



5th September 2016

Church Street, Athlone Enhancement Works

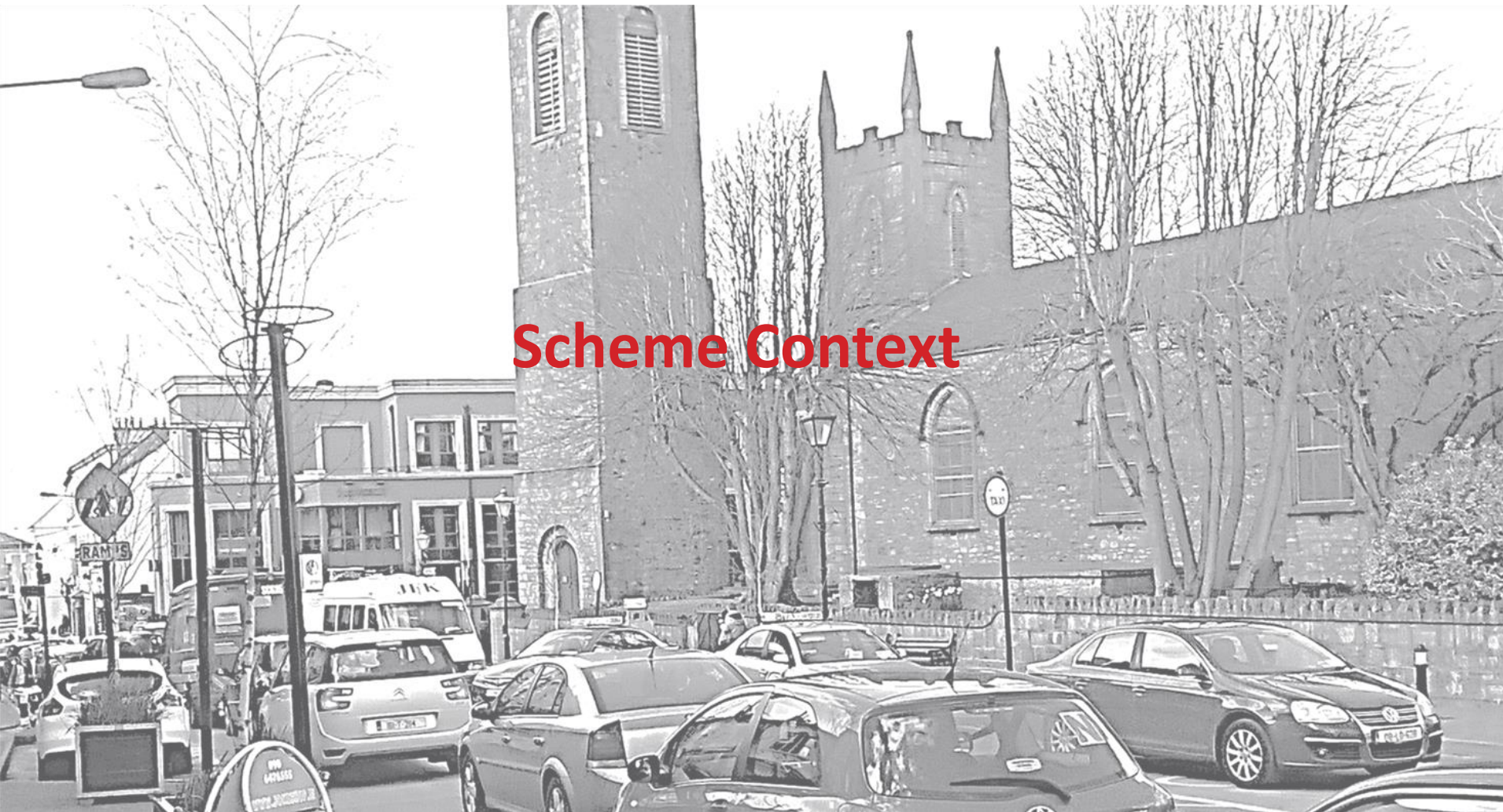
Public Realm-Option Appraisal



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- ◉ Existing Situation
- ◉ Public Realm Design Options
- ◉ Appraisal of Design Options
- ◉ Initial Scheme Proposal



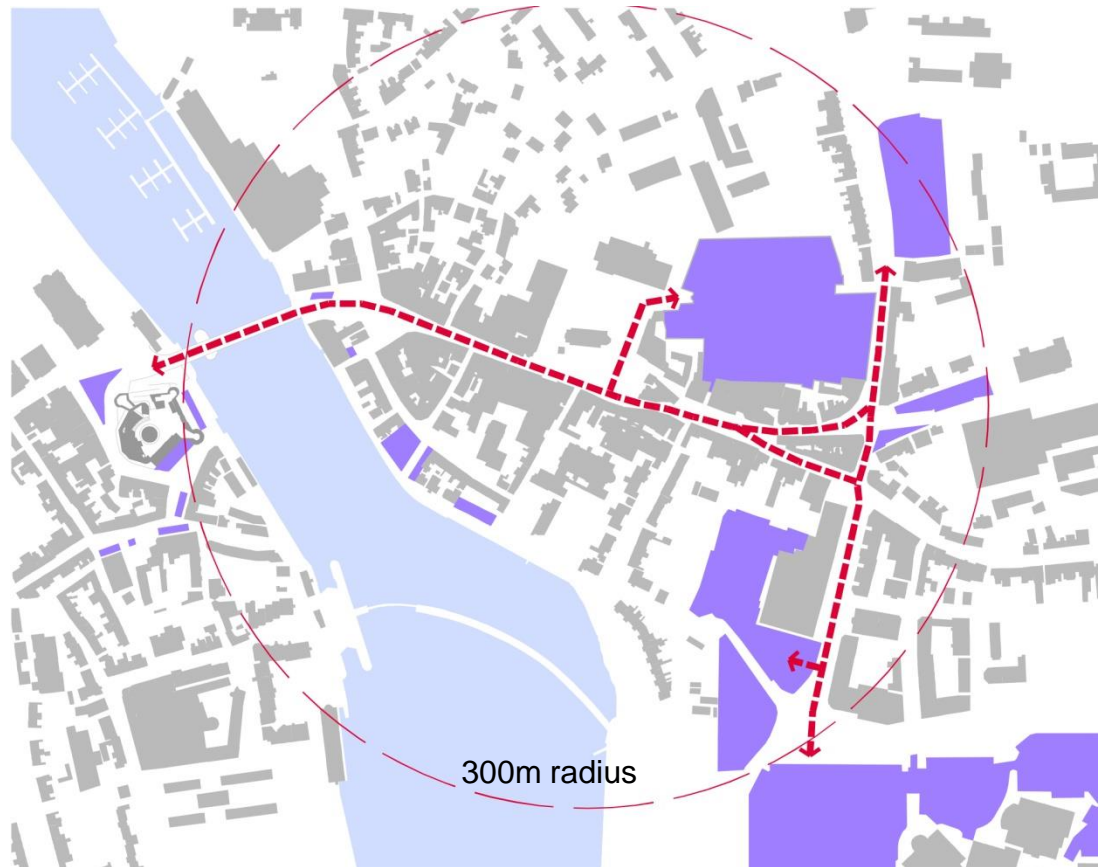


Scheme Context

Scheme Context

Church Street Strengths - Linkages

- Principal street linking east and west parts of the historic town
- Links to the river, the Market Place and the Castle via Town Bridge
- Links to Athlone Town Centre Shopping Arcade and parking
- Links to major car parks (approx. 2,600 spaces), via Gleeson Street and John Broderick Street
- All within 300m of the centre of Church Street



Scheme Context



Church Street Strengths – Townscape

- Busy commercial street with traditional character
- Well-defined by heritage buildings
- Several traditional shop fronts bring richness and character to the streetscene
- Mostly independent shops add interest and variety
- Good selection of cafés and pubs



Scheme Context



Church Street Weaknesses - Traffic

- Dominated by high traffic flows during most times
- Two-way flow increases vehicle priority and detracts from pedestrian experience
- Poor pedestrian environment – clutter, noise and air pollution
- Few pedestrian crossing opportunities
- Does not meet current standards for making streets safer and more attractive places for all users



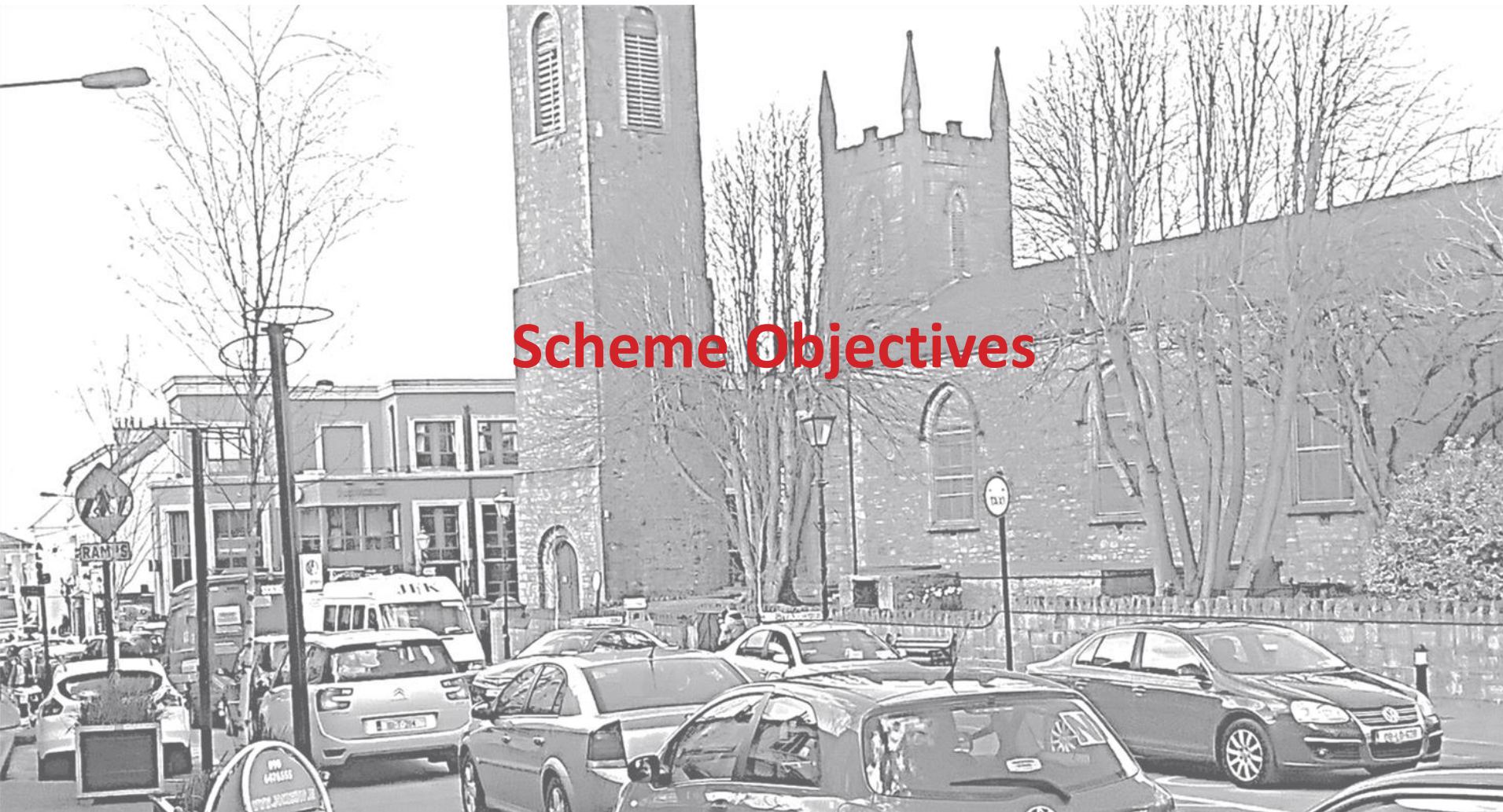
Scheme Context



Church Street Weaknesses - Spatial

- Available width between building frontages is insufficient for existing traffic volume
- Generally narrow footpaths with two very narrow pinch-points
- Un-safe pedestrian environment, especially for more vulnerable users (disabled, the elderly and the young)
- Not conducive for browsing or social interaction
- Limited space for over-spill activities – e.g. cafés and outdoor displays
- High level of vacant properties (18%)





Scheme Objectives

Scheme Objectives



○ **Athlone Town Development Plan 2014-2020**

Strategic Aim (iii) of the Core Strategy:

Continuing to respect the primacy of the town centre including prioritising the improvement and enhancement of the public realm.

P-RET12: To pursue all avenues of funding to secure resources for the continued enhancement, renewal and regeneration of the public realm of the town centre.

The Councils aim to achieve the following in relation to Urban Design in the town:

- To promote quality of the public realm: public spaces and routes that are attractive, safe, uncluttered and work effectively for all in society, including disabled and elderly people.
- To promote ease of movement: accessibility and local permeability; by making places that connect with each other and are easy to move through, putting people before traffic and integrating land uses and transport.

Scheme Objectives



○ **Athlone Town Development Plan 2014-2020**

P-AC1 : To create an environment in the town centre in which vehicles, cyclists and pedestrians can safely coexist and share public space.

P-AC2: To minimise vehicular traffic volumes in the town centre through traffic management measures.



Scheme Objectives



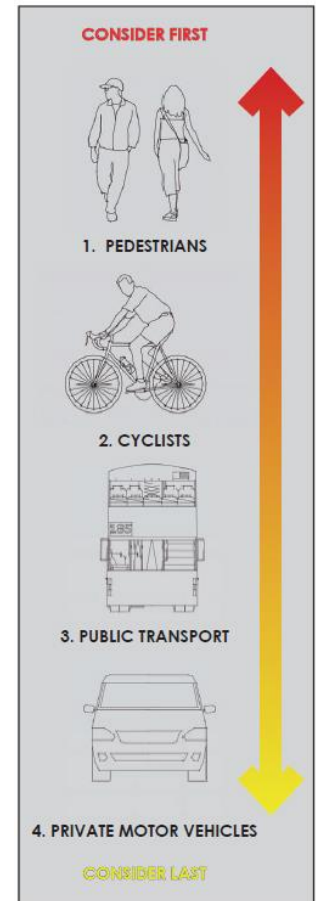
Design Manual for Urban Roads and Streets (DMURS)

Published in 2013 by the Department of Transport, Tourism & Sport and the Department of Environment, Community & Local Government.

The aim of DMURS is to put well-designed streets at the heart of sustainable communities, and illustrates the Irish Government's commitment to the creation of sustainable and inclusive public spaces. It provides a revision of the way we think about, design and plan our local spaces, promoting our streets to something more than just car corridors.

The way forward requires *“a shift away from conventional design solutions toward those which prioritise sustainable modes of transport, safeguard vulnerable users and promote a sense of place.”*

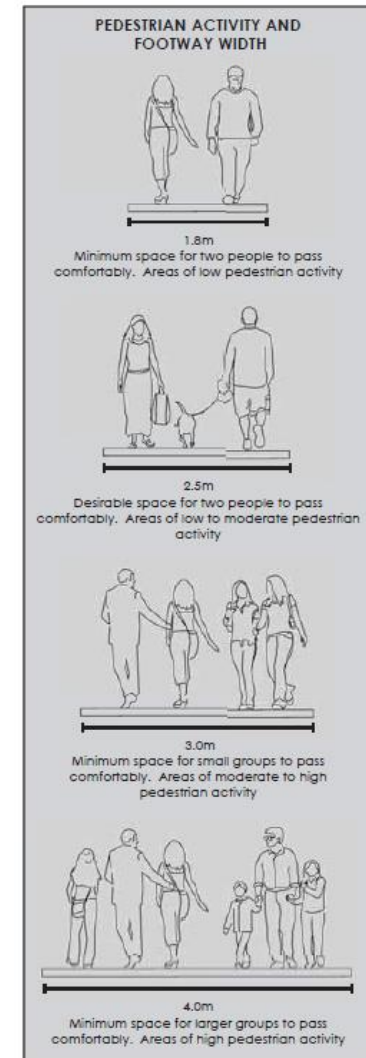
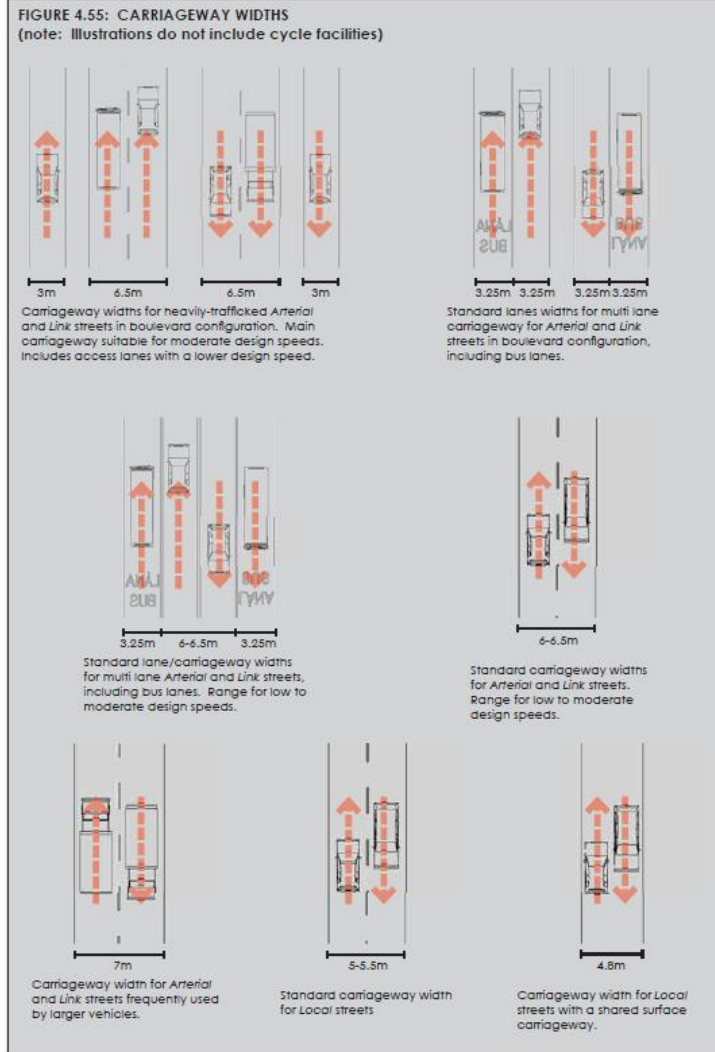
The key issues include the provision of transport networks that promote real alternatives to car journeys and encouragement of lower vehicular speeds in urban areas with a view to making streets safer and more attractive places.



Scheme Objectives



DMURS



Scheme Objectives – completed examples



● Castlebar, Co. Mayo

Previously characterised by visual clutter, poor pedestrian infrastructure and an excessive vehicle presence. The works have significantly improved the place value of the town centre and created a sense of shared space with 'a safe pedestrian environment along with suppressed vehicle dominance'.



