Laure Antoniotti

From: Fred Logue <info@emra.ie>
Sent: Tuesday 22 January 2019 21:12
To: RSES
Subject: RSES - Online submission
Attachments: 5c47870dd98bc.zip

From: Fred Logue <[redacted]>
Organisation: Julianstown and District Community Association

Message Body:
Please see attached document

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Eastern & Midland Regional Assembly
Draft Regional Spatial & Economic Strategy

22/1/2019

Submission on behalf of Julianstown and District Community Association (JDCA)

Julianstown is small village on the R132 and lies between junction 7 of the M1 motorway and Drogheda/East Meath. At the moment this is the primary access route between Laytown-Bettystown-Mornington and South Drogheda and the M1.

Currently there are more than 22,000 vehicles per day traveling through Julianstown. This is mostly commuter traffic. There is significant traffic congestion at the commuter peaks. During the evening rush hour traffic congestion extends more than 4km to the South of Julianstown and sometimes backs down junction 7 onto the M1 itself.

The high traffic volumes make circulation within Julianstown by walkers and cyclists dangerous and unattractive.

This causes significant noise pollution (as outlined in the SEA documentation) and presumably serious air quality issues from diesel fumes.

Since the end of the economic downturn in 2013, the traffic volumes are increasing by between 1.5% and 2% each year (see Annex 1 with data sourced from TII traffic counter).

It is estimated that under the current Meath County development plan the population of East Meath could increase by 6,000 (20%)

Two reports have been commissioned which show that the traffic volumes in Julianstown are not due to toll avoidance and the preferred option to deal with traffic access to South Drogheda and East Meath it to build a by-pass of Julianstown village (see Annex 2 and Annex 3).

Based on the designation of Drogheda and Laytown-Bettystown-Mornington under the preferred option described in the SEA the population using the R132 to access the M1 will continue to crow each year for the next 20 years.

Based on this South Drogheda and Laytown-Bettystown-Mornington need a proper access route that avoids Julianstown.

We understand that Meath County Council is in discussions with the Department of Transport in relation to a preliminary appraisal for a Julianstown bypass. It seems that Meath County Council accepts the principle that such a bypass will need to built during the lifetime of the NDP and the RSES.

Conclusion

The RSES should include a major access road serving South Drogheda and East Meath which bypasses Julianstown. This is justified by the current 22,000 AADT traffic volumes and the envisaged population increases in the South Drogheda/East Meath area.

JDCA thanks the Regional Assembly for taking this submission into account. Please contact Fred Logue [redacted] for any further queries in relation to it.

