

# Intelligent Transport Systems (ITS)

## Policy 2015 - 2025

David Laoide-Kemp, NRA

NRA Roads Conference, Westport

16<sup>th</sup> October 2014



# Outline of Presentation

- Background
- Overview of Existing ITS Deployments
- EU Policy Context
- NRA Objectives
- Proposed Deployments 2015 - 2025

# Intelligent Transport Systems

- Defined as ‘**the integration of information and communication technologies with transport infrastructure, vehicles and users**’
- ITS enables the Authority to more efficiently manage its network, in greater safety & with less impact on the environment
- Consistent with Roads Act Section 17.....’*to secure the provision of a safe & efficient network of national roads*’

# How and why do we use ITS?

- Monitor
- Control
- Information



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**NRA**  
An tUdarás um Bóithre Náisiúnta  
National Roads Authority

Traffic Traffic Information Traffic Cams Message Signs Travel Times Weather About

Live Traffic Add a Journey My Journeys

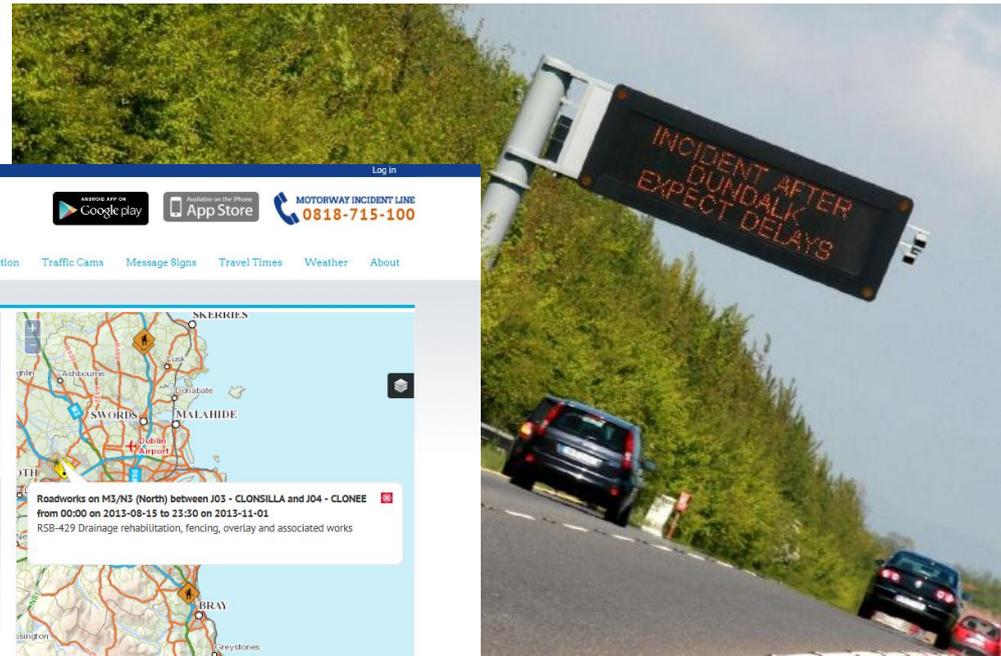
- Spillage on N25 (2013-10-08 09:27)
- Animals on Road on M9 (2013-10-08 09:43)
- Incident closed: Collision on M3/N3 J03 - CLONSILLA (East) [www.nrtraffic.ie](http://www.nrtraffic.ie)

Dublin Tunnel  
15.2°C 6.5 km/h

Tweets @NRATraffic

- Incident closed: Collision on M3/N3 J03 - CLONSILLA (East) <http://www.nrtraffic.ie> 29 MIN
- Animals on Road on M9 J05 - CARLOW (South) (2013-10-08 09:43) <http://www.nrtraffic.ie>

Roadworks on M3/N3 (North) between J03 - CLONSILLA and J04 - CLONEE from 00:00 on 2013-08-15 to 23:30 on 2013-11-01  
RSB-429 Drainage rehabilitation, fencing, overlay and associated works

A map of the Dublin region showing traffic incidents and roadworks. The map highlights areas around Clonsilla, Clonlee, and Carlow.



