June 2018

Executive Report
Final

Waukesha County, Wisconsin

Prepared by:

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CONSULTANT REPORT

Waukesha County Executive Summary

Recommendation Overview

The following recommendations were established based on the data analysis, site visits, industry best practices and stakeholder input during the study process.

These recommendations can assist in ensuring the greatest return on investment by quantifying the best area within the system to invest to ensure reliable and sustainable service to the community. The study also strives to prolong the use of volunteer firefighters as long as possible while ensuring the departments are meeting the communities' growing demand. This study can also assist policy makers in establishing a desired level of service while understanding the investments that may need to be made to achieve that desired level of service.

Four prioritized high-level recommendations are offered for consideration. It should be understood that there are some commonalities and overlap in strategies if multiple strategies were adopted.

Overall Recommendations

1) Implementation of a County Wide Dispatch System
2) Regionalization of EMS
    a. Establish and Implement Career Staffing Model
3) Functional consolidation
    a. Training Division consolidation
    b. Fire Prevention Division consolidation
4) Long Term Evaluation of Full Consolidation

Study Overview

In May of 2016, Waukesha County contracted with Fitch & Associates to objectively evaluate opportunities for shared services amongst participating fire departments within the county. Waukesha County provided the funding and support for the interested agencies to evaluate the current response model and seek sustainable efficiencies.

In October of 2016 Fitch & Associates conducted a two-day site visit. During that site visit all 12 participating fire departments were visited. Following the site visit a comprehensive information data request was sent to all participating fire departments. Initially, there was limited participation, as only two of the 12 participating departments completed and returned the information data requests.

Fitch & Associates utilizes a comprehensive data driven process in order to provide objective and best practice recommendations to clients. Data analyses are usually conducted using the computer aided dispatch (CAD) data from the dispatch center and the records management system (RMS) data from the fire departments. Given Fitch & Associates' experience and the number of participants in this study the CAD data was the most reliable and consistent source

of data to provide an objective analysis. There was some difficulty in obtaining the CAD data from the dispatch center that contributed to an extended study period.

Once the CAD data was obtained, comprehensive data based quantitative and geospatial analyses were utilized to objectively evaluate the 2016 demand for services by type and severity. The County staff assembled a steering committee to work with Fitch & Associates on the remainder of the shared service study. The steering committee was structured to include participating fire department chiefs, municipal managers/administrators, elected officials and citizens. Following the data analysis Fitch & Associates conducted a site visit to review the data with the steering committee in July of 2017.

During the July 2017 site visit the steering committee attendance consisted of one county staff, four of the participating fire chiefs and one citizen. Fitch & Associates was given feedback from some of the participating fire departments that the request for agency information was too intensive to complete. The steering committee also gave feedback that the study should be broken up into four areas/clusters and that data from those agencies not participating should not be included (Brookfield New Berlin, and City of Waukesha). During the site visit Fitch & Associates was informed that five (Lake Country, Oconomowoc, Pewaukee, Ashhipun, and Dousman) of the 12 departments were no longer participating in the study and that four (Big Bend, Town of Waukesha, Vernon and Wales/Genesee) new departments were added to the study.

Following the July 2017 site visit the information data request was modified and significantly reduced. The data request was focused on the number of staff and basic operations of the department. This data request was sent out to all 12 participating fire departments. Ten of the 12 fire departments returned the modified data request with varying degrees of specificity. Follow up was conducted with the departments that had not submitted their data request with several emails and phone calls/voicemails over a 60-day period without success.

Fitch & Associates utilized the available data and information to provide an objective analysis of the participating departments, including the updated participants. The analysis and recommendations provided are based on the information available at the time the report was written. A final site visit was conducted in February of 2018 to meet with departments that were added to the study and provide a draft report presentation to the steering committee.

Operational Overview

Overall, units from the 12 agencies made 15,972 unit responses, and the total busy hours were 20,008 hours. The three busiest agencies with the most responses are: Lisbon Fire Department, Hartland Fire Department and Wales Genesee Fire Department. Each of the three agencies provided more than 1700 responses in 2016 and accounted for more than 44.3% of the total responses. The three agencies with the least responses were: North Prairie Fire Department, Big Bend Fire Department, and Merton Community Fire Department. The three agencies combined accounted for 9.2% of the total responses.

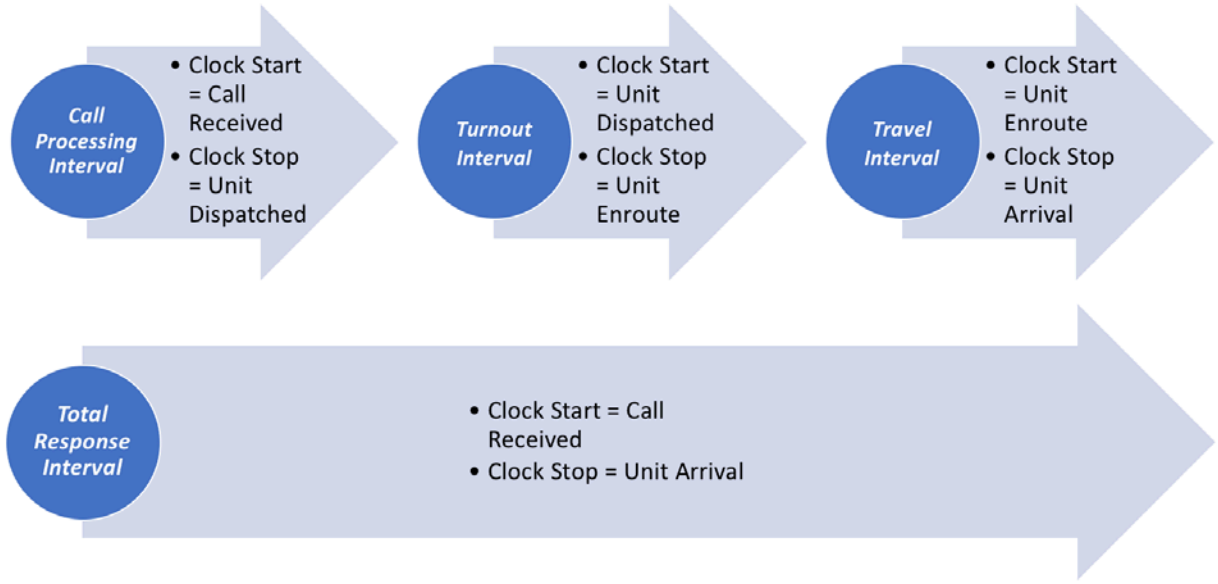
Table 1: Number of Incidents by Jurisdiction

Jurisdiction	Number of Calls	Calls per Day	Call Percentage	Duration in Minutes
Delafield Town FD	367	1.0	6.5%	59.2
North Prairie FD	87	0.2	1.5%	72.7
Wales Genesee FD	478	1.3	8.4%	75.7
Area 1 Total	**932**	**2.6**	**16.4%**	**68.9**
Hartland FD	786	2.2	13.8%	67.4
Lisbon FD	858	2.4	15.1%	85.3
Merton Community FD	267	0.7	4.7%	89.8
Sussex FD	743	2.0	13.1%	57.2
Area 2 Total	**2,654**	**7.3**	**46.7%**	**72.6**
Okauchee FD	448	1.2	7.9%	40.1
Stone Bank FD	193	0.5	3.4%	76.3
Area 3 Total	**641**	**1.8**	**11.3%**	**51.0**
Big Bend FD	139	0.4	2.4%	70.2
Vernon FD	502	1.4	8.8%	59.8
Waukesha Town FD	414	1.1	7.3%	75.2
Area 4 Total	**1,055**	**2.9**	**18.5%**	**67.2**
Outside	**407**	**1.1**	**7.2%**	**76.2**
Total	**5,689**	**15.6**	**100.0%**	**68.8**

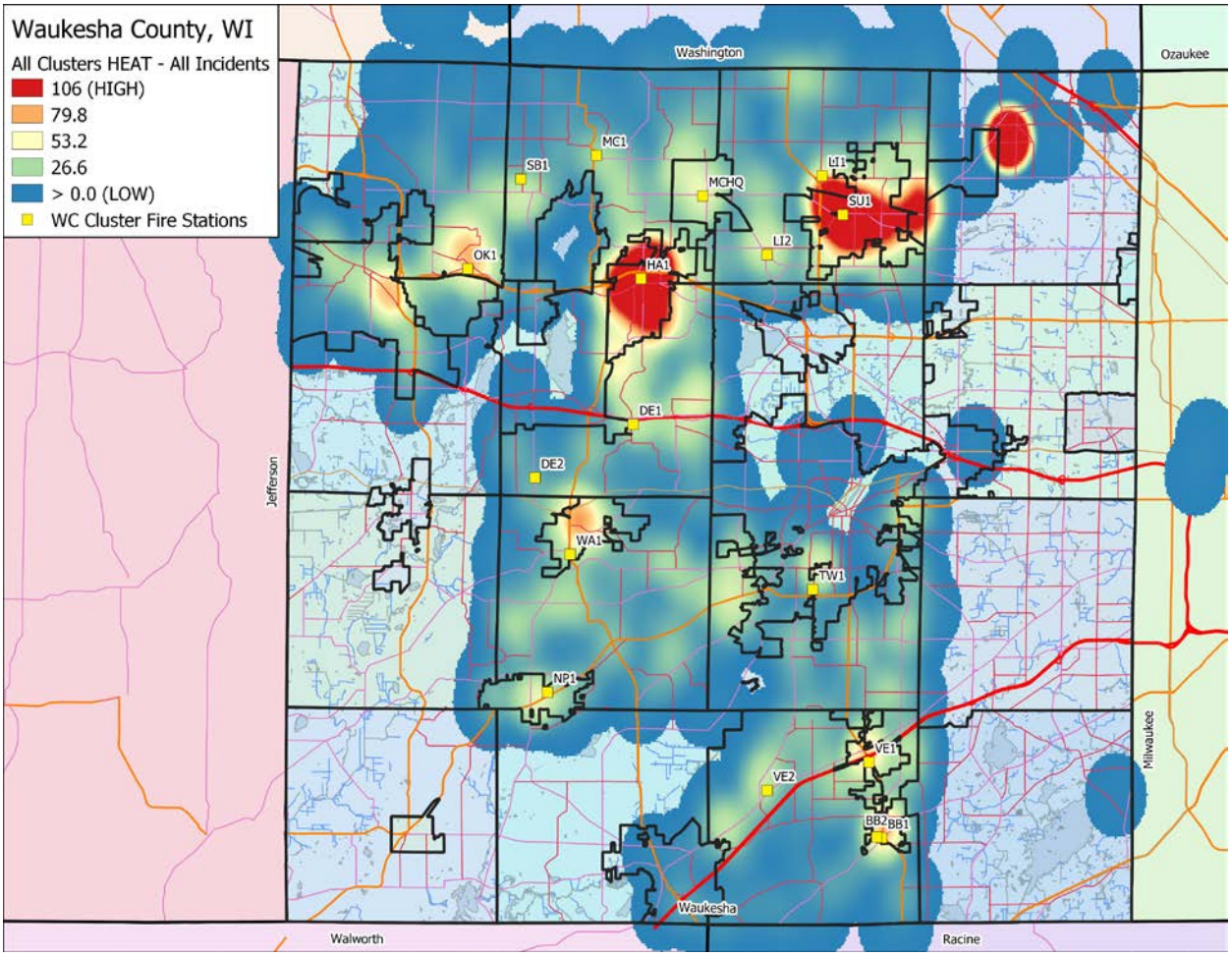
Performance measurement and benchmarking performance have been consistent themes in public administration for decades. Within fire and EMS services, the most often cited measure is that of response time.[1] Yet problems with "definitional ambiguity" often make comparisons between communities quite challenging.[2] Across the nation, agencies may utilize any number of response time definitions. In fact, the definition technically involves defining a time interval's two endpoints – when the response time clock starts and when it stops. The Figure below highlights the generally utilized timestamps along the response time continuum along with the associated time intervals most often evaluated.

[1] Flynn, J. D. (2009). *Fire Service Performance Measures.* National Fire Protection Association. Quincy, MA:
[2] Moeller, B. (2001). *Measuring performance in the public sector: An examination of benchmarking paramedic response times.* (Doctor of Philosophy PhD), Florida Atlantic University.

Figure 1: Response Time Components & Intervals



The distribution of demand within Waukesha County is primarily focused in and around the identified development areas of the county that were studied. The data analysis shows that the geography is a limiting factor of collaboration in many areas. The workload in Area 2, being the highest of those studied, also shows the highest likelihood of concurrent calls. GIS analyses created a heat map to illustrate the relative distribution and concentration of requests for service in all four- areas. It is clear that Area 2 that includes Hartland, Lisbon, Merton, and Sussex has the highest concentrations.



Staffing, Recruitment, and Retention

Several staffing models are present within the participating agencies. It appears these staffing models have not provided the stability desired in order to meet the current and future demands of the community. Multiple agencies reported that staff members are working part-time for multiple departments. Almost all departments reported that firefighters do not live in the community they serve anymore, diminishing the ability to rely on those firefighters to respond from home thus relying on the minimal staffing at the fire station. The firefighters working at multiple departments also reduce the ability to rely on those firefighters to return for significant emergency events. Another challenge noted was that these firefighters working part-time at multiple departments eventually get hired full-time at a fire department and now

multiple departments lose a trained firefighter. Departments have also reported finding themselves in a battle between departments for staff based on their pay and benefits.

Recruitment and retention is a common theme in the fire service today. The ability to recruit and retain volunteer firefighters is a difficult task with no single answer to solve the problem. It appears that this same trend is present in Waukesha County. In order to stabilize the workforce coordinating pay rates and benefits between departments may benefit the region. Secondly it is likely that additional investment in career staffing will likely be necessary to provide a reliable response model to meet the current and future community demands for service. This investment in career staff has already been occurring in many of the departments.

Observations and Recommendations in Order of Priority

#1 Dispatch Process Best Practices Including County Wide Dispatching

In order for the system to adopt performance standards, and maybe more importantly, to be able to uniformly collect, measure, and manage performance and system growth, it is imperative that there is a single source for all dispatching and records management technology, protocols, and processes. The majority of substantive efforts related to growth management, performance management, regionalization, consolidation, and/or shared services are predicated on a unified communication center.

> During the study's timeline, Western Lakes Fire District was created. The District consolidated Dousman and Oconomowoc Fire Districts. This merger created a fire dispatch challenge as the Oconomowoc Fire District was receiving its dispatch services from the City of Oconomowoc center, and Dousman from Waukesha County Communications. Through collaborative efforts, Waukesha County and the City of Oconomowoc created an agreement that allowed for Fire and EMS dispatch services to be provided by Waukesha County. This agreement required a partial percentage, based on the amount of workload being reassigned, of the one-time brick and mortar cost required of community to join the consolidated Waukesha County managed communications center. This model creates an opportunity for the remaining communities with disparate Fire and EMS dispatch centers to replicate making a similar transition and establishing the unified communications center.

The study's participating agencies can benefit by evaluating and sharing a goal of implementing industry best practices in regard to records management and dispatching processes. The data in this report was analyzed prior to pre-alerting; today the dispatch and turnout times may vary from the 2016 data. Waukesha County is moving towards automated alerting which will likely improve dispatch processing times. It may be prudent to parse call-processing performance and create performance standards based on call priority. Rather than creating one call processing performance standard, parsing the calls for service based on acuity or severity would be appropriate to ensure that emphasis is placed on the high acuity calls. Further, it would be encouraged to consider relaxing the current standards for the low acuity calls where response time is less important. As an example you may set a higher performance standard for

cardiac arrest patients while relaxing the dispatch performance standard for low acuity fall patients.

Fire departments within the county should collaborate with the dispatch center to establish desired performance and outcomes, and the requisite data points to capture. In this manner, a uniform system of quality data is available to assist in objective based decision making for a sustainable future. Greater investment in emergency services may require greater transparency and accountability to ensure sustainability and maximize return on investments.

A third party operational evaluation of the dispatch center may be prudent. This operational evaluation could evaluate the current performance, staffing and scheduling practices, and processes and technology used in comparison to the industry best practices. The evaluation should solicit input from stakeholders and provide recommendations that all stakeholders can rally around to implement.

#2 Regionalize EMS with Career Staff

Regionalize the EMS system by area using career cross trained Firefighter/Paramedics or EMTs. This investment in the system will likely prolong the viability of the volunteer fire system within these areas. This could realign the reliance on volunteers to being used when there is a need for additional staff on critical medical calls and fire responses. This decreased burden on the volunteers saves their engagement to those calls where their assistance is necessary to accomplish the critical tasks while leaving the less critical emergencies to career staff. For those volunteers that have limited availability, they could decrease their EMS certification level to Emergency Medical Responder (EMR) which decreases their continuing education requirements. Many of the areas studied have varying levels of EMS service to their community. Common service levels, dispatching, communications, and records management would need to be adopted in an area in order to successfully regionalize EMS.

Emergency medical calls are the largest share of the emergency call volume. The demand for emergency medical calls for service continue to increase while the fire demand stays stable or only increases slightly. This trend it is anticipated to continue into the foreseeable future. This regionalization of EMS would increase the reliability of response by utilizing career staffing. Regionalization would also standardize the fees for service in the area. There may also be an opportunity to right size the EMS fleet if stations were staffed as multiple calls would be handled by staffed stations in the area, rather than relying on volunteers to respond to the station to pick up the ambulance. The regionalization also allows for pooling of reserve ambulances.

It is recommended that the EMS regionalization is first implemented in Area 2 and then evaluated in other areas. Area 2 has the highest demand for service, which would provide the best proof of concept. This area already has current formal and informal collaboration creating a culture that is likely to embrace the regionalization. Efficiency is found in reducing the duplication of coverage areas as well as securing paid staffing that is able to respond immediately.

Area 2 Case Study

The demand in Area 2 would likely require at least 2 stations to be staffed with a minimum of 2 Firefighter/Paramedics or EMTs 24/7. A third ambulance would need to be staffed during the peak demand time of the day from 8am until 8pm seven days a week. This third ambulance would assist in handling the concurrent call volume that is experienced in Area 2 ensuring a reliable response system.

For example, Area 2 would have the ability to reduce the number of fire stations and ambulances by 50% half while ensuring the community receives the same level of service as today. By investing in career staff at three fire stations the number of fire stations could be reduced to three and the number of ambulances could be reduced to five while providing similar or improved response experience to the community. The reduction in capital expenditures may help in offsetting some of the increased operational costs of staffing fire stations with career staff. The addition of career staff can ensure a more reliable response model than the current volunteer model while keeping the volunteer staff available for critical and significant events that take additional staff to mitigate.

In order to implement a career cross-trained staff model for Area 2 would require at least 16 career staff. The cost for this program would be between $907,536 - $1,706,992 based on the 2017 Wisconsin Fire Chief salary survey firefighter range and Lisbon Fire Department's benefit package. Policy makers may want to determine a salary range based on the tolerance for turnover and experience in these positions.

Note that this model does not account for the backfilling of vacation or sick time that can likely be covered with minimal cost using existing administrative staff or qualified volunteer staff. This cost may be offset by using some of the current career staff assigned to the fire departments in Area 2, along with EMS revenue generated from the services being provided. If implemented, Area 2 departments may experience a reduced paid-on-call expenditure for EMS responses, as the on- duty career staff may handle low acuity emergencies.

This model also only accounts for the direct costs and does not account for any soft costs. The direct costs include annual salary and benefits such as retirement contribution, health insurance and dental insurance. Some of the soft costs that may need to be accounted for are administrative oversight such as payroll, human resources, supervision and information technology needs.

#3 Functional Consolidation
Functional consolidation is similar to the recommendation above to regionalize EMS but addresses other areas of the fire department. A functional consolidation may create a more efficient use of limited and specialized staff. This type of consolidation can reduce the burden on the volunteer firefighters, prolonging the viability of the system. A functional consolidation can also create more expertise; for example, a regionalized fire marshal's office can create expertise in fire plan reviews that may not currently exist, as it is only one of many job duties for a current staff member. Functional consolidation also allows for each department to keep their current identities while reaping the benefits of shared services.

3A - One area of functional consolidation that may be beneficial is the training division. There are many requirements and best practices that departments work to meet through training. The shared training allows for an increased level of compliance and documentation that is not likely to be met as individual departments with limited resources. A shared training division allows for the increase in expertise and consistency. Three of the four departments in Area 2 already share training through their own consortium. This has allowed firefighters to choose a training night that best works for them, rather than forcing all firefighters from a single department to attend one night of the week. The shared training division also creates consistency in emergency scene operations as everyone is trained to the same curriculum, creating an operational efficiency.

3B - A second functional consolidation option is the prevention division or fire marshal's office. The staff in this area need specialized training and skills that are much different than those of responding to emergencies. Most prevention divisions are responsible for fire permits, building plan reviews for compliance with the fire code, fire inspections and fire investigations. Regionalizing the prevention division may allow an area to create expertise by having dedicated prevention staff while offsetting some or all of the expenses using fees for services. The prevention division is an important part of the fire service as they can prevent emergency incidents from occurring though the use of fire permits, inspections and plan reviews. Many departments reported their community has plans for significant future development which may be an opportunity to regionalize a prevention division as there is a growing workload for a fire marshal during a community's development.

#4 Long-Term Evaluation of Consolidation
The participating agencies may benefit from evaluating the full consolidation by area. Many times, functional consolidation gets departments very close to full consolidation without losing their identity. Full consolidation is not always the best utilization of political capital as functional consolidation may provide the departments the majority of the efficiency and effectiveness of shared services. There may be a benefit of full consolidation for some areas by reducing capital costs and increasing the reliability of service by increasing capacity. Regionalization usually is the most efficient use of scarce resources such as personnel. The regionalization may assist in stabilizing the workforce long-term given the current job hopping and pay competition that is occurring between departments.

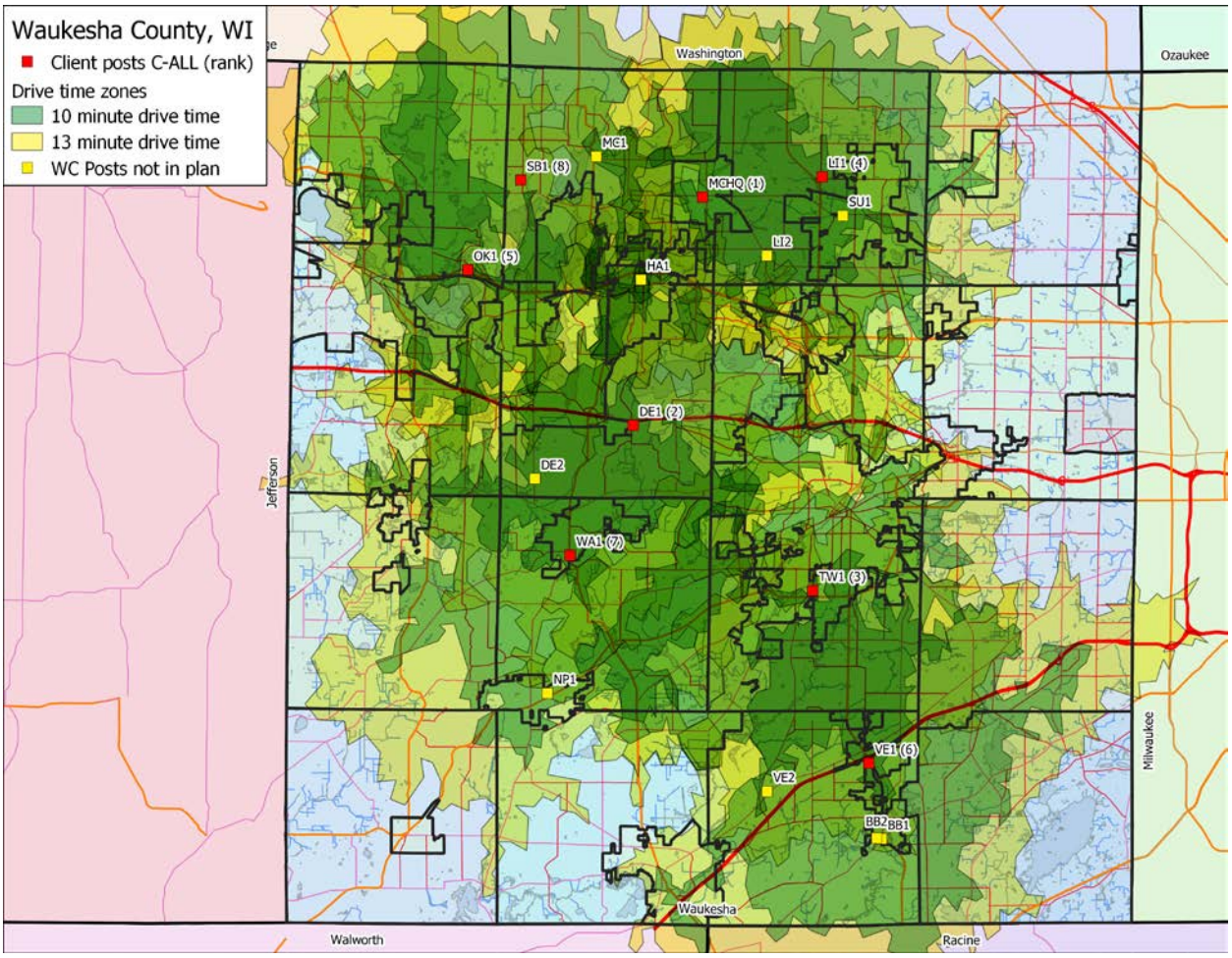
Within the current configuration of all study participants in the 4 areas, 16 stations are utilized to provide services. Similar to the explanation provided for the regionalization of EMS and/or staffing Area 2, the concepts can be applied to all participants.

Figure 2: All Participant Areas - Marginal Station Contribution for a 10-minute Urban/Suburban and 13-Minute Rural Travel Time

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Merton #2	28343 Sussex Rd	U	1507	1507	29.34%
2	Delafield #1	W302N1208 Maple Avenue	U	807	2314	45.05%
3	Town of Waukesha	W250 S3567 Center Road	U	675	2989	58.20%
4	Lisbon #1	N72W24958 Good Hope Rd	U	549	3538	68.89%
5	Okauchee	W349 N5060 Shady Ln	U	427	3965	77.20%
6	Vernon #1	W233 S7475 Woodland Lane	U	329	4294	83.61%
7	Wales Genesee	600 S. Wales Road	U	247	4541	88.42%
8	Stone Bank	W335 N7107 Stone Bank Rd	U	126	4667	90.87%
9	Okauchee	W349 N5060 Shady Ln	R	69	4736	92.21%
10	Vernon #1	W233 S7475 Woodland Lane	R	47	4783	93.13%
11	Merton #2	28343 Sussex Rd	R	15	4798	93.42%
12	Wales Genesee	600 S. Wales Road	R	15	4813	93.71%
13	Lisbon #1	N72W24958 Good Hope Rd	R	3	4816	93.77%
14	Stone Bank	W335 N7107 Stone Bank Rd	R	1	4817	93.79%

GIS analyses were utilized to illustrate the findings above. In the mapping below, the green areas show the ability to cover the geographic territory within 10-minutes travel time and the yellow areas are within the 13-minute travel time.

Figure 3: All Participant Areas –GIS Response Polygons for 10-Minute Urban/Suburban and 13-Minute Rural Travel Times



In addition, for long term planning purposes, analyses were completed to determine optimized locations. Optimized locations would require considerable capital investment, as most stations would need to be relocated over time. However, by utilizing a system view of a consolidated area, services could be improved to 8-minute travel time with only 9 stations as opposed to the currently placed 8 stations for a 10-minute travel time. The optimized locations for a 10-minute travel time would only require 5 stations. GIS mapping for each are provided below for your reference.

Figure 4: All Participant Areas – Optimized Station Locations - GIS Response Polygons for 8-Minute Urban/Suburban and 13-Minute Rural Travel Times

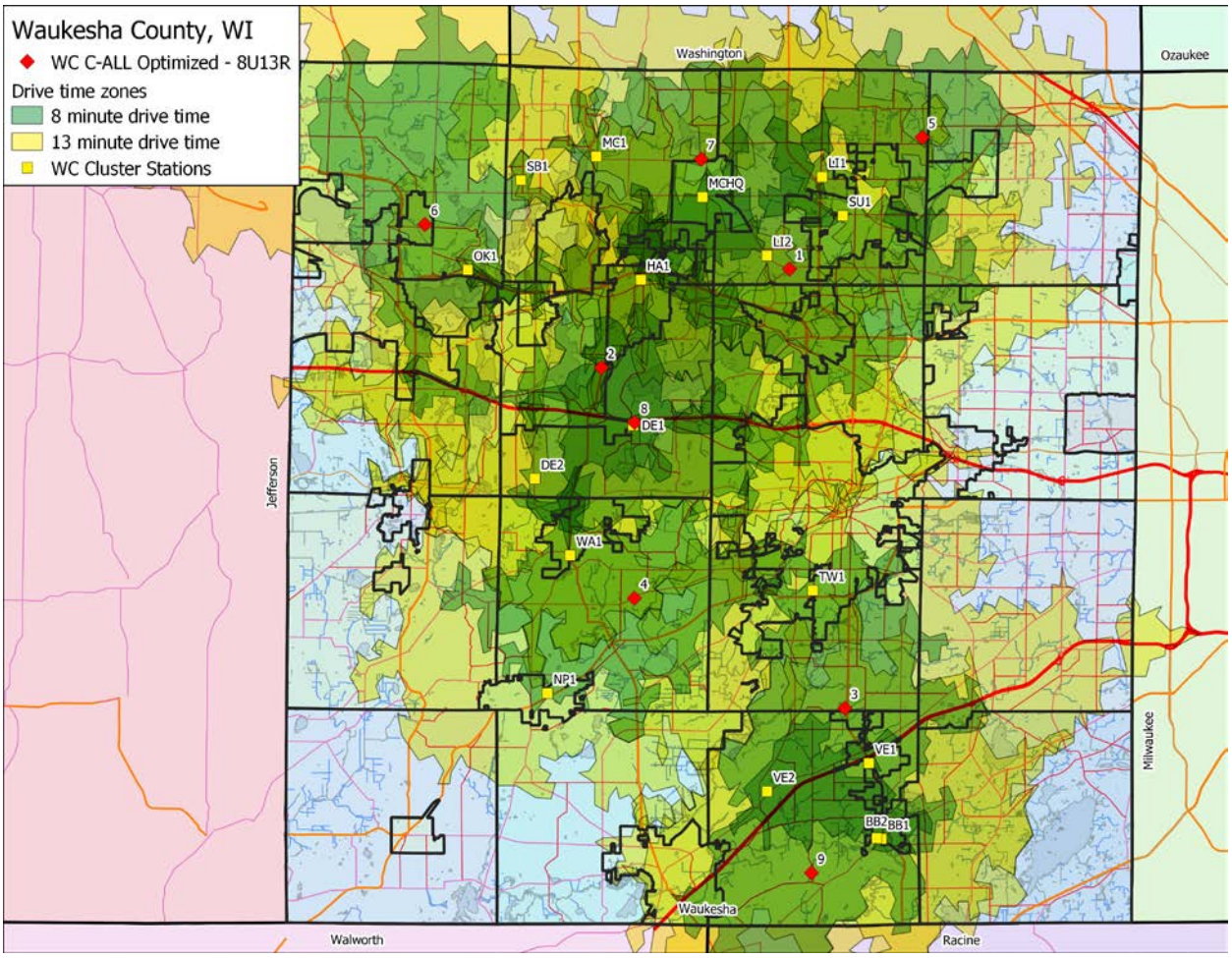
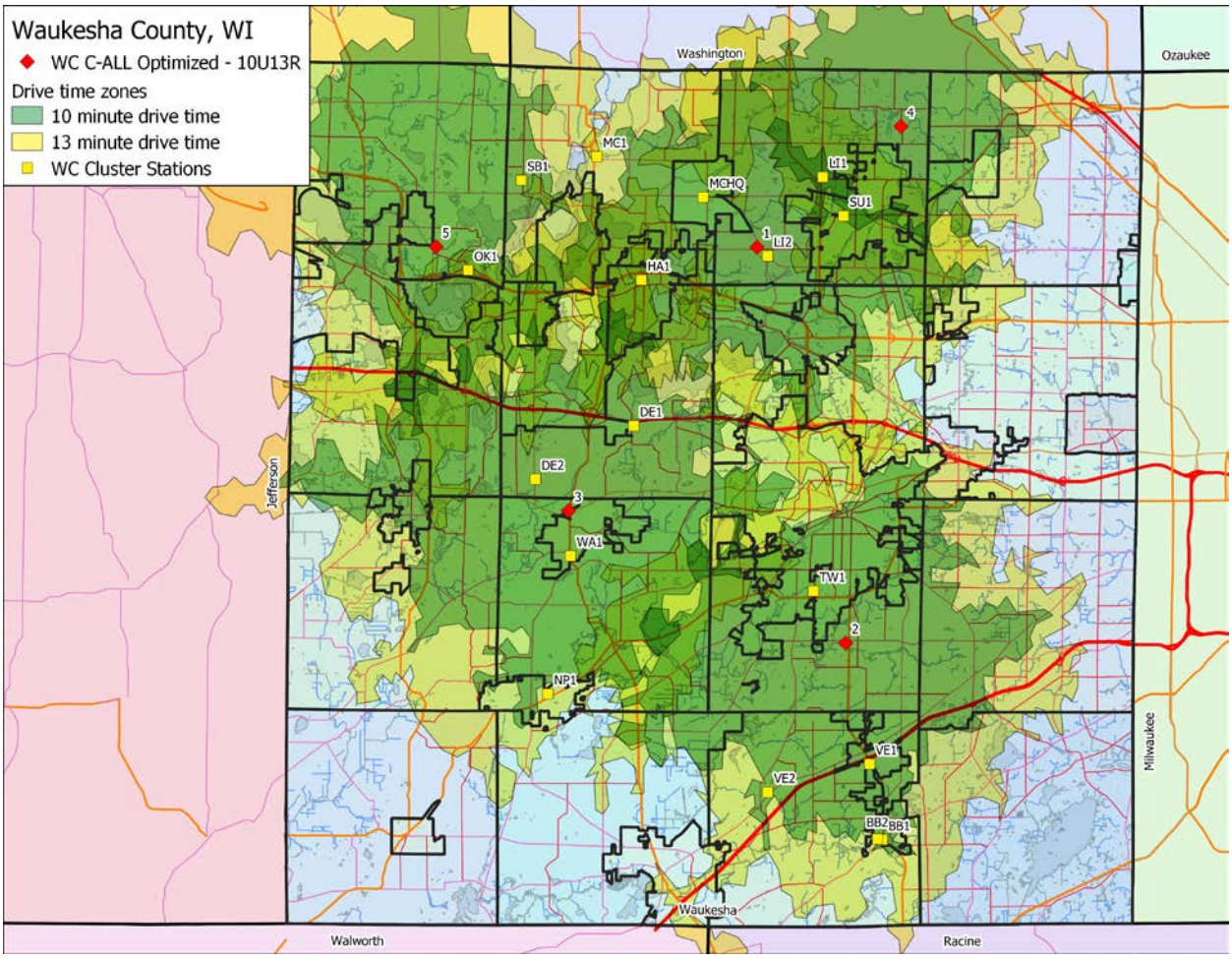


Figure 5: All Participant Areas –Optimized Station Locations - GIS Response Polygons for 10-Minute Urban/Suburban and 13-Minute Rural Travel Times

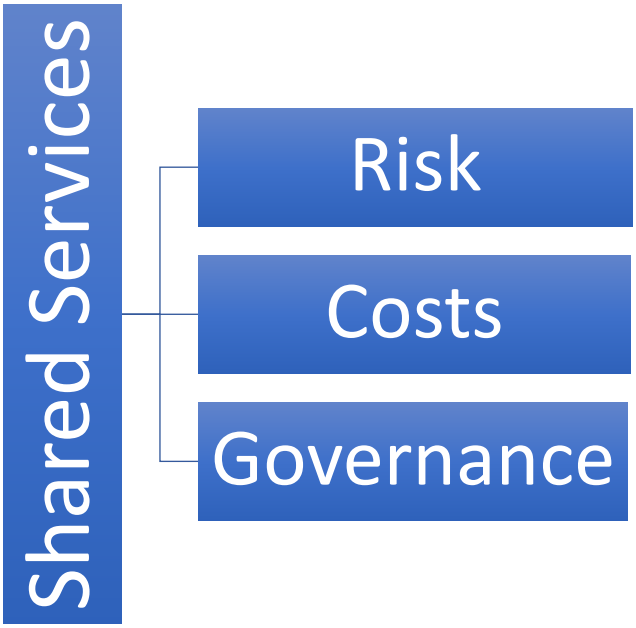


It should be recognized that there is already a culture of collaboration within the county. Much of the current collaboration is accomplished informally. There are already numerous fire departments in various shared service models within the county. The leadership of these departments are working together to ensure they can provide the best service possible with the resources they have. Some departments are providing training together, while others are assisting each other in providing a higher level of EMS service to their community. All of these efforts show a commitment to providing the best service possible. It is recommended that these efforts are encouraged and incentivized when possible. Some of these examples may be replicated in other areas across the county.

When implementing shared services, it is important to address the risk, cost, and governance. The risk includes accounting for community risk being covered, current and future demand for services and the level of service expected. The cost includes both revenues and expenses as well as the source of revenue and expenses. In the case of the participating agencies, most are transporting EMS agencies which can help to diversify the revenue away from a solely tax-

based agency. Lastly the governance can identify representation of stakeholders, decision making authority and the process to enter into and exit from the shared services model.

Figure 6: Shared Services Model



Finally, the following broad observations and recommendations were identified in each of the four areas.

