Standards Of Coverage

2010

Introduction

The following serves as the Peoria Fire Department's "Integrated Risk Management Plan: Standards of Cover" document. The CFAI defines the process, known as "deployment analysis," as written procedure which determines the distribution and concentration of fixed and mobile resources of an organization. The purpose for completing such a document is to assist the agency in ensuring a safe and effective response force for fire suppression, emergency medical services, and specialty response situations in addition to homeland security issues.

Creating an Integrated Response Management Plan Standards of Cover requires that a number of areas be researched, studied, and evaluated. The following report will begin with and overview of both the community and the agency. Following this overview, the agency will discuss areas such as risk assessment, critical task analysis, agency service level objectives, and distribution and concentration measures. The agency will provide documentation of reliability studies and historical performance through charts and graphs. The report will conclude with policy recommendations.

Document Information

Acknowledgements

The Peoria Fire Department could not have ventured into this Accreditation process without the continued support of City leadership, Senior Staff, and various City and Fire Department staff. This process has truly been a team effort and has involved every level of the department including management, labor, field personnel and administrative staff. While we cannot possibly list every person who has contributed, we do appreciate everybody's efforts. We would like to take this opportunity to gratefully acknowledge the following for their commitment and dedication to this Accreditation and Standards of Cover project:

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- Tom Pendley, Battalion Chief
- James Riedmann, GIS Technician, IT Department
- Ron Singleton, Former Vice President of Local 493 Peoria Chapter
- Joe Manning, Vice President of Local 493 Peoria Chapter

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Executive Summary

Introduction

The Peoria Fire Department is a municipal fire department that serves a city population of approximately 159,000 and encompasses 178 square miles. The physical terrain consists of dense urban and residential areas combined with large geographic undeveloped areas in the northern reaches of the city. The department faces unique geographical challenges including providing emergency and fire suppression services to not only the far northern reaches of the city but also to Lake Pleasant Regional Park. The challenges each fire community faces vary from agency to agency and state to state. There is no defined process or approach to deployment. The Commission on Fire Accreditation International (CFAI) understands the diverse challenges facing each community. CFAI defines a comprehensive approach that is designed to not only identify a balance between local risks or expectations and the cost of providing essential services, but also provides a systematic means for developing data driven performance measurements . CFAI understands that a "one size fits all" solution does not work in all communities and the best assessment is a local self assessment.

Developing this Standards of Cover (SOC) report involved an extensive process of analysis, expert assessment, and evaluation. This report provides the department with a means to define appropriate response levels and to ensure that the distribution and concentration of resources meets the needs of the City of Peoria. The SOC ensures reliability in the areas of fire suppression, emergency medical services, technical rescue, hazardous material, wild land interface, and lake operations as well as ensuring that fire prevention and educational needs are addressed. This Standards of Cover document will establish a baseline of service levels for the City of Peoria which will allow the department to conduct regular appraisals of overall performance.

The 2000 United States Census listed the City of Peoria as an urban community. The Fire and Emergency Services Self-Assessment Manual (FESSAM) defines urban as "an incorporated or unincorporated area with a population of over 30,000 people and/or a population density over 2,000 people per square mile" (CPSE, 2006, p. 72). Likewise, the suburban definition reads, "an incorporated or unincorporated area with a population of 10,000 to 29,999 and/or any area with a population density of 1,000 to 2,000 people per square mile" (CPSE, 2006, p. 72). Due to the fact that the populations per square mile in the City of Peoria more accurately reflect a suburban

community, this SOC document was developed using the following suburban benchmarks and baseline best practices (CPSE, 2006).

Suburban	1st Unit	2nd Unit	Effective Response Force	Performance
Benchmark	5 minutes	8 minutes	10 minutes	90%
Baseline - 70%	6:30 minutes	10:24 minutes	13 minutes	90%

The city is currently undergoing their 2010 census and the new census data should be available in 2011 at which time, Peoria can reassess the various population densities of the City of Peoria.

The purpose of this Standards of Cover report is to:

- Assess and evaluate fire and non-fire risks within the city and surrounding areas
- Review historical performance and define benchmark performance levels
- Research and identify service delivery needs and the appropriate levels of service
- Define emergency response standards
- Identify and plan for future station and equipment needs

The department evaluated their existing standards during the Self-Assessment process by describing where Peoria Fire is today, providing an appraisal of their current services and identifying a plan of action for the future. Next a comprehensive risk analysis was conducted, a critical task analysis conducted, levels of service defined and performance measurements developed. A strategic plan was developed to identify the short term goals of the department (3-5 years). All this information was evaluated to identify the best standards of cover that specifically meets the needs of the City of Peoria and the involved stakeholders. The methodology used in developing the Standards of Cover document is depicted below:

Risk Analysis

A comprehensive community based risk analysis is essential to identifying varying levels of hazards within the city and defining the appropriate level of resources needed to meet those risks. The Peoria Fire Department members must save lives and minimize property loss; this can best be achieved by ensuring resources such as trained personnel, apparatus, and equipment are appropriately distributed throughout the city. The department's goal is to maintain a cost effective concentration of resources to effectively manage these various types of risks.

In order to identify the various risks in the city, the department tasked various field personnel with the responsibility of evaluating approximately 2500 commercial and multi-family occupancies within the city according to low, moderate, high, severe and special risks. Assigned staff was trained on what influenced these five risk levels. The risk assessment team was responsible for evaluating the structures or buildings at each location (physical assets), the history of events or the probability of an event within each specified first due area, the workload or nature of the response (demand) was also considered, historical significance, and economic impact to the city were also factored into the risk analysis. Once the assessment was completed, the data was entered into an access database and a hazard layer created in the FireView GIS program so that varying response and concentration analyses could be conducted to ensure that the Peoria Fire Department had an effective response force in place to minimize the associated risks. Using these hazard layers, FireView GIS was able to identify potential "hot spots" within the city where risks were higher. This is discussed in more detail in Section 4 of the Standards of Cover report.

Performance Measurement

The risk assessment team, as a part of the Accreditation process, has identified 83 demand zones within the city, 62 of which are one square mile and 21 of which are nine square miles each. The team has also reviewed existing standards to ensure effectiveness and conducted data driven analyses. These analyses include but are not limited to response time analyses, distribution, concentration, and historical analyses. In order to conduct the response time analyses, the IT Department created a street layer in the Arc GIS program to work in conjunction with FireView GIS. This street layer takes into consideration posted speed limits throughout the city, one way streets, and calming devices (speed bumps). It recognizes the posted speed limits or the fire department adjusted speed limits (tune times) according the user's needs. The streets layer was

last updated in July 2009 with newly developed streets and the tune times were revised according to the latest speed limit ordinance approved by City Council.

The team has identified critical tasking and evaluated the response reliability of essential resources and the reliability of core services in the areas of fire suppression, emergency medical services, technical rescue, hazardous material response, and lake operations. The following Standards of Cover document serves as the Peoria Fire Department's plan for ensuring the concentration and distribution of resources meets the needs of the City of Peoria and provides performance standards in all areas of departmental operations. This Standards of Cover will ensure the department maintains its mission of "protecting and caring for our neighbors, our guests, and each other while maintaining the community's trust and respect through superior life safety services".

As a result of this accreditation process, the department was able to develop a comprehensive strategic plan that is relevant, current and meets the future needs of the organization and the public being served. The following goals and objectives have been developed and will be implemented with the formal adoption of the Standards of Cover document.

1. Provide the Citizens of Peoria with effective and efficient fire, emergency medical, hazardous materials, mitigation and technical rescue service delivery, to ensure long-term sustainment of all services.
    - **Objective 1.1:** The Peoria Fire Department will aggressively resume efforts to become accredited through the Commission of Fire Accreditation International.
    - **Objective 1.2:** Evaluate response times to fire, medical, hazardous materials and technical rescue incidents on a quarterly basis to ensure emergency deployment objectives are being met and make the appropriate modifications if necessary.
    - **Objective 1.3:** The Department will continue to develop programs and services that support the overall mission and will continue to monitor all programs to ensure they remain consistent with the department mission.

2. Provide a safeguard for the community through proactive prevention, preparedness and mitigation efforts, along with enhancing public value through educational programs and customer service activities.

- **Objective 2.1:** Enhance prevention programs, evaluate annually and develop programs according to relevant public needs.
- **Objective 2.2:** Enhance Emergency Management preparedness.

3. Strengthen current fire department membership relationships through the labor management process and to create opportunities to develop new ones with all stakeholders.
    - **Objective 3.1:** Enhance Labor/Management process.
    - **Objective 3.2:** Create opportunities to improve member services within the Fire Department by working on areas related to firefighter health and safety wellness.

4. Develop plans to standardize an all hazards emergency response to include all undeveloped areas of Northern Peoria and Lake Pleasant.
    - **Objective 4.1:** Improved readiness for fire, medical, technical rescues and to provide a consistent emergency response to northern Peoria.
    - **Objective 4.2:** Standards of emergency response for Lake Pleasant.

5. Promote the long term fiscal health of the fire department by introducing innovative measures, with the use of new technology available for mandatory fire and emergency medical services training. In addition, the department will introduce new computer software systems for records management, fleet maintenance and inventory control to ensure both operationally readiness and efficiency.
    - **Objective 5.1:** Provide leadership to ensure long term sustainability for the fire department.
    - **Objective 5.2:** Implement new technology to enhance services and promote efficiency.
    - **Objective 5.3:** Research and promote opportunities to achieve economies of scale and gain efficiencies within the department.

In addition to the aforementioned service level priorities and goals, the department has also implemented the following response time standards:

Peoria Fire Department Performance Measurement	
PSAP (911 system)alarm processing time	<30 seconds, 95% of the alarms
PSAP (911 system) alarms answered never to exceed	<60 seconds
Call processing - Dispatch of emergency response	<60 seconds
Turnout time	<60 seconds, 90% of the calls
Code 3 response (travel time)	<5 minutes, 90% of the calls
Fire	
1st unit response fire suppression (travel time)	<5 minutes, 90% of the calls
Initial full alarm assignment (travel time)	<8 minutes, 90% of the calls
3:1 (full alarm) Effective Response Force (3 engines, 1 ladder, 2 incident commanders)	<10 minutes, 90% of the calls
Full 1st alarm Effective Response Force (5 engines, 2 ladders, 4 incident commanders)	<12 minutes, 90% of the calls
EMS	
1st unit response BLS (travel time)	<5minutes, 90% of the calls
ALS unit (travel time)	<5minutes, 90% of the calls
Special Operations	
HazMat Team response (travel time)	<13minutes, 90% of the calls
Technical Rescue Team response (TRT) travel time	<13minutes, 90% of the calls

In conclusion, the department, as a part of this accreditation process, has developed plans and analyses that are more accountable to not only the department and its serving members but also to the City of Peoria and the public. The department now has established deployment objectives and measurable performance standards that are current and relevant. Programs have been assessed and a vision for the future developed. The department will maintain its status with the Commission on Fire Accreditation International and the Annual Compliance Report (ACR) will serve as a means to ensure accountability to all involved stakeholders.

PEORIA FIRE DEPARTMENT
STANDARDS OF COVER

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Section One: Introduction

Community Overview

The City of Peoria, Arizona is located in the northwest region of the Greater Phoenix Metropolitan Area. The community has evolved from a primarily agricultural base into widespread residential, commercial, and light industrial uses. From its humble agricultural beginnings and an originally incorporated area of just one square mile in 1954, Peoria now extends from Maricopa County into Yavapai County encompassing the regionally renowned Lake Pleasant to the north, and comprises a total of 178 square miles.

Panoramic vistas of the Sonoran Desert, warm climate, and a sustainable economy make Peoria a coveted location for businesses and master-planned communities. Peoria is also home to the Challenger Space Center, the San Diego Padres and the Seattle Mariners major league baseball teams during spring training, and Lake Pleasant Regional Park. Peoria has recently reached a population of over 159,000 residents. Peoria is projected to reach its build out in the year 2050 with a projected population of 400,000 residents.

History

The first settlers in what is now known as the City of Peoria were farmers from the Midwest who migrated to the area during the 1890's. Several families migrated from Peoria, Illinois, and named the new community for their hometown in 1897.

The Peoria Volunteer Fire Protection District formed in 1920 after a large fire in the Peoria Business district burned down one of the most prominent Peoria businesses – Wilhelm Garage and Blacksmith shop - and virtually wiped out the center of town. In an effort to prevent future fires, a group of local business leaders began efforts to organize the fire protection district. At that time, the fire district was made up of the area within Stone Street to the north and Monroe Street to the south, between 82nd and 85th Avenues.

The district initially used borrowed equipment, but in February 1922 the district purchased its first fire pumper, a 1922 Ford Model T. In 1930, the District traded in the Ford for a 1929 Chevrolet chemical fire engine. This historic vehicle is still owned by the Peoria Fire Department

and was recently refurbished with a combination of grant funding and donated mechanical services by Wilhelm Automotive, the same Wilhelm that burned down and was rebuilt many years ago.

In 1954, the City of Peoria was incorporated. At that time the City boundaries covered one square mile. The Fire District was abandoned, and the Peoria Volunteer Fire Department was established. These volunteers served the community until 1979, when the City hired its first full-time firefighters (Gilbert, 2004). The City of Peoria now employs 167 line and staff personnel.

Organizational Structure and Service Delivery

Currently, the Peoria Fire Department is a paid municipal department, comprised of 144 sworn personnel and 23 civilian personnel, serving 178 square miles and an estimated city population of over 159,000. It operates seven full time stations and one part-time station and provides firefighting response, basic and advanced life support emergency medical, technical rescue services, wildland firefighting and hazardous materials services.

Michael Fusco was hired in 1979 as Peoria's first full-time firefighter and became Peoria's first Fire Chief in 1981. Chief Fusco served the department for twenty years until his retirement in 2001, when Chief McKibben joined the City of Peoria. Fire Chief Robert McKibben led the Peoria Fire Department from 2001 until his retirement in June 2008. Upon Chief McKibben's retirement, a nationwide recruitment was initiated and Chief Thomas Solberg was hired in January 2009. Chief Solberg brings to the department extensive experience in leadership and

management. He holds a Master of Science in Management as well as a Bachelor of Business Administration both from Baker University. Chief Solberg served Lee's Summitt Fire Department in Missouri from 1978 through 2008. He joined the Lee's Summitt Fire Department as a paramedic and worked his way to the rank of Fire Chief in 2000.

Since joining the Peoria Fire Department, Chief Solberg has made it a priority to fill all vacancies and has implemented some changes to the organizational structure. The current executive team includes three Deputy Chiefs over Operations (one per shift), a Deputy Chief of Administration over Support Services and Emergency Management, an Administrative Services Manager, a Fire Marshal over the Prevention Division, and a Training Chief and an EMS Chief over the Training Division respectively. All of the management positions report directly to the Chief to ensure effective and consistent communications throughout the department. Over the past decade, the Peoria Fire Department has transformed into a leader among fire departments with first-rate equipment, apparatus, and fire stations, combined with cutting-edge technology and training. Under the leadership of Chief Solberg, the department will continue its mission of "protecting and caring for our neighbors, our guests, and each other while maintaining the community's trust and respect through superior life safety services."

The following describes the breadth of programs and services provided by each of the four divisions of the Peoria Fire Department:

The Fire Administration Division includes two sections: Support Services and Emergency Management. Support Services manages capital construction projects, facility, equipment, and fleet maintenance and repair. The Emergency Management section manages emergency preparedness, mitigation and emergency response coordination efforts for the entire city as well from a regional approach.

The Administrative Services Manager, who reports directly to the Chief, provides leadership, long-range planning, budget development, financial management, payroll, contracts administration, interdepartmental and technology coordination (including computer aided dispatch), grants administration and special project management.

The Prevention Division provides inspection services, plan review, issuance of permits, fire code enforcement, fire cause investigations, internal safety investigations, citizen safety awareness programs, public fire education, and fire department community relations events.

The Training Division includes the Training and Emergency Medical Services (EMS) sections. The Training Chief manages operational safety issues, promotional opportunities, credentialing of sworn staff, supervisory and managerial development of field personnel, and continuing education in fire suppression and rescue. The EMS Chief manages medical equipment acquisition and maintenance, medical supply and pharmaceutical acquisition, paramedic and Emergency Medical Technician (EMT) training and state certifications, HIPPA compliance and records management, as well as hospital and ambulance transportation coordination.

The Operations Division has two operational chiefs (one Deputy Chief and one Battalion Chief per shift). When the size and complexity of the department reached a point where seven stations and nine companies were too much for one battalion to effectively manage, the Peoria Fire Department added a second Battalion to meet the increased needs for service in the northern part of the city. In July 2009, Chief Solberg took the department's vacant Deputy Chief of Support Services position and promoted three Battalion Chiefs to Deputy Chiefs over Operations (one/shift) to provide a more effective span of control, increased leadership, and succession planning within the department. The Deputy Chiefs manage all daily personnel, tactical and operational issues relative to the sworn staff in the field.

The Operations Division provides fire protection, emergency medical service delivery, hazardous material response, and technical rescue emergency response to the citizens of Peoria. The Operations Division currently staffs seven frontline pumper trucks with paramedic capabilities and two ladder trucks with fire support and technical rescue capabilities (i.e. swift water, trench, confined space and high angle rescue). The Operations Division is also responsible for public information services.

Today's department utilizes a three shift platoon schedule, staffing one shift per 24-hour period. All companies at the seven fire stations are staffed with a minimum of four personnel and are supervised by two incident commanders (one Deputy Chief and one Battalion Chief) per shift. There is also an additional part-time fire station at Lake Pleasant Regional Park that is staffed during peak periods.

The City of Peoria has Peoria's emergency response fleet includes nine engine pumpers (including two reserves), two ladder trucks, two ladder tenders, three Battalion vehicles (including one reserve), two brush trucks, one CBRNE medium duty response vehicle equipped for hazardous material responses, two medical support trucks, one medical support trailer, one 3,000 gallon water tanker for urban interface, seven emergency response (code three) passenger vehicles, a Terrorism Liaison Officers' response vehicle (TLO), six bike team bicycles, and one special events all-terrain response vehicle. Two additional class A fire engines are on order and due in March 2010. These engines will be put in service as frontline apparatus and one older reserve apparatus will be salvaged. These new additions will provide the department with three reserve pumpers instead of two.

The Fire Department also deploys many other specialty and non-specialty vehicles, including two fleet services trucks, two flatbed trailers, one smokehouse demonstration trailer, one CERT Operations trailer, 15 staff vehicles, and a 1929 Chevy Historic Fire Pumper. Fireboats are owned and docked at both Pleasant Harbor Marina and Scorpion Bay Marina. Each respective marina provides staffing to operate the boat and each boat has a water pump which makes them capable of operating as a fire suppression watercraft. The fireboats are also available to Peoria firefighters to respond to emergency medical incidents on the lake, but the EMS equipment and EMS staff is provided by the Peoria Fire Department. Additionally, the Peoria Fire Department sought grant funding in 2008 and 2009 to purchase its own fire and EMS response watercraft. The FY10 budget includes funding for a grant match should the department be awarded the Fire Boat grant.

As a minimum job requirement, all Peoria firefighters must maintain certification by the Arizona Department of Health Services as Basic Emergency Medical Technicians (EMT). The department also provides advanced life support with seven paramedic engine companies and a part time brush truck staffed by two paramedics. With the exception of the brush truck response, each engine company has a complement of two basic life support personnel and two state certified paramedics. Paramedics are properly equipped to provide advance life support treatment to include intravenous access, drug intervention, 12 lead electrocardiography, and advanced airway control techniques.

The Peoria Fire Department also deploys two Technical Rescue Teams (TRT). These teams respond to incidents requiring rope rescue, swift water rescue, confined space rescue, trench rescue, structural collapse, and helicopter rescue. One team staffs a fire engine, the other staffs the ladder or ladder tender. These units are equipped with specialty rescue equipment ranging from swift water rescue tools (for rescuing people from flash-flooded washes), to extrication tools such as power rams, power spreaders, and power cutters (for rescuing people from burning or collapsed buildings, or cars mangled in motor vehicle accidents).

All our frontline units are equipped with the latest technology in thermal imaging cameras (TIC), which allow firefighters to see through smoke, dust and darkness in an effort to rescue victims more quickly in fire suppression, EMS and technical rescue operations, thus saving lives.

The Peoria Fire Department has 69 paramedics on staff; 24 of these paramedics are also trained to staff paramedic bike teams. These teams provide highly mobile advanced life support services and are deployed for parades, sporting events, and other special events where normal access of fire apparatus is difficult. The bike team is used in collaboration with the all-terrain response vehicle which is capable of navigating crowds, carrying firefighters and equipment, as well as transporting one patient on a backboard.

Peoria Fire's Toxicology Program consists of 33 paramedics cross-trained as "tox medics" to be deployed for biological, chemical, radiological or mass casualty emergencies, incidents, or terrorist attacks. Peoria currently has two separate 100 patient modules and a decontamination module ready to deploy. Peoria Fire has the capability of handling a considerable number of patients during a large-scale incident.

The Peoria Fire Department currently has 25 Wildland Certified members. They are capable of being deployed through the Central Arizona Wildland Response Team (CAWRT) and are also a deployable resource to the State Land Department. Since 2005, all new recruits to the Peoria Fire Department are trained and certified in wildland firefighting while going through the Academy. The required Basic Wildland Firefighting (S130-190) training is a mandatory 3 credit hour course that is offered through Glendale Community College. However, once trained, the choice to maintain that red card certification is entirely at the discretion of each individual member. Additionally, all certified members must complete a mandatory eight hour refresher annually to maintain their red card certification and remain a deployable resource within the department. If

red card members wish to be deployed at a higher level such as strike team leader or engine boss, then advanced classes and certifications are needed to meet minimum standards. The department supports this training in the Training Division's budget.

The C.E.R.T. Program (Community Emergency Response Training) is a national program to assist citizens in preparing to survive 72 hours without electricity, 911, or other customary services. This course is available to Peoria citizens and offers 3 levels of involvement. The Peoria Fire Department seeks annual grant funding through the State Homeland Security Grant Program (SHSGP) to support this valuable public program. To date, the Peoria Fire Department has trained approximately 300 adults and 100 teens in the C.E.R.T. program at varying levels of volunteer activity. In FY10, the department implemented a pilot program to include training city employees in CERT as well.

The Terrorism Liaison Unit consists of four Peoria Terrorism Liaison Officers (TLO) who periodically function as a Field Intelligence Unit in support of Police Tactical, Hazardous Material, Explosive, Special Operations and uncommon events. Additionally, the TLO positions function as the primary contact for the Peoria Fire Department's membership to report suspicious incidents, occurrences, thefts, etc. The officers serve as a state-wide deployable asset and are therefore, rotated through an on-call schedule which provides TLO availability 24 hours per day, 7 days per week. Sustainment grant funding is also sought on an annual basis through the Urban Area Strategic Initiative (UASI) to supplement the department's annual budget for this program.

The department does not operate its own ambulance transportation services, but rather it contracts with a private ambulance provider to provide patient transportation services. Ambulances are currently deployed from two locations within the City and an additional three locations from adjacent communities.

Peoria Fire Department Motto:

Serving with…. Strength, Honor, and Compassion

This motto is proudly displayed on all our fire apparatus and demonstrated on a daily basis by the members of the department.

Peoria Fire Department Mission Statement:

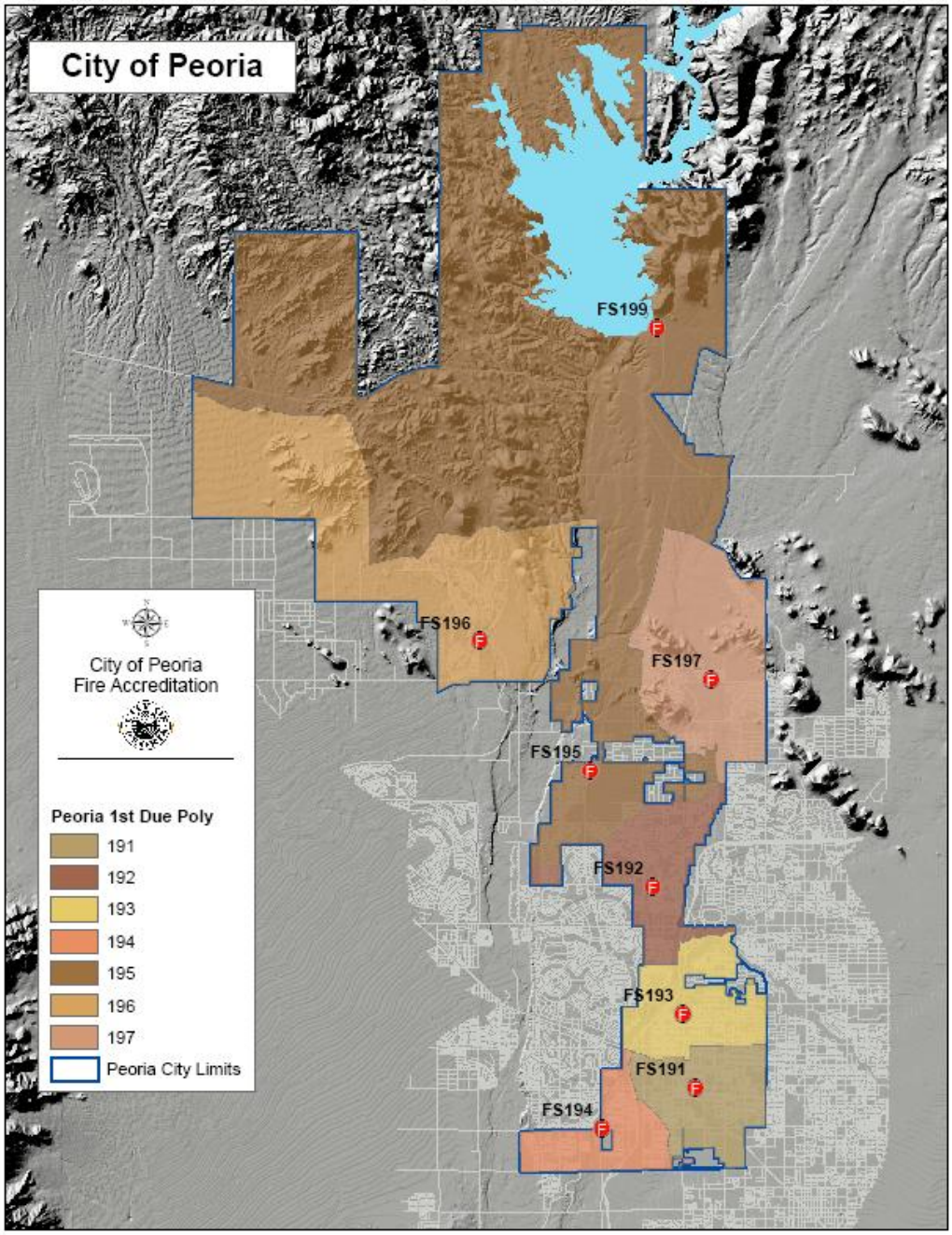
We are committed to protecting and caring for our neighbors, our guests, and each other while maintaining the community's trust and respect through superior life-safety services.

Current Overview of the City of Peoria

The City of Peoria is shaped somewhat like a "?" with the north to south axis being approximately 28 miles (the longest dimension). The City has a base footprint that is approximately six miles across. The east-west axis across the northern boundary is approximately six miles along the north-south axis. If the city were totally autonomous with respect to fire service, this could create a challenging dilemma for coverage. However, the City is part of a highly developed automatic aid system. The older downtown area located near the "footprint" is no longer the geographic center of the city but does contain a majority of the public facilities dealing with governance, i.e. City Hall, Council Chambers, Public Safety Administration Building, Community and Development Services Building, Municipal Operations Center, etc.

The City of Peoria expects a very large concentration of future residential land uses with significant space devoted to recreational and open space. The General Plan calls for the use of regional and neighborhood service infrastructure. There is acreage set aside for a warehouse and distribution center and industrial development around the newly planned 303 (freeway) corridor. There is an urban wildland interface issue in the northern portion of the city near Lake Pleasant.

The unpredictability of recent economic trends requires that the Peoria Fire Department keep on top of planning efforts. Not only will future growth impact demands upon Peoria's fire protection delivery system but so will the economy. The most obvious impact is the demand for emergency services. However, that is not the only consideration. New construction places demands upon the department for fire prevention and public education activities; likewise, additional operational personnel place additional demands on administrative support staff. In the current declining economy, the limitations on continued general fund support will create even greater challenges for fire department operations. Future plans to address critical needs, economic issues, and fiscal challenges are addressed in the Five Year Strategic Plan, prepared as part of the 2009-2010 Accreditation Process.



(The Omega Group, 2007)

Section Two: Existing Standards of Response Coverage Statements

The Peoria Fire Department developed several Standards of Coverage Statements during the 2001- 2002 master planning process. These statements, along with general departmental goals and objectives, are documented in the *July 2002 Fire Department Master Plan for the City of Peoria*. The Master Plan was developed by the Fire Department, in conjunction with Citygate Associates, Fire & Emergency Services, LLC, an independent firm (Citygate Associates LLC, 2002). The document was then approved by the City Manager and the City Council.

The goals and objectives developed in the master planning process focused on overall Fire Department service delivery specific to the community in which it operates. Further, performance standards were set as a measurement tool to evaluate the proficiency, deficiency, and/or progress of areas specifically designated as goals of the Peoria Fire Department.

Through the 2009-2010 accreditation process, the Peoria Fire Department was challenged to more comprehensively examine the true "standards of cover" that the department operates by, those which guide the department's service delivery, and expand upon the limited standards of cover statements identified in the 2002 Master Plan. The standards of cover further developed through the accreditation process were more in depth and specific as they relate to emergency incident response times, critical tasking and levels of response coverage. As such, the newly documented standards of response coverage, as well as the general departmental goals and objectives, are identified in this section.

Standards of Response Coverage Statements

The following consists of the Peoria Fire Departments Standards of Response Coverage Statements, formalized through the 2009 -2010 accreditation process. The Peoria Fire Department used the Fire and Emergency Services Self Assessment Manual (FESSAM) best practices for a suburban community. The identified benchmark objectives are:

1. The response time objective for a first arriving fire suppression unit shall be within a five-minute travel time (en-route to on-scene time) for 90% of all alarms. The first-in engine company will place one line in service at 150 gallons per minute (gpm) and initiate mitigation efforts within one minute of arrival.

In 2009, the Peoria Fire responded to 741 fire related incidents in the City of Peoria. The department met this standard of response 70.99% of the time. The average response time for the first unit on scene was 4:21. In 2008, there were 681 fire calls. The department had a first unit on scene in five minutes 70.34% with an average response time of 4:32 (The Omega Group, 2007).

2. Peoria Fire Department shall staff each fire station with a minimum of two state certified paramedics.

   The department currently meets this standard of response. All seven full-time fire stations are staffed with at least two state certified paramedics 7 days a week, 24 hours a day. The part-time staffing at Lake Pleasant Regional Park also consists of a two paramedics in the off season with four-person crews added in the peak season.

3. The response time objective for a first arriving emergency medical (EMS) unit, be it advanced or basic life support, shall be within a five minute travel time (en-route to on-scene time) for 90% of all alarms.

   In 2009, the department met this response time 77.26% of the time on qualifying ALS calls (6,738) with average response time of 4:05. The BLS calls met this response time objective 76.27% (3,397 calls) with an average response time of 4:09. In 2008, Peoria Fire met this objective for ALS calls 74.80% of the time with a response time average of 4:10 while the 2008 BLS calls had an average of 4:18 and objectives were met 71.51% of the time (The Omega Group, 2007).

4. The Peoria Fire Department will provide a means of transporting patients to medical facilities. The ambulance shall meet all Arizona Department of Health Services requirements:
   a. For 90 percent of code three emergency medical incidents, an ambulance staffed with two EMTs shall arrive on the scene within ten minutes from the time of request.
   b. For 100 percent of code two incidents, an ambulance staffed with two EMTs shall arrive on scene within 20 minutes from the time of request.

Ambulance transportation services are provided by a private third party and not the Peoria Fire Department. While there are contract provisions which require a certain level of performance from the ambulance provider, current reporting is sporadic and not completely reliable. Performance monitoring has proven to be difficult. The current ambulance contract expires in 2010.

On January 15, 2010, the City of Peoria advertised RFP P10-0041 for Emergency Transportation Services and took some additional steps with this solicitation to ensure appropriate performance standards would be met. This contract solicitation calls for radios and Mobile Computer Terminals (MCT) to be installed in each primary ambulance servicing the city. MCT's provide a means to upload response times and incident specific data from the scene. Additionally, specific response time performance measurements have been included in this solicitation. For instance, code 3 (1st priority, life threatening) incidents must have a response time (call received time to on scene time) of 8 minutes and 59 seconds or less on 90% of all calls. Code 2 (2nd priority, non-life threatening) incidents must have a response time of 11 minutes and 59 seconds or less on 90% of the calls. The selected vendor will be required to not only submit a monthly report on response times but they will have to document a reason and remedy for late responses. Additionally, non-performance penalties have been identified for overall response
time compliance below 90% and for Code 2 and Code 3 incidents exceeding specific response times (City of Peoria Materials Management Department, 2010).

5. The fire department shall provide a means of containing all structure fires with on-duty personnel.

   The department currently meets this standard through its automatic aid contract. By virtue of this contract the on-duty firefighting force effectively consists of over 80 companies and over 300 personnel. Since implementing this contract all fires have been contained with on-duty personnel.

6. The fire department shall contain 90% of all structure fires to their area of origin.

This statistic is unavailable. The current records management system (Phoenix RMS) includes a field for this entry, but does not require that crews fill it out. When the information is entered, the information is inconsistent and often unavailable. The department is in the process of purchasing and implementing a new software program that will include this data in more detail and provide for a more functional analysis.

7. The dispatch time from call receipt at Phoenix Regional Dispatch Center to unit notification shall be 60 seconds or less, 90 percent of the time for all emergency calls.

   In 2009, the average call processing time for qualifying emergency incidents (7,928 calls) was 1:20. The call processing time was within 60 seconds 53.24% of the time. In 2008, 8,424 calls were responded to in 60 seconds 53.99% of the time with an average call processing time of 1:10 seconds (The Omega Group, 2007).

   The Phoenix Fire Department had developed a plan to hire an additional 10 dispatchers by Fiscal Year 2011 in order to reduce call processing time, however, in light of the current difficult economic conditions in the valley, additional funding to add staff may not be available for several years. The regional consortium will continue to monitor performance in this area and make improvements as needed.

8. The time objective for turnout time shall be 60 seconds or less 90% of the time.

   In 2009 the average turnout time was 52 seconds. The turnout time was within the 60 second objective 69.61% of the time. The department will integrate training in this area to help reduce turnout time. On a national level, the reasonableness of fully turning out within 60 seconds, particularly during night time hours, is in question. The Peoria Fire Department will monitor the national trends in this area and will continue to evaluate whether the 60 second standard is reasonable (The Omega Group, 2010).

9. The response time objective for an initial effective response force (low/moderate risk) – *fire*- shall be less than twelve minutes (ten minute travel time). This will provide a minimum of three engines, one ladder company, and two incident commanders. This level of response is also known within the region as a "3 and 1" response. The response force, when responding to a fire incident, will provide a minimum 1000 gpm

uninterrupted and include an Incident Commander (which would normally be the first ranking officer on scene until the higher ranking officers take command), one firefighter to secure a water supply, one firefighter to operate the fire pump, two firefighters to operate one primary attack 1 ¾" hose line, two firefighters to operate one back-up 1 ¾" attack hose line, one search and rescue team (two firefighters), one vertical ventilation team (three firefighters), exterior utilities/mechanical ventilation (one firefighter), one Rapid Intervention Crew (four firefighters), one Incident Command Team (One Deputy Chief / One Battalion Chief), and one dedicated Incident Safety Team (One Deputy Chief / One Battalion Chief). OSHA two in/two out standards are met by an Initial Rapid Intervention Team (IRIC) consisting of the first arriving Plugman and Engineer.

Upon declaration of a "Working Fire" by the Incident Commander, one additional engine, one utility truck (air / lights), one fire investigator, and one rehab truck are automatically sent for property conservation, overhaul, relief and rehabilitation.

In 2009, the 10 minute travel time goal for a 3-2-1 effective response force was met for 95% of fire incidents requiring this type of response. The majority (82%) of these responses took place in the southern and middle portions of the city (more developed areas of the city) which is why the department was able to achieve the effective response time goal for 95% of incidents. The two calls that did not achieve an effective response force in 10 minutes were in FS193's first due area and can likely be attributed to the fact that not only is this in the more populous area but FS193 frequently has to back up FS191 and FS192's first due areas also. The overall average response time for these types of incidents in the City of Peoria for 2009 was 7:28 seconds (The Omega Group, 2007).

10. The response time objective for an initial effective response force (low/moderate risk) – *medical*- shall also be less than twelve minutes (ten minute travel time). This will provide a minimum of three advanced life support engines, one basic life support ladder company with extrication capabilities, and two incident commanders. This would be considered a full-assignment response to a medical incident.

    Currently, the department's statistical software has been programmed to call out 3 and 1 fire responses and subsequently analyze these responses to determine if the effective response force of three engines, one ladder, and two Battalion Chiefs has arrived on scene

within the prescribed ten minute travel time goal. This software is not set up to do the same analysis with categories of medical calls which require the same "3 and 1" response. This is due to the vastly varying nature of medical incidents and medical responses. The department is currently working with the FireView software vendors and the department's EMS Chief to attempt to categorize EMS incidents requiring this type of response so that the department can measure whether or not the effective response has been achieved within the goal response time. The same holds true to for the First Alarm Medical, which, like the First Alarm Fire response has a goal of providing five (paramedic) engine companies, two ladder companies, and four battalion chief incident commanders on scene within a twelve minute travel time.

The department is able to run response time percentiles based on specific incident responses or apparatus responses within Peoria using FireView software and an identified seven minute response threshold (one minute call processing, one minute turnout, and a five minute travel time). The 2009 percentages for ALS calls yields 77.26% and 76.27% of BLS calls fall within this threshold.

11. The response time objective for a first alarm assignment (high/maximum risk) – *fire*- shall be less than fourteen minutes (twelve minute travel time). This will provide a minimum of five engines (one must be ALS), two basic life support ladder companies, one utility truck (air/lights), one ambulance, one command van, one rehab truck, and four incident commanders. A typical First Alarm resource deployment can include additional water supply lines/pumped water supplies, pumped standpipes and sprinkler systems, attack lines above/below the fire floor, supplementary/larger attack lines (2 ½"), additional ventilation teams, property conservation teams, additional search, rescue, and treatment teams, resource and support sectors, lobby control, high flow monitor/ladder pipe operation, additional sector/safety officers, and an augmented Command Team.

    Upon declaration of a "Working First Alarm Fire" by the Incident Commander, two additional engines companies, one ladder, and five command officers are automatically sent to supplement and sectorize Rapid Intervention Crews (RIC).

In 2009, the Peoria Fire Department had 71 initial dispatches for a working fire. Of those 71 dispatches city wide, not all turned out to be actual working fires once the first unit arrived on scene. The overall percentage of gaining an effective response force with those dispatches was 58.21% but only 38 of the initial 71 dispatches were true working fires thus skewing these percentages. The department monitors the effective response force times to ensure the current objectives are being met for both the working fires and the first alarms. In 2009, the overall average response time for gaining a 3-2-1 effective response for Peoria Fire Department is 7:09 seconds. The average effective response force times by station is listed below:

2009 ERF Response Time Average by Station

Station	Response Time Average
FS191	5:54
FS192	7:06
FS193	7:44
FS194	8:25
FS195	8:40
FS196	N/A
FS197	7:28
FS199	N/A

12. The response time objective for a first arriving hazardous materials response team shall be less than fifteen minutes (thirteen minute travel time). The severity and magnitude of a hazardous materials incident can range from a small natural gas line release that is isolated to an alleyway to a catastrophic event which requires many days to resolve. Prompt response actions to resolve an incident can significantly reduce the potential for loss of life, environmental and property damage, as well as out of service time for fire companies; however, any and all actions have to be carefully evaluated for potential outcomes. A thorough risk/benefit analysis, which includes the element of time, is essential prior to taking action. With the acceptance of recent Homeland Security Grants, the Peoria Fire Department has been able to train 17 firefighters to the hazardous materials technician level and acquire the necessary supplies and equipment to augment the regional hazardous materials response. The 2010 Homeland Security Grant will provide for additional technicians to be trained.

In July 2009, the Peoria Fire Department deployed a CBRNE medium duty response vehicle capable of responding to hazardous material incidents. This vehicle is a deployable asset in conjunction with regional automatic aid partners to respond to hazardous materials incidents. The City of Peoria had 13 HazMat calls in 2009. A response time fractals report was run resulting in100% compliance in 13 minutes or less. The average response time was 5:06 (The Omega Group, 2007).

13. The response time objective for a first arriving technical rescue team shall be less than fifteen minutes (thirteen minutes travel time). The complexities of technical rescue calls vary greatly; for example, a mountain rescue can range from walking a patient out of a remote location using a wheel and stokes and requiring only four to six rescuers to a rescue that requires the use of vertical techniques, multiple helicopters and the coordination of many rescue resources. Confined space, trench rescue, structural collapse, swift water and scuba operations have similar ranges. All of these disciplines share a common need for thorough evaluation by responders after initial arrival to determine the best course of action to take based on time elements, potential outcomes, safety factors and the scenario presented.

    The Peoria Fire Department has two fully-equipped technical rescue teams and is the primary technical rescue provider for the northwest valley. While the department is in the process of implementing a new records management system (RMS), we currently have to rely on the data provided us by the Phoenix Regional Dispatch Center. Under this system, TRT and hazardous materials calls fall into the category of Special Operations. The natures of the calls vary thus creating some challenges in gathering consistent data specific to TRT and HazMat responses. The new RMS should provide the department with more opportunities to analyze data more efficiently and consistently. The average travel time for special ops calls in 2009 varies from call to call but Peoria Fire Department has consistently maintained a travel time between four and nine minutes and did not surpass the 15 minute threshold.

Department Goals and Objective Statements

During the ten year period prior to 2007, the City of Peoria had considerable expansion of geographical service areas. Major commercial and residential developments such as the Vistancia Master Planned Community and Arrowhead Fountains commercial center greatly impacted the fire suppression and EMS needs in northern Peoria. However, in 2007 and 2008, economic trends changed and the city saw a drop in construction, sales tax revenues, and consumer confidence. The housing market crashed and foreclosures increased. The department was faced with continuing budget cuts. As a result of this volatile economy, the department is continually evaluating core services to ensure the mission of the department is being met. In addition to maintaining fire suppression efforts, the department is maintaining their efforts in the areas of hazardous materials mitigation, technical rescue, public education, and crisis response. Furthermore, as terrorism begins to impact our community, the fire department may be called to respond and mitigate such incidents utilizing the current Terrorism Liaison Officer (TLO) program which is supported by Homeland Security grant funding. The TLO's are active with the Arizona Counter Terrorism Information Center (ACTIC) and keep the department informed of potential threats to the city or the region. For these reasons it is important to continue to reassess our current levels of service and organizational priorities.

The standards of response coverage and overall departmental goals and objectives detailed below are the result of analysis of current levels of service, historical data, established benchmarks, industry standards, and the current municipal environment. These standards and goals form the basis for performance management tracking and decision making for long and short term planning, budgeting, and establishment of goals and objectives.

Departmental Goals and Objectives – 2002 Master Plan

The following represents the Peoria Fire Department's existing goals and objectives as they appeared in the 2002 Master Plan:

Goal: To minimize death and injuries from fire, including the personnel of responding agencies.

- The department's objectives to accomplish this goal:

i. Limit fire related casualties and injuries in the community.
ii. Limit fireground injuries and fatalities.
iii. Provide timely responses to fires.

Goal: Minimize direct and indirect losses from fire.

- The department's objectives to accomplish this goal:
  i. Limit the number of fires that actually occur.
  ii. Limit fire losses when events occur.

Goal: Minimize death and suffering from people experiencing sudden illness, accidents, or injuries.

- The department's objectives to accomplish this goal:
  i. Provide timely response to emergency medical services.
  ii. Provide automatic defibrillation to support basic life support in specific high-risk occupancies.
  iii. Improve the community's ability to provide emergency medical assistance to close family members, co-workers, and customers.

Goal: Minimize the number and adverse impacts of hazardous materials, spills, and leaks.

- The department's objectives to accomplish this goal:
  i. Identify all locations where hazardous materials are either stored or travel through the city.
  ii. Limit the frequency and severity of hazardous materials leaks.

Goal: Minimize the death, injuries, and property losses from natural or manmade catastrophic events.

- The department's objectives to accomplish this goal:
  i. Maintain a current plan for Fire Department response to disaster events.
  ii. Train bi-annually on the Department's current fire annex to the City's Emergency plan.
  iii. Monitor, evaluate, adopt and implement information and provisions of the Homeland Security program.