After



Before

Scheme Objectives – completed examples



● Drogheda, Co. Louth

Narrow main street that was converted from a two-way system to a one-way system to facilitate a series of improvements within the town centre that calm traffic, expand the pedestrian domain and strengthen the sense of place.



Scheme Objectives – completed examples

● Clonakilty, Co. Cork

Traffic-dominated street replaced by wider pavements with space for pedestrian activities, festivals and cultural events.

Clonakilty 400, Urban Design & Masterplan

RIAI Public Choice Award 2014



Before



After



Scheme Objectives – completed examples



● Thomas Street, Limerick City

Featureless two-way city street transformed into shared-priority space with new independent shops and growing café culture



Before



After



Scheme Objectives – completed examples



● O'Connell Street, Ennis, Co. Clare

Narrow historic shopping street where one-way traffic flow needs to share limited available space with pedestrians and cyclists



Scheme Objectives – completed examples

○ Athlone Castle Street

Traffic calmed heritage area with enhanced environment for pedestrians and renewed investor confidence in adjoining buildings along Castle Street, Main Street and High Street



Scheme Objectives

○ Benefits to be gained

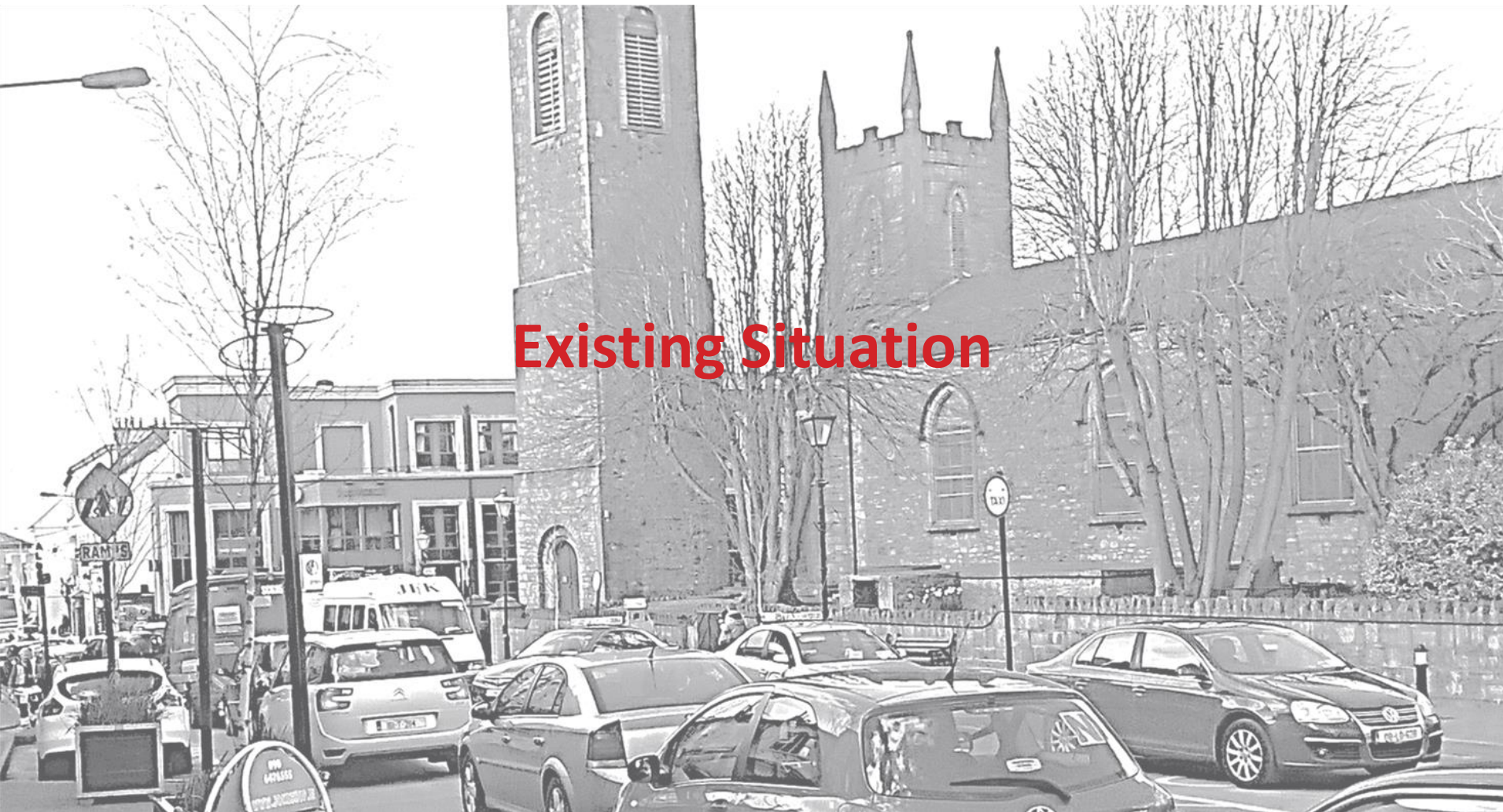
Case study evidence suggests that investment in the public realm can:

- Boost footfall and trading by providing an attractive, more inclusive and safer pedestrian environment
- Provide a competitive return compared to other transport projects
- Support existing businesses and promote investor confidence in an area
- Attract more visitors and increase tourism
- Enhance people's perceptions of attractiveness of an area, contributing towards their quality of life and influencing where they shop
- Enhance overall image and community pride

Irish Times, 23.09.2015, Paul Keogh:

"Attracting people and investment to town centres requires a focus on the provision of a high-quality public realm: everything from lighting and street furniture to traffic calming and the townscape."

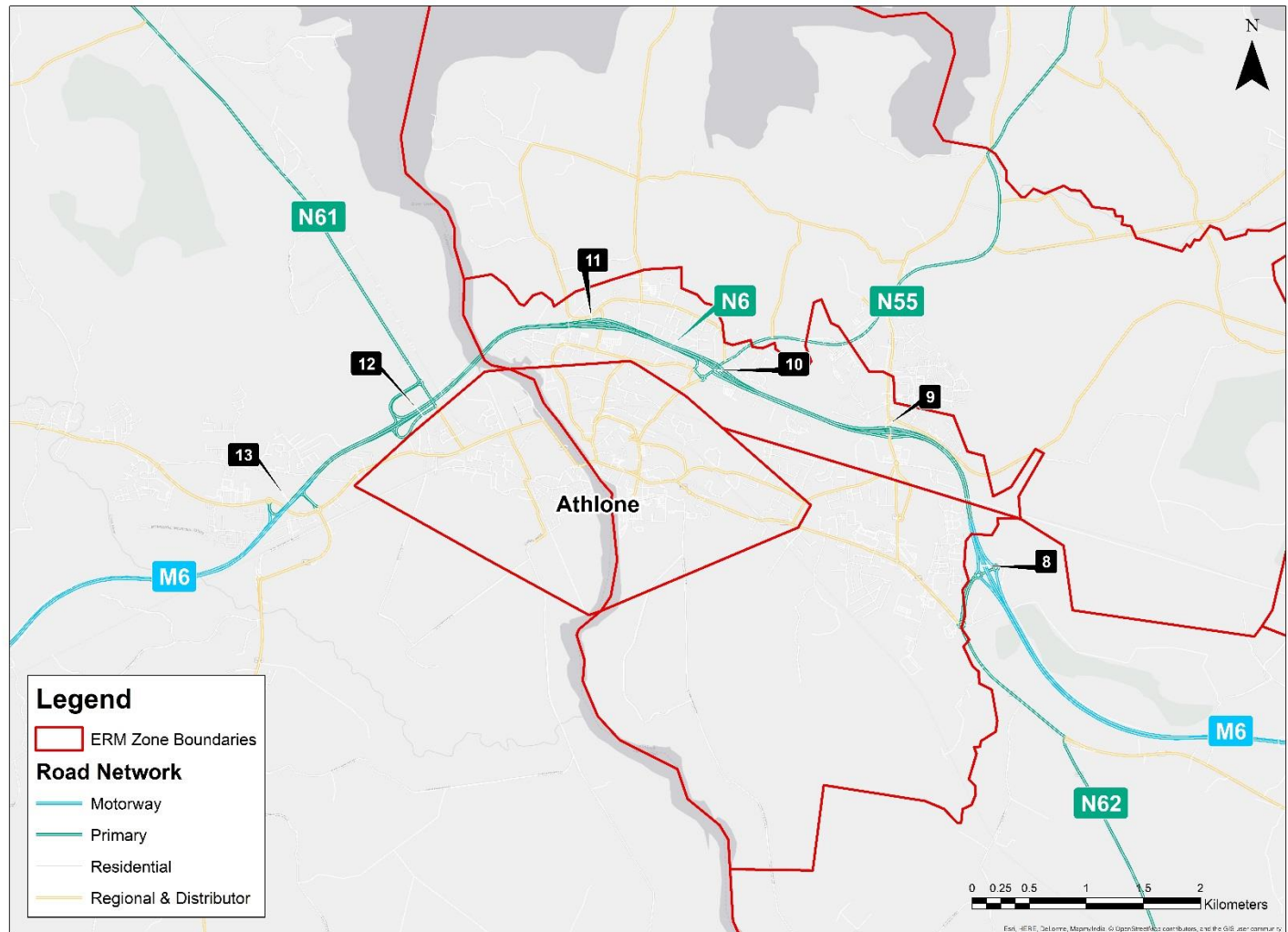
Towns that have invested in improving their urban environments – Kilkenny, Abbeyleix, Clonakilty and Killorglin, to name a few – have done so out of a conviction that a high-quality public realm is central to attracting investment, employment and tourism to their locations."



