

# NRA Motorway Maintenance and Renewal Contracts [MMaRC]

Liam Preston & Ray Simpson  
Colas Roadbridge JV



NRA Conference – 9<sup>th</sup> October 2013  
Session 1



# Agenda

- **Liam Preston [General Manager]**
  - Background
  - MMarC Networks
  - Network B
  - Depot Locations
  - Mobilisation
  - Interaction and Liaison with Relevant Authorities
- **Ray Simpson [Operations & Maintenance Manager]**
  - Core Services
  - Early delivery of Service
  - Routine Maintenance Management System [RMMS]
  - Winter Service
  - Incident Response
  - Road Space Booking

# Introduction – Colas Roadridge JV (CR JV)

Joint Venture between;

- Colas Ltd – UK MAC & ASC
- Colas Teoranta – Pavements, Binders, Markings
- Roadridge – Design & Construction

Employees

>1800  
>200  
>400

- Colas Teoranta and Colas Ltd are part of Colas organisation with 66,200 employees in 1,400 Colas companies in 50 countries
- Roadridge involved in number of motorway projects [>300km in Ireland]

Previous collaboration and innovation includes;

- Tanking Construction on the M7 Kildare Town Bypass
- Lined Filterdrain systems on a number of NRA motorway projects
- Successful tenderer for MMaRC Network B



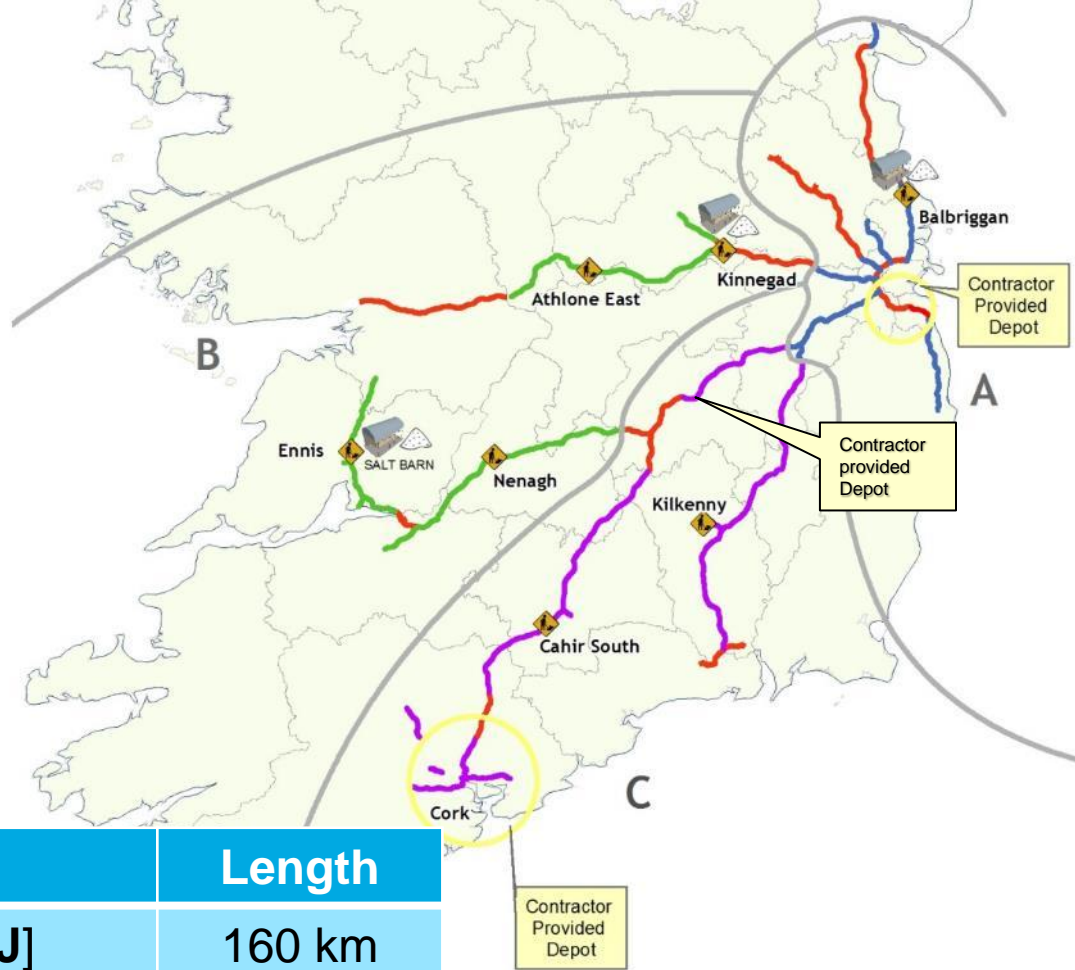
# MMaRC Overall Strategy

- First generation maintenance contracts
- Deliver consistent Level of Service
- Balance between scale and value
- 3 Network Areas
- Duration 5 +1 +1 years

