

Session 4: Abnormal Load Management

Abnormal Load Management

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- Stakeholder Engagement – Feedback on current system
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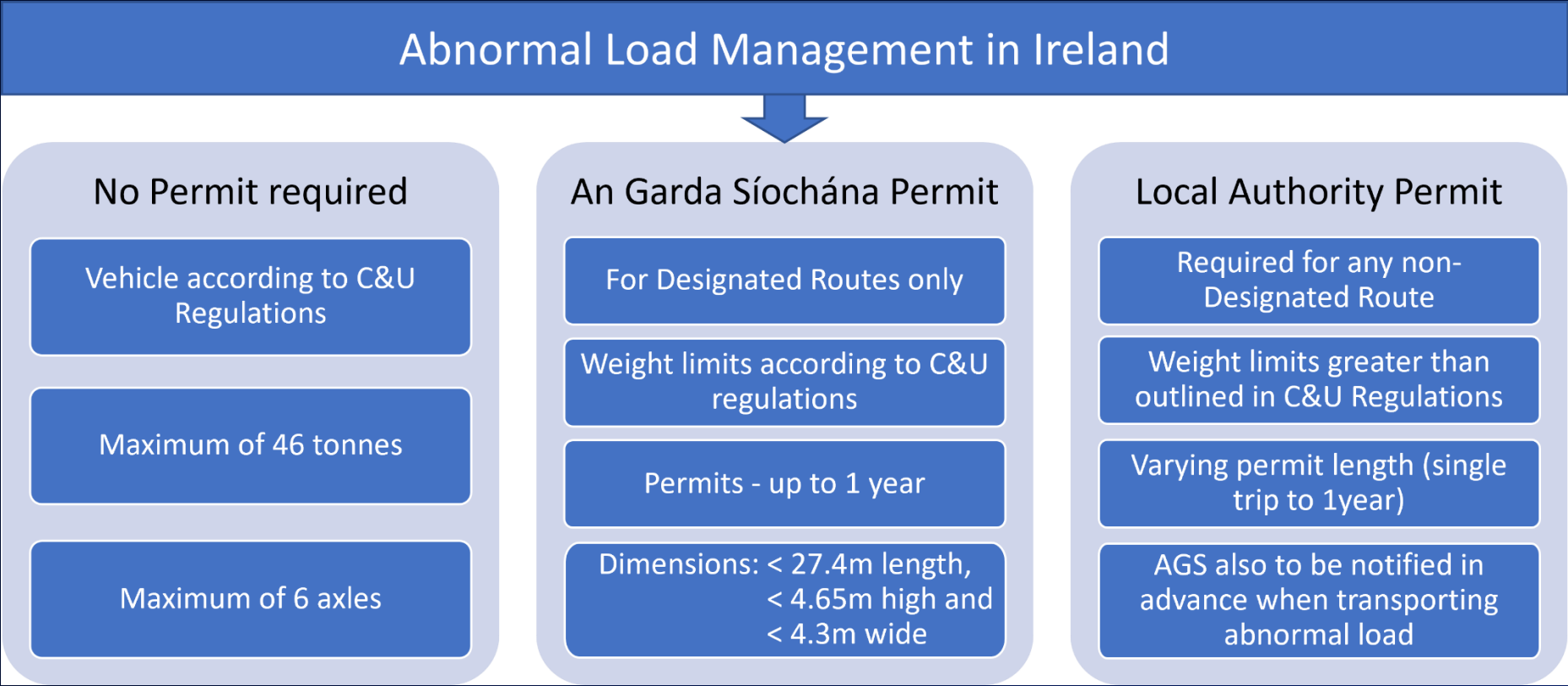
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Introduction

- The road network Asset:
 - 5,300km National Roads
 - 13,200km Regional Roads
 - 81,300K Local Roads
 - Increasing traffic frequency and loading. Increased loading leads to increased risk of damage to road pavements and structures.
- Energy sector to upgrade the High Voltage Cable network
 - Utilise the existing road network for HV Cables – Jointing Bays
 - Exceptional Abnormal Loads >400t Transformers in Substations (4 Planned in 2025)
- Road Traffic (Construction and use of Vehicles) Regulations 2003 outline the requirements for permitting of Abnormal Loads in Ireland.
 - At present there is little or no engineering analysis as part of the abnormal load process in Ireland.
 - Lack of centralised database to capture the type of loads, size of loads and the routes the loads travel.