Area 1 Recommendations

1) Maintain current service level and consolidate the number of stations
2) Eliminate duplicative vehicles
3) share staff for cost and operational efficiency

Area 2 Recommendations

1) 3 departments share training currently. Continuation of functional consolidation will serve the region well
2) Maintain the current service level and consolidate the number of stations
3) Right size fleet with functional consolidation
4) Share staff for cost and operational efficiency

Area 3 Recommendations

1) Stone Bank covers Okauchee during the weekday daytime hours. Continuation will ensure a reliable response to Okauchee
2) Lowest demand for service in areas studied leaving limited collaboration opportunity
3) Limited ability to share services based on geographical limitations

Area 4 Recommendations

1) Opportunity may exist to maintain current service level and consolidate the number of stations
2) Eliminate duplicate vehicles

Shared Service Feasibility Study

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& ASSOCIATES

Study Process Overview

Study Process Overview

- Site Visit(s)
- Data/Information Gathering
- Stakeholder Meeting(s)
- Confirmation of Interested Departments
- Data Analyses
- Report Development
- Draft Report Presentation/Feedback

Participating Departments

Entire Study	Not Initially, Then Added	Initially, Then Removed
Delafield, Town Of	Big Bend	Ashippun
Hartland	Vernon	Dousman
Lisbon	Wales/Genesee	Lake Country Fire District
Merton	Waukesha, Town Of	Oconomowoc
North Prairie		Pewaukee
Okauchee		
Stone Bank		
Sussex		

Fire Department Collaboration

- History of collaboration already exists within the county
- Recent consolidation of Dousman and Oconomowoc to create Western Lakes Fire District
- Geography and infrastructure makes regional collaboration within the county more natural
- Steering Committee recommended grouping departments into the four separate areas within the county

Study Challenges

- Prolonged effort for data extraction from the CAD system
- Participating departments changed throughout the study
- Diverse levels of engagement/interest amongst fire departments city/town executives and elected officials

Concerns and Needs

Elected Officials	Level Of Service	Affordability
Local Executives	Governance	Sustainability
Fire Chiefs	Operational Feasibility Given Pressures	Desired Level of Service
Fire Department Staff	Recruitment/ Retention	Disparate Systems

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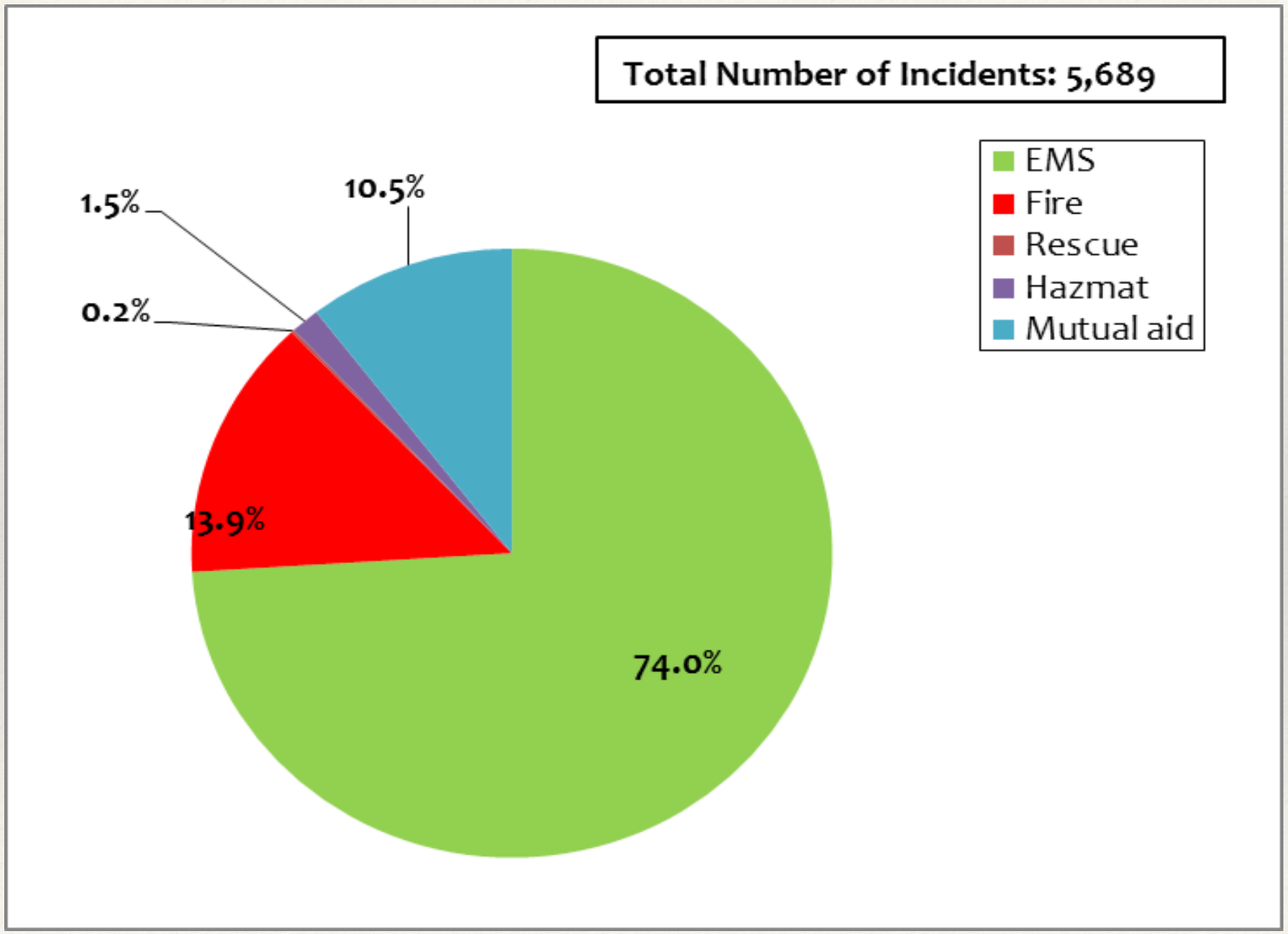
All Participant Overview

Incidents Dispatched By Program



Incidents Dispatched by Category

Call Category	Number of Calls	Calls per Day	Call Percentage	Duration
Cardiac and stroke	333	0.9	5.9%	83.3
Seizure and unconsciousness	409	1.1	7.2%	81.3
Breathing difficulty	301	0.8	5.3%	76.6
Overdose and psychiatric	294	0.8	5.2%	62.4
MVC	450	1.2	7.9%	67.3
Fall and injury	843	2.3	14.8%	70.9
Illness and other	1,261	3.5	22.2%	67.2
Inter-facility transport	320	0.9	5.6%	103.0
EMS Total	**4,211**	**11.5**	**74.0%**	**73.6**
Structure fire	68	0.2	1.2%	88.9
Outside fire	64	0.2	1.1%	48.0
Vehicle fire	47	0.1	0.8%	46.5
Alarm	307	0.8	5.4%	31.9
Public service	184	0.5	3.2%	46.8
Fire other	121	0.3	2.1%	56.3
Fire Total	**791**	**2.2**	**13.9%**	**46.2**
Rescue	**9**	**0.0**	**0.2%**	**50.7**
Hazmat	**83**	**0.2**	**1.5%**	**53.2**
Mutual aid	**595**	**1.6**	**10.5%**	**67.0**
Total	**5,689**	**15.6**	**100.0%**	**68.8**

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Incidents By Jurisdiction from CAD

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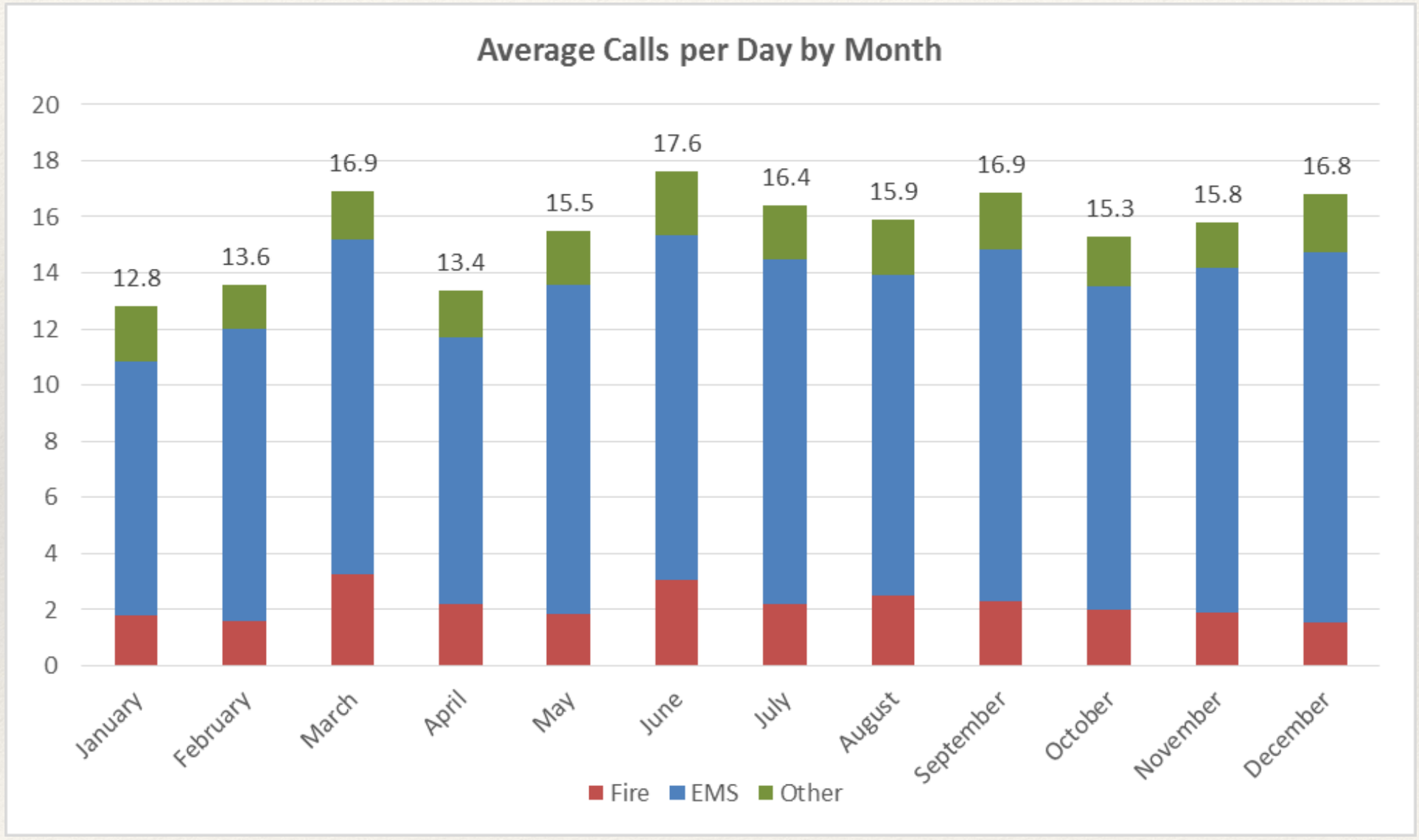
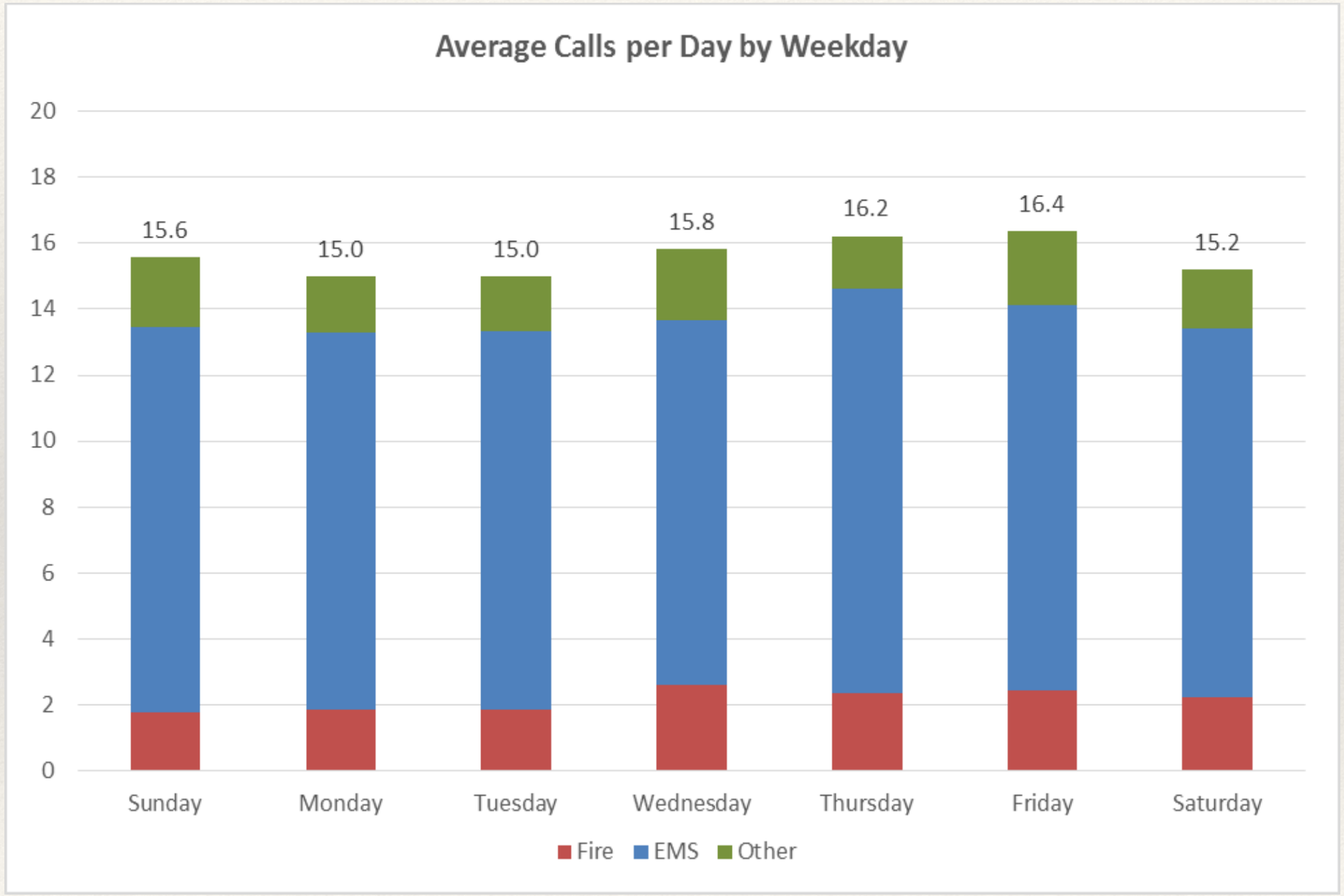
Incidents By Program from CAD

Program	Number of Calls	Number of Responses	Average Responses per Call	Total Busy Hours	Average Busy Minutes per Response	Percentage of Total Busy Hours
EMS	4,211	11,126	2.6	14,055	75.8	70.2%
Fire	791	3,272	4.1	3,489	64.0	17.4%
Rescue	9	32	3.6	26	48.0	0.1%
Hazmat	83	302	3.6	292	58.0	1.5%
Mutual aid	595	1,240	2.1	2,147	103.9	10.7%
Total	**5,689**	**15,972**	**2.8**	**20,008**	**75.2**	**100.0%**

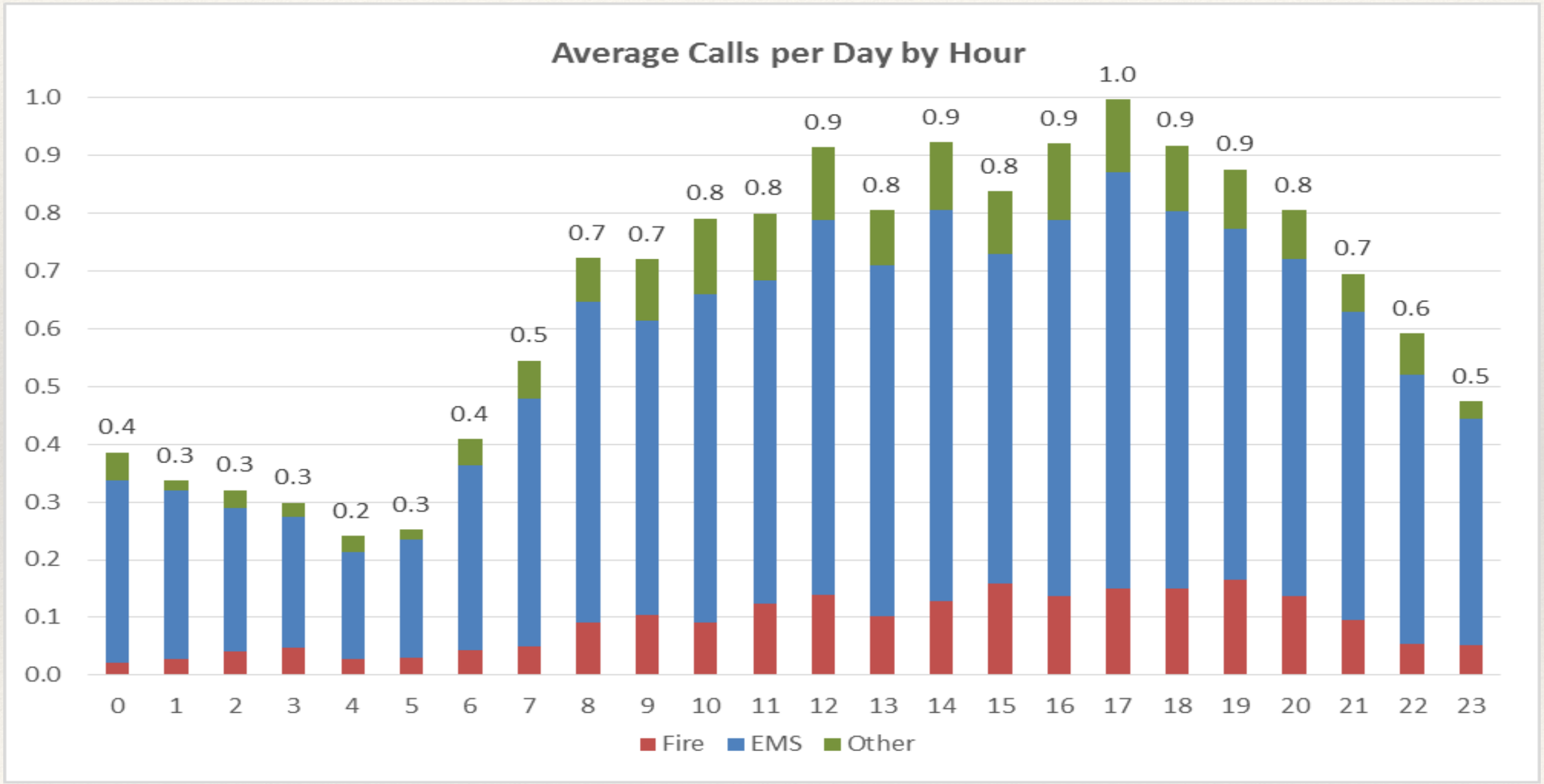
Incidents By Month



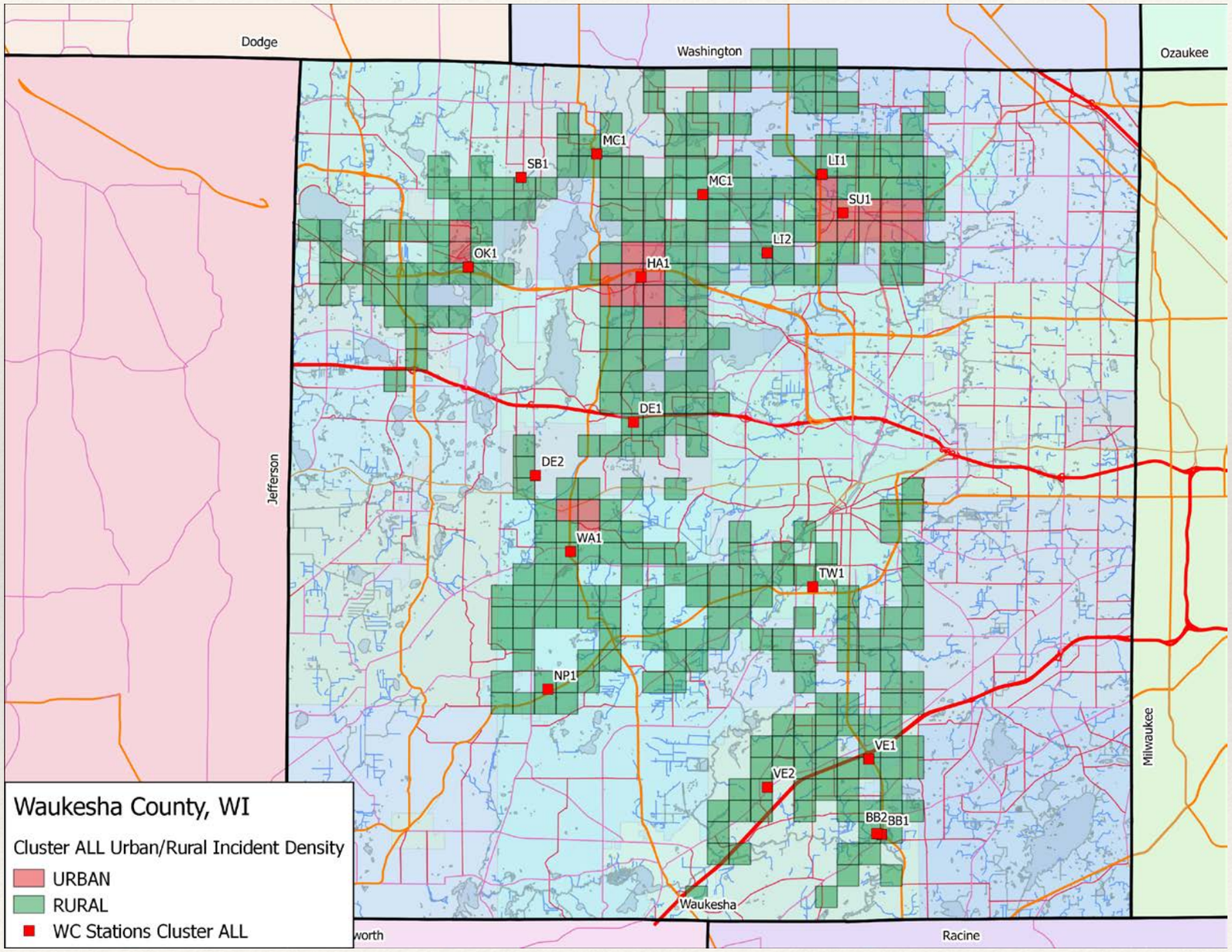
Incidents By Day Of Week



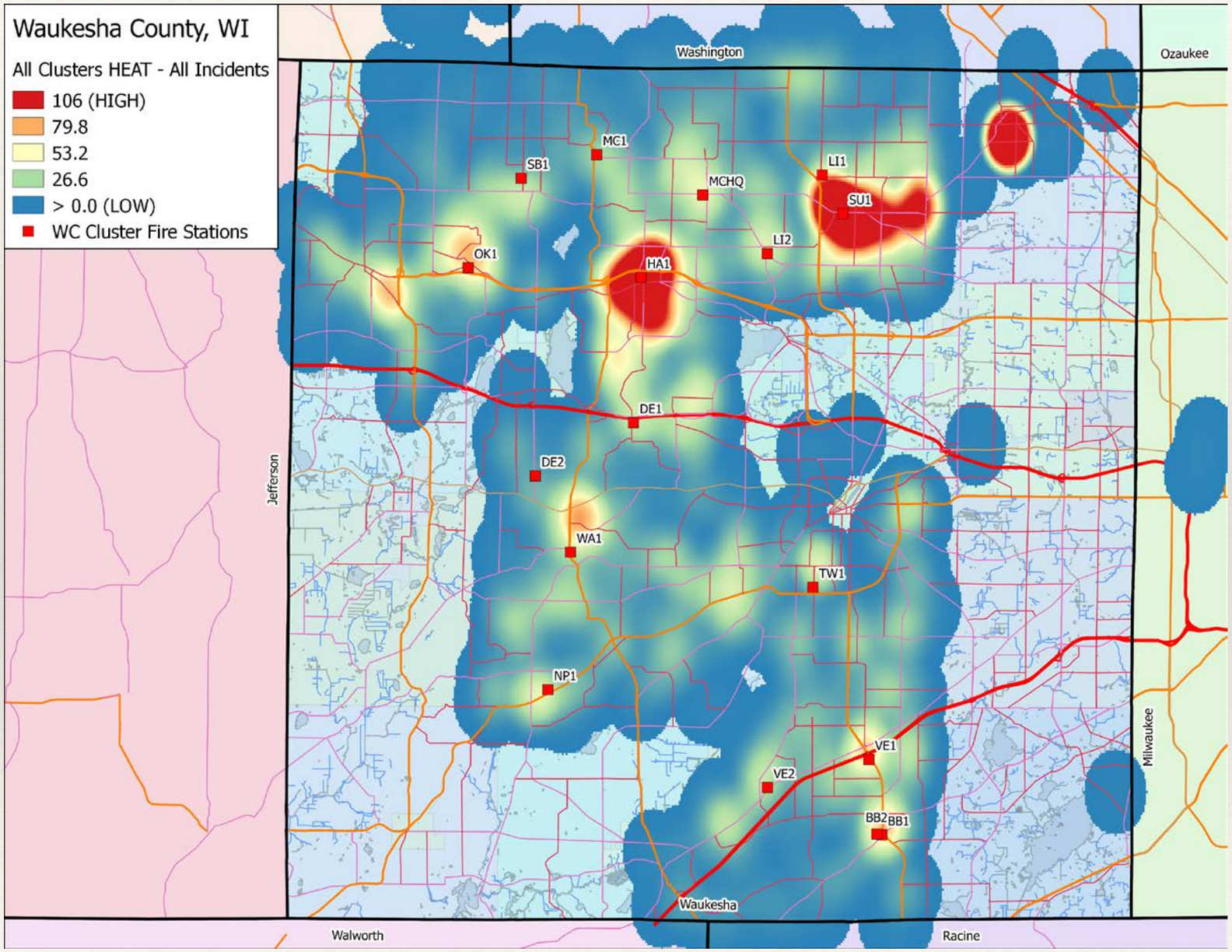
Incidents By Hour Of Day



Rural vs. Urban/Suburban Map



Current Demand Heat Map



Workload By Area

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Delafield Town FD	65.0	1,246	1,150	7.2%
North Prairie FD	96.6	430	267	1.7%
Wales Genesee FD	78.3	2,314	1,774	11.1%
Area 1 Total	**75.0**	**3,990**	**3,191**	**20.0%**
Hartland FD	70.0	2,964	2,541	15.9%
Lisbon FD	82.5	3,804	2,768	17.3%
Merton Community FD	91.7	1,054	690	4.3%
Sussex FD	63.0	1,718	1,636	10.2%
Area 2 Total	**75.0**	**9,540**	**7,635**	**47.8%**
Okauchee FD	82.1	969	708	4.4%
Stone Bank FD	81.1	1,184	876	5.5%
Area 3 Total	**81.6**	**2,153**	**1,584**	**9.9%**
Big Bend FD	76.1	620	489	3.1%
Vernon FD	68.6	1,719	1,504	9.4%
Waukesha Town FD	75.9	1,986	1,569	9.8%
Area 4 Total	**72.9**	**4,325**	**3,562**	**22.3%**
Total	**75.2**	**20,008**	**15,972**	**100%**

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Average First Unit Arrival Performance

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Delafield Town FD	1.8	3.2	4.9	9.9	302
North Prairie FD	1.6	7.1	3.3	12.0	63
Wales Genesee FD	1.8	3.5	4.9	10.1	422
Area 1	**1.8**	**3.7**	**4.8**	**10.2**	**787**
Hartland FD	1.8	2.1	3.0	6.9	653
Lisbon FD	1.7	3.4	6.2	11.4	479
Merton Community FD	1.5	4.3	4.4	10.2	210
Sussex FD	1.9	2.6	3.0	7.5	633
Area 2	**1.8**	**2.8**	**3.9**	**8.5**	**1,975**
Okauchee FD	1.4	3.7	4.5	9.6	185
Stone Bank FD	1.4	2.8	4.7	8.8	152
Area 3	**1.4**	**3.3**	**4.6**	**9.3**	**337**
Big Bend FD	1.9	4.9	3.2	10.0	93
Vernon FD	1.6	2.1	6.5	10.2	384
Waukesha Town FD	1.8	6.4	5.6	13.7	349
Area 4	**1.7**	**4.2**	**5.8**	**11.7**	**826**
Total	**1.7**	**3.3**	**4.5**	**9.6**	**3,925**

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90th Percentile First Unit Arrival Performance

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Delafield Town FD	3.4	5.8	8.0	15.2	302
North Prairie FD	2.5	11.4	4.5	16.3	63
Wales Genesee FD	3.3	6.4	8.1	15.0	422
Area 1	**3.3**	**7.0**	**7.9**	**15.3**	**787**
Hartland FD	3.0	3.6	5.0	10.1	653
Lisbon FD	3.0	6.0	10.5	16.1	479
Merton Community FD	2.8	7.2	7.2	14.1	210
Sussex FD	3.2	4.7	5.2	10.9	633
Area 2	**3.0**	**5.3**	**7.6**	**13.5**	**1,975**
Okauchee FD	2.7	8.0	8.3	14.8	185
Stone Bank FD	2.7	6.2	8.1	13.0	152
Area 3	**2.7**	**7.1**	**8.3**	**14.3**	**337**
Big Bend FD	3.1	8.4	7.3	15.0	93
Vernon FD	3.1	3.6	11.9	14.9	384
Waukesha Town FD	3.1	11.6	8.9	19.8	349
Area 4	**3.1**	**9.7**	**10.0**	**17.5**	**826**
Total	**3.1**	**6.8**	**8.3**	**15.2**	**3,925**

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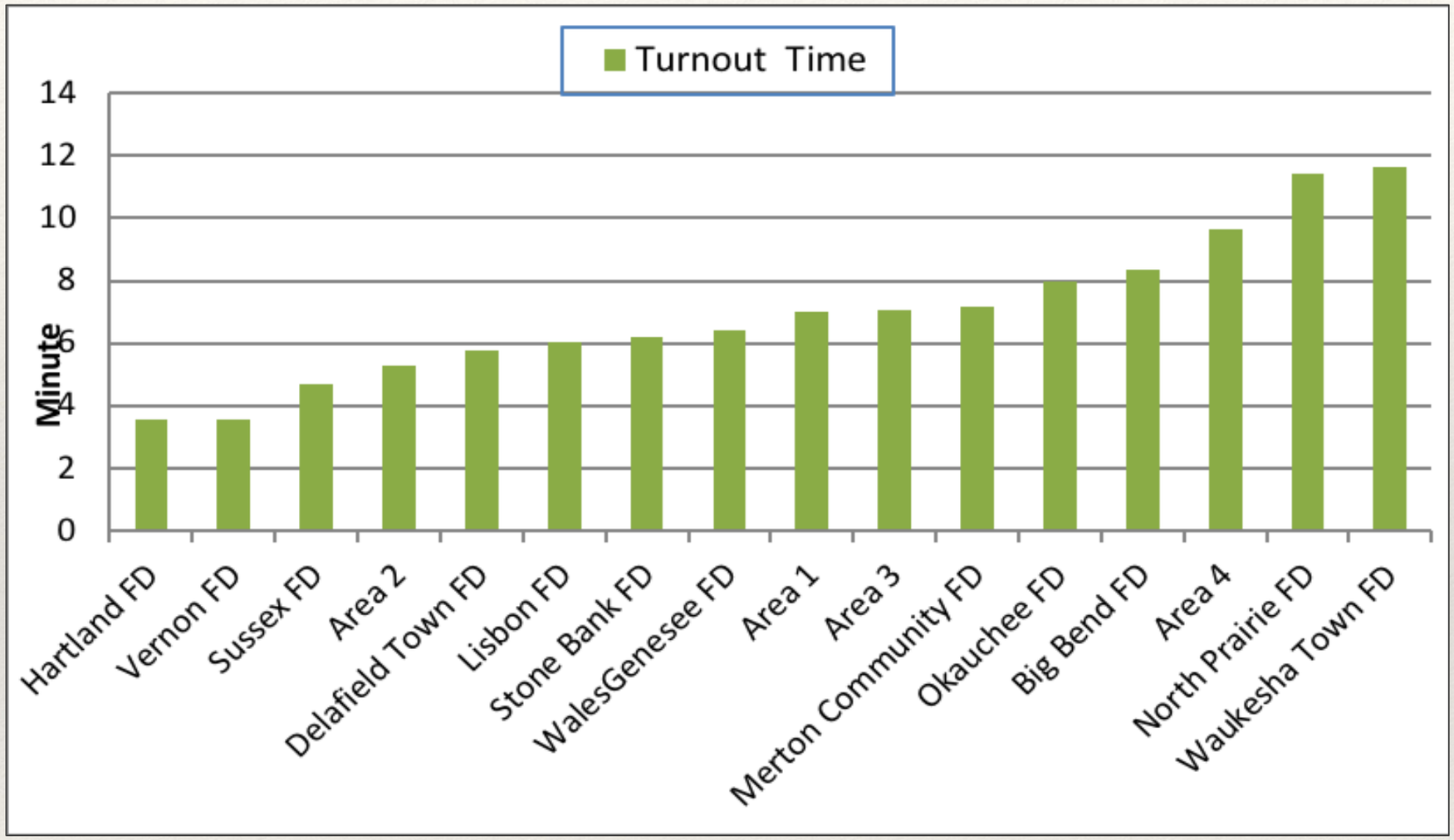
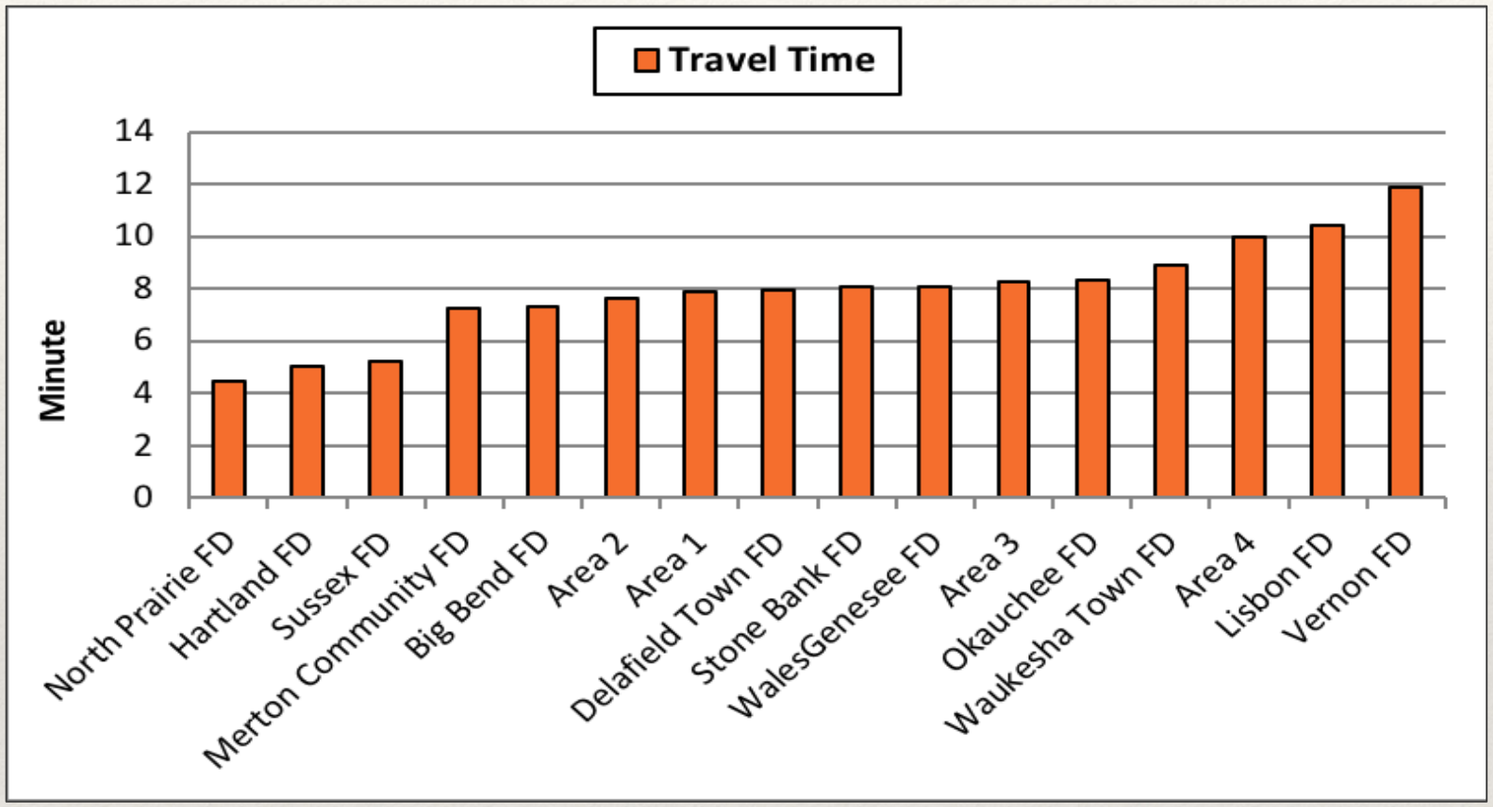
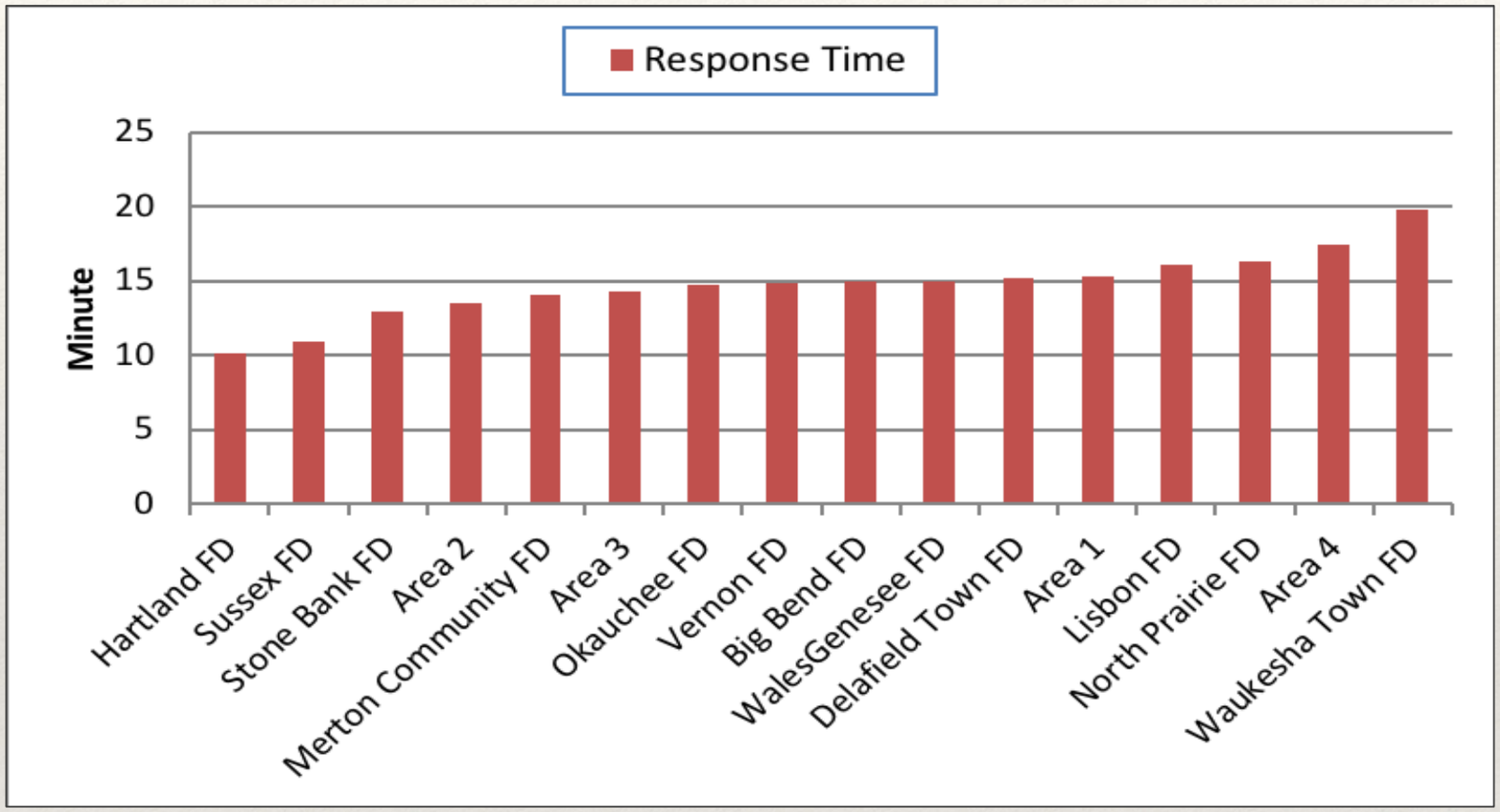
90th Percentile Turnout Time



90th Percentile Travel Time



90th Percentile Total Response Time



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Average 1st Arriving Unit Times By Program

Program	Call Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
EMS	1.8	3.7	5.1	10.5	3,519
Fire	1.1	3.9	4.6	9.5	585
Rescue	1.6	2.4	3.5	7.5	7
Hazmat	1.0	4.3	4.0	9.3	68
Total	**1.6**	**3.7**	**5.0**	**10.3**	**4,179**

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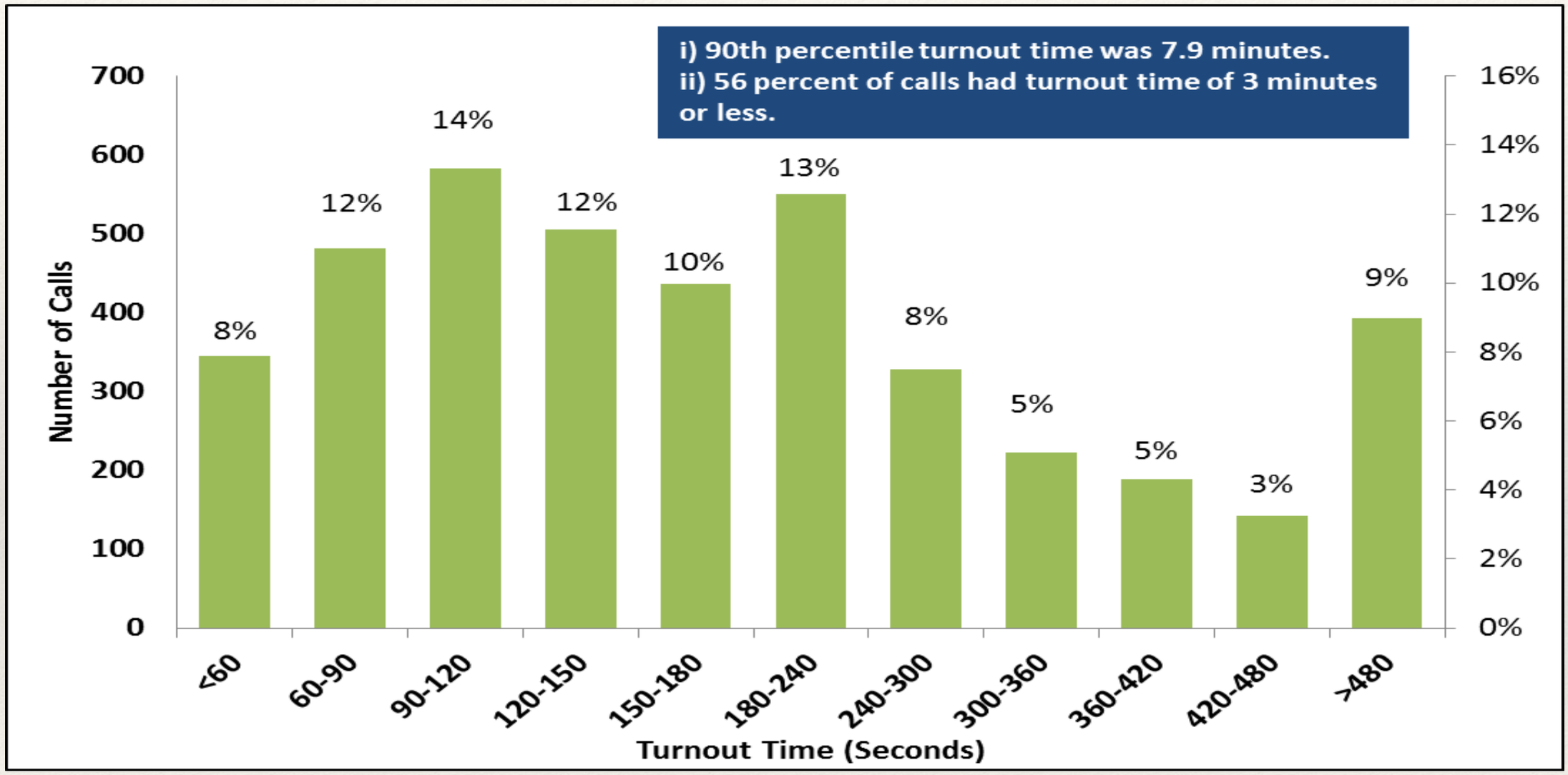
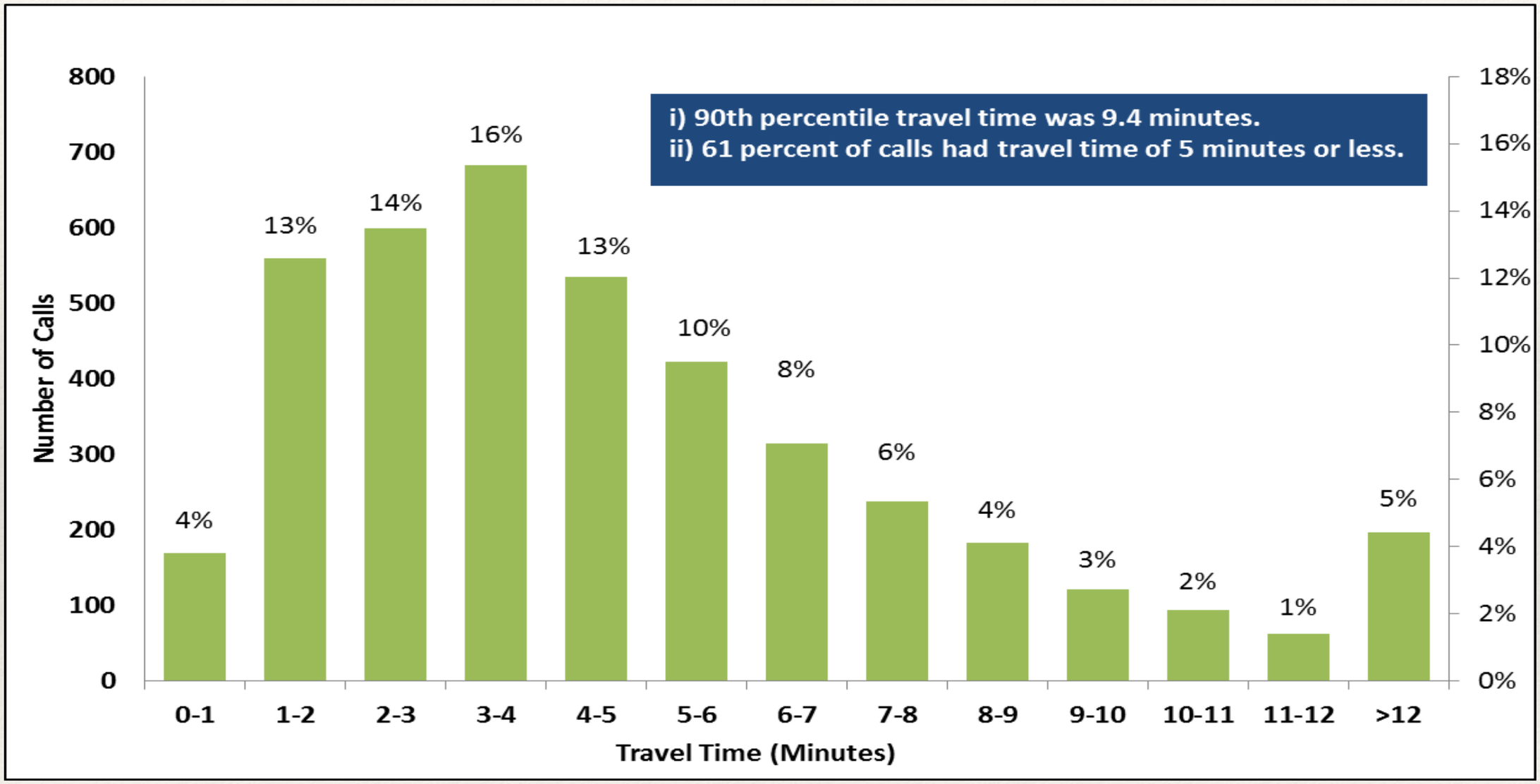
90th Percentile 1st Arriving Unit Times By Program

