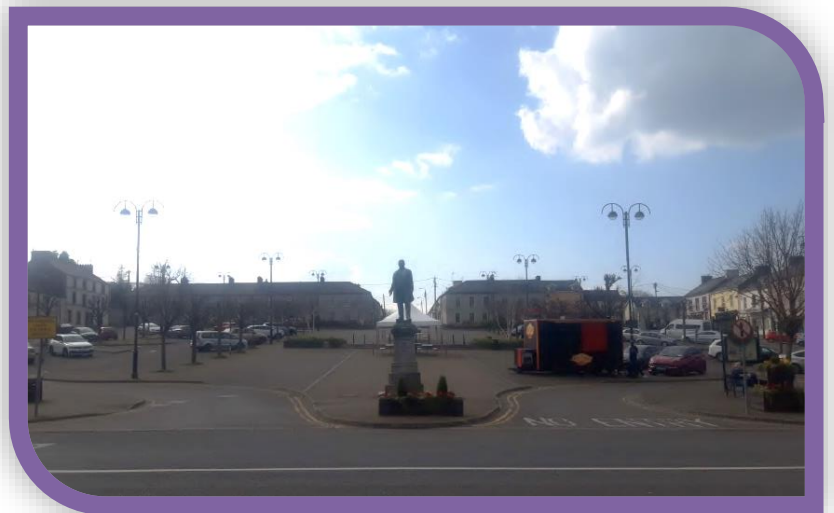


Mitchelstown Georgian Quarter Public Realm Scheme: Traffic and Transport Assessment

For Cork County Council



Document Control

| | |
|--------------------------|--|
| Contract Name | Tobin Mitchelstown Public Realm Traffic and Transport Assessment |
| Contract Number | C869.1 2022 |
| Document Type | Traffic and Transport Assessment |
| Document Status | Final |
| Primary Author(s) | Sean Byron |
| Other Author(s) | Cillian O'Reilly |
| Reviewer(s) | Ciaran McKeon |

Document Review

| Item No. | Item Description | Reviewer Initials | Review Date |
|----------|------------------|-------------------|-------------|
| 1 | Draft TTA v1.1 | CMcK | 14/10/2022 |
| 2 | Draft TTA v1.2 | CMcK | 25/10/2022 |
| 3 | Draft TTA v1.4 | CMcK | 16/12/2022 |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Distribution

| Item No. | Item Description | Approvers Initials | Date |
|----------|------------------|--------------------|------------|
| 1 | Draft TTA v1.3 | CMcK | 25/10/2022 |
| 2 | Draft TTA v1.5 | CMcK | 19/12/2022 |
| 3 | Final TTA v1.6 | CMcK | 22/02/2023 |
| 4 | | | |
| 5 | | | |
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Table of Contents

| | |
|---|-----------|
| 1. INTRODUCTION | 4 |
| 1.1. OVERVIEW | 4 |
| 1.2. STUDY AREA AND OVERVIEW OF OPTIONS | 4 |
| 1.3. REPORT STRUCTURE | 6 |
| 2. POLICY AND GUIDANCE REVIEW | 7 |
| 2.1. INTRODUCTION | 7 |
| 2.2. NATIONAL GUIDANCE | 7 |
| 2.3. REGIONAL AND LOCAL POLICY | 10 |
| 3. BASELINE CONTEXT | 13 |
| 3.1. INTRODUCTION | 13 |
| 3.2. STUDY AREA | 13 |
| 3.3. PEDESTRIAN PROVISION | 14 |
| 3.4. CYCLING PROVISION | 16 |
| 3.5. PUBLIC TRANSPORT | 18 |
| 3.6. TAXI PROVISION | 19 |
| 3.7. CAR PARKING FACILITIES | 19 |
| 3.8. SERVICING/ DELIVERY FACILITIES | 22 |
| 3.9. LOCAL ROAD NETWORK | 22 |
| 3.10. TRAFFIC SURVEY DATA COLLECTION | 24 |
| 4. DESCRIPTION OF PROPOSED DEVELOPMENT | 27 |
| 4.1. INTRODUCTION | 27 |
| 4.2. PROPOSAL OVERVIEW | 27 |
| 4.3. COMMON DESIGN ELEMENTS | 27 |
| 4.4. KING SQUARE PROPOSALS | 28 |
| 4.5. GEORGE’S STREET PROPOSALS | 29 |
| 4.6. KING’S STREET PROPOSALS | 31 |
| 4.7. NEW MARKET SQUARE PROPOSALS | 33 |
| 5. DEVELOPMENT TRAFFIC IMPACT ANALYSIS | 35 |
| 5.1. INTRODUCTION | 35 |
| 5.2. ANALYSIS OVERVIEW | 35 |
| 5.3. DO-NOTHING SCENARIO | 36 |
| 5.4. DO-SOMETHING SCENARIO | 39 |
| 5.5. PARKING ANALYSIS | 41 |
| 5.6. SUMMARY | 42 |
| 6. SUMMARY AND CONCLUSION | 43 |
| 6.1. SUMMARY | 43 |
| 6.2. CONCLUSION | 44 |

Appendix

Appendix A Traffic & Pedestrian Surveys

Appendix B AM & PM Peak Traffic Flow Diagram

| | |
|-------------------|---|
| Appendix C | Proposed Layouts |
| Appendix D | Junction Visibility Splay Drawing |
| Appendix E | Do-Nothing Traffic Flow Diagram |
| Appendix F | DN – New Market Square (southern)/ R665 Modelling Output |
| Appendix G | DN- New Market Square (northern)/ R665 Modelling Output |
| Appendix H | Do-Something Traffic Flow Diagrams |
| Appendix I | DS New Market Square (southern)/ R665 Modelling Output |
| Appendix J | DS New Market Square (northern)/ R665 Modelling Output |

1. Introduction

1.1. Overview

Transport Insights has been commissioned by REDscape (and Tobin Consulting Engineers (TCE)) on behalf of Cork County Council to undertake a Traffic and Transport Assessment (TTA) in support of a planning application to improve the public realm environment at four locations in Mitchelstown, Co. Cork. This TTA Report (henceforth referred to as the Report) forms part of a body of work undertaken by Transport Insights and other members of the project design team and informs the proposals' design and assessment.

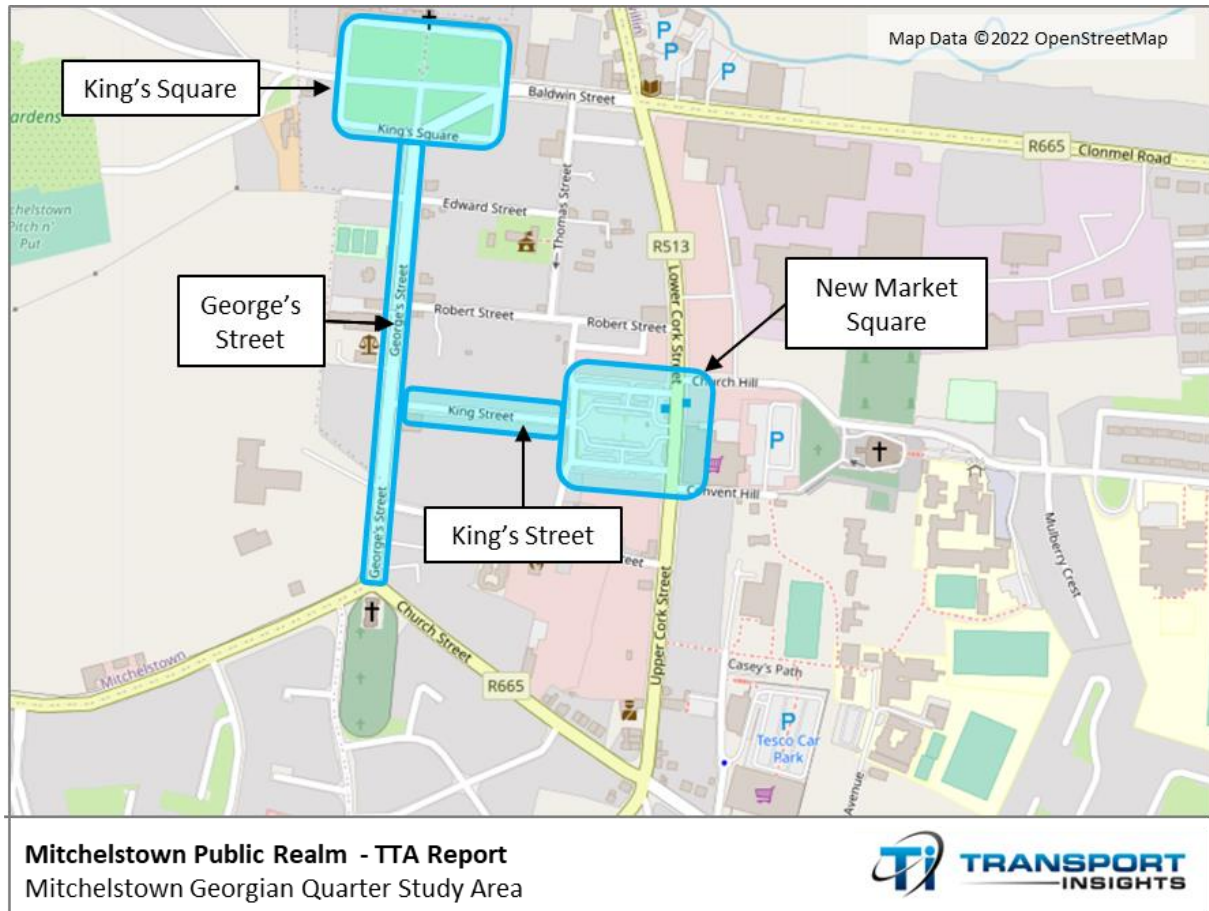
The contents of this Report have been informed by consideration of baseline traffic and transport conditions (for all modes) at the four locations identified for public realm enhancement works. The assessment considers existing sustainable and active travel facilities, available traffic, pedestrian and parking survey data, existing on-street parking and servicing/ loading provision, and provides an assessment of the potential impact of the proposals.

1.2. Study Area and Overview of Options

Study Area

Figure 1.1 (overleaf) illustrates the location of the four sites in Mitchelstown identified for public realm enhancement works, namely, King's Square, George's Street, King's Street and New Market Square, which are collectively known as Mitchelstown Georgian Quarter (for the purposes of this project). As illustrated in this figure:

- King's Square is located to the northwest of the Town Centre and provides an area of open space bounded by a perimeter road in addition to streets criss-crossing the Square with an overall area of ca. 1.47-hectares.
- George's Street extends south from King Square for ca. 460-metres to its junction with Kildorrery Road and Church Street and provides a single carriageway street fronted mainly by residential dwellings.
- King Street is a single carriageway street ca. 170-metres in length which links George's Street and the western end of New Market Square.
- New Market Square is located in the core of Mitchelstown Town Centre adjacent to the R665 regional road, and provides a public amenity area in the centre, on-street and off-street parking, and is bounded by a two-way single carriageway street around its exterior.

Figure 1.1 Mitchelstown Georgian Quarter Study Area

Overview of Proposals

The project seeks to enhance the public realm of the Mitchelstown Georgian Quarter, providing improvements to the streetscape, road corridor and public amenity spaces at each of the four sites. A number of potential options were considered for each location during feasibility stage (Stage 1) and a separate Transport Feasibility Assessment Note was produced by Transport Insights regarding the various options identified at that stage. The project has now progressed to Stage 2 (A – Design for Submission of Statutory Approvals) with a preferred option proposed for each of the four sites. This Report details the traffic and transport assessment undertaken for the Stage 2 (a) proposals. Common improvements proposed among the four sites include improving the general layout of the road corridor, providing improved pedestrian and cycling infrastructure and safer crossing point(s), formalising car parking provision, fostering a low-speed vehicle environment (including the introduction of a supporting 30 km/h speed limit), and providing landscaping improvements.

Proposals will maintain existing vehicle circulation arrangements (i.e. two-way) on George's Street and King's Street while it is proposed to reconfigure New Market Square and sections of King's Square by introducing a one-way system around the perimeter of each Square. Proposals for New Market Square also seek to provide an enlarged and improved main Square environment and consolidate car parking

towards the western section of the Square. Further details on the proposed scheme for each site is provided in Section 4 of this Report.

1.3. Report Structure

The remainder of this Report is structured as follows:

- **Section 2** presents an overview of the relevant national, regional and local policy and guidance;
- **Section 3** presents baseline context including sustainable and active travel infrastructure and services, local road network and baseline survey data, existing car parking and servicing arrangements at the four sites;
- **Section 4** presents an overview of the preferred option for each of the four locations including carriageway changes, vulnerable road user proposals and proposed car parking provision;
- **Section 5** presents analyses of the key traffic and transport impacts of the proposals; and
- **Section 6** provides an overall summary and conclusion.

2. Policy and Guidance Review

2.1. Introduction

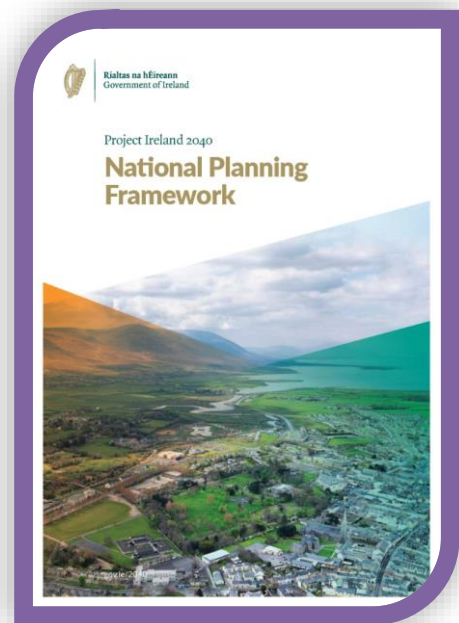
This section of the Report summarises national, regional and local policy and guidance of relevance to the proposed development.

