the service area are proposed via a combination of the A1 Esplanade and Kensington Place. It is proposed for vehicles to exit the service block via a priority junction with the extended Newgate Street and Kensington Place beyond.

Swept Path Analysis (SPA) of the service road has been undertaken with a 12m rigid truck, a small artic, a small refuse vehicle and a hearse (limousine). These are the largest vehicles anticipated to service the hospital. The SPA of the service block is included within Appendix G. It can be seen that the proposed layout can accommodate all vehicles anticipated to use the road.

Designing a service block that can accommodate a 12m rigid truck is considered robust, as these vehicles are not allowed on Jersey roads without a permit. SPA of the egress route from the service block with a 12m rigid vehicle indicated the vehicle would not able to make the left turn from Kensington Place to Kensington Street and therefore these vehicles would be required to exit the site via a combination of Newgate Street and Gloucester Street.

During Phase 1B, Newgate Street will be closed for the construction of Block B and as such, the use of this road for a service vehicle would need to be agreed in advance with the construction contractor. The specific details will be addressed within the CEMP.

The refuse strategy for JFH suggests the development proposals will result in an overall reduction in the number of refuse trips. A summary of the number of vehicles anticipated to use the proposed service road is set out in Table 20 below.

Table 20: Daily Service Vehicle Trips

Service vehicle	Daily number of trips (approximate)
Catering	Up to 3
CSSD	Up to 5
Supplies	<1
Laundry (Clean)	2
Laundry (Dirty)	2

Access to the mortuary is proposed within the Service Block with an exit directly on to Newgate Street. SPA of the mortuary with a limousine is also included within Appendix G.

4.4.7 Construction Vehicles

The proposed routing of construction vehicles to the development site for Block B will be detailed within the full CEMP following consultation with the relevant parties including DfI.

As with the construction of Block A, it can be assumed that delivery vehicles will arrive and depart on the A1 Esplanade. Two potential construction routes have been identified and discussed with DfI Transport Policy:

- A1 Esplanade, Patriotic Street, Newgate Street and Gloucester Street. There is no right-turn into Patriotic Street from the A1 Esplanade and therefore construction vehicles arriving from the east would need to route via the A1/St Aubin's Road roundabout; and
- A1 Esplanade, St Aubin's Road, Cheapside, The Parade and Gloucester Street. Vehicles could access the construction site from Gloucester Street or Newgate Street.

It has been agreed with DfI Transport Policy that any minor works to junctions to accommodate construction vehicles can be agreed as part of the CEMP and do not need to be assessed as part of this application. Such potential works could include:

- Temporary lane closure on the A1 Esplanade (inter-peak only) to allow for a left turn on to Patriotic Street;
- Temporary reconfiguration of The Parade/Gloucester Street junction;
- Temporary lane closure on The Parade (inter-peak only); and
- Temporary lane closure on Gloucester Street (inter-peak only)

As with Phase 1A, construction workers will have limited access to parking near the construction site given the high demand for public parking and the constrained nature of the site. It is therefore proposed for construction workers that are not living/staying within walking distance of the site to be transported by bus. The details of this service will be progressed in the future stages of the planning process.

4.5 Phase 2 Interim State

Following Phase 1B, the clinical elements of JFH will be operational. There will however be an interim state where some of the highway and access proposals cannot be delivered. This section of the report sets out these temporary highway proposals. The permanent highway proposals are set out in the following section.

Drop-off for Patients and Patient Transport Services

In the final state, drop-off for patients and PTS is proposed on Newgate Street and adjacent to The Parade. However, the drop-off on The Parade cannot be provided straight after Phase 1B as the 1980s and 1960s block will need to be demolished. Whist drop-off will be available on Newgate Street as presented on Drawing 12; it is proposed to provide additional drop-off for both Patient and PTS to the front of the Granite Block. This temporary drop-off is presented in Drawing 4.

Hospital Access

As set out in the following section, Block C is proposed to provide the main entrance in to JFC. Given Block C is proposed on part of the site currently occupied by the within the extent of the 1980s block, this entrance cannot be provided directly following Phase 1B.

There will however be accesses in to the hospital from Kensington Place, Newgate Street, adjacent to the Granite Block and directly from Patriotic Street MSCP.

4.6 Phase 2 Final State

4.6.1 Masterplan

In keeping with best design practices for hospitals, the routes for emergency and operational vehicles associated with the hospital have been designed where possible to be separate from those of general hospital associated traffic including staff, visitors and patient routes. The proposed site configuration lends itself well to this approach with proposed routing being primarily via Kensington Place for service and blue light vehicles and from the north and east via The Parade and Gloucester Street for patient and visitor access.

The proposed layout of the Jersey Future Hospital site has been designed to maximise the potential number of trips made to the hospital by walking, cycle and public transport. The development site will not only create routes for staff and patients, but for existing pedestrians and cyclists in the local community.

The transport proposals are illustrated on Figure 19 and summarised below:

- Extension of Newgate Street to be made available for hospital vehicles (ambulances and service vehicles);
- Relocation of ED and ambulance bay to Newgate Street and introduction of ambulance lanes on Newgate Street and Kensington Place;
- Reinstatement of Patriotic Place as one-way and retention of pedestrian signals at the junction with Gloucester Street;
- Proposed traffic signals at the Gloucester Street/Newgate Street junction; and
- Reinstatement of the pedestrian refuge island at The Parade/Gloucester Street junction.

The access strategy for JFH is presented on Figure 20 and described in the following sections.

4.6.2 Pedestrians

Pedestrian access into JFH is proposed via the:

- Main public entrance through Block C and accessed from the Parade;
- Proposed elevated pedestrian links from Patriotic Street MSCP to Block A and Block B; Entrance from Newgate Street in the vicinity of the junction with Patriotic Street;
- Entrance into Block B in the vicinity of the Granite Block; and
- ED access proposed on Kensington Place.

The main entrances in to JFH is via Block C, adjacent to The Parade and Patriotic Street MSCP. The elevated pedestrian link proposed between the 6th floor of Patriotic Street MSCP and the first floor of Jersey Future Hospital (Block A and Block B). This will provide a direct link between the parking reserved for staff, patients and visitors (including disabled parking) and the future hospital. A secondary entrance in to Block B of JFH is located adjacent to the Granite Block and can be accessed from Gloucester Street and The Parade via the pedestrian link proposed between Block B and the Granite Block.

It is proposed to provide a separate access for the ED on Kensington Place, directly north of the junction with Newgate Street. There will be a footway on the southwestern side of Newgate Street between the MSCP and Kensington Place to provide access.

It is proposed to relocate the signalised pedestrian crossing on The Parade towards Elizabeth Place. This would align with the access in to Block C and the footway through Parade Park towards Westaway Court.

A signalised pedestrian crossing is proposed on Gloucester Street directly northeast of the junction with Newgate Street, as illustrated on Drawing 7. A build out is proposed at the crossing reducing the road width from three lanes to two lanes at the point of crossing. A dropped kerb crossing is proposed on Newgate Street at the junction with Gloucester Street.

Following Phase 1B and the reopening of Newgate Street, it is proposed to remove the temporary traffic signals at the Patriotic Place entry to the Gloucester Street/Seaton Place/Patriotic Place junction and reinstate Patriotic Place as a one-way road (north-west bound). However, it is proposed to retain the pedestrian crossings introduced on Seaton Place and Patriotic Place. This junction arrangement is illustrated in Drawing 10.

The pedestrian refuge island at The Parade/Gloucester Street junction can also be reinstated to the existing size, as shown on Drawing 37.

4.6.3 Cycles

Secured and sheltered cycle parking will be provided for staff within the basement of JFH Block B and between Block B and the Granite Block. Approximately 150 stands will be made available, representing an increase in provision of 77 cycles. In addition to the provision of cycle stands, it is also proposed to provide lockers, changing rooms and showers.

As set out within the Travel Plan attached as Appendix A, it is envisaged that these improved facilities will result in additional commuter trips being made by cycle. It has been agreed with DfI Transport Policy that the proposed provision of staff cycle parking is appropriate based on the results of the Staff Travel Survey.

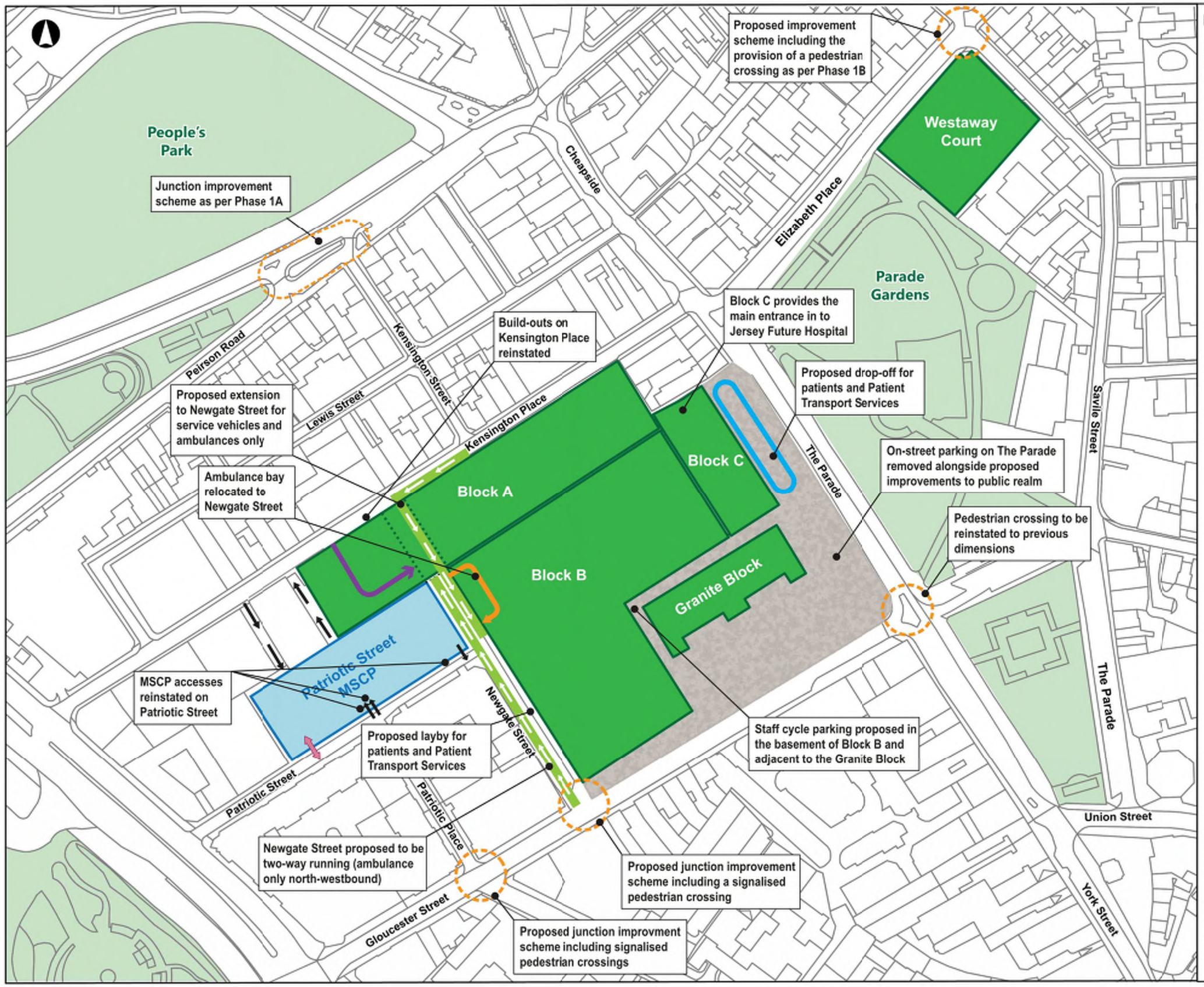
DfI Transport Policy have requested short stay cycle parking be included within the Masterplan for patients and visitors. These cycle stands will be covered, potentially by the hospital itself, and located adjacent the hospital main entrances and the proposed shared footway/cycleway.

Based on local parking standards[1] for the UK mainland it has been agreed that short-stay cycle parking would be provided for approximately 50 cycles. It is proposed for this to be reflected in the Masterplan submitted as part of the reserved matters application.

An advanced stop line is proposed on Newgate Street at the junction with Gloucester Street. This will provide cycles with priority over other vehicles at this junction. The potential for providing advanced stops lines for cycles at other junctions can be considered, providing there is sufficient evidence that these will be beneficial.

[1] CSS Wales Parking Standards (2008); Parking Standards - Milton Keynes (2015); Reading Borough Revised Parking Standards and Design (2011); and Woking LDF Parking Standards (2006).

A3



Issue	Date	By	Chkd	Appd
02	10-04-2018	BOS	AW	BP
01	23-03-2018	BOS	AW	BP
Issued For Approval				

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

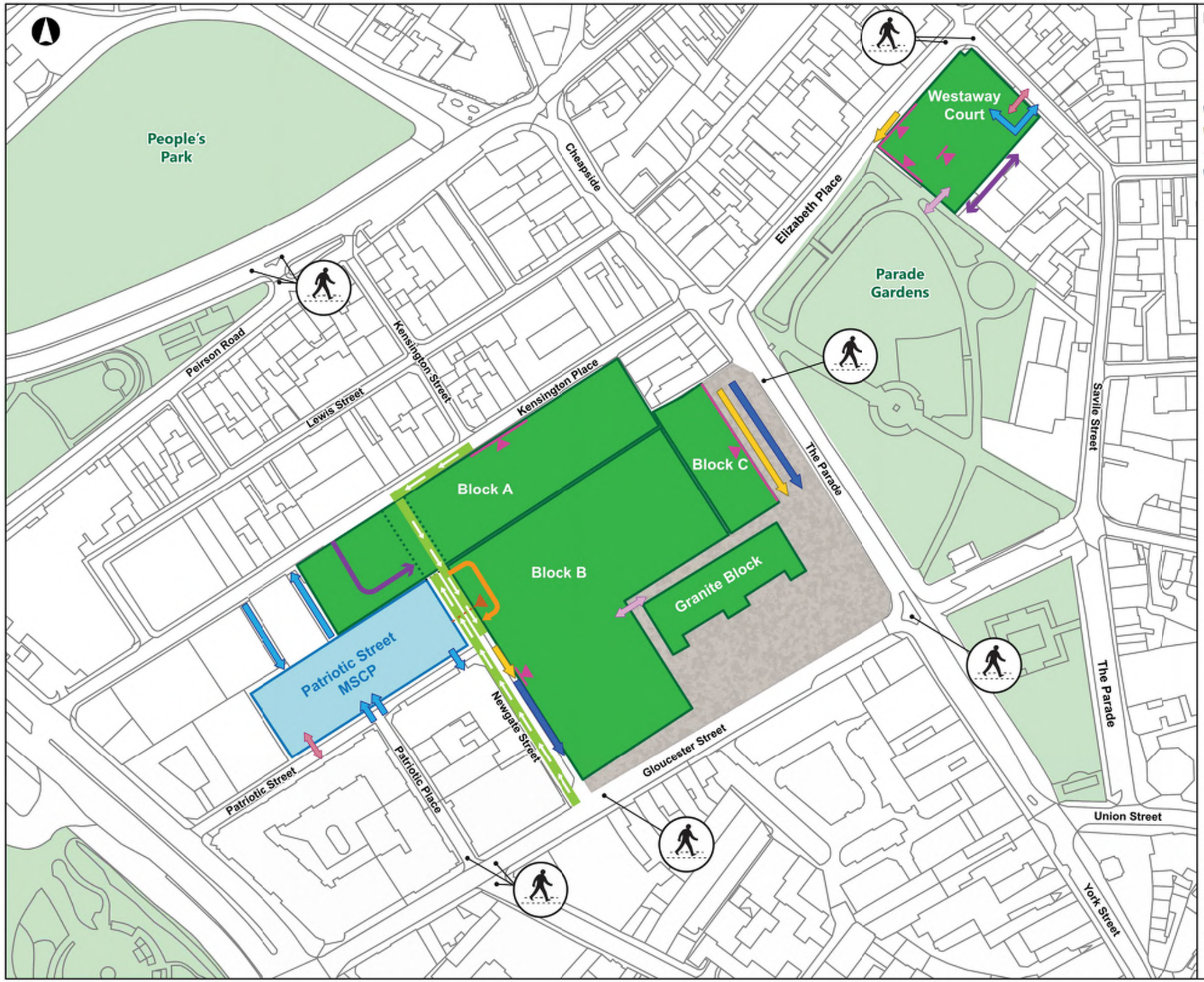
Job Title

Jersey Future Hospital

Figure 19: Overview of Proposals Phase 2 Final State

Scale at A3	Role
NTS	Civil
Job No	Suitability
237035-00	Approval
Drawing No	Issue
JFH-ARP-ZZ-XX-DR-Y-1001	02

A3



Legend

- Operational Hospital
- Service Road
- Ambulance Access
- Patient Drop-off
- PTS Drop-off
- Motorcycle Parking
- Car Parking
- Cycle Parking
- Ambulance Only Lane
- Pedestrian Crossing Facility
- Pedestrian Entrance Proposed Within Zone Showed
- Upper Floor Pedestrian Entrance and Proposed Footbridge

Issue	Date	By	Chkd	Appd
02	10-04-2018	BOS	AW	BP
01	23-03-2018	BOS	AW	BP

Issue

ARUP

4 Pierhead Street
Cardiff CF10 4QP
Tel +44 29 2047 3727 Fax +44 29 2047 2277
www.arup.com

Client

Department for Infrastructure

Job Title

Jersey Future Hospital

Figure 20: Access Strategy Phase 2 Final State

Scale at A3	Role
NTS	Civil
Job No	Suitability
237035-00	Approval
Drawing No	Issue
JFH-ARP-ZZ-XX-DR-Y-1002	02

4.6.4 Public Transport

Discussions regarding potential alterations the local bus network were progressed during a meeting with Liberty Bus and DfI Public Transport dated 12/01/2016. It was agreed that amendments to the local bus network would not be appropriate.

Liberty Bus outlined the potential for a shuttle bus linking Liberation Station with the future hospital. It was agreed that Liberty Bus would consider the cost implications of the new services.

As set out in Section 3, there are existing proposals to improve the waiting facilities at the bus stop on the Esplanade. The only measures suggested at the meeting with Liberty Bus and DfI Public Transport were 'soft measures' such as the provision of televisions in waiting areas presenting the bus timetables. These measures are explored in further detail within the Framework Travel Plan included in Appendix A.

In discussions with DfI Transport Policy following the submission of the previous (2017) application, evidence was requested to demonstrate how the development proposals are contributing towards public transport in Jersey. As a result, a Technical Note was prepared which demonstrated JFH is accessible by bus and fully complies with Policy TT8 (Access to Public Transport) of the revised 2011 Island Plan (2014).

4.6.5 Vehicles

In the Final State, the 1980s and 1960s blocks will have been demolished and therefore the proposed patient drop-off can be provided adjacent to The Parade. The arrangement of this drop-off is presented in Drawing 2. It is also proposed to remove on-street parking and reduce the road width on The Parade to 6m.

All other patient and staff parking is proposed within Patriotic Street MSCP. Parking allocation within Patriotic Street MSCP is set out in the Parking Strategy within Section 5.5.

Following construction and the relocation of staff cycle parking from Patriotic Street MSCP to the basement of Block B and adjacent to the Granite Block, the egress on to Patriotic Street (previously on Newgate Street) can be utilised for vehicles.

It is proposed for the southwestern access from Patriotic Street into the MSCP to be retained as motorcycle access only.

Junction improvement schemes are proposed at the Newgate and Seaton Place/Patriotic Place junctions with Gloucester Street, as presented in Drawing 12 and Drawing 10 respectively. Both improvement schemes are forecast to provide capacity benefits alongside improved crossing facilities for pedestrians.

4.6.6 Ambulance and Patient Transport Services

As part of the development proposals for JFH, it is proposed to relocate the ambulance bay for the Emergency Department from Gloucester Street to the extended Newgate Street, south west of the junction with Kensington Place.

The ambulance bay has been designed to accommodate two ambulances dropping off patients and two additional ambulances waiting for a call. Swept Path Assessment for the ambulance bay is included within Appendix G.

At the request of the ambulance service, a minimum of two routes have been provided into and out of the ambulance bay, limiting the impact of local incidents and congestion on operation. The ambulance bay can be accessed via Kensington Place (northeast and southwest), Patriotic Street and Gloucester Street. Ambulances can also exit via Kensington Place/Kensington Street and Gloucester Street.

To provide access for ambulances from Cheapside via Kensington Place, an ambulance lane (southbound) has been provided between the junctions with Kensington Street and the extended Newgate Street. Similarly, to allow access from Gloucester Street, an ambulance lane is proposed on Newgate Street (north westbound).

The ambulance service indicated that hurry signals are in place at some junctions surrounding JGH including Gloucester Street/Esplanade. It is therefore proposed to install hurry signals at the following existing and proposed signalised junctions:

- Gloucester Street/Newgate Street;
- Gloucester Street/Seaton Place/Patriotic Place;
- Esplanade/Kensington Place (right-turn); and
- St Aubin's Road/Peirson Road/Kensington Street.

A layby is proposed for PTS vehicles on Newgate Street, northwest of the junction with Gloucester Street and adjacent to The Parade. It is intended for these laybys to be used by the larger PTS vehicles. The location of these laybys are illustrated on Figure 19. Three parking spaces will be reserved with Patriotic Street MSCP for smaller PTS vehicles near the proposed footbridge to JFH.

4.6.7 Delivery and Service Vehicles

The service block proposed within Block A will continue to be used following Phase 1B. As such, access for service and delivery vehicles will continue to be from Kensington Place.

4.7 Westaway Court

4.7.1 Pedestrians

Two points of access are proposed in to New Build Westaway Court, one via Parade Gardens and Elizabeth Place and the other via the proposed car park. The access from Parade Gardens aligns with the existing footway link through the park towards Block C of JFH.

It is proposed to improve the width of the footway on Savile Street along the front of the site as shown on Drawing 32. In addition, a signalised pedestrian crossing is proposed at the Savile Street entry to junction with Rouge Bouillon, Elizabeth Place and Parade Road.

4.7.2 Cycles

Cycle parking is proposed at the site for staff and patients and will be accessible from Savile Street and Elizabeth Place via Parade Park. The potential for providing motorcycle parking will also be considered.

4.7.3 Public Transport

As set out in Section 3, the site is accessible by public transport and therefore no improvements to the public transport network are proposed as part of the development. The signalised crossing proposed on Savile Street will improve the pedestrian link form Westaway Court to the existing bus stops on Rouge Bouillon

4.7.4 Vehicles

The site access for New Build Westaway Court consolidates the existing two access points of Maison Le Pape and Westaway Court into a single priority junction serving approximately 19 car parking spaces. The proposed New Build Westaway Court would provide a highway safety improvement by the removal of a conflict point and a betterment in terms of overall potential trip generation. Further, it is approximately 40m from the junction, complying with DfI Access Standards.

