

## **Introduction:**

The Stevens Point Fire Department has requested visualizations and statistical analysis of deployment strategies that are alternatives to the ones recommended in the master plan. Although the recommended strategy remains the one detailed in the master plan, ESCi recognizes the needs of our clients to revise suggested strategies based upon new information, financial, or operational constraints.

Currently, the fire department operates EMS units from its two stations within the city limits of Stevens Point. Scenarios that add a third unit in two different locations have been offered. The following describes these scenarios and provides analytical performance measures as well as visual depictions of area coverage.

## **Scenarios:**

The first scenario utilizes an EMS unit at the following locations and is analyzed with ten and fifteen minute modeled travel times. The locations are:

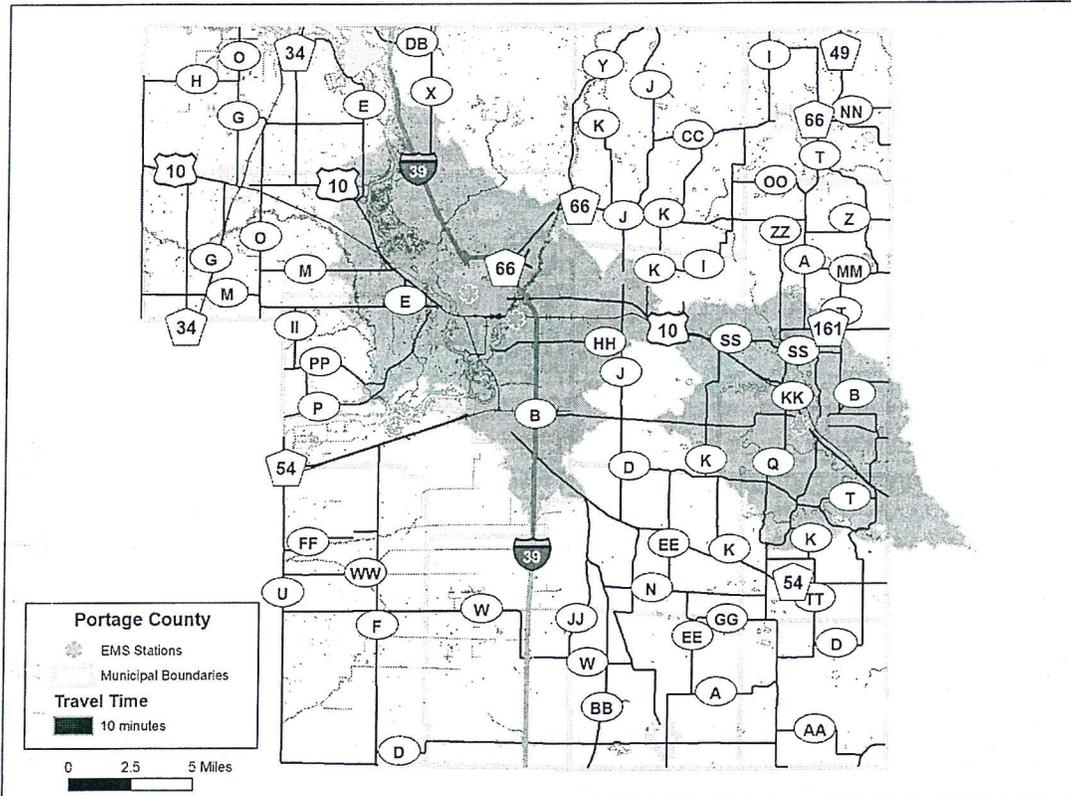
- **Stevens Point FD Station #1 (Headquarters)**
- **Stevens Point FD Station #2**
- **Highway 10 & Highway J in Stockton**

The following figure details these locations with a ten minute travel model.



The second scenario places the third EMS unit in the Town of Amherst rather than Stockton. The following figure illustrates Scenario 2 deployment with a modeled ten minute travel area.