# Monitor



# CCTV Coverage

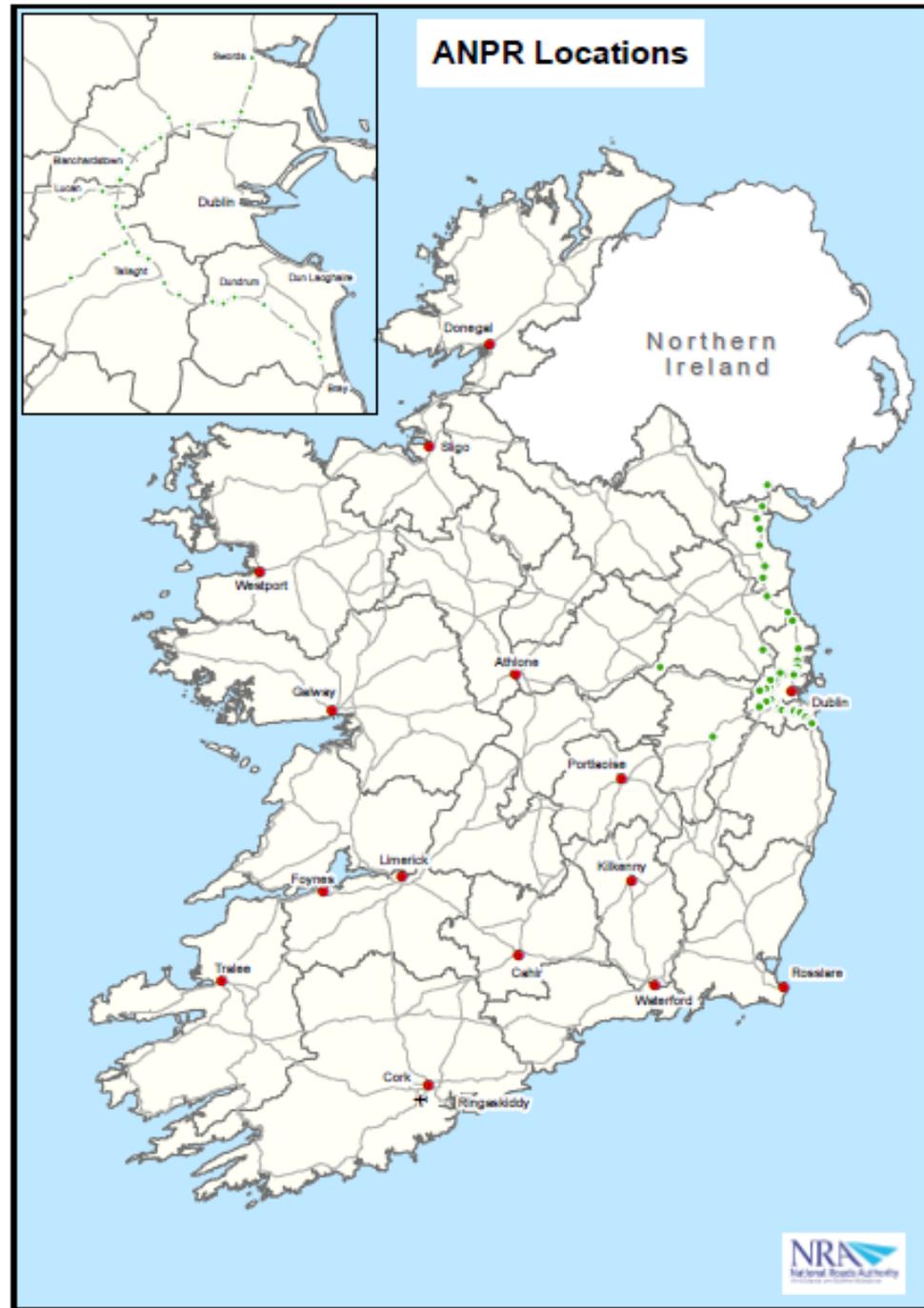
- 60+ Cameras – Access to additional 100+ from DCC/ SDCC
- Coverage in GDA



# ANPR – Automatic Number Plate Recognition



# ANPR Locations 126 Cameras



# ERT – Emergency Roadside Telephones

- Motorways - every 2kms
- Answered by MTCC
- Single ERT instation –
- ~1400 ERTs

