

# **Movement of abnormal indivisible loads through planned roadworks**

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## Scope and Purpose

This guidance document is primarily intended for National Highways Network Occupancy Teams. In Asset Delivery Areas this work is completed by National Highways staff, in other Areas the work is completed by Service Providers on behalf of National Highways. It is also intended for Police Traffic Management Teams.

This document is intended to reduce the frequency and severity of conflicts between abnormal loads and roadworks by highlighting the responsibilities of National Highways (NH), its Service Providers, the Police and the Haulage Industry. It includes sections on what tools can be used to better manage AILs through roadworks in order to avoid conflict, and what to do if a conflict occurs.

A lack of planning and communication can lead to significant consequences. Examples include properly notified AILs damaging traffic management, AILs unable to proceed through TM with consequent delay and risk to other traffic, and AILs being diverted onto alternative routes they have not been cleared for, risking damage to structures.

This document makes some key recommendations which, if implemented, would reduce the risk of such conflicts. These are summarised as follows:

- 1. Network Occupancy Teams should ensure that their own abnormal loads officer is fully aware of all current and planned roadworks in their region.**
- 2. Network Occupancy Teams should ensure that Police Abnormal Loads Officers are fully aware of current and planned roadworks in their region that may affect abnormal load movements. Hauliers of some categories of wide AIL (up to 6.1m wide and 44T or less) are only legally required to notify their journey to the Police – NH Service Providers will not receive a notification and would not have the opportunity to inform hauliers of width restrictions at roadworks**
- 3. The document also highlights authorities that have the power to stop and divert loads:**
  - **AILs must NOT be diverted as they are restricted to moving on previously agreed and notified routes. If an incident occurs, only the Police have the powers to reroute an AIL; only the Police, Driver and Vehicle Standards Agency (DVSA) and NH Traffic Officers have the power to stop a load until an event is cleared.**
  - **If an emergency diversion is required, please contact the Police control room for loads in excess of Construction and Use (C&U) weight limits contact the Structure Owning Authorities (SOA).**
  - **If a planned diversion is required please contact the local Police Abnormal Loads Officer, any other SOAs and for Special Order AILs also contact the NH AIL Team.**

The traffic management tools that this document puts forward are aimed to reduce the likelihood of these conflicts. It is vital to ensure that the necessary stakeholders are involved in planning discussions. The Police and SOA AIL Officers have knowledge and experience of the movement of loads through their area. This knowledge includes the common AIL routes, the hauliers that would be affected and possible diversions. The AIL Officers will also be involved in the notification of moves and so will be well placed to inform hauliers at this stage if there are works that will cause disruption.

This paper should be read in conjunction with:

- Traffic Signs Manual Chapter 8 (Traffic Safety Measures and Signs for Road Works and Temporary Situations)
- Network Management Manual: Part 6 Network Occupancy Management
- [Abnormal Loads Procedure DE3.15](#)
- Prevention of bridge strikes: A good practice guide for transport managers, A Protocol for Highway Managers and Bridge Owners

## Conflicts Background

AILs are frequently wider than one lane with a number exceeding two lanes, the weight can also be a concern with some in the region of 300T. These moves are coordinated with teams in the NH, the NH Service Providers, the National Traffic Control Centre (NTCC), Regional Control Centres (RCC), SOAs and the Police. All are dependent on receiving good information on network occupancy and the timing of movements. This enables a move to be planned for a different date, an alternative route used or in some cases arrangements made to accommodate the move through works.

The Police AIL officers can also play a key role in the planning of major roadworks by providing information on likely AIL traffic and what total lane width should be provided; they are also the only party that are notified of all loads over 2.9m wide, keeping them up to date with roadworks can help prevent conflicts from happening.

Increasingly all authorities are focusing on managing congestion which leads to trying to avoid unnecessary disruption at peak traffic times. This has in turn led to the majority of roadworks being planned to occur at night and so increased the number of conflicts. These conflicts occur when the remaining road space is less than the width of the load or a temporary weight restriction prevents the move from proceeding.