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Road Traffic
(Construction
and Use of
Vehicle)
Regulations
2003



Exceptional Abnormal Loads >200t

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Stakeholder Engagement

Infrastructure Managers

- DOT & TII
- Road Safety Authority
- Dublin Ports
- MMaRC's & PPP's

Infrastructures Owners

- City Councils
- County Councils
- An Garda Siochana

Hauliers & Other Road Users

- Exceptional Load Service Ltd
- Crane Heavy load Haulage companies

International Experts

- UK
- Italy
- United States
- Denmark
- France

RDS – Consultant Engineers – Commissioned by TII

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Key Issues Identified:

- No centralised database – Paper based applications
- Multi–agencies involvement
- Lack of expertise in assessing routes and infrastructure
- Safety of Infrastructure
- Inconsistent time frames in processing permits
- Early engagement by hauliers & energy sector
- Cost of applications
- Duration of licences vary; Single, 1month, 3month etc
- Haulier service leading to non-compliance
- National Solution (Hauliers) – Funded by DOT

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Working Group:



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Department of Transport



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Key focus areas:

Online Abnormal Load System:

- Advise on requirements for a single online application process to support digital economy policy and to help streamline the permit process.
- Consider fee structure, approval timelines & scope for automatic approvals to standard conditions.
- Advise on relevant guidance and policy development in the sector.
- Pilot site – Limerick & Tipperary, Clare County Councils

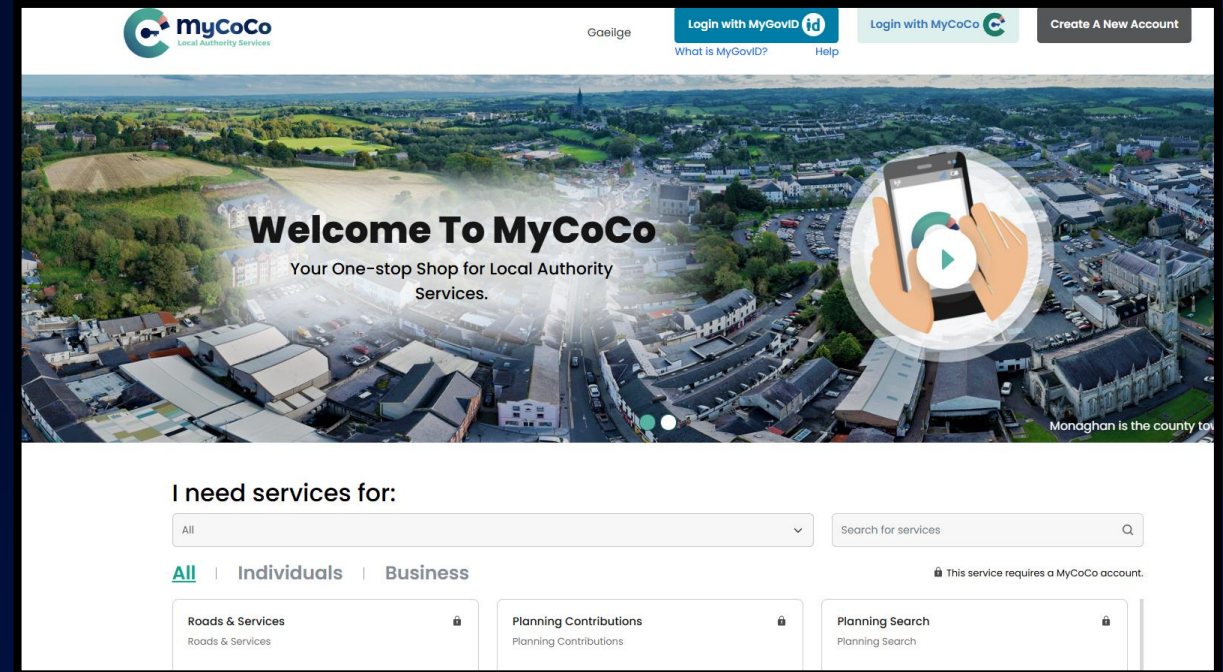
Technical Requirements and Exceptional Abnormal Loads:

