

KELLS DEVELOPMENT PLAN 2013 - 2019



Appendix D Kells Local Transport Plan 2013 - 2019

Adopted 7th October 2013



Ceanannas comhairle baile
kells town council



comhairle chontae na mí
meath county council

Kells Local Transport Plan 2013 - 2019



1 Introduction

This Local Transport Plan for Kells Town & Environs has been developed following the requirement to prepare a Local Transport Plan for all Development Plans and Local Area Plans for Designated Towns and Designated Districts identified in the National Transport Authority's (NTA) Draft Transport Strategy for the Greater Dublin Area 2011 – 2030 (Chapter 8, Measure LU3). Kells is a designated town in the Draft NTA Transport Strategy. Planning Objective TRAN SO1 of the Meath County Development Plan also requires a Transport Plan to be prepared for Kells.

1.1 Background & Analysis

The 2011 Census of Population results outline that Kells Town & Environs had a population of 5,888 persons. This is a 12% increase on the 2006 census and a 25% increase since the 2002 census. This current Development Plan is planning for an increase of potentially 518 additional residential units over the plan period 2013 – 2019. This figure is in addition to the 332 residential units with extant planning permissions. The total potential new households to be accommodated are therefore 850 units.

The 2011 Census data demonstrates a number of interesting facts about the resident population and their travel patterns. A comparison between the last two census results is provided below:

Modes of Travel to Work, School & College

2011	Walking	Cycling	Bus	Train	Motorcycle/ Scooter	Car Driver	Car Passenger	Van	Total Survey
Kells	22.7% 762	0.7% 25	10.4% 349	0.1% 5	0.2% 6	41% 1,374	16.4% 549	4.5% 151	3,305 persons

2006	Walking	Cycling	Bus	Train	Motorcycle/ Scooter	Car Driver	Car Passenger	Van	Total Survey
Kells	20.4% 705	0.8% 26	14.9% 516	0.2% 4	0.2% 7	40.7% 1,410	13.8% 477	No stats in 2006	3,464 persons

The trends evident in the tables above present a consistent pattern where private car usage is the predominate mode of travel choice (41%) in Kells Town & Environs. Walking at 22.7% is the second most popular mode of transport to work, school or college followed by bus at 10.4%. Interestingly, the share of persons using bus to travel to work, school or college has reduced in the intervening 5 year period by approximately 4.5% which is of concern although.

The level of commuting to work to locations outside of Kells Town & Environs has also increased between 2006 & 2011. This is best highlighted by the distance which people travel and the time that they leave their homes. In 2006, 38.7% of persons began their travel to work from 7am – 8.30am. This figure increased to 41% in the 2011 census.

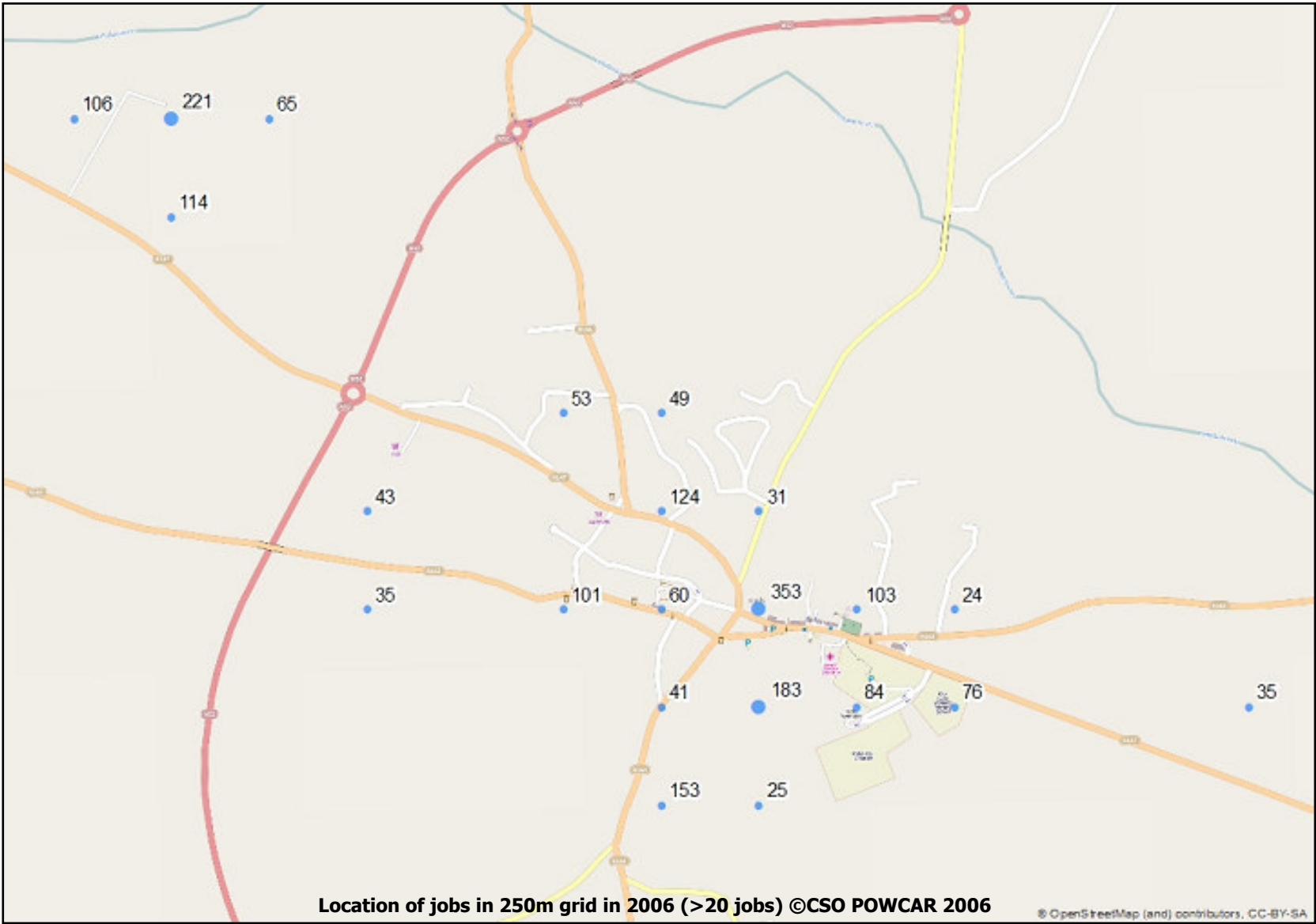
The 2006 Census of Population CSO POWCAR¹ data provides a significant insight into workplace travel trips for the local population, albeit the data was compiled prior to the M3 Motorway opening in 2010. The data indicated that internal trips are by far the most common trip generators with an average of 2,943 trips per day surveyed. Commutes to the Navan catchment is the next largest trip generator from Kells at 1,209 trips, followed by Co. Louth with 506 trips. There are nearly twice as many trips being generated from Kells to Navan (680 – 1,209) than in the opposing direction which is not surprising given county town status of Navan, the employment opportunities contained therein (approximately 9,000 jobs) and the relatively short travel time between both towns (circa 15 minutes by car).

CSO POWCAR DATA

District Centre	Kells as Destination
Kells	2943
Navan	680
Louth	255
Oldcastle	102
Athboy	62
Trim	56
Dunshaughlin	50

District Centre	Kells as Origin
Kells	2943
Navan	1209
Louth	506
Trim	162
Oldcastle	127
Blanchardstown SC	114
Dunshaughlin	104

¹ CSO POWCAR is an acronym used to describe CSO data for 'Place of Work Census of Anonymised Records'. As part of the Census 2006 processing programme the place of work details of all employed persons who undertook a journey to work were geo-coded. A detailed file containing the demographic and socio-economic characteristics of these workers along with information on the origin and destination of their journeys to work has been made available for analysis. The POWCAR is only available under strict conditions to bona fide researchers who are approved by CSO.



The graphic on the previous page provides an analysis of the location of all jobs (greater than 20 or more) within a 250 metre radius. The town centre is the core employment area of Kells. The town centre area provides the location of the vast majority of jobs provided for in Kells Town & Environs with 1,258 jobs in 2006. The Kells Business Park along the Cavan road provided 506 jobs at the time, but this figure is expected to increase when the 2011 POWCAR data is available. Allowance should however be made for the impending relocation of the HSE regional administration office from the Kells Business Park to the former McKeons Garage site along Bective Street. This relocation would provide significant additional footfall within the town centre area as there are currently c.180 people employed by the HSE at the Kells Business Park offices.

2 Transport Infrastructure

Kells has good road links, with the N3 and the N52 national routes formerly converging at the centre of the town. Historically, this resulted in significant traffic congestion in the town particularly at peak morning and afternoon periods. The location of all five schools in a campus served off a cul de sac with priority junction onto the former N3 also results in severe congestion at school drop off & collection times. The opening of the M3 'Clonee to North of Kells Motorway Scheme' in 2010 which included a by-pass route around the town of the former N3 and N52 routes, has taken away significant strategic traffic volumes from entering the town centre which has vastly improved road safety and general ambience in the town.

From a public transport perspective Bus Éireann services are the primary mode of public transport available in the town. The 109 Bus Service between Cavan Town and Dublin (Bus Áras) stops in Kells which offers regular services throughout the day (usually 30 minute intervals). Other bus services include the 109A connecting Cavan, via Kells, to Dublin Airport, and the 188 connecting Kells to Drogheda & Oldcastle. A number of new bus stops (sheltered and unsheltered) have been developed in Kells in recent years. Taxi/Hackney services are also available in Kells; however there is no designated taxi rank in the town.

Following the opening of the M3 Motorway Scheme and N52 By-Pass, Meath County Council commissioned '*Burroughs Consulting Engineers*' in association with Transportation Planning International (TPI) to prepare the preliminary design stage of a Traffic Management Plan for Kells Town Centre. The full context of this Traffic Management Plan shall be detailed later in this report.

2.1 Aims of the Transport Plan

This Transport Plan aims to address the key issues outlined above and meet the Local Transport Plan [LTP] objectives. It has six fundamental objectives set out as follows:

1. To promote sustainable transport and make travel safer by ensuring that pedestrians and cyclists are afforded higher priority than motorised vehicles.
2. To develop integrated transport and to promote public transport, walking, cycling and other sustainable forms of transport.
3. To maintain and operate efficient transport networks.
4. To create a transport system that is accessible to all.
5. To provide a transport system that supports the economy and the growing population of the town and wider environs.
6. To protect and enhance the built and natural environment.

Transport Objective	Theme	Plan Measures
1. To promote sustainable transport and make travel safer by ensuring that pedestrians and cyclists are afforded higher priority than motorised vehicles.	<ul style="list-style-type: none"> • Reduce road accidents and improve personal safety for all transport users in Kells. 	<ul style="list-style-type: none"> • Implement safety improvements to benefit all travel modes. This includes safer routes to schools.
2. To develop integrated transport and to promote public transport, walking, cycling and other sustainable forms of transport.	<ul style="list-style-type: none"> • To ease interchange between modes of transport. • Help improve the health and well being of people across the whole community. • Reduce the adverse impacts of traffic in the town. 	<ul style="list-style-type: none"> • Implement schemes that provide for easy interchange between and encourage use of sustainable modes of transport. • Upgrade and implement new walking and cycling routes linking residential areas with the town centre, educational campus, sports facilities and clusters of employment. • Public transport improvements. • Install cycle parking facilities at agreed locations.
3. To maintain and operate efficient transport networks.	<ul style="list-style-type: none"> • Improve path, cycle and road condition. • Reduce congestion and unnecessary delays on roads. 	<ul style="list-style-type: none"> • Upgrade road conditions to include provision for cyclists. • Agree footpath improvements program. • Traffic Management Improvements. • Car Park Management Strategy.
4. To create a transport system that is accessible to all.	<ul style="list-style-type: none"> • Maximise accessibility to jobs and services. 	<ul style="list-style-type: none"> • Walking and cycling route improvements. • Public transport infrastructure improvements.
5. To provide a transport system that meets the needs of the economy.	<ul style="list-style-type: none"> • Support and enhance the economy of the town. • Increase accessibility to and from, and within the town. 	<ul style="list-style-type: none"> • Promotion and implementation of walking and cycling routes. • Public transport improvements to reduce journey times.
6. To protect and enhance the built and natural environment	<ul style="list-style-type: none"> • Reduce impact of transport systems on the environment. 	<ul style="list-style-type: none"> • Promotion and implementation of walking, cycling and other sustainable forms of transport. • Increase cycle parking availability at town centre locations and work places.

3 Public Transport Improvements

3.1 Bus Services

The public bus service provided by Bus Éireann is an important mode of transport serving the town as it enables people access to facilities and services that they may not otherwise be able to use. The No. 109 bus service in particular offers strategic & regular bus connections between Kells and Dublin City, in addition to the towns of Cavan & Virginia in Co. Cavan, and Navan, Dunshaughlin & Dunboyne in Co. Meath. Given that there is no rail link serving this area of the county, the frequency of the bus service to the principal towns in the area is of high importance, operating at half hourly frequencies during the peak business hours in the day. The 109A bus service also provides a connection from Kells to Dublin Airport. There is no local bus service operating in Kells given the size of population that would be required to support and sustain such a service.

Map 2 located at the end of this document identifies the route of the 109/109A Bus Service through Kells Town. In addition, the map identifies existing bus stop facilities. (Please refer to Map 7 of the Book of Maps for A3 version of same)

A combination of improvements to bus services and enhanced infrastructure will help to achieve Local Transport Plan targets to increase further bus patronage levels.



Improvements to the local bus infrastructure to serve Kells include the following:

1. Identify requirements for the upgrade of existing bus stops which lack basic facilities such as timetable information, shelters and hard standings. The plan proposes to improve basic bus stop infrastructure and provide timetables.
2. Provision of a new bus park & ride facility to serve the town, potentially to be developed at the Kells Business Park location along the Cavan Road. It is also considered that the long term car park at the Fair Green would also be used for a purpose in the short term.