As set out in Section 7.6, it is proposed to increase the cycle time of the Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction, improving the capacity, which should reduce queuing.

4.7.5 Ambulance and Patient Transport Services

A layby is proposed on Elizabeth Place that will serve as a drop-off for PTS vehicles. It will be positioned so it does not block the access to Parade Park. To accommodate the layby, the footway on Elizabeth will be realigned and a minimum footway width of 2m will be maintained.

The layby is presented on Drawing 32 and it is envisaged that this layby could be used by ambulances, however there should be no need for an ambulance to serve Westaway Court.

4.7.6 Deliveries and Servicing

Delivery and service vehicles will use the proposed vehicle access with Savile Street, drive into the existing parking to the front of Maison Le Pape and reverse alongside Westaway Court towards Parade Park. To minimise the potential conflict, a facilities management plan will be implemented which will require a banksman to supervise any reverse movements made by service vehicles.

5 Parking Strategy

Overview

Introduction

The proposed hospital location provides numerous opportunities to travel to the site by sustainable modes of transport. Nevertheless, it is important that sufficient parking is provided for a hospital to cater for critical staff and those less able to travel by other modes of transport. This parking strategy demonstrates that spaces can be allocated for hospital use within Patriotic Street MSCP since there is capacity elsewhere within St Helier.

Existing and Future Parking Provision

Parking survey data provided by DfI Jersey Car Parking indicates there is 452 long stay and 374 short stay parking spaces available within the study area at 11:00. If car parks more than 800m from the hospital are excluded, there are 103 long stay and 353 short-stay parking spaces within a 10-minute walk of Jersey General Hospital.

There are a number of committed employment developments that are anticipated to impact the future demand for car parking such as the Jersey International Finance Centre. Given most of the vehicle trips generated by the committed sites are anticipated to be a redistribution of existing trips on the highway network, the employment sites are forecast to increase demand on public parking by 79 spaces.

There are a number of potential proposals that could impact the provision of public parking in St Helier. These include the removal of the Esplanade shopper car, building a multi-storey car park underneath the JIGC, developing the site occupied by Les Jardins and modernising the existing multi-storey car parks.

Patriotic Street MSCP

There are currently 704 parking spaces in Patriotic Street MSCP of which 59 are allocated for patients, 25 for JGH staff and 6 are disabled parking spaces with the remaining 614 spaces being for public. It is proposed to construct a half deck on to Patriotic Street MSCP, which equates to approximately 58 parking spaces.

To provide adequate parking for the future hospital and mitigate the loss of existing parking in the vicinity of JGH, it is proposed to allocate the following parking for hospital uses:

- Increase patient parking from 59 to 87 parking spaces;
- Increase disabled parking from 6 to 22 spaces;
- Increase parking allocated for staff from 25 to 95 spaces, with a proportion allocated for car share only to support sustainable travel measures within the Travel Plan;
- Provide parking public and staff motorcycles; and
- Allocate parking for three PTS vehicles and one ambulance first responder.

The remainder of the car park is proposed to be allocated for public long-stay parking; however it is envisaged that the allocation of patient and disabled parking will need to be finessed in the future.

Proposed Strategy

Phase 1A

Phase 1A is estimated for the period 2018-2022 and involves constructing one-half deck onto Patriotic Street MSCP, redevelopment of Westaway Court for clinical use, the demolition of acquisitions on Kensington Place and the construction of Block A. To enable this construction, a number of highway schemes and road closures are proposed, alongside the following key changes to parking:

- Construct an additional half deck on to Patriotic Street MSCP, although the additional parking may not be realised at this stage;
- Increase the provision of disabled and patient (short-stay) parking within Patriotic Street MSCP;
- Temporary relocation of resident parking on Kensington Place, potentially to People's Park

Phase 1B

Phase 1B is estimated for the period 2022-2024 and involves the demolition of Peter Crill House and Gwyneth Huelin Wing and the construction of Block B. Following Phase 1A, there will be a direct link between Patriotic Street MSCP and the (now operational) Block A and patient car parking will be introduced at New Build Westaway Court. To enable the construction of Block B the following alterations are proposed to parking provision:

- Patient Transport Services will utilise the short-stay parking on The Parade and patient drop-off will be provided on Gloucester Street (East);
- Staff car parking and cycle stands adjacent to the Gwyneth Huelin Wing will be relocated in to Patriotic Street MSCP; and
- Permanent relocation of resident parking from Kensington Place, potentially to People's Park.

Phase 2 Final State

Following an interim state where (part of) patient and Patient Transport Services drop-off will need to be provided to the front of the Granite Block, the final parking allocations can be summarised as:

- Patient, staff and disabled parking will be located within Patriotic Street MSCP, alongside parking for Patient Transport Services and an ambulance first responder vehicle;
- Segregated drop-offs will be provided for patients and Patient Transport Services on Newgate Street and adjacent to The Parade; and
- On-street parking on The Parade will be removed to provide pedestrian amenity and public realm improvements; and
- Appropriate provision of patient parking will be provided at new build Westaway Court.

5.1 Introduction

5.1.1 Background

The proposed hospital is located in a sustainable location that provides numerous opportunities to travel to the site by sustainable modes of transport. It is important that sufficient parking be provided at a hospital to cater for those less able to travel by other modes and critical staff, especially since assessments demonstrate that there is capacity within other public car parks in St Helier.

This section of the Transport Assessment sets out the parking strategy for the Jersey Future Hospital proposals. The strategy sets out the proposed provision of parking for hospital patients, visitors & staff, disabled, public (long and short stay), residents and motorcycles. Cycle parking is discussed within Section 4 of this report.

The Parking Strategy will principally consider the following four stages:

- Existing situation;
- Phase 1A: demolition and construction of Block A and Westaway Court, and improvements to Patriotic Street MSCP;
- Phase 1B: demolition and Construction Block B; and
- Final state.

In addition to the above stages, there may potentially be shorter periods where elements of Patriotic Street MSCP will need to be partially closed for works including the construction of the proposed footbridges to Jersey Future Hospital. There is potential that the cores of the MSCP will be amended which could also result in sections of the car park being closed. In these circumstances, patient parking will be prioritised over staff and public.

5.1.2 Previous Studies

The Jersey General Travel Plan (2005) included a Travel Survey that investigated the use of the hospital car parks, including the parking reserved for the hospital within the Patriotic Street multi-storey car park.

Parson Brinkerhoff on behalf of States of Jersey (SoJ) prepared the St Helier Parking Needs Study (2013). The study included a review of the supply and occupancy of on-street and off-street parking in St Helier and an assessment of the potential relationship between sustainable transport policy and non-residential parking supply.

5.2 Existing Parking Provision

5.2.1 Overview

There is designated hospital car parking associated with Jersey General within the hospital site adjacent to Gloucester Street and Newgate Street, and within Patriotic Street multi-storey car park. This parking comprises of:

- 88 staff parking spaces;
- 8 disabled parking spaces;
- 3 blood donor spaces;
- 3 emergency spaces on The Parade; and
- 59 patient and visitor space (pay and display).

The existing provision of public parking spaces within the agreed study area is summarised in Table 21 below.

Table 21: Summary of Car Parks

Car Park	Capacity[1]	Maximum Stay	Walking Distance to Jersey General	Walking Distance to Westaway Court
Patriotic Street	625	All day	190m	550m
People's Park	55	All day	500m	400m
Inn on the Park	38	All day	550m	600m
Elizabeth Lane	44	All day	400m	150m
Esplanade	119	3 hours	400m	700m
Les Jardins	540	All day	500m	800m
Sand Street	531	All day[1]	270m	750m
Victoria Layby 1	61	All day	700m	750m
Victoria Layby 2	79	All day	950m	1,000m
Pier Road	57	Level 1: 3 hours	1,000m	1,175m
Pier Road	658	Level 2-12: all day	1,000m	1,175m
Minden Place	234	3 hours	700m	1,050m
Nelson Street	32	All day	800m	875m
Victoria Layby 3	64	All day	1,200m	1,375m

[1] Capacity taken from data provided by DfI (26/02/2018) [2] Additional parking allocated to staff and patients

5.2.2 Staff Permits

Parking permits have been given to some staff, which allows them use of the designated parking spaces. It is understood that whilst specific parking spaces are not allocated, staff typically use the same parking space.

It is understood that some members of staff are eligible to a parking space within their contract. Further information can be provided on staff car parking permits, if required.

5.2.3 Patient Parking

Patient parking located on the first floor of Patriotic Street MSCP is on Pay and Display using the standard Pay Card system used in Jersey or a recently introduced PaybyPhone App for Smart Phones. It is understood that DfI Jersey Car Parking enforcement officers monitor this parking to check commuters are not abusing it.

5.2.4 Public Parking

All public car parks (non-resident) within the study area charge a fee between the hours 08:00-17:00. Aside from Sand Street, public car parks in the study area are charged through the use of paycards, which currently cost £0.82 per unit or using a mobile phone app. Paycards can be purchased from many local services including shops and post offices.

In addition to paycards and the mobile phone app, season tickets can be used to pay for some long-stay car parks. Season tickets provide a monthly method of paying for long-stay parking and cost £132.40. Season tickets can be used at all long-stay car parks aside from the Victoria Avenue Laybys and Sand Street.

Sand Street multi-storey car park has a different payment system that registers the car's number plate on arrival (ANPR – Automated Number Plate Recognition) and there are pay machines for pedestrians before exiting the car park. Sand Street multi-storey car park also has a bespoke pricing strategy to discourage long-stay parking. Similar to other short-stay car parks such as Minden Place, it costs one unit per hour. However rather than restricting parking over three hours, the price per hour increases (e.g. 8 units for 5 hours, 23 units for 8 hours).

DfI Jersey Car Parking set the pricing strategy for public car parks and therefore there is limited scope to use pricing to influence demand for parking as part of this development. However, it is understood that hospital parking within the hospital is currently free. Charging for staff parking spaces could reduce parking demand and encourage travel by sustainable forms of transport.

5.2.5 Disabled Parking

Disabled parking in Jersey is controlled with a Blue Badge. In the vicinity of the hospital, the following disabled parking spaces are available:

- 8 disabled parking spaces adjacent to the Gwyneth Huelin Wing entrance;
- 6 disabled parking spaces within Patriotic street MSCP;
- 3 on-street disabled parking spaces on The Parade adjacent to JGH; and
- 4 disabled parking spaces on Gloucester Street (east).

5.2.6 Enforcement

Aside from Sand Street MSCP, all public car parks including on street parking in St Helier uses either paycards, parking discs or PaybyPhone. Therefore, all parking is controlled by wardens who patrol the streets and public car parks.

Whilst in St Helier all off-street public car parks are enforced by DfI Jersey Car Parks, the responsibility for on-street parking is shared with PoSH. In the vicinity of the hospital, Kensington Place and Gloucester Street (East) are controlled by PoSH.

5.3 Current Supply and Demand

5.3.1 Introduction

A detailed review of existing parking data is set out in Section 3.13 of this Transport Assessment. This section provides a summary of that analysis to present the current parking situation.

5.3.2 Hospital Car Parks

The existing supply of hospital parking is set out in Section 5.2. Parking surveys of the hospital car parks undertaken on the 7th & 8th February 2017 suggests there is a high demand for the hospital-designated parking spaces, as summarised in Figure 21 below.

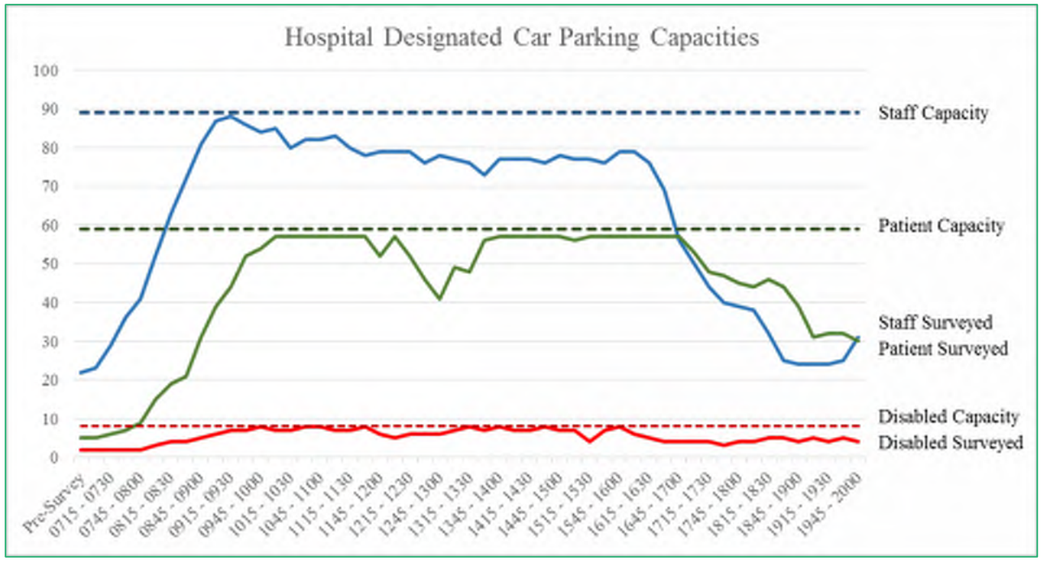


Figure 21: Hospital Designated Parking Capacities

5.3.3 Public Car Parks

The occupancy of public car parks is set out in full within Table 14 and summarised in Table 22 below.

Table 22: Occupancy of Public Car Parks by Walking Distance (surveyed 25 April 2017 and 26 February 2018)

Walking Distance	Capacity	Spaces Available at 08:00		Spaces Available at 11:00		Spaces Available at 14:00	
Long Stay							
<400m	788	467	59%	81	10%	101	13%
400m-800m	726	135	19%	22	3%	52	7%
>800m	801	697	87%	349	44%	367	46%
Short Stay							
<400m	531	483	91%	164	31%	229	43%
400m-800m	234	204	87%	189	81%	152	65%
>800m	57	43	75%	21	37%	39	68%

The table above indicates there is 452 long stay and 374 short stay parking spaces available within the study area at 11:00.

5.3.4 On Street Car Parks

The development proposals will also impact on parking provision outside of Patriotic Street MSCP, principally during the construction period. Table 23 below presents the existing provision of parking on the roads likely to be impacted by these development proposals.

Table 23: Existing Parking Provision

Road	Parking Provision
Newgate Street	• 3 public short-stay spaces • 3 doctors' spaces
The Parade	• 5 public short-stay • 3 disabled • 3 emergency drop-off
Gloucester Street (East)	• 4 public short-stay • 4 disabled • 40 motorcycle
Kensington Place	• 12 residential spaces • 6 service bays • 1 disabled parking space

It is proposed to retain the overall provision of residential parking spaces through each stage of development, however it is recognised that some spaces will need to be relocated to public car parks in the vicinity.

5.4 Future Changes to Parking Provision

5.4.1 Public Car Parking

Future Supply of Public Car Parking

A number of potential future proposals that are not associated with this application would impact the overall provision of public off-street parking within St Helier, including the following:

- Removal of the Esplanade shopper car park (119 short-stay spaces) and construct 521 public parking spaces below the Jersey International Finance Centre;
- Development of the site currently occupied by Les Jardins car park with an occupancy of 540 parking spaces; and
- The modernisation of existing multi-storey car parks including the expansion of parking bay sizes to reflect current standards, reducing the total number of parking spaces.

Future Demand for Public Car Parking

As detailed in Section 6.2, there are a number of planned developments in St Helier that are anticipated to increase the demand on public parking. Only employment sites have been considered as residential developments are anticipated to principally increase the demand for public parking over night, when there is significantly more parking available.

Based on the trip generation rates included within the JIFC Transport assessment, Table 24 presents the resulting additional demand on public car parks. The Transport Assessment prepared in support of the JIFC also suggests that only 15% of trips associated with the committed developments are likely to be new trips on the network, with the remainder likely to be a redistribution of existing trips on the network. This has also been presented in Table 24.

Table 24: Additional Demand on Public Parking from Committed Developments

Committed Development	Demand on Public Car Parks	
	100%	15%
66-72 Esplanade (Royal Bank of Canada)	Operational at time of parking survey	
Jersey International Finance Centre	221	33
19-21 Commercial Street (J1)	-	-
22-23 Esplanade	57	9
27-28 Esplanade	159	24
5-6 Esplanade	82	12
Total	**519**	**79**

The table above indicates that the committed employment sites are forecast to increase demand on public parking by 79 spaces. As set out in Table 22, there are currently 452 long-stay parking spaces available within the study area. With the increased demand from committed developments, it is forecast that there will still be approximately 373 long-stay parking spaces available within the study area.

5.4.2 Hospital Car Parking

Supply of Hospital Parking

As part of the JFH proposals, it is proposed for all hospital designated parking to be relocated in to Patriotic Street MSCP. During the construction period (Phase 1A and Phase 1B), some on-street car parking spaces will need to be allocated for hospital use.

Patient Demand

As set out in Section 6.4 the forecast ageing and growth of the Jersey population is expected to result in a continuous increase in the number of patients visiting the hospital every year[2]. Calculations based on population projections for the period 2016-2025 indicate the annual number of patients associated with the hospital will increase by 12%.

The quantum of parking allocated for patients within Patriotic Street MSCP will therefore need to be flexible in order to react to changing demand. Travel surveys and parking counts will be undertaken as part of the Travel Plan, providing an opportunity to monitor the demand on patient parking.

Reducing parking demand associated with JFH

The JFH Framework Travel Plan (attached as Appendix A) sets out a number of potential initiatives that will aim to reduce the number of trips made to and from the hospital by car. The successful implementation of the travel plan will therefore reduce demand on parking associated directly with the future hospital. The following potential measures, also identified within the Framework Travel Plan, are anticipated to reduce the overall demand on parking:

- Car sharing: The results of the staff travel survey indicated 12% people already car share and a further 30% would be willing to start. There are currently no parking spaces reserved for car sharing at JGH. The promotion of car sharing through a Travel Plan with reserved spacing could encourage more staff to car share, reducing the overall demand for staff parking spaces.
- Parking cash out schemes: this provides staff that have been allocated a staff parking space the option to sell it back to the hospital. Employees typically view such schemes positively as it offers them a choice. In addition, it can encourage the use of sustainable forms of travel and car sharing.
- Staff parking permits: these could be issued and based on a need based criteria. Permits would therefore be distributed to staff with either specific needs (work/disability), limited sustainable travel alternatives or those that participate in a car sharing scheme. It is understood senior members of staff are currently eligible for permits as a result of their employment contracts, or operation requirements.

5.4.3 Patriotic Street MSCP

There are currently 704 parking spaces in Patriotic Street MSCP of which 59 are allocated for patients, 25 for JGH staff and 6 are disabled parking spaces with the remaining 614 spaces being for public. It is proposed to construct a half deck on to Patriotic Street MSCP, which will result in an additional 58 parking spaces, equating to 762 spaces. Not all of these parking spaces will be realised as works are required to the cores, which may result in the loss of some parking.

To provide adequate parking for the future hospital and mitigate the loss of existing parking near JGH, it is proposed to allocate the following parking for hospital uses:

- Increase patient parking from 59 to 87 parking spaces;
- Increase disabled parking from 6 to 22 spaces;
- Parking allocated for staff to increase from 25 to 95 spaces, with a proportion allocated for car share only to support sustainable travel measures within the Travel Plan;
- Providing parking public and staff motorcycles; and
- Allocating parking for three PTS vehicles and one ambulance first responder.

The reminder of the parking will be made available to the public. There is potential that patient parking will be designated as short stay public parking, providing further public parking spaces within the Multi-Storey Car Park

There is potential that the size of the parking bays within Patriotic Street MSCP may be increased to reflect current standards, which would reduce the number of parking spaces being made available. Such works are not proposed as part of this planning application.

Whilst it is proposed for the additional half deck to be constructed during Phase 1A, it might be advantageous for this space to be used for the JFH construction site offices for either part or the entirety of the construction period.

[2] States of Jersey Population Projection Report 2016

5.5 Proposed Strategy

This section sets out the potential parking allocations for each of the principle stages during and after construction. The anticipated duration for each of these stages is presented in Table 25 below.

Table 25: Summary of JFH Anticipated Construction Programme

	2018	2019	2020	2021	2022	2023	2024	2025
Phase 1A								
Works to Patriotic Street MSCP								
Phase 1B								
Phase 2								

5.5.1 Partial closure of Patriotic Street MSCP

As set out in Table 25, it is proposed to close the top four half decks (9-12) of Patriotic Street MSCP for approximately 12 months whilst the additional half deck is being constructed. This equates to the loss of 236 public parking spaces.

During this period, enabling works associated with Phase 1A would have commenced, resulting in the following existing parking being relocated to public car parks:

- 43 staff car parking spaces adjacent to Gloucester Street;
- Staff parking for 16 motorcycles adjacent to Gloucester Street; and
- Up to 13 resident car parking spaces on Kensington Place.

The partial of closure of Patriotic Street MSCP alongside the other hospital parking relocations set out above are anticipated to result in the reduction of approximately 300 public parking spaces. Recent surveys undertaken by DfI Jersey Car Parking indicates there is 452 long stay and 374 short stay parking spaces available at 11:00, suggesting there is capacity in the wider St Helier parking stock to accommodate the additional parking demand.

DfI Transport Policy indicated at a meeting dated 22nd March 2018 that providing up to date information to users of Patriotic Street MSCP on partial closures would be important. The preferred approach to distributing information can be considered as part of the full Travel Plan (framework included as Appendix A) and the full CEMP.

As set out in the meeting note included in Appendix C, DfI Transport Policy noted that there is a States of Jersey webpage which provides real-time information on the number of available parking spaces within the multi-storey car parks in St Helier. It was suggested this webpage should be promoted to inform existing users of Patriotic street MSCP that may potentially be displaced where there is available parking in St Helier. On-street signage along key routes could also be considered, however this would be subject to the availability of appropriate footway widths. This can be considered in the detailed Travel Plan.

5.5.2 Phase 1A Demolition and Construction

Phase 1A is scheduled to take place in the period 2018-2022. The proposed allocation of parking for this period is set out in Table 26 below. It is considered that these proposed parking allocations can be revised as part of the full CEMP.

