MACH Software Utilization Highlights

Beaver Dam Render Safe Event
Kiel High School Incident
Husky Energy Refinery Explosion
(05/08/2018)

Background: The potential benefits of the use of MACH software for planned events and unplanned incidents has been emphasized since the rollout of the software for Wisconsin public safety agencies began in 2015. Over the course of the first part of 2018, an unusual high profile controlled burn event in Beaver Dam, a reported gunshot at the Kiel High School and an explosion and fire at the Husky Energy oil refinery near Spooner put many of the features of MACH to use, and on prominent display.

March 15, 2018 - Beaver Dam Render Safe Event: An explosion in an apartment complex in Beaver Dam killed one subject and revealed the potential presence of additional dangerous and volatile materials. A plan was established to render the area safe by conducting a controlled burn of the affected apartment. The render safe event required significant coordination between public safety agencies. MACH was utilized extensively as a tool for the coordination of the traffic control and perimeter security required for the event. Lead time prior to the planned event allowed for event specific MACH map layers to be created for use during the event. The map layers allowed assigned officers and incident command staff to better communicate and coordinate their efforts. Shown below are screenshots from the MACH map gathered during the event. On display are the pre-designated alternate traffic routes, traffic control points, perimeter locations, and other important event specific locations. Icons showing the real-time location of officers working the event are also displayed.
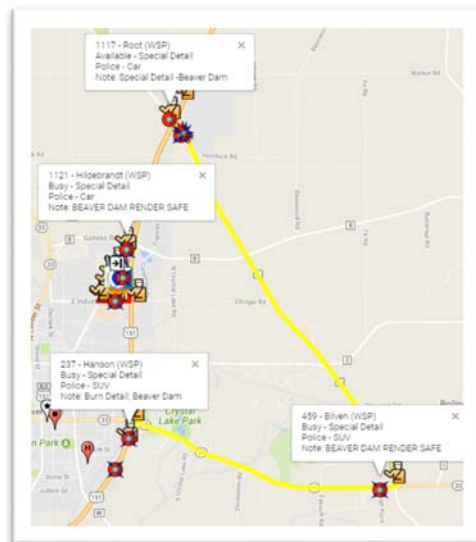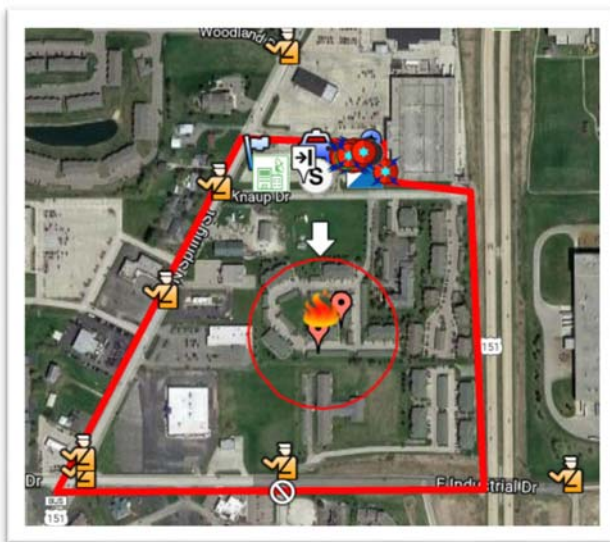
A Division of State Patrol supervisor that was directly involved with the event pre-planning and the execution of the mission provided the following feedback as to the usefulness of MACH.

> *"It (MACH) was used to overlay perimeters, both inner and outer, as well as alternate routes, hot zones, staging areas and other locations pertinent to the event. We put traffic posts on the map. We added detailed instructions for each post allowing the officers to hover over the post marker in order to see instructions for that post. Because staff from various regions were assisting and did not have local knowledge of the area, MACH provided real-time information for all.*
>
> *We used the MACH product in the command post as an accountability tool. We could see where officers were and from a command and control aspect, were able to see that officers were/were not at their assigned post.*
>
> *Other officers assigned to the detail could see the MACH layers and were able to maintain the same situational awareness and common operating picture as those working the detail.*
>
> *Officers not assigned to the detail could view MACH and have situational awareness in the event that additional assistance was necessary. That would help to expedite the briefing process off additional staff were called in in an emergency capacity.*
>
> *Command staff off-site were able to maintain the same situational awareness and common operating picture as those on-site. This was not limited to DSP staff. The Dodge County Sheriff had MACH displayed on his computer, as did the Dodge County Sheriff's Communications Center. Again, providing a common operating inter-agency picture."*

March 23, 2018 - Reported Gunshot Incident at Kiel High School: The Kiel Police Department received a report of a potential threat against the Kiel High School scheduled for Friday, March 23, 2018. Though a follow-up investigation did not reveal credible intelligence, heightened site security was put in place by local law enforcement with extra Division of State Patrol law enforcement staff assigned to area patrols. When a Kiel High School teacher reported hearing a possible gunshot in the area just prior to the beginning of the school day, a significant law enforcement response was generated.

