

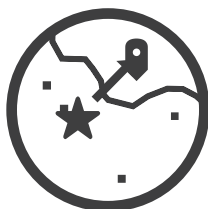
MARVLIS™

for Fire/Rescue



Dynamic, performative optimization
for fleet management and deployment

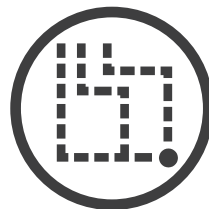
MARVLIS is a modular suite of integrated applications designed to improve your objective bottom-line performance. Using the latest GIS technology, this solution brings fundamental change to the management and deployment of time-sensitive resources for a higher level of performance. Dynamic display of available resources, demand forecasting, real-time coverage analysis, and intelligent routing are just a few of the ways MARVLIS helps optimize your operations.



**Move-Up
Recommendations**



**Demand/Risk
Forecasting**



**Modeling
with Live Traffic**



**Highly
Modular System**

Bradshaw Consulting Services provides innovative GIS solutions for public safety organizations throughout the world. Contact us today for more information on how BCS and our partners can help improve your operations.

As resources become scarce, the ability to place those resources where they can respond most appropriately becomes increasingly valuable. Fire suppression apparatus can achieve better response compliance rates by leveraging some of the core principles of MARVLIS that have proven to help emergency medical services. Instead of posting apparatus on street corners, the solution minimizes resource move-ups and is directed at filling gaps in coverage rather than continuously reacting to fluctuating demand. In defining minimum standards of coverage by resource type within districts, MARVLIS automates recommendations when that threshold is missed using focused resource moves to balance coverage without drawing other areas below their reserve.

Station move-up recommendations are an integral factor in optimizing fleet deployment strategies. To adequately inform dispatchers of changing conditions, recommendations must account for a variety of parameters:

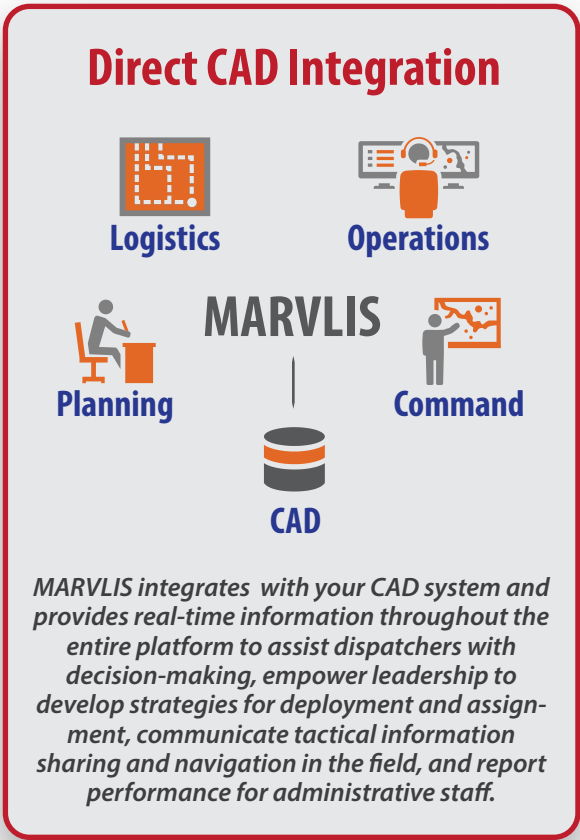
- Account for geographic minimum draw-downs by specific resource type and level
- Consider apparatus movements by district assignment in addition to AVL position and status
- Evaluate the weighted distance considered for moving resources to minimize travel without simply extending a hole in coverage or lowering readiness in a higher demand zone

Alerts are immediately displayed whenever resources run low as the result of a status change. Multiple move recommendations can be made for each district low on specific resources, however the system will not recommend moving units from districts already low on resources. Additionally, recommendations can be delayed with an optional setting to highlight a deficiency without making a recommendation to fill it.

Demand Forecasting is a significant tool in not only evaluating current and expected coverage needs but also in the station planning process. During daily operations demand forecasting updates live calculations of coverage, weighing the balance of geographic reach against the expected locations of potential calls for service. Each available response unit displays a dynamic service area around the vehicle to visualize the drive time area of coverage provided by that unit, even while moving.

Response unit service areas, closest available unit recommendations, and routing suggestions are calculated using historical AVL data or the TomTom Real-Time Traffic service.

Additionally, the software facilitates the definition of weighted criteria to establish risk-based forecasts. Combining these forecasts with proposed station locations users can interactively compare the statistical impact of adding or removing response locations from the deployment plan.



MARVLIS is a highly modular system comprised of a suite of products designed to cooperatively improve the maintenance and support of your operations. Tightly integrated with the latest Esri technology, each module provides a specific function to supplement the needs of your organization and enhance the capabilities of your CAD.

- **Deployment Monitor:** Dynamic map display for dispatchers illustrating resource coverage, active incidents, and response packages for calls
- **Deployment Planner:** Interactive tool to design optimal posting plans and evaluate new stations
- **MARVLIS Client:** In-vehicle display providing mapping, current incident details, routing, and status changes
- **PSAP/Ops Monitor:** Web and mobile-based display of system activity for command staff
- **Demand Monitor:** Analyzes historic incident data to forecast locations of high probability demand for service

As your agency needs and objectives evolve, MARVLIS is designed to grow in functionality to match your investment with the desired goals for operational performance enhancement. Best of all, improving performance may not change your deployment strategy, just provide you with the best information at the time you need it. Let us show you how MARVLIS can help.



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