Goal: Provide for cost effective fire protection and emergency medical services.

- The department's objectives to accomplish this goal:
  i. Maintain cost-effective services in terms of population and values at risk.
  ii. Maintain and improve the community's ISO rating.

Goal: Protect the local ecosystem.

- The department's objectives to accomplish this goal:

i. Prevent fire related activities from having a negative effect on the habitat or natural resources.

ii. Limit the size of unwanted fires in areas of wildland habitat. Losses from wildland fires are usually directly proportional to size and intensity.

iii. Provide clear air burn building when training facilities are constructed.

Goal: Maximize customer satisfaction when services are provided.

- The department's objectives to accomplish this goal:
  - i. Maintain a high approval rating of the Peoria's citizens.
  - ii. Address and resolve citizen complaints in a timely fashion (Citygate, 2002)

Departmental Goals and Objectives – 2010 Program Budget Document

The goals and objectives outlined in the 2002 Fire Department Master Plan were revised as part of the Fiscal Year 2010 Budget Process and a number of performance indicators were added in order to assess our success and/or deficiencies in meeting our goals and objectives. The updated goals, objectives and performance measures are as follows:

Operations Division

Goal: Provide efficient, effective, and safe fire protection to the City of Peoria.

- The department's objectives to accomplish this goal:
  - i. Maintain average incident travel time of 4 minutes or less 90% of the time.
    - a. Average response time enroute to on scene
  - ii. Implement Community Oriented Fire Service Program.
    - a. Track number of emergency responses - Fire
    - b. Track duty related injuries
    - c. Track ALS responses
    - d. Track BLS responses
    - e. Track emergency responses - other

Goal: Maintain service provision in remote areas.

- The department's objectives to accomplish this goal:
  - i. Provide specialized response to Lake Pleasant and open desert areas
    - a. Number of Wildland deployments
    - b. Number of responses to Lake Pleasant area

Goal: Provide continued professional development for Fire Department members.

- The department's objectives to accomplish this goal:

i. Establish continuous training in the area of supervisory and management development

a. Percent of promoted staff which received Supervisory and Management development training

Training Division

Goal: Maintain certification and readiness of all operational personnel.

- The department's objectives to accomplish this goal:
  i. Comply with OSHA/ADOSH training mandates.
     a. Track hours of firefighting training conducted
     b. Track percentage of companies successfully completing required training
  ii. Provide TRT training annually to certified technicians.
     a. Percentage of available training hours attended
     b. Total TRT hours attended
     c. Peoria TRT Instructor man hours contributed

Emergency Management Division

Goal: Develop a city-wide emergency management program.

- The department's objectives to accomplish this goal:
  i. Provide city-wide emergency management training.
     a. Continually monitor to ensure proper programs and procedures are in place
     b. Number of training and awareness events held

Goal: Ensure that the City of Peoria maintains a continued emergency response capability to address an all hazard response.

- The department's objectives to accomplish this goal:
  i. Provide training to support citywide emergency management operations.
     a. Number of training events held
     b. Update Emergency Management webpage and public internet as needed
     c. Provide federal or state emergency management training certification

ii. Ensure that the Emergency Operations Center (EOC) is consistently ready for a timely opening (within 30 minutes of notification)

a. Inspect the EOC equipment and supplies monthly
b. Participate in a full-scale emergency operations drill/exercise
c. Participate in emergency preparedness table-top exercises

iii. Develop an emergency management database that is inclusive of all departments

a. Percent of departments completed

iv. Ensure the City of Peoria emergency response effort is supported by a comprehensive emergency operations plan.

a. Keep the Emergency Operations Plan current and readily available
b. Track number of management and staff trained
c. Maintain files with modifications/updates
d. Ensure current copies of the Maricopa County Emergency Operations Plan and the County Resources manual are readily available
e. Maintain a current Peoria Emergency Management Contact List

v. Coordinate Citizen's Corps and Community Emergency Response Team (CERT) training.

a. Track number of CERT classes held annually
b. Track number of Citizen Corps meetings held

<u>Emergency Medical Services (EMS) Division</u>

Goal: Manage and coordinate EMS certification and recertification.

- The department's objectives to accomplish this goal:
  i. Coordinate with DHS to ensure proper training and certification of EMTs and paramedics.
     a. EMT Certifications maintained
     b. Paramedic Certifications maintained

ii. Insure Paramedics receive a minimum of 30 hours of continuing education per year.

a. Percent of paramedics receiving 30 hours of CE

Goal: Audit Quality Assurance (QA) of patient care, protocol adherence and medication management.

- The department's objectives to accomplish this goal:
  i. Conduct 100% QA on two specific illnesses, injuries or treatment modalities per year.
     a. Number of QA completed.

Goal: Maintain compliance with federal and state law relative to patient care reporting.

- The department's objectives to accomplish this goal:
  i. Insure HIPAA and legal compliance is maintained relative to requests for EMS patient information.
     a. Insure all patient care records are maintained with HIPAA compliance.
     b. Maintain HIPAA Access Log
     c. Insure all Records requests meet legal requirements prior to release
     d. Maintain all patient care reports for the time mandated by state law

Goal: Maintain all EMS equipment in a constant ready status to insure critical services are constant.

- The department's objectives to accomplish this goal:
  i. Insure zero downtime for equipment by having spare equipment readily available.
     a. EMS equipment in service

Goal: Maintain all Metropolitan Medical Response System (MMRS) equipment in a ready state for immediate deployment.

- The department's objectives to accomplish this goal:
  i. Insure all Metropolitan Medical Response System (MMRS) equipment is in a constant ready status for deployment.
     a. MMRS Equipment in Service

<u>Support Services Division</u>

Goal: Effectively manage capital construction and facilities' projects for the Fire Department.

- The department's objectives to accomplish this goal:
    - i. Construct fire department capital improvement projects on time and within budget.
        - a. Projects completed on time and within budget

Goal: Effectively manage facilities, fleet, and equipment.

- The department's objectives to accomplish this goal:
    - i. Effective Fleet Maintenance Shop Operations.
        - a. Shop Rate for Vehicles – Actual vs. booked hours
        - b. % Rework – goal of 5% or less
    - ii. Timely Fleet Maintenance Shop Service
        - a. Routine scheduled maintenance completed within 8 hours (work time).
        - b. Unscheduled maintenance/repair completed in 24 hours
        - c. Unscheduled maintenance/repair completed in 72 hours
    - iii. Minimize fleet apparatus downtime.
        - a. Track fleet apparatus downtime
        - b. Reduce unscheduled repairs

<u>Fire Administration Division</u>

Goal: Provide a full service Fire Department that cost effectively meets and exceeds customer needs.

- The department's objectives to accomplish this goal:
    - i. Coordinate annual budget development and provide timely services within adopted budget.
        - a. Monthly monitor and feedback provided to division managers
    - ii. Maintain grant program to secure additional resources to fund Fire and EMS programs.
        - a. Track number of grant awards received
        - b. Track dollar amounts received

iii. Facilitate the implementation of cross-divisional activities through the coordination of team meetings, team building, and multi-divisional committees and work teams.

a. Provide 10 day notice to teams for quarterly meetings

iv. Work with new development, as it occurs, to arrange for provision of fire and EMS services to newly developed areas.

v. Maintain quality Insurance Services Office (ISO) rating.

a. ISO rating of 3 or better

vi. Insure performance evaluations are completed in a timely manner.

a. 100% completed by due date

vii. Provide accurate and timely purchasing/AP functions for the department.

a. % of bill paid by due date

b. Reconcile fire department pro cards accurately and timely.

Goal: Strengthen internal and external communication.

- The department's objectives to accomplish this goal:

i. Enhance public accessibility to and utilization of the Fire Department's Internet Web Site.

ii. Solicit the input of labor on department issues, assembling labor/management committees as needed.

a. Track union grievances resolved at department level.

<u>Fire Prevention Division</u>

Goal: Achieve fire safety awareness at all levels in the community through public education programs.

- The department's objectives to accomplish this goal:

i. Provide fire and life safety education at city and community events.

a. Track community events held annually.

ii. Conduct Citizen and Youth Fire Academies.

b. Citizens attending community events

iii. Utilize firefighters in schools to deliver S.A.F.E.T.Y Program to K-4 students.

a. Track number of visits by firefighters

b. Track number of students contacted
c. Track number of students participating in the CPR in the Schools Program
d. Percent of students successfully completing program

Goal: Provide fire inspection and investigation services to the citizens and businesses of Peoria.

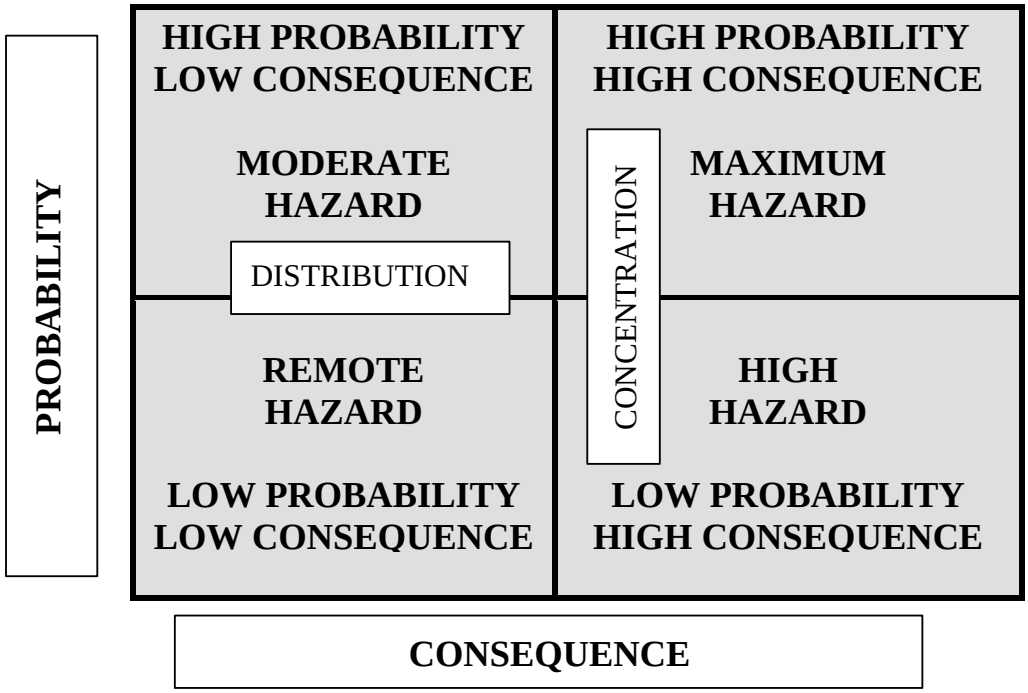
- The department's objectives to accomplish this goal:
  i. Complete and issue fire code permits within 10 days of request.
     a. Track number of permits issued
     b. Percent of permits issued within 10 working days
  ii. Inspect all commercial structures annually.
     a. Number of occupancies inspected
     b. Number of hazards identified
     c. Number of hazards abated
  iii. Maintain a good closure rate on investigations into the cause of fires.
     a. Percent of fire investigations cases resulting in determination of origin and cause
  iv. Perform requested new construction inspection within 3 days.
     a. Percent of inspections performed within 3 days
  v. Plan review within 21 work days of submittal
     a. Percent completed within 21 days
     b. Plans Reviewed
     c. Site Plan Reviews
     d. New Construction inspections (City of Peoria Fire Department, 2010b)

Section Three: Risk Assessment

By determining the fire and non-fire risks in the community, the risk assessment makes it possible to develop resource deployment strategies. The goal is to determine the probability of an event occurring and the consequence of that event.

In its risk assessment, the Peoria Fire Department determined the probabilities and consequences of events by identifying risk factors and utilizing five risk categories. Each demand zone was then evaluated based on the risk factors and placed into a risk category. A risk assessment model (below) diagrams the risk assessment by dividing its components into four quadrants.

Each quadrant shows the probability of occurrence and the consequence of occurrence for each event included in the risk assessment. The quadrants also define the relationship between community requirements and the commitment of resources. The following four possible relationships between structures or conditions and the distribution and concentration of resources are represented by the quadrants:



For example, the risk assessment of our community may include defining the differences between a single family dwelling, a multiple family dwelling, an industrial building, and a six-story hotel, and placing each in a separate category on this chart. Fire stations and apparatus may have to be

distributed equally throughout the community to provide initial attack service to all. Conversely, fire station locations and staffing patterns may need to be concentrated in high consequence areas to enable response to a worst case scenario.

Risk Categories

Once risk factors were identified, risk categories were developed. The fire department acknowledges the possibility that hundreds of risk categories could exist within Peoria. Nevertheless, for a risk assessment to be effective, it must be manageable. Every Peoria fire and non-fire risk was placed into one of five risk categories. While all risk factors have some common elements, the rationale behind placing occupancy within any risk assessment category is to assume the worst.

Currently the department does not have a comprehensive risk inventory system. There are records of occupancies and there is a pre-fire planning system. But neither of these processes analyze or rank the relative comparisons of risks, hazards, or values in comparison to fire station location, or the critical tasks that might be required to deal with them. The company officers have the responsibility of being familiar with fire ground factors and the risks involved with delivering service in their respective areas of response coverage.

In order to categorize risk with in the City of Peoria, the risk factors present within the Department's jurisdictional area need to be identified. Generally, the fire service defines a risk factor as any factor that:

- Increases the need for the Fire Department to arrive quickly;
- Increases the number of firefighters needed to control the situation;
- Negatively impacts the financial well-being of the community; or
- Negatively impacts the historic properties of the community.

The specific factors identified include the following:

- Life loss potential;
- The ability of occupants to take self-preserving actions;
- Nature of the occupancy and its contents;
- Construction features;

- Fire loss potential;
- Built-in fire protection;
- Historical value;
- Fire flow; and
- Economic impact to the community

I. Maximum Risk

An area classified as maximum risk should be of substantial size and contain properties presenting a high risk of life loss, loss of economic value to the community, or large loss damage to property if destroyed. Such areas would ordinarily be the highest fire flow areas and have a high probability of events. The structures within them may lack built in fire protection features and may contain occupants not capable of self-preservation. Maximum risk areas include the following:

- Major shopping and business centers, large department stores, shopping malls, multi-story hotels, and office properties.
- Concentrations of high risk industrial and commercial properties including hazardous materials facilities.
- Concentrations of theaters, cinemas, clubs, dance halls, bars and other areas with potential for large life loss.
- Buildings over three stories high with or without built in fire protection.
- Occupancies with occupants that may require assistance such as non-ambulatory or restrained persons (i.e., nursing homes and hospitals).
- Build up of residential properties adjacent to maximum and high-risk areas.
- Any occupancy over 10,000 square feet without built-in fire protection.
- Emergency medical, rescue, special operations incidents requiring multiple alarms.

Maximum risks frequently impact a fire agency's needs for multiple alarm capability and an adequate assessment of its ability to concentrate resources. Failure to identify these risks often results in the inability to effectively control these incidents. Proper risk identification is also fundamental to the assessment of an individual agency's mutual and automatic aid resources.

II. High Risk

A high-risk area is defined as one that contains properties or hazards presenting a substantial risk of life loss, a severe financial impact on the community, or unusual potential damage to property if there is a fire and has a low probability of events. Examples of such areas include the following:

- Strip shopping centers and business centers not exceeding two stories.
- Concentrated areas of revenue generating properties or high job loss to the community if business is lost.
- Infrastructure facilities such as schools, city, state, and federal facilities.
- Properties deemed to be of historical value to the community.
- Any building with life safety and fire load beyond the reach of pre-connected hose lines (200 feet).
- Concentrated areas of single or two story multi-family dwellings.
- Any occupancy over 10,000 square feet with built-in fire protection not classified as a maximum risk.
- Emergency medical, rescue, special operations incidents requiring a first alarm.

III. Moderate/Typical Risk

An area is classified as a moderate fire risk when it contains built up areas of average size and the risk of life loss or damage to property if there is a fire in a single occupancy is usually limited to the occupants. In certain areas such as small apartment complexes, the risk of death or injury may be relatively high. Concentrations of property may vary, but generally will be of limited extent. Probability of fire events are high along with frequent, routine non-fire risks resulting in a service demand other than fire. Examples of moderate risk areas include the following:

- Developments of generally detached single family housing.
- Apartments with pre-connected hose line access (200 feet).
- Industrial or commercial buildings under 5,000 square feet without built in fire protection.
- Emergency medical, rescue, special operations incidents requiring three units or less.

These risks are often the greatest factor in the distribution of fire stations to ensure fair and equitable access to initial attack capability.

IV. Remote Isolated Rural Risks

Areas may be classified as remote rural risks if they are isolated from any centers of population and contain few buildings. There is a low probability of events and low consequences. Examples include the following:

- Rural land with minimal occupied structures.
- Recreational areas.

V. Special Risks

Certain areas, whether comprised of single buildings, complexes, locations or other risks unique to the planning zone that require a first due response beyond that which is appropriate to the predominant risk of the surrounding area. These premises or small areas should be treated as special risks and given an appropriate predetermined response. Examples of such areas include the following:

- Isolated maximum or high-risk structures when they are in other risk areas.
- Railroad lines and interstate

Demand Zones

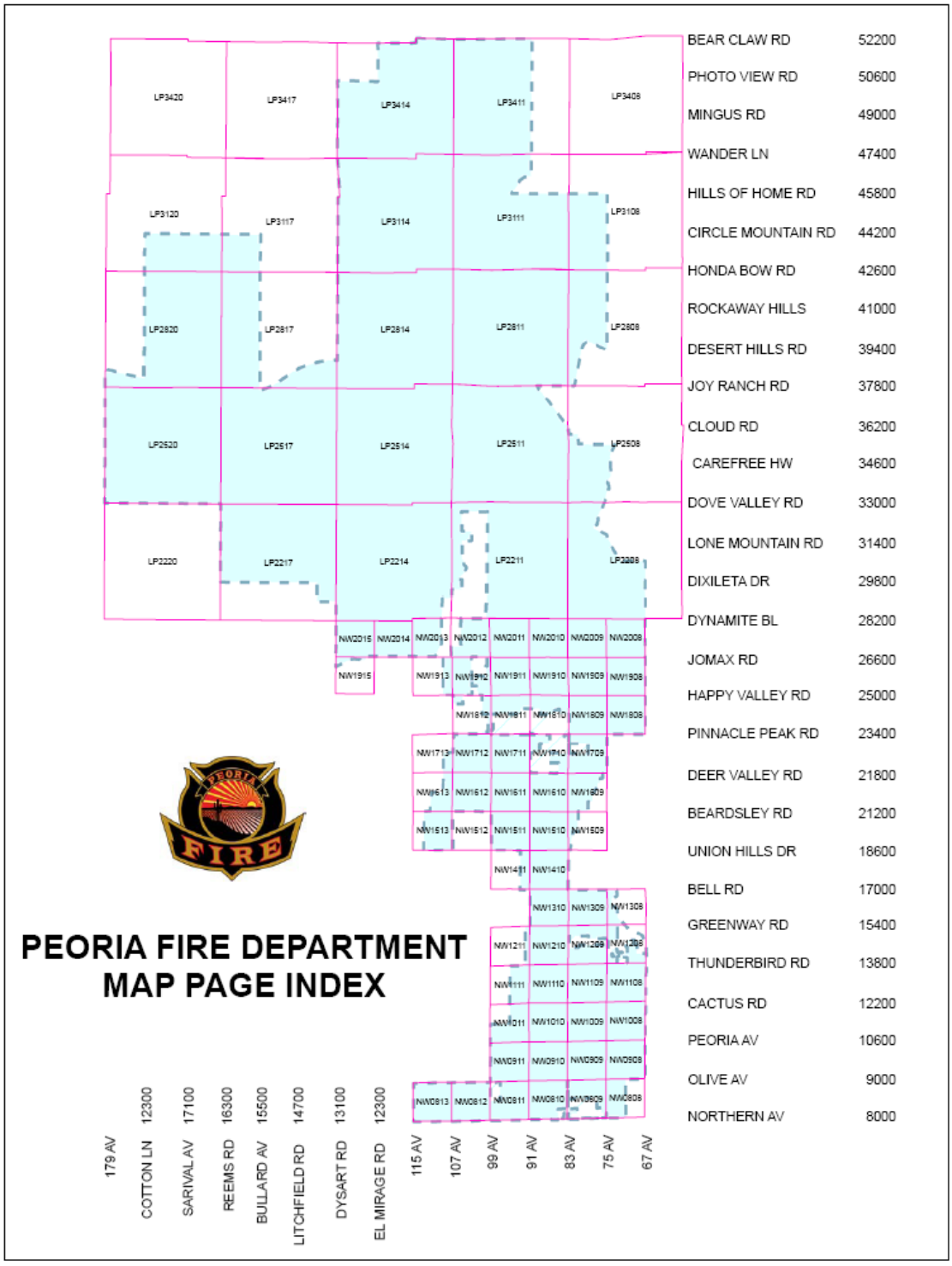
In order to perform a comprehensive and systematic risk assessment, it was necessary to divide the City of Peoria into 83 identifiable demand zones of approximately one square mile each. Sixty two demand zones consist of one square mile areas and 21 demand zones consist of nine square mile areas. These demand zones are in the northern regions of the jurisdiction and are much more sparsely populated than the one mile demand zones in the southern, urban/suburban areas of the city. The demand zones were selected from the Municipal Area Response System (MARS) map book. The individual characteristics of each demand zone were evaluated, and each zone was categorized according to its greatest risk.

Each fire company has been assigned responsibility for the annual review of specific target hazards within a demand zone. This is accomplished through the departments Tactical Premise/Pre-Fire Planning Program. The objective of this program is to collect pertinent information on specific structures and to have the information readily accessible during emergency response. Several Peoria Fire Department field personnel, including the captain in charge of this program, have been trained to assess the Tactical Premise Department Objectives for each company to conduct two tactical premise pre-plans per quarter.

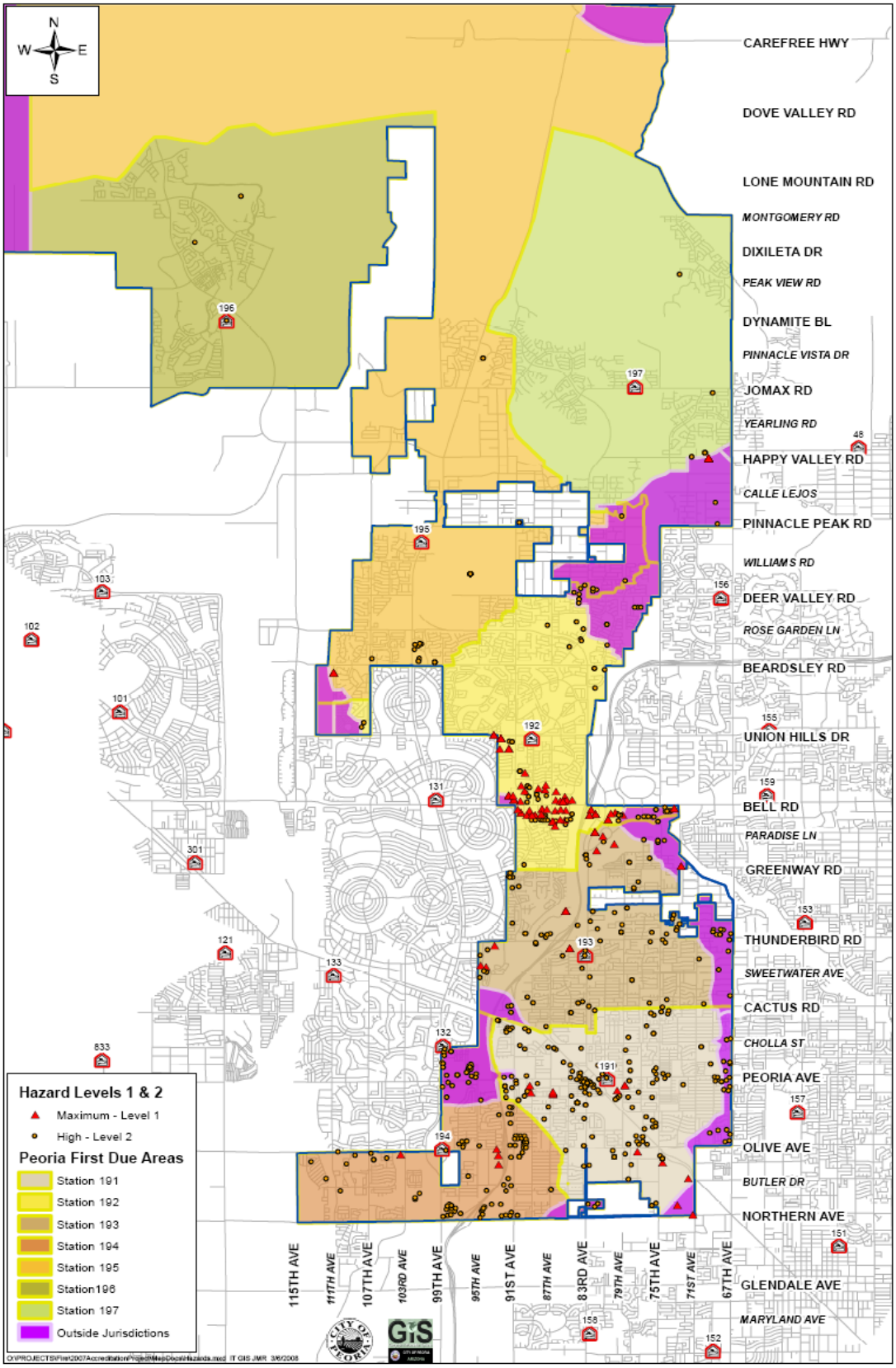
Additionally, as part of the risk assessment, the department has rated 2,490 commercial and multi-family occupancies within the city according to the five aforementioned risk categories (maximum, high, moderate, remote and special). This information was put into an Access database and a hazard layer created in the department's FireView application (The Omega Group, 2007). The department then created the hazard and hot spot maps from this data in FireView to geographically map this information using GIS technology (below). The following special risks were also identified:

Waddell Dam
Santa Fe Railroad
Arizona Central Diversion Canal
Skunk Creek Wash
New River Wash
Peoria Sports Complex
Beardsley Water Treatment Plant
Jomax Water Treatment Plant
Interstate 101
Grand Canal

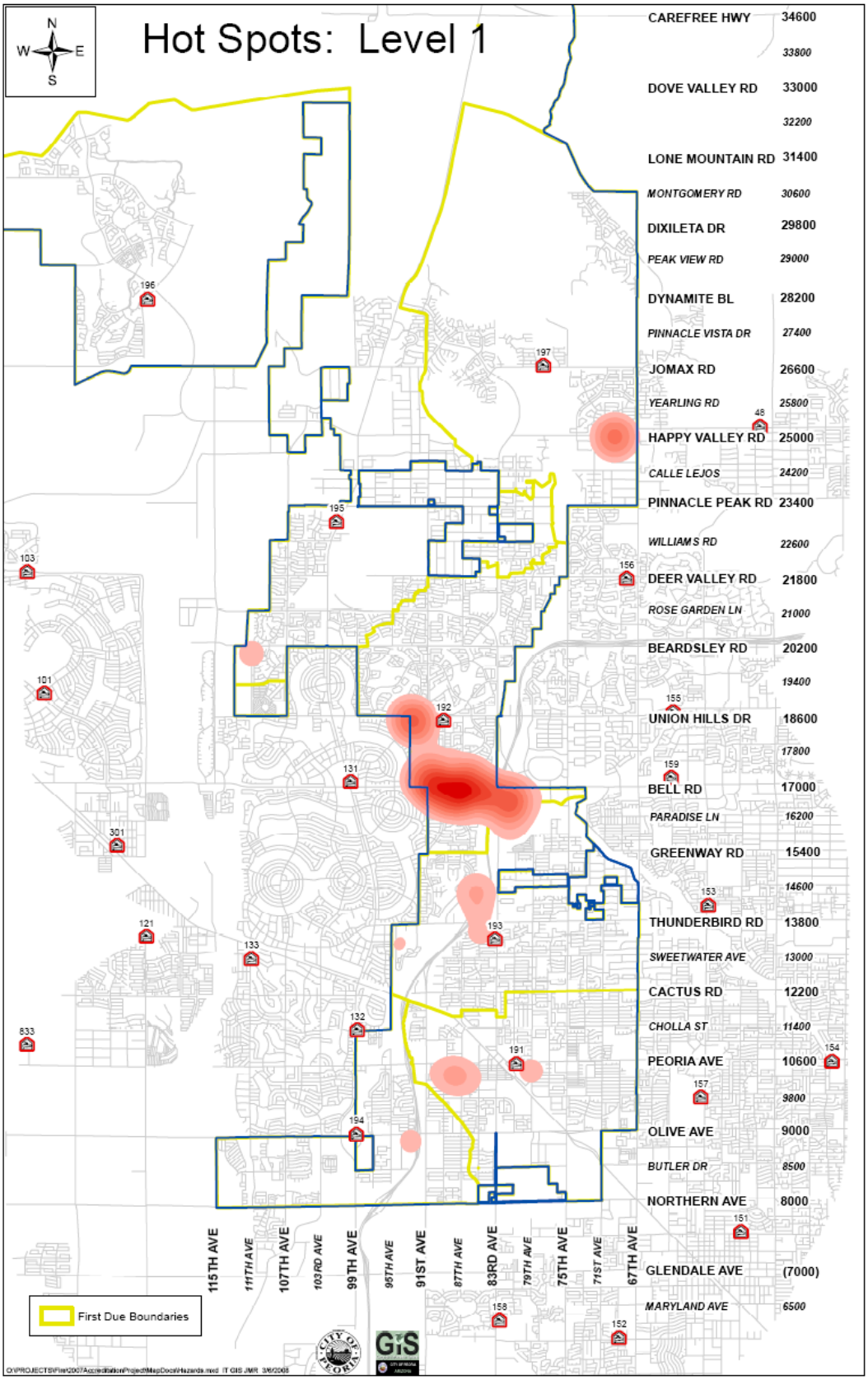
Demand Zone Map – Depicts how City of Peoria has been segmented into zones for risk assessment and response analyses.



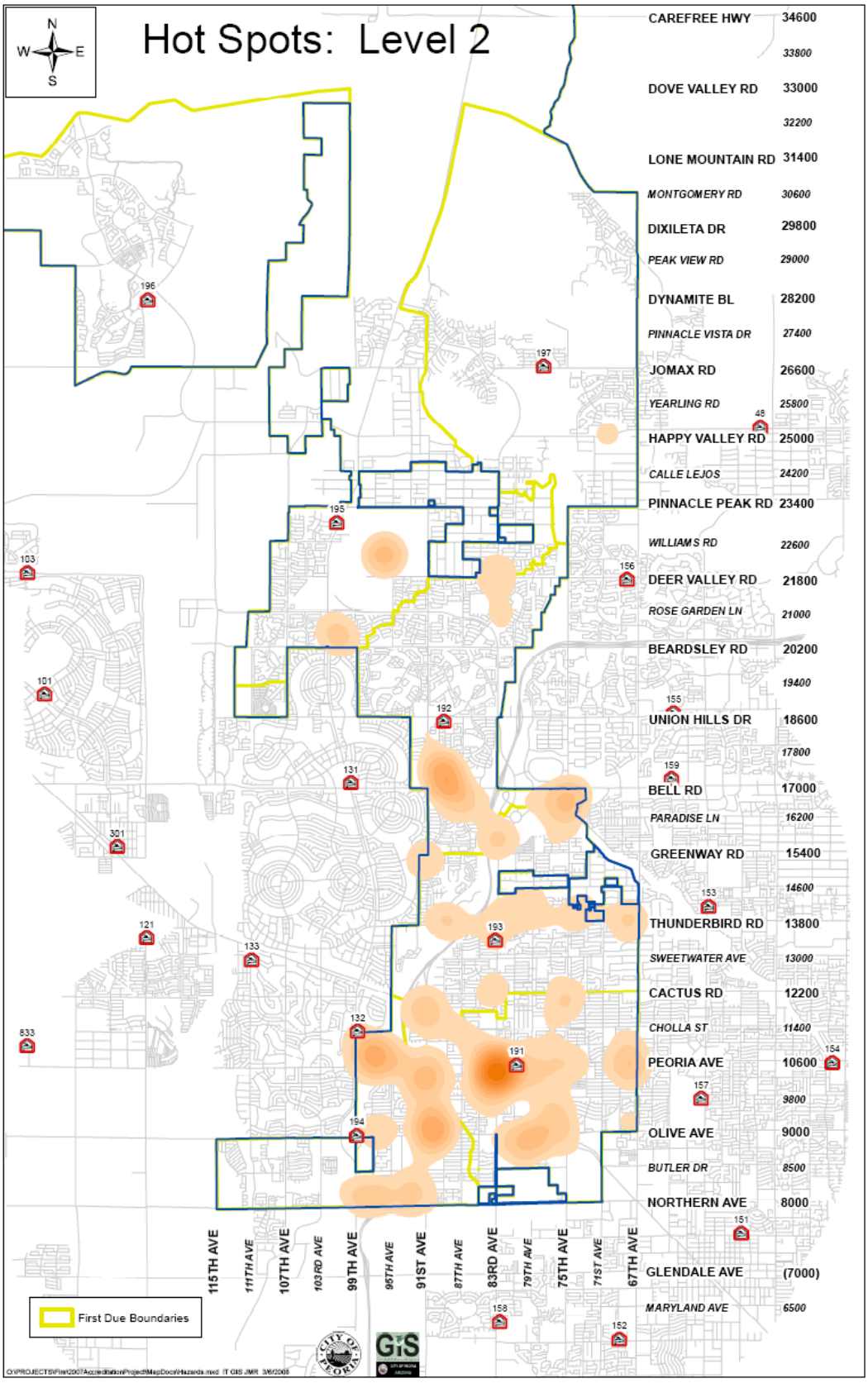
Maximum and High Risk Occupancies by Location (FireView)



Maximum Risk Areas (FireView)



High Risk Areas (FireView)



Probability

Studies of call types and call frequencies were conducted to assess the probability of an event occurring. All calls for service over the last five years were included in the study.

The following four groups of calls were examined: Fires, Emergency Medical (EMS), Special Operations, and Miscellaneous. This latter category included fire alarms, good intent, citizen assist, and any other call not previously classified. The frequency of calls over the last five years was determined for each group, and the results were used to calculate the probability of each event occurring in the future.

The Peoria Fire Department also looked at these calls broken out by category according to three scenarios (City of Peoria Fire Department, 2010a):

1) Incidents occurring inside Peoria city limits to which Peoria or other units responded.
2) Incidents occurring inside Peoria city limits to which Peoria units responded.
3) Incidents occurring inside and outside Peoria to which Peoria units responded.

Chart 1: Inside Peoria City limits - any jurisdiction responding

Totals:	**2005**	**2006**	**2007**	**2008**	**2009**
All Calls	12,445	12,700	13,120	13,591	13,784
EMS	10,349	10,900	11,301	11,856	12,105
Fire	1,117	1,182	1,178	1,146	1,679
Special Ops	66	57	63	57	56
Misc.	913	561	578	536	539

Chart 2: Inside Peoria City limits – Peoria units responding

Totals:	**2005**	**2006**	**2007**	**2008**	**2009**
All Calls	10,878	10,911	11,316	11,811	11,839
EMS	9,213	9,474	9,864	10,384	10,545
Fire	891	934	944	942	898
Special Ops	58	47	61	52	53
Misc.	716	456	447	433	433

Chart 3: Peoria units responding – inside or outside Peoria City limits

Totals:	2005	2006	2007	2008	2009
All Calls	17,633	17,660	18,597	18,898	18,474
EMS	14,738	15,299	16,210	16,666	16,241
Fire	1,602	1,556	1,556	1,463	1,438
Special Ops	141	127	141	138	142
Misc.	1,152	678	690	631	653

Overall, call volume has increased every year over the last five years. However, the rapid growth in incidents that Peoria had seen annually in the mid 2000's will likely slow to more modest levels of annual growth, especially with the recent economic downturn. Between 2005 and 2009, annual call volume increases were as high as 10%, whereas, the overall call volume increase between the 2003 and 2007 period was 20.7% but the economy was strong and growth in northern Peoria was at an all time high. Within the last few years, there has been a dramatic slowdown in the pace of new residential and commercial development in the Phoenix Metropolitan Area, Peoria included, which will likely translate into only modest increases in projected annual call volume (estimated 2-3%) over the course of the next five years. The City's Economic Development and Community Development Departments are also projecting the general economic slowdown to continue for several years. If calls within the City of Peoria increase at 3% per year, by 2013, the volume will increase from 13,784 (2009) to approximately 15,514.

Emergency Medical Service

Historically, the largest percentage of calls responded to by the Peoria Fire Department is for Emergency Medical Service (EMS) incidents. In 2009, the Peoria Fire Department answered 10,545 calls for medical emergencies within the city limits. There were a total of 12,105 calls for medical emergencies within the city limits, resulting in 1,560 calls being answered by our automatic aid partner agencies. Peoria units were dispatched on an additional 5,696 emergency medical calls in other jurisdictions through our automatic aid agreements, resulting in total EMS incidents responded to by Peoria units being 16,241.

The following five year study demonstrates the percentage of increase in EMS calls within the City of Peoria. It is anticipated that the rapid growth in all categories of calls will slow somewhat

compared to what has been experienced over the last five years due to the recent slowdown in residential and commercial development. The department believes that the 5-25% increases experienced in 2003 through 2007 was largely due to the explosive growth Peoria had been experiencing. A more realistic expectation today would yield to a 2-3% annual increase. An approximate three percent increase in total EMS call volume per year over the next five years will result in approximately 13,624 calls for this type of service, or 37 calls per day.

EMS Calls within the Peoria City Limits – Response by all jurisdictions

Call Type	YEAR						Total Change
	2004	2005	2006	2007	2008	2009	
ALS	4,473	6,321	6,282	6,212	6,865	7,144	2671
BLS	4,599	4,028	4,618	5,089	4,991	4,961	362
Total	**9,072**	**10,349**	**10,900**	**11,301**	**11,856**	**12,105**	**3033**

red = decrease in value

Change	04 to 05	05 to 06	06 to 07	07 to 08	08 to 09	Total % Increase	Avg/5 yr
ALS Increase	41.3%	-0.6%	-1.1%	10.5%	4.1%	54.2%	10.8%
BLS Increase	-12.4%	14.6%	10.2%	-1.9%	-0.6%	9.9%	2.0%
Total Increase	**14.1%**	**5.3%**	**3.7%**	**4.9%**	**2.1%**	**30.1%**	**6.0%**

Fires

Peoria Fire units and automatic aid partners responded to 1084 fire related incidents in the city. Alarm indications accounted for 607 of the calls. Peoria Fire units also responded to an additional 369 dispatches to neighboring jurisdictions as a result of the automatic aid agreement. Although the City of Peoria has experienced continued development and increased population over the last five years, fire incidents have not gone up proportionately. This is primarily due to the fire protection requirements for new construction becoming more stringent and the fire protection systems and building materials significantly reducing fire risk. Furthermore, the City of Peoria requires builders to install fire sprinkler systems in all residential dwellings in the northern portion of the city, thus greatly reducing the incidence of residential structure fire. An analysis of fire response data in Peoria is demonstrated in the following table.

Peoria Fire Department Fire Counts by Year:

Frequency per Year				
	2007	**2008**	**2009**	**Total**
Total Fires	1,178	1,146	1084	3,408
STRUCTURES	**2007**	**2008**	**2009**	**Total**
3 - 1 working fire	27	24	37	**88**
Working 1st Alarm	4	1	2	**7**
Residential	38	25	37	**100**
Apartment	7	1	3	**11**
Commercial Structures	0	2	0	**2**
Structure fires	17	12	15	**44**
Totals	**93**	**65**	**94**	**252**
OTHER FIRES	**2007**	**2008**	**2009**	**Total**
Alarm Indication	607	627	595	**1829**
Vehicle	100	102	74	**276**
Brush	76	55	63	**194**
Refuse	95	74	62	**231**
Check Smoke/Fire Reported Out	82	84	61	**227**
Total Non-Structure	**960**	**942**	**855**	**2757**

Unfortunately the categorization and tracking of fire incidents has been inconsistent and the department believes the data to be somewhat unreliable. The values represented above reflect responses to dispatched calls based on the initial nature of the call when it is first reported. Peoria Fire does not currently have a standardized records management system. The dispatch data is captured through Phoenix Fire Department (dispatch agency for Peoria). The disposition data which would detail what the outcome or findings were once crews arrived on scene is not currently being captured. The only fire data being tracked is data where a fire inspector is called out to investigate. This issue is discussed in greater length in the Self Assessment Manual. The department is currently in the process of implementing a department-wide records management system, compatible with NFIRS, which would allow crews to document fire incidents in a more consistent fashion.

The data demonstrates that the majority of structure fires in Peoria over the last five years occur in residential dwellings. This indicates that moderate risk structures are Peoria's most frequent risk for fire loss. Commercial and industrial properties represent a minimal structural fire risk to the city, but this risk must be viewed from the perspective of loss of life, economic value, or large loss of property. Although the frequency of commercial and industrial structure fires is low, the fire department is prepared for a worst-case scenario. An analysis of the Peoria Fire Department's ability to respond to areas of the city with concentrations of large industrial and commercial structures was conducted and is reported in Section 7.

Hazardous Materials

In 2009, the City of Peoria had 16 Hazardous Materials (HazMat) incidents occur. These 16 incidents include broken gas lines or leaks, vehicle accidents with hazardous materials and hazardous material calls. They do not include those calls where only a hazardous situation was reported. Peoria Fire Department deployed their first HazMat response team in July 2009 with appropriately trained HazMat technicians. The department's HazMat team is also a deployable asset for other regional needs through the automatic aid system.

Type	**Year and Number of Incidents**				
	2005	**2006**	**2007**	**2008**	**2009**
Hazardous Situation	11	3	5	9	7
Hazardous Materials	4	4	6	1	1
Broken Gas Line/Gas Leak	19	14	10	14	14
962, Hazardous Materials	1	1	1	0	1
Total	35	22	22	24	23

Technical Rescue Incidents

The following charts reflect the number and types of rescue incidents that have occurred, both within Peoria and outside Peoria to which Peoria units responded, during the last five years. Peoria firefighters are trained to the technician level in swift water rescue and trench rescue. Peoria Technical Rescue Teams (TRT) routinely respond to other jurisdictions through the automatic aid response system agreements, particularly into neighboring jurisdictions that do not have TRT capabilities. Peoria units responded to only 2 technical rescue calls within the city boundaries, but responded to a total of 39 technical rescue calls valley wide in 2009.

TRT Calls in Peoria:

Type	Year and Number of Incidents within Peoria				
	2005	2006	2007	2008	2009
Water Rescue	1	2	2	3	0
Mountain Rescue	2	3	2	2	2
Trench Rescue/Confined Space	1	0	2	1	0
Rescue Service Call	0	1	0	0	0
Total	**4**	**6**	**6**	**6**	**2**

TRT Calls Valley Wide:

Type	Year and Number of Incidents for Peoria Units Valley Wide				
	2005	2006	2007	2008	2009
Water Rescue	32	9	17	14	3
Mountain Rescue	19	23	15	25	31
Trench Rescue	4	5	4	4	3
Rescue Service Call	6	4	0	2	2
Total	**61**	**41**	**36**	**45**	**39**

Automatic Aid Responses

In assessing the probability of types of incidents responded to, research was conducted to determine the frequency of assistance given to, or received from, neighboring communities. An automatic aid system dispatches the closest unit regardless of jurisdiction. Cities participating in the system utilize standard operating procedures and reciprocal staffing policies. By virtue of participating in the automatic aid system Peoria's on-duty emergency response force increases from eight companies, two incident commanders, and thirty-six personnel to one hundred and eighty companies, thirty-seven incident commanders, and over 800 personnel. A centralized dispatch system utilizing satellite technology selects the closest unit(s) to an emergency and initiates a response regardless of jurisdiction. In addition, the system offers a full compliment of special services such as regional hazardous materials response, technical rescue teams, scene support units, and alternative response vehicles.