Existing Situation

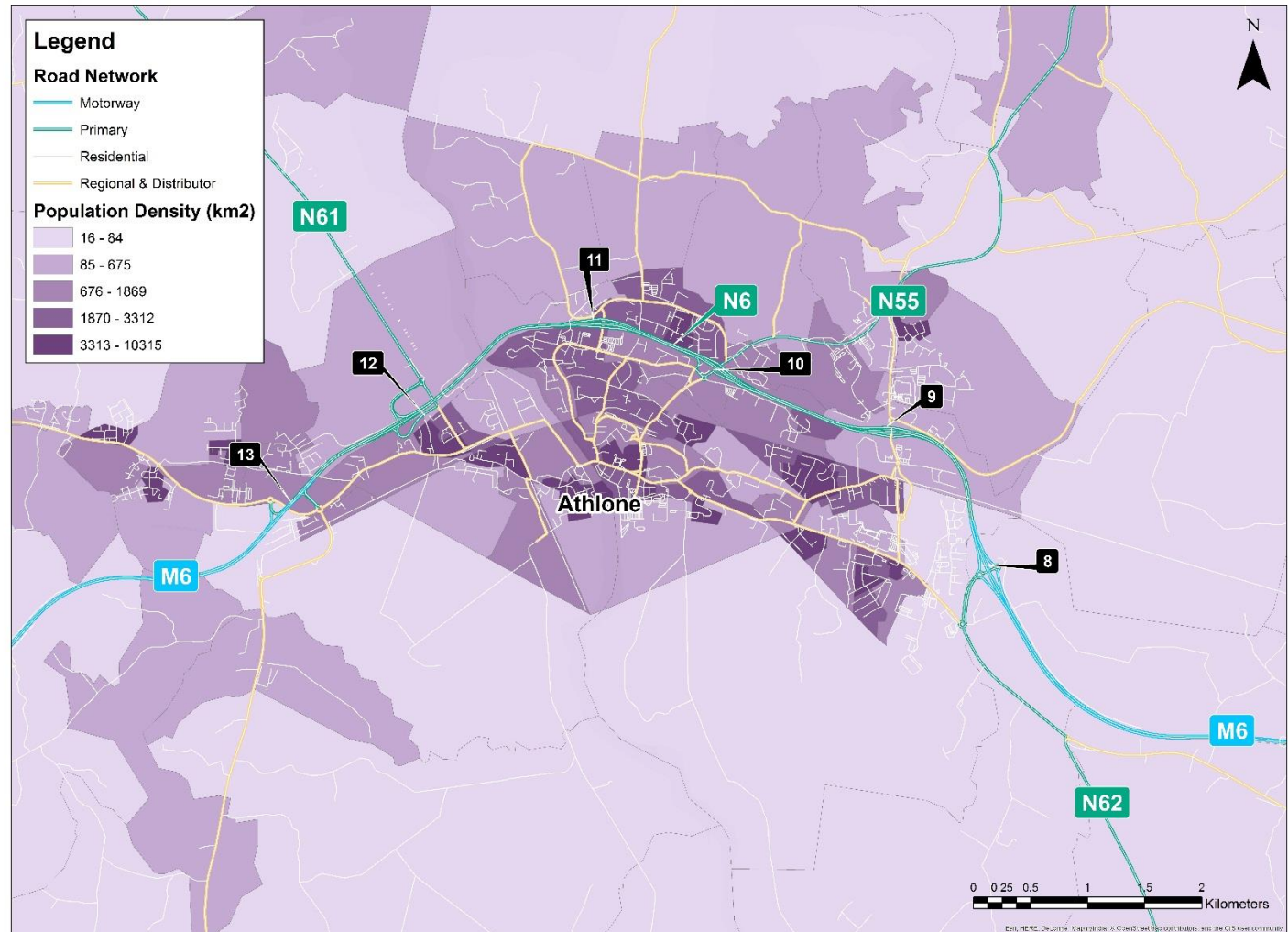
Athlone Trip Patterns

ERM Zone
Boundaries



Athlone Trip Patterns

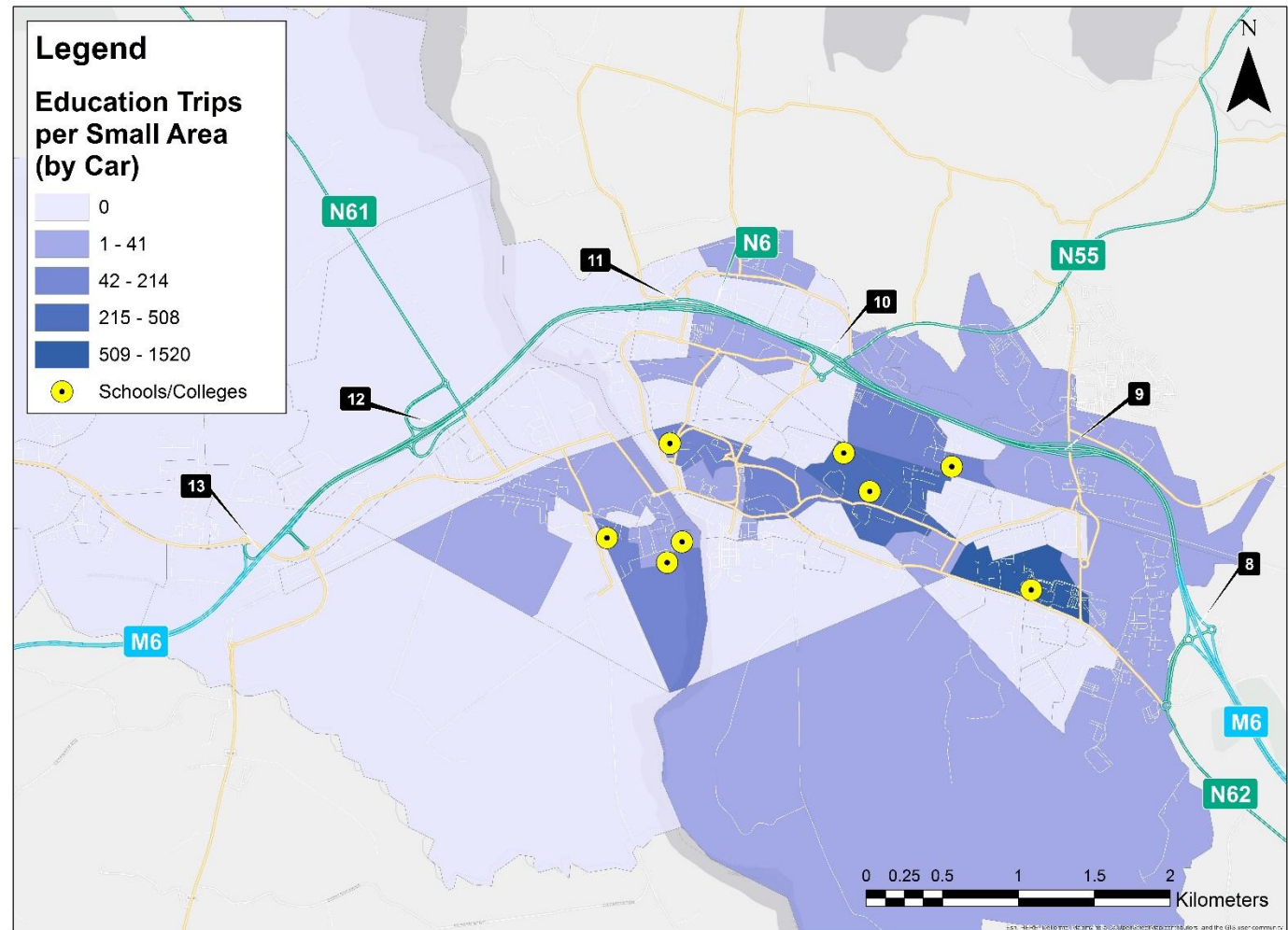
Population Density



Athlone Trip Patterns



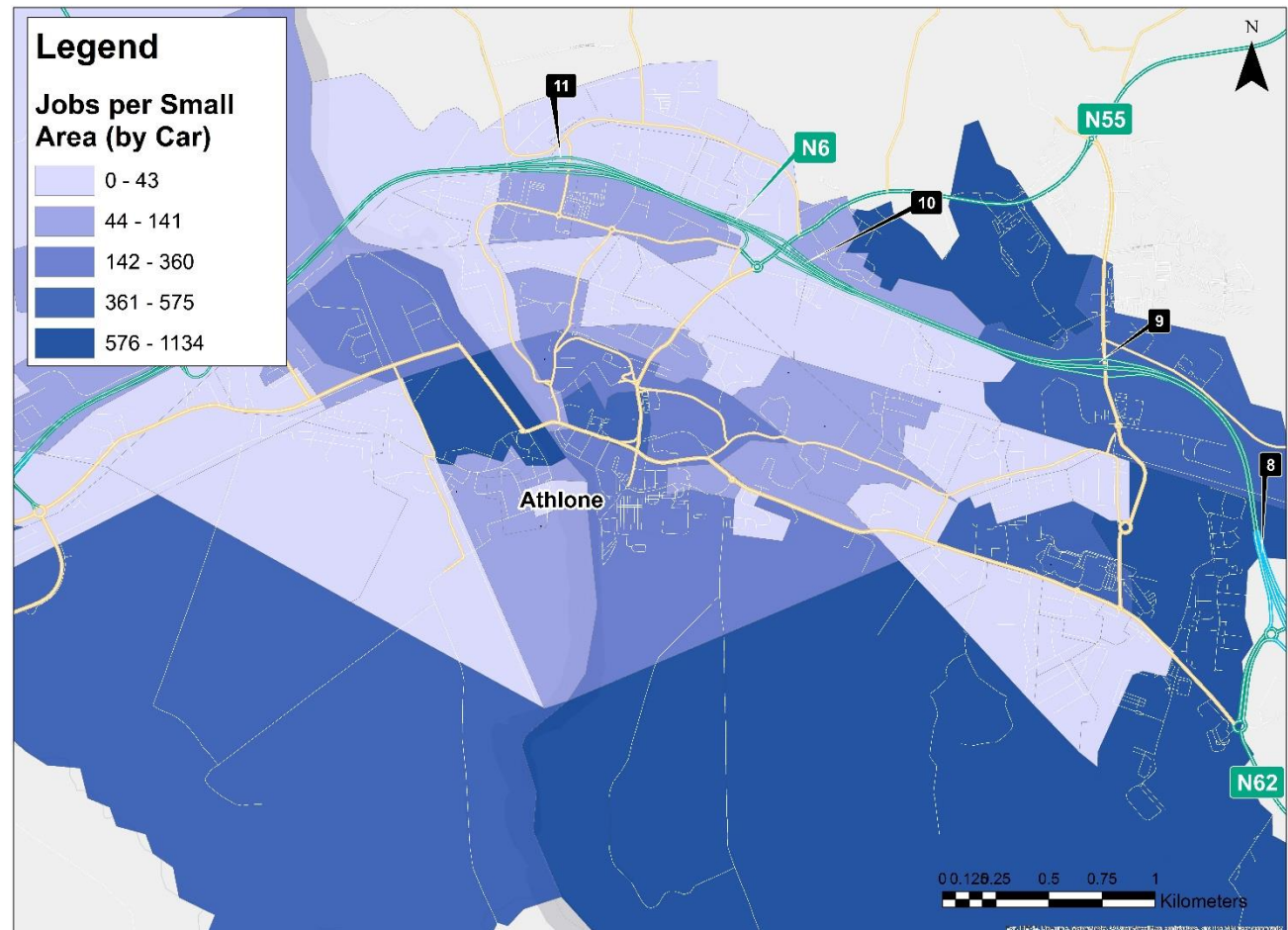
Education Generated Car Trips



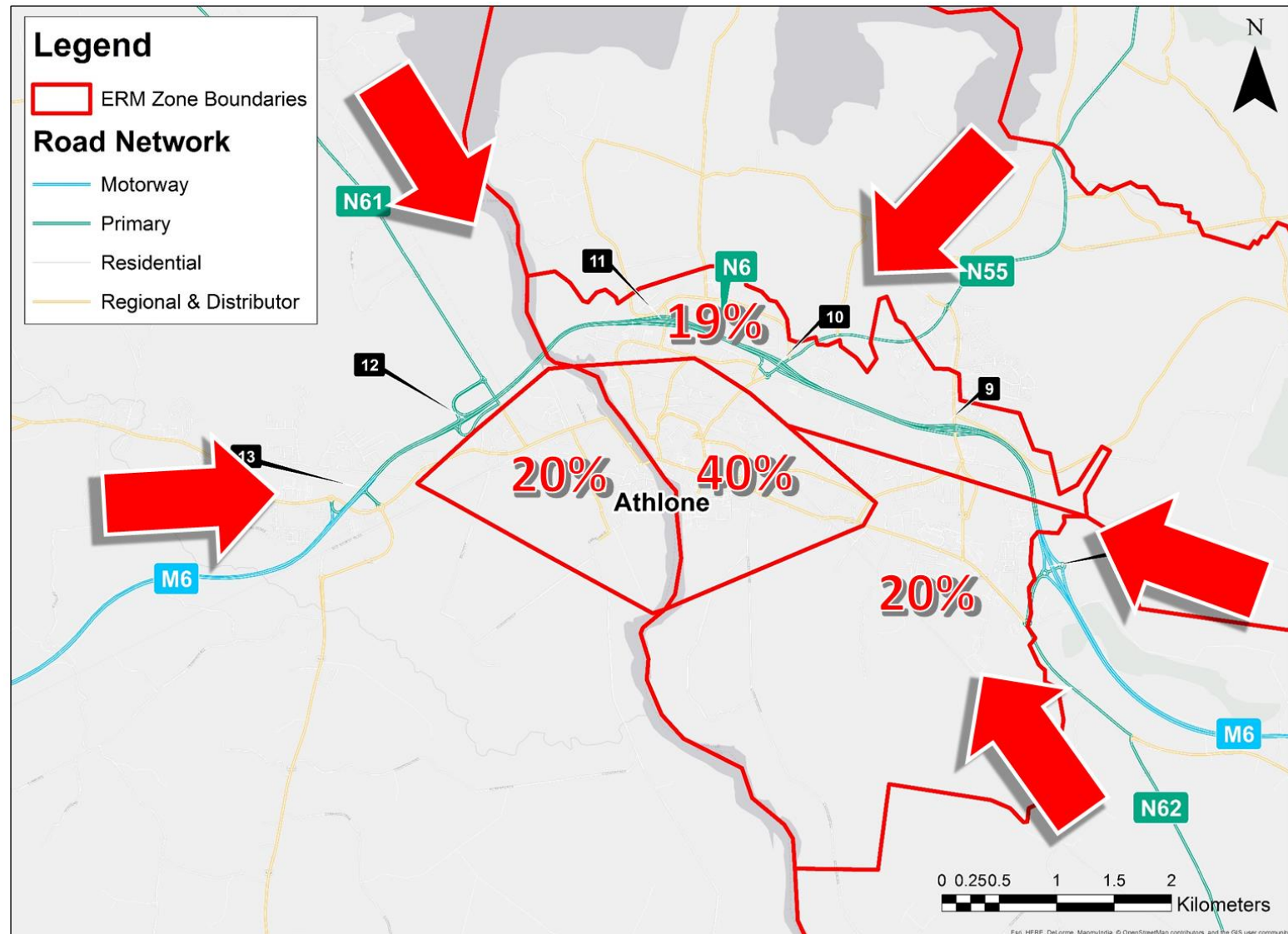
Athlone Trip Patterns



Employment Generated Car Trips



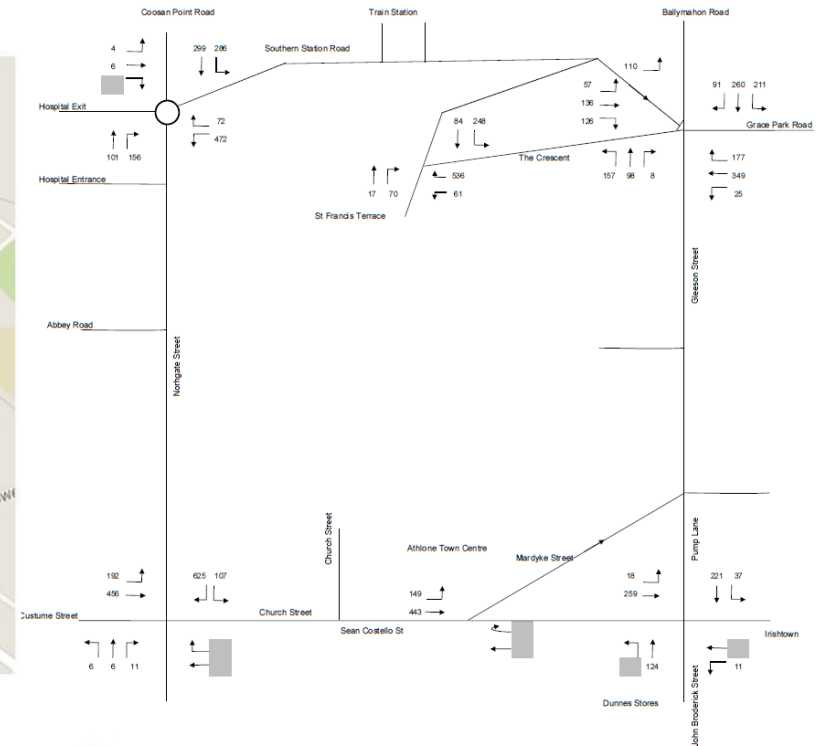
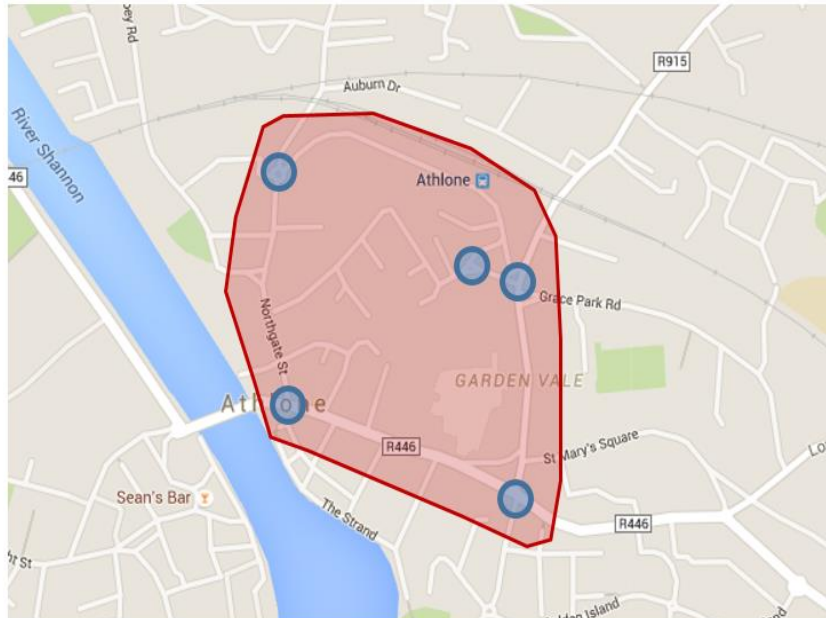
Athlone Trip Patterns



Traffic Movement – Study Area

Church Street Athlone Public Realm Enhancement

Transport Surveys and Modelling



Appendix

Option B AM

June 2016

Enhancement Works to Church Street, Athlone

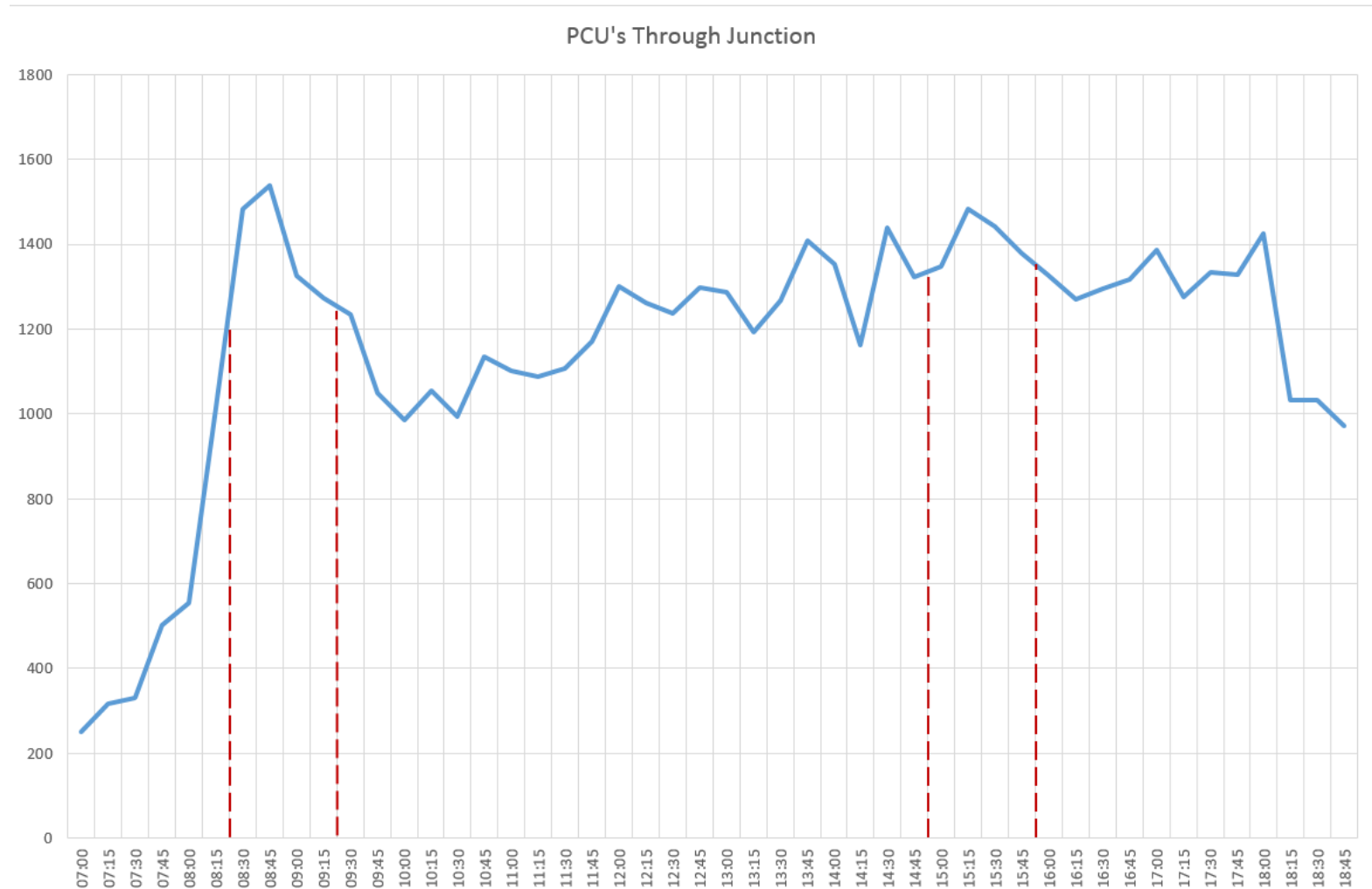
SYSTRA

Traffic Volumes

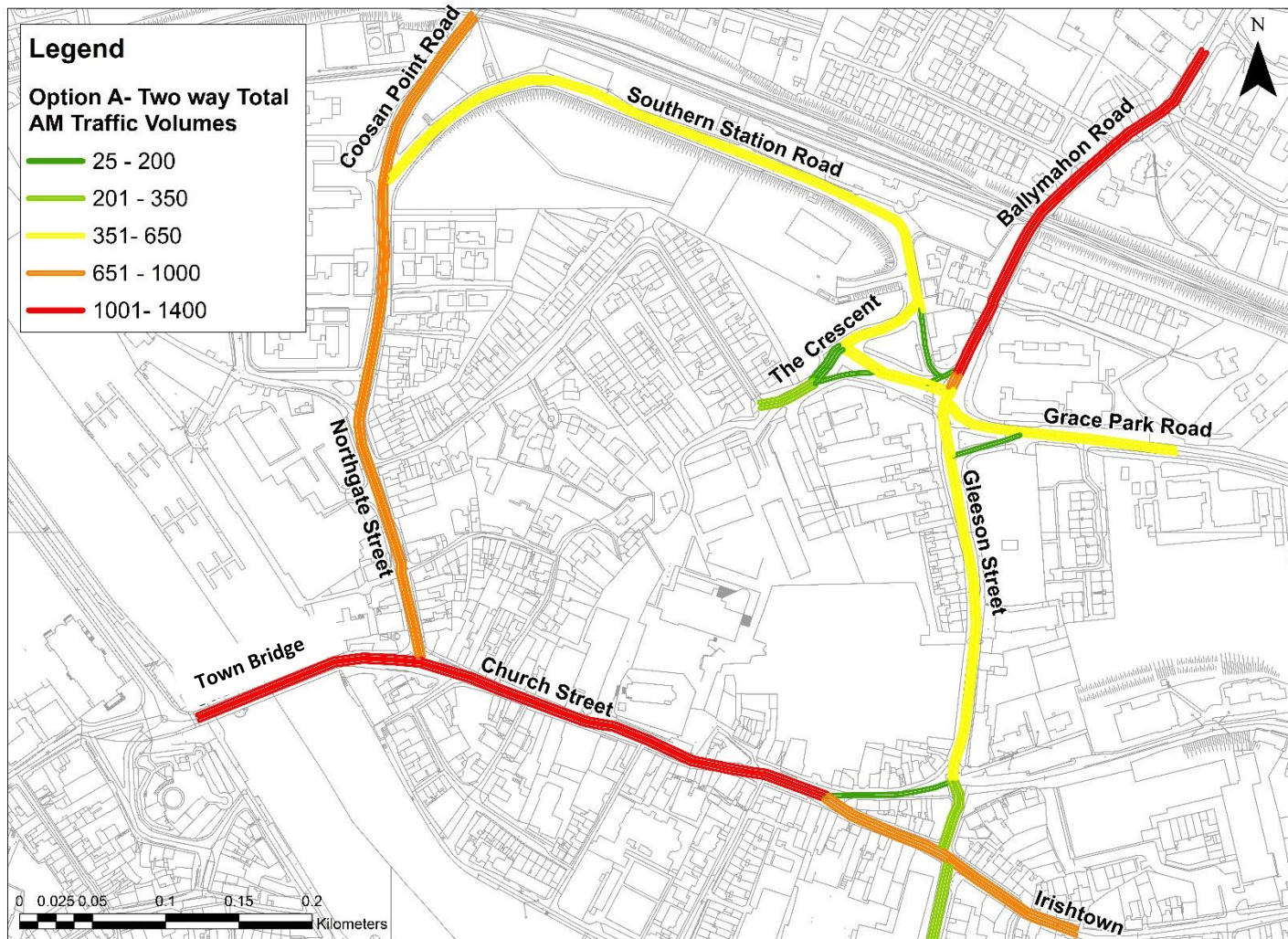
Traffic movement – Total 15minutes Peak Hour across the key junctions