Table 26: Proposed Parking Allocations – Phase 1A

Location	Existing Provision	Proposed Provision
The Parade (Northwest)	• 3 disabled • 3 emergency drop-off • 5 short-stay public parking spaces	• 3 disabled • 3 emergency drop-off • 5 short-stay public parking spaces
Gloucester Street (Northeast)	• 8 short-stay public parking spaces (of which 4 are disabled) • Motorcycle parking	• 8 short-stay public parking spaces (of which 4 are disabled) • Motorcycle parking
Gloucester Street	• 43 staff • 16 motorcycle	
Newgate Street	• 17 staff • 8 patient disabled • PTS drop-off • 3 short-stay public • 3 doctor parking spaces	• Up to 17 staff • 8 patient disabled • PTS drop-off • 3 short-stay public • 3 doctor parking spaces
Kensington Place	• 11 residential • 1 disabled • 10 service vehicle spaces	• Up to 7 residential • 4-13 residential relocated, potentially to People's Park • 1 disabled • Up to 4 service vehicle spaces
Westaway Court and Maison le Pape	• 39 parking spaces for Westaway Court residents • 15 spaces for employees of Maison le Pape	
Patriotic Street MSCP	• 612 public parking spaces of which 220 spaces are occupied by JGH staff • 25 staff allocated spaces • 59 patients • 6 disabled • 2 electric parking spaces • 23 motorcycle	• Up to 95 staff (of which some could potentially be for car share only) • 87 patient • 22 disabled • 2 electric parking spaces • Motorcycle (public and Hospital) • Long-stay public parking (remainder)

5.5.3 Phase 1B Demolition and Construction

Phase 1B is schedule to take place between 2022-2024. The proposed allocation of parking for this period is set out in Table 27 below. These proposed parking allocations can be revised as part of the full CEMP.

Table 27: Proposed Parking Allocations - Phase 1B

Location	Existing Provision	Proposed Provision
The Parade (Northwest)	• 3 disabled • 3 emergency drop-off • 5 short-stay public parking spaces	• 3 disabled • 3 emergency drop-off • Patient Transport Services (PTS)
Gloucester Street (Northeast)	• 8 short-stay public parking spaces (of which 4 are disabled) • Motorcycle parking	• 4 disabled public parking spaces • 4 patient drop-off spaces • Motorcycle parking
Gloucester Street	• 43 staff • 16 motorcycle	
Newgate Street	• 17 staff • 8 patient disabled • 3 patient (blood donor) • PTS drop-off • 3 short-stay public • 3 doctor parking spaces	
Kensington Place	• 11 residential • 1 disabled • 10 service vehicle spaces	• 7 residential (4 residential relocated, potentially to People's Park) • 1 disabled • 4 service vehicle spaces • Potential PTS layby adjacent to Block A
Westaway Court and Maison le Pape	• 39 parking spaces for Westaway Court residents • 15 spaces for employees of Maison le Pape	• 14 patient parking spaces • 4 disabled parking spaces • 1 drop-off parking bay • Layby for PTS/ambulance
Patriotic Street MSCP	• 612 public parking spaces of which 220 spaces are occupied by JGH staff • 25 staff allocated spaces • 59 patients • 6 disabled • 2 electric parking spaces • 23 motorcycle	• 95 staff (of which some could potentially be for car share only) • 87 patient • 22 disabled • 4 electric parking spaces • Motorcycle (public and Hospital) • Cycle parking for JGH staff • Long-stay public parking (remainder)

5.5.4 Phase 2 Final State

Phase 1A and Phase 1B are anticipated to take place for the period 2018-2024. Following an interim state whilst Block C is being constructed, the parking allocations proposed for the final state is set out in Table 28 below.

Table 28: Proposed Parking Allocations – Phase 2 Final State

Location	Existing Provision	Proposed Provision
The Parade (Northwest)	• 3 disabled • 3 emergency drop-off • 5 short-stay public parking spaces	• Patient Transport Services (PTS) and Patient drop-off
Gloucester Street (Northeast)	• 8 short-stay public parking spaces (of which 4 are disabled) • Motorcycle parking	• 8 short-stay public parking spaces (of which 4 are disabled) • Motorcycle parking
Gloucester Street	• 43 staff • 16 motorcycle	
Newgate Street	• 17 staff • 8 patient disabled • 3 patient (blood donor) • PTS drop-off • 3 short-stay public • 3 doctor parking spaces	• PTS drop-off • Patient drop-off
Kensington Place	• 11 residential • 1 disabled • 10 service vehicle spaces	• 7 residential (4 residential relocated, potentially to People's Park) • 1 disabled • 4 service vehicle spaces
Westaway Court and Maison le Pape	• 39 parking spaces for Westaway Court residents • 15 spaces for employees of Maison le Pape	• 14 patient parking spaces • 4 disabled parking spaces • 1 drop-off parking bay • Layby for PTS/ambulance
Patriotic Street MSCP	• 612 public parking spaces of which 220 spaces are occupied by JGH staff • 25 staff allocated spaces • 59 patients • 6 disabled • 2 electric parking spaces • 23 motorcycle	• 95 staff (of which some could potentially be for car share only) • 87 patient • 22 disabled • 4 electric parking spaces • Motorcycle (public and Hospital) • Long-stay public parking (remainder)

5.6 Parking Control and Management

This section presents the existing fee collection methods of used by DfI Jersey Car Parking in St Helier and potential alternative methods that could be considered in the future.

5.6.1 Existing – Pay and Display

Pay and display parking using paycards is the primary method for fee collection in public car parks in Jersey. The use of pay and display in the UK has sharply declined in recent years, due to an increase in cashless payment methods such as credit / debit cards and mobile phone / internet payments. Whilst the costs of retaining a pay and display regime is low in terms of infrastructure and equipment, enforcement costs are significant.

5.6.2 Existing - Pay by Phone/App/Mobile Internet

It is now possible to pay for parking at all DfI operated car parks in St Helier using a mobile phone application.

Car parks equipped with Pay by Phone payment availability require signage that displays a phone number and/or internet address/app, sometimes with a code assigned to each specific car park. Interactive Voice Response (IVR) is the computerised call system utilised for Pay by Phone, with manned calls (First Line Call Support) reserved for callers who experience issues with regard to payment. Websites and phone apps are set up to be intuitive and easy to navigate, with pre-registration usually offered as a choice in order to make repeat use as simple as possible. Until the technology becomes universal, pay and display is also required for drivers without the technology option.

5.6.3 Automatic Number Plate Recognition

Automatic Number Plate Recognition (ANPR) is becoming more widespread in the UK and has been installed in Sand Street MSCP. The latest ANPR technology is proven equipment, which is shown to be highly accurate, and is capable of recognising dirty number plates, characters which have been deliberately tampered with and foreign registration marks. It is a proven system, which allows a choice of payment type requiring minimal infrastructure but a strong ‘back office’ facility and staff with good communication and customer service skills to resolve any issues that arise.

5.6.4 Contactless Payment/Near Field Communication

A potential alternative form of fee collection that could be considered by DfI Jersey Car Parking is Contactless Payment/Near Field Communication (NFC). These are new technologies using a microchip that is embedded into a card or mobile phone to allow very short-range connectivity to make secure financial transactions. The most prominent current example is the London Oyster card. Currently, not all debit cards incorporate contactless payment, which means currently utilised Chip and PIN/cash/Pay by Phone systems would need to be provided alongside contactless systems.

5.7 Future Considerations

5.7.1 Electric Vehicles

There has been a growth from 5 to 35 electric powered vehicles in Jersey for the period 2005-2014. In 2016, 0.3% of all vehicles were electric powered in the UK. The size of Jersey makes it appealing for the use of Electric Vehicles (EV).

Factors that affect the take up of electric vehicles include range anxiety, the power capacity of vehicles now and in the future and the number, location and type of power chargers. Rapid chargers allow for efficient re-charging, but are expensive to install and run. Providing a sufficient amount of the required type of charging points will be important to enable more people to use electric vehicles in the future.

EV charging equipment is currently installed at all of the MSCPs within St Helier, as listed below:

- Patriotic Street MSCP;
- Sand Street MSCP;
- Green Street MSCP;
- Minden Place MSCP; and
- Pier Road MSCP.

In the UK, about 95% of ‘charge events’ are presently undertaken at EV owners’ home locations. However, in St Helier many residents chose to park in one of the MSCPs overnight given the limited on street and resident parking available.

As part of the JFH proposals the number of vehicle charging points within Patriotic Street MSCP will be increased from two to four. Going forward, the use and demand for these charging points will be monitored.

5.7.2 Autonomous Vehicles

If Autonomous Vehicles (AV) become widespread on UK roads, the conventional idea of parking is likely to change dramatically. Automated systems within a parking facility linked to the entry and exit can be used to direct drivers to available parking. Technologies such as capacity counters, dynamic message signs, and loop detectors are used for this purpose. Individual places can be constantly monitored and it becomes possible to market guaranteed and pre-allocated spaces, with the driver’s satnav harnessed to direct motorists to the nearest available parking space by the shortest route. There is an implication for future car park operators in deciding how much ‘hard’ infrastructure to install in an environment where technology might soon negate the need for any.

6 Future Travel Demand

Overview

Background Traffic Growth

Given the limited growth in background traffic in Jersey over the previous ten years, it has been agreed with DfI Transport Policy that committed development in St Helier will be sufficient to account for growth in background traffic. Ten committed developments have been agreed with DfI Transport Policy and the forecast traffic flows are presented diagrammatically within Appendix H.

Committed Highway Schemes

In agreement with DfI Transport Policy, two committed highway schemes have been included in all future assessment scenarios as presented in the South West St Helier Planning Framework:

- Proposed Bus gate at the West Park Junction and associated alterations to the junction arrangement; and
- Bus Lane entry at the Gloucester Street/Esplanade junction.

Trip Generation

Patient trip rates were calculated using a dataset provided by the Health and Social Services Department[3]. The forecast ageing and growth of the Jersey population will result in a continuous increase in the number of patients visiting the hospital every year. A dataset has been provided by EY which presents the forecasts annual growth of inpatient and outpatient appointments

In order to reflect the overall forecast growth in patients for the period 2016-2025, it is proposed to apply a 12% growth factor to the existing number of staff. This growth factor will be applied to staff trips during construction (Phase 1A and Phase 1B) and the final state. The combined forecast number of vehicle trips generated by patients and staff are presented in the table below. It should be noted that the forecast increase in trip generation is a result of an aging and growth in population, which would occur regardless of the development proposals.

	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
	In	Out	Two-way	In	Out	Two-way
Existing	276	56	332	71	311	382
Phase 1A	308	62	370	77	367	444
Phase 1B	308	62	370	77	367	444
Final State	310	62	372	79	373	452
Net increase in vehicle trips (Existing to Final State)	34	6	40	8	62	70

Trip Distribution

The distribution of patient & visitors and staff trips have been calculated separately to reflect the differing nature of the trips. The distribution calculations consider both the origin of trips (home address) and the destination (car parks near Jersey General Hospital).

Patient and Visitor Trips

The distribution of patient and visitor trips has been calculated using population data. Whilst the population data is considered to accurately reflect the distribution of patient and visitor trips, it will be less accurate for patient and visitor vehicle trips. This is a result of population data not reflecting the differences in travel mode split due to journey length or provision of viable alternatives and infrastructure. The results of the Patient and Visitor Travel Survey have therefore been used to calculate modal split of patients traveling from each Parish.

The results of the Patient and Visitor Travel Survey have been used to allocate existing trips to the car parks and drop-offs near Jersey General Hospital. The distribution of future patient and visitor trips reflects the parking strategy present in the previous section, including the patient parking proposed at Westaway Court.

Staff Trips

A dataset has been provided by the States of Jersey which identities the number of Jersey General Hospital employees living in each of the twelve constituent Parishes of Jersey. Using the results of the Staff Travel Survey to account for the proportion of staff that travel by car from each Parish, this dataset has been used to calculate the distribution of staff trips.

The results of the Staff Travel Survey have been used to allocate existing staff trips to the car parks near Jersey General Hospital. The distribution of future staff trips is based on the Parking Strategy set out in the previous section.

Assessment Scenarios

It has been agreed to assess the following future year scenarios:

- Do Minimum (Opening Year with Committed Development and JGH)
- Phase 1A (Opening Year with Committed Development and the Construction of Block A);
- Phase 1B (Opening Year with Committed Development, Construction of Block B and Block A & Westaway Court Operational); and
- Do Something (Opening Year with Committed Development, JFH Final State and Westaway Court).

The resulting traffic flow diagrams are presented in Appendix L.

[3] Dataset provided by HSSD which indicates every inpatient and outpatient appointment at Jersey General Hospital and Overdale in 2015.

6.1 Introduction and Scoping

This chapter presents the future travel demand forecasts that are expected to be generated by the proposed development. These form the basis for understanding how demand will be spread across the traffic and transport networks. The development trip forecasts will also enable the impact of the proposed development at each of the key junctions to be quantified.

The methodologies outlined in this section have been previously agreed with DfI Transport Policy as part of the previous 2017 JFH planning application and the scoping exercise for this Transport Assessment.

6.2 Background Traffic Growth

6.2.1 Introduction

In previous discussions with DfI Transport Policy, it was indicated that whilst the population of Jersey has increased in recent years, there has been limited growth in traffic. As a result, it is considered that inclusion of traffic originating from committed developments (that were not fully occupied at the time of traffic survey) would be sufficient in accounting for any background traffic growth within the extent of the agreed study area.

There are a number of committed developments within the vicinity of the site that have been considered appropriate to include in the assessment of Jersey Future Hospital. These consist of the following sites as agreed with DfI Transport Policy:

- Office development at 66-72 Esplanade (partially occupied by Royal Bank of Canada);
- Jersey International Finance Centre (JIFC);
- 35 Commercial Street;
- 22-23 Esplanade;
- 27-28 Esplanade;
- Westmount Development;
- Sunnyside Gardens;
- Caste Quay (Phase 2);
- Zephyrus and Westwater residential developments; and
- 5-6 Esplanade.

As part of the scoping exercise for this development, DfI Transport Policy also identified the following sites that have been considered to have minimal traffic impact and have therefore been excluded:

- 19-21 Commercial Street (J1);
- Summerland;
- 9 Castle Street;
- 24 Union Street; and
- 72-76 Great Union Street.

6.2.2 Committed Development Trip Generation

66-72 Esplanade (RBC)

Peter Brett Associates prepared the approved Transport Statement for the office development at 66-72 Esplanade in August 2013. The recently constructed office development consists of six storeys with a floor area of 18,219m^2. The development also includes parking for 39 vehicles and 108 bicycles.

The existing and proposed trip generation rates for the development are set out in Section 4 of the Transport Statement and summarised in Table 29 below.

Table 29: Vehicle Trip Rates for 66-72 Esplanade

Development	Floor Area (m^2)	Number of Vehicle Trips					
		AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
66-68 Esplanade (existing)	2,275	23	4	27	5	18	23
Proposed Development	18,219	185	29	213	35	142	177
Net Impact	15,944	162	25	187	30	124	154

As set out above, the development is anticipated to result in a net increase of 187 two-way trips in the AM peak hour and 154 two-way trips in the PM peak hour. As the development proposals only include parking for 39 vehicles, it is anticipated that the additional vehicular trips forecast to be generated by the site will park in the neighbouring public car parks.

It should be noted that whilst the development is now partially occupied, it was empty at the time of the traffic surveys. All forecast development trips associated with this development are therefore included within the Traffic Impact Assessment for Jersey Future Hospital.

Jersey International Finance Centre

The Jersey International Finance Centre (JIFC) is being developed on the existing Esplanade car park. The overall development will comprise of six office buildings with the existing public car park being relocated underground. Planning applications have previously been approved for Buildings 1 and 5 and a further application has been submitted for Building 6.

The Waterman Group prepared a Transport Assessment (TA) in 2015 that considered the joint impact of the overall development, including six new office buildings and underground parking. In addition to replacing the existing public surface car park with an underground public car park, the proposals also include 285 parking spaces for the office buildings.

The vehicular trips rates for the combined office development as identified in the Waterman TA are summarised in Table 30 below. The trip rates include a 20% uplift to account for the recent move to increase workplace densities that is not necessarily represented in historic TRICS data. It is suggested within the agreed Waterman TA that only 15% of the vehicular trips would be new trips on the network with the remainder being the result of redirected trips from other offices.

Table 30: JIFC Vehicle Trip Rates (52,450m²)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Trips	521	68	589	104	515	619
15% of Total Trips	78	10	88	16	77	93

The overall development is therefore forecast to result in 88 additional trips in the AM peak hour and 93 trips in the PM peak hour. Given 285 additional parking spaces are proposed as part of this development, it has been assumed all development trips will park within the site.

35 Commercial Street

A planning application has been submitted to the States of Jersey for the redevelopment of 35 Commercial Street and is pending a decision. The application includes the removal of existing buildings and surface car park, and the development of four and six storey office buildings with an extended basement car park.

The Design and Access Statement for 35 Commercial Street indicates the proposed development will result in a GFA net increase of 3,785m². The planning application does not include a Transport Statement or Assessment and therefore it is proposed to use the trip rates identified in the Waterman Group TA for the JIFC, as set out in Table 31 below.

Table 31: 35 Commercial Street Vehicle Trip Rates (3,785m²)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Trips	38	5	43	8	37	45

Using the trip rates provided in the JIFC TA, it is forecast that the office redevelopment of 35 Commercial Street will result in an additional 43 two-way trips in both the AM peak hour and 45 two-way trips in the PM peak hour. It has been assumed any vehicle trips that cannot be accommodated within the basement car park will be included within the neighbouring multi-storey car parks (MSCP) such as Pier Road.

22-23 Esplanade

A planning application for the redevelopment of 22-23 Commercial Street was submitted in October 2012 and subsequently granted approval in March 2013. The development proposals comprise the demolition of the existing building and the construction of a six-storey office block with basement parking for 13 vehicles.

The consented Transport Statement prepared by KEPlanning in 2012 included trip rates for the net GFA of the proposed site of 2,993m². The resultant vehicle trips as presented in the Transport Statement are set out in Table 32 below.

Table 32: 22-23 Esplanade Vehicle Trips Rates (net GFA 2993m²)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Vehicle Trips	30	5	35	6	23	29

The office development is therefore forecast to generate an additional 35 two-way trips in the AM peak hour and 29 two-way trips in the PM peak hour. As the proposals include basement parking for 13 vehicles, it is assumed the remaining vehicles will park in neighbouring public car parks.

27-28 Esplanade

Development proposals to redevelop 27-28 Esplanade into a six storey office block with underground parking for 28 cars was originally granted approval in 2014. A Transport Statement was subsequently prepared by Peter Brett Associates (PBA) in June 2015 to identify any potential transport impacts of the proposed site. The resultant trip rates as presented in the PBA Transport Statement are set out in Table 33 below.

Table 33: 27-28 Esplanade Vehicle Trip Rates

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Vehicle Trips	82	13	95	16	63	79

The office development is forecast to generate 95 two-way trips in the AM peak hour and 79 two-way trips in the PM peak hour. The PBA Transport Statement suggests this is a robust figure and with the actual traffic impact assumed to be lower due to sustainable travel provision. As the development proposals only include parking for 28 vehicles, it is anticipated that the additional vehicular trips forecast to be generated by the site will park in the neighbouring public car parks with spare capacity such Pier Road MSCP.

Westmount Residential Development

These proposals relate to the redevelopment of the former Westmount Quarry (1.5ha) for residential use. The proposed scheme comprises of the following:

- 196 residential units;
- 60 bed nursing home and a nursery with 60 places;
- A commercial unit; and
- 281 parking spaces associated with the above developments.

Peter Brett Associates prepared an Environment Statement and Transport Statement in 2009, which summarised the traffic turning in an out of the St Aubin's Road/Westmount Road priority junction. The total vehicle trips summarised in Table 34 below are based on the assumption that the Westmount development would not be used for commuter parking.

Table 34: Westmount Development Trips at the St Aubin's/Westmount Road junction

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Vehicle Trips	20	44	64	54	29	83

It is understood that construction of the Westmount Development has been underway for some time. The developers of the site were contacted by telephone to understand if any of the development was occupied at the time of the traffic surveys. However, it was indicated that no residents had moved into the property as of October 2016 (date of traffic surveys).

Sunnyside Gardens

Sunnyside is a proposed residential development in First Tower, comprising 40 residential units and 349m^2 of commercial space. Peter Brett Associates prepared a Transport Statement in 2016, which summarised the total number of vehicle trips forecast to be generated by the site, as presented in Table 35 below. The number of commercial trips generated by the development are considered to a have a negligible impact on the highway network within the study area.

Table 35: Sunnyside Development Trips (40 residential units)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Vehicle Trips	7	19	26	19	11	30

As this application was submitted in the July 2016, it can be assumed that no development took place before the traffic surveys were undertake in the autumn/winter of 2016.

Castle Quay (Phase 2)

Phase 2 of the Castle Quay development was granted permission in 2009 for 280 residential units with office and retail. As the planning application was submitted in 2009, there are no supporting documents on the States of Jersey planning website.

Total person trip rates have been taken from the consented Sunnyside Transport Statement and 2011 Census data for St Helier has been used to calculate vehicle trips, as summarised in Table 37 below.

Table 36: Castle Quay (Phase 2) Development Trips (280 residential units)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Person Trip Rates	0.33	0.91	1.24	0.9	0.5	1.4
Person Trips (280 Units)	92	255	347	252	140	392
Vehicle Trips (35%)	32	89	121	88	49	137

The residential development is therefore forecast to generate an additional 121 two-way trips in the AM peak hour and 137 two-way trips in the PM peak hour.

Zephyrus and Westwater Residential Developments

These proposals relate to redevelopment of the waterfront for residential use. The consented Zephyrus development seeks permission for 54 apartments and the Westwater application has permission for a further 11 apartments. The original planning application was submitted in 2009 and there are no planning documents available on the States of Jersey planning page. Vehicle trip generation rates have therefore been taken from the residential elements of the Sunnyside Transport Statement and summarised in Table 37 below.

Table 37: Zephyrus and Westwater Development Trips (65 residential units)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Person Trip Rates	0.33	0.91	1.24	0.90	0.50	1.4
Person Trips (65 Units)	21	59	80	59	33	92
Vehicle Trips (35%)	8	21	29	20	11	31

The residential development is therefore forecast to generate an additional 29 two-way trips in the AM peak hour and 31 two-way trips in the PM peak hour. These developments are forecast to generate fewer vehicle trips than Sunnyside Gardens owing to the sustainable location.

5-6 Esplanade

These proposals relate to the demolition of the existing unit at 5-6 Esplanade and the construction of an office comprising 4,308m^2. A Transport Statement was not submitted in support of these proposals and therefore development trips have been calculated using the trip rates and associated assumption presented in the JIFC Transport Assessment. The resulting vehicle trips forecast to be generated by the site ate presented in Table 38 below.

Table 38: 5-6 Esplanade Vehicle Trip Rates (4,308m^2)

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Total Vehicle Trips	6	1	7	1	6	7

With the assumptions set out in the JIFC TA, this development is forecast to generate 7 two-way vehicle trips in both the AM and PM peak hours.