3.2 Road Safety

Road Safety goes beyond reducing the number of casualties, important though this is. Safer roads encourage people to use other more sustainable forms of transport than the car for appropriate journeys and contribute towards making the town more attractive to all those needing to travel.

To help achieve the Local Transport Plan objectives, there is a need for a comprehensive range of road safety measures. Information has been gathered from Garda road accident reports in Kells town between the period 2005 and 2010 in order to identify the most problematic areas requiring specific road safety

improvements, particularly for vulnerable road users such as pedestrians and pedal cyclists. The analysis of Garda Accident Reports in Kells (2005-2010) indicates that there were 44. No minor injuries, 7 no. serious injuries and 1 no. fatal accident recorded. Map 1 accompanying this Local Transport Plan outlines the location of each accident type. Arising from the accident data, the two junctions which stand out as being more prone to accidents are the Castle Street/ Market Street/ Cross Street/ John Street Junction, and the junction opposite Supervalu along the R147 linking Carrick Street/ Oliver Plunkett Road/ and Circular Road.

The measures set out below have been chosen because, taken collectively, they will have a greater impact in reducing accidents and will complement other initiatives that promote sustainable transport and safer communities.

Traffic Management Measures

1. To reconfigure the junction of Castle Street/Market Street/Cross Street and John Street to make more pedestrian friendly and to reduce the width of the Carriageway to be crossed by pedestrians.
2. To realign the junction of Carrick Street/Oliver Plunkett Road & Circular Road and to upgrade traffic signalling
3. To implement a HGV ban for the town centre area.
4. To implement a one-way system in accordance with the recommendations of the revised Kells Traffic Management Plan contained within this LTP.
5. To provide pedestrian crossings at locations where recurring accidents occur involving pedestrians.

3.3 Walking and Cycling

Increasing the opportunities for walking and cycling represents a key part of the Local Transport Plan's objectives for sustainable travel. The recent 2011 Census of Population results for Kells indicate that walking is the second most popular mode of travel in the town at 22.7%, second only to the private car usage which remains high at 41%. Of significant concern is the low numbers of those cycling to work or school at 0.7%, which is a disappointing figure replicated across other urban centres in County Meath. A major aspiration of this Transport Plan will be to put in place initiatives/objectives that will decrease private car usage within the town for short travel trips and replace these with walking and cycling modes of transport.

The Traffic Management Scheme that was prepared for Kells town in 2010 recommended that a Kells Cycling Network be designed and implemented with proper signage providing details of the direction and distance to key destinations. Properly signed secure cycle parking facilities should also be installed at key locations to ensure that those wishing to cycle short journeys for work, shopping and leisure are catered for. Cycle parking is also important for cycle tourists who may wish to stop in Kells and lock their bicycles while they spend time around the town. The Traffic Management Scheme also recommends that a feasibility study be prepared to investigate the possibility of an off road segregated cycle track between the town centre and the Kells Business Park. Should there be a requirement for such a facility in the future, it would be able to link up with the towns cycling network.



In relation to walking facilities, it will be a joint Councils objective to improve and formalise, as much as feasible, existing walking routes between the outer residential areas of the town with the town centre core business area and schools. The Kells Traffic Management Scheme recommends that pedestrian crossing facilities be improved at a number of key junctions around the town, namely;

- Old N3 Cavan Road/Circular Road (near SuperValu)
- Carrick Street/Maudlin Street/Castle Street
- Market Street/Castle Street/John Street/Cross Street
- John Street/Headfort Place/Kenlis Place
- Farrell Street/Bective Street/Suffolk Street
- Headfort Place/Headfort Road/N3 Navan Road
- Kenlis Place/Farrell Street/New Market Street/Cross Street

It remains the joint Councils priority to investigate and secure the above upgrade works to junctions in order to improve pedestrian safety and increase ease of movement in this core area of the town. This would also provide beneficial in achieving the aims of the tourism strategy contained in the Kells Development Plan.

Other pedestrian facility improvements cited in the Traffic Management Scheme include

- Old N3 Navan Road outside the Schools area
- Old N52 Bective Street/Balrath Rd
- Maudlin Street, south of Magdalene Court (linking in with Headfort Grove Lane)

In order to provide improved permeability for residents along the Gardenrath area of the town to the main school campus area off the Navan road, it will be the joint Councils intention to investigate the possibility of providing a new walking & cycling route between the Gardenrath Road leading towards the Jim Brunnock Road. This will significantly reduce journey times between this residential area of the town and the school campus, improve pedestrian/cycle safety and encourage modal change to more sustainable modes of transport, and thus reduce the need for private car usage for school generated trips.

It is also recommended that the condition of footpaths be upgraded on New Market Street, Headfort Place, Headfort Road, Church Hill, Cross Carrick Street and Maudlin Street. A footpath condition survey identified that footpaths in the town were on the whole in a good state of repair, however there were instances of footway deterioration which must be addressed.

Introducing traffic calming measures in the town centre can be integrated with good street layout and landscaping to change the appearance and feel of a street. These traffic calming measures can alter the way drivers perceive the road and achieve a reduction in speed without creating antipathy about the measures themselves.

4 Transport Networks

4.1 Town Centre

A preliminary Traffic Management Scheme for Kells town centre was prepared by 'Burroughs Consulting Engineers' in association with Transportation Planning International (TPI) in 2010. Although not formally adopted by the Town Council at the time, the Traffic Management Scheme and analysis previously carried out does provide a blueprint to provide a scheme that will enhance the safety, capacity and overall environment of the town centre streets for all users.

The study area of the traffic management scheme is outlined below.

The Traffic Management Scheme that was recommended included for the inclusion of a proposed one-way traffic circulation system involving Headfort Place, John Street, Kenlis Place, Farrell Street, Suffolk Street, New Market Street, Church Street and Market Street. Other traffic management improvements include signalised junctions along the two busy road junctions either side of Castle Street, and a new mini-roundabout at the junction of Headfort Place, John Street and Kenlis Place.

As part of this Kells Development Plan Review, the Planning Authorities have re-examined the findings of the previous Burroughs Report and have re-configured the recommendations of the previous draft Traffic Management Plan including a revised one-way traffic circulation system, taking into account other aspects of the intended future growth of Kells during the next Development Plan period. These revisions have taken cognisance of the comments raised during the public consultation process undertaken by 'Burroughs Consulting Engineers' as part of their initial study. In addition, MDM McMahon Design & Management Limited were commissioned to undertake a junction analysis and trip assignment to predict the likely impact of the proposed one way system and junction reconfiguration on the vehicular movements within Kells town centre. It also builds on traffic counts undertaken by Meath County Council to update the counts conducted by 'Burroughs Consulting Engineers' which predated the opening of the M3 Motorway and N52 bypass of Kells.

The proposed Traffic Management Plan for Kells town centre is presented in Map no's 5 & 6 contained within the Book of Maps which accompanies Volume I.



4.2 Car Parking

Kells has an abundance of paid on-street parking provision as well as a number of off-street car parking within the town. Resident's disc parking is also available on some residential streets within the town. On street parking is provided in the form of short and long stay parking. Short stay parking within the town is limited to 2 hours.

An upgrade of the Headfort Place public car park fronting the church has been the most recent significant upgrade of car parking facilities in the town which has made a substantial improvement to the appearance and order of the car parking layout. The public realm and landscaping improvements are also significant.

Off-Street Parking is available in a number of locations in Kells which offer both short & long term parking. The off-street parking locations include the following:

- Library Car Park (off Maudlin Street)
- Kells Town Council Car Park (off Headfort Place)
- Kenlis Place Car Park
- Farrell Street Car Park
- Car park opposite SuperValu (Fair Green)
- SuperValu Car Park (Private)
- Carrick Car Park (off Oliver Puckett Road)
- St. Colmcille's Car Park (off Headfort Place)

Aside from the SuperValu car park, all other off street parking locations are pay & display.

It is not considered necessary to increase the existing level of car parking in Kells over the life of this Development Plan.

4.3 Bypass & HGV Ban

The M3 Clonee to North of Kells Motorway Scheme which opened in 2010 included in its design a new bypass for Kells town of both the N3 and N52 routes. Resultantly, the level of traffic congestion in the town has significantly reduced as result of strategic traffic now bypassing the town and has resulted in environmental improvements for the town. However, a certain element of Heavy Goods Vehicles (HGV's) not requiring to stop in the town continue to use the old routes through the town centre as opposed to using the alternative town bypass.

Arising from this, the Planning Authority has investigated the possible affects of imposing a HGV ban for strategic traffic from entering the town centre. The routes examined include;



- N52 National Secondary Route (Mullingar – Dundalk Road)
- R147 Regional Road (Old N3 Dublin – Cavan Road)
- R163 Oldcastle to Drogheda Regional Road
- R164 Kingscourt to Athboy (N51) regional road.

The various routes that the above strategic HGV traffic will have to take to bypass the town are identified on Map 3 attached (a larger A3 version of the map is presented as Map 8 in the Book of Maps).

It is considered that the HGV traffic using the N52 and R147 bypass routes is relatively straight forward with the existing town bypass route. HGV traffic along the R164 heading south will utilise the town bypass and exit at the Mullingar Junction towards Kells, at which it exits Bective Street towards Athboy along the existing R164 route. The most difficult route to bypass the town will be the R163 Oldcastle to Drogheda Road. This traffic heading east will be able to use the town bypass and exit at the Kells South Junction, travel along the new motorway link road, before turning back towards the town along the Navan Road and finally turning back onto the R163 route (Headfort Road) close to the Heritage Centre Building or a new link road as provided for under the Development Plan.

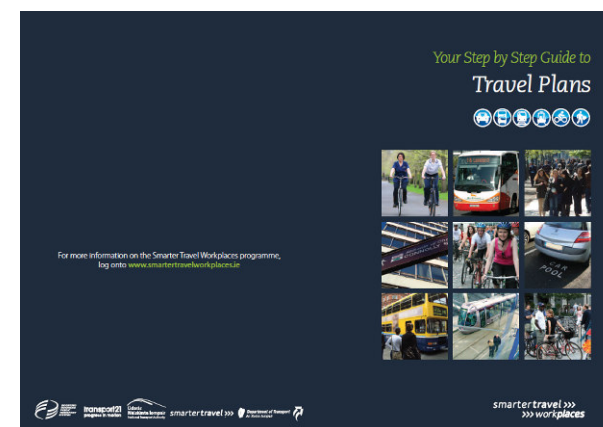
4.4 Mobility/Workplace Travel Plans

A workplace travel plan is an effective instrument used within the planning process to promote and support sustainable travel patterns to work at a site-specific level. It consists of a package of actions and measures to promote more sustainable and cost-effective travel habits among employees, clients and visitors. Workplace travel plans are applicable to all workplaces, colleges and hospitals as measures can be applied to staff, students and visitors.

Workplace travel plans can help to provide the impetus for modal change. They involve limited capital expenditure and concentrate on improving on-site facilities and incentive more sustainable travel.

As a guideline threshold, a Standard Workplace Travel Plan will be required if an existing or proposed development has the potential to employ over **100 persons**. This is generally in line with the thresholds indicated in government policy documents. Appropriate developments requiring such a plan may include office and commercial buildings, industrial, warehousing and wholesale, retail, leisure, medical or educational facilities.

The recommended contents of a Workplace Travel Plan should present a clear and reasonable plan to deliver defined transport modal shifts. It should set targets, outline the actions that could be reasonably expected to achieve those targets. It should also detail the manner of implementation, monitoring and reviewing of those actions and targets (e.g. what will be done and by whom?)



The National Transport Authority (NTA) have published a step by step guidance document on the preparation of Workplace Travel Plans and these can be downloaded from www.smartertravelworkplaces.ie

A Workplace Travel Statement may also be required by the Planning Authority for developments which employ less than 100 persons.

The content of a Workplace Travel Statement are less onerous and should include basic detail such as the following:

- A clear statement setting out a commitment to actively encourage and promote sustainable transport
- Provision of suitable supporting physical measures, appropriate to the site and development proposal; and
- An Action Plan containing a package of measures and initiatives which will promote and support sustainable travel patterns.

5 Promoting Measures within the Strategy

As schemes within the Local Transport Plan are implemented, promotional material will be produced and distributed in the local area to ensure that local residents and visitors are aware of the improvements and their benefits.

6 Funding

The funding for the various measures proposed in this Local Transport Plan may come from a number of sources, but most funding is anticipated to arrive under the National Transport Authority (NTA) Sustainable Transport Measures Grants and from Local Authority own resources. The NTA is responsible for public transport investment in the Greater Dublin Area. In addition, the National Transport Authority also administers two grant programmes on behalf of the Department of Transport, Tourism and Sport, namely the Regional Cities Public Transport Programme and the Accessibility Programme.

In 2011 expenditure under these programmes was:

- Greater Dublin Area (GDA) Investment Programme €211 million;
- Regional Cities Investment Programme €10.6 million; and
- Accessibility Programme €10 million.

The overall GDA Investment Programme is subdivided into four sub-programmes. These are:

- Heavy Rail Sub-programme

- Light Rail/Metro Sub-programme;
- Bus/BRT Sub-programme; and
- Integration, Sustainable Transport Measures & Support Sub-programme.

The most relevant funding category applicable to Kells is the "*Integration, Sustainable Transport Measures & Support Sub-programme*" facilitates investment in the various cycling/walking, bus, safety and traffic management projects throughout the region. A total of €51.6 million was invested in 199 projects during 2011. The NTA funding scheme breakdown for 2011 is outlined in the table overleaf.

Total	Bus	Walking / Cycling	Other	Traffic Management	Safety
€51.56M	€32.80M	€12.54M	€3.2M	€0.85M	€2.17M
100%	63.6%	24.3%	6.2%	1.7%	4.2%

Table 1 Breakdown by scheme type

The 2011 Sustainable Transport projects that were funded by the NTA for Kells town include pedestrian crossings at Bective Street, Maudlin Street, Headfort Road and the Navan Road. The NTA also committed funds to go towards a 'Vulnerable Road Users Needs Study – Kells Relief Road'.