Officers from seven different law enforcement agencies responded to the high school including over 20 Division of State Patrol officers. Both the Kiel Police Department and the Division of State Patrol were using MACH, allowing them to view each other's locations during the initial response. As the incident response progressed, Division of State Patrol officers were able to share information through entries made in MACH while plotting and viewing incident response related locations on the MACH map. Shown below are screenshots taken from MACH during the incident showing the location of responding officers, the Incident Hot Zone, the designated Staging Area, the Media Staging Area, and the Command Post.
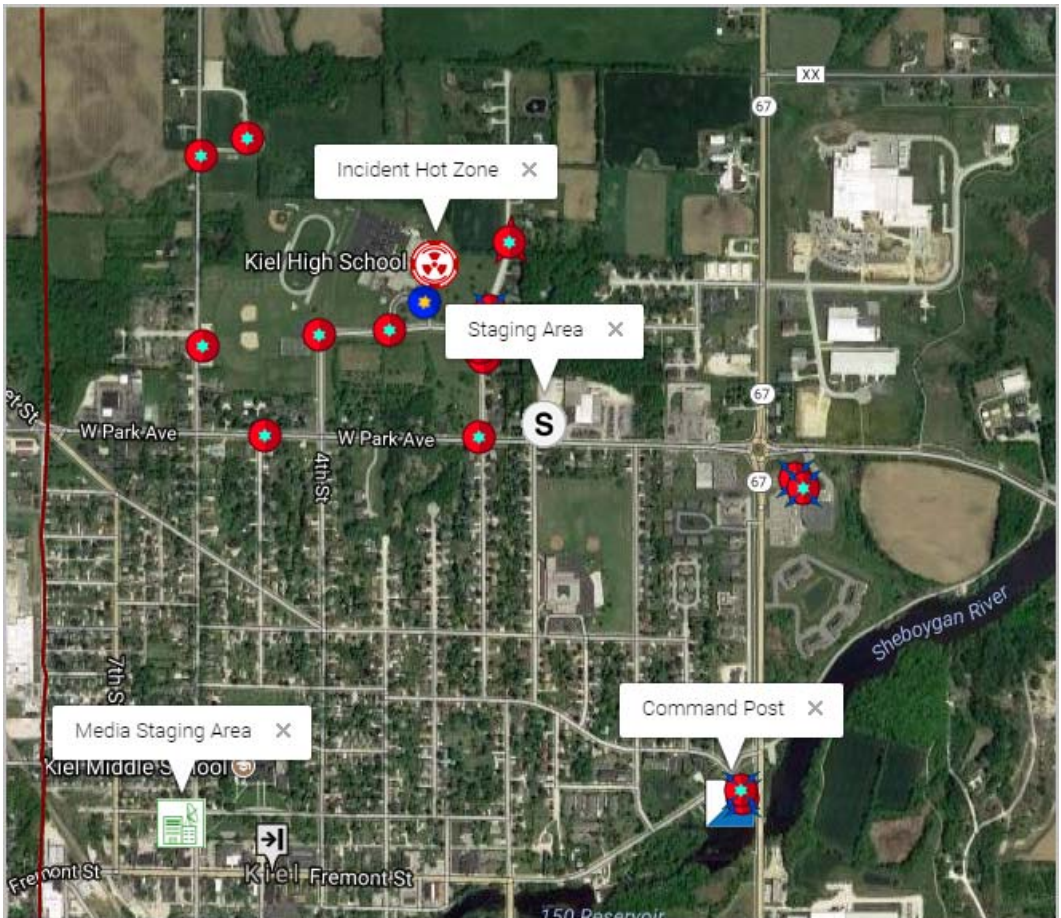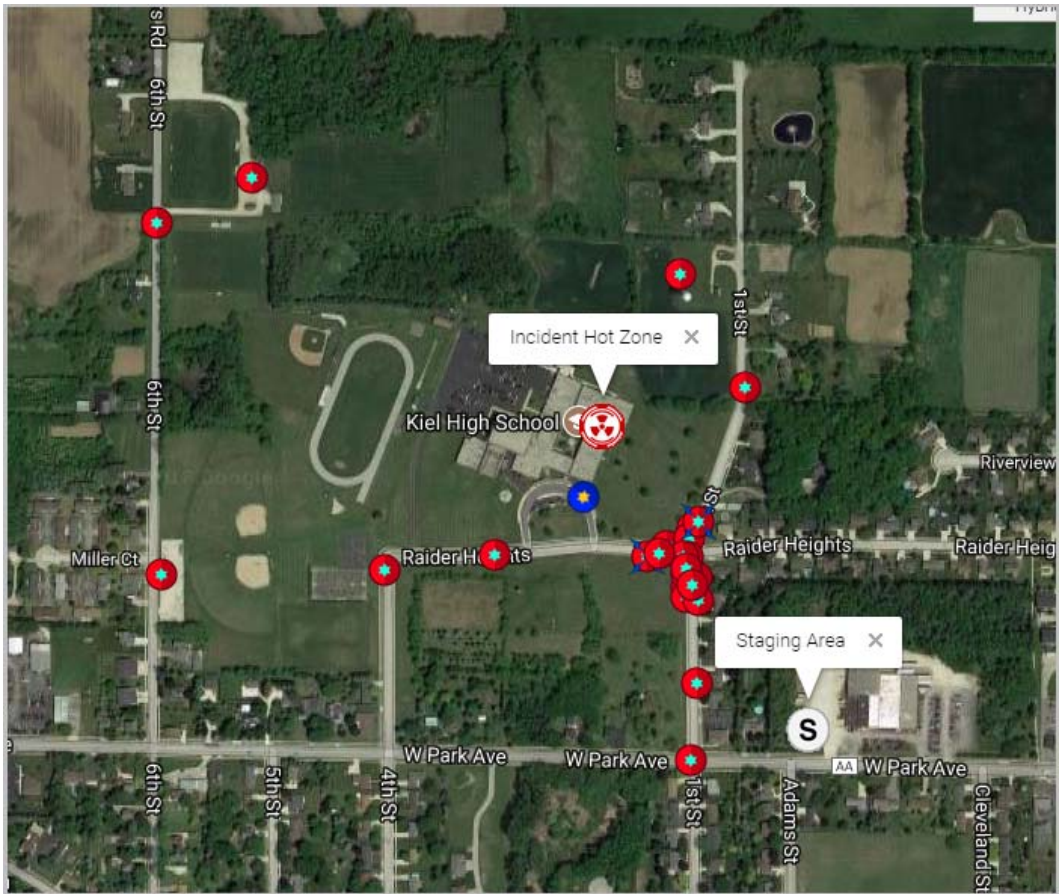
After an exhaustive search of the area was completed, it was determined that no current threat existed.