Motorway / Dual carriageway network	Length
<b>Total Length of Dual &amp; motorway network</b>	<b>1,224 km</b>
- PPP	328 km
- MMaRC	744 km
- Local Authorities	152 km



# MMaRC Networks



MMaRC	Network Operator	Length
A	Globalvia Sacyr Jons [ <b>GSJ</b> ]	160 km
B	Colas Roadbridge JV [ <b>CR JV</b> ]	256 km
C	Egis Lagan Services [ <b>ELS</b> ]	328 km
	<b>Total</b>	<b>744 km</b>





# MMaRC Network B

- At >€4m/km, CR JV manage and operate >€1bn of asset
- >1,500 ha of managed public property
- >700 km verge length and 150 ha of grass cutting
- >1,250 km of Winter Route (>600km treated length)

Network B	Length
M7 J21 [Borris] -J30 [Rossbrien] and M20 J1 [Rossbrien] to N21 Adare	93 km
N18 J4 [Cratloemoyle] to M18 J16 [Gort] and N19 Shannon Link and N85 Ennis Link	62 km
M6 J2 [Kinnegad] to M6 J14 [Ballinasloe East] and 2.5km of M6 on approach to Galway City	86 km
M4 PPP interface west of Kinnegad to N4 at end of Mullingar Bypass	15 km



# MMaRC Network B - Depots

- NRA financed and constructed Depots at Nenagh, Ennis, Athlone and Kinnegad
- Strategic Salt Barns at Ennis (12,000t) and Kinnegad (17,000t)
- Operational Salt for CR JV at start of Winter is 9,000t
- CR JV are tenant at each of the Depots for the contract term
- CR JV Operational Base at Ennis Depot



# M18 Junction 13 Ennis Depot – Operational Base



NRA Strategic Salt Barn

CR JV Salt Barn with Lean-to structure

M18 Motorway Junction 13 Tulla Road

Fuel Tank location

Brine Tank location

Depot Office & car park

Depot Weighbridge

Electric Gates & Perimeter fencing



# MMaRC Network B - Depots



<< Nenagh Depot at M7 J26

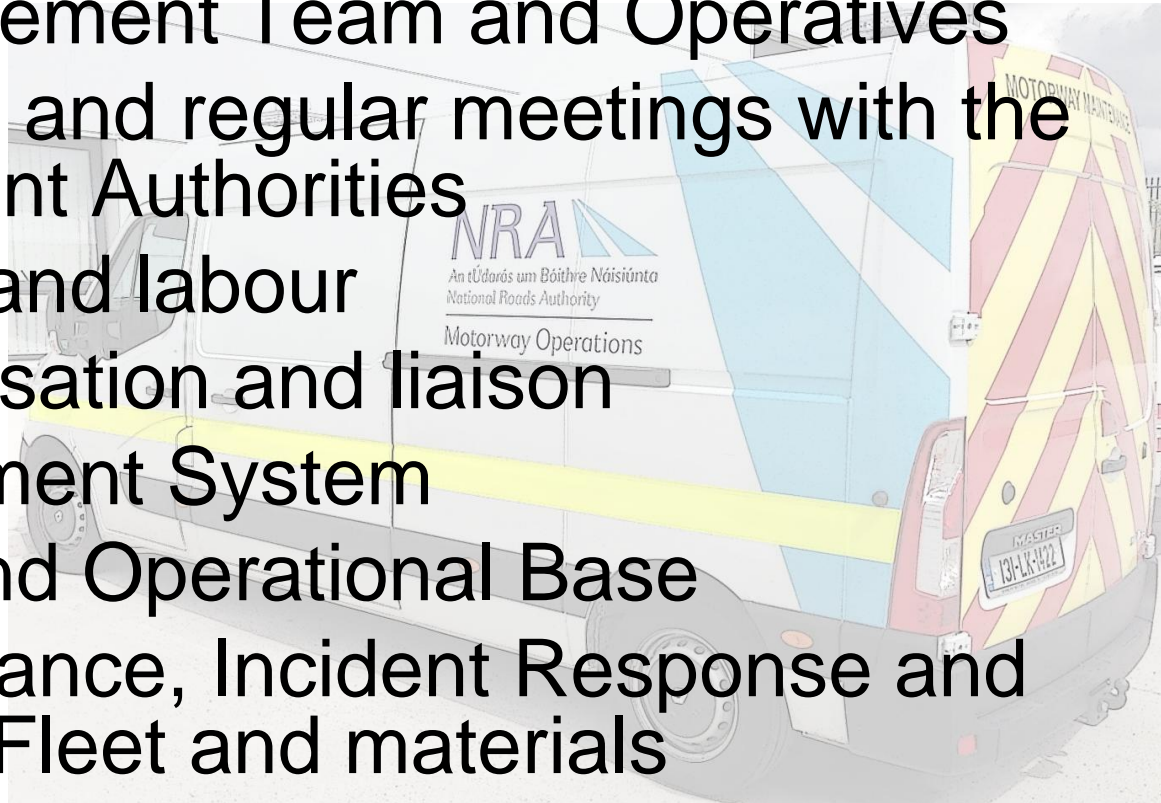
**Kinnegad Depot at M6  
J2 complete this month**