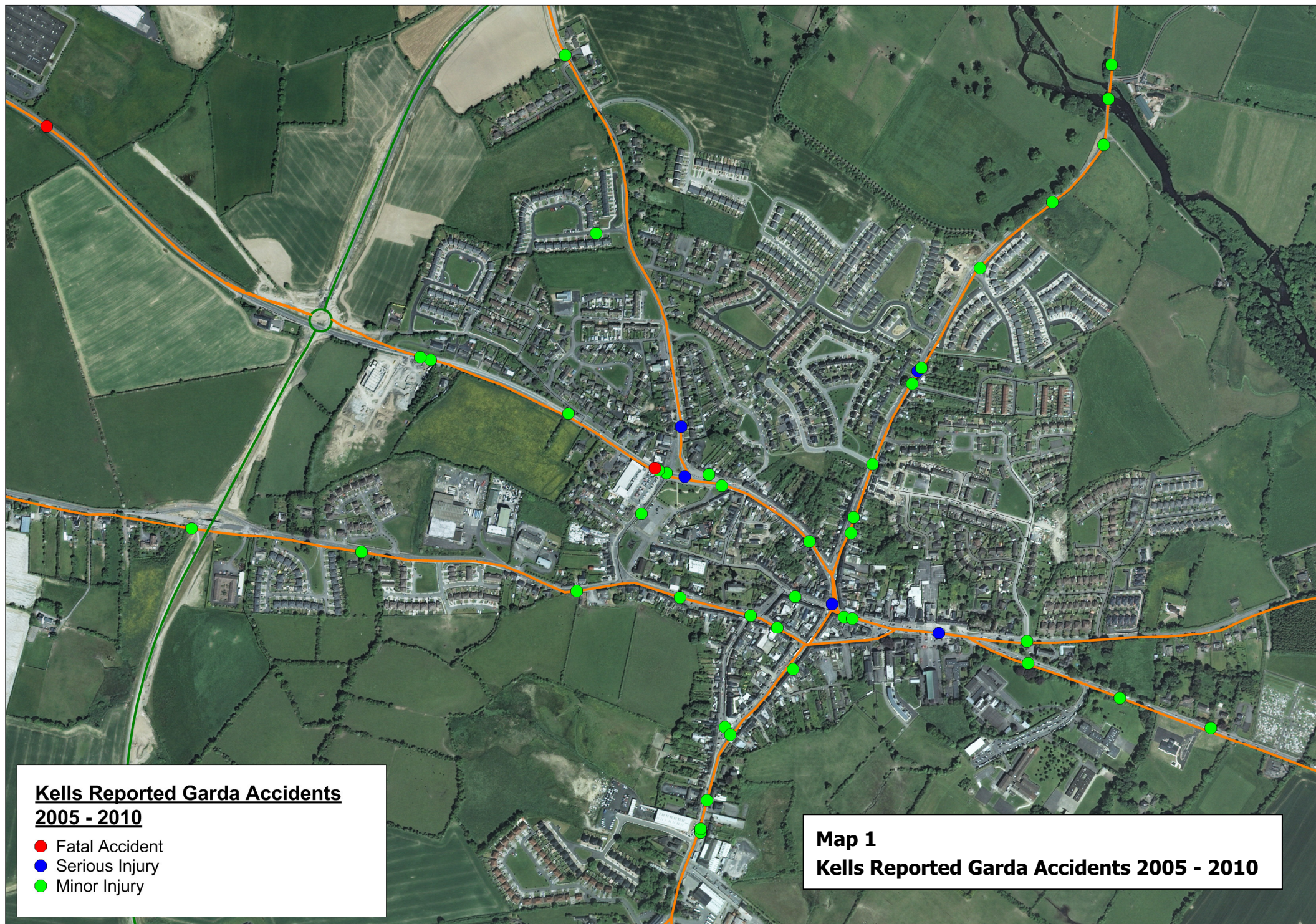
7 Conclusion

This Local Transport Plan for Kells will provide a number of benefits for the town which will include the following:

- A clear programme of transport enhancements for the town and surrounding hinterland;
- Improved accessibility by walking, cycling and bus;
- Significantly increase walking and cycling trips in the town, and;
- Safety measures that will reduce accidents.

This Local Transport Plan gives a clear indication of the evidence based transport measures to be implemented throughout Kells Town & Environs for the period 2013 – 2019. The measures will contribute to the economic and environmental well being of the local population thus ensuring that Kells becomes a pleasant place to live, work and visit.

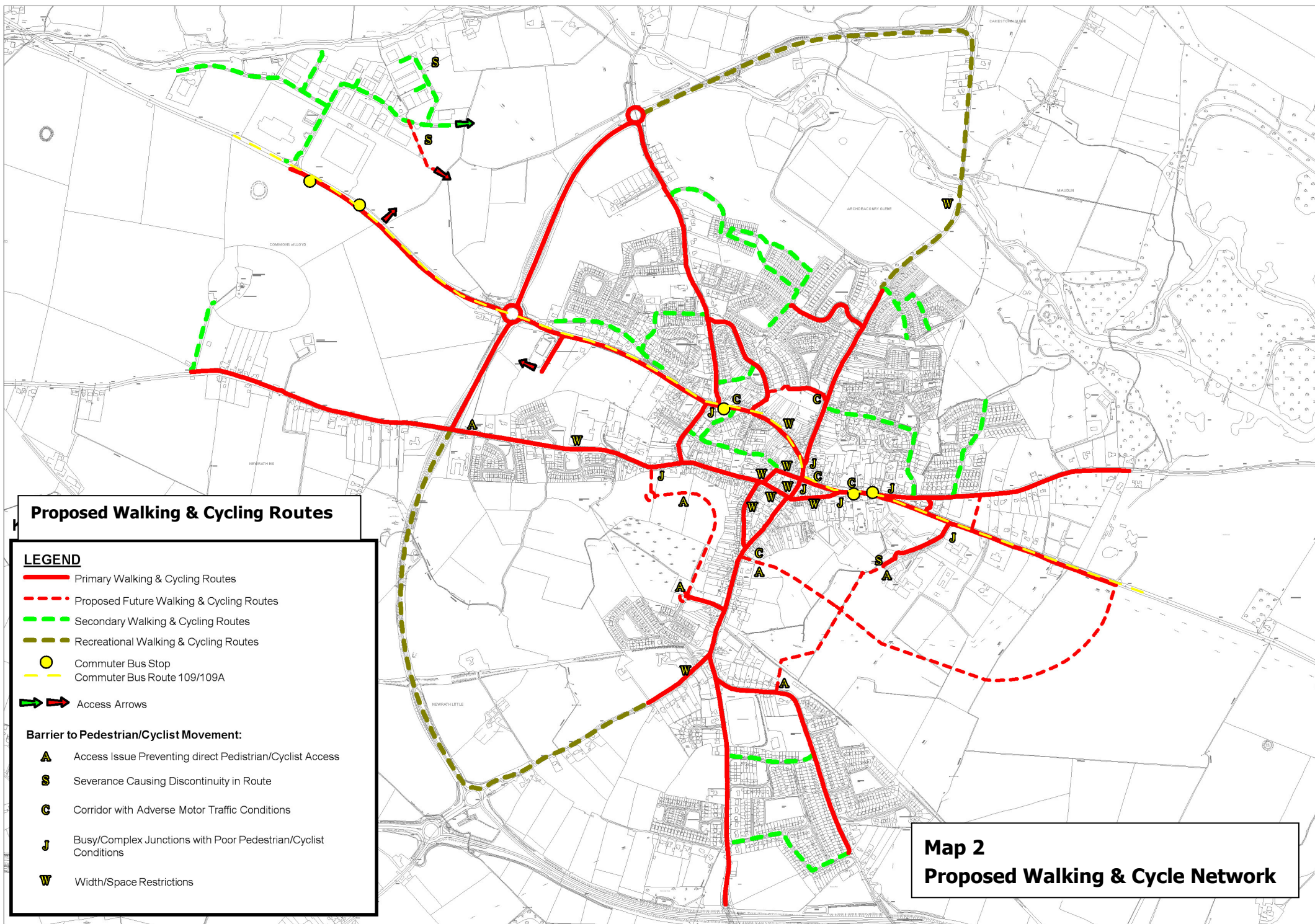
Reference Maps

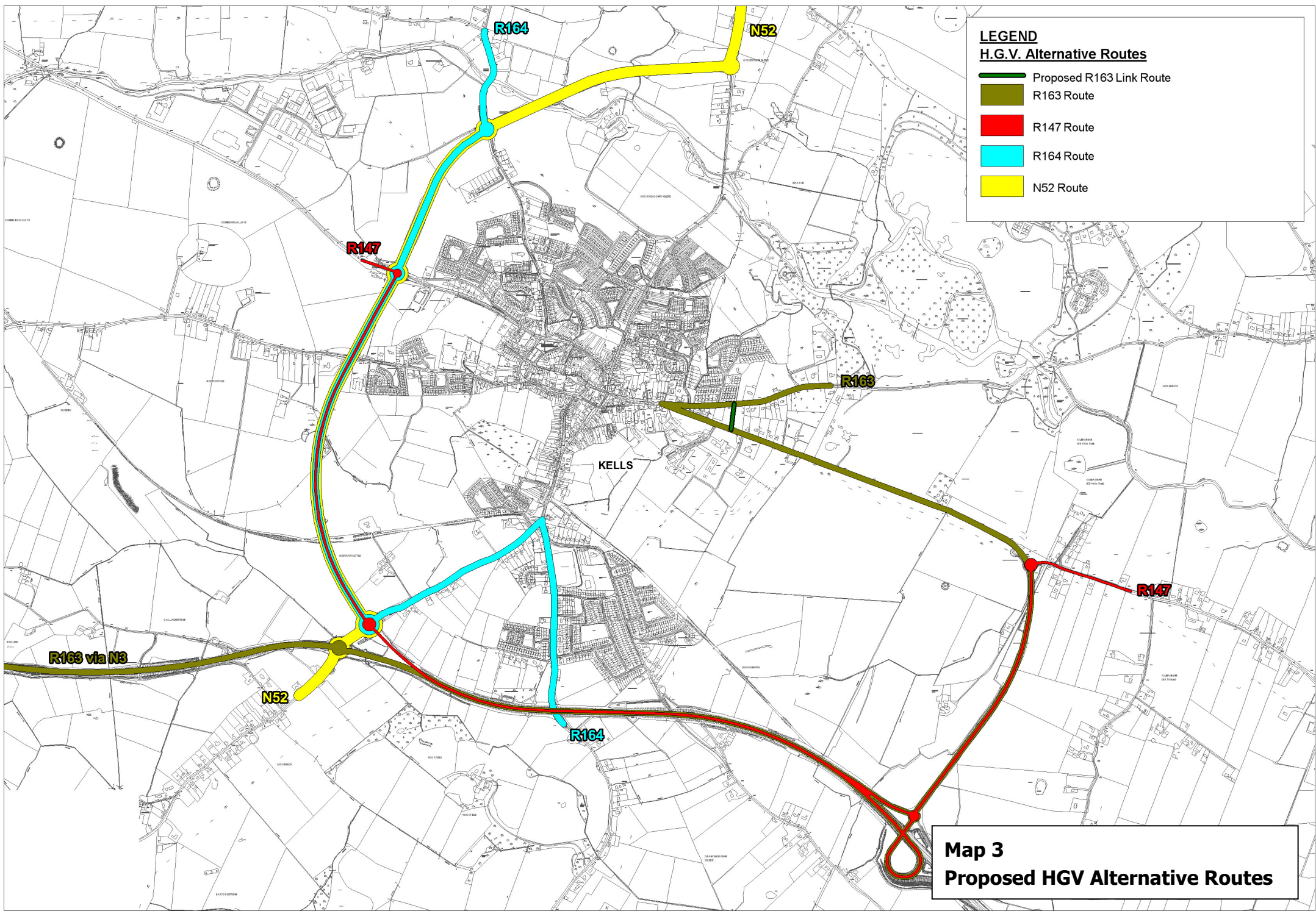


Kells Reported Garda Accidents
2005 - 2010

- Fatal Accident
- Serious Injury
- Minor Injury

Map 1
Kells Reported Garda Accidents 2005 - 2010





LEGEND
H.G.V. Alternative Routes

- Proposed R163 Link Route
- R163 Route
- R147 Route
- R164 Route
- N52 Route

Map 3
Proposed HGV Alternative Routes

Reference Document



Comhairle Chontae na Mí
MEATH COUNTY COUNCIL



KELLS TRAFFIC MANAGEMENT
UPDATED TRAFFIC FLOWS
Rev 2 - December 2012

MDM

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5.0 TRAFFIC FLOWS - OCTOBER 2009 / NOVEMBER 2012

Appendix 1 – Junction Movements 2012

Appendix 2 – Drawings

1.0 INTRODUCTION

1.1 Meath County Council and Kells Town Council are jointly preparing the draft Kells Development Plan 2013 – 2019. As part of the draft plan preparation, they have developed a Local Transport Plan (Appendix D refers). As part of this Local Transport Plan, the joint Planning Authorities have revisited and amended a preliminary Traffic Management Scheme for the town centre which was prepared by Burroughs Consulting Engineers in September 2010. These revisions have taken cognisance of the comments raised during the public consultation process undertaken by Burroughs Consulting Engineers as part of their initial study. The purpose of this report is to undertake junction analysis and trip assignment to predict the likely impact of the proposed one way system and junction reconfiguration on the vehicular movements within Kells town centre. It also builds on traffic counts undertaken by Meath County Council to update the counts conducted by Burroughs Consulting Engineers which predated the opening of the M3 Motorway and N52 bypass of Kells.

1.2 At the time of the traffic surveys in 2009 the N3 was still in operation and the M3, together with the N52 Western By-Pass, were under construction. The new roads were completed and opened to traffic on 4th June 2010.

1.3 The M3 in particular has had a significant effect on traffic volumes through Kells with noticeable reductions in traffic volumes on the Navan and Cavan Roads and on the corresponding streets in the Town Centre.