19-21 Commercial Street (J1)

The redevelopment of 19-21 Commercial Street was originally granted approval in 2011. A subsequent planning application was granted approval in 2016 to extend the original permission by a further five years. The proposed mixed-use office led development includes some retail on the ground floor and will result in a reduction in basement parking from 122 spaces to 111 spaces.

An amended Transport Statement was submitted alongside the 2016 planning application, which has been approved by States of Jersey. The Transport Statement suggests the redevelopment of J1 is not anticipated to result in additional trips on the local highway network given the reduction in parking provision on site and the development will accommodate existing businesses in Jersey. It is therefore assumed for the purposes of this traffic assessment that the J1 development will not result in additional vehicular trips on the highway network.

Summerland

Summerland is a proposed residential development in St Helier, comprising 94 affordable residential units with 72 car parking spaces. Peter Brett Associates prepared a Transport Statement in 2012, which set out the traffic impact of the site. In comparison to the previous use (office and light industrial), this development is forecast to result in a reduction in vehicle trips. For robustness, this forecast reduction in traffic flow has not been included within the Traffic Impact Assessment.

9 Castle Street

These proposals relate to the redevelopment of 9 Castle Street to office development comprising 1,148m^2 of floor area. A Transport Statement submitted in support for the application in which it was argued the development would not result in an increase in development trips. As a result, this development has not been included in this assessment.

24 Union Street (UBS Building)

These proposals relate to the redevelopment of a four-storey office building in the centre of St Helier to 28 residential units. The development will include parking for nine vehicles. The traffic impacts of this redevelopment are forecast to be minimal and therefore have not been included within this assessment.

72-76 Great Union Road

This consented development comprises demolition and redevelopment of existing residential development to create 8no. One-bedroom and 5no. Two-bedroom apartments. Given the development is proposed to have seven parking spaces, the traffic impact is anticipated to be minimal and 72-76 Great Union Road has been removed from this assessment.

Summary

The combined forecast traffic impacts of the committed developments are summarised in Table 39 below.

Table 39: Combined Traffic Impact of the Committed Developments

	Number of Vehicle Trips					
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
66-72 Esplanade	162	25	187	30	124	154
JIFC	78	10	88	16	77	93
35 Commercial Street	38	5	43	8	37	45
22-23 Esplanade	30	5	35	6	23	29
27-28 Esplanade	82	13	95	16	63	79
Westmount	20	44	64	54	29	83
Sunnyside Gardens	7	19	26	19	11	30
Castle Quay (Phase 2)	49	133	182	133	77	210
Zephyrus and Westwater	11	31	42	31	18	49
5-6 Esplanade	6	1	7	1	6	7
Total	483	286	769	314	465	779

The committed developments are forecast to result in an additional 769 two-way trips in the AM peak hour and 779 two-way trips in the PM peak hour. Following discussion with DfI Transport Policy, there is some uncertainty on whether the above trips are new trips on the highway network or a redistribution of existing trips, given the population in Jersey is relatively stable. All forecast committed development trips presented in Table 39 above have been included in the traffic impact assessment, however this could be considered to be overly robust.

The following section sets out the methodology for assigning these trips to the local highway network.

6.2.3 Committed Development Trip Distribution and Assignment

Assumptions on the distribution of employment development traffic has been determined through reference to 2011 origin/destination census data. Data from the Jersey Statistics Office has been obtained which identifies the number of residents living within each Enumeration District who are employed in St Helier and travel to work by car.

The assignment of development traffic has been determined by manually attributing each set of trips to the destination via the most likely route. Where a number of feasible routes could be used, the development trips have been split accordingly. An alternative methodology has been used for calculating the distribution of Westmount as it is principally residential.

As set out in the previous section, the forecast trip rates of some of the committed developments exceed the proposed parking provision on site. In these circumstances, additional trips have been distributed to the neighbouring MSCPs with spare capacity, principally Pier Road MSCP.

A summary of the forecast distribution of the committed developments trips are identified in Table 40 below with full calculations included in Appendix H. Given the relatively close proximity of the JIFC, 35 Commercial Street and 5-6, 22-23 & 27-28 Esplanade, the same distribution has been used.

Table 40: Committed Development Distribution

No.	Link Assignment	RBC Development Trip Distribution	Development Trip Distribution for JIFC, 35 Commercial St and 22-23 & 26-27 Esplanade
1	Victoria Avenue	23.1%	23.1%
2	St Aubin's Road	15.7%	16.3%
3	St John's Road	9.4%	10%
4	Rouge Bouillon	7.3%	6.6%
5	Union Street	8.4%	2.2%
6	The Parade (South West)	0.1%	0%
7	Seaton Place	0.2%	0%
8	Esplanade (A1)	35.8%	0%
	Total	100%	58.2%

Enumeration Districts within 800m of the development sites have been removed from the distribution calculation as residents in these locations are unlikely to travel to work by car.

Given the JIFC, 35 Commercial Street, 22-23 Esplanade and 27-28 Esplanade developments are located outside of the study area, trips originating from the east are not anticipated to distribute onto the assessed network. Therefore, trips from the Esplanade (A1), Seaton Place and The Parade have been removed from the distribution and as a result, the distribution does not total 100%.

As set out above, a separate methodology has been adopted to calculate the distribution of the residential developments. Census data only records place of employment by Parish rather than enumeration district. Given 68% of all Jersey residents work in St Helier, census data would not provide enough detail on which to base a distribution calculation.

It is therefore proposed to base the distribution of development trips on existing traffic flows. Table 41 below sets out the number of vehicles surveyed leaving the study area in the AM peak hour and the number of vehicles entering the study area in the PM peak hour. These existing traffic flows have been used to calculate the distribution of the residential developments.

Given the close proximity of Castle Quay (Phase 2), Zephyrus and Westwater developments, the same distribution has been used. A separate distribution calculation was developed for Sunnyside given it is located outside of St Helier

Table 41: Residential Development Distribution Calculation

No.	Link Assignment	AM Base 2016 Traffic Flow (out)	PM Base 2016 Traffic Flow (in)	Total	Distribution
1	Victoria Avenue	1,174	1,089	2,263	22%
2	St Aubin's Road	399	669	1,068	10%
4	Rouge Bouillon	676	410	1,086	11%
5	Union Street	538	446	984	10%
7	Seaton Place	265	155	420	4%
8	Esplanade (A1)	2462	1904	4,366	43%
	Total	**5,514**	**4,673**	**10,187**	**100%**

The distributions for the committed developments are illustrated within Appendix H. The total number of vehicle trips associated with the committed developments in the AM and PM peak hours are also included within this appendix. It can be seen that the committed developments will have an impact on all junctions within the study area.

It should be noted that including all committed development trips results in a large growth in traffic within the study area, particularly on the A1 Esplanade. DfI Transport Policy have indicated there has been limited growth in traffic on the principle roads in Jersey

6.3 Committed Highway Schemes

In agreement with DfI Transport Policy, two committed highway schemes have been included in all future year assessments. These are presented in the South West St Helier Planning Framework and summarised below. It is understood that these proposals have not been subject to wider consultation and as such it is not guaranteed they will be progressed in their current form. Given they present a worst case scenario from a capacity perspective, they have been included in the highway capacity assessments.

West Park Junction

A bus gate is proposed at the A1 Esplanade/St Aubin's Road/Peirson Road (West Park) signalised junction. The bus gate will provide priority to buses turning from A1 Esplanade on to St Aubin's Road. To accommodate this bus gate, the right-turn manoeuvre from the A1 Esplanade on to Peirson Road will be removed. A sketch of this proposal has been taken from the South West St Helier Planning Framework and presented in Figure 22 below.

Following discussions with DfI Transport Policy, it has been agreed that the redistribution of existing vehicle trips from the A1 Esplanade on to Peirson Road would be split between St Aubin's Road and Kensington Place. The exact split should be determined on the spare capacity at the associated junction. DfI Transport Policy have provided the junction model for this highway proposal.

Esplanade Bus Lane

This scheme proposes a bus lane entry to the existing A1 Esplanade/Gloucester Street signalised junction. It has been assumed that this scheme will not have an impact on traffic flows at the junction, aside from a redistribution of bus trips from La Route de la Liberation to the proposed bus lane access to the junction. DfI Transport Policy have provided the junction model for this proposed scheme. A sketch of this proposal presented in Figure 22 below.

Figure 22: Committed Highway Schemes (source: South West St Helier Planning Framework)

6.4 Trip Generation

6.4.1 Introduction

The methodology for calculating trip rates for patients and staff was agreed as part of the 2017 JFH planning application. The use of this methodology for the 2018 JFH planning application was agreed as part of the scoping exercise, as set out in the Transport Assessment scoping note attached as Appendix B.

As set out in Section 4, a number of relocation schemes are proposed to enable construction. These schemes are summarised in Table 42 below alongside the potential traffic impact.

Table 42: Summary of Relocation Schemes

Ref	Department	Description	Traffic Impact
ES-01	Catering	Relocation to an offsite unit.	Results of the JGH Staff Travel Survey indicated catering staff typically start and finish work outside of the peak hours. The traffic impact of relocating catering from JGH to an offsite location is considered minimal and has therefore not been assessed.
ES-02	Plant and Engineering	Relocation of plant from the energy centre to the staff car park in the Granite Block forecourt and the rear of St Elmo during construction on Block A and B.	Staff trips redistributed from the Granite Block to Patriotic Street MSCP.
ES-06	Corporate offices and, training functions	Relocation from Peter Crill House to a new facility in the vicinity of JGH	Staff anticipated to park in the same location and therefore no impact on the distribution of trips.
ES-07	Westaway Court (see Table 43 below)		
ES-08	1960's Block and Granite Block	Internal relocation of functions to accommodate phased approach to construction of JFH	No traffic impact
ES-09	Critical Plant and Support Systems	Relocation and maintenance of hospital critical plant, equipment and services	No traffic impact aside from a limited number of construction movements
ES-10	Staff Accommodation	Relocation of staff accommodation from Westaway Court and Peter Crill House	Minimal traffic impact associated with the relocation of residents to existing developments

In addition to the relocation schemes identified above, it is proposed to relocate some outpatient appointments to Westaway Court, as summarised in Table 43 overleaf.

Table 43: Summary of Outpatient Relocations Associated with Westaway Court

Phase	Department	Description	Traffic Impact
Phase 1A	n/a	Site under construction	Construction trips presented in Appendix J.
Phase 1B	Physiotherapy and Cardio-Respiratory	Relocations to Westaway Court following Phase 1A	Redistribution of existing patient trips from Patriotic Street MSCP to Westaway Court. Staff expected to park in the same location given the close proximity to JGH.
Phase 2	Physiotherapy, Cardio-Respiratory, Neurology, Pain Management, Rheumatology, Diabetes and Dietetics.	Relocations to Westaway Court in the final state	Redistribution of existing patient trips from Patriotic Street MSCP to Westaway Court. Staff expected to park in the same location given the close proximity to JGH. Patient trips associated with departments relocating from Overdale Hospital have been added as new trips on the network

6.4.2 Patient

Existing Patient Trips

In order to calculate the total patient trip rates for the existing hospital, the HSSD provided a dataset that outlined every inpatient and outpatient appointment during 2015. The duration of appointments was not provided for outpatients and it has therefore been assumed that each outpatient hospital stay lasts 60 minutes. This assumption has been agreed with the HSSD department based on the following:

- Outpatient appointments will last on average 30 minutes;
- It will take patients up to ten minutes to travel to/from the car. This is based on a maximum walking distance of 400m; and
- On average, patients will arrive up to 20 minutes early for an appointment

This data has been condensed to provide an average daily profile for all hospital departments. The daily profile is based on an average of all appointments that occurred on either a Monday, Tuesday or Wednesday. This approach is considered robust as these are the three busiest days at the hospital. Where departments are not open every day of the week, only the days the individual departments are operational were considered for the average daily profile. The resulting existing patient trip rates are therefore considered robust.

Given the sensitive nature of the dataset outlined above, it is not considered appropriate to include a copy within an Appendix of this technical note, although a copy can be made available to DfI Transport Policy on request. Examples of the daily profile of hospital departments have been attached as Appendix I.

A summary of the existing total patient trips are set out in Table 44.

Table 44: Jersey General Hospital Patient Trips – All Modes

Time period	Patients In	Patients Out	Two-way
07:30 - 08:30 (AM Peak)	34	0	34
16:30 - 17:30 30 (PM Peak)	21	57	78
Between Peak Hours (08:30-16:30)	697	663	1360

The above number of patient trips is reflective of a busy day at the hospital and therefore considered robust. The number of patient trips provide a basis from which to determine the expected vehicle trip rates, subject to modal split.

The modal split has been derived using the results of the Patient and Visitor Travel Survey. This will provide a modal split that is reflective of current patient and visitor travel patterns in relation to Jersey General Hospital.

Modal split data obtained from the Patient and Visitor Travel Survey is presented in Table 45.

Table 45: Patient and Visitor Modal Split

Travel Mode	Number of Trips	Modal Split (%)
Car (as driver)	195	64.9%
Car (as passenger)	128	
Motorbike/scooter/moped	3	0.6%
Bus	31	6.2%
Walk	113	22.7%
Bicycle	3	0.6%
Taxi	9	1.8%
Patient Transport	13	2.6%
Ambulance	3	0.6%
Total	497	100%

To calculate the number of vehicle trips associated with patients, the modal split for Car (as driver) and (as passenger) combined has been applied to all patient trips. This is to allow for all visitor trips to be included within the distribution, as set out in Section 6.5. It is assumed that the above modal split proportions will be applicable to all times of the day.

Existing Vehicular Patient Trips

Based on the above analysis, Table 46 presents the estimated number of existing vehicle trips generated by patients in the peak hours and over a typical day.

Table 46: Existing Patient and Visitor Vehicle Trips

Time period	Patients In	Patients Out	Two-way
07:30 - 08:30 (AM Peak)	22	0	22
16:30 - 17:30 30 (PM Peak)	14	37	51
Between Peak Hours (08:30-16:30)	453	431	884

Forecast Growth in Patient Trips

The forecast ageing and growth of the Jersey population is expected to result in a continuous increase in the number of patients visiting the hospital every year[4].

Whilst construction is anticipated to continue until at least 2024, a nine-year growth in patient trips has been applied to test a robust construction scenario (2016-2025). It should be noted that this forecast growth in patient trips would occur regardless of the future hospital proposals.

Ernst Young (EY) have been commissioned by the project team to forecast the baseline demand for inpatients, theatres, outpatients and the emergency department based on the inward migration scenarios set out in the 'Jersey population projections 2016 release' produced by the States of Jersey Statistics Unit.

The States of Jersey (SoJ) Population Office has advised that the inward migration scenario of +700 (per annum) should be used for the purposes of this assessment. A summary of the forecast growth in patient numbers is set out in Table 47 below.

Table 47: EY Patient Growth Forecast for +700 Inward Migration (2016-2025)

	2016	2025	Growth Factor
Inpatient	36,283	41,075	13.2%
Outpatient	206,204	231,578	12.3%

The above growth factors have then been applied to each department to forecast future patient trips during and after construction.

Future Patient Trips

Patient trips for each phase of development are set out in Table 48, Table 49 and Table 50 respectively. These future patient and visitor trips reflect the forecast growth presented in Table 47.

Table 48: Phase 1A (Construction of Block A) Patient and Visitor Vehicle Trips

Time period	Patients In	Patients Out	Two-way
Main Build Site			
07:30 - 08:30 (AM Peak)	25	0	25
16:30 - 17:30 30 (PM Peak)	15	61	76
Daily (08:30-16:30)	515	460	975

To enable the construction of Block B, some outpatient departments will relocate to Westaway Court. The revised trip rates for the main build site and Westaway Court (new build) are presented in Table 49 overleaf.

Table 49: Phase 1B (Construction of Block B) Patient and Visitor Vehicle Trips

Time period	Patients In	Patients Out	Two-way
Main Build Site			
07:30 - 08:30 (AM Peak)	22	0	22
16:30 - 17:30 30 (PM Peak)	13	50	63
Daily (08:30-16:30)	430	374	852
Westaway Court			
07:30 - 08:30 (AM Peak)	3	0	3
16:30 - 17:30 30 (PM Peak)	2	11	13
Daily (08:30-16:30)	66	58	124

Neurology, Pain Management, Rheumatology, Diabetes and Dietetics will relocate from Overdale to Westaway Court in the final state, resulting in a minor overall increase in the number of patient trips being generated by the facility, as presented in Table 50 below.

Table 50: Final State Patient and Visitor Vehicle Trips

Time period	Patients In	Patients Out	Two-way
Main Build Site			
07:30 - 08:30 (AM Peak)	24	0	24
16:30 - 17:30 30 (PM Peak)	14	52	66
Daily (08:30-16:30)	442	384	826
Westaway Court			
07:30 - 08:30 (AM Peak)	3	0	3
16:30 - 17:30 30 (PM Peak)	3	15	18
Daily (08:30-16:30)	107	94	201

6.4.3 Visitors

The travel survey results indicated that 68% of all respondents who were visitors were either picking up or dropping off a patient. As set out in Table 45, the patient vehicular modal split includes drivers and passengers. Visitors that are picking up or dropping off a patient have therefore been included within the patient vehicular trips.

It should be noted that the remaining 32% of existing visitor trips are not redistributed because of the development proposals. Whilst some patient trips will be redistributed to Westaway Court, these are outpatient appointments and are therefore unlikely to receive visitors.

It is also worth noting that visitor hours at the hospital are typically early afternoon and 3pm-8pm. Visitors trips in the AM peak hour are therefore anticipated to be negligible. In the PM peak hour, visitor trips are more likely to be linked trips in conjunction with the commute home.

[4] States of Jersey Population Projection Report 2016

The development proposals are therefore not anticipated to have a material impact on the existing number of vehicular visitor trips on the local highway network in the peak hours beyond those assessed as patient trips.

6.4.4 Staff

Existing Staff Trips

To assist in calculating the number of total staff trips, the Health and Social Service Department (HSSD) has provided Arup with data indicating the number of staff (full time equivalent) employed by the hospital in 2016 within each department, including both health services and administration. The dataset indicates whether staff work a 24/7 shift rota or typical hours (09:00-17:00 or similar).

Existing staff trips for consultants, doctors, nurses and utility workers have been calculated using the above dataset. This is considered an appropriate approach given the level of detail provided within the dataset. A summary of this dataset is attached as Appendix I.

The Staff Travel Survey requested information on the typical time respondents start and finish work. Healthcare and facilities staff responses to the survey are summarised in Table 51 below.

Table 51: Travel Survey Results

	Travel in the AM Peak Hour (07:30-08:30)	Travel in the PM Peak Hour (16:30-17:30)
Staff that work in shifts	40%	20%
Staff that work standard hours	61%	69%

The assumptions set out in Table 51 are considered robust, as many staff rotas do not conform to the general peak hours. The resulting number of healthcare and facilities staff trips are presented in Table 52 below.

Table 52: Existing Staff Trips – All Modes (Healthcare and Facilities)

Health and Facilities Staff	AM Peak Hour (07:30-08:30)		PM Peak Hour (16:30-17:30)	
	In	Out	In	Out
Jersey General Hospital	552	126	126	591

It is considered appropriate to use a first principles approach to calculate trip rates for hospital staff to ensure that site-specific characteristics such as existing shift patterns are accurately reflected. For staff that work in an office based environment (finance, ICT and management), the industry standard programme TRICS has been used to estimate existing and future trip generation rates. This is considered a more robust method for estimating trip rates, as there are no site-specific characteristics that need to be reflected such as shift patterns.

Due regard has been given to the scale, location and accessibility of the hospital in determining suitable site selection parameters. The category used within TRICS is Employment - Office.

Total person trip rates for the existing office based workforce are presented in Table 53 below with full details of the selected sites within TRICS attached as Appendix I. The time range of 07:30-08:30 and 16:30-17:30 have been used to reflect the peak hour assessment periods.

Table 53: Existing Total Staff Trips (Office)

	Unit	AM Peak (07:30-08:30)		PM Peak (16:30-17:30)	
		In	Out	In	Out
Trip Rate	Staff	0.264	0.024	0.044	0.318
Total Trips	105 Staff	28	3	5	33

The person trips identified above provide an initial basis from which to determine the expected breakdown of trips across the various modes of travel, including vehicles.

The modal split has been derived using the results of the Staff Travel Survey. This is considered to provide a modal split that is reflective of the current staff travel patterns occurring in the immediate local area.

A sensitivity test has been undertaken to ascertain whether the proportion of respondents to the Staff Travel Survey is reflective of the existing workforce. This is presented in Table 54 below.

Table 54: Staff Travel Survey Sensitivity Test

	Doctor/Nurses	Admin/Management	Porter/Catering	Total
Total Staff	933	238	81	1252
Total Staff (%)	75%	19%	6%	100%
Travel Survey Responses	319	179	18	516
Travel Survey Responses (%)	62%	35%	3%	100%
Weighting	1.21	0.55	1.72	

Table 54 above indicates the Staff Travel Survey respondents do not reflect the existing proportion of doctors & nurses, admin & management and porters & catering staff within the workforce. A weighting has therefore been proposed which will be applied to the travel survey results for the purposes of obtaining the modal split.

Modal split data obtained from the Staff Travel Survey is presented in Table 55 below.

Table 55: Staff Modal Split (Weighted)

Travel Mode	Modal Split (%)
Car (as driver)	43.5%
Car (as passenger)	7.3%
Motorbike/scooter/moped	4.3%
Bus	6.3%
Electric Bike	0.5%
Bicycle	10.8%
Walk	26.5%
Other	0.8%
Total	100.0%

Based on a modal split of car drivers (43.5%), Table 56 below presents a summary of the existing staff vehicle trips being generated by the hospital. Car passengers have been excluded from the calculation as these are considered to reflect car sharers, and the associated vehicle trips will have already been included as car drivers.

Table 56: Existing Staff Vehicle Trips

	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
	In	Out	Two-way	In	Out	Two-way
Healthcare and Facilities	240	55	295	55	257	312
Office Staff	14	1	15	2	17	19
Total	**254**	**56**	**310**	**57**	**274**	**331**

As set out in Table 56 above, the existing hospital is estimated to generate 310 two-way trips in the AM peak hour and 331 two-way trips in the PM peak hour.

Forecast Growth in Staff Trips

The forecast ageing and growth of the Jersey population will result in a continuous increase in the number of patients visiting the hospital every year. As a result, it is anticipated that additional staff will be employed by the hospital to manage the demand from these additional patients.

The EY Demand Analysis output provides a summary of the forecast annual number of patients associated with the hospital. This dataset has been used to calculate the growth in inpatient and outpatient appointments for the period 2016-2025, as set out in Table 57 below.