15 Minute
Count
Data

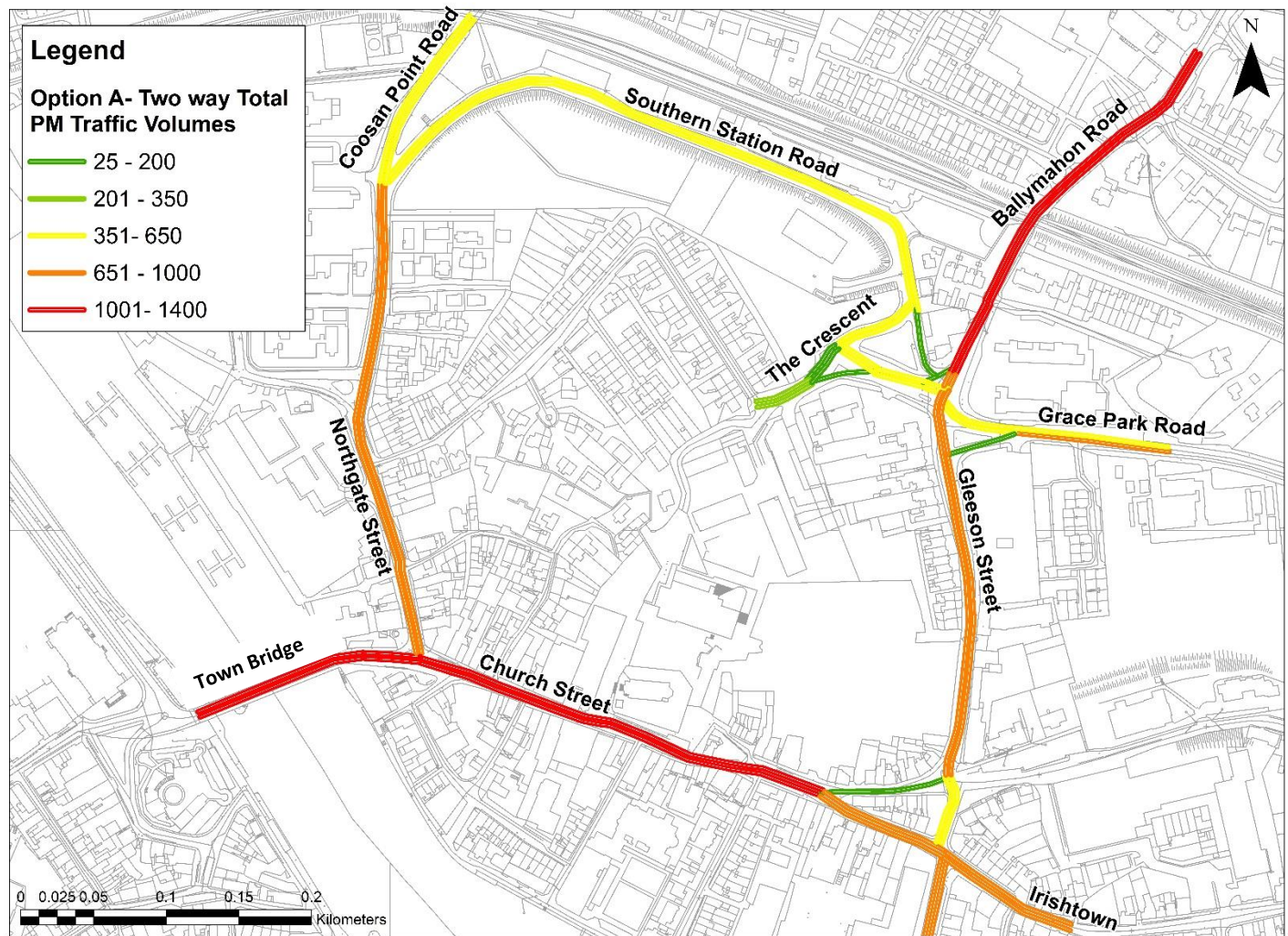
AM & PM
Peak
Hours



Existing Traffic Volumes – AM Peak



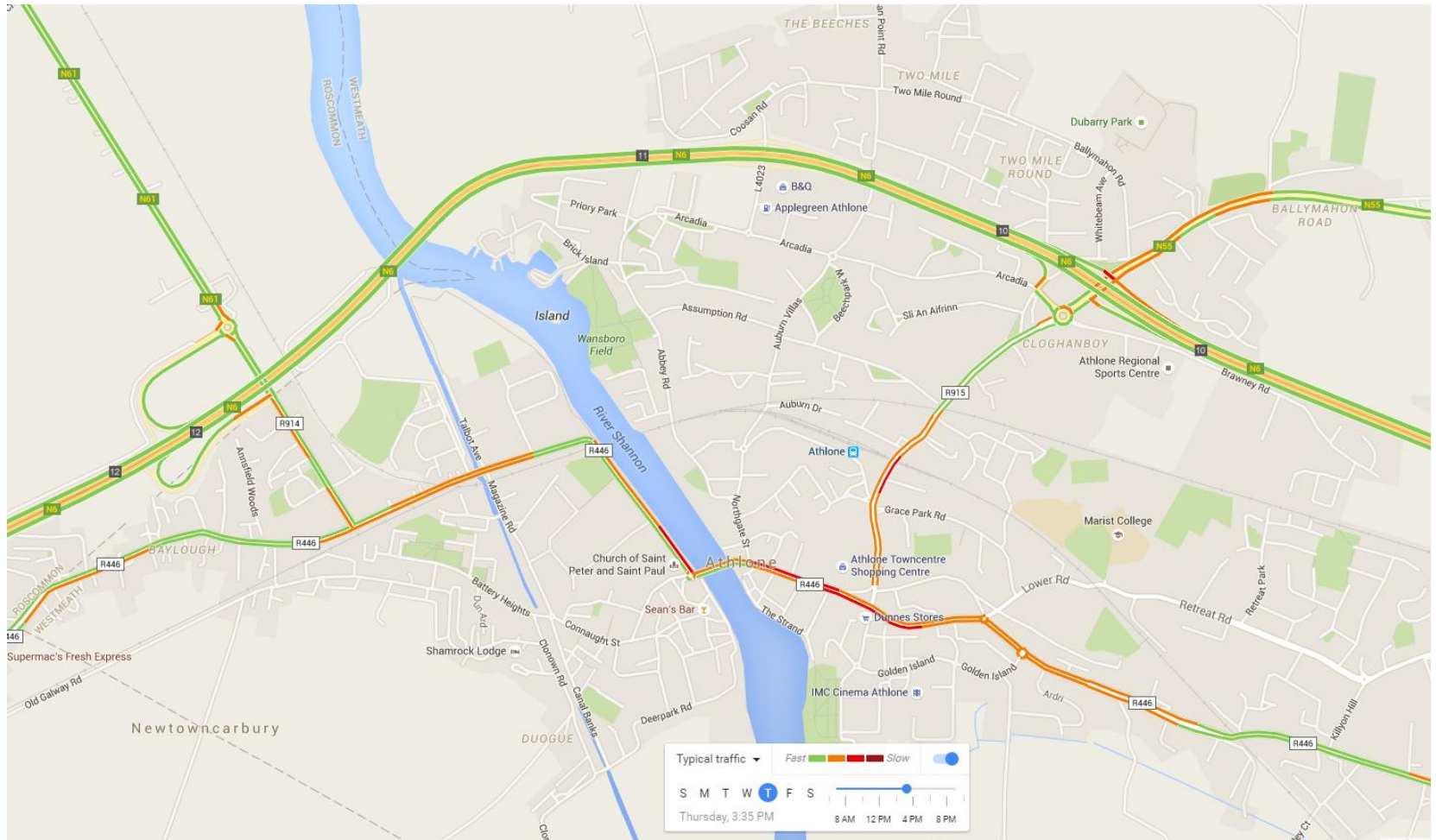
Existing Traffic Volumes – PM Peak



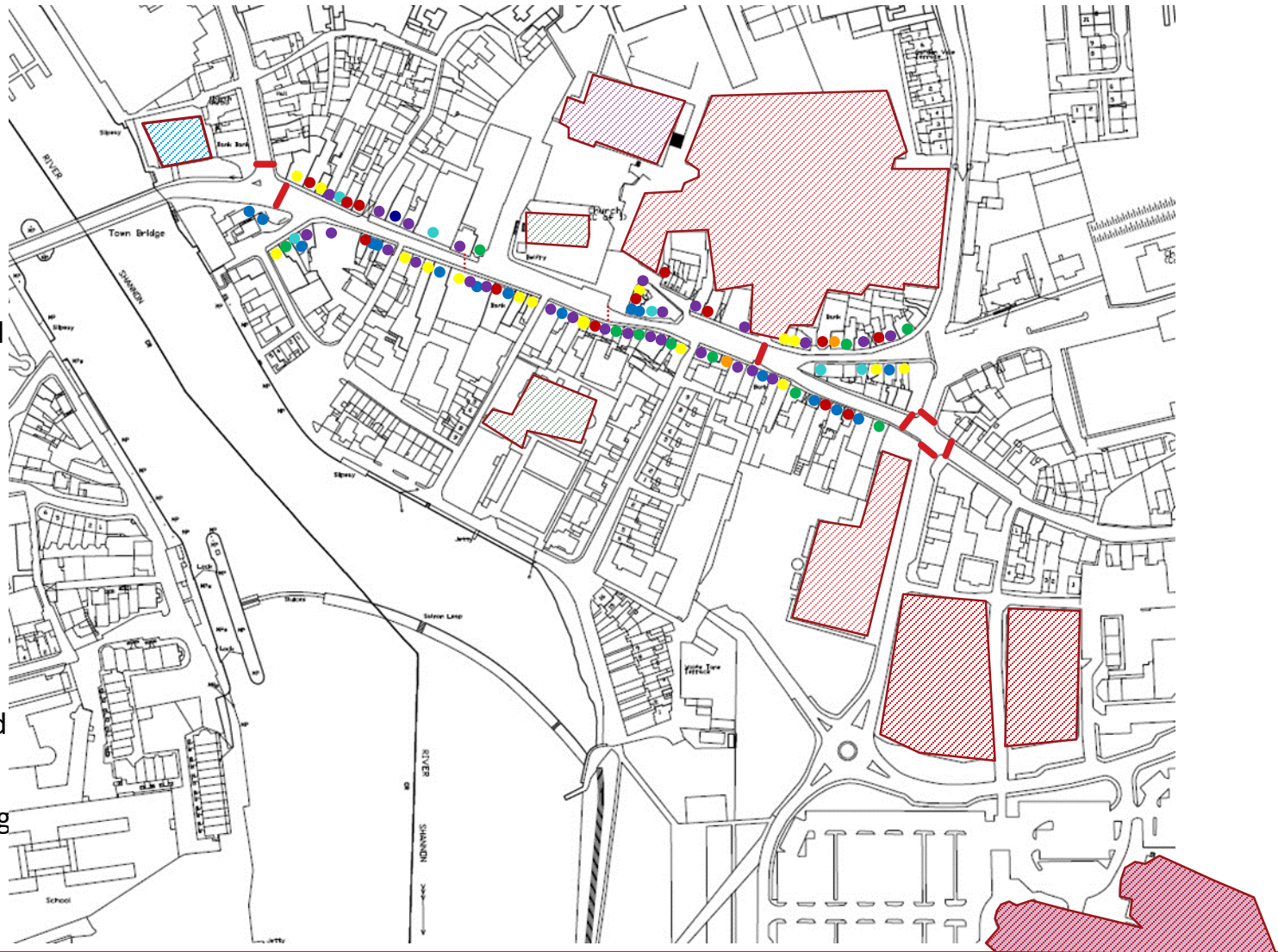
Network Delays



PM Peak – Typical Delay



Town Centre Attractions



Town Centre Attractions



● Vacant Units July/August 2016

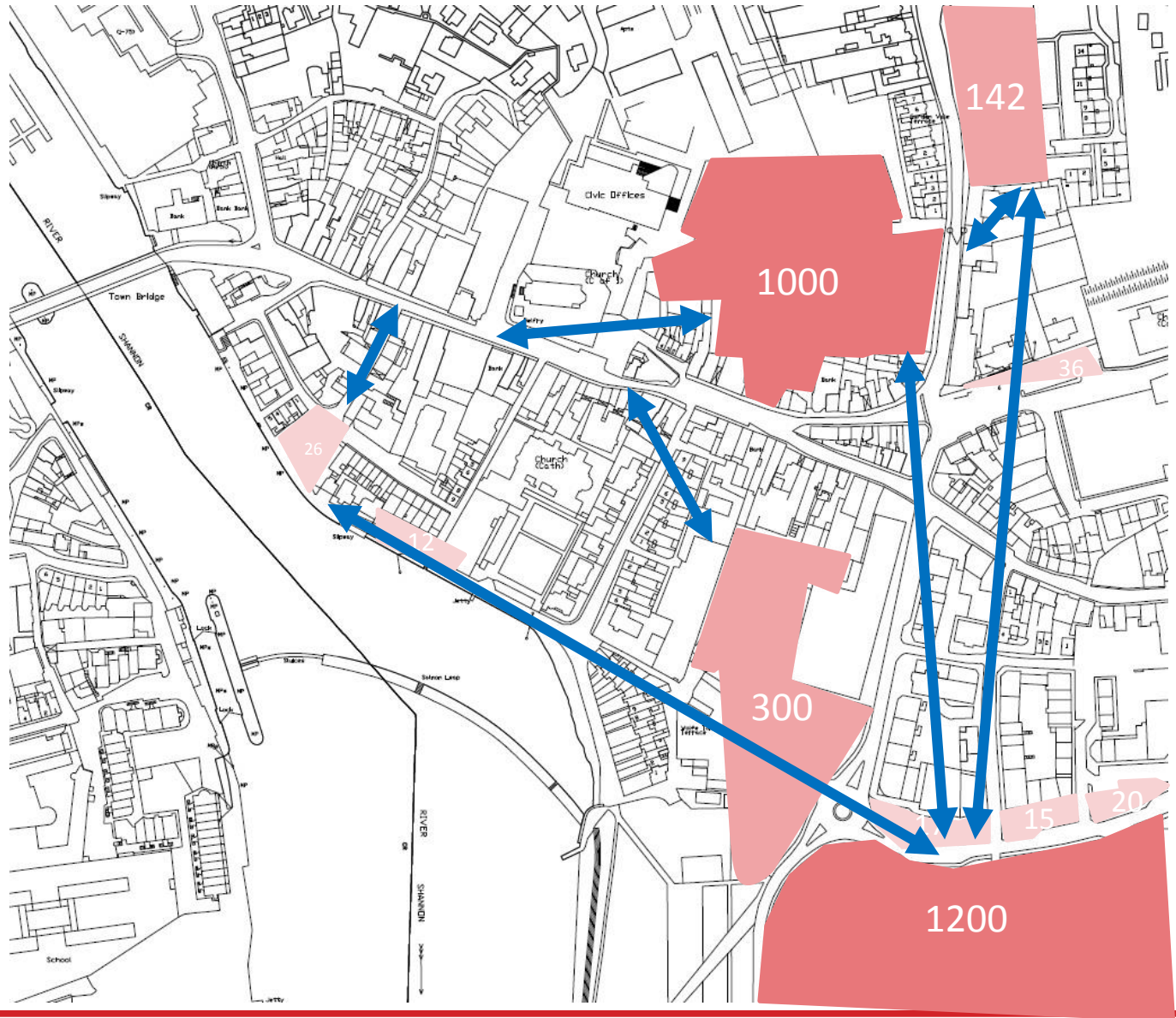
Town Centre Parking



Car Parking



Access Desire Lines



Existing Footpath Provision



Existing Footpath Width: width $\leq 1.5\text{m}$ —, $1.5\text{m} < \text{width} \leq 2.4\text{m}$ —, width $> 2.4\text{m}$ —



Design Options

Four Concept Solutions Nicholas de Jong Associates

Design Option A: Two-way traffic flow



Four Concept Solutions Nicholas de Jong Associates

Design Option B: One-way traffic flow, Eastbound



Four Concept Solutions Nicholas de Jong Associates

Design Option C: One-way traffic flow, Westbound



Four Concept Solutions Nicholas de Jong Associates

Design Option D: Full Pedestrianisation





Appraisal of Design Options

Appraisal Criteria

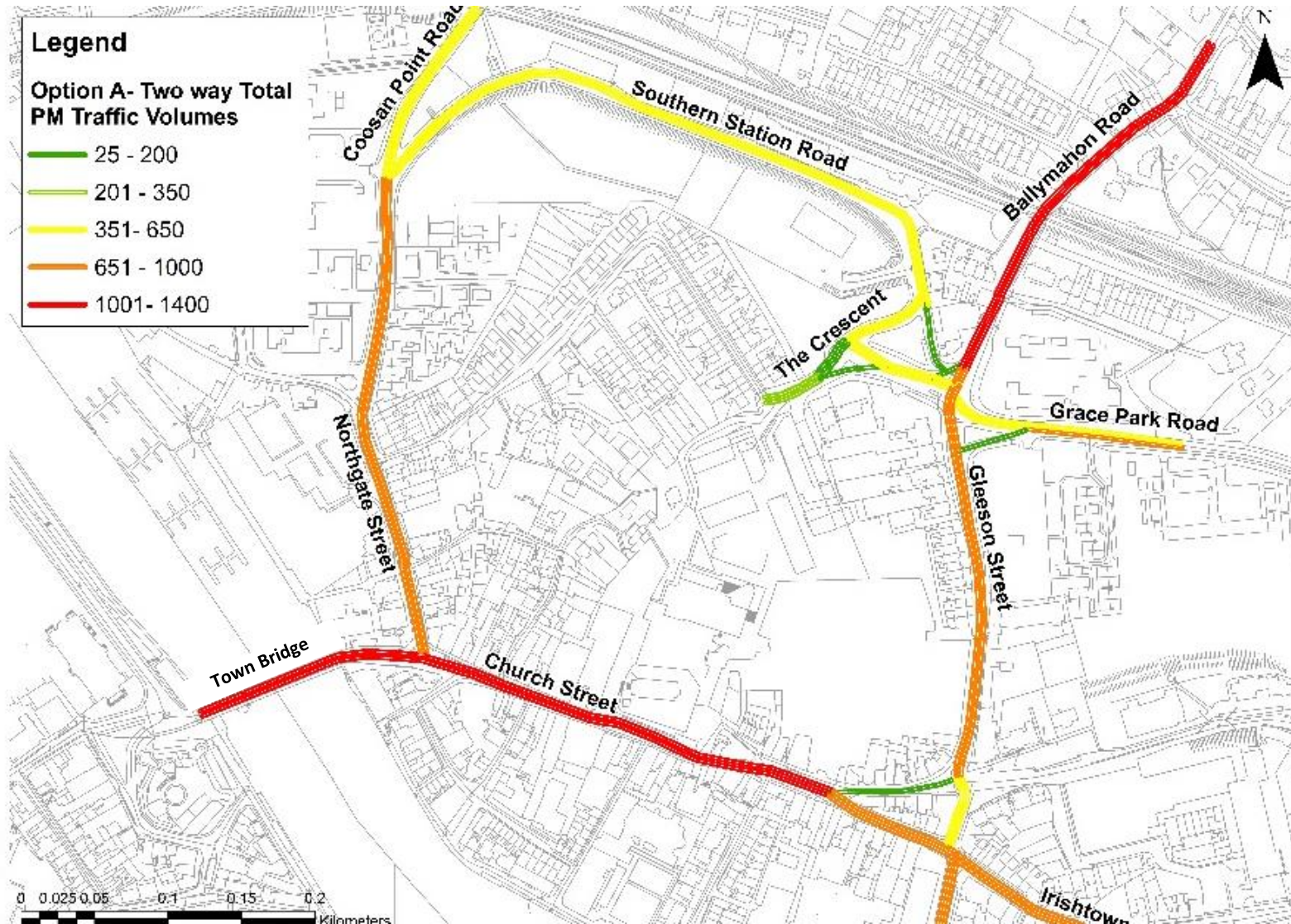


Objectives of Public Realm Scheme	Key Performance Indicators	Method of Measurement
<i>Creation of a Calm Environment.....</i>	Volume of Traffic on Church Street	Traffic count surveys to determine volume of traffic
<i>.....with a sense of place.....</i>	Quality of public realm design	Qualitative assessment of public realm, looking at available widths and opportunity to create activity spaces
<i>....with ease of access for all....</i>	Ease of access for pedestrians	Measurement of footpath widths, crossing requirements, background traffic volumes etc.
	Ease of access for cyclists	Ease of access along Church Street, cycle parking opportunities etc.
	Ease of access for public transport users (Bus and Taxi)	Accommodation on Church Street, detour requirements, local junction delays etc.
	Ease of Access for Service Vehicles	Available road widths, loading opportunities etc.
	Ease of Access for General traffic	Junction delays, detour lengths, access to parking
<i>....and which contributes to the economic vitality of the town.</i>	Journey delays / Junction Performance	Delays at key junctions (local junction models)
	Increase footfall	Available footpath widths and meeting opportunities