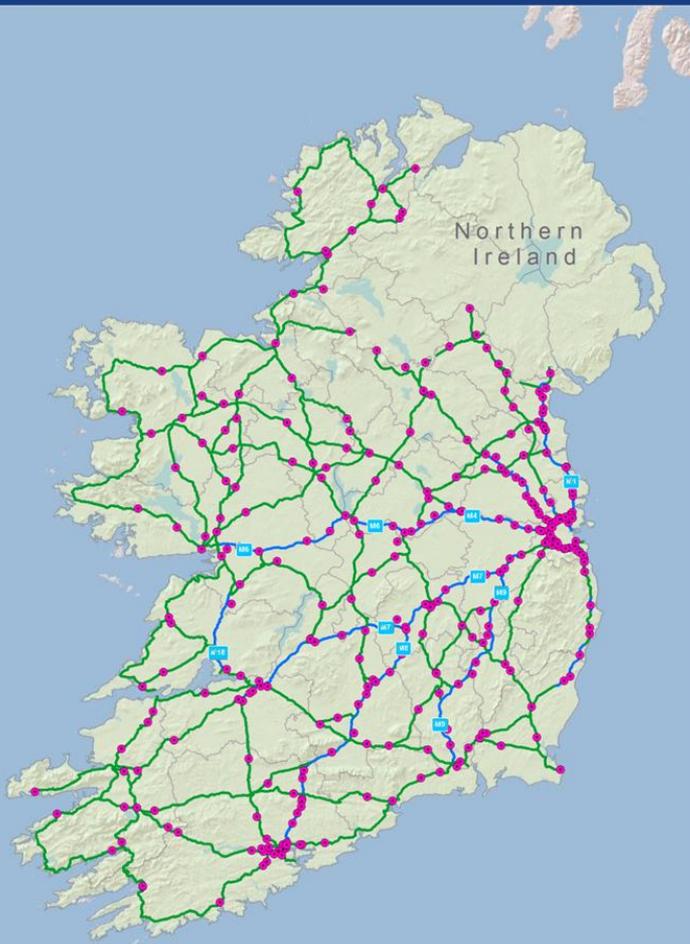


# Weather Stations – 83 Locations



# Traffic Monitoring Units

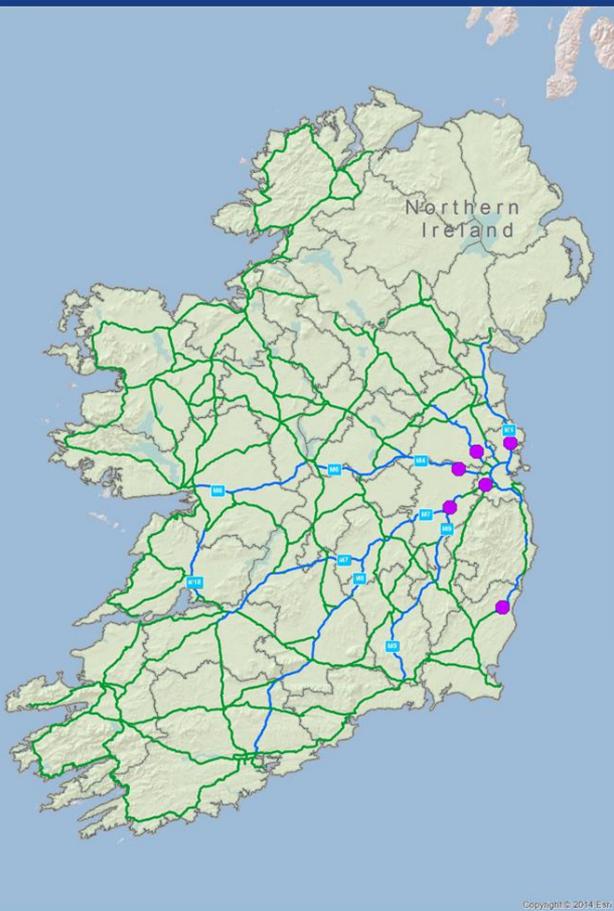
## 270+ Locations - 6 WiM optional Bluetooth Detectors



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# 6 Weigh in Motion (WIM) sites





Control

# MTCC – Motorway Traffic Control Centre

- Control of ITS equipment initially undertaken by DCC
- 2010/2011– transferred to Dublin Tunnel Building
- Short term expedient – but now beyond operational capacity



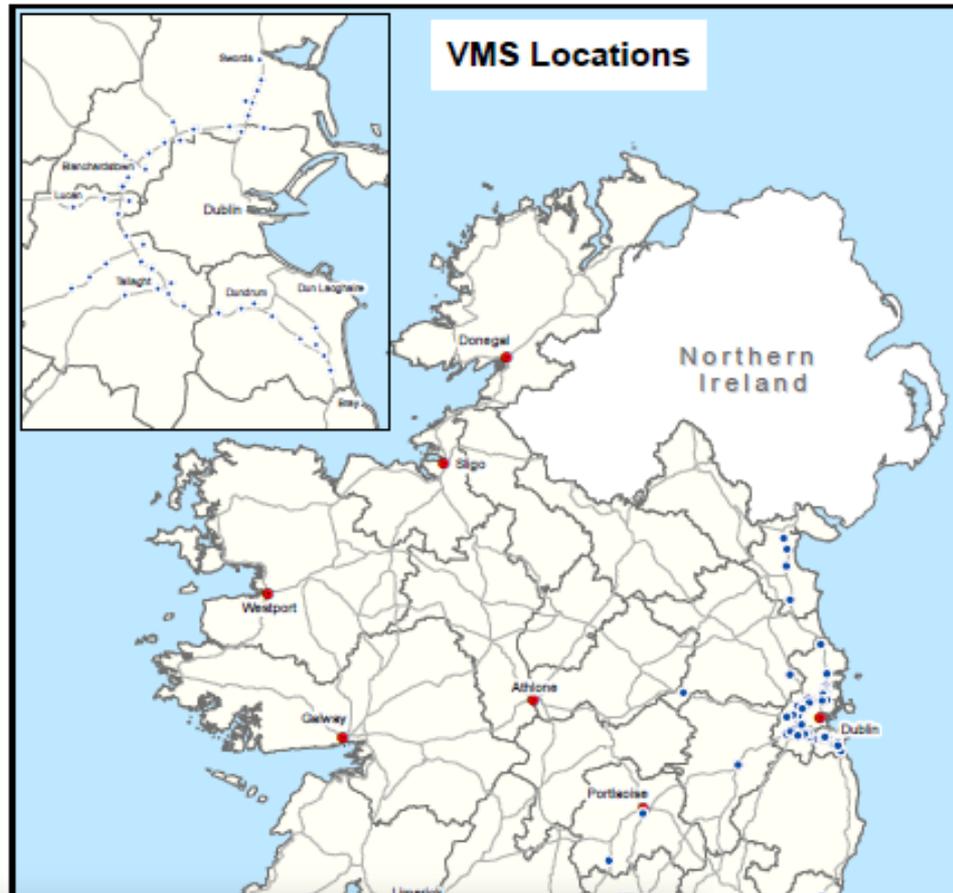
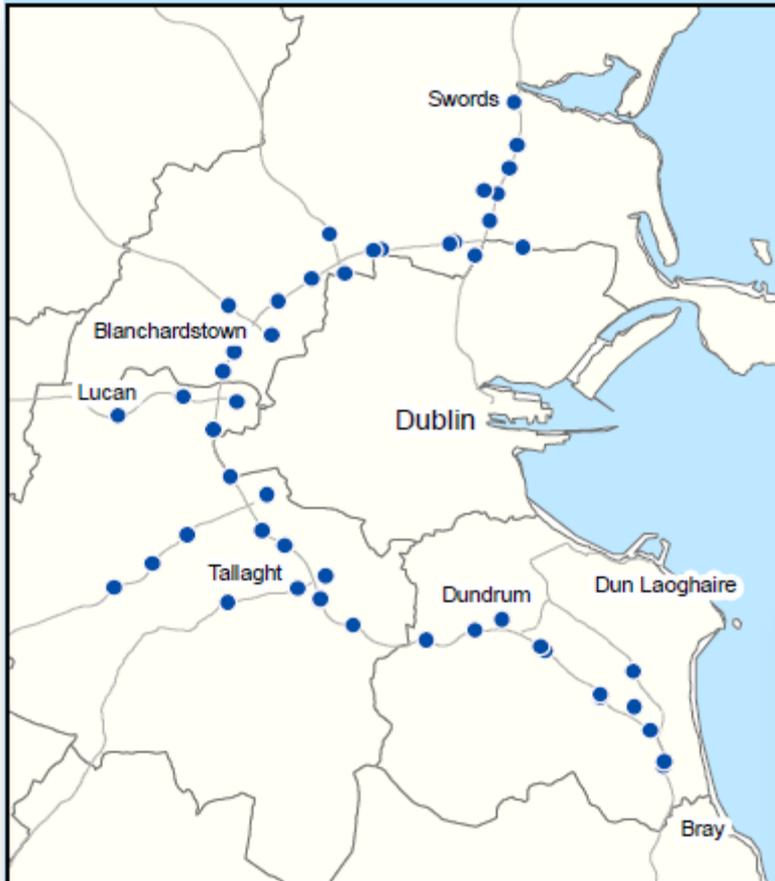
# Tolling & Tunnel Operations