Table 57: EY Patient Growth Forecast for +700 Inward Migration (2016-2025)

	2016	2025	Growth Factor
Inpatient	36,283	41,075	13.2%
Theatres	11,370	12,706	11.8%
Outpatient	206,204	231,578	12.3%
ED	39,168	42,906	9.5%
Total	**293,025**	**328,265**	**12.0%**

In order to reflect the overall forecast growth in patients for the period 2016-2025, it is proposed to apply a 12% growth factor to the existing number of staff. This growth factor will be applied to staff trips during construction and the final state. This approach has been discussed with HSSD and is considered robust.

Future Staff Trips

As set out in Table 42, the relocation schemes are not anticipated to have a material impact on the trip generation or distribution of staff trips. The resulting vehicle trips rates for all future phases are presented in Table 58 below.

Table 58: Future Staff Vehicle Trips

Time period	In	Out	Two-way
Main Build Site and Westaway Court			
07:30 - 08:30 (AM Peak)	283	62	345
16:30 - 17:30 30 (PM Peak)	62	306	368

6.4.5 Patriotic Street MSCP

It is proposed to construct an additional half deck onto Patriotic Street MSCP as part of these proposals, which equates to approximately 58 parking spaces. This additional half deck is proposed mitigate the loss of 60 staff parking currently accessed from Gloucester Street and Newgate Street. The creation of additional parking at Patriotic Street MSCP will not result in the creation of additional trips on the network.

6.4.6 Construction Vehicles

Construction traffic will be generated by construction vehicles and construction workers. A report has been prepared that outlines the daily number of construction vehicles anticipated to be generated by the site, and can be found attached as Appendix J. The report estimates the maximum number of construction vehicles will occur in the ‘pre-construction’ stage for both Phase 1A and Phase 1B and is envisaged to be 84 Heavy Goods Vehicles.

Construction workers are not expected to drive to the construction site given the minimal space available on site and the limited parking available in the local area. Given a large proportion of the workforce will not be Jersey based, private bus services will be provided to transport construction workers from hotels (not within walking distance) to the construction site. There is potential for some car parking to be made available at an offsite compound, however this site has not yet been confirmed. If parking is made available at the compound, a bus service will be provided to the site. Whilst the detail cannot be confirmed at this stage, these proposals will be set out in the Construction Environmental Management Plan (CEMP), as discussed below.

It is envisaged that a CEMP will be prepared following outline planning permission. This TA outlines the general principles to be adopted within the CEMP. It is assumed that the need to prepare and agree a CEMP can be included within the planning conditions. This will provide an opportunity to agree working hours and limit the impacts on the local highway network.

It is difficult to provide a commitment at this stage regarding HGV routing, however initial discussions with the contractor indicate they are reflective of first thoughts. However as set out above, it is anticipated that this can be agreed as part of the CEMP. The report setting out the anticipated daily number of trips generated by construction vehicles is based on working hours of Monday-Friday 08:00-18:00 and Saturday 08:00-13:00.

6.5 Trip Distribution and Assignment

This section sets out the methodology for calculating the existing and future distribution of staff, patient and visitor trips around the local highway network. This will form the basis for understanding how demand will spread across the transportation network.

The distribution of staff trips has been calculated using the home location of existing employees whilst the results of the Patient and Visitor Travel Survey have been used to develop the distribution for patient and visitor trips.

The traffic and transportation impacts of the future hospital proposal will be assessed during the construction phases and following completion. In order to assess the proposals during the construction phases, further separate distributions have been calculated for any relocation schemes that are anticipated to have an impact on the local highway network in the peak hours. This methodology includes the relocation of health services permanently moving to Westaway Court.

As set out in Section 6.4, the following relocation schemes are expected to have minimal or no traffic impact:

- Relocation of Catering Services offsite; and
- Relocation of admin, training and education to an existing office development in close proximity of the JGH site.

6.5.1 Patient and Visitor Trip Distribution

Existing Distribution of Patient Trips

Whilst the population data is considered to accurately depict the distribution of patient and visitor trips, it will be less accurate for patient and visitor vehicle trips. This is a result of population data not reflecting the differences in travel mode split due to journey length or provision of viable alternatives and infrastructure.

In order to account for the above, the results of the Patient and Visitor Travel Survey have been used to calculate modal split of patients traveling from each Parish, as set out in Table 59 below. Whilst the staff distribution calculation used census data, it is proposed to use the results of the travel survey data as patient and visitor trips are considered to have differing characteristics to commuter tips.

Table 59: Patient Modal Split by Parish (Travel Survey)

Parish	Car (as driver)	Car (as passenger)	Car (both)
Grouville	42.3%	30.8%	73.1%
St. Brelade	54.4%	22.8%	77.2%
St. Clement	51.2%	36.6%	87.8%
St. Helier	24.0%	21.1%	45.0%
St. John	50.0%	27.8%	77.8%
St. Lawrence	44.4%	33.3%	77.8%
St. Martin	53.8%	38.5%	92.3%
St. Mary	75.0%	25.0%	100.0%
St. Ouen	80.0%	20.0%	100.0%
St. Peter	45.2%	29.0%	74.2%
St. Saviour	39.7%	34.5%	74.1%
Trinity	66.7%	33.3%	100.0%

The modal split of patients travelling to the hospital by car (as a driver or passenger) has been used to adjust the distribution calculation so it reflects vehicle trips rather than total trips. In addition, all enumeration districts within 800m of the hospital have been removed from the calculation as the majority of the residents in these areas are expected to walk to the hospital. The resulting distribution for patients is set out in Table 60 below.

Table 60: Existing Patient Distribution

No.	Link Assignment	Development Trip Distribution
1	Victoria Avenue (A2)	23.6%
2	St Aubin's Road	13.7%
3	St John's Road	7.1%
4	Rouge Bouillon	6.8%
5	Union Street	9.5%
6	The Parade (South West)	0.1%
7	Seaton Place	0.4%
8	Esplanade (A1)	38.8%
	Total	100%

Based on the results of the Patient and Visitor Travel Survey, the distribution of patient trips across the neighbouring car parks is as follows:

- Drop off (The Parade) – 35%;
- Patriotic Street MSCP (ground floor) – 30%;
- Patriotic Street MSCP (other floors) – 20%; and
- Hospital parking adjacent to Newgate Street – 15%.

Future Distribution of Patient Trips

The origin of patient trips is not anticipated to change during or after construction. However, changes to the parking provision will result in a redistribution of patient trips within the study area. Below presents a summary of the patient parking proposals and the resulting distribution. The proportion of patients trips distributed to Westaway Court has been calculated using the patient trips presented in Table 49 and Table 50.

Table 61: Future Patient Distribution

	Parking Proposals	Distribution
Phase 1A		• Drop off (The Parade) (35%) • Patriotic Street MSCP (50%) • Hospital parking adjacent to Newgate Street (15%)
Phase 1B	Patient parking adjacent to Newgate Street relocated into Patriotic Street MSCP. Reduced patient drop-off located on Gloucester Street (east) with remainder of drop-off anticipated to occur within Patriotic Street MSCP. Patient parking provided at Westaway Court	• Drop off (Gloucester Street East) (15%;) • Patriotic Street MSCP (69%) • Parking at Westaway Court (16%)
Final State	Patient drop-off for JFH located on The Parade	• Drop off (The Parade) (35%) • Patriotic Street MSCP (42%) • Parking at Westaway Court (23%)

The resulting distributions are presented diagrammatically on the traffic flow diagrams included within Appendix K. The increase in the proportion of patient trips distributing to Westaway Court reflects the additional outpatient departments relocating to the facility in Phase 2 (final state).

6.5.2 Staff Trip Distribution

Existing Distribution of Staff Trips

As set out in the introduction, it is proposed to calculate the distribution for staff separately to patients and visitors. This is to reflect the differing characteristics of the journeys and the datasets being used.

The distribution calculation for existing staff trips considers both the origin of staff trips (home address) and the destination (car parks in the vicinity of Jersey General Hospital).

To calculate the origin of staff trips, a dataset[5] has been provided by the States of Jersey which identities the number of Jersey General Hospital employees living in each of the twelve constituent Parishes of Jersey and is summarised in Table 62. Whilst it is proposed to use this dataset to identify the origin of staff trips, appropriate weightings need to be applied to reflect the varying modal split between each Parish.

To account for the variances in modal split between districts, respondents to the Staff Travel Survey[6] have been utilised. As presented in Table 54 in the previous section, Staff Travel Survey respondents do not reflect the existing proportion of doctors & Nurses, admin & management and Porters & Catering staff within the workforce. A weighting has therefore been proposed which will be applied to the travel survey results for the purposes of obtaining the modal split. The resulting modal split is presented in Table 62 below alongside the staff distribution.

Table 62: Staff Distribution by Parish

Parish	Number of Staff	Travel to Work by Car (Staff Travel Survey)	Number of Staff that Travel by Car	Staff Distribution
Grouville	56	59.4%	33	7%
St. Brelade	126	58.3%	73	15%
St. Clement	127	37.7%	48	10%
St. Helier	515	19.7%	101	20%
St. John	27	70.3%	19	4%
St. Lawrence	66	37.6%	25	5%
St. Martin	45	82.8%	37	7%
St. Mary	14	61.0%	9	2%
St. Ouen	34	65.2%	22	4%
St. Peter	56	71.0%	40	8%
St. Saviour	161	46.4%	75	15%
Trinity	25	58.8%	15	3%
Total	**1252**		**497**	**100%**

The assignment of staff trips has been determined by the examination of the existing highway network flows[7]. This exercise was undertaken by distributing each set of trips to the destination via the most likely route. Where a number of feasible routes could be used, the development trips have been split accordingly. The staff distribution is summarised in Table 63 below.

Table 63: Jersey General Hospital Staff Distribution (Existing)

No.	Link Assignment	Development Trip Distribution
1	Victoria Avenue (A2)	27%
2	St Aubin's Road	10%
3	St John's Road	4%
4	Rouge Bouillon	8%
5	Union Street	10%
6	The Parade (South West)	1%
7	Seaton Place	1%
8	Esplanade (A1)	39%
Total		**100%**

[5] Staff by Parish provided by the Health and Social Services Department in 2015
[6] Jersey Future Hospital Staff Travel Survey undertaken by Arup (23/01/206 – 03/02/2017)

[7] Classified turning count surveys were undertaken by MHC Traffic Ltd at junctions previously agreed with DfI Transport Policy as part of the Transport Assessment scoping process.

The distribution of staff trips also needs to consider where staff park. The results of the hospital car parks occupancy survey indicate the Gloucester Street, Newgate Street and Patriotic Street MSCP staff car parks are fully occupied. Based on approximately 480 staff driving to work daily, the following distribution has been assumed for staff car parks.

Table 64: Staff Parking Distribution of Hospital Allocated Car Parks (Existing)

Hospital Car Parks	Number of Spaces	Parking Distribution[1]
Gloucester Street Hospital Car Park	46	10%
Newgate Street Hospital Car Park	17	4%
Patriotic Street MSCP (Hospital)	25	5%
[1] Remainder of staff park in public car parks (see Table 65 below)		

As presented in Table 64, 19% of staff are estimated to park in hospital allocated car parks. To calculate the distribution for the remaining 81% of staff parking in public car parks, the results of the staff travel survey have been used. For simplicity, the following car parks that were used by less than 3% of staff were removed from the calculation:

- Elizabeth Lane (1%);
- Esplanade (1%);
- Les Jardins (1%);
- On-street (<1%);
- Resident Zone (1%);
- West Park Apartments (1%); and
- Waterfront (<1%)

The resulting distribution is summarised in Table 65 below.

Table 65: Staff Parking Distribution (Existing)

Car Park	Staff Travel Survey	Parking Distribution
Patriotic Street MSCP (Public)	112	72%
Victoria Layby	8	5%
People's Park	6	4%
Hospital Car Parks (see Table 64)		19%
Total		100%

The public element of Patriotic Street Multi-Storey Car Park (MSCP) has two entrances and exits. Survey data of the car park accesses collected in February 2017 has been utilised to understand the existing distribution between these entrances and exits in peak hours.

Table 66: Distribution of Patriotic Street MSCP accesses

Car Park Access	AM	PM	Total	(%)
MSCP Entrances				
Kensington Place	118	31	149	37%
Patriotic Street	198	55	253	63%
MSCP Exits				
Kensington Place	63	183	246	74%
Newgate Street	26	59	85	26%

The proportion of total trips using each of the Patriotic Street MSCP entrances in the peak hours will be used as a guide upon which to base the staff distribution.

Future Distribution of Staff Trips

As with the patient distribution, the origin of staff trips is not anticipated to change during or after construction. However, changes to the parking provision will result in a redistribution of staff trips within the study area. Table 67 below presents a summary of the patient parking proposals and the resulting distribution.

Table 67: Future Staff Distribution

	Parking Proposals	Distribution
Phase 1A	Relocation of staff parking from Gloucester Street hospital car park to Patriotic Street MSCP	• Newgate Street Hospital Car Park – 4%; • Patriotic Street MSCP – 87%; • Victoria Layby – 5%; and • People's Park – 4%.
Phase 1B	Relocation of staff parking from Newgate Street hospital car parks to Patriotic Street MSCP.	• Patriotic Street MSCP – 91%; and • Victoria Layby – 5%; and • People's Park – 4%.
Final State	Same as Phase 1B	• Patriotic Street MSCP – 91%; • Victoria Layby – 5%; and • People's Park – 4%.

The distributions and resulting development trips are presented diagrammatically on the traffic flow diagrams included within Appendix K.

6.6 Existing and Future Year Scenarios

Based on the distributions set out in the previous section, the following existing and future year scenarios are illustrated diagrammatically within Appendix L.

- 2016 Base (includes existing trips associated with Jersey General Hospital);
- Do Minimum (Committed Development with Jersey General Hospital);
- Phase 1A: Construction of Block A, Patriotic Street MSCP and Westaway Court (Committed Development with road closures on Kensington Place);
- Phase 1B: Construction of Block B (Committed Development, JGH, Block A and Westaway Court with road closures on Newgate Street); and
- Do Something (Committed Development with Jersey Future Hospital and Westaway Court Final State).

7 Highway Capacity Assessment

Overview

Traffic Impact Assessment

Following the TA scoping exercise and subsequent discussions with DfI Transport Policy, it was agreed that a percentage impact assessment would be carried out for all junctions within the agreed study area. The forecast traffic impact of the future hospital proposals on all junctions is below 5%, aside from the Gloucester Street/Seaton Place/Patriotic Place junction during Phase 1B.

Junction Capacity Assessment

The junction capacity assessment results for the future year assessment scenarios are summarised in the table below.

Junction	Do Minimum		Phase 1A		Phase 1B		Do Something (Final State)	
	AM	PM	AM	PM	PM	PM	AM	PM
Esplanade/Gloucester St/Patriotic St/Kensington Pl/Peirson Rd Network								
Esplanade/Gloucester S								
Esplanade/Kensington Pl								
Esplanade/Victoria Ave/St Aubin's Rd/ Peirson Rd								
Rouge Bouillon/Savile St								
Union St/The Parade								
St Aubin's Rd/A1 Roundabout								
Peirson Rd/spur from Kensington St								
St Aubin's Rd/Kensington St								
St Aubin's Rd/Westmount Rd								
Cheapside/St. John's Rd/West Park Ave/Old Saint John's Rd								
Spur from St. John's Rd/Cheapside								
Gloucester St/Seaton Pl/Patriotic Pl								
Gloucester St/Seaton Pl/Patriotic Pl								
Newgate St/Gloucester St								
Lewis St/Kensington Pl								
Lewis St/Kensington St								

RFC <0.85, PRC >0% | RFC <0.99, PRC <0% | RFC >1.00, PRC <-10%

Mitigation

Whilst mitigation is only required at junctions with a traffic impact exceeding 5%, junction improvement schemes that will provide capacity benefits are proposed at a number of junctions.

A1 Esplanade/Kensington Place

Given the percentage impact of the development proposals are below 5%, no physical works are proposed to improve the capacity of the junction. It is however proposed to alter the phasing of the signals to improve the overall capacity of the junction, resulting in the junction operating within theoretical capacity in all future year scenario

Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road

It is proposed to introduce a signalised crossing on Savile Street at this junction. Furthermore, to improve the capacity of the junction, it is proposed to increase the cycle time from 90 seconds to 120 seconds. With the increased cycle time, the junction is forecast to operate within practical capacity in all future year scenarios.

The Parade/Union Street

Given the percentage impact of the development proposals are below 5%, no physical works are proposed. To improve the capacity of the junction, it is proposed to increase the cycle time of the junction from 70 seconds to 90 seconds. With the increased cycle time, the junction is forecast to operate within practical capacity in all future year scenarios. Increasing the cycle time will however increase delay for pedestrians waiting at the signalised crossroads.

St Aubin's Road/Kensington Street/Peirson Road

A junction improvement scheme is proposed at the St Aubin's Road/Kensington Street/Peirson Road junction to enable construction vehicles to make the left turn manoeuvre from Kensington Street on to St Aubin's Road. Following discussions with DfI Transport Policy, it is proposed to signalise this junction. Signalised pedestrian crossings are also proposed on Peirson Road and St Aubin's Road.

With the proposed junction improvement scheme, the junction is forecast to operate within practical capacity in all future year scenarios.

Gloucester Street/Newgate Street

A junction improvement scheme is proposed at this location following Phase 1B which includes traffic signals and a pedestrian crossing. With the proposed junction improvement scheme, the signalised junction is proposed to operate within practical capacity in both the AM and PM peak hour.

St Aubin's Road/A1 Roundabout

In agreement with DfI Transport Policy, mitigation has not been proposed at this location as the traffic impact is below 5% in all future year scenarios.

7.1 Introduction

This chapter presents the results of the capacity assessments undertaken at each of the junctions within the assessed network. They provide a basis for determining whether the additional traffic generated by the development and committed developments can be accommodated. Where appropriate this chapter identifies the locations where highway improvements are likely to be necessary.

7.2 Percentage Impact Assessment

Following the TA scoping exercise and subsequent discussions with DfI Transport Policy, it was agreed that a percentage impact assessment would be carried out for all junctions within the agreed study area. A percentage impact assessment identifies the proportional increase in traffic resulting from the development proposals at all junctions within the study area. At junctions where the traffic impact of the development proposals is below 5%, DfI Transport Policy agreed mitigation would not be required.

To calculate the traffic impact of the hospital proposals during construction and the final state, the net change in development trips was identified between the future assessment year scenarios and the 'Do Minimum' assessment scenario. The percentage impact assessment therefore reflects the impacts of an ageing and growing population that would have occurred regardless of whether these development proposals were progressed.

Where junctions are likely to be impacted by a redistribution of existing traffic, mainly the Gloucester Street/Seaton Place/Patriotic Place junction during the construction phases (Phase 1A and Phase 1B), the overall increases in traffic are reflected in the percentage impact assessment.

Two committed highway schemes identified in the South West St Helier Planning Framework have been included in the highway capacity assessment. Specifically, proposals at the West Park Junction (Peirson Road/Victoria Avenue/Esplanade/A1 St Aubin's Road) include the removal of the right-turn manoeuvre from the A1 Esplanade on to Peirson Road, resulting in existing trips being redistributed to Kensington Place and St Aubin's Road. Whilst the traffic impacts of these redistributions have been included in the highway capacity assessment, they have been excluded from this Percentage Impact Assessment as they are not associated with these development proposals.

The percentage impact of development trips in all phases of development are summarised in Table 68, with the full calculation attached as Appendix M. The impact of development has been assessed against 2016 base traffic flows for robustness. Junctions 2, 8 and 9 have been excluded from this table, as there are no give way movements to assess.

It should be noted that a negative percentage impact indicates that the proposals will result in a reduction in traffic flow at that junction. This is a result of traffic being redistributed to other links on the network.

It can be seen that the traffic impact of the future hospital proposals on all junctions is below 5%, aside from the Gloucester Street/Seaton Place/Patriotic Place junction during Phase 1B. This is the result of a redistribution of traffic from Newgate Street to Patriotic Place during the construction period.

Table 68: Percentage Impact Assessment

Junction	Name	Phase 1A		Phase 1B		Final State	
		AM	PM	AM	PM	AM	PM
1	Gloucester Street/Esplanade signalised junction	0.1%	-0.5%	0.1%	-0.5%	0.6%	0.4%
3	Peirson Road/Victoria Avenue/Esplanade/A1 St Aubin's Road	-0.1%	0.7%	-0.1%	0.7%	0.3%	1.7%
4	Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction	0.0%	0.1%	-1.7%	0.1%	0.6%	0.6%
5	Union Street/The Parade signalised junction	0.0%	0.0%	0.0%	0.0%	1.5%	0.8%
6	St Aubin's Road/A1 Roundabout	-0.1%	3.5%	-0.1%	3.5%	-0.3%	2.9%
7	St Aubin's Road/Kensington Street/Peirson Road staggered junction	-1.4%	2.0%	-1.4%	2.0%	-1.9%	1.5%
10	St Aubin's Road/Westmount Road priority junction	-1.7%	0.1%	-1.7%	0.1%	-1.6%	0.6%
11	St. John's Road/West Park Avenue/Cheapside/Peirson Road/ Old Saint John's Road staggered priority junction	-1.1%	0.1%	-1.1%	0.1%	-0.9%	0.5%
12	Esplanade/Kensington Place	0.3%	-1.5%	0.3%	-1.5%	1.0%	-0.6%
13	Gloucester Street/Seaton Place/Patriotic Place signalised junction	-0.5%	-2.2%	6.2%	15.1%	0.3%	-0.1%
14	Newgate Street/Gloucester Street priority junction	0.0%	-2.3%	0.0%	-2.3%	1.2%	0.2%

7.3 Junction Modelling

7.3.1 Method of Assessment

Junction assessments have been undertaken for 15 junctions over 14 models, using LinSig for signalised junctions, ARCADY for roundabouts and PICADY software for priority junctions.

Junction capacity in the above software packages is measured as the Ratio of Flow to Capacity (RFC) (ARCADY and PICADY) and Practical Reserve Capacity (PRC) (LinSig). RFC is a measure of the volume of traffic making a turning movement at the junction, divided by the capacity of that movement; ascertained from the geometric measurements of the junction. The generally agreed operational capacity of a junction is at a ratio of 0.85 for roundabouts and priority junctions. Junctions can still operate within capacity with an RFC value of up to 1.00, however as practical capacity is approached delays will increase. PRC is a measure of how much additional traffic could pass through a junction and is calculated from the maximum degree of saturation on each lane.