Creation of a Calm Environment - Volume of Traffic on Church Street (PM)

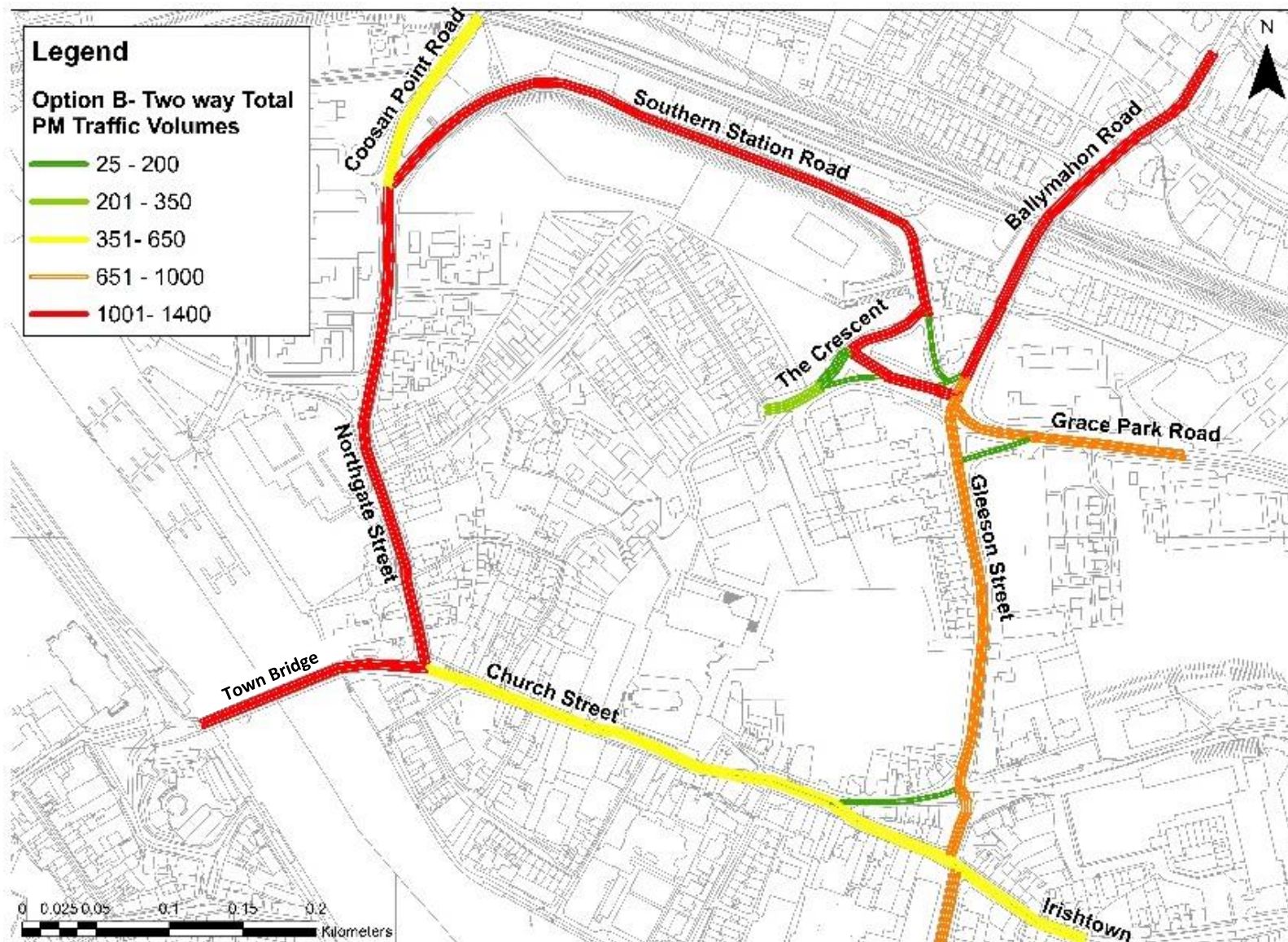


Option A:
Two-way
traffic flow



Creation of a Calm Environment - Volume of Traffic on Church Street (PM)

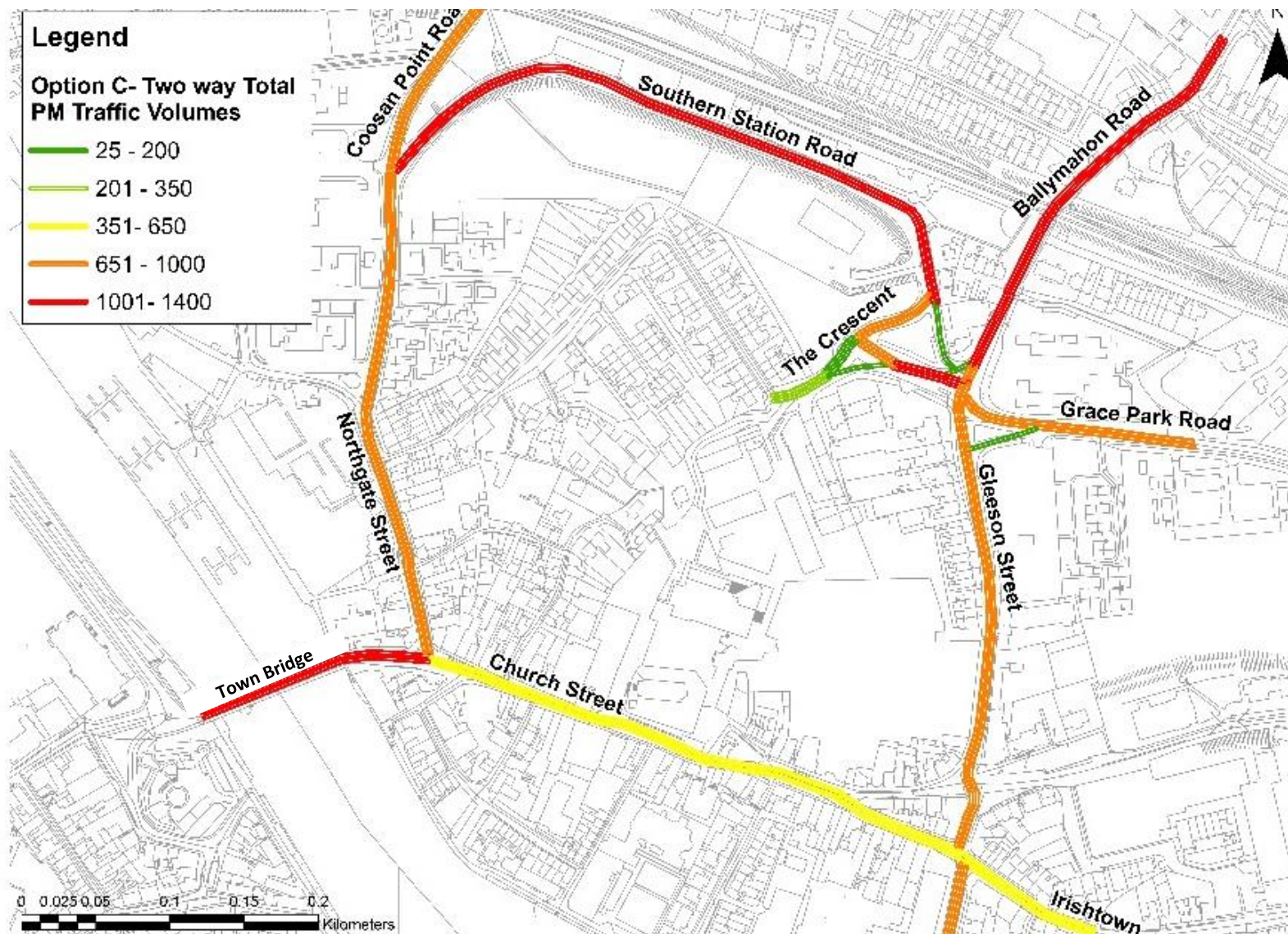
Option B:
One-way
traffic flow,
Eastbound



Creation of a Calm Environment - Volume of Traffic on Church Street (PM)



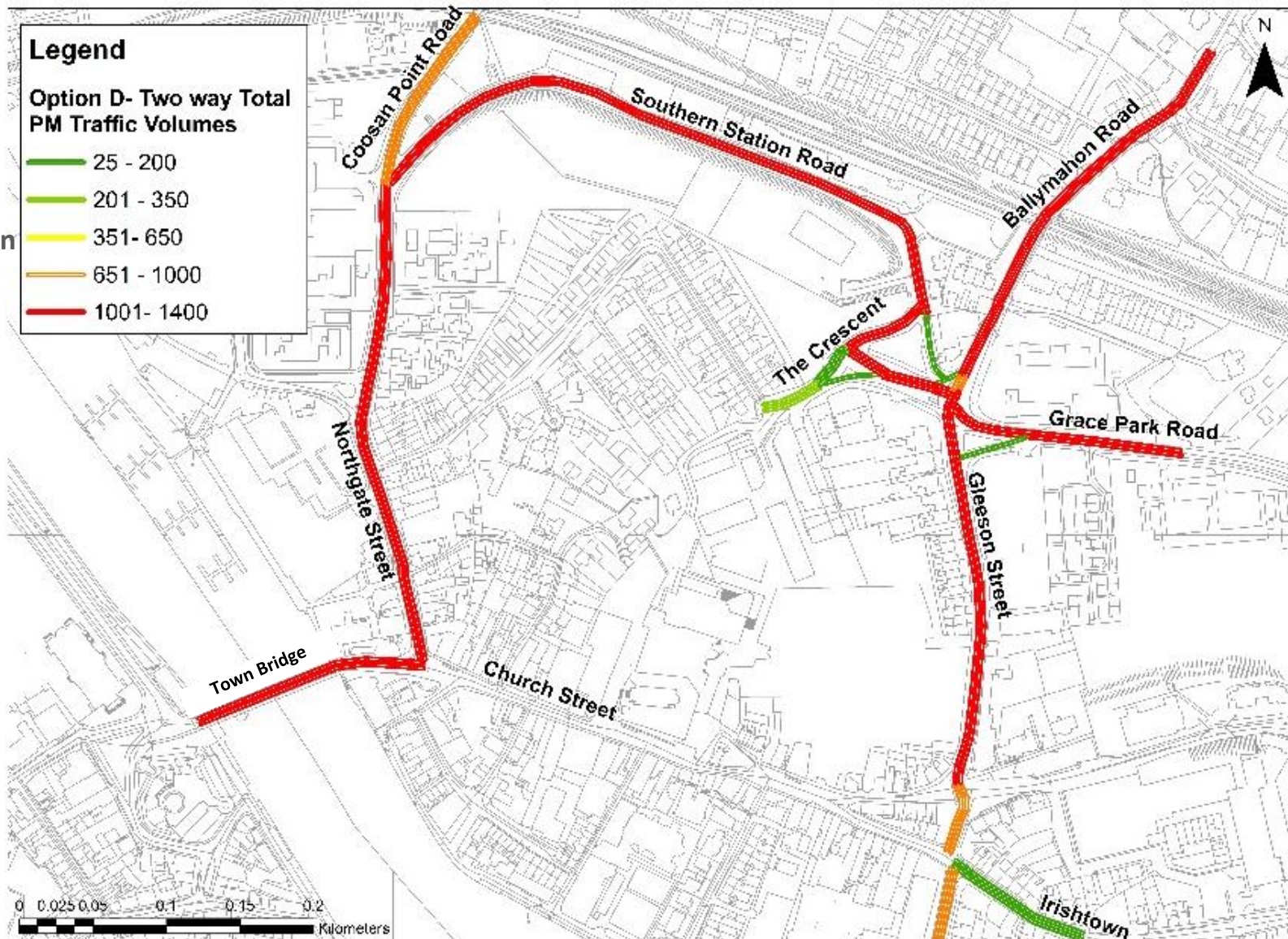
Option C:
One-way
traffic flow,
Westbound



Creation of a Calm Environment - Volume of Traffic on Church Street (PM)



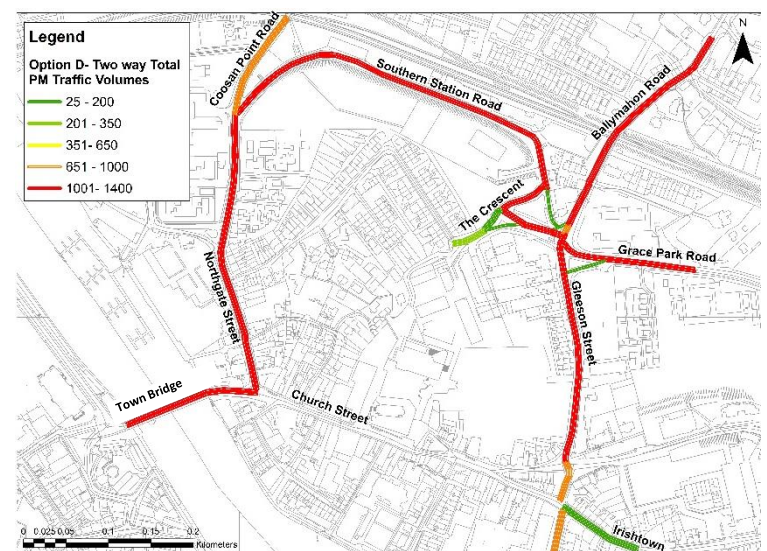
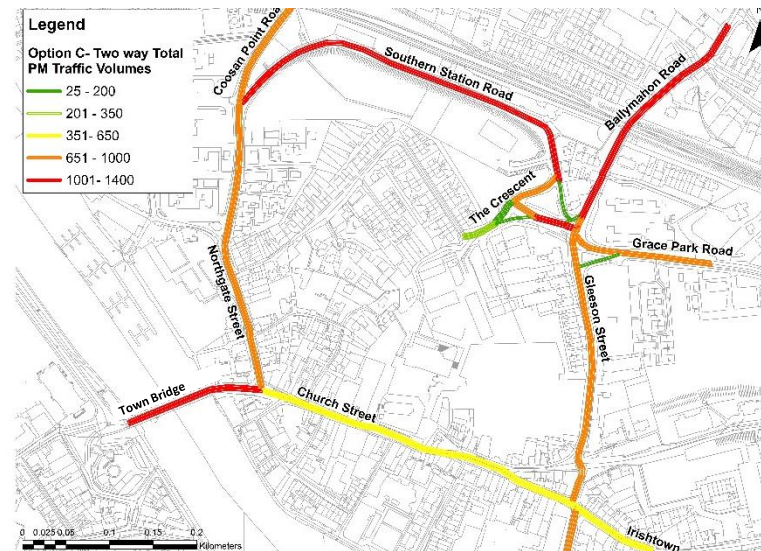
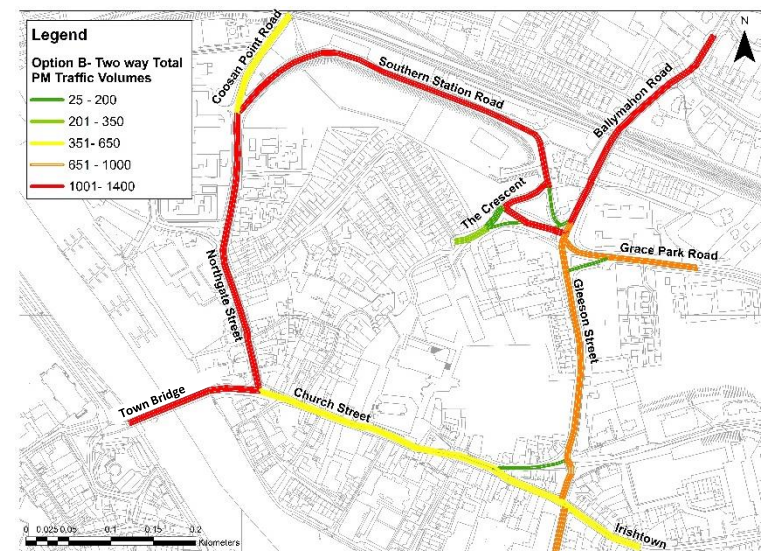
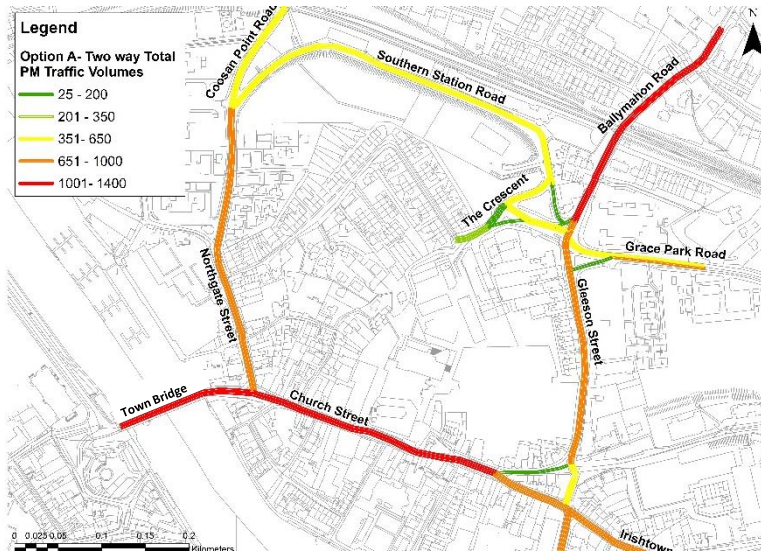
Option D: Full pedestrianisation



Creation of a Calm Environment - Volume of Traffic on Church Street (PM)