1.4 The current traffic survey replicates the key elements of the original 2009 survey and provides;

- (a). a basis for establishing the effects of the M3 / N52 on traffic flows in Kells.
- (b). a basis for assigning traffic to the proposed one-way traffic scheme in Kells.

Part I - Traffic Flows 2009

2.0 TOWN CENTRE TRAFFIC FLOWS – OCTOBER 2009

2.1 The town centre in Kells is quite compact and well-defined and the traffic at morning and evening peak hours formed part of the original Burroughs Report.

Morning Peak Hour 2009

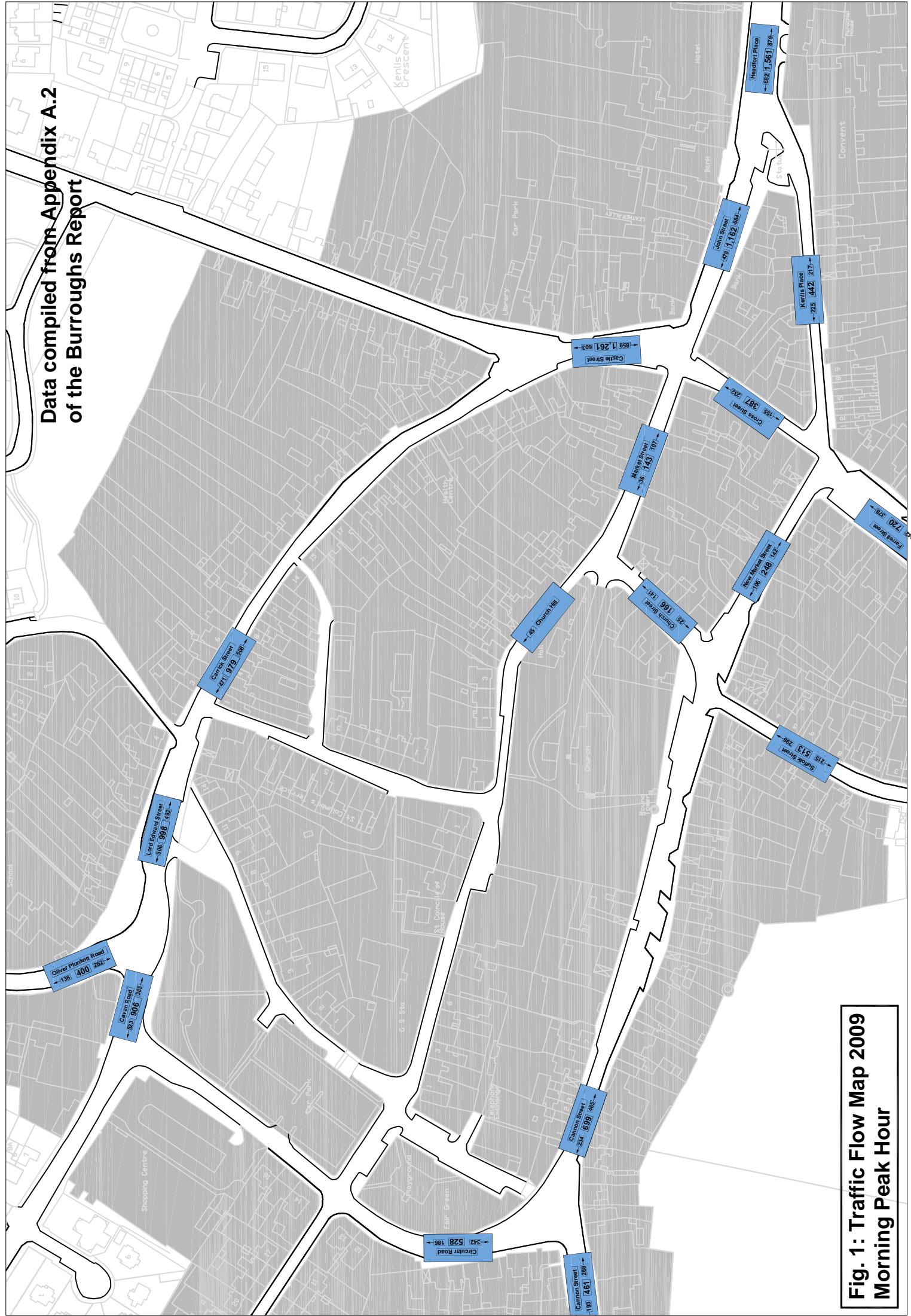
2.2 Fig. 1 shows the traffic flows on the street network in the town centre of Kells for the morning peak hour in 2009. The data is taken from the Burroughs Report and presented as a Flow Map so as to illustrate the traffic volumes on the individual streets.

2.3 Key data for the morning peak hour is as follows;

AM Peak Hour 2009

Headfort Place	1,561
John Street	1,162
Kenlis Place	442
Cross Street	387
Farrell Street	720
New Market Street	248
Church Street	166
Church Hill	45
Market Street	143
Castle Street	1,261

Table 1: Morning Peak Hour 2009



**Fig. 1: Traffic Flow Map 2009
Morning Peak Hour**

Evening Peak Hour 2009

2.4 Fig. 2 shows the traffic flows on the street network in the town centre of Kells for the evening peak hour 2009. The data is taken from the Burroughs Report and presented as a Flow Map so as to illustrate the traffic volumes on the individual streets.

2.5 Key data for the evening peak hour is as follows;

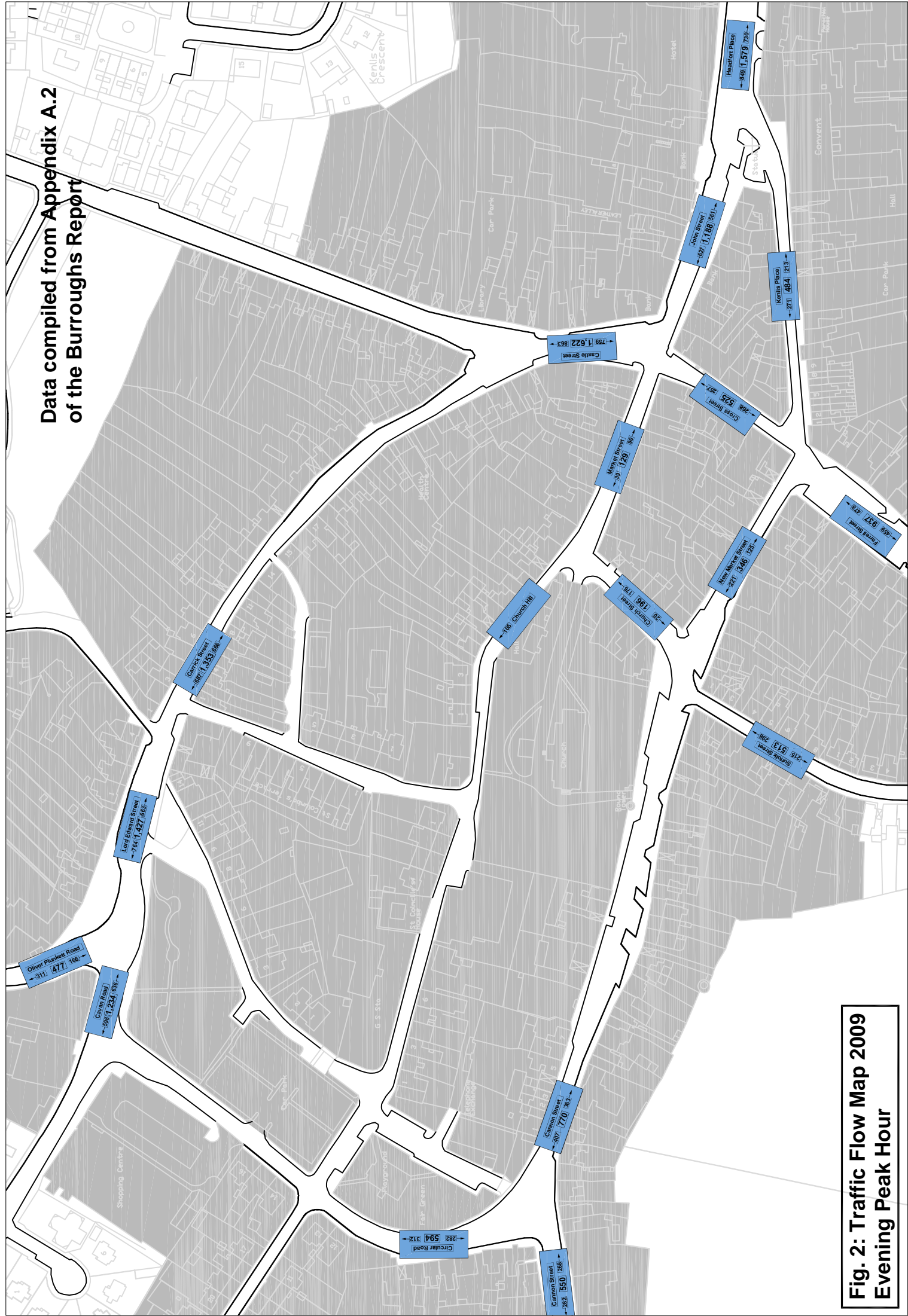
PM Peak Hour 2009

Headfort Place	1,579
John Street	1,188
Kenlis Place	484
Cross Street	525
Farrell Street	937
New Market Street	346
Church Street	196
Church Hill	105
Market Street	129
Castle Street	1,622

Table 2: Evening Peak Hour 2009

2.6 The traffic flows for both morning and evening peak hours were reasonably well balanced with almost equal flows in each direction on each of the key streets.

2.7 The traffic flows in the Evening Peak Hour were 15.9% higher than those of the Morning Peak Hour over the Town Centre as a whole. However, taking Castle Street as a benchmark or screen-line, the Evening Peak Hour Flows were 28.6% higher than the Morning Peak Hour.



**Fig. 2: Traffic Flow Map 2009
Evening Peak Hour**

Design Hour

2.8 As the traffic flows are reasonably balanced in each direction at both peak hours and as the Evening Peak Hour is significantly higher, the flows at Evening Peak Hour are taken to be the design hour when considering traffic management proposals.

Part II - Traffic Flows 2012

3.0 TOWN CENTRE TRAFFIC FLOWS 2012

3.1 A manual traffic count was carried out at Evening Peak Hour on November 13th / November 14th 2012 at the following junctions;

- i. Headfort Place / John Street / Kenlis Place
- ii. Kenlis Place / Farrell Street / New Market Street
- iii. New Market Street / Suffolk Street / Church Street
- iv. Market Street / John Street / Castle Street
- v. Castle Street / Carrick Street / Maudlin Street
- vi. Cannon Street / Circular Road

The location of these junctions is shown in Fig. 3.

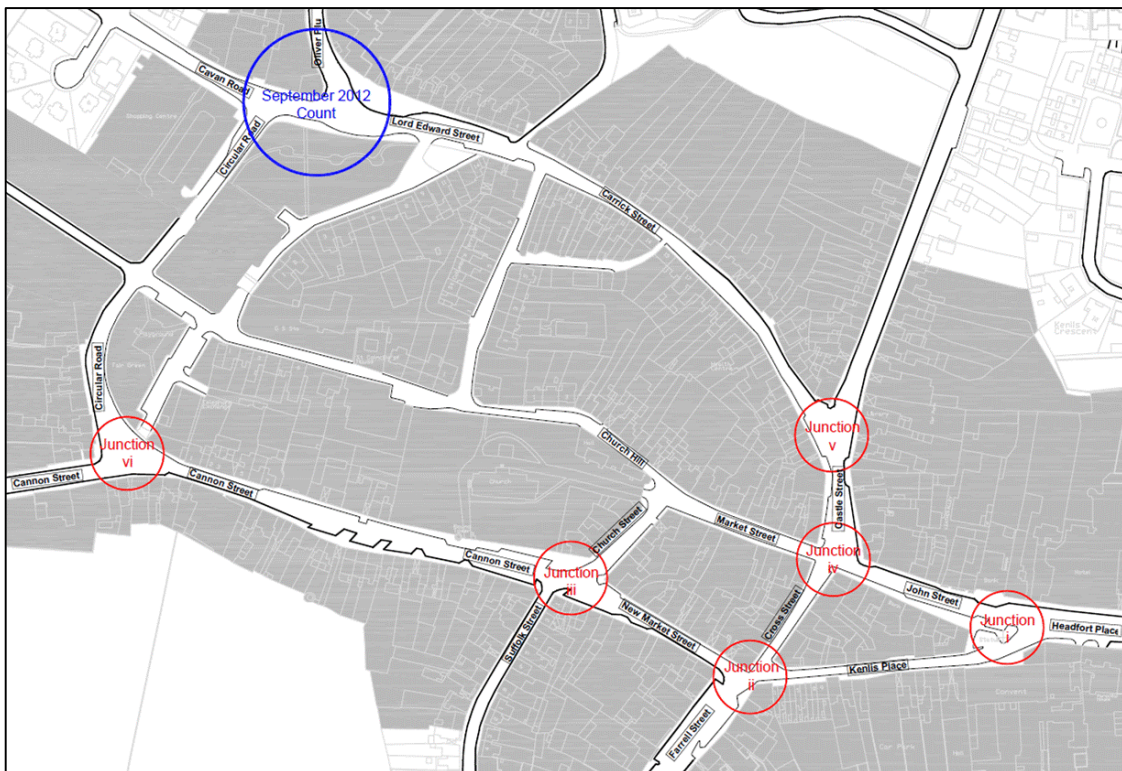


Fig. 3: November 2012 Manual Traffic Count Junction Locations

3.2 A junction count is available from September 2012 for the Circular Road / Cavan Road junction and this has been incorporated to complete the overall pattern.

3.3 The traffic flows for the individual junctions are included in Appendix I. The data for key streets is as follows;

PM Peak Hour 2012

Headfort Place	994
John Street	714
Kenlis Place	353
Cross Street	396
Farrell Street	750
New Market Street	244
Cannon Street	467
Church Street	121
Market Street	101
Castle Street	938

Table 3: Evening Peak Hour 2012

3.4 A traffic flow map for the centre of Kells has been compiled from the 2012 traffic counts for the Evening Peak Hour. The data is presented in Fig. 4.