These parameters have been used to summarise the operational effectiveness of individual junctions in accordance with the following pre-determined thresholds:

	Within Practical Capacity – *junctions with an RFC below 0.85 or PRC above 0% have been deemed to operate within practical capacity.*
	Over Practical Capacity, Approaching Theoretical Capacity – *junctions with an RFC of between 0.85-0.99 or a PRC of between -10% and 0%.*
	Over Theoretical Capacity - *junctions with an RFC over 1.00 or PRC below -10% have been deemed to operate over theoretical capacity with substantial queuing delays.*

Interaction between the junctions has been considered as a result of the predicted queues; some of the junctions are located close to one another, as a result of which excessive queues may affect the operation of adjacent junctions 'blocking back'. The mean maximum queue forecast to occur on each arm of the junction has been monitored for this reason.

The geometric parameters used for the junction models have been measured from OS mapping data. Queue lengths predicted by the model have been compared with observed queue lengths which were measured at each of the junctions on the same day traffic flows were surveyed.

Differences between model and survey queue lengths were overcome by calibrating model junction arms, which involved applying a capacity adjustment. The percentage applied takes into account site-specific conditions once all geometric features have been calculated for a junction arm. Such conditions, which are not taken into account and may require a correction could include driver behaviour, changes in signage, re-marking of the junction or complete resurfacing.

These base models have been previously agreed with DfI Transport Policy as part of the 2017 planning application for Jersey Future Hospital. The methodology for validating and calibrating these junction models was presented in Technical Note 4: Base Junction Models, which was appended to the Transport Assessment, prepared in support of the 2017 planning application. This technical note is also included within Appendix N of this Transport Assessment. More recently, there was a meeting with DfI Transport Policy to discuss the junction modelling and the minutes can be found attached as Appendix C.

7.4 Committed Schemes

As set out in Section 2, there are two highway schemes proposed as part of the South West St Helier Planning Framework that will have an impact on junctions within the agreed study area. In agreement with DfI Transport Policy, these schemes have been included in all future junction modelling. Whilst there is uncertainty on whether these proposals will be progressed, they are considered to reflect a worst-case scenario.

7.4.1 A1 Esplanade/Gloucester Street/Bus Access (Esplanade) Signalised Junction

This scheme proposes a bus lane entry to the existing A1 Esplanade/Gloucester Street signalised junction. It is assumed that this scheme will not impact traffic flows at the junction, aside from a redistribution of bus trips from La Route de la Liberation to the proposed bus lane access to the junction. A pedestrian/cycle crossing is also proposed across the A1 Esplanade without the existing stagger significantly increasing the intergreen within the junction model. DfI Transport Policy have provided the LinSig model for this proposed scheme.

7.4.2 West Park Junction

This scheme involves removing the right-turn manoeuvre from the A1 Esplanade on to Peirson Road and introducing a bus lane/gate at the junction providing priority for buses turning right from the A1 Esplanade towards the St Aubin's Road Roundabout. DfI Transport Policy have provided the LinSig model for this proposed scheme and VISSUM model outputs that set out the forecast redistributions that will occur as a result of the right-turn ban from the Esplanade on to Peirson Road.

7.5 Junction Assessments Results

The full output files for the ARCADY, PICADY and LinSig junction models can be found attached as Appendix O, Appendix P and Appendix Q respectively and summarised in Table 70 overleaf.

The remainder of the section presents a summary of the junctions that are forecast to exceed practical capacity in any of the future year scenarios.

7.5.1 Junction 1/8/12/3: Esplanade Signalised Junctions

The signalised junctions with the A1 Esplanade have been assessed in LinSig and include the following junctions:

- Gloucester Street/A1 Esplanade/Esplanade Bus Lane
- Kensington Place/A1 Esplanade
- Victoria Avenue/A1 St Aubin's Road/Peirson Road/A1 Esplanade

The LinSig model for the above junctions has been provided by DfI Transport Policy and includes the potential highway schemes associated South-West St Helier Planning Framework. Some minor amendments have been made to the junction model and these have been discussed and agreed with DfI Transport Policy at a meeting dated 22nd March 2018 (meeting note attached as Appendix C).

Junction 1: Gloucester Street/A1 Esplanade/Esplanade Bus Lane

As part of the South-West St Helier Planning Framework, it is proposed to introduce a bus lane from the Esplanade and remove the staggered on the pedestrian crossing across the A1 La Route de la Liberation entry to the junction.

The LinSig assessment results are summarised in Table 69 with the full output included in Appendix Q. The results indicate the junction is forecast to operate within theoretical capacity in the AM peak hour in all future year scenarios. In the PM peak hour, the junction is forecast to exceed theoretical capacity in all future year scenarios, although the capacity is proposed to improve as part of the development proposals.

The traffic impact of the development proposals at this junction is below 5% and therefore no mitigation is proposed at this junction.

Table 69: Junction 1 (Gloucester Street/Esplanade/A1 Esplanade) signalised junction LinSig assessment results

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum							
1/3	Gloucester St Right	84.9%	13.9	70.8	104.3%	38.7	171.3
2/3	La Rte de la Libn Ahead	68.3%	16.7	36.5	106.3%	54.4	192.7
3/3	Esplanade Ahead	90.9%	24.8	38.1	62.5%	6.3	38.1
4/1	Esplanade Right (Bus Lane)	11.8%	1.6	0	11.8%	1.6	0
Junction PRC		**-1.0%@ 120 seconds**			**-18.1% @ 120 seconds**		
Phase 1A							
1/3	Gloucester St Right	84.2%	13.7	69.7	102.6%	34.1	151.3
2/3	La Rte de la Libn Ahead	68.1%	16.5	36.4	103.6%	46.7	152
3/3	Esplanade Ahead	91.0%	25.4	38.1	61.8%	6.2	38.1
4/1	Esplanade Right (Bus Lane)	11.8%	1.6	0	11.8%	1.6	0
Junction PRC		**-1.1%@ 120 seconds**			**-15.1% @ 120 seconds**		
Phase 1B							
1/3	Gloucester St Right	84.0%	13.6	69.4	102.0%	33	144.4
2/3	La Rte de la Libn Ahead	68.3%	16.7	36.5	103.3%	45.8	148.1
3/3	Esplanade Ahead	91.0%	25.4	38.1	61.9%	6.4	38.1
4/1	Esplanade Right (Bus Lane)	11.8%	1.6	0	11.8%	1.6	0
Junction PRC		**-1.1% @ 120 seconds**			**-14.8% @ 120 seconds**		
Do Something							
1/3	Gloucester St Right	84.9%	13.9	70.8	102.0%	33	144.4
2/3	La Rte de la Libn Ahead	75.0%	19.2	39.5	103.4%	46.3	150
3/3	Esplanade Ahead	91.5%	25	38.1	62.1%	6.4	38.1
4/1	Esplanade Right (Bus Lane)	11.8%	1.6	0	11.8%	1.6	0
Junction PRC		**-1.6%@ 120 seconds**			**-14.9%@ 120 seconds**		

Table 70: Junction Assessment Results (without mitigation)

Junction	Name		Existing (Base Models)		Do Minimum		Phase 1A		Phase 1B		Do Something (Final State)	
			AM	PM	AM	PM	AM	PM	PM	PM	AM	PM
1-8-12-3	Esplanade/Gloucester Street/Patriotic Street/Kensington Place/Peirson Road Network	LinSig	15.0%	21.2%	-7.0%	-18.1%	-6.1%	-15.1%	-6.4%	-14.8%	-9.9%	-14.9%
1	Esplanade/Gloucester Street	LinSig	19.8%	31.2%	-1.0%	-18.1%	-1.1%	-15.1%	-1.1%	-14.8%	-1.6%	-14.9%
12	Esplanade/Kensington Place	LinSig	47.0%	21.2%	1.1%	-16%	2.8%	-11.9%	3.5%	-11.7%	1.6%	-11.4%
3	Esplanade/Victoria Ave/St Aubin's Road/ Peirson Road	LinSig	15.0%	31.3%	-7.0%	11.3%	-6.1%	8.5%	-6.4%	8.9%	-9.9%	8.7%
4	Rouge Bouillon/Savile Street	LinSig	4.1%	0.5%	-2.2%	0.5%	-1.6%	0.5%	-1.6%	0.9%	-2.2%	0.0%
5	Union Street/The Parade	LinSig	-9.6%	-7.5%	-18.5%	-13.7%	-17.6%	-13.4%	-17.6%	-13.4%	-19.8%	-14.2%
6	St Aubin's Road/A1 Roundabout	ARCADY	0.88	0.88	0.99	0.95	0.98	0.98	0.98	0.99	1.04	1.07
7a	Peirson Road/spur from Kensington Street	PICADY	0.22	0.51	0.23	0.59	0.23	0.60	0.24	0.62	0.24	0.67
7b	St Aubin's Road/Kensington Street	PICADY	0.49	0.79	0.62	1.29	0.61	1.11	0.61	1.13	0.63	1.13
10	St Aubin's Road/Westmount Road	PICADY	0.40	0.18	0.50	0.25	0.50	0.25	0.50	0.25	0.50	0.25
11a	Cheapside/St. John's Road/West Park Avenue/Old Saint John's Road	PICADY	0.89	0.60	0.98	0.62	0.98	0.62	0.98	0.62	0.98	0.62
11b	Spur from St. John's Road and West Park Avenue/Cheapside	PICADY	0.73	0.46	0.83	0.49	0.82	0.48	0.82	0.49	0.82	0.49
13	Gloucester Street/Seaton Place/Patriotic Place	LinSig	53.4%	34.7%	52.3%	40.9%	52.3%	41.1%	-	-	52.5%	41.3%
13	Gloucester Street/Seaton Place/Patriotic Place	LinSig	-	-	-	-	-	-	6.8%	3.0%	-	-
14	Newgate Street/Gloucester Street	PICADY	0.40	0.64	0.48	0.97	0.47	0.90	-	-	0.48	0.85
15	Lewis Street/Kensington Place	PICADY	0.09	0.15	0.10	0.16	0.19	0.57	0.10	0.16	0.10	0.16
16	Lewis Street/Kensington Street	PICADY	-	-	-	-	0.68	0.48	-	-	-	-

Junction 12: Kensington Place/A1 Esplanade

As part of the South-West St Helier Planning Framework, it is proposed to prohibit the right-turn manoeuvre from the A1 Esplanade to Peirson Road. As a result, it is estimated 40% of traffic will distribute on to Kensington Place. These additional trips have been included in the below assessment.

The LinSig assessment results are summarised in Table 71 with the full output included in Appendix Q.

Table 71: Junction 12 (Kensington Place/A1 Esplanade) signalised junction LinSig assessment results

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum							
1/2	Esplanade WB Ahead L	74.60%	28.1	16.9	104.40%	103.2	130.1
1/3+4	Esplanade WB Right: A&R	89.0%	26.9	34.2	93.8%	32.3	23.1
2/2	Esplanade EB Ahead	68.00%	22	11	38.80%	10.8	3.5
Network PRC		**1.1%@ 120 seconds**			**-16.0% @ 120 seconds**		
Phase 1A							
1/2	Esplanade WB Ahead L	76.20%	28.2	17.7	100.70%	82.9	78.3
1/3+4	Esplanade WB Right: A&R	87.5%	26.4	33.3	95.1%	31.6	17.8
2/2	Esplanade EB Ahead	69.70%	24.4	13.3	37.70%	10.9	3.2
Network PRC		**2.8%@ 120 seconds**			**-11.9% @ 120 seconds**		
Phase 1B							
1/2	Esplanade WB Ahead L	77.20%	28	19.5	100.50%	81.9	76.1
1/3+4	Esplanade WB Right: A&R	87.0%	26.3	32.0	95.4%	31.7	18.0
2/2	Esplanade EB Ahead	69.40%	23.7	13.8	37.80%	10.9	3.3
Network PRC		**3.5%@ 120 seconds**			**-11.7%@ 120 seconds**		
Do Something							
1/2	Esplanade WB Ahead L	74.10%	25.9	15.9	100.30%	80.8	73.9
1/3+4	Esplanade WB Right: A&R	88.6%	28.6	32.3	95.7%	31.8	18.2
2/2	Esplanade EB Ahead	70.60%	23.9	13.1	38.00%	11	3.2
Network PRC		**1.6%@ 120 seconds**			**-11.4%@ 120 seconds**		

The results indicate the junction is forecast to operate within practical capacity in the AM peak hour in all future year scenarios. In the PM peak hour, the junction is forecast exceed theoretical capacity, although the capacity is proposed to improve as part of the development proposals.

The traffic impact of the development proposals at this junction is below 5% and therefore in agreement with DfI Transport Policy, no mitigation is required at this junction. Nevertheless, a mitigation scheme has been identified which involves altering the phasing of the signals and this is presented in the following section.

Junction 3: A2 Victoria Avenue/A1 St Aubin's Road/Peirson Road/A1 Esplanade

As part of the South-West St Helier Planning Framework, it is proposed to prohibit the right-turn manoeuvre from the A1 Esplanade to Peirson Road and introduce a bus gate. As a result, it is estimated 60% of traffic will distribute on to St Aubin's Road via the roundabout.

The LinSig assessment results are summarised in Table 72 with the full output included in Appendix Q.

Table 72: Junction 3 (A2 Victoria Avenue/A1 St Aubin's Road/Peirson Road/A1 Esplanade) signalised junction LinSig assessment results

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum							
1/4	Esplanade Ahead	93.50%	21	65.2	80.90%	21.6	24
2/1+2/2	Victoria Ave Ahead Left	96.3%	37.1	54.4	78.2%	12.7	44.0
2/3	Victoria Ave Ahead	94.20%	36	54.9	62.80%	12.1	43.2
3/2	St Aubin's Rd Ahead	73.00%	19.3	36.2	40.40%	9.2	15.1
Junction PRC		**-7.0%@ 120 seconds**			**11.3% @ 120 seconds**		
Phase 1A							
1/4	Esplanade Ahead	94.60%	21.4	70.8	83.00%	23.2	24.9
2/1+2/2	Victoria Ave Ahead Left	95.5%	36	50.9	79.9%	12.8	46.5
2/3	Victoria Ave Ahead	93.10%	35.1	50.8	65.40%	12.4	45.8
3/2	St Aubin's Rd Ahead	74.70%	19.6	37.7	39.60%	8.8	14
Junction PRC		**-6.1%@ 120 seconds**			**8.5% @ 120 seconds**		
Phase 1B							
1/4	Esplanade Ahead	94.20%	21	68.6	82.70%	23.1	24.6
2/1+2/2	Victoria Ave Ahead Left	95.7%	36.4	52.1	80.1%	12.9	46.7
2/3	Victoria Ave Ahead	93.70%	36	52.5	66.10%	12.5	46.1
3/2	St Aubin's Rd Ahead	74.70%	19.6	37.7	39.80%	8.8	14
Junction PRC		**-6.4%@ 120 seconds**			**8.9%@ 120 seconds**		
Do Something							
1/4	Esplanade Ahead	98.90%	27.9	91.2	82.80%	23.2	24.7
2/1+2/2	Victoria Ave Ahead Left	98.9%	43.6	72.0	80.1%	12.9	46.6
2/3	Victoria Ave Ahead	97.70%	41.2	72.7	65.60%	12.4	45.9
3/2	St Aubin's Rd Ahead	70.90%	18.7	33.9	40.40%	9.1	14.1
Junction PRC		**-9.9%@ 120 seconds**			**8.7%@ 120 seconds**		

The results indicate the junction is forecast to exceed practical capacity and approach theoretical capacity in both the AM and PM peak hour. Given the traffic impact of the development proposals are under 5%, no mitigation has been considered at this junction.

7.5.2 Junction 4: Rouge Bouillon/Savile Street/Elizabeth Place/The Parade

The Rouge Bouillon/Savile Street/Elizabeth Place/The Parade signalised junction has been assessed using LinSig. The junction model includes two pedestrian phases per cycle and is therefore considered robust.

The LinSig assessment results for the Rouge Bouillon/Savile Street/Elizabeth Place/The Parade signalised junction are summarised in Table 73 with the full output included in Appendix Q.

The results indicate the junction is forecast to exceed practical capacity and approach theoretical capacity in the AM peak hour. It should be noted that Westaway Court is proposed to be operation in Phase 1B. As presented in the assessment results, the additional trips associated with this facility are forecast to have minimal impact on the junction.

In the PM peak hour, the junction is forecast to operate within practical capacity in all future year scenarios.

An improvement scheme is proposed at the junction involving the provision of a signalised crossing across the Savile Street entry to the junction. It is also proposed to increase the cycle time and this is discussed further in the following section.

Table 73: Junction 4 (Rouge Bouillon/Savile Street/Elizabeth Place/The Parade) signalised junction LinSig assessment results

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum							
1/1	Parade Road Left Right	86.5%	7.2	91.3	75.9%	4.3	84.5
2/1	Rouge Bouillon Ahead	92.0%	10.4	52.3	77.9%	7	28.4
3/1	Savile Street Left	25.3%	1.2	51.6	30.9%	1.8	46.7
3/2	Savile Street Right	78.4%	5.2	81.1	89.6%	8.8	93.8
4/1	Elizabeth Place Ahead	79.6%	6.7	31.6	88.1%	9.7	39.1
Network PRC		**-2.2%@ 90 seconds**			**0.5% @ 90 seconds**		
Phase 1A							
1/1	Parade Road Left Right	86.5%	7.2	91.3	75.9%	4.3	84.5
2/1	Rouge Bouillon Ahead	91.4%	10.1	50.5	77.7%	7	28.2
3/1	Savile Street Left	25.3%	1.2	51.6	30.9%	1.8	46.7
3/2	Savile Street Right	78.4%	5.2	81.1	89.6%	8.8	93.8
4/1	Elizabeth Place Ahead	79.4%	6.6	31.5	87.7%	9.5	38.4
Network PRC		**-1.6%@ 90 seconds**			**0.5% @ 90 seconds**		
Phase 1B							
1/1	Parade Road Left Right	86.5%	7.2	91.3	75.9%	4.3	84.5
2/1	Rouge Bouillon Ahead	91.4%	10.1	50.5	77.7%	7	28.2
3/1	Savile Street Left	24.7%	1.1	51.4	37.5%	2.2	48.2
3/2	Savile Street Right	78.4%	5.2	81.1	89.2%	8.7	92.5
4/1	Elizabeth Place Ahead	79.4%	6.6	31.5	87.7%	9.5	38.4
Network PRC		**-1.6% @ 90 seconds**			**0.9% @ 90 seconds**		
Do Something							
1/1	Parade Road Left Right	86.5%	7.2	91.3	75.9%	4.3	84.5
2/1	Rouge Bouillon Ahead	92.0%	10.4	52.3	77.9%	7	28.4
3/1	Savile Street Left	27.6%	1.3	52.1	37.5%	2.2	48.2
3/2	Savile Street Right	78.4%	5.2	81.1	90.0%	8.9	95.2
4/1	Elizabeth Place Ahead	79.6%	6.7	31.6	87.9%	9.6	38.7
Network PRC		**-2.2%@ 90 seconds**			**0.0%@ 90 seconds**		

7.5.3 Junction 5: The Parade/Union Street

The LinSig assessment results for The Parade/Union Street signalised junction are summarised in Table 74 with the full output included in Appendix Q.

Table 74: Junction 5 (The Parade/Union Street) signalised junction LinSig assessment results

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum							
1/1	The Parade N Left	84.7%	7.9	58.5	72.8%	6.3	41.6
2/1	Union Street Right	106.7%	25.4	199.7	102.3%	21.3	140.3
3/1	The Parade S Ahead	33.8%	2.9	25.1	48.2%	4.1	29.5
3/2	The Parade S Right	73.1%	7.9	35.3	79.1%	8.4	42.2
Network PRC		**-18.5% @ 70 seconds**			**-13.7% @ 70 seconds**		
Phase 1A							
1/1	The Parade N Left	85.0%	8	59.1	72.8%	6.3	41.6
2/1	Union Street Right	105.8%	24.1	189.1	102.1%	20.9	137.6
3/1	The Parade S Ahead	33.8%	2.9	25.1	48.2%	4.1	29.5
3/2	The Parade S Right	73.1%	7.9	35.3	79.1%	8.4	42.2
Network PRC		**-17.6% @ 70 seconds**			**-13.4% @ 70 seconds**		
Phase 1B							
1/1	The Parade N Left	85.0%	8	59.1	73.1%	6.4	41.8
2/1	Union Street Right	105.8%	24.1	189.1	102.1%	20.9	137.6
3/1	The Parade S Ahead	33.8%	2.9	25.1	48.2%	4.1	29.5
3/2	The Parade S Right	73.1%	7.9	35.3	79.1%	8.4	42.2
Network PRC		**-17.6% @ 70 seconds**			**-13.4% @ 70 seconds**		
Do Something							
1/1	The Parade N Left	85.3%	8	59.6	75.1%	6.7	43.2
2/1	Union Street Right	107.8%	27.2	214	102.8%	22	145.9
3/1	The Parade S Ahead	33.8%	2.9	25.1	48.2%	4.1	29.5
3/2	The Parade S Right	73.1%	7.9	35.3	79.1%	8.4	42.2
Network PRC		**-19.8% @ 70 seconds**			**-14.2% @ 70 seconds**		

The results indicate the junction is forecast to exceed theoretical capacity in both the AM and PM peak hour. Whilst the traffic impact of the development proposals at this junction is significantly less than 5%, it is proposed to increase the cycle time to improve the capacity of the junction. This mitigation scheme is presented in the following section.

7.5.4 Junction 6: A1/St Aubin's Road Roundabout

The St Aubin's Roundabout three-arm roundabout has been assessed using the ARCADY module of Junctions 9. As part of the South-West St Helier Planning Framework, it is proposed to prohibit the right-turn manoeuvre from the A1 Esplanade to Peirson Road. As a result, it is estimated 60% of traffic will distribute on to St Aubin's Road via this roundabout.

The LinSig assessment results for The Parade/Union Street signalised junction are summarised in Table 75 with the full output included in Appendix O.

Table 75: A1/St Aubin's Road Roundabout ARCADY assessment results

Arm	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Do Minimum						
A1 NW	19.9	76.69	0.99	11.5	58	0.95
St Aubin's Road	1.8	52.41	0.67	7.9	98	0.94
A1 SE	2.4	15.19	0.71	5	22	0.84
Phase 1A						
A1 NW	18.1	70.55	0.98	15.8	77.37	0.98
St Aubin's Road	1.9	55.79	0.69	9.6	112.64	0.97
A1 SE	2.3	14.62	0.70	6.4	27.66	0.88
Phase 1B						
A1 NW	17.7	69.46	0.98	15.7	76.72	0.98
St Aubin's Road	2	56.89	0.69	11.6	130.02	0.99
A1 SE	2.3	14.53	0.70	6.2	27.07	0.87
Do Something						
A1 NW	33.7	121.23	1.04	15.5	76.11	0.98
St Aubin's Road	1.8	49.39	0.66	19.3	192	1.07
A1 SE	3.6	20.9	0.79	6.5	28.3	0.88

In the AM Peak Hour, the A1 North-West entry is forecast to exceed practical capacity and approach theoretical capacity in the Do Minimum and Construction assessment scenarios. In the Do Something scenario (with JFH), the A1 NW entry is forecast to exceed theoretical capacity with a RFC of 1.04 and a mean maximum queue of 34 PCUs.