Annex 1 – Traffic Data

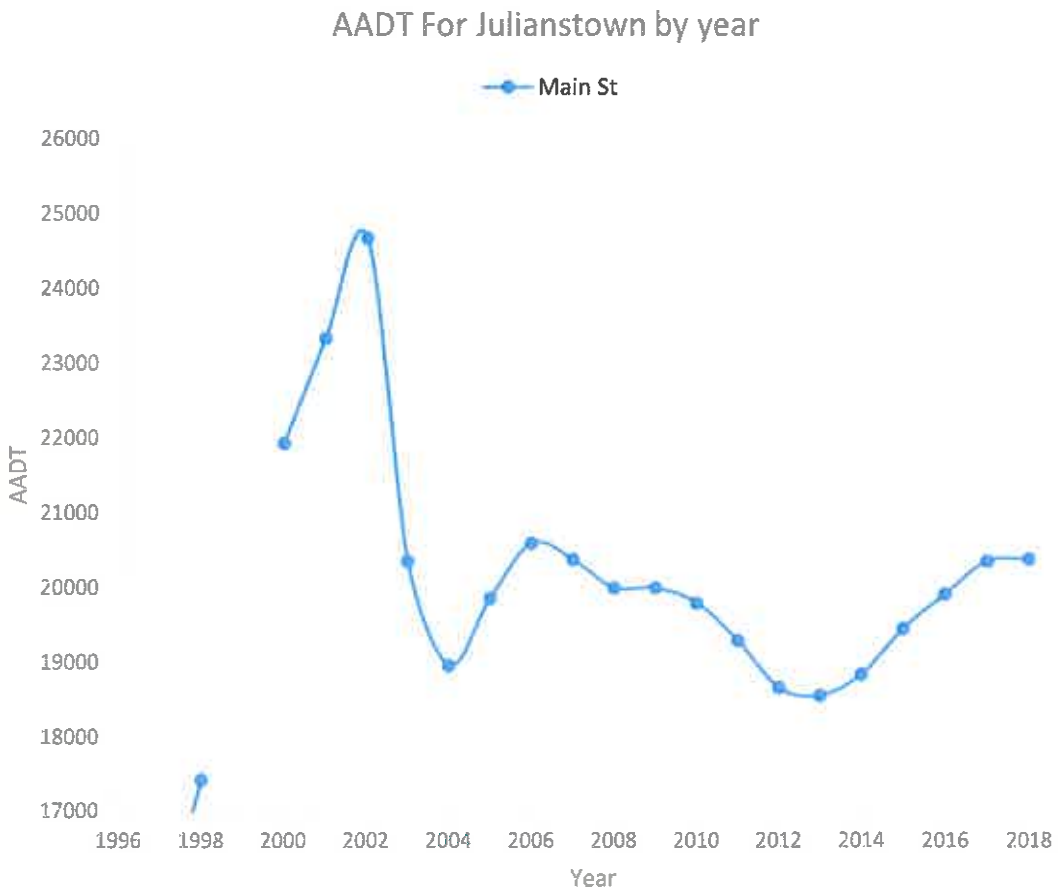


Figure 1 AADT traffic in Julianstown R132 1998 to 2018

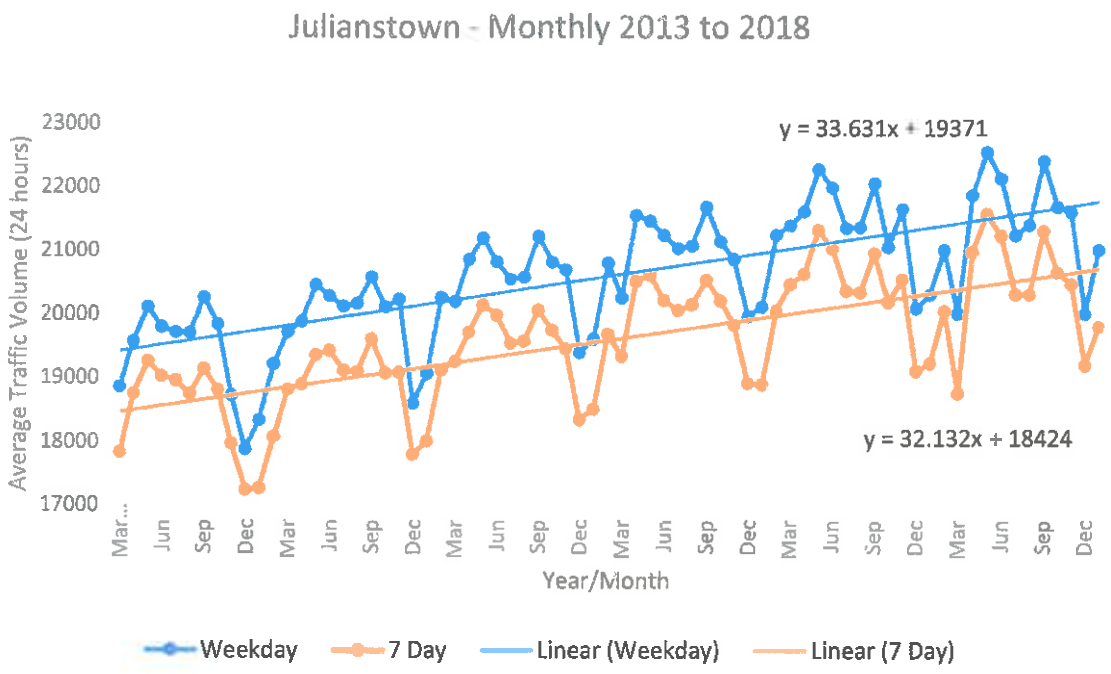


Figure 2 Julianstown weekday and 7 day traffic volume by month 2013 to 2019

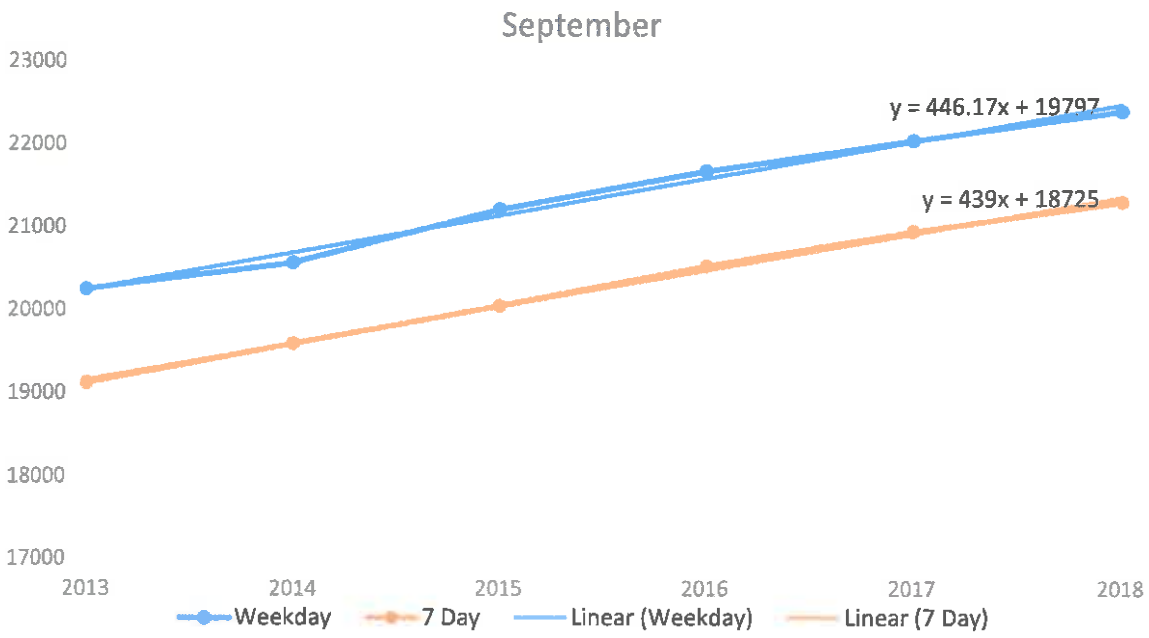


Figure 3 Daily traffic volumes in Julianstown each September 2013 to 2018

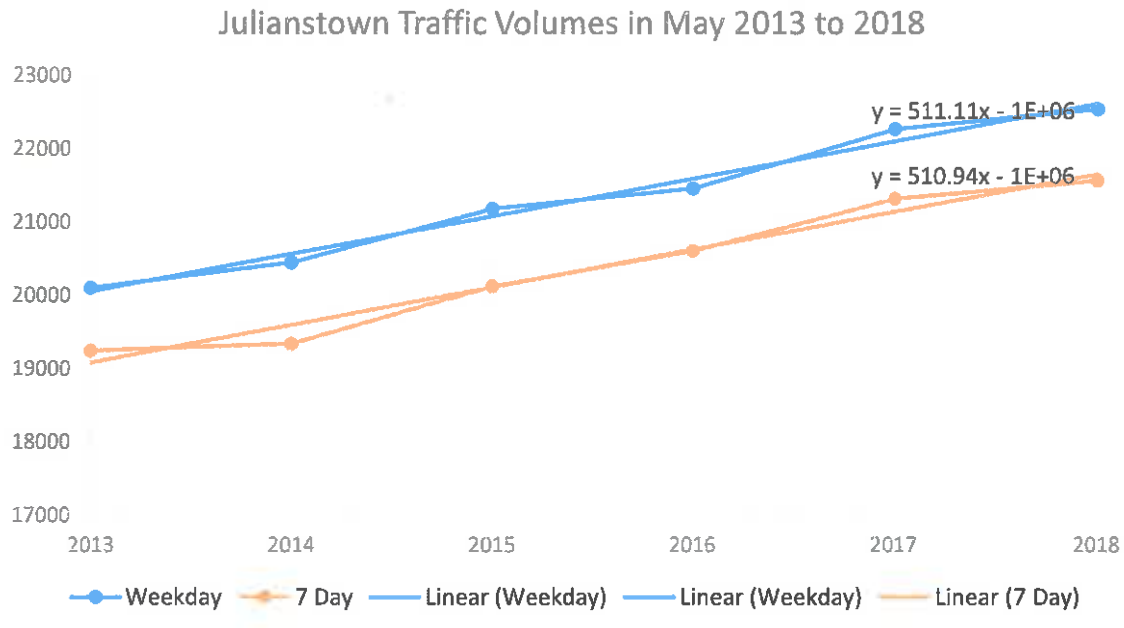
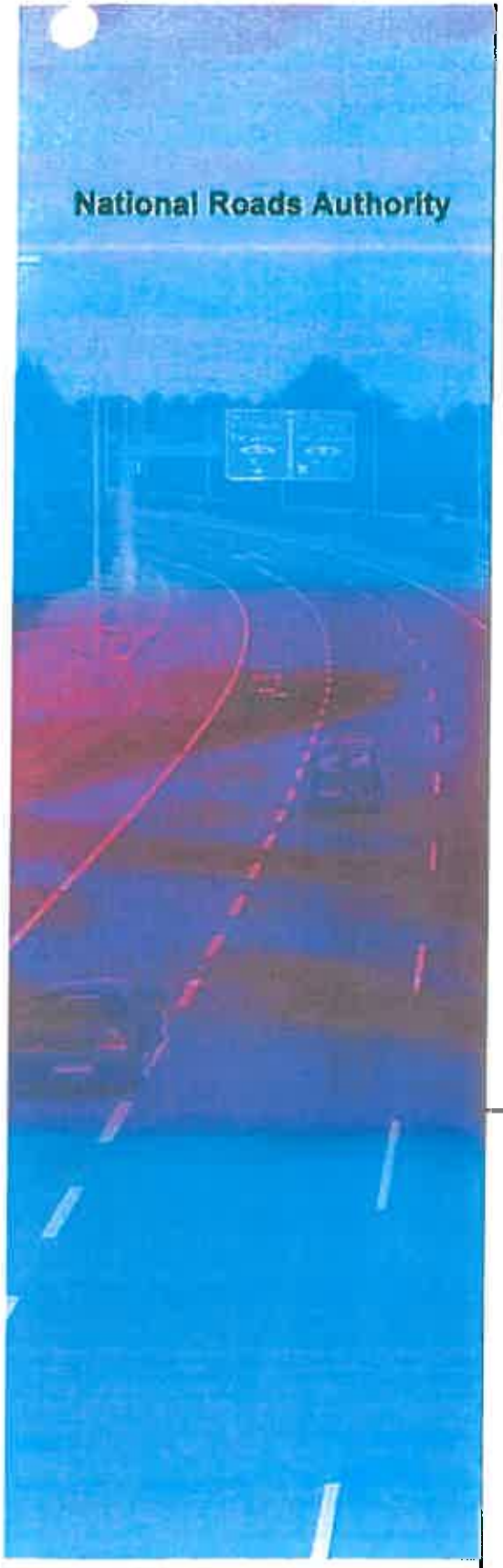


Figure 4 Daily traffic volumes during May 2013 to 2018

Annex 2 AECOM Technical Note – M1 tolls (May 2012)



Project: **National Roads Traffic Management Strategy**

Technical Note:

M1 Drogheda Slip Tolls

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AECOM

National Roads Traffic Management Strategy

Technical Note 1

M1 Drogheda Slip Tolls

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60051475	0	Draft	DK	DB	AOB	22nd May 2012

Technical Note 1

AECOM

1 Introduction

This Technical Note outlines a series of traffic and revenue analyses to understand the impact of removing the M1 slip tolls at Junction 9 (Donore). The analysis is supported by a number of traffic models and includes an assessment of the increases in the mainline tolls in order to preserve the overall existing M1 toll revenue.