**Information**

# VMS – Variable Message Signs 90+ Locations



# School Warning Signs



# Ghost Driver Signs



# Information

## www.nratraffic.ie

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Traffic

Traffic Information

Traffic Cams

Message Signs

Travel Times

Weather

About

Live Traffic

Add a Journey

My Journeys

⚠ Breakdown on M50 (11-Nov 14:00)

⚠ Debris on M11/N11 (11-Nov 14:47)

Dublin Tunnel

8.7 km/h



13.3°C

Tweets @NRATraffic

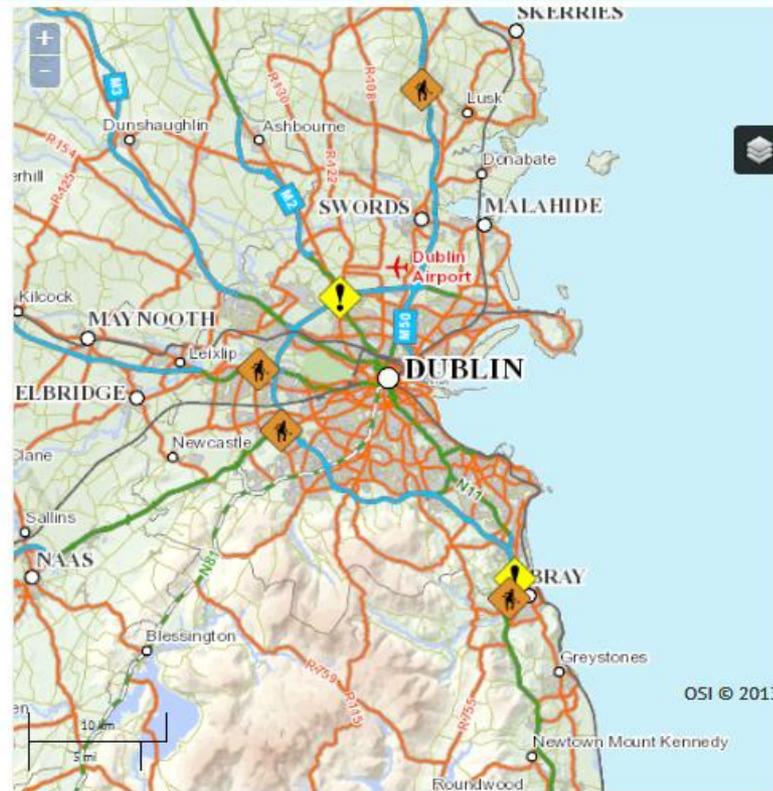
Debris on M11/N11 J05 - BRAY (North) Lanes affected: Lane 1 (11-Nov 14:47)  
<http://www.nratraffic.ie>