Program	Call Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
EMS	3.1	7.9	9.6	18.0	3,519
Fire	2.5	7.7	8.5	15.5	585
Rescue	3.6	3.0	5.8	10.6	7
Hazmat	2.7	8.3	7.4	13.7	68
Total	**3.0**	**7.9**	**9.4**	**17.5**	**4,179**

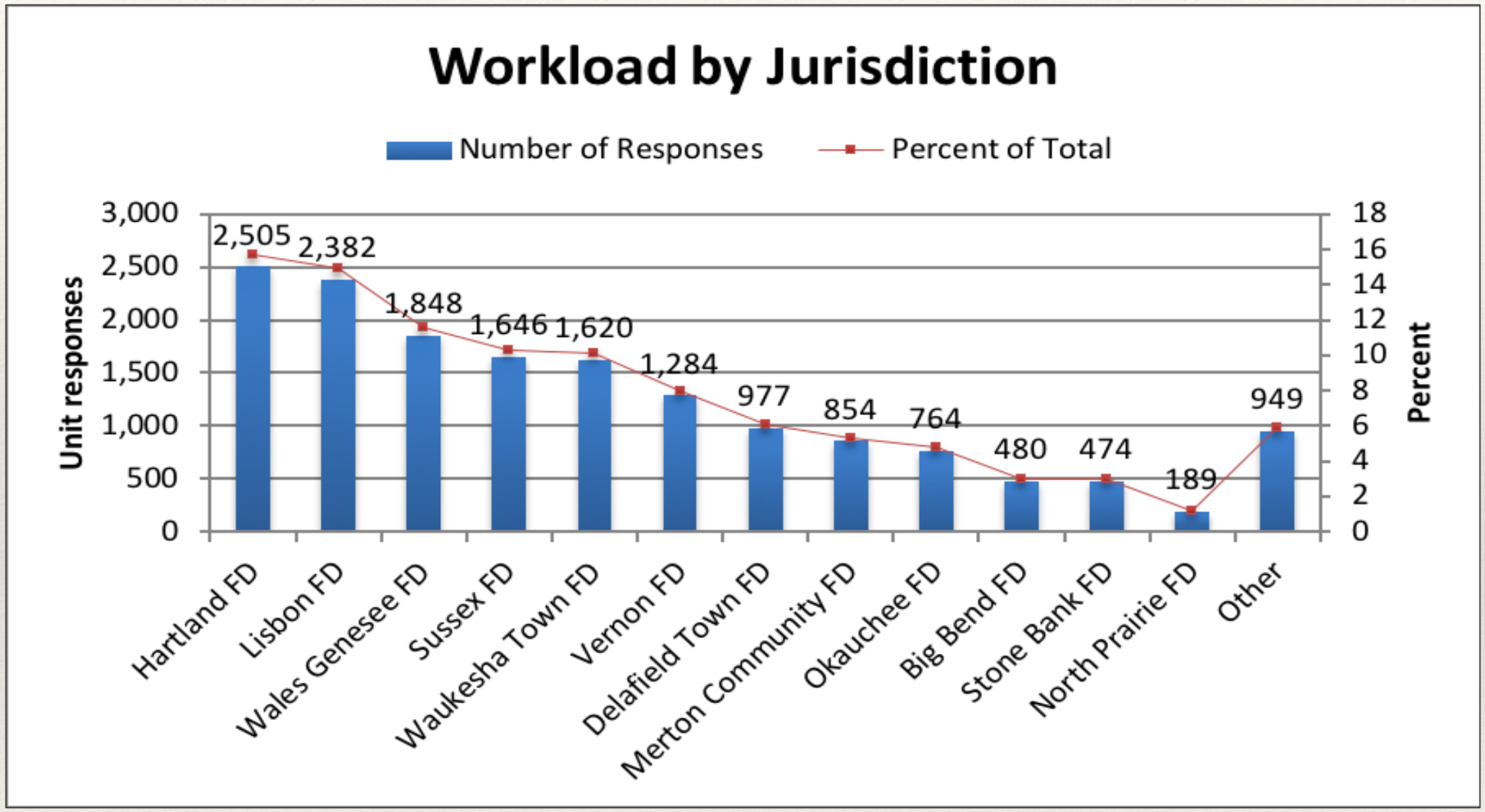
Turnout Time



Travel Time


i) 90th percentile travel time was 9.4 minutes.
ii) 61 percent of calls had travel time of 5 minutes or less.
Number of Calls
800
700
600
500
400
300
200
100
0
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
4%
13%
14%
16%
13%
10%
8%
6%
4%
3%
2%
1%
5%
0-1
1-2
2-3
3-4
4-5
5-6
6-7
7-8
8-9
9-10
10-11
11-12
>12
Travel Time (Minutes)

Workload By Jurisdiction



Overlapped Calls By Jurisdiction

Jurisdiction	Overlapped Calls	Total Calls	Duration	Probability of Overlapping Calls
Lisbon FD	232	858	85.3	27.0
Hartland FD	153	786	67.4	19.5
Sussex FD	124	743	57.2	16.7
Wales Genesee FD	67	478	75.7	14.0
Waukesha Town FD	47	414	75.2	11.4
Vernon FD	55	502	59.8	11.0
Delafield Town FD	38	367	59.2	10.4
Merton Community FD	24	267	89.8	9.0
Stone Bank FD	14	193	76.3	7.3
North Prairie FD	6	87	72.7	6.9
Big Bend FD	8	139	70.2	5.8
Okauchee FD	24	448	40.1	5.4

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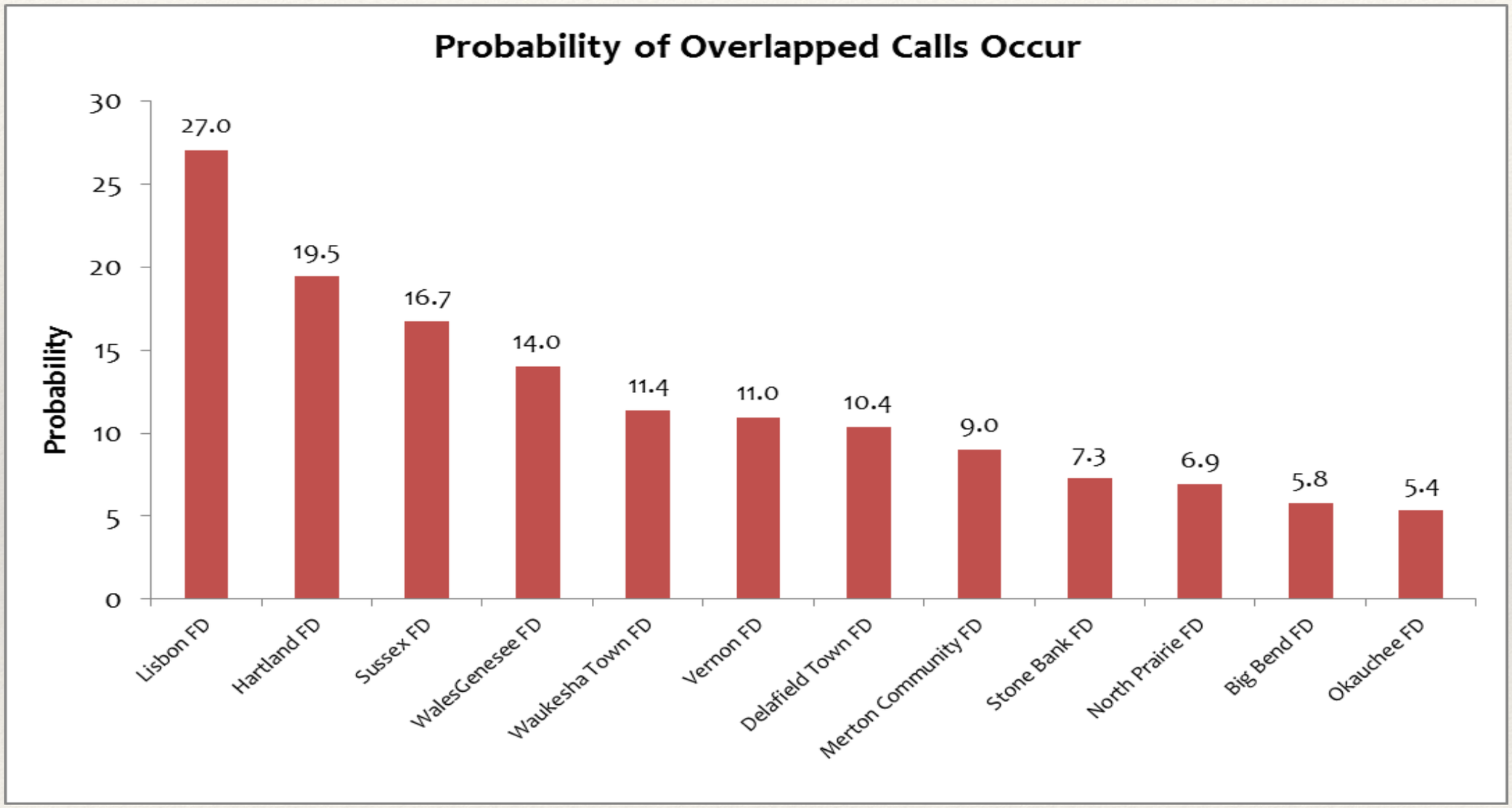
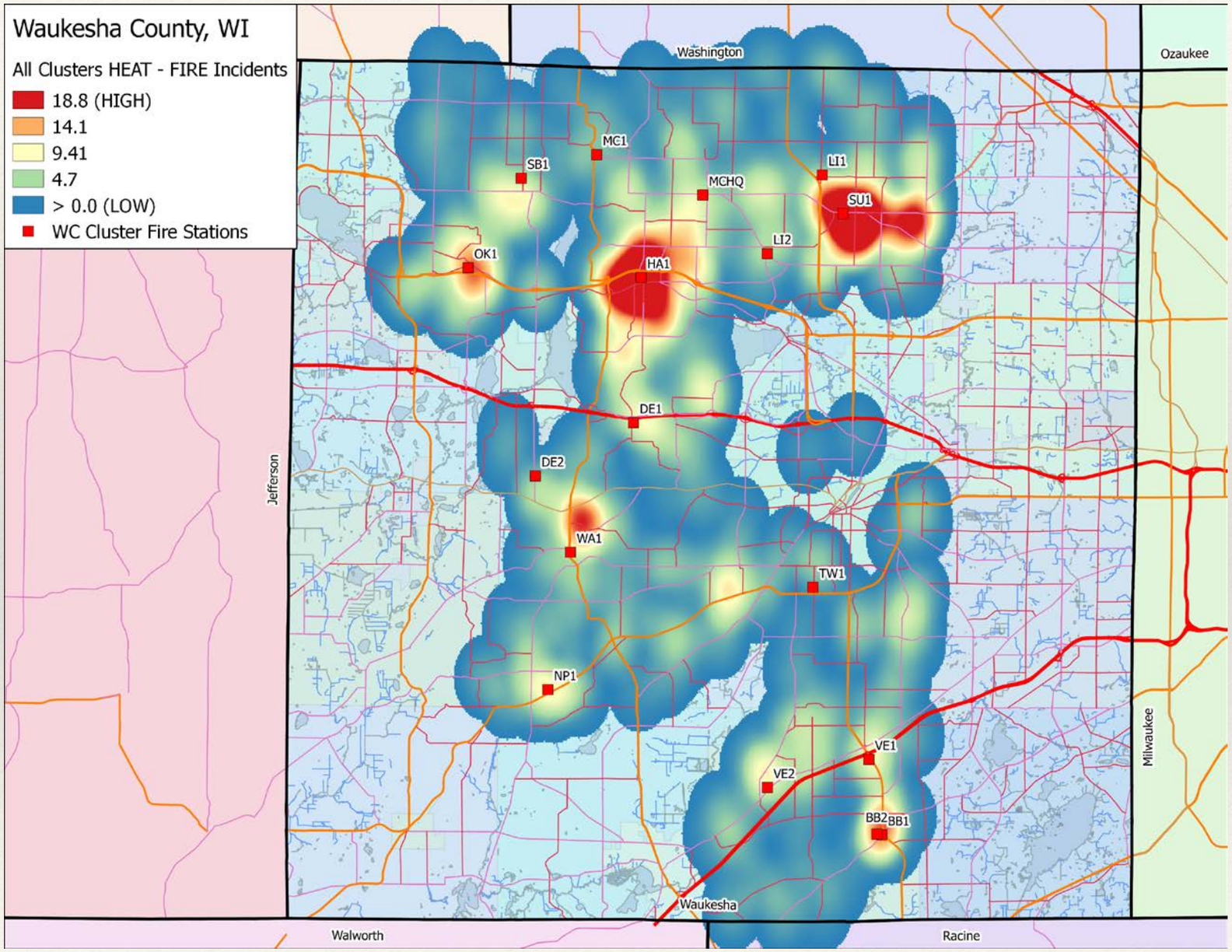
Probability of Overlapped Calls



Fire Responses

All Participants

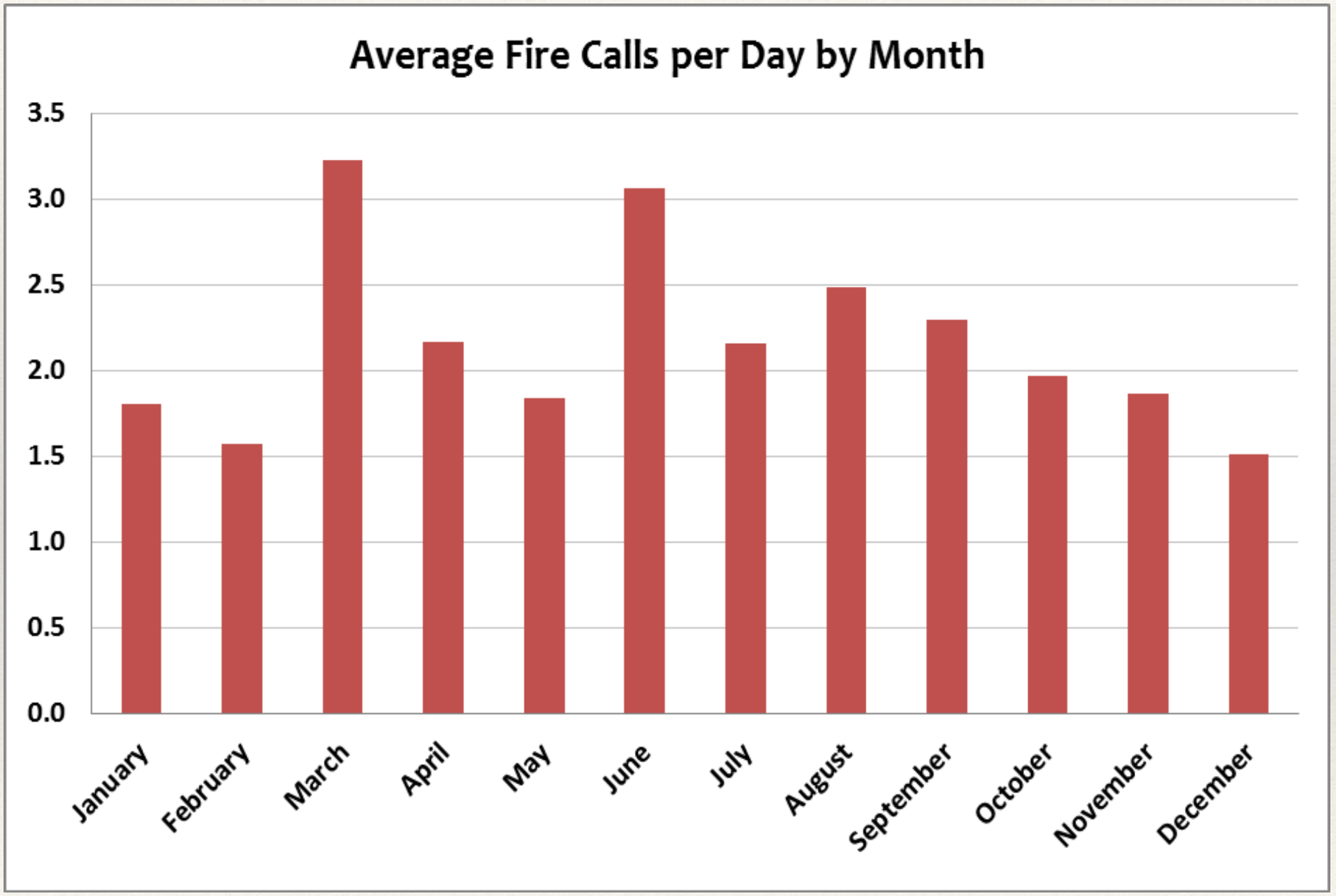
All Area Fire Demand Heat Map



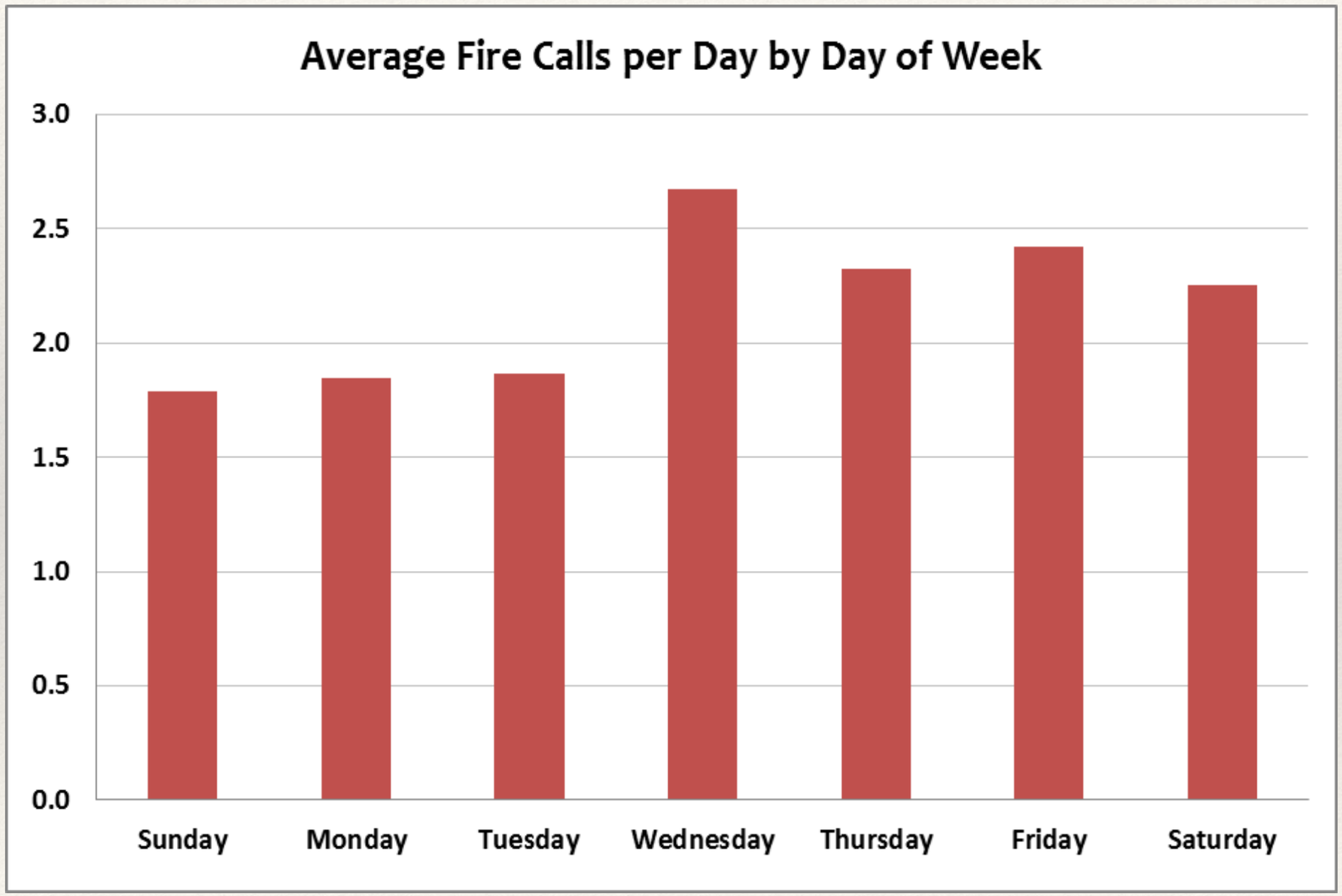
Fire Incidents Dispatched By Category

Fire	Number of Calls	Number of Responses	Average Responses per Call	Total Busy Hours	Average Busy Minutes per Response	Percentage of Total Busy Hours
Structure fire	68	720	10.6	1,450	120.9	41.6%
Outside fire	64	303	4.7	327	64.8	9.4%
Vehicle fire	47	192	4.1	167	52.3	4.8%
Alarm	307	1,094	3.6	587	32.2	16.8%
Public service	184	530	2.9	509	57.7	14.6%
Fire other	121	433	3.6	448	62.1	12.8%
Total	791	3,272	4.1	3,489	64.0	100.0%

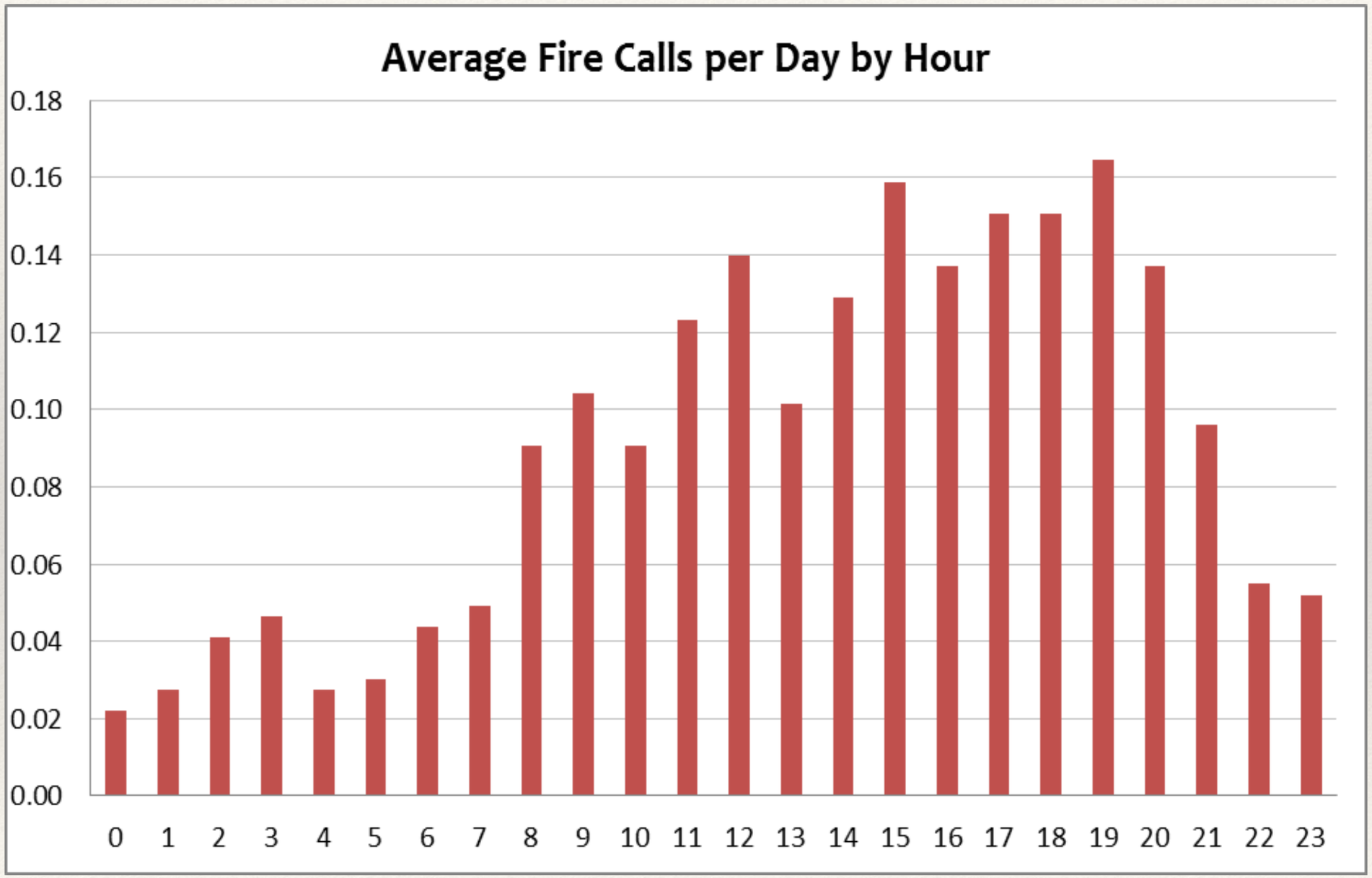
Fire Related Calls Per Month



Fire Related Calls By Day of Week



Fire Related Calls By Hour Of Day



Fire Workload By Agency

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Delafield Town FD	53.4	260	292	8.9%
North Prairie FD	112.3	167	89	2.7%
Wales Genesee FD	64.8	404	374	11.4%
Area 1 Total	**66.0**	**831**	**755**	**23.1%**
Hartland FD	53.6	460	514	15.7%
Lisbon FD	76.6	471	369	11.3%
Merton Community FD	69.8	259	223	6.8%
Sussex FD	55.9	307	329	10.1%
Area 2 Total	**62.6**	**1,497**	**1,435**	**43.9%**
Okauchee FD	63.3	206	195	6.0%
Stone Bank FD	56.8	171	181	5.5%
Area 3 Total	**60.2**	**377**	**376**	**11.5%**
Big Bend FD	84.6	141	100	3.1%
Vernon FD	53.7	219	245	7.5%
Waukesha Town FD	70.6	425	361	11.0%
Area 4 Total	**66.7**	**785**	**706**	**21.6%**
Total	**64.0**	**3,489**	**3,272**	**100%**

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Number of Responding Units by Fire Call Type

Call Category	Number of Units										Total
	1	2	3	4	5	6	7	8	9	10 or more	
Structure fire	1	3	1	4	7	4	7	10	5	26	**68**
Outside fire	4	9	11	14	10	5	2	3	3	3	**64**
Vehicle fire	1	6	15	7	8	6	3	0	1	0	**47**
Alarm	13	53	113	57	44	13	8	3	1	2	**307**
Public service	33	43	55	33	13	5	0	1	0	1	**184**
Fire other	5	26	35	32	13	4	4	1	0	1	**121**
Total	56	140	230	147	95	37	24	18	10	33	**791**
Percentage	**7.1%**	**17.7%**	**29.1%**	**18.6%**	**12.0%**	**4.7%**	**3.0%**	**2.3%**	**1.3%**	**4.2%**	**100.0%**

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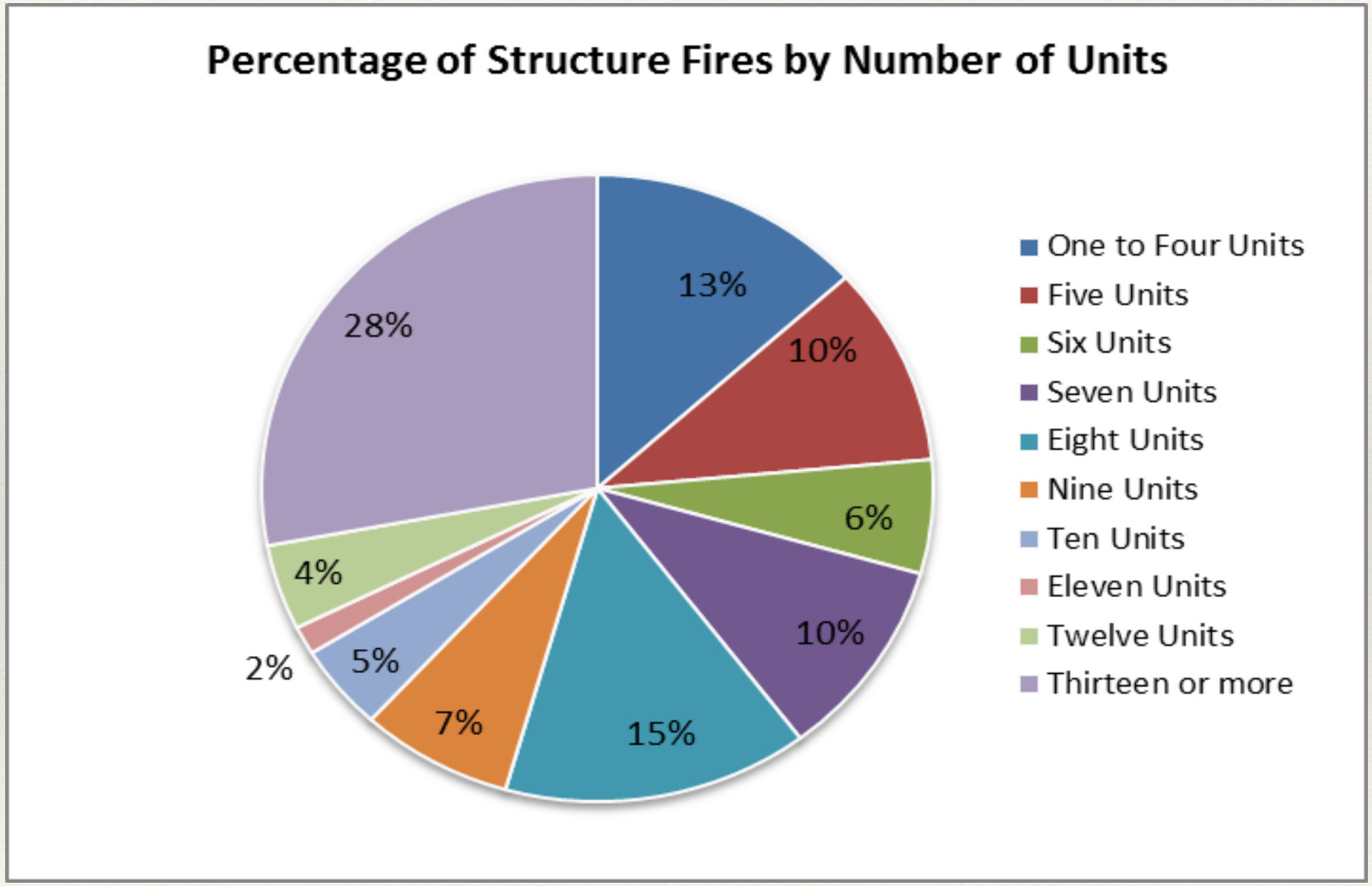
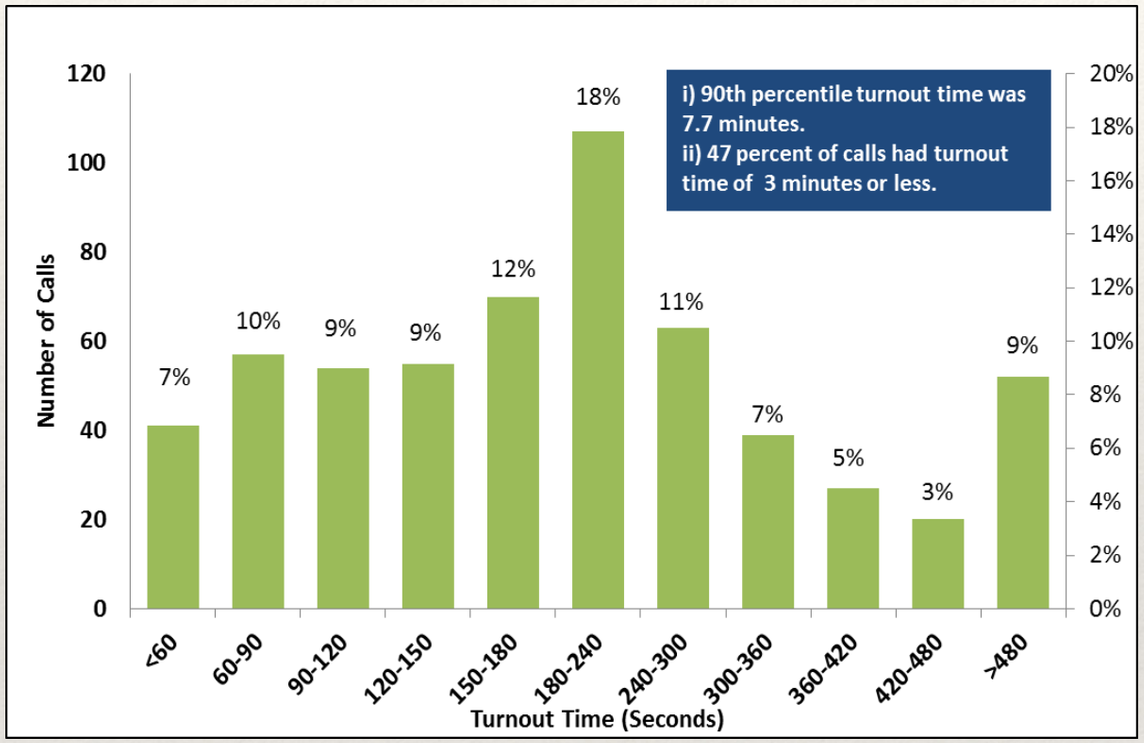
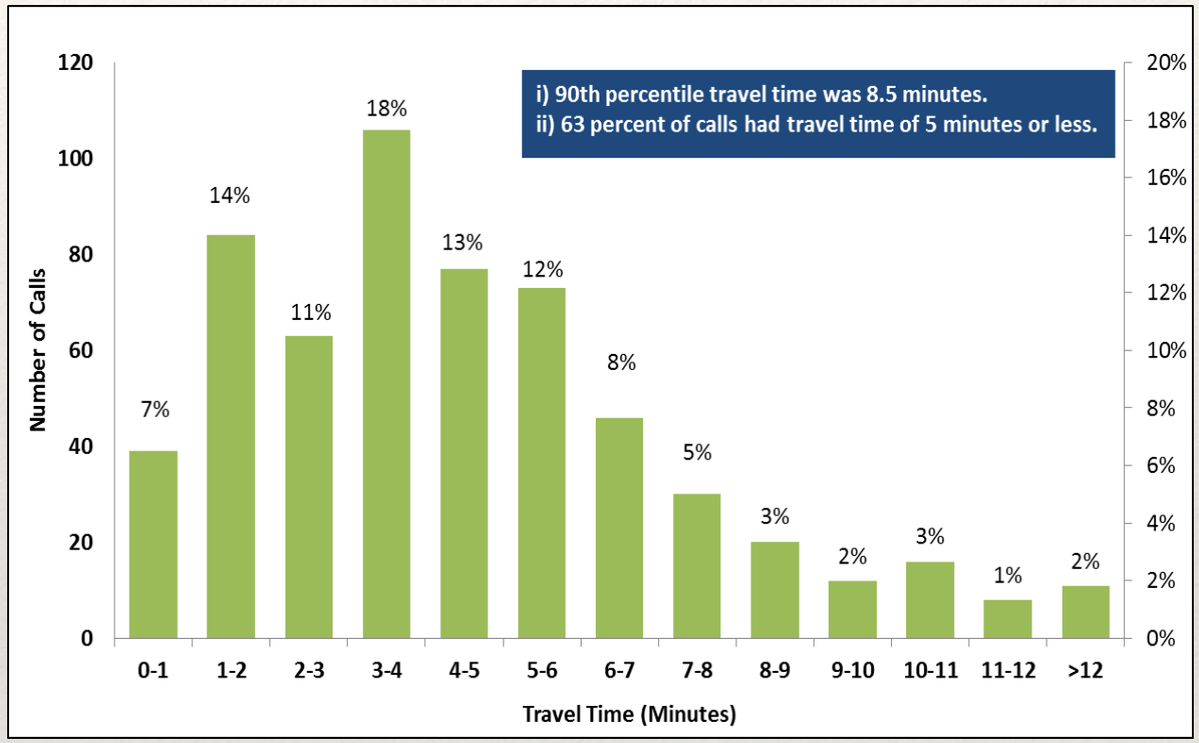
Percentage of Structure Fire Calls By Number of Responding Units



Fire Response Times by First Arriving Unit

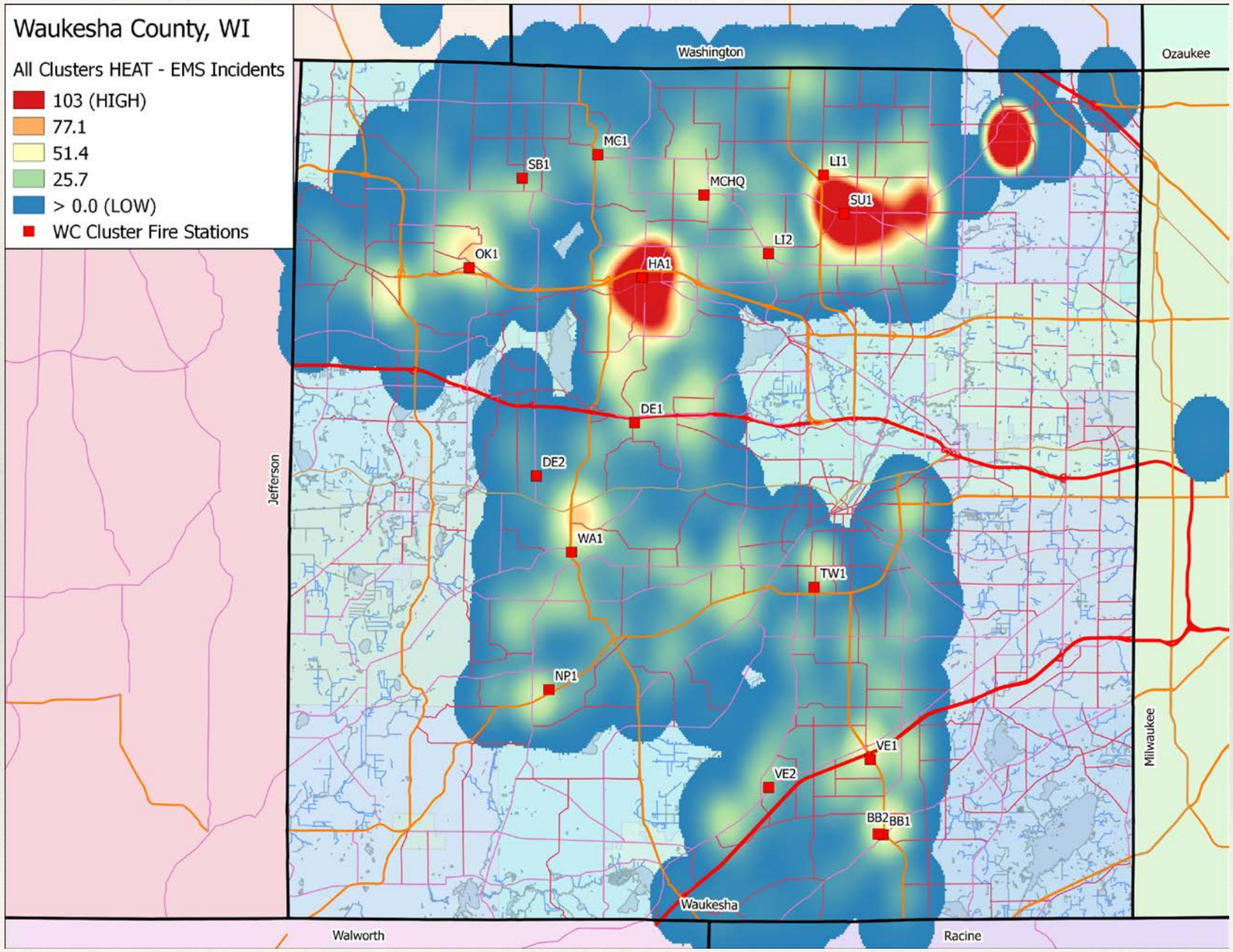




EMS Responses

All Participants

All Area EMS Demand Heat Map



Number of EMS Incidents Dispatched By Category

EMS	Number of Calls	Number of Responses	Average Responses per Call	Total Busy Hours	Average Busy Minutes per Response	Percentage of Total Busy Hours
Cardiac and stroke	333	857	2.6	1,188	83.2	8.5%
Seizure and unconsciousness	409	1,169	2.9	1,581	81.1	11.2%
Breathing difficulty	301	868	2.9	1,099	76.0	7.8%
Overdose and psychiatric	294	769	2.6	873	68.1	6.2%
MVC	450	1,848	4.1	2,244	72.8	16.0%
Fall and injury	843	2,221	2.6	2,711	73.2	19.3%
Illness and other	1,261	2,938	2.3	3,512	71.7	25.0%
Interfacility transport	320	456	1.4	848	111.6	6.0%
Total	4,211	11,126	2.6	14,055	75.8	100.0%