- DOT RW18 – Dealing with Exceptional Abnormal Loads (EAL)
- Consider the Assessments Requirements – Structural
- Advise on Consultation Periods – Early Engagement
- Thresholds - >200t
- Centralised Support Office for infrastructure assessment for EAL
- Designated Routes
- Limit – Is there one?
- Risk Management – Insurance

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Online System:

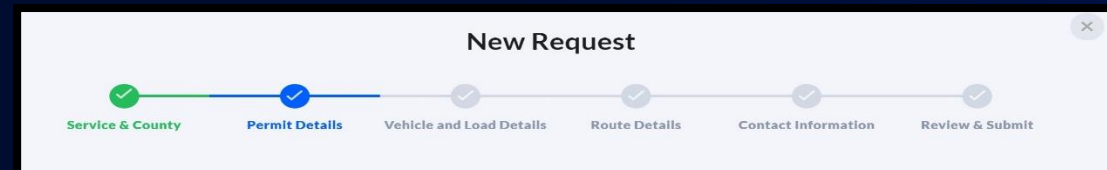
1. New one stop shop for LA Services
2. Ireland's new digital strategy, harnessing digital and the digital Ireland Framework -Target to provide 90% of Public Sector services online by 2030.
3. Mycoco is a key enabler to allow LA'S to meet this target.
4. This is the platform that the Abnormal load permits will be processed through.
5. Each applicant will be able to create an account and obtain login details



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Online application:

- Registers for Mycoco and selects Abnormal Load permits on dropdown.
- Select counties that the load is travelling through.
- Applicant fills in details of loads, Size, Weight, Number of axles, Axle spacing etc.
- Applicant can save vehicle and trailer information after initial set-up.
- Applicant selects route via google maps interface.
- Each county receives notification of application with Garda also receiving automatic notification.
- Each LA can view application and apply conditions specific to their area. Can also ask for additional information if required. All communication is captured on system.
- LA's can view the status of the other LA'S.
- Once approved by all LA's - One payment per application, no matter how many counties are involved.
- When payment is made one digital document is sent to the applicant covering the entire route. (Each document containing multiple Permits for each LA).
- **Scope for development:**
 - Notification as to when Garda escort is required
 - Build-in system threshold to notify applicant & central support office
 - QR Code for Garda inspection and enforcement.
 - Department Provided funding for Scheme -
 - Online system to be operational by end of 2025



The 'New Request' form interface shows the 'Route Details' section. It includes a progress bar at the top with 'Route Details' highlighted. Below the progress bar, there is a button 'Add New Route for Vehicle'. The main section is titled 'Name this route' and contains a text input field with 'Dublin to Monaghan'. Below this is a dropdown menu for 'Select route for vehicle' with 'SDA' selected. Further down, there are input fields for 'Start Point' (Dublin Port, Dublin, Ireland) and 'End Point' (Monaghan, Ireland). A 'Search in Google Maps' button is located below these fields. To the right of the form is a map of Ireland showing the route from Dublin to Monaghan. A QR code is visible in the bottom left corner of the form interface.

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Contents

- Background of Limerick as a destination
- Initial contact and Steps
- Introduction of RW18
- The Process
- The Delivery
- Lessons Learnt



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Destination Limerick

Two Ports

Foynes Port

Limerick Port

Access to approx. 200km of national road and Motorway

Cork via the N20

Kerry via N69 and N21

Tipperary and Waterford via the N24

Dublin and The Midlands via the M7

Attractive proposition to ALs & EALs

Up to recently Windfarms were the most complex AL to be managed due to their size & length (as opposed to their weight)

- Future proofed N69 route.
- Works at a number of Roundabouts along the route and management of street furniture



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First Contact

In Q4 of 2023 and Q1 of 2024 Limerick was contacted by two separate Haulers with respect to two separate Exceptional Abnormal Loads movements