2.2. National Guidance

National Planning Framework (2018)

Project Ireland 2040 National Planning Framework (NPF) was published by the Government of Ireland in 2018. The *NPF* is the Government's strategic plan for shaping the future growth and development of Ireland to 2040. The *NPF* prioritises National Strategic Outcomes (NSOs), with key ones of relevance to the current proposed project outlined below:

- **NSO 1 Compact Growth:** The *NPF* recognises to achieve sustainable development, a transition to more sustainable modes of travel such as cycling and walking is necessary, not just in large urban settlements but also within smaller towns, villages and rural areas. This includes the enablement of improve accessibility to urban centres, enhancing the attractiveness, viability and vibrancy of smaller towns and villages as a means of achieving more sustainable patterns and forms of development.
- **NSO 2 Enhanced Regional Accessibility:** Cycle-based recreation has demonstrated that it has potential to *"bring new life to regional and rural locations through the "win-win" scenario of increased activity and healthier travel."*
- **NSO 4 Sustainable Mobility:** Recognises that urban areas are too heavily dependent on road and private, mainly car-based, transport with the result that our roads are becoming more and more congested. NSO 4 notes in order to achieve sustainable mobility, provision of *"public transport infrastructure and services to meet the needs of smaller towns, villages and rural areas"* as well as a *"comprehensive network of safe cycling routes"* should be provided (where appropriate) in towns and villages.
- **NSO 7 Enhanced Amenity and Heritage:** Recognises that in order to enhance amenities and heritage, places need to be supported by integrated transport systems and green modes of movement such as cycling and walking. National funded projects will support transformational



public realm initiatives to give city and town centre areas back to citizens, encouraging greater city and town centre living, enhanced recreational spaces and attractiveness from a cultural, tourism and promotional perspective.

The Mitchelstown Georgian Quarter proposals will help to deliver on a number of National Policy Objectives (NPO) set out in the *NPF*, including:

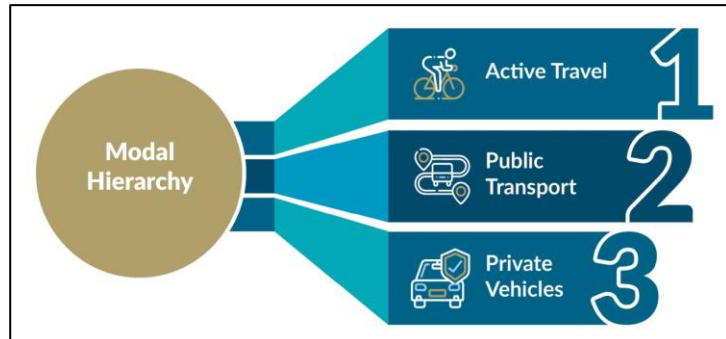
- **NPO 4** “Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.”
- **NPO 6** *“Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.”*
- **NPO 17** *“Enhance, integrate and protect the special physical, social, economic and cultural value of built heritage assets through appropriate and sensitive use now and for future generations.”*
- **NPO 18a** *“Support the proportionate growth of and appropriately designed development in rural towns that will contribute to their regeneration and renewal, including interventions in the public realm, the provision of amenities, the acquisition of sites and the provision of services.”*
- **NPO 27** *“Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments and integrating physical activity facilities for all ages.”*
- **NPO 64** *“Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car.”*

National Development Plan 2021-2030

The *National Development Plan 2021-2030 (NDP)*, published in October 2021, is the overarching plan with a 10-year horizon that shall guide national, regional and local planning up to the year 2030. This document, a revision to the previous *NDP 2018-2027*, sets out the strategy and investment priorities necessary to support sustainable growth in Ireland over the lifetime of the Plan. The *NDP* notes it will *“support the expansion of sustainable mobility options, both in the context of improved public transport and expanded active travel infrastructure, with the aim of offering citizens in rural areas a sustainable alternative to the private car.”*

National Investment Framework for Transport in Ireland (2021)

The *National Investment Framework for Transport in Ireland (NIFTI)* was published by the Department of Transport in December 2021. It is the strategic framework for future investment decision making in land transport. Its purpose is to guide the development of the transport network in the decades ahead to enable delivery of the *NPF* and promote positive social, environmental and economic outcomes throughout the country. As per the graphic inserted to the right, *NIFTI* sets out a modal hierarchy for investment in transport with active travel as the first priority.



The *Framework* states that in order to “*facilitate compact and sustainable growth in our towns and cities, the mobility of people and goods in urban areas is [a] priority*”, and investment needs to support projects that reduce urban congestion, particularly via sustainable mobility measures. Furthermore, prioritising the optimisation of existing infrastructure and giving sustainable modes greater priority in the development of new sustainable mobility infrastructure also promotes the decarbonisation of the transport sector.

CycleConnects (2022)

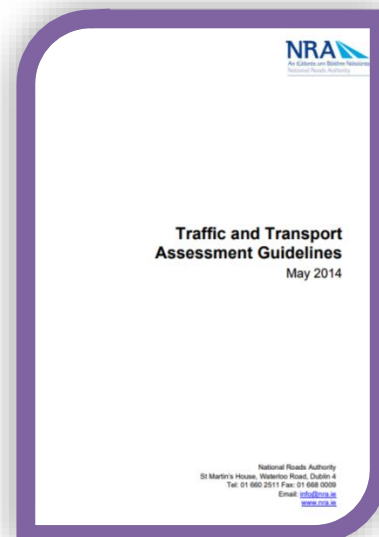
CycleConnects was launched by the National Transport Authority in September 2022. The proposals within *CycleConnects* aim to create an extensive cycling network across the island of Ireland (and complement cycling plans already developed for the Greater Dublin Area). The proposed network of cycling provision is envisaged to provide cycling links in key cities, towns and villages including in Mitchelstown.

Traffic and Transport Assessment Guidelines (2014)

Transport Infrastructure Ireland’s *Traffic and Transport Assessment (TTA) Guidelines* May 2014 provides guidelines for best practice in relation to the preparation of a TTA. In relation to the Assessment, it states:

“The Traffic and Transport Assessment should be written as an impartial assessment of the traffic impacts of a scheme and it should not be seen to be a “best case” promotion of the development. All impacts, whether positive or negative, should be recorded. The level of detail to be included within the report should be sufficient to enable an experienced practitioner to be able to follow all stages of the assessment process and to reach a similar set of results and conclusions.”

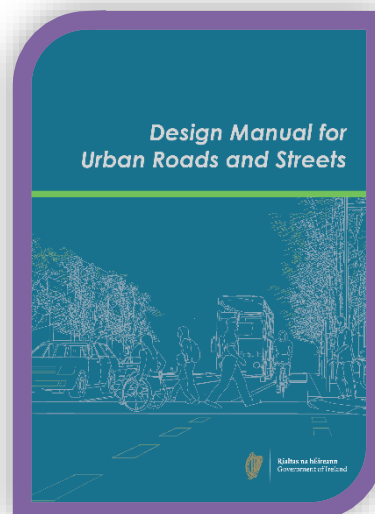
This guidance has informed the content of this TTA. This Report serves as an independent traffic and transport assessment of the proposals for the Mitchelstown Georgian Quarter project.



Design Manual for Urban Roads and Streets (DMURS)

DMURS was jointly published by the Department of Transport, Tourism and Sport and Department of Environment, Community and Local Government in 2013, and updated in 2019. The principles, approaches and standards set out in DMURS apply to the design of all urban roads and streets (streets and roads with a speed limit of 60 km/h or less).

DMURS provides comprehensive guidance on various aspects of street design such as access arrangements, pedestrian infrastructure and provision, car parking design and circulation parameters, delivery and servicing arrangements along with other design guidance. DMURS guidance has informed the proposed designs for each of the four locations, and this is noted in the relevant sections of this Report.



2.3. Regional and Local Policy

Regional Policy and Economic Strategy

The *Regional Spatial and Economic Strategy (RSES)* is a strategic plan to support the implementation of NPF and NDP. Its aim is to support the economic policies of the Government by providing a long-term strategic planning and economic framework for the development of the regions.

Cork County Development Plan 2022-2028

The *Cork County Development Plan 2022-2028* was adopted by the Elected Members of Cork County Council on Monday 25th April 2022 and came into effect on Monday 6th June 2022, replacing the *Cork*

County Development Plan 2014, the 8 no. Municipal District Local Area Plans adopted in 2017 and the 9 no. Town Development Plans of former Town Councils.

Overarching Transport Planning Related Objectives

Chapter 12 of the *Development Plan* outlines the Council’s policies and objectives as they relate to transport and mobility. Of relevance to the proposals are the following transport planning related policies, reproduced below:

TM 12-1: Integration of Land Use and Transport

“Support and facilitate the integration of land use with transportation infrastructure, through the development of diverse, sustainable, compact settlements, to achieve sustainable transport outcomes, with the pattern, location and design of new development in the County to support existing and planned well-functioning, integrated public transport, walking and cycling transport modes.

- e) “Development in smaller rural towns will optimise public transport and sustainable travel integration within settlements.*

TM 12-2: Active Travel

TM12-2-1: *“Deliver a high level of priority and permeability for walking and cycling to promote accessible, attractive, liveable, vibrant and safe settlements to work, live, shop and engage in community life, within a ten minute walk of one’s home. Prioritise development in our settlements that is well located and designed to facilitate walking, cycling and public transport trips. Promote equal access for all through the adherence to universal design in the external built environment to facilitate greater use of public transport, walking and cycling.*

- e) Walkability and accessibility by walking mode will be a central objective in the planning and design of all new transport infrastructure and public transport services.*
- f) Public realm upgrades will be promoted to enhance walking and cycling provision in settlements.*

TM12-2-2: *“Promote and facilitate an active travel culture in the County where active travel is a viable choice.”*

- d) Support the development of a safe, coherent and continuous cycling infrastructure to cater for the needs of all groups of cyclists, especially new cyclists, school children and the elderly and support safe walking and cycle routes particularly in the approach to schools.*
- h) Seek to improve connectivity within the County and region for walking routes and commuter cycling routes and recreational amenity functions.”*

TM 12-8: Traffic/ Mobility Management and Road Safety

- b) *“Support demand management measures to reduce car travel and promote best practice mobility management and travel planning via sustainable transport modes.”*

TM 12-9: Parking

“Secure the appropriate delivery of car parking and bicycle spaces and facilities in line with the Standards set out in Section 12.24 of this document:

- b) *Cycle parking will be appropriately designed into the urban realm and new developments at an early stage to ensure that adequate cycle parking facilities are located and designed in accordance with cycle parking design guidelines; The National Cycle Manual (NTA, 2011), and the Standards for Cycle Parking and Associated Cycling Facilities for New Developments document (Dun Laoghaire Rathdown County Council, 2018).*
- d) *Connectivity and accessibility between key car parking areas and primary town centre streets is to be safe and convenient.*

3. Baseline Context

3.1. Introduction

This section of the Report describes the existing study area, current accessibility arrangements for pedestrians, cyclists and public transport users, parking and servicing arrangements and the local road network. The existing conditions presented here represents an evidence-based review, and have been informed by:

- a desktop review of the study area and its surrounding transport network, including general road infrastructure, facilities for pedestrians and cyclists and public transport infrastructure and service provision;
- photographic records for the locations within this section were taken as part of a site assessment by the project team; and
- classified junction turning count surveys of 5 no. junctions along with pedestrian, cyclist and parking count surveys.