In the PM peak hour, the junction is forecast to exceed practical capacity and approach theoretical capacity in the in the Do Minimum and Construction assessment scenarios. In the Do Something scenario (with JFH), the St Aubin's Road entry is forecast to exceed theoretical capacity with a RFC of 1.07 and a mean maximum queue of 19 PCUs.

The traffic impact of the development proposals in the Do Something scenario at this junction is -0.9% in the AM Peak Hour, suggesting the development proposals will reduce traffic at this junction. Given the traffic impact is below 5%, in agreement with DfI Transport Policy no mitigation is proposed at this junction.

7.5.5 Junction 7: St Aubin's Road/Kensington Street/Peirson Road

The St Aubin's Road/Kensington Street/Peirson Road priority junctions have been assessed using the PICADY module of Junctions 9. Two junction models have been prepared to assess this junction.

The Kensington Street entry to the junction is forecast to exceed capacity in the PM peak hour in all future year scenarios, as summarised in Table 76 with the full output included in Appendix P.

Table 76: Junction 7 (St Aubin's Road/Kensington Street/Peirson Road) priority junctions PICADY assessment results

Arm –Kensington Street	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Do minimum	1.6	23.25	0.62	61.8	565.31	1.29
Phase 1A	1.5	22.2	0.61	29.3	244.55	1.11
Phase 1B	1.5	22.17	0.61	31.6	260.72	1.13
Do Something	1.6	23.9	0.63	32.5	266.56	1.13

A junction improvement scheme that involves traffic signals is proposed at this location. This is discussed further in the following section.

7.5.6 Junction 11: Cheapside/St. John's Road/West Park Avenue/Old Saint John's Road

The Cheapside/St. John's Road/West Park Avenue/Old Saint John's Road priority junctions have been assessed using the PICADY module of Junctions 9. Two junction models have been prepared to assess this junction.

The St John's Road entry to the junction is forecast to exceed capacity in the AM peak hour in all future year scenarios, as summarised in Table 77 with the full output included in Appendix P.

Table 77: Junction 11 (Cheapside/St. John's Road/West Park Avenue/Old Saint John's Road) priority junctions PICADY assessment results

Arm – St John's Road	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2025 Do minimum	13.4	97.44	0.98	1.6	18.42	0.62
2025 Phase 1A	13.2	96	0.98	1.6	18.3	0.62
2025 Phase 1B	13.2	96	0.98	1.6	18.31	0.62
2025 Do Something	13.4	97.44	0.98	1.6	18.41	0.62

The results above indicate the St John's Road entry to the junction is forecast to exceed practical capacity and approach theoretical capacity in the AM Peak Hour. In the PM peak hour, the junction is forecast to operate within practical capacity.

7.5.7 Junction 14: Gloucester Street/Newgate Street

The Gloucester Street/Newgate Street priority junction has been assessed using the PICADY module of Junctions 9. The assessment results are summarised in Table 78 below with the full output included in Appendix P.

To enable the construction of Block B, the phased closure of Newgate Street is proposed in Phase 1B. As a result, there are no assessment results for Phase 1A.

Table 78: Junction 14 (Gloucester Street/Newgate Street) priority junction PICADY assessment results

Arm – Newgate Street	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Do minimum	0.9	20.21	0.48	10.8	116.04	0.97
Phase 1A	0.9	19.74	0.47	6.5	76.95	0.90
Phase 1B	Newgate Street closed to traffic					
Do Something	0.9	19.9	0.48	4.6	58.07	0.85

The junction is forecast to operate within practical capacity in the AM peak hour with mean maximum queue of 1 PCU in all future year scenarios. In the PM peak hour, the junction is forecast to exceed practical capacity and approach theoretical capacity.

A junction improvement scheme is proposed at this location including the introduction of traffic signals and a pedestrian crossing. This is discussed further in the following section.

7.6 Mitigation

7.6.1 Introduction

As set out in the previous section, mitigation is proposed at the following junctions:

- A1 Esplanade/Kensington Place;
- Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road;
- The Parade/Union Street;
- St Aubin's Road/Kensington Street/Peirson Road; and
- Gloucester Street/Newgate Street.

A summary of these mitigation proposals alongside the results of the capacity assessments are set out in the remainder of this section.

7.6.2 Junction 12: A1 Esplanade/Kensington Place

The A1 Esplanade/Kensington Place signalised junction is forecast to exceed theoretical capacity in the PM peak hour in all future year scenarios. Given the percentage impact of the development proposals are below 5%, no physical works are proposed to improve the capacity of the junction. As presented in Drawing 30 it is proposed to make some minor alterations to the central reservation on the Esplanade, however this is proposed to enable construction vehicles to make the right turn manoeuvre from the A1 Esplanade on to Kensington Place.

It is proposed to introduce a new phase where the Esplanade WB and Esplanade Right Turn have a green, as presented in Figure 23 below.

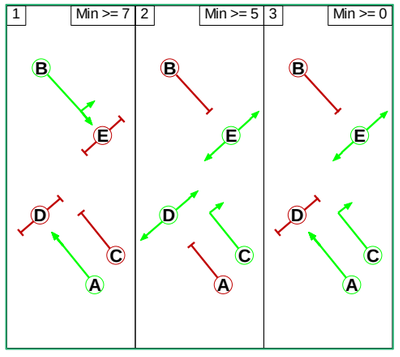


Figure 23: Esplanade/Kensington Place Proposed Stage Sequence

The LinSig assessment results for A1 Esplanade/Kensington Place signalised junction are summarised in Table 79 with the full output included in Appendix Q.

With the proposed changes, the junction is forecast to operate within theoretical capacity in all future year scenarios.

Table 79: Junction 12 (Kensington Place/A1 Esplanade) signalised junction LinSig assessment results (with mitigation)

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
2025 Do Minimum (without mitigation)							
1/2	Esplanade WB Ahead L	74.6%	28.1	16.9	104.4%	103.2	130.1
1/3+4	Esplanade WB Right: A&R	89.0%	26.9	34.2	93.8%	32.3	23.1
2/2	Esplanade EB Ahead	68.0%	22	11	38.8%	10.8	3.5
Network PRC		**1.1%@ 120 seconds**			**-16.0% @ 120 seconds**		
2025 Phase 1A (with mitigation)							
1/2	Esplanade WB Ahead L	59.9%	27.2	10.9	90.9%	48.1	36.7
1/3+4	Esplanade WB Right: A&R	84.9%	25.8	23.6	70.3%	30.9	14.3
2/2	Esplanade EB Ahead	71.5%	26.8	15.2	42.2%	16.2	10.8
Network PRC		**6.0%@ 120 seconds**			**-1.0% @ 120 seconds**		
2025 Phase 1B (with mitigation)							
1/2	Esplanade WB Ahead L	59.9%	22.6	16.1	90.7%	45.6	38.3
1/3+4	Esplanade WB Right: A&R	79.6%	25	16.8	71.2%	30.9	13.3
2/2	Esplanade EB Ahead	75.0%	19.6	13.8	41.8%	15.2	5.1
Network PRC		**13.1%@ 120 seconds**			**-0.8%@ 120 seconds**		
2025 Do Something (with mitigation)							
1/2	Esplanade WB Ahead L	56.8%	25.2	8.9	90.6%	45.5	38.1
1/3+4	Esplanade WB Right: A&R	86.1%	27.9	22.8	71.4%	30.9	13.4
2/2	Esplanade EB Ahead	72.5%	26.8	15.2	42.0%	15.1	4.5
Network PRC		**4.6%@ 120 seconds**			**-0.6%@ 120 seconds**		

7.6.3 Junction 4: Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road

The Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction is forecast to exceed practical capacity in both the AM and PM peak hour. Given the close proximity to Westaway Court, it is proposed to introduce a signalised crossing across the Savile Street entry of the junction. The revised junction arrangement is presented in Drawing 32. Given Savile Street is one-way; the introduction of this crossing will not impact the capacity of this junction.

To improve the capacity of the junction, it is proposed to increase the cycle time from 90 seconds to 120 seconds. Given there are two pedestrian phases in one cycle, the impact of increasing the cycle time on pedestrian delay is considered to be minimal.

The LinSig assessment results for Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction are summarised in Table 80 with the full output included in Appendix Q.

Table 80: Junction 14 (Rouge Bouillon/Savile Street/Elizabeth Place/The Parade) signalised junction LinSig assessment results (with mitigation)

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum (without mitigation)							
1/1	Parade Road Left Right	86.5%	7.2	91.3	75.9%	4.3	84.5
2/1	Rouge Bouillon Ahead	92.0%	10.4	52.3	77.9%	7	28.4
3/1	Savile Street Left	25.3%	1.2	51.6	30.9%	1.8	46.7
3/2	Savile Street Right	78.4%	5.2	81.1	89.6%	8.8	93.8
4/1	Elizabeth Place Ahead	79.6%	6.7	31.6	88.1%	9.7	39.1
Network PRC		**-2.2%@ 90 seconds**			**0.5% @ 90 seconds**		
Phase 1A (with mitigation)							
1/1	Parade Road Left Right	66.8%	6.7	66.7	67.4%	4.8	82.6
2/1	Rouge Bouillon Ahead	69.2%	7.7	24.9	64.4%	7.7	23.2
3/1	Savile Street Left	21.7%	1.4	59.6	24.7%	2.2	51.9
3/2	Savile Street Right	67.2%	5.6	75.5	71.7%	8.2	67.4
4/1	Elizabeth Place Ahead	60.1%	6.6	22.2	72.8%	9.2	25.7
Network PRC		**30.0%@ 120 seconds**			**23.6% @ 120 seconds**		
Phase 1B (with mitigation)							
1/1	Parade Road Left Right	66.8%	6.7	66.7	67.4%	4.8	82.6
2/1	Rouge Bouillon Ahead	69.2%	7.7	24.9	64.4%	7.7	23.2
3/1	Savile Street Left	21.2%	1.4	59.5	30.0%	2.7	52.9
3/2	Savile Street Right	67.2%	5.6	75.5	71.4%	8.1	67.1
4/1	Elizabeth Place Ahead	60.1%	6.6	22.2	72.8%	9.2	25.7
Network PRC		**30.0% @ 120 seconds**			**23.60% @ 120 seconds**		
Do Something (with mitigation)							
1/1	Parade Road Left Right	66.8%	6.7	66.7	67.4%	4.8	82.6
2/1	Rouge Bouillon Ahead	69.7%	7.8	25.1	64.6%	7.7	23.3
3/1	Savile Street Left	23.7%	1.6	60	30.0%	2.7	52.9
3/2	Savile Street Right	67.2%	5.6	75.5	72.0%	8.2	67.6
4/1	Elizabeth Place Ahead	60.3%	6.7	22.2	72.9%	9.2	25.7
Network PRC		**29.1%@ 120 seconds**			**23.4%@ 120 seconds**		

With the cycle time increased to 120 seconds, the Rouge Bouillon/Savile Street/Elizabeth Place/Parade Road signalised junction is forecast to operate within practical capacity in all future year assessment scenarios.

7.6.4 Junction 5: The Parade/Union Street

The Parade/Union Street signalised junction is forecast to exceed theoretical capacity in all future year scenarios. Given the percentage impact of the development proposals are below 5%, no physical works are proposed.

To improve the capacity of the junction, it is proposed to increase the cycle time of the junction from 70 seconds to 90 seconds. The LinSig assessment results for The Parade/Union Street signalised junction are summarised in Table 81 with the full output included in Appendix Q.

Table 81: Junction 5 (The Parade/Union Street) signalised junction LinSig assessment results (with mitigation)

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Minimum (without mitigation)							
1/1	The Parade N Left	84.7%	7.9	58.5	72.8%	6.3	41.6
2/1	Union Street Right	106.7%	25.4	199.7	102.3%	21.3	140.3
3/1	The Parade S Ahead	33.8%	2.9	25.1	48.2%	4.1	29.5
3/2	The Parade S Right	73.1%	7.9	35.3	79.1%	8.4	42.2
Network PRC		**-18.5% @ 70 seconds**			**-13.7% @ 70 seconds**		
Phase 1A							
1/1	The Parade N Left	56.70%	6.7	34.7	51.70%	6.3	31.6
2/1	Union Street Right	70.60%	9.5	39.1	72.40%	10.5	38
3/1	The Parade S Ahead	32.20%	3.6	29.3	44.60%	5	33.3
3/2	The Parade S Right	69.60%	9.4	38.7	73.20%	9.6	42.6
Network PRC		**27.6% @ 90 seconds**			**23.0% @ 90 seconds**		
Phase 1B							
1/1	The Parade N Left	56.70%	6.7	34.7	51.80%	6.3	31.6
2/1	Union Street Right	70.60%	9.5	39.1	72.40%	10.5	38
3/1	The Parade S Ahead	32.20%	3.6	29.3	44.60%	5	33.3
3/2	The Parade S Right	69.60%	9.4	38.7	73.20%	9.6	42.6
Network PRC		**27.6% @ 90 seconds**			**23.0% @ 90 seconds**		
Do Something							
1/1	The Parade N Left	56.90%	6.7	34.7	53.30%	6.5	32
2/1	Union Street Right	71.90%	9.9	39.8	72.90%	10.6	38.3
3/1	The Parade S Ahead	32.20%	3.6	29.3	44.60%	5	33.3
3/2	The Parade S Right	69.60%	9.4	38.7	73.20%	9.6	42.6
Network PRC		**25.3% @ 90 seconds**			**23.0% @ 90 seconds**		

As presented in the table above, with the increased cycle time The Parade/Union Street signalised junction is forecast to operate within practical capacity. It should be noted that an increase in cycle time would impact pedestrian delay at this junction.

7.6.5 Junction 7: St Aubin's Road/Kensington Street/Peirson Road

A junction improvement scheme is proposed at the St Aubin's Road/Kensington Street/Peirson Road junction to enable construction vehicles to make the left turn manoeuvre from Kensington Street on to St Aubin's Road.

Following discussions with DfI Transport Policy, traffic signals are proposed at this junction as presented in Drawing 28. The overall junction arrangement has been altered and the link between Peirson Road and Kensington Street has been removed.

Table 82: Junction 7 (St Aubin's Road/Kensington Street/Peirson Road) signalised junction LinSig assessment results (with mitigation)

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Phase 1A							
1/1	St Aubin's Road (South)	54.0%	8.7	24.3	73.6%	13.8	30.1
2/1	Peirson Road	53.1%	6.1	36.7	72.6%	9.2	44.1
4/1	Kensington Street	20.8%	1.7	6.3	48.0%	4.7	9.6
Network PRC				**66.5%@ 90 seconds**			**22.3%@ 90 seconds**
Phase 1B							
1/1	St Aubin's Road (South)	53.9%	8.7	24.3	73.3%	13.7	30
2/1	Peirson Road	53.1%	6.1	36.7	72.6%	9.2	44.1
4/1	Kensington Street	20.9%	1.7	6.4	49.2%	5	9.8
Network PRC				**66.9% @ 90 seconds**			**22.7% @ 90 seconds**
Do Something							
1/1	St Aubin's Road (South)	59.2%	10.1	24	72.8%	13.6	29.8
2/1	Peirson Road	57.7%	6.3	40.1	72.7%	9.2	44.2
4/1	Kensington Street	20.8%	1.7	6.4	52.3%	5.4	10.4
Network PRC				**52.0%@ 90 seconds**			**23.5%@ 90 seconds**

As set out in Table 82, with the introduction of traffic signals the St Aubin's Road/Kensington Street/Peirson Road junction is forecast to operate within practical capacity.

7.6.6 Junction 14: Gloucester Street/Newgate Street

In Phase 1A the Gloucester Street/Newgate Street priority junction is forecast to exceed practical capacity and approach theoretical capacity. Given Newgate Street will be closed in Phase 1B, it has been agreed with DfI Transport Policy that traffic signals should not be installed until Block B has been constructed.

A junction improvement scheme is proposed at this location following Phase 1B which includes traffic signals and a pedestrian crossing, as presented on Drawing 12. The LinSig assessment results for Newgate Street/Gloucester Street signalised junction are summarised in Table 83 with the full output included in Appendix Q.

Table 83: Junction 14 (Gloucester Street/Newgate Street) signalised junction LinSig assessment results (with mitigation)

Link	Lane	AM			PM		
		Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)	Deg Sat (%)	Mean Max Queue (pcu)	Ave. Delay (s/PCU)
Do Something							
1/1	Gloucester Street	53.50%	9.1	9.4	58.10%	10.8	16
1/2	Gloucester Street	53.60%	9.1	9.4	58.10%	10.8	16
2/1	Newgate Street	51.50%	3.8	45.5	58.70%	6.5	35.2
Network PRC				**67.9%@ 90 seconds**			**53.2%@ 90 seconds**

As presented in the table above, the Gloucester Street/Newgate Street signalised junction is proposed to operate within practical capacity in both the AM and PM peak hour.

7.6.7 Summary

The mitigation schemes presented in this section are forecast to improve the operation of the junctions, with some also providing benefits for pedestrians through the provision of new or improved crossings.

8 Transport Implementation Strategy

8.1 Introduction

This Transport Implementation Strategy demonstrates how JFH will contribute positively towards the overarching policy objectives in Jersey. Whilst a Transport Implementation Strategy is typically only required for Transport Assessments submitted in Wales, it provides a useful tool to summarise the highway proposals in the context of key policy including the Revised 2011 Island Plan (2014).

8.2 Context

The policy context in Chapter 2 highlighted the importance of sustainability the policy guidance. This has provided a key guiding principle in the overall concept and design of the JFH Masterplan in how the proposals aim to minimise the need to travel by car. The establishment of new pedestrian and cycle links to the surrounding infrastructure in St Helier forms a critical component of the vision for JFH as a sustainable development for which walking, cycling and public transport are often the most convenient and quickest forms of transport to this site.

8.3 Objectives

Chapters 3, 4 and 5 have highlighted the relevance of the proposals to a range of overarching objectives, ranging from the day-to-day efficiency of the development to broader planning and transport aspirations towards more sustainable travel patterns.

The Transport Implementation Strategy is therefore underpinned by the following over-arching objectives:

- To achieve accessibility and convenience by walking, cycling and public transport to reduce carbon emissions associated with the site;
- To provide necessary supporting infrastructure;
- To promote cohesive communities and social inclusion, including integration with existing communities;
- To promote healthy lifestyles to maximise physical and mental well-being;
- To provide appropriate parking to enable the safe and effective operation of the hospital; and
- To create conditions that provide safety and security for all including the surrounding communities.

8.4 Measures

This section presents the package of measures proposed in support of Jersey Future Hospital to maximise the success of the development and achieve the objectives set out above.

Phase 1A

The following measures are proposed to be delivered within Phase 1A and Phase 1B:

- A junction improvement scheme including the installation of traffic signals is proposed at the St Aubin's Road/Kensington Street/Peirson Road junction and signalised pedestrian crossings on St Aubin's Road and Peirson Road;
- An increase in the provision of disabled, patient and staff car parking within Patriotic street MSCP;
- To allow for the safe construction of Block A and Patriotic Street MSCP, the phased closure of Kensington Place is proposed adjacent to the site boundary. To enable this phased closure, it is proposed to implement two-way running on Kensington Place between the junction with Lewis Street and the exit to Patriotic Street MSCP, and reverse the direction of one-way traffic flow on Lewis Street;
- The preparation of a CEMP that priorities pedestrian safety and seeks to improve amenity where possible; and
- Introduce a Travel Plan that will be periodically updated to reflect the construction process.

Phase 1B

Following Phase 1A, Block A and new build Westaway Court will be operational and the following measures are proposed:

- A direct pedestrian link between Patriotic Street MSCP and (the now operational) Block A of JFH;
- Relocate staff cycle parking from the basement of the Gwyneth Huelin Wing to Patriotic Street MSCP for Phase 1B only;
- Improved footway widths on Savile Street and introduce a signalised crossing at the junction with Rouge Bouillon, Elizabeth Place and Parade Road;
- Introduce a temporary highway scheme at the Gloucester Street/Seaton Place/Patriotic Place junction including the provision of signals and controlled pedestrian crossings on Patriotic Place and Seaton Place. Alterations to the alignment of the Seaton Place entry to reduce the entry width and improve footway widths;
- To allow for the safe construction of Block B, the phased closure of Newgate Street is proposed. To enable this closure, two-way running is proposed on Patriotic Place and alterations to the accesses for Patriotic Street MSCP; and
- The relocation of servicing and deliveries to the service block on Kensington Place.

Phase 2 Final State

In the final state, the main accesses into the hospital will be via Block C adjacent to The Parade and from Patriotic Street MSCP. There will also be secondary accesses into JFH from Kensington Place and Gloucester Street, adjacent to the Granite Block.

The following measures are proposed in addition to those implemented in the construction stage to maximise the success of the development and achieve the objectives:

- Introduce traffic signals at the Gloucester Street/Newgate Street junction and a signalised pedestrian crossing on Gloucester Street;
- Reinstate Patriotic Place as one-way and retain pedestrian signals at the junction with Gloucester Street;
- Reinstate the pedestrian refuge island at The Parade/Gloucester Street junction to existing dimensions;
- Relocate the existing signalised pedestrian crossing on The Parade to reflect revised access proposals;
- Remove on-street parking on The Parade and improve footway widths;
- Provide 150 cycle stands for staff in the basement of Block B and between the Granite Block and Block B;
- Drop-off facilities for Patient Transport Services and patients located on Newgate Street and The Parade;
- Extension of Newgate Street to be made available for hospital vehicles (ambulances and service vehicles);
- Relocation of ED and ambulance bay to Newgate Street and introduce ambulance lanes on Newgate Street and Kensington Place; and
- Introduction of hurry signals at surrounding signalised junctions to improve journey times for ambulances and potentially other emergency service vehicles.

8.5 Car Parking

In order to contribute towards the objective of reducing peak hour congestion by 15%, Policy TT 10 of the Revised 2011 Island Plan (2014) indicates additional off-street public parking spaces will not be granted permission in the Town of St Helier unless:

- The total level of public off-street car provision falls below 4,000 spaces (2009 levels); or
- Public off-street parking spaces are provided in lieu of private off-street parking provision.

Whilst proposals include constructing one half deck on to Patriotic Street MSCP (equating to approximately 58 spaces), this will be provided in lieu of hospital parking that will be removed including 64 staff parking spaces. The construction of an additional half deck on to Patriotic Street MSCP therefore complies with Policy TT 10.

There are also proposals to allocate some of the existing public long-stay car parking for patients that will be short-stay. Policy TT 10 supports proposals to *increase the proportion of short-stay off-street public parking and which limit or reduce the quantity of long-stay off-street public parking in St Helier*.