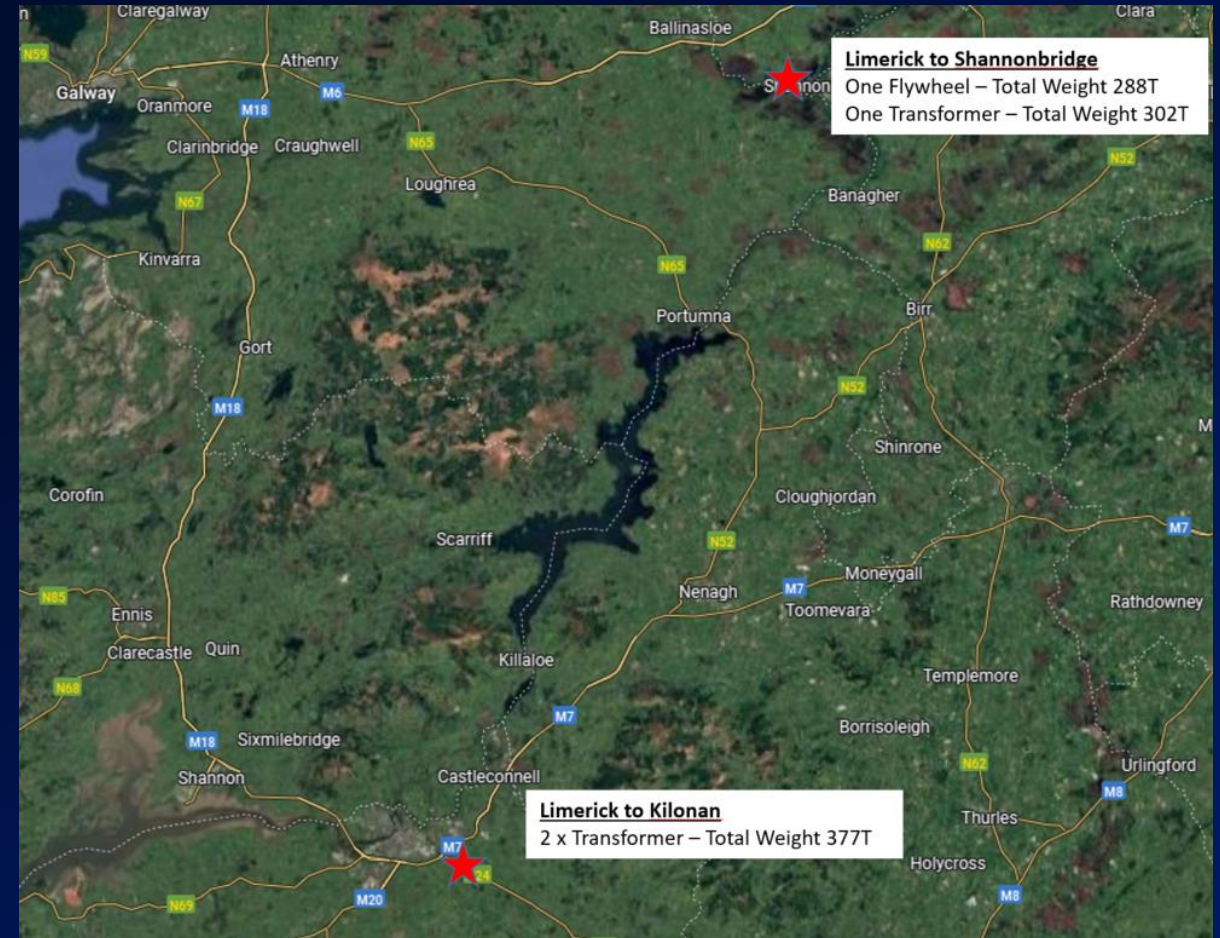
One scheme consisted of 2 x 377T movements from Limerick Port to Kilonan Substation

One scheme consisted of two EAL movements in convoy weighing 289T and 301T from Limerick Port to Shannonbridge Co Offaly

Substantially larger than previously managed

No Process for managing these loads

Many Stakeholders – 3 LA, TII, PPP, Irish Rail, Waterways Ireland, Haulers, Designers.



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Limerick to Shannonbridge

Initially we worked with the Hauler and their designers to start to look at the Route and the bridges to be crossed

Original proposal was to use the Dock Road and join the N18 and continue on M7

Issues:

Concerns with some structures on the Dock road, the M7 and the analysis required

Concerns with respect to Piled section on the M7 on the Tipperary Border
16 plus structural crossings