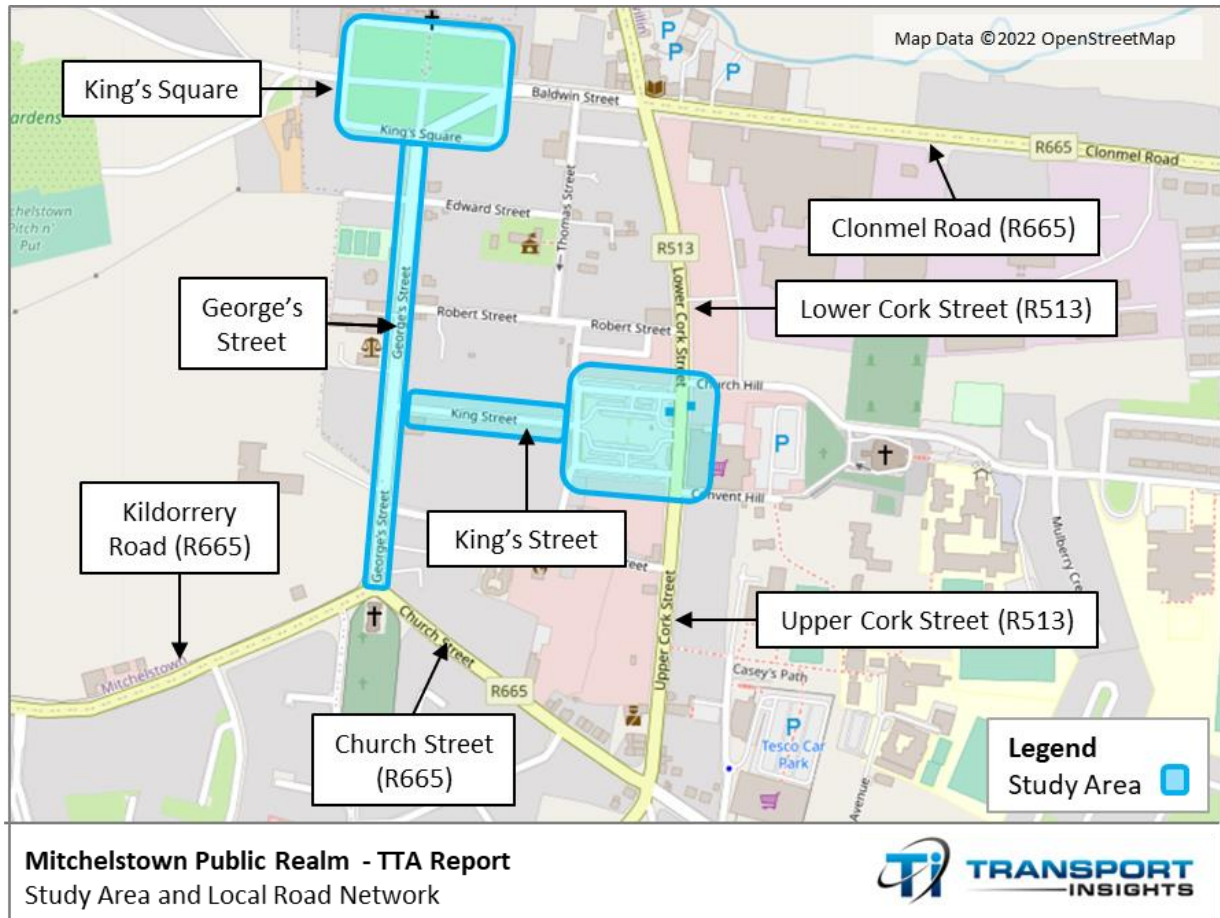
3.2. Study Area

As illustrated by Figure 3.1 (overleaf), the study area is located within Mitchelstown, County Cork and primarily located to the west of the R665 (Cork Street Upper/ Cork Street Lower) which forms the main thoroughfare through the Town. The four sites identified for public realm enhancement works, collectively known as Mitchelstown Georgian Quarter, and the local road network are highlighted in Figure 3.1. As illustrated in this figure, the study area is comprised of 4 no. distinct areas, namely:

- King's Square;
- George's Street;
- King's Street; and
- New Market Square.

The remainder of this section of this Report forms an assessment of the study area as it currently exists which focuses on pedestrian and cycle provision, public transport infrastructure and services, taxi provision and the local road network itself. A summary of available traffic and parking survey data has also been included.

Figure 3.1 Study Area and Local Road Network



3.3. Pedestrian Provision

Pedestrian Infrastructure

In terms of pedestrian infrastructure, the areas which are the subject of this assessment generally include pedestrian infrastructure on both sides of the vehicular carriageway. This is elaborated upon under the following sub-headings, with specific reference to locations where such facilities are absent or deficient.

King's Square

King's Square however is noted to have a general absence of pedestrian footpath infrastructure within (see image to the right) and around the outskirts of the Square. A narrow footpath is provided on the southern side of Castlefarm Road as well as a short section of footpath through the centre of the northern section of the Square from



Castlefarm Road. A narrow on-street strip along the southern side of George's Street carriageway has

been marked off as a pedestrian route. There is also a general absence of dropped kerbing, tactile paving or decided pedestrian crossing points on roads within and around King's Square.

George's Street



George's Street has a relatively wide building to building line of ca. 24-metres with footpath provision of ca. 2 to 4-metres wide on either side along with a landscape strip (see image to the left). There is a limited provision of dropped kerbing and tactile paving along George's Street and at junction crossings. In addition, very limited pedestrian crossing infrastructure is provided along George's Street, e.g. uncontrolled crossings adjacent to

junctions.

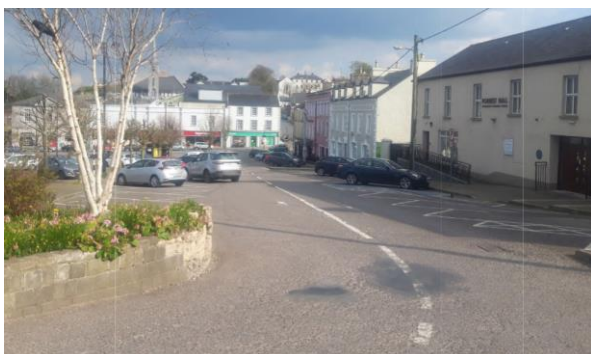
King's Street

King's Street also has a relatively wide building to building line of ca. 15-metres although this is noted to narrow towards the junction with George's Street. Footpaths are provided on both sides of the carriageway with widths of ca. 3-4-metres (narrow towards the northern section). Similar to George's Street, limited dropped kerbing and tactile paving are currently provided along King's Street. It is also noted, vehicles tend to currently park partially on the footpath which appears to have impacted surface conditions, as per the image on the left.



New Market Square

New Market Square has footpath infrastructure around the outside of the Square, adjacent to the buildings enclosing the Square. Notably, there is a lack of dedicated pedestrian crossing points between the outer footpath and the internal parking area (see image to the left) and a lack of pedestrian facilities at junctions on the western boundary of the Square. A large pedestrian area runs through the centre

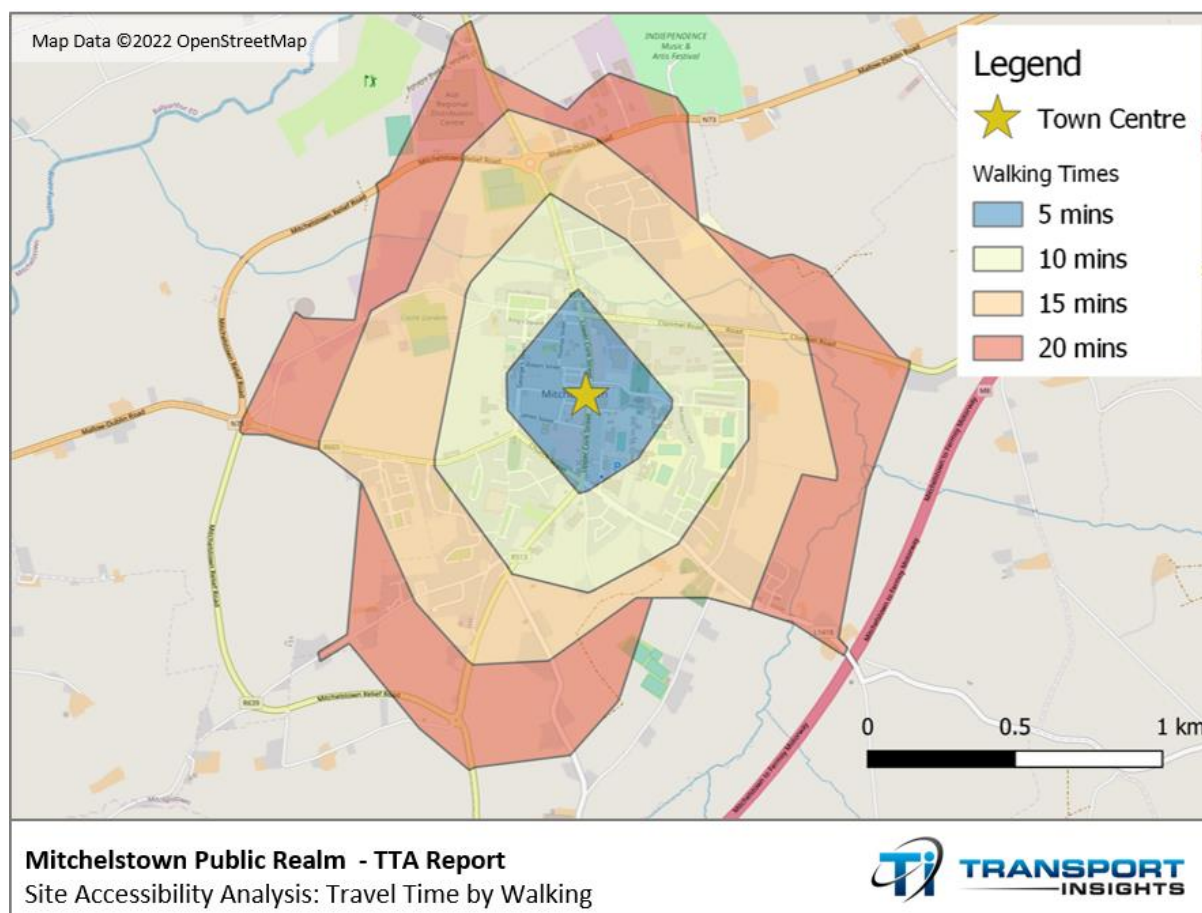


of the car park, providing a north-south spine (which is also used for a weekly market). This central pedestrian spine does not extend beyond the footprint of the Square, for instance across the regional road, limiting its integration with pedestrian infrastructure within the Square's immediate environs. The R665 which forms the

eastern boundary of the Square has footpaths on both sides of the carriageway. There are also two controlled pedestrian crossing points at either end of the Square on the R665, a zebra crossing to the south and a signal-controlled crossing to the north.

Mitchelstown is considered to be an accessible location for pedestrians (in travel time by walking) from the surrounding built areas. To illustrate pedestrian accessibility, walking isochrones were generated using geographic information systems (GIS) software, and are illustrated in the following Figure 3.2.

Figure 3.2 Site Accessibility Analysis: Travel Time by Walking



As can be seen from the preceding Figure 3.2, the 20 minutes walking catchment of the Town Centre (i.e. New Market Square) includes the entirety of the urban settlement of Mitchelstown, extending as far north, west and south as the Mitchelstown Relief Road and as far east as the Mitchelstown Bypass (M8).

3.4. Cycling Provision

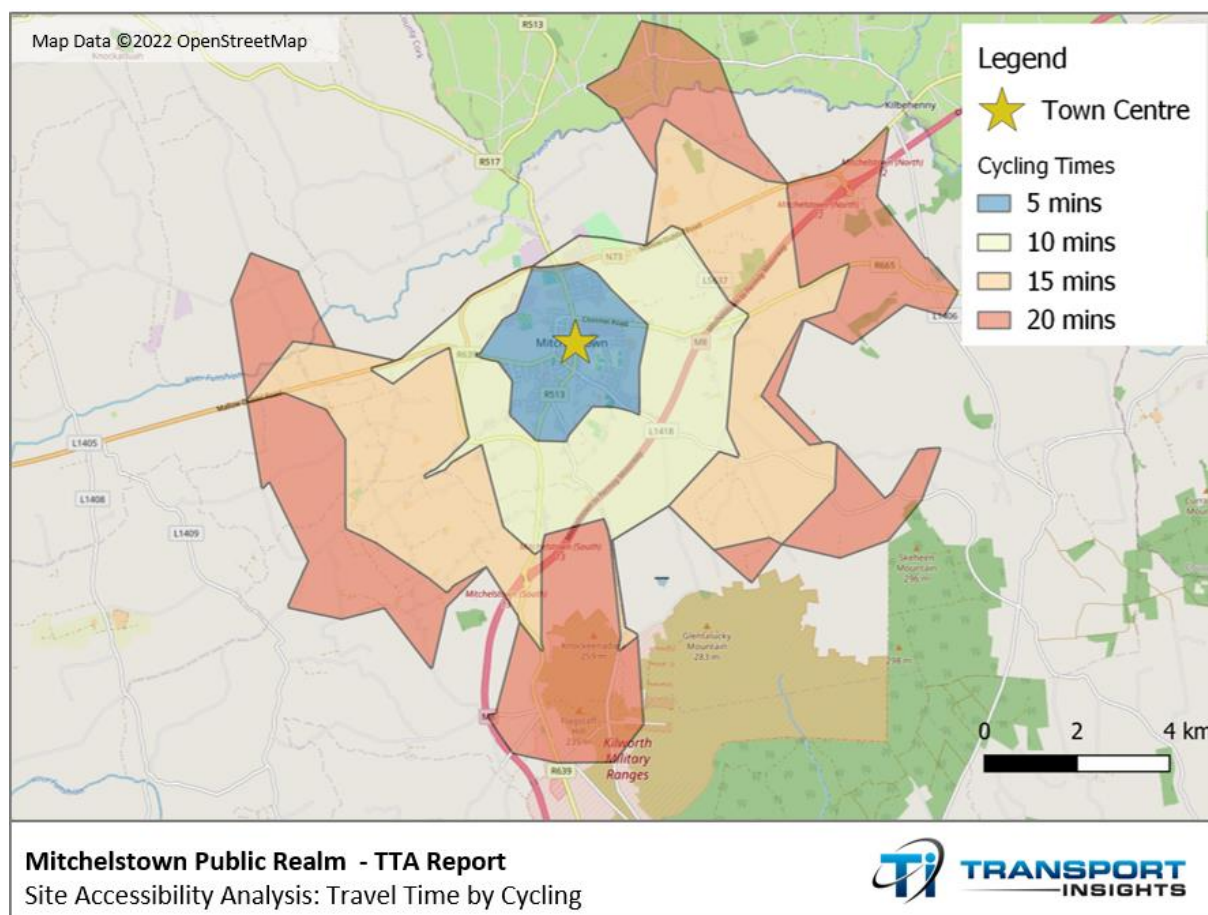
Cycle Infrastructure

In terms of cycling infrastructure there is no formal cycling infrastructure of note present within the study area. It is noted that cycle facilities are provided on Kildorrery Road (R665) in the form of dedicated cycle lanes. In terms of accessibility, Mitchelstown is noted to have an urban form of a typical

Irish market town and is of such a form that distances between residents and various services and amenities are considered conducive to cycling.