Figure 1.1 below shows the existing toll locations on the M1 to the west of Drogheda that would be necessary. The slip tolls are located on the north facing slip roads of Junction 9 at Donore Road.

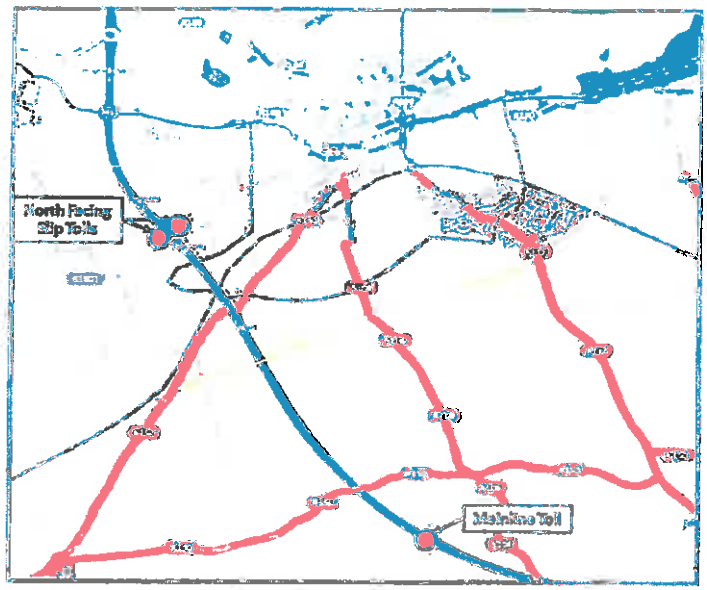

Figure 1.1: Location of tolling points

2 Baseline Assessment

Data on the existing travel patterns, including current levels of toll avoidance, was collected to inform the study. The data is summarised below:

- Origin-Destination (O-D) Survey carried out between 28th February and 8th March 2012;
- 18 Automatic Traffic Counts (ATC) carried out between 29th February and 6th March 2012;
- 3 Junction Turning Counts (JTC) undertaken over 12 hours (07:00 – 19:00) on Thursday 8th of March 2012.
- The Origin-Destination surveys also provided journey time data. Additional 2010 journey time data was also acquired for the N2 between the M50 and Ardee.

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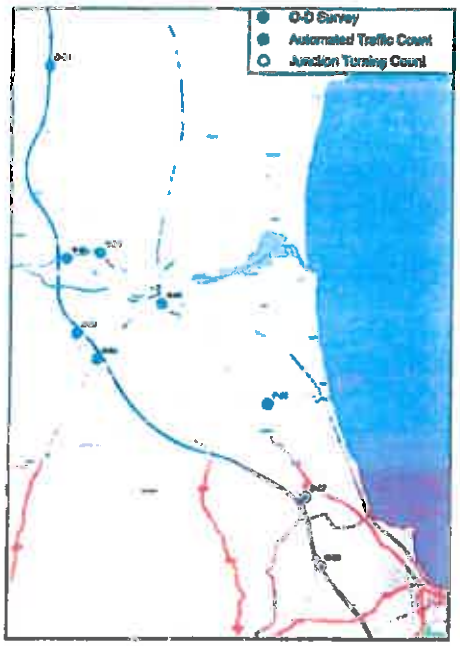

Figure 2.1 O-D Survey Locations

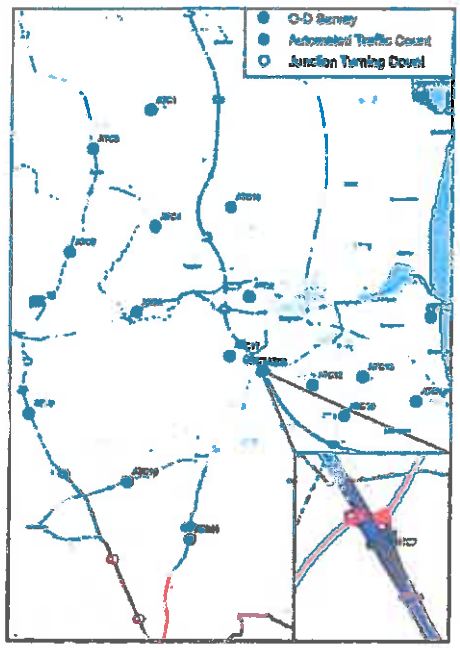

Figure 2.2 ATC Survey Locations

Figure 2.1: JTC Survey Locations

The data was used to develop detailed traffic models for the M1 and N2 corridors, which allowed existing toll avoidance to be quantified. Existing toll avoidance calculated from the Baseline Models is outlined in Table 2.1.

Table 2.1: Observed Toll Avoidance (2012 AM Peak Hour).

O-D Pairs	Description	AM Peak Hour		
		Total flow between pairs	AM Peak Avoidance	% Avoidance
1 to 8	Southbound from M1 north to M1 south	1011	29	2.9%
8 to 1	Northbound from M1 south to M1 North	675	14	2.1%
1 to 4	Southbound from M1 north to Donore Road	10	0	0.0%
1 to 5	Southbound from M1 north to Platin Road	118	18	15.3%
1 to 9	Southbound from M1 south to Laytown	3	0	0.0%
4 to 1	Northbound from Donore Road to M1 North	22	0	0.0%
5 to 1	Northbound from Platin Road to M1 North	213	45	21.1%
9 to 1	Northbound from Laytown to M1 North	4	1	25.0%
4 to 8	Southbound from Donore Road to M1 South	55	7	12.7%
5 to 8	Southbound from Platin Road to M1 South	88	28	31.8%
8 to 4	Northbound from M1 south to Donore Road	2	0	0.0%
8 to 5	Northbound from M1 south to Platin Road	22	1	4.5%
	Totals	2,223	143	6.4%

The overall volume of toll avoidance on the M1 is therefore relatively low, with toll avoidance rates through the length of the toll scheme at less than 3%.

Nevertheless, some higher avoidance levels associated with the slip road tolls are noted, with up to 30% avoidance for trips between the Platin Road and the M1 South (although absolute numbers are relatively small).

3 Definition of Scenarios

A number of scenarios have been defined in discussion with the NRA to understand the traffic and revenue impacts of alternative toll collection scenarios, outlined Table 3.1 below. The testing plan focuses on removal of the slip road tolls, and incremental increases to the mainline toll in an attempt to cover the lost revenue.

Test 1 examines the impact of the removal of the toll. Tests 2 – 6 examine the impacts of an incremental increase in the mainline toll in order to determine what percentage increase will be required to preserve the existing overall M1 toll revenues.