An AIL (in excess of 2.9m) arriving at roadworks cannot be diverted from its agreed and notified route without direction from a Police Officer and for the heavier moves (in excess of C&U limits) clearance of structures is required from the SOA. This constraint also applies to signed diversion routes and any AIL deviating from the agreed and notified route would be considered to be moving without permission.

A roadworks/AIL conflict presents serious safety, congestion and operational issues. A stationary AIL on the road presents a hazard to other road users, the AIL driver and any AIL escort driver. The stationary AIL will also impact the congestion levels at that location as road users negotiate the AIL and the roadworks. Operationally the disruption affects the roadworks as staff are diverted to manage the conflict, but for the AILs it can result in delayed delivery and issues with driver working hours.

## Optimising Traffic Management at Roadworks with Consideration for AILs

A number of tools can be used to reduce the impact of roadworks on the general traffic and AILs. Not all of these tools are beneficial for both groups but the following highlights the key points and considerations.

In implementing these tools, it is key to ensure that the necessary stakeholders are involved in planning discussions. The Police and SOA AIL Officer have knowledge and experience of the movement of loads through their area. This knowledge includes the common AIL routes, the hauliers that would be affected and possible diversions. The AIL Officers will also be involved in the notification of moves and so be well placed to inform hauliers at this stage if there are works that will cause disruption.

Safety must be the primary consideration at all road works, and during both works planning, and execution, the service manager and Service Provider must address the safety needs of those engaged in the road works, the road user, and the general public.

### Diversion Routes

**AILs must NOT be diverted as they are restricted to moving on previously agreed and notified routes. If an incident occurs, only the Police have the powers to reroute an AIL and only the Police, DVSA and NH Traffic Officers have the power to stop a load until an event is cleared.**

**If an emergency diversion is required, please contact the Police control room and for loads in excess of C&U weight limits contact the SOA.**

**If a planned diversion is required please contact the Local Abnormal Loads Police Officer, any SOAs and for Special Order AILs also contact the NH AIL Team.**

The designer should discuss road closure options for any planned works with the Police and the appropriate Highway Authorities early in the planning stage. Diversion planning should make consideration of any reduced height of the diversion route and clearly indicate any additional restriction of the route.

### Alternative Routes

Where works result in a reduction in the total lane width then they should be timed to ensure they do not conflict with similar works on an alternative common AIL route. For example, if works on the A1 are well communicated then it will be possible for the majority of the traffic to use the M1 instead.

### Agreed No Works Days

If works are to persist for an extended period, it may be reasonable to arrange for regular days where no restrictions or reduced restrictions are in place. The Police Abnormal Loads Officers are best placed to provide information on what days are most suitable and what width and weight capacities should be available.

## Minimum Width and Weight Capacities

In the guidance on the movement of AILs provided by ACPO (Association of Chief Police Officers), loads over 4.6m wide or over 130 tonnes in weight should be accompanied by an escort when travelling on motorways; however, this is at the discretion of the individual Police force and is dependent on the road conditions; therefore, the Police should be kept up to date with all active and planned roadworks.

When road capacity is reduced below this then the general management through the Network Occupancy Management System (NOMS) is insufficient and the Police will need to be made aware at the planning stage.

The width requirement of 4.6m may include a nearside overhang of no more than 0.8m provided there is no physical obstruction to any carried load, it does not encroach into road worker safety zones and road workers are made aware.

The weight capacity requirement of 130T is based on 8 axles at 1.2m spacings. If this exceeds the current capacity, then the current capacity will be the minimum requirement. Any reduction below the minimum capacity requirement will require the Police to be informed.

## Temporary Lifting of Works

In the event that a load must move the Police may request that works be lifted. It is at the discretion of the TSCO (Traffic Safety and Control Officer) or equivalent to agree to this arrangement and to facilitate exceptional loads.

Coordination between the works manager, Police and haulier would be expected in advance of the move to determine what arrangements would be required. In some cases, it may be necessary to cease work for one night, in others traffic management may be moved on arrival of the load.