Athlone Depot at M6 J7 >>

# Mobilisation

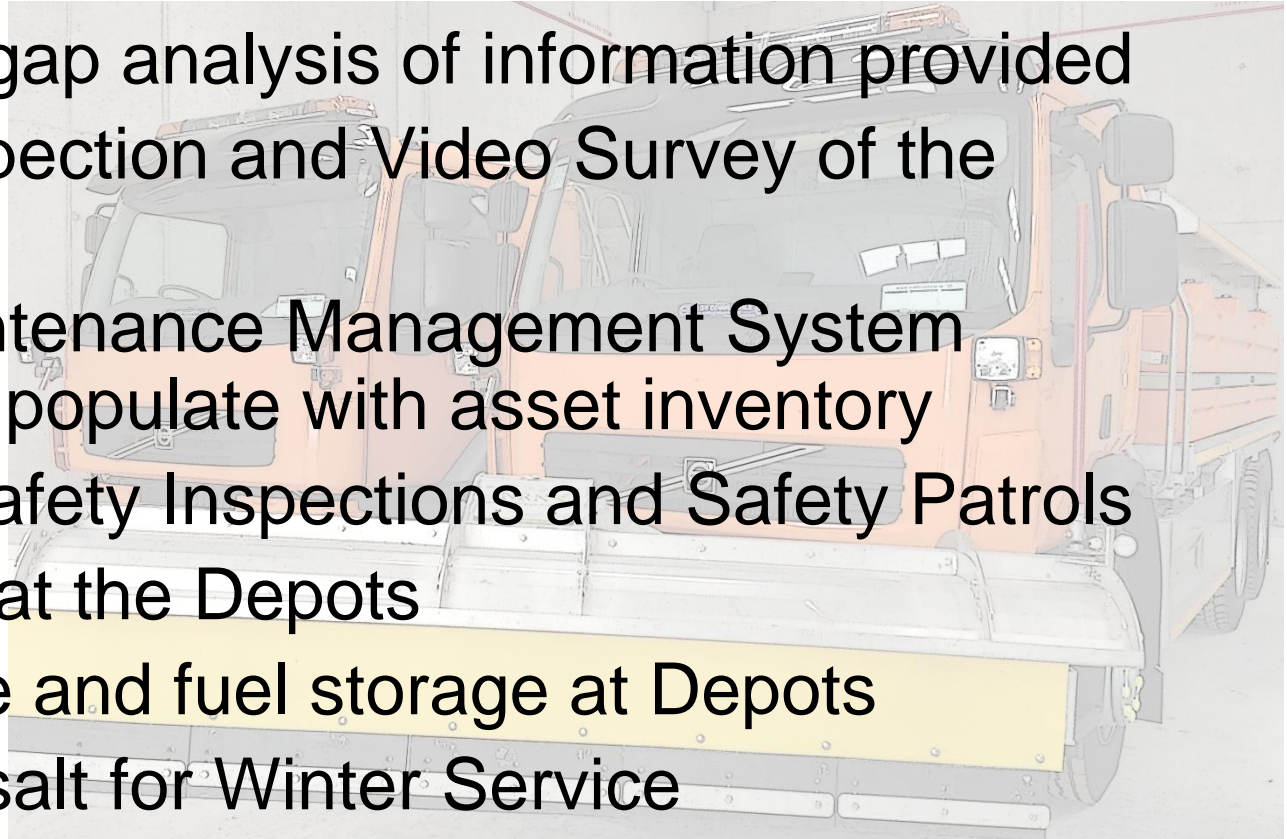
- Establish Management Team and Operatives
- Communications and regular meetings with the NRA and Relevant Authorities
- Training of staff and labour
- Network familiarisation and liaison
- Quality Management System
- Fit out Depots and Operational Base
- Procure Maintenance, Incident Response and Winter Service Fleet and materials