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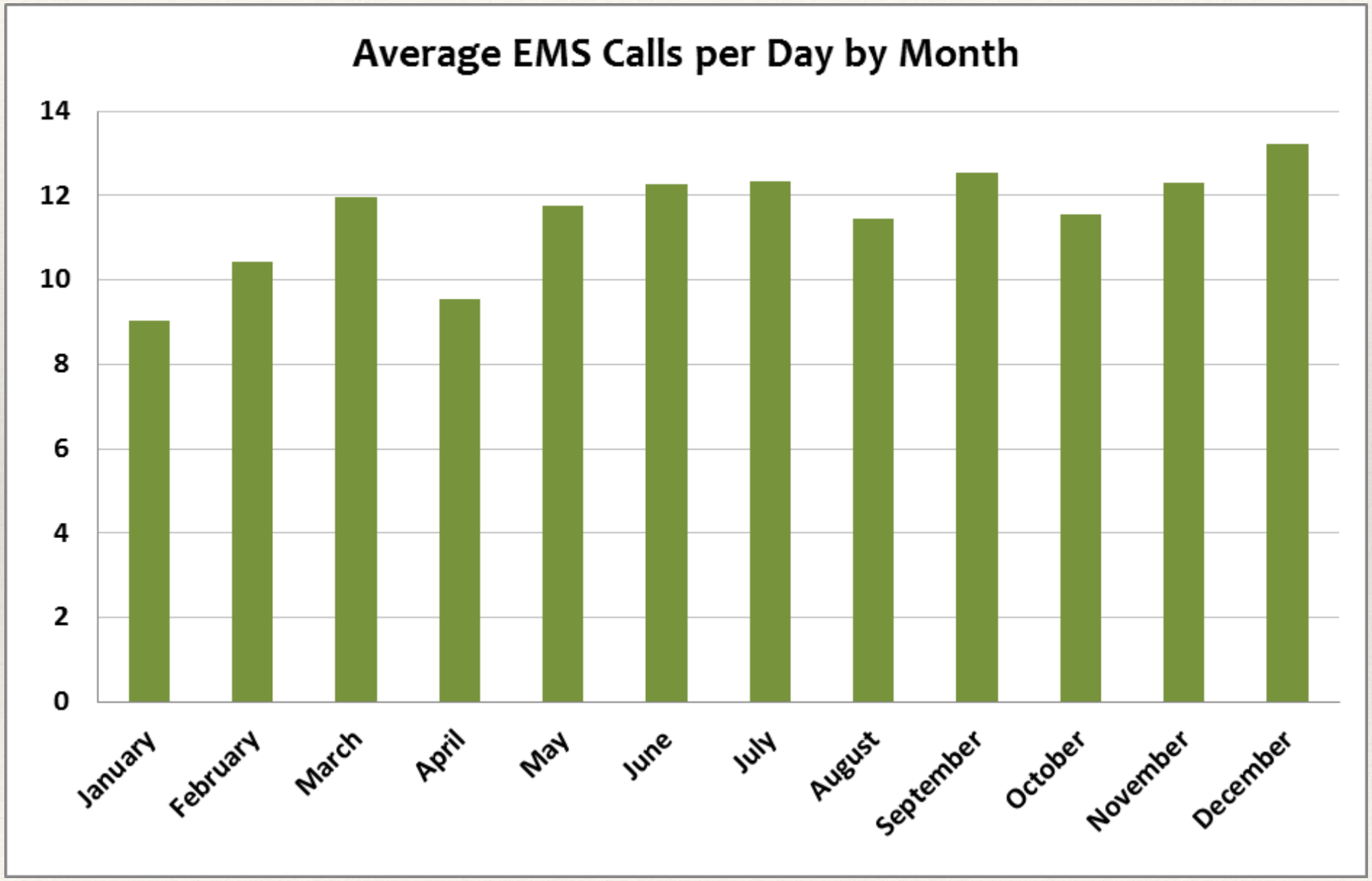
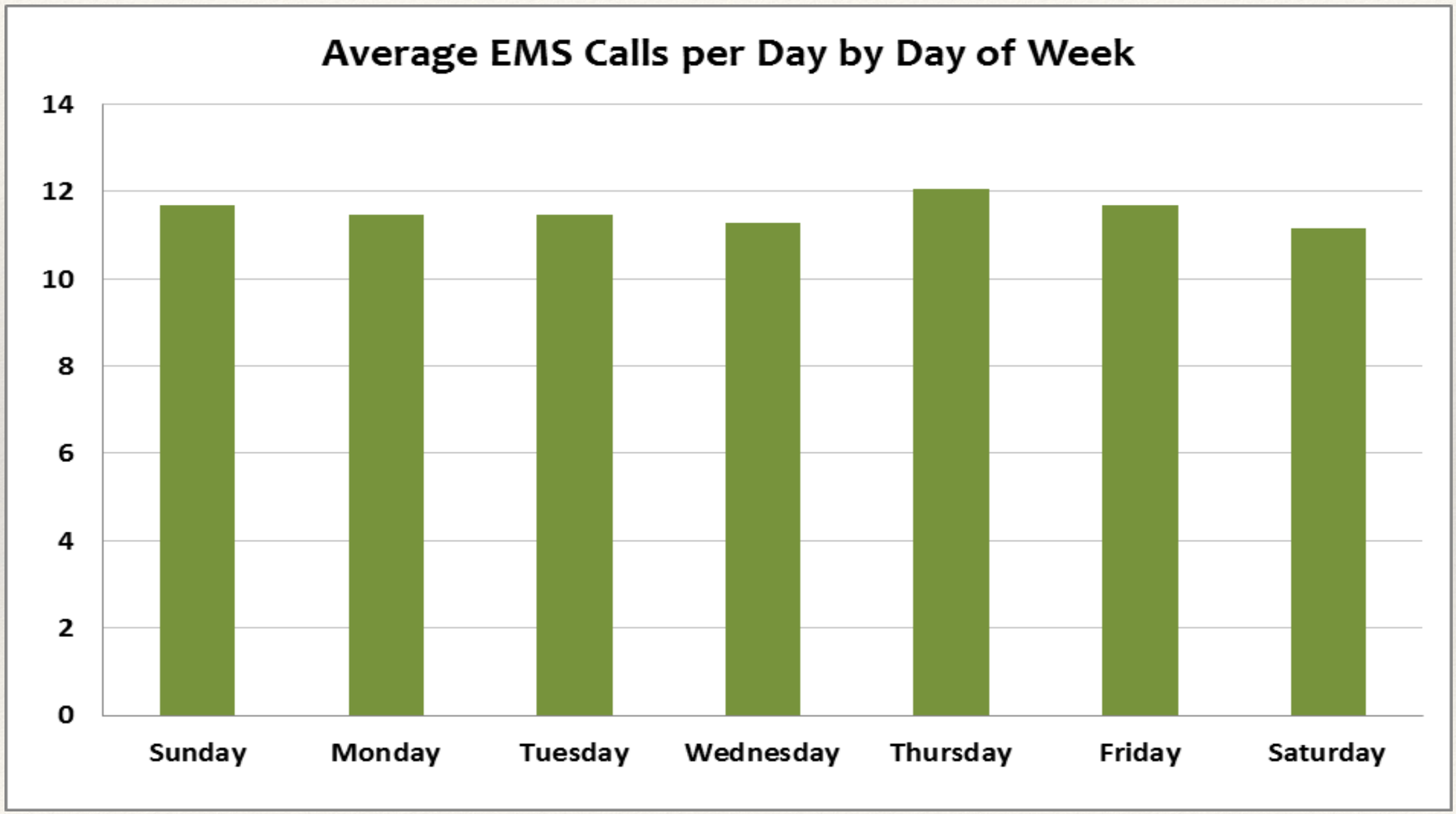
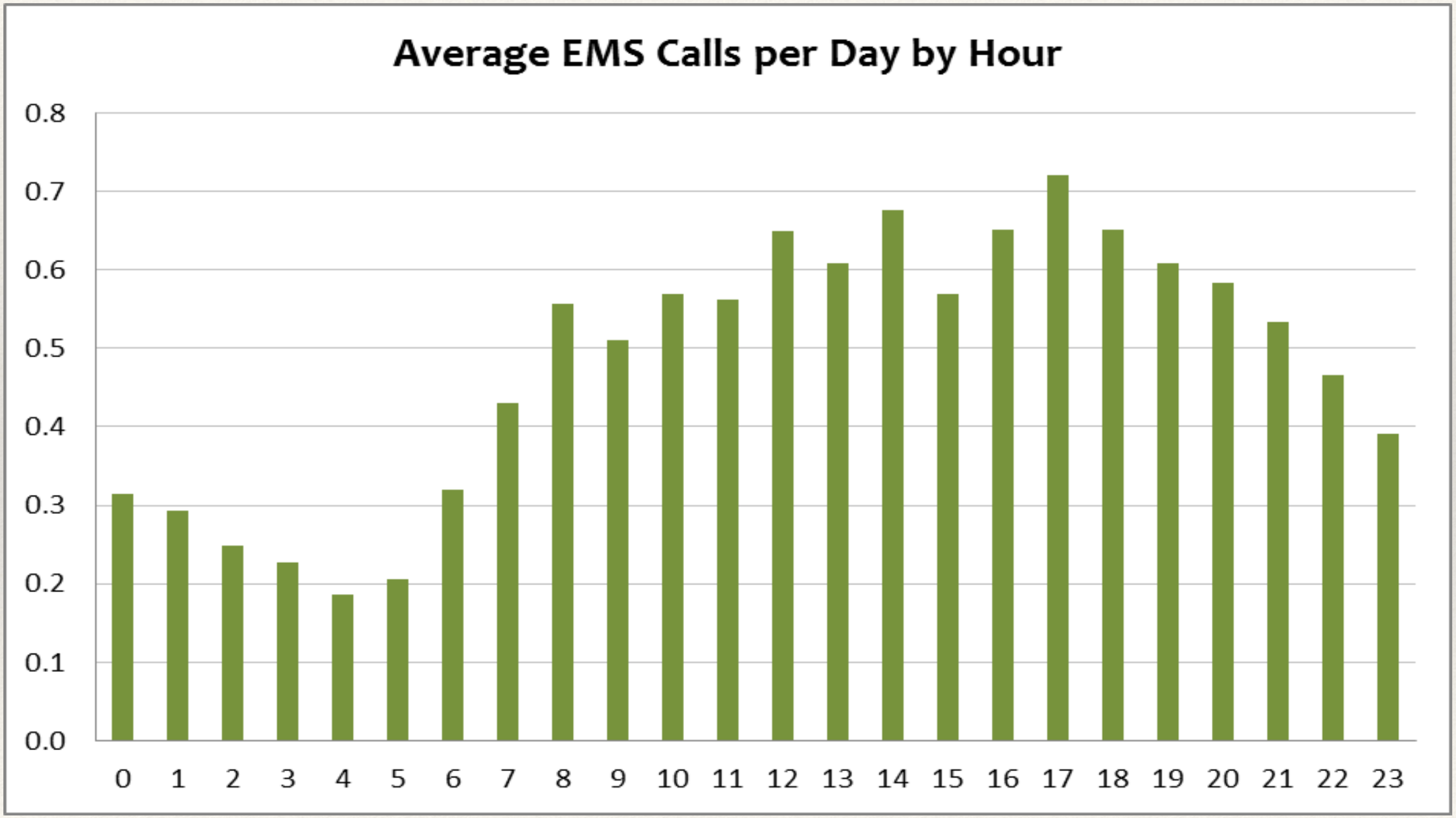
Average EMS Calls Per Day By Month



Average EMS Calls Per Day by Day of Week



Average EMS Calls Per Day By Hour



EMS Workload By Agency

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Delafield Town FD	64.9	758	701	6.3%
North Prairie FD	72.6	159	131	1.2%
Wales Genesee FD	79.1	1,707	1,295	11.6%
Area 1 Total	**74.0**	**2,623**	**2,127**	**19.1%**
Hartland FD	74.4	2,350	1,896	17.0%
Lisbon FD	83.0	3,076	2,225	20.0%
Merton Community FD	101.7	704	415	3.7%
Sussex FD	62.7	1,236	1,182	10.6%
Area 2 Total	**77.3**	**7,366**	**5,718**	**51.4%**
Okauchee FD	79.5	506	382	3.4%
Stone Bank FD	88.7	500	338	3.0%
Area 3 Total	**83.8**	**1,006**	**720**	**6.5%**
Big Bend FD	71.4	386	324	2.9%
Vernon FD	69.3	1,285	1,112	10.0%
Waukesha Town FD	74.1	1,389	1,125	10.1%
Area 4 Total	**71.7**	**3,060**	**2,561**	**23.0%**
Total	**75.8**	**14,055**	**11,126**	**100%**

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Average First Arriving Unit Times By Acuity Level

EMD Determinant	Call Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Alpha	2.1	3.4	4.9	10.4	876
Bravo	1.9	3.2	4.3	9.3	857
Charlie	1.9	3.2	4.2	9.3	578
Delta	1.4	4.6	5.9	11.9	1,082
Echo	1.3	2.2	4.8	8.2	12
Total	**1.8**	**3.7**	**4.9**	**10.4**	**3,405**

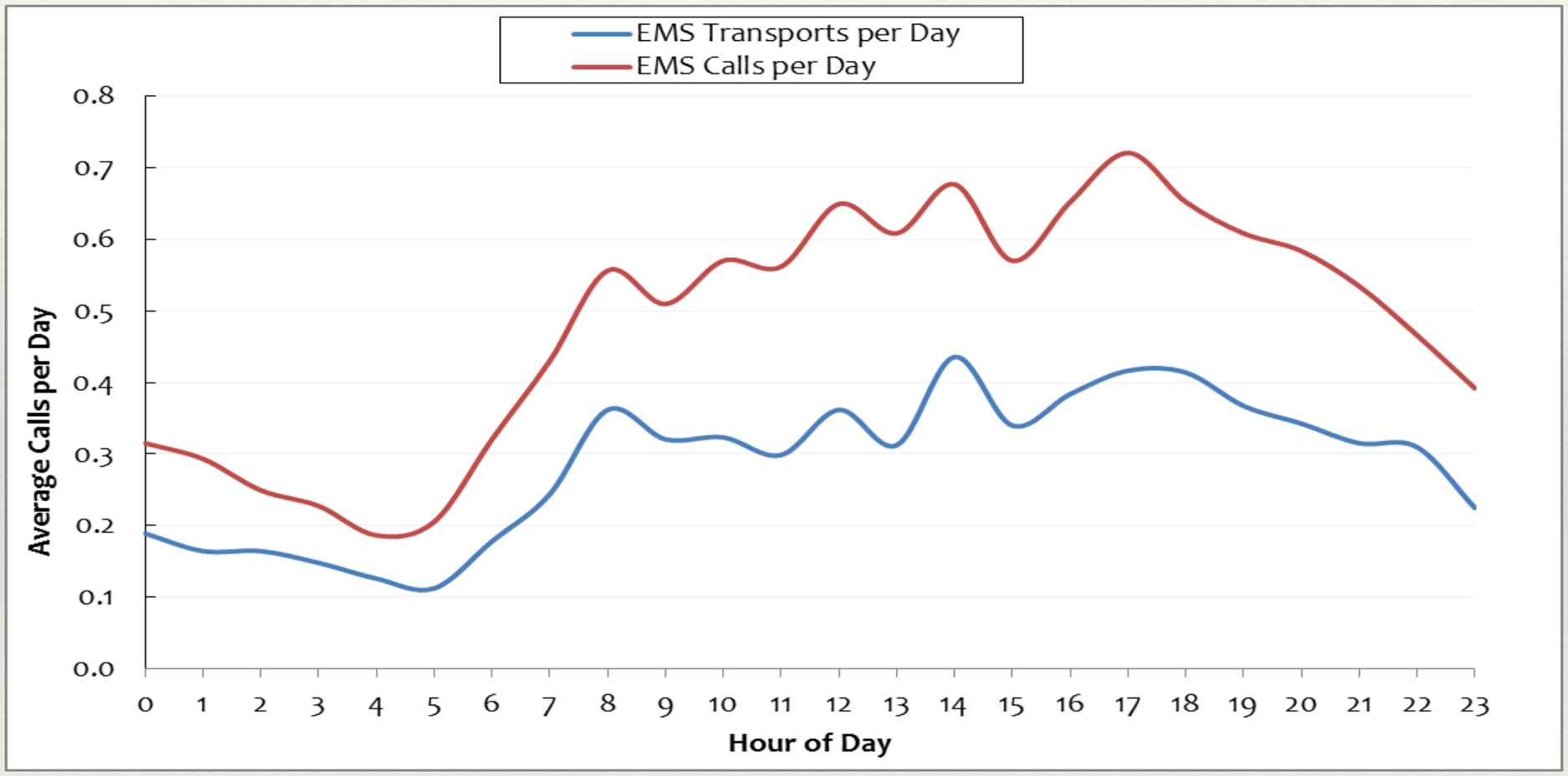
First Arriving Unit Times By Acuity Level – 90th

EMD Determinant	Call Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Alpha	3.3	7.4	8.5	16.8	876
Bravo	3.4	6.4	7.7	14.7	857
Charlie	3.3	7.0	7.3	14.5	578
Delta	2.6	10.3	12.3	22.5	1,082
Echo	1.7	3.5	4.2	9.8	12
Total	**3.1**	**8.0**	**9.0**	**18.0**	**3,405**

EMS Transports By Call Category

Call Category	Non-Transport		Transport		Transport Rate
	Duration	Number of Calls	Duration	Number of Calls	
Cardiac And Stroke	54.5	61	89.8	272	81.7%
Seizure And Unconsciousness	54.8	128	93.3	281	68.7%
Breathing Difficulty	45.0	88	89.7	213	70.8%
Overdose And Psychiatric	43.8	189	95.8	105	35.7%
MVC	47.7	296	104.9	154	34.2%
Fall And Injury	41.0	399	97.7	444	52.7%
Illness And Other	37.2	549	90.4	712	56.5%
Interfacility Transport	NA	0	103.0	320	100.0%
EMS Total	**43.0**	**1,710**	**94.6**	**2,501**	**59.4%**

EMS Calls and Transports By Hour



All Participant Marginal Utility Model

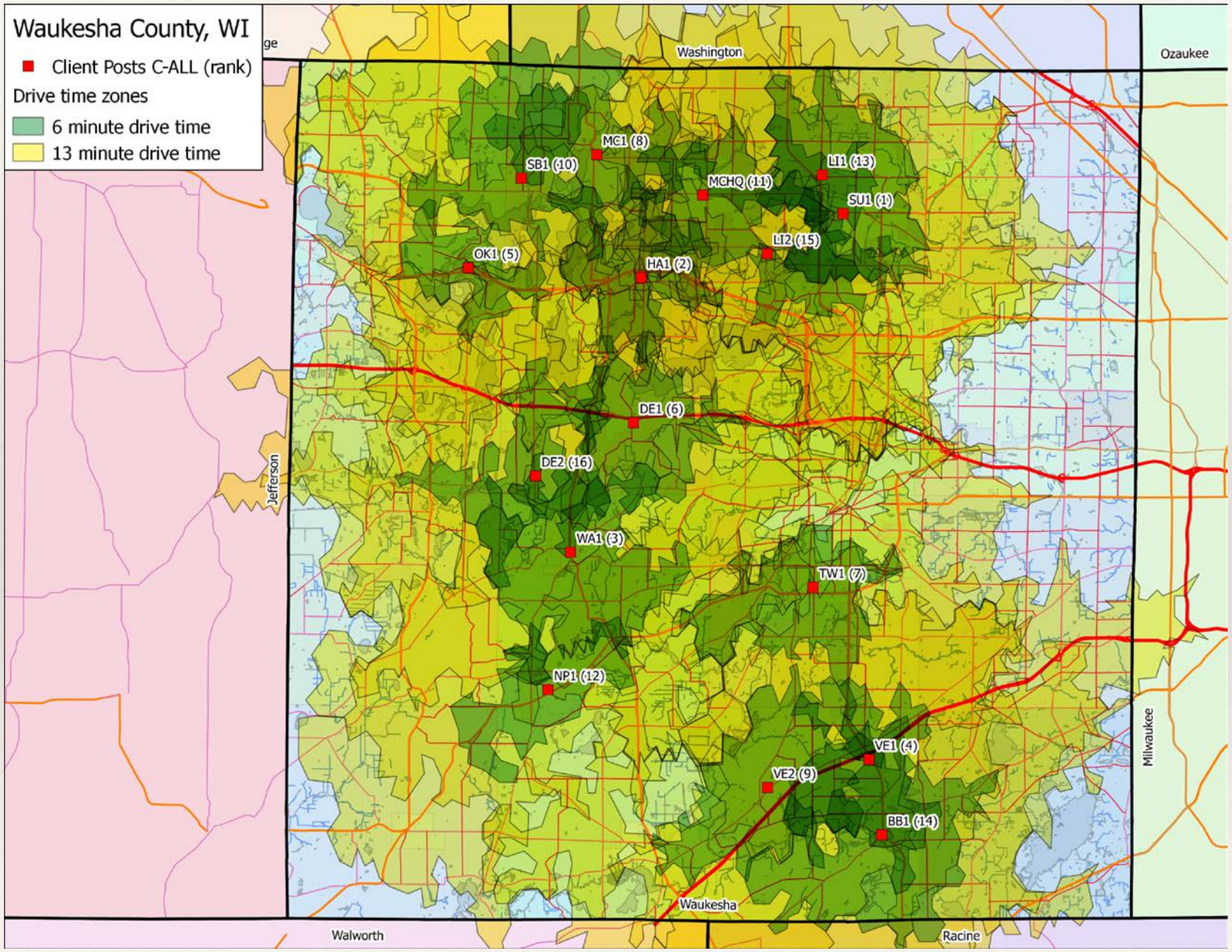
*Data analysis is based on a borderless response system with the participating agencies.

GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Sussex	N63W24335 Main St	U	838	838	16.32%
2	Hartland	150 Lawn S	U	746	1584	30.84%
3	Wales Genesee	600 S. Wales Road	U	360	1944	37.85%
4	Vernon #1	W233 S7475 Woodland Lane	U	311	2255	43.91%
5	Okauchee	W349 N5060 Shady Ln	U	202	2457	47.84%
6	Delafield #1	W302N1208 Maple Avenue	U	192	2649	51.58%
7	Town of Waukesha	W250 S3567 Center Road	U	192	2841	55.32%
8	Merton #1	N75W31480 Park Rd	U	161	3002	58.45%
9	Vernon #2	S81 W26220 National Avenue	U	149	3151	61.35%
10	Stone Bank	W335 N7107 Stone Bank Rd	U	116	3267	63.61%
11	Merton #2	28343 Sussex Rd	U	107	3374	65.69%
12	North Prairie	108 Oakridge Drive	U	95	3469	67.54%
13	Lisbon #1	N72W24958 Good Hope Rd	U	92	3561	69.33%
14	Big Bend	W230 S9185 Nevins	U	40	3601	70.11%
15	Lisbon #2	N54 W26455 Lisbon Road	U	37	3638	70.83%
16	Delafield #2	W329S690 Highway C	U	17	3655	71.16%
17	Hartland	150 Lawn S	R	398	4053	78.91%
18	Town of Waukesha	W250 S3567 Center Road	R	306	4359	84.87%
19	Lisbon #1	N72W24958 Good Hope Rd	R	275	4634	90.23%
20	Okauchee	W349 N5060 Shady Ln	R	87	4721	91.92%
21	Wales Genesee	600 S. Wales Road	R	57	4778	93.03%
22	Vernon #1	W233 S7475 Woodland Lane	R	36	4814	93.73%
23	Merton #1	28343 Sussex Rd	R	3	4817	93.79%

All 16 current fire stations in the urban/suburban areas are able to provide coverage within 6 minutes 71% of the time and 94% of the incidents in the rural areas within 13 minutes without regard for jurisdictional boundaries.

GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



All 16 current fire stations in the urban/suburban areas are able to provide coverage within 6 minutes 71% of the time and 94% of the incidents in the rural areas within 13 minutes without regard for jurisdictional boundaries.

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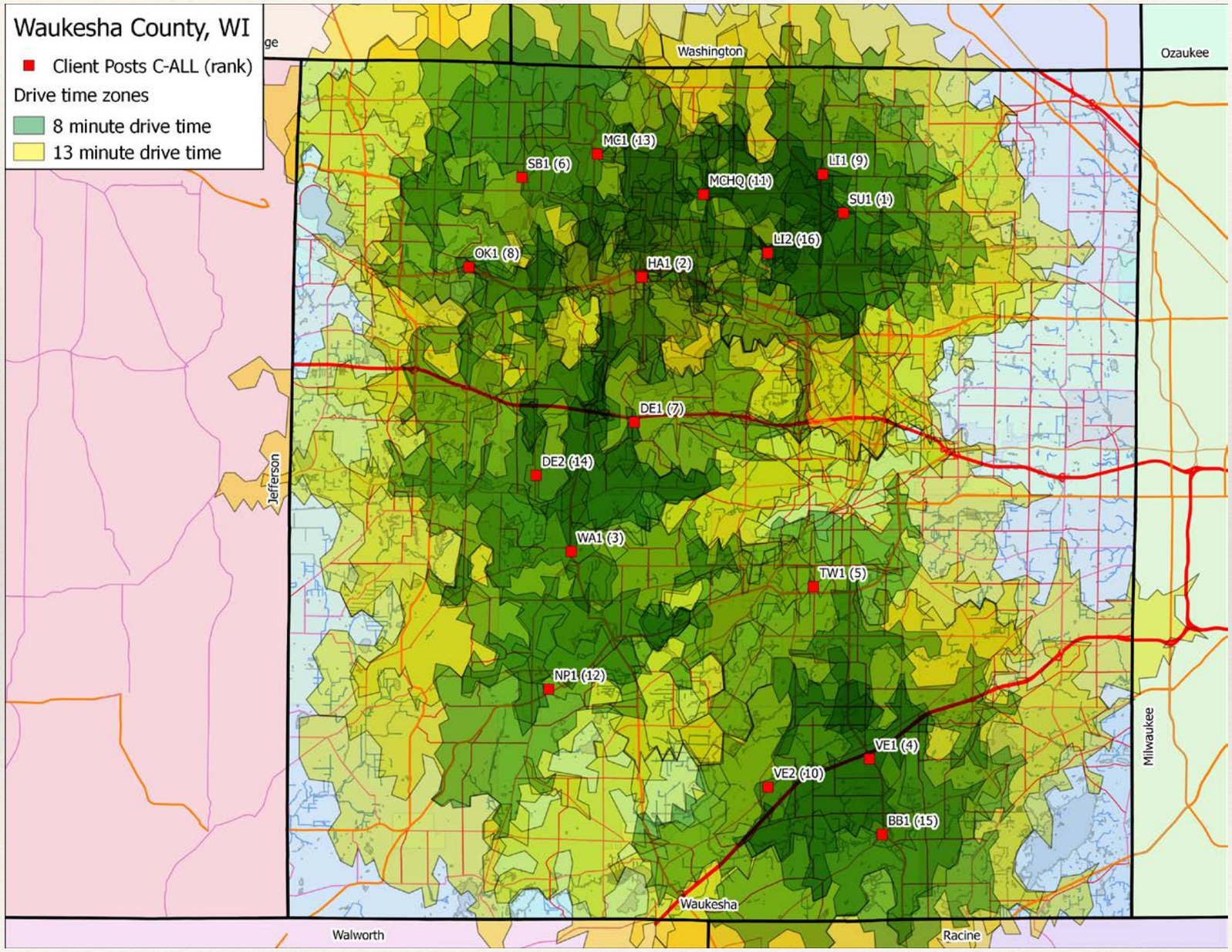
GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Sussex	N63W24335 Main St	U	1141	1141	22.22%
2	Hartland	150 Lawn S	U	1019	2160	42.06%
3	Wales Genesee	600 S. Wales Road	U	544	2704	52.65%
4	Vernon #1	W233 S7475 Woodland Lane	U	488	3192	62.15%
5	Town of Waukesha	W250 S3567 Center Road	U	250	3442	67.02%
6	Stone Bank	W335 N7107 Stone Bank Rd	U	215	3657	71.20%
7	Delafield #1	W302N1208 Maple Avenue	U	187	3844	74.84%
8	Okauchee	W349 N5060 Shady Ln	U	158	4002	77.92%
9	Lisbon #1	N72W24958 Good Hope Rd	U	128	4130	80.41%
10	Vernon #2	S81 W26220 National Avenue	U	108	4238	82.52%
11	Merton #2	28343 Sussex Rd	U	90	4328	84.27%
12	North Prairie	108 Oakridge Drive	U	51	4379	85.26%
13	Merton #1	N75W31480 Park Rd	U	27	4406	85.79%
14	Delafield #2	W329S690 Highway C	U	25	4431	86.27%
15	Big Bend	W230 S9185 Nevins	U	19	4450	86.64%
16	Lisbon #2	N54 W26455 Lisbon Road	U	17	4467	86.97%
17	Okauchee	W349 N5060 Shady Ln	R	178	4645	90.44%
18	Town of Waukesha	W250 S3567 Center Road	R	111	4756	92.60%
19	Lisbon #1	N72W24958 Good Hope Rd	R	49	4805	93.56%
20	Hartland	150 Lawn S	R	6	4811	93.67%
21	Vernon #1	W233 S7475 Woodland Lane	R	5	4816	93.77%
22	Stone Bank	W335 N7107 Stone Bank Rd	R	1	4817	93.79%

All 16 current fire stations in the urban/suburban areas are able to provide coverage within 8 minutes 87% of the time and 94% of the incidents in the rural areas within 13 minutes without regard for jurisdictional boundaries.

GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



All 16 current fire stations in the urban/suburban areas are able to provide coverage within 8 minutes 87% of the time and 94% of the incidents in the rural areas within 13 minutes without regard for jurisdictional boundaries.

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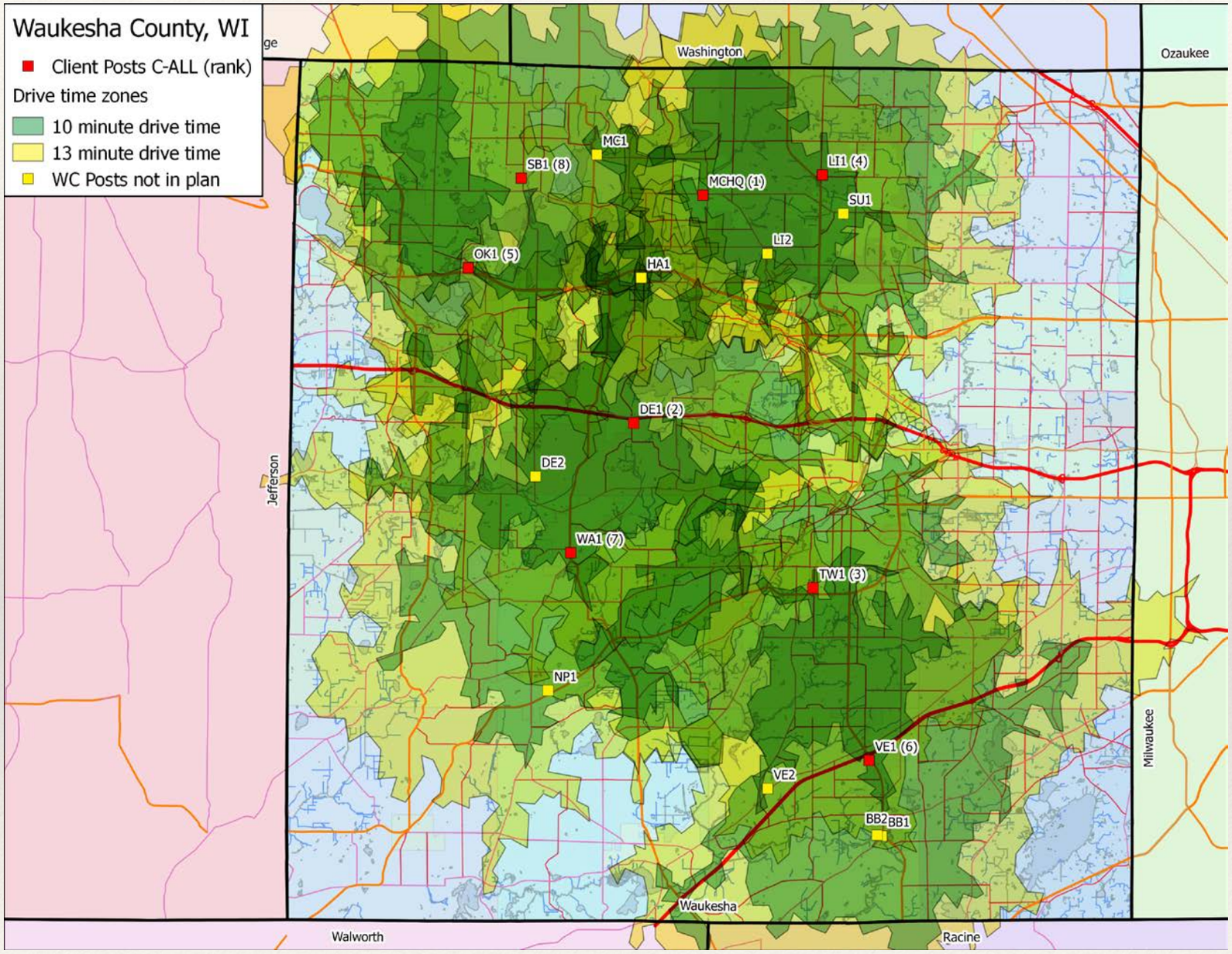
GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Merton #2	28343 Sussex Rd	U	1507	1507	29.34%
2	Delafield #1	W302N1208 Maple Avenue	U	807	2314	45.05%
3	Town of Waukesha	W250 S3567 Center Road	U	675	2989	58.20%
4	Lisbon #1	N72W24958 Good Hope Rd	U	549	3538	68.89%
5	Okauchee	W349 N5060 Shady Ln	U	427	3965	77.20%
6	Vernon #1	W233 S7475 Woodland Lane	U	329	4294	83.61%
7	Wales Genesee	600 S. Wales Road	U	247	4541	88.42%
8	Stone Bank	W335 N7107 Stone Bank Rd	U	126	4667	90.87%
9	Okauchee	W349 N5060 Shady Ln	R	69	4736	92.21%
10	Vernon #1	W233 S7475 Woodland Lane	R	47	4783	93.13%
11	Merton #2	28343 Sussex Rd	R	15	4798	93.42%
12	Wales Genesee	600 S. Wales Road	R	15	4813	93.71%
13	Lisbon #1	N72W24958 Good Hope Rd	R	3	4816	93.77%
14	Stone Bank	W335 N7107 Stone Bank Rd	R	1	4817	93.79%

8 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 94% of the incidents in the rural area without regard for jurisdictional boundaries.

GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



8 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 94% of the incidents in the rural area without regard for jurisdictional boundaries.

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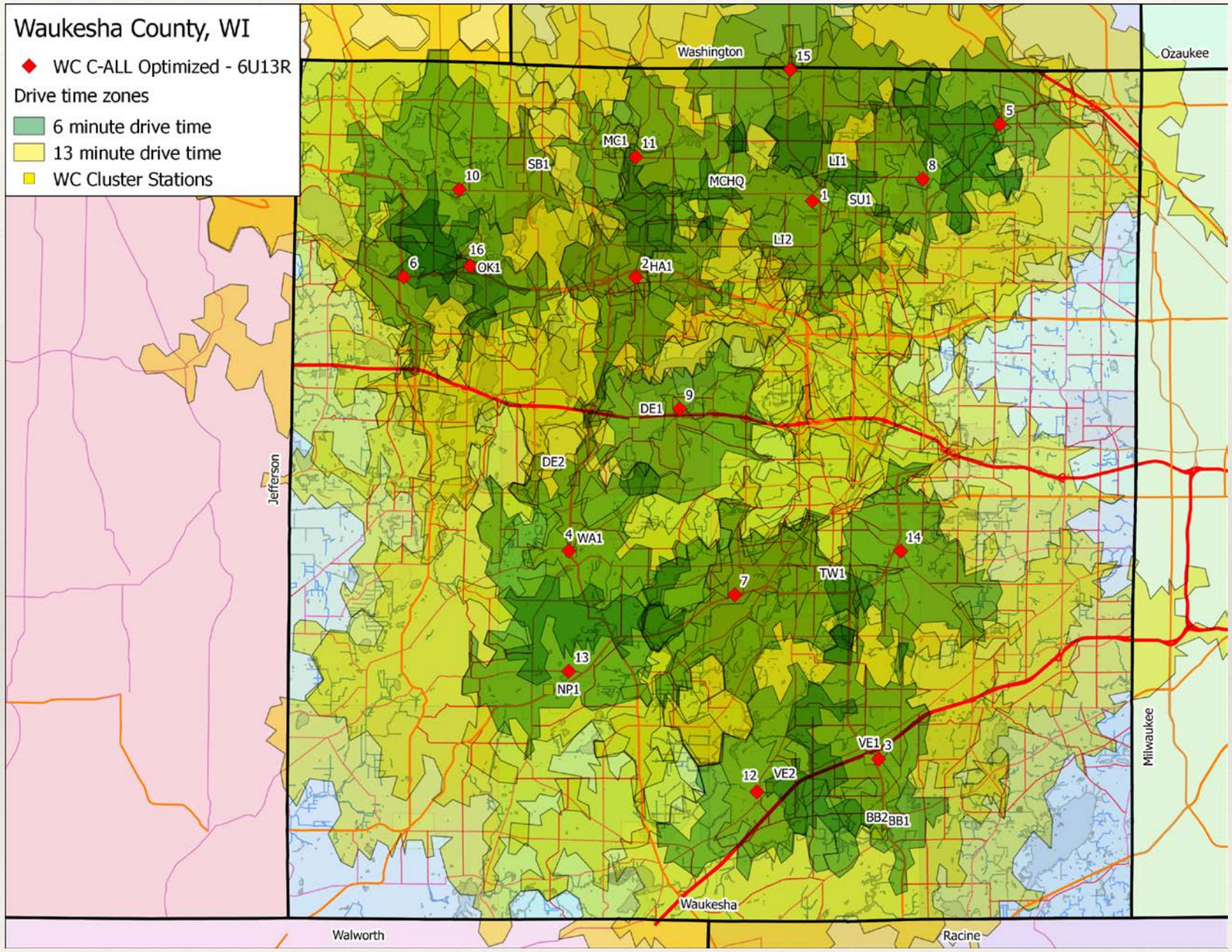
Optimized Marginal Utility Model (best station locations to meet current demand)

GIS – Optimized Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



16 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 6 minutes and 13 minutes in the rural areas without regard for jurisdictional boundaries.