Similar to pedestrian accessibility, the site is considered to be an accessible location for cyclists (by travel time) from the surrounding built areas. To illustrate cycle accessibility, cycling isochrones were generated using GIS software and are illustrated in the following Figure 3.3.

Figure 3.3 Site Accessibility Analysis: Travel Time by Cycling



As can be seen from the preceding Figure 3.3, the 20 minutes cycle catchment of New Square extends beyond the urban settlement of Mitchelstown, as far south as the Kilworth Military Ranges, west along the Mallow to Dublin Road, eastwards towards Kilbeheny and Ballygiblin and northwards across the River Funshion.

Mitchelstown's pedestrian and cycle accessibility attributes demonstrate that, subject to the provision of appropriate infrastructure, a strong opportunity exists for greater travel to and from the centre of Mitchelstown by active modes, and in doing so to encourage sustainable travel choices, particularly for local trips.

Proposed Improvements to Cycling Infrastructure

As noted in Section 2, *CycleConnects* aims to improve sustainable travel in the county by providing cycling links in key cities, towns and villages throughout the country and provide the potential for more trips to be carried out by cycling in a safe, accessible and convenient manner. Public consultation on draft proposals for 22 counties including Cork was undertaken from 30th September to 18th November 2022. In the Mitchelstown area (see image to the right), the proposals include the following:

- Interurban route on:
 - R665 including Upper and Lower Cork Street;
 - Clonmel Road (R665); and
 - Mallow-Dublin Road (N73).
- Urban Secondary routes on:
 - George's Street;
 - Mulberry Road;
 - Kildorrery Road (R665); and
 - L5637.



Overall, the potential cycle network improvements result in the four locations forming the Mitchelstown Georgian Quarter public realm improvement project being ideally located to benefit from future high-quality cycle infrastructure, which will contribute to a substantial increase in the attractiveness of cycling as a means of accessing the Mitchelstown Town Centre.

3.5. Public Transport

Existing Bus Infrastructure

Two bus stops are present on the eastern side of New Market Square, parallel to and accessed from the R665. The northern most of the two bus stops includes a bus shelter, seating and raised kerbing to aid bus boarding/ alighting (see image to the right). This stop is served by public bus routes with services summarised in Table 3.1 (overleaf). The southern bus stop is believed to be utilised by tourist buses/ coaches when visiting the Town. Offline bus bays measuring



ca. 18-metres x 3-metres are provided in front of both bus stops. In addition, a bus stop is located on the eastern side of the R665, opposite the northern most New Market Square bus stop. This stop has

a bus flag post and a bus cage is marked out on the carriageway, measuring ca. 12-metres x 3-metres. This stop is served by public bus services.

No bus infrastructure or services have been identified on King's Square, George's Street and King's Street.

Existing Bus Services

As described above, two of the bus stops on the R665 adjacent New Market Square are served by public bus services. Currently available bus services including route numbers, routes, operators and frequencies are summarised in the following Table 3.1.

Table 3.1 Bus Services at New Market Square Stops

| Route No. | Route | Operator | Avg. Weekday Off-Peak Frequency | Avg. Weekday Peak Frequency |
|--------------|---|-----------------|---------------------------------|-----------------------------|
| 245 | Cork City - Clonmel | Bus Éireann | 60 minutes | 60 minutes |
| 245X* | Cork City - Dublin City | Bus Éireann | 240 minutes | 120 minutes |
| 245C | Mitchelstown to Fermoy via Kildorrery & Glanworth | Local Link Cork | 180 minutes | 120 minutes |
| 328 | Limerick – Galbally/ Mitchelstown | Bus Éireann | 180 minutes | 135 minutes |
| N/A | Skenakilla to Mitchelstown | Local Link Cork | 270 minutes** | N/A |

*Express route **Thursday only

As detailed in the preceding Table 3.1, the bus stops on R665 offer connections to Skenakilla, Clonmel, Clogheen, Limerick and Fermoy and also connections to longer distance locations such as Dublin City and Cork City.

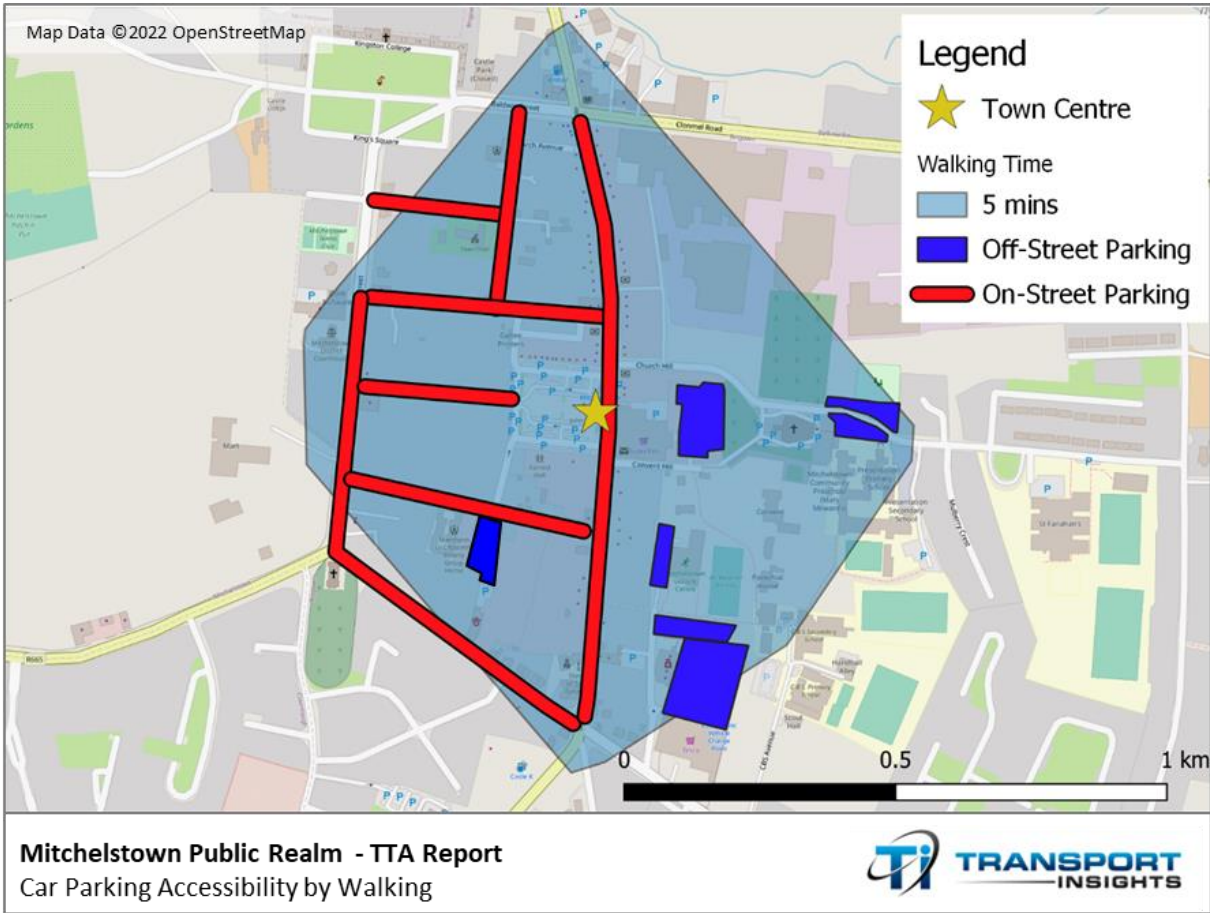
3.6. Taxi Provision

At present no dedicated taxi facility (e.g. timed taxi rank) has been identified within the study area. Nevertheless, private taxi services are understood to be available within Mitchelstown.

3.7. Car Parking Facilities

Mitchelstown's car parking facilities include both on-street and off-street public car parks in addition to off-street private car parks. Figure 3.4 (overleaf) illustrates available car parking within 400 metres from the centre of New Market Square. The defined catchment area corresponds to the maximum acceptable walking time of 5 minutes from a parked car to the trip destination.

Figure 3.4 Car Parking Accessibility by Walking



As can be seen from the preceding Figure 3.4, on-street car parking is provided throughout Mitchelstown and is easily accessible from the Town Centre. There are also 6 no. off-street car parking areas within a 5 minutes’ walk of New Market Square.

Table 3.2 (overleaf) summarises the currently available car parking facilities at the four locations forming the Mitchelstown Georgian Quarter public realm improvement project and notes relevant restrictions. The table also summarises the result of a spot car parking occupancy survey undertaken during the PM period (17:00-17:15hrs on Wednesday 15th June 2022), understood to represent a typically busy parking period in Mitchelstown.

Table 3.2 Car Parking Facilities within Study Area

| Location | On-Street/ Off-Street* | Restrictions (if applicable) | Provision of Spaces** | Spot Car Parking Survey (% Occupancy) |
|--|---------------------------|---|---|---|
| King's Square | On-street | Unrestricted | 86 spaces | 63 vehs (73%) |
| George's Street | On-Street | Majority unrestricted except some yellow boxes | 60 spaces | 26 vehs (43%) |
| King's Street | On-Street | Majority unrestricted except some yellow boxes | 31 spaces including 2 marked disabled bays | 19 vehs (61%) |
| New Market Square (incl. adj. Cork Street spaces) | On and Off Street | Restricted between Monday to Saturday 08:30-18:30hrs, 2 hours duration | 170 spaces including 9 marked disabled bays | 72 vehs (42%) |

*i.e. a dedicated publicly accessible car park. **indicative count of legal spaces

All four sites within the study area have existing car parking facilities with parking at New Market Square being the only site covered by timed restrictions – given New Market Square's central location within Mithelstown Town Centre and surrounding commercial activities, timed parking restrictions appear necessary to effectively manage parking demand. King's Square, George's Street and King's Street provide informal unmarked on-street parking (except for marked disabled bays) whereas New Market Square includes formal marked out parking bays. It is noted that vehicles parked on King's Street tend to park partially on the carriageway and partially on the footpath. Furthermore, a local market is held each week in Mithelstown and the existing car parking facilities in New Market Square are utilised as part of the local market.

Based on the available car parking survey data summarised in the preceding Table 3.2, occupancy at the four sites ranged between 42% to 73%, with the highest occupancy level recorded at King's Square.

In addition to the car parking facilities listed in Table 3.2, there are a number of alternative parking locations within close proximity to the study area (Figure 3.4) including parking on surrounding streets, along both sides of the R665 to the north and south of New Market Square and off-street parking adjacent to James Street, to the rear of SuperValu, and private parking areas.

3.8. Servicing/ Delivery Facilities

King's Square, George's Street and King's Street do not appear to have any delineated on-street loading or servicing bays. However, given parking is generally unrestricted on these streets, servicing and delivery activities can also be undertaken in vacant parking areas.

New Market Square and the section of the R665 which passes to the east do not appear to have any delineated on-street loading or servicing bays. A loading bay is provided ca. 30-metres to the south of the Square, with an additional loading bay also available ca. 70-metres to the north. Both loading bays are located on the eastern side of the R665 carriageway and have a maximum 20-minutes duration of stay (see image to the right). It is also noted that rear lane access is provided to a number of properties which front onto New Market Square which appear to be utilised for delivery and servicing activities.



3.9. Local Road Network

King's Square

A number of roads intersect at King's Square, namely George's Street, Castle Park, Castlefarm Road and Baldwin Street which intersect with the perimeter streets (Kingston College and King's Square). A short section of George's Street, ca. 80-metres in length, cuts through the south-eastern section of the Square – this in combination with Baldwin Street form the main road corridor through the Square. All roads within the Square allow two-way traffic, although it is noted Kingston College and King's Square operate as residential side streets and would not be expected to be heavily trafficked. Castle Park which leads west from King's Square provides access to an Irish Water treatment plant and a Dairygold manufacturing plant (which also has a direct access off the N73 to the southwest, although no public through route is possible from Castlefarm Road).

Public lighting is noted to be present within and around King's Square. The speed limit is noted to be 50 km/ h.

George's Street

George's Street is a two-way street connecting King's Square at its northern end to the three-arm George's Street/ Kildorrery Road/ Church Street signal-controlled junction at its southern end. George's Street also intersects with King's Street mid-way along its length. The streetscape is characterised by its residential nature, a wide vehicle carriageway (ranging from ca. 7-metres to ca. 9-metres) and also by the mature trees adjoining much of the vehicular carriageway. The edge of the vehicular carriageway is also delineated in places by means of a broken yellow line. In terms of road

alignment, the horizontal alignment of George's Street is straight with a relatively flat vertical alignment, gradually sloping upwards in a north to south direction.

At the George's Street/ Kildorrery Road/ Church Street signal-controlled junction the condition of the kerbing and footpath surface along the southern side (adjacent the Saint George's Arts and Heritage Centre) was noted to be in a poor condition. This is likely due to the path large vehicles take through the junction when travelling from Church Street to Kildorrery Road which could result in the vehicle tyres overrunning the edge of the footpath as the vehicle is traversing the junction. The junction appears to have sufficient room to accommodate large vehicles however, approach speeds of larger vehicles may not afford drivers sufficient time to correctly align their vehicle to transverse the junction avoiding the kerb line. Further consideration is given to this potential issue within the proposed layout.