In 2009, Peoria units were dispatched to 4,768 total calls for service outside of the city of Peoria boundaries. Of those incidents, 4,215 or 89% of them were EMS calls. Ninety five percent of the

total responses outside Peoria (4,494) were to the neighboring cities of Glendale, Phoenix, Sun City, and Surprise. Actual call data for these four neighboring cities is included in the following table:

Peoria Units Dispatched to Render Automatic Aid:

Call Type	Automatic Aid Given to Other Jurisdictions				
	Sun City	Glendale	Phoenix	Surprise	Total
ALS	930	1229	106	32	**2,297**
BLS	750	881	53	15	**1,699**
Fire	47	251	49	5	**352**
Special Ops	5	32	22	14	**73**
Other	18	41	13	1	**73**
Total	**1,750**	**2,434**	**243**	**67**	**4,494**

In 2009, 6,616 incidents were dispatched to other jurisdictions through the automatic aid system. On many of these calls, Peoria did respond in coordination with the assisting agency/agencies. Due to the sheer nature of the automatic aid system, one call can have multiple agencies responding or dispatched to respond if they are deemed to be one of the closest units regardless of city boundaries. Also, Peoria does not currently have their own records management system and is limited in information analyses due to the fact that they have to rely on what is available in Phoenix RMS. Often times, initial dispatch varies from final disposition but the final disposition data is not captured. In an effort to gather automatic aid data, the department queried the number of incidents dispatched for aid within the City of Peoria from the four neighboring cities of Sun City, Glendale, Phoenix, and Surprise. This information is depicted in the table below.

Automatic Aid Dispatched in the City of Peoria:

Call Type	Automatic Aid Given by Other Jurisdictions				
	Sun City	Glendale	Phoenix	Surprise	Total
ALS	2832	1110	64	162	**4,168**
BLS	1570	626	21	41	**2,258**
Fire	186	228	39	50	**503**
Special Ops	11	30	23	6	**70**
Other	36	52	10	2	**100**
Total	**4,635**	**2,046**	**157**	**261**	**7,099**

Note: some of these incidents may have been responded to by multiple agencies.

Buildings and Dwellings

An important part of assessing community risk is demographics. Demographics along with historical data provide an accurate portrayal of each demand zone and the overall risk profile.

The City of Peoria GIS Department has created a GIS layer based on a use code of the tax base and parcel information (ESRI, 2008). The City of Peoria Planning Department publishes an annual demographic report titled, "Growth Trends" (City of Peoria, 2008). The Budget Department has analyzed a variety of demographic information related to their development impact fee study. The Fire Department's Fire Prevention Division also tracks all commercial occupancies, schools, churches, etc. through the Firehouse software system as they are in these occupancies at least annually to perform thorough fire inspections (Affiliated Computer Services, Inc, 2006). These various sources of information have been utilized extensively for statistical information during the development of this manual. These sources verify the following numbers for Peoria in 2010:

Occupancy Type	Counts 2010
Residential Homes	72,708
Multi Family Units	441
Assisted Living	17
Town Home/Condo	5,028
Mobile Homes	1,661
Bldgs >10,000 sq ft	653
Elementary/High Schools	57
Churches	37
Nursing Facilities	10

Peoria also contains information on the following other geographical areas that warrant special considerations for emergency responders:

- Waddell Dam - at the base of the dam is a pump and generating station that has the potential for fire in a highly energized confined area as well as the potential for multiple rescue scenarios including rope and confined space rescues.
- Santa Fe Railroad – creates the potential for heavy rescue due to derailment, chemical leaks from railcars, fire impinging on a railcar with the possibility of a Boiling Liquid Expanding Vapor Explosion (BLEVE).
- Arizona Central Diversion Canal, Skunk Creek Wash, and New River Wash – create the potential for swift water rescues.

- Peoria Sports Complex – creates the potential for mass casualty medical. The Complex hosts large-scale events and concerts such as the annual Edge Fest and Warp Tour which result in tens of thousands of teenage attendees packed together during the desert's summer heat, during an all day event, when drugs, alcohol, and hard rock music are involved. There are 7,833 fixed seats plus an additional 3,500 lawn seats and standing room only for a baseball game in the main stadium. For festival/concert setup, the capacity is 20,000.
- Beardsley Water Treatment Plant, Jomax Water Treatment Plant – creates the potential for various Hazardous Materials scenarios, as well as confined space rescues.
- Interstate 101 - this interstate runs through Peoria and is a hazardous materials transportation route, as well as its general traffic use creates the potential for multi vehicle major medical accidents usually at high rates of speed.

From a commander's perspective, when looking at these special risks in terms of planning and training, it would be critical to identify the need for the appropriate resources; be it HazMat, TRT, Tox Medics, etc., and make sure they deployed and on the way as early as possible in the call.

Summary

The risk assessment was conducted by establishing 83 demand zones which were analyzed for demographics, incident history, fire flow, fire risks, non-fire risks and response time. An overall assessment of the demand zone was then established. In addition, the probability of incident types, automatic aid responses and building types were analyzed.

The moderate or typical fire risk in Peoria has been determined to be a dwelling fire, vehicle fire, brush, or debris fire. In 2009, structure fires account for 32.2% of all fires; refuse fires account for 20.9%, vehicle fires account for 25.3%, and brush fires account for 21.6% (City of Peoria Fire Department, 2010a). The distribution of fire suppression units is based on this analysis. High risk fire areas have been identified so that decisions can be made with regard to the concentration of fire resources.

This risk analysis also determined that the typical non-fire risk in the city of Peoria is an emergency medical incident. These incidents account for 86 percent of all emergency incidents. The department responds on average to 33 medical incidents a day (inside as well as outside city

limits). While maintaining concentrations for fire suppression incidents this analysis provides the basis for determining the deployment of emergency medical resources to meet the service level objective.

An annual update of this assessment will be conducted and remain within the Standards of Coverage Manual. The department has also recently implemented FireView Geographic Information Systems (GIS) Software that is fed incident information through an automatic import from the Phoenix Dispatch Center every 15 minutes daily. This tool will assist the department in analyzing call volume, call location, and call response information to ensure that we are utilizing resources more effectively.

Section Four: Response Time

Response Time and On-Scene Performance Expectations

Time and on-scene performance expectations have been established for all categories of code three emergency incident response including fires, emergency medical incidents, technical rescue incidents, and hazardous materials incidents. Response time goals are reflected in total reflex time, as well as broken down into segments of total response including call processing time, turnout time, and travel time. Before actual response times and response goals are discussed, it is necessary to evaluate why the fire department must get to calls in a timely manner. Both fire and EMS calls have critical points at which time the fire department must be on-scene in order for the outcome to be positive. These points in time are described below as fire suppression response goals and emergency medical services response goals.

Explanation of Fire Suppression Response Time Goals

The dynamics of fire growth or medical emergencies are directly related to various configurations of fire station locations, built-in fire protection, and company staffing patterns. The fire suppression tasks required at a typical fire scene vary widely depending upon risk level. In order to save lives and limit property damage, fire companies must arrive at the right time with adequate resources to do the job. One of the greatest challenges facing fire managers is to match the arrival of resources with a specific point of fire growth or number of patients found.

The answer for controlling variations in fire dynamics lies in finding a common reference point - one that is common to all fires regardless of the risk level of the structure, the contents of the structure, or the time the fire has burned. This reference point is called flashover.

All fires go through the same stages of growth regardless of speed or length of burn time. The flashover stage is very significant, because it marks a critical change in conditions. It is desirable to have fire companies on scene with hose lines deployed before flashover occurs.

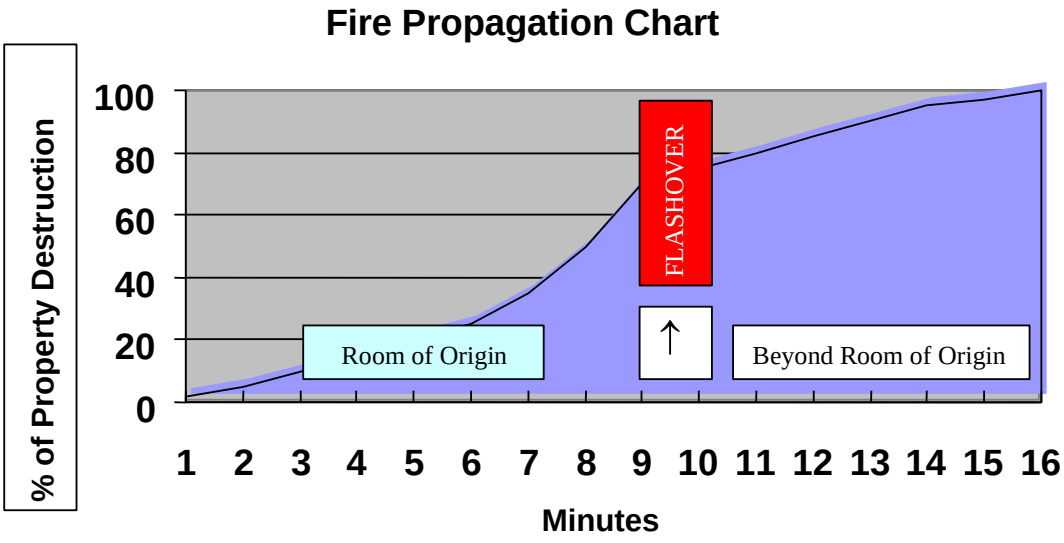
When flashover occurs, everything in the room instantaneously erupts into flame. This eruption generates a tremendous amount of heat, smoke, and pressure resulting in enough force to extend the fire beyond the room of origin through doors and windows or breaches in walls. The

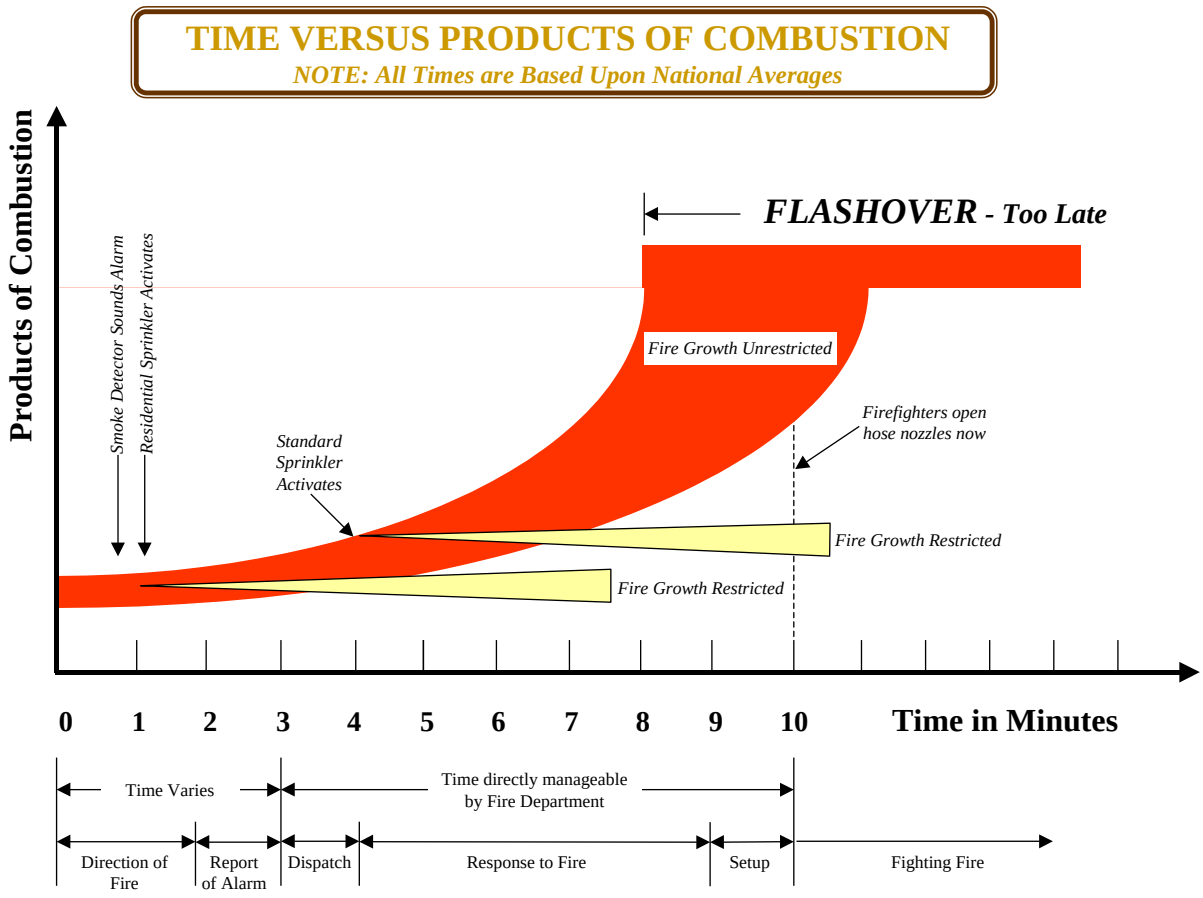
combustion process then speeds up because it has an even greater amount of heat to transfer to unburned objects through convection, radiation, and conduction.

Flashover is a critical stage of fire growth for two reasons. First, the chance of saving lives drops dramatically because no living thing in the room of origin will survive. Second, flashover creates a quantum jump in the rate of combustion, and a significantly greater amount of water and resources are needed to reduce the burning material to below its ignition temperature. Once a fire has reached flashover, it is too late to save anyone in the room of origin, and a greater amount of resources (equipment and personnel) are required to handle the larger hose streams needed to extinguish the fire.

A post flashover fire will burn hotter and move significantly faster. This compounds search and rescue problems in the remainder of the structure and at the same time requires more firefighters for fire attack and extinguishment.

Flashover normally occurs from four to ten minutes after free burning begins. The time to flashover is a function of time and temperature. Fire growth occurs exponentially, doubling itself every second of free burning that is allowed. Consequently, given the progression of a structure fire to the point of flashover, two of the most important elements in limiting fire spread are the quick arrival of sufficient numbers of personnel and equipment to attack and extinguish the fire as close to the point of origin as possible.





(Center for Public Safety Excellence, 2008)

The differences or critical factors between pre-flashover and post flashover events are listed below:

- ***Pre-Flashover***
  - Fire limited to room or origin
  - Requires small attack lines
  - Search and rescue efforts easier
  - Requires fewer resources
  - Can be handled by initial effective response force
- ***Post-Flashover***
  - Fire spreads beyond room of origin
  - Requires more or larger attack lines
  - Compounds search and rescue efforts
  - Requires additional resources
  - Additional companies are required

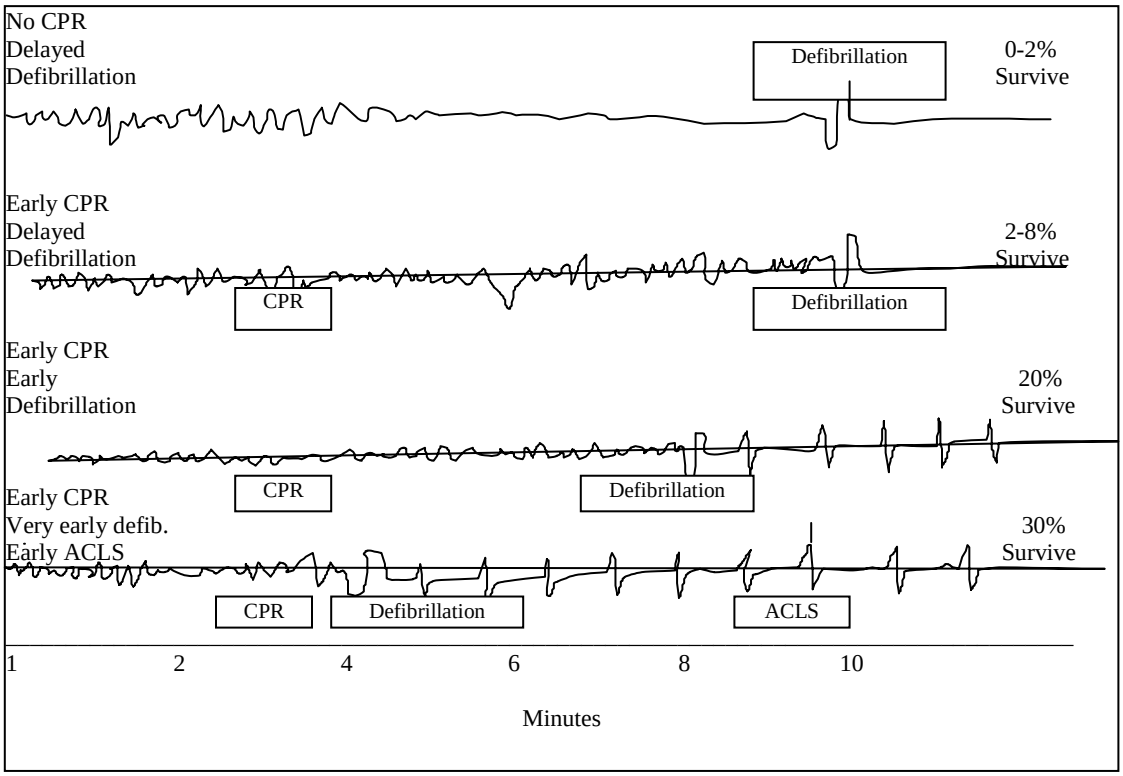
Explanation of Emergency Medical Services Response Time Goals

Like fire suppression performance goals, emergency medical services (EMS) response goals are based on a critical point in time around which to deploy resources. This point in time is brain death, which is most often caused when a person's heart has stopped beating and oxygen can no longer reach the brain. The American Heart Association (AHA) has established that brain damage is very likely to occur after four minutes without oxygen; damage is irreversible after 10 minutes. Interventions include early cardiopulmonary resuscitation (CPR) and electrical defibrillation.

According to the AHA, defibrillation is the single most important factor affecting survival of the cardiac patient. Additionally, the AHA has emphasized for many years that the earlier CPR is initiated the better the patient's chance of survival. An AHA Survival_Rates from Early Defibrillation model (below) depicts survival rates in relation to early CPR and defibrillation. This graph shows a 30 percent survival rate for patients who have received CPR within two minutes and defibrillation within four. For patients receiving no CPR and delayed defibrillation (after 10 minutes), the survival rate drops to between zero and two percent.

Setting goals and objectives that will allow EMS patients to have access to CPR within two minutes and defibrillation within four greatly improves their chances for survival. Currently, all

fire department engine companies are advance life support (ALS) with the ability to perform CPR and defibrillation. In addition, Peoria's ladder companies carry an automatic defibrillator.



Cascade of Events – The Response Time Continuum

The Commission on Fire Accreditation International (CFAI) has defined response time elements as a cascade of events. This cascade is similar to that used by the medical community to describe the events leading up to the initiation, mitigation, and ultimate outcome of a cardiac arrest.

In developing this concept, it was assumed that if a state of normalcy exists, there is no reason for an emergency service organization to respond. Thus, the series of events described in the present document begins with the state of normalcy. This state is defined as a condition under which there is no indication to a person occupying the area that there is an immediate threat to life or property.

The response time continuum begins when the state of normalcy ends and an emergency event is initiated. It is assumed that various agencies will define the events that make up the continuum in

a variety of ways due to topographical, geographical and organizational differences. These differences are not necessarily important. What is important is the quality of service provided by the jurisdiction. Whether or not a given agency's response time is better than another's is subject to too many variables to be significant in and of itself.

Travel time is only one of several variables related to an effective response. This point is usually overlooked and leads to overly optimistic and very misleading conclusions about how long it takes to respond to an emergency. The Cascade of Events/Response Time Continuum shows all of these variables in sequential order.

Time is very critical because the growth of a fire is exponential. Fires continue to grow until they run out of fuel, or the fire department intervenes**.** In almost all settings, response time critically affects the level of service provided to those requesting assistance.

The response time continuum is composed of the following time points and time intervals:

Event Initiation - the point at which factors occur that may ultimately result in an activation of the emergency response system. Precipitating factors can occur seconds, minutes, hours, or even days before a point of awareness is reached. An example is the patient who ignores chest discomfort for days until it reaches a critical point at which he/she makes the decision to seek assistance (point of awareness). It is rarely possible to quantify the point at which event initiation occurs.

Emergency Event - the point at which an awareness of conditions exists requiring an activation of the emergency response system. This is considered the point of awareness. It may be the recognition by an individual that assistance is needed, or it may consist of mechanical or electronic recognition of an event such as smoke or heat detector activation.

Alarm - the point at which emergency response system is activated. An example of this time point is the transmittal of a local or central alarm to a public safety answering point. Again, it is difficult to determine the time interval during which this process occurs with any degree of reliability.

Notification - the point at which an alarm is received by the agency. This transmittal may take

the form of electronic or mechanical notification received and answered by the public safety agency dispatch center.

Alarm Processing - the interval between the time a request or alarm is received and the time it is transmitted to emergency responders.

Turnout Time – the interval between the time when responding units acknowledge receipt of the call from the dispatch center and the time the units are enroute to the scene. Total turnout time begins at the acknowledgement of receipt of the call and ends with the beginning of travel time.

Response Time - the point at which units are en-route to the call. When responding from a fixed facility, this is the point at which the apparatus exits the facility. Total travel time begins here and ends with arrival on scene.

On-Scene Time - the point at which the responding unit arrives on scene.

Initiation of Action - the point at which operations to mitigate the event begin. This may include size-up, resource deployment, etc.

Termination of Incident - the point at which unit(s) have completed the assignment and are available to respond to another request for service.

Total Response Time - calculated from the point at which the alarm is reported (notification) to the point when units arrive at the emergency event (on-scene).

Response Time Analysis

National Fire Protection Standard 1221 has established call processing time objectives; and National Fire Protection Standard 1710 has established response time objectives for the organization and deployment of fire suppression, emergency medical, and special operations. The Peoria Fire Department has adopted some of the same call processing and response time goals and has modified the national standards, when appropriate, to meet local objectives or environmental considerations. The following analyses discuss the current established standards as well as provide a three year (when available) historical review of performance related to these established goals. The following segments of time and incident types will be analyzed:

- Alarm Processing
- Turnout Time
- Travel Time
- All Citywide Code Three Emergency Responses
- Fire Responses
    - First On-Scene Engine
    - 3 and 1 Effective Response (moderate risk)
    - First Alarm Effective Response (high/maximum risk)
- Emergency Medical Responses
    - Basic Life Support
    - Advanced Life Support
- Technical Rescue Responses
- Hazardous Materials Responses

Alarm Processing

National Fire Protection Standard 1221, "Installation, Maintenance, and Use of Emergency Services Communications Systems", has established the following call processing time objectives:

1. **Ninety five percent of alarms shall be answered within 30 seconds, and in no case shall the initial call taker's response to an alarm exceed 60 seconds.**
   An analysis of the Public Safety Answering Point (911 system) indicated that in both 2008 and 2009, 99.5% of the alarms were answered in 30 seconds or less. In 2009, the 911 system in Peoria received 62,165 calls which equates to an average of 5,180 calls per month. Only 27 calls went over the one minute mark. Likewise in 2008, Peoria received 62,422 calls and a mere 34 calls were greater than a minute (Positron Public Safety Systems Inc, 2009).

2. **The dispatch of the emergency response agency shall be made within 60 seconds of the completed receipt of an emergency alarm.**
   The Peoria Fire Department contracts with the City of Phoenix Fire Department for dispatching services. The following is an analysis of call processing times over the past four years (The Omega Group, 2007):

Alarm Processing

Year	Goal	Objective Met	Avg Time
2006	60 seconds	68.43%	0:51
2007	60 seconds	64.32%	0:55
2008	60 seconds	53.99%	1:10
2009	60 seconds	53.24%	1:10

NFPA Standards for Response Time

National Fire Protection Standard 1710, "Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments", has established the following response time objectives:

1. The time objective for turnout time shall be one minute (60 seconds).
2. Four minutes (240 seconds) or less for arrival of a unit with first responder or higher level capability at an emergency medical incident.
3. Eight minutes (480) seconds or less for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department.
4. Four minutes (240 seconds) or less for the arrival of the first arriving engine company at a fire suppression incident and/or 8 minutes (480 seconds) or less for the deployment of a full first alarm assignment at a fire suppression incident.

The NFPA standard establishes a performance objective of not less than 90 percent for the achievement of each response time objective specified above. The standard further specifies that the department shall evaluate service delivery based on data relating to the achievement of each response time objective in each geographic area within the jurisdiction of the fire department.

Fire Emergency Safety Self Assessment Manual (FESSAM) Best Practices

FESSAM has identified benchmark objectives for suburban communities of five minutes for a first unit response, eight minutes for a second unit and ten minutes for an effective response force 90% of the time. FESSAM's suburban baseline is 6 minutes and 30 seconds for a first unit, 10 minutes 24 seconds for a second unit, and 13 minutes for an EFR 70% of the time respectively

(CPSE, 2006). This suburban baseline was used to not only evaluate the department's response history over the past three years but also to identify how Peoria Fire Department is doing in each of their core service areas. This process helped to identify an appropriate baseline respective to each area as is indicated in the various tables below:

Based on Suburban Baseline of 6:30 minutes - 70% for a 1st unit arrival

Response Type	5 minute Benchmark Objective	6:30 Baseline Objective	70 Percentile Suburban	90 Percentile Benchmark Objective
2009 1st Unit - Overall	76.52%	93.65%	4:43	5:59
2009 1st Unit - ALS	77.27%	94.20%	4:42	5:52
2009 1st Unit - BLS	76.27%	93.88%	4:44	6:01
2009 1st Unit - Fire	70.99%	87.58%	4:56	6:48
2009 1st Unit - Special Ops	74.00%	94.00%	4:53	6.08
2008 1st Unit - Overall	73.35%	92.08%	4:51	6:13
2008 1st Unit - ALS	74.80%	93.10%	4:45	6:05
2008 1st Unit - BLS	71.51%	91.61%	4:46	6:18
2008 1st Unit - Fire	70.34%	85.90%	4:59	7:11
2008 1st Unit - Special Ops	47.17%	73.58%	5:56	8:30
2007 1st Unit - Overall	70.82%	89.91%	4:58	6:31
2007 1st Unit - ALS	71.87%	91.27%	4:55	6:18
2007 1st Unit - BLS	71.18%	89.94%	4:57	6:31
2007 1st Unit - Fire	65.89%	84.72%	5:14	7:29
2007 1st Unit - Special Ops	50.00%	67.95%	6:43	10:08

(The Omega Group, 2007)

As one can see above, the Peoria Fire Department has set a rigorous goal of achieving a first unit arrival in 5 minutes or less 90% of the time. They are currently achieving this approximately 75% of the time. Based on the Suburban baseline objective of 6 minutes and 30 seconds, Peoria is doing very well at 87% to 94 % compliance. Also, there is a steady pattern of improvements over the past three years in all response areas. The most noticeable is in the area of Special Operations likely to do the department's deployment of a HazMat response unit within the city.

Next the department evaluated the second unit arrival response time histories over the last three years using FESSAM's baseline of having a 2nd unit arrival in 10 minutes and 24 seconds 70% of the time and a benchmark objective of 8 minutes 90% of the time. The results are indicated below:

Based on Suburban Baseline of 10:24 minutes - 70% for a 2nd unit arrival

Response Type	8 minute Benchmark Objective	10:24 Baseline Objective	70 Percentile Suburban	90 Percentile Benchmark Objective
2009 2nd Unit - Overall	81.37%	93.07%	6:58	9:27
2009 2nd Unit - ALS	80.49%	92.77%	7:02	9:33
2009 2nd Unit - BLS	81.92%	93.36%	6:57	9:26
2009 2nd Unit - Fire	94.16%	96.22%	4:50	6:50
2009 2nd Unit - Special Ops	90.00%	96.00%	6:09	8:02
2008 2nd Unit - Overall	75.05%	89.76%	7:34	10:23
2008 2nd Unit - ALS	74.77%	89.45%	7:36	10:31
2008 2nd Unit - BLS	74.52%	90.40%	7:38	10:14
2008 2nd Unit - Fire	89.52%	93.81%	5:18	8:11
2008 2nd Unit - Special Ops	84.00%	94:00%	7:17	9:06
2007 2nd Unit - Overall	74.78%	89.64%	7:34	10:26
2007 2nd Unit - ALS	74.25%	89.39%	7:36	10:31
2007 2nd Unit - BLS	74.70%	89.95%	7:35	10:22
2007 2nd Unit - Fire	87.36%	92.13%	5:20	9:02
2007 2nd Unit - Special Ops	69.84%	80.95%	8:00	13:33

(The Omega Group, 2007)

The Peoria Fire Department has demonstrated continuous improvement in the second unit response times over the past three years. They currently achieve a second unit arrival in eight minutes approximately 82% of the time. The department currently meets the suburban baseline goal of 10 minutes and 24 seconds 93% of the time.

Finally, the department also evaluated the last unit in to ensure that a 10 minute benchmark

objective was being achieved and the 13 minute suburban baseline objective was also achieved. The results are below:

Based on Suburban Baseline of 13minutes - 70% (last unit)

Response Type	10 minute Benchmark Objective	13 minute Baseline Objective	70 Percentile Suburban	90 Percentile Benchmark Objective
2009 Last Unit - Overall	93.46%	97.36%	6:08	8:40
2009 Last Unit - ALS	94.03%	97.58%	6:05	8:30
2009 Last Unit - BLS	95.27%	98.37%	5:57	8:13
2009 Last Unit - Fire	80.38%	94.15%	6:43	10:41
2009 Last Unit - Special Ops	74.22%	90.93%	9:05	12:35
2008 Last Unit - Overall	91.83%	96.38%	6:26	9:23
2008 Last Unit - ALS	92.53%	96.90%	6:21	9:08
2008 Last Unit - BLS	93.61%	97.48%	6:15	8:49
2008 Last Unit - Fire	86.88%	92.54%	6:54	11:29
2008 Last Unit - Special Ops	59.69%	77.52%	11:41	16:21
2007 Last Unit - Overall	91.54%	96.32%	6:28	9:31
2007 Last Unit - ALS	91.44%	96.35%	6:31	9:31
2007 Last Unit - BLS	93.59%	97.67%	6:15	8:55
2007 Last Unit - Fire	88.36%	94.25%	6:38	10:32
2007 Last Unit - Special Ops	65.30%	79.76%	11:11	16:00

(The Omega Group, 2007)

Obviously, Peoria is achieving at a high standard in this area. The automatic aid system truly ensures that and appropriate concentration or essential resources are available to the City of Peoria for all response types.

Peoria Standards for Response Times

The Peoria Fire Department considered both NFPA and FESSAM best practices in determining their response goals. Some of the benchmark objectives set for each category of incident response differ from NFPA 1710. The current objectives for the Peoria Fire Department are as follows:

Turnout Time

The time objective for turnout time shall be one minute (60 seconds) 90% of the time.

Turnout Time

Year	Goal	Objective Met
2006	60 seconds	67.60%
2007	60 seconds	71.01%
2008	60 seconds	72.33%
2009	60 seconds	74.62%

The Peoria Fire Department's average turnout time in 2009 was 52 seconds which meets the objective. As one might expect, turnout time can be delayed during the nighttime hours due to personnel being asleep when an alarm comes in. Firefighters must wake up, get out of bed, visit the restroom, get dressed, etc. Turnout times during these hours can skew the data.

Travel Time – all code three

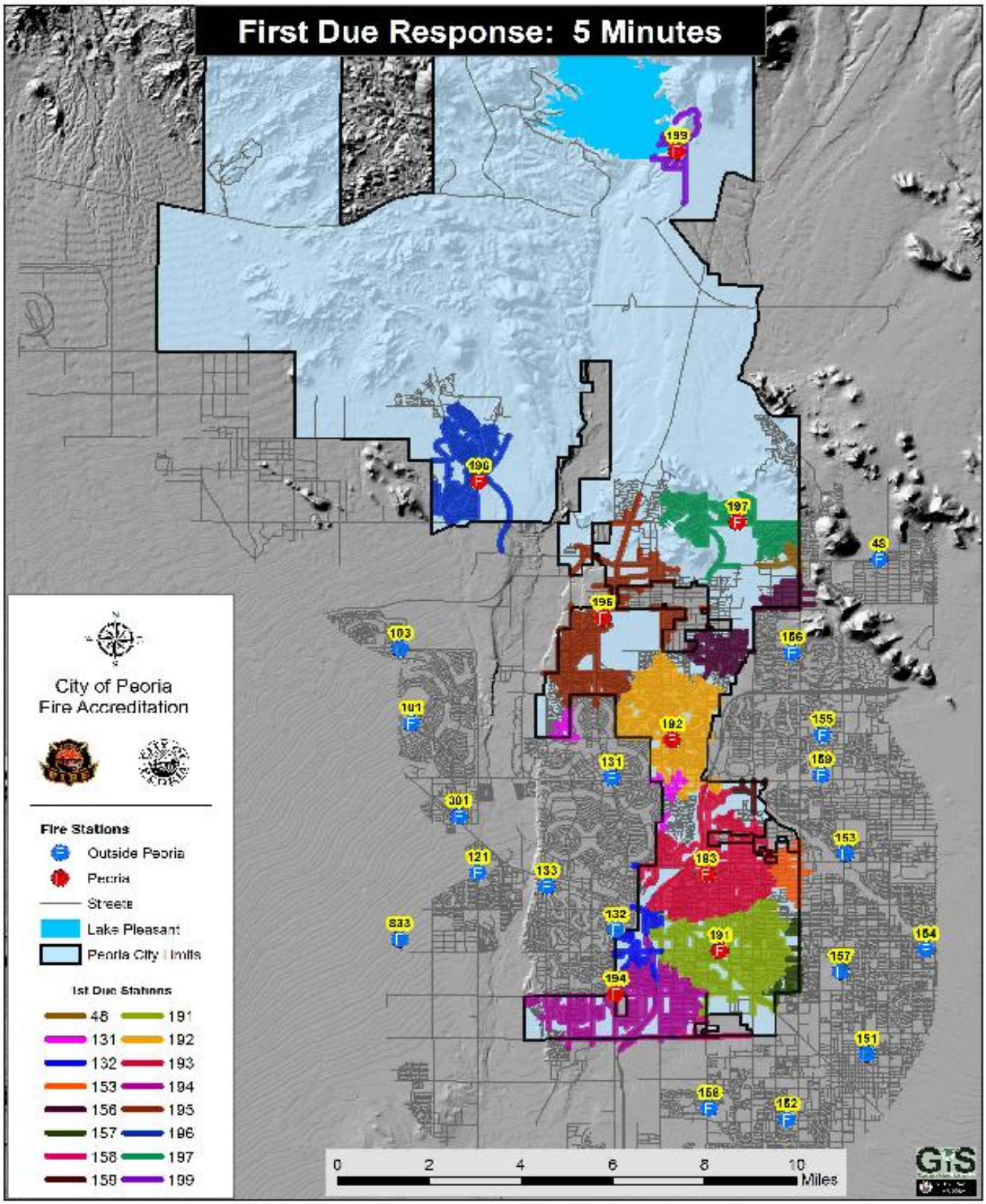
Five minutes (300 seconds) or less travel time for arrival of the first appropriate unit for 90 percent of all 911 code three emergency incidents.

Overall Emergency Response Travel Time

Year	Goal	Objective Met
2006	300 seconds	73.36
2007	300 seconds	70.82
2008	300 seconds	73.35
2009	300 seconds	76.52

The average Peoria Fire Department travel time for all incidents in 2009 was 4:07 seconds. In 2008, the travel time was 4:14 and 2007 was 4:23 which represents consistent gradual improvements by the department.

The following map depicts the area with the jurisdiction that can be covered by a first due company response within the travel time goal of five minutes: Majority of the southern and central areas are effectively covered. The uncovered areas are primarily in the far northern undeveloped reaches of the city. As growth occurs, additional fire stations will be constructed and coverage will improve.



(The Omega Group, 2007)

Travel Time - EMS

Five minutes (300 seconds) or less travel time for arrival of a unit with first responder or higher level capability at an emergency medical incident 90% of the time.

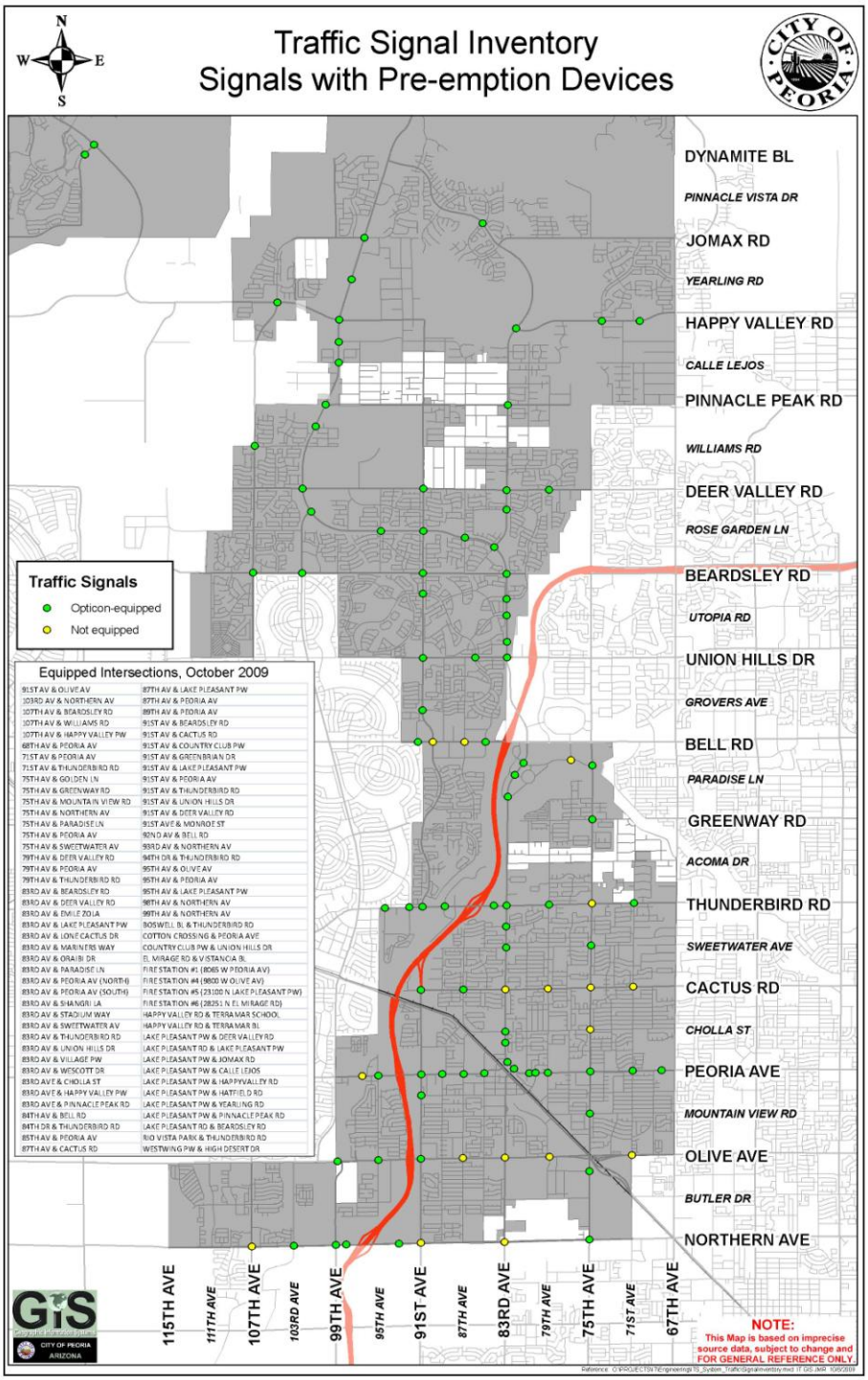
EMS Travel Time

Year	Goal	ALS	BLS
2006	300 seconds	75.49%	70.81%
2007	300 seconds	71.88%	71.20%
2008	300 seconds	74.80%	71.51%
2009	300 seconds	77.27%	76.27%

The average Peoria Fire Department travel time for a first arriving EMS unit on scene in 2009 was 4:05 seconds for an ALS call and 4:09 for a BLS call.

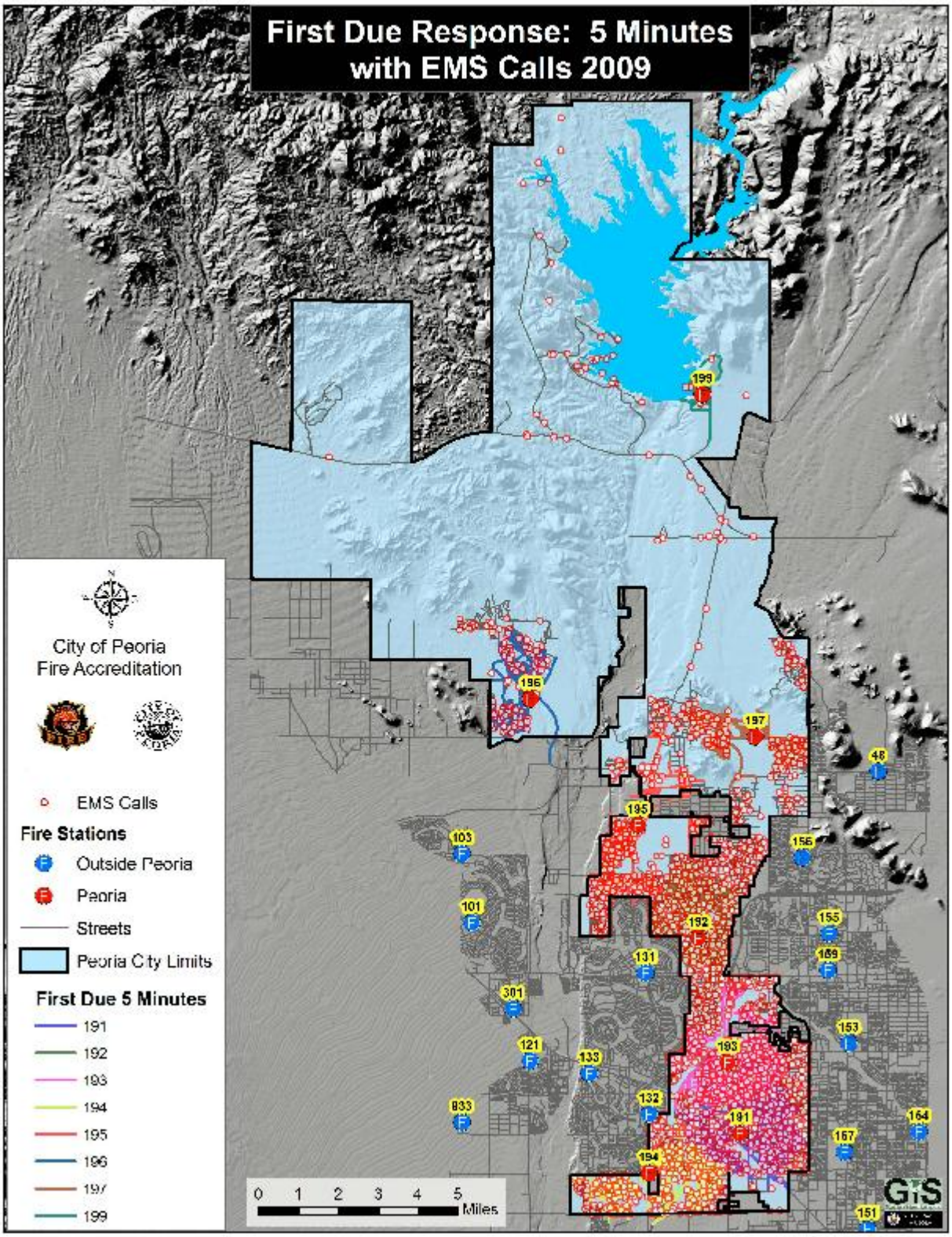
As required by the NFPA 1710 all Peoria Fire Department personnel are state certified first responders or paramedics and all units are equipped with either an automatic external defibrillator (AED) or heart monitor capable of providing defibrillation. In order to improve the five minute response time percentage for EMS incidents, the City of Peoria Capital Improvement Program (CIP) has identified the addition of three new fire stations to be built over the next ten years. Fire Station #8 is scheduled in for design in FY2016 and build in FY2017, fire station #9 in FY2018/FY2019, and station #10's design is scheduled to begin in FY2020. Of course the CIP program is reviewed and modified as needed on an annual basis and influenced by the economy and other factors.

In January 2009, the department deployed an additional BLS ladder company in northern Peoria which should help to improve response times in the northern reaches of the city. All apparatus will continue to be equipped with Automatic Vehicle Locators (AVL) and meet NFPA 1901 requirements. The department will continue collaborative efforts with automatic aid agencies in efforts to standardize reporting methods, identify areas in need of improvement and work with internal members to reduce turnout times. The department will also continue to work with the city Traffic Engineering Department to install, maintain and upgrade traffic preemption devices in an effort to improve response times. The map below depicts the city's current traffic signal inventory with pre-emption devices as of 2009 (City of Peoria GIS Department, 2009).