## Working with the Police

Local Police Abnormal Load Officers can provide useful information on AIL traffic as they are notified of all movements in excess of 2.9m wide, 18.65m long and/or greater than 80T. At the works planning stage the Police should be invited to provide advice on normal AIL traffic characteristics, volumes, routes and diversions. On receipt of notifications to move the Police are able to inform hauliers that works are in place, advise on alternative routes and act as a coordination point. However, there is no statutory requirement for this advice to be provided.

## NOMS Information for the Police

The Police may receive information from NOMS at regular intervals. Keeping the information in NOMS up to date is key to ensuring that the Police are aware of what is happening on the NH network. However, this does not remove the need to involve the Police at the planning stage where changes to available road space is expected.

The Police rely on knowing the effects of works on lane occupancy and if narrow lanes are in operation. Having good contact information in NOMS on the relevant works managers will also allow the Police to quickly investigate possible conflicts.

## Notification

Hauliers are legally required to provide notice to the Police, structure owners and/or the NH Service Providers dependent on the route and dimensions of the load. Additionally, a haulier of SO loads must allow 8 weeks to apply to the NH AIL Team for a Special Order, give 5 days notification to all authorities and 60 min notification to the NTOC (National Traffic Operations Centre). Full details can be found in the table 'Abnormal Indivisible Load Categories and Notifications.' Service Providers should review

## Movement of Abnormal Indivisible Loads through Planned Roadworks

notifications received against known roadworks and inform the notifying haulier/agent if a conflict may arise between the AIL and the roadworks.

## Publicising Roadworks Restrictions

Consideration should be given at the planning stage to publicising any roadworks restrictions that may affect the movement of AILs through the works. Service Providers should consider informing known AIL operators, and haulage associations such as the Heavy Transport Association, when roadworks are likely to have an impact on AILs, providing details of the restriction, dates, timings and duration. This will enable hauliers to plan their movement effectively and consider alternative routes or timings. Hauliers would then be able to notify their moves in full knowledge of any restrictions.

## The Use of Night-time Only Working

Night-time only working shifts all the congestion impact to the night when traffic volumes are at a minimum. However, AILs are often encouraged and directed to move at night for the same reasons which can lead to conflicts.

## Lane Closure

Closing lanes is often the only way to provide adequate working areas and safety zones for road workers. This will result in a reduced total road width which can present serious issues for the AIL.

## Narrow Lanes

Reduced lane widths, incorporated with reduced speed limits may maintain traffic flow and safety better than reducing the number of lanes. Many loads will be wider than this reduced lane width, and some may be wider than the total available lane width.

As per chapter 8 of the Traffic Signs Manual; on all roads, in order to provide the required lateral clearance, the running lane width may be reduced according to the expected type of usage. Where heavy vehicles, including public service vehicles, caravans etc. are expected, the lane width may be reduced to 3.25 m (desirable minimum) or 3.0 m (absolute minimum). Where two lanes are required for HGVs the near side lane should be 3.25 m (absolute minimum).

## Hard shoulder running

Opening the hard shoulder during roadworks provides an additional lane for traffic. This will alleviate issues for wide loads but may present issues for the heavier loads if the hard shoulder has less load carrying capacity than the normal lanes.

## Changeovers and Chicanes

Changeovers and Chicanes can present an obstacle to long AILs resulting in a need to reduce the speed and use additional lanes. Loads up to 18.65m long and 2.9m wide do not need to notify and may arrive at works without notifying or being warned of the specific restriction. Other loads frequently exceed 30m; 80% of SO loads are up to 47.5 m.

## Contra-flow

Directing traffic to use the opposite carriageway can balance disruption in both directions. However, additional care must be taken to ensure all parties are aware that this traffic management tool is in operation. Special care must be given where this will result in a split-lane contra-flow (e.g. separated by a central reservation).