19 MIN

Breakdown on M50 J05 - FINGLAS (North) (11-Nov 14:00)  
<http://www.nratraffic.ie>

1 HR

Incident closed: Collision on M50 J09 - RED (South) Lanes affected: Hard Shoulder, Lane 1



OSI © 2013

# nratraffic - VMS

## Message Signs

Road names

Counties



### DUBLÍN CITY

M50(S) Before J9 N7

TRAVEL TIME MINS  
J12 FIRHOUSE 5  
M7 J11 (M9) 27

### DUŊ LAOGHAIRE-RATHDOWN

M50(N) Before J13 Dundrum

TRAVEL TIME MINS  
J7 (N4) 13  
J6 (N3) 15

M50(S) Before J13 Dundrum

TRAVEL TIME MINS  
J17 (M11) 7

M50(N) Before J15 Carrickmines

TRAVEL TIME MINS  
J9 (N7) 11  
M1 J2 AIRPORT 25

M50(S) Before J14 N31

TRAVEL TIME MINS  
J17 (M11) 6

M50(N) Before J16 Cherrywood

TRAVEL TIME MINS  
J17 (M11) 16

M50(S) Before J15 Carrickmines

TRAVEL TIME MINS

# nratraffic - weather information

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## Weather

National

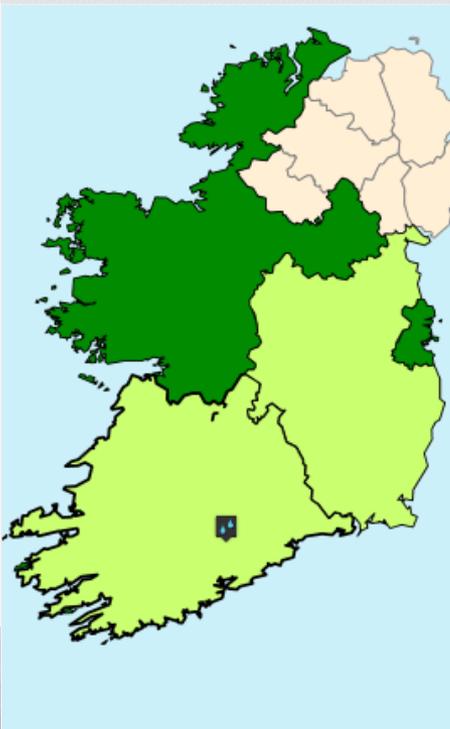
Greater Dublin

Leinster

**Munster**

Connaught / Ulster

Location	Precipitation	Road Temp.	Air Temp.	Wind Speed
N25 Dungarvan	-	13.8°C	12.8°C	6 km/h WNW
N22 Ballyvourney	-	11.3°C	11.2°C	3.4 km/h NNW
N21 Rathkeale Bypass	-	13°C	12.1°C	0 km/h NNE
N24 Clonmel Relief Rd	-	13.7°C	12°C	0 km/h NW
N24 Pallas Green	-	13.3°C	12.1°C	2 km/h W
N7 Nenagh	-	13.1°C	11.8°C	0 km/h SSW
N20 Charleville	-	13°C	11.6°C	0.5 km/h NW
N72 Fermoy	-	12.8°C	12°C	4 km/h WNW
M8 Corrin Interchange	-	12°C	12.1°C	3.4 km/h WNW
M8 Toll Plaza	-	n/a	12°C	n/a
M8 Mitchelstown NE	-	12.8°C	12°C	5.4 km/h W