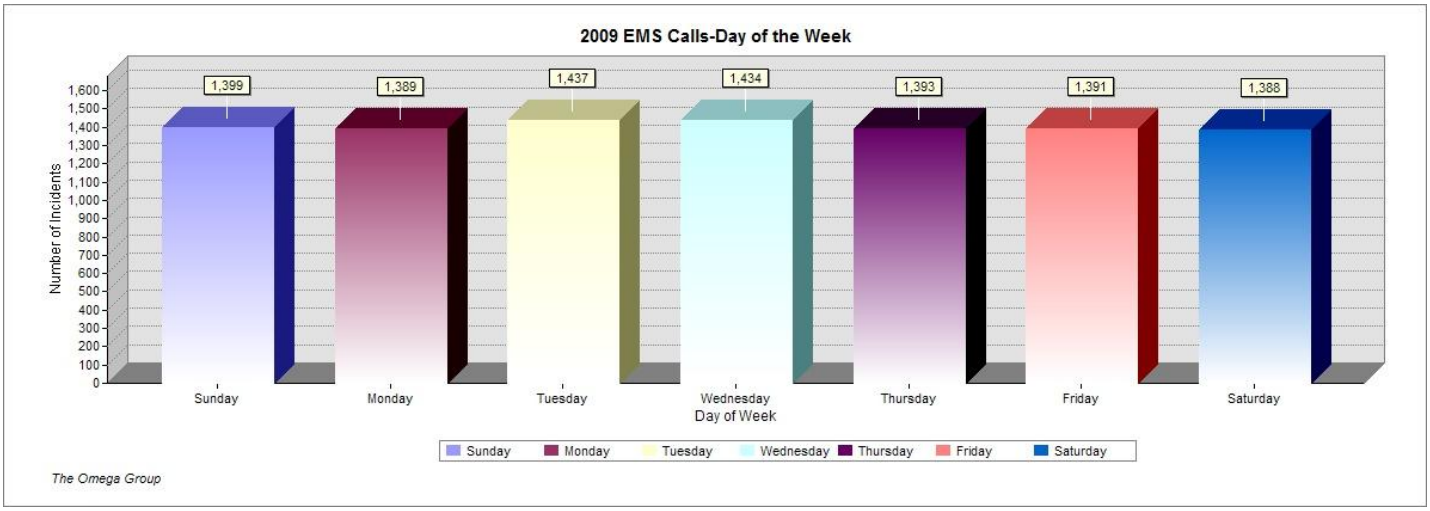
The Peoria Fire Department integrates emergency medical services into its fire service delivery program. ALS shall be delivered from each fire station location. At a minimum all personnel are trained and certified as emergency medical technicians. All companies are equipped and capable of delivering electro-cardiac defibrillation.

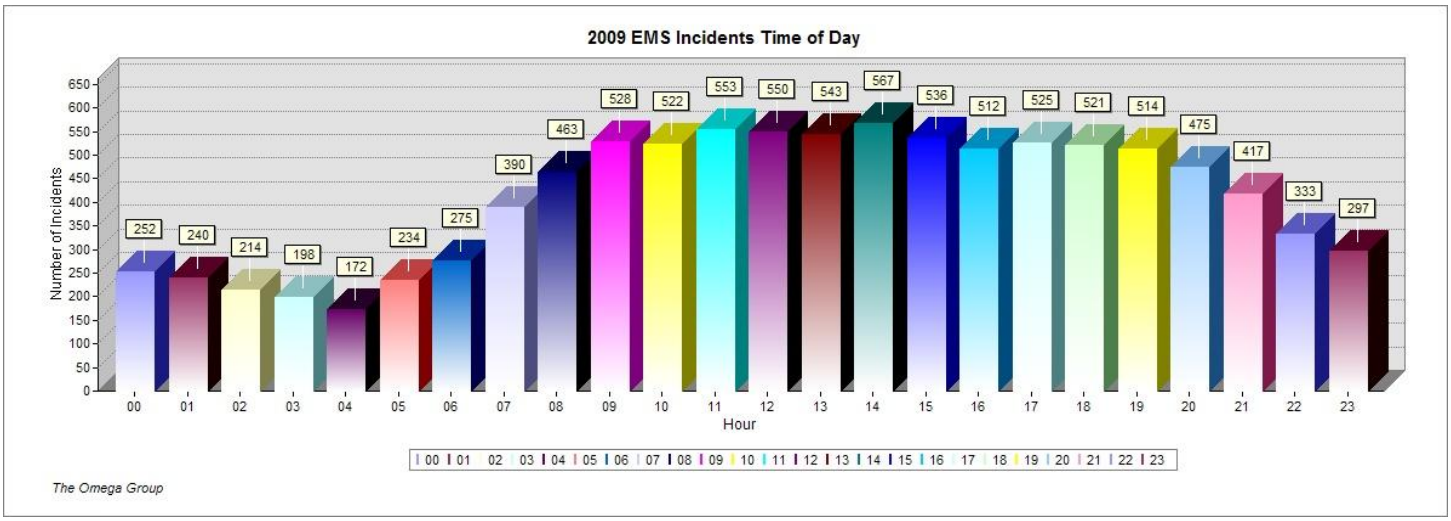
The following FireView map depicts the locations of all 2009 EMS calls overlaid on the first due company response areas that can be achieved within the travel time goal of five minutes. Majority of the southern and central city areas are very effectively covered. The uncovered areas are primarily in the far northern undeveloped reaches of the city where EMS call volume is very low. The department does maintain a full service part-time fire station in the Lake Pleasant region which is available to respond to calls in Lake Pleasant Regional Park and the surrounding areas. Fire Station 199 is staffed in peak visitor seasons. As growth occurs, additional fire stations will be constructed to address increases in call volume and overall response coverage will improve.



(The Omega Group, 2007)

The following two charts demonstrate the 2009 EMS call volumes within the City of Peoria by day of week and time of day.





(The Omega Group, 2007)

Travel Time - ALS

Eight minutes (480) seconds or less travel time for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department, 90% of the time. The Peoria Fire Department has set a more rigorous goal of five minutes (300 seconds) or less for the arrival of an advanced life support unit – the same standard that is set for all EMS responses.

ALS Travel Time

Year	Goal	ALS
2006	300 seconds	75.49%
2007	300 seconds	70.82%
2008	300 seconds	74.80%
2009	300 seconds	77.27%

The average Peoria Fire Department travel time for a first arriving unit to ALS incidents in 2009 was 4:05 seconds.

As part of the Peoria Fire Department's Standards of Cover development, the department also examined the 2009 response time results for each call category (ALS, BLS, Fire) by fire stations within the city. This allows the fire department to more easily identify those specific areas where response time goals are not being met. The results of this analysis for ALS calls are as follows:

2009 ALS Response by Fire Station (1st arriving unit – 5 minutes)

Fire Station	Number of Incidents	5 Minute Objective Met
191	1015	82.36%
192	782	74.94%
193	845	79.05%
194	501	79.64%
195	474	71.73%
196	78	41.03%
197	155	65.81%

All Peoria fire stations meet the 90 percent objective (National Standard) for having an advanced life support company on scene within eight minutes, however, none of the stations are presently meeting the Peoria standard of five-minute travel time 90% of the time. The companies in the

center city/suburban core (191, 192, 193, 194) are generally within 5-15% of the goal. Companies which are further north, have much larger geographic areas to cover, and have fewer automatic aid partner companies to provide back-up response quickly, have substantially slower response times. As the City continues to grow and develop in the northern areas, additional response capability will be added. Again, the Peoria CIP identifies the addition of three new fire stations (with engine company advanced life support capabilities) to be built over the next ten years. Additionally, because those stations respond to much fewer calls than the suburban/center city stations, the increased response times are not significantly skewing the overall city response times.

Travel Time –Fire (First On Scene Unit)

Five minutes (300 seconds) or less travel time for the arrival of the first arriving engine company at a fire suppression incident and/or 10 minutes (600 seconds) or less for the deployment of a 3 and 1 response (full-alarm response) and/or 12 minutes travel time for a full first alarm assignment at a fire suppression incident, 90% of the time.

Fire Travel Time (1st arriving unit)

Year	Goal	Objective Met
2006	300 seconds	70.83%
2007	300 seconds	66.89%
2008	300 seconds	70.34%
2009	300 seconds	70.99%

The average Peoria Fire Department travel time for Fire incidents, first on scene engine, in 2009 was 4:21 seconds.

The standard of cover goal for fire incidents has not been met over the last three years. In fact, the percentage of responses within the goal of five minutes travel time experienced a drop in 2007 which is likely due to the growth that was experienced in the outlying areas at that time. While the growth has slowed due to the economy, the residences remain farther from the urban core where the crux of the fire response infrastructure is located.

In order to improve the percentage of time the department responds to fire incidents within five minutes, the Peoria CIP identifies the addition of three new fire stations (with engine company advanced life support capabilities) to be built over the next ten years. In addition to the new

stations, the department will continue to work with the city Traffic Engineering Department to install, maintain and upgrade traffic preemption devices. All apparatus will continue to be equipped with AVLs and meet NFPA 1901 requirements. The department will continue to improve emergency response times through participation in automatic aid contracts, reducing turnout time through training and policy review, and standardizing reporting methods to identify areas in need of improvement.

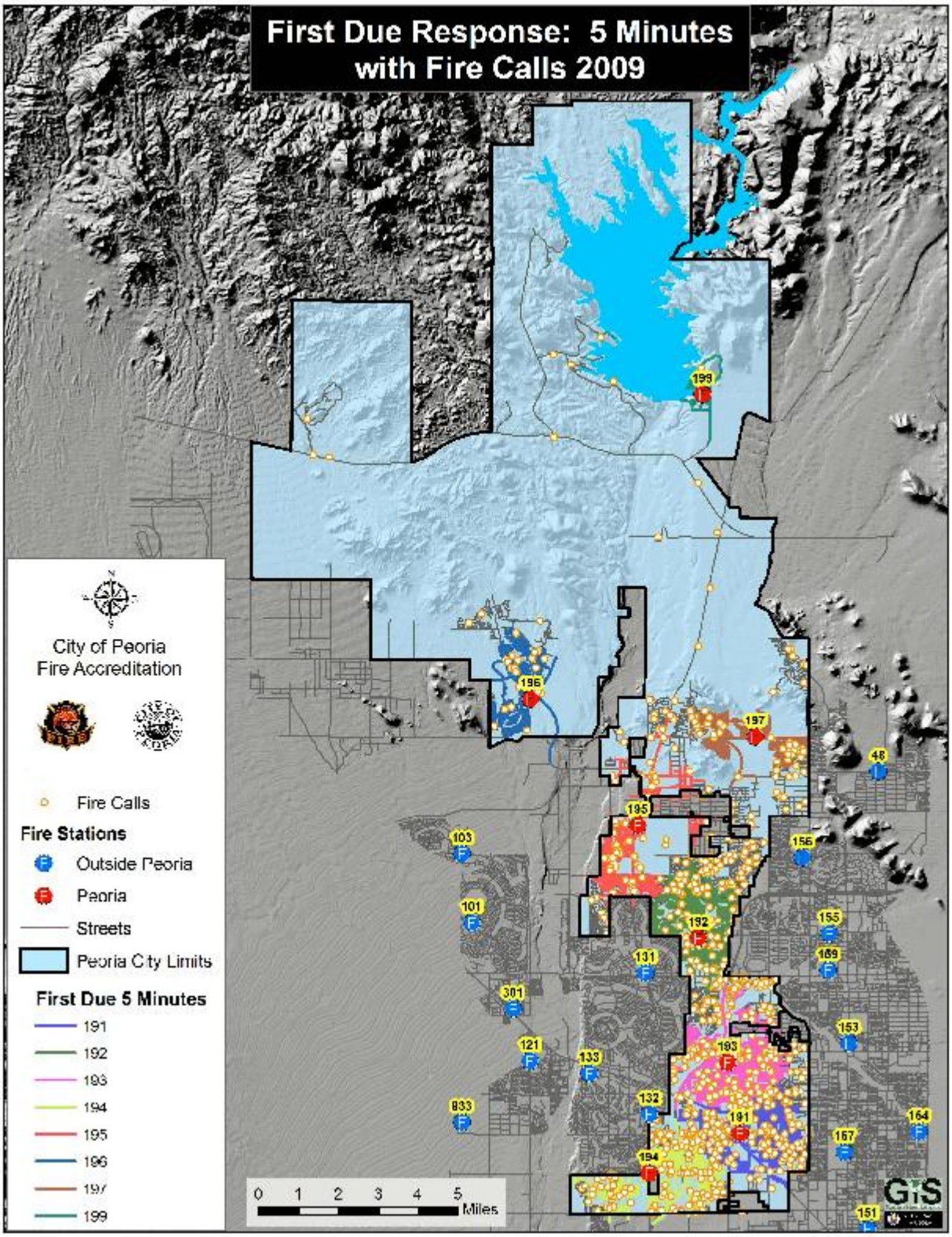
As was provided above for ALS response, the following is the distribution of calls and the percent of responses for which the goal of a five minute travel response time was met:

2009 Fire Response by Fire Station (1st arriving unit – 5 minutes)

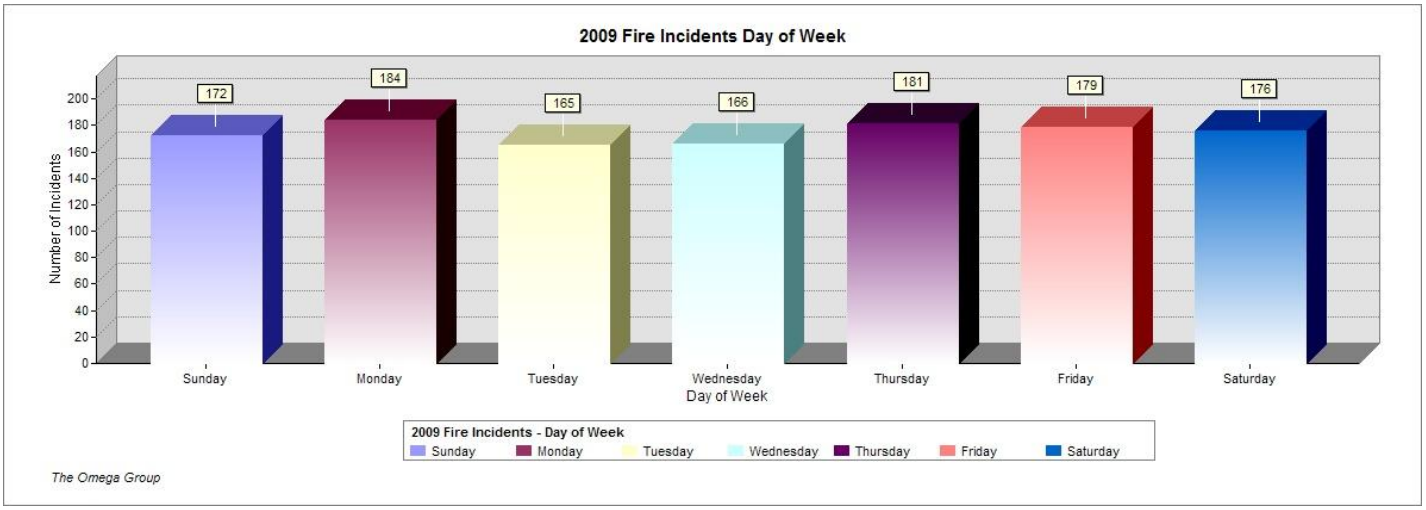
Fire Station	Number of Incidents	5 Minute Objective Met
191	112	83.93%
192	41	68.29%
193	64	79.69%
194	46	73.91%
195	35	62.86%
196	13	69.23%
197	27	51.85%

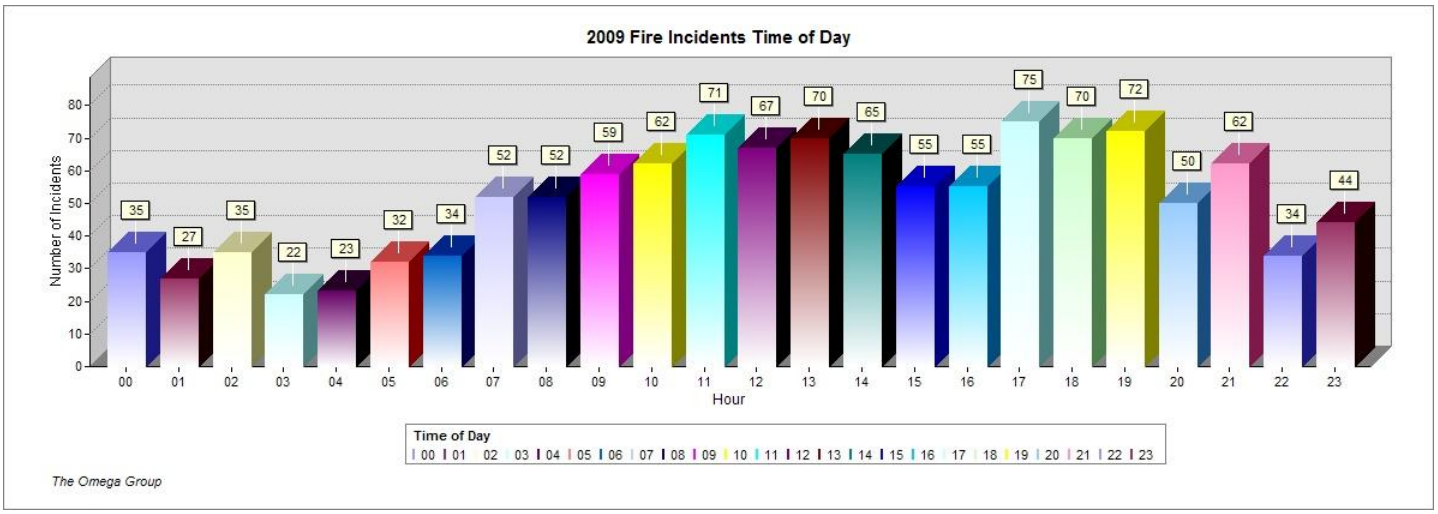
Again, the department is having difficulty meeting response goals in the outlying areas of the city which is vaster geographically and farther from the urban core where the crux of the fire response infrastructure is located. As growth occurs and additional fire stations are built in the far northern areas of the city, response times are expected to improve.

The following map depicts the locations of all 2009 Fire calls overlaid on the first due company response areas that can be achieved within the travel time goal of five minutes. The majority of the southern and central city areas are effectively covered. The uncovered areas are primarily in the far northern undeveloped reaches of the city where call volume is very low. As growth occurs, additional fire stations will be constructed to address increases in call volume, and as a result, overall coverage will improve (The Omega Group, 2007).


First Due Response: 5 Minutes with Fire Calls 2009
City of Peoria
Fire Accreditation
Fire Calls
Fire Stations
Outside Peoria
Peoria
Streets
Peoria City Limits
First Due 5 Minutes
191
192
193
194
195
196
197
199
0 1 2 3 4 5
Miles
GIS

The following two charts depict the 2009 fire incidents within the City of Peoria by day of week and time of day respectively.

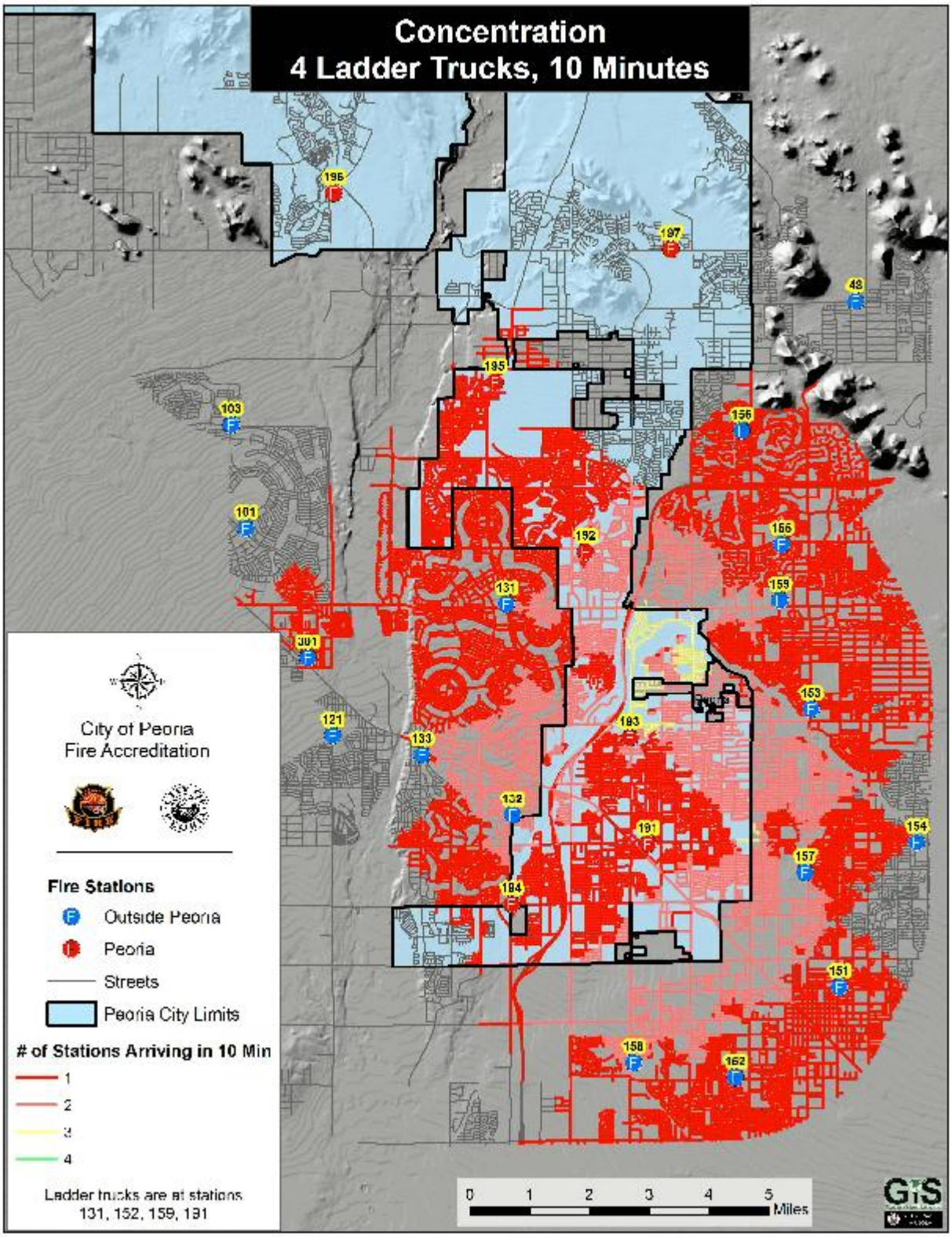


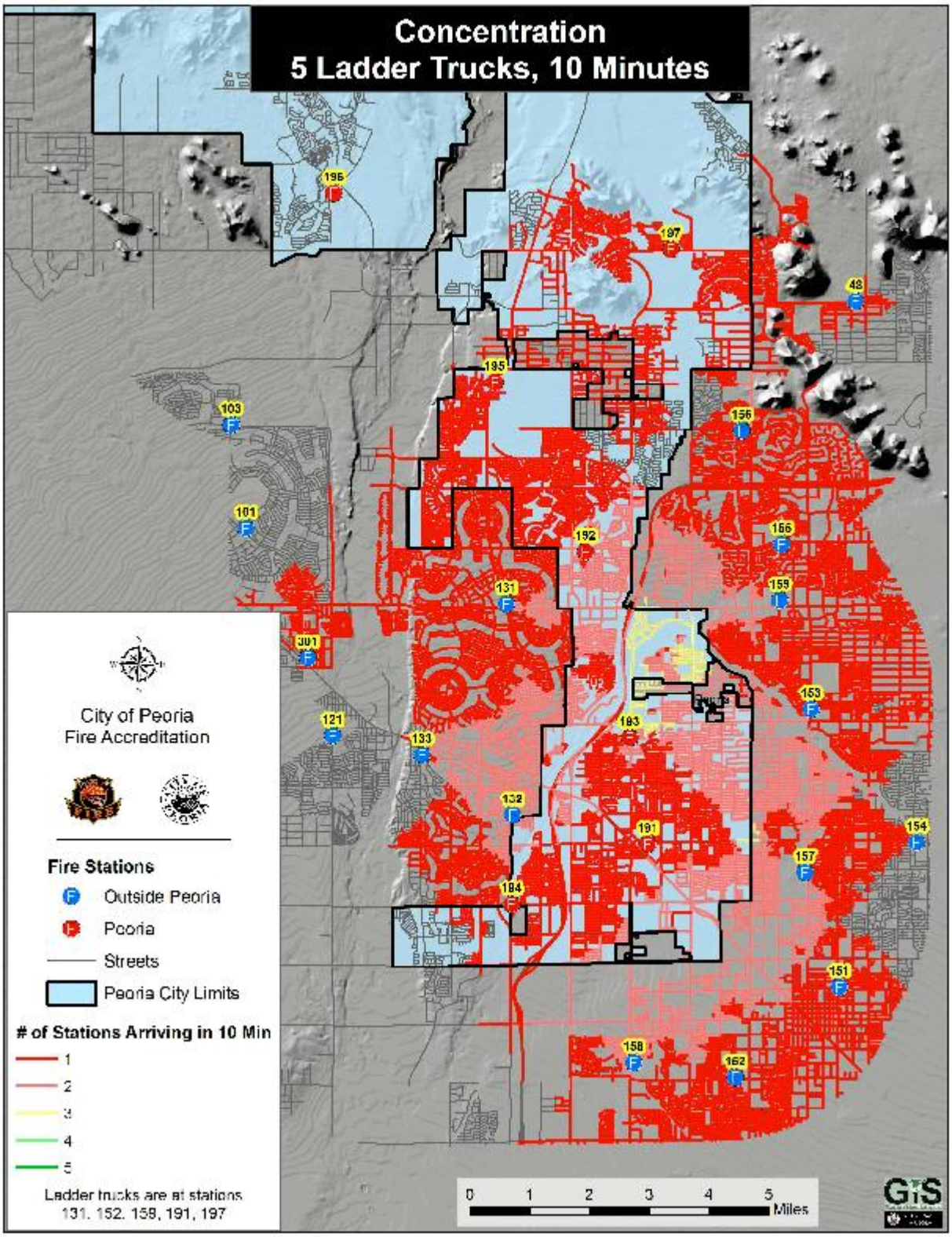


(The Omega Group, 2007)

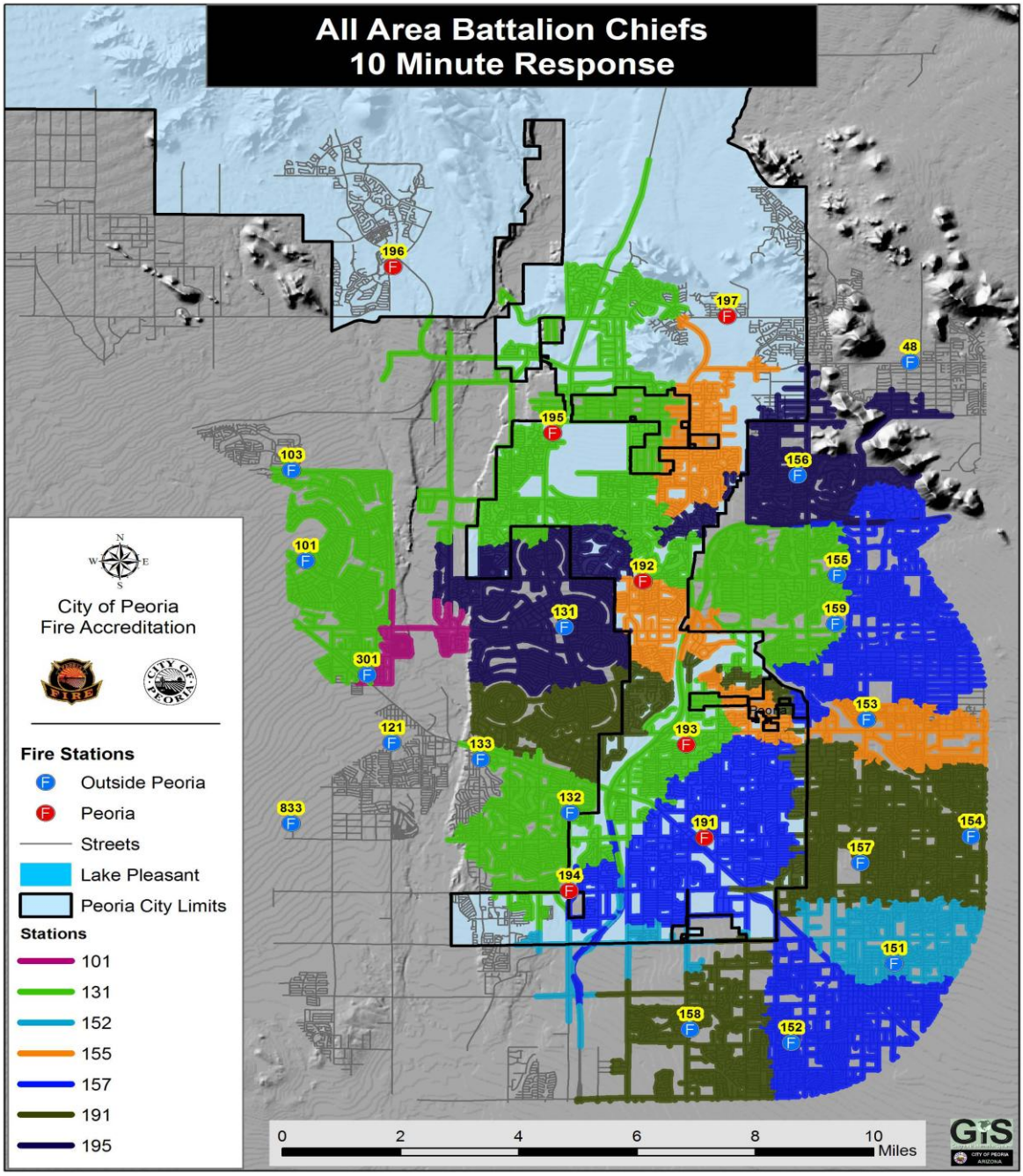
The response time objective for an initial effective response force (low/moderate risk) – *fire*- shall be less than twelve minutes (ten minute travel time). This will provide a minimum of three engines, one ladder company, and two incident commanders. This level of response is also known within the region as a "3 and 1" response. The department effectively meets the 3 and 1 response requirements city-wide. In anticipation of the successive growth northern Peoria was experiencing and the additional incidents that were expected; the Peoria City Council approved the addition of a second ladder company in the 2007 - 2008 fiscal year. This apparatus was successfully deployed in January 2009.

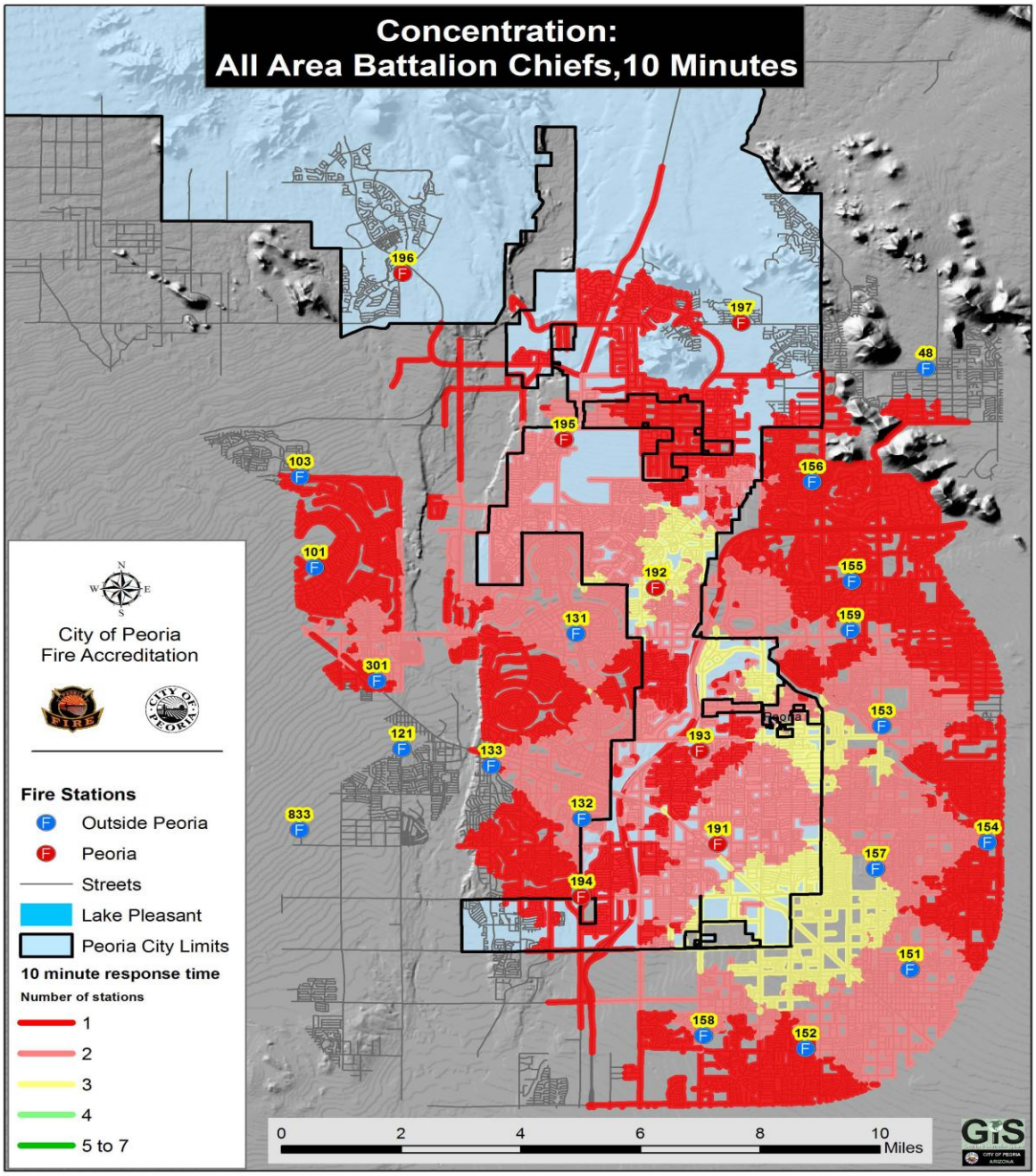
The concentration maps below depict the areas that can be effectively covered in ten minutes with available ladder companies in the valley. The first maps demonstrates the coverage capabilities prior to Peoria Fire adding the second ladder company to FS197 and the second map demonstrates the increase in coverage area. The addition of the second Peoria ladder company results in more effective ladder coverage in the northern portion of the city (The Omega Group, 2007).


Concentration
4 Ladder Trucks, 10 Minutes
City of Peoria
Fire Accreditation
Fire Stations
Outside Peoria
Peoria
Streets
Peoria City Limits
# of Stations Arriving in 10 Min
1
2
3
4
Ladder trucks are at stations
131, 152, 159, 191
0 1 2 3 4 5
Miles
GIS


Concentration
5 Ladder Trucks, 10 Minutes
196
197
48
195
103
156
101
192
155
131
159
301
153
121
193
133
154
132
191
157
194
151
158
162
City of Peoria
Fire Accreditation
Fire Stations
Outside Peoria
Peoria
Streets
Peoria City Limits
# of Stations Arriving in 10 Min
1
2
3
4
5
Ladder trucks are at stations
131, 152, 158, 191, 197
0 1 2 3 4 5
Miles
GIS

As was mentioned previously, the department effectively meets the 3 and 1 response requirements city-wide, which includes the provision of two battalion chiefs (incident commanders) within ten minutes. The below map depicts the areas of the city to which the department is able to provide a Battalion Chief(s) or on duty Deputy Chief on-scene within a ten minute time frame and those areas to which the department cannot respond with adequate incident command within ten minutes (The Omega Group, 2007). Like other response capabilities, the far northern areas of the city do not have adequate incident commander response capabilities. At this time, there are not enough calls in these sparsely populated areas to skew the overall 3 and 1 response statistics. The department will continue to monitor calls in these areas to determine when additional staffing/resources will need to be added in order to meet overall coverage standards.


All Area Battalion Chiefs
10 Minute Response
City of Peoria
Fire Accreditation
Fire Stations
Outside Peoria
Peoria
Streets
Lake Pleasant
Peoria City Limits
Stations
101
131
152
155
157
191
195
196
197
48
103
156
195
101
192
155
131
159
301
153
121
193
133
833
132
191
154
157
194
151
158
152
0
2
4
6
8
10
Miles
GIS


Concentration:
All Area Battalion Chiefs,10 Minutes
City of Peoria
Fire Accreditation
Fire Stations
Outside Peoria
Peoria
Streets
Lake Pleasant
Peoria City Limits
10 minute response time
Number of stations
1
2
3
4
5 to 7
0
2
4
6
8
10
Miles
GIS
196
197
48
195
103
156
101
192
155
131
159
301
153
121
193
133
132
833
191
154
157
194
151
158
152

The chart below represents 3 and 1 structure incidents (3 Engines, 1 Ladder, 2 Battalion Chiefs) in 2009 that qualified for an effective response force using the established ten minute travel time goal.

Fire Incident (3-1-2) Response by First Due Area

First Due Area	3-1-2 Incidents	10 Minute ERF Met
FS191	14	100%
FS192	4	100%
FS193	10	80%
FS194	3	100%
FS195	5	100%
FS196	0	0
FS197	2	100%

The average overall effective response force time for Peoria Fire Department qualifying incidents in 2009 was 5:54. In 2009, the 10 minute travel time goal for a 3 and 1 effective response force was met for 96.66% of fire incidents requiring this type of response. The two responses that did not meet the 10 minute threshold were in Fire Station 193's first due area. Fire stations 191, 192 and 193 are in the densely populated areas of the city and each of these stations has to frequently back up the other station on responses. Additionally, the department's participation in regional automatic aid causes several stations to cross over borders to respond to calls thus rendering them unavailable at times. Fire Station 193 also has a major freeway (Loop 101) that can become an obstacle to responding to incidents. The department will continue to monitor ERF times to all fire incidents to ensure goals are effectively being met.

An initial full alarm assignment in the City of Peoria consist of three engine companies, one ladder company and two incident commanders. Peoria Fire Department's minimum manning requirements assure that this amount of equipment will meet initial full alarm capability as required by NFPA 1710. A first alarm response consists of five engine companies, two ladder companies, and four incident commanders. The Peoria Fire Department does not have many working first alarm fires within the City of Peoria but the department does follow the 12 minute travel time goal objective for a first alarm effective response force. There was one dispatched first alarm full structural assignment for Fire Station 193 in 2009. The ladder arrived on scene in 2:17 seconds and a 5 – 2 – 4 effective response force was gained in 10:46 seconds thus meeting the response time objective.

Special Operations

In addition to the above referenced national standards for fire and emergency medical response, the City of Peoria has two technical rescue units to cover the 176 square mile city, as well as to provide regional response to support the automatic aid consortium. In July 2009, Hazmat Support 193 (HM193) was deployed as a fully equipped hazmat support truck with the appropriate inventory to support departmental response needs. To date, the department has 17 trained HazMat technicians and has three additional firefighters currently being HazMat trained as a part of the department's participation in a 2009 Urban Area Strategic Initiative (UASI) CBRNE sustainment grant from the Arizona Department of Homeland Security.

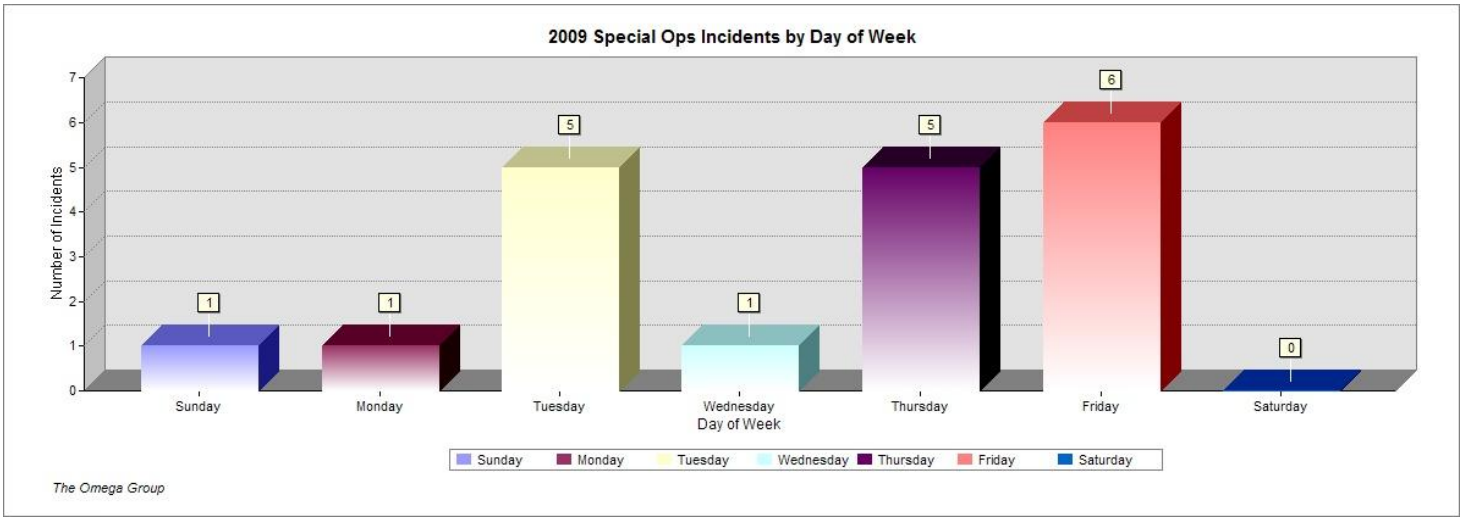
The Peoria travel time response objective for a first arriving hazardous materials response team shall be less than fifteen minutes (thirteen minutes travel time). The severity and magnitude of a hazardous materials incident can range from a small natural gas line release that is isolated to an alleyway to a catastrophic event which requires many days to resolve. Prompt response actions to resolve an incident can significantly reduce the potential for loss of life, environmental and property damage, as well as out of service time for fire companies; however, any and all actions have to be carefully evaluated for potential outcomes. A thorough risk/benefit analysis, which includes the element of time, is essential prior to taking action.

The response time objective for a first arriving technical rescue team shall also be less than fifteen minutes (thirteen minutes travel time). The complexities of technical rescue calls can also vary greatly; for example, a mountain rescue can range from walking a patient out of a remote location using a wheel and stokes and requiring only four to six rescuers to a rescue that requires the use of vertical techniques, multiple helicopters and the coordination of many rescue resources. Confined space, trench rescue, structural collapse, swift water and scuba operations have similar ranges. All of these disciplines share a common need for thorough evaluation by responders after initial arrival to determine the best course of action to take based on time elements, potential outcomes, safety factors and the scenario presented. The Peoria Fire Department has two fully-equipped technical rescue teams and is the primary technical rescue provider for the Northwest Valley.

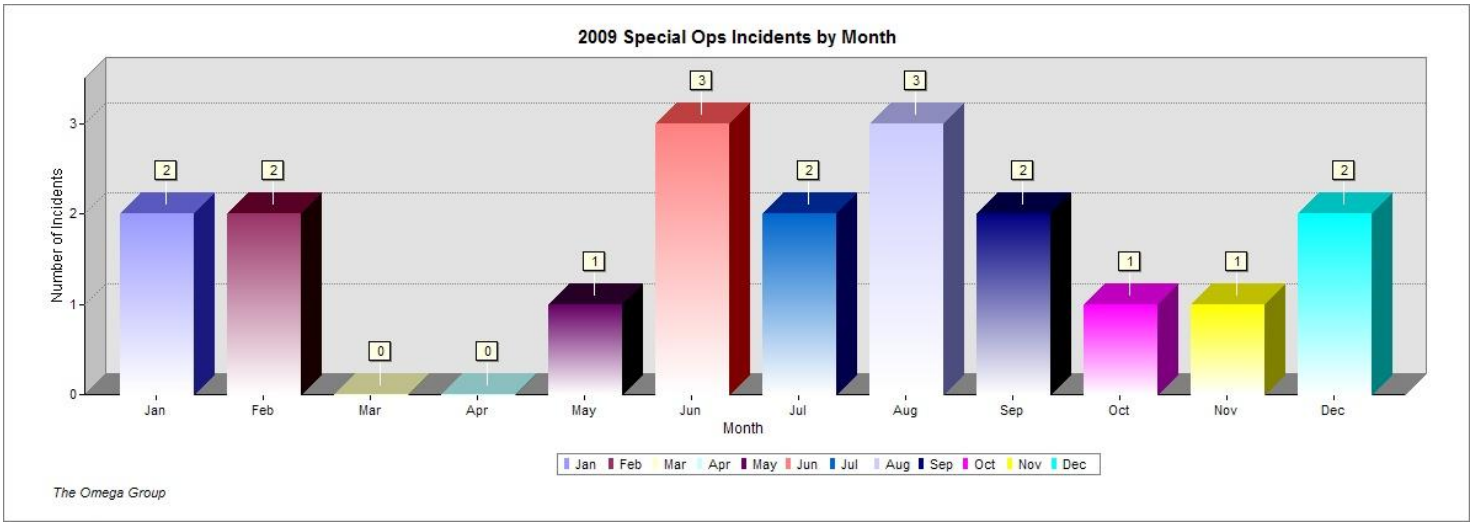
As part of this standard of cover development, the department reviewed the 2008 and 2009 Apparatus Response Time Reports for qualifying special operations calls and all the dispatched

units in Peoria had a travel time of less than 13 minutes on special operations calls. On one call, L197 arrived on scene in 4:11 seconds but the second ladder (LT191) did not arrive (in the northern area) for 14:42 seconds. The department will be able to gather better aggregate data on special operations calls when the new records management system is implemented.