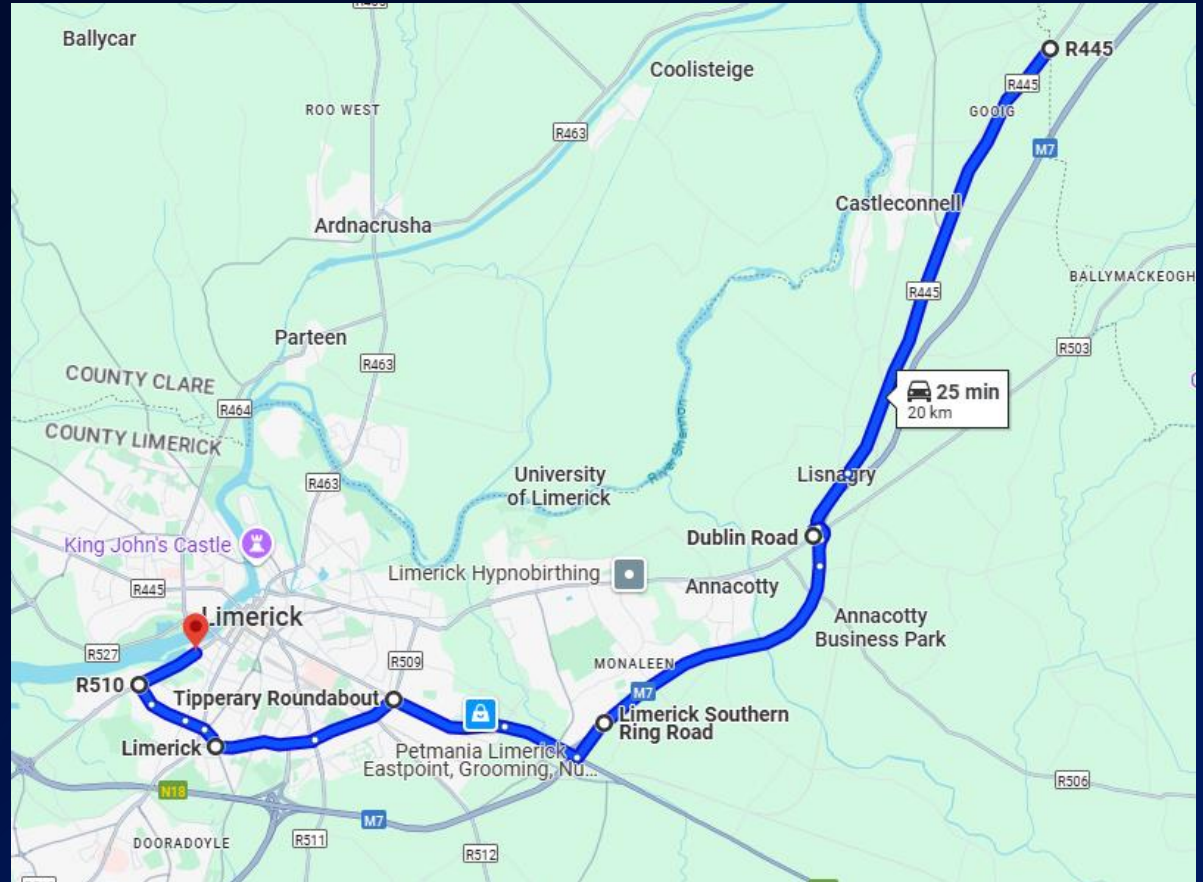
Proposal:

Traverse the City using wider regional roads

Join the M7 at Ballysimon interchange

Leave the M7 at Mackey roundabout and travel the R445 Dublin Road.