# nratraffic - Travel Times

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Traffic

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## Travel Times

M50 SouthBound

M50 NorthBound

M1 SouthBound

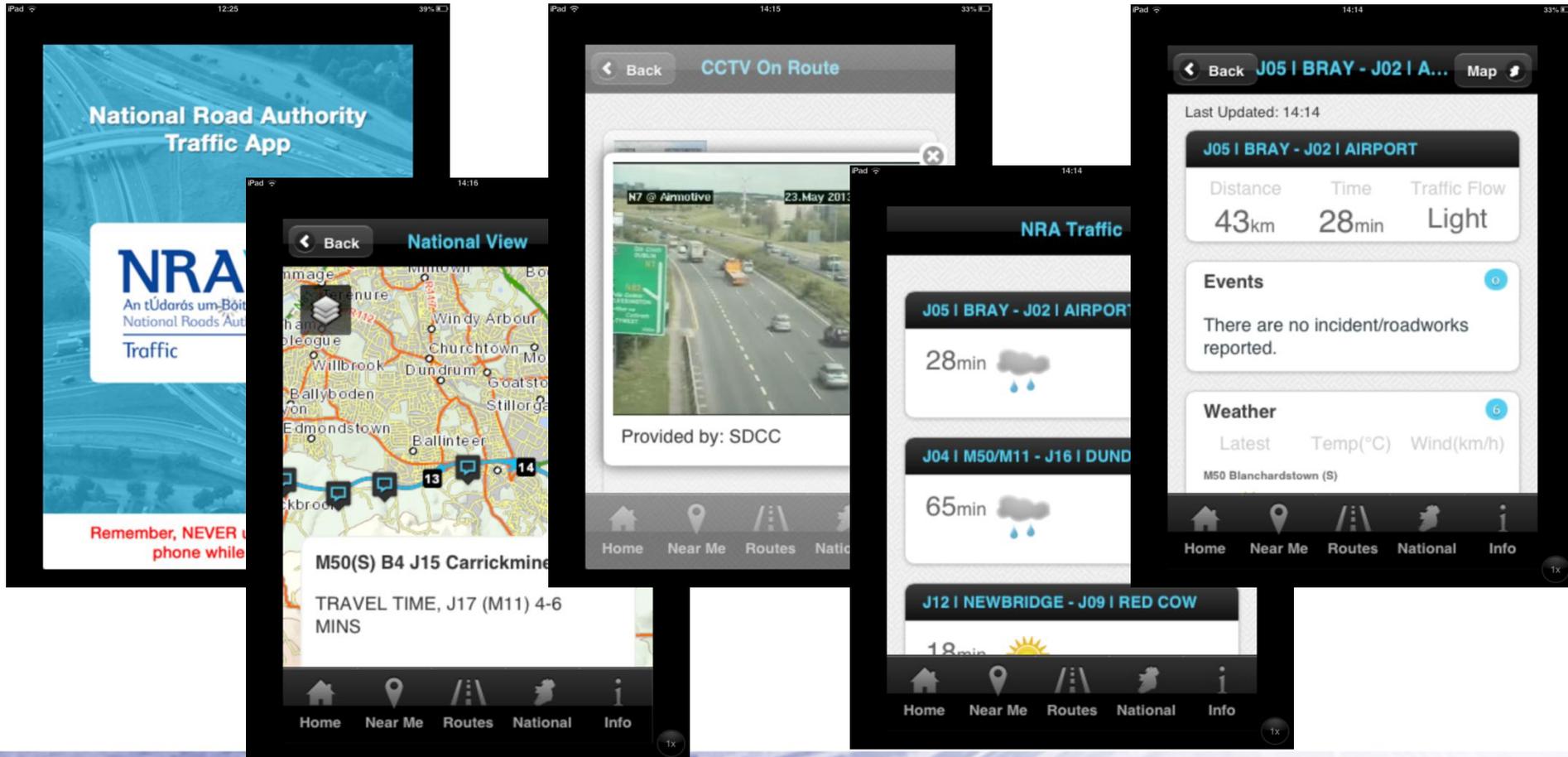
M1 NorthBound

### M50 SOUTHBOUND (M1 TO M11)

Status	From	To	Free-Flow Time	Current Time	Distance
Light	J3 (M1/N32)	J5 Finglas	4 min	5 min	5.59 km
Light	J5 Finglas	Blanchardstown	3 min	4 min	4.13 km
Light	Blanchardstown	J7 Palmerstown	3 min	3 min	3.39 km
Light	J7 Palmerstown	J9 Red Cow	3 min	3 min	4.65 km
Light	J9 Red Cow	J11 Balrathory	3 min	3 min	4.05 km
Light	J11 Balrathory	J12 Scholarstown	2 min	2 min	1.56 km
Light	J12 Scholarstown	J13 Ballinteer	4 min	4 min	5.90 km
Light	J13 Ballinteer	J14 Stillorgan	2 min	2 min	1.81 km
Light	J14 Stillorgan	J15 Ballyogan	3 min	3 min	3.43 km
Light	J15 Ballyogan	J16 Cherrywood	2 min	2 min	2.16 km
Light	J16 Cherrywood	J17 Shankill	2 min	2 min	1.64 km
Light	J3 (M1/N32)	J17 Shankill	24 min	27 min	38.31 km



# nratraffic App – iPhone/ Android



# Policy Context



# European Commission's Perspective

- Road transportation challenges cannot be met by traditional approach of building new infrastructure,
- ITS can deliver clear benefits in terms of transport efficiency, safety, security and sustainability
- To-date ITS delivery has been uncoordinated and fragmented
- Essential to avoid a patchwork of ITS applications
- Consequently a pan-European approach delivering seamless geographical continuity, interoperability and standardisation is essential

# ITS - European Policy Drivers

- EU White Paper on Transportation 2001
- EU ITS Action Plan 2008
- Directive 2010/40/EU
- EC White Paper 2011 – ‘Roadmap to a Single European Transport Area’
- TEN – T Regulation (EU) No 1315/2013

# ITS - European Policy Drivers

## ➤ **EC White Paper 2011**

*‘a fully functional and EU-wide multimodal TEN-T .....and a corresponding set of information services’*

## ➤ **TEN – T Regulation (EU) No 1315/2013**

*Article 17 - ‘Road transport infrastructure shall comprise, in particular..... telematic applications, including ITS’*

*Article 19 – ‘priority shall be given to the following: ....use of ITS, in particular multimodal information and traffic management systems*

## ➤ **ITS Action Plan 2008**

*‘enhancing the leading role of the European ITS industry in worldwide markets by fostering the supply of innovative products and services to vehicle manufacturers, transport operators, logistics providers and users’*