Table 3.1: Scenario Testing

Scenario	Description
Base Model	
Test 1	Removal of slip tolls.
Test 2	Removal of slip tolls; increase mainline toll by 10%.
Test 3	Removal of slip tolls; increase mainline toll by 20%.
Test 4	Removal of slip tolls; increase mainline toll by 30%.
Test 5	Removal of slip tolls; increase mainline toll by 40%.
Test 6	Removal of slip tolls; increase mainline toll by 50%.

4 Traffic Impacts

Table 4.1 below presents a summary of the traffic impact on the M1 of the removal of the toll at the Junction 9 (Donore) slips. The clear trend between Tests 1 and 6 is the significant increase in AADT on the slips as a result of the removal of the toll and the simultaneous decrease in AADT along the mainline. It is also clear that the incremental increases in the mainline tolls have a similar effect of increasing usage of the un-tolled slips and decreasing usage of the mainline toll.

All traffic forecasting is based on current (2012) traffic flows. AADT values have been calculated using a factor of 14.4 to convert the AM peak hour traffic flows to AADT, derived from the ATC surveys.

Table 4.1: Traffic Impacts

Scenario	Modeled AADT		
	Flows on M1 Mainline	Aggregated Flows on M1 Junction 9 Slip Roads	R132 Drogheda Town Centre*
Base Model	29,834	2,937	16,184
Test 1	25,428	18,761	14,643
Test 2	24,420	18,977	15,061
Test 3	23,340	19,308	15,306
Test 4	22,476	20,144	15,752
Test 5	21,425	20,691	15,997
Test 6	21,065	20,734	16,198

** measured at Railway Station*

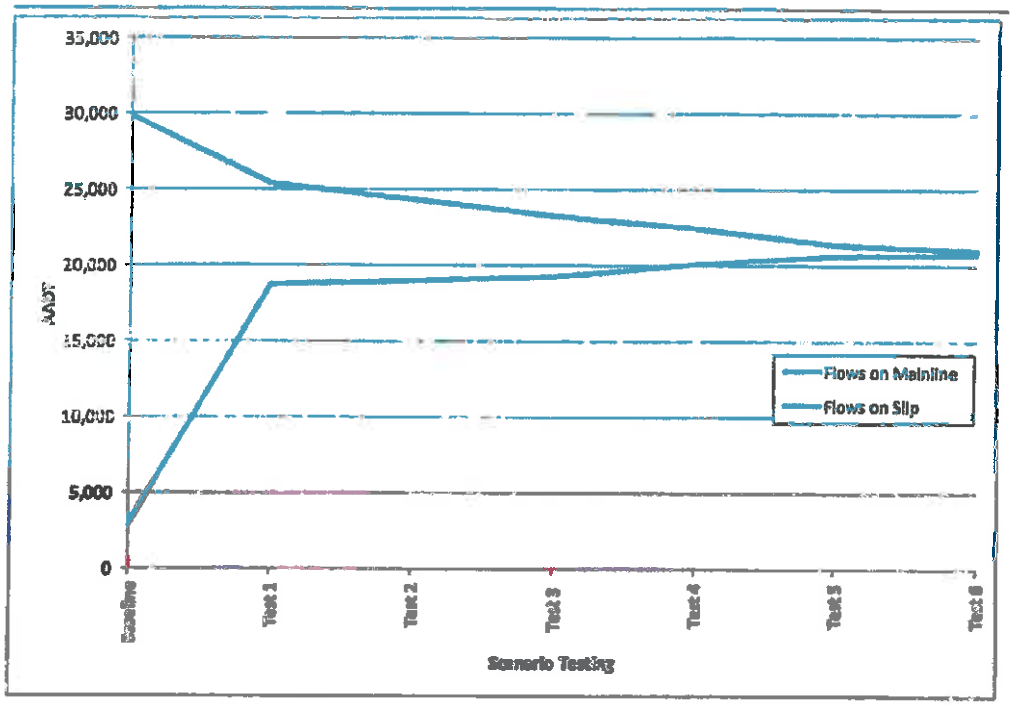

Figure 4.1: Mainline and Slip Flows by Scenario Test

The modelling of the slip toll removal indicates that increased levels of traffic to and from Drogheda Town Centre will begin to use the Donore Junction to gain access to the M1, with the slip tolls removed. The scale of this impact will be substantial with the 2-way AADT on the Junction 9 Slip Roads increasing from 3,000 to almost 19,000. There will be a corresponding increase in traffic on the Donore Road. This is greater than would be expected, and it is therefore clear that the scale of this increase is due to other factors.

Examining the detailed outputs from the traffic models, it is evident that the complete removal of the tolls from the M1 Donore Junction slip roads results in the creation of a toll avoidance route through Julianstown and the southern environs of Drogheda.

As such there is a significant increase in diversions from the M1 on to the south of Drogheda Town, with an additional 4,000 vehicles AADT forecast on this route. This modelled toll avoidance movement increases in response to further increases in the mainline toll. The toll avoidance route is shown in Figure 4.2.

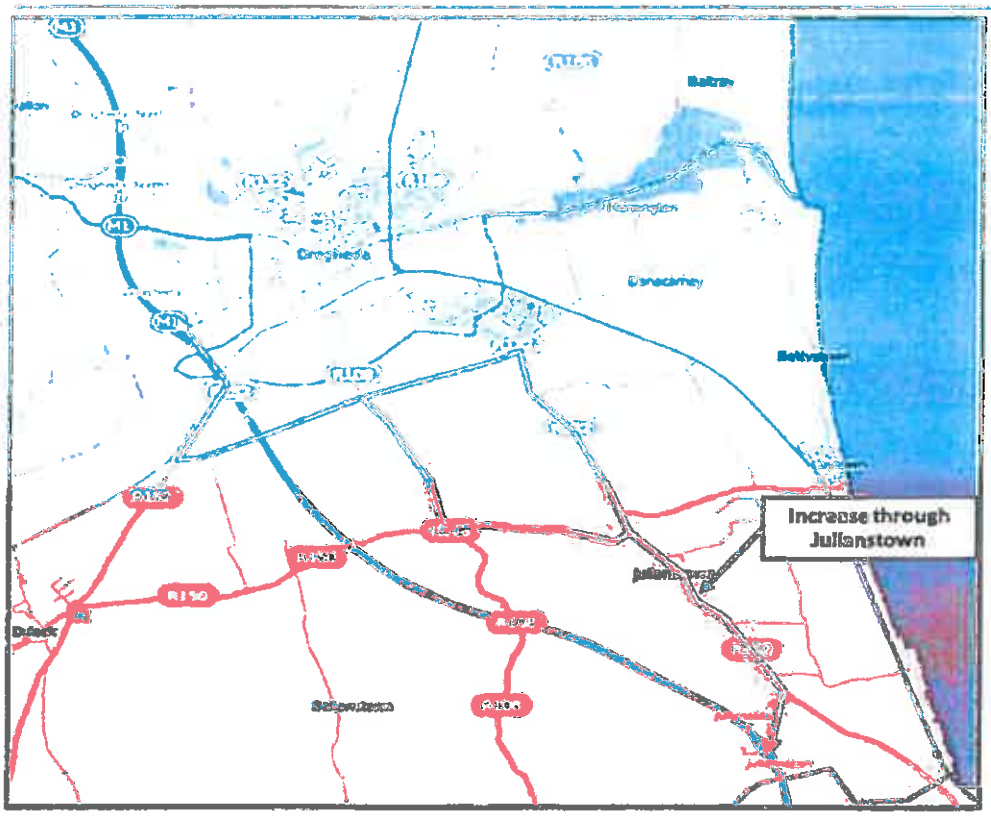

Figure 4.2: New toll avoidance route

At a more strategic level, the analysis also suggests that the removal of the tolls leads to impacts on the N2 corridor. Some traffic which traditionally utilised the N2 to travel northbound towards Slane and Ardee to gain access to the M1, will instead be expected to route via the R152 joining the M1 at Junction 9 (Donore). The modelling forecasts an additional 3,100 vehicles AADT on the R152 as a result of this transfer. The relevant routes are highlighted in Figure 4.3 below.