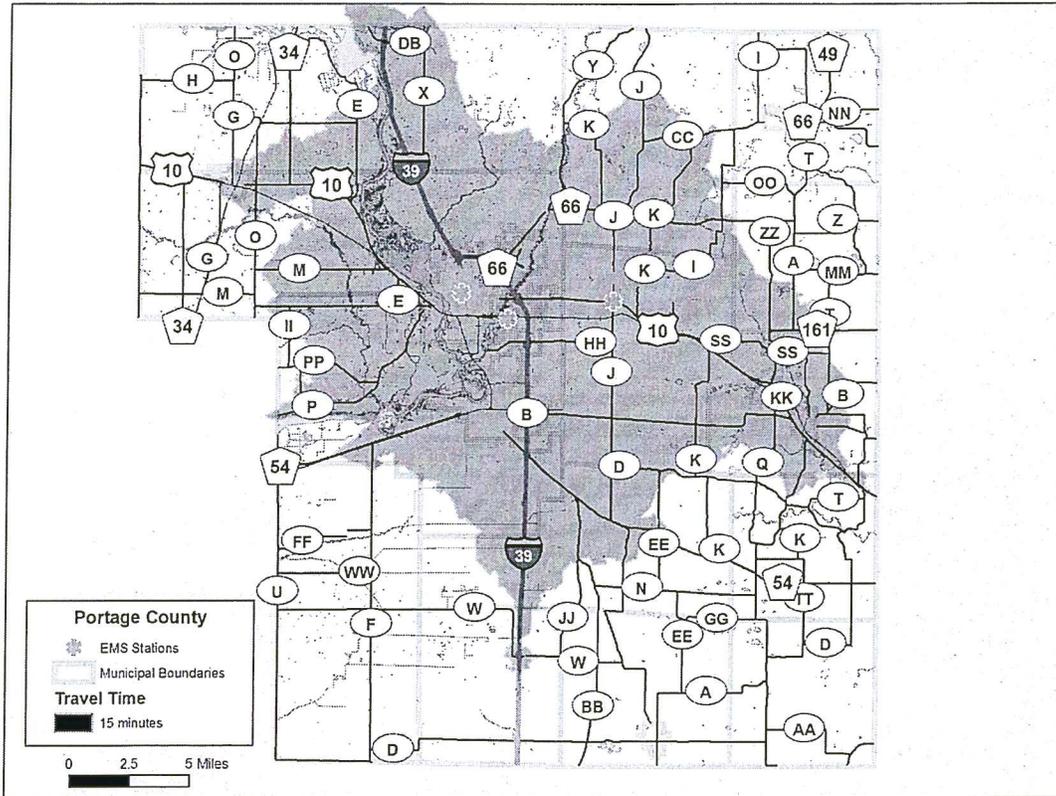
Figure 3: Scenario 2- Ten minutes



It can be seen from the above figure that a portion of coverage within the travel time model is outside of Portage County. The following analysis considers only the area of coverage within the County borders.

The area coverage by this model is calculated to be 23.58% and coverage of the service demand is estimated to be just over 75%. This scenario provides an additional 3% of service demand coverage and nearly 4% more square miles of coverage than the current two-unit deployment. When compared to the three-station deployment strategy, service demand coverage is similar, but area coverage is 5% less. The following figure details this scenario utilizing a fifteen minute travel time model.