# ITS Action Plan & Directive Priority Areas and Actions

## Action Plan Priority Areas

Priority Area I  
Optimal use of road, traffic and travel data

Priority Area II  
Continuity of traffic and freight management ITS services

Priority Area III  
ITS Road Safety & Security Operations

Priority Area IV  
Linking the vehicle with the transport infrastructure

## Directive Priority Actions

- a) provision of EU wide multimodal travel information services
- b) provision of EU-wide real time travel information services
- c) provision of road safety related minimum universal traffic information

- d) harmonised provision for an interoperable EU wide eCall
- e) provision of information services for safe and secure parking spaces for trucks and commercial vehicles
- f) provision of reservation services for safe and secure parking spaces for trucks and commercial vehicles

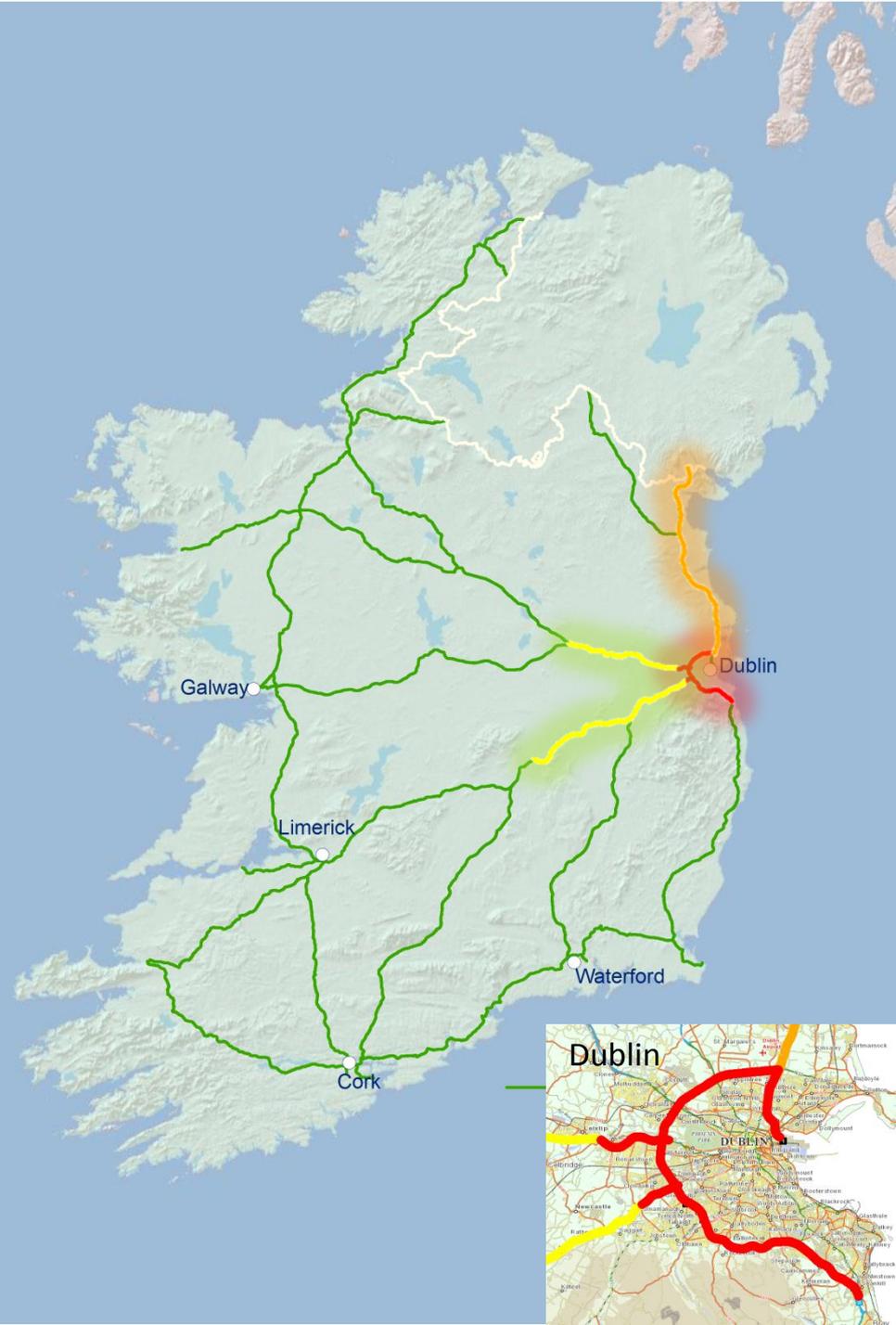
# TEN-T Road Network in Ireland



- Core ~ 466km
  - 2030 Completion
- Comprehensive ~1650km  
(Of which ~590km are motorway / dual carriageway)
  - 2050 Completion