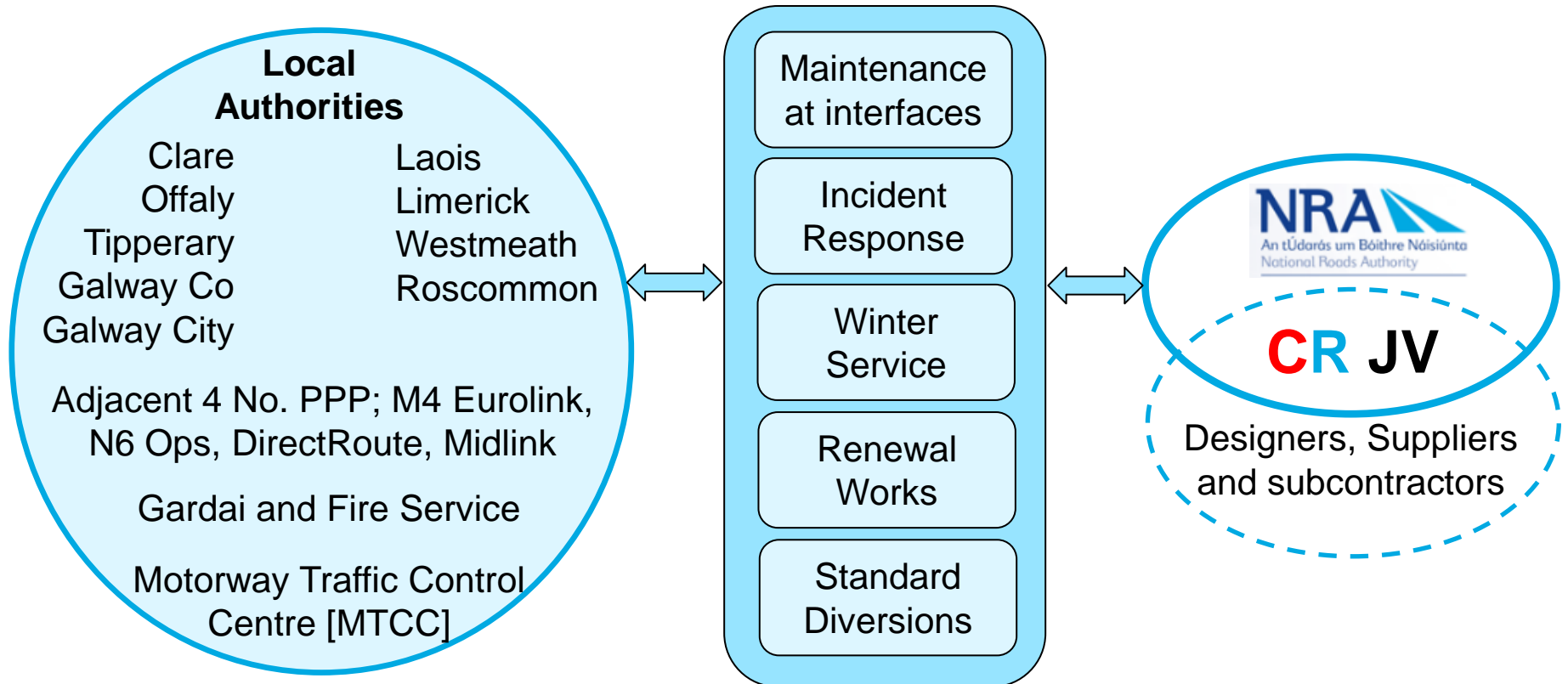


# Mobilisation (cont'd)

- Review and gap analysis of information provided
- Baseline Inspection and Video Survey of the Network
- Routine Maintenance Management System [RMMS] and populate with asset inventory
- Routes for Safety Inspections and Safety Patrols
- Winter Fleet at the Depots
- Brine storage and fuel storage at Depots
- Operational salt for Winter Service