Public lighting is noted to be present on both sides of George's Street and the speed limit is 50 km/ h. A vehicle activated speed sign is in place on George's Street adjacent to its junction with King's Street.

King's Street

King's Street is a two-way street which runs in an east-west direction between New Market Square at its eastern end and George's Street at its western end. The vehicular carriageway of King's Street is ca. 8-metres wide and includes a single vehicular lane in each direction. A number of laneways take access from King's Street, with yellow boxes in place on the carriageway indicating each access point. Signage is in place at the junction of King's Street and George's Street noting the route is not to be used as a through route for Heavy Goods Vehicles (HGVs). Traffic calming measures in the form of speed ramps are provided along King's Street. In terms of road alignment, the horizontal alignment of King's Street is straight with a vertical alignment that slopes upwards in an east to west direction.



Public lighting is noted to be present on King's Street and is generally provided on the northern side of the street. The speed limit is noted to be 50 km/ h.

New Market Square

A two-way street, with a carriageway width of ca. 6-7-metres, forms the southern, western and northern perimeter of New Market Square. The two-way R665 regional road with a carriageway width of ca. 12-metres forms the eastern perimeter of the Square. Right and left turn filter lanes are provided on the R665, providing ca. 55-metres of a dedicated lane for right-turning traffic into the southern entrance to New Market Square and ca. 15-metres of a dedicated lane for right-turning traffic into Church Hill. Two one-way streets link into the western side of the Square, one street provides a link

from James Street with vehicles travelling in a northern direction and the second street provides a link to Robert Street with vehicles also travelling in a northern direction. King's Street intersects with the perimeter road along the eastern boundary of the Square.

Within the Square is a public car park, which has four main vehicular entrances, one on each side and each entrance provides a separate access and egress lane. A supplementary egress point is also provided towards the northeast corner of the car park. A clockwise one-way gyratory system operates within the car park itself.

Public lighting is noted to be present within and around New Market Square. The speed limit is noted to be 50 km/ h.

3.10. Traffic Survey Data Collection

To gain a better understanding of existing vehicle movements on the road network within the study area, 5 no. key junctions were surveyed. These 5 no. junctions provide a strategic overview of transport demand on the road network within the study area. The classified junction turning counts surveys were undertaken on Wednesday 15 June 2022 at the following locations:

- Baldwin Street/ Kingston College/ George's Street/ King's Square/ Castlefarm Road;
- George's Street/ King's Street;
- George's Street/ Kildorrey Road/ Church Street;
- Lower Cork Street (R665)/Church Hill/ New Market Square; and
- New Market Square/ Convent Hill/ Upper Cork Street (R665).

Based on the survey results, the AM and PM peak period at each junction was determined, and these are presented within the following Table 3.3 for each junction. Full survey results including a breakdown of movements by vehicle classification (e.g. Car, LGV, OVG1, Pedal Cycle etc.) are contained in Appendix A. Pedestrian movements at each of the 5 no. junctions and are also included in Appendix A. Traffic flow diagrams providing an overview of the AM and PM peak hour survey turning movements at each junction are contained in Appendix B.

Table 3.3 Summary Survey Results Per Junction – Peak Hours

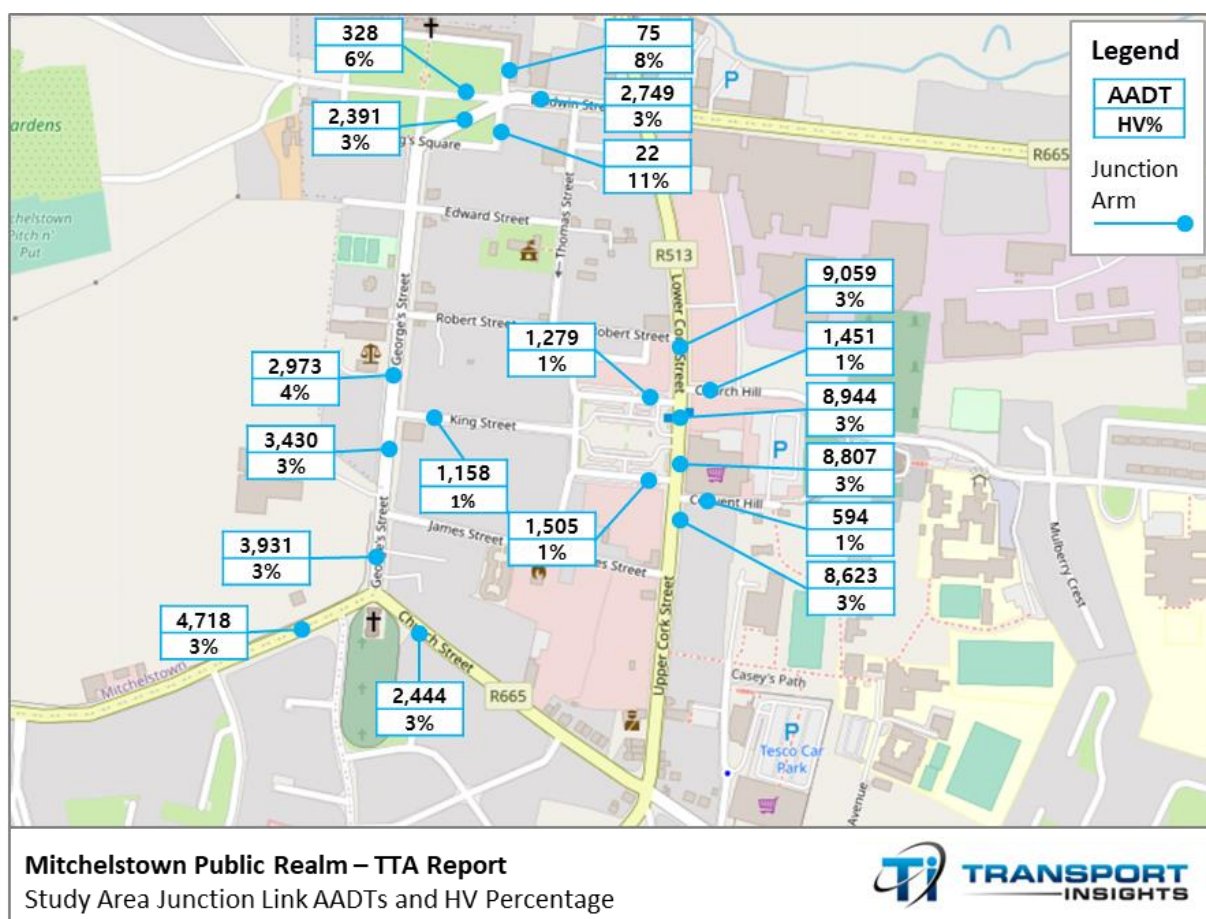
| Junction | AM Peak Hour | PM Peak Hour |
|--|----------------|----------------|
| Baldwin Street/Kingston College/George Street/Kings Square/Castlefarm Road | 08:45-09:45hrs | 16:45-17:45hrs |
| George Street/King Street | 08:45-09:45hrs | 16:45-17:45hrs |
| George Street/Kildorrey Road/Church Street | 08:45-09:45hrs | 16:45-17:45hrs |

| Junction | AM Peak Hour | PM Peak Hour |
|---|----------------|----------------|
| Lower Cork Street/Church Hill/New Market Square | 08:30-09:30hrs | 16:45-17:45hrs |
| New Square/Convent Hill/Upper Cork Street | 08:30-09:30hrs | 16:45-17:45hrs |

Annual Average Daily Traffic (AADT) Conversion

To gain a better overview of existing traffic volumes at the 5 no. key junctions, the surveyed vehicle movements were converted to AADTs, in accordance with TII's *Project Appraisal Guidelines for National Road Unit 16.1 – Expansion Factors for Short Period Traffic Counts* (October 2016). To derive AADTs from surveyed vehicle movements expansion factors¹ for the 'South-West (Cork County)' region were utilised to obtain the AADT value. The following Figure 3.5 presents the AADT figures and the percentage of Heavy Vehicles (HVs) on each road link within the study area.

Figure 3.5 Study Area Junction Link AADTs and HV Percentage



As illustrated in Figure 3.5, the majority of junction arms of the King's Square junction have AADTs of ca. 100-300 with the George's Street and Baldwin Street arms having AADTs of ca. 2,500 – indicating

¹ Day Factor of 0.827; WADT factor of 0.93 and AADT factor of 1.10.

this is the main traffic movements through the Square. George's Street AADT ranges from ca. 2,400 to 3,900 with HVs accounting for ca. 3% to 4%. King's Street has an AADT of ca. 1,160 with HVs accounting for 1%. The low volume of vehicle movements suggests localised traffic movements along King's Street, and to a lesser extent along George's Street.

AADTs for the two junctions on the R665 have a similar range, ca. 8,800 for the main R665 arms and ca. 1,350 for the minor arms. Given this is a regional road and the main north-south link through the Town Centre it is not unexpected that AADTs values are higher than those indicated at the other three junctions. Convent Hill AADTs is noted to be lower at 594. The percentage of HVs across all arms ranges from 1% to 3%.

The data set out in the preceding paragraphs and Figure 3.5 has informed the public realm improvement proposals (e.g. introducing cycling facilities within sections of the study area) for the four locations and is also utilised in Section 5 to inform the traffic impact analysis.

4. Description of Proposed Development

4.1. Introduction

This section of the Report provides an overview of the traffic and transport attributes proposed for each of the four locations as part of the Mitchelstown Georgian Quarter public realm improvement project. Further detail on proposed road corridor design, access arrangements, active and sustainable travel infrastructure and servicing arrangements are provided.

4.2. Proposal Overview

As noted, within the study area there are four locations which are part of the proposals to improve the public realm within Mitchelstown Town Centre. Proposals for each of the four locations have been informed by national best practice design guidance set out in *DMURS* and other relevant national design guidance. The four proposals seek to encourage active and sustainable travel modes, improve accessibility and reduce the reliance on cars, aligning proposals with climate change actions set out in national policy. The following paragraphs provide an overview of proposals per location and Appendix C contains a copy of the proposed layout scheme (produced by REDscape) for each location. Additional scheme drawings and planning material have also been provided as part of the planning application by REDscape and TCE.

4.3. Common Design Elements

Visibility Splays

The proposal designs assume a posted speed limit of 30 km/ h which is proposed to replace the existing 50 km/ h speed limit for King's Square, George's Street, King's Street and New Market Square (excluding the section of the regional road to the south). Visibility splays of 2.4 metres x 23 metres for a 30 km/ h speed limit (as set out in *DMURS* guidance) have been assessed at each junction across the scheme. Appendix D contains a copy of proposed visibility splays (produced by TCE) for each junction. It is noted, in a small number of instances a minor encroachment of the visibility splay is indicated (e.g. corner of a parking space within the splay). For instance, the parking area on the eastern arm of the George's Street/ Castlefarm Road junction as proposed would result in a minor encroachment into the visibility splay. This minor encroachment is considered acceptable, in line with *DMURS* guidance, given the proposed low speed nature of the junction and the introduction of a raised table. Similarly for the George's Street/ Kingston Close junction arm, an existing mature tree encroaches into the visibility splay, however, this is considered acceptable in view of the proposed low speed environment, raised table junction layout and the low traffic volumes expected.

Swept Path Analysis

Swept path analysis has been undertaken at key junctions and along the proposed one-way systems to ensure suitability for large vehicles (e.g. refuse vehicle). Scheme drawings produced by TCE as part of the planning package illustrate the swept path analysis. It should be noted that large vehicle types are typically expected to be infrequent users of the locations, as they are currently, and the design rationale applied across the proposals has been informed by best practice guidance set out in *DMURS*, with design elements considering requirements for vulnerable road users first instead of potentially excessive carriageway layout requirements for infrequent large vehicle trips where deemed possible – such an approach is also in accordance with the *NIFTI* modal hierarchy set out in Section 2.2 of this Report.

It is noted that carriageway proposals for King's Square are limited as this area has been deemed by the local authority to be required to accommodate heavy vehicle movements which is reflected with the retention in large part of the existing George's Street sections of carriageway. Notwithstanding this, to ensure active modes are prioritised, a selective approach has been adopted as to what vehicle movement types are designed for, broadly in accordance with the current layout of junctions within the Square. In general, it is further noted that the revised car parking layouts provide suitability dimensioned bays (e.g. 2.4 metres x 6.0 metres for parallel bays) and will be subject to swept path analysis at the detailed design stage.

4.4. King Square Proposals

From a traffic and transport perspective, proposals for King's Square seek to provide an improved environment for pedestrians and cyclists while maintaining the low-trafficked nature of the perimeter roads around the Square and facilitating heavy vehicle movements through the Square.