The two charts below represent the 2009 Special Ops calls by day of the week and month of the year.



(The Omega Group, 2007)



(The Omega Group, 2007)

Section Five: Critical Tasks Analysis

The Critical Task analysis determines what tasks need to be accomplished during an emergency incident. The City of Peoria has outlined critical task analysis for (Code 3) Fire, EMS, and Special Operations (Hazardous Materials and Technical Rescue) events.

Structure Fire Critical Tasks

The Peoria Fire Department's current deployment philosophy places great emphasis on "front loading" our deployment to building fires. The many tasks required to be accomplished in the initial minutes of an emergency can be readily accomplished within our deployment model.

In all phases of all operations, firefighter safety is the highest priority followed closely by civilian rescue, fire control, and property conservation. Fully staffed fire companies consisting of three members and one Officer are the basis of all task level operations conducted on the fire ground. Providing for the safety of our customers and firefighters, and to minimize the loss of property, the critical tasks must be assigned and accomplished on all building fires managed under an "Offensive Strategy" declaration by the Incident Commander (IC).

Risk Management Plan

- We will initiate all responses based upon the assumption that there are lives and property to be saved
- We will risk our lives, in a calculated manner, to save lives
- We will risk our lives a little, in a calculated manner, to save property
- We will not risk our lives at all for lives or property that are already lost

Critical tasks that are required to be assigned and benchmarked for all fire events are:

Task	Benchmark
Primary Search Assignment	All Clear & Personnel Accountability Report
Assignment of Attack Teams	Fire Under Control & Personnel Accountability Report
Assignment to Property Conservation	Loss Stopped

The first in Fire Company which consists of four members is responsible for managing the eight functions of command until the incident is stabilized or command is transferred to a Battalion Chief.

The "Eight Functions of Command" are:

- Assumption, confirmation and positioning of command
- Situation evaluation
- Initiate, maintain and control communications
- Deployment management
- Strategy & Incident Action Planning (IAP)
- Development of the fireground organization
- Review, evaluation and revision (IAP)
- Continuing, transfer, and termination of command

Fire Incidents - 3 & 1

Criteria: A 3 & 1 assignment will be dispatched for structure fires that do not indicate the need for a First Alarm assignment.

Response Requirements:

3 Engine Companies (4 members in each company)

1 Ladder (4 member company)

2 Battalion Chiefs (command officers)

2 Battalion Support Officers

Ambulance-civilians

CR van-civilian crisis intervention team

Working fire will receive additional resources:

Engine (4 member company)

Utility Support (Air and Light)

Rehabilitation Unit

Staffing Commitment: Twenty eight (28) fire department members and two civilians

Task	Staff	Unit Assigned
Initial attack	2*	1st Engine
2 in / 2 out	2	1st Engine
Primary search	2*	1st Engine-initial attack
Back-up line, search and rescue	4	2nd Engine
Ventilation and utilities	4	1st Ladder
Rapid Intervention Crew and 2nd supply	4	3rd Engine
"On Deck" crew	4	4th Engine
Incident Command	2	1st Battalion Chief and Battalion Support Officer
Support Officer and Safety Officer	2	2nd Battalion Chief and Battalion Support Officer
Utility Support-air & light	1	
Rehabilitation Unit	1	
Total Personnel	28	

When responding to a fire incident the 3 and 1 response force will provide a minimum 1000 gpm uninterrupted water. A typical resource deployment would be to establish an Incident Commander, secure a water supply (one firefighter), operate the fire pump (one firefighter), one primary attack 1 ¾" hose line (two firefighters), one back-up 1 ¾" attack hose line (two firefighters), one search and rescue team (two firefighters), one vertical ventilation team (three firefighters), exterior utilities / mechanical ventilation (one firefighter), one Rapid Intervention Crew (four firefighters), one Incident Command Team (One Battalion Chief or Field Deputy Chief / One Battalion Support Captain), and one dedicated Incident Safety Team (One Battalion

Chief or Field Deputy Chief / One Battalion Support Captain). OSHA two in/two out standards are met by an Initial Rapid Intervention Team (IRIC) consisting of the first arriving firefighter and Engineer.

Upon declaration of a "Working Fire" by the Incident Commander, one additional engine, one utility truck (air / lights), one fire investigator, and one rehab truck are automatically sent for property conservation, overhaul, relief and rehabilitation.

A working fire is a basic declaration that *all the assigned resources will be utilized* - at whatever level has been dispatched. It can be made by any arriving unit, any responding unit (such as an "obvious working fire" when they see a large column of smoke), or even by the alarm room based on the number and type of phone calls. It really is more of a mode of operation, but it does cause some support resources to be sent (PD, Rehab, SRP/APS/Southwest Gas, etc.) and causes a timer to be started to remind the IC of how long the structure has been burning.

A 3-1 is a typical small to medium structure fire, such as a house, retail store, strip center, etc. It may also apply to an exposed structure, such as a car fire in a carport.

Fire Incidents – First Alarm

Criteria: A First Alarm will be dispatched for structure fires when reports indicate this level of resource may be needed. This may be based on reports that indicate an actual or potential situation. A First Alarm may be dispatched for other types of incidents at the discretion of Dispatch personnel. A first alarm is not necessarily the maximum level of fire response, but rather it would be considered the maximum level of *initial dispatch*.

Response Requirements:

5 Engine Companies (4 members in each company – one company must be ALS)
2 Ladder Companies (4 members in each company)
4 Battalion Chiefs
4 Battalion Support Officers
2 Scene Support (Air and Light) Utility
Command Van
Rehabilitation Unit
C957 – Technical Safety Officer

Ambulance - civilians

CR Van - civilian crisis intervention team

Heavy Rescue Company (5 member company)

Staffing Commitment: Fifty four (54) fire department members and four civilians

Fire Incidents – Greater Alarm

Criteria: Additional alarms will be requested through the incident IC and dispatched to a location near the incident address. This location is titled Level II Staging and is operated on a separate channel. The first arriving company shall assume Level II Staging Officer and notify the ICs' BSO on the staging channel. The additional "alarms" are a pre-program resource groups (outlined on the Assignment List included at the end of this section). The IC is charged with constantly evaluating what resources are deployed, available, and expected to be needed - then adjusting the requests to meet the situation. The IC can escalate the incident by calling for the "balance" of a higher assignment. The balance will send that full assignment, *minus* any units already sent. The IC may "balance" up to a First Alarm, but additional alarms (2A, 3A, etc.) receive the full assignment, regardless of how many units are already responding.

There are also primary response requirements (such as 5 Engines, 2 Ladders, etc.) and secondary requirements (such as ALS capability). The primary requirements must all be filled by the closest available unit meeting that specialty/requirement. Then, if one of those units does not also meet the secondary requirement, the closest one that does meet the requirement will be added to the assignment. For example, if none of the units sent to a first alarm are ALS, the closest ALS unit will be added.

Response Requirements:

Second alarm assignment is a duplicate of fire resources from the first alarm.

Third through fifth Alarms each receives:

- 4 Engine Companies (4 members in each company)
- 2 Ladder (4 members in each company)
- 2 Battalion Chief
- 2 Battalion Support Officers

Resource requests above a fifth alarm will be made by special call.

When responding to a fire incident the first alarm assignment response will provide additional resources (assigned by the Incident Commander) to reinforce and relieve personnel already

deployed. A typical first alarm resource deployment can include additional water supply lines/pumped water supplies, pumped standpipes and sprinkler systems, attack lines above/below the fire floor, supplementary/larger attack lines (2 ½"), additional ventilation teams, property conservation teams, additional search, rescue, and treatment teams, resource and support sectors, lobby control, high flow monitor/ladder pipe operation, additional sector/safety officers, and an augmented command team.

Upon declaration of a "Working First Alarm Fire" by the Incident Commander, two additional engines companies, one ladder, and five command officers are automatically sent to supplement and sectorize Rapid Intervention Crews (RIC).

A First Alarm initial dispatch would generally be made to a fire in larger commercial/high risk occupancies such as hospitals, high rises, nursing homes, large warehouse, etc. The alarm room has the flexibility to adjust the call type based on the phone call information received. The IC would also use a "Balance of a First Alarm" to supplement 3-1 resources for special situations, such as an overly large or two story house, a very hot day, water supply issues, etc.

EMS Critical Tasks

Medical emergencies are time-sensitive and require the prompt response of paramedic engine companies. The Regional Dispatch Center (RDC) will dispatch to emergency medical incidents depending on the reported situation.

The objective of all EMS operations is to provide appropriate assessment and treatment to individual patients within the capabilities of personnel and the resources available. The officer in command is responsible for the provision and deployment of resources to meet that objective. Personnel are responsible for the assessment and treatment of individual patients, within their capabilities, as assigned by the officer in command.

Staffing:

The City of Peoria's Fire Department is a first responder agency with the capability of providing BLS (Basic Life Support) and ALS (Advanced Life Support) services. All front line members are EMT certified to provide BLS services. All seven of the Department's engine companies provide ALS services with two members (of the four member company) having paramedic certifications. Additional staff would be obtained through automatic/mutual aid agreements with surrounding cities.

Basic Life Support (BLS) Emergency Technician Responsibilities

- Basic airway management (OPA, BVM, Suction, NRB)
- Vital signs
- Equipment set up (I.V, EKG, Automatic Ventilator, Pulse Oximeter, ETCO2 monitoring)
- Bandages and splinting
- Cervical Spine Immobilization
- ABCs & Level of Consciousness
- Blood Glucose Evaluation via Glucometer

Paramedics are responsible for advanced life support (ALS) of individual patients. When operating at an EMS incident, the paramedic, in consultation with a physician or by standing orders, will determine and direct appropriate treatment. The officer in command of the incident

remains responsible for scene management and resource allocation as well as deployment of ALS units.

Advance Life Support (ALS) Paramedic Responsibilities

Patient Assessment
EKG Interpretation
    Defibrillation & Sync Cardio version
    Transcutaneous Pacing
I.V. Access
Advance Airway Management (Endotracheal Intubation & Combitube)
Needle Decompression of Chest
Drug Administration
Contact Medical Control
Documentation

Additional Company Officer Responsibly

Communicate with Dispatch via Radio
Communicate with other Fire Companies
Communicate with Police
Communicate with contracted Ambulance Companies
Establish Command-as needed

The City of Peoria's Fire Department has the following equipment readily available for both ALS and BLS companies.

EMS Box
I.V. Supplies
Blood Pressure Cuff
Stethoscope
Bandaging Supplies (various sizes)
Trauma Shears
Glucometer
Penlights
Ring Cutters

Airway Box/Bag
O2 Bottle
Oxygen Masks
Intubation Kit
Bag Value Masks (Adult and Pediatric)
Automatic Transport Ventilator
Oropharyngeal Airways
Cric Kit

Drug Box
Arizona Department of Health approved medications
Associated standards for administration of medications

Portable Heart Monitor (currently Phillips)
Twelve leads
Pulse Oximeter
ETCO2 Monitor
Defibrillation-cardio version

Other Equipment
Sharps Container
Equipment Restock

Specialty Equipment is readily available but is taken to the incidents as needed.

Specialty Equipment
Backboards
C-Spine Bag
OB/Burn Kit
Portable Suction
Pediatric Vacu-Splint

Special Operations Critical Tasks

Due to the many variables and factors that may occur at an incident it is impossible to identify every potential scenario involving hazardous materials or a technical rescue incidents. The following task analyses are predicated on representative events for an emergency (Code 3) response.

Hazardous Material Incidents Critical Tasks

The complexities of hazardous material calls vary greatly; accordingly, a natural gas leak incident has been selected to illustrate as an emergency (Code 3) event.

The severity and magnitude of a hazardous materials incident can range from a small natural gas line release that is isolated to an alleyway to a catastrophic event which requires many days to resolve. Prompt response actions to resolve an incident can significantly reduce the potential for loss of life, environmental and property damage, as well as out of service time for fire companies; however, any and all actions have to be carefully evaluated for potential outcomes. A thorough risk/benefit analysis, which includes the element of time, is essential prior to taking action. Peoria Fire Department Standard Operating Procedures (SOP) 204.01 through 204.07 provide guidance in managing and responding to hazardous materials incidents. An example of tasks that might occur in a typical two and one hazardous materials incident is identified in the preceding table which depicts a natural gas leak inside a structure. Due to the many variables and factors

that may occur at or during an incident, including the product, amount of product released, ambient temperature, current and forecasted weather, terrain, and physical properties of the product, it is impossible to identify every potential scenario involving hazardous materials. All personnel will utilize the appropriate personal protective equipment for the situation. The following table is meant to exemplify an emergency (Code 3) incident.

2 and 1 Hazardous Materials Natural Gas Leak (Inside Structure)

Task	Staff	Units assigned
Scene size up and establish command	4	1st Engine
Recognition and identification	4	1st Engine
Establish hot, warm, and cold zones	2	1st Engine
Evacuation if needed	4	1st Ladder
Establish water supply	2	1st or 2nd Engine
Hose line for protection	2	1st Engine
Establish hazard sector	1	1st Hazmat company
Establish research	1	1st Hazmat company
Establish atmospheric monitoring	2	1st Hazmat company
Establish safety sector	1	2nd Hazmat company
Transfer of command	2	Battalion Chief/BSO
Liaison with Southwest Gas	1	Battalion Chief
Stand by with hose line while SW Gas secures leak	3	2nd Hazmat company
Total Personnel	29	

Technical Rescue Incidents Critical Tasks

The complexities of technical rescue calls vary greatly; accordingly, a mountain rescue incident has been selected to illustrate as an emergency (Code 3) event.

Mountain rescue can range from walking a patient out of a remote location using a wheel and stokes and requiring only four to six rescuers to a rescue that requires the use of vertical techniques, multiple helicopters and the coordination of many rescue resources. Confined space, trench rescue, structural collapse, swift water and scuba operations have similar ranges. All of

these disciplines share a common need for thorough evaluation by responders after initial arrival to determine the best course of action to take based on time elements, potential outcomes, safety factors and the scenario presented.

Peoria Fire Department SOP 204.08P through 204.13P and The Essential Technical Rescue Field Operations Guide (3rd edition) issued to all TRT members provides guidance in managing and performing technical rescues. Due to the many variables and factors that may occur during an incident, including variables in terrain or structure, number and condition of victims, environmental factors and type of incident, it is impossible to identify every potential scenario involving technical rescue. The City of Peoria has two technical rescue teams (company of four) that would be supplemented by automatic aid by surrounding cities. The following table is meant to exemplify an emergency (Code 3) incident.

Mountain Rescue Team Based Pick-off Involving One Patient

Task	Staff	Units Assigned
Scene size up and establish command	4	1st Company
Recon Sector / forward information gathering	4	1st TRT Company
Rescue Sector / initiate rescue efforts, will absorb recon sector	4	2nd TRT Company
Technical Sector Officer / operations control	1	Car 957 or equivalent
Ongoing Command	2	Battalion Chief/BSO
Lower LZ	2	3rd TRT Company
Mountain LZ	2	3rd TRT Company
Helicopter Support	2	Firebird
Treatment	4	ALS Company
Transportation	2	1st Ambulance
Total Personnel	27	

ALARM HEADQUARTERS ASSIGNMENT LIST

CAD Capability Abbreviations:

RH – Rehab U – Utility CCU – CRVAN

PCU – AR29 AR10 PUT - Phx Utility Trk

CAM - Thermal Imaging Camera

ELV – Elevated Platform

LTR – Light Trailer

TS – Technical Rescue Support

SHF – Shift Commander (Dep. Chief)

Dispatch Assignment Key:

NATURE – Primary Requirements

(Secondary Requirements)

Fires:

(AC Unit / Dryer Fire) – 1 Eng, 1 LAD

3-1

3 Eng, Lad, 2 CMD

3-1WF:

3 Eng, Lad, 2 CMD, CCU, U, RH

1st Alarm:

4 Eng, 2 Lad, Amb, 2 CMD *(ALS, PUT)*

1A-WF:

5 Eng, 2 Lad, 2 CMD, 1 SHF, 1U, 1 AMB, CV, RH *(ALS, PUT)*

1A-WF MEDICAL:

7 Eng, 3 Lad, 3 CMD, 1 SHF, 1U, 1 AMB, CV, RH *(ALS, 2 AMB)*

2A (Structural):

6 Eng, 3 Lad, U, 8 CMD, C56 (RH, CAM)

2A-STRUCTURE MEDICAL: 4 Eng, 2 Lad, 9 CMD, SDC, NCD, U, RH, C56 *(6 ALS, 8 AMB)*

GREATER ALARM (3A or Higher Structural):

4 Eng, 2 Lad, CMD

BRUSH :

2 Eng, 2 BR, 1 T, CMD

1A BRUSH:

5 Eng, 4 BR, 2 T, 2 CMD, SHF, R-41, CV, U, C56, RH *(PUT)*

2A BRUSH:

4 Eng, 4 BR, 3 T, 10 CMD, R-41, 2 U, RH, C56

GREATER ALARM BRUSH (3A or Higher):

4 Eng, 2 Lad, CMD

Technical Rescue Assignments:

WATER RESCUE:

1 Eng, 1 Lad, 2 TS, CMD, C957 (*2 TRT)*

MOUNTAIN RESCUE:

MPW, 2 TS, CMD, C957 *(3 TRT)*

HEAVY RESCUE:

1 Eng, 1 Lad, CMD, E8, S8, C957, *(2 TRT, TS, 2 ALS)*

TRENCH

1 Eng, 1 Lad, CMD, C957, C599 *(3 TRT, ALS, S8, S45)*

CONFINED SPACE:

MPW, CMD, U, C94, C599, C957, C1557

(3 TRT, 2 TS, AHT, AHE, ALS)

1A RESCUE:

2 Eng, 1 Lad, CMD, U, RH, SHF, C93, C957, C599, *(ALS, 3 TRT, 3 TS, AHT, AHE, 1 AMB)*

2A RESCUE:

4 Eng, 2 Lad, 1 TS, 9 CMD, 2 U, RH, SHF *(ALS, 2 TRT, S8, AHT, AHE, AMB)*

Greater Alarm Rescue (3A or Higher):

4 Eng, 2 Lad, 7 CMD

Haz-Mat Assignments:

HAZARDOUS:

1 Eng, 1 AHE, C599, C957, C274, C307, GSPSN *(1 AHT)*

2-1 HAZARDOUS:

2 Eng, 1 Lad, 1 AHE, 1 CMD, C957, C599, C274, C307, GSPSN *(2 AHT)*

1A HAZARDOUS:

4 Eng, 2 Lad, 2 CMD, SHF, RH, 2 U, CV, C93, C957, C599, C274, GSPSN

(4 AHT, 2 ALS, 2 AHE, C56, C307, C85)

1A HAZARDOUS-MEDICAL ASSIGNMENT

4 Eng, 2 Lad, 2 CMD, SHF, 2 U, CV, C93, C957, C599, C274, GSPSN

(4 AHT, 2 AHE, 2 ALS, C307, C85, 3 AMB)

2A HAZARDOUS:

4 Eng, 2 Lad, 8 CMD, SHF, RH, U

(3 AHT, HM4, 2 AHE, ALS)

3A HAZARDOUS: 4 Eng, 2 Lad, CMD

EMS:

962-Roll Over (NO Reported Trapped Victims):

1 Eng, 1 Amb

Car in Canal (NO Confirmed Occupants):

1 Eng, or Lad

2-1 Medical:

2 Eng, 1 Lad, CMD *(2 ALS, 2 AMB)*

3-1 Medical:

3 Eng, 1 Lad, 2 CMD *(3 ALS, 3 AMB)*

1A Medical:

4 Eng, 2 Lad, 2 CMD, 1 SHF *(3 ALS, PUT, 4 AMB)*

2A Medical:

4 Eng, 2 Lad, 9 CMD, SHF, U, RH, C56 *(3 ALS, 4 AMB)*

Greater Alarm Medical (3A or Higher):

4 ENG, 2 LAD, 6 CMD

Aircraft Crash:

Alert 1 (Sky Harbor): E19, AT19, F1, F2, F3, CMD *(PHX CMD)*

Alert 2 (Sky Harbor): 2 ENG, 1 LAD, AT19, F1, F2, F3, CMD *(PHX CMD, ALS)*

Alert 2 1A (Sky Harbor): 4 Eng, 1 Lad, AT19, F1, F2, F3, 2 CMD, SHF,, U, CV *(ALS, ELV, PUT)*

Alert 3 (Sky Harbor): 5 Eng, 2 Lad, AT19, F1, F2, F3, E8, S8, 7 CMD, SHF,, U, CV (2 ALS, TRT, ELV, PHX CMD, CCU, 3 AMB)

Alert 3 (Off-Airport): *2 Eng, Lad, CMD, U, 2 BR, T* (ALS, EXT)

Calls that require a Fire Investigator:

- Known or suspected arson fire
- Structure fire with >100SF or $10,000 Loss
- Structure fire with Auto-Sprinkler Activation

- Fire with significant firefighter/civilian injury
- Fire with firefighter/civilian fatality
- Fire involving city owned / operated facility
- Fire involving city owned/operated equipment
- Fire in state regulated facility (School, Nursing Home, etc…)

(Phoenix Dispatch Center, 2008)

Section Six: Distribution

The term "distribution" describes the station and resource locations needed to minimize and terminate emergencies by assuring a sufficiently rapid first due response deployment. Distribution is measured by the percent of the jurisdiction covered by first due units within the adopted public policy. In Peoria, that public policy consists of the following:

- Less than a six minute response time (crew notify to on scene) for first arriving unit to a code three emergency medical incident (five minute travel time).
- Less than an eight minute travel time for a second due company, most likely a ladder or engine on scene.
- Less than a six minute response time for first arriving engine company (five minute travel time) and/or less than ten minute travel time for a full alarm assignment. (moderate risk)
- Less than a ten minute travel time for an initial effective response force of three engines, one ladder and two incident commanders to full assignment at a fire suppression incident.
- Less than a twelve minute travel time for an initial effective response force of five engines, two ladders and four incident commanders to maximum or high risk demand zones.
- Less than a ten minute response time for first arriving ambulance to code three medical incidents (per contract with third party).
- Less than a fifteen minute response time for first arriving hazardous materials response team component (thirteen minute travel time).
- Less than a fifteen minute response time for first arriving technical rescue team component (thirteen minute travel time)

The Department has utilized brain death and flashover as benchmarks when determining distribution of units. Specifically to arrive before brain death on the EMS calls and prior to flashover for the fire calls.

Currently, the department distributes its resources to provide an initial attack response force capable of containing a fire to a 5,000 square foot compartment (moderate/typical risk). Structures larger than 5,000 square feet or more than two stories are required by ordinance to build in fire protection (sprinkler system).

At the time of this writing, the Peoria Fire Department operates out of seven strategically located fire stations. Each of the seven fire stations has assigned to it an engine company with a minimum of four personnel. Of the four personnel, two are state certified paramedics and two are state certified emergency medical technicians. Ladder companies respond out of Fire Station 191 and Fire Station 197. The ladder company is staffed with four Emergency Medical Technician's (EMT's). Every ladder and engine company is also staffed minimally with a captain, engineer, and two firefighters. Two incident command units are staffed with one battalion chief/deputy chief and one fire captain, one covers the southern portion of the city and responds out of Fire Station 191 and the other covers the northern portion of the city and is located at Fire Station 195. A minimum of three of the four personnel assigned to Engine 195 and Ladder 191 are also trained as technical rescue technicians and respond as part of metropolitan technical rescue response force. At least one paramedic on Engine 193 is also trained as a toxicology medic.

Utilizing the standards of response coverage, mentioned above, an assessment was conducted to measure the departments' current level of service. Response time contours portray the department's ability to travel a distance in a predetermined time. Automatic aid companies are considered in the distribution analysis. Results of the distribution measurements are listed below:

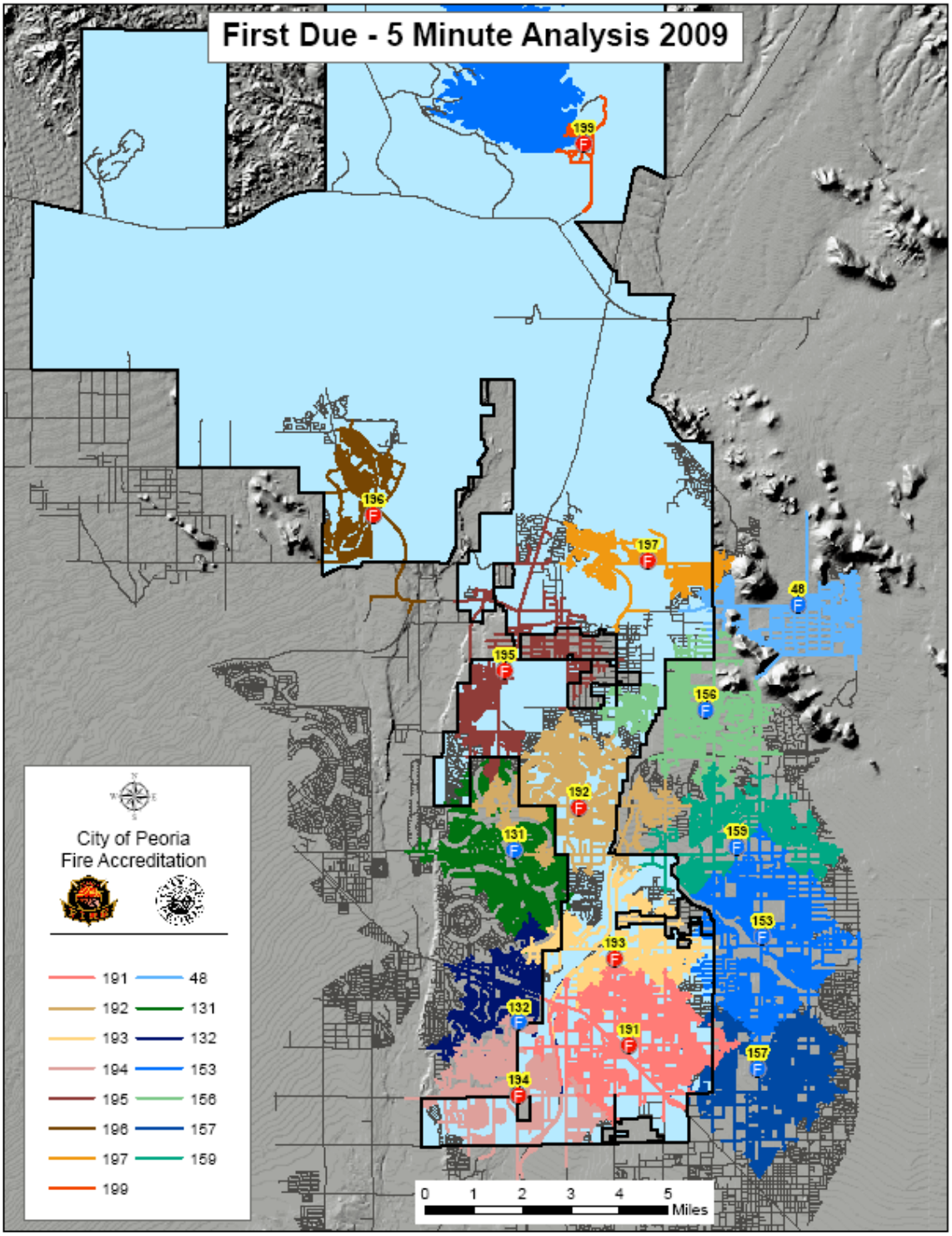
- Approximately 80 percent of all demand zones are within a 5 minute first unit/engine company on scene travel time contour.

- Approximately 95 percent of moderate risk demand zones are within an 8 minute travel time contour for having a second due unit (engine or ladder) on the scene.
- Approximately 90 percent of moderate risk demand zones are within a 10 minute ladder company travel time contour.
- Approximately 90 percent of moderate risk demand zones are within a 10 minute travel time contour for incident commander response.
- Approximately 70 percent of all demand zones are within a 15 minute travel time contour for Hazardous Material response needs.
- Approximately 90 percent of all demand zones are within a 15 minute travel time contour for technical rescue response needs.

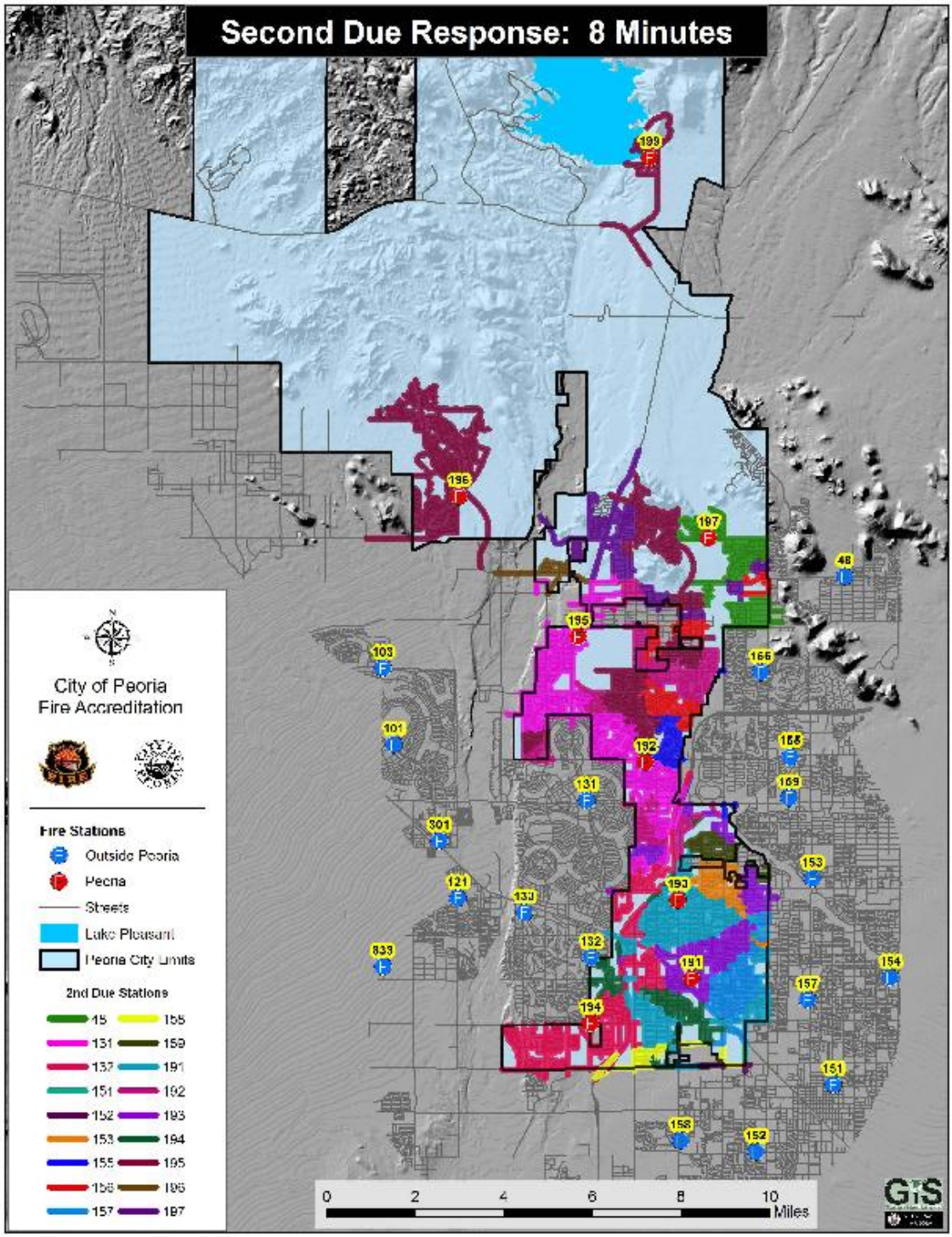
This analysis included the newest fire station (FS197) which became operational in August 2007, the addition of a second ladder company in northern Peoria (FS197) in 2008, and the addition of a hazardous material resource (HM193) in July 2009. The first and second due response maps include the part time station at FS199 in Lake Pleasant Regional Park as would be appropriate.

The following maps geographically depict the above referenced response distribution statements (The Omega Group, 2007):

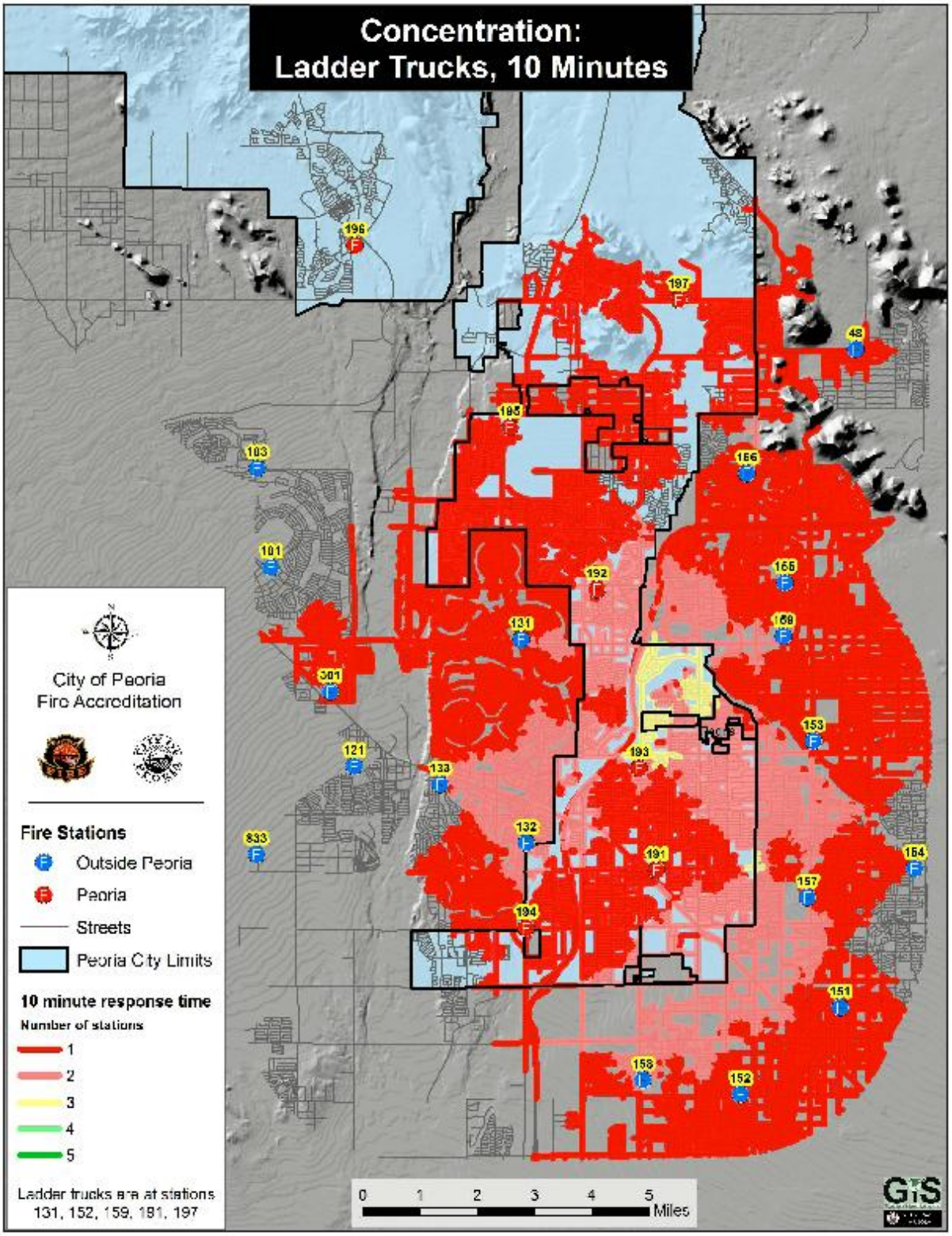
Approximately 85 percent of all demand zones are within a 5 minute first unit/engine company on scene travel time contour and 85 percent of the call volume is within a 5 minute travel time contour.



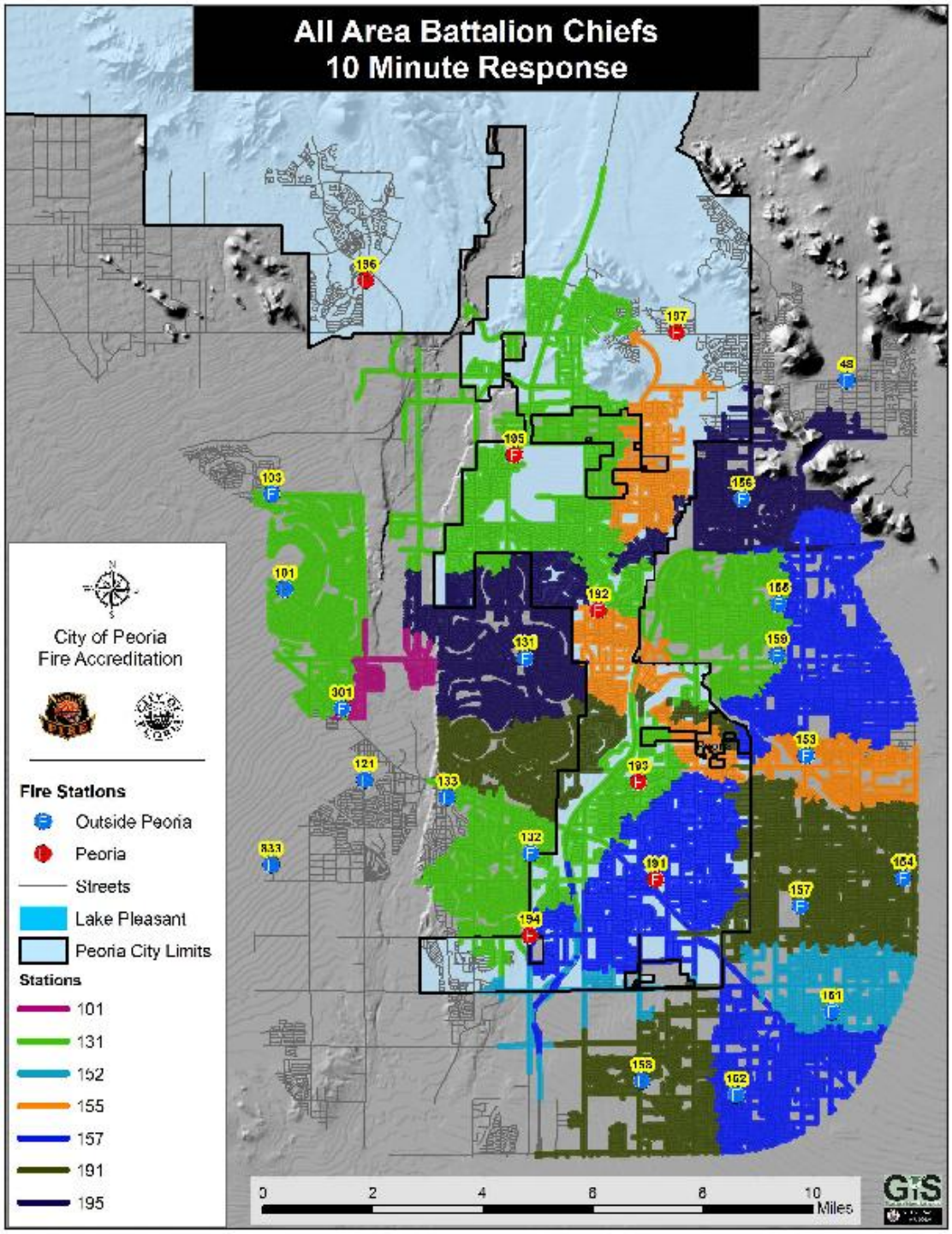
Approximately 95 percent of moderate risk demand zones are within an 8 minute travel time contour for having two engine companies on the scene.



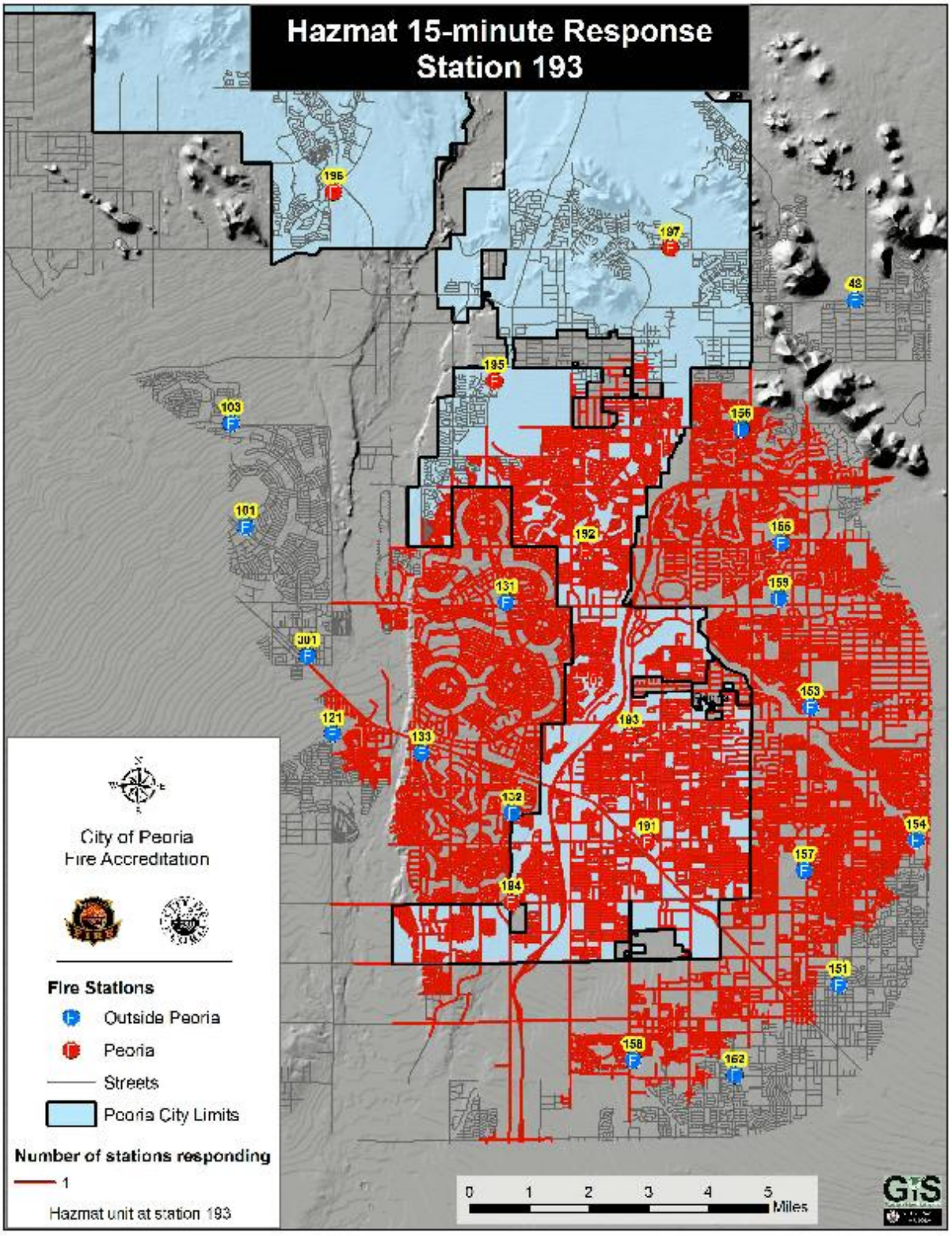
Approximately 90 percent of moderate risk demand zones are within a 10 minute ladder company travel time contour.