# Interfaces and Liaison with Relevant Authorities

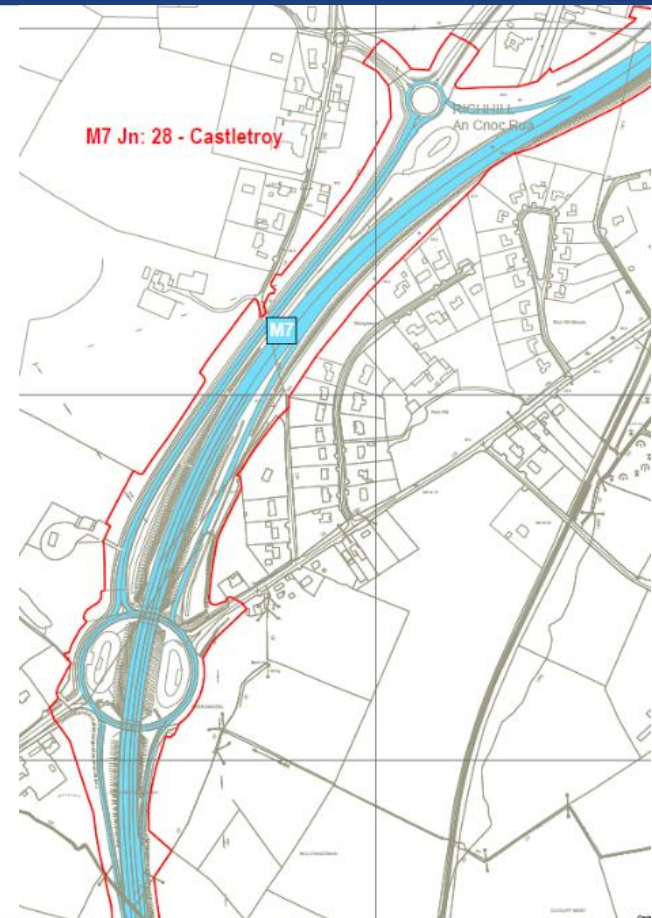
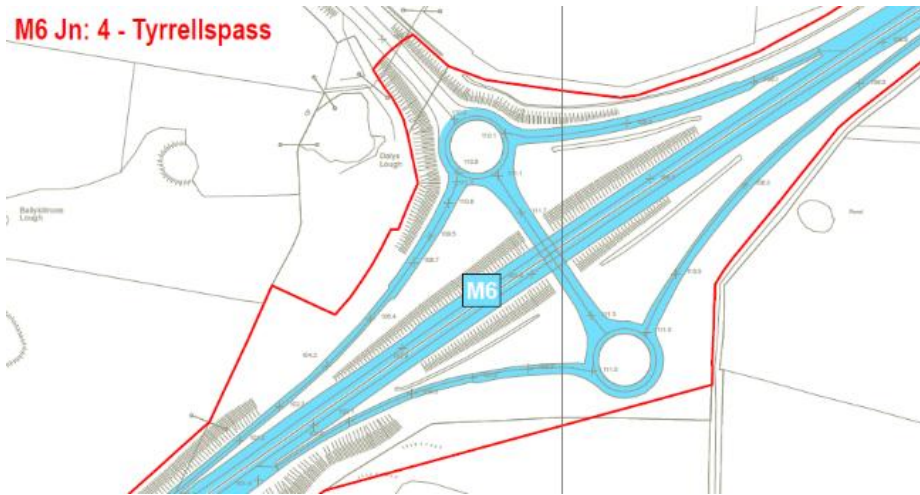




# Interfaces and Liaison

- Initial boundaries were defined in the Contract with;
  - Network boundaries (in red)
  - Minimum Winter Service Area
- Meetings with all Local Authorities to discuss initial boundaries and agree final boundaries