# Existing ITS Deployments

-  Level 1 – M50
-  Level 2 – M1
-  Level 3 – M4 / M7



# Policy Objectives

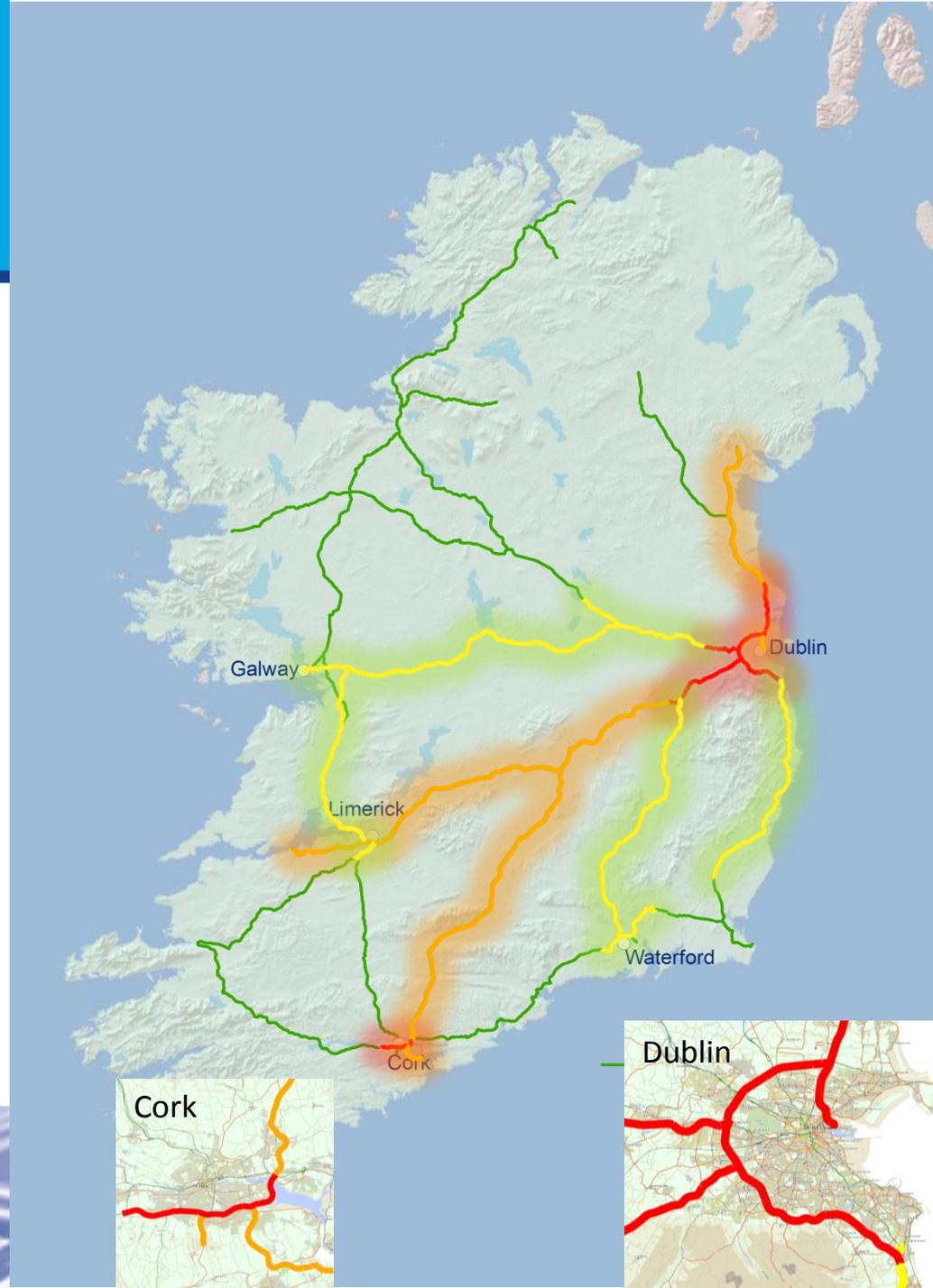
- Comply with EU Directive and Action Plan requirements
- Continue to work with DTTaS in respect of national ITS policy
- Recognise that most Irish TEN-T roads are relatively lightly trafficked – ITS deployment needs to be shaped accordingly
- Outsource, supply, operation and maintenance through competitive tendering
- Maintain flexibility in light of known budget and technology developments
- Utilise common EU standards and co-ordinate with other countries via CEDR

# Deployment Objectives

- Transfer MTCC operations to new location (Parkgate Street), and upgrade to satisfy future deployments
- Ensure deployment supports other NRA policies – such as Service Area Policy and information requirements for secure parking
- Benchmark our levels of deployment against other similar countries, consistent with our (lower) traffic levels
- Implement Demand Management Measures on the M50 (separate from further tolling measures)

# Proposed ITS Deployment 2015 - 2025

-  Level A – Core - M50, N40
-  Level B – Core M1, M7 & M8
-  Level C – Comprehensive



# Summary

## Proposed ITS Deployment 2015 - 2025

- I. Transfer MTCC operation to a new location (Parkgate Street)
- II. Deployment on N40 (Cork) to M50 levels
- III. Deployment on TEN-T Core network to current M1 levels
- IV. Deployment on TEN-T Comprehensive Network generally to current M1 levels but having regard to traffic volumes
- V. Demand management on M50, including ramp metering, variable speed limits, but not including tolling
- VI. Possible Deployment of multipoint tolling on the M50
- VII. Possible Demand Management on N40 Cork SRR

Thank You