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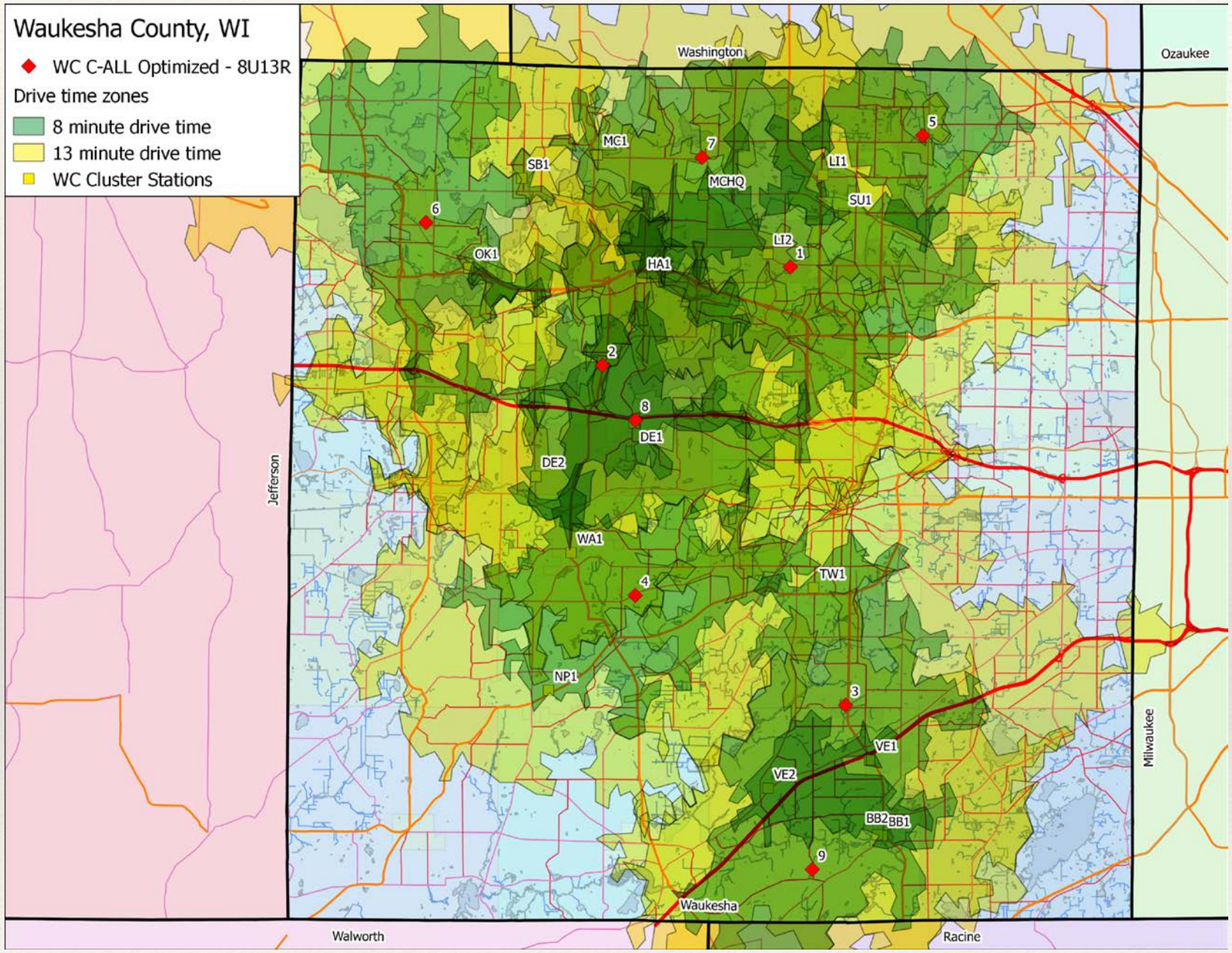
GIS – Optimized Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



9 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 8 minutes and 13 minutes in the rural areas without regard for jurisdictional boundaries.

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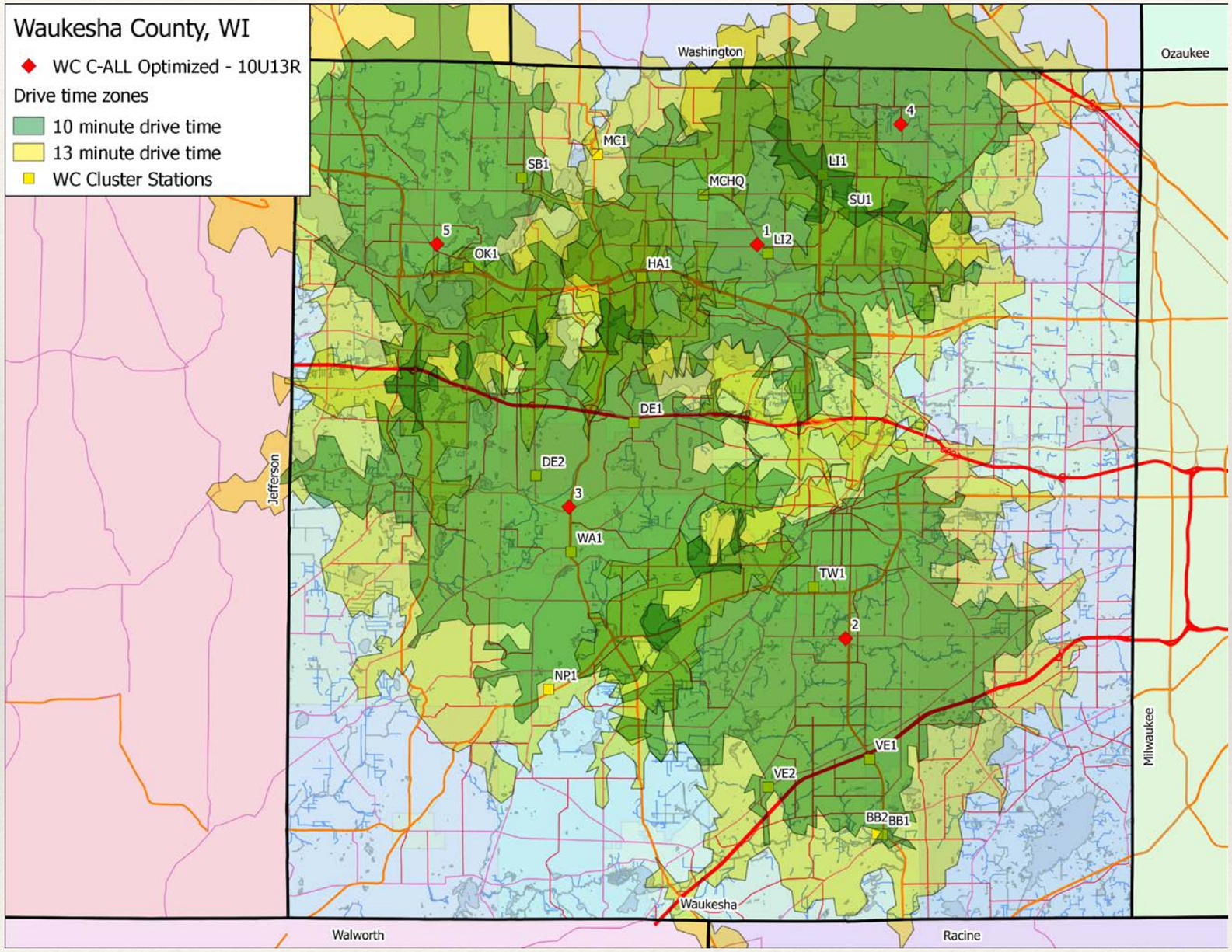
GIS – Optimized Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



5 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas without regard for jurisdictional boundaries.

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Area 1

Three Departments

Area 1

- Town of Delafield
- North Prairie
- Wales Genesee

Town of Delafield Fire Department

- Two Stations
  - 2 Engines
  - 1 Brush Unit
  - 2 Ambulances
  - 1 Water Tanker
  - 1 Boat, 1 Dive/Rescue
  - 1 Utility
  - 4 Bedrooms
- Staffing
  - 2 Full-time, 1 Part-time staff
  - 2 Paid-On-Premise Staff (effective 2017)
  - 40 members
- EMT-Intermediate Ambulance Service

North Prairie Fire Department

- One Station
  - 1 Engine
  - 1 Ladder
  - 1 BLS Ambulance
  - 1 Rescue/Dive
  - Need exhaust system in order to sleep at station
- Staffing
  - 2 staff (M-F, 8am-4pm), Town employees, but can respond to calls
  - 40 volunteers, paid a stipend
  - Recruitment/retention an issue
- BLS ambulance service, neighbors provide ALS intercept

Wales Genesee Fire Department

- One Station
  - 2 Engines
  - 1 Water Tanker
  - 2 Ambulances
- EMT-Intermediate Ambulance Service
- Staffing
  - 2 Full time (M-F Daytime)
  - 33 Paid On Call

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Data Analysis

Data – Community Demand for Service

Agency	Number of Calls	Calls per Day	Call Percentage	Duration (min.)
Delafield Town FD	367	1.0	6.5%	59.2
North Prairie FD	87	0.2	1.5%	72.7
Wales Genesee FD	478	1.3	8.4%	75.7
Area 1 Total	**932**	**2.6**	**16.4%**	**68.9**
All Areas Total	**5,689**	**15.6**	**100.0%**	**68.8**

Data – Overall Workload

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Delafield Town FD	65.0	1,246	1,150	7.2%
North Prairie FD	96.6	430	267	1.7%
Wales Genesee FD	78.3	2,314	1,774	11.1%
Area 1 Total	**75.0**	**3,990**	**3,191**	**20.0%**
All Areas Total	**75.2**	**20,008**	**15,972**	**100.0%**

Current Performance Mean First Arrival

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Delafield Town FD	1.8	3.2	4.9	9.9	302
North Prairie FD	1.6	7.1	3.3	12.0	63
Wales Genesee FD	1.8	3.5	4.9	10.1	422
Area 1	**1.8**	**3.7**	**4.8**	**10.2**	**787**
All Areas Total	**1.7**	**3.3**	**4.5**	**9.6**	**3,925**

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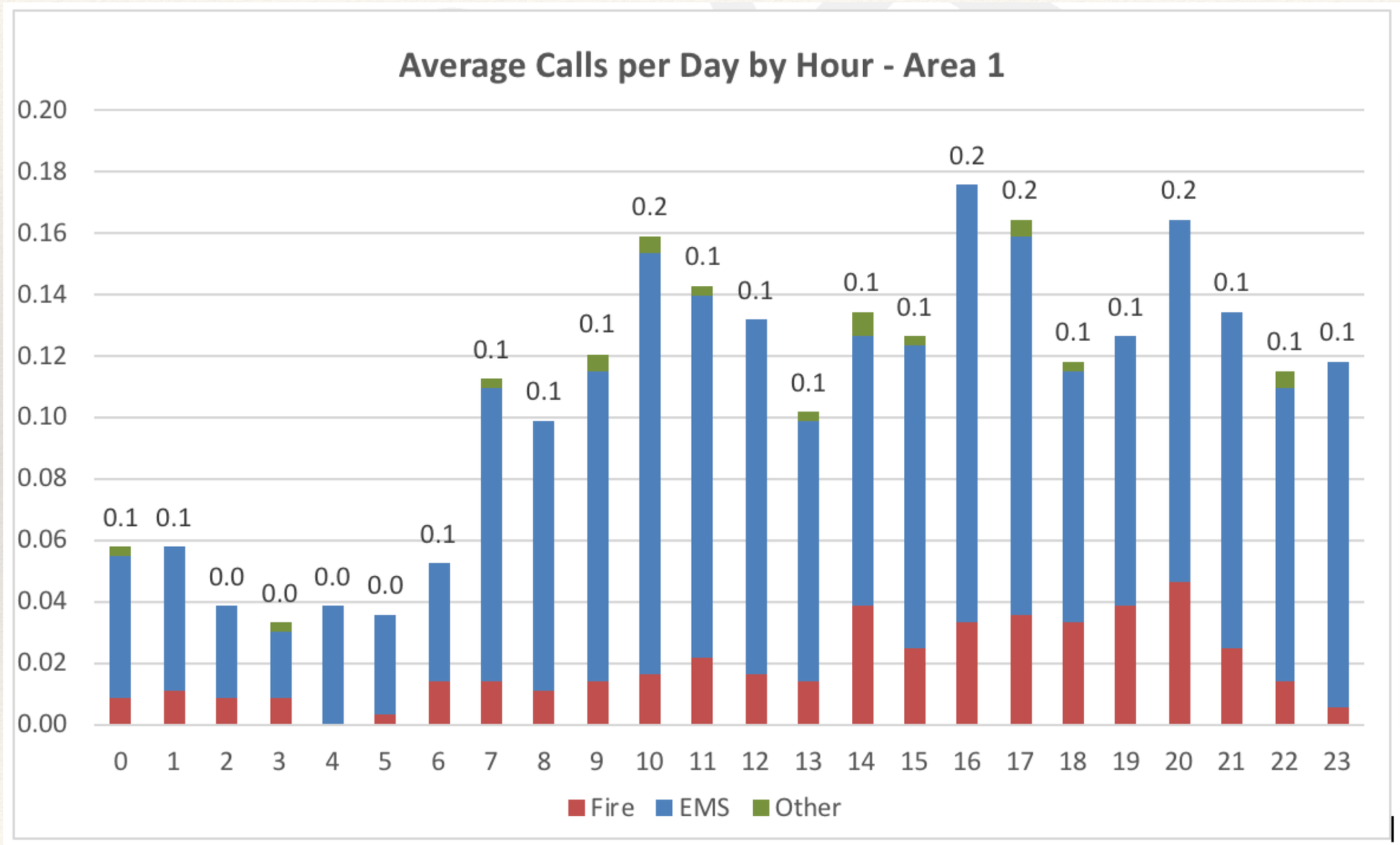
Current Performance First Arrival – 90th

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Delafield Town FD	3.4	5.8	8.0	15.2	302
North Prairie FD	2.5	11.4	4.5	16.3	63
Wales Genesee FD	3.3	6.4	8.1	15.0	422
Area 1	**3.3**	**7.0**	**7.9**	**15.3**	**787**
All Areas Total	**3.1**	**6.8**	**8.3**	**15.2**	**3,925**

Incidents by Hour of Day



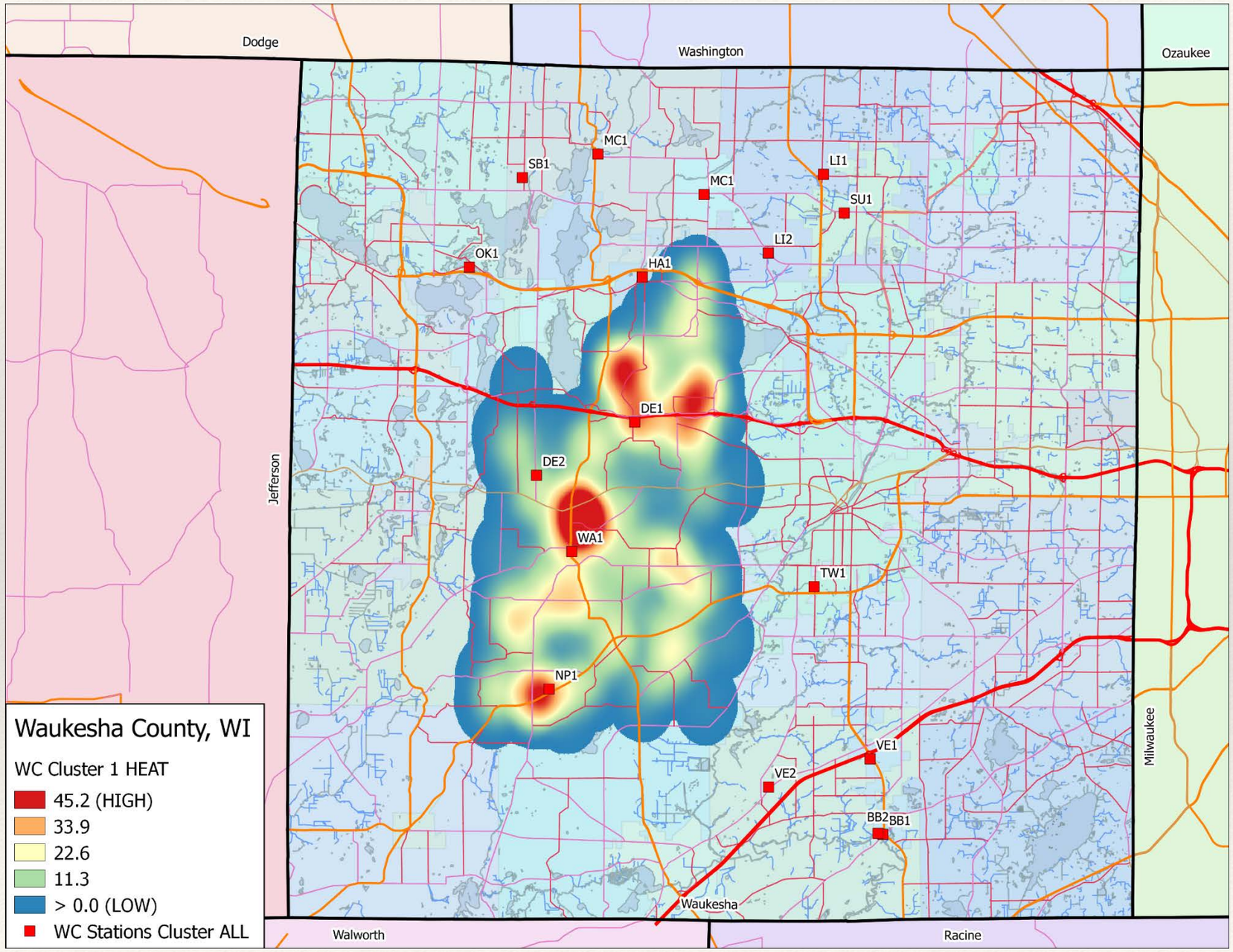
Current Resource Comparison

Department	Stations	Sleeping Rooms	EMS Level	Ambulances	Engines	Ladders	Water Tenders
Delafield	2	4	Intermediate	2	2	0	1
North Prairie	1		BLS	1	1	1	
Wales/Genesee	1	3	Intermediate	2	2	0	1

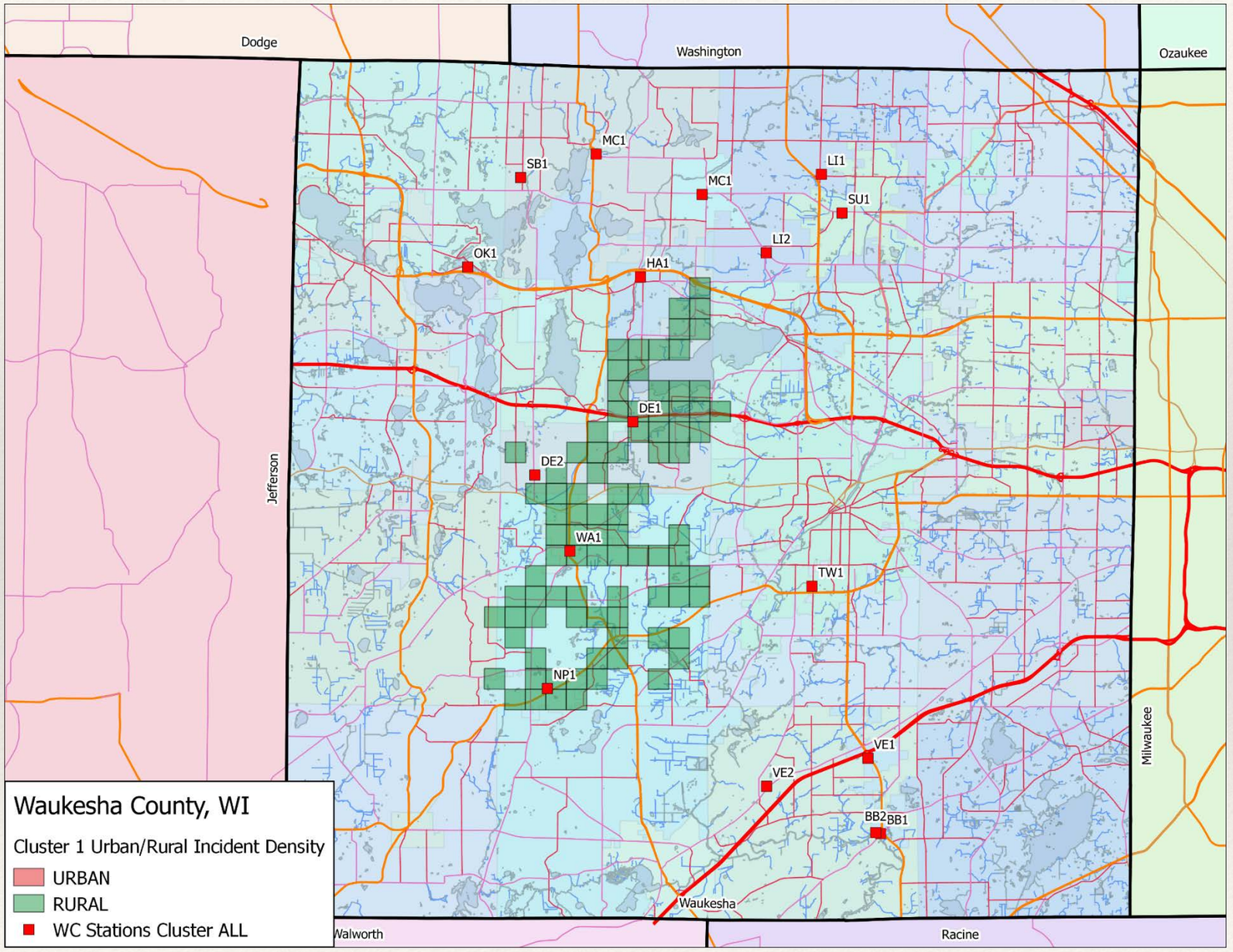
Current Resource Comparison

Department	Full-Time Staff	Non-Career Staff
Delafield	2	1 PT, 2 POP, 40 Volunteer
North Prairie	2	40 Volunteers
Wales/Genesee	2	33 Paid On Call

Area 1 Current Demand



Area 1 Urban vs. Rural



GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Wales Genesee	600 S. Wales Road	U	360	360	38.67%
2	Delafield #1	W302N1208 Maple Avenue	U	190	550	59.08%
3	North Prairie	108 Oakridge Drive	U	95	645	69.28%
4	Delafield #2	W329S690 Highway C	U	17	662	71.11%
5	Wales Genesee	600 S. Wales Road	R	216	878	94.31%
6	Delafield #1	W302N1208 Maple Avenue	R	52	930	99.89%
7	North Prairie	108 Oakridge Drive	R	1	931	100.00%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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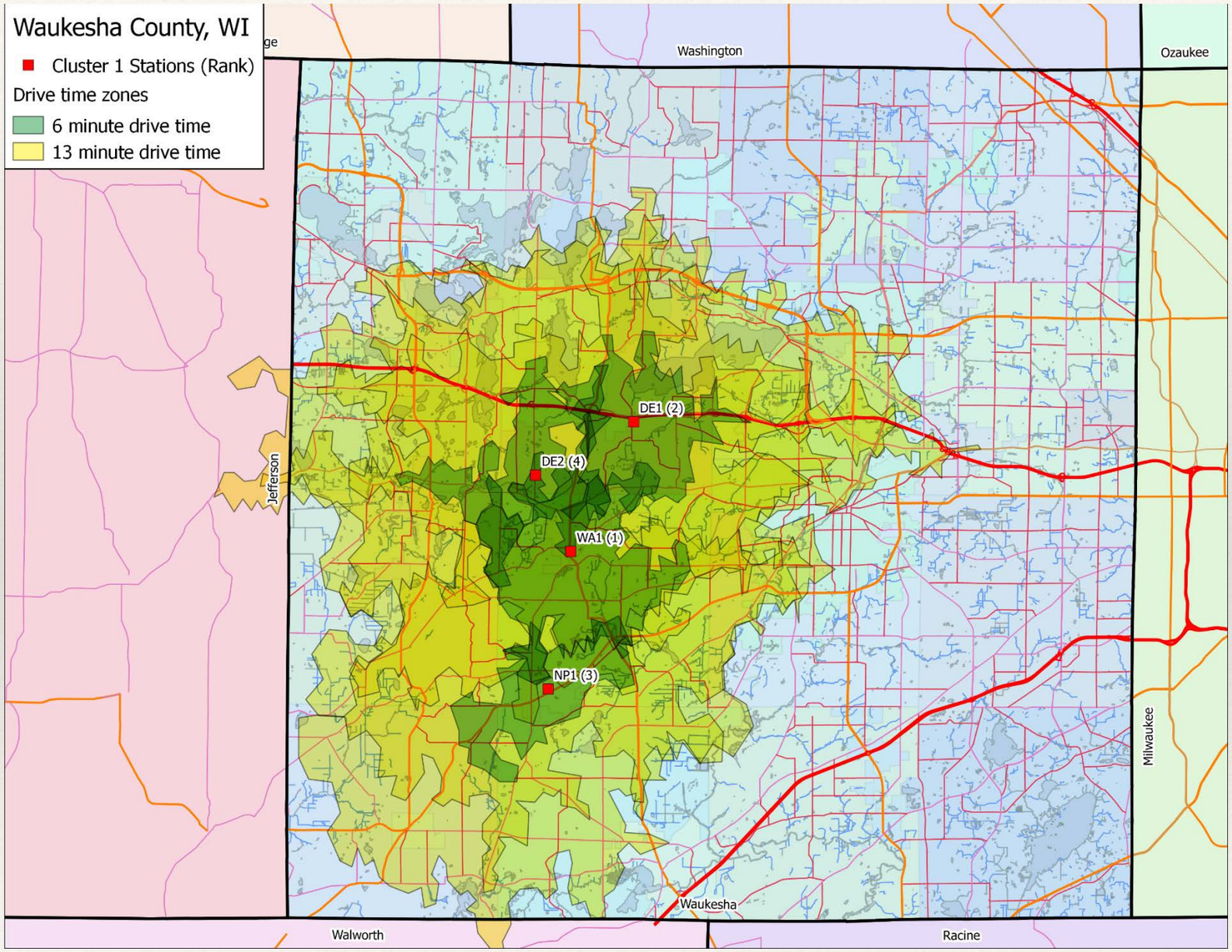
GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural

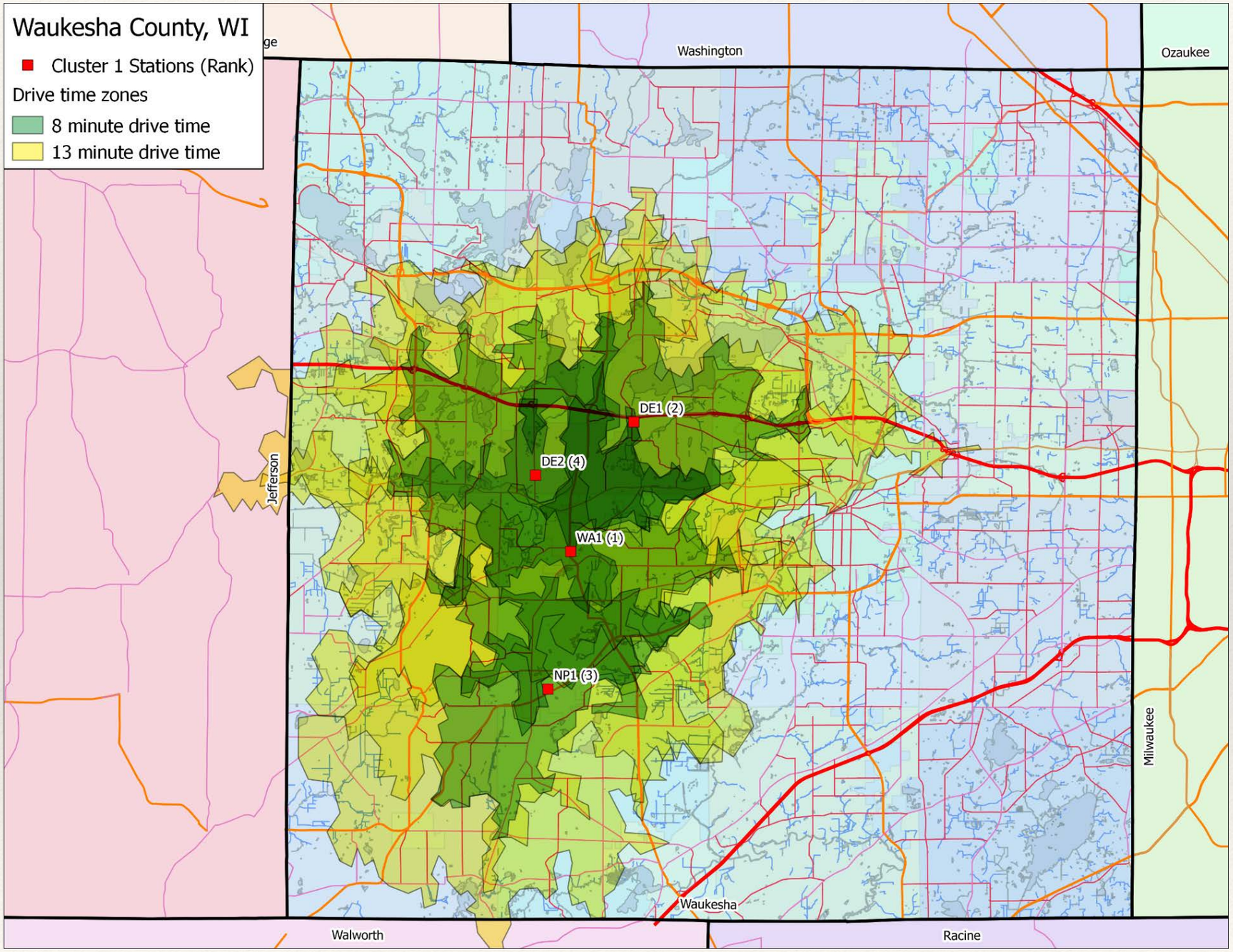


GIS – Marginal Utility Model
8 Minutes Urban -13 Minutes Rural

Rank	Station	Address	Class	Post Capture	Total Capture	Percent Capture
1	Wales Genesee	600 S. Wales Road	U	533	533	57.25%
2	Delafield #1	W302N1208 Maple Avenue	U	226	759	81.53%
3	North Prairie	108 Oakridge Drive	U	52	811	87.11%
4	Delafield #2	W329S690 Highway C	U	7	818	87.86%
5	Wales Genesee	600 S. Wales Road	R	69	887	95.27%
6	Delafield #1	W302N1208 Maple Avenue	R	43	930	99.89%
7	North Prairie	108 Oakridge Drive	R	1	931	100.00%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Post Capture	Total Capture	Percent Capture
1	Wales Genesee	600 S. Wales Road	U	690	690	74.11%
2	Delafield #1	W302N1208 Maple Avenue	U	199	889	95.49%
3	North Prairie	108 Oakridge Drive	R	35	924	99.25%
4	Delafield #1	W302N1208 Maple Avenue	R	7	931	100.00%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

2 Fire Stations are required to deliver service to greater than 95% of the incidents in urban/suburban areas within 10 minutes

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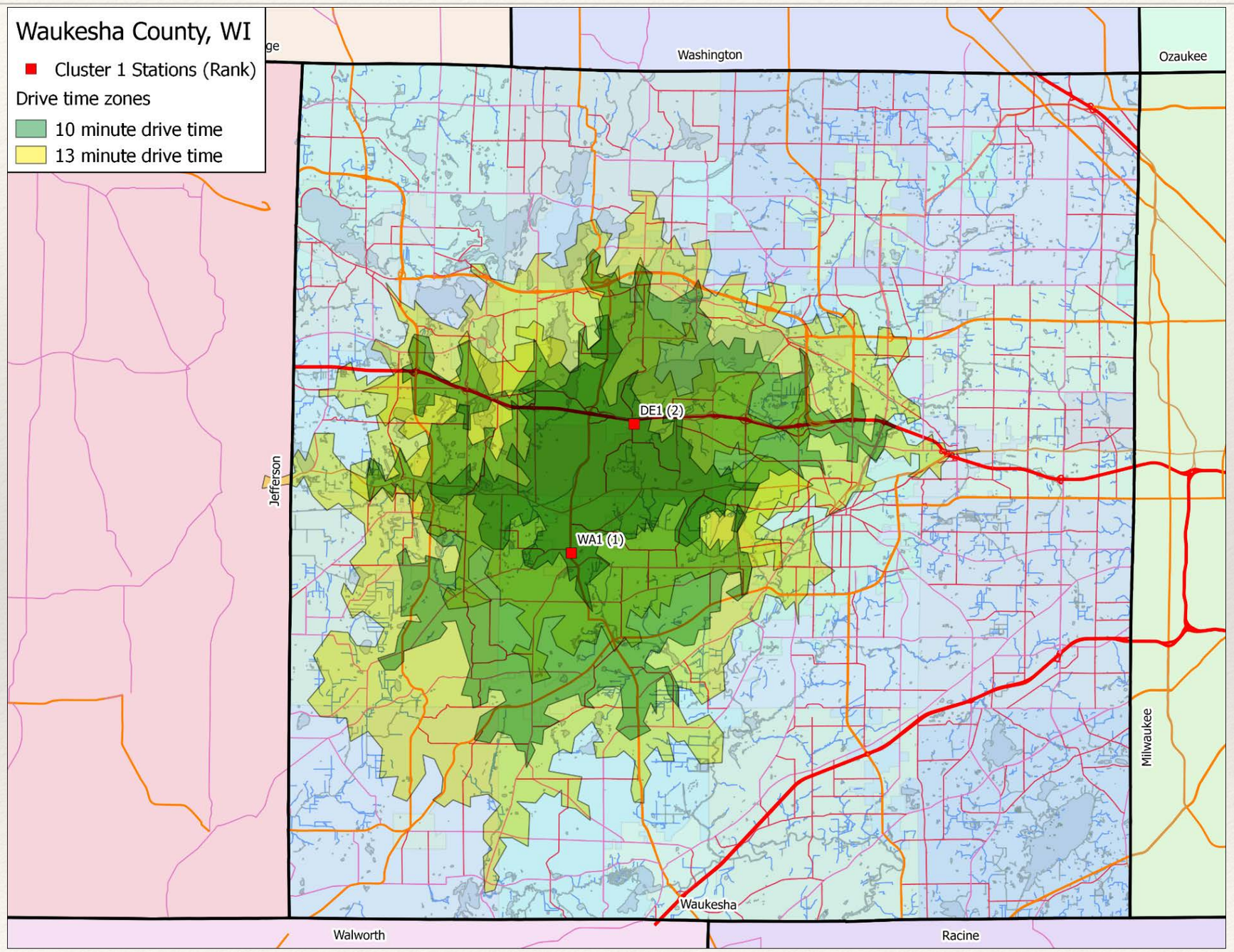
GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



2 Fire Stations are required to deliver service to greater than 95% of the incidents in urban/suburban areas within 10 minutes

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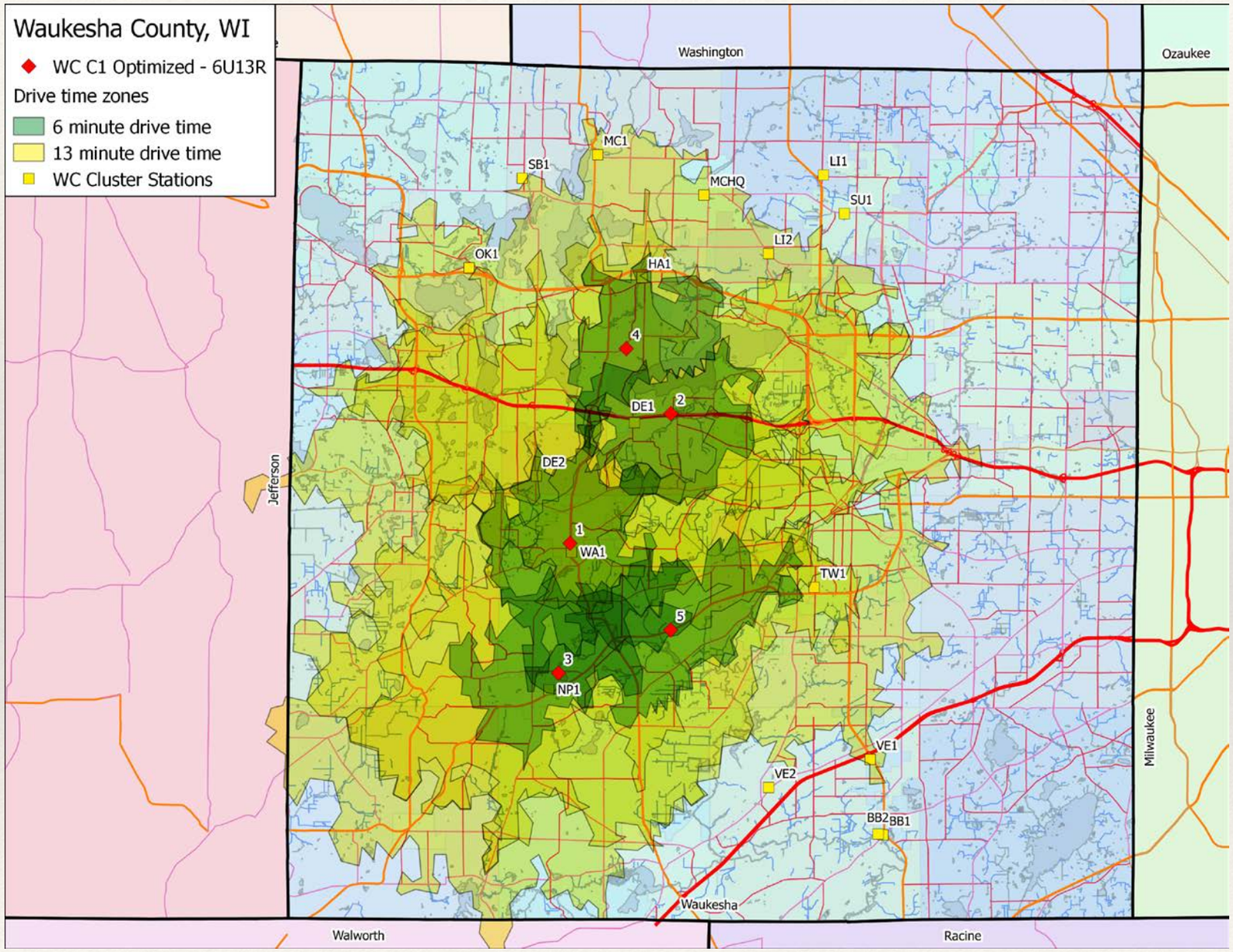
Area 1

Optimized Marginal Utility Model

(best station locations to meet current demand)

GIS – Optimized Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



5 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 6 minutes and 13 minutes in the rural areas

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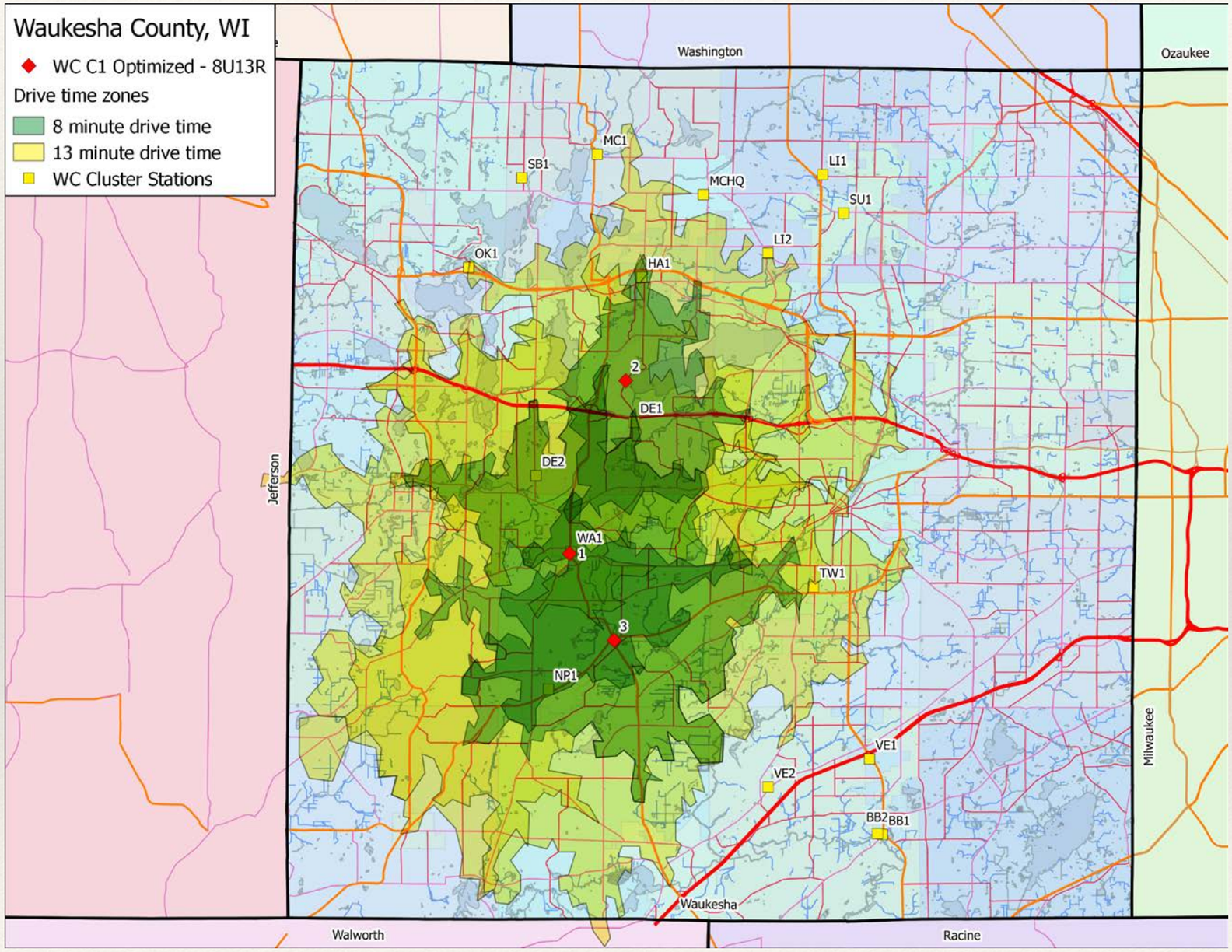
GIS – Optimized Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



3 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 8 minutes and 13 minutes in the rural areas