M6 Jn: 4 - Tyrrellspass

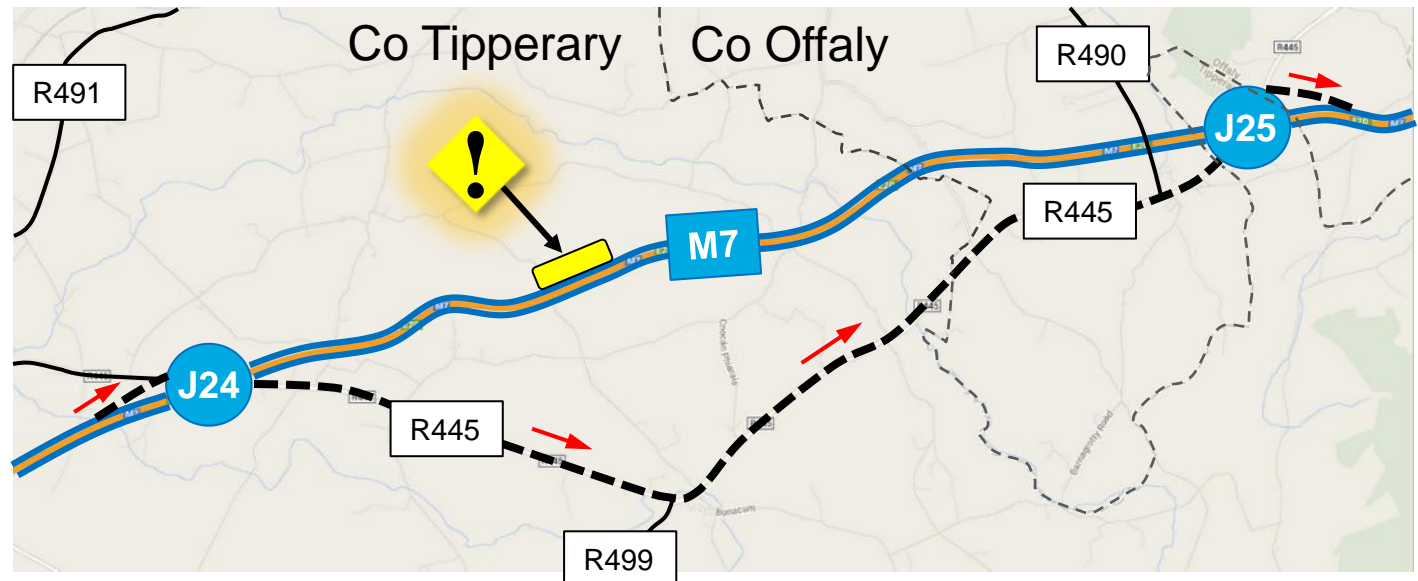


# Interfaces and Liaison

- Standard Diversions are being developed for implementation during Major Incidents or planned works
- Liaison with Local Authorities, Emergency Services and MTCC to agree Standard Diversion layouts

Example shown is proposed Standard Diversion schematic for an incident located in the EB carriageway between M7 J24 and J25.

Divert all EB traffic along R445 [old N7]



# Interfaces and Liaison

- In addition to agreement on Boundaries, Winter Routes and Standard Diversions, consultation continues on other relevant issues including;
  - Protocols for LA access - planned & emergency
  - Legacy issues with certain elements or locations on the Network
  - Communications and knowledge share
  - Third parties [public, contractors, developers etc]
  - Dealing with incidents or other queries

# Operations & Maintenance

**Ray Simpson**

Operations & Maintenance Manager





# Delivery of Mobilisation

- Management and Labour resource
- Fleet and supply chain
- Video survey and Baseline Inspections
- Routine Maintenance Management System [RMMS]
- Bringing grass, litter, vegetation, debris etc under control



# Core Services

- Routine Maintenance
- Incident Response
- Asset Repair
- Winter Service
- Works and Renewals



# Network knowledge / condition

- Baseline Inspections by Inspectors / Engineers and specialists on all aspects of the asset
- Typical examples of issues identified include;
  - Missing ironmongery, signs and other roadside furniture
  - Damaged road restraint systems
  - Overgrown vegetation
  - Clogged / vegetation within filterdrains
  - Road lighting faults
  - Graffiti and unauthorised signs
  - Uneven, rough or poorly finished verges
  - Non-native invasive species

# Routine Maintenance Management System [RMMS]

- Video Survey and as-built data used to generate Asset database for use within RMMS
- Use of Maestro RMMS – manages workflows and orders

The screenshot displays the Maestro Office interface. The main content area shows a list of Work Orders under the 'Work Orders' tab. Each entry includes a checkbox, a defect ID (e.g., 7343, 7344, 7318, 7345, 7346, 7347), creation and deadline dates, and details like 'Type' and 'Address'. A callout points to the 'Defect 7343' entry, stating 'The Work Order title'. Another callout points to the '1 defect selected' dialog box, which is open for defect 7344. This dialog box contains fields for 'Group name' and 'Deadline', and a 'Resources' section with a 'Gang' dropdown and input fields for 'Teams', 'Duration', and 'Offset'. A 'Scheduling' section lists various 'Work Gang' options with checkboxes. A callout points to the grey shading of the selected defect, stating 'The Grey shading gives a visual indication that the defects are already in a Work Order'. A third callout points to the dialog box, stating 'The Work Order creation dialog box'.





# Routine Maintenance Management System [RMMS]

- Build in programme of activities
- Allocate daily tasks
- Capture and record defects
- Track allocated work and completed activities
- Prioritise defects and prepare Works Orders
- Portable, use of tablet PCs

The screenshot shows the Maestro Office web application interface. At the top, there is a navigation menu with options like Home, Tasks, Defects, EIWOs, CRM, StatPack, Budget, Reports, Matrix, and Settings. Below the menu, there are tabs for 'All defects', 'Work Orders', 'Resource Schedule View', and 'Work Order Schedule View'. A 'Defect list' section includes buttons for 'Add new defect' and 'Print'. A filtering panel is visible with various dropdown menus for Priority, Created between, Defect type, Show only, Defect State, Notes, Exor ID, and Exor WO's ID. A table of defects is displayed with columns for Priority, R. N., Created, Exor ID, Exor WO's ID, and Address. A map thumbnail is shown on the right side of the table, with an arrow pointing to it from a text box. The text box contains the following text:

Move your mouse cursor to **HERE** to see **THIS**  
 Where GPS co-ordinates were captured by MaestroMobile client while generating the original Defect Report, the map thumbnail icon becomes available