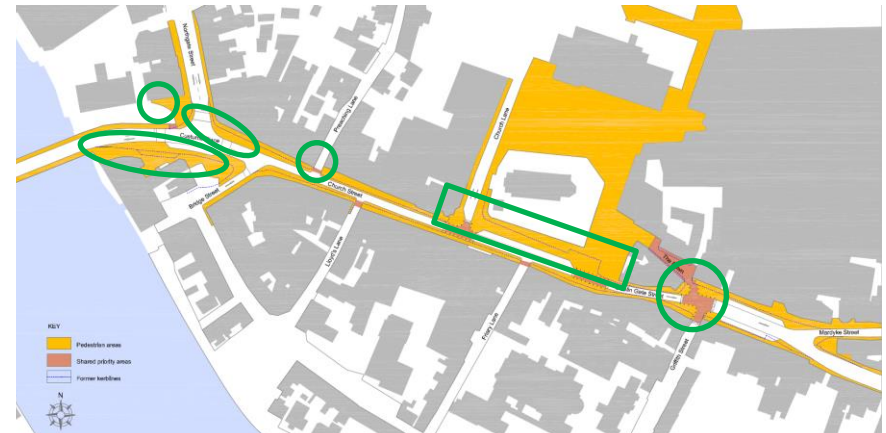
Scenario Comparison



With a Sense of Place – Quality of Public Realm Design 'Staying Areas'



Option A: Two-way traffic flow



Option B: One-way traffic flow, Eastbound



Option C: One-way traffic flow, Westbound



Option D: Full pedestrianisation

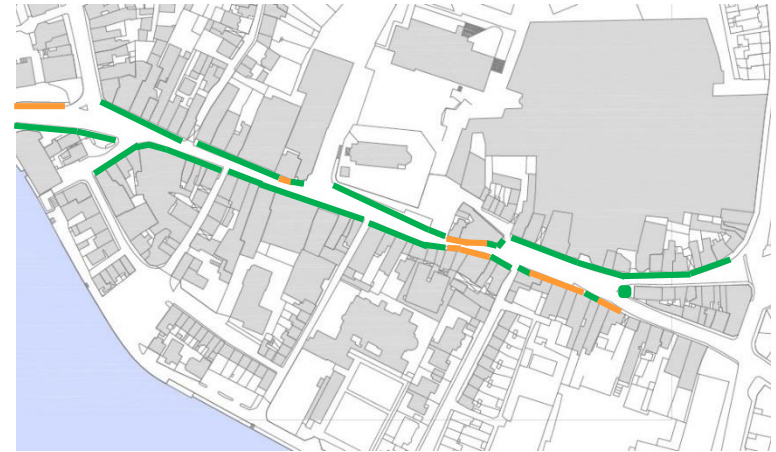
With Ease of Access for All - Pedestrians



Option A: Two-way traffic flow



Option C: One-way traffic flow, Westbound



Option B: One-way traffic flow, Eastbound



Option D: Full pedestrianisation

Footpath: width $\leq 1.5\text{m}$ —, $1.5 < \text{width} \leq 2.4\text{m}$ —, width $> 2.4\text{m}$ —

Public Realm Design Options

Design Option Pinch Point A (At Church)



AS EXISTING



OPTION A: Two-way traffic flow



OPTION B/C: One-way traffic flow

Public Realm Design Options

Design Option Pinch Point B (The Bawn)



AS EXISTING



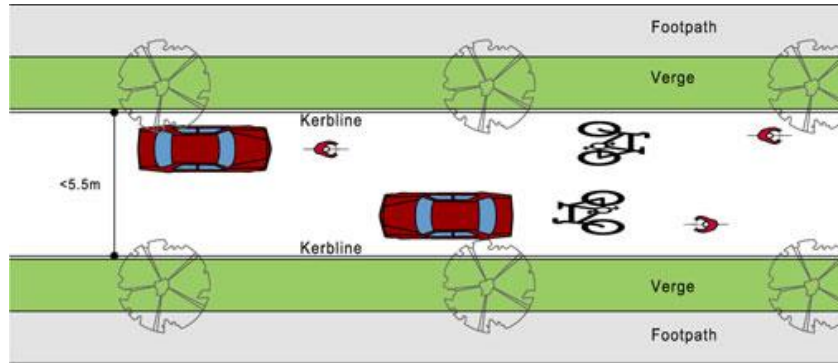
OPTION A: Two-way traffic flow



OPTION B/C: One-way traffic flow

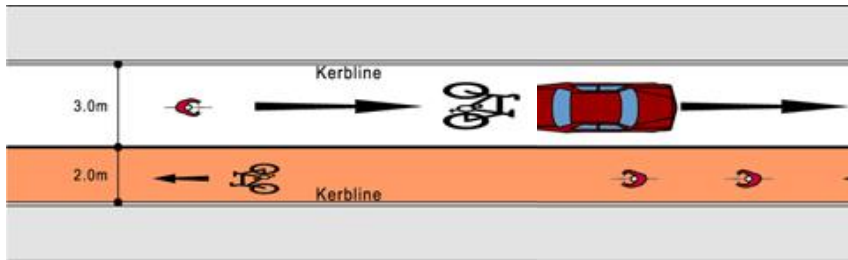
With Ease of Access for All - Cyclists

National Cycle Manual Design Standards



Shared Street

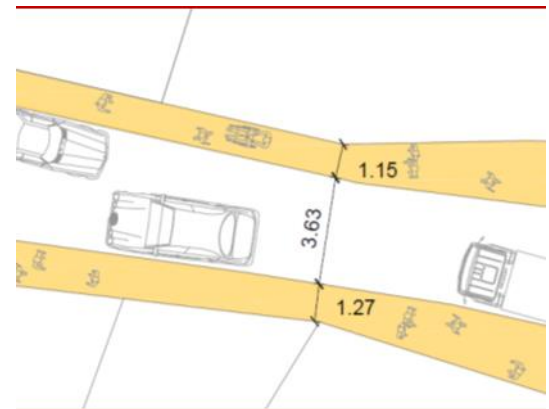
- Carriageway <5.5m
- Access roads and shopping streets
- Low speed
- Unconstrained accessibility for cyclists



Contra Flow

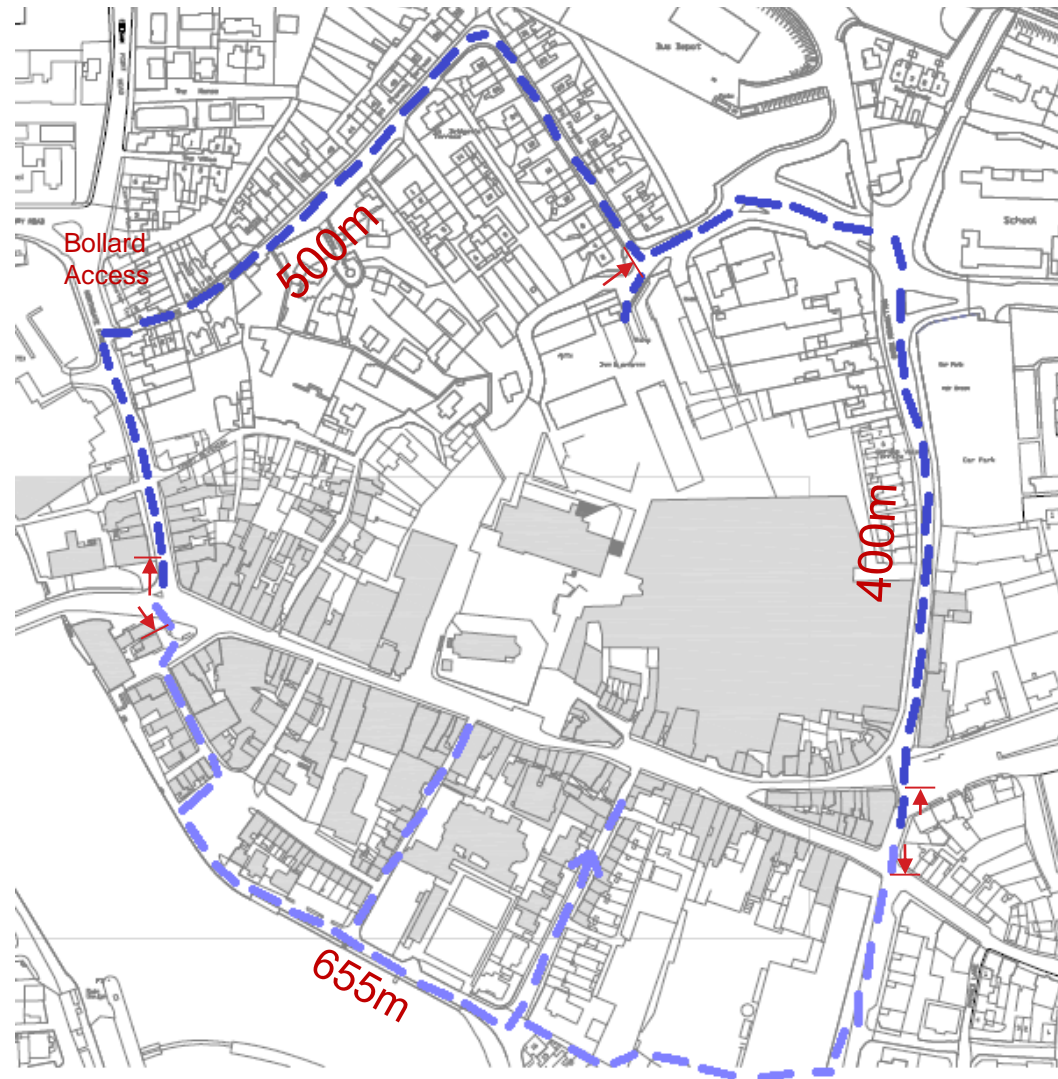
- Carriageway = 5.0m
- Access roads, town centres
- Speed Limit < 30kmp
- Unconstrained accessibility for cyclists

Pinch Points do not alter for Options B and C



With Ease of Access for All - Cyclists

Detour distances



With Ease of Access for All - Taxi and Loading Bays



Option A



Option B



Taxi Rank
Loading Bay /
Bus Stop



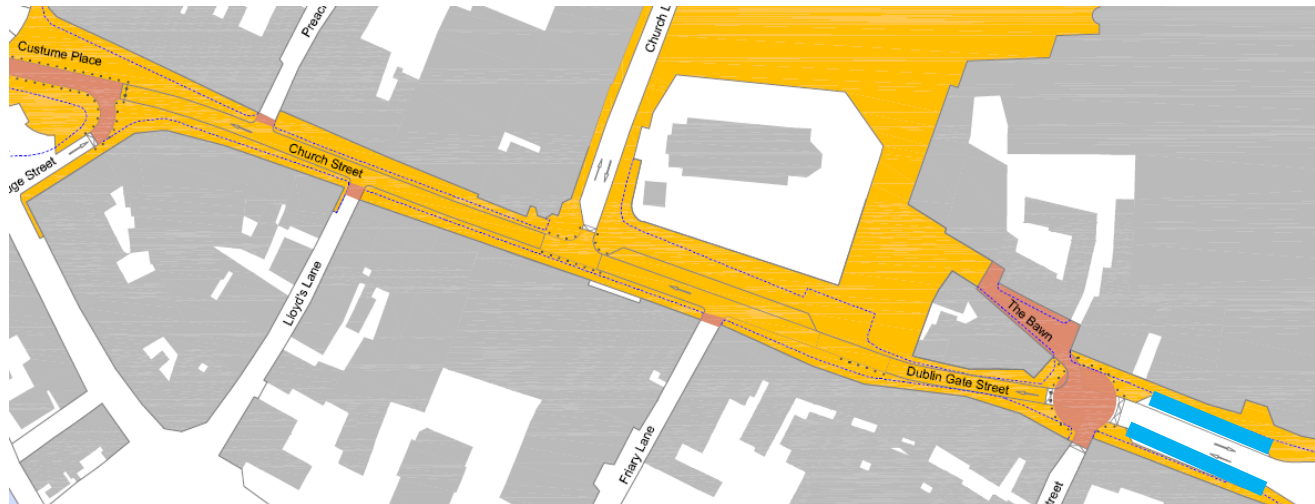
With Ease of Access for All - Taxi and Loading Bays



Option C



Option D



Taxi Rank

Loading Bay /
Bus Stop



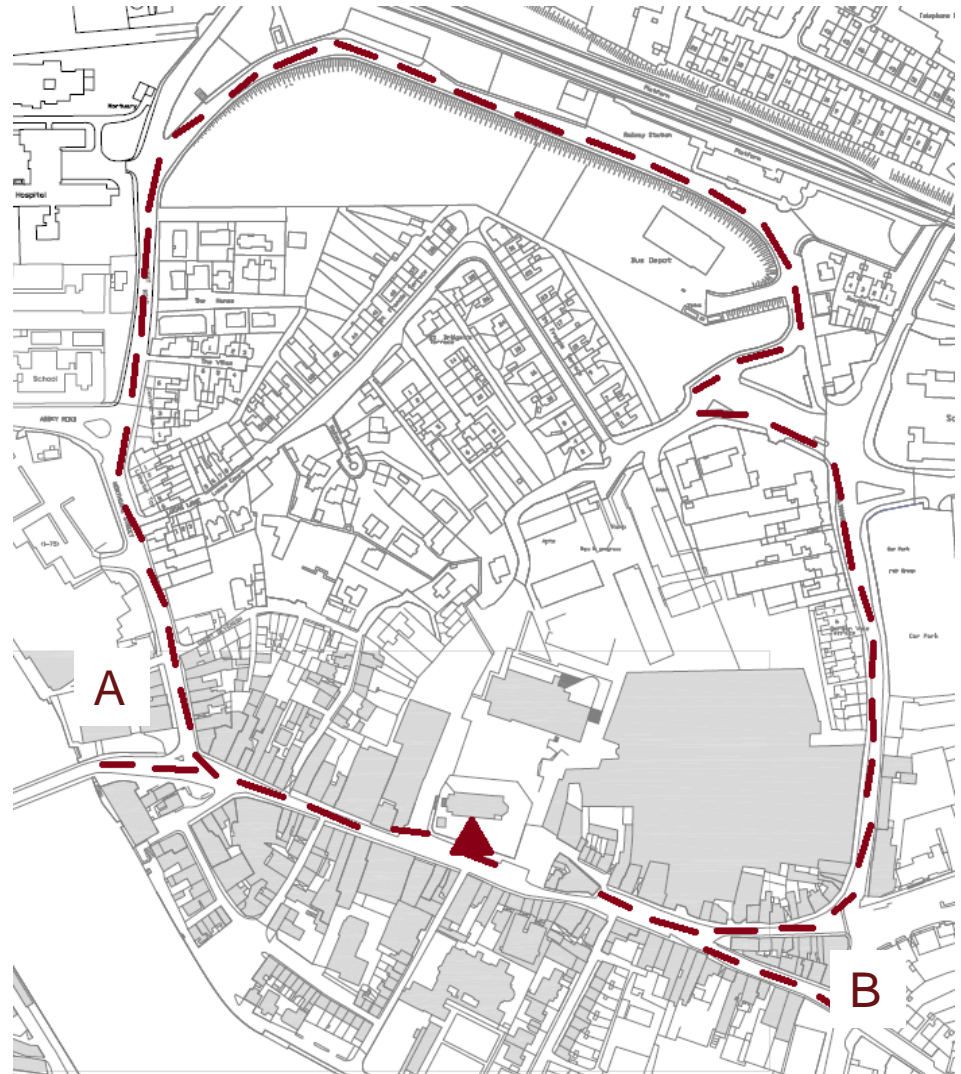
With Ease of Access for All - Taxi



Reroute A to B – Option D Only

- Church Street – 400m in 3mins
- Reroute: 1.3km in 5mins

(times based on current traffic delays)



With Ease of Access for All - Public Transport



With Ease of Access for All - Bus

Bus Reroute for Option B and D only

- Additional 1.3km

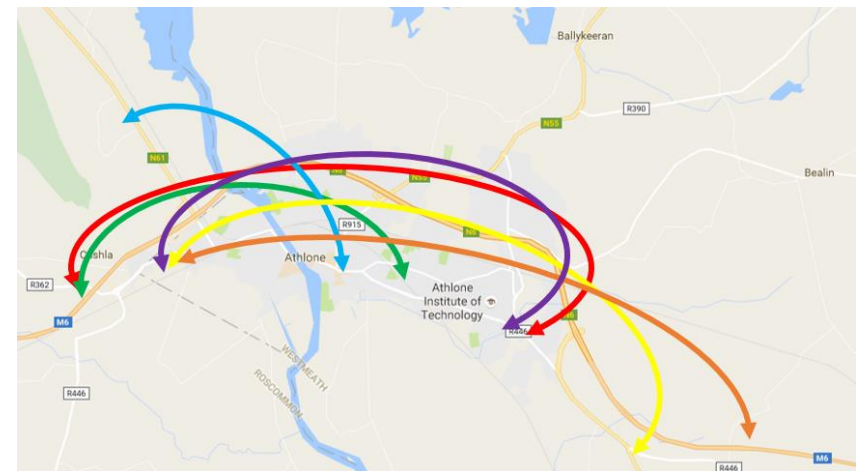
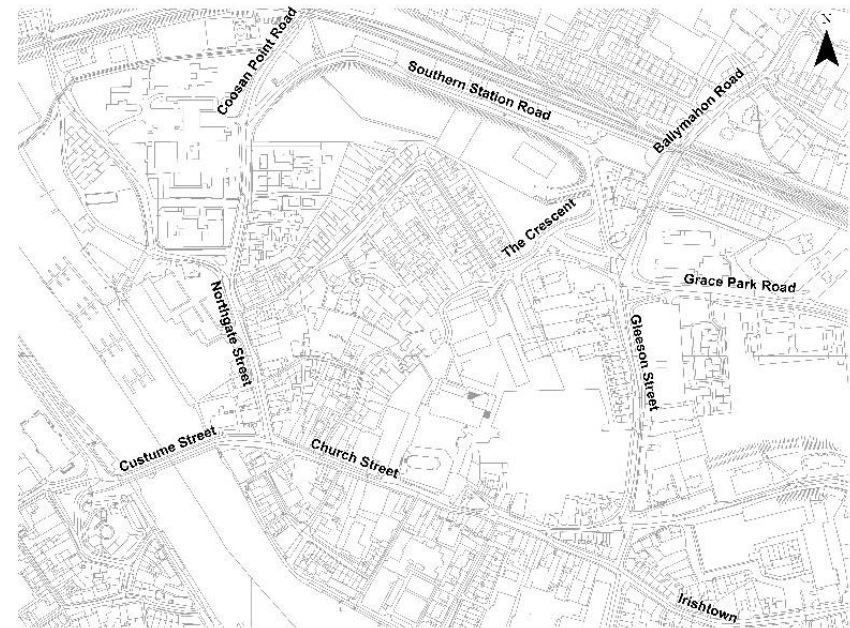