# Movement of Abnormal Indivisible Loads through Planned Roadworks

## Signing

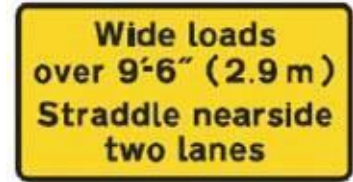
On dual carriageway roads, and at other locations as appropriate, vehicles carrying wide loads may require special consideration at road works.

Road works with three or more running lanes, of which the near side two lanes are contiguous, will generally permit wide loads of 2.9 m to 4.6 m (wide load straddling the near side two lanes) to pass safely through the works un-escorted, while maintaining at least one running lane for other traffic. Signs to diagram 7292, variant "Straddle nearside two lanes" should be used for such cases and should be sited on the near side verge at 1 km and 2 km upstream of the works. These signs should be repeated at the start of the works and following any junctions within the road works site.

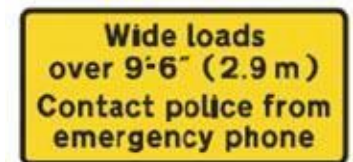
Where there are only two contiguous running lanes and no suitable diversion route around the road works, consideration should be given to the provision of a wide load escort facility. Signs to diagram 7292, variant "Contact Police from emergency phone" should be used where the Police provide a wide load escort service. The signs should be sited on the near side verge at 1 km and 2 km upstream of the emergency telephone location. Where an escort service is provided by other agencies, suitable wording and signs authorisation will be required.

An "emergency telephone" sign to diagram 7293 indicating to drivers of wide loads the location of the telephone should be sited in the verge adjacent to the emergency telephone.

Designers should be aware that free-standing temporary emergency telephones, based on mobile phone technology, are available.



7292 variant



7292 variant



7293

## What to do in the event of a conflict?

**AILs must NOT be diverted as they are restricted to moving on specified routes.**

If a conflict occurs the primary concern must be to ensure road safety and secondly to minimise the impact to congestion. To this end the immediate action must be to control the situation by requesting the driver of the AIL or the escort that the load be positioned as safely as possible until the situation can be resolved.

It may be possible to move traffic management to allow the move to pass. If this can be done quickly and safely then this should be carried out. If not employing emergency traffic management should be considered to provide short-term protection to those dealing with the incident, protect and give direction to other traffic approaching the scene and help manage related congestion.

Once the situation is controlled contact should be made to the Police Abnormal Loads Officer and the NTCC. Only the Police have the powers to reroute an AIL and only the Police, DVSA and NH Traffic Officers have the power to stop until an event is cleared.

If an emergency diversion is required contact the Police control room and any SOAs for loads in excess of C&U weights.

Consideration should be given to the risks of the resumption of the AIL movement. It may well be necessary to implement a rolling roadblock to ensure that the load can safely leave the works.

For all conflicts the details should be recorded and reported so that lessons learned procedures can be followed and reduce the likelihood of the conflict occurring again.

## Abnormal Indivisible Loads - Definitions

Special Order (SO) loads are the heaviest, widest and/or longest loads. Any abnormal load over 150T gross vehicle weight or over 6.1m width or over 30.0m in rigid length is classified as a SO. The main requirements for hauliers are to allow 8 weeks for the application to the NH AIL Team, 5 days notice to Highway Authorities and 5 days' notice to the Police. Form BE16 is used by the haulier to make the notification, though this, as with all notifications, can be made through ESDAL (Electronic Service Delivery for Abnormal Loads). It is a requirement of the SO to carry a copy of the agreed route on the move.

Special Types General Order (STGO) are loads not in the SO category, but which are over the weight limit for the number of axles, wider than 3m or longer than 18.65m are divided into three categories depending on gross weight and axle weight. Notification is made to National Highways and/or Police forces.

A further category is used for loads over 5.0m wide where 2 weeks' notice must be given to the NHAIL team; this notification is made using a VR1 form.

Construction and Use (C&U) are loads that are not in the STGO category, but which do not qualify under normal heavy goods vehicle (HGV) movements because of their size (width, length or overhang). Notification for these types of loads is made to the Police forces.

