

Transport Infrastructure Ireland

Managing Severe Wind Events (SWE) on National Roads

Interim TII SWE Policy



Nov 2025

1. Introduction

TII has responsibility for the safe and efficient operation and maintenance of the national road network which is approximately 5,306km in length.



In this role, TII oversees performance of the network in order to identify areas where policy should be updated or developed in response to changing road usage patterns, developing standards or climate change.

One such area which has been identified by TII Network Operations is the management of Severe Wind Events (SWEs) which can lead to the curtailment or closure of certain key parts of the national road network.

This document sets out an Interim TII SWE policy for dealing with severe wind events on the national road network. It is TII's intention to update this policy within the coming two (three) years.

2. Overall Approach

TII has appointed a number of organisations to undertake motorway / dual carriageway operation and maintenance activities on its behalf.

In the case of the high-speed network, operation and maintenance activities and functions are undertaken by TII-appointed operators under Motorway Maintenance Renewal (MMaRC) Contracts or Public Private Partnership (PPP) contracts.

The single carriageway elements of the network are generally managed by the relevant Local Authority who undertake day to day operation and maintenance of these roads.

Each of these road operators has a responsibility to identify operational risks and put in place measures to prevent their occurrence or reduce their impact. As a result of this, many road operators already have procedures in place for managing the impact of severe wind events on their respective sections of the national road network. These have developed over time as each road operator has sought to ensure the safety of road users during high wind events.

The purpose of this interim policy document is to integrate these existing approaches into a network wide policy to protect road users from the impacts of severe wind events on the national road network.

TII intends that this interim guidance will develop into a comprehensive policy in the coming years.

The aim is that this policy will be evidence-based and supported by the collection and analysis of data relating to previous severe wind events and their impacts.

Once historic SWE data has been collected and analysed, Operators/TII will be able to identify locations on the network which are vulnerable to severe wind events and will enable the development of thresholds at which a range of mitigation measures are implemented over the course of a severe wind event.

Such mitigation measures may be applied progressively, beginning with softer measures such as warning signage, which are then escalated to partial or full road closures where directed by An Garda Síochána (AGS).

Additional procedures and resources may be required to support this process. This may include the provision of approved diversions, wind monitoring equipment, automatic traffic counters, information signage among other things.

Further policy development and implementation will encompass collaboration and consultation with relevant stakeholders such as An Garda Síochána, Local Authorities, PPP & MMaRC operators, Met Éireann, the Road Safety Authority and other relevant entities enabling a multi agency group response.

Interim procedures for dealing with severe wind events may be developed by road operators pending collection of required data. This will enable stakeholders to manage the risk in the near term and will provide a basis on which a more detailed procedure can be developed over time as better data becomes available.

3. Risk Identification

TII and Road Operators should incrementally develop a list/database identifying parts of the network which are vulnerable to severe wind events as follows:

- Collect available information relating to historical severe wind events and their impacts on the operation of the national road network. This should include both the impacts on vehicles such as overturning or other incident types; and actions taken by the road operators such as warnings or closures.
- Investigate the primary causes of incidents which have occurred in the past that were related to severe wind events (comparing to available wind data).
- Ensure that data is collected in future relating to severe wind events. This should include data on incidents, road operator actions taken and related wind speed data so that a correlation can be developed between wind speeds and expected impacts in the future. (This will require installation of wind anemometers at key locations along the network).
- Analyse data/information on an ongoing basis to maintain an up-to-date map of vulnerable locations.
- Engage with Met Eireann to obtain data to allow analysis of wind locations.

4. Thresholds

Once vulnerable locations have been identified, it is intended that road operators in consultation with TII will develop a set of wind speed thresholds for each location, based on which a set of escalating mitigation measures will be implemented.

These will be site specific and will be based on the wind speed/direction at which there is recorded evidence of possible or actual loss of control/stability due to a severe wind event.

It should be noted that the impacts of wind are complex and depend on a variety of factors such as average wind speed and direction, the speed/frequency/duration of gusts, vehicle speed, vehicle type/height/weight/loading, surrounding topography/infrastructure, presence of wind shielding among other things.

