

Dublin Tunnel Newsletter

Introduction

2023 marked the eight successful years of the Operation and Maintenance of Tunnels and Traffic Control Centre contract awarded to Egis Road and Tunnel Operations (ERTO) by Transport Infrastructure Ireland (TII). ERTO are proud to continue delivering the safe operation and maintenance of the Dublin Tunnel along with the Motorway Traffic Control Centre and the Average Speed Enforcement Office. Our success is only possible due to the hard work and dedicated staff providing 24/7 service year-round.

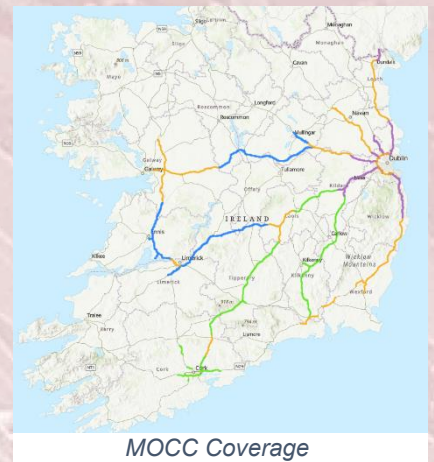
National Motorway Network

The Motorway Operational Control Centre (MOCC) monitors and coordinates incident response across the national motorway network. In the past year alone, the MOCC responded to a staggering 14,285 incidents, marking a noteworthy 20% increase from the previous year. This surge in incidents underscores the essential role MOCC plays in managing and mitigating various challenges on our motorways.

Comprehensive Services for Safer Journeys

The MOCC operates a comprehensive suite of services to tackle diverse scenarios efficiently:

- Electronic Messages to Motorists: Providing real-time updates and essential information through electronic displays.
- Emergency Roadside Telephone Network: Responding to 1,111 emergency calls in 2023, offering immediate assistance and ensuring a secure resolution.
- Road Space Bookings: Streamlining road usage through organised bookings.
- Incident Management: Swiftly handling and resolving incidents on the motorway network.
- TII Social Media Management: Utilising social media to disseminate crucial information and updates.



MOCC Coverage

Emergency Roadside Telephone Network: A Lifeline on the Motorway

The 1,450 emergency roadside telephones scattered across the motorway network proved to be vital lifelines in 2023. The MOCC received 1,111 emergency calls, where our team, upon contact, orchestrated timely responses and coordinated necessary assistance. These calls often involved distressed individuals requiring emergency intervention, showcasing the indispensable role of these phones in ensuring the safety of motorists.

Real-Time Monitoring and Rapid Response

The MOCC's constant surveillance of a network of CCTV cameras provides extensive real-time coverage, enabling the team to promptly resolve incidents. This vigilance ensures that disruptions are minimised, and traffic flow is restored swiftly.



The MOCC

Variable Message Signs (VMS) and Network Intelligence Management System (NIMS)

Approximately 189 Variable Message Signs (VMS) strategically placed on major roads serve as informative beacons, alerting motorists to potential delays, collisions, roadworks, and other critical information. The MOCC's control over these signs supports An Garda Síochána and the Road Safety Authority in road safety campaigns, empowering road users to make informed decisions when planning their journeys.

Moreover, the MOCC manages the cutting-edge Network Intelligence Management System (NIMS) as part of Transport Infrastructure Ireland's 'enhancing Motorway Operation Services' (eMOS). Through NIMS, MOCC operates Lane Control Signals (LCS), Slip Road Signals (SRS), and VMS-P, enabling dynamic control during high congestion, adverse weather conditions, and incident management. In 2023, the NIMS zone expanded gradually, reaching junction 17 of the M50.



LCS & VMS-P on the M50

Annual Survey

The Annual Road User Satisfaction survey was carried out in 2023 with 5,526 survey respondents. Overall, the feedback was very positive on all aspects of the services provided by the MOCC.

Advancing Road Safety: ASEO's Continued Success in 2023

The Average Speed Enforcement Office (ASEO) continues its successful operation in collaboration with TII and An Garda Síochána. The strict enforcement penalties for surpassing the 80 km/h speed limit in the Dublin Tunnel and the 120 km/h speed limit on the M7 motorway between J26 Nenagh West and J27 Birdhill contribute to the overall improvement in driver behaviour and increased compliance with speed limits since the office's inception. The ASEO signifies a continued commitment to road safety and underscores its positive impact on fostering responsible driving habits across different segments of our road network.