## Abnormal Indivisible Load Categories and Notifications

Gross vehicle weight		Axle weight	Width ≤2.9m Length ≤18.65m	W>2.9m L>18.65m	W>3m L>18.75m Vehicle combination L>25.9m	W>5m, VR1	W>6.1m L>30m, SO
≤18T (2-axle) ≤26T (3-axle) ≤32T (4-axle rigid) ≤36T (2+2 axle artic) ≤40T (5-axle) ≤44T (others)	C&U	> AWR Limits	N/A	Police: 2days	Police: 2d	HA AIL team: 2w Police: 2d	HA AIL team: 8w Police: 5d RBA: 5d
Exceeding above limits and ≤50T, STGO Cat 1	>10T >11.5T Drive Axle	Road and Bridge Authorities (RBA): 2d		Police: 2d RBA: 2d	Police: 2d RBA: 2d	HA AIL team: 2w Police: 2d RBA: 2d	
>50T, STGO Cat 2							
>80T, STGO Cat 3	>12.5T	Police: 2d RBA: 5d		Police: 2d RBA: 5d	Police: 2d RBA: 5d	HA AIL team: 2w Police: 2d RBA: 5d	
>150T, Special Order, (SO)	>16.5T	HA AIL team: 8w Police: 5d RBA: 5d					

### Key to classifications:

C&U	STGO
<ul style="list-style-type: none"> <li>– Loads in excess of 2.9m wide or 18.65m long: 2 clear days notice to Police</li> </ul>	<ul style="list-style-type: none"> <li>– Loads greater than 44 Tonnes or C&amp;U limits and 80 Tonnes or less: 2 clear days notice to Police and RBA notification with indemnity</li> <li>– Load over 80T: 2 clear days notice to Police and 5 clear days RBA notification with indemnity</li> </ul>
STGO VR1	Special Order (SO)
<ul style="list-style-type: none"> <li>– <b>Application to NH 2 weeks prior to proposed date of movement</b></li> <li>– Loads greater than 50T or C&amp;U limits and less than 80T: 2 clear days notice to Police and RBA notification with indemnity</li> <li>– Load over 80T: 2 clear days notice to Police and 5 clear days RBA notification with indemnity</li> </ul>	<ul style="list-style-type: none"> <li>– <b>Application to NH 8 weeks prior to move</b></li> <li>– 5 clear days notice to Police and RBA notification with indemnity</li> </ul>

Note: There are other factors, e.g. rigid length and overhangs that also affect the notification requirements. There are also authorised weight regulations (AWR) that may apply.

## AIL Escorts

AILs are occasionally escorted by the Police, though there is not a statutory requirement to do so, but more frequently by private escort firms. NH guidance exists in the form of code of practice and operating guidance for abnormal load escorting. These documents advise that the role of the escort is to alert other road users and act as the primary point of contact. General guidance is also given on when an escort will be required:

<i>Measurement</i>	<i>For Motorways</i>	<i>For all other roads</i>
Load/Vehicle width exceeds	4.6m	4.1m
Overall vehicle length exceeds	-	30.5m
Vehicle gross weight exceeds	130 tonnes	100 tonnes

## Summary

This document has set out the background and causes of AIL / roadworks conflicts as well as highlighting the need to ensure there are good communications between those involved in the design and deployment of roadworks and those concerned with AILs.

The document highlights a number of tools that are available for optimising traffic management at roadworks with consideration for AILs and particularly stresses the use of NOMS as the primary method for communicating roadworks information.

- Diversion Routes
- Alternative Routes
- Agreed No Works Days
- Minimum Width and Weight Capacities
- Temporary Lifting of Works
- Working with the Police
- NOMS information for the Police
- Notification
- Publicising Roadworks Restrictions
- The Use of Night-time Only Working
- Lane Closure
- Narrow Lanes
- Hard shoulder running
- Chicanes
- Contra-flow
- Signing

Importantly the document details what to do in the event of a conflict, especially considering the difficulties in only the Police having the power to reroute a load in an emergency.