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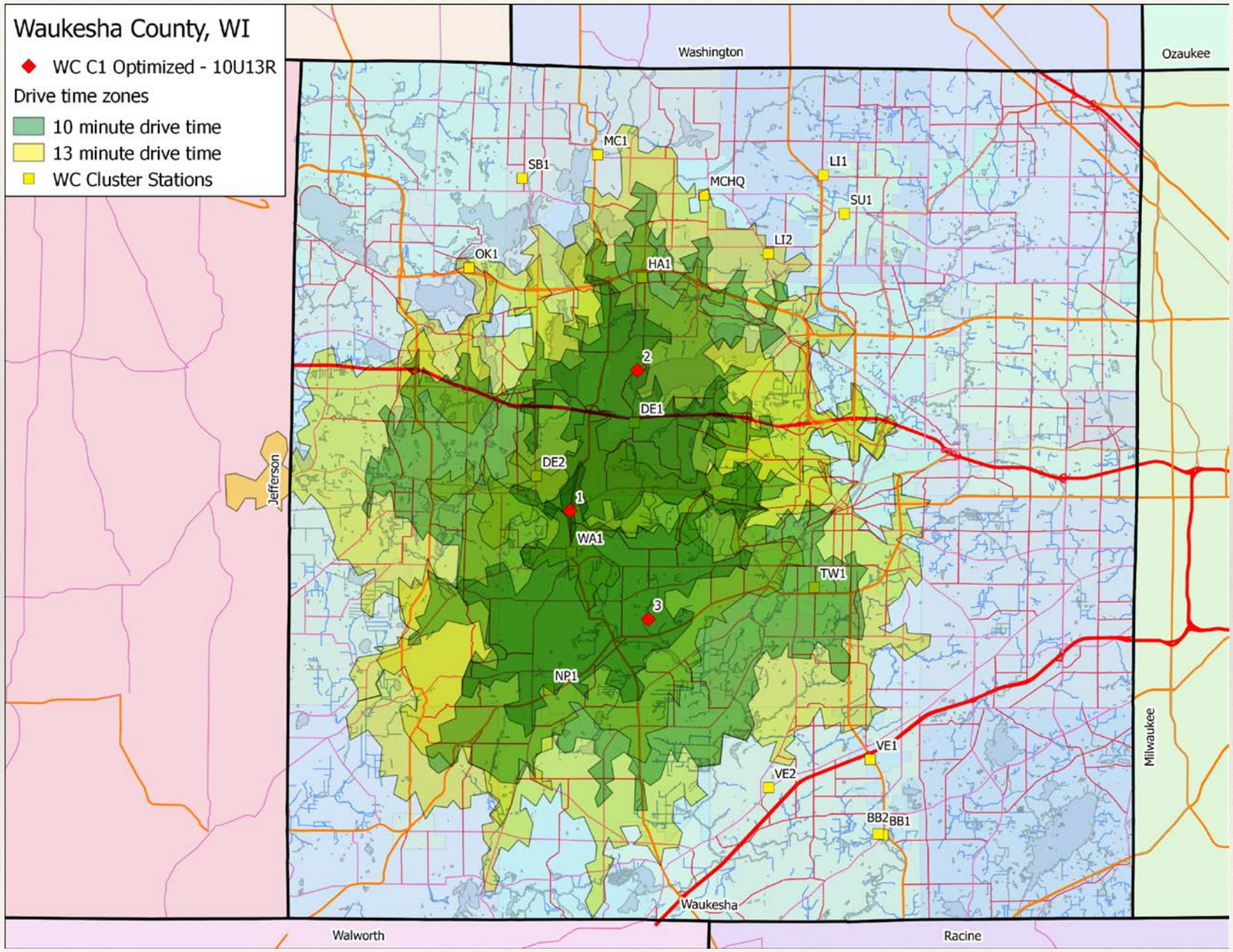
GIS – Optimized Marginal Utility Model
10 Minutes Urban -13 Minutes Rural



3 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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Area 1 Analysis

- Average Time Per Call = 75 Minutes
- Average Calls Per Day = 2.6
- Large rural areas
- Mean response time = 10.2 minutes

Area 1 Collaboration Opportunities

- This study was restricted to the participating agencies suggested by the steering committee and is not intended to limit collaboration with non-participating agencies
- Opportunity may exist to maintain current service level and consolidate the number of stations
- May be able to eliminate duplicate vehicles
- Share staff for cost and operations efficiencies

Area 2

Four Departments

Area 2

- Hartland
- Lisbon
- Merton
- Sussex

Hartland Fire Department

- Single Station
  - 3 Engines
  - 1 Ladder
  - 2 Ambulances
  - 2 Bedrooms
- Staffing
  - 4 Full-time staff
  - Paid-On-Premise Staff
    - Many do not live in the community
  - Some EMS Only Staff
- Intermediate Level Ambulance Service

Lisbon Fire Department

- Two Stations
  - 3 Ambulances
  - 3 Engines
  - 3 Water Tenders
  - 1 Ladder
  - 11 Bedrooms total
- Staffing
  - 5 Full-Time
  - 1 Part-Time
  - 55 Paid-Per Call Staff
- ALS ambulance service (including Critical Care)
- Inspect businesses annually

Merton Fire Department

- Two Stations
  - 3 Engines
  - 2 Water Tenders
  - 2 Brush Trucks
  - 2 Ambulances
  - 2 UTV’s
  - No current sleeping quarters
- Staffing
  - Duty Crew M-F 7a-5p (PT Staff)
  - 35 Paid-On-Call
    - Rotation for weekend coverage
- BLS Ambulance Service

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Sussex Fire Department

- Single Station
  - 2 Ambulances
  - 2 Engines
  - 1 Ladder
  - 6 Sleeping Rooms
- Staffing (staff ambulance)
  - 3 Full-time (weekday daytime)
  - 48 POP/POC staff (nights/weekends)
- ALS Ambulance Service

Data Analysis

Community Demands for Service

Jurisdiction	Number of Calls	Calls per Day	Call Percentage	Duration
Hartland FD	786	2.2	13.8%	67.4
Lisbon FD	858	2.4	15.1%	85.3
Merton Community FD	267	0.7	4.7%	89.8
Sussex FD	743	2.0	13.1%	57.2
Area 2 Total	**2,654**	**7.3**	**46.7%**	**72.6**
All Areas Total	**5,689**	**15.6**	**100.0%**	**68.8**

Overall Workload

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Hartland FD	70.0	2,964	2,541	15.9%
Lisbon FD	82.5	3,804	2,768	17.3%
Merton Community FD	91.7	1,054	690	4.3%
Sussex FD	63.0	1,718	1,636	10.2%
Area 2 Total	**75.0**	**9,540**	**7,635**	**47.8%**
All Areas Total	**75.2**	**20,008**	**15,972**	**100.0%**

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Current Performance Mean First Arrival

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Hartland FD	1.8	2.1	3.0	6.9	653
Lisbon FD	1.7	3.4	6.2	11.4	479
Merton Community FD	1.5	4.3	4.4	10.2	210
Sussex FD	1.9	2.6	3.0	7.5	633
Area 2	**1.8**	**2.8**	**3.9**	**8.5**	**1,975**
All Areas Total	**1.7**	**3.3**	**4.5**	**9.6**	**3,925**

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Current Performance First Arrival – 90th

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Hartland FD	3.0	3.6	5.0	10.1	653
Lisbon FD	3.0	6.0	10.5	16.1	479
Merton Community FD	2.8	7.2	7.2	14.1	210
Sussex FD	3.2	4.7	5.2	10.9	633
Area 2	**3.0**	**5.3**	**7.6**	**13.5**	**1,975**
All Areas Total	**3.1**	**6.8**	**8.3**	**15.2**	**3,925**

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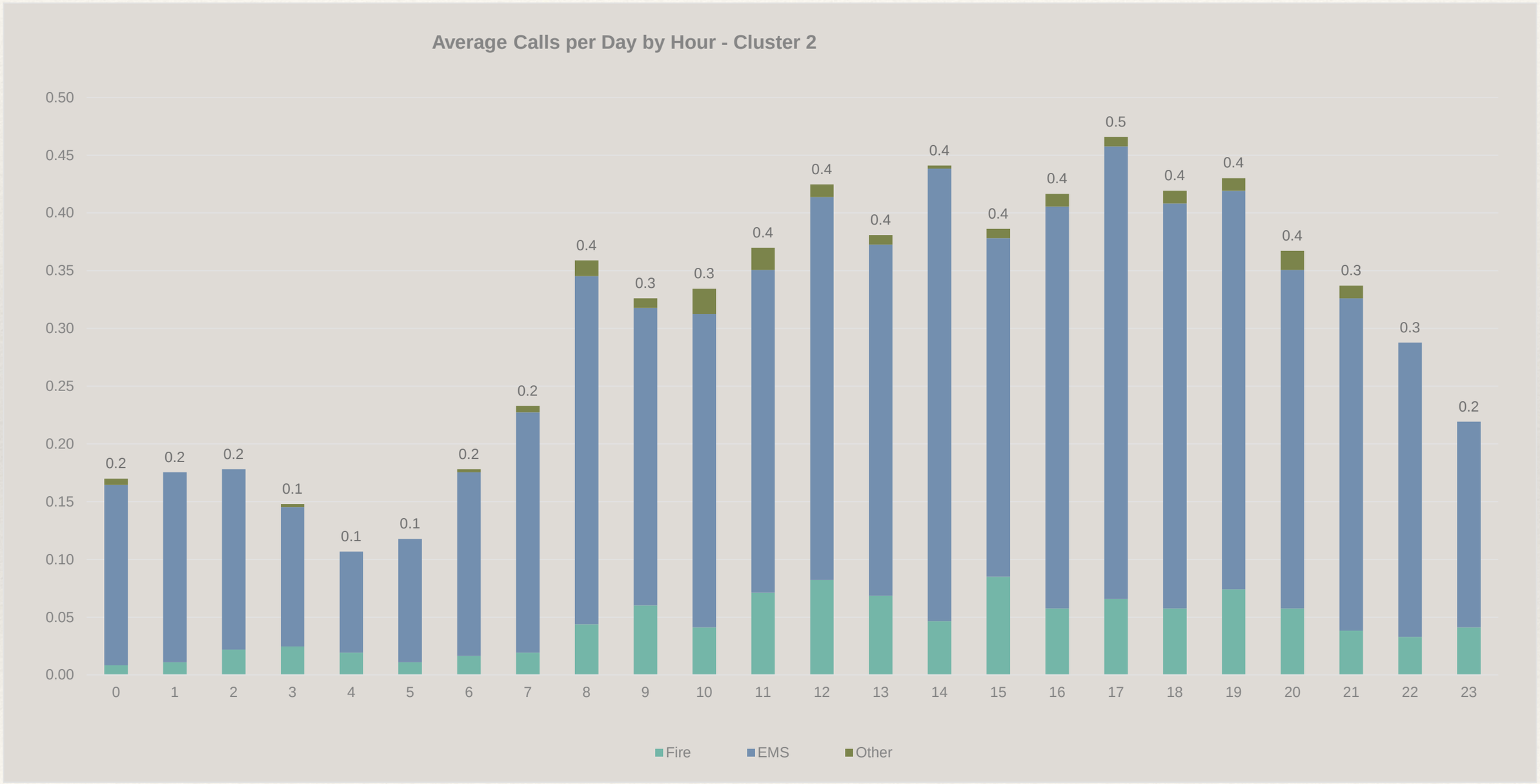
Incidents by Hour of Day



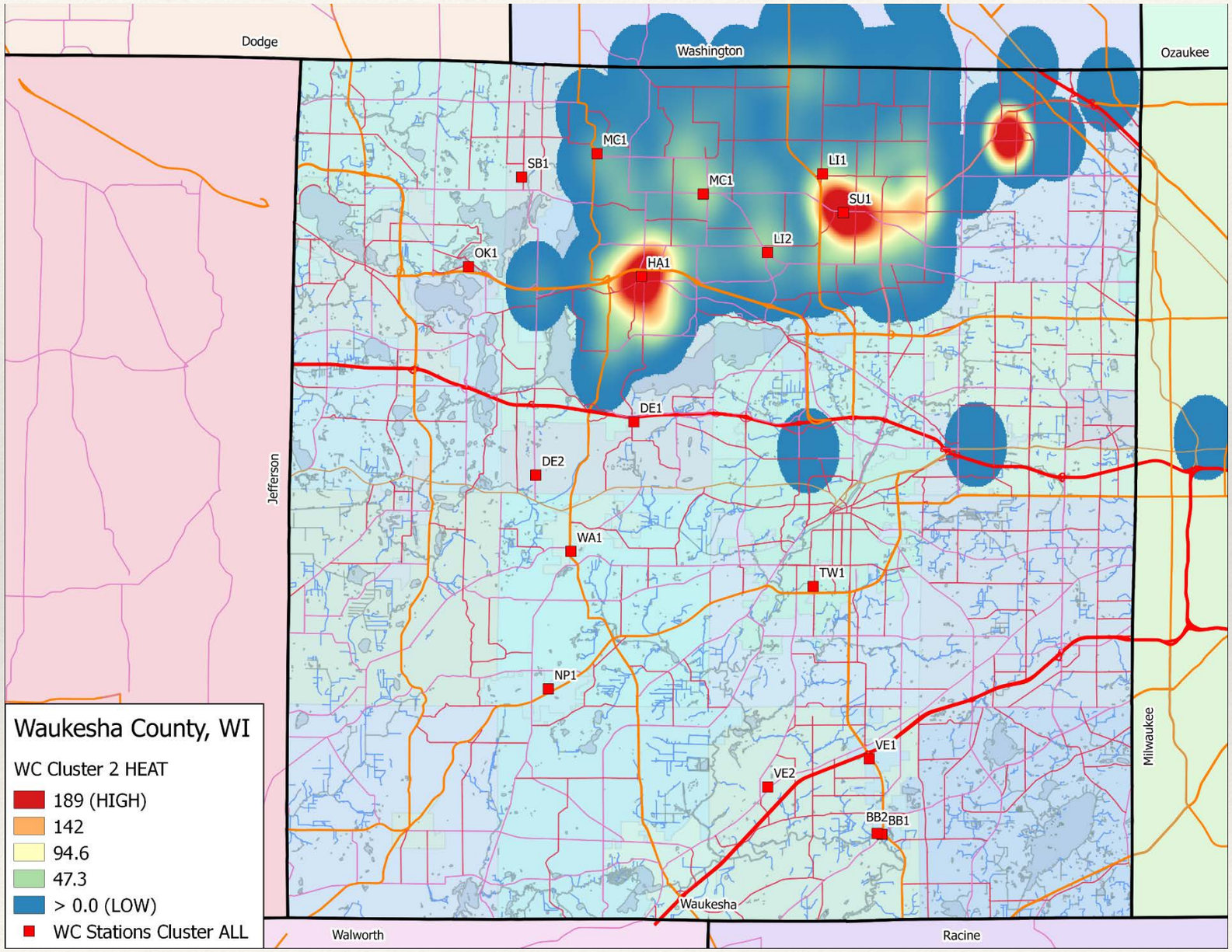
Current Resource Comparison

Department	Stations	Sleeping Rooms	EMS Level	Ambulances	Engines	Ladders	Water Tenders
Hartland	1	2	Intermediate	2	3	1	0
Lisbon	2	11	ALS Critical Care	3	3	1	3
Merton	2	0	BLS	2	3	0	2
Sussex	1	6	ALS	2	2	1	0

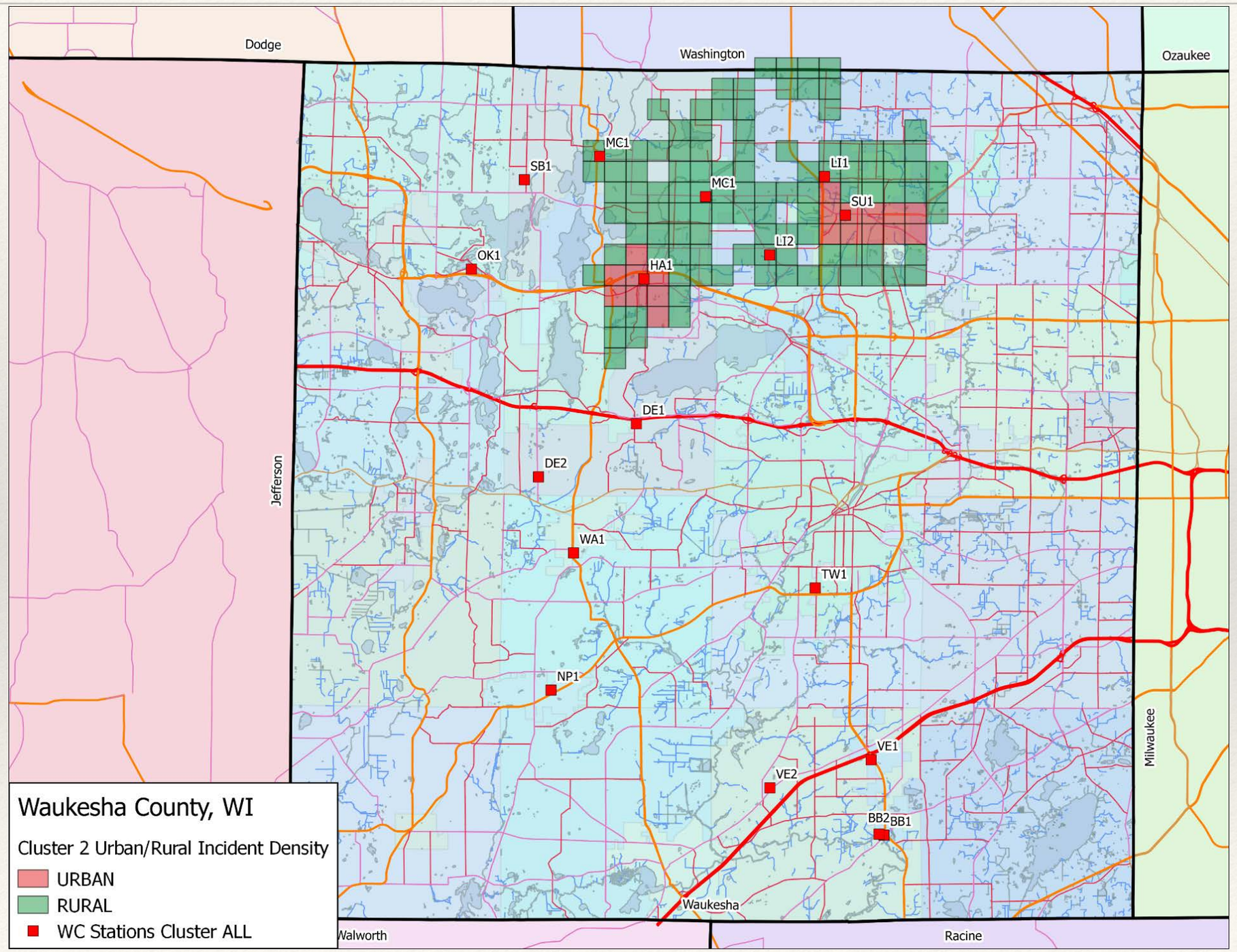
Current Resource Comparison

Department	Full-Time Staff	Non-Career Staff
Hartland	4	POP, EMS Only
Lisbon	5	1PT, 55 POC
Merton	0	35 PPC/ POP
Sussex	3	48 POC/POP

Area 2 Current Demand



Area 2 Urban vs. Rural



GIS – Marginal Utility Model
6 Minutes Urban -13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Sussex	N63W24335 Main St	U	838	838	31.73%
2	Hartland	150 Lawn S	U	731	1569	59.41%
3	Merton #2	28343 Sussex Rd	U	154	1723	65.24%
4	Lisbon #1	N72W24958 Good Hope Rd	U	92	1815	68.72%
5	Merton #1	N75W31480 Park Rd	U	76	1891	71.60%
6	Lisbon #2	N54 W26455 Lisbon Road	U	37	1928	73.00%
7	Lisbon #1	N72W24958 Good Hope Rd	R	349	2277	86.22%
8	Hartland	150 Lawn S	R	67	2344	88.75%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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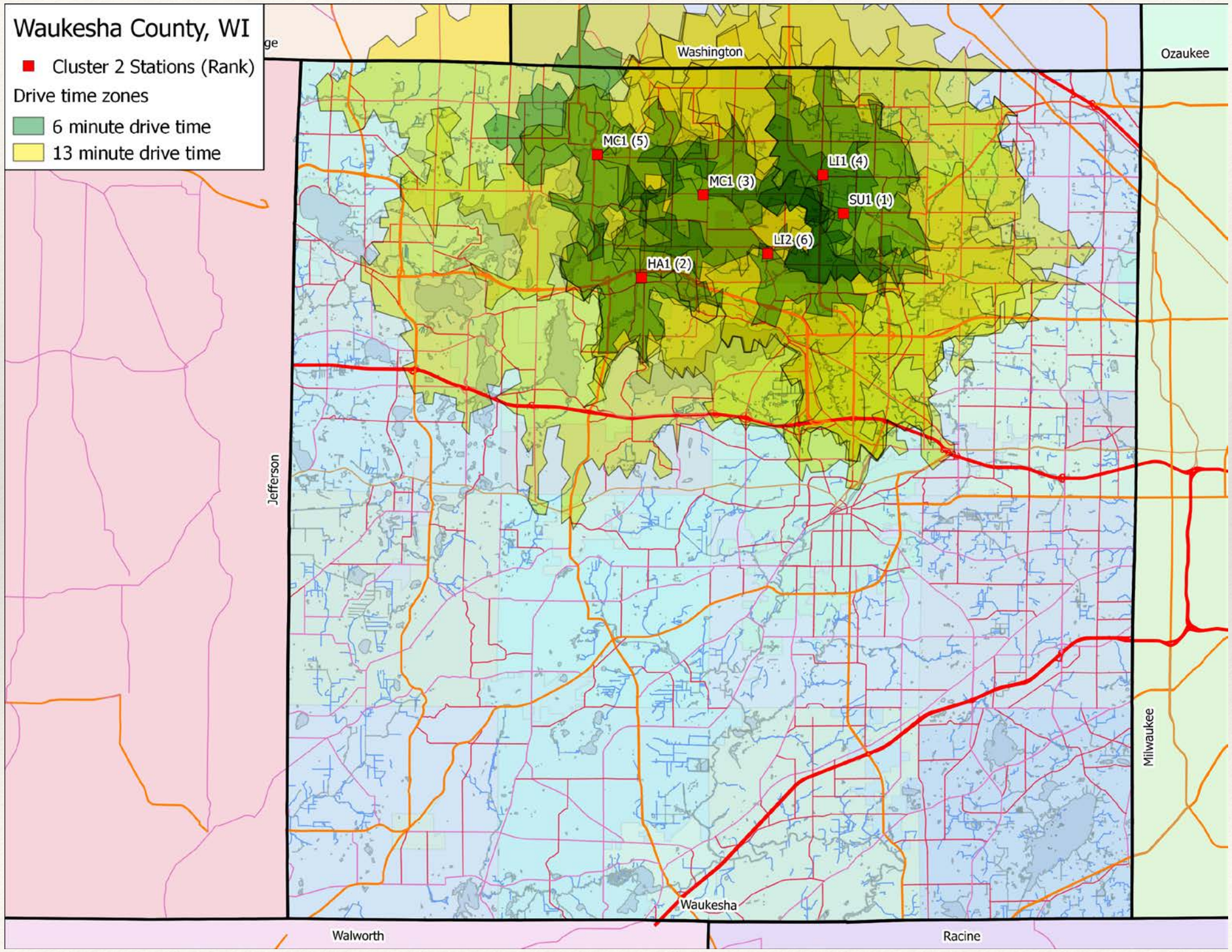
GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
8 Minutes Urban -13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Sussex	N63W24335 Main St	U	1141	1141	43.20%
2	Hartland	150 Lawn S	U	865	2006	75.96%
3	Lisbon #1	N72W24958 Good Hope Rd	U	128	2134	80.80%
4	Merton #2	28343 Sussex Rd	U	90	2224	84.21%
5	Merton #1	N75W31480 Park Rd	U	49	2273	86.07%
6	Lisbon #2	N54 W26455 Lisbon Road	U	17	2290	86.71%
7	Lisbon #1	N72W24958 Good Hope Rd	R	53	2343	88.72%
8	Hartland	150 Lawn S	R	1	2344	88.75%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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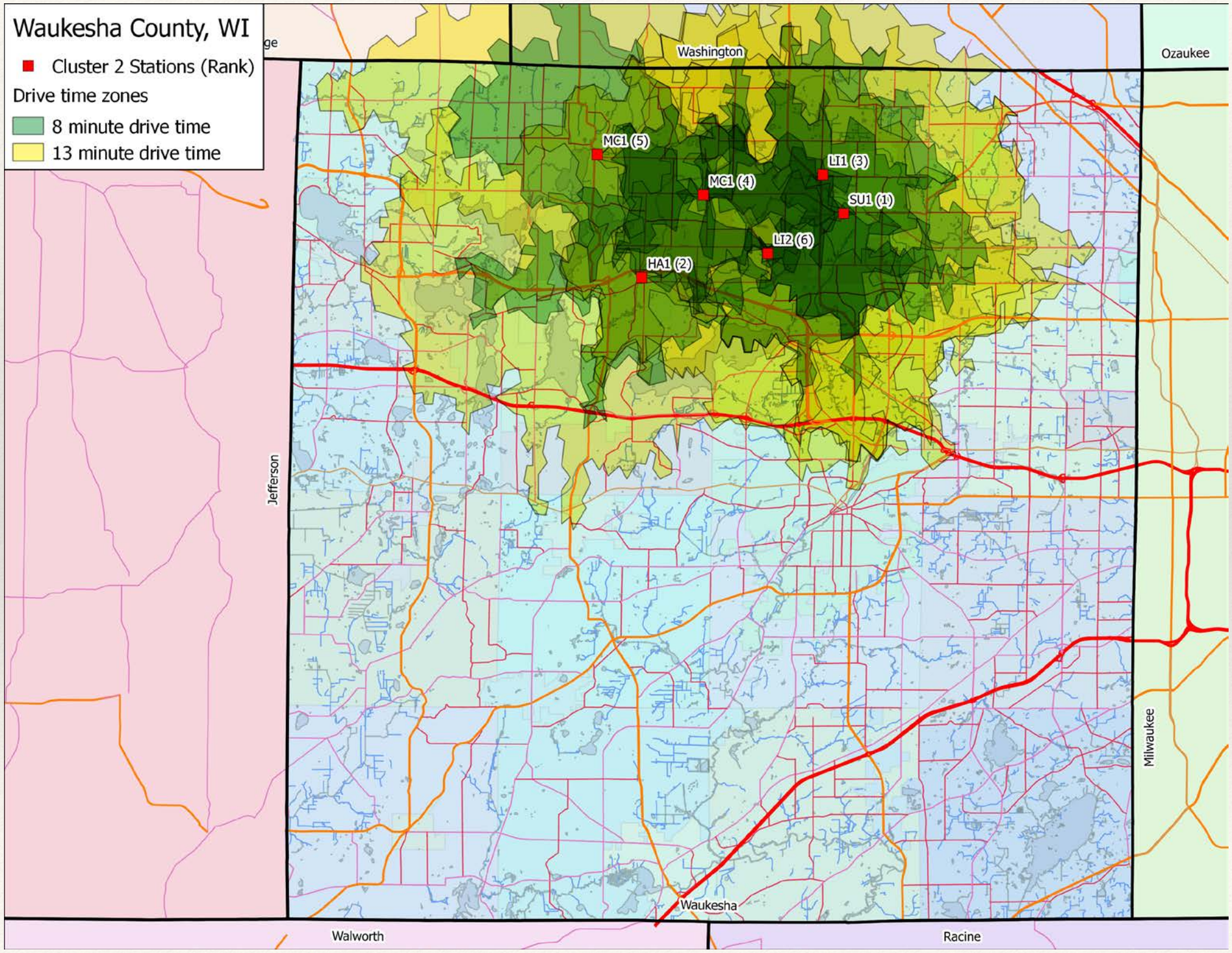
GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Merton #2	28343 Sussex Rd	U	1476	1476	55.89%
2	Lisbon #1	N72W24958 Good Hope Rd	U	549	2025	76.68%
3	Hartland	150 Lawn S	U	302	2327	88.11%
4	Merton #1	N75W31480 Park Rd	U	10	2337	88.49%
5	Lisbon #1	N72W24958 Good Hope Rd	R	6	2343	88.72%
6	Hartland	150 Lawn S	R	1	2344	88.75%

4 Fire Stations are able to deliver service to greater than 88% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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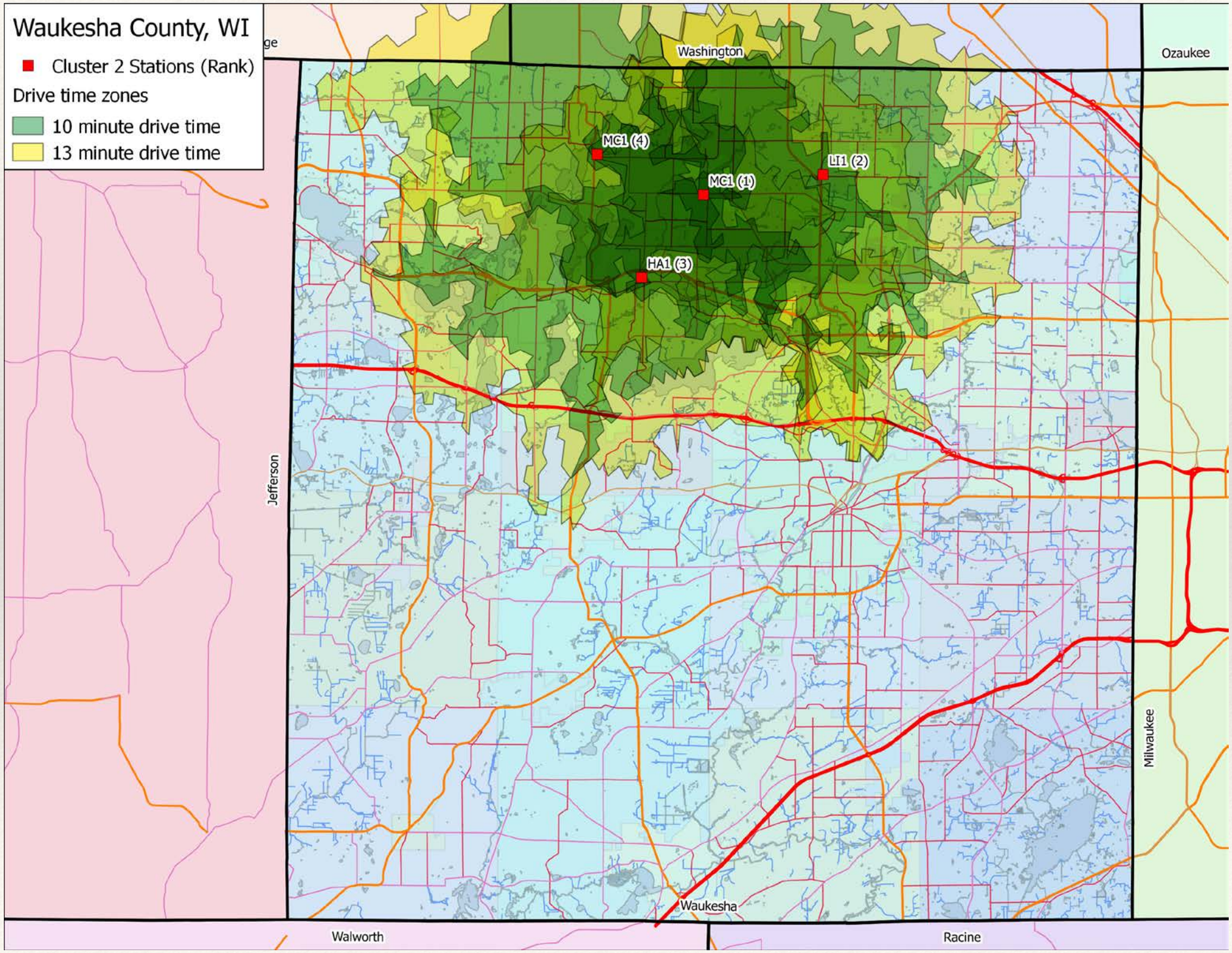
GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

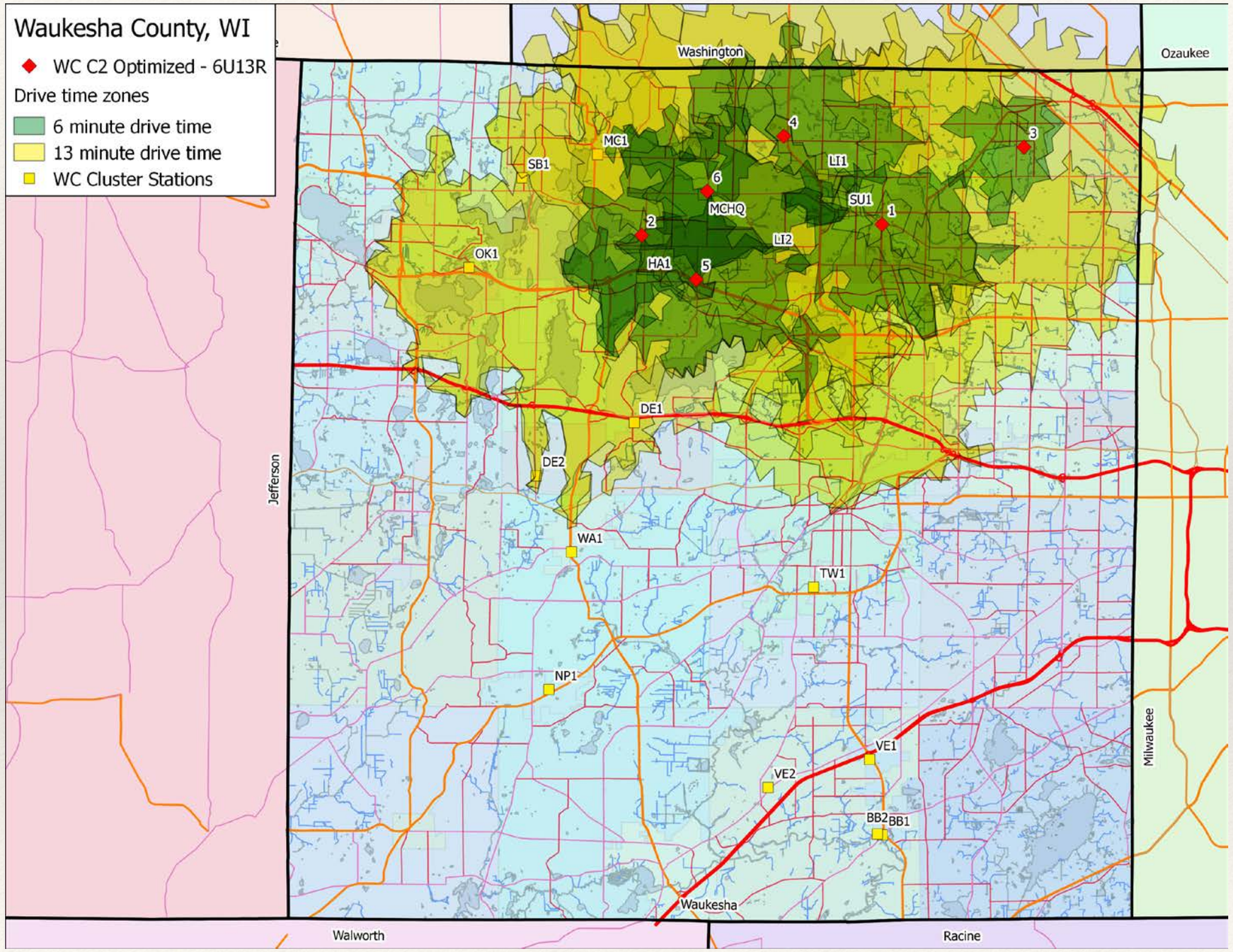


Area 2

Optimized Marginal Utility Model

(best station locations to meet current demand)

GIS – Optimized Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



6 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 6 minutes and 13 minutes in the rural areas

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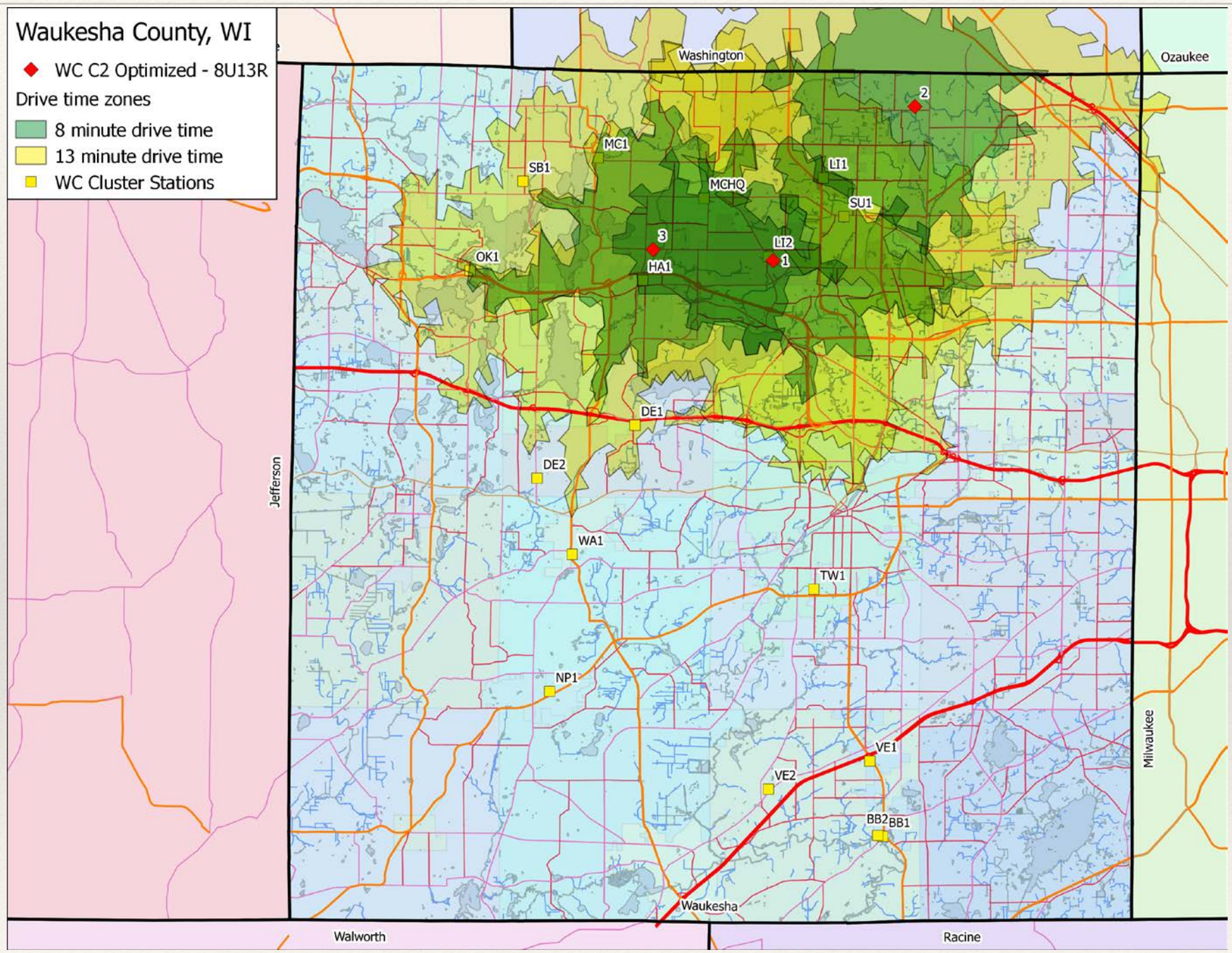
GIS – Optimized Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



3 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 8 minutes and 13 minutes in the rural areas

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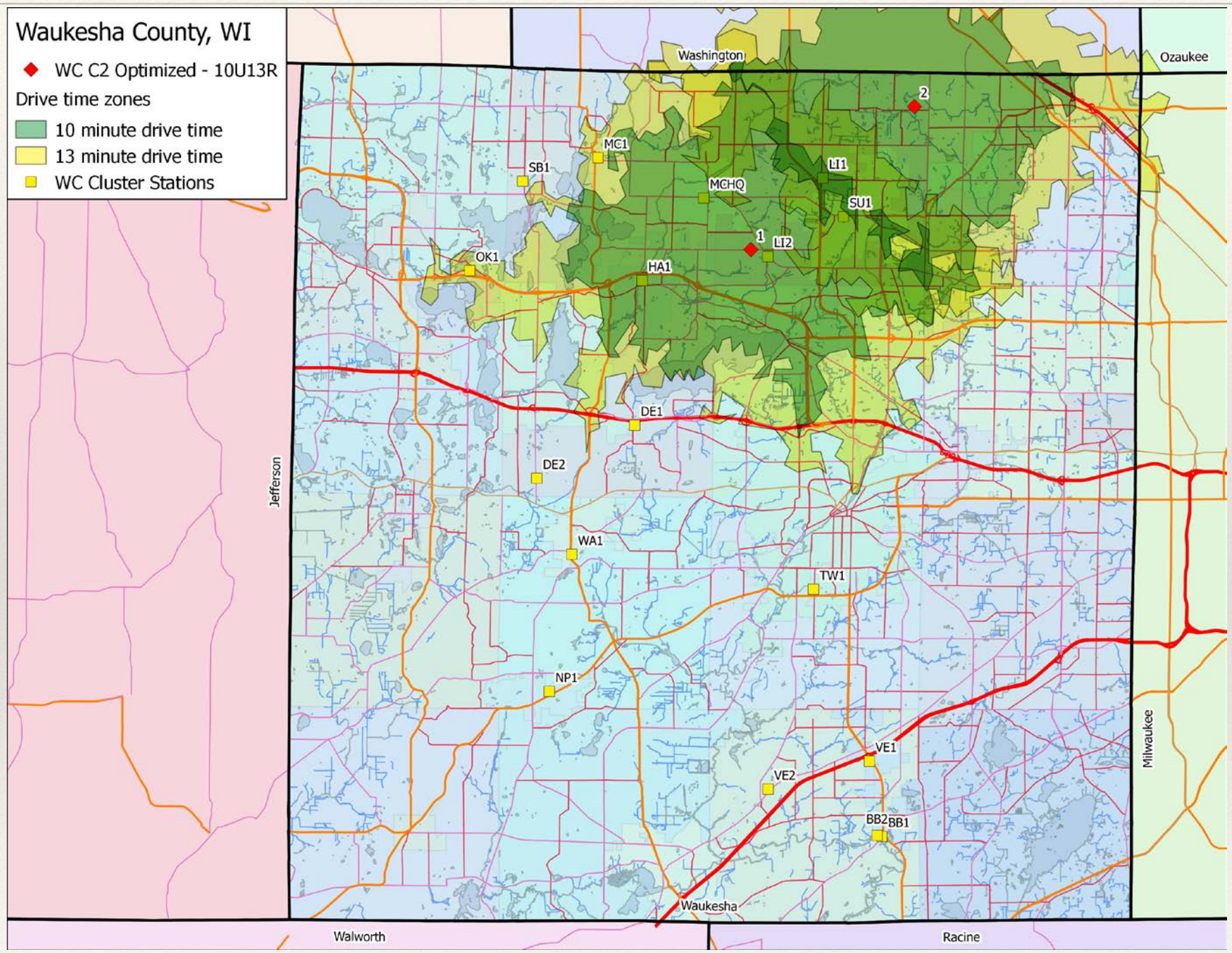
GIS – Optimized Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