As part of the information gathering process for the completion of a Division of State Patrol - After Action Report, responding officers from the Division of State Patrol and other responding agencies were surveyed as to their use of MACH during the incident.

Highlights from the survey included critical functions that were improved due to the use of MACH including:
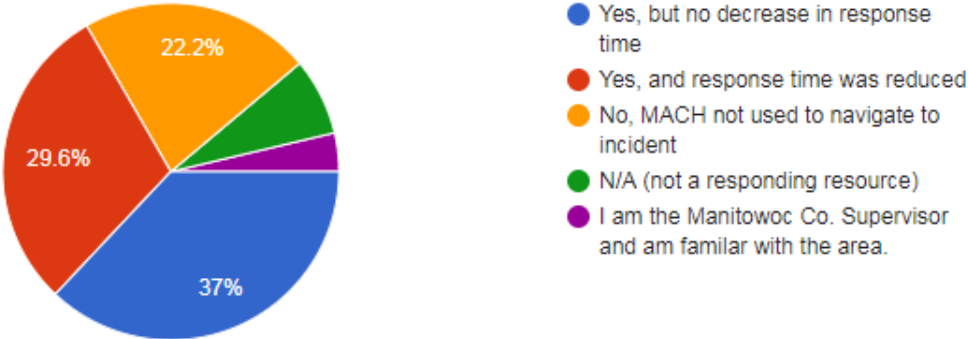
- **Decreased response times**
- **Increased situational awareness**
- **Decreased demand for emergency police radio communications**
- **Increased officer safety**