Modelling Overview

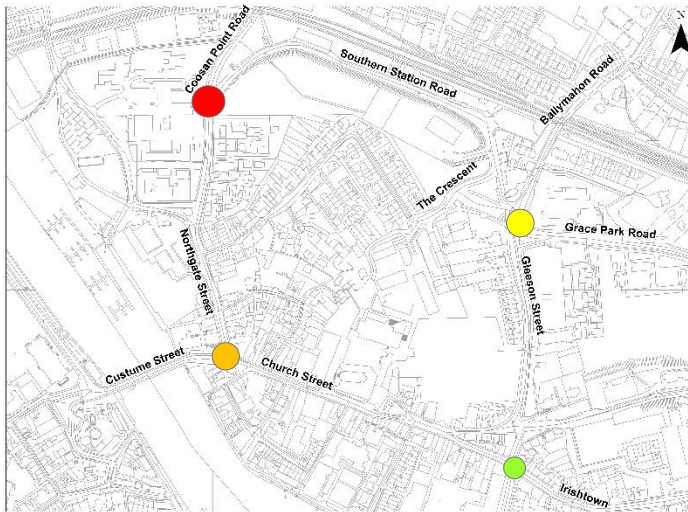
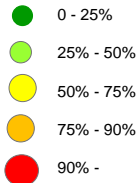


Model Development

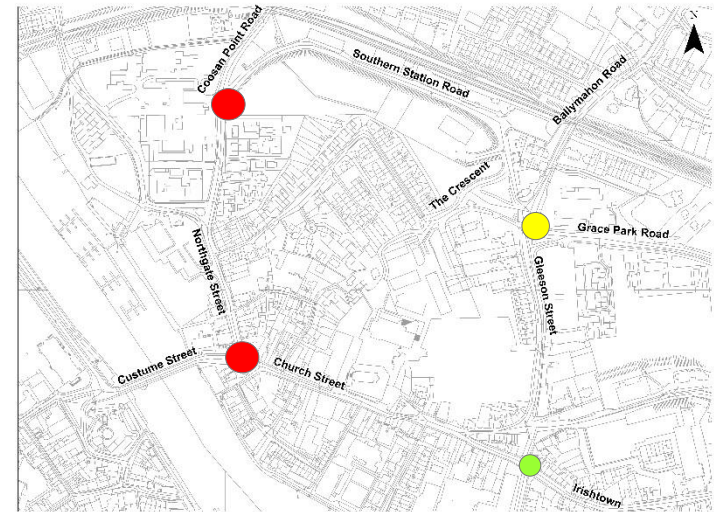
- Traffic redistribution for each scenario based on origin and destination of trips
- Individual model assessment of critical town centre junctions for each scenario
- Micro simulation assessment for two emerging preferred options



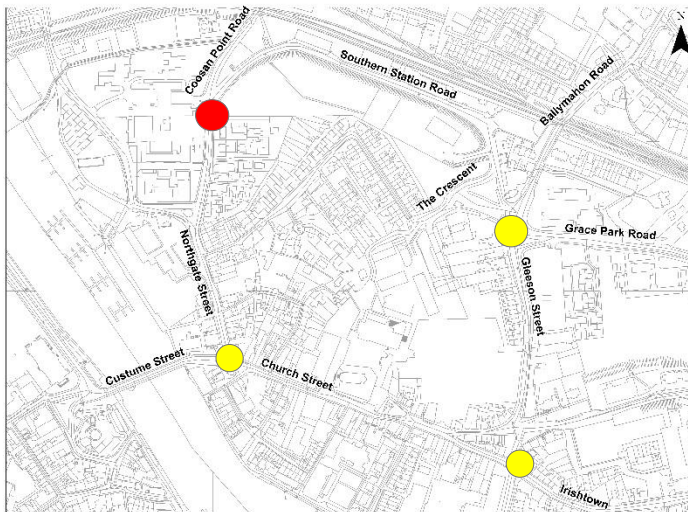
AM Peak Results – Maximum RFC



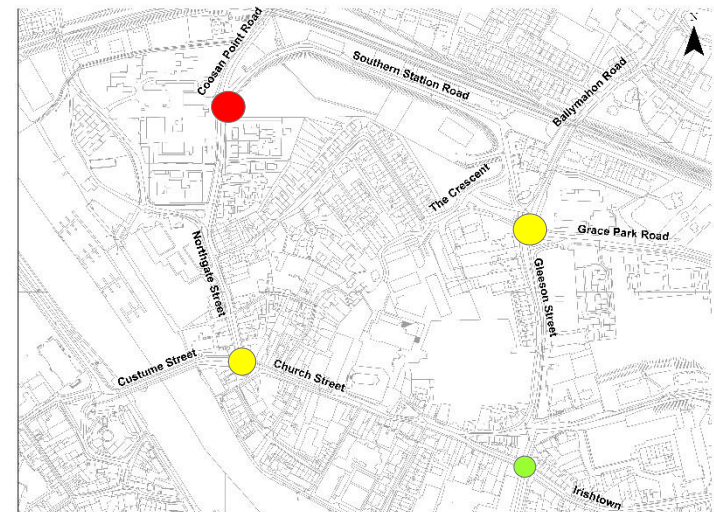
Option A: Two-way traffic flow



Option B: One-way traffic flow, Eastbound



Option C: One-way traffic flow, Westbound

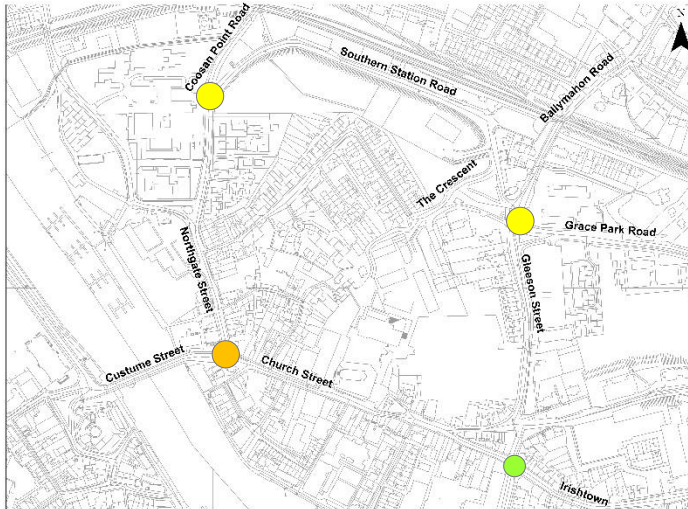


Option D: Full pedestrianisation

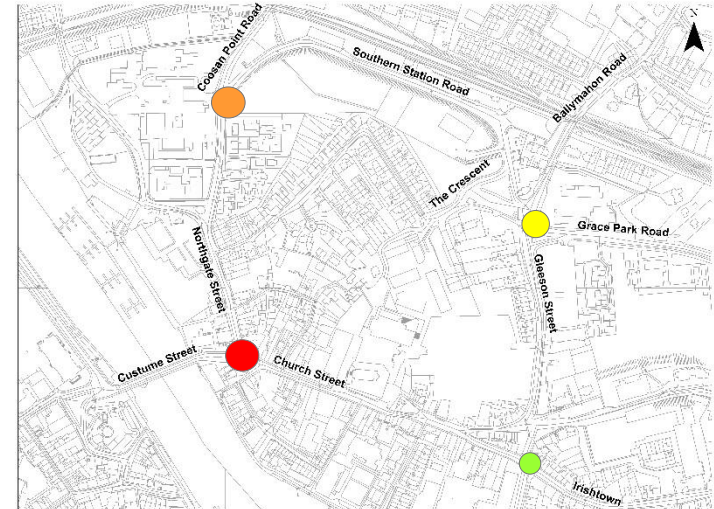
AM Peak Results – Maximum RFC – Coosan Point Rd Signalised



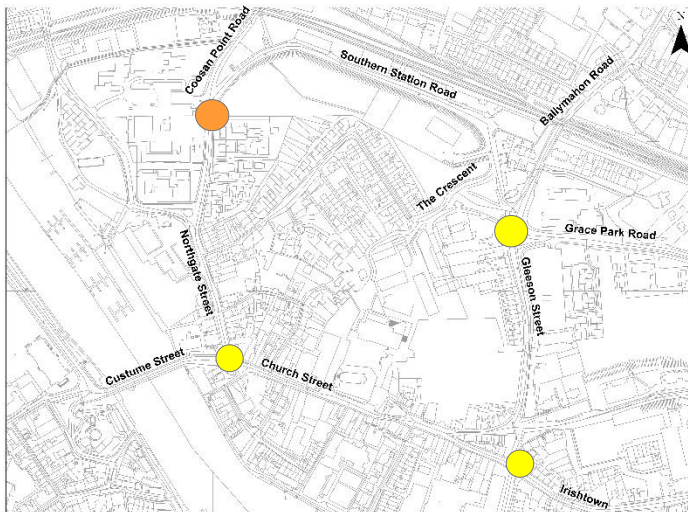
- 0 - 25%
- 25% - 50%
- 50% - 75%
- 75% - 90%
- 90% -



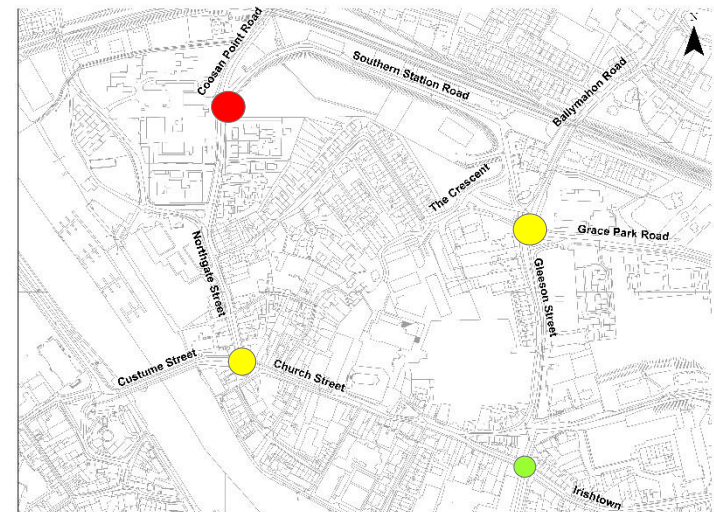
Option A: Two-way traffic flow



Option B: One-way traffic flow, Eastbound



Option C: One-way traffic flow, Westbound

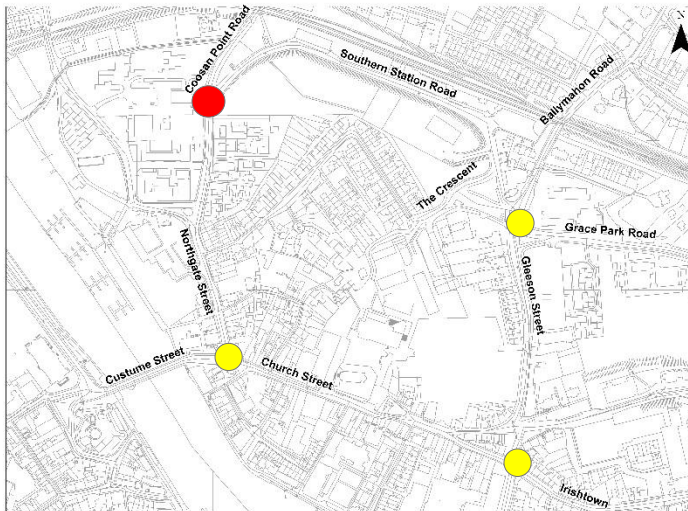


Option D: Full pedestrianisation

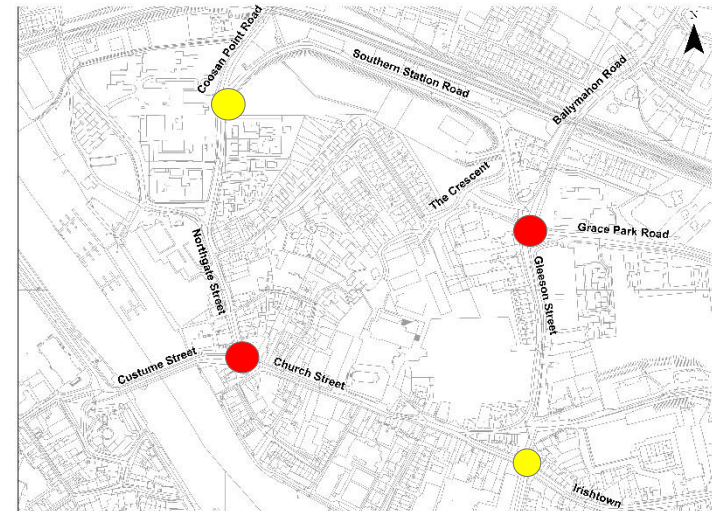
PM Peak Results – Maximum RFC



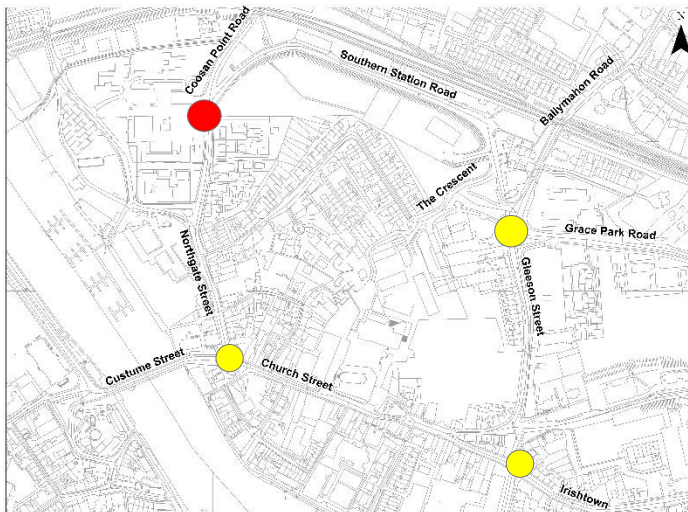
- 0 - 25%
- 25% - 50%
- 50% - 75%
- 75% - 90%
- 90% -



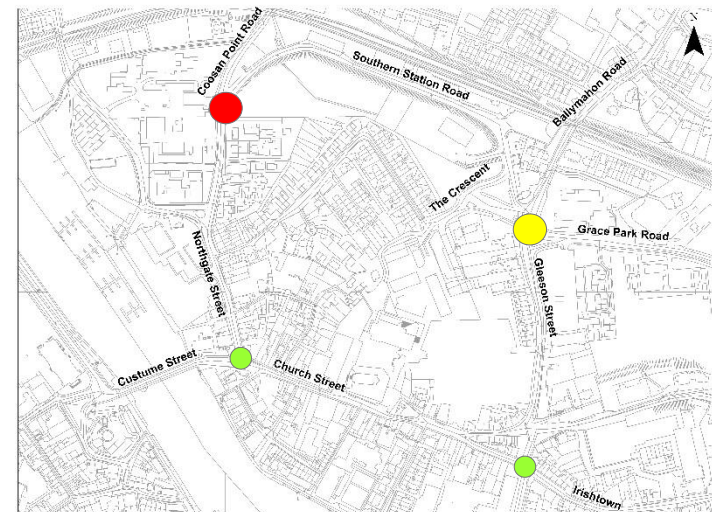
Option A: Two-way traffic flow



Option B: One-way traffic flow, Eastbound

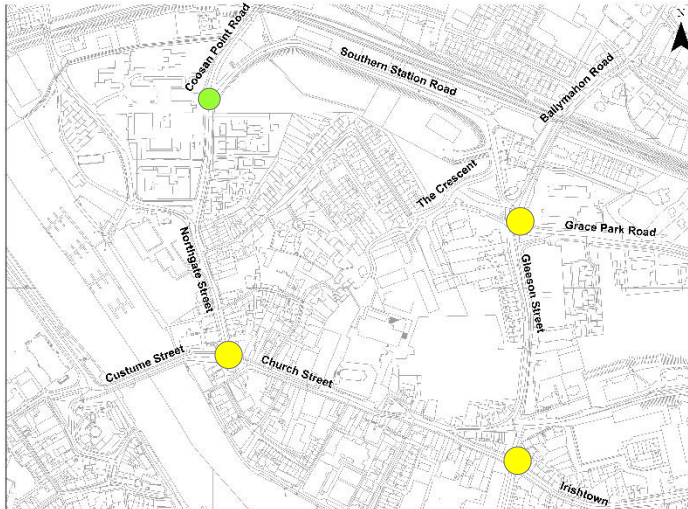
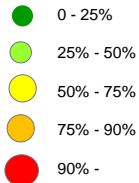


Option C: One-way traffic flow, Westbound

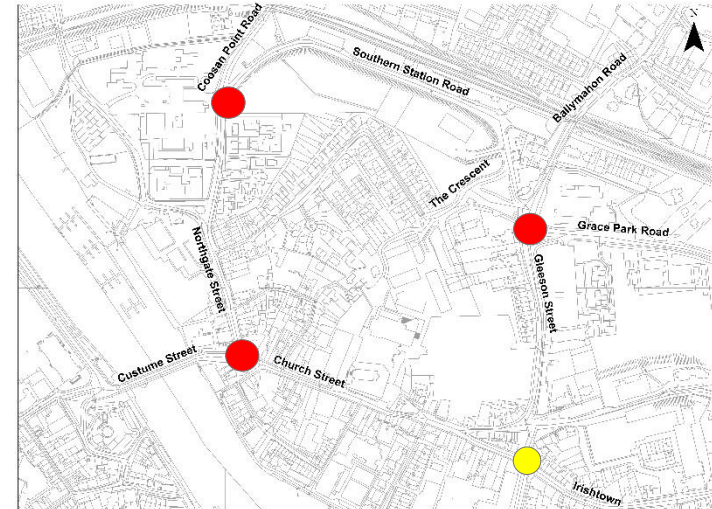


Option D: Full pedestrianisation

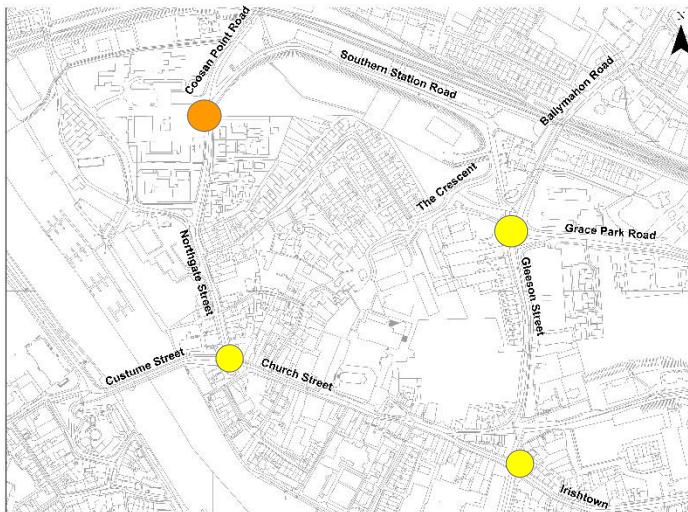
PM Peak Results – Maximum RFC – Coosan Point Rd Signalised