ASE Cameras on the M7

Dublin Tunnel Traffic Volumes

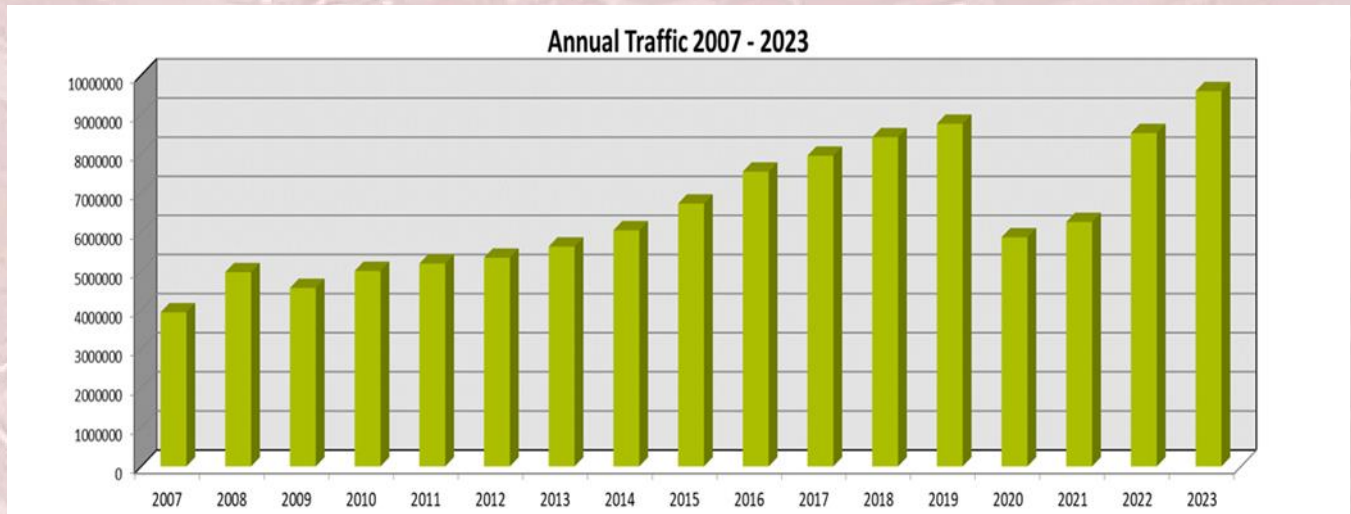
Key Metrics

There were 9,594,048 transactions through Dublin Tunnel (DT) in 2023 a increase of 12.5 % from 2022 (8,5245,72). This brings the total volume of transactions through the tunnel since it's opening to the end of December 2023 to 110,192,111. The busiest month for traffic volumes through the Dublin Tunnel in 2023 was October with 878,671 journeys made.

Traffic movements

Traffic volumes tend to follow daily profiles contrasting between the weekdays and weekends. Peaks occur on certain days when motorists use the Tunnel to access sporting events, entertainment venues or when normal flows are interrupted by an incident on the adjoining network. The highest daily figure in 2023 occurred on 1st December when 37,876 transactions were recorded and the lowest number of vehicles to pass through the tunnel was recoded on the 25th December at 3,386 journeys.





Abnormal Loads, Accidents, Over-heights, Breakdowns and Rescues

The ERTO team plays a crucial role in ensuring the seamless operation of the tunnel amidst challenges such as over-height vehicles, accidents, abnormal loads, and breakdowns. The team consistently work to uphold the tunnel's maximum availability, facilitating the smooth flow of traffic in and out of Dublin city, Dublin Port, and other connecting networks. In the year 2023, the team successfully managed 5,687 over-height vehicle detections that could have otherwise disrupted accessibility to the tunnel.

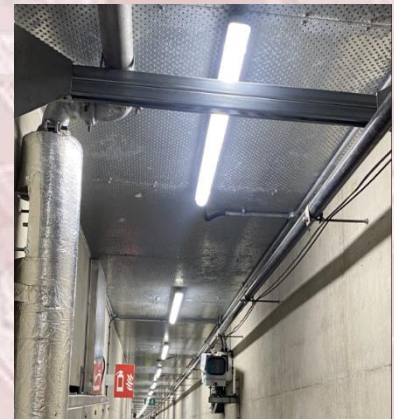
Notably, ERTO staff demonstrated their expertise by safely escorting and supervising 363 abnormal loads through the tunnel during off-peak hours. Additionally, they swiftly intervened in 241 breakdown incidents involving buses, HGVs, and light vehicles. The commendable average recovery time of 14 minutes significantly minimised disruptions for tunnel users, showcasing the team's dedication to maintaining operational efficiency and ensuring a safe tunnel environment.

Project Management Office (PMO)

The primary function of the Egis Road & Tunnel Operation Ireland (ERTO) Project Management Office (PMO) is to manage and implement Task Order Instructions received from the TII Service Manager (SM) in line with the OMTTCC Forward Capital Works Programme (FCWP) and other external projects the client wishes to engage the involvement of ERTO.

In line with TII's vision to lead in the delivery of an operation of sustainable transport and together with the EGIS sustainability objectives 2021 – 2026, several sustainable projects have been promoted and undertaken, a sample of which is given below.

- A new UPS system with energy monitoring functionality is in the final stages of implementation.
- The DT Lighting System was upgraded with LED lighting technology.
- EV Chargers are currently being planned for installation in the DT car park. Planning is also underway to install solar panels in the near future.
- Planning commenced for the upgrade of the JLT lighting technology to LED.