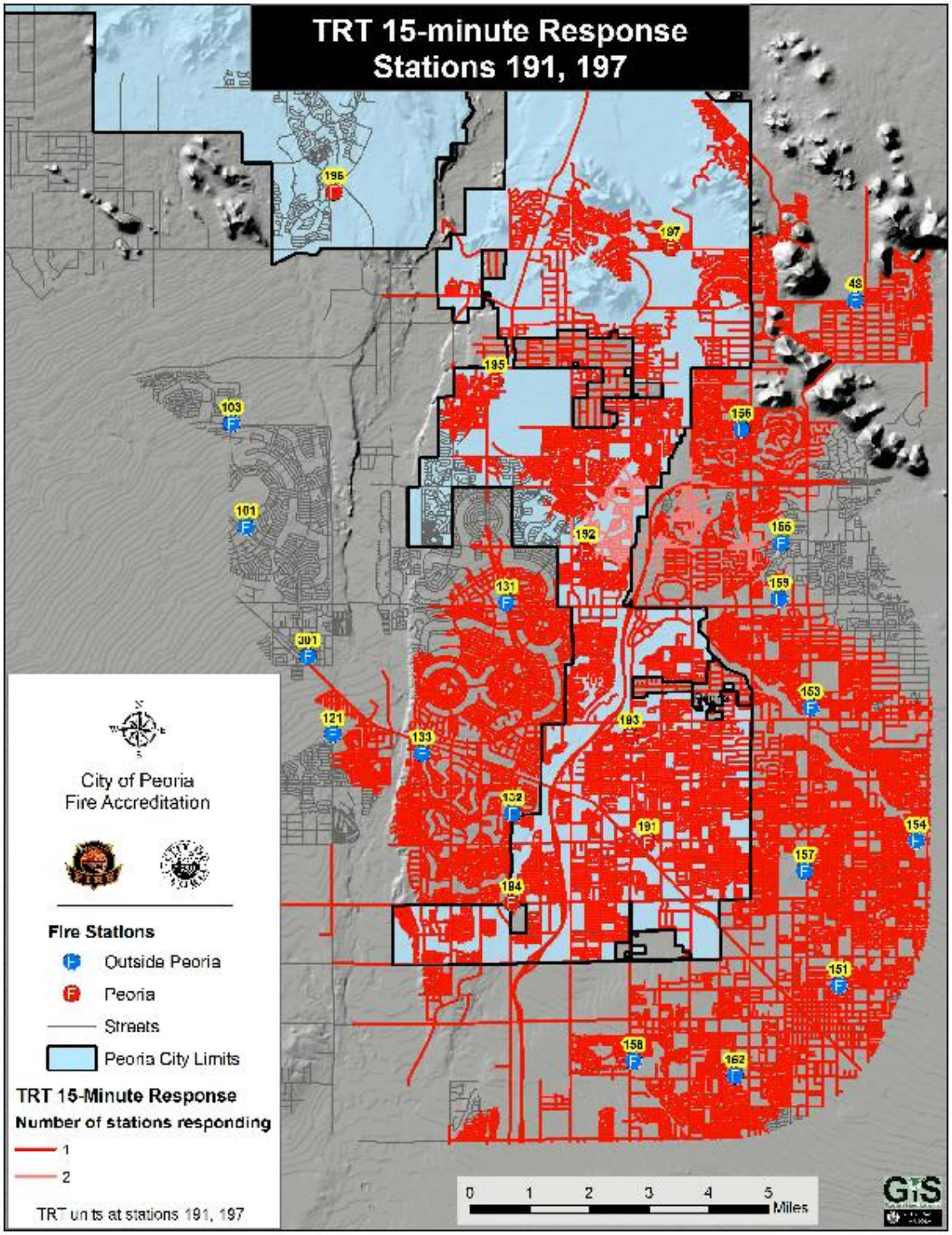
Approximately 90 percent of moderate risk demand zones are within a 10 minute travel time contour for incident commander response.



Approximately 70 percent of all demand zones are within a 15 minute travel time contour for Hazardous Material response needs.



Approximately 90 percent of all demand zones are within a 15 minute travel time contour for technical rescue response needs.



Section Seven: Concentration

Concentration is the spacing of multiple resources arranged within close enough proximity that an initial effective response force can be assembled on scene within sufficient time frames. An initial effective response force is one that will most likely stop the escalation of an emergency of a specific risk type. This analysis is specific to maximum and high risk demand zones which require higher concentrations of fire department resources.

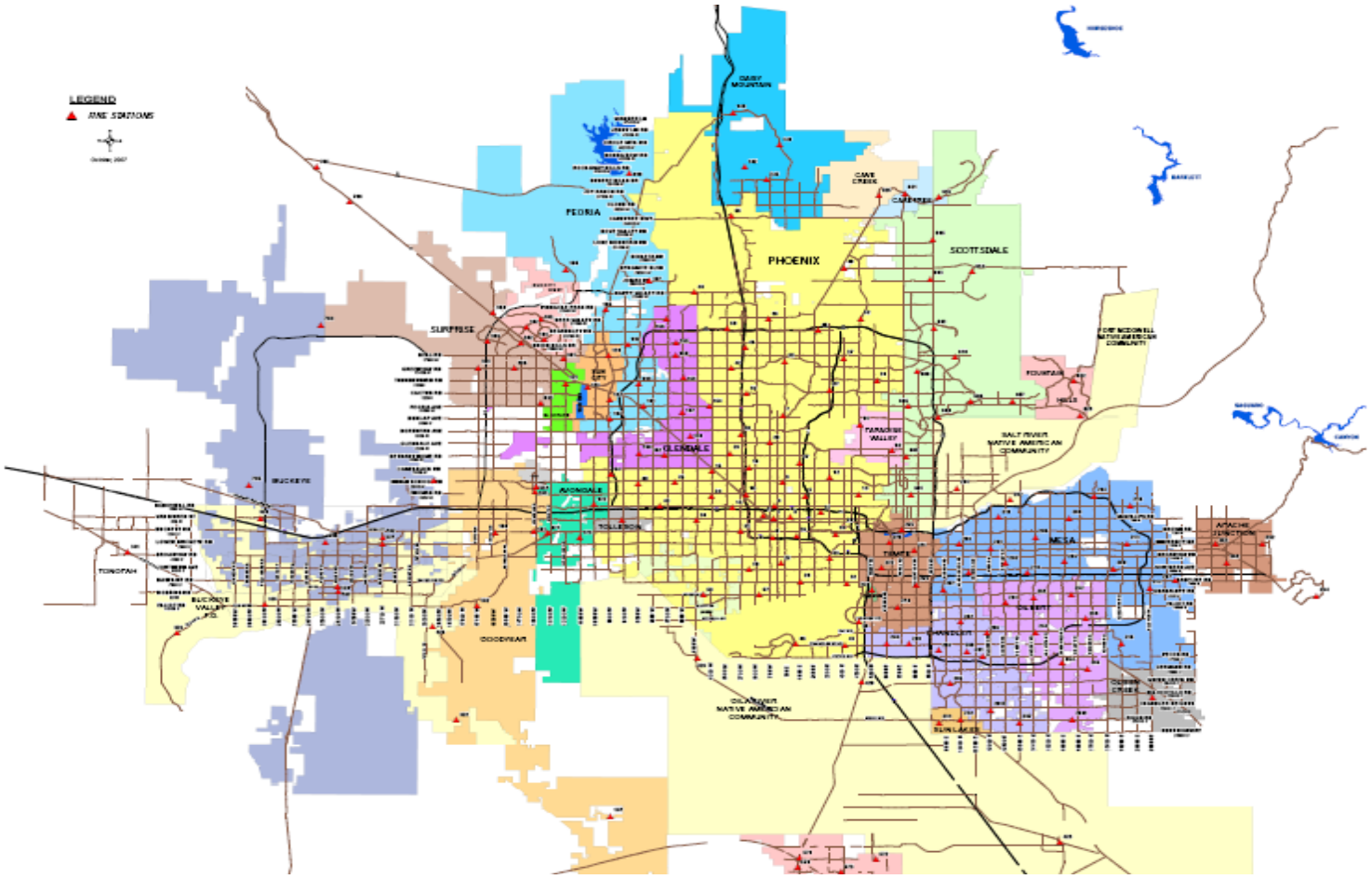
The initial response may stop the escalation of the emergency even in maximum risk areas. Still, an initial effective response force is not necessarily the total number of units or personnel that would be needed if the emergency escalated to its maximum potential. For example, a building has been pre-planned for a worst case fire-flow of 4,000 gpm, but the jurisdiction plans an initial effective response force to provide the resources necessary to contain a fire within a reasonably sized compartment of origin (e.g., 1,000 gpm). In the event of a worst-case fire flow, additional alarms or units from farther away could be planned on, including those available through automatic or mutual aid agreements.

In determining concentration, the department again looked at risk assessment, call volume, population, and critical tasking. The number of units needed for an initial effective response force for each of the risk categories is listed below.

Maximum Risk -	2 ladders, 5 engines and 4 incident commanders in 12 minutes
High Risk -	1 ladder and 3 engines, 2 incident commanders in 10 minutes
Moderate/Typical Risk	1 ladder and 3 engines, 2 incident commanders in 10 minutes
Remote Risk	Engine in 10 minutes from time the call is received
Special Hazard -	Response varies

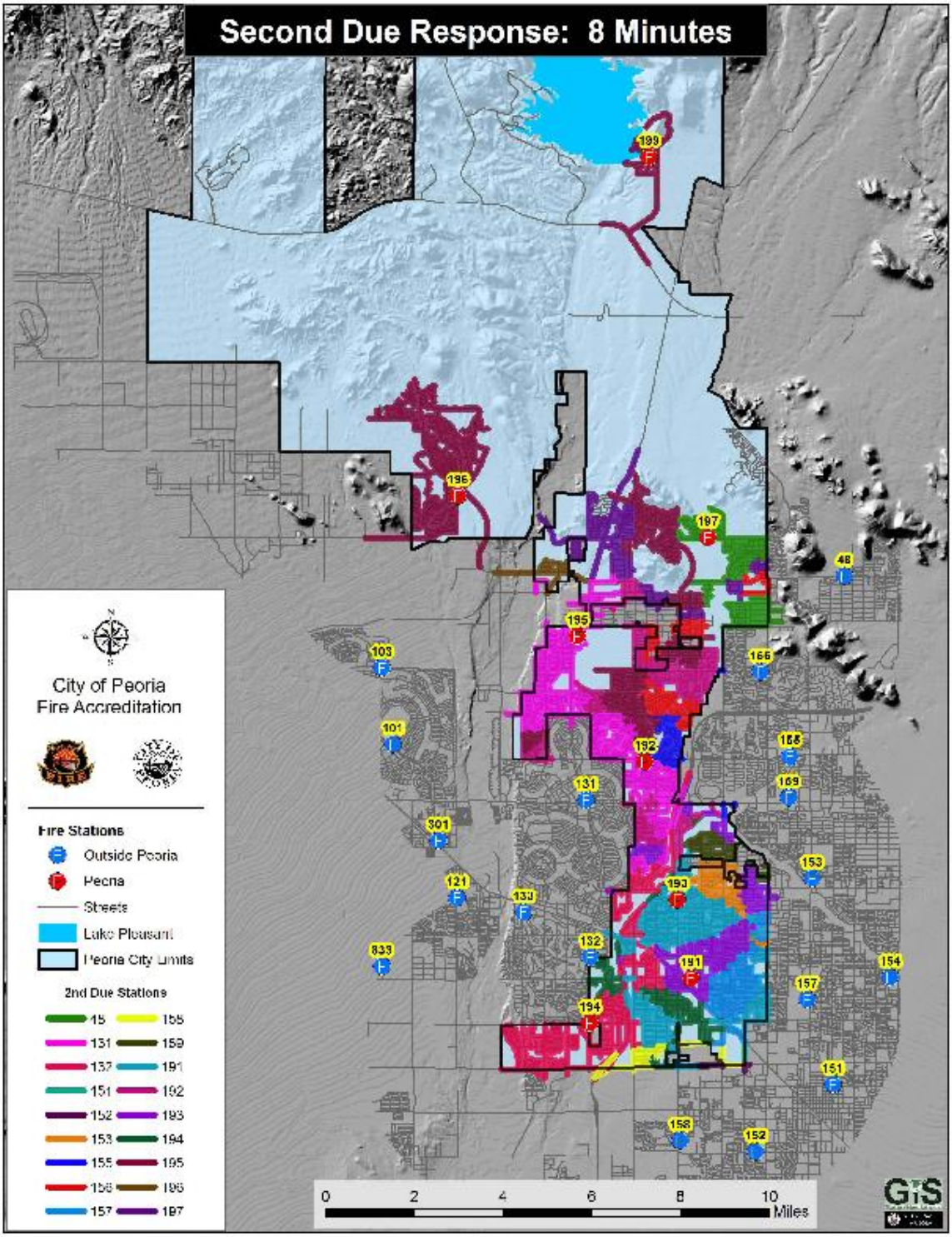
When considering concentration of units, it should be noted that the department has entered into Automatic or Mutual Aid Agreements with all surrounding communities. These agreements benefit Peoria by allowing the use of an additional 26 neighboring fire stations within close enough proximity to bolster initial effective response forces for certain areas of the city.

Regional Automatic Aid System Fire Stations



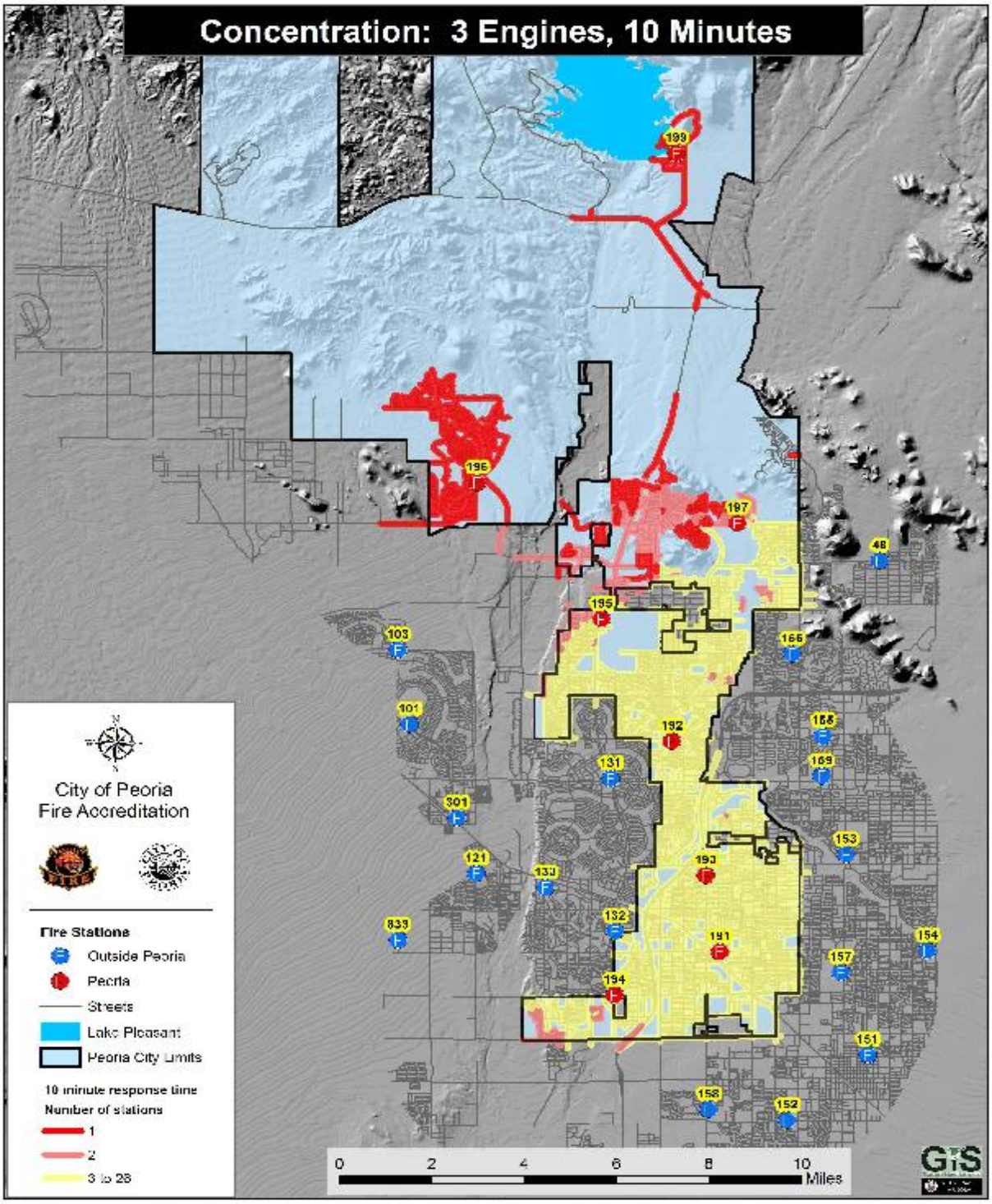
The concentration statements listed below account for all current stations and units within Peoria and include Glendale Fire Station 158 and Phoenix Fire Station 50 as existing stations when appropriate.

The response time objective for a second due response, fire or EMS, shall be less than ten minutes (eight minute travel time). This will provide a second company (ladder or engine) which will add four more personnel (two paramedics) to deal with the incident.



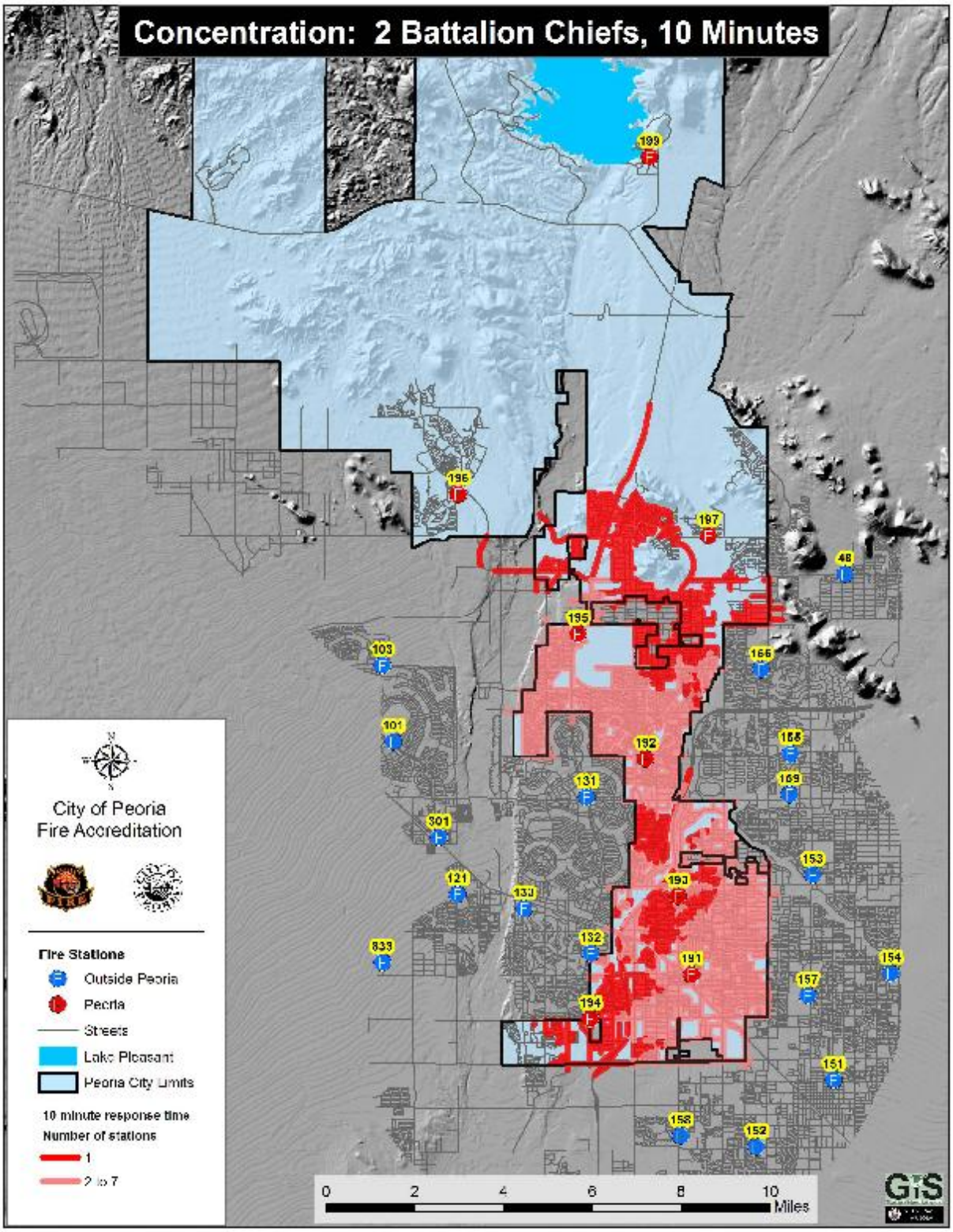
(The Omega Group, 2007)

The response time objective for an initial effective response force (low/moderate risk) fire shall be less than twelve minutes (ten minute travel time). This will provide a minimum of three engines, one ladder company, and two incident commanders. The response force, when responding to a fire incident, will provide a minimum 1000 gpm uninterrupted and include two ventilation teams consisting of four firefighters, one search and rescue team consisting of two firefighters, a rapid intervention crew (RIC) of two firefighters, and establish command outside the hazard area with a dedicated command officer and a dedicated safety officer. This standard applies to a full assignment fire incident response. The following map shows the department's ability to meet this goal. The goal is currently able to be met for all areas except first due 196 and 197. These are the newer, less densely populated, and lower-risk/lower call volume, areas of the city. As growth continues and additional stations are built in the northern areas of the city, response concentrations will improve.



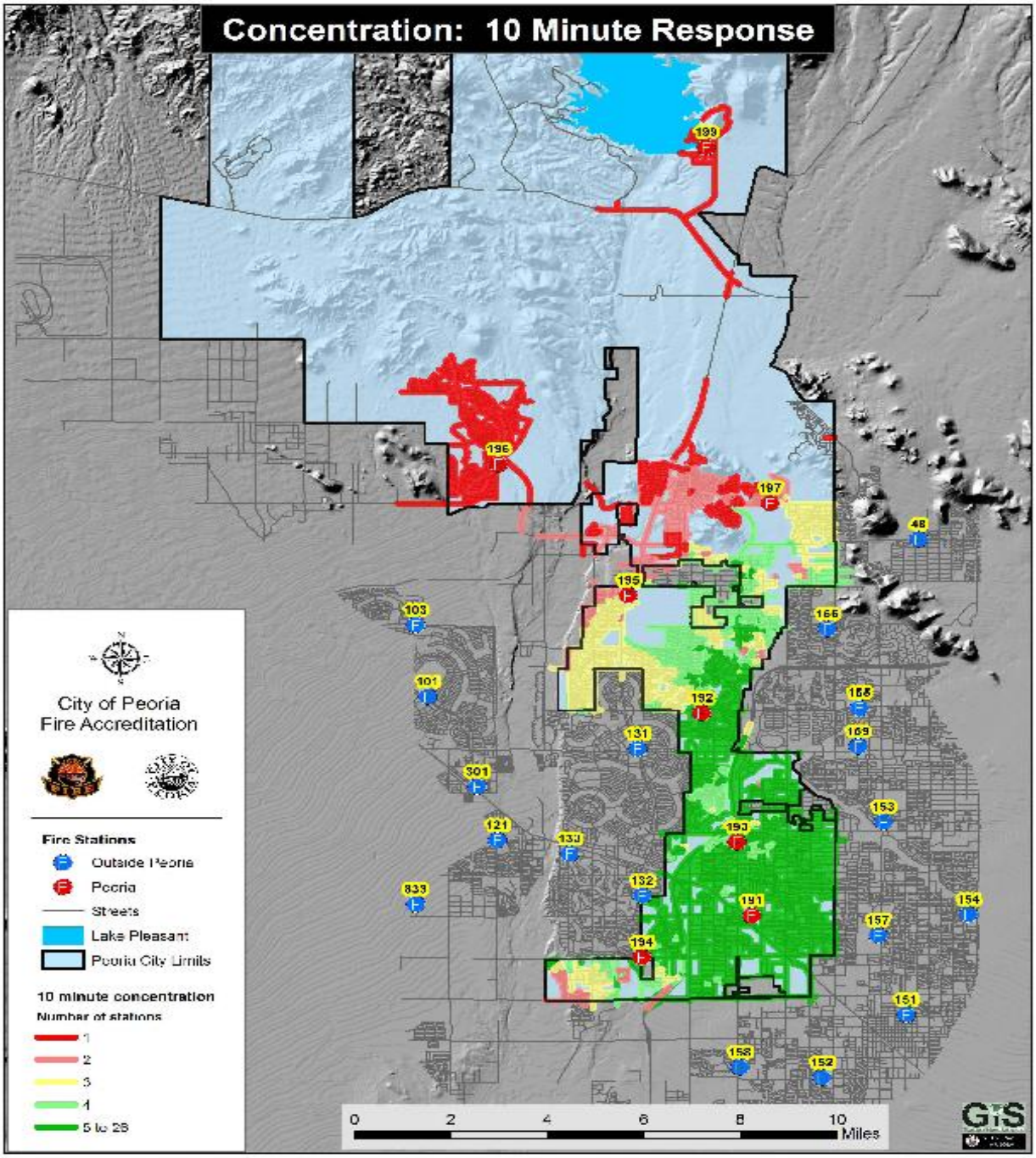
(The Omega Group, 2007)

The following map depicts Peoria's ability to respond with two incident commanders within 10 minutes time. This is the response goal for moderate and high risk incidents. This is able to be accomplished in approximately 85% of the developed area of the city. Like the aforementioned full-assignment fire incident response, the goal is to have two incident commanders on scene within 10 minutes is currently able to be met for almost all areas except first dues 196 and 197. These are the newer, less densely populated, and lower-risk/lower call volume, areas of the city. As growth continues and additional stations are built in the northern areas of the city, response concentrations will improve.



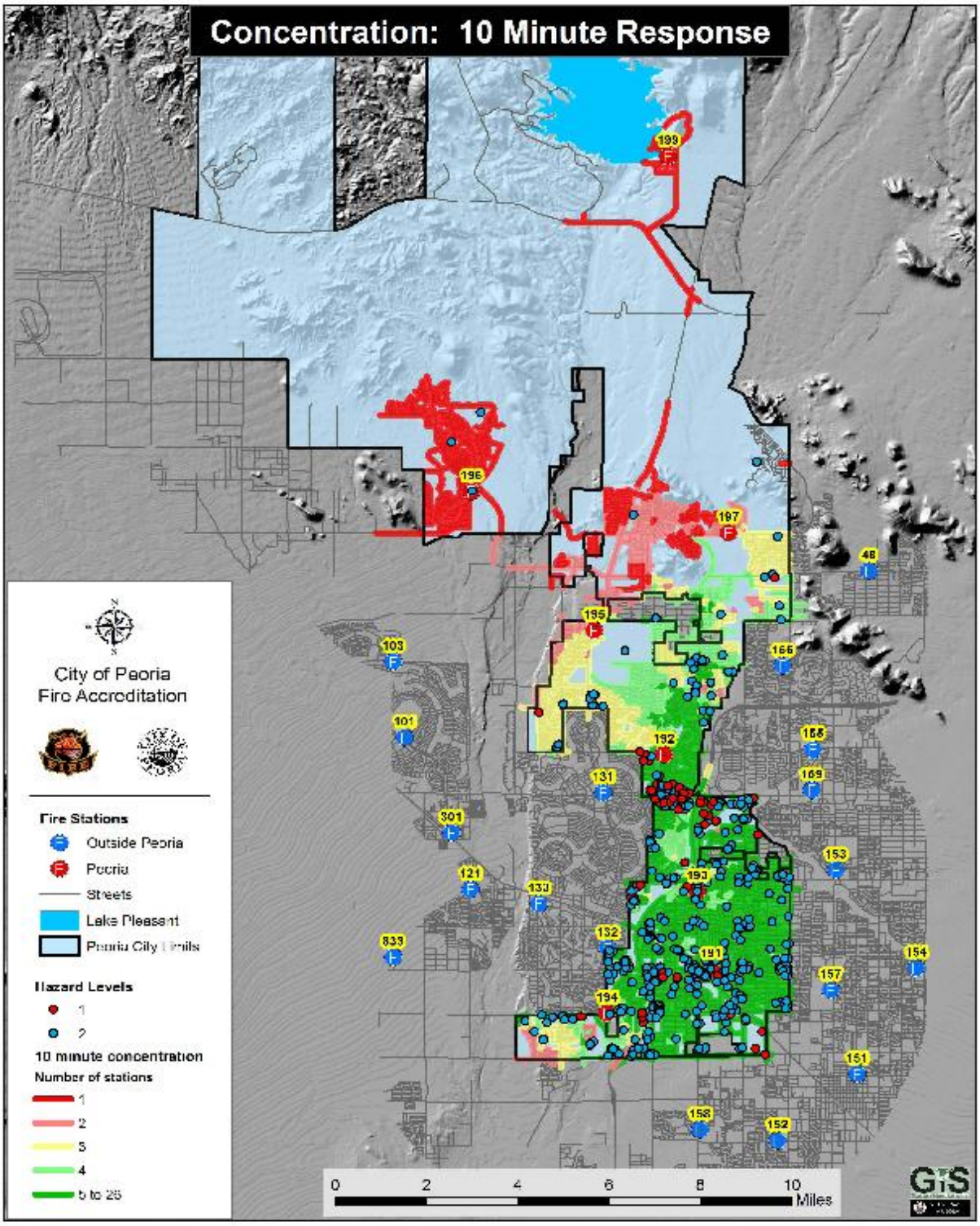
(The Omega Group, 2007)

The following map depicts the number of stations (both Peoria and automatic aid partners) that are within a ten minute response within all areas of the City of Peoria. Again, the concentration of fire stations and therefore fire company response is that a minimum of three stations' units can be on scene within ten minutes to any location within the City of Peoria, except first dues 196 and 197. These are the newer, less densely populated, and lower-risk/lower call volume, areas of the city. As growth continues and additional stations are built in the northern areas of the city, response concentrations will improve to those areas.



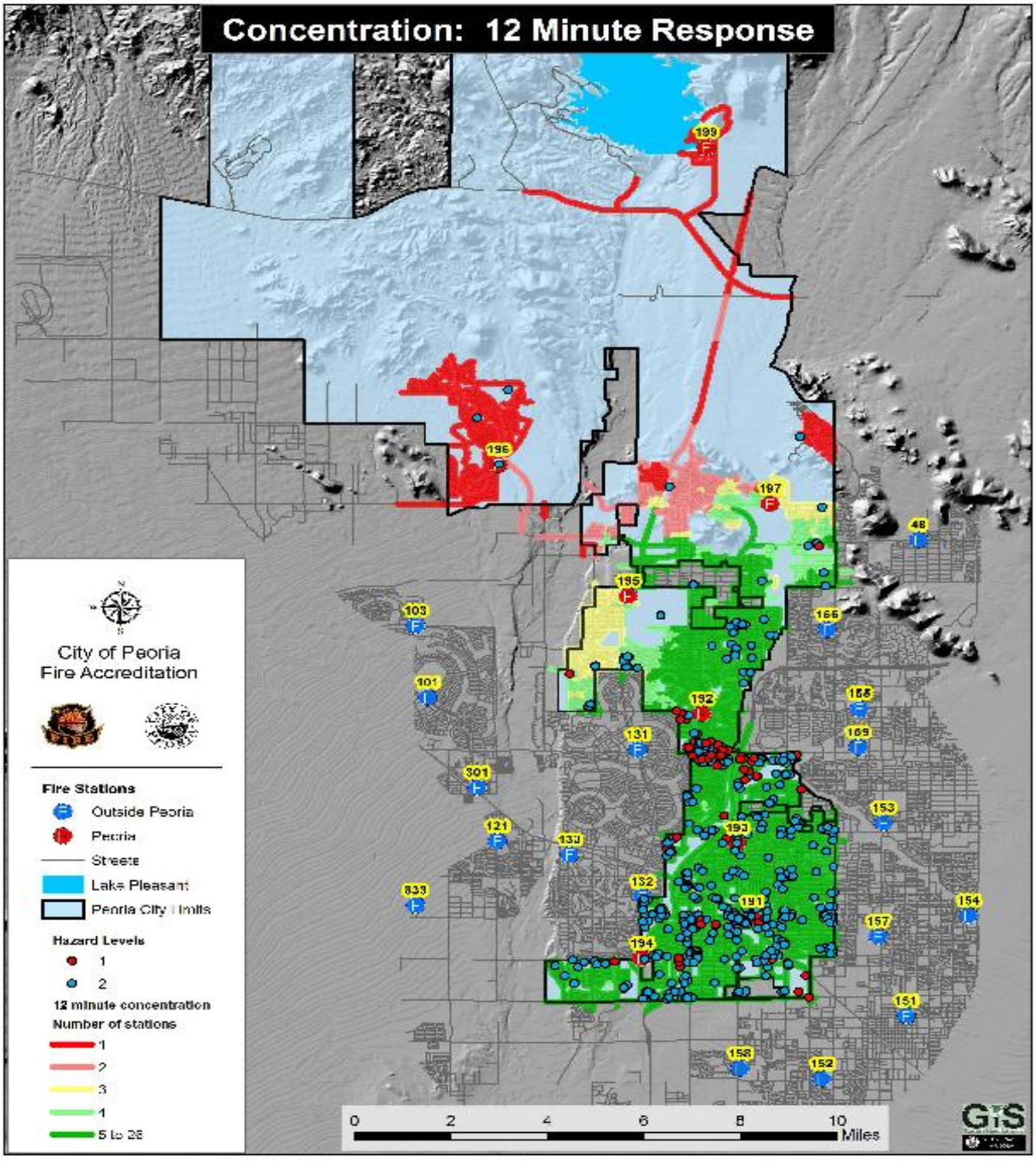
(The Omega Group, 2007)

Ten following map depicts a ten minute response (same as above) overlaid on level one and level two hazards. The greatest concentration of level one and two hazards exist in the most densely populated areas of the city, primarily south and central Peoria, and existing within those areas of the city where at least three fire stations exist within a ten minute response distance from the potential risk areas. As has been mentioned previously, first due areas 196 and 197 are the newer, less densely populated, and lower-risk/lower call volume, areas of the city. As growth continues and additional stations are built in the northern areas of the city, response concentrations will improve to those now remote areas.



(The Omega Group, 2007)

The following map depicts the level one and two hazards (high hazards) and Peoria's ability, utilizing both Peoria units and their automatic aid partners, to provide unit responses from all fire stations within a twelve minute travel distance. Within twelve minutes a minimum of five stations' units can be on scene to anywhere within Peoria with the exception of the far northern reaches. As has been stated, this is the new growth, low-density, low population, low call volume areas of the jurisdiction. The vast majority of people, hazards, occupancies, and incidents are within the south and central portions of the city. As growth continues to occur northward, additional stations and resources will be added to maintain the standard levels of coverage that are seen in the south and central areas.



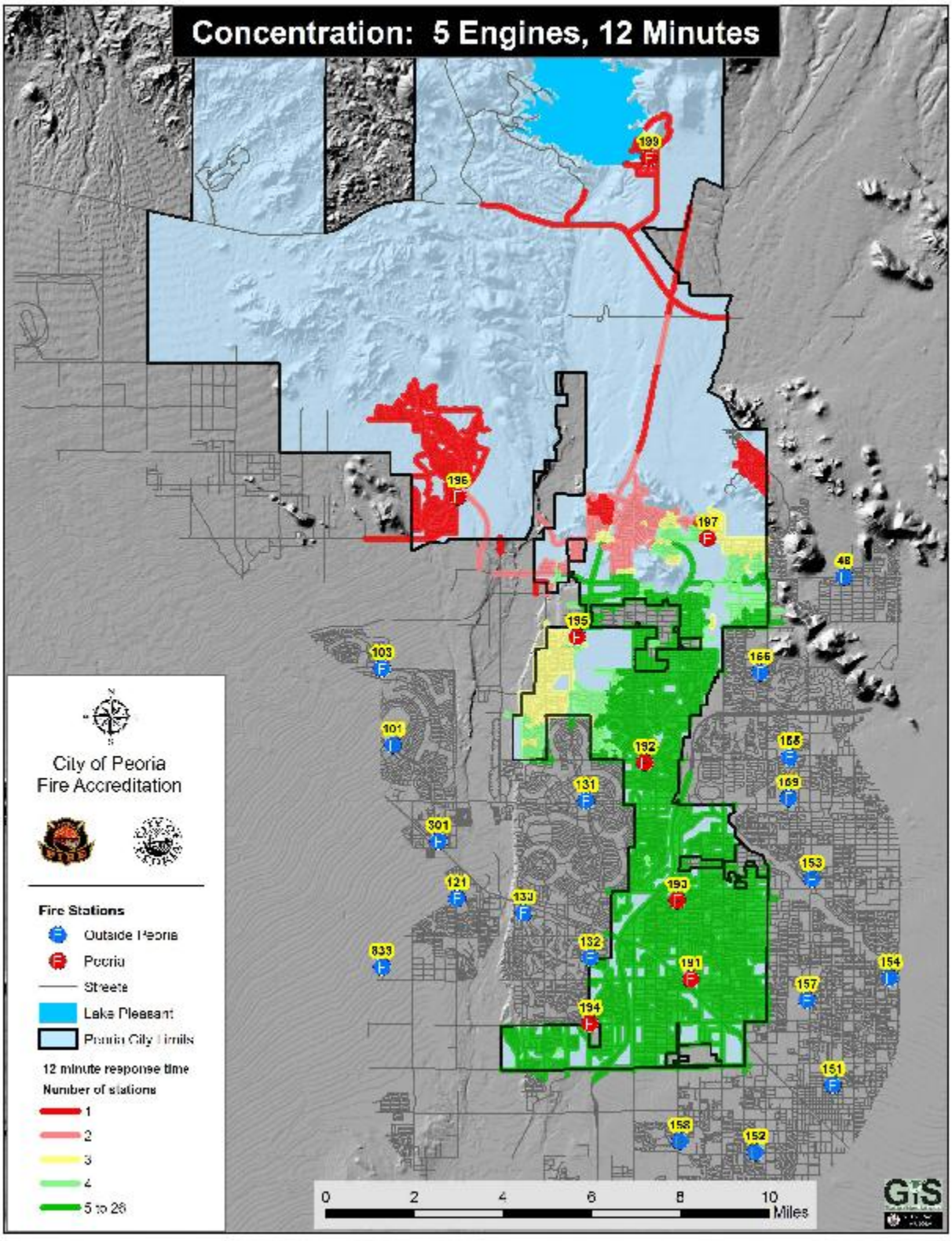
(The Omega Group, 2007)

Initial Attack Response Objective: 5 Engines, 2 Ladders, 4 Incident Commanders (IC)

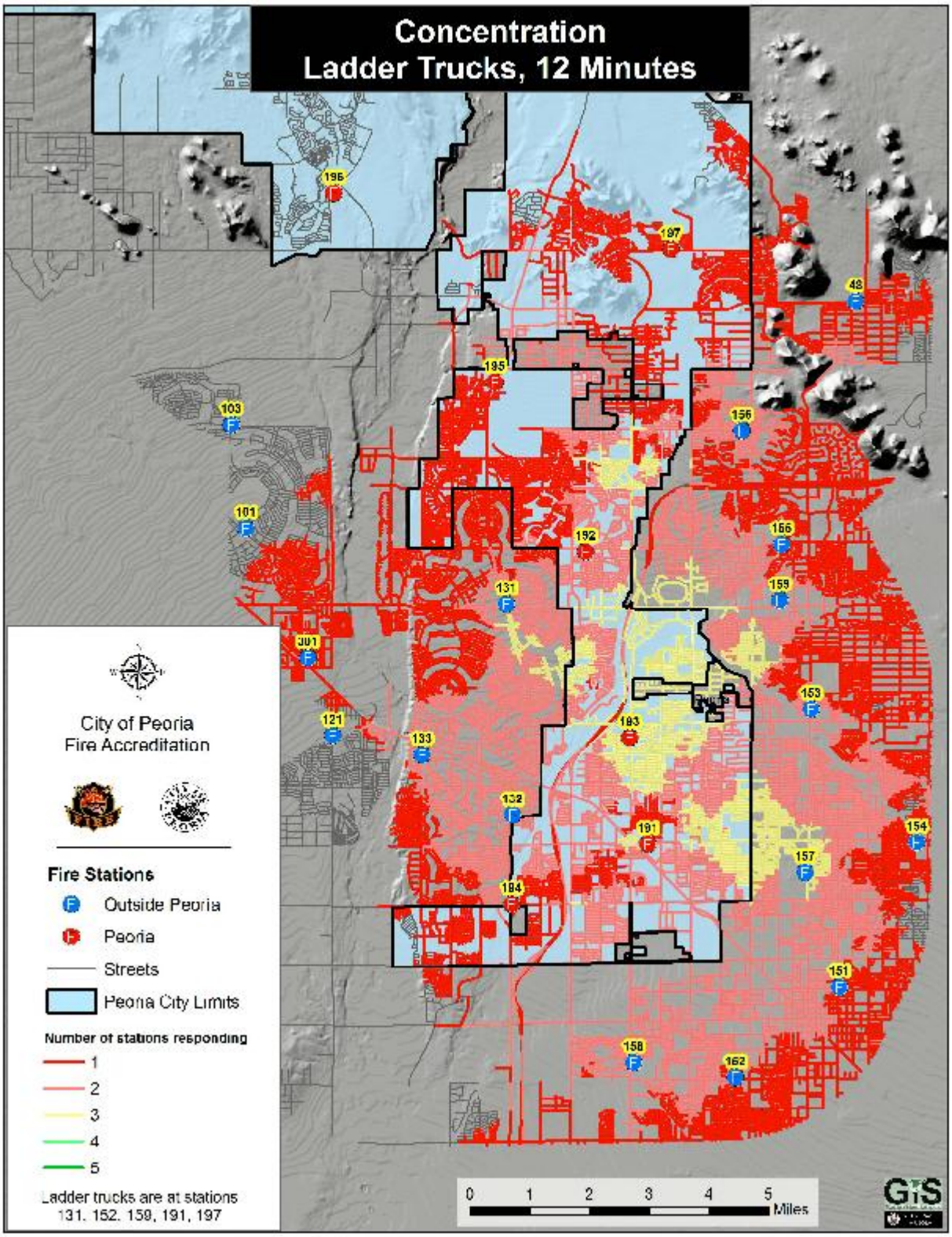
The response time objective for a first alarm assignment (high/maximum risk) fire shall be less than fourteen minutes (twelve minute travel time). This will provide a minimum of five engines, two ladder companies, and four incident commanders. In addition to the above referenced resources, the first alarm response would also include two, 2 ½ inch attack lines in-service, one on the fire floor and one on the floor above, one additional ventilation team, one additional search and rescue team, establish lobby control as well as overall command, and supplement the fire protection systems as needed. This standard applies to a first alarm fire incident response.

The response time objective for a first alarm assignment (high/maximum risk) medical shall be less than fourteen minutes (twelve minute travel time). This will provide a minimum of five advanced life support engines, two basic life support ladder companies, and four incident commanders. This would be considered a first alarm response to a medical incident.