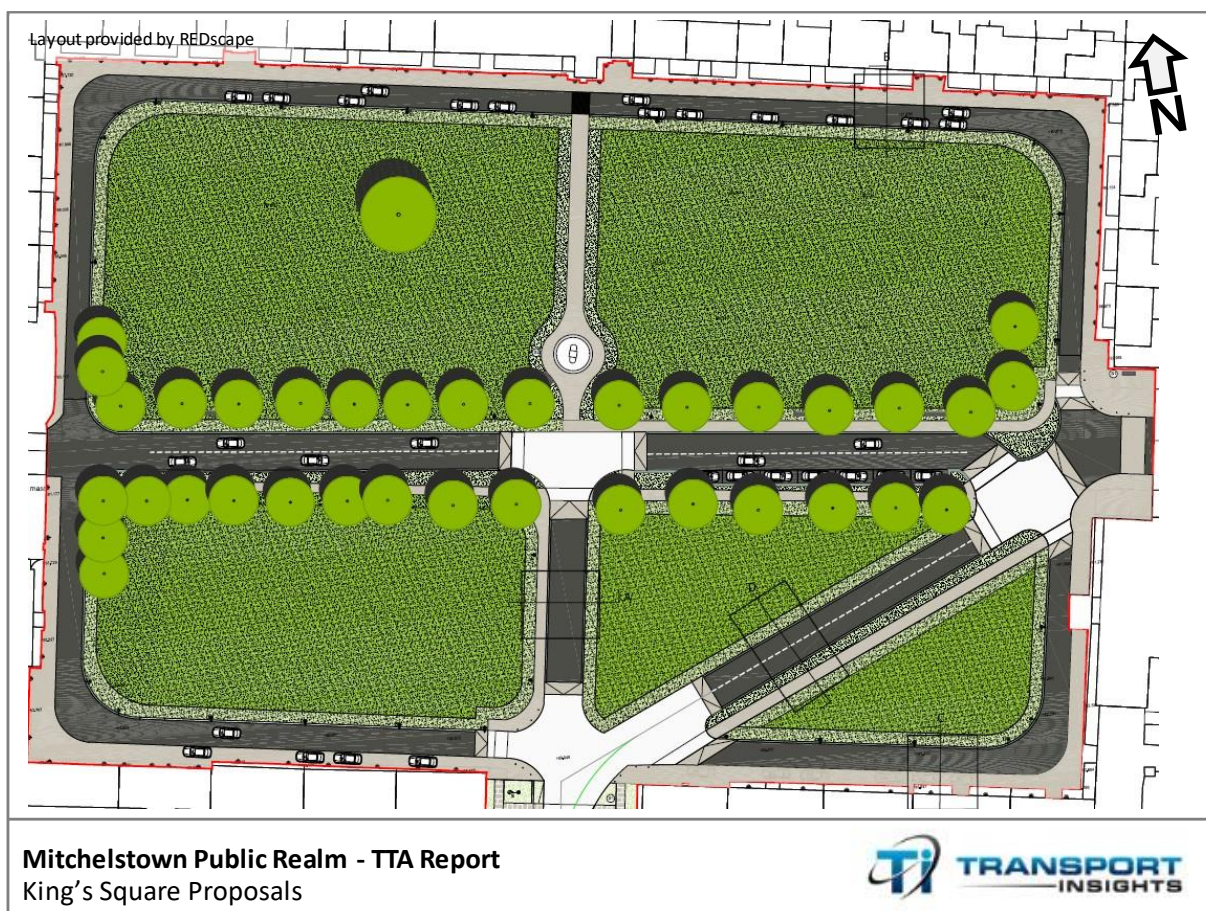
Figure 4.1 (overleaf) presents an extract of the proposals' layout drawing produced by REDscape. As illustrated in this figure, the King's Square proposals include:

- Maintaining the existing south to east section of George's Street so that it can accommodate heavy vehicle turning movements while also providing an improved junction layout at the George's Street (south to north section)/ Castlefarm Road junction. These minor improvements will maintain the existing vehicle flow levels and distribution of traffic through the Square and is not expected to result in any significant changes to vehicle flow levels.
- Castlefarm Road and George's Street carriageway widths have been narrowed in line with *DMURS* guidance for local roads. A carriageway width of 5.5 metres is proposed.
- Introduction of a one-way system with a carriageway width of 3.5 metres around the perimeter of the Square, travelling in an anti-clockwise direction. Proposals also include repositioning car

parking to the building side and providing a material change to indicate parking areas (2.4 metres wide) as well as resurfacing the carriageway. The proposals seek to maintain the low trafficked/shared surface environment in these areas while providing more defined parking areas.

- Pedestrian facilities will be improved throughout the square with raised crossing points provided at each junction, footpaths on the southern side of George’s Street (diagonal section), western side of George’s Street (north-south section) and both sides of Castlefarm Road.
- Car parking along Castlefarm Road is to be maintained along the southern side of the carriageway. It is proposed to replace parking along the northern section with a new dedicated footpath link between the junctions, thereby improving pedestrian facilities.

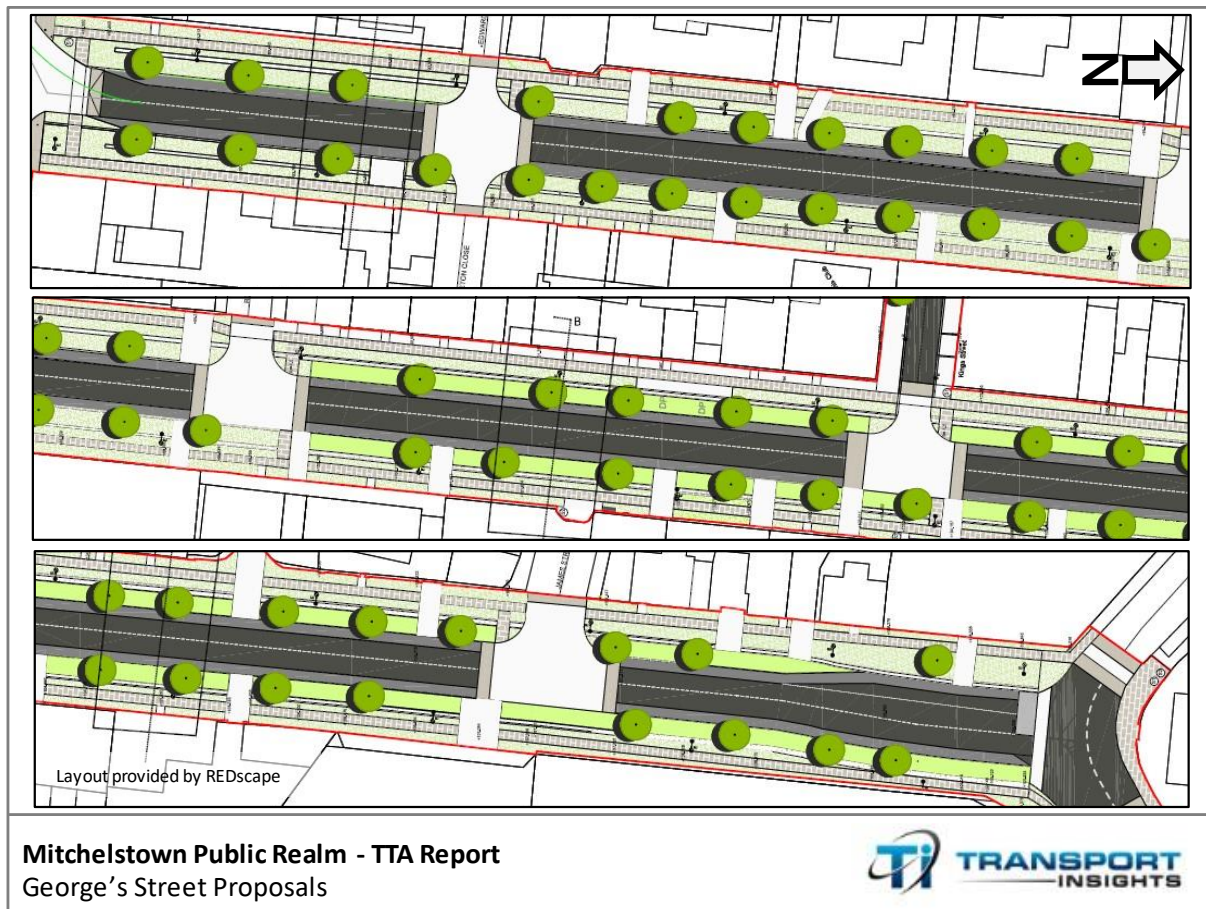
Figure 4.1 King’s Square Proposals



4.5. George’s Street Proposals

From a traffic and transport perspective, proposals for George’s Street seek to reconfigure the carriageway to provide for improved pedestrian and cyclists facilities while maintaining north south vehicle movements, parking and private access. Figure 4.2 (overleaf) presents an extract of the proposals’ layout drawing produced by REDscape.

Figure 4.2 George’s Street Proposals



As illustrated in the preceding Figure 4.2 the George’s Street proposals include:

- A 5.5-metre-wide carriageway for two-way vehicle movements (reduced from existing ca. 8 metres) at present.
- A 1.5-metres-wide cycle lane is proposed on either side of the carriageway. Based on the AADTs set out in Figure 3.5 and guidance with the *National Cycle Manual (NCM)*, the proposed cycle lane is deemed suitable for George’s Street. Light separation (e.g. armadillos) of the cycle lane is to be provided at the start of the cycle lane on the eastern side of George’s Street, notifying drivers travelling south onto George’s Street from King’s Square of the commencement of the cycle lane.
- Junctions along George’s Street will be upgraded to improve safety for vulnerable road users including tightening radii and providing raised tables incorporating uncontrolled pedestrian crossing points.
- Proposals at the George’s Street/ Kildorrery Road/ Church Street junction will see raised crossing points provided at the existing crossing locations on the Kildorrery Road and Church Street arms of the junction. The crossings points are to remain signal controlled. This will provide improved pedestrian facilities and should also encourage lower speeds at the junction to reduce the risk of a large vehicle overrunning the southern kerb line. It is also suggested to monitor junction usage

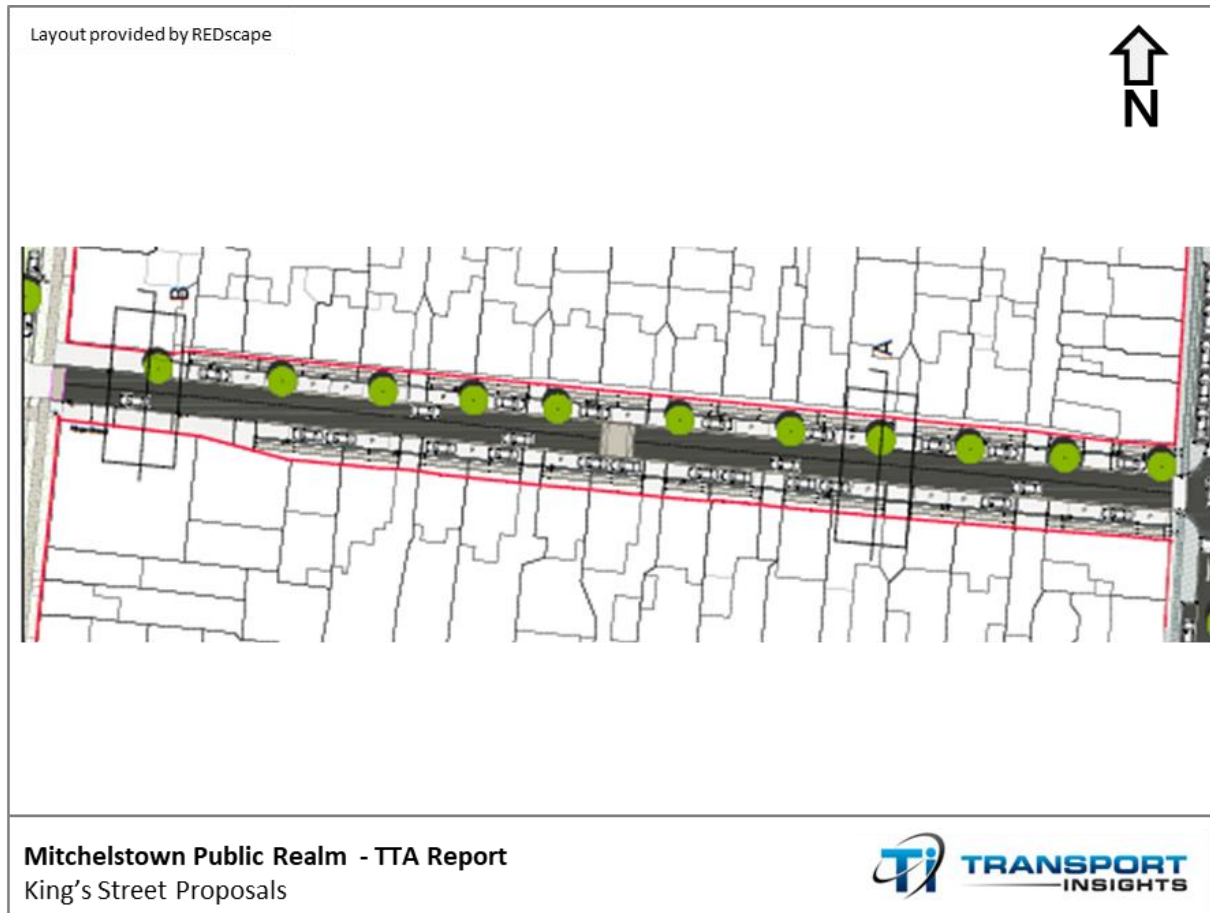
following implementation of the proposals and if deemed necessary bollards could be placed along the southern kerb line to indicate its position to drivers of large vehicles.

- It is noted that cycle facility provision does not extend south through the George's Street/ Kildorrery Road/ Church Street junction, as such facilities would require a major junction upgrade, which would be challenging to deliver given the existing junction layout and adjoining land use characteristics.
- Car parking provision will be formalised with the majority of parking provided as 2.4 metre x 6 metre parallel bays. A 0.75-millimetre-wide buffer will be provided between parallel parking spaces and the proposed cycle lane. The proposed provides for 46 car parking spaces, a reduction of 14 spaces compared to the existing situation. Further commentary on parking is provided in Section 5.
- Pedestrian facilities will be improved throughout within raised tables, thereby incorporating uncontrolled crossing points provided at junction and footpaths on both sides of George's Street.