Priority	R. N.	Created	Exor ID	Exor WO's ID	Address
P1	9294	03-10-2013 13:16			↕ N85 South of Ennis
P1	9293	03-10-2013 09:47			↕ Ramps, Links and Rabouts
P1	9292	03-10-2013 09:13			↕ Ramps, Links and Rabouts
P2	9291	02-10-2013 14:05			↕ Ramps, Links and Rabouts
P2	9290	02-10-2013 14:05			↕ Ramps, Links and Rabouts
P2	9289	02-10-2013 14:04			↕ Ramps, Links and Rabouts
P1	9288	02-10-2013 14:02			↕ Ramps, Links and Rabouts
P1	9287	02-10-2013 14:01			↕ Ramps, Links and Rabouts
P2	9286				
P1	9285				
P2	9284				
P2	9283				
P1	9282				
P1	9281				
P1	9280				
P1	9279				



# Winter Service

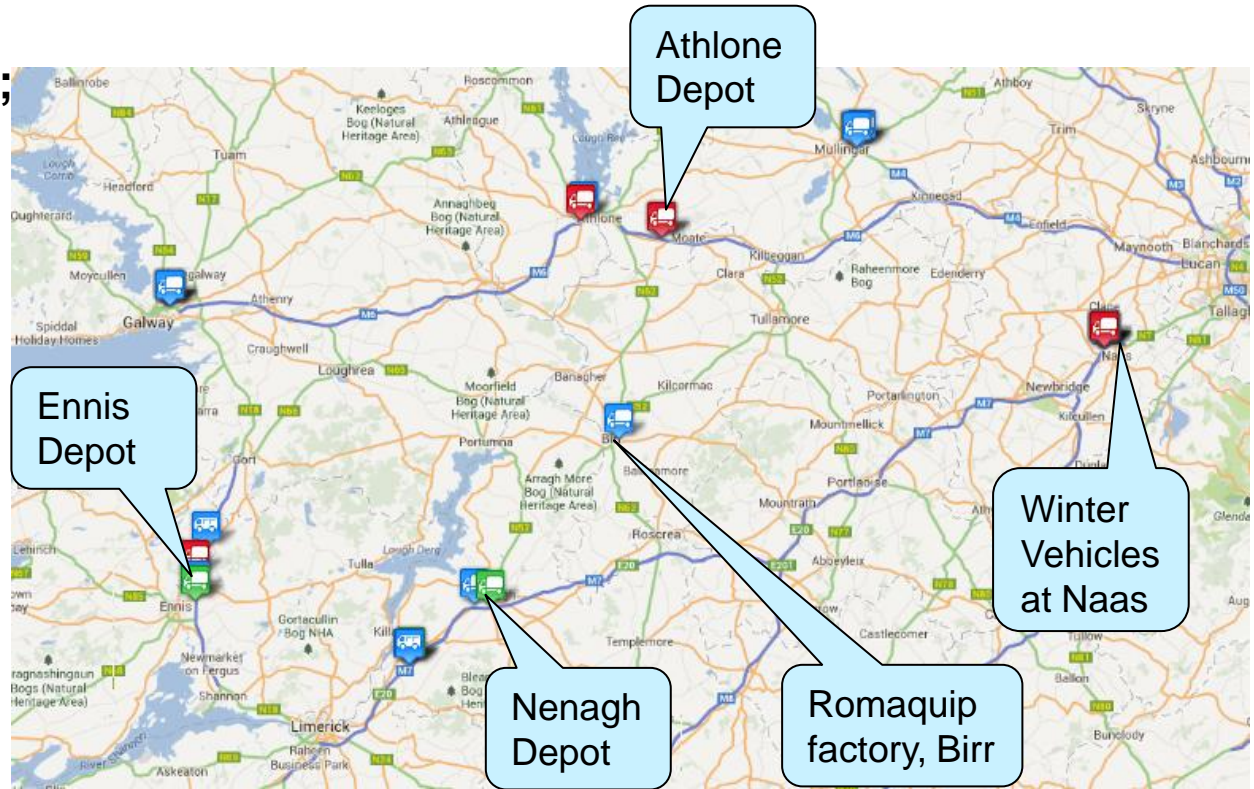
- MMaRC Winter runs from 1<sup>st</sup> October to 15<sup>th</sup> May
- Pre-wet treatments (70:30 salt:brine) during prolonged cold and frosty winter periods
- Brine manufacture and storage at each Depot
- Communicate with adjacent PPPs / Authorities
- Met Eireann Weather Bureau
- Use of Vaisala DSS Manager to record, communicate decisions and treatment times
- Live streaming of dedicated Winter Fleet with vehicle location, salt spread, RSTs with MTCC and Operational Depot

# Winter Service Vehicle Tracking

- Live Streaming and Vehicle Tracking to MTCC and Operational Base in Ennis

## Streamed Data includes;

- Moving/Parked/Speed
- Spreading or not
- Rate of Spread
- Ploughing or not
- Salt sensor
- Road Surface Temperatures (RST)
- Pre & Post treatment weights for both salt and brine