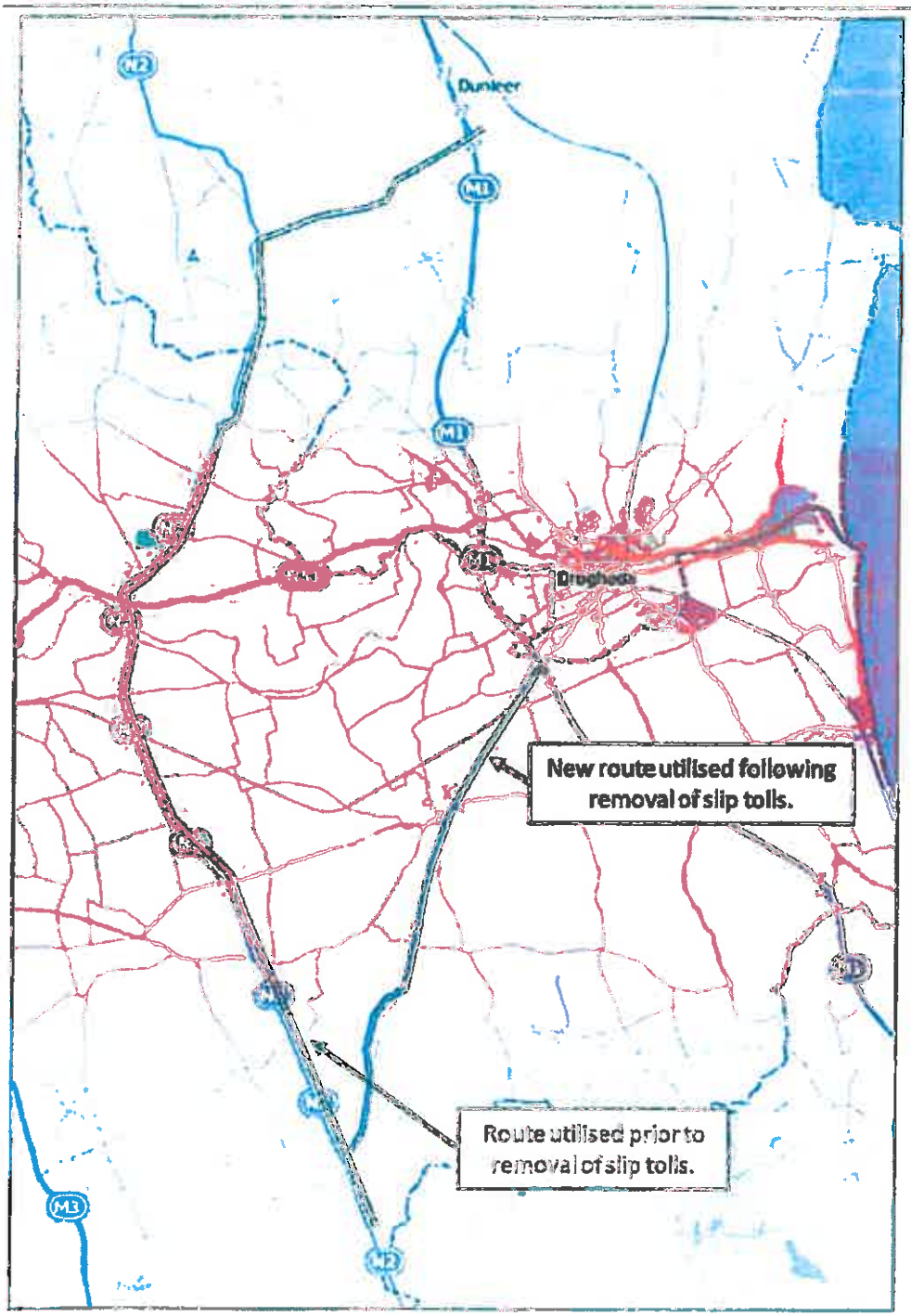

Figure 4.3: M1 – N2 Interaction

5 Revenue Impacts

The overall revenue impacts of the test plan are presented in Table 5.1.

Table 5.1: Revenue Impacts

Scenario	Annual Revenue (€)
Base Model	28,776,412
Test 1	22,328,270
Test 2	23,648,512
Test 3	24,710,494
Test 4	25,890,428
Test 5	26,614,487
Test 6	27,745,973

The removal of the tolls from the M1 slip roads at the Donore Junction will result in a decrease in the overall toll revenue by approximately €6.4 million per annum. This is due to the strong revenue leakage from the mainline toll due to increased toll avoidance.

More significantly, the analysis indicates that with each mainline toll increase, the revenue does recover, although not sufficiently. The analysis demonstrates that further toll increases on the mainline will increase traffic volumes using the toll avoidance routes outlined earlier.

Even an increase of 50% of the existing tolls on the M1 mainline does not result in revenue levels recovering to existing levels, with a forecast shortfall of approximately €1 million per annum. Furthermore, increasing the toll charges by this magnitude would present a significant challenge.

The impact of the complete removal of the slip tolls and simultaneous mainline toll increase upon the revenue yields of the M1 is shown graphically in Figure 5.1 overleaf.

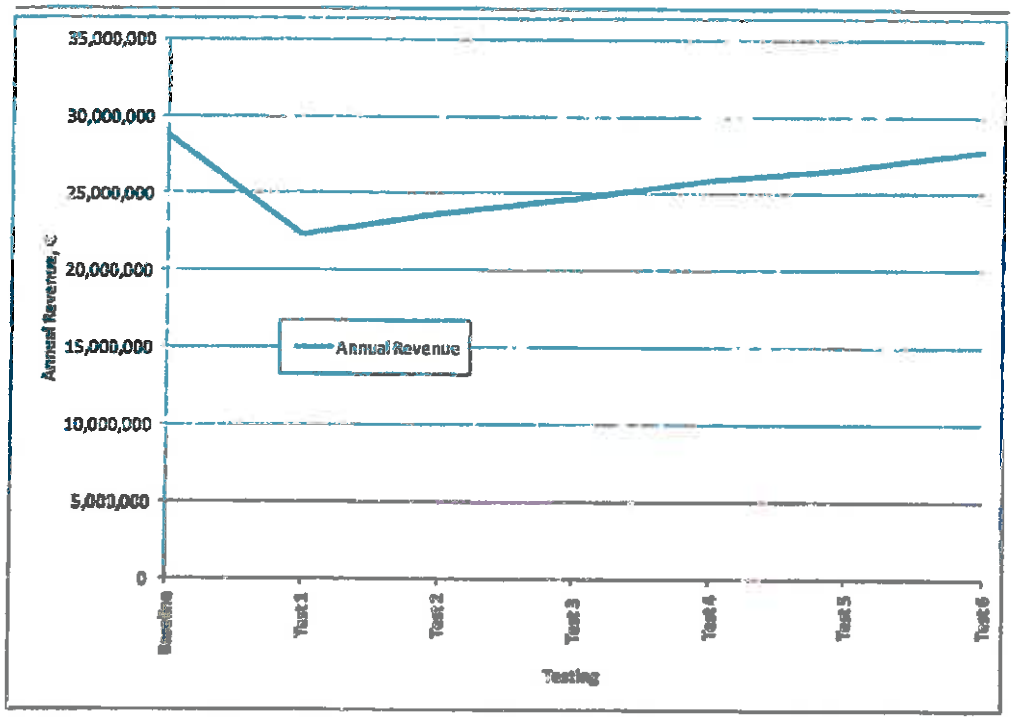

Figure 5.1: Annual Revenue of M1 Toll by Scenario Test

6 Conclusions

A traffic model was developed in order to assess the impact of the removal of the M1 Donore Junction slip road tolls, on both traffic congestion in the Drogheda / Julianstown area and overall toll revenues on the M1. The analysis undertaken has yielded the following results:

- Observed toll avoidance along the M1 PPP scheme is currently relatively low.
- The removal of the slip tolls at the Donore Junction will result in the emergence of toll avoidance routes along the R132 (Julianstown) and the R152 (Duleek), which re-join the M1 at Junction 9. This results in a reduction in the AADT on the M1 mainline of approximately 4,500 vehicles.
- Annual toll revenue is forecast to reduce by approximately €6.4 million with the removal of the slip tolls. Due to increased toll avoidance occurring with associated increases in mainline tolls on the M1, it will be difficult to recover the overall toll revenues on the M1 by increasing mainline toll charges

The traffic models have been used to test reductions in the slip road tolls at Junction 9 (as opposed to full removal). The tests show that the tolls can be reduced without significant revenue impacts.