4.6. King's Street Proposals

From a traffic and transport perspective, proposals for King's Street seek to narrow the carriageway to provide for improved pedestrian and cyclists facilities, formalise car parking while maintaining the east west vehicle movements and private accesses. Figure 4.3 (overleaf) presents an extract of the proposals' layout drawing produced by REDscape.

Figure 4.3 King's Street Proposals



As illustrated in Figure 4.3 the King's Street proposals include:

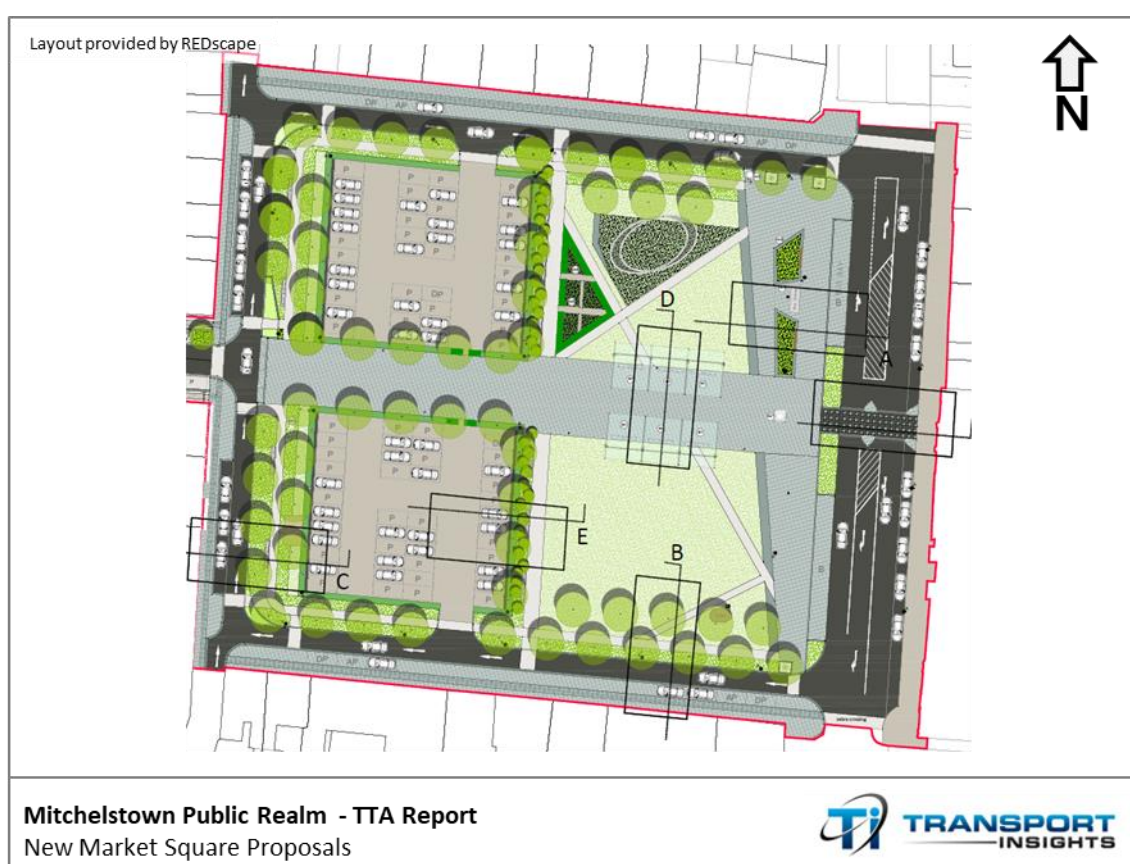
- A 5-metre-wide carriageway for two-way vehicle movements (reduced from existing ca. 8 metres). Junctions at either end of King's Street (i.e. with George's Street and New Market Square) will be upgraded including tightening radii and providing raised tables incorporating uncontrolled pedestrian crossing points
- Formalising car parking along the length of the street, providing parallel spaces on both sides of the carriageway. Existing footpath widths will be reduced (minimum width of 1.3 metres will be maintained) to provide for the formal parking space – existing car parking encroaches on the footpath.
- Traffic calming in the form of speed ramps, similar to existing provision, will be maintained along King's Street to encourage low speeds. Cycling is assumed to take place on carriageway in a mixed-traffic environment and given best practice guidance (e.g. low trafficked and proposed urban carriageway width) and existing AADTs such an arrangement is considered suitable.
- The potential for formal crossing points along King Street (excluding those at junctions) was considered as part of the design process, however given the reconfigured carriageway and lower

speed environment, limited demand for such movements and limited gaps to provide crossing infrastructure such facilities are not proposed.

4.7. New Market Square Proposals

From a traffic and transport perspective, proposals for New Market Square seek to reconfigure the carriageway and car parking provision around the Square to provide for improved pedestrian and cyclist facilities and implement a clockwise one-way system (entering from the R665 at the southern end). General improvements to the layout of the Square will also provide for improved permeability, improved Town market facilities and a less car dominated layout. The following Figure 4.4 presents an extract of the proposals' layout drawing produced by REDscape.

Figure 4.4 New Market Square Proposals



As illustrated in Figure 4.4 the New Market Square proposals include:

- Reconfiguration of the perimeter carriageway from two-way to one-way, reducing the carriageway width to 3.25 metres. Swept path analysis has informed carriageway layouts and localised widening of the carriageway is provided at corner radii and junction bell mouths to allow for larger vehicle turning (e.g. refuse vehicle).
- Improved permeability within and around the perimeter of the Square including continuous footpath on both sides of the perimeter carriageway with uncontrolled pedestrian crossing points

provided on junction arms (e.g. King's Street junction) and at intermediate locations along the perimeter carriageway linking with internal footpaths within the redesigned Square layout.

- Car parking provision being consolidated towards the western end of the square where 88 no. car parking spaces (with dimensions of 2.5 metres x 5 metres) are proposed across two separate car parking areas, each independently accessed from the perimeter road. Electrical vehicle charging facilities will be provided within the car parks. The number of entrance/ exit points to the car park is reduced compared to the existing situation.
- Reducing car parking provision around the outskirts of the Square, with the reduction mainly focused on the southern and northern side of the Square. Car parking along the western edge is maintained. Footpaths are proposed to be widened in place of some of the existing car parking with the intention of creating a more pedestrian orientated environment and providing new opportunities for civic use of the spaces.
- Existing disabled car parking provision will be maintained with the proposed layout providing 8 no. spaces on New Market Square and 1 no. space on Cork Street adjacent the Square.
- Along Upper Cork Street (R665) the carriageway is to be narrowed, providing 3.5-metre-wide lanes (compared to existing ca. 12 metre carriageway) in each direction as well as providing dedicated right-turn lanes. Bus facilities and car parking provision along Upper Cork Street will be maintained and repositioned to suit the reconfigured carriageway width.
- A proposed new east west uncontrolled crossing point on Upper Cork Street, providing a 4 metre wide raised crossing point with central refuge. The right-turn lane from Upper Cork Street to New Market Square will be reconfigured, beginning to the south of the new crossing point (Section 5 details potential traffic impact of a shortened lane arrangement).

5. Development Traffic Impact Analysis

5.1. Introduction

This section of the Report sets out the approach pursued in assessing the public realm improvement proposals potential traffic impacts and presents its findings. Potential impacts due to reconfigured parking layouts are also considered.

5.2. Analysis Overview

Considering the proposals set out in preceding sections of this Report, the key changes to existing traffic arrangements are the introduction of a one-way system at King's Square and New Market Square. These changes are the main focus of this analysis impact.

Other traffic aspects of the proposals for each location such as junction tightening and raised tables are considered minor (but important changes for vulnerable road users) changes and are not expected to significantly impact individual junction capacity or delays. Furthermore, proposals to reconfigure carriageway widths (e.g. George's Street, King's Street) are in line with best practice national guidance and are not expected to adversely impact the carrying capacity of the roads, with existing AADTs indicating (Section 3.10) appropriate traffic volumes for proposed carriageway widths.

While key traffic changes as part of the proposals are analysed it should be noted the proposed improvements at each location are intended to provide an improved environment for vulnerable road users and seek to encourage a shift to active and sustainable travel modes in place of car dominated trip patterns. In addition, general proposals such as increasing the public civic space at New Market Square are intended to create more liveable spaces and sustainable neighbourhoods. As such, the analysis likely provides a conservative approach in terms of underlying traffic volumes in future years, which would be expected to be affected by reduced demand due to modal shift.

Key Junctions and Modelling Software

The key junctions to be analysed are as follows:

- New Market Square (southern junction)/ Upper Cork Street/ Convent Hill; and
- New Market Square (northern junction)/ Lower Cork Street/ Church Hill.

Both of the junctions noted above are priority-controlled junctions. Therefore, modelling of each junction has been undertaken using the Junction 9 PICADY module traffic modelling software. The software provides analysis of the Ratio of Flow to Capacity (RFC), average queue length and average delay per vehicle at each junction arm. AM and PM peak hours at each junction is based on surveyed traffic flows as detailed in preceding Section 3.10. Also, it is noted that the George's Street/ Castlefarm Road junction has not been analysed in the either the Do-nothing or Do-Something scenario as minor

road changes (i.e. one-way system) proposed in King's Square do not fundamentally alter the flow of traffic through the junction.

Analysis Scenarios

Two scenarios have been considered for analysis, a Do-Nothing and Do-Something scenario. The scenarios will consider the Year of Opening (YoO) 2024 and YoO+15 2039 traffic flows with appropriate background growth rates applied to baseline traffic flows recorded during the junction surveys (see Section 3.10). The Do-Nothing scenario essentially accounts for forecast background growth whereas the Do-Something scenario includes changes in traffic flows due to proposed changes, such as the redistribution of traffic flows at New Market Square due to the introduction of a one-way system. The following paragraphs set out the analysis and junction results.

5.3. Do-Nothing Scenario

In assessing potential traffic impacts of the proposals, it is first necessary to establish the performance of the existing junction layout. As noted, the Do-Nothing scenario only considers the two New Market Square junctions.

Forecast Traffic Flows

Future year background traffic conditions at the two junctions, reflecting forecast traffic growth over time (i.e. traffic growth from year of survey to YoO (2022 to 2024) was established. Forecast growth factors have been determined from TII's *Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections* (May 2019). Utilising information within these guidelines, Central Growth Rate factors for 2016-2030 and 2030-2040 for the County Cork area were selected. The 2016-2030 growth rate for Light Vehicles (LVs) is 1.0173, and 1.0365 for Heavy Vehicles (HVs). For 2030-2040 the LVs growth rate is 1.0070, and 1.0186 for HVs. Appendix E provides traffic diagrams illustrating the Do-Nothing forecast traffic flows for the YoO and YoO+15 at each New Market Square junction. Table 5.1 indicates total junction approach flows for each peak period forecast year.

Table 5.1 Do-Nothing Scenario, Forecast Flows AM and PM Peak Hours

| | AM Peak Hour (08:30-09:30 Hrs) | | PM Peak Hour (16:45-17:44 Hrs) | |
|---|--------------------------------|-----------------|--------------------------------|-----------------|
| | Forecast YoO | Forecast YoO+15 | Forecast YoO | Forecast YoO+15 |
| New Market Square (southern junction)/ Upper Cork Street/ Convent Hill | | | | |
| Total Junction Approach Flow | 790 | 963 | 883 | 1,076 |
| New Market Square (northern junction)/ Lower Cork Street/ Church Hill | | | | |
| Total Junction Approach Flow | 862 | 1,053 | 877 | 1,070 |

As can be seen from the preceding Table 5.1, moderate growth is forecast between the 2024 YoO and 2039 YoO +15 flows in both the identified AM and PM peak hours.

Junction Model Results

New Market Square (Southern Junction)/ Upper Cork Street/ Convent Hill Junction

Table 5.2 presents the maximum RFC value (and corresponding queue and delay values) modelled for the AM and PM peak hours for the YoO and YoO+15 Do-Nothing scenarios. Detailed modelling results are contained in Appendix F. For reference, Appendix F also contains detailed modelling results for the base year (2022 survey flows) model which indicated the junction operated with a maximum RFC value of 0.15 in the YoO+15.

Table 5.2 Do-Nothing Scenario, Modelling Results Overview

| Junction Arm | AM Peak Hour (08:30-09:30 Hrs) | | | PM Peak Hour (16:45-17:44 Hrs) | | |
|-------------------------------------|--------------------------------|-----------|------|--------------------------------|-----------|------|
| | Queue (Veh) | Delay (s) | RFC | Queue (Veh) | Delay (s) | RFC |
| YoO 2024 | | | | | | |
| Stream D-ABC (New Market Square) | 0.1 | 8.08 | 0.12 | 0.1 | 8.66 | 0.09 |
| YoO+15 2039 | | | | | | |
| Stream D-ABC (New Market Square) | 0.2 | 8.79 | 0.15 | 0.1 | 9.48 | 0.11 |

As the preceding Table 5.2 shows, the maximum RFC value modelled at the New Market Square (southern junction)/ Upper Cork Street/ Convent Hill junction during the YoO peaks ranges from 0.09 to 0.12 with minimal queuing and delay values. For the YoO+15, the maximum RFC value modelled ranges from 0.11 to 0.15 with minimal queuing and delay values. The traffic modelling results indicate the existing junction layout functions with spare capacity to accommodate further traffic growth.

