Case study

Vehicle Incursion Protection During Major M60 Closures

M60 J18 Simister Island

Products installed:

- Incursion Defender

The M60/M62/M66 Simister Island Interchange at M60 Junction 18 is one of the busiest motorway junctions in the north-west, used by approximately 90,000 vehicles every day. This high volume of traffic is above the capacity the interchange was designed for, resulting in congestion and delays.

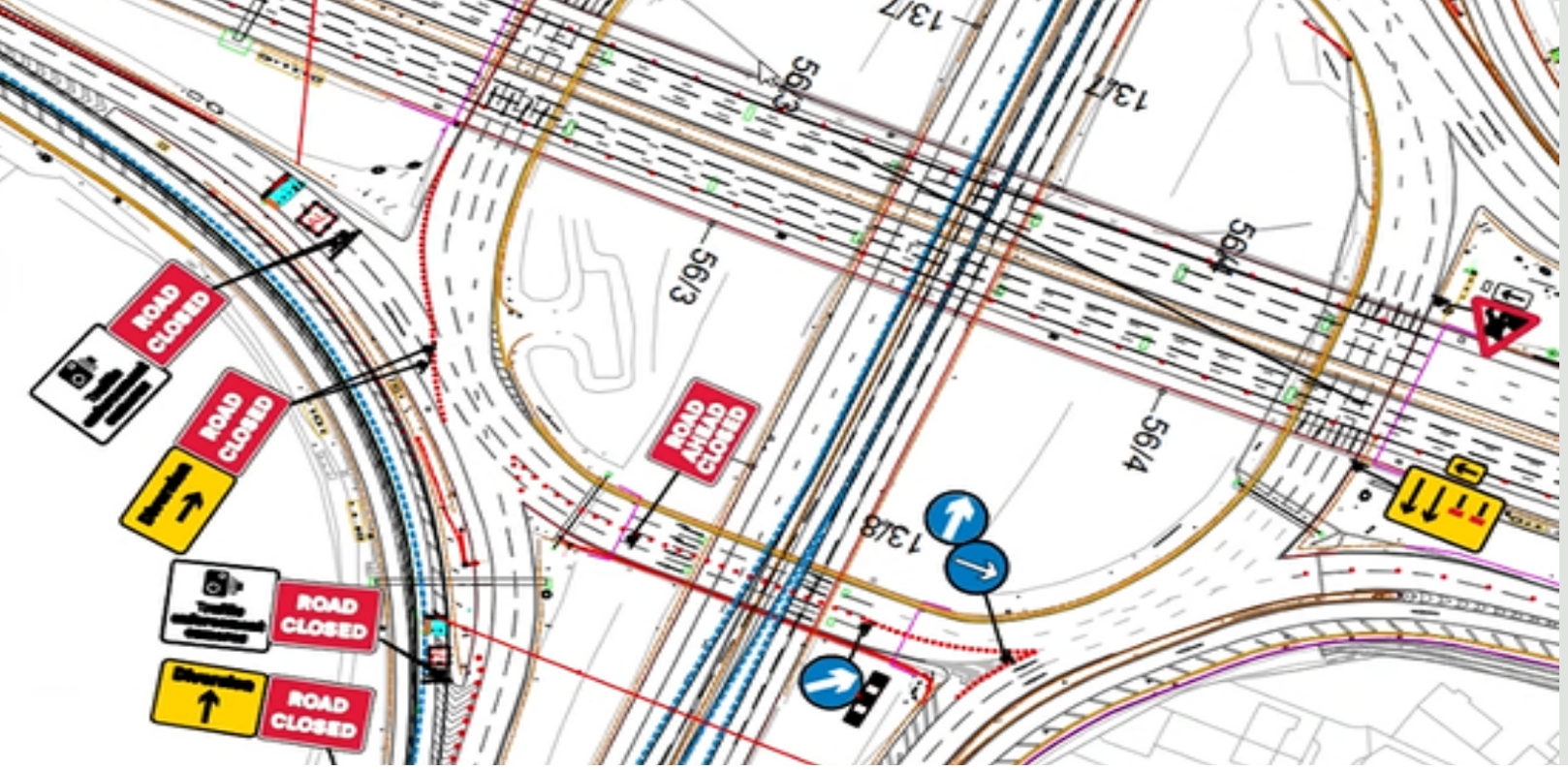
Costain have been contracted by National Highways to carry out junction improvements, with works getting underway in June 2026 and project completion expected in Winter 2029.

Incursion Defender systems were deployed across five locations, using modular configurations tailored to the requirements of each closure point, as part of major traffic management operations for the M60 J18 Simister Island project. The systems supported two full-weekend closures while maintaining controlled access for authorised site movements.

The deployments took place from 26th - 28th September and 10th - 12th October 2026, with each closure lasting approximately 33 hours.

The project built on Costain's successful earlier trial of Incursion Defender on Transport for London's Gallows Corner Flyover project on the A12 Eastern Avenue. That one-month trial had enabled Costain to assess the system at a busy works access point in a live environment before its wider deployment at Simister Island.