5 Bridge and Culvert Crossings



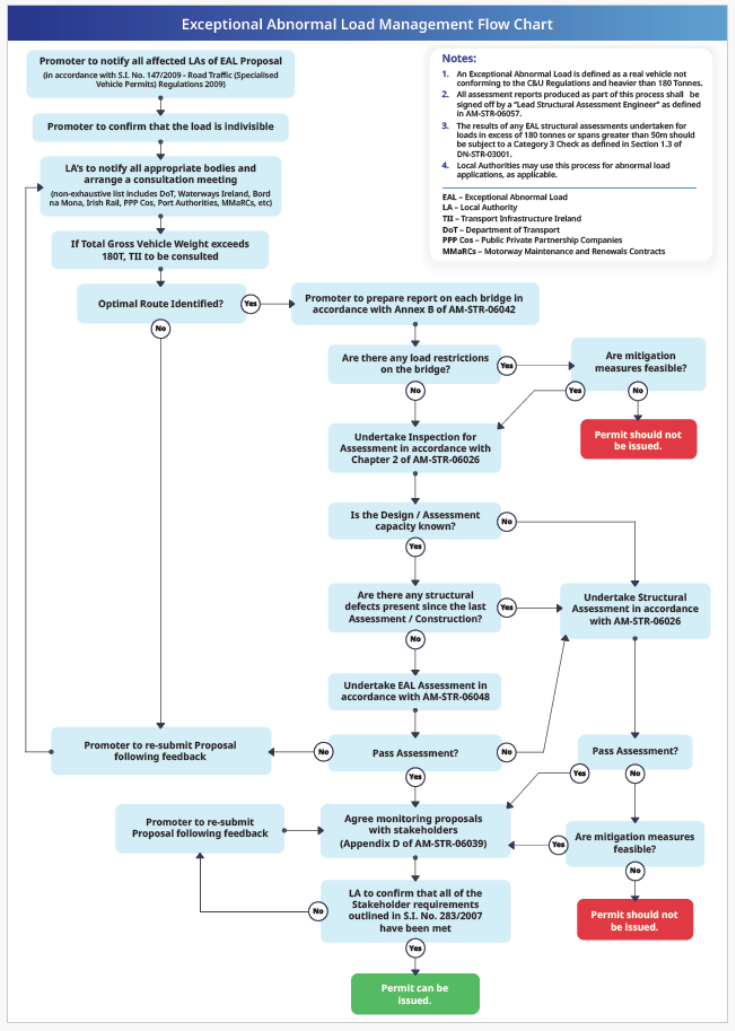
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RW18 - Exceptional Abnormal Load Management Flow Chart

In conjunction with the TII Bridge inspector Limerick CCC worked with the Hauler and their designers to start to look at the Route and the structures to be crossed with no specific process in place. Assessments were being carried out but we were still missing a prescribed process