A number of other key projects have been delivered or have significantly progressed in line with the Capital Works delivery programme (mentioned below). Some of the more significant works were:

- The Dublin Tunnel Voice Break-In System (VBI) has been installed with additional variations to the scope, such as added resilience significantly advanced.
- The DT MOCC HVAC has been upgraded.

The Dublin Tunnel SCADA replacement project completed its design phases during 2023, and in Q4 hardware installation began. At the start of the year its scope was to replace the Horus SCADA with the new Control and Monitoring System (CMS), designed and built by PDS. As the project progressed during 2023, three related projects were awarded to the contractor as a risk mitigation measure and to simplify the integration of multiple, interrelated, work packages.

These three projects were for the replacement of the 80, obsolete, analogue CCTV cameras with 80 new, IP-based cameras, the replacement of 40, obsolete traffic counting loops with 40 Video-based Automatic Incident Detection (VAID) cameras, and the replacement of 47, obsolete emergency roadside telephones (ERTs) and the installation of a new telephone system to manage them. A fourth work package was also awarded during the year to remove old equipment and create required space for the new CMS racks in the plant rooms.

These four work packages progressed to schedule during 2023 and will continue during 2024. The SCADA project has an expected completion date of August 2024.

TII had instructed ERT0, in conjunction with ARUP to undertake a significant upgrade and replacement of the of the existing DT tolling system which has been in place since 2006 (various elements had been upgraded in the interim). During 2023 the Dublin Tunnel Toll System Replacement, DTTSR tender was managed by ERT0 with Indra Sistemas the successful bidder. The upgrade project will be implemented as a variation to the existing DT O&M Contract. This will include (but not limited to) the introduction of free-flow functionality to work in tandem with conventional barrier, the facilitation of Automatic Number Plate Recognition (ANPR) tolling and additional capability for automatic processing of exempt vehicles, Electronic Toll Collection (ETC) passages and of other vehicle and transaction types.

ERT0 PMO is committed to promoting Environmental, Health & Safety and an Incident and injury-free site in line with all ISO Standards. We continue to strive for excellence in EHS and Quality Management, and in 2023 all projects were delivered with no work-related injuries or accidents.

The focus for 2024 is to continually challenge our process with further growth and development of the department to meet the needs of our Client and Stakeholders. This includes the further engagement of additional third-party external consultants and support from EGIS's parent company and our subsidiaries.

The PMO department will continue to work closely with the asset and maintenance departments to ensure there is business continuity and continued collaboration for the overall asset management strategy.

ISO Certification

Demonstrating its commitment to upholding the highest industry standards, ERT0 maintained its certification, awarded by the National Standards Authority of Ireland (NSAI), for:

- Quality (ISO 9001:2015)
- Environmental (ISO 14001:2015)
- Occupational Health & Safety (ISO 45001:2018)
- Asset Management (ISO 55001:2014)
- Information Security (ISO 27001:2017)
- Energy Management (ISO 50001:2018)



Environment

The air quality metrics for the Dublin Tunnel bores remained consistently within the limits as determined by regulations on environmental safety and emissions. There were no reportable environmental incidents in 2023.

Tunnel Safety

To ensure the safest possible service is provided, all aspects of the tunnel infrastructure, operation, maintenance, and training are reviewed on a continual basis. Throughout the year, a programme of reviews, training and emergency exercises were undertaken. With close co-operation and involvement from the Emergency Services, the Tunnel Safety Officer, and other stakeholders ERTO conducted a safety exercise on the 16th of August 2023.

ERTO provide 24/7 live traffic monitoring of the tunnel and adjoining networks to ensure safe passage and emergency response in the event of incidents.

Training and Exercises

ERTO are constantly developing our Operational staff, skills, and capabilities through both in-house and external training courses, some of which include, Certification in Industrial Automation, Traffic Management, Fire Warden Training and Management skills. Throughout the year, Dublin Tunnel was the preferred location for extensive interagency planning, co-ordination meetings and exercises.

Traffic flows, motorway network, tunnel availability and haulier parking hubs were all tested for flexibility and safety solutions. Safety exercises and new firefighting equipment were planned and actioned throughout the year. Control Room Operators have accessed a competence-based training to develop their skill set while participating in further continuous professional development on our internal eLearning Platform or via external providers.

Tunnel Maintenance

Closures and Contractors

ERTO employs a number of local contractors for routine maintenance works and capital renewals. In 2023, ERTO carried out 35 tunnel maintenance closures and there were 4,767 cyclical maintenance work orders scheduled for completion in the period, of which 99% were completed.

Asset Management

Over the past 12-months of 2023 the Department has:

- Updated the Maximo asset management system to the latest version 8. Handheld devices have been implemented on site to improve efficiencies and reduce the environmental impact of the old paper-based system.
- Integrated a change control process with the new Maximo system to ensure accurate tracking via one single platform.
- Developed a refined 36-month Forward Capital Works Program to assist with budgeting and resourcing over the coming years.
- Maintained ISO 55001 accreditation by updating the yearly asset management reporting requirements.
- Development of a yearly contractors work plan to improve planning and explore efficiencies with the closure regimes.
- Development of an obsolescence register and inventory review for the stores.