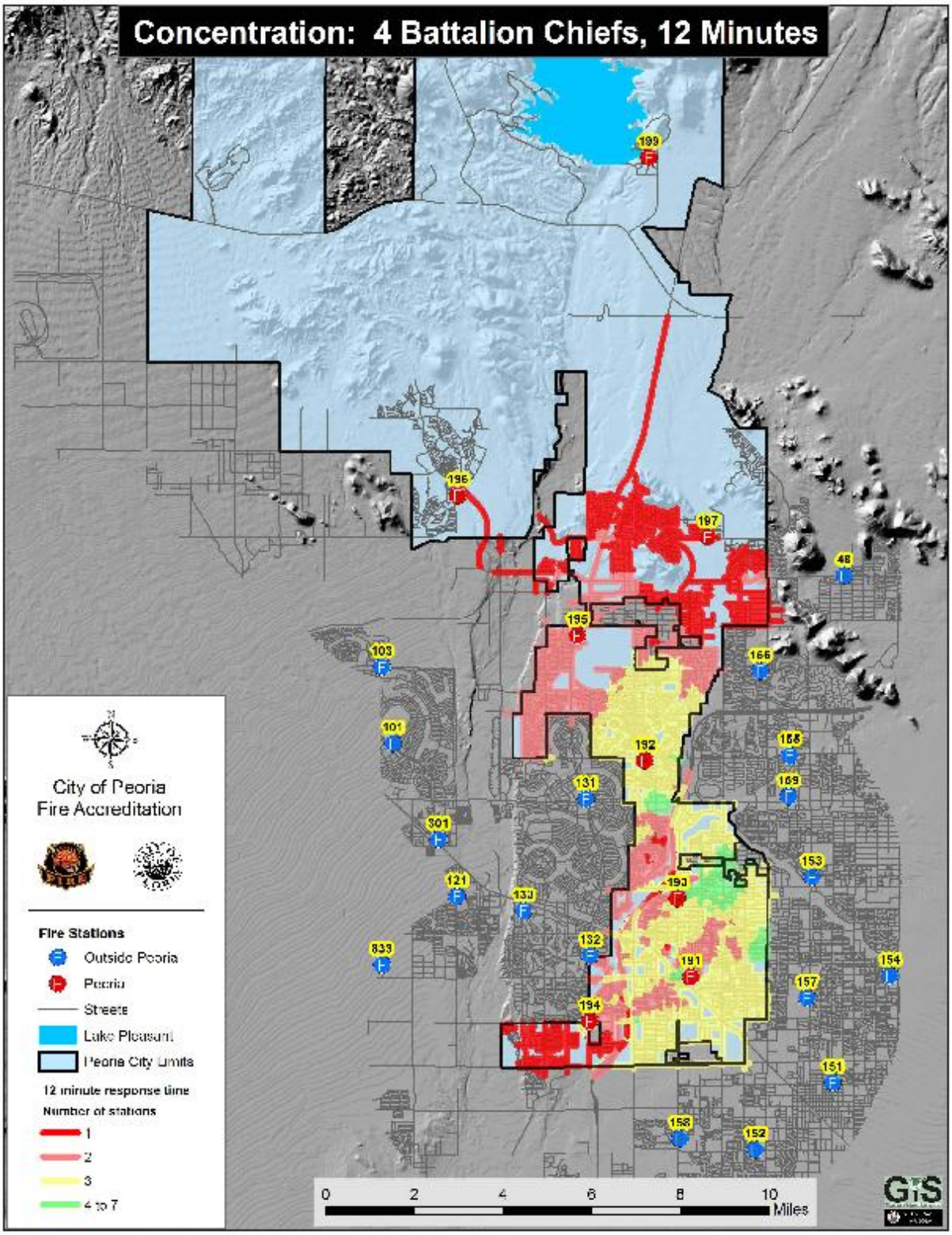
The following response maps indicate the portion of the jurisdiction that is accessible within the prescribed response time goal (14 minutes total response, 12 minutes travel time) to five fire engines, two ladder companies, and four incident commanders (battalion chiefs/deputy chiefs) respectively.



(The Omega Group, 2007)



(The Omega Group, 2007)



(The Omega Group, 2007)

In conclusion, the analysis indicates that the department's resources are concentrated

appropriately. Companies are concentrated where the higher risk and call frequencies are located. Automatic aid agreements bolster the concentration of units especially in south Peoria where the greatest potential risk have been identified.

Section Eight: Response Reliability

Response reliability is defined as the probability that the required amount of staffing and apparatus will be available when a fire or other emergency call is received. The Peoria Fire Department's response reliability would be 100 percent if every piece of fire apparatus were available every time a fire or Emergency Medical Service (EMS) call was received. In reality, there are times when a call is received for a particular company, but that company is already on another call. This requires dispatching a second-due unit from a station located further from the incident. As this distance increases, the next-due company cannot respond within the maximum prescribed travel time.

As the number of emergency calls per day increases, so does the probability that a needed piece of apparatus will already be busy when a call within their area is received. As a result, the department's response reliability decreases. For instance, ten years ago, in 1996, there were 5,940 incidents that occurred within the City of Peoria. In 2006, there were 12,578 incidents that occurred within the City of Peoria and in 2009, 13,730 incidents. Furthermore, due to the regional automatic aid agreements, Peoria units responded to 9,751 calls for service in 1996 and in 2006 responded to 17,745 calls for service both inside and outside of the jurisdiction. In 2009, the department responded to 18,585 total calls (City of Peoria Fire Department, 2010a).

Although the emergency calls for service are increasing, so are fire department response resources. In 1996, the department was operating three fire stations. In 2006, it operated six full-time stations and one part time station. In July 2007, the Peoria Fire Department opened its seventh full time station and currently operates seven full-time stations and one part time station. A second Peoria ladder company was deployed in 2008. Neighboring jurisdictions, which have a first due response into Peoria, have also added fire stations, additional response capabilities, and new battalions over the last five years or modified their deployment strategies to more effectively meet response needs throughout the valley. These include:

<u>Surprise</u>

- E301 Moved to from old FS301 @ Greenway Rd and Grand Ave to new FS301 @ El Mirage Rd and Bell Rd within past 4 years
- BC301 moved to FS305 @ Greenway & Parkview Place in September 2007

Sun City Fire District

- BC131 moved from FS132 @ 99th Ave and Peoria Ave to FS131 @ 99th Ave and Bell Rd in 2006

Glendale Fire Department (Redeployment Update Memo, 2/05/2010)

- Station 151 (6851 N 52nd Ave) E150, E151, BC151 (central)
- Station 152 (6850 W Bethany Home Rd) E152, L152, LT152
- Station 153 (14061 N 59th Ave) E153, U153
- Station 154 (4439 W Peoria Ave) E154
- Station 155 (6255 W Union Hills Dr) L155 (quint), LT155
- Station 156 (6801 W Deer Valley Rd) E156, BR156
- Station 157 (9658 N 59th Ave) E157, HM157, L157, LT157
- Station 158 (6261 N 83rd Ave) E158, WDC – shift commanders office (west)
- Station 159 (17159 N 63rd Ave) E159, SQ159, BC152 (north)

Note: All apparatus in Glendale are ALS except chief vehicles and utility truck

Phoenix Fire Department

- E48 opened approximately 8 years ago at 53th Ave and Happy Valley Rd.
- E54 opened at 99th Avenue and Indian School approximately four years ago
- E56 opened at the Carefree Highway and I-17 within the past five years

Because Peoria participates with so many other agencies in a valley-wide automatic aid response program, "drawdown" and "resource exhaustion" do not become a consideration. The twenty-plus other agencies that are automatically deployed into Peoria if needed, provide an almost unlimited amount of response resources. In the history of the department, an emergency recall of sworn personnel as a result of resource exhaustion has never occurred.

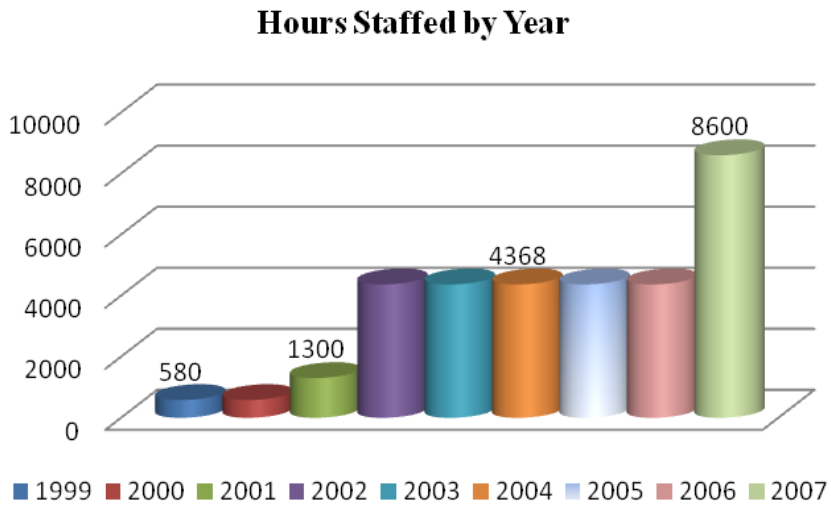
The automatic aid system uses a CAD module that automatically selects the closest, most appropriate unit(s) for dispatch utilizing an automatic vehicle locator (AVL) system which can be found on all Peoria apparatus (and all Phoenix Regional Automatic Aid System response vehicles).

Unit	2005	2006	2007	2008	2009
BC191	740	600	429	340	443
BC192	N/A	5*	245	244	339
E191	2242	2230	2169	2156	2364
E192	2878	2763	2787	2919	3343
E193	2519	2466	2746	2780	3092
E194	2356	2337	2476	2500	2567
E195	1428	1513	1598	1591	1736
E196	N/A	279	333	327	333
E197	N/A	N/A	205	632	639
L191	587	315	390	1552	1708
LT191	1292	1591	1621	1911	1973
B199	255	271	226	228	254
S195/S197	66	45	16	35	61
TOTAL	14,662	14,633	15,311	17,215	18,852

* Battalion 192 was deployed on December 28, 2006.

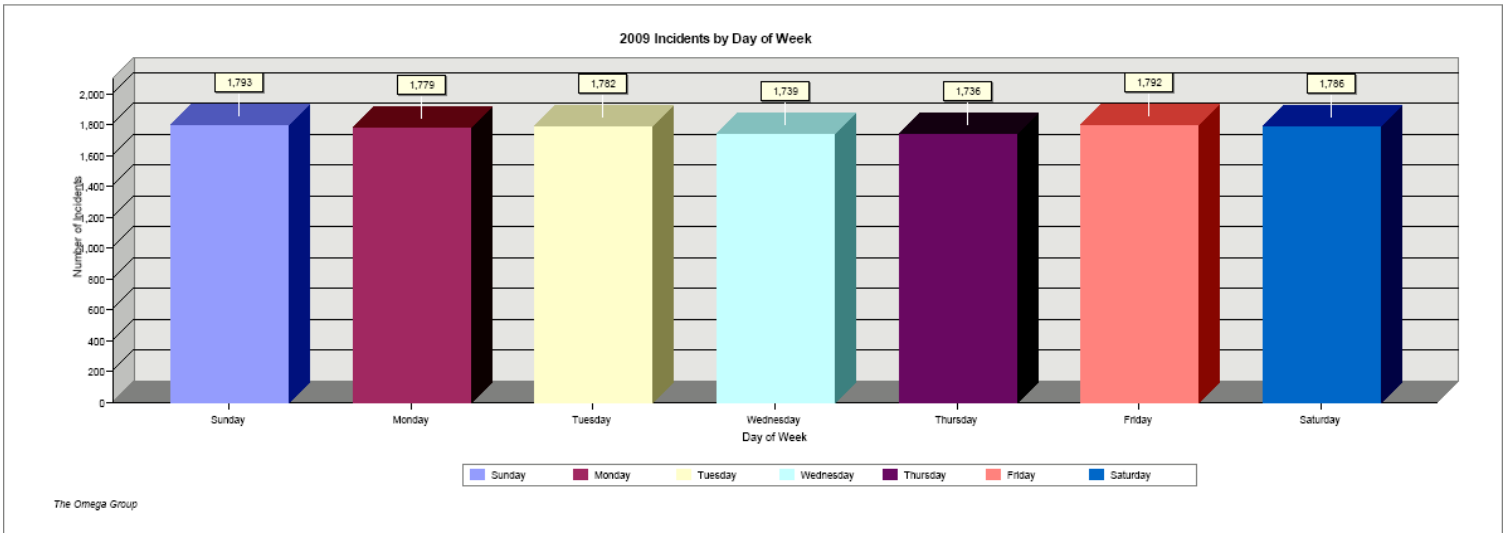
(City of Peoria Fire Department, 2010a)

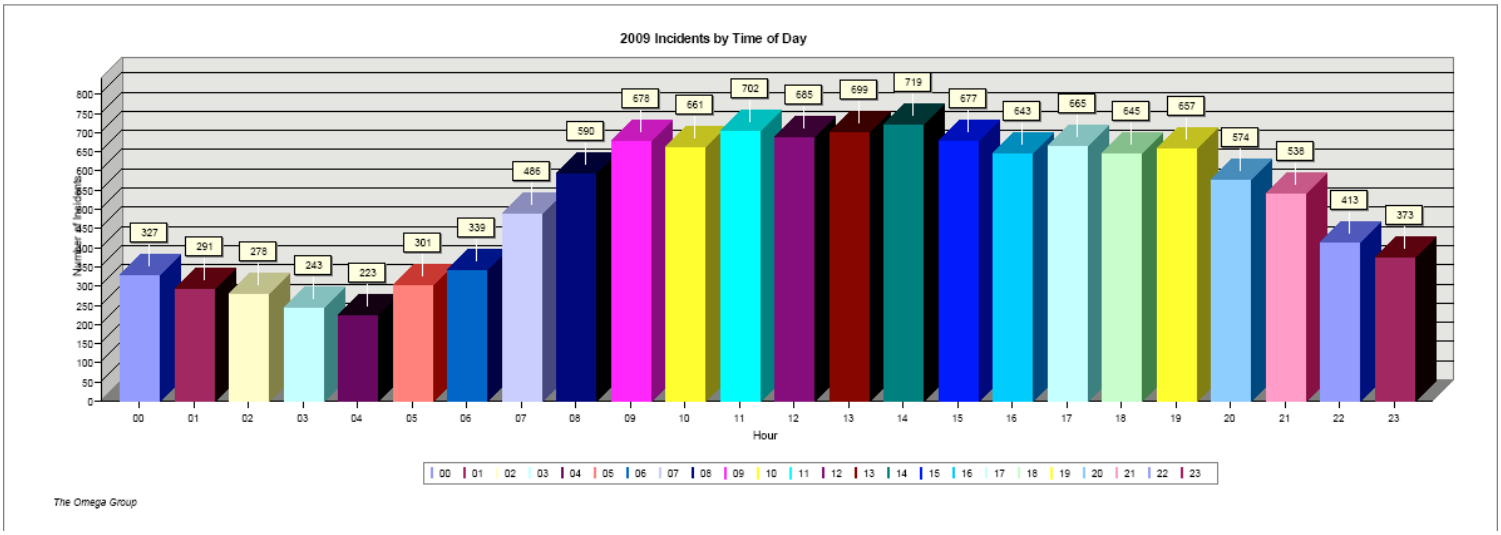
Along with increases in call volumes, the size of the response area affects reliability. The larger the area, the greater the risk exists for additional calls for service within that area. The Peoria Fire Department has taken steps to reduce the size of these response areas. However, some large first-due response zones still exist. Stations 195 and 196 are examples of this as they both cover large geographic areas. The part-time station at Lake Pleasant does provide some relief to E195, however, FS199 is a seasonal station and E195 still has to respond to calls in this area causing other units to cover E195's primary response area on 10% of calls. The Peoria Fire Department has been reviewing response data and modifying staffing needs at Lake Pleasant since 1999. The following chart represents the successive staffing increases at Lake Pleasant Regional Park from 1999 through present:

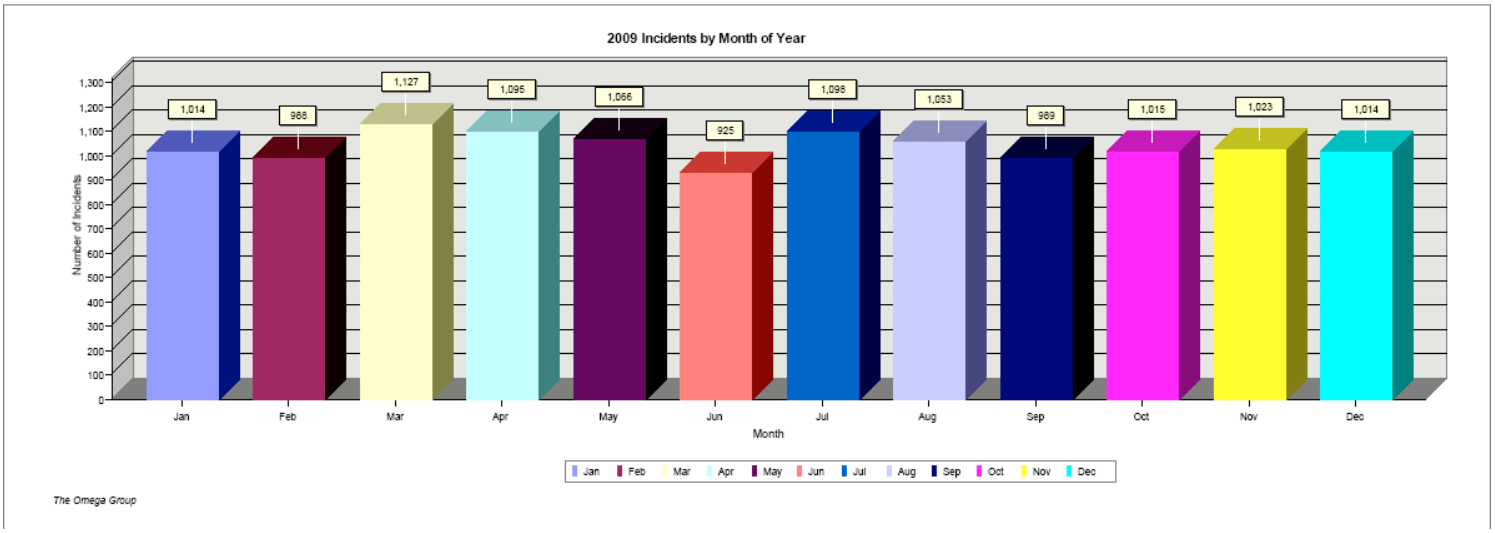


Staffing increases were approved for the summer of 2007 and again in 2008 to expand from two firefighters ten-hours per day (seven days per week) to four firefighters for 12 hours per day (Friday, Saturday, Sunday, and any three day holiday weekend). Currently, the department is maintaining this increased staffing as this is when visitor populations and response needs at the lake are at their highest.

In attempting to improve reliability the Peoria Fire Department has conducted the following day of week, time of day, and month of year analyses on 2009 Incidents (EMS and fire):







The calls for service remained fairly constant throughout the year. The lowest call volume was 925 calls in June with March yielding 1,127 calls. The calls by day of the week maintained a consistent call volume of above 1700 calls per day. These incidents by time of day are perhaps the most revealing. This graph demonstrates that the busiest time of day is between 0900 hours and 1400 hours. Understanding peak response needs and service trends by day of the week or month of year can assist the department in improving reliability.

Drawdown is defined as the resource level an agency will not go below when asked for mutual aid. The Automatic Aid Agreement contains a commitment from all surrounding jurisdictions to automatically send any and all resources if requested. This ensures a timely response for all

concerned. In order to address drawdown, a "backfill" process is in place to cover cities that empty their resources to meet another city's immediate needs. Once the Peoria Fire Department has given up its resources to an agency needing help, another agency automatically sends enough units to adequately cover Peoria.

The Automatic Aid Agreement assures the closest available units will be dispatched regardless of jurisdictional borders. In 2009, 13,591 incidents occurred within Peoria with 1,780 of those calls requiring a response by an automatic aid company outside of Peoria. On those automatic aid calls, Peoria units were unavailable or the other city's units were the first due responders. No refusals to respond were encountered. It is important to note that Peoria units also responded to jurisdictions outside of the city 7,087 times during the same reporting period.

Circumstances sometimes dictate when units must be unavailable for dispatch. A unit on scene of an incident, training, drills and mechanical breakdowns are some examples of situations where a unit is unavailable for dispatch. Though all of these governing factors are necessary, the department has undertaken steps to reduce out-of-service time. When appropriate, some mandatory training programs are conducted off duty so that on-duty companies can remain in-service.

The reliability of apparatus is also influenced by incidents themselves. A breakdown of response histories by call type in Peoria for 2007 and 2009 is as follows:

Type of Call - 2007	# of Incidents	% of Incidents	Average On-scene Time
Advanced Life Support	6212	48%	28:00
Basic Life Support	5089	39%	23:07
Fire	1178	9%	45:62
Special Operations/TRT	63	0.0	41:90
Miscellaneous Service	131	1%	10:30
Other	331	3%	17.05
Totals	**13004**	**100%**	**21:59**

Type of Call - 2009	# of Incidents	% of Incidents	Average On-scene Time
Advanced Life Support	6692	52%	24:30
Basic Life Support	4750	37%	21:19
Fire	1007	8%	12:04
Special Operations/TRT	44	0.3%	19:28
Miscellaneous Service	133	1%	10:26
Other	279	2%	13:23
Totals	**12905**	**100%**	**21:57**

These numbers indicate that a company is on-scene for an average of approximately 21 minutes. During this time the company is not available for other incidents. If a company responds to 6 incidents in a 24 hour shift, it is unavailable for more than two hours due to these requests for service. The addition of additional resources such as the ladder in northern Peoria and HM193 has improved the 2009 average on scene times in the fire and special operations categories; thus demonstrating that a department can influence out of service time by concentrating resources in specific areas. In the future, the department may want to assign two engine companies to FS192 and FS193 where service demands are higher. As frequency changes so should the distribution of companies.

The data also suggests that the following are the average number of units that respond per type of call:

Type of Call	Average Pieces of Apparatus Responding
Advanced Life Support	1.14
Basic Life Support	1.06
Fire	2.41
Special Operations/TRT	3.45
Miscellaneous Service and Other	1.03

Fire calls and special operations (TRT and HazMat) calls require the most resources. Fortunately, these two categories account for less than ten percent of the total call volume in Peoria. This means that for the majority of incidents, one unit is taken out of service for approximately twenty one minutes.

Ambulance Response Provision

By map measurement Southwest Ambulance blankets the city with ten minute response time coverage for code three requests. The performance objective for having an ambulance on scene in 10 minutes is 90 percent of the time. While there are contract provisions which require a certain level of performance from the ambulance provider, current reporting is sporadic and not completely reliable. Performance monitoring has proven to be difficult.

On January 15, 2010, the City of Peoria advertised RFP P10-0041 for Emergency Transportation Services and took some additional steps with this solicitation to ensure appropriate performance standards would be met. This contract solicitation calls for radios and Mobile Computer Terminals (MCT) to be installed in each primary ambulance servicing the city. MCT's provide a means to upload response times and incident specific data from the scene. Additionally, specific response time performance measurements have been included in this solicitation. For instance, code 3 (1st priority, life threatening) incidents must have a response time (call received time to on scene time) of 8 minutes and 59 seconds or less on 90% of all calls. Code 2 (2nd priority, non-life threatening) incidents must have a response time of 11 minutes and 59 seconds or less on 90% of the calls. The selected vendor will be required to not only submit a monthly report on response times but they will have to document a reason and remedy for late responses. Additionally, non-performance penalties have been identified for overall response time compliance below 90% and for Code 2 and Code 3 incidents exceeding specific response times. The addition of these provisions will help the department to not only ensure compliance but increase reliability relative to the ambulance response time provisions.

The Department of Health Services, the state agency which regulates ambulance providers, requires ambulance providers to have a unit on scene in twenty minutes for 100% of all requests. The Peoria Fire Department will continue to work with the private sector contractor to monitor response times and to explore alternatives to further reduce the time it takes to transport patients to hospitals in a reasonable amount of time.

Section Nine: Historical Performance

Historical performance is an evaluation of data that looks at actual responses from demand zones, districts, and jurisdiction wide perspectives. The evaluation is accomplished by answering the three questions discussed below.

Question #1:

If the department expects to cover the city with a four-minute travel time for the first arriving unit on all incidents, does it? If not, why?

The Peoria Fire Department currently expects to cover the city with a five minute travel time for the first arriving unit on all incidents. It does not expect to realize a four minute travel time due to geography, response needs, and resource allocation. Currently, no long-term plans are in place to attempt to achieve this level of response. With the recent economic downturn, the department's focus is on maintaining core responsibilities and improving the five minute travel time percentages.

Map measurements have been created utilizing FireView/Arc Geographical Information Systems (GIS) which has calculated travel distances for given time frames and service areas. ArcGIS is able to utilize street impedance data to drive the streets at designated speeds and also accounts for decreasing speeds when turning corners (tune times). The result is an analysis of response coverage provided by the department from existing fire stations (Environmental Systems Research Institute, Inc, 2008). These analyses were discussed at length in the Response Time (section four) and Distribution (section six) of this document. The Peoria Fire Department will continue to utilize this tool to evaluate response times throughout the city and to utilize this data to make service delivery policy changes and/or other decisions. The streets network and tune times in ArcGIS were last updated in July 2009 to more accurately reflect street additions within the city and to revise speed limits per the most recent speed limit ordinance that was approved by Council.

Distribution maps found in Section Six indicate that 80 percent of the developed city lies within a five minute service area from existing fire stations. Response time data indicates that the

department meets its current five minute performance objective of 90 percent, only 76.51% of the time. The department's performance goal is to improve this number by 10 percent, however, given the current economic downturn, unavailability of funding to add resources, and the significant slowdown in growth and development in the city's northern area, plans to build additional stations or add additional companies have been delayed. Long term plans seek to improve first unit on scene response times by increasing the number of fire stations and therefore improving reliability and distance to emergency incidents. Given the uncertainty of the economy and future growth, it is not known when the Peoria Fire Department will be able to improve upon existing response times.

Year	Goal	Objective Met
2006	300 seconds	73.36
2007	300 seconds	70.83
2008	300 seconds	73.35
2009	300 seconds	76.51

(The Omega Group, 2007)

Question #2:

For a given multi-company area or jurisdiction wide measure, are concentrations cost efficient?

Results of the risk assessment, as documented in Section 6, indicate that the department's concentrations are consistent with identified maximum and high risk fire management areas. The two multi company stations are located in maximum and high-risk areas with high call volumes.

Peoria is fortunate to be surrounded by fire departments that have entered into a progressive Automatic Aid Agreement. Bordering cities participate in centralized computer aided dispatch utilizing automatic vehicle locator (AVL) technology. By virtue of this functional consolidation, the system offers the City of Peoria an on-duty fire fighting and emergency services force of 300 additional personnel, (58 engine companies, 15 ladder companies and 7 incident commanders) on a 24 hour basis. This of course, results in a considerable cost savings to Peoria. Without these

partner agencies/stations/companies, Peoria would undoubtedly need to add staffing, apparatus, and fire stations to provide the same level of service currently available through automatic aid. Concentration map studies, showing all responders, both Peoria and neighboring units, can be found in Section 6 of this document.

Question #3:

Is the critical task analysis still valid?

An assessment of the department's fire loss should be used to determine if critical task are effectively controlling fires and reducing loss. However, this statistic is not currently being tracked effectively by the Peoria Fire Department. While certain companies provide estimates to the fire inspectors and the fire inspectors make their own estimates and enter this data into the Firehouse software system, this is not done consistently as the fire inspectors only respond to fires that are suspicious or "significant." As is discussed in the Self Assessment Manual, the Fire Department has secured a new records management system with Zoll Data Systems. Once fully implemented, Zoll Data Systems will allow fire crews and inspectors report on this critical piece of information.

The other measure of effectiveness of critical task performance would be the containment of fire to room of origin or area of origin. As of this analysis, the Peoria Fire Department is not tracking this performance measure. It is clear that this would be a valuable piece of information to assess firefighting performance. Again, it is anticipated that Zoll Data Systems will provide an effective means to track this information.

Once these two measures are consistently tracked and documented, administration will be in a better position to determine the overall effectiveness of its critical task analysis. The new incident management system will also track EMS call statistics and hopefully efficacy of on-scene treatment and outcomes (at least pre-hospital outcomes). This information, once captured, can be analyzed to determine the efficacy of the critical tasking on EMS calls. Currently the department has relied on best-practices and adherence to valley standards regarding appropriate critical tasking for fire and EMS calls.

Section 10: Plans

According to the City of Peoria Planning Department, it was anticipated that Peoria would reach build-out by the year 2050. The projected population was expected to reach approximately 489,000 residents with an employment of 183,000 within the city limits. A complete demographic profile was completed in September 2007 to demonstrate the growth within the city over the past ten years (Appendix A). However, with the recent downturn in the economy and the unexpected trends in foreclosures and unemployment impacting Arizona so profoundly, one cannot know whether this original growth plan will be achieved in the long term by 2050. The City of Peoria is working diligently towards reviving the economy and encouraging development in the undeveloped areas in northern Peoria. A few of Peoria City Council's goals regarding development over the next few years include:

- A college or university and a large corporation
- Increasing density in already established areas
- Identifying development opportunities along the Loop 303 corridor (City of Peoria, 2007, December 31)

The City of Peoria General Plan Land Use Map highlights not only the opportunities available in northern Peoria but also demonstrates the opportunities available around the Loop 303 corridor (Appendix B).

City Council goals that impact the fire department are:

- Quality neighborhoods
- Community oriented services including police and fire
- Cost effective service delivery
- Making Peoria the employer of choice for new recruits
- Seeking grant funding
- Identifying a health care strategy for the community
- Developing a strategic plan
- Providing leadership and image on a local and regional level

(City of Peoria, 2009)

Whether the once anticipated growth is achieved or not, the Peoria Fire Department has to plan for the future, and while the focus in the past had been on meeting increased service needs, the focus now is on maintaining core service levels due to the state of the economy. The department needs to focus on doing more with less, streamlining efficiencies, and eliminating waste.

This focus can best be achieved through several of the annual budget processes. For instance, each year the city develops a new ten year Capital Improvement Program (CIP). This review of the CIP allows the department to now push back fire station projects that were planned for areas where growth was occurring but has now come to a standstill. Every several years the city also undertakes a General Fund (and other) bond election process. A history of City of Peoria Bond Elections dating back to 2000 is below (City of Peoria, 2008):

Bond Election History

Election	Amount	Approval Percentage
September 2000:		
Water	$99,000,000	76%
Wastewater	$65,000,000	74%
Storm Sewer/Flood Protection	$22,300,000	73%
Street Improvements	$47,150,000	76%
Parks/Library Improvements	$30,000,000	68%
Police/Fire/Public Services	$18,550,000	82%
	$282,000,000	74.8%
May 2005:		
Water/Wastewater	$160,000,000	85%
Streets	$109,000,000	85%
Parks/Library Improvements	$35,000,000	77%
Public Safety/Op Facilities	$52,000,000	84%
	$356,000,000	82.7%
September 2005:		
Transportation Sales Tax	---	68%
September 2008:		
Transportation/Drainage	$276,700,000	67%
Public Safety/Municipal Operations	$60,300,000	65%
Parks, Recreation & Trails	$41,000,000	63%
	$378,000,000	65%
Total for Bond Elections Only:	$1,016,000,000	74%

The Peoria Fire Department's Fire Chief and Senior Staff take active roles in researching, analyzing, and then proposing the needs and locations of future fire stations and other department facilities, apparatus, and equipment. The department anticipates that the following projects will provide for improved services over the next ten years:

- 800 MHz Radios (FY11)
- Communication enhancements for the newly purchased SCBA equipment (FY11)
- Fire Station 8 - north Westwing (tentative design/build FY16/17)
- Support Services Facility land acquisition (FY11)
- Pinnacle Peak Public Safety Facility Expansion (FY12/13)

It should be noted that the land acquisition for the Support Services Facility was originally planned for later but the city decided to move ahead with this purchase thus yielding an overall savings as real estate values have declined in the region.

Comparability

The Peoria Fire Department has unique geographical challenges that make it difficult to compare response goal objectives to another department in the valley. The department has a larger coverage area by mile (179 miles) than most departments of a comparable size in stations and staffing. The response needs at Lake Pleasant Regional Park are unlike any other department in the valley and the staffing needs have been modified (part-time station) to meet the needs of the high seasonal visitor populations. The ATV and recreational use areas in northern Peoria are also a factor in response coverage needs. The fact that the department services areas that are densely populated as well as areas in the northern reaches of the city where sparse populations exist in the midst of large undeveloped areas in conjunction with the automatic aid needs make Peoria unique. Peoria is a prime example that supports the Commission on Fire Accreditation International's philosophy that a local assessment is the best assessment. A "one size fits all" deployment strategy would not be successful in Peoria.

Peoria Fire Department has set their standards of response coverage based on NFPA 1710 standards. The following chart compares NFPA 1710 (2004) and NFPA 1221 (2002) standards to Peoria Fire Department's defined response coverage performance measurements. One should note that the Peoria Police Department is responsible for alarm processing (911 system) and the Phoenix Regional Dispatch Center is responsible for dispatching the calls through the automatic

aid agreement but the department can collaboratively monitor these objectives with each responsible agency.

Performance Measurement	NFPA 1710	Peoria Fire Department
Turnout time	<60 seconds, 90% of the calls	<60 seconds, 90% of the calls
Code 3 response (travel time)	<4 minutes, 90% of the calls	<5 minutes, 90% of the calls
Fire		
1st unit response fire suppression (travel time)	<4 minutes, 90% of the calls	<5 minutes, 90% of the calls
Initial full alarm assignment (travel time)	<8 minutes, 90% of the calls	<8 minutes, 90% of the calls
3:1 (full alarm) Effective Response Force (3 engines, 1 ladder, 2 incident commanders)	<10 minutes, 90% of the calls	<10 minutes, 90% of the calls
Full 1st alarm Effective Response Force (5 engines, 2 ladders, 4 incident commanders)	<12 minutes, 90% of the calls	<12 minutes, 90% of the calls
EMS		
1st unit response BLS (travel time)	<4 minutes, 90% of the calls	<5minutes, 90% of the calls
ALS unit (travel time)	<8 minutes, 90% of the calls	<5minutes, 90% of the calls
Special Operations		
HazMat unit on scene (travel time)	<13 minutes, 90% of the calls	<13 minutes, 90% of the calls
Technical Rescue Team (TRT) travel time	<13 minutes, 90% of the calls	<13 minutes, 90% of the calls
Performance Measurements continued	**NFPA 1221**	**Peoria Fire Department**
PSAP (911 system)alarm processing time **Peoria Police Department**	<30 seconds, 95% of the alarms	<30 seconds, 95% of the alarms
PSAP (911 system) alarms answered never to exceed **Peoria Police Department**	<60 seconds	<60 seconds
Call processing - Dispatch of emergency response **Phoenix Regional Dispatch**	<60 seconds	<60 seconds

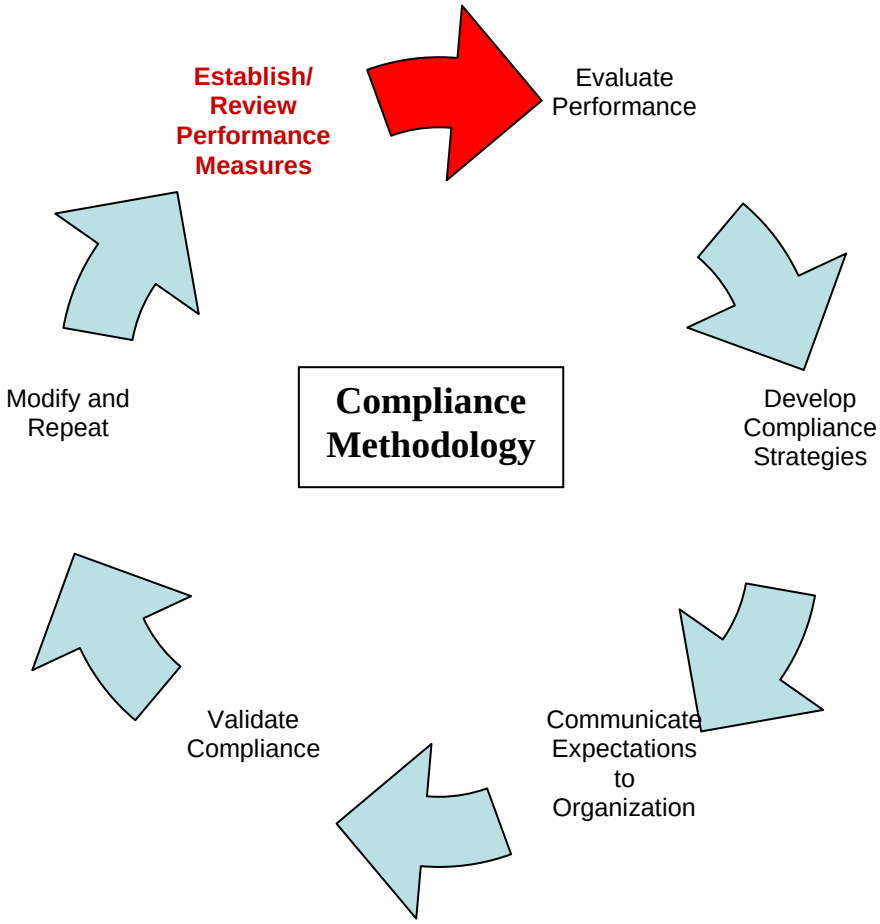
(NFPA, 2004)

Compliance Methodology

Currently the Peoria Fire Department relies on several systems to track and evaluate compliance. The department has developed an Access database (FireApp) that has a direct import of call data from Phoenix Dispatch Center's RMS system. This database is limited in function and not the most reliable. The department also uses the FireView GIS software to gather aggregate call data but again, this data is coming from Phoenix and being deposited into FireHouse software, which serves as a portal for the information. The data is then imported from FireHouse into the

FireView GIS software. The department has procured and is in the early implementation stages of a new records management system (RMS) that will be able to capture all the associated data in one location and will provide more accessible and reliable data to the department for analysis. The department anticipates having this new RMS fully operational by late summer of 2010.

The department's compliance methodology is depicted below:



As a part of the Peoria Fire Department's goal of achieving Accredited Agency status through the Commission of Fire Accreditation International, the Peoria Fire Department has conducted a risk analysis, response time analysis, various SWOT analyses, concentration and distribution analyses, a comprehensive self assessment of all programs in the department, developed a five year strategic plan, and also developed this Standards of Cover document. Services to be provided, levels of service, risk levels, and response performance measurements have been identified in the areas of fire suppression, EMS and special operations. The compliance methodology is to establish the performance measurements (indicted above in red), evaluate performance, develop

compliance strategies, communicate expectations to the organization, validate compliance and then modify if appropriate and repeat the process (Center for Public Safety, 2008).
Service levels defined in this Standards of Cover document will be revised and updated annually as a part of the Labor Management Executive Steering Committee's annual goal setting meeting and during the annual budget process or when deemed appropriate by the Fire Chief. For FY11, the department prepared a departmental operational plan which included cost/benefit analyses of all positions. As a part of the Fire Department Operational Plan, the department also conducted SWOT analyses for each of the respective divisions (Appendix C). With the current economy being in such a fragile state, this operational plan and the associated analyses should provide mechanisms to streamline efficiencies and responsibilities within the department if needed. Statistical analysis will be run on a quarterly basis by the Accreditation Manager and results shared with the Fire Chief and Senior Staff at quarterly meetings. The services that the department provides per the Self Assessment Manual will be reviewed quarterly or as a program ends. For instance, public education programs are presented at specific times of the year and at the end of the program, a program analysis will be conducted. The respective division manager responsible for overseeing said programs will monitor compliance and report to the Accreditation Manager and Senior Staff.

The new RMS will also incorporate training, EMS, equipment inventory, occupancy data, and fire prevention data into one system. When appropriate, the Accreditation Manager will develop specialized reports in the new RMS (Zoll Data Systems) to capture all relevant data to maintain compliance with service provisions and performance objectives. If deficiencies are discovered at any time, the appropriate supervisor/manager will identify potential remedies and be proactive in maintaining or improving the performance standards that have been established. The department will also continue to assess risks as new occupancies are added to the RMS system.

Overall Evaluation

As a result of this accreditation process, the department was able to develop a comprehensive strategic plan that is relevant, current and meets the future needs of the organization and the public being served. The following goals and objectives have been developed and will be implemented with the formal adoption of the Standards of Cover document.

6. Provide the Citizens of Peoria with effective and efficient fire, emergency medical, hazardous materials, mitigation and technical rescue service delivery, to ensure long-term sustainment of all services.
    - **Objective 1.1:** The Peoria Fire Department will aggressively resume efforts to become accredited through the Commission of Fire Accreditation International.
    - **Objective 1.2:** Evaluate response times to fire, medical, hazardous materials and technical rescue incidents on a quarterly basis to ensure emergency deployment objectives are being met and make the appropriate modifications if necessary.
    - **Objective 1.3:** The Department will continue to develop programs and services that support the overall mission and will continue to monitor all programs to ensure they remain consistent with the department mission.

7. Provide a safeguard for the community through proactive prevention, preparedness and mitigation efforts, along with enhancing public value through educational programs and customer service activities.
    - **Objective 2.1:** Enhance prevention programs, evaluate annually and develop programs according to relevant public needs.
    - **Objective 2.2:** Enhance Emergency Management preparedness.

8. Strengthen current fire department membership relationships through the labor management process and to create opportunities to develop new ones with all stakeholders.
    - **Objective 3.1:** Enhance Labor/Management process.
    - **Objective 3.2:** Create opportunities to improve member services within the Fire Department by working on areas related to firefighter health and safety wellness.

9. Develop plans to standardize an all hazards emergency response to include all undeveloped areas of Northern Peoria and Lake Pleasant.
    - **Objective 4.1:** Improved readiness for fire, medical, technical rescues and to provide a consistent emergency response to northern Peoria.
    - **Objective 4.2:** Standards of emergency response for Lake Pleasant.

10. Promote the long term fiscal health of the fire department by introducing innovative measures, with the use of new technology available for mandatory fire and emergency

medical services training. In addition, the department will introduce new computer software systems for records management, fleet maintenance and inventory control to ensure both operationally readiness and efficiency.

- **Objective 5.1:** Provide leadership to ensure long term sustainability for the fire department.
- **Objective 5.2:** Implement new technology to enhance services and promote efficiency.
- **Objective 5.3:** Research and promote opportunities to achieve economies of scale and gain efficiencies within the department.

In addition to the aforementioned service level priorities and goals, the department has evaluated both NFPA standards and the Fire Emergency Services Self Assessment Manual's (FESSAM's) identified baseline and benchmark best practices for a suburban community. These evaluations have aided the department tremendously in implementing the following best practices to specifically meet the City of Peoria's service delivery needs.

Peoria Fire Department Performance Measurement	
PSAP (911 system)alarm processing time	<30 seconds, 95% of the alarms
PSAP (911 system) alarms answered never to exceed	<60 seconds
Call processing - Dispatch of emergency response	<60 seconds
Turnout time	<60 seconds, 90% of the calls
Code 3 response (travel time)	<5 minutes, 90% of the calls
Fire	
1st unit response fire suppression (travel time)	<5 minutes, 90% of the calls
Initial full alarm assignment (travel time)	<8 minutes, 90% of the calls
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Full 1st alarm Effective Response Force (5 engines, 2 ladders, 4 incident commanders)	<12 minutes, 90% of the calls
EMS	
1st unit response BLS (travel time)	<5minutes, 90% of the calls
ALS unit (travel time)	<5minutes, 90% of the calls
Special Operations	
HazMat unit on scene (travel time)	<13 minutes, 90% of the calls
Technical Rescue Team (TRT) travel time	<13 minutes, 90% of the calls

In conclusion, the department, as a part of this accreditation process, has developed plans and analyses that are more accountable to not only the department and its serving members but also to the City of Peoria and the public. The department now has established deployment objectives and measurable performance standards that are current and relevant. Programs have been assessed and a vision for the future developed. The department will maintain its status with the Commission on Fire Accreditation International and the Annual Compliance Report (ACR) will serve as a means to ensure accountability to all involved stakeholders.

In conclusion, the department, as a part of this accreditation process, has developed plans and analyses that are more accountable to not only the department and its serving members but also to the City of Peoria and the public. The department now has established deployment objectives and measurable performance standards that are current and relevant. Programs have been assessed and a vision for the future developed. The department will maintain its status with the Commission on Fire Accreditation International and the Annual Compliance Report (ACR) will serve as a means to ensure accountability to all involved stakeholders.

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Appendix A: City of Peoria Complete Demographic Profile as of September 2007

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Population		
Estimated Population (2007)	145,280	
Census Population (1990)	51,550	
Census Population (2000)	108,364	
Projected Population (2012)	169,907	
Forecasted Population (2017)	204,062	
Historical Annual Change (1990-2000)	56,814	11.0%
Historical Annual Change (2000-2007)	36,916	4.9%
Projected Annual Change (2007-2012)	24,627	3.4%
Est. Population Density (2007)	925.64	*psm*
Trade Area Size	156.95	*sq mi*
Households		
Estimated Households (2007)	51,748	
Census Households (1990)	18,809	
Census Households (2000)	39,283	
Projected Households (2012)	60,117	
Forecasted Households (2017)	71,657	
Historical Annual Change (1990-2000)	20,474	10.9%
Projected Annual Change (2000-2012)	20,834	4.4%
Average Household Income		
Est. Average Household Income (2007)	$70,241	
Census Average Hhld Income (1990)	$38,188	
Census Average Hhld Income (2000)	$61,899	
Proj. Average Household Income (2012)	$76,609	
Historical Annual Change (1990-2000)	$23,711	6.2%
Projected Annual Change (2000-2012)	$14,710	2.0%
Median Household Income		
Est. Median Household Income (2007)	$66,359	
Census Median Hhld Income (1990)	$34,203	
Census Median Hhld Income (2000)	$52,849	
Proj. Median Household Income (2012)	$74,227	
Historical Annual Change (1990-2000)	$18,646	5.5%
Projected Annual Change (2000-2012)	$21,378	3.4%
Per Capita Income		
Est. Per Capita Income (2007)	$25,643	
Census Per Capita Income (1990)	$13,934	
Census Per Capita Income (2000)	$22,478	
Proj. Per Capita Income (2012)	$27,672	
Historical Annual Change (1990-2000)	$8,544	6.1%
Projected Annual Change (2000-2012)	$5,194	1.9%
Other Income		
Est. Median Disposable Income (2007)	$54,824	
Proj. Median Disposable Income (2012)	$59,984	
Est. Median Household Net Worth (2007)	$0	

This report was produced using data from private and government sources deemed to be reliable. The information herein is provided without representation or warranty.

Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Household Income Distribution (2007)		
HH Income $200,000 or More	1,924	3.7%
HH Income $150,000 to 199,999	1,830	3.5%
HH Income $125,000 to 149,999	2,832	5.5%
HH Income $100,000 to 124,999	5,841	11.3%
HH Income $75,000 to 99,999	9,339	18.0%
HH Income $50,000 to 74,999	12,493	24.1%
HH Income $35,000 to 49,999	6,872	13.3%
HH Income $25,000 to 34,999	4,480	8.7%
HH Income $15,000 to 24,999	3,322	6.4%
HH Income $10,000 to 14,999	1,068	2.1%
HH Income $0 to 9,999	1,746	3.4%
HH Income $35,000+	41,131	79.5%
HH Income $50,000+	34,259	66.2%
HH Income $75,000+	21,766	42.1%
Race & Ethnicity (2007)		
Total Population	145,280	
White	124,547	85.7%
Black or African American	4,108	2.8%
American Indian & Alaska Native	1,210	0.8%
Asian	3,659	2.5%
Hawiian & Pacific Islander	130	0.1%
Other Race	8,326	5.7%
Two or More Races	3,300	2.3%
Not Hispanic or Latino Population	115,186	79.3%
Non Hispanic: White	*97,772*	*84.9%*
Non Hispanic: Black or African American	*2,959*	*2.6%*
Non Hispanic: Amer Indian & AK Native	*915*	*0.8%*
Non Hispanic: Asian	*2,758*	*2.4%*
Non Hispanic: Hawiian & Pacific Islander	*92*	*0.1%*
Non Hispanic: Other Race	*7,958*	*6.9%*
Non Hispanic: Two or More Races	*2,732*	*2.4%*
Hispanic or Latino Population	30,094	20.7%
Hispanic: White	*26,775*	*89.0%*
Hispanic: Black or African American	*1,149*	*3.8%*
Hispanic: American Indian & Alaska Native	*295*	*1.0%*
Hispanic: Asian	*901*	*3.0%*
Hispanic: Hawiian & Pacific Islander	*38*	*0.1%*
Hispanic: Other Race	*368*	*1.2%*
Hispanic: Two or More Races	*568*	*1.9%*
Not of Hispanic Origin Population (1990)	43,713	84.8%
Hispanic Origin Population (1990)	7,837	15.2%
Not Hispanic or Latino Population (2000)	91,695	84.6%
Hispanic or Latino Population (2000)	16,669	15.4%
Not Hispanic or Latino Population 5yr (2012)	129,854	76.4%
Hispanic or Latino Population 5yr (2012)	40,053	23.6%
Historical Annual Change (1990-2000)	8,832	11.3%
Projected Annual Change (2000-2012)	23,384	11.7%

The report was produced using data from private and government sources deemed to be reliable. The information herein is provided without representation or warranty.

Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Age Distribution (2007)		
Total Population	145,280	
Age 0 to 4 yrs	10,987	7.6%
Age 5 to 9 yrs	11,665	8.0%
Age 10 to 14 yrs	11,850	8.2%
Age 15 to 19 yrs	9,628	6.6%
Age 20 to 24 yrs	6,510	4.5%
Age 25 to 29 yrs	8,619	5.9%
Age 30 to 34 yrs	10,627	7.3%
Age 35 to 39 yrs	11,444	7.9%
Age 40 to 44 yrs	11,109	7.6%
Age 45 to 49 yrs	9,935	6.8%
Age 50 to 54 yrs	8,509	5.9%
Age 55 to 59 yrs	7,755	5.3%
Age 60 to 64 yrs	6,555	4.5%
Age 65 to 69 yrs	5,544	3.8%
Age 70 to 74 yrs	4,512	3.1%
Age 75 to 79 yrs	3,493	2.4%
Age 80 to 84 yrs	2,845	2.0%
Age 85 yrs plus	3,693	2.5%
Median Age	35.2	*yrs*
Age 19 yrs or less	44,130	30.4%
Age 20 to 64 years	81,063	55.8%
Age 65 years Plus	20,087	13.8%
Female Age Distribution (2007)		
Female Population	74,523	51.3%
Age 0 to 4 yrs	*5,248*	*7.0%*
Age 5 to 9 yrs	*5,912*	*7.9%*
Age 10 to 14 yrs	*5,820*	*7.8%*
Age 15 to 19 yrs	*4,795*	*6.4%*
Age 20 to 24 yrs	*3,344*	*4.5%*
Age 25 to 29 yrs	*4,360*	*5.9%*
Age 30 to 34 yrs	*5,288*	*7.1%*
Age 35 to 39 yrs	*5,819*	*7.8%*
Age 40 to 44 yrs	*5,467*	*7.3%*
Age 45 to 49 yrs	*4,922*	*6.6%*
Age 50 to 54 yrs	*4,439*	*6.0%*
Age 55 to 59 yrs	*4,089*	*5.5%*
Age 60 to 64 yrs	*3,574*	*4.8%*
Age 65 to 69 yrs	*2,912*	*3.9%*
Age 70 to 74 yrs	*2,385*	*3.2%*
Age 75 to 79 yrs	*1,957*	*2.6%*
Age 80 to 84 yrs	*1,690*	*2.3%*
Age 85 yrs plus	*2,502*	*3.4%*
Female Median Age	*36.1*	*yrs*
Age 19 yrs or less	*21,775*	*29.2%*
Age 20 to 64 years	*41,302*	*55.4%*
Age 65 years Plus	*11,446*	*15.4%*

Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Male Age Distribution (2007)		
Male Population	70,757	48.7%
Age 0 to 4 yrs	*5,739*	*8.1%*
Age 5 to 9 yrs	*5,753*	*8.1%*
Age 10 to 14 yrs	*6,030*	*8.5%*
Age 15 to 19 yrs	*4,833*	*6.8%*
Age 20 to 24 yrs	*3,166*	*4.5%*
Age 25 to 29 yrs	*4,259*	*6.0%*
Age 30 to 34 yrs	*5,339*	*7.5%*
Age 35 to 39 yrs	*5,625*	*7.9%*
Age 40 to 44 yrs	*5,642*	*8.0%*
Age 45 to 49 yrs	*5,013*	*7.1%*
Age 50 to 54 yrs	*4,070*	*5.8%*
Age 55 to 59 yrs	*3,666*	*5.2%*
Age 60 to 64 yrs	*2,981*	*4.2%*
Age 65 to 69 yrs	*2,632*	*3.7%*
Age 70 to 74 yrs	*2,127*	*3.0%*
Age 75 to 79 yrs	*1,536*	*2.2%*
Age 80 to 84 yrs	*1,155*	*1.6%*
Age 85 yrs plus	*1,191*	*1.7%*
Male Median Age	*34.2*	*yrs*
Age 19 yrs or less	*22,355*	*31.6%*
Age 20 to 64 years	*39,761*	*56.2%*
Age 65 years Plus	*8,641*	*12.2%*
Males per 100 Females, Male % Pop (2007)		
Overall Comparison	95	
Age 0 to 4 yrs	*109*	*52.2%*
Age 5 to 9 yrs	*97*	*49.3%*
Age 10 to 14 yrs	*104*	*50.9%*
Age 15 to 19 yrs	*101*	*50.2%*
Age 20 to 24 yrs	*95*	*48.6%*
Age 25 to 29 yrs	*98*	*49.4%*
Age 30 to 34 yrs	*101*	*50.2%*
Age 35 to 39 yrs	*97*	*49.2%*
Age 40 to 44 yrs	*103*	*50.8%*
Age 45 to 49 yrs	*102*	*50.5%*
Age 50 to 54 yrs	*92*	*47.8%*
Age 55 to 59 yrs	*90*	*47.3%*
Age 60 to 64 yrs	*83*	*45.5%*
Age 65 to 69 yrs	*90*	*47.5%*
Age 70 to 74 yrs	*89*	*47.1%*
Age 75 to 79 yrs	*78*	*44.0%*
Age 80 to 84 yrs	*68*	*40.6%*
Age 85 yrs plus	*48*	*32.3%*
Age 19 yrs or less	*103*	*50.7%*
Age 20 to 39 yrs	*98*	*49.4%*
Age 40 to 64 yrs	*95*	*48.7%*
Age 65 years Plus	*75*	*43.0%*

Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Household Type (2007)		
Total Households	51,748	
Households with Children	19,693	38.1%
Average Household Size	2.78	
Est. Household Density	329.71	psm
Population Family	127,979	88.1%
Population Non-Family	15,854	10.9%
Population Group Qtrs	1,447	1.0%
Family Households	37,310	72.1%
Married Couple Hhlds	*29,339*	*78.6%*
Other Family Hhlds	*7,971*	*21.4%*
Family Households With Children	19,454	52.1%
Married Couple With Children	*13,947*	*71.7%*
Other Family Hhlds With Children	*5,507*	*28.3%*
Family Households No Children	17,856	47.9%
Married Couple No Children	*15,392*	*86.2%*
Other Family Households No Children	*2,464*	*13.8%*
Average Family Household Size	3.43	
Average Family Income	$79,475	
Median Family Income	$74,546	
Non-Family Households	14,438	27.9%
Non-Family Hhlds With Children	239	1.7%
Non-Family Hhld No Children	14,199	98.3%
N-F Hhld Lone Person No Children	*11,495*	*79.6%*
Lone Male Householder	4,175	36.3%
Lone Female Householder	7,320	63.7%
N-F Hhld 2+ Persons No Children	*2,704*	*18.7%*
Average Non-Family Hhld Size	1.10	
Marital Status (2007)		
(15 Years or Older)	110,689	
Never Married	20,809	18.8%
Now Married	68,983	62.3%
Previously Married	20,897	18.9%
Separated	*3,618*	*17.3%*
Widowed	*6,556*	*31.4%*
Divorced	*10,723*	*51.3%*
Educational Attainment (2007)		
Adult Population (25 Years or Older)	94,640	
Elementary (0 to 8)	3,133	3.3%
Some High School (9 to 11)	6,237	6.6%
High School Graduate (12)	27,449	29.0%
Some College (13 to 16)	25,564	27.0%
Associate Degree Only	9,637	10.2%
Bachelor Degree Only	15,183	16.0%
Graduate Degree	7,437	7.9%
Any College + (Some College or higher	57,821	61.1%
College Degree + (Bachelor Degree or higher	22,620	23.9%

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Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

Calculated using Proportional Block Groups

Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Housing (2007)		
Total Housing Units	57,351	
Housing Units, Occupied	51,748	90.2%
Housing Units, Owner-Occupied	*43,459*	*84.0%*
Housing Units, Renter-Occupied	*8,289*	*16.0%*
Housing Units, Vacant	5,603	9.8%
Total Housing Units (2000)	42,671	
Historical Annual Change (2000-2007)	14,680	4.9%
Household Size (2007)		
Total Households	51,748	
1 Person Household	11,495	22.2%
2 Person Households	17,909	34.6%
3 Person Households	7,876	15.2%
4 Person Households	8,394	16.2%
5 Person Households	4,083	7.9%
6 Person Households	1,191	2.3%
7+ Person Households	800	1.5%
Household Stability (2007)		
Total Households	51,748	
In current residence < 1 year	10,641	20.6%
In current residence 1-2 years	17,263	33.4%
In current residence 3-5 years	10,227	19.8%
In current residence 6-10 years	7,080	13.7%
In current residence > 10 years	6,537	12.6%
Turnover (% Annual Residential Turnover)		20.6%
Stability (% In Current Residence 5+ Years)		26.3%
Median Years in Residence	2.8	yrs
Household Vehicles (2007)		
Total Vehicles Available	95,762	
Household: 0 Vehicles Available	2,084	4.0%
Household: 1 Vehicles Available	16,635	32.1%
Household: 2 Vehicles Available	23,111	44.7%
Household: 3+ Vehicles Available	9,917	19.2%
Average Per Household	1.9	Vehicles
Owner Occupied Hhlds Vehicles	84,315	88.0%
Average Per Owner Household	*1.9*	*Vehicles*
Renter Occupied Hhlds Vehicles	11,447	12.0%
Average Per Renter Household	*1.4*	*Vehicles*
Travel Time (2000)		
Worker Base (16 Years or Older)	50,161	
Travel to Work in 14 Minutes or Less	9,063	18.1%
Travel to Work in 15 to 29 Minutes	17,175	34.2%
Travel to Work in 30 to 59 Minutes	18,313	36.5%
Travel to Work in 60 Minutes or More	4,151	8.3%
Work at Home	1,459	2.9%
Average Travel Time to Work	27.7	mins

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RF9

City of Peoria	Peoria	
Transportation To Work (2000)		
Work Base	50,161	
Drive to Work Alone	40,320	80.4%
Drive to Work in Carpool	7,089	14.1%
Travel to Work - Public Transportation	183	0.4%
Drive to Work on Motorcycle	187	0.4%
Bicycle to Work	227	0.5%
Walk to Work	417	0.8%
Other Means	280	0.6%
Work at Home	1,459	2.9%
Daytime Demos (2007)		
Total Number of Businesses	2,355	
Total Number of Employees	33,406	
Company Headqtrs: Businesses	3	0.1%
Company Headqtrs: Employees	55	0.2%
Employee Population per Business		14.2 to 1
Residential Population per Business		61.7 to 1
Est. Adj. Daytime Demographics (Age16+)	72,410	
Labor Force (2007)		
Labor: Population Age 16+	108,570	
Unemployment Rate		3.0%
Labor Force Total: Males	52,132	48.0%
Male civilian employed	*38,078*	*73.0%*
Male civilian unemployed	*1,582*	*3.0%*
Males in Armed Forces	*402*	*0.8%*
Males not in labor force	*12,070*	*23.2%*
Labor Force Total: Females	56,438	52.0%
Female civilian employed	*31,044*	*55.0%*
Female civilian unemployed	*1,679*	*3.0%*
Females in Armed Forces	*42*	*0.1%*
Females not in labor force	*23,673*	*41.9%*
Employment Force Change (2000-2007)	19,454	39.2%
Male Change (2000-2007)	11,614	43.9%
Female Change (2000-2007)	7,840	33.8%
Occupation (2000)		
Occupation: Population Age 16+	49,668	
Occupation Total: Males	*26,464*	*53.3%*
Occupation Total: Females	*23,204*	*46.7%*
Mgmt, Business, & Financial Operations	7,083	14.3%
Professional and Related	9,784	19.7%
Service	6,573	13.2%
Sales and Office	15,704	31.6%
Farming, Fishing, and Forestry	63	0.1%
Construction, Extraction, & Maintenance	5,335	10.7%
Production, Transport, & Material Moving	5,126	10.3%
White Collar		*65.6%*
Blue Collar		*34.4%*

 - 7 of 9 - Demographic Source: Applied Geographic Solutions / TIGER Geography 07/07

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RF9

City of Peoria	Peoria	
Units In Structure (2000)		
Total Units	42,671	
1 Detached Unit	31,444	73.7%
1 Attached Unit	2,500	5.9%
2 Units	240	0.6%
3 to 4 Units	397	0.9%
5 to 9 Units	756	1.8%
10 to 19 Units	672	1.6%
20 to 49 Units	296	0.7%
50 or more Units	2,405	5.6%
Mobile Home or Trailer	3,332	7.8%
Other Structure	631	1.5%
Homes Built By Year (2000)		
Homes Built 1999 to 2000	4,255	10.0%
Homes Built 1995 to 1998	10,317	24.2%
Homes Built 1990 to 1994	7,584	17.8%
Homes Built 1980 to 1989	13,782	32.3%
Homes Built 1970 to 1979	5,031	11.8%
Homes Built 1960 to 1969	1,018	2.4%
Homes Built 1950 to 1959	320	0.7%
Homes Built 1940 to 1949	161	0.4%
Homes Built Before 1939	204	0.5%
Median Age of Homes	9.0	yrs
Home Values (2000)		
Owner Specified Housing Units	29,110	
Home Values $1,000,000 or More	14	0.0%
Home Values $750,000 or $999,999	10	0.0%
Home Values $500,000 or $749,999	22	0.1%
Home Values $400,000 to $499,999	66	0.2%
Home Values $300,000 to $399,999	473	1.6%
Home Values $250,000 to $299,999	766	2.6%
Home Values $200,000 to $249,999	1,770	6.1%
Home Values $175,000 to $199,999	1,929	6.6%
Home Values $150,000 to $174,999	3,496	12.0%
Home Values $125,000 to $149,999	6,461	22.2%
Home Values $100,000 to $124,999	6,875	23.6%
Home Values $90,000 to $99,999	2,887	9.9%
Home Values $80,000 to $89,999	2,035	7.0%
Home Values $70,000 to $79,999	1,073	3.7%
Home Values $60,000 to $69,999	626	2.2%
Home Values $50,000 to $59,999	308	1.1%
Home Values $35,000 to $49,999	165	0.6%
Home Values $25,000 to $34,999	15	0.1%
Home Values $10,000 to $24,999	98	0.3%
Home Values $0 to $9,999	21	0.1%
Owner Occupied Median Home Value	$126,748	
Renter Occupied Median Rent	$770	

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DEMOGRAPHIC PROFILE COMPLETE

1990 - 2000 Census, 2007 Estimates & 2012 Projections

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Lat/Lon: 33.7253265/-112.324987 September 2007

RF9

City of Peoria	Peoria	
Consumer Expenditure *(Annual Total)*		
Total Household Expenditure (2007)	$2,845,828,995	
Total Non-Retail Expenditures (2007)	*$1,643,232,901*	
Total Retail Expenditures (2007)	*$1,202,596,094*	
Apparel (2007)	$136,195,044	
Contributions (2007)	$105,644,577	
Education (2007)	$68,047,585	
Entertainment (2007)	$160,015,683	
Food And Beverages (2007)	$433,254,438	
Furnishings And Equipment (2007)	$127,182,095	
Gifts (2007)	$75,737,855	
Health Care (2007)	$170,943,308	
Household Operations (2007)	$103,158,603	
Miscellaneous Expenses (2007)	$47,244,889	
Personal Care (2007)	$41,100,332	
Personal Insurance (2007)	$29,312,655	
Reading (2007)	$9,325,507	
Shelter (2007)	$549,142,531	
Tobacco (2007)	$17,803,899	
Transportation (2007)	$576,441,154	
Utilities (2007)	$195,278,840	
Consumer Expenditure *(per Household per Month)*		
Total Household Expenditure (2007)	$4,583	
Total Non-Retail Expenditures (2007)	*$2,646*	*57.7%*
Total Retail Expenditures (2007)	*$1,937*	*42.3%*
Apparel (2007)	$219	4.8%
Contributions (2007)	$170	3.7%
Education (2007)	$110	2.4%
Entertainment (2007)	$258	5.6%
Food And Beverages (2007)	$698	15.2%
Furnishings And Equipment (2007)	$205	4.5%
Gifts (2007)	$122	2.7%
Health Care (2007)	$275	6.0%
Household Operations (2007)	$166	3.6%
Miscellaneous Expenses (2007)	$76	1.7%
Personal Care (2007)	$66	1.4%
Personal Insurance (2007)	$47	1.0%
Reading (2007)	$15	0.3%
Shelter (2007)	$884	19.3%
Tobacco (2007)	$29	0.6%
Transportation (2007)	$928	20.3%
Utilities (2007)	$314	6.9%

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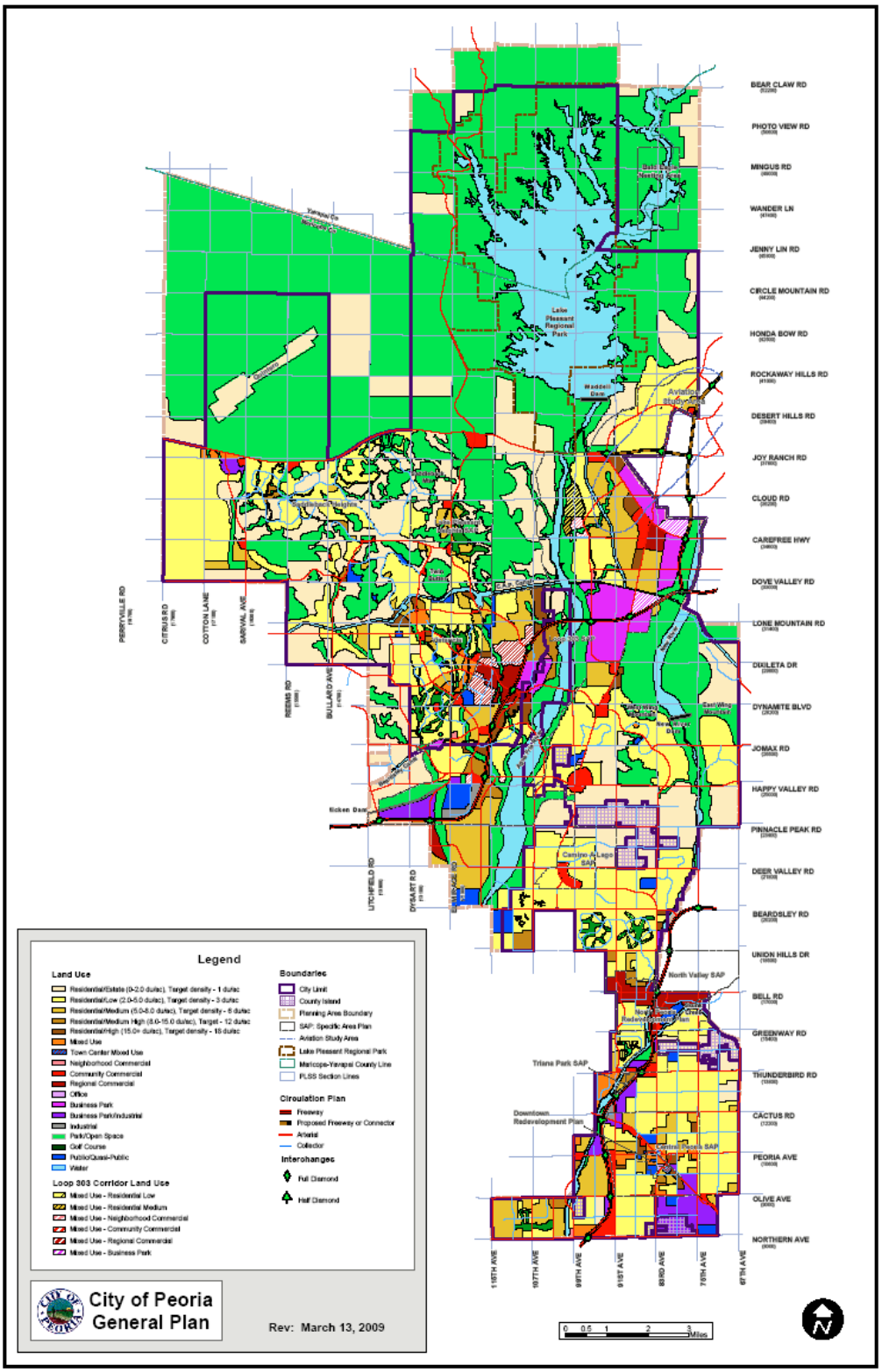
Appendix B: City of Peoria General Plan Land Use Map



Appendix C: Peoria Fire Department Operational Plan

Peoria Fire Department Operational Plan FY2011

Fire Chief, Thomas Solberg

November 16, 2009

Appendix C: Peoria Fire Department Operational Plan

City of Peoria Fire Department

Our Mission Statement:
We are committed to protecting and caring for our neighbors, our guests, and each other while maintaining the community's trust and respect through superior life safety services.

Primary influences and priorities that drive our operations -
The establishment of the Peoria Fire Department and its organizational structure are defined in the Peoria City Code. Our operations are driven by the density and make up of our population. Our city has a population of approximately 158,000 people with a total of 177.9 square miles. We have a 10,000 acre lake within our city which requires a very specialized type of emergency response. This lake has activity all year long but definitely experiences a peak season during the summer months. With the extreme heat that we have during the summer we see a large increase in our heat related types of incidents. Call volume is a huge factor that drives our operations. Different geographic areas of the city experience more call volume than others. There are many factors that play into that fact. Be it age of the neighborhood, housing density, industrial or commercial structures, high pedestrian or automotive traffic, etc. Automatic aid is an agreement that we have with the neighboring fire departments within the valley. We will run calls into other cities if that city is unable to respond for whatever reason. Other cities will in turn provide that same coverage for us. Our city has a sports complex that is utilized for spring training events by two professional baseball teams. That facility requires constant staffing of emergency personnel during the games.

The council goals that affect the fire department are as follows:

Quality neighborhoods
Community oriented services including police and fire
Cost-effective service delivery
Making Peoria the employer of choice for new recruits
Finding grants
Have a health care strategy for our community
A business model for the future/ strategic planning
Provide leadership and image on a local and regional level

Key functions: (4 divisions)

Administration – (comprised of Administration, Support Services and Emergency Management) provides leadership, long-range planning, budget development, financial management, personnel, payroll, and contracts administration, interdepartmental coordination, grants and project management, information technology coordination, and general customer service, in order to ensure the efficient daily operations of the Fire Department. Emergency preparedness/homeland security programming for the City of Peoria. Responsible for computer aided dispatch coordination and database maintenance; capital construction; facility and equipment maintenance and repair, including fleet.

Fire Prevention – provides inspection services, plan review, issuance of permits, fire code enforcement, fire cause investigations, internal safety investigations, citizen safety awareness

programs, public fire education, public information services, and fire department community relations events.
Fire Operations – provides fire protection, emergency medical service delivery, technical rescue and hazardous material emergency response to the citizens of Peoria. The Operations Division currently staffs seven pumper trucks with paramedic capabilities and two ladder trucks.

Training – (comprised of EMS and Fire) EMS administration including supply acquisition, EMS training and certification, and ambulance transportation coordination. Continuing education in fire suppression and rescue, and supervisory and managerial development to all field personnel.

Fire Administration

Strengths

- Each division has its own resource of administrative support
- Centralization of the administrative functions of the department
- Grant funding enables the department to expand internal programs and/or projects that they would otherwise not be able to do with their current resources
- Grants enhance public services
- Grants enable the department to stretch their operational budget
- Grants encourage public trust
- Administration provides policy development, management and oversight for the department
- Administration provides budget, grant, administrative, and purchasing support for the department.
- Administration is the point of contact for the department in dealing with budget, finance, materials management, payroll and HR.
- Administration provides the necessary administrative support to all the divisions which in turn enables the divisions to focus on their core services.
- Peoria Fire participates in an automatic aid agreement with 23 regional partners within the valley that provides fire, EMS, hazardous material and technical rescue response.
- The automatic aid system ignores jurisdictional boundaries and sends the closest appropriate unit to the emergency for immediate handling.
- Regional dispatching is provided by the City of Phoenix and the cost is shared by participating agencies.
- Equipment and staffing are resources that are shared throughout the system reducing the need for redundancy for each jurisdiction.
- The automatic aid system is cost effective by reducing the number of fire stations required to provide uninterrupted service delivery.
- The system provides standardize training for all its members making emergency responses safer and more efficient.
- Every fire unit in the system is standardized in its staffing, equipment and capabilities allowing consistency in our emergency response.
- Taking part in a regional system provides our customers with reduced response times to emergency calls for service by providing prompt back up to units that are already responding to another call for service.

- Interoperable Communications are provided for all fire departments on the regional radio system.

Weaknesses

- Constant communication among all the administrative staff concerning various projects or events
- Without rotation of responsibilities, the administrative staff can become too specialized
- Administrative, financial and compliance grant reporting requirements can place a strain on the staff's workload
- The department is sometimes hindered from getting involved in grants because their scope is so limited
- Processing of administrative documents can be delayed because of the diverse shift schedule in the operations division.
- Regional system provides support for emergency response and training only and does not interact with fire prevention, community education and maintenance activities. Each fire agency must provide these for their jurisdictions.
- The Phoenix regional automatic aid system entails a very large response area which makes it difficult sometimes to cover with fire units and radio coverage.

Opportunities

- Cross-training of the administrative staff
- Streamlining of job duties and gaining efficiencies in overlapping areas
- Keeping a constant watch for grant opportunities or resources that are available
- Proper stewardship of existing grants can help the department obtain additional grants in the future
- Apply for Inter-agency or regional grant projects to gain a competitive edge and consistency among jurisdictions
- The regional system already in place could be used to combine our resources in the fire department even more effectively in the areas of fire apparatus and equipment purchases by taking advantage of increased buying power as well as providing efficiency in fire apparatus repair and maintenance.
- To provide system wide fire education and prevention programs that are consistent and are available for every jurisdiction that participates.

Threats

- Budget reductions
- With the state of the economy grants can be harder and harder to obtain
- Other jurisdictions are also competing for available grant funding.
- The rising cost of service delivery continues to grow along with the budget deficit communities are currently experiencing.
- As each community handles cuts to fire service delivery differently, it affects the overall automatic aid system and its ability to continue to provide a high level of service throughout the region.

Appendix C: Peoria Fire Department Operational Plan

Support Services

Provide fleet, personal protective equipment and Fire Department buildings preventative maintenance & repair

Strengths

- The Peoria fire mechanics proudly maintain a fleet downtime percentage of less than 1%.
- Continuity of service is ensured by maintaining our reserve fire engines as well as the front line engines.
- Providing a quality preventative maintenance and inspection program within the fire department has kept us from having any major mechanical failures.
- Utilizing our city warehouse to store common fire truck parts (i.e. tires, belts etc.) has proven to be a very cost effective way to manage spare parts.
- Peoria fire mechanics are specially trained to work on fire apparatus and hold emergency vehicle technician (EVT) certifications.
- Our firefighters perform day to day cleaning and maintenance of our fire stations, saving the city money from having to hire additional janitorial staff.
- Maintaining our facilities keeps our members safe and helps us to be in compliance with NFPA and OSHA requirements.
- Having someone in the fire department oversee the maintenance of the fire stations and serve as a liaison with the facilities division to be an advocate for safety and ensuring the buildings and equipment are maintained properly.
- In evaluating our fire department's personal protective equipment we are ensuring our firefighters safety while performing their duties.
- Keeping up with the latest in technologies in personal protective equipment allows us to improve our efficiency at the emergency scene, enhance safety in hazard zones and helps us meet mandates set by federal and state agencies.

Weaknesses

- Currently the fire department mechanics work out of a bay inside of fire station number one this provides many challenges to the mechanics and is not ideal in a working fire station.
- Our fire mechanics are also required to work on specialized firefighting equipment, SCBAs as well as maintaining inventory for personal protective clothing and station supplies.
- Utilizing our fire mechanics to handle the department's equipment needs, takes them away from working on fire trucks.
- Operational overtime dollars used in the equipment evaluation process takes away money that is there for the staffing of fire trucks.
- Supporting a 24/7 operation with 40 hr people scheduled 8-5 M-F.

Opportunities

- Combining resources with other west side fire agencies to eliminate redundancies in our fleet maintenance programs and provide cost sharing opportunities by contracting our services out.

- Finding an appropriate location for a maintenance facility that would be centrally located for all Westside departments.

- Combine resources with other fire departments to define equipment used within the region.
- Standardize equipment to eliminate redundancies and incompatibility throughout the automatic aid cities.
- Adjust work hours/schedules to where they would cover more of the day and week and lower the amount of call back and overtime used.

Threats

- The challenge of providing high level prevention and maintenance program that meets the end goal of keeping the fire trucks on the street with a budget that increasingly gets tighter.
- Spreading our fire mechanics too thin by constantly utilizing them in other capacities to provide physical resources to the fire department.
- Inconsistency in equipment purchased can affect safety on the emergency scene.
- Improperly maintained personal protective equipment would place our members at risk.
- Improperly maintained facilities would raise safety issues for our members and could produce safety violations.
- Improperly maintained equipment could end up costing the city more money in the long run.

Emergency Management

The City of Peoria's Emergency Management Section's primary functions are: the collaboration and development of emergency operations plans and exercise development as well as, foster regional partnerships with county, state and federal agencies.

Strengths

- All plans and exercises are developed in coordination and compliance with federal, state and local agencies and organizations to promote seamless operations during a disaster.
- All plans and exercises are developed to promote efficient and effective operations of all city departments, employees and equipment and works to incorporate best practices and lessons learned from other jurisdictions for the benefit of the city.

Weaknesses

- Plans and exercise development is labor intensive and requires significant input from city departments and employees.
- Plans and exercises have significant federal, state and local regulations and requirements.
- The need to train senior level officials within the requirements of the system.
- The requirements for training and support change every year requiring the emergency management staff to recertify the city as compliant.

Opportunities

- The City could host training sessions for outside agencies and groups thus improving working relationships within the organization.

- The employees trained within the requirements could be used to support other jurisdictions as required during an emergency.
- Incorporate the National Incident Management system and Homeland Security Exercise and Evaluation programs into normal business practices.

Threats

- The non-compliance with National Incident Management System and Homeland Security Exercise and Evaluation mandates could jeopardize Federal and state funding for most city projects and programs.
- The development of plans and exercises require employees to understand their roles and responsibility of their department.

Fire Prevention Administration

Strengths

- Maintains core resources to meet the goals of the division
- Forecast future needs of the division
- Reduce non core budget allocations
- Develops strategic operational plans
- Works with both internal and external customers to identify stakeholder needs
- Works cooperatively with other internal departments to streamline processes
- Stay current with local, State and federal codes and standards
- Working with developers, engineers, architects and contractors to gather information and data to analyze problems and help develop alternative methods that meet the intent of the code
- Serve on external task forces and committees
- Provide strong customer service by meeting on a one-to-one basis
- Consult with other internal and external customers to create new ideas
- Willing to listen to different ideas and points of view

Weaknesses

- Loss of funding for community and employee education and programs
- Economic impact causes developers and contractors to want to avoid addressing code requirements
- Property management companies moving businesses into buildings that were not designed for their specific use or are unsafe without notifying the proper city departments
- State statute preventing adoption of up to date current codes and ordinances
- Training opportunities to maintain current certification levels impacted by budget reductions
- Re-organize operations and procedures to accommodate loss of staffing
- Re-allocate funding to meet budget needs while operating with less money available for training and equipment
- Work diligently on keeping division moral up and trying to keep staff informed

Opportunities

- Aggressively continue to look for outside funding opportunities through grants
- Continue to develop a strong volunteer system to help supplement educational programs

- Work with other agencies to reduce the cost of training opportunities and combine training opportunities through webinars
- Take advantage of free training opportunities through memberships and local companies
- Continue to apply for classes through the National Fire academy
- Create strong working relationships with both internal and external stakeholders
- Allow for alternative methods that could provide cost savings to developers and contractors
- Work with other internal departments to streamline processes

Threats

- Loss of funding that target our core services
- Reduction in staff and loss of additional staff
- Loss of businesses and continued economic impacts causing the lack of future development that produce revenue
- State statute that does not allow for code changes until 2012. This will have an impact on the development community and businesses. Ordinance changes could provide easier methods to deal with code requirements.
- Funding for local and national memberships and associations
- Loss of additional funding for equipment and training
- Job security

Fire Prevention Inspections

Strengths

- Adopted code requires cause and origin investigation for all fires within the City of Peoria.
- Currently staffing 5 Arizona State certified fire investigators.
- Opportunities to educate the public on fire causes.
- Work cohesively with both internal and external agencies. (Peoria Police department, Maricopa County Arson Task force.)
- Fire Investigator is on call 24/7 365 days a year
- Investigator is immediately dispatched when on scene commander requests response which allows for a more thorough investigation
- Check buildings for compliance with recognized codes and standards to note violations for corrective action and educate the business owner and/or occupant to provide a safer environment to prevent future occurrences
- Consistent inspections by personnel trained and familiar with the various codes and standards
- Buildings that have proper inspections during construction have fewer issues in the coming years
- Responsive to both internal and external customers

Weaknesses

- Lack of funding for equipment and training.
- Loss of overtime funding to conduct investigations.
- Loss of additional standby personnel
- Operational plans were re-organized due to budget impacts
- Occupancies would get passed up for inspections with times of fewer inspectors
- Proper use of occupancies could be missed without annual inspections

- Inspectors not trained to current Code requirements and construction methods can pose a problem in the future with missed items during the initial inspections
- Perception of not caring if complaints are not responded to

Opportunities

- Pursue Grant funding for equipment and training
- Combine training with other governmental agencies, pursue training through the National Fire Academy and attend seminars and webinars to increase the knowledge base of the inspectors
- Corrective actions taken provide for a safer occupancy
- Provide correction notices to items that may not have been seen on initial inspection
- Get the business owners/occupants more involved in maintaining a safe location

Threats

- Economic impact on the community could in affect cause an increase in fires throughout the City.

- Loss of certified trained investigators through budget cuts.
- Rise in arson related fires causing unsolved cases
- Occupancies that do not have regular scheduled inspections could develop unsafe situations
- Reduction in staffing can reduce the frequency of inspections
- Thorough inspections not performed by trained personnel
- Lack of development could reduce staffing that could increase inspection delays

Fire Plan Review

Strengths

- Ensures that all code requirements and other nationally recognized standards are being met
- Meets with developers, architects, project managers and engineers to provide personal code consultations to help ensure projects stay on schedule
- Provides checks and balances and works in coordination with other internal departments
- Reports directly to the Fire Marshal for code interpretation. This allows for a more timely response

Weaknesses

- Currently the lack of staffing leaves us with the inability to cross train back up fire plan reviewer in case of a prolonged absence
- Funding for training opportunities for continued education

Opportunities

- Use internet based webinars for continued educational opportunities
- Take advantage of free training opportunities
- In-house coffee talk training
- Work toward streamlining processes

Threats

- Continued budget cost cutting measures

- Reduced staffing to provide overall services
- Lack of development during down economic times

Fire Prevention Public Education

Strengths

- Provides life safety education to all schools in the City of Peoria
- Develops and implements safety education programs throughout the community
- Instructs and provides students and city employees life safety, CPR and AED training
- Provides fire safety and public education at community and City special events throughout the City
- Organizes volunteers to help with special events, CR program and home safety program.
- Runs community car seat installation program
- Organizes and participates in smoke detector programs
- Pursues Grant funding

Weaknesses

- This position requires countless after hour activities beside normal day to day activities.
- As programs progress additional staffing would be needed in order to keep up with the activities involved in providing a solid educational program.
- Possible budget cuts that would impact our ability to continue successful programs

Opportunities

- Continue to build a successful volunteer program
- Continue to seek out grant funding for educational and other community programs
- Begin to look at additional staffing for the future

Threats

- Budget cuts that would possible effect community and other programs
- Lack of support through our volunteer programs

Fire Operations

Strengths

- The fire department is the responsible jurisdictional authority for EMS, Fire, and Rescue services at Lake Pleasant, with over 10-years experience.
- A fire station at Pleasant Harbor Marina provides localized and expedient intermediary emergency services during hours of operation.
- The fire department has developed excellent working relationships with various associated lake agencies and organizations.
- Peoria Fire Department members are well respected for lake and marine operations.
- Hazardous Material Response Team (Hazmat) allows Peoria Fire Department to provide full service to the citizens of Peoria without depending solely on other cities resources.
- Well trained, committed members in the Hazardous Materials Response program.
- Federal Grant Monies are procured on a yearly basis to offset the overall cost of the hazardous material response team.
-

Appendix C: Peoria Fire Department Operational Plan

- Well trained and equipped Specialty team provides essential safety and knowledge resource to Operations Division Members for the large threat of Hazardous Materials Exposure.
- Professional development provides a defined process for members to improve their personal and professional skill base.
- Professional development ensures the Peoria Fire Department's leadership and membership maintains currency in industry standards and trends.
- Professional development provides an opportunity for networking.
- Professional development supports a department wide career ladder and a succession planning system.
- Internal professional development programs, such as the Battalion Chief Academy, are cost effective and well respected.
- The Fire Department Special Event Management Team is highly experienced in the planning and management of events. Each event is managed to provide only the services necessary for that event while maintaining quality care assurances.
- Event planning is coordinated with Risk Management to reduce city liability for city sponsored events.
- Events are managed to minimize impact to regular city services by reducing response of other emergency units.
- Specialized units (bike teams, medical carts, brush trucks, walking teams, fireboats, etc…) are utilized during special events to meet the specific needs of individual customers.
- Back-up and support services are provided seamlessly during special events through the well established 9-1-1 system. Private providers do not supply back-up services.
- Well trained, committed members in the Terrorism Liaison Officer (TLO) program.
- Federal Grant Monies are procured on a yearly basis to offset the overall cost of the TLO program.
- No FTE's committed to the TLO program.

- The Technical Rescue Team (TRT) required specialty skills improve capabilities, resourcefulness and confidence in all other areas of fire operations and emergency services.
- Out team is a well respected technical rescue program in Arizona and provides a boost of morale, and is a source of pride, within the Peoria Fire Department and the City of Peoria.
- TRT allows the Peoria Fire Department to provide Full Service to the citizens of Peoria without depending solely on other cities resources.
- Strategic geographic placement of two Technical Rescue Teams provides excellent coverage to City of Peoria.
- Wildland Response Team generates positive revenue to the city through contract deployment on state and federal fire incidents.
- Well trained, committed members in the Wild land Fire program.
- Members gain extremely valuable experience participating in national level fire incidents.
- Highly respected Wildland Team is a regional model and point of pride for the City of Peoria.
- Wildland program and deployments are 100% reimbursed.
- Wildland provides a source of additional income for City of Peoria employees at no additional cost to the City.
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Appendix C: Peoria Fire Department Operational Plan

- The Peoria Fire Department consists of highly trained personnel with the latest Fire Apparatus and EMS equipment—all Peoria Fire Department personnel are Emergency Medical Technicians and every Engine Company has at least two trained paramedics staffed 24/7; all Peoria Fire Apparatus (except for Brush Trucks) have four highly trained personnel staffed 24/7.
- Peoria Fire Stations are adequately placed throughout the City.
- The Peoria Fire Department has a great working relationship with Valley Hospitals and staff.
- Computer Aided Dispatch (CAD) provides for the ability to dispatch the closest available fire unit to any emergency incident.
- The Peoria Fire Department has assisted in standardizing training throughout the Phoenix area thus allowing for smooth uninterrupted operations when working with Departments from surrounding Cities.

Weaknesses

- Fire department operations are land based only. There are no watercraft operations. Responding personnel rely on private operators or other public agencies to provide transport during incidents at Lake Pleasant, which has repeatedly proven ineffective.
- The Lake Pleasant unit is staffed by two members (paramedics). Lake area incidents are traditionally more severe in nature requiring additional manpower.
- Ambulance and fire department back-up units have a 20-45 minute response time to the lake.
- Staffing is part-time only (9am-3pm in the winter, 9am-7pm in the summer). Area services are provided by distant back up units outside of these times.
- Part-time staffing at the lake preclude consistent personnel, making specialized training difficult.
- New hazardous response team lacks experience.
- Inherent risk to members, "High Risk, Low Frequency" activities requires frequent specialized training for hazmat, wildland and TRT.
- Specialty hazmat and TRT equipment is costly and has a life span requiring scheduled replacement.
- Quality of training can vary greatly for professional development.
- Professional development out of town travel (if required) may be expensive.
- The dissemination of professional development information may be inconsistent and cumbersome.
- Sporadic communications with other city departments and vendors makes accurate special event planning difficult. Vendors may understate attendance expectations to reduce staffing costs.
- Cost recovery from vendors and special event promoters is difficult and cumbersome. We often must rely on third party billing and invoicing to recover staff and equipment costs.
- Emergency Transport services at special events are provided by private contractor (Southwest Ambulance) with fire department personnel assisting as needed.
- TLO low call volume.
- No consistent 24 x 7 TLO coverage monthly due to lack of FTE's.
- Lack of key TLO leadership at the state level.
- Understaffed with TRT Technicians. Both TRT Companies (L191, E197) staffed with three TRT personnel instead of the valley standard of four TRT Technicians.
- Members and equipment leave the city on wildland deployments.

- Wildland deployment of equipment adds wear and tear to life span.
- Current ambulance service is not always adequate for the emergency medical needs of the City of Peoria.
- There are various "county islands" throughout the City of Peoria, which occasionally require the use of personnel and equipment (the City of Peoria is not always adequately compensated for this drain on resources).
- Due to low call volume to "working fire" incidents, newer members (in all ranks) lack experience.
- Due to EPA standards, "live fire training" is radically reduced and almost non-existent.
- Occasionally, there are different Standard Operating Procedures (SOP's) put into practice by various CAD departments (e.g., tile roof operations).
- There is the need for further National Incident Management System (NIMS) training (e.g., use of terminology, etc.).

Opportunities

- The department has a developed expansion plan to meet customer and service needs in the lake area, including water based operations.
- The department is aggressively pