

# SafeHaul Suite



With big trucks come big challenges. Transportation agencies strive to keep people and products moving safely along their nations' highway systems. When it comes to permitting and routing oversized/overweight (OS/OW) vehicles, they must balance the safety needs of the motoring public with protecting the infrastructure and meeting the commercial trucking industry's expectations.

Hexagon's Geospatial division's SafeHaul suite integrates a fast, accurate permitting system with a routing and restriction management solution to provide OS/OW vehicles with travel permits and the safest route possible.

## Key Benefits

**Faster permit issuance** – 24/7 online access

**Automated routing** – map view, driving directions, and legend; integrated with Google Maps

**Improved safety** – real-time restriction management and integration with existing data sources, including CVIEW and bridge analysis (Federal Bridge Formula, AASHTOware BrR, Moment and Shear, Bridge Postings)

**Streamlined workflow** – inclusion of agency-specific rules and regulations plus electronic payment and delivery of permit packages

## Modular System

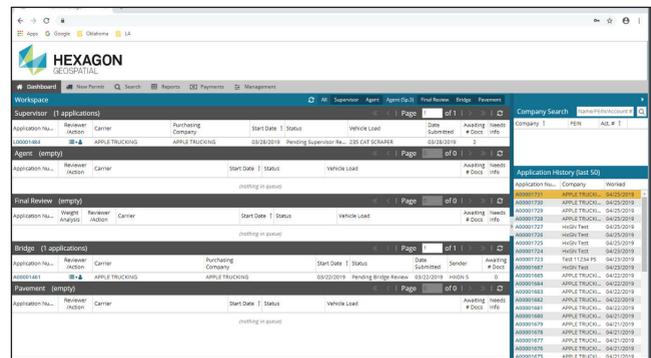
### Components

Hexagon's SafeHaul OS/OW solution offers maximum flexibility as a turnkey solution. It can also be modularized to fit your needs – for instance, if you only need automated routing and restriction management, you can purchase only these modules. If you already own a permitting system, you can easily integrate it with our Route Planner application to streamline the ability to generate a safe route for a permit.

### Permit Manager

Permit Manager is a mobile-friendly web browser application that lets carriers request a permit, generate a safe route, and automatically receive the permit via both on-screen PDF and email. The automated interface captures vehicle and load information and applies business rules related to the requested permit. Once all required workflow steps are complete, the application accepts the carrier's payment and then automatically issues a permit.

Permit Manager also streamlines the workflows required



for manual review of a permit request should all business rules not pass. It also facilitates processing for walk-in and call-in customers. Permitting staff can review the request, make changes to the request including the route, and apply travel restrictions if necessary.

Many other daily operations are also automated, including financial management, workflow accountability, integration with other disparate systems, broad information search, and account and user management.

## Route Planner

Route Planner delivers a mobile-friendly, browser-based interface that lets you easily generate safe routes for permit requests.

Automated routing lets the user input a point of origin, destination and optional VIA points using a variety of input methods, including map click, street address, coordinates, and saved/recent locations. The system uses the input points and vehicle parameters to analyze the roadway network for restrictions relevant to the vehicle and generate a route that is safe for travel.

Commonly used routes can be saved and recalled in future permit requests to expedite the routing process.

Route Planner includes a map window that lets the carrier clearly visualize the route. In addition to its routing functions, the application can be integrated with commercially available map providers such as Google, enabling functions such as Google Street View™. The user can open a street view directly in the application for a virtual view of the roadway.

## Restriction Manager

Restriction Manager allows you to enter and manage road restrictions on the fly to ensure network constraints are up to date. You can also override an existing restriction, such as a bridge vertical clearance. Common restrictions include full road blockage and reduced capacity, as well

as directional and warning-type restrictions. While a full blockage or reduced capacity restriction will impact the routing decision process, a warning will simply provide information to the carrier on the permit document.

Restriction Manager provides point, linear, or area-type constraints.

**Point - restrict a spot in the road**

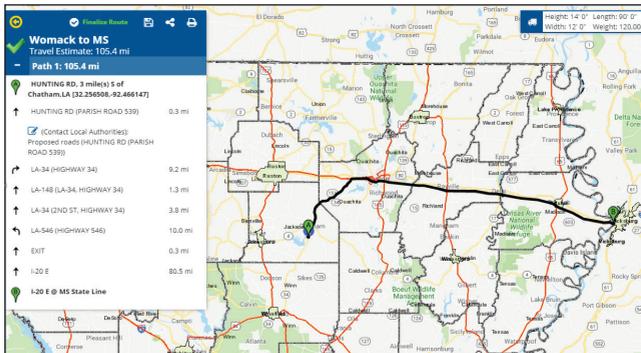
**Linear - restrict a road for any distance**

**Area – restrict all roads within an area, such as when weather is a factor**

**Bridge Evaluator**

Bridge Evaluator uses a variety of analytical methods including moment and shear calculations, bridge postings, and federal bridge formula to evaluate a bridge’s ability to support a vehicle. Depending on the analytical methods implemented, the application can list bridges identified along the route requiring analysis and identify those that do not pass. The system can optionally be configured to automatically calculate an optimal route around a failed bridge.

Bridge Evaluator can also interface with AASHTOWare BrR, when available, to examine every truck and bridge to ensure they are safe at all times for the traveling public.

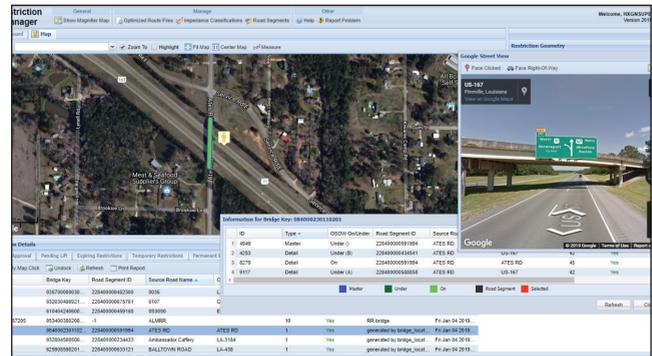


SafeHaul Restriction Manager is integrated with Google Maps.

**Business Intelligence & Reports**

Hexagon’s SafeHaul suite provides business intelligence and reports vital to analyzing data and integrating it with other systems. SafeHaul can provide reports in third-party BI tools such as SAP Business Objects, Microsoft SQL, and Microsoft Power BI. In addition, simple on-screen reports within the application allow users to view information pertaining to permits issued and other pre-determined search categories.

By connecting our solutions with CVISN and other agency programs such as GIS, you can perform checks



SafeHaul Route Planner features alternate routes and enhanced driving directions.

and share data on pavement, bridge, and other safety management systems. It also provides route data to help establish transportation improvement plans that address pavement maintenance and traffic congestion management. This information SafeHaul delivers can play a critical role in helping your agency to make smarter investment decisions.

**Mobile Extensions**

Today’s world is mobile.

Mobile Router is available for download in the Apple and Android online stores. This app gives permitted drivers access to their approved OS/OW routes and driving directions on the go using their mobile devices. Using Mobile Router, drivers can visualize the approved route, track their relative location, and receive Off-Route warnings if the vehicle leaves the approved route.

Mobile Restriction Manager, also available for download in the Apple and Android stores, lets field engineers and law enforcement personnel enter and manage network restrictions in real time. Mobile Restriction Manager extends the browser-based application by allowing the mobile user to perform edits in the field while also using the GPS location from the mobile device to position the restriction on the network.

## About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions, providing technologies that are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

Hexagon (Nasdaq OMX Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 4.3bn USD. Learn more at [hexagon.com](https://hexagon.com) and follow us @HexagonAB.

© 2019 Hexagon AB and/or its subsidiaries and affiliates. Hexagon and the Hexagon logo are registered trademarks of Hexagon AB or its subsidiaries. All other trademarks or servicemarks used herein are property of their respective owners.