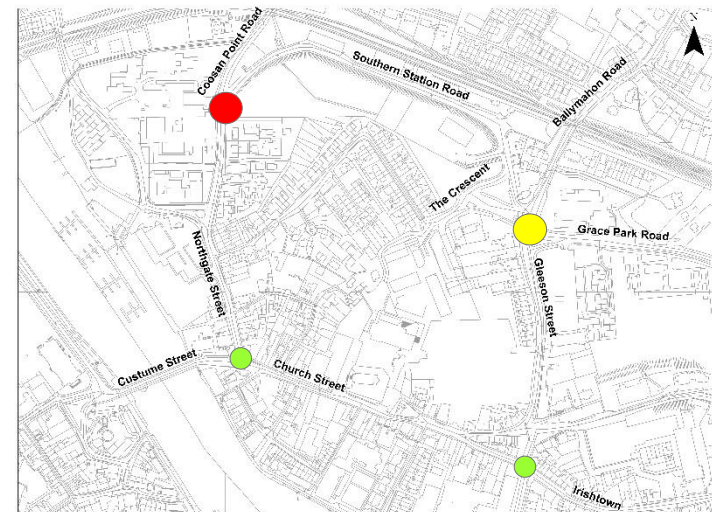
Option A: Two-way traffic flow



Option B: One-way traffic flow, Eastbound



Option C: One-way traffic flow, Westbound



Option D: Full pedestrianisation

Contributes to the Economic Vitality of the Town – Junction delays

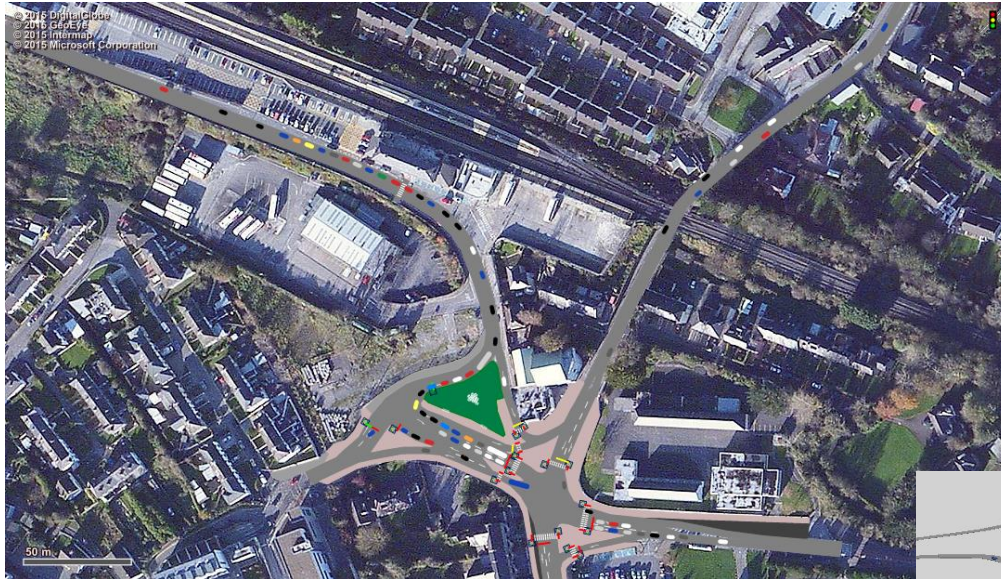
PM Peak



Junction	Coosan / Northgate	The Crescent / Grace Park	Pump Lane	Custume / Church St
	Max delay (s/pcu)	Max delay (s/pcu)	Max delay (s/pcu)	Max delay (s/pcu)
Option A: 2way	42.8	40.4	32.6	50.3
Option B: 1way EB	77.4	45.9	32.2	218.7
Option C: 1way WB	68.1	32.3	39.9	47.9
Option D: Pedestrianisation	271.3	40.9	56.9	83.1

Contributes to the Economic Vitality of the Town

VISSIM Modelling



Contributes to the Economic Vitality of the Town

Modelling Summary



Option A: Retain 2-way on Church Street

- Reflects current situation:
 - 2-way slow moving traffic on Church Street
 - Balance in flows and delays on key junctions on circulatory
 - Delays and level of queuing on Town Bridge/ Ballymahon Road/ Coosan Point Road

Option B: 1-way Eastbound on Church Street

- Reduce traffic flows on Church Street
- No Queuing on Irishtown Road
- Significant delays on Town Bridge and Northgate Street in both peaks
- Increase delays on Grace Park Road

Option C: 1-way Westbound on Church Street

- Reduce traffic flows on Church Street
- Reduced delays on Town Bridge and Northgate Street in both peaks
- Grace Park Road Junction comparable to present day situation, but with increase queuing and delays at The Crescent / Station Road and Coosan Point Road
- Slight increase in delays at Pump Lane junction, but still within acceptable limits

Contributes to the Economic Vitality of the Town

Modelling Summary



Option D: Pedestrianisation on Church Street

- No traffic on Church Street
- Significantly reduced delays on Town Bridge and Northgate Street junction and Pump Lane junction
- Significant delays at Coosan Point, even with potential junction upgrades
- Increase queuing and delays at The Crescent / Station Road
- Creates local access issues for residents and commercial properties

Summary

- All studies based on existing Road network (i.e. Railway Field Link Road not in place)
- Option A retains current situation on network with 2-way heavy flows on Church Street
- Option B would result in significant delays at Custume Place resulting in queuing and delays over the river crossing
- Option C results in improved traffic flows on Custume Place, but with some increase queuing on Coosan Point Road and the Crescent
- Option D results in Significant delays at Coosan Point and creates local access
- In all scenarios which result in a reduction in traffic flows on Church Street, it would be desirable to upgrade the Coosan Point junction to a signalised intersection, incorporating a right turning lane on Northgate Street.

Options Appraisal Summary Table



Analysis Overview

Colour	Relative Performance
Green	Excellent
Light Green	Very good
Yellow	Good
Orange	Neutral
Red	Less Good

Category	Measurement	Option A	Option B	Option C	Option D
Calm Environment	Volume of Traffic on Church Street	Red	Yellow	Yellow	Green
	Sense of Place	Red	Yellow	Light Green	Green
Ease of Access	Pedestrians	Red	Light Green	Light Green	Green
	Cyclists	Yellow	Yellow	Yellow	Yellow
	Public Transport	Light Green	Orange	Green	Red
	Service Vehicles\Taxis	Light Green	Yellow	Yellow	Orange
	General Traffic	Green	Orange	Orange	Red
Economic Vitality of the Town	Journey Delays	Green	Orange	Orange	Red
	Increase Footfall	Red	Light Green	Light Green	Green

Options Appraisal Summary Table



Emerging Preferred Option C

- Reduces traffic volumes on Church Street
- Provides sufficient space to improve public realm
- Improves comfort and safety for pedestrians
- Facilitates local access for private cars and service vehicles
- Acceptable level of delay on network
- Enhances footfall and meeting opportunities in Town Centre
- Enhances route to The Castle for visitors
- Reinforces distinctive 'sense of place'.



Initial Scheme Proposals

Initial Scheme Proposals



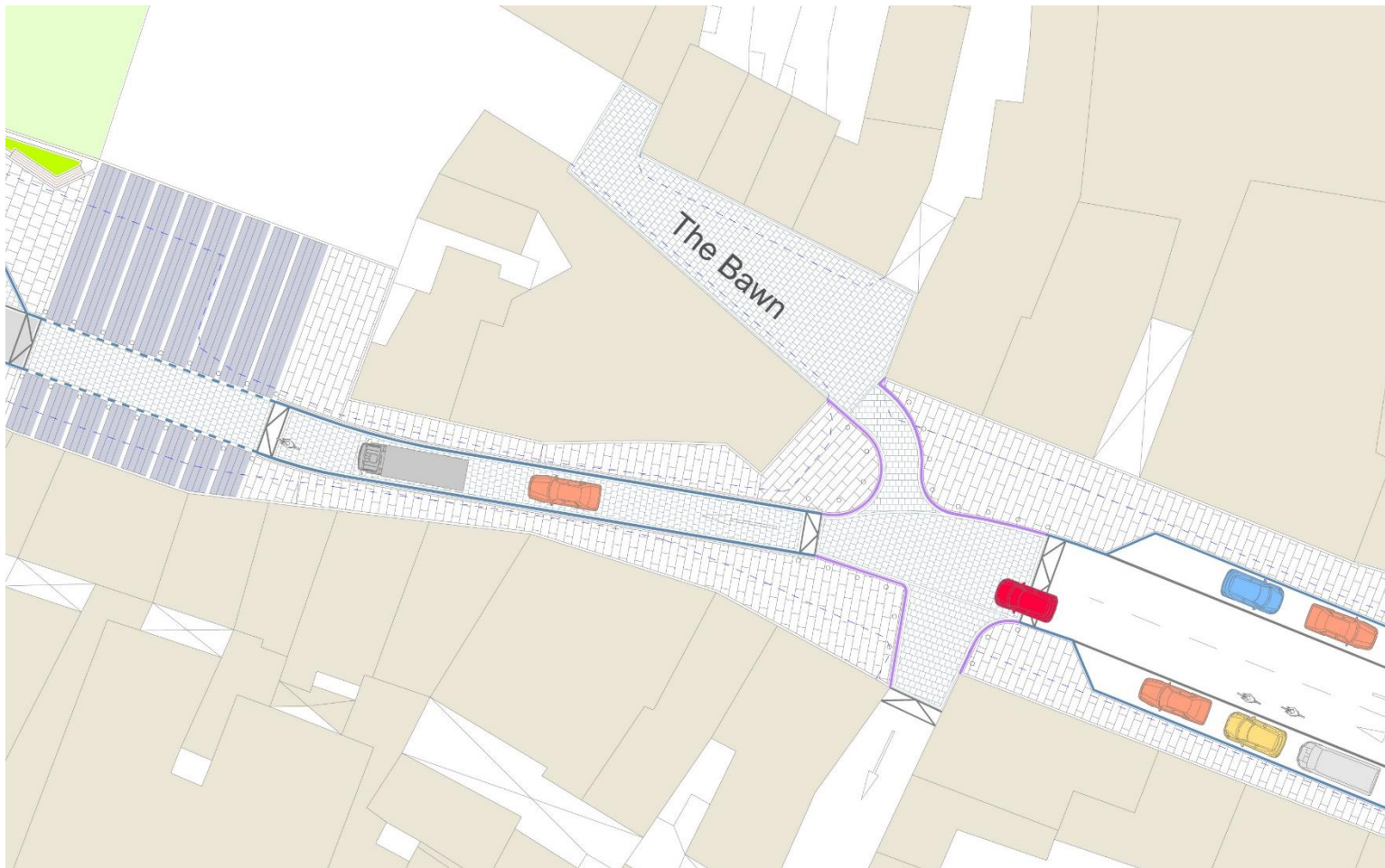
Illustrative Plan



Initial Scheme Proposals



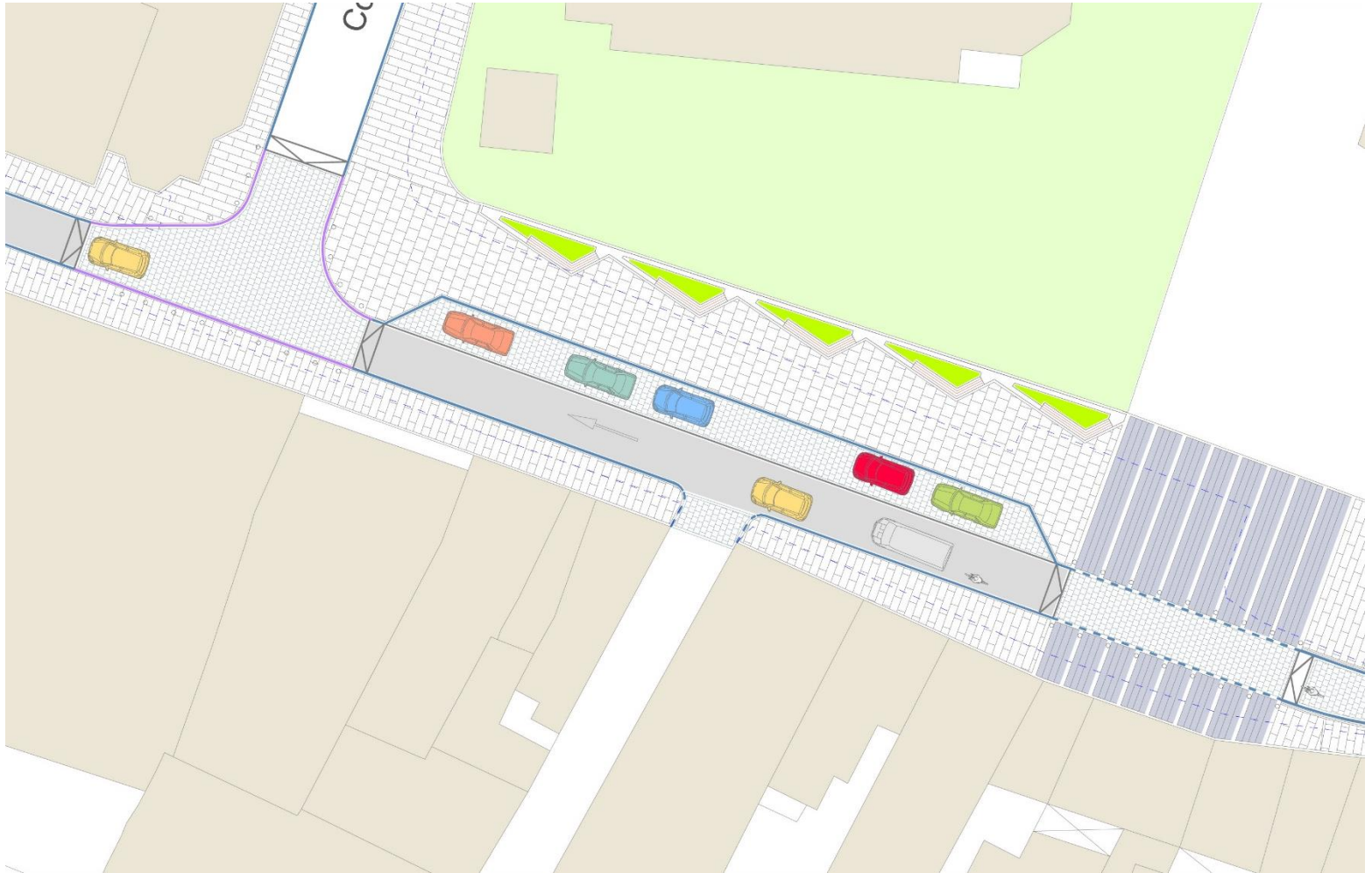
Detailed Plan – Pinch Point B



Initial Scheme Proposals



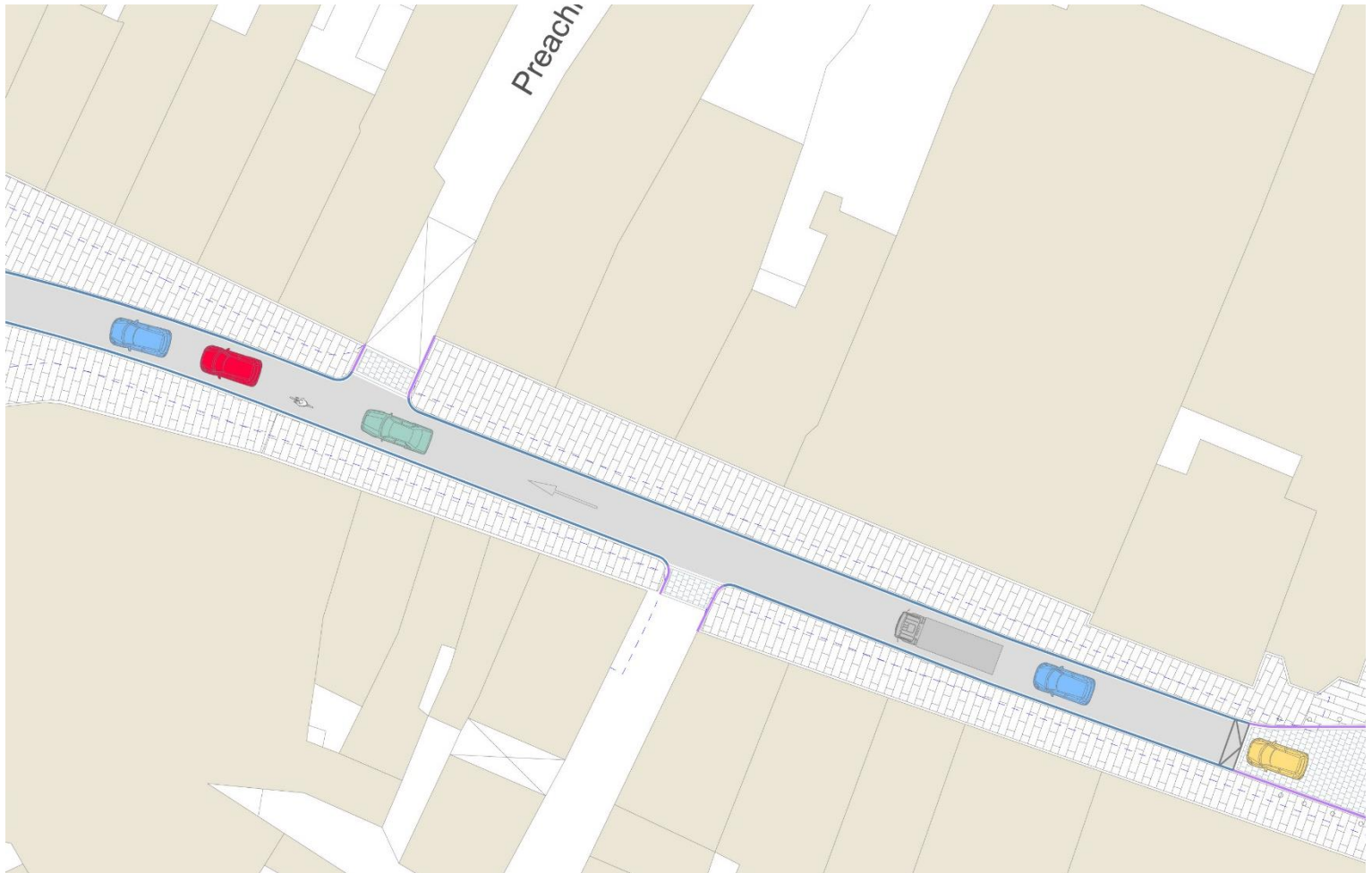
Detailed Plan – The Church Area



Initial Scheme Proposals



Detailed Plan – Church Street central section



Initial Scheme Proposals



Illustrative View – Church Street (central section)



As existing



As proposed

Initial Scheme Proposals



Detailed Plan – Custume Place



Initial Scheme Proposals



Illustrative View – Church Street/Custume Place



As existing



As proposed



Thanks