Figure 2: Scenario 1-Fifteen minutes

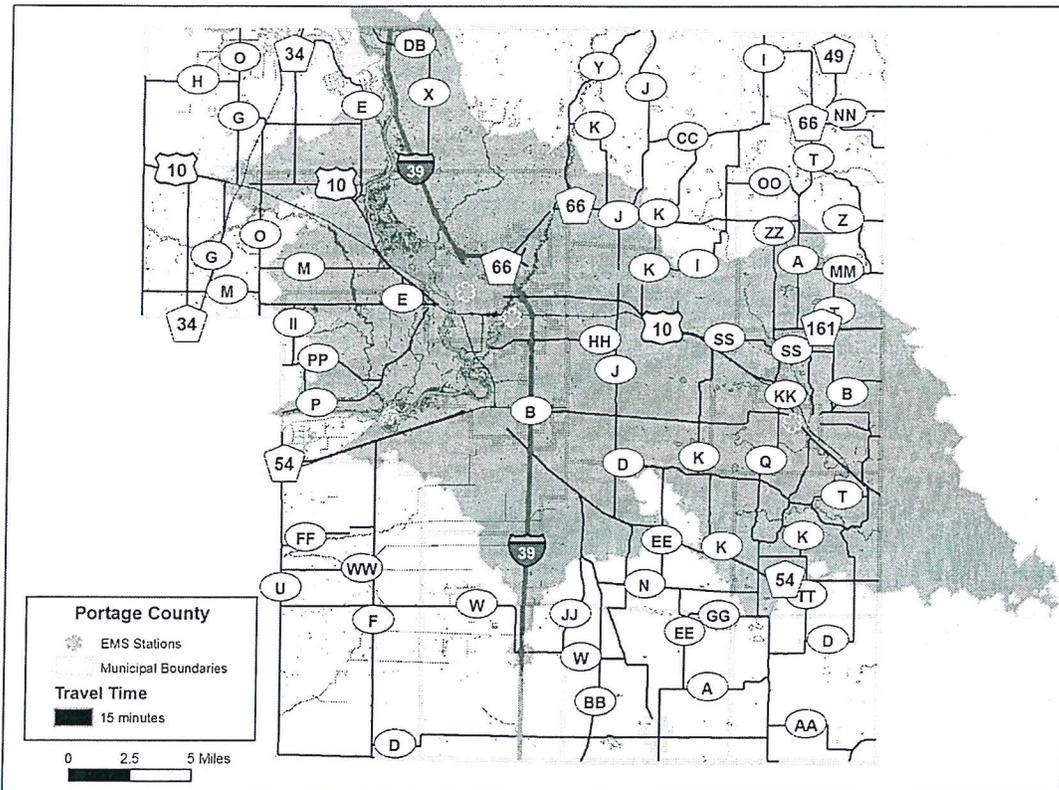


This scenario provides coverage of the service area at 43.7% and covers 80% the service demand. This scenario provides a 10% increase in area coverage and a 4% increase in service demand coverage when compared to the current deployment at a fifteen minute response time. However, this scenario covers 1% less service demand and 9% less square miles of service area when evaluated against the three-station strategy offered in the original plan.

The second scenario utilizes an EMS unit at the following locations and is analyzed with ten and fifteen minute modeled travel times. The locations are:

- **Stevens Point FD Station #1 (Headquarters)**
- **Stevens Point FD Station #2**
- **Town of Amherst fire station (or proximity)**

Figure 4: Scenario 2 - Fifteen minutes



The area coverage in the above figure is 46.75% of the total County area and the coverage of service demand is estimated to be over 80%. Once again, an improvement of nearly 13% of the County's square miles is covered and an increase of 4% of service demand is achieved. However, the three-station deployment strategy in the original master plan yields 19% more area coverage and 5% more service demand coverage.

**Summary:**

The following chart summarizes the statistics of the above described scenarios.

Figure 5: Statistical Summary of Scenarios

Portage County EMS	Scenario 1	Scenario 2
<b>10 minutes</b>	Add Hwy J/10	Add Amhst Stn
% area coverage	21.04%	23.58%
% service demand coverage	74.01%	75.15%
% of population covered	72.96%	74.93%
<b>15 minutes</b>		
% area coverage	43.69%	46.75%
% service demand coverage	80.00%	81.05%
% of population covered	83.42%	84.43%

Scenario 1's results reflect lower appreciable improvement due to the overlapping unit coverage areas in this deployment scenario. Although these scenarios are a slight improvement over the current deployment, none of these scenarios match the expectations of performance that were communicated by the stakeholders during the study timeframe.

One benefit of these scenarios would be an additional resource to handle concurrent calls. As discussed in the master plan, since the majority of calls within Portage County occur in Stevens Point, the highest probability of concurrent calls is within this region as well. Considering this, Scenario 1 would be a better choice if the three-unit deployment strategy offered in the master plan was in some way unachievable or undesirable. However, the need for a third unit was reported in less than 5% of the incidents in 2005. It needs to be recognized that significant improvement in performance to the 90<sup>th</sup> percentile of service demand requires more than one additional unit within Portage County.

ESCI has confidence, however, that this can be one step in the right direction for adequate coverage of the emergency medical needs within Portage County. It needs to be followed by subsequent steps in fulfillment of the master plan. This is absolutely necessary in order for the desired outcomes of acceptable response times to be realized for the majority of Portage County residents.