Annex 3 – AECOM Technical Note – Julianstown Assessment (March 2015)

Technical Note

AECOM

Project:	NRA Traffic Management & Planning	Job No:	Task 13.4
Subject:	Julianstown Assessment		
Prepared by:	Dan Brennan	Date:	4th March 2015
Checked by:	Philip Shiels	Date:	4th March 2015
Approved by:	Shane Dunny	Date:	4th March 2015

1. Overview

Meath County Council requested that the NRA examine the impact of a proposed east-west distributor road, to the south of Drogheda, on traffic volumes in Julianstown using existing modelling tools. The potential distributor road is included in the land use zoning objectives map of the Meath County Development Plan. In addition, a number of notional road upgrades were also proposed for the testing of alternative options to relieve traffic through Julianstown

This note summarises the traffic modelling assessment of the proposed transport measures within the vicinity of Julianstown, Co. Meath and the M1 National Route.

2. Existing Conditions

Julianstown is situated on the R132 to the south of Drogheda and approximately 4km north of Junction 7 on the M1. The M1 Dublin to Belfast route is tolled within the vicinity of Drogheda with a mainline toll located between Junction 7 and Junction 8 and tolls on the north facing slip roads of Junction 9.

There is currently a high level of traffic demand through Julianstown, with an AADT just below 19,000 vehicles on the R132. This is due to its location as an access route to Laytown and Bettystown and also as an access route to Drogheda. Previous studies by the NRA indicate that there is a low level of toll avoidance on the M1[1]. Traffic survey data indicated that approximately 3% of trips between the M1 south of Junction 7 and the M1 north of Junction 11 used the R132 to avoid tolls on the M1.

The R132 is a standard single carriageway road through Julianstown, with a speed limit of 50 kph through the village. The above is summarised on a location map presented in Figure 2.1.

[1] National Roads Traffic Management Strategy Technical Note: M1 Drogheda Slip Tolls, May 2012.

Figure 2.1: Existing traffic flows taken from 2014 NRA counter data

3. Analysis Tools

A local traffic model was developed by the NRA in 2012 to examine the impact of tolling options on the M1 on Drogheda and its environs. It was proposed that this model be used for the Julianstown assessment.

The model is a 2011 AM peak (08:00-09:00) VISUM traffic model of the study area shown in Figure 3.1.

Figure 3.1: M1 Drogheda Tolling Study – modelled area

An initial comparison of current traffic flows at key NRA count sites, from November 2014, in the local area with modelled flows was undertaken and is presented in Table 3.1.

Table 3.1: Comparison of November 2013 Traffic Counts with 2011 VISUM model flows (08:00-09:00)

Location	Northbound Count	Northbound Modelled	Northbound GEH	Southbound Count	Southbound Modelled	Southbound GEH
R132 Julianstown	642	566	3.1	1,019	985	1.1
M1 between Jn7 and Jn8	781	679	3.8	1,265	1,353	2.4

Based on the above comparison, it was determined that the M1 Drogheda Tolling Study model was appropriate for use in the Julianstown assessment.

4. Options Considered

An initial test was undertaken on the impact of a distributor road to the south of Drogheda as included in the land use zoning objectives map of the Meath County Development Plan. This option is referred to as Option 1 and an indicative alignment is shown in Figure 4.1.

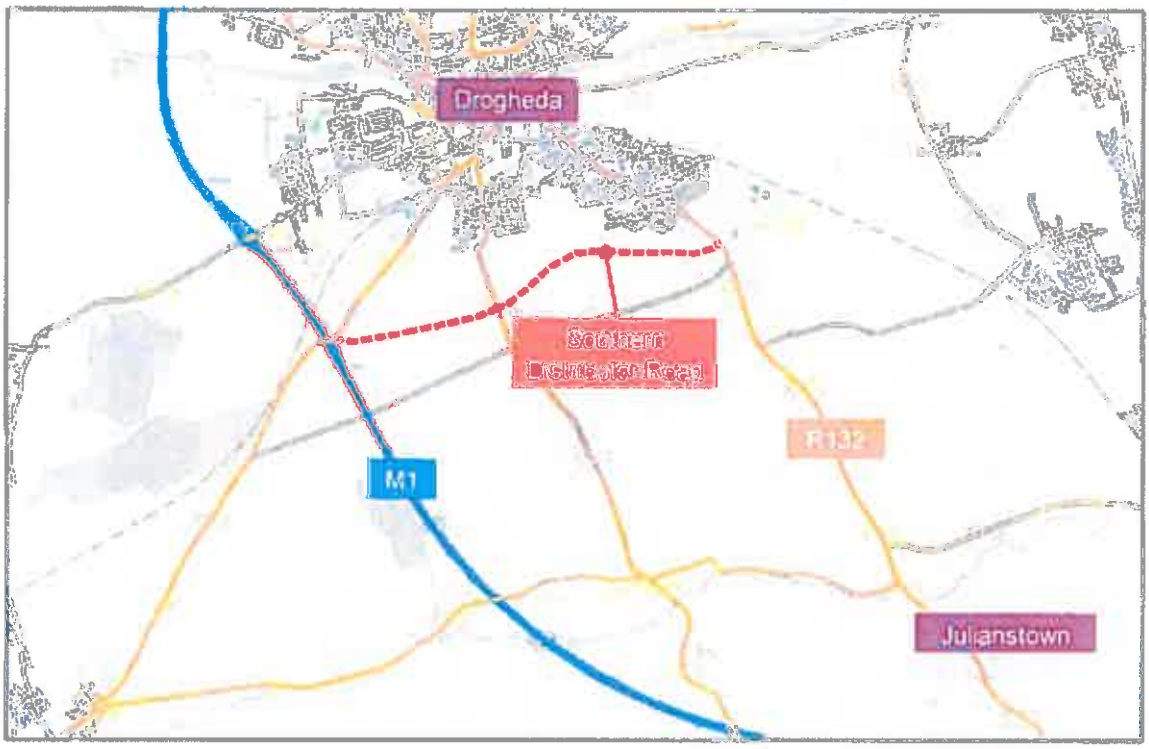

Figure 4.1: Option 1 - Indicative alignment of Drogheda Southern Distributor Road

Further tests were considered as follows:

- Option 2: A notional local bypass of Julianstown
- Option 3: A notional link from the R150 to a new 'half diamond' interchange on the M1

Indicative alignments of these options are presented in Figure 4.2 and 4.3. For all options, the new link roads were assumed to be standard single carriageway regional roads.

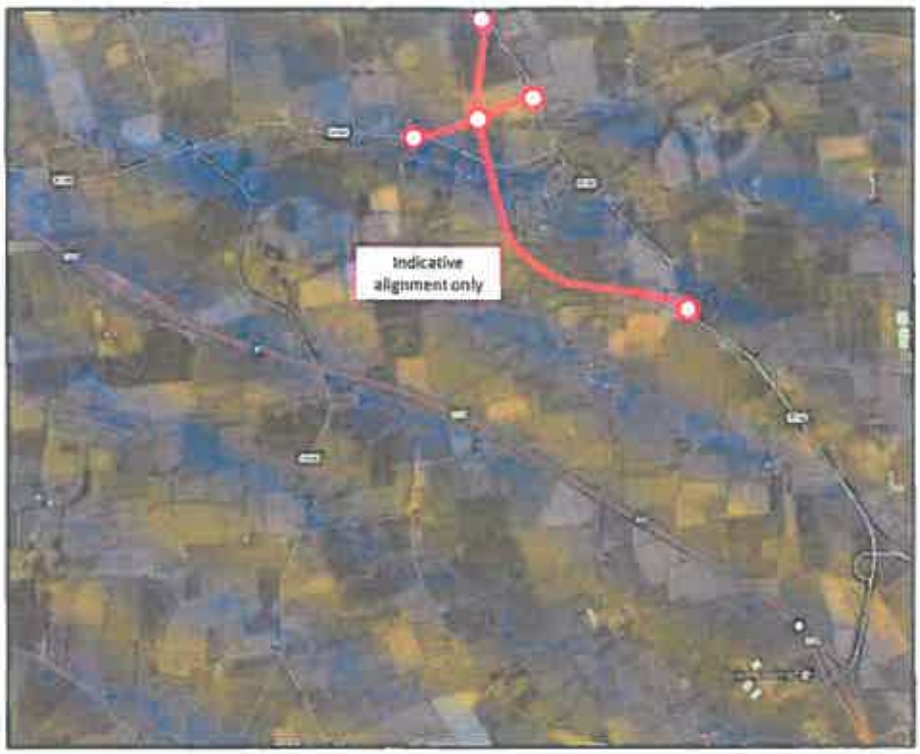

Figure 4.2: Option 2 – A notional local bypass of Julianstown

Figure 4.3: Option 3 – A notional link from the R150 to a new 'half diamond' interchange on the M1

5. Options Assessment

Traffic Impacts

In order to estimate the impacts of the proposals, all options were coded into base year 'Do Something' scenarios. Initially the impacts of each option on base year AM peak modelled traffic volumes on the R132 at Julianstown was assessed. The results of this assessment are presented in Table 4.1.

Table 4.1: Modelled AM peak traffic impacts in Julianstown

Location	Base	Option 1	Option 2	Option 3
R132 Julianstown	1,551	1,525	284	1,170
% difference	-	*-2%*	*-82%*	*-25%*

The proposed Drogheda SDR (Option 1) has minimal impacts on traffic volumes through Julianstown. This route is forecast have more local impacts on adjacent routes such as the R152 and R108, under existing traffic conditions. The impacts are demonstrated by means of a difference plot of the VISUM model scenarios presented in Figure 3.1 where increases in traffic are shown in green and decreases in traffic in red.

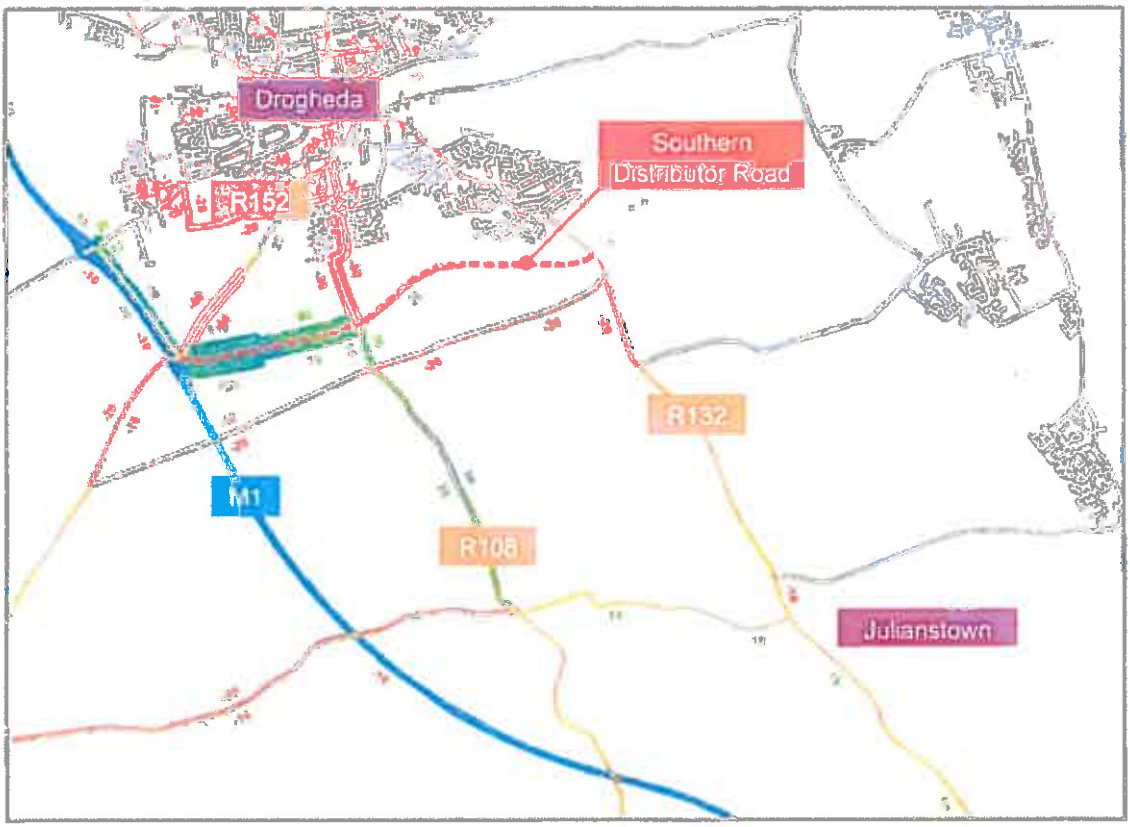

Figure 3.1: AM peak difference plot of Option 1 scenario less Base scenario

The option with the most significant reductions in modelled traffic flows is the local bypass (Option 2) which removes the majority of traffic from the existing R132 through Julianstown. The impacts are demonstrated by means of a difference plot presented in Figure 3.2.