A selection of the survey responses are shown below.
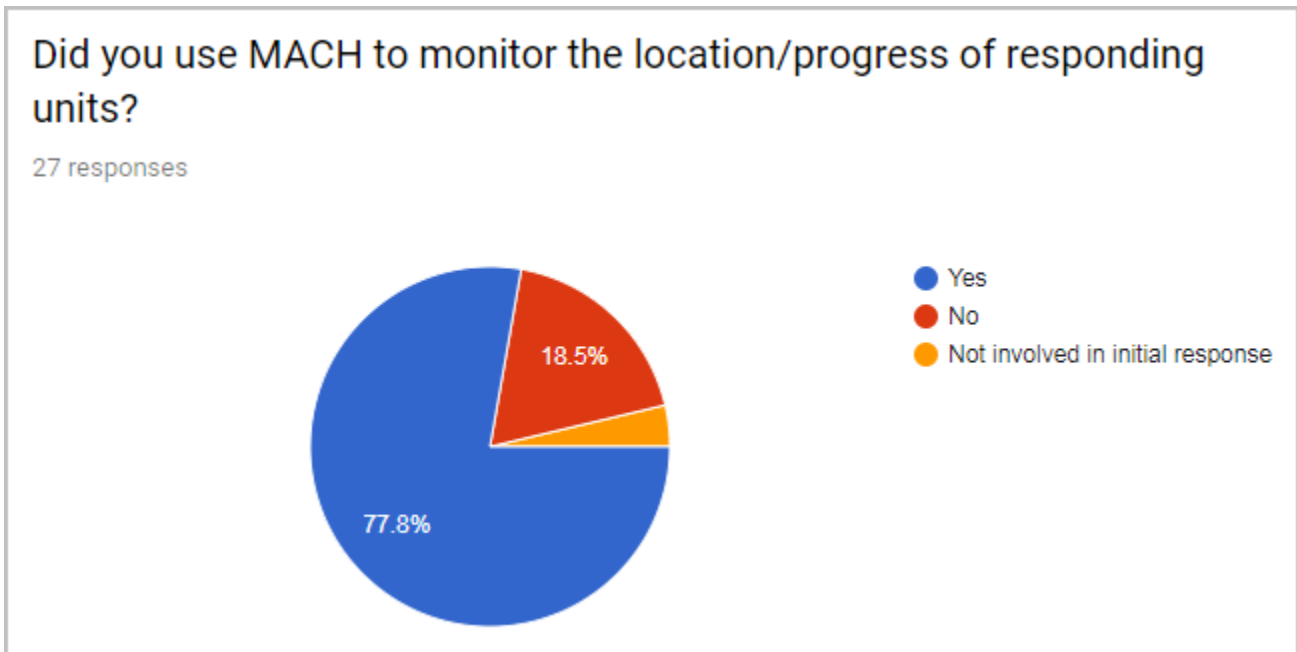
Did you use the MACH map as a resource for navigating to the scene of the incident or to a designated assignment/staging/command post location? If YES, was your response time reduced because of it?
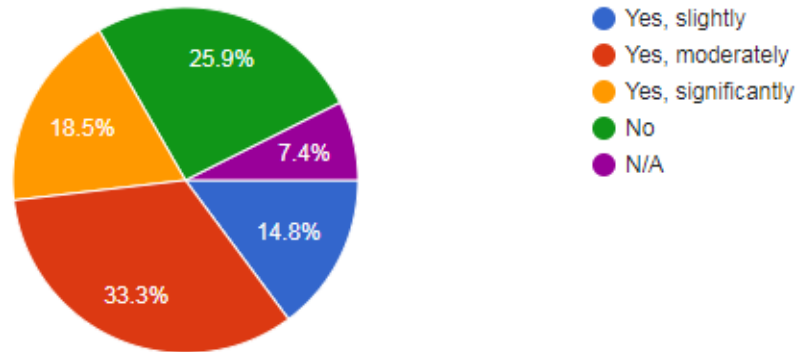
27 responses

- ● Yes, but no decrease in response time
- ● Yes, and response time was reduced
- ● No, MACH not used to navigate to incident
- ● N/A (not a responding resource)
- ● I am the Manitowoc Co. Supervisor and am familar with the area.

22.2%
29.6%
37%

Did the use of the MACH map enhance your situational awareness/understanding of the incident location or areas of assignment?