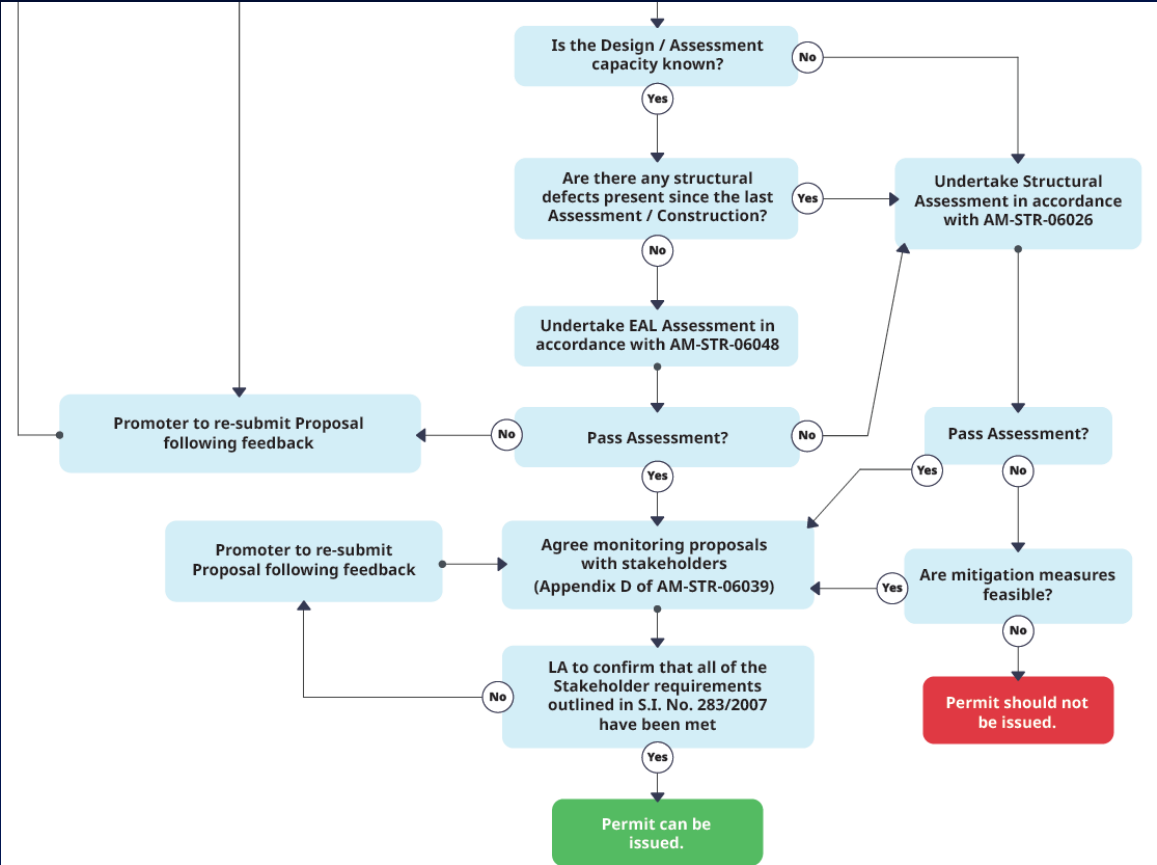
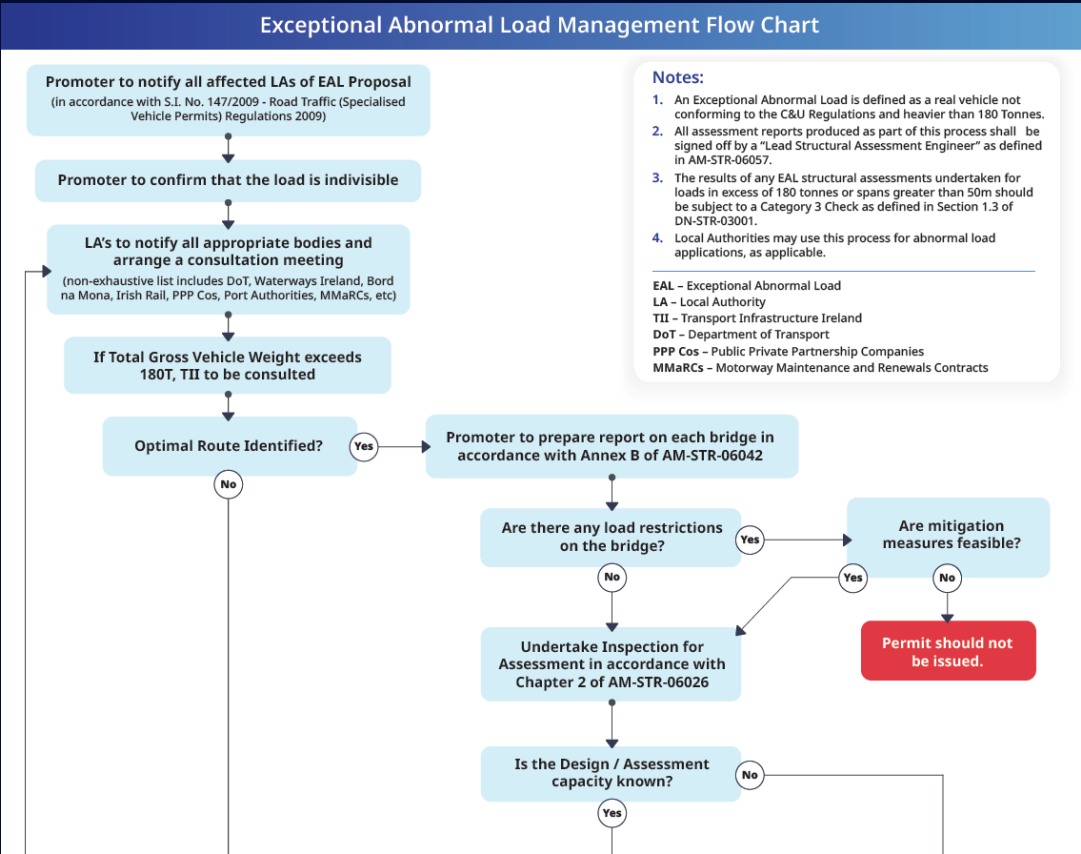
Number of discussions were had with DoT and TII and we were aware of a process being developed

In September 2024 RW18 - Exceptional Abnormal Load Management Flow Chart was published which gave clear direction on a process to be followed.



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RW18 - Exceptional Abnormal Load Management Flow Chart



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RW18 - Exceptional Abnormal Load Management Flow Chart

Limerick CCC prepared a framework to provide Selected Local Authorities with support from suitably qualified structural Engineers.