## Further Enquiries

For further enquiries please contact:

Abnormal Loads  
National Highways  
The Cube  
199 Wharfside Street  
Birmingham  
West Midlands  
B1 1RN

Email: [abnormal.loads@nationalhighways.co.uk](mailto:abnormal.loads@nationalhighways.co.uk)

Direct Line: 0300 470 3004

## APPENDX 1: Network Occupancy

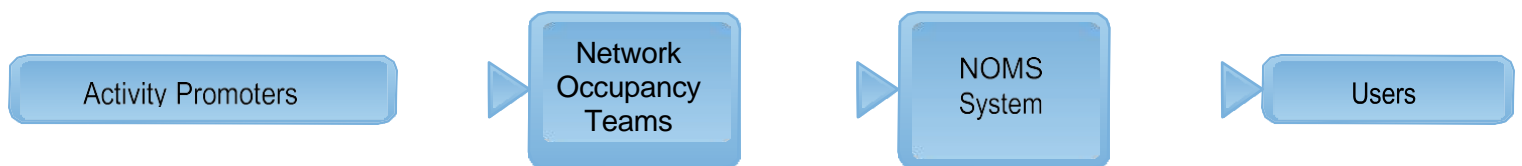
### Network Management

The network occupancy management process is owned by Safety Engineering and Standards (SES) and is delivered primarily by the Service Managers Network Occupancy Teams or Service Providers. The process introduces an improved set of procedures for the management of road space occupancy with the primary objective of reducing road user delay and the associated delay cost, through a structured evidence-based decision-making approach.

Any activity on the network that may contribute, either directly or indirectly, to congestion on the network is covered by this process. This includes activities on the hard shoulder, cycle tracks and footways. The recording and coordination of abnormal load movements is not covered but DE3.16 Special Order Procedure describes when AILs should be added as events and clarifies roles and responsibilities.

### Network Occupancy Management System (NOMS)

Proper management of network occupancy requires complete knowledge of all planned activities. The HENOMS system is the single central repository for information on all planned activities, and there are many users of the information contained within the system.



The previous diagram summarises the information flows to and from NOMS and emphasises the importance in populating the NOMS system. Activities are added firstly as a provisional and then as a firm booking, including any subsequent changes. A provisional booking is made further in advance than a firm booking and may include less detail.

For Special Order AILs a firm booking is made at the 5-day notifications stage by the NOMS Team and there is no requirement to make a provisional booking at the route consultation stage. However, if dates and timings are provided with the approved SO details then this information should be recorded.

It is important to note that bookings can be amended at any time up to commencement of the activity. The firm booking does not mean that activity configurations cannot be subject to further refinement. This is likely to be the case as proactive coordination of activities is undertaken.

## Conflict Analysis in NOMS

As part of the activity booking procedure, the functionality of the NOMS system identifies any direct conflict between competing demands for the same road space from different activities. This is a comparison of data on the system and should be taken as such by the Service Provider.

The Service Provider must review the results and resolve with the activity promoter and if necessary utilise the escalation procedure. The escalation procedure has three stages starting with the Service Provider and activity provider. The further stages include the Area Performance Manager and the Regional Operations Board or National Operations Group. All stages require NOMS to be reviewed once the conflict is resolved.

## Coordination of Network Activity

Coordination is the review and management of road space occupancy, to ensure the minimum road user delay results from a given amount of activity on the network.

The role of coordination must be undertaken by the Service Provider with a wider remit than just the 'area' i.e. activity in adjacent areas. To fulfil this role the Service Provider must liaise with a range of personnel, specifically those of adjacent area Service Providers and local highway authorities. There are many groups providing platforms for the exchange of relevant advance coordination information, for example local NRSWA coordination meetings and Safety Advisory Groups.

The Police Abnormal Load Officers must be one of the key personnel to be consulted. The officers have the best available understanding of AIL traffic that use the Network and will be aware of specific moves and events that may conflict with works. Based on their knowledge they will be able to advise on the likely conflicts of different lane width reductions and propose solutions to reduce the impact for all.

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