2 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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Area 2 Analysis

- Average Time Per Call = 72.6 Minutes
- Average Calls Per Day = 7.3
- Busiest Cluster Analyzed
- Highest Probability of Concurrent Calls

Area 2 Collaboration Opportunities

- 3 Departments already share training
  - Continuation of functional consolidation will serve the region well
- Opportunity may exist to maintain current service level and consolidate the number of stations
- May be able to right size fleet with functional consolidation
- Share staff for cost and operations efficiencies

Area 3

Two Departments

Cluster 3

- Okauchee
- Stone Bank

Okauchee Fire Department

- One Station
  - 3 Engines
  - 1 Ambulance
  - 1 Water Tender
  - 1 Boat, 1 Dive/Rescue, 1 Hover Craft
  - 1 Utility
- Staffing
  - Stone Bank covers area (7am – 4pm)
  - All volunteer
  - 46 active members
  - Recruitment/retention an issue
- BLS Ambulance Service

Stone Bank Fire Department

- One Station
  - 2 Engines
  - 1 Heavy Rescue
  - 2 Ambulances
  - 1 Water Tender
  - 3 Other Vehicles
- 2 Full time
  - 24 Paid on Call
- Intermediate Ambulance Services

Data Analysis

Community Demands for Service

Agency	Number of Calls	Calls per Day	Call Percentage	Duration (min.)
Okauchee FD	448	1.2	7.9	40.1
Stone Bank FD	193	0.5	3.4	76.3
Area 3 Total	**641**	**1.8**	**11.3**	**51.0**
All Areas Total	**5,689**	**15.6**	**100.0%**	**68.8**

Overall Workload

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Okauchee FD	82.1	969	708	4.4%
Stone Bank FD	81.1	1,184	876	5.5%
Area 3 Total	**81.6**	**2,153**	**1,584**	**9.9%**
All Areas Total	**75.2**	**20,008**	**15,972**	**100.0%**

Current Mean First Arrival Performance

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Okauchee FD	1.4	3.7	4.5	9.6	185
Stone Bank FD	1.4	2.8	4.7	8.8	152
Area 3	**1.4**	**3.3**	**4.6**	**9.3**	**337**
All Areas Total	**1.7**	**3.3**	**4.5**	**9.6**	**3,925**

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Current First Arrival Performance - 90th

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Okauchee FD	2.7	8.0	8.3	14.8	185
Stone Bank FD	2.7	6.2	8.1	13.0	152
Area 3	**2.7**	**7.1**	**8.3**	**14.3**	**337**
All Areas Total	**3.1**	**6.8**	**8.3**	**15.2**	**3,925**

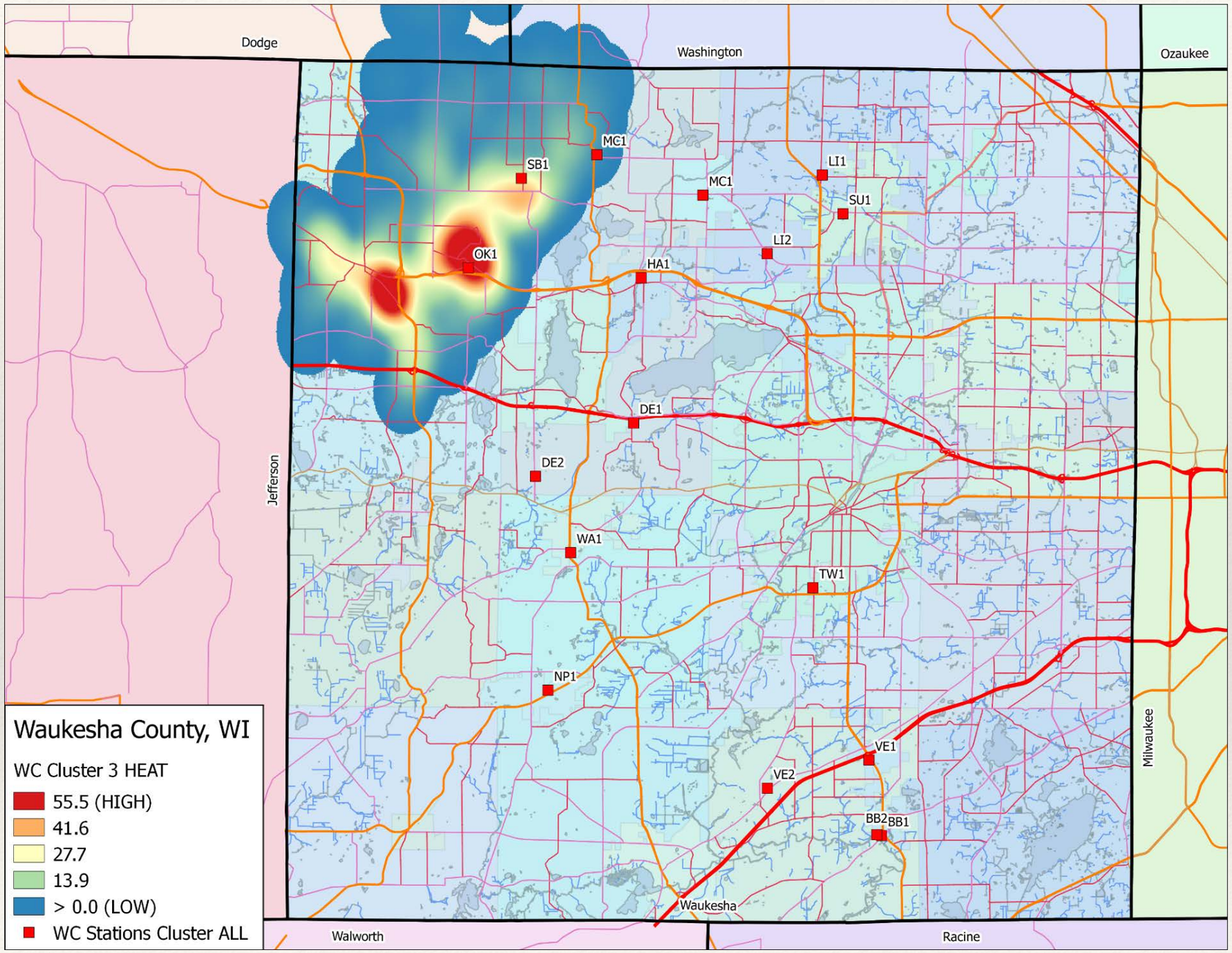
Current Resource Comparison

Department	Stations	Sleeping Rooms	EMS Level	Ambulances	Engines	Ladders	Water Tenders
Okauchee	1	0	BLS	1	3	0	1
Stone Bank	1	2	BLS	2	2	0	1

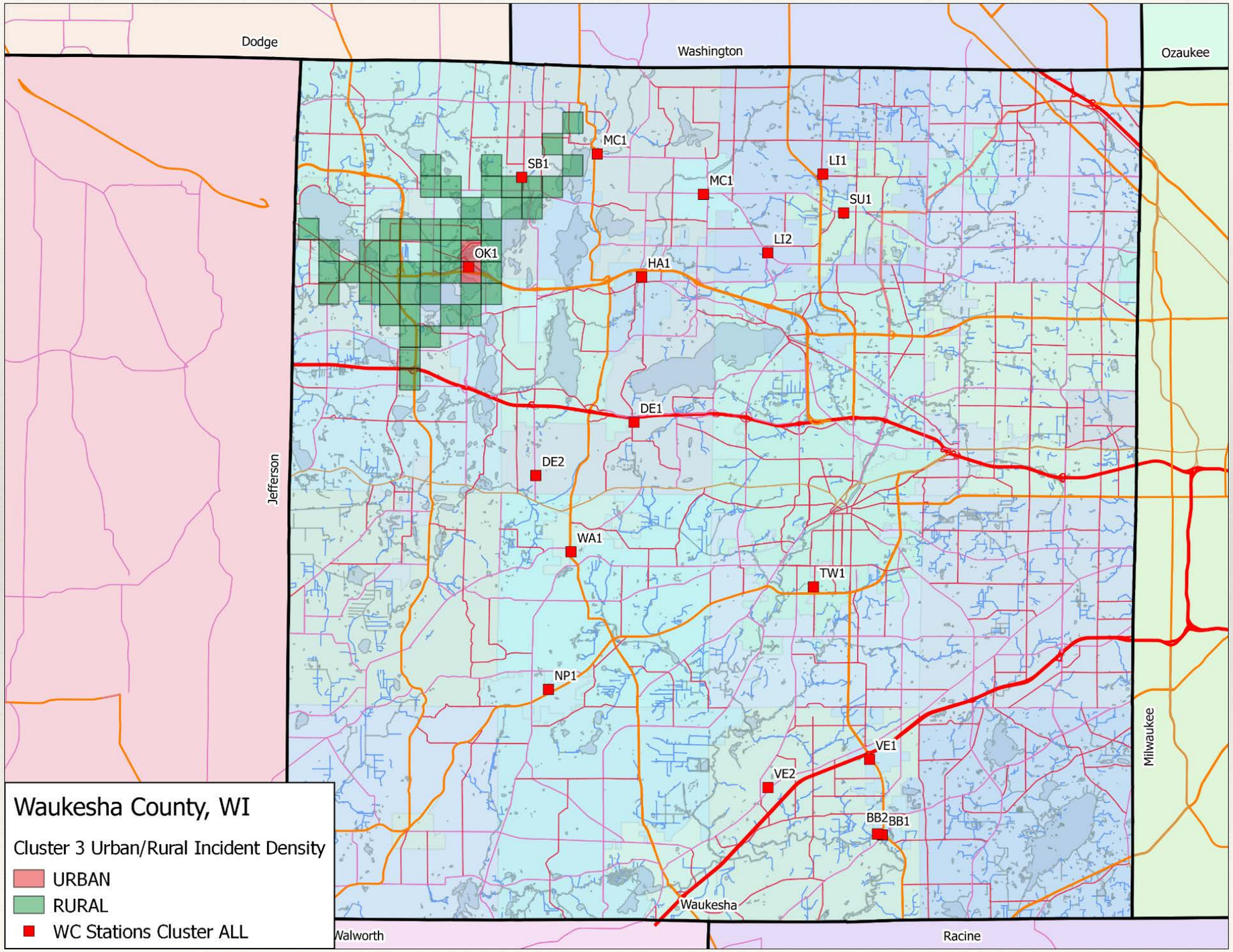
Current Resource Comparison

Department	Full-Time Staff	Non-Career Staff
Okauchee	0	38 Volunteer
Stone Bank	2	35 POC

Area 3 - Current Demand



Area 3 Urban vs. Rural



GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Okauchee	W349 N5060 Shady Ln	U	191	191	30.22%
2	Stone Bank	W335 N7107 Stone Bank Rd	U	146	337	53.32%
3	Okauchee	W349 N5060 Shady Ln	R	263	600	94.94%
4	Stone Bank	W335 N7107 Stone Bank Rd	R	12	612	96.84%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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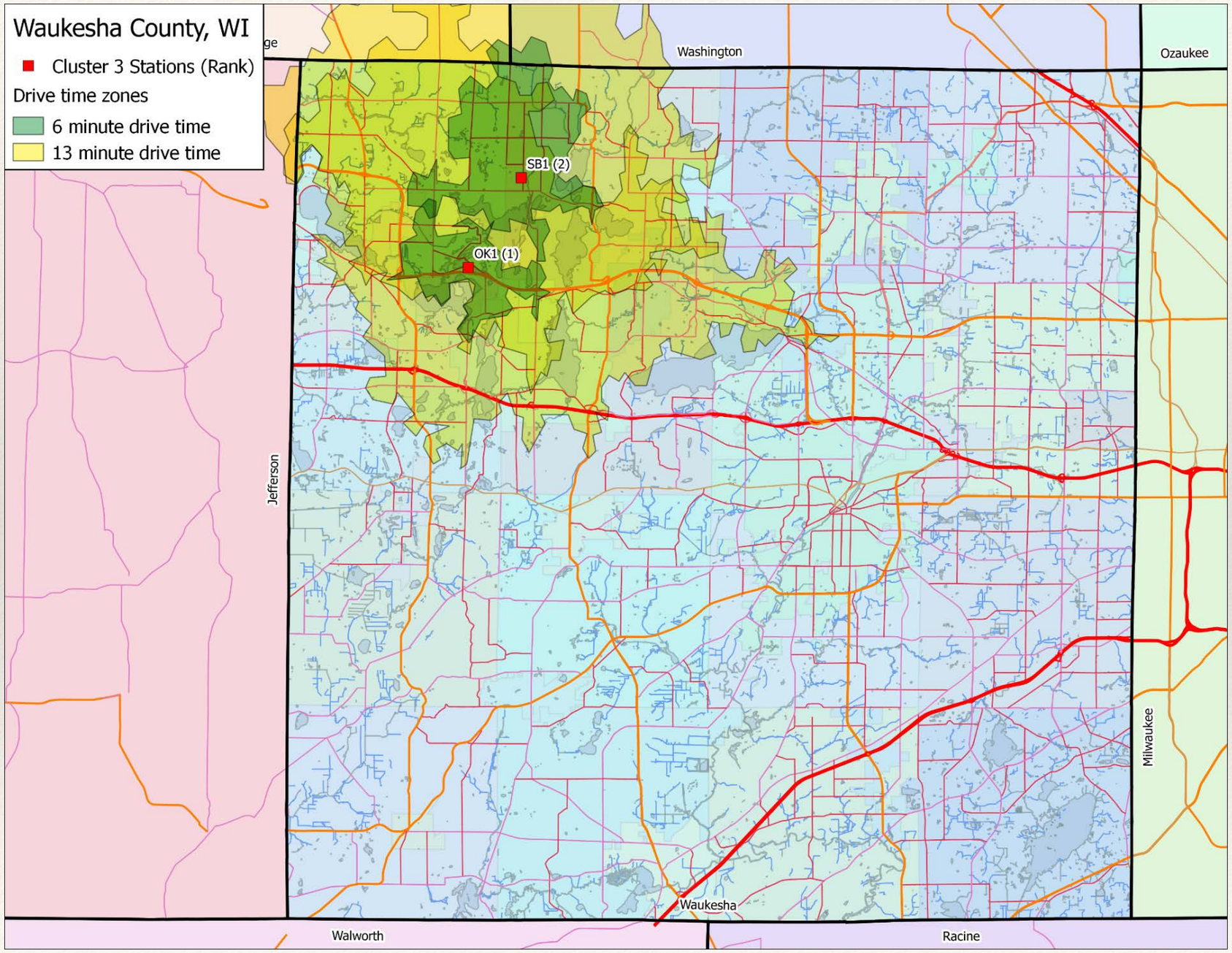
GIS – Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Post Capture	Total Capture	Percent Capture
1	Okauchee	W349 N5060 Shady Ln	U	268	268	42.41%
2	Stone Bank	W335 N7107 Stone Bank Rd	U	156	424	67.09%
3	Okauchee	W349 N5060 Shady Ln	R	187	611	96.68%
4	Stone Bank	W335 N7107 Stone Bank Rd	R	1	612	96.84%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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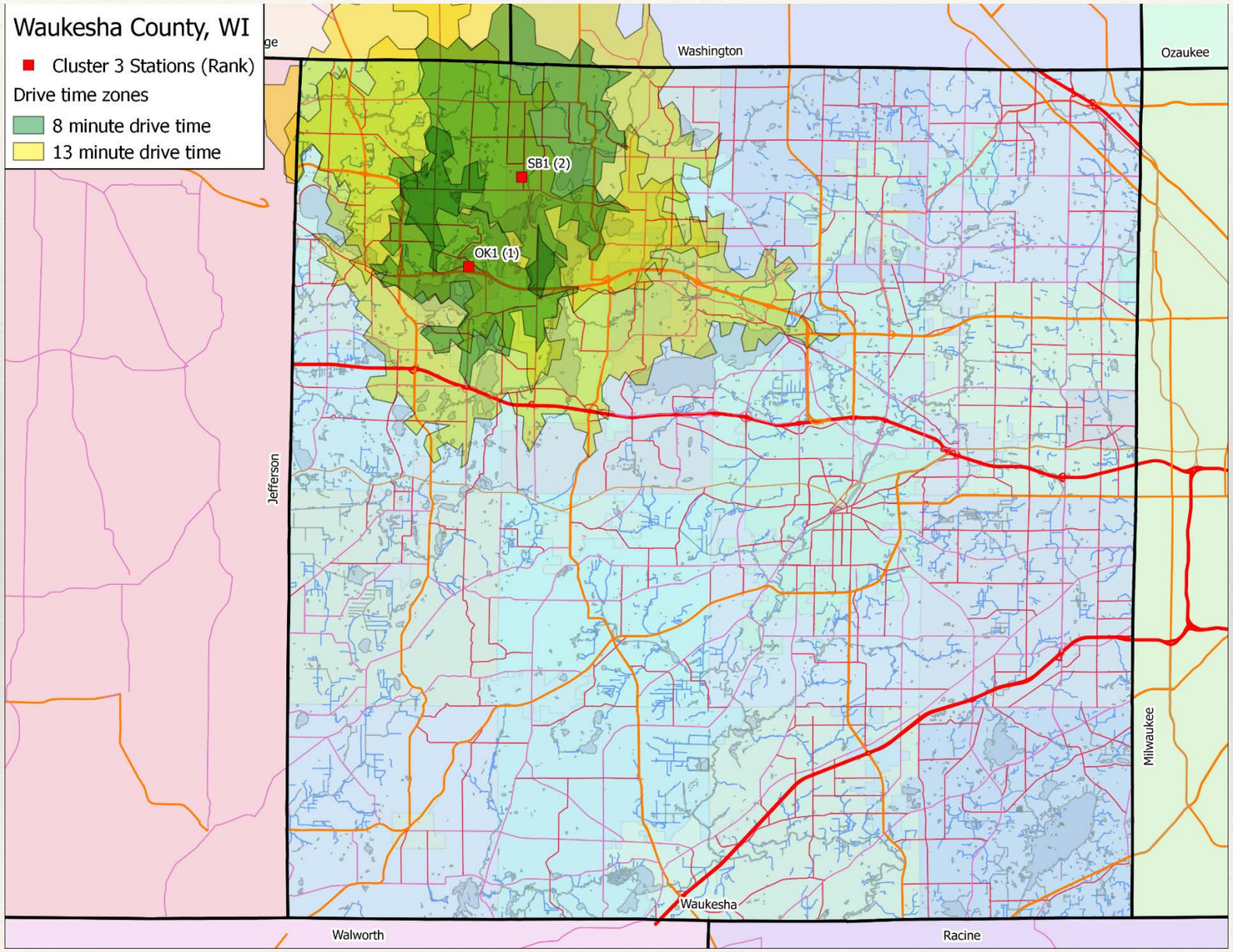
GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Post Capture	Total Capture	Percent Capture
1	Okauchee	W349 N5060 Shady Ln	U	424	424	67.09%
2	Stone Bank	W335 N7107 Stone Bank Rd	U	110	534	84.49%
3	Okauchee	W349 N5060 Shady Ln	R	77	611	96.68%
4	Stone Bank	W335 N7107 Stone Bank Rd	R	1	612	96.84%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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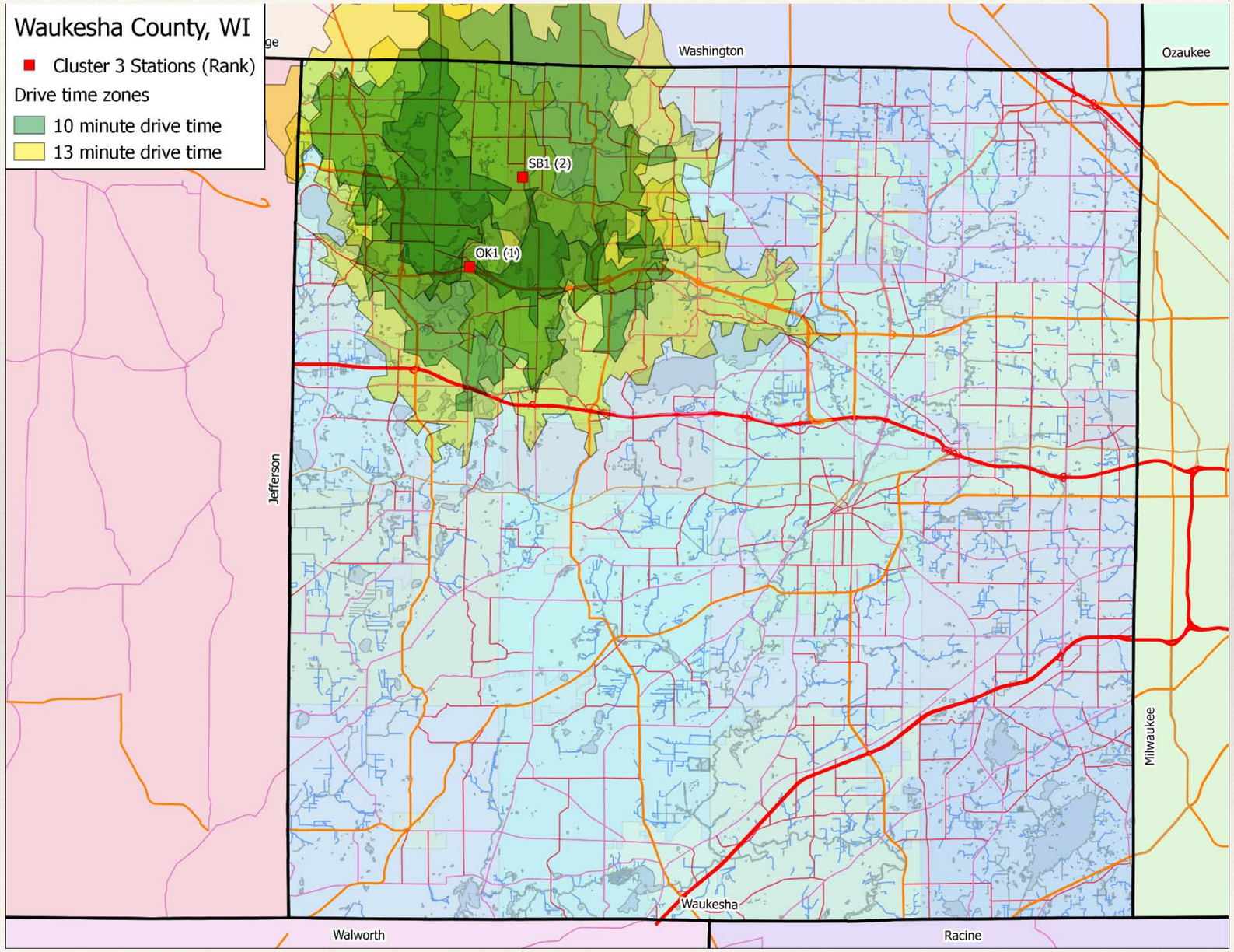
GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural

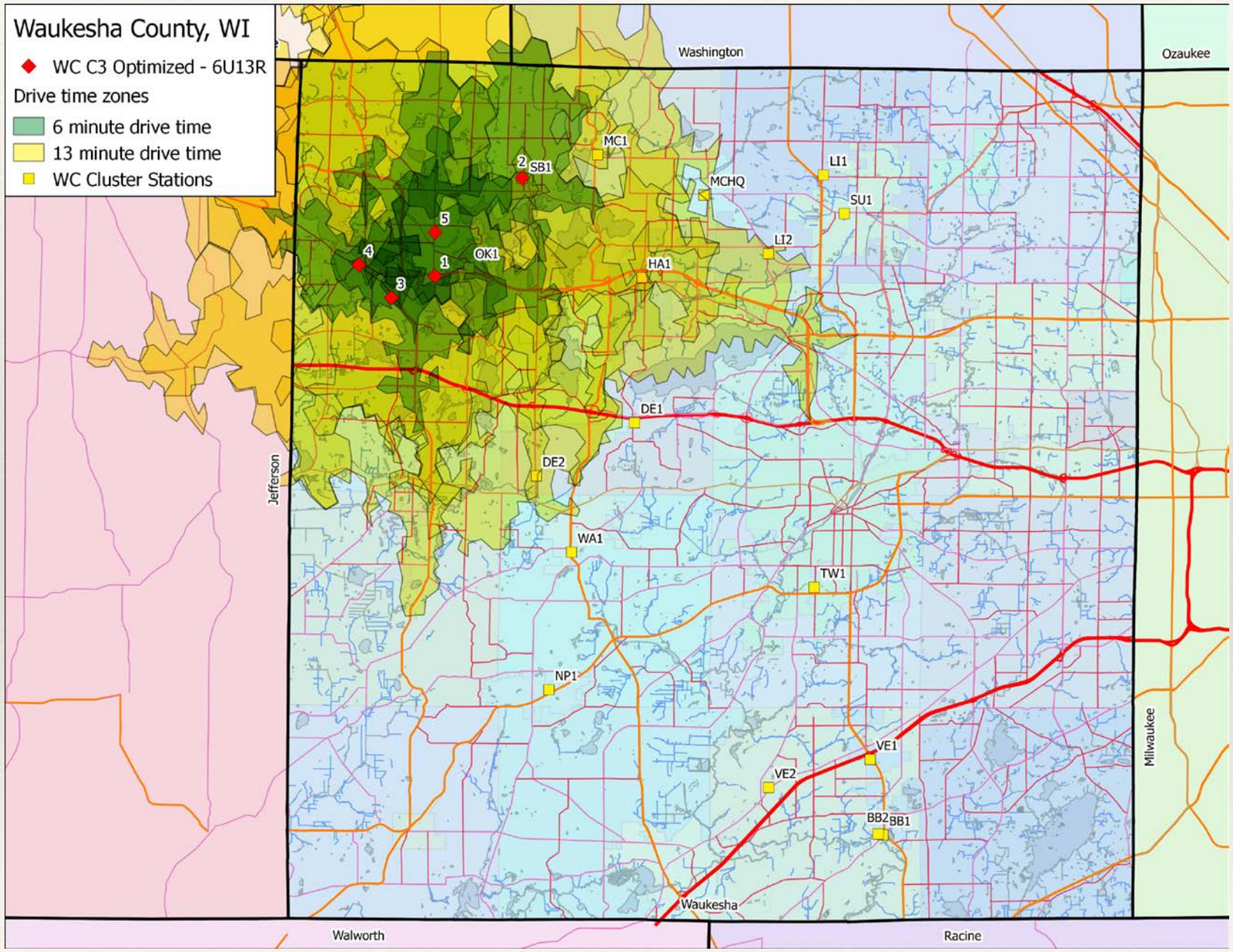


Area 3

Optimized Marginal Utility Model

(best station locations to meet current demand)

GIS – Optimized Marginal Utility Model
6 Minutes Urban - 13 Minutes Rural



5 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 6 minutes and 13 minutes in the rural areas

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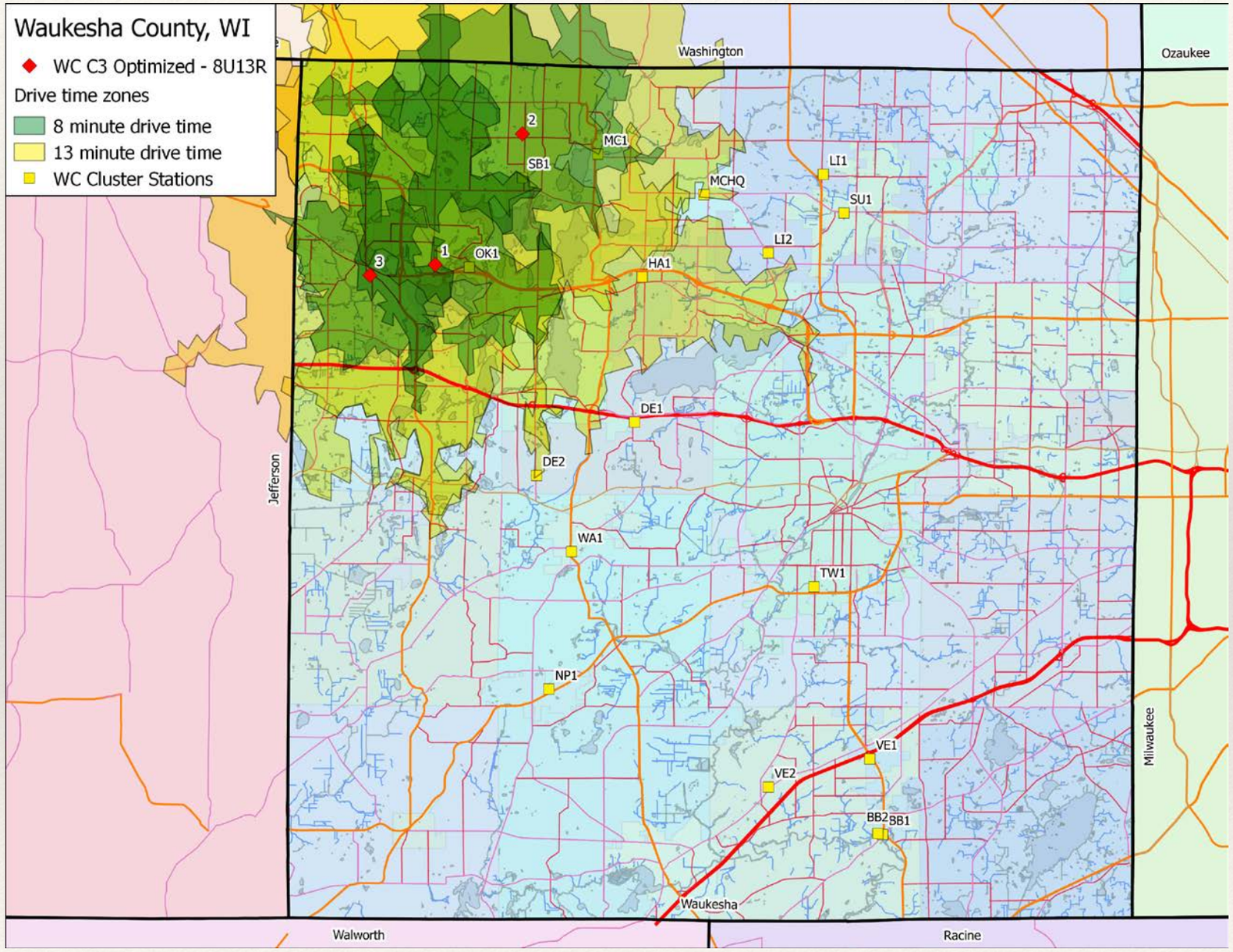
GIS – Optimized Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



3 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 8 minutes and 13 minutes in the rural areas

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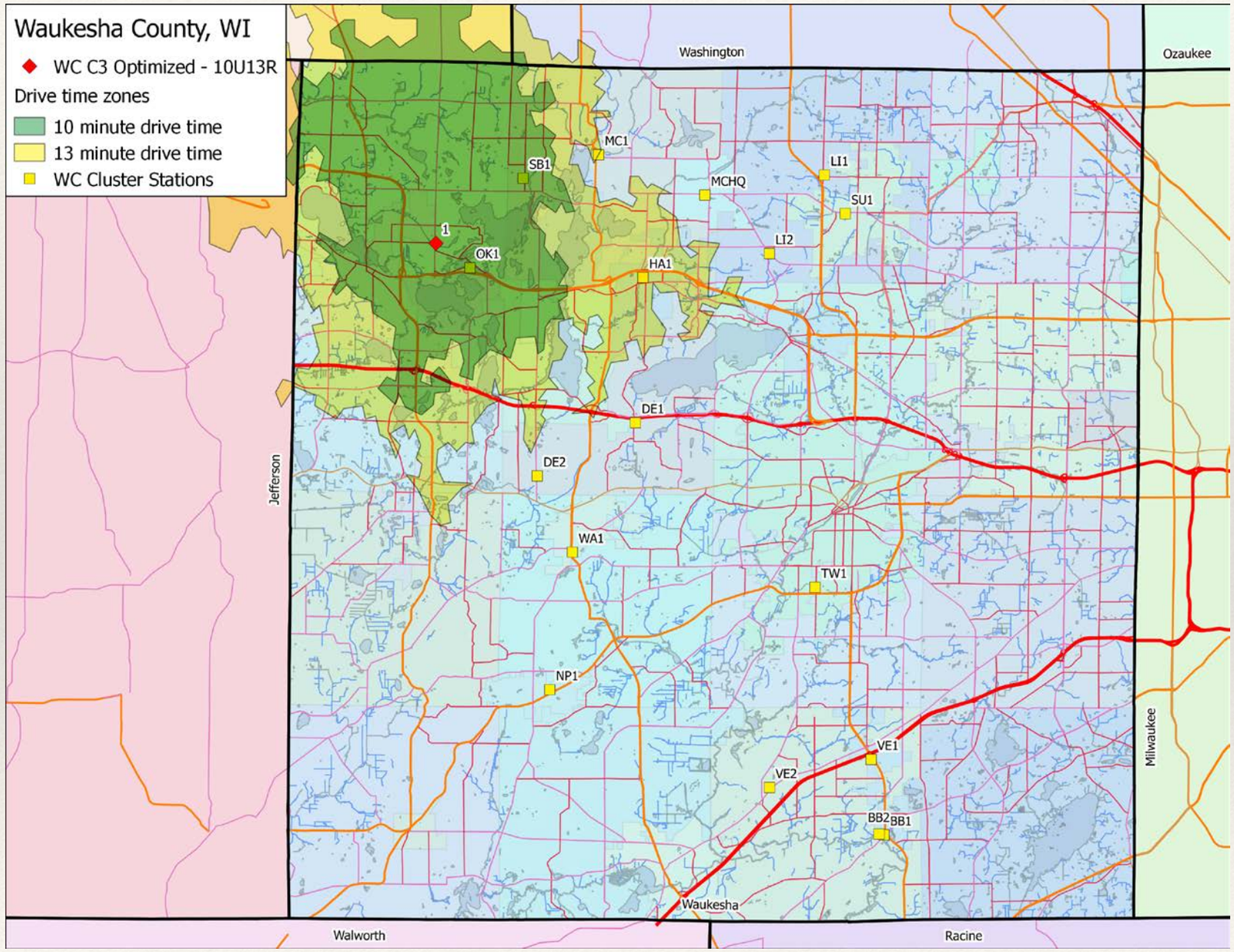
GIS – Optimized Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



1 Fire Station is required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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Area 3 Analysis

- Average Time Per Call = 81.6 Minutes
- Average Calls Per Day = 1.8
- Longest average call time
- Primarily rural area

Area 3 Collaboration Opportunities

- Stone Bank already covers Okauchee during the weekdays
- Lowest community demand for service
- Limited ability to share services based on geographical limitations

Area 4

Three Departments

Area 4

- Big Bend
- Vernon
- Town of Waukesha

Big Bend Fire Department

- Staffing
  - Volunteer/Paid-On-Call

Vernon Fire Department

- Two Stations
  - 3 Engines
  - 1 Water Tender
  - 3 Ambulances
  - 1 Heavy Rescue
  - 2 Paramedic 1st Response
  - 1 Brush Truck
  - 1 ATV/1 Amphibious Vehicle
  - 1 Utility
- Staffing
  - Volunteer/Paid-On-Call
- ALS ambulance service

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Town of Waukesha Fire Department

- Single Station
  - 1 Engines
  - 1 Quint
  - 1 Rescue
  - 1 HAZMAT
  - 1 Brush Truck
  - 1 Ambulance
- Staffing
  - Full-time Fire Chief and Fire Inspector
  - 34 Paid-On-Call staff with rotating night/weekend coverage

Data Analysis

Community Demand for Service

Jurisdiction	Number of Calls	Calls per Day	Call Percentage	Duration
Big Bend FD	139	0.4	2.4%	70.2
Vernon FD	502	1.4	8.8%	59.8
Waukesha Town FD	414	1.1	7.3%	75.2
Area 4 Total	**1,055**	**2.9**	**18.5%**	**67.2**
All Areas Total	**5,689**	**15.6**	**100.0%**	**68.8**

Overall Workload

Agency	Avg. Busy Minutes per Response	Annual Busy Hours	Annual Total Responses	Percent of Responses
Big Bend FD	76.1	620	489	3.1%
Vernon FD	68.6	1,719	1,504	9.4%
Waukesha Town FD	75.9	1,986	1,569	9.8%
Area 4 Total	**72.9**	**4,325**	**3,562**	**22.3%**
All Areas Total	**75.2**	**20,008**	**15,972**	**100.0%**

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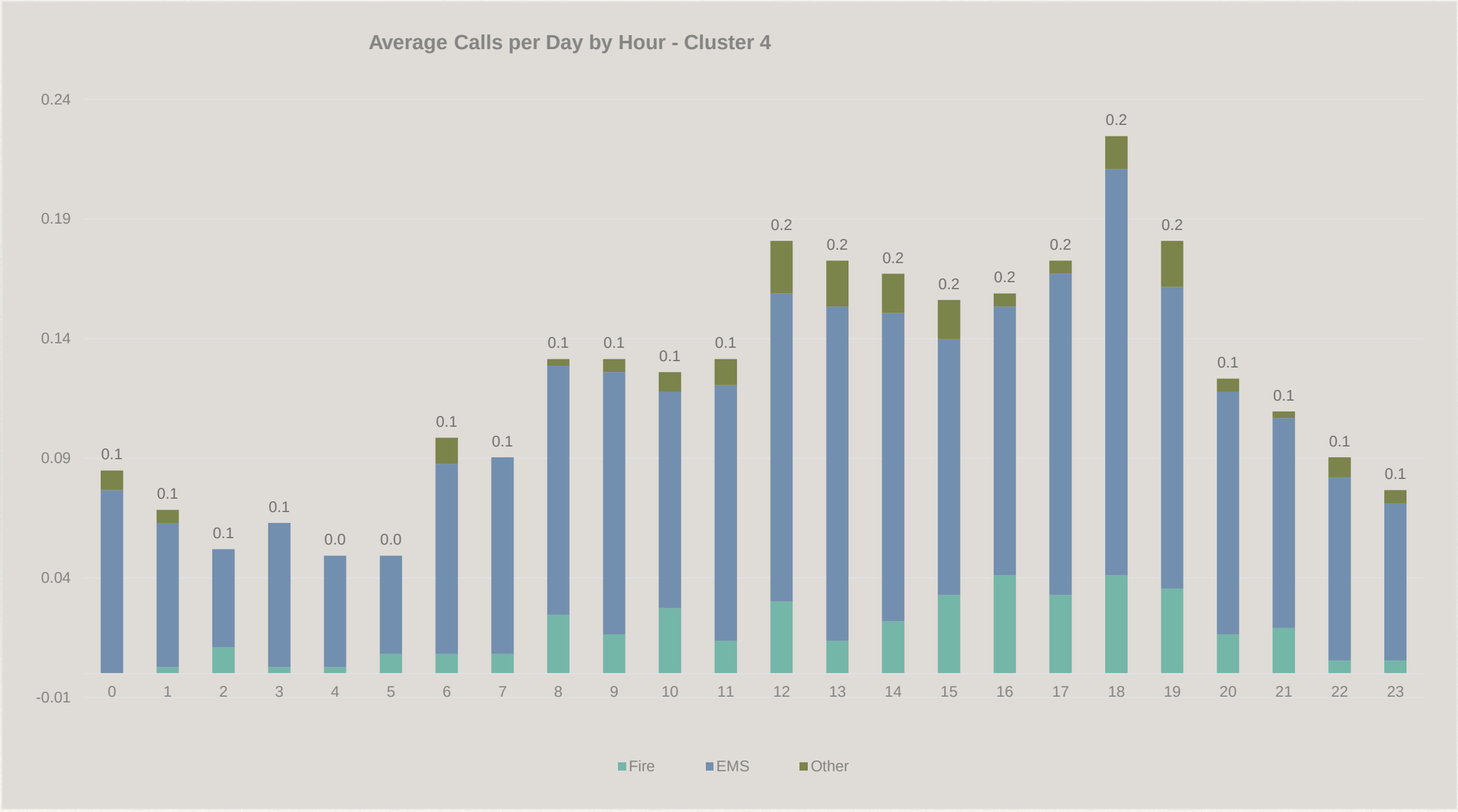
Current Mean First Arrival Performance

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Big Bend FD	1.9	4.9	3.2	10.0	93
Vernon FD	1.6	2.1	6.5	10.2	384
Waukesha Town FD	1.8	6.4	5.6	13.7	349
Area 4	**1.7**	**4.2**	**5.8**	**11.7**	**826**
All Areas Total	**1.7**	**3.3**	**4.5**	**9.6**	**3,925**

Current First Arrival Performance - 90th

Agency	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
Big Bend FD	3.1	8.4	7.3	15.0	93
Vernon FD	3.1	3.6	11.9	14.9	384
Waukesha Town FD	3.1	11.6	8.9	19.8	349
Area 4	**3.1**	**9.7**	**10.0**	**17.5**	**826**
All Areas Total	**3.1**	**6.8**	**8.3**	**15.2**	**3,925**