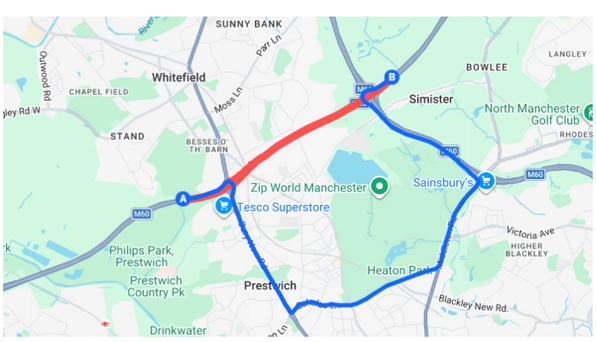


The challenge

Closing a section of the M60 for an extended period required a robust traffic management operation.

Approximately 1.7 miles of motorway was closed, with affected road users directed onto a 4.8-mile diversion through the surrounding road network.

As well as needing to establish and maintain the closure, Costain required controlled access at designated locations for authorised site movements.



There was also a site-specific consideration at Junction 17. Previous incidents in the area had highlighted the potential for vehicles to access the motorway in an unauthorised and unpredictable manner, with Greater Manchester Police raising the issue as a consideration during closure planning.

With the entry slip closed during the works, protecting the workforce against determined vehicles formed an important part of the traffic management considerations.

Our approach

Working with Costain, Hill & Smith Infrastructure planned the Incursion Defender deployment around the traffic management arrangements.

Five installations were deployed as part of the Simister Island closure:

- M60 clockwise J17 entry slip: 9m
- M62 westbound mainline at J18: 13.5m
- M60 anti-clockwise J18 entry slip: 10.5m
- M60 clockwise mainline under J17: 15m
- M60 anti-clockwise J18 entry slip, second installation within the same closure: 3m

The locations had different operational requirements, including points where controlled access needed to be maintained throughout the closures.

Incursion Defender was integrated into the wider traffic management arrangements to provide physical vehicle incursion protection at key closure points. The system formed part of an airlock arrangement, complementing the conventional traffic management measures used to manage the closure.

Its modular design allowed different configurations and lengths to be used across the five deployments, according to the specific requirements of each locations.

Engineered Incursion Protection

Incursion Defender is a freestanding, surface-mounted modular system developed specifically to protect temporary road closures against vehicle incursions while considering the safety of both roadworkers and vehicle occupants.

The system provides a highly visible physical deterrent while also being designed to capture an impacting vehicle and bring it to a controlled stop before it reaches the work zone.

Incursion Defender has been tested as a highway device and is engineered to CD 378 2.51.UK and MASH 2016 performance standards.

Impact testing at 30mph and 50mph achieved Impact Severity Level A, with stopping distances of 16m and 41m respectively and no cabin penetration recorded.

Its use is also supported by a GG104 safety risk assessment covering the installation and operation of the system within temporary traffic management.

Where controlled access is required, an optional wheeled configuration allows the system to be moved for authorised vehicles before being returned to its protective position.

Supporting an Active Worksite

The access barriers were in regular use throughout the weekend closures.

Incursion Defender was opened and closed approximately 15 to 20 times during each 12-hour shift to support authorised vehicle movements.

Physical protection could not come at the expense of the access required to deliver the works, so the system needed to remain practical for traffic management personnel to operate repeatedly throughout the closure.

The wheeled configuration enabled controlled access when required before the barrier was returned to its protective position.

“Following the successful trial of Incursion Defender at Gallows Corner, we were keen to build on that experience at Simister Island. The system performed really well across the closures and we received excellent feedback from the operatives using it, particularly around how straightforward it was to operate while maintaining the access needed throughout the works.”

Mark Krall, Senior Traffic Management Manager, Costain

Results on Site

No vehicle incursions were reported at the Incursion Defender locations across the two weekend deployments.

This was particularly relevant at Junction 17, where the potential for unauthorised vehicle access had been identified during closure planning.

While no impact occurred during the deployments, Incursion Defender remained in position throughout both extended closures, providing a clear physical deterrent backed by tested impact performance should a vehicle continue into the closure.

“Simister Island demonstrated the wider capabilities of Incursion Defender, not only providing physical protection but acting as a highly visible deterrent and giving teams the flexibility to manage access points around complex operational requirements. It shows how the system can play an important role in both preventing incursions and protecting the workforce should one occur.”

Mark Greenly, Operations Works Manager, Hill & Smith Infrastructure

Conclusion

The M60 Simister Island project extended Costain’s use of Incursion Defender from an earlier single-location trial to five locations across a complex motorway closure.

Over two extended weekend deployments, the system supported frequent authorised access while providing physical vehicle incursion protection at key points within the traffic management arrangements.

The deployment showed how Incursion Defender can be integrated into major temporary traffic management schemes where both incursion protection and controlled access need to be considered.



Find out more

For more information on Vehicle Incursion Defence Systems, contact **info@hillandsmithinfrastructure.com**

HILL & SMITH INFRASTRUCTURE