9 Management of Construction Traffic

9.1 Introduction

A Construction Environmental Management Plan (CEMP) is being prepared by Gleeds Management Services and will be submitted separately to DfI Transport Policy for comment in due course.

This section of the TA outlines the general principles that will be incorporated within the CEMP and the outline strategy for construction traffic, including for the following:

- The construction programme;
- Vehicle trip attraction;
- Vehicle routing;
- The general principles of the construction phase; and
- Construction worker method of travel.

At this stage, a contractor has not been appointed for these development proposals. Following their appointment, it will be the responsibility of the contractor to comply with all statutory regulations and guidelines in relation to construction and movement activities.

The construction programme is detailed within the Construction Vehicle Movements report attached as Appendix J, and summarised below.

Construction activities are likely to be carried out between Monday and Friday, 08:00 – 18:00, and will be in accordance with the requirements of the Considerate Constructors Scheme (CCS). At this stage, there is no scheduled weekend working.

Construction of the Jersey Future Hospital will involve the demolition of several existing buildings and the construction of others, which will be undertaken in three separate phases as, previously outlined. As such, the Westaway Court development and the alterations to the MSCP will run in parallel with Phase A of the main site development and so are included in this order.

9.2 Vehicle Trip Attraction

This section sets out the estimated number of construction vehicles for JFH for each of the four phases of construction. It should be noted that calculations are based on survey data obtained from a wide range of sites within central London, varying from smaller sites (12,999m²), medium sites (42,000m²), and larger sites (68,000m²) in terms of area.

Trip rates for each phase are set out below – expressed as number of vehicles per 100m².

- Demolition: 8 vehicles/100m^2/day
- Sub Structure: 10 vehicles/100m^2/day
- Super Structure: 10 vehicles/100m^2/day
- Fit-out: 7 vehicles/100m^2/day

Concrete pour peak number of deliveries associated with the construction phase of the project, will be the busiest period of the process in terms of daily deliveries. It is proposed to deliver concrete during the following times:

- 12 No. deliveries between 08:30 – 09:30 hours, a total of 12 deliveries
- 10 No. deliveries per hour between 09:30 – 15:30 hours, a total of 60 deliveries.
- 12 No. daily deliveries are proposed for all other site activities.

Therefore, it is estimated that 84 deliveries per day (with a peak hour of 12 deliveries) would visit the construction site. In order to undertake a robust assessment, these figures have been used within the Environmental Statement to present a worst-case scenario.

The estimated trips likely to be associated with each construction phase is set out in Table 84 below overleaf.

The estimates set out within Table 84 demonstrate that the minimum number of construction vehicles that are forecast to enter the site on any given day (based on the peak day movements) will occur during the fit out phase, which ranges from 3-13 daily vehicular movements.

The two phases estimated to attract the joint largest number of vehicle movements across the Phased development is the sub and super-structure concrete periods, which are forecast to attract 84 daily vehicular movements within each Phase.

Table 84: Construction Vehicle Movements by Phase

Phase	Duration (months)	Total Vehicles	Average Vehicles/Month	Peak Day Movements
Phase 1A				
Demolition	6	1,283	214	11
Substructure Construction	3	923	308	15
Substructure Concrete	3	5,040	1,680	84
Superstructure Construction	6	1,615	269	13
superstructure Concrete	6	10,080	1,680	84
Fit Out	10	1,776	178	9
Total	**34**	**20,717**	**-**	**-**
Westaway Court				
Demolition	4	445	111	6
Substructure Construction	2	268	134	7
Substructure Concrete	2	3,360	1680	84
Superstructure Construction	4	687	172	9
superstructure Concrete	4	6,720	1680	84
Fit Out	6	668	111	6
Total	**22**	**12,148**	**-**	**-**
Phase 1B				
Demolition	6	1,956	326	16
Substructure Construction	4	1,359	340	17
Substructure Concrete	4	6,720	1,680	84
Superstructure Construction	7	3,850	550	27
superstructure Concrete	7	11,760	1,680	84
Fit Out	14	3,647	260	13
Total	**42**	**29,292**	**-**	**-**
Phase 2				
Demolition	4	1,160	290	15
Substructure Construction	2	396	198	10
Substructure Concrete	2	3,360	1,680	84
Superstructure Construction	4	396	99	5
superstructure Concrete	4	6,720	1,680	84
Fit Out	6	369	62	3
Total	**22**	**12,401**	**-**	**-**

9.3 Vehicle Routing

The designated route for all construction traffic will vary for each stage of construction, as set out below.

Phase 1A: Block A and Patriotic Street MSCP

For the demolition and construction associated with Block A of JFH and the works to Patriotic Street MSCP, it is proposed for vehicles to access the site via a combination of the A1 Esplanade and Kensington Place. Some minor works are proposed to the Kensington Place/Esplanade junction to enable construction. To egress the construction site, vehicles will utilise Kensington Street/St Aubin's Road/Esplanade following the implementation of a junction improvement scheme at the Kensington Street/Peirson Road/St Aubin's Road junction.

Phase 1A: Westaway Court

Westaway Court will be constructed in Phase 1A alongside Block A and Patriotic Street MSCP. Potential routes for demolition and construction vehicles include the use of Savile Street and Elizabeth Place.

Phase 1B: Block B

To construct Block B of JFH, construction vehicles are anticipated to enter the site via a combination of the A1 Esplanade, Patriotic Street and Newgate Street. To enable the left turn from the A1 Esplanade in to Patriotic Street, it is likely that the nearside lane on the Esplanade will need to be closed. This temporary road closure could be restricted to the interpeak and agreed as part of the CEMP.

Construction vehicles would then exit the site via a combination of Newgate Street, Gloucester Street and the A1 Esplanade.

An alternative route has been identified which utilises the ring road with the potential for vehicles to set material down from Gloucester Street. Alteration would be required to The Parade/ Gloucester Street junction to reduce the size of the pedestrian refuge island.

Phase 2: Demolition of 1980s and 1960s Block and Construction of Block C

To demolish the 1980s and 1960s blocks and construct Block C, the alternative construction route for Block B will need to be utilised, using a combination of the Esplanade, St Aubin's Road, Cheapside, The Parade and Gloucester Street.

For all construction vehicle routes, advisory signs will be provided at appropriate locations, with exact positions to be agreed with the contractor and DfI Transport Policy prior to commencement. Signage will also be in place for the closure of footways on Kensington Place and Newgate Street, with additional measures to inform the local public likely to be implemented.

Banksmen will not direct general traffic, but will communicate when it is appropriate for heavy and large construction vehicles to enter and egress the site in order to minimise disruption on the local highway network. Banksmen are also proposed on Newgate Street at the junction with Gloucester Street when construction vehicles are exiting the site to improve the safety of pedestrians.

9.4 General Principles

A CEMP typically includes the following:

- The requirements of the stakeholders;
- Demonstrate the proposals are compliant with environmental legislation;
- Detail the mitigation committed within the ES;
- Demonstrate how any adverse effects will be minimised during construction; and
- Set out the site-specific method statements.

The principle objective of the transport element of the CEMP is to minimise the number of vehicular trips to the site, whilst also ensuring that the proposals for construction traffic are safe and will not have an immaterial impact on the local highway network.

It is considered at this stage that this could be achieved through the following potential measures:

- The efficient management and coordination of construction deliveries;
- Using modern, low emission vehicles; and
- Use of a concrete batching plant to minimise traffic impact.

It is likely that construction workers in the most part will be restricted from driving to the construction site given the minimal space available on site and the limited spare capacity of parking facilities in the local area. It is proposed that construction workers, either residing or staying in local temporary accommodation, will walk to site and will not require additional transport services.

For workers staying outside of walking distance of the site, a private bus service will be provided by the contractor to collect and drop off staff. The details of the private bus service collection points and times will be provided to every member of staff prior the commencement of construction.

For those needing to travel to the site by car, which will typically comprise those residing a greater distance from the site, there is potential for a small car parking facility at the temporary construction compound. The construction compound would be served by a private bus service, to transport workers to the main part of the site.

In order to minimise the volume of vehicular traffic on the local highway network, those needing to drive to the construction compound will be encouraged to car share.

10 Framework Travel Plan

10.1 Introduction

A Framework Travel Plan can be found attached as Appendix A and summarised below. It builds on the existing 2005 Travel Plan prepared by Halcrow Group Limited and is intended to be periodically updated in line with the phased construction of the future hospital.

The Travel Plan provides updated baseline travel information and establishes principles to be considered to maximize sustainable transport usage by staff and patients at the hospital throughout and beyond its phased development.

The Travel Plan has the potential to bring benefits to staff, patients and visitors and to the wider community as a whole. There are many possible benefits of having a successful Travel Plan, some of which are noted below. A Travel Plan can:

- Act as a tool for resource for facility and site management and bringing expenditure under control;
- Improve site connectivity by reducing congestion and improving more sustainable links;
- Improve public image and external relations;
- Assist in controlling transport and travel expenditure;
- Create a healthier environment and workforce;
- Help meet environmental goals;
- Provide fair travel costs for staff and patients; and,
- Improve staff and patient facilities.

10.2 Aims and Objectives

10.2.1 Aims

The following Travel Plan aims and objectives have been prepared for all those it is targeting (staff, patients and visitors) and as an evolving document. These aims will be continually reviewed. The overarching aims of the Travel Plan are to:

- Influence the travel behaviour of staff, patients and visitors;
- Encourage travel by cycle and by foot by improving their attractiveness;
- Encourage travel by public transport modes by improving their attractiveness;
- Minimise the number of car trips generated by the hospital;
- Help reduce local road congestion;
- Promote healthy lifestyles and a sustainable, vibrant local community of which the hospital is a part; and,
- Implement measures which are economically self-sustaining when applied in unison with one another.

Although the Travel Plan relates to staff, patients and visitors, it is expected that the majority of the targets and travel plan measures will mainly focus on staff, as it considered more difficult to influence patient and visitor travel behaviour.

10.2.2 Objectives

The site-specific objectives of the Travel Plan will respond to the aims through:

- Making alternative travel modes to the car accessible and user friendly, to encourage increased public transport usage;
- Promoting the health and wellbeing of staff, patients and visitors to the hospital;
- Promoting local walk, cycle and public transport connections in the area; and
- The provision of an on-site Travel Plan Co-ordinator who will be tasked with implementing the measures.

10.3 Targets

10.3.1 Overview

In order for the Travel Plan to succeed and to enable a measurement of success, targets must be set which allow for the assessment of measures and data. Such targets need to be Specific, Measurable, Achievable, Realistic and Timed (SMART) ensuring that wherever possible targets for modal spilt can be achieved.

10.3.2 Baseline Targets

The targets included within the Framework Travel Plan are primarily focused on JFH employees as targets for patients and visitors, whose characteristics are constantly changing, are challenging to achieve and do not meet the SMART principle. By focusing on employees, it should be possible to achieve a real change in travel patterns but with longer-term reciprocal benefits to patients and their visitors.

Table 85: Travel Plan Targets

Aim	Indicator	Base.	Year 1 Target	Year 3 Target	Year 5 Target
Encourage walking	Proportion of employees walking to work	25.6%	Increase the proportion of walking trips to 27%	Increase the proportion of walking trips to 28%	Increase the proportion of walking trips to 30%
Encourage travel by bicycle	Proportion of employees cycling to work	9.1%	Increase the proportion of cycling trips to 10%	Increase the proportion of cycling trips to 12%	Increase the proportion of cycling trips to 15%
Encourage travel by public transport	Proportion of employees using public transport	7.8%	Increase the proportion of public transport trips to 8%	Increase the proportion of public transport trips to 9%	Increase the proportion of public transport trips to 10%
Minimise single-occupancy car trips to the hospital	Proportion of single-occupancy car trips by employees	36.2%	Reduce the proportion of single occupancy car trips by 1%	Reduce the proportion of single occupancy car trips by 3%	Reduce the proportion of single occupancy car trips by 5%
Minimise single-occupancy car trips to the hospital	Proportion of employees car sharing	5.4%	Increase the proportion of people car sharing by 1%	Increase the proportion of people car sharing by 3%	Increase the proportion of people car sharing by 5%

The targets in Table 85 reflect the responses given in the staff survey as well as the improved provision for alternative travel modes as part of the Jersey Future Hospital Development. Some of the largest changes in mode share are expected to be seen in walking, cycling and car sharing. The proposed hospital development has the potential to make a positive impact and increase all three-mode shares.

10.4 Initiatives and Measures

There are a wide variety of possible measures that can be implemented by organisations to promote sustainable initiatives and measures. There are seven categories that these measures fall into, of which all but the ‘Smarter Choices’ are considered Design Measures which are physical measures that can be implemented in and around the hospital site. The ‘Smarter Choices’ are softer measures which encourage people to take more sustainable transport options.

A database of potential initiatives and measures have been developed which could be implemented as part of the full Travel Plan. This database is included within Appendix B of the Framework Travel Plan. Based on the potential Travel Plan targets and the travel survey responses, it is recommended that the following interventions are prioritised to offer the greatest benefits and assist the hospital in achieving the objective of the Travel Plan:

- Actively encourage walking and cycling to work - walking and cycling are the most sustainable modes of transport and have many benefits, not only to the environment but also to the individual, including improving physical and psychological health.
- Encourage travel by bus – the survey suggested that employees see the bus as a less convenient option than driving to work. The bus service operator, Liberty Bus, currently offer a range of tickets including an annual pass for frequent users. One of the measures suggested includes installing TV screens in waiting areas providing information on bus timetables. This could be delivered in conjunction with other measures including the offer of an interest free season ticket loan scheme for staff to purchase an annual ticket for public transport.
- Minimising single occupancy car trips – the travel survey responses suggest that for many employees there is a lack of alternative transport available to them either due to distance travelled, hours of work and/or personal circumstances. However, many respondents did indicate that they would be willing to car share. Increasing the focus on car sharing initiatives should therefore assist the hospital in achieving their target of reducing the proportion of employees who drive to work alone by 5% within the next five years.

10.5 Management

10.5.1 Overview

As set out in the Framework Travel Plan, the overall responsibility of the Travel Plan will remain with the hospital. This will allow for travel-planning measures to be fully integrated in the day-to-day running of the hospital and remain relevant throughout its phased development. In order to maximise the chances of success, it is important to have a clear implementation strategy identifying roles and responsibilities to maintain the momentum of the Travel Plan. As set out below, Travel Plan Coordinator (TPC) will be responsible for the delivery of the Travel Plan. However, to successfully manage the implementation and delivery of the Travel Plan, the following is proposed:

- Liaison between the TPC and a wide range of individuals and groups including key stakeholders, staff, patients and visitors;
- Establish a Travel Pan Steering Group to engage employees, patients and visitors with the ongoing review and development of the Travel Plan; and
- Develop a strategy for the ongoing promotion and awareness of the Travel Plan in order for the target audience to be aware of its implementation and evolution.

10.5.2 Travel Plan Coordinator

The future hospital will be responsible for appointing a TPC with the sufficient time and resources to fulfil the role. Responsibilities of the TPC will include:

- Promoting and encouraging the use of travel modes other than the car to all staff, patients and visitors;
- Taking ownership of the Travel Plan targets and implementing the necessary measures;
- Establishing a Travel Plan Steering Group to assist in taking initiatives forward;
- Providing a point of contact for travel information for staff, patients and visitors;
- Developing and disseminating appropriate Travel Plan marketing information, and to check that all relevant and up to date material is clearly displayed on Travel Plan notice boards around the hospital and staff intranet;
- Arranging for travel surveys to be undertaken when necessary;
- Updating the key milestones, deliverables and the programme outlined in the Travel Plan Action Plan; and
- To act as an example to staff, patients and visitors.

10.6 Monitoring and Review

The Travel Plan sets out what the hospital should do to recognise and address the transport requirements of staff, patients and visitors whilst considering the environmental impact of movements to and from the site.

Effective travel planning is an ongoing improvement process and monitoring plays a key part in this. It is essential that a Travel Plan document is not a one- off event, but evolves over time as the hospital is developed. Regular monitoring and reviewing will help to gauge progress towards targets and objectives and, if necessary, enable the Travel Plan document to be refined and adapted in order to improve its progression.

10.6.1 Monitoring

As a living document, there will be the need to update the Travel Plan as required. This requirement should be borne from the monitoring exercise, which will take place in year's one, three and five following implementation of the plan.

The monitoring will be the responsibility of the Travel Plan Co-ordinator and will review:

- Travel patterns (via a travel survey) - comprehensive travel surveys will be undertaken with a commitment to review the Travel Plan targets at each monitoring phase;
- Full Site audit – undertaken by the Travel Plan Co-ordinator, the audit will identify any barriers that obstruct walking, cycling and using public transport and make recommendations for improvements; and
- Parking counts (all vehicles including bicycles).

10.6.2 Analysis and reporting

The Travel Plan Coordinator will lead the development of the monitoring exercise and will be responsible for analysing the data collected. The Travel Plan Coordinator will produce a full monitoring report.

Following the production of the monitoring report, the Travel Plan Coordinator will be responsible for disseminating its findings to the relevant stakeholder and user groups including DfI Transport Policy.

10.7 Action Plan

Table 86 below summarises the potential actions, which could be undertaken in order to deliver the Travel Plan objectives.

This timetable can be reviewed with stakeholders and updated as required. As stated previously, the Travel Plan is an evolving document and as such will be reviewed over time and adapted where necessary to accommodate changing demands and guidance on encouraging sustainable travel.

Table 86: Action Plan

Mode	Measure	Action	Responsibility	Timescale
All	Travel Plan Coordinator	To be appointed	Health	Immediate commencement
All	Travel Plan Steering Group	To be established	Travel Plan Coordinator	Year 1
All	Launch Travel Plan / Promote Travel Plan Brand	Establish marketing strategy	Travel Plan Coordinator	Year 1
All	Travel packs – mapping, timetables, location of facilities, information on travel choices	To be prepared and distributed	Travel Plan Coordinator	Year 1
All	Intranet site/notice boards to include public transport information	To be established	JFH/Travel Plan Coordinator	Year 1
Public Transport	Explore discounted travel passes with local operators	To be established	Travel Plan Coordinator	Year 1
Reducing car use	Introduce and encourage employees to join the car sharing database	To be provided	Travel Plan Coordinator	Year 1
Reducing car use	Host informal meetings to allow potential car sharers to meet	To be established	Travel Plan Coordinator	Year 2
Reducing car use	Incorporate dedicated staff car share parking in a prominent location	To be established	Travel Plan Coordinator	On completion of works to Patriotic Street MSCP
Car	Introduce dedicated EV car parking spaces (minimum of two additional spaces)	To be installed	JFH/DfI Jersey Car Parks	On completion of works to Patriotic Street MSCP
Public Transport (bus only)	Promote the public transport discounts and interest free season ticket loans available to employees to spread the cost of public transport	To be established	Travel Plan Coordinator	Year 2
All	Monitor Travel Plan	Undertake monitoring surveys	Travel Plan Coordinator	Year 3 and Year 5
All	Check site infrastructure	Site audits / parking counts	Travel Plan Coordinator	On-going
Ease of Use	Introduce a Pay by App parking control system	To be installed	DfI Jersey Car Parks	TBC

11 Summary and Conclusions

This Transport Assessment (TA) has been prepared in support of a planning application for a new hospital in St Helier, with associated highway works and public realm. The development proposals include the construction of additional parking at the Patriotic Street MSCP, located adjacent to the future hospital site and a new medical facility at Westaway Court.

The JFH development site is located approximately 500m west of St Helier town centre, within the Parish of St Helier (PoSH) and principally occupied by the existing Jersey General Hospital (JGH). Westaway Court is located 100m northeast of the JGH site and a similar distance from the town centre. Owing to the town centre location, the site is in a sustainable location that provides numerous opportunities to travel by sustainable modes of transport.

The JFH site is located within 650m walking distance of Liberation Bus Station, which is served by all bus routes in Jersey. There are also a number of bus services within 400m of the hospital, including bus stops on the Esplanade, which are served by eight bus services. Whilst the site is therefore considered accessible by public transport, there are limited late night bus services, which could be an issue for staff working in shifts. Westaway Court is served by two bus services which when combined offer a 30-minute frequency to Liberation Bus Station.

Development proposals seek to further encourage travel by sustainable modes, including new footway/cycleway links, improvements to footway widths and public amenity, the provision of signalised pedestrian crossings and increased staff cycle parking.

In keeping with best design practices for hospitals, the routes for emergency and operational vehicles associated with the hospital have been designed to be separate from those of general hospital traffic including visitors and patient routes. The proposed site configuration lends itself well to this approach with proposed routing being primarily from Kensington Place for blue light and delivery traffic and from The Parade, Gloucester Street and Newgate Street for staff, patients and visitors.

The proposed layout of the JFH site has been designed to maximise the potential number of trips made to the hospital by walking, cycle and public transport. Furthermore, proposals will further contribute to existing infrastructure for pedestrians and cycles by constructing signalised pedestrian crossings and improving footway widths.

Pedestrian access to new build Westaway Court is proposed from Parade Gardens and Savile Street. Vehicular site access for New Build Westaway Court consolidates the existing two access points of Maison Le Pape and Westaway Court into a single priority junction serving approximately 19 car parking spaces. A layby is proposed on Elizabeth Place that will serve as a drop-off for PTS vehicles and ambulances.

Survey data has been provided for thirteen public car parks within 1,200m of the JGH hospital. It can be demonstrated that there are typically 452 long-stay and 343 short-stay parking spaces currently available at 11am.

It is proposed to construct a half deck on to Patriotic Street MSCP which equates to approximately 58 parking spaces. It should be noted that development proposals lead to a loss of 64 staff car parking spaces around Jersey General Hospital. Consequently, these proposals comply with Policy TT 10 of the revised 2011 Island Plan (2014).

It is proposed to allocated additional parking for patients and staff within Patriotic Street MSCP and increase the provision of disabled parking. The remainder of the car park is proposed to be allocated for public long-stay parking.

The development proposals are predicated to generate 40 additional trips in the morning peak and 70 in the evening peak. This overall increase in patient and staff trips are a result of an ageing and growing population and would occur regardless of these development proposals.

A percentage impact assessment indicated the traffic impact associated with the JFH proposal would be limited at all junctions both during and after construction, aside from those impacted by redistributions in the construction period.

Junction mitigation schemes are proposed at a number of junctions including Gloucester Street/Newgate Street, Gloucester Street/Seaton Place/Patriotic Place, St Aubin's Road/Peirson Road/Kensington Street and Rouge Bouillon/ Savile Street/Elizabeth Place/Parade Road. Signalised pedestrian crossings are also proposed at these junctions, improving connectivity to the hospital by sustainable modes of transport.

A framework Travel Plan has been prepared in support of this application and includes a number of measures intended to reduce the number of vehicle trips associated with JFH.