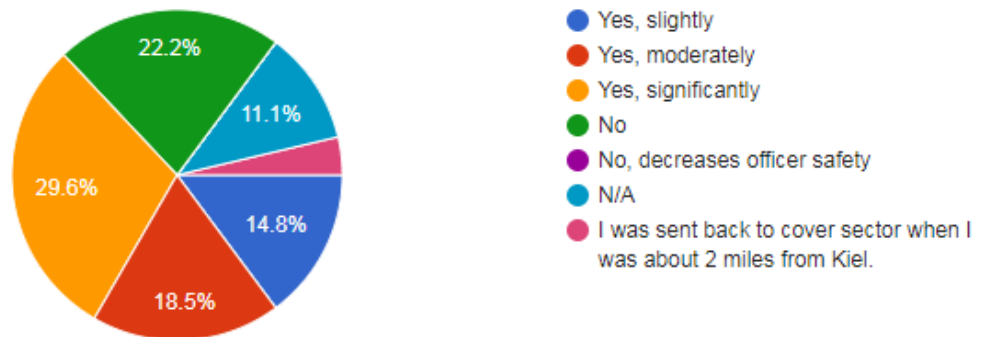27 responses

- ● Yes
- ● No

22.2%
77.8%
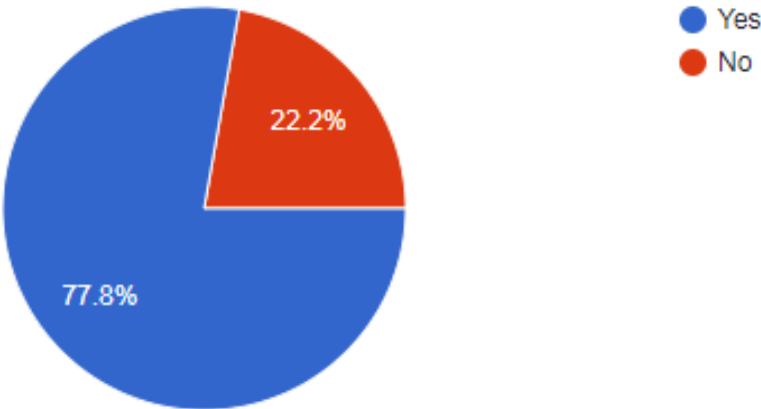
Do you believe that the use of MACH reduced the amount of police radio traffic would otherwise have been required to carry out your assignment?

27 responses

- Yes, slightly — 14.8%
- Yes, moderately — 33.3%
- Yes, significantly — 18.5%
- No — 25.9%
- N/A — 7.4%

Do you believe that the use of MACH for this type of incident provides any officer safety benefit to you, based upon the type of assignment(s) you had during this incident?

27 responses

- Yes, slightly — 14.8%
- Yes, moderately — 18.5%
- Yes, significantly — 29.6%
- No — 22.2%
- No, decreases officer safety
- N/A — 11.1%
- I was sent back to cover sector when I was about 2 miles from Kiel.

April 26, 2018 – Husky Energy Refinery Explosion and Fire: Reports of an explosion at an oil refinery near Superior, Wisconsin prompted a significant public safety response that included local law enforcement, fire and EMS as well as officers from the Division of State Patrol, and conservation wardens from the Department of Natural Resources (DNR). The initial explosion triggered several fires involving substances that dictated the evacuation of a significant area around and downwind of the fires.

The capabilities of MACH enabled responding State Patrol officers and DNR wardens to view the incident related locations on a shared map including:

- Location of the fire/refinery
- Location of the State Patrol Safety and Weight Enforcement Facility (SWEF) used as a staging area and host facility for a mobile command post
- Location of public shelters that were opened in Wisconsin and Minnesota
- Location of responding State Patrol and DNR resources