# Winter Service Fleet



MMaRC Dedicated Winter Fleet  
17 No. 10.5m<sup>3</sup> Vehicles – 14 No. Routes  
24 No. Ploughs





# Incident Response

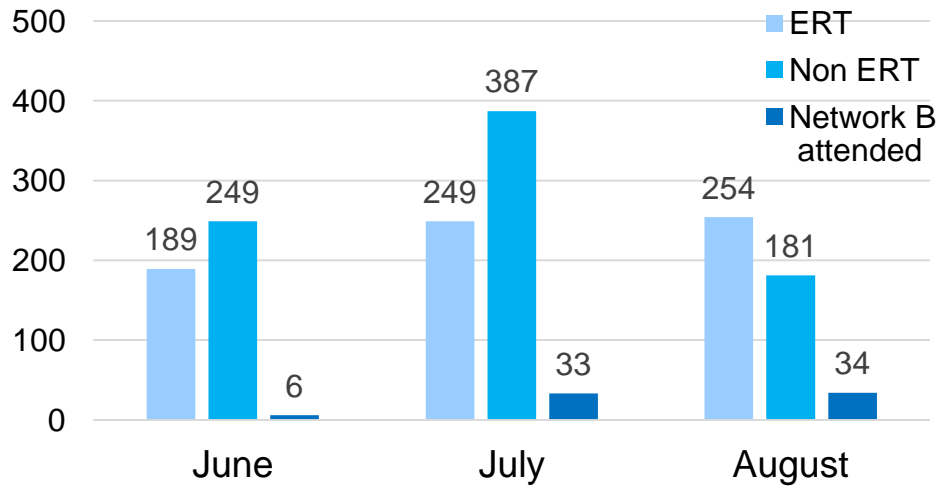
- Incident Response Plan in place following consultation with Authorities
- MTCC central to communications and coordination
- Emergency Services have primary responsibility at Incidents
- Undertake joint exercises
- Provide Initial Response, Support Response and Standard Diversions
- Response times as below for Network B

<b>DAY - Mon to Sun 06:00 – 22:00</b>	<b>NIGHT - Mon to Sun 22:00 – 06:00</b>
1 hour	2 hours



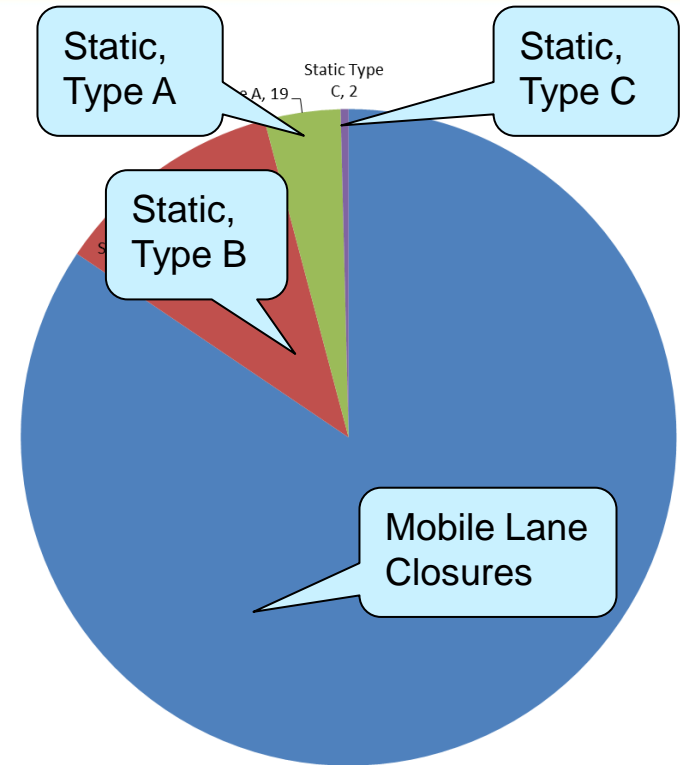
# Incident Facts

No. of Incidents - All Areas and Network B



# Roadspace Bookings

- Roadspace Bookings to coordinate and plan activities on the Network
- Avoid roadworks congestion
- Manage access to the Network
- Consistent standard of traffic management and planning
- Third party bookings
- Communication of bookings, granted, closing approach, closed, rejected



Typical profile of Traffic Management types used for Roadspace Bookings on the Network





# Improvement / Renewal Works



- Erection of chainage signs every 500m [>1,000 No.]
- Hardshoulder roadmarkings every 100m [>5,000 No.]
- Rectification of Legacy Defects
- Road Safety Inspections





# The END

- Discussion with questions and answers at the end of the Session.
- Thank you.

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