For this reason, the thresholds developed will act as guidance only to be used in conjunction with local knowledge by road operators, AGS and also Met Eireann in deciding when to implement mitigation measures.

5. Mitigation Measures

Each threshold should align to one of the following mitigation measures using permanent or temporary signage as appropriate:

- Implementation of variable message sign wind warning signs on approach to exposed locations
- Advisory speed reductions on approach to exposed locations
- Partial road closure for HGVs (advisory) which will require diversion routes
- Full closure of the road by An Garda Síochána which will require diversion routes

6. Relaxation

The road operator should also develop a set of wind speed thresholds at which each mitigation measure can be relaxed as the wind event subsides.

7. Information Dissemination

Road operators in consultation with TII should develop an information management strategy for severe wind events at each location. The Motorway Operation Control Centre (MOCC) will assist each road operator with the implementation of their information management strategy using their network of variable message signs.

8. Investment

TII recognises the need for investment in additional infrastructure in order to support this policy. For example, windsocks, wind anemometers, and variable message signs may be required at identified exposed locations.

In advance of and during a severe wind event, the live data recorded by the anemometers should be monitored by the road operator in collaboration with the MOCC where appropriate.

Variable message signs and speed limit reduction signs should be used on both approaches to any exposed locations to inform drivers of wind warnings, speed limits and diversions.

Pre-planned diversion routes should be reviewed to ensure their suitability for use during severe wind events.

9. Collaboration

Successful management of severe wind events depends on the cooperation of a number of organisations. For this reason, consultation with these stakeholders is key in developing approaches both nationally and at a local level to the management of severe wind events.

- Key Stakeholders include:
- An Garda Síochána
- Local Authorities
- Road operators (MMaRCs & PPPs)
- Met Éireann
- The Road Safety Authority

As part of this consultation process, the following issues should be discussed and clarified with the various stakeholders :

- Wind thresholds and the Met Eireann weather warning system.
- The viability of advisory speed limits.
- The need for new/ additional bye laws
- Garda “decision makers” and procedure for implementing restrictions and closures
- Diversion routes
- Infrastructure requirements

10. Interim Procedures

TII recognises that developing the measures set out in this interim policy may require the installation of additional monitoring equipment, the collection and analysis of improved SWE data, the development of procedures in consultation with multi-agency stakeholders, and the provision of additional signage and other traffic control infrastructure.

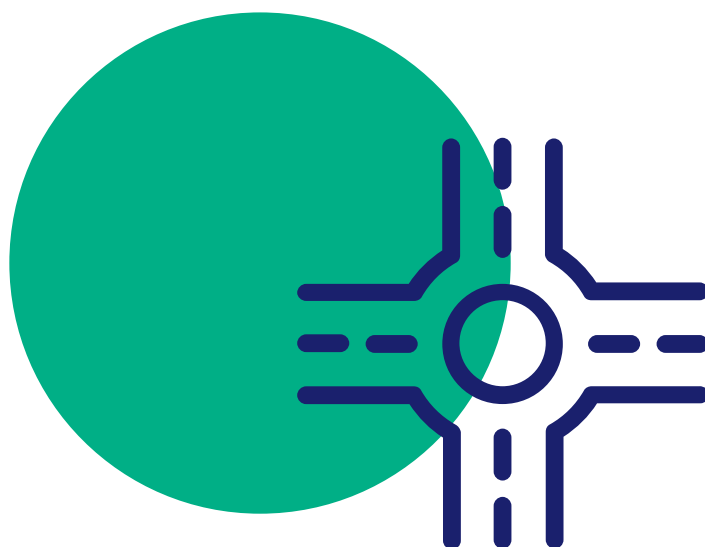
These procedures should be based on:

- Weather forecast information
- Previous experience & local knowledge
- Live weather data where available

The interim procedures should be developed in consultation with all relevant stakeholders as outlined above.

As indicated above the interim procedures will be formalised to include all of the measures required by this policy over time.





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