Beyond these important functions, the map feature in MACH was also utilized to plot the designated evacuation area within which officers were attempting to notify affected residents. Shown below are screenshots taken from MACH during the incident showing the perimeter of the evacuation area, the location of responding officers, the fire location, the designated Staging Area, the identified Public Shelters, and the fixed and mobile Command Posts.
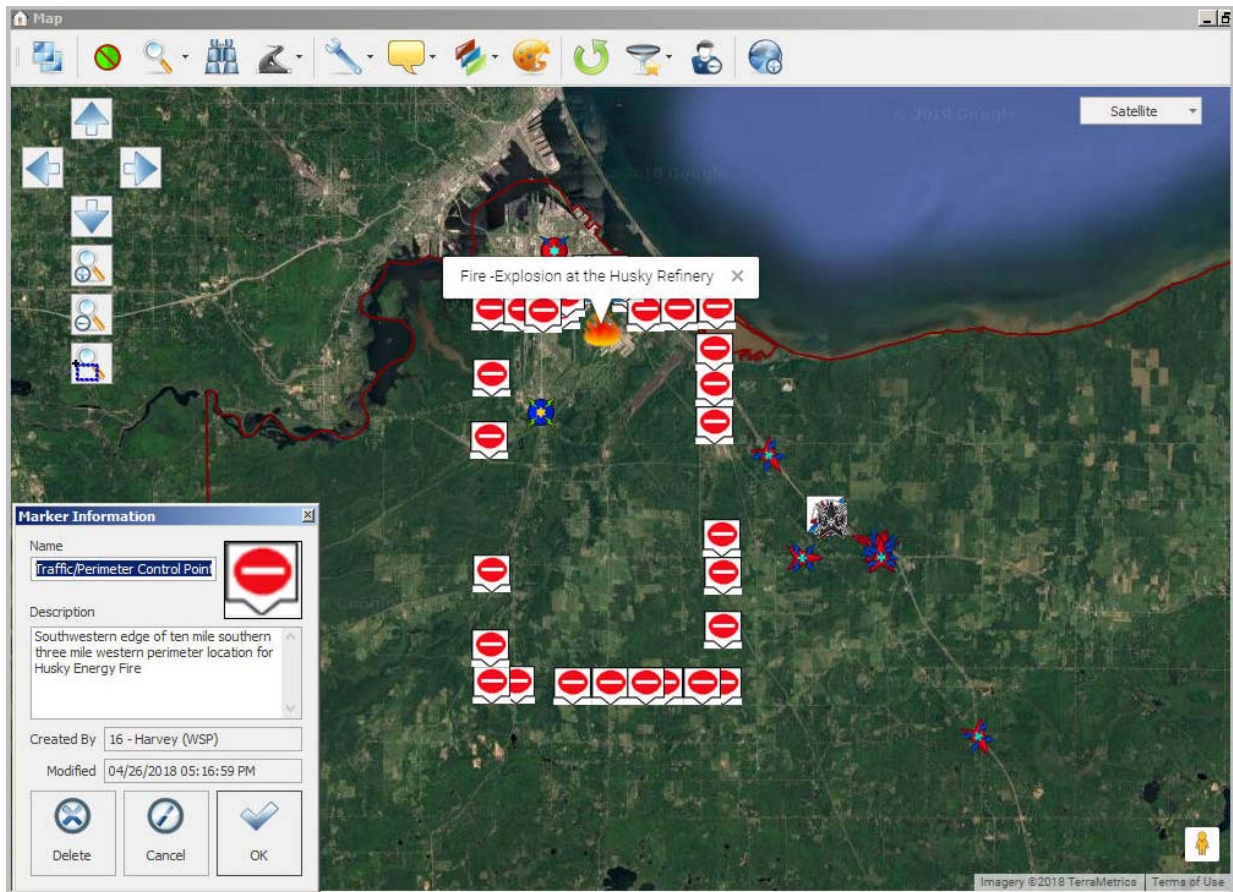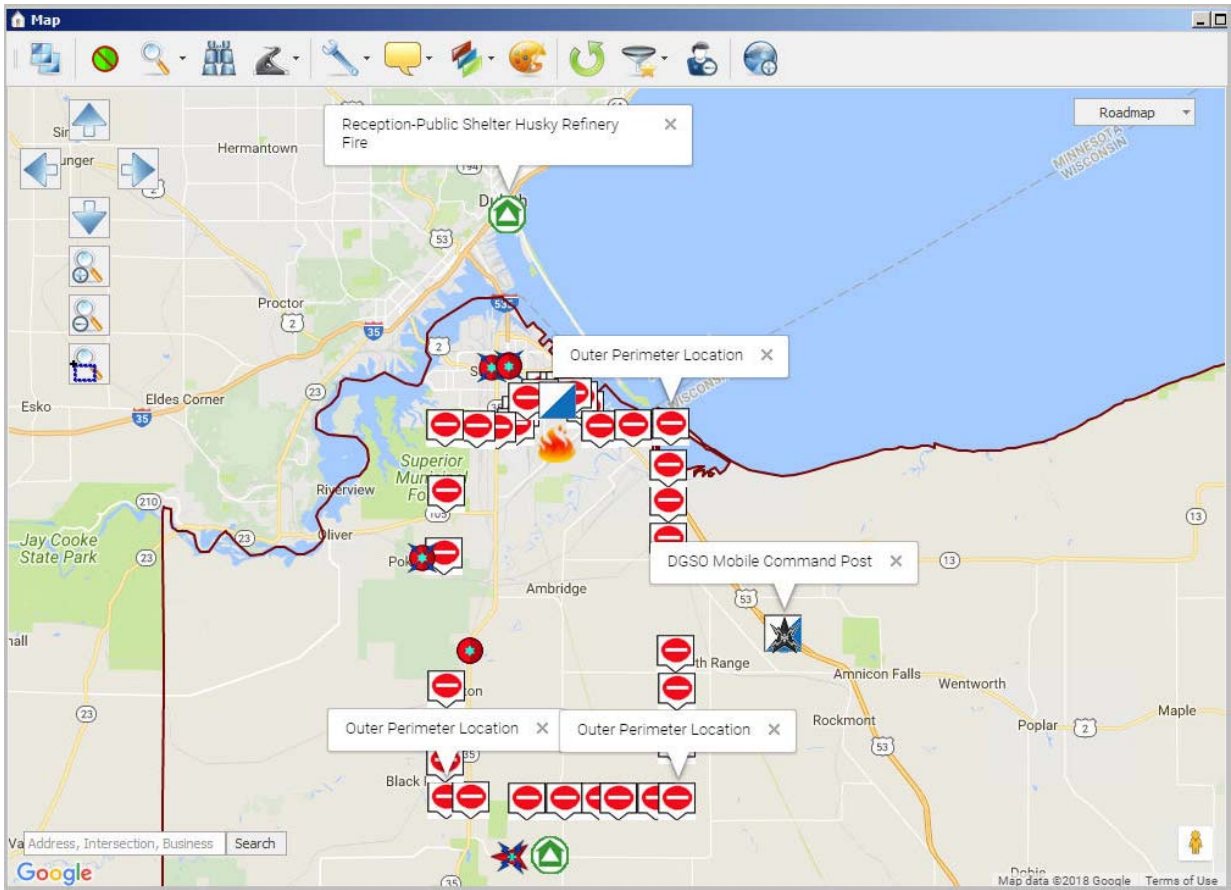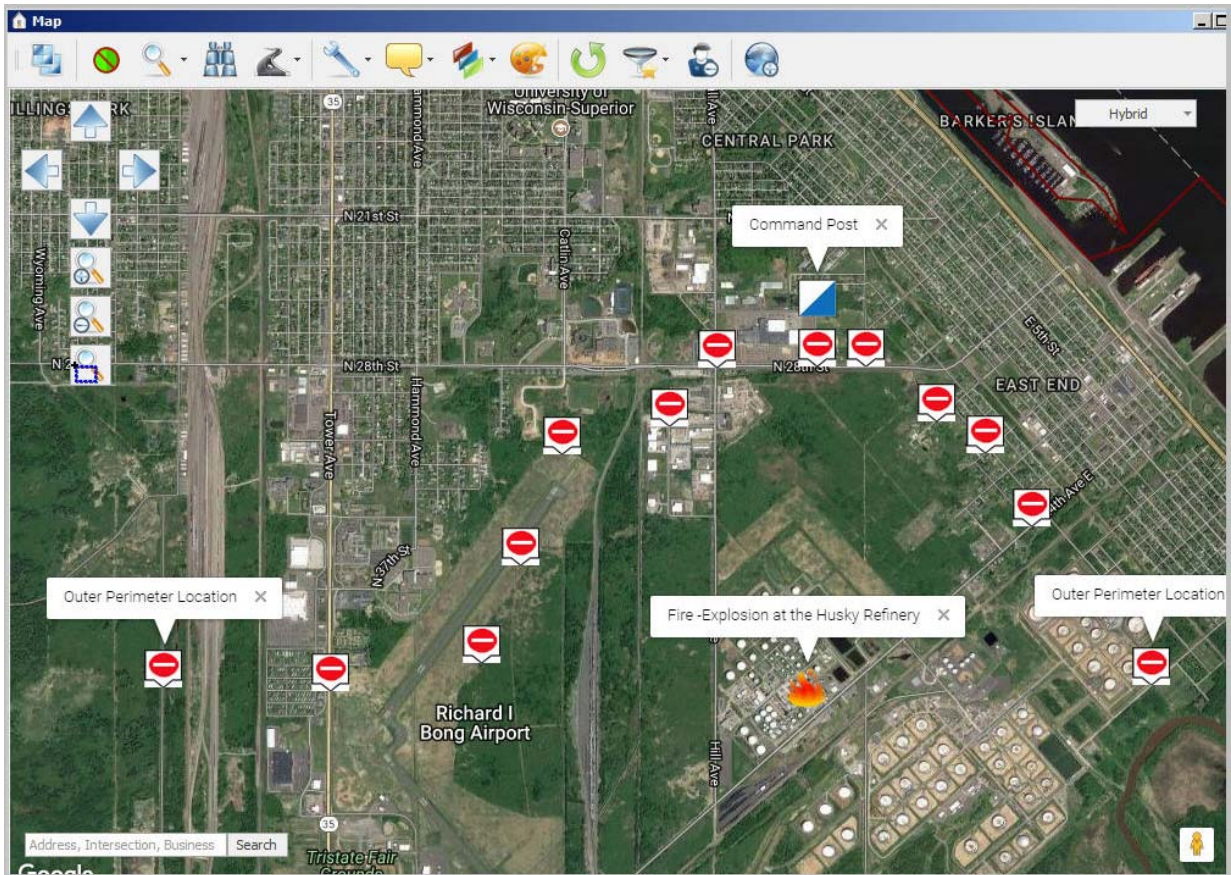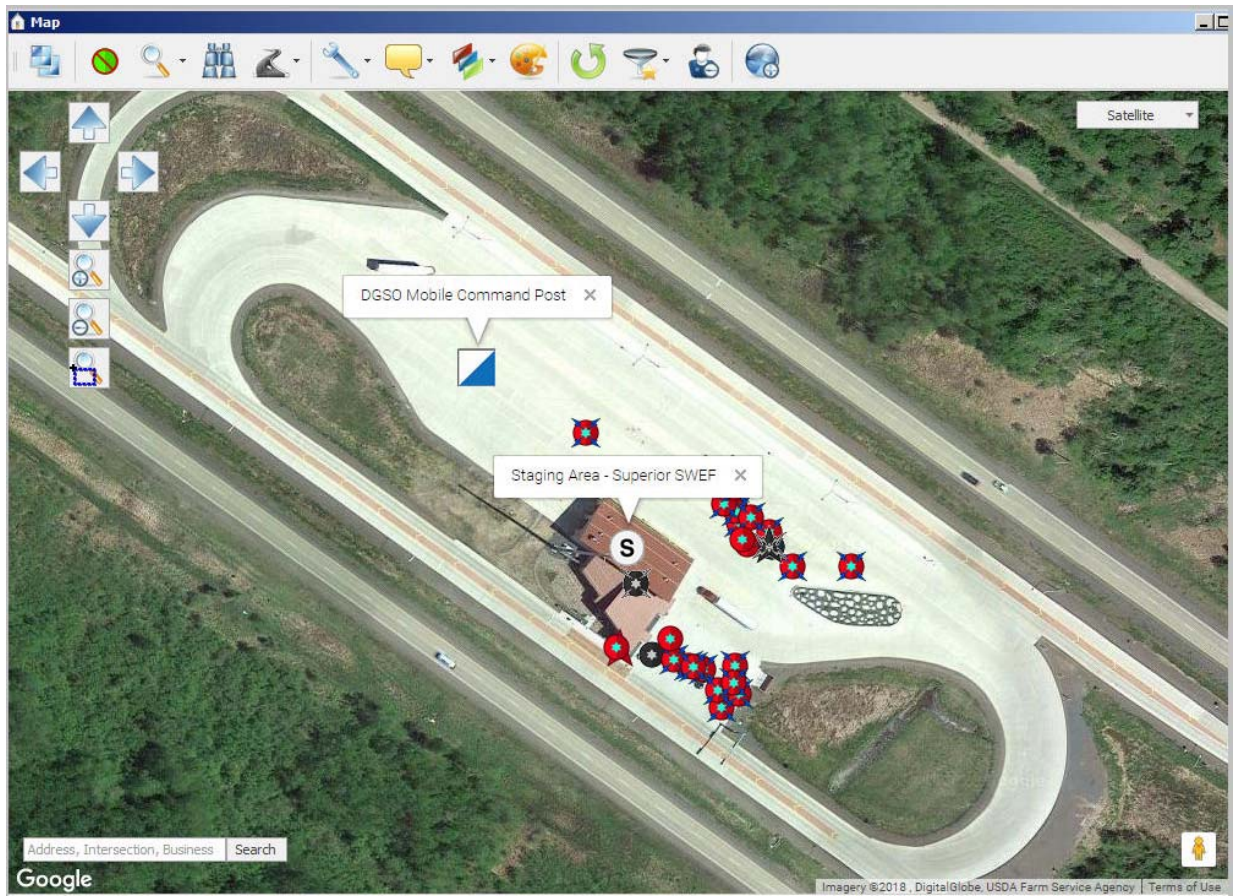
Summary: These real world examples demonstrate the value and some of the many of the public safety benefits that the use of the MACH software currently provides. As interest and demand for MACH continues to build amongst public safety agencies within Wisconsin, the safety and efficiency benefits that MACH delivers continue to be demonstrated.

Information: For more information about MACH for public safety agencies within Wisconsin visit:

http://wisconsindot.gov/Pages/safety/enforcement/agencies/mach/default.aspx

Or contact the Wisconsin Department of Transportation - Division of State Patrol at MACH@dot.wi.gov