Incidents By Hour Of Day



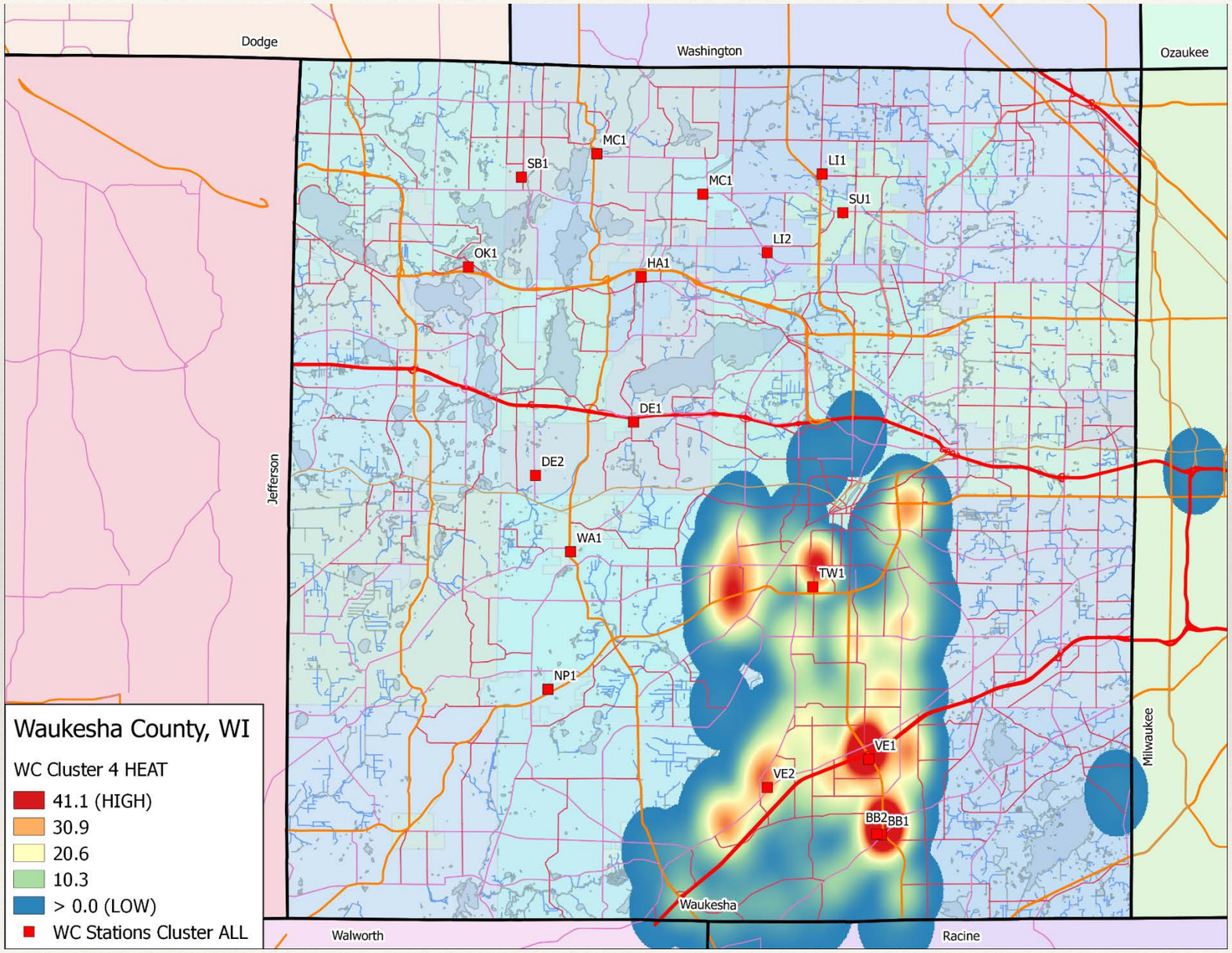
Current Resource Comparison

Department	Stations	Sleeping Rooms	EMS Level	Ambulances	Engines	Ladders	Water Tenders
Town of Waukesha	1	0	BLS	1	1	1	2
Vernon	2	3	ALS	3	3	0	2
Big Bend	2		ALS	3	3		1

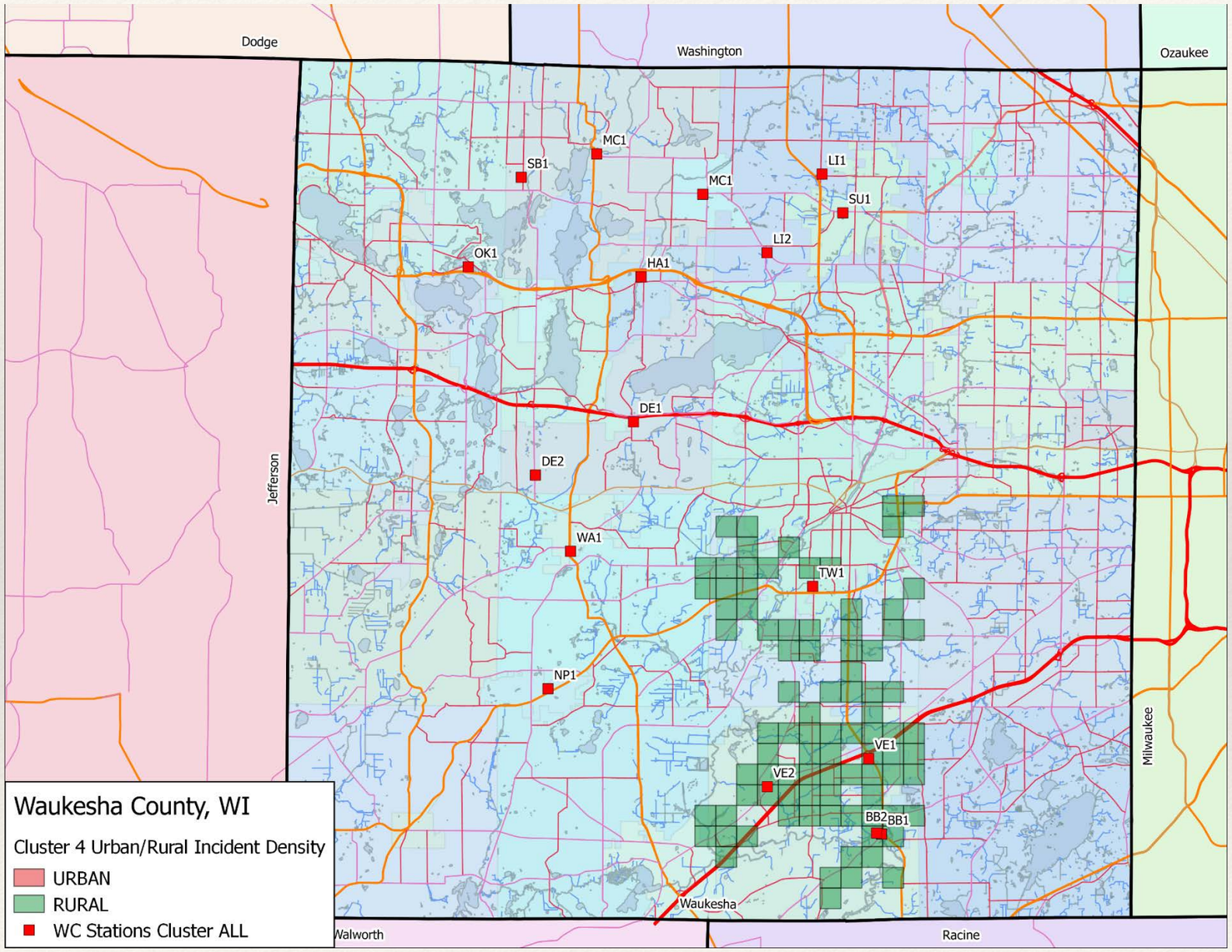
Current Resource Comparison

Department	Full-Time Staff	Non-Career Staff
Town of Waukesha	2	34 POC
Vernon	5	60 POP
Big Bend		60 POC

Area 4 Current Demand



Area 4 Urban vs. Rural



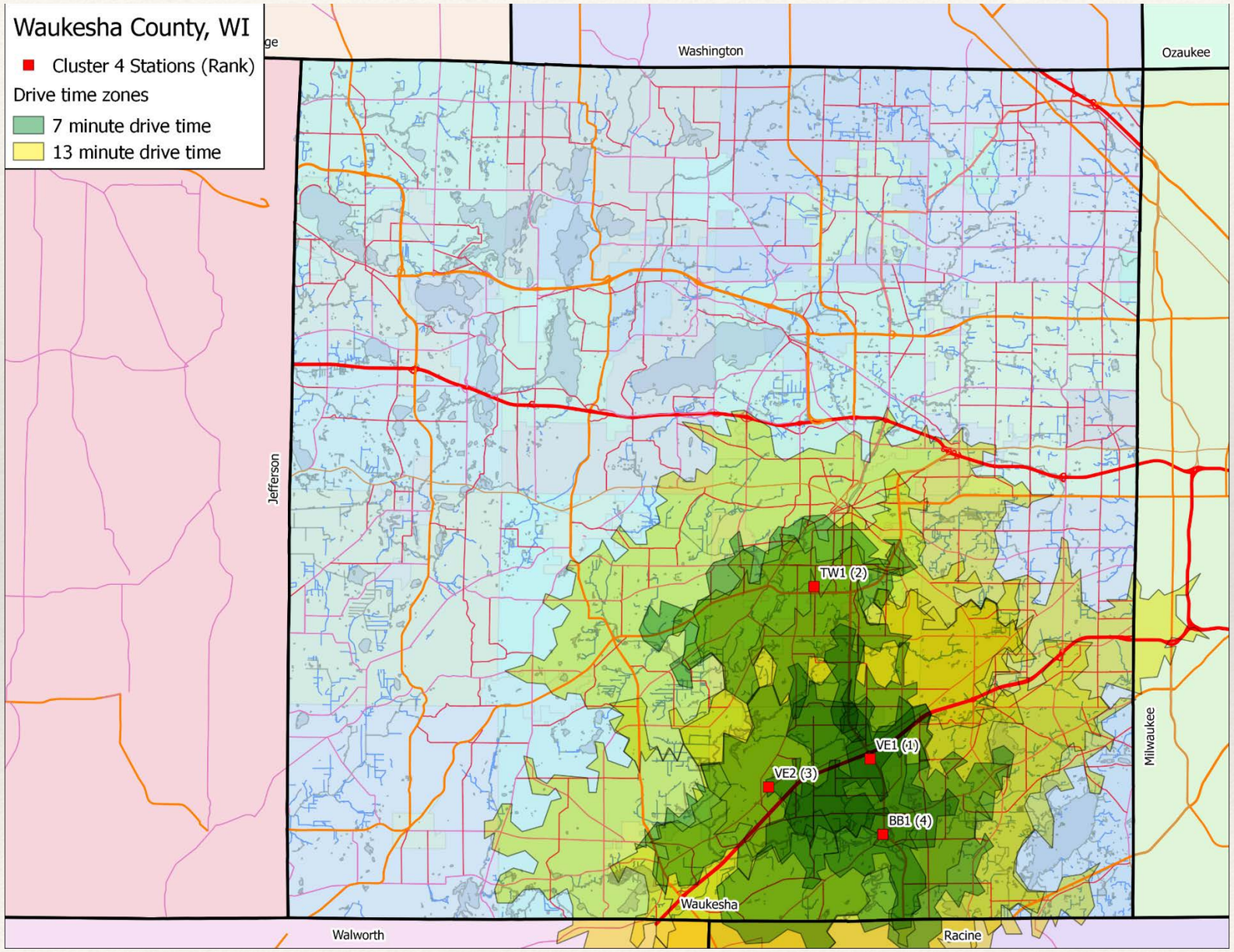
GIS – Marginal Utility Model
7 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Vernon #1	W233 S7475 Woodland Lane	U	406	406	43.56%
2	Town of Waukesha	W250 S3567 Center Road	U	237	643	68.99%
3	Vernon #2	S81 W26220 National Avenue	U	128	771	82.73%
4	Big Bend	W230 S9185 Nevins	U	26	797	85.52%
5	Town of Waukesha	W250 S3567 Center Road	R	113	910	97.64%
6	Vernon #1	W233 S7475 Woodland Lane	R	20	930	99.79%

A 7 minute urban model was intentionally used due to the geography covered by area 4.

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

GIS – Marginal Utility Model
7 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Vernon #1	W233 S7475 Woodland Lane	U	488	488	52.36%
2	Town of Waukesha	W250 S3567 Center Road	U	241	729	78.22%
3	Vernon #2	S81 W26220 National Avenue	U	108	837	89.81%
4	Big Bend	W230 S9185 Nevins	U	19	856	91.85%
5	Town of Waukesha	W250 S3567 Center Road	R	69	925	99.25%
6	Vernon #1	W233 S7475 Woodland Lane	R	5	930	99.79%

When referring to table above, the 3rd station (Vernon #2) closely approximates 90% and it would be a justifiable policy decision to adopt a 3 station model.

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

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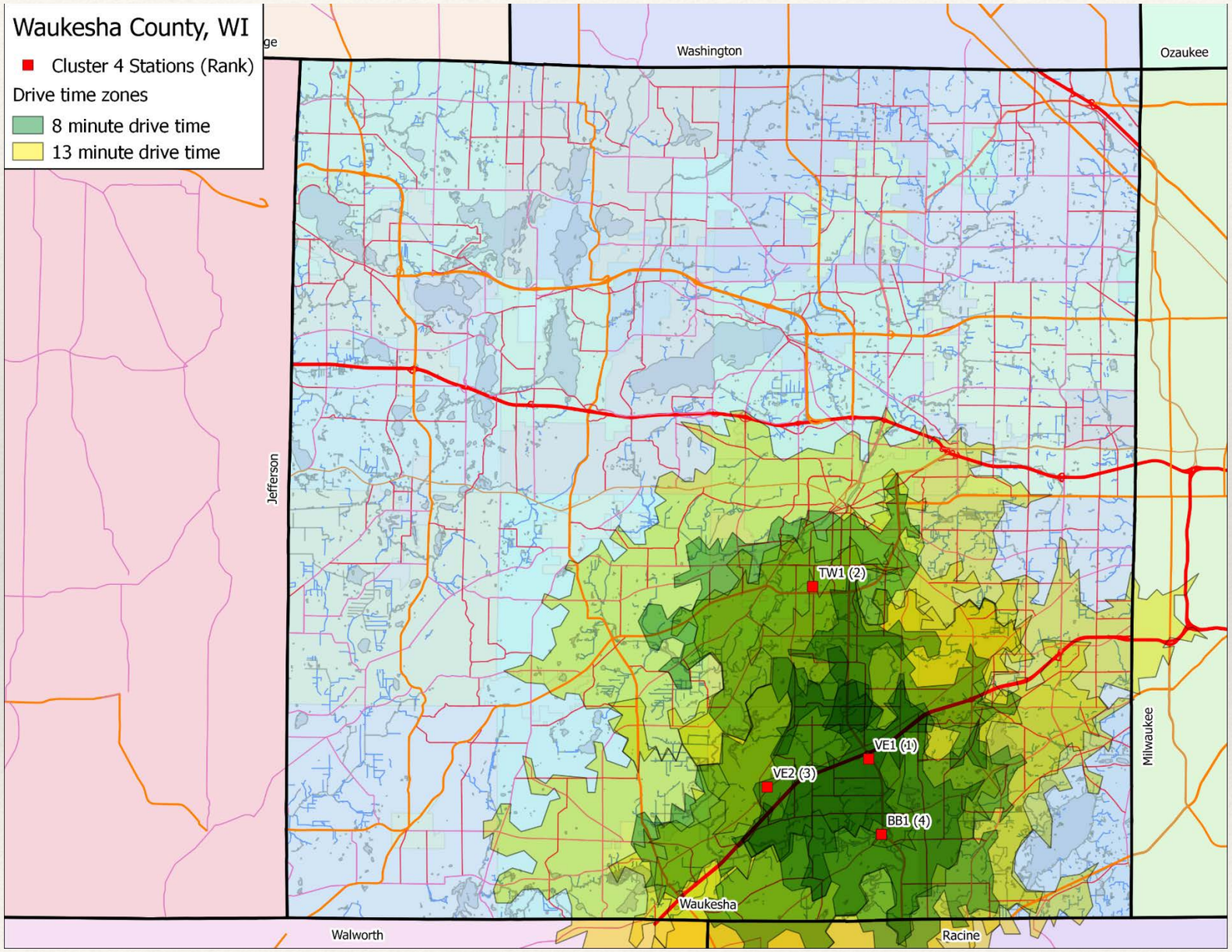
GIS – Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



GIS – Marginal Utility Model
10 Minutes Urban -13 Minutes Rural

Rank	Station	Address	Class	Post Capture	Total Capture	Percent Capture
1	Vernon #1	W233 S7475 Woodland Lane	U	636	636	68.24%
2	Town of Waukesha	W250 S3567 Center Road	U	245	881	94.53%
3	Vernon #1	W233 S7475 Woodland Lane	R	47	928	99.57%
4	Town of Waukesha	W250 S3567 Center Road	R	2	930	99.79%

13 Minute rural travel time is based on Center for Public Safety Excellence Fire Accreditation Rural response standard.

2 Fire Stations are required to deliver service to greater than 94% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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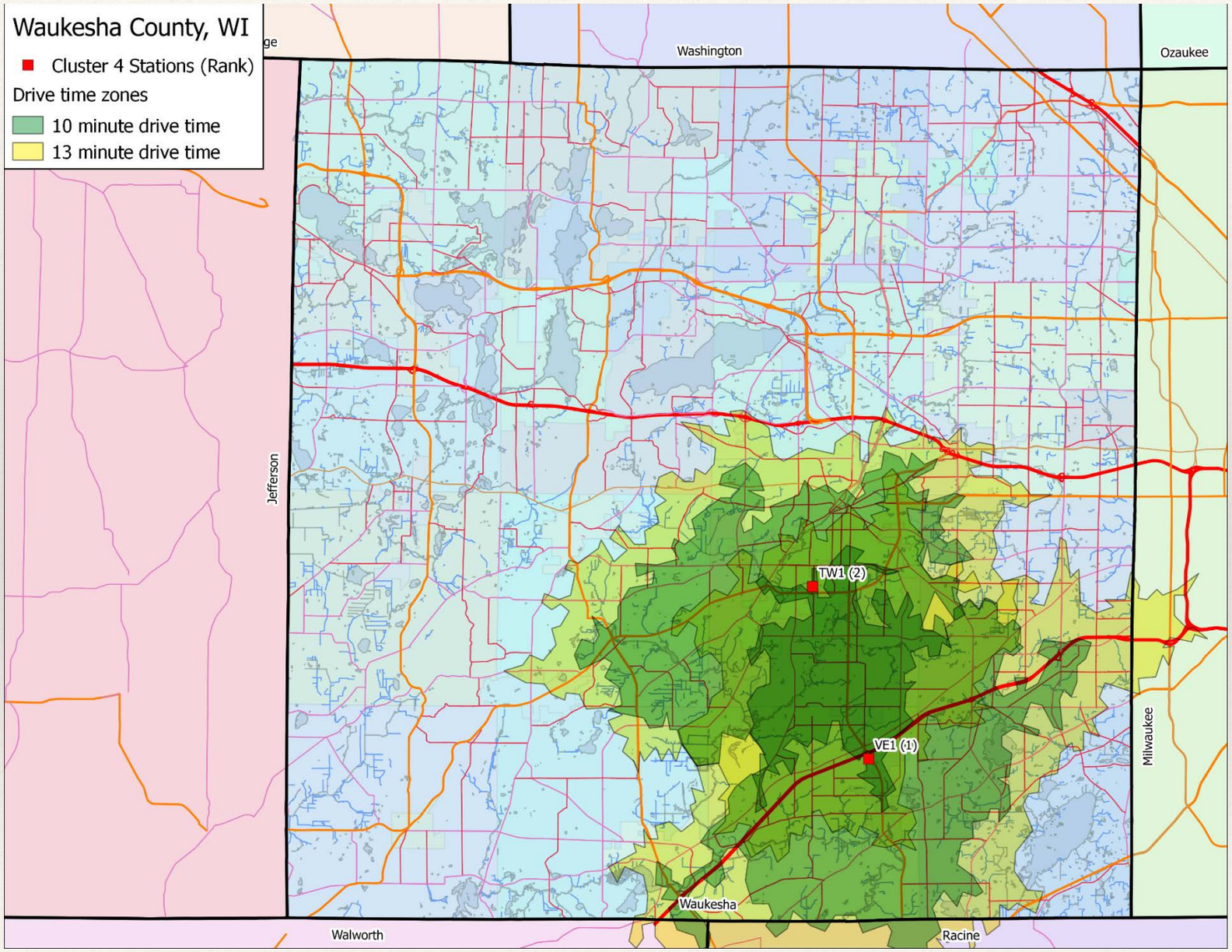
GIS – Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



2 Fire Stations are required to deliver service to greater than 94% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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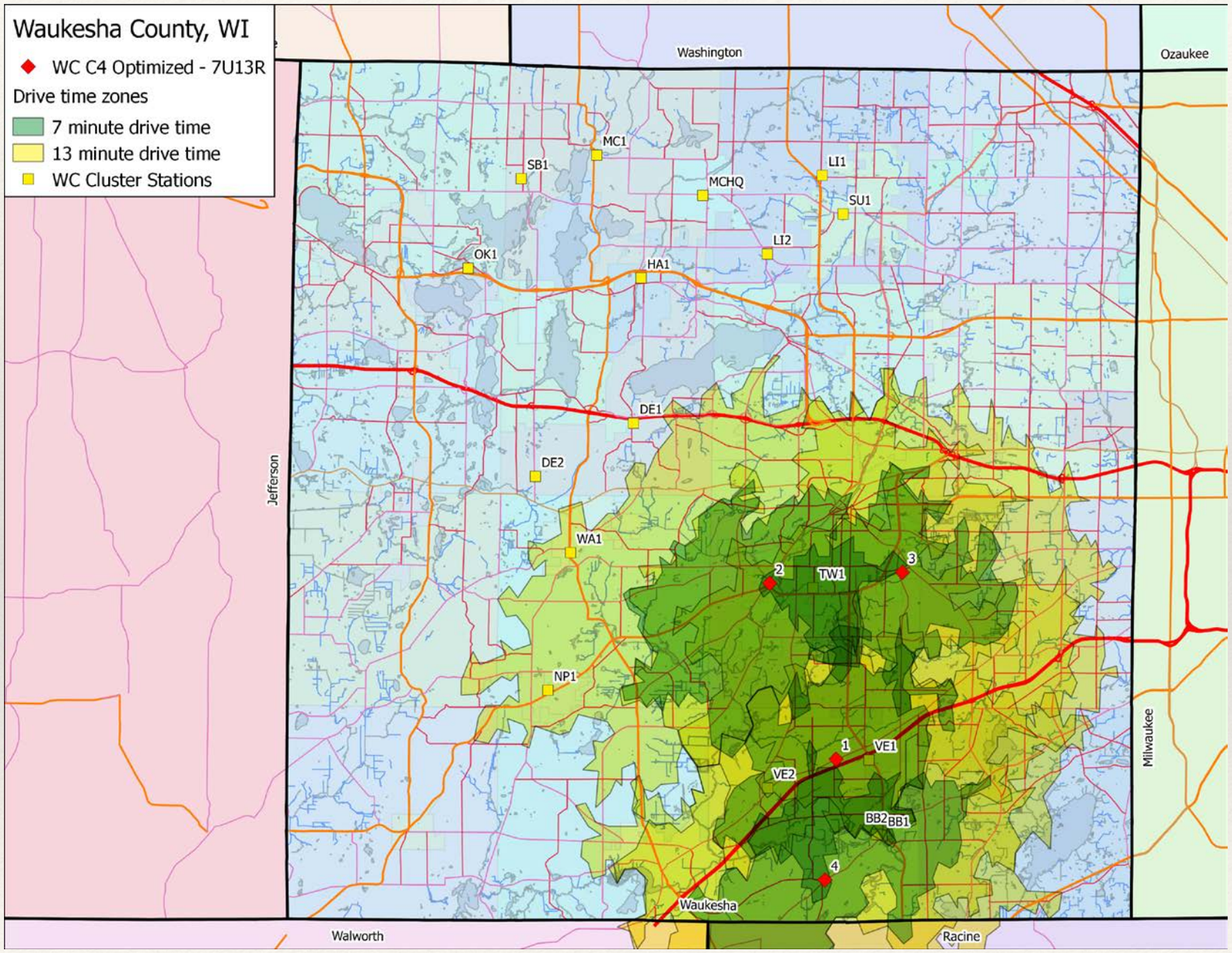
Area 4

Optimized Marginal Utility Model

(best station locations to meet current demand)

GIS – Optimized Marginal Utility Model
7 Minutes Urban - 13 Minutes Rural



4 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 7 minutes and 13 minutes in the rural areas

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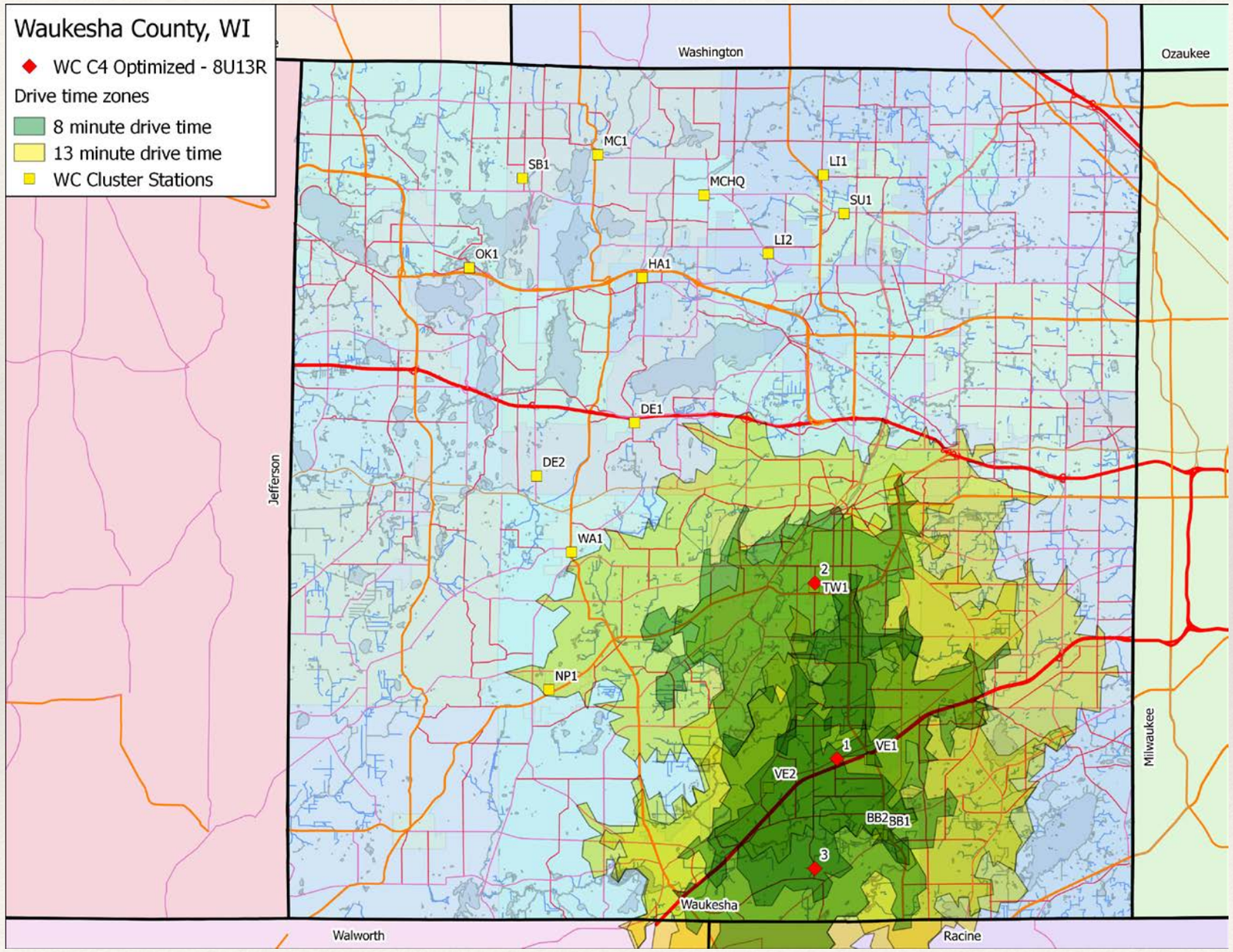
GIS – Optimized Marginal Utility Model
8 Minutes Urban - 13 Minutes Rural



3 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 8 minutes and 13 minutes in the rural areas

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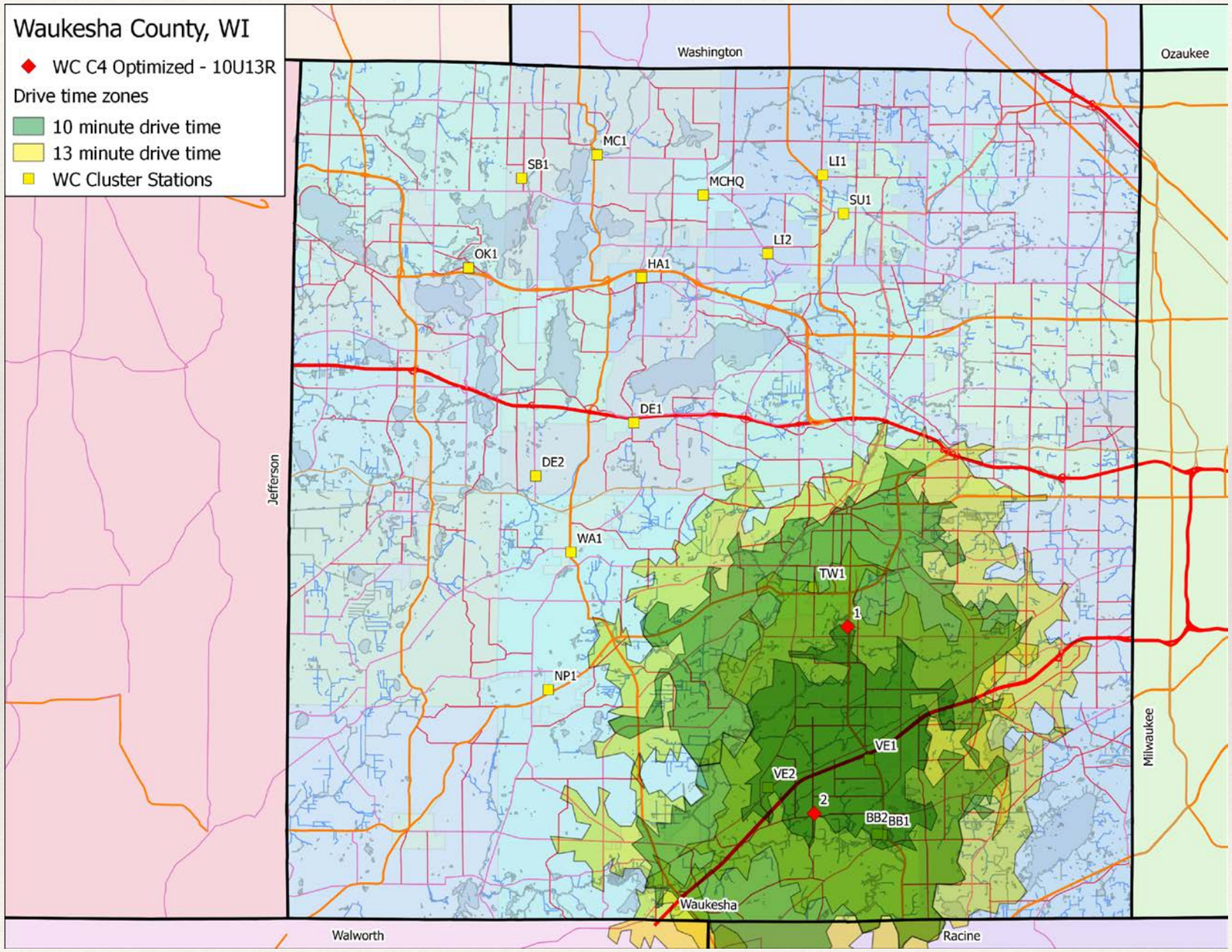
GIS – Optimized Marginal Utility Model
10 Minutes Urban - 13 Minutes Rural



2 Fire Stations are required to deliver service to greater than 90% of the incidents in urban/suburban areas within 10 minutes and 13 minutes in the rural areas

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Area 4 Analysis

- Average Time Per Call = 72.9 Minutes
- Average Calls Per Day = 2.9

Collaboration Opportunities

- One of the observations of this area is the sensitivity to prior collaborative efforts that may limit consideration
- This study was restricted to the participating agencies suggested by the steering committee and is not intended to limit collaboration with non-participating agencies
- Opportunity may exist to maintain current service level and consolidate the number of stations
- May be able to eliminate duplicate vehicles

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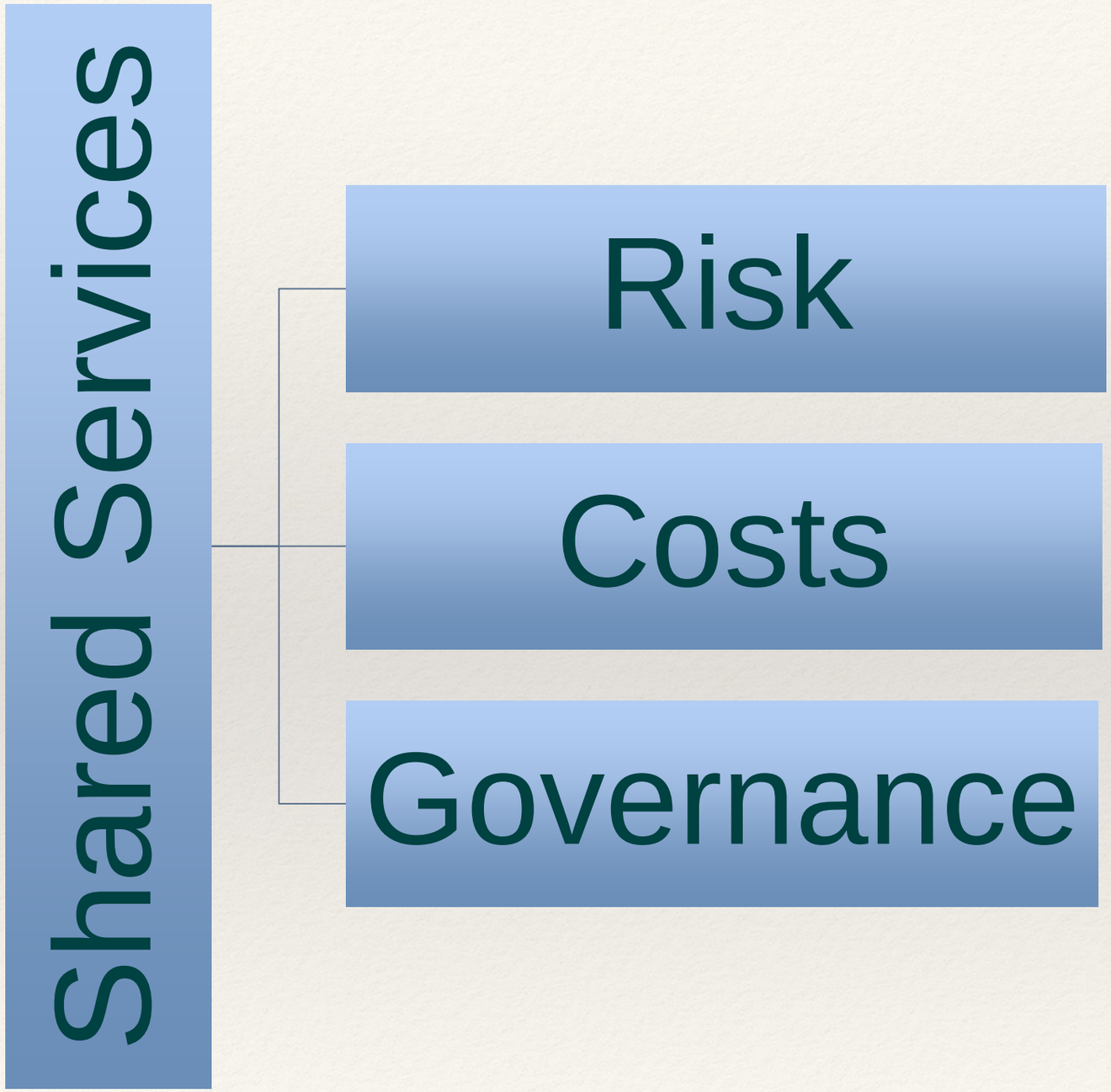
Observations/Recommendations

Based on information that was available at the time of the report and the participation provided by some of the stakeholders.

Current Culture Of Collaboration

- Many departments already collaborating on training, operations and looking at other opportunities
- Much of the current collaboration is informal
- Numerous examples of consolidated fire departments in county
  - Local examples that can be replicated

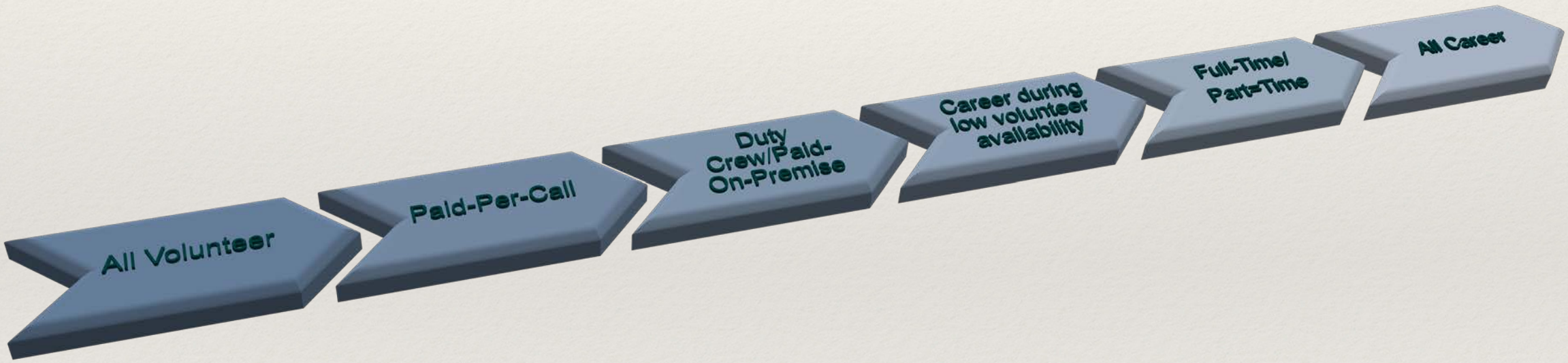
Pillars to Successfully Share Services



Policy Considerations

- Governance
  - Joint Powers Agreements/Intergovernmental Agreement
    - Share representation and governance
    - Contract for services
- Desired Level of Service
- Financial Model

Fire Service Staffing Model Continuum



Concepts of Equality and Fairness

Revenue Contribution

Service Expenditures

Cost

- Cost Sharing/Formula between departments
- Could see increased efficiencies with shared service
- Create pay equity between departments
- Different pay for paid on call, paid on premises
- Would minimize POC, POP from “job hopping” to departments with better pay
- Carefully consider implications of paid-on-premises policies with respect to FLSA

Concepts of Equality and Fairness

Readiness

Demand

Alternative Models for Consideration

Recommendation #1: Dispatch Process Best Practices

- Establish a unified dispatch center
  - County wide dispatching
  - Uniform performance measurement and reporting
  - Uniform records management
  - Best practice for regional, shared, and consolidated services
- Look for opportunities to reduce dispatch time
- May be a function of how the units are dispatched
  - Data was analyzed prior to pre-alerts
  - Currently moving toward automated alerting
  - Establish time performance metrics based on call priority (higher acuity calls = lower time metric)
- Evaluate the benefit of an operational evaluation of the dispatch center by a 3rd party

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Recommendation #2: Regionalize EMS

- Determine service level by area/cluster
- Staff EMS units with cross trained Firefighter Paramedics/EMT's
- Rely on volunteers to first respond on critical medicals and fire responses
  - Decrease burden on volunteers as EMS is the demand driver
  - Could reduce volunteers to EMR level of EMS certification
  - Prolongs the viability of the volunteer/paid-on-call model for Fire Suppression
- Start with Area/Cluster #2
  - Then replicate in other areas
- Standardizes fees for service
- Right size EMS fleet

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Recommendation #2A: Career Staffing

- Area 2 Case Study
- Staff 2 Ambulances 24/7
  - 12 Staff = $680,652-$1,280,244
- Staff 1 Ambulance during peak demand 8am-8pm
  - 4 Staff = $226,884-$426,748
- Total Cost = $907,536-$1,706,992
  - Cost based on 2017 Wisconsin Fire Chiefs Salary Survey and Lisbon Fire benefits
  - May be offset by current career staff and revenue
  - Vacation/Sick time could be covered by volunteers, administration or overtime
  - May experience a reduced paid-on-call expenditures for EMS incidents
  - This financial model only accounts for the direct costs of staffing and does not include soft costs

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Recommendation #3: Functional Consolidation

- Functionally consolidate fire departments
- Creates more efficient use of limited staff
- Reduces burden on volunteer staffing
- Creates more expertise by functional area
  - For example fire prevention services
- Allows agencies to keep current identities
- Shared policies, procedures, training, specialized operations

Recommendation #3A: Functional Consolidation of Training Efforts

- Training Division
  - Area 2 (3 departments) are already functioning together
    - Share training officer
    - Increase expertise
    - Increase consistency
    - Increase documentation/compliance

Recommendation #3B: Functional Consolidation of Fire Prevention Activities

- Prevention Division/Fire Marshal (Permits, Plan Review, Inspections, Investigations)
- Costs may be offset with fees for service
  - Permits/Inspections
- Efficient use of technical expertise

Recommendation #4: Long Term Evaluation of Consolidation

- Consider/evaluate benefits of full consolidation by area/cluster long term may provide the most efficient and effective use of resources while providing high quality service to the community
- Efficient use of scarce resources (career and volunteer)
- Reduction in capital costs
- Increases reliability of service by creating regionalized system with increased capacity
- Establish baseline resources in each area/cluster to meet unique risk
  - Engines
  - Ladders
  - Ambulances

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Summary of Recommendations

- Functional Consolidation
  - Regionalize EMS (Intergovernmental Cooperation Wis 66.0301)
    - Staff based on demand, level of service and marginal utility model
    - Improve/standardize service level
    - Improve capacity/reliability
    - Reduce capital
    - Start with area 2 as they have the greatest demand for service
    - Standardize billing/reimbursement (revenue, make collaboration easier)
  - Look at other functional consolidation once momentum is built with EMS
    - Training
    - Administration
    - Prevention
- Long Term – Evaluate full consolidation

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