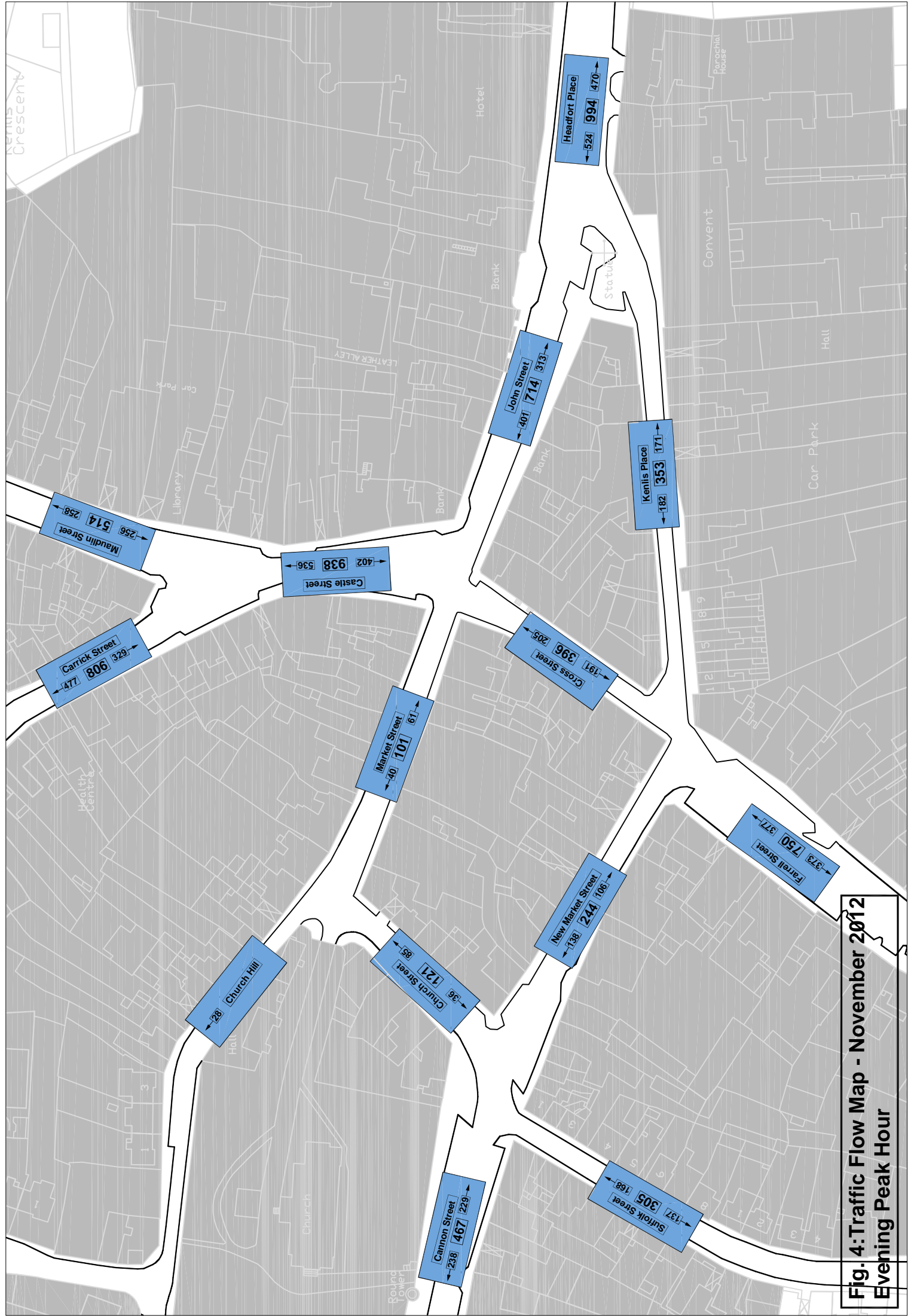


Fig. 4: Traffic Flow Map - November 2012
Evening Peak Hour

- 3.5 The traffic flows for the evening peak hour in 2012 are substantially lower than those recorded in 2009. This reduction is consistent from junction to junction and the traffic flows at each junction are also consistent with those at adjacent junctions. The data is therefore a true picture of traffic flows in 2012 and of the variation in volumes from 2009.
- 3.6 The extent of the reduction in both daily and peak hour flows is addressed in Part III.
- 3.7 There are only three anomalies in the 2012 junction flows and these are:
- i. The public car-park at Kenlis Place introduces an imbalance between the flows at the junctions of Kenlis Place with Headfort Place and with Farrell Street. The imbalance is not significant in terms of overall flows.
 - ii. The junctions at each end of Cross Street were counted on consecutive days and the flows at each end do not balance as well as those at other junctions. However, the differences are not significant in terms of overall flows.
 - iii. The traffic count at the Supervalu junction incorporating Circular Road and Oliver Plunkett Road was carried out in September 2012. The differences between the flows at that junction are of the same order of magnitude as those at Castle Street / Maudlin Street and are confirmatory of the overall traffic pattern.

4.0 PROPOSED ONE-WAY SYSTEM

4.1 The proposed traffic management plan recommended the introduction of a one-way system for traffic management in the centre of Kells. The proposed system is presented in Fig. 5.

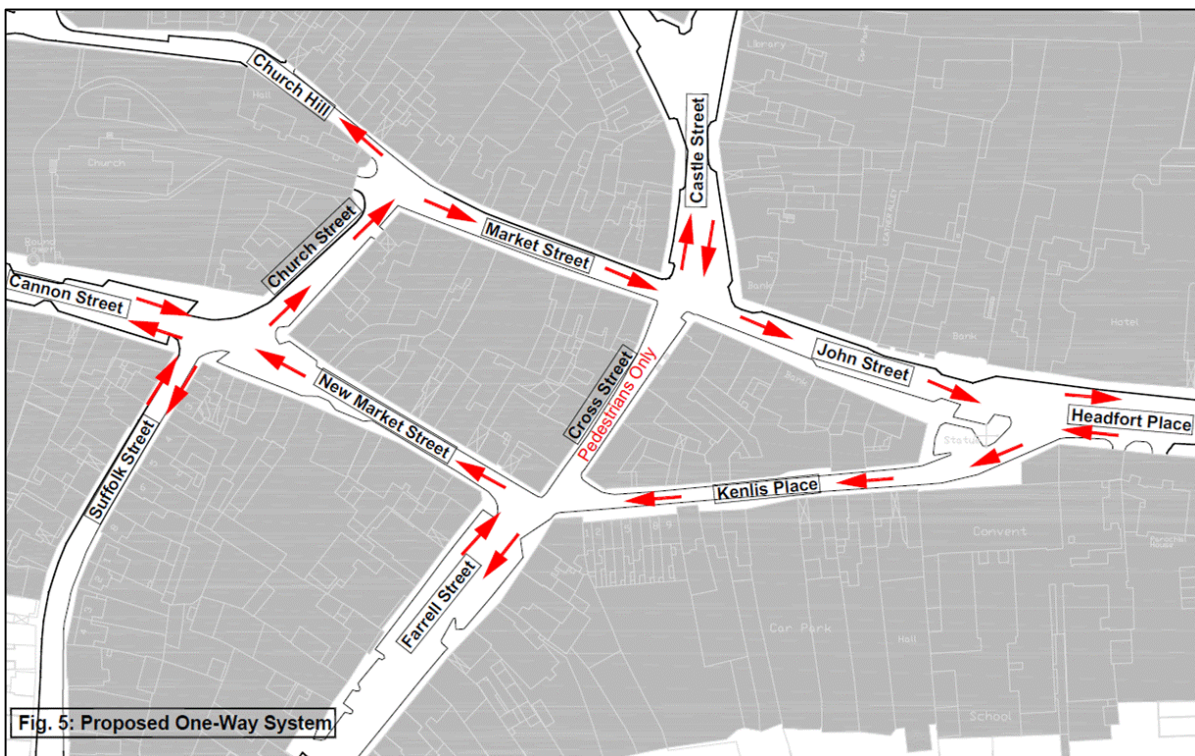


Fig. 5 Proposed One-Way System

Traffic Assignment

4.2 The traffic movements established in the recent survey provide a basis for evaluating the traffic pattern which would arise in the proposed one-way system.

4.3 The totals for inflow and outflow relating to the relevant section of the street network are 1,486 and 1,552 respectively. The outflow is greater than the inflow and so as to have a balance between the two for the purposes of the assignment exercise the inflows were increased by 4.4% to match the outflows. The net effect is a 2% overstatement of flows on the proposed one-way system as a worst-case scenario.

4.4 The assigned traffic flows are presented in Fig. 6. A particular feature of the network is the junction of Suffolk Street / Cannon Street where traffic exiting Suffolk Street is constrained to a left turn and cannot cross over to Church Street. The traffic count at this junction shows that the constraint is not significant in terms of traffic volumes.

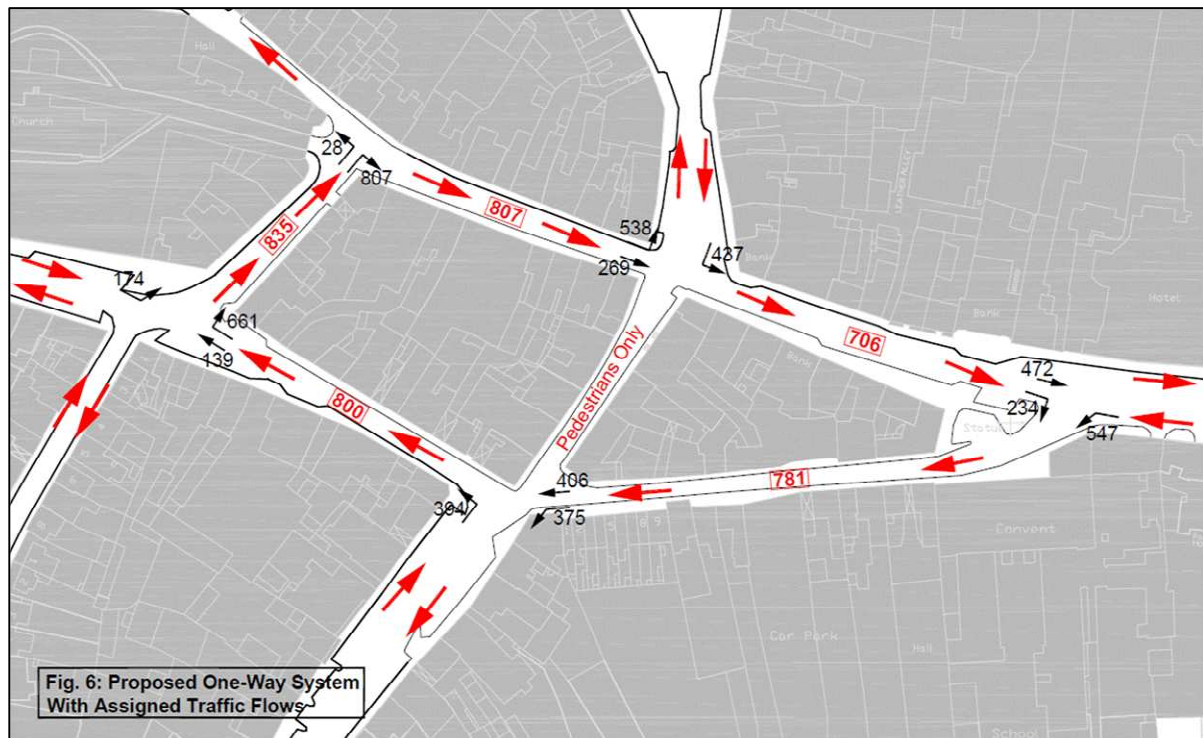


Fig. 6 Assigned Traffic Flows on Proposed One-Way System

4.5 Key data for the evening peak hour on the proposed one-way would be as follows;

	PM Peak Hour 2012 Existing	Proposed One-Way
Headfort Place	994	994
John Street	714	706
Kenlis Place	353	781
Cross Street	396	0
Farrell Street	750	750
New Market Street	244	800
Cannon Street	467	467
Church Street	121	835
Church Hill	28	28
Market Street	101	807
Castle Street	938	938

Table 4: Evening Peak Hour on Proposed One-Way System

4.6 The basic impacts are on Kenlis Place, New Market Street, Church Street and Market Street. The latter 3 streets are brought into more effective use and this is as indicated by the increased traffic flows.

4.7 Traffic movements would be very much simplified at the junctions of;

Headfort Place / Kenlis Place

Kenlis Place / Farrell Street

New Market Street / Church Street

Suffolk Street / Cannon Street

Market Street / Castle Street

A further benefit is that Cross Street becomes available for pedestrianisation.

4.8 The assignment of traffic flows has made no provision for traffic which may re-route itself on the street system. An element of traffic on New Market Street may opt to divert via Cannon Street and Circular Road. This would reduce the volume of traffic on Church Street and Market Street and could be significant. This, and other changes in travel patterns, may arise and the net effect would be a reduction in the assigned flows on the one-way system.

4.9 November traffic counts are generally equivalent to Annual Average Daily Traffic (AADT). The summer months however, exceed average conditions and the assigned traffic flows may increase by a factor of 1.25 for June / July / August / September.

Part III - Traffic Flows 2009/2012

5.0 TRAFFIC FLOWS - OCTOBER 2009 / NOVEMBER 2012

Outer Cordon – 2009

5.1 The ATC records for October 2009 (page 21 of the Burroughs Report) are shown in Table 5. The flows effectively represent an Outer Cordon for traffic entering and leaving Kells, prior to the opening of the M3 and the N52 Western By-Pass.

5.2 The two-way flow over a 24-hour day for each of the approaches is as follows;

Daily Traffic Flows

Mullingar Road (N 52)	3,981
Athboy Road (R 164)	4,786
Gardenrath Road	4,017
Navan Road (N 3)	13,656
Headfort Road (R 163)	3,501
Ardee Road (N 52)	4,557
Moynalty Road (R 164)	4,463
Cavan Road (N 3)	12,643
Oldcastle Road (R 163)	<u>5,782</u>
Total	57,386

Table 5: Outer Cordon 2-way Daily Traffic Volumes 2009

5.3 The total two-way flow was 57,386 and a key feature of this is that a combined flow of 26,299, or 46% of the total, was on the Navan Road / Cavan Road axis.

Traffic Flows 2009 – 2012 ATC Data

5.4 ATC data was obtained for the same locations in November 2012 (current survey) and the data for both 2009 and 2012 is shown in Table 6 and Fig. 7.

	2009	2012	% Change
Mullingar Road (N 52)	3,981	3,080	-23%
Athboy Road (R 164)	4,786	4,736	-01%
Gardenrath Road	4,017	2,913	-27%
Navan Road (N 3)	13,656	7,515	-45%
Headfort Road (R 163)	3,501	1,999	-43%
Ardee Road (N 52)	4,557	3,088	-32%
Moynalty Road (R 164)	4,463	2,194	-51%
Cavan Road (N 3)	12,643	6,599	-48%
Oldcastle Road (R 163)	<u>5,782</u>	<u>3,587</u>	-38%
	57,386	35,711	-38%

Table 6: ATC Data 2009 - 2012

5.5 The overall reduction in daily traffic flows at an Outer Cordon in Kells is 38% in the period from 2009 to 2012. As the recession had largely taken effect by the end of 2009 the reduction in traffic flows must be taken to be largely attributable to the opening of the M3 and the N52 Western By-Pass in June 2010.

5.6 In the case of the Navan Road and Cavan Road axis the combined flows have been reduced from 26,299 to 14,114 which equates to a reduction of 45% and 48% on the Navan and Cavan Roads respectively. The Mullingar and Ardee Roads (formerly the N 52) have reductions of 23% and 32% respectively. The Oldcastle Road, which intersects with the N3 to the west of Kells, shows a reduction of 38%.

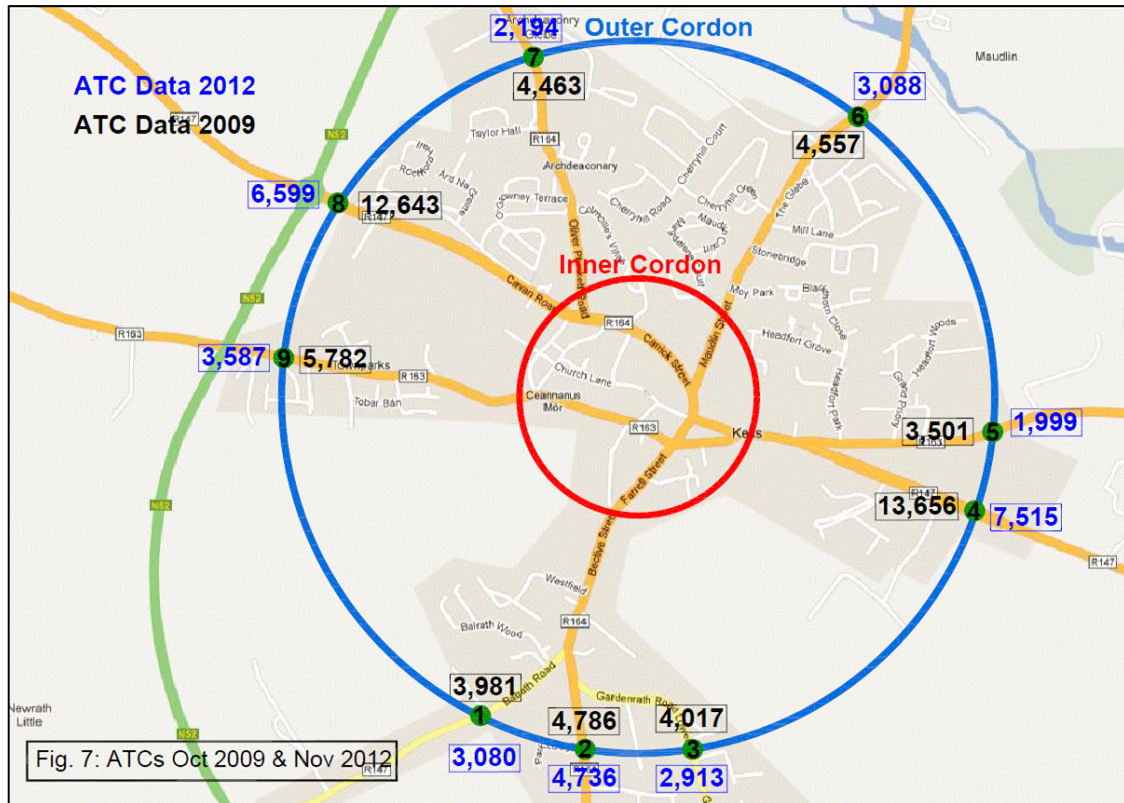


Fig. 7 ATC Comparison for October 2009 & November 2012

5.7 Not only are these substantial reductions but there has also been a substantial drop in HGV traffic through the centre of Kells.

5.8 Data from key junctions in the Burroughs Report shows a HGV content of 6.4% in 2009. Data from the corresponding survey in 2012 shows a HGV content of 1.9%. This is a reduction of 70% in HGV content in the Evening Peak Hour.

Town Centre 2009 – 2012

5.9 A corresponding comparison of traffic volumes on the street network in the central area of Kells is presented in Table 7 and Fig. 8. This data is derived from the manual junction counts of the Burroughs Report (2009) and the more recent manual counts in 2012.

	2009	2012	Change
Headfort Place	1,579	994	-37%
John Street	1,188	714	-40%
Kenlis Place	484	353	-27%
Cross Street	525	396	-25%
Farrell Street	937	750	-20%
New Market Street	346	244	-29%
Cannon Street	770	467	-39%
Church Street	196	121	-39%
Market Street	129	101	-22%
Castle Street	1,622	938	-42%

Table 7: Traffic Flows on Town Centre Streets

5.10 The pattern for the Evening Peak Hour is similar to the 24 hour pattern. This is to be expected as the Navan Road / Cavan Road axis is such a dominant feature of the traffic pattern. The M3 has clearly had a substantial impact and has relieved Kells of significant volumes of through traffic. The overall effect is that whereas peak hour flows on the street system of Kells are still substantial, they have been significantly reduced from previous levels by a factor of the order of 35 to 40%.

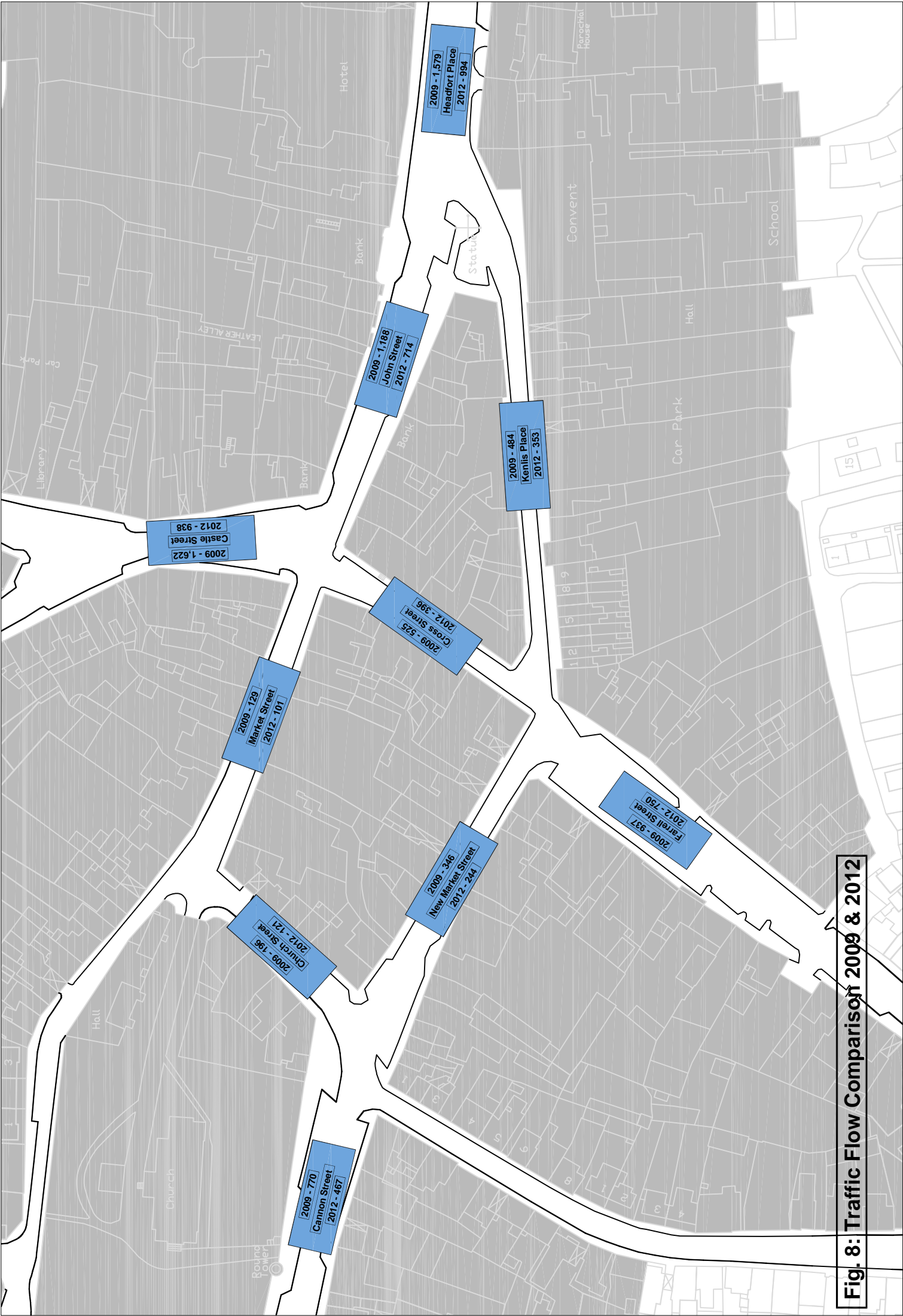


Fig. 8: Traffic Flow Comparison 2009 & 2012

Appendix I – Junction Movements 2012

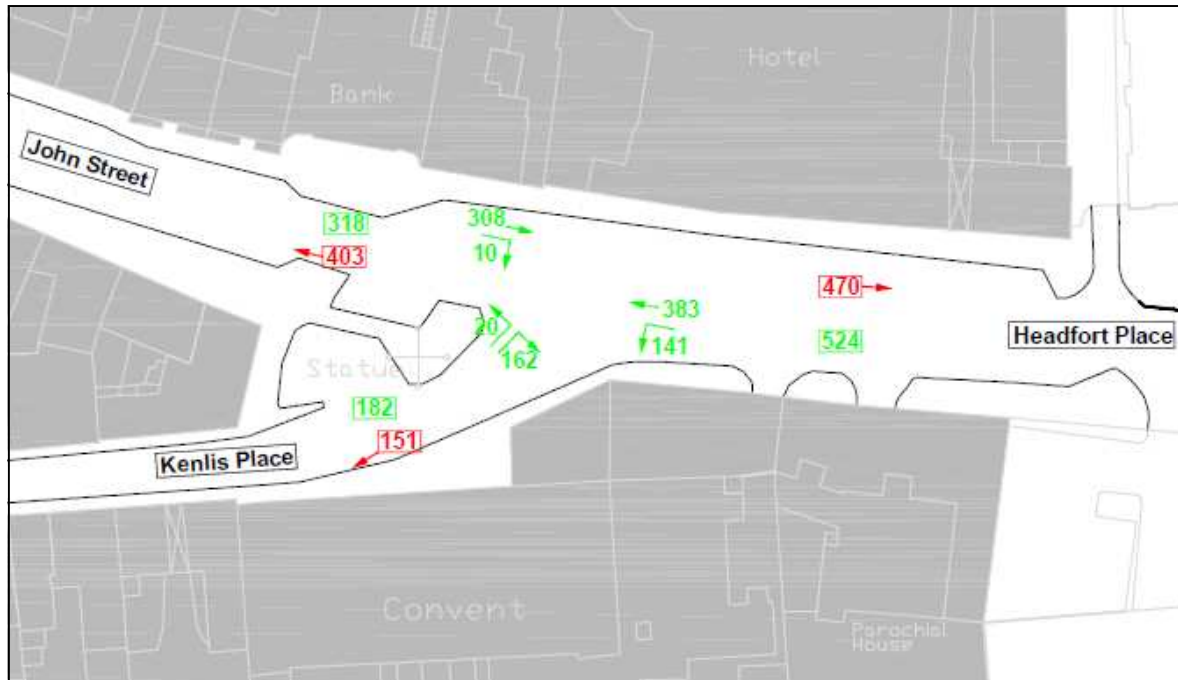
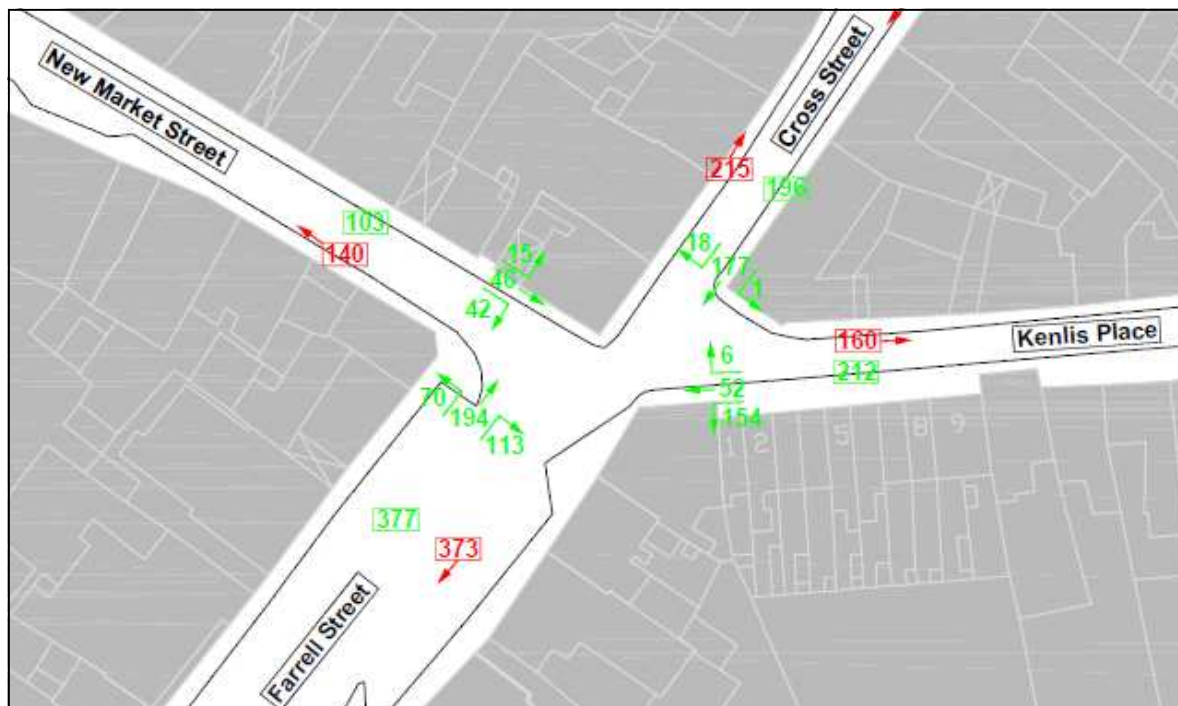


Fig A1: Junction Movements 2012 - Headfort Place / Kenlis Place / John St.



**Fig A2: Junction Movements 2012 - Kenlis Place / Farrell St. /
New Market Street St. / Cross St.**

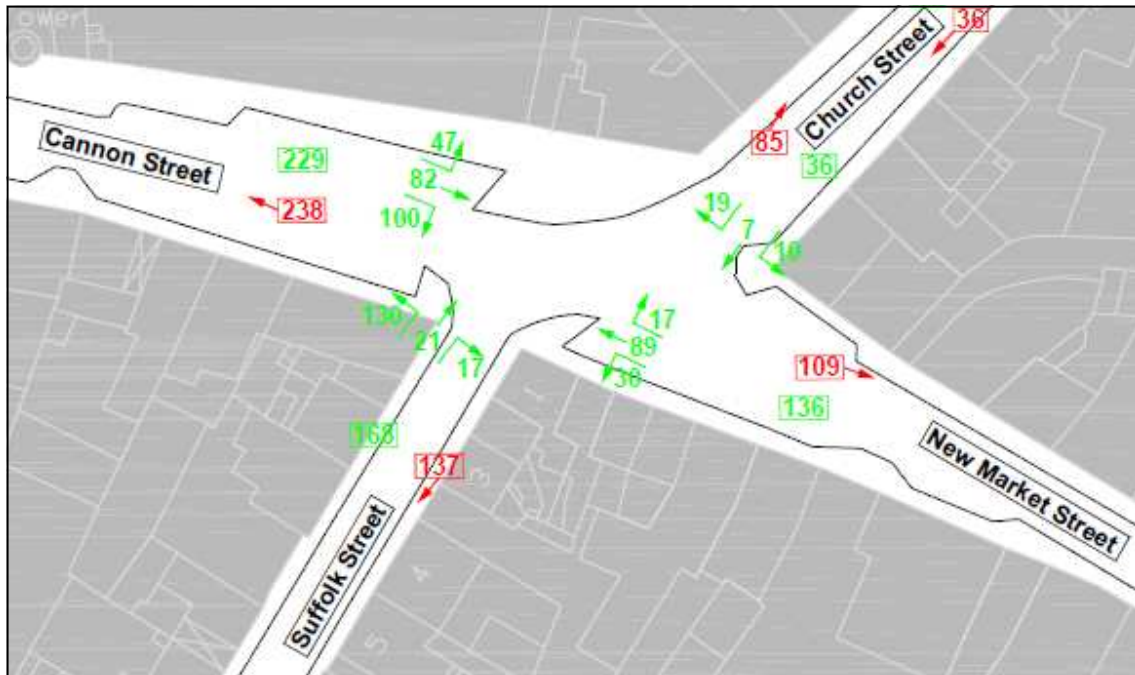


Fig A3: Junction Movements 2012 - New Market Street St. / Suffolk St. / Cannon St. / Church St.

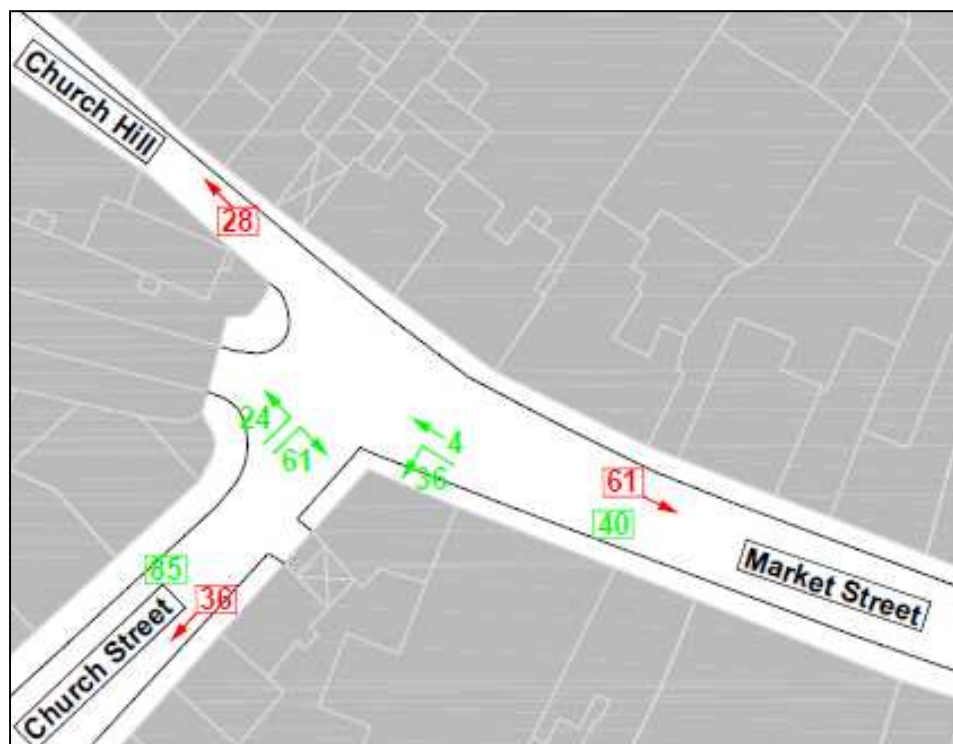


Fig A4: Junction Movements 2012 - Church St. / Church Hill / Market St.

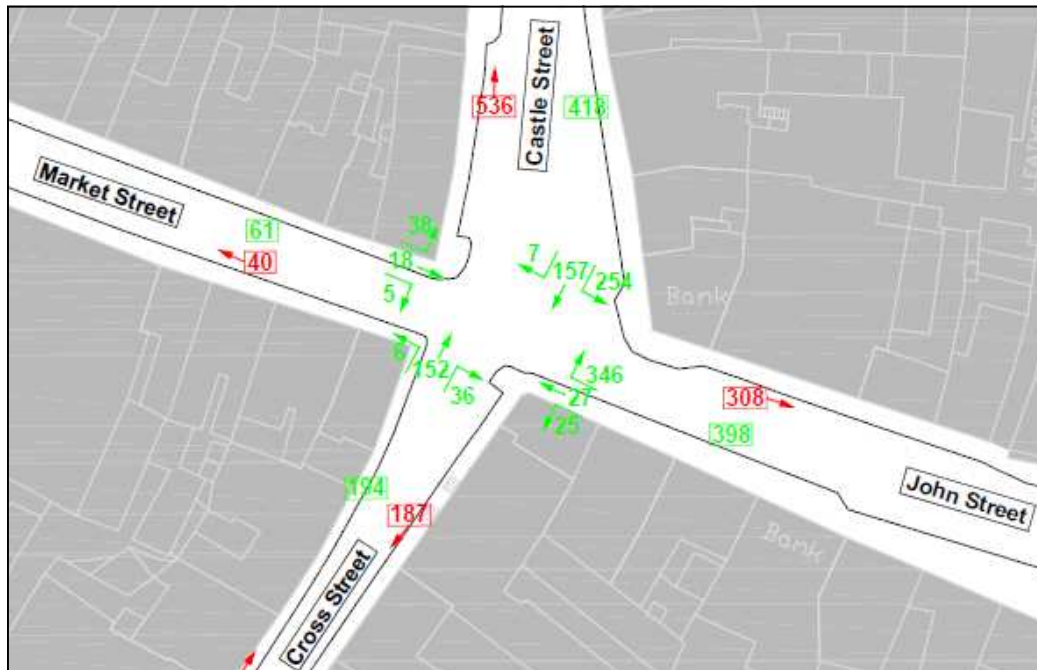


Fig A5: Junction Movements 2012 - John St. / Cross St. / Market St. / Castle St.

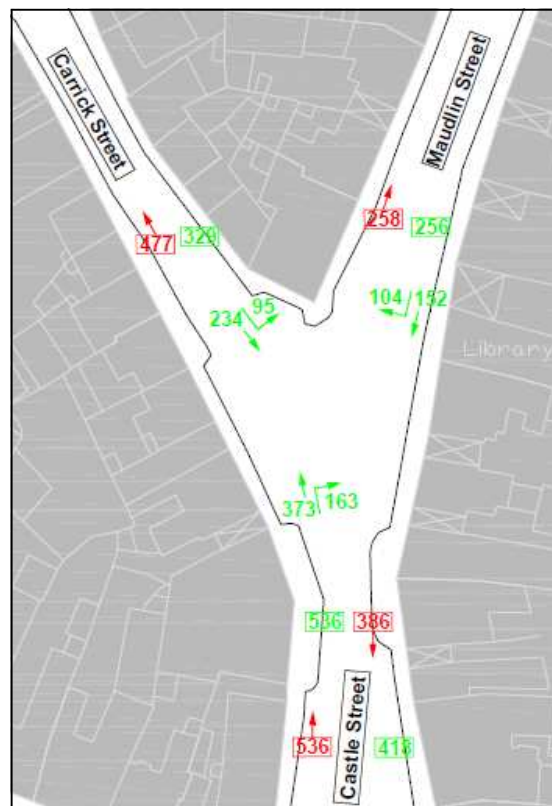


Fig A6: Junction Movements 2012 – Maudlin St. / Castle St. / Carrick St.

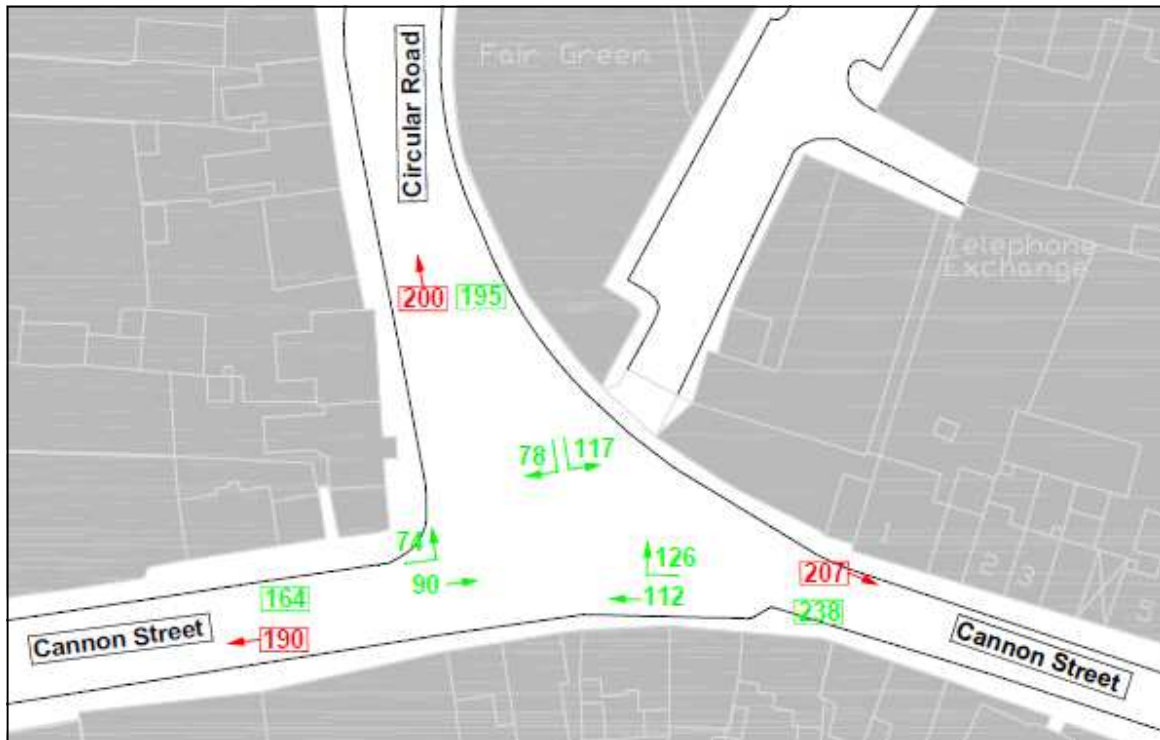


Fig A7: Junction Movements 2012 – Circular Road / Cannon St.

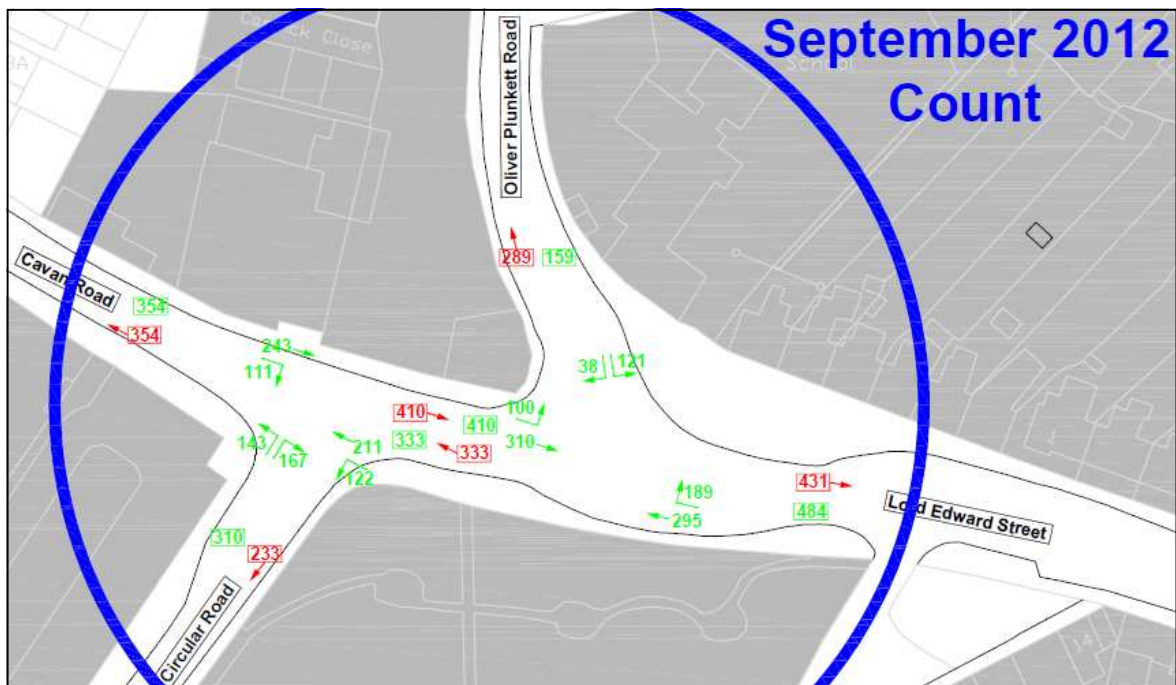
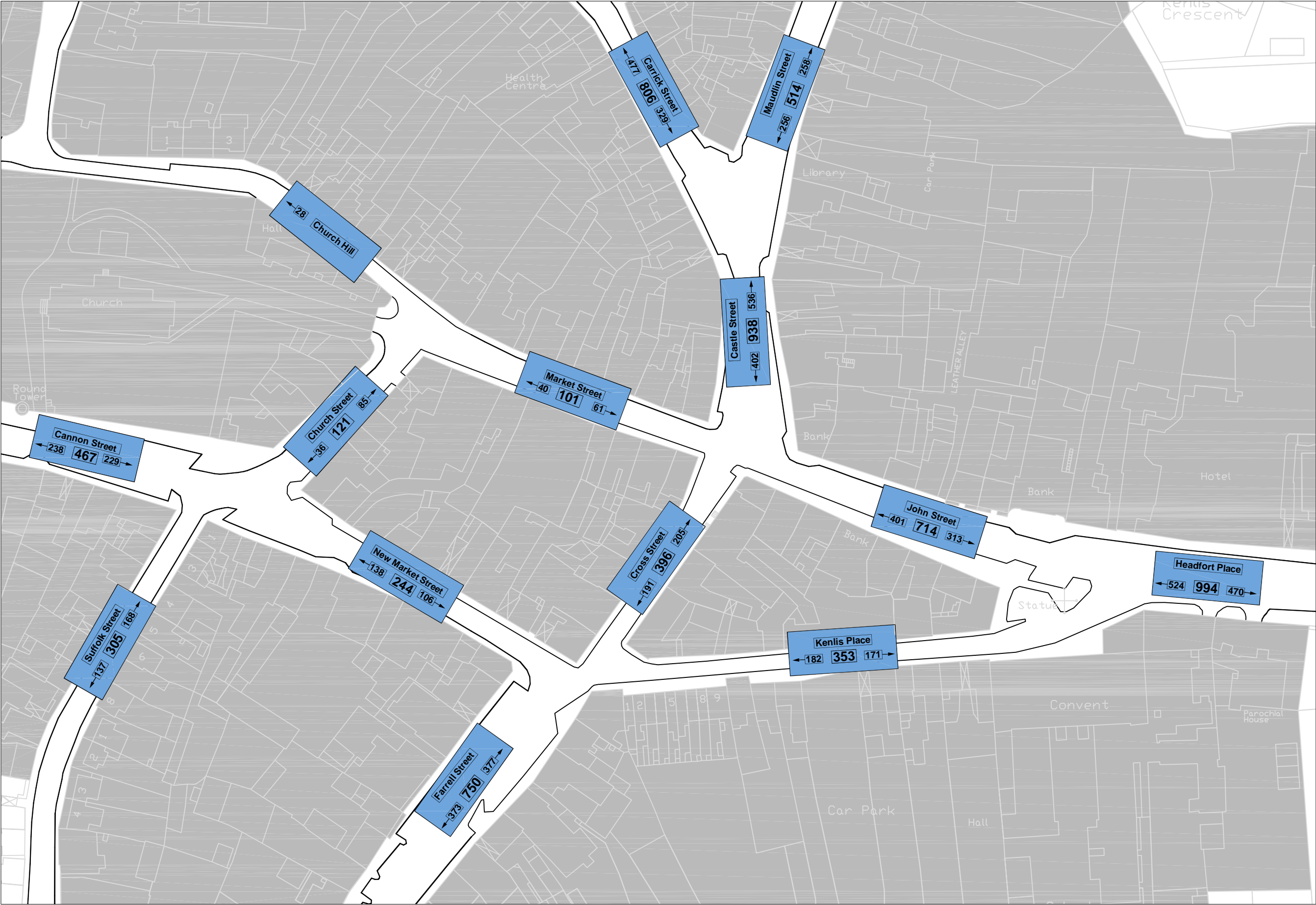



Fig A8: Junction Movements 2012 – Oliver Plunkett Road / Lord Edward St. / Circular Road / Cavan Road

Appendix II – Drawings



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Kells Traffic Management
Evening Peak Hour Flow Map
November 2012

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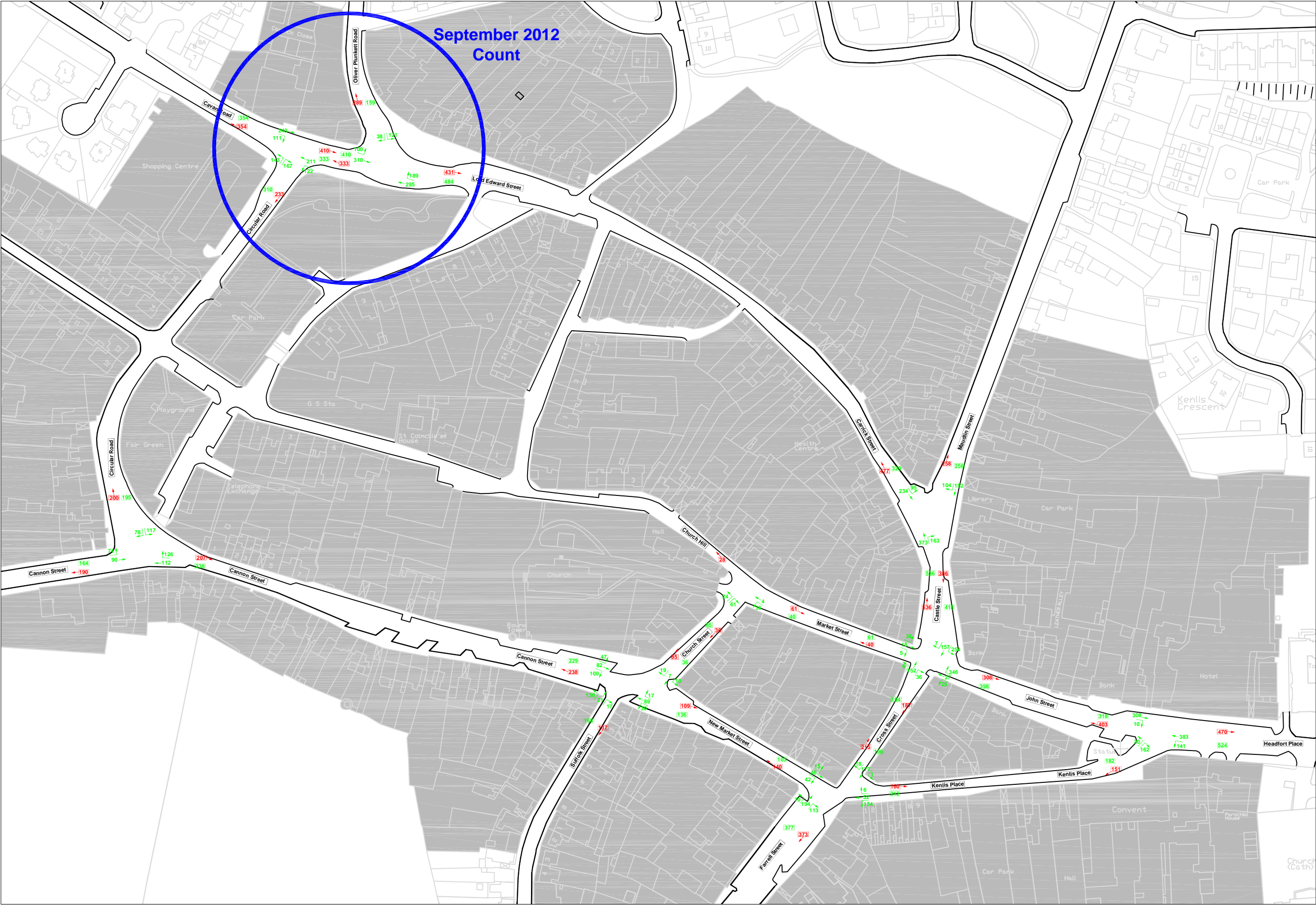
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1267

DRAWING NO.
1267-101

DRAWN BY	PB	SCALE None
CHECKED	RR	
APPROVED	TJMCM	



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TITLE
Kells Traffic Management
Evening Peak Hour Junction Flows
November 2012

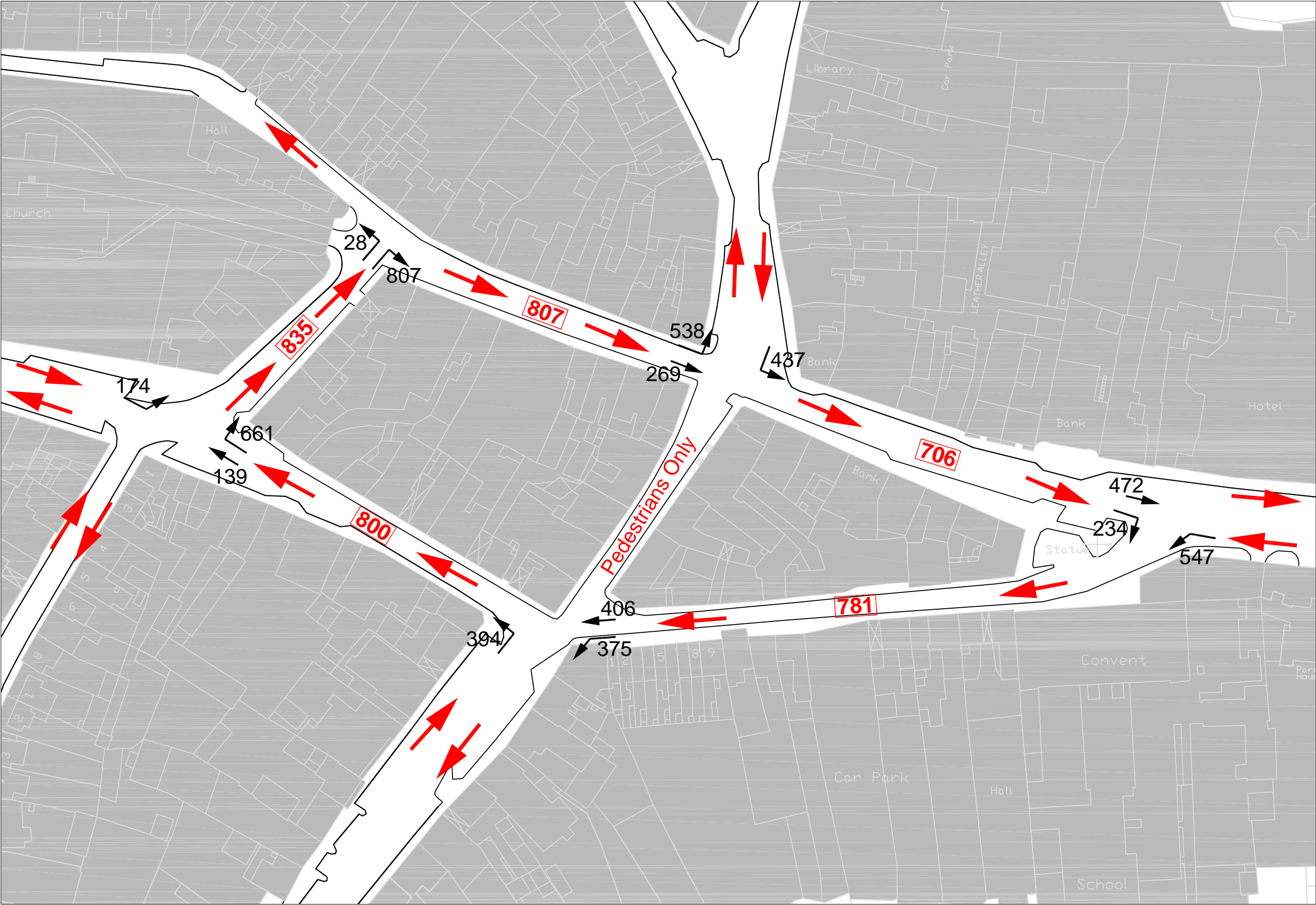
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Comhairle Chontae na Mí
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Kells Traffic Management
Assigned Traffic Flows
Proposed One-Way System

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