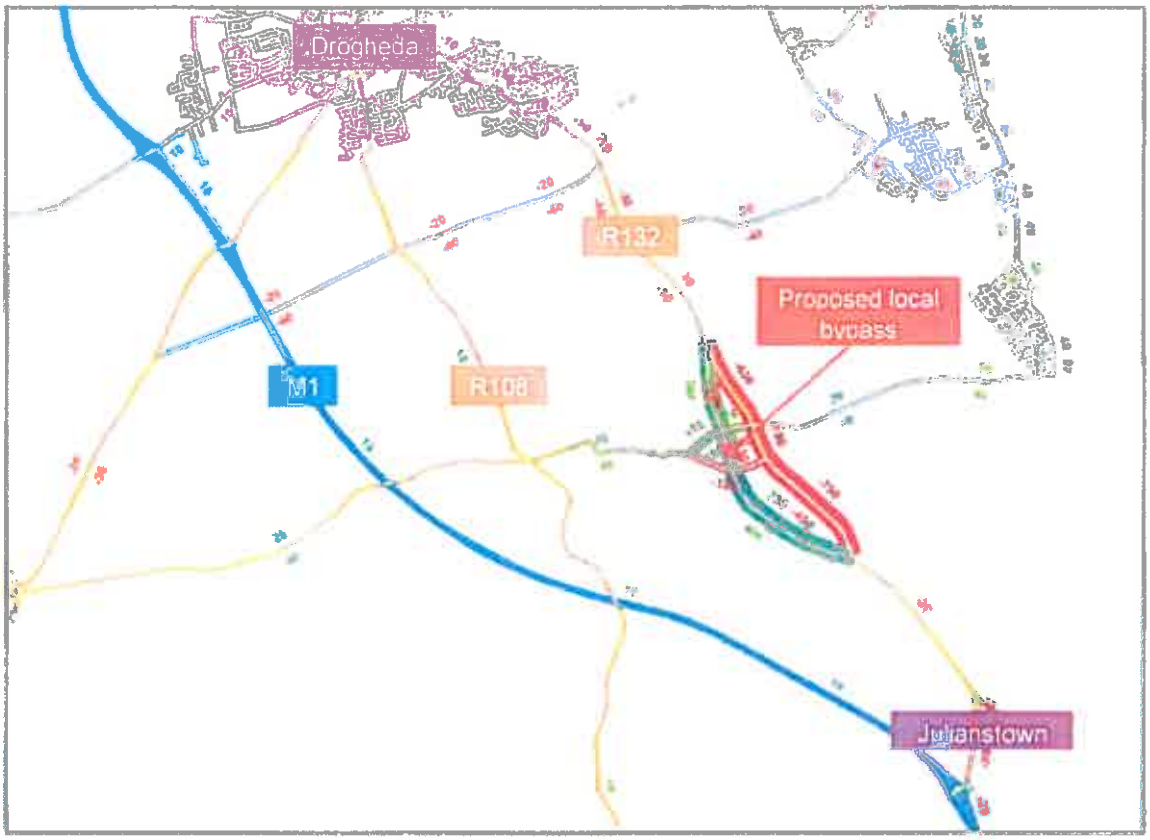

Figure 3.2: AM peak difference plot of Option 2 scenario less Base scenario

Option 3, which involves a new connection to the M1, is forecast to provide some relief to Julianstown, but not to the same extent as Option 2. Further detailed of the impacts of Option 3 are discussed below.

Toll Revenue Impacts

It was also necessary to estimate the impact of the potential options on annual toll revenue on the M1. Factors from AM peak to AADT traffic flow were derived from regression analysis of nearby NRA counter data as per the methodology outlined in NRA PAG Unit 16 'Data Analysis Techniques'. The modelled estimates of annual revenue at the M1 tolls are presented in Table 4.1.

Table 4.2: Modelled revenue impacts at M1 toll plazas (mainline & Jn slip tolls combined)

Location	Base	Option 1	Option 2	Option 3
AM Peak Traffic Flow	2,330	2,333	2,337	2,211
AADT	72,066	72,145	72,315	68,341
Annual Revenue Estimate	€26.3m	€26.3m	€26.4m	€24.9m
% difference	-	*+0.1%*	*+0.3%*	*-5.2%*

The model results indicate that the SDR (Option 1) and proposed local bypass of Julianstown (Option 2) will have negligible impacts on M1 toll revenue. The provision of a new interchange on the M1 and link road to Julianstown (Option 3) is forecast to reduce toll revenue by approximately 5%. This is due to the creation of a more attractive toll avoidance route between the M1 and south of Drogheda. This is demonstrated by the difference plot from the VISUM model presented in Figure 3.3.

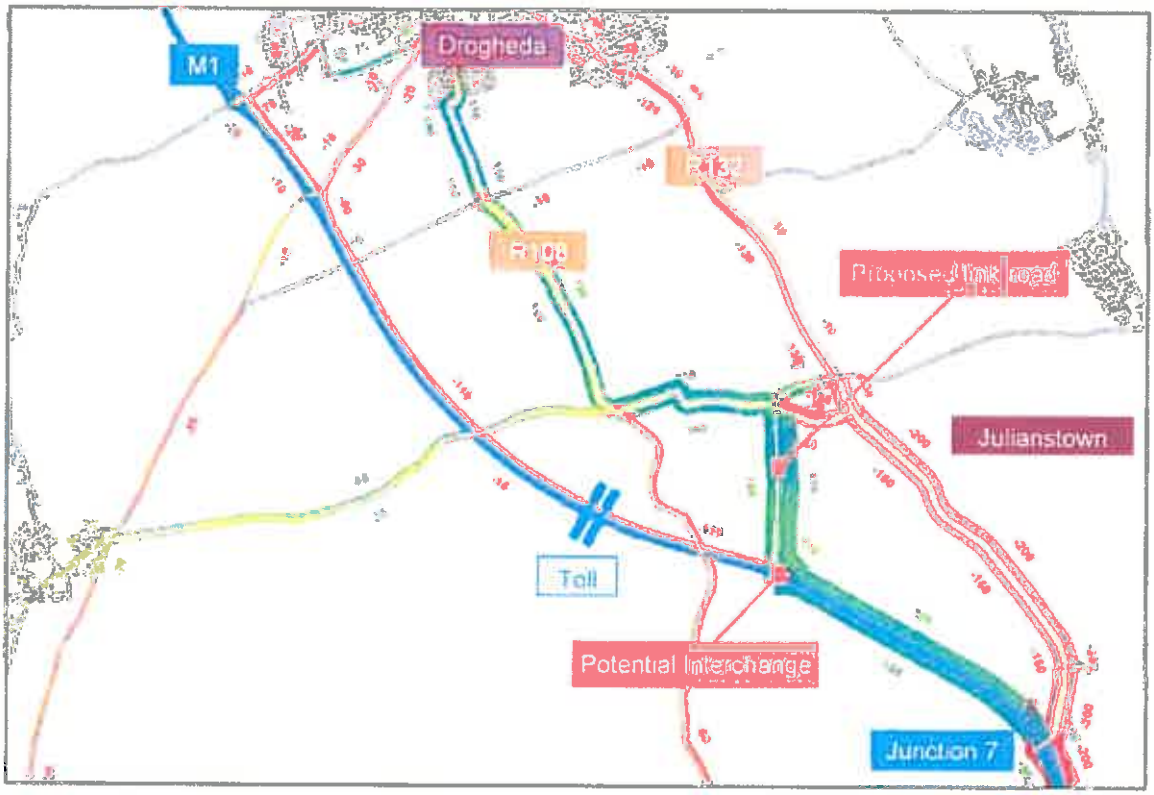

Figure 3.3: AM peak difference plot of Option 3 scenario less Base scenario

The difference plot above compares the Option 3 scenario against the Base scenario and shows increases in traffic in green and decreases in traffic in red. With a proposed new interchange to the north of Junction 7, a new access route to the M1 emerges between the proposed new interchange and link road, via the existing R108, and the south of Drogheda. This is forecast to result in a reduction in traffic through the mainline toll plaza on the M1 and hence a reduction in revenue.

Network Performance Impacts

A further check on the overall modelled performance of the road network was undertaken and is presented in Table 4.3.

Table 4.3: AM peak traffic model network statistics

Location	Base	Option 1	Option 2	Option 3
Total Travel Distance (km)	874,517	874,945	870,506	870,789
Total Travel Time (hours)	15,348	15,301	15,230	15,199

The statistics show that all options provide benefits in terms of travel time and distance savings, with Options 2 and 3 providing the most significant benefits.

6. Conclusion

Based on the model tests undertaken and an analysis of traffic impacts, toll revenue impacts and overall network performance, a local bypass of Julianstown (Option 2) emerges as a preferred solution in terms of reducing traffic volumes through the village of Julianstown and minimising impacts on the M1. A potential next step would be to undertake a design study to shortlist alignment options that are technically feasible.