- Limerick, Cork, Cork City, Clare, Tipperary & Offaly

Consultants who qualified

- ARUP, Atkins, Egis JB Barry, FT, GDG, OCSC, ROD & RPS

It is important to maintain independence with respect to any assessments undertaken
Should they have an involvement with the EAL applicant or the scheme for which the delivery is intended then they shall be excluded from that specific route assessment.

Independence may also be sought with respect to applications that are running concurrently. This will be confirmed on a case by case basis.

All costs associated with this appointment will be passed to the hauler.



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2. Scope of Services

The overall purpose of this frame work will be to provide the Local authorities with the structural expertise to enable them to review and adjudicate on submissions made by abnormal load applicants. A high level overview of the services expected are listed below

1. The consultant will need to have a detailed understanding of the process as outlined on the flow chart or subsequent versions of this chart and be in a position to determine if the submissions made by applicants meets the steps outlined or are any assumptions made are reasonable and accurate.
2. The consultant may wish to undertake site visits of the proposed route to gain an understanding of the crossing points in question.
3. The consultant will be expected to peer review and comment on the bridge assessments, regarding the methodology used, assumptions made and the conclusions of the report.
4. The consultant will be expected to review and advise on any mitigation measures identified by the applicants, including but not limited to over-spanning or proposed rehabilitation works carried out on a bridge. The consultant will be expected to peer review and comment on the mitigation measures, regarding the methodology used, assumptions made and overall design philosophy.
5. The consultant will be expected to advise, agree and manage any monitoring proposals that are required as part of the process, including onsite monitoring where necessary.

It is expected that the routes assessments will cover Motorway, National, regional and local roads.

3. Deliverables

The expected deliverables will be in line with the scope above but are expected to include the following:

1. Familiarisation with the proposed route and associated structures.
2. Written confirmation regarding the compliance of the applicant with the flow chart or subsequent versions of this chart.
3. A detailed report outlining any comments and/or recommendations regarding the submission on each structure being assessed as part of the route. Any proposed recommendations must be clear and reasoning outlined. This may also include engagement with other bodies such as TII, PPP managers, Irish rail, MMARC contractors etc.
4. Provision of detailed report outlining a full review of mitigation measures should they be required.
5. Preparation and management of any monitoring proposal that are part of the process
6. Preparation of a final report collating all information and reviews as outlined above, this is to include minutes of meetings and calls, records of site visits undertaken and a final recommendation regarding the proposed EAL application.
7. Engagement with bodies such as TII, PPP managers, Irish rail, MMARC contractors etc. and the applicants team.

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RW18 - Process

Local Authorities agreed, along with TII bridge managers, that no permit would be submitted **without ALL being satisfied.**

Overview of Process

- Maintained open communication with the Hauler and their Design team
- Number of Teams meetings and clarifications working through the process
- Develop the reports and assessments needed to provide confidence to the LA that the EAL will not have a detrimental impact on the road network
- Identify over-spanning locations and requirements
- Agree Monitoring proposals
 - Trial Run of 150T with monitoring at certain locations, to provide base lines.
- Pre inspections reports and photos
- Managed expectations



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The Delivery!!

On Friday Evening 28th March 2025 at 20:30 the load began its journey from Limerick up to Offaly

Dock Road to Courtbrack Avenue



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The Delivery!!

Mulcair Bridge Crossing



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The Delivery!!

Kilmaskulla Bridge Crossing Tipperary



L'estrange Bridge Crossing Offaly



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The Delivery!!

- 38 bridge crossings across 3 LA
- 3x LA, TII, IR, Waterways Ireland, OPW, IPB, 3 Design teams, Haulers, Clients
- 8 Temporary Bridging setups
- 16 bridges with Monitoring and/or Stop conditions
- Left Friday Night 20:30
- Arrived Sunday Afternoon 15:00



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Learnings

Combined Consistent approach from LA is crucial to successful process

Solution based mindset

Don't underestimate the time involved in managing stakeholders and coordination of the process

Manage client expectations and give realistic timelines

Learn from other deliveries



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Seamas O Reilly & Kevin West

THANK YOU

**Join the Q&A session at
Slido.com and enter 3873601
or via the QR Code.
Questions must include name
and associated Local Authority
to be considered by the panel.**