It is also noted, the model layout did not include the existing Zebra crossing on Upper Cork Street (between the Convent Hill and New Market Square junction arms). Given the spare capacity indicated by the results presented in the preceding Table 5.2, the use of the Zebra crossing is not expected to adversely impact the operation of the junction to such a degree that the junction would operate over capacity (and with extended delays and queueing).

New Market Square (Northern Junction)/ Lower Cork Street/ Church Hill Junction

Table 5.3 presents the maximum RFC value (and corresponding queue and delay values) modelled for the AM and PM peak hours for the YoO and YoO+15 Do Nothing scenarios. Detailed modelling results are contained in Appendix G. For reference, Appendix G also contains detailed modelling results for the base year (2022 survey flows) model which indicated the junction operated with a maximum RFC value of 0.38 in the YoO+15.

Table 5.3 Do-Nothing Scenario, Modelling Results Overview

| Junction Arm | AM Peak Hour (08:30-09:30 Hrs) | | | PM Peak Hour (16:45-17:44 Hrs) | | |
|----------------------------------|--------------------------------|-----------|------|--------------------------------|-----------|------|
| | Queue (Veh) | Delay (s) | RFC | Queue (Veh) | Delay (s) | RFC |
| YoO 2024 | | | | | | |
| Stream B-ACD (Church Hill) | 0.4 | 10.25 | 0.29 | 0.1 | 7.56 | 0.10 |
| Stream D-ABC (New Market Square) | 0.1 | 8.23 | 0.10 | 0.2 | 8.92 | 0.14 |
| YoO+15 2039 | | | | | | |
| Stream B-ACD (Church Hill) | 0.6 | 12.23 | 0.38 | 0.1 | 8.29 | 0.13 |
| Stream D-ABC (New Market Square) | 0.2 | 8.91 | 0.13 | 0.2 | 9.93 | 0.18 |

As the preceding Table 5.3 shows, the maximum RFC value modelled at the New Market Square (northern junction)/ Upper Cork Street/ Church Hill junction during the YoO peaks ranges from 0.14 to 0.29 with minimal queuing and delay values. For the YoO+15, the maximum RFC value modelled ranges from 0.13 to 0.38 with minimal queuing and delay values. The traffic modelling results indicate the existing junction layout functions with spare capacity to accommodate further traffic growth.

The signal-controlled pedestrian crossing point located between the Church Hill and New Market Square junction arms was not included in the modelled layout, similar to the New Market Square (Southern Junction)/ Upper Cork Street/ Convent Hill junction model approach. As the result in Table 5.3 indicate, the junction has spare capacity and the operation of the signal-controlled pedestrian crossing would not be expected to have an adverse impact on the junction, with spare capacity being maintained.

5.4. Do-Something Scenario

Redistribution of Traffic Flows

The Do-Something scenario takes account of potential changes in traffic flows due to proposed changes to road layouts as a result of proposals at the two R665/ New Market Square junctions (i.e. one-way system). The following redistribution and assignment traffic flows were undertaken for the Do-Something scenarios:

- New Market Square (southern)/ R665 junction – vehicle exit movements were redistributed to the northern junction and entry movements from the northern junction redistributed to this junction; and
- New Market Square (northern)/ R665 junction – vehicle entry movements were redistributed to the southern junction and exit movements from the southern junction redistributed to this junction.

Appendix H contains traffic flow diagrams which illustrate the redistributed traffic flows for the AM and PM peak hour Do Something scenarios.

Junction Layout Changes

Minor layout changes to the southern New Market Square/ R664 junction are proposed as part of the scheme proposals for this location. The existing right turning lane is ca. 60 metres in length and provides for right turns into the car park as well as the perimeter road. The proposed junction layout reduces this right-turn lane length to 28 metres, beginning south of the proposed new east west uncontrolled pedestrian crossing point on the R665. The Do-Something junction model dimensions reflect this change in layout along with changes to the carriageway width on Upper Cork Street.

Junction Model Results

New Market Square (Southern Junction)/ Upper Cork Street/ Convent Hill Junction

Table 5.4 (overleaf) presents the maximum RFC value (and corresponding queue and delay values) modelled for the AM and PM peak hours for the YoO and YoO+15 Do-Something scenarios. Detailed modelling results are contained in Appendix I.

Table 5.4 Do-Something Scenario, Modelling Results Overview

| Junction Arm | AM Peak Hour (08:30-09:30 Hrs) | | | PM Peak Hour (16:45-17:44 Hrs) | | |
|-------------------------------------|--------------------------------|-----------|------|--------------------------------|-----------|------|
| | Queue (Veh) | Delay (s) | RFC | Queue (Veh) | Delay (s) | RFC |
| YoO 2024 | | | | | | |
| Stream A-BCD (Upper Cork Street) | 0.1 | 5.66 | 0.08 | 0.1 | 5.77 | 0.09 |
| YoO+15 2039 | | | | | | |
| Stream A-BCD (Upper Cork Street) | 0.1 | 6.00 | 0.11 | 0.1 | 6.20 | 0.11 |

As per Table 5.4, the maximum RFC value modelled at the New Market Square (southern junction)/ Upper Cork Street/ Convent Hill junction during the YoO peaks ranges from 0.08 to 0.09 with minimal queuing and delay values. For the YoO+15, the maximum RFC value modelled is 0.11 with minimal queuing and delay values. The traffic modelling results indicate the proposed junction layout functions well with spare capacity to accommodate further traffic growth and the implementation of a one-way system does not adversely impact the junction's operation.

New Market Square (Northern Junction)/ Lower Cork Street/ Church Hill Junction

Table 5.5 presents the maximum RFC value (and corresponding queue and delay values) modelled for the AM and PM peak hours for the YoO and YoO+15 Do-Something scenarios. Detailed modelling results are contained in Appendix J.

Table 5.5 Do-Something Scenario, Modelling Results Overview

| Junction Arm | AM Peak Hour (08:30-09:30 Hrs) | | | PM Peak Hour (16:45-17:44 Hrs) | | |
|-------------------------------------|--------------------------------|-----------|------|--------------------------------|-----------|------|
| | Queue (Veh) | Delay (s) | RFC | Queue (Veh) | Delay (s) | RFC |
| YoO 2024 | | | | | | |
| Stream B-ACD (Church Hill) | 0.4 | 10.18 | 0.29 | 0.1 | 7.84 | 0.10 |
| Stream D-ABC (New Market Square) | 0.3 | 8.86 | 0.21 | 0.3 | 9.31 | 0.21 |
| YoO+15 2039 | | | | | | |
| Stream B-ACD (Church Hill) | 0.6 | 12.26 | 0.37 | 0.2 | 8.61 | 0.13 |

| Junction Arm | AM Peak Hour (08:30-09:30 Hrs) | | | PM Peak Hour (16:45-17:44 Hrs) | | |
|-------------------------------------|--------------------------------|-----------|------|--------------------------------|-----------|------|
| | Queue (Veh) | Delay (s) | RFC | Queue (Veh) | Delay (s) | RFC |
| Stream D-ABC (New Market Square) | 0.4 | 10.04 | 0.27 | 0.4 | 10.71 | 0.27 |

As the preceding Table 5.5 shows, the maximum RFC value modelled at the New Market Square (northern junction)/ Upper Cork Street/ Church Hill junction during the YoO peaks ranges from 0.10 to 0.29 with minimal queuing and delay values. For the YoO+15, the maximum RFC value modelled ranges from 0.13 to 0.37 with minimal queuing and delay values. The traffic modelling results indicate the proposed junction layout functions well with spare capacity to accommodate further traffic growth and the implementation of a one-way system does not adversely impact the junction's operation.

5.5. Parking Analysis

Car Parking Provision

Proposals for the four locations will instigate changes to the existing car parking provision including formalisation of parking, provision of parallel parking spaces and at certain locations a reduction in the overall provision of car parking spaces. The intention of the proposed parking changes, in traffic and transport terms, is to prioritise vulnerable road users (e.g. formalising parking on King's Street to reduce cars parking on footpaths) and provide more liveable spaces. The following Table 5.6 provides an overview of the existing car parking provision (similar to Table 3.2) and proposed car parking provision. The percentage occupancy of existing car parking is also shown in Table 5.6.

Table 5.6 Existing and Proposed Car Parking Provision

| Location | On-Street/ Off-Street* | Existing Provision (% Occupancy)** | Proposed Provision | Difference in Provision |
|--|---------------------------|---------------------------------------|-----------------------|----------------------------|
| King's Square | On-street | 86 spaces (73%) | 76 Spaces | - 10 spaces |
| George's Street | On-Street | 60 spaces (43%) | 46 Spaces | - 14 spaces |
| King's Street | On-Street | 31 spaces (61%) | 36 spaces | + 5 spaces |
| New Market Square (incl. adj. Cork Street spaces) | On and Off Street | 170 spaces (42%) | 134 spaces | -36 spaces |

*i.e. a dedicated publicly accessible car park. **indicative count of legal spaces

As can be seen from Table 5.6, existing car parking provision had spare capacity (at the time of the spot car parking occupancy survey) with King's Square recording the highest occupancy of 73%. Occupancy at the other three locations ranged from 42% to 61%. The proposed parking provision on King's Street

is to increase by 5 no. spaces while parking provision on King's Square and George's Street will reduce slightly by 10 to 14 no. spaces respectively. New Market Square will see the largest reduction in car parking spaces reducing from 170 no. of spaces to 134 no. of spaces, a reduction of 36 no. spaces. Based on current occupancy rates, the parking areas would still be typically expected to operate with some spare parking spaces. It is also noted that a number of alternative car parking facilities (see Figure 3.4) are available in the Town Centre, within 400 metres or 5 minutes' walk of New Market Square. For example, extensive on-street car parking is available on surrounding streets including along the R665 or Robert Street as well as the off-street car parking such as James Street off-street car park which provides up to 70 no. car parking spaces, within 100 metres of New Market Square. The number of car parking facilities available in the Town Centre, particularly on market day, would provide a significant supply of alternative car parking opportunities.

Delivery/ Servicing Provision

Regarding the provision of delivery and servicing arrangements, the proposals for New Market Square are not expected to adversely impact existing delivery and servicing activities. As noted, the layout of the proposed one-way system has been analysed to ensure a large refuse vehicle can enter, transverse and exit the one-way system, enabling on-street collection of refuse as per existing arrangements. Furthermore, some properties which front onto New Market Square are noted to have rear lane access which provides for loading and servicing activities. Designated loading bays are also provided on the regional road, with bays located to the north and south of New Market Square.

Layout proposals for the other three locations have also been analysed to ensure a large refuse vehicle can access the areas and undertake refuse collection activities.

5.6. Summary

This section of the Report has analysed the potential traffic and transport impact of proposals at the key New Market Square/ R665 (northern and southern) junction locations. The analysis has demonstrated these junctions will operate with spare capacity in future years following implementation of the proposed public realm enhancement scheme. Also, the analyses has shown that car parking provision at the four locations would, based on current occupancy rates, offer sufficient parking capacity following implementation of the proposed enhancement scheme.

6. Summary and Conclusion

6.1. Summary

Overview

Transport Insights has been commissioned by REDscape (and Tobin Consulting Engineers) on behalf of Cork County Council to prepare a Traffic and Transport Assessment Report in support of a planning application to improve the public realm environment at four locations Mitchelstown, Co. Cork. Collectively known as Mitchelstown Georgian Quarter, the four locations considered within the study area are King's Square, George's Street, King's Street and New Market Square.

Baseline Context

The baseline conditions at each of the four sites within the study area were reviewed and analysed. This included detailing the existing pedestrian, cycling, public transport, taxi, parking and servicing/delivery facilities and arrangements within the study area. The majority of sites have existing pedestrian infrastructure except for King's Square which for the large part does not. Overall, there is a general lack of cycling or dedicated taxi facilities and the main public transport routes run along the R665, adjacent to the east of New Market Square. Traffic surveys were undertaken at key junctions within the study area and were analysed to provide existing AADTs and a breakdown of existing HV movements. While the baseline context review illustrated there are existing active travel and sustainable facilities within the study area, there is an opportunity to improve said facilities to encourage more active travel and sustainable trips within Mitchelstown.

Proposals

The project seeks to enhance the public realm of the Mitchelstown Georgian Quarter, providing improvements to the streetscape, road corridor and public amenity spaces at each of the four sites. Common proposed attributes across the four sites include introduction of a 30kph speed limit and upgrading junction layouts to provide raised tables and improved crossing facilities. Carriageway widths are to be reconfigured to support low speed vehicle movements through design and at two locations one-way systems are to be introduced. Parking provision across the four sites is to be formalised with a reduction in car parking provision on King's Square, George's Street and New Market Square with King's Street to see an increase in parking spaces. Where car parking is proposed to be reduced the relocated space is intended to provide improved vulnerable road user facilities and enlarged civic spaces.

Impact Assessment

An assessment of potential transport and traffic impacts due to the proposals at key junctions was undertaken. The assessment indicates proposed changes to New Market Square (e.g. one-way system)

would not result in an adverse impact on the operation of the junctions. Furthermore, analysis of the proposed car parking provision across the four locations indicates minimal impact, with a number of additional car parking facilities also noted to be available within a 5-minute walking distance. It should also be noted that due to proposed minor changes to the King's Square area, the existing traffic flow levels and distribution of traffic through the Square are not expected to result in any significant changes in traffic levels.

6.2. Conclusion

This TTA has considered the preferred transport and traffic improvements for each location. This was informed by the baseline information and relevant design guidance (e.g. *DMURS*). The preferred proposals would provide an improved environment for vulnerable road users and are not expected to have a significant impact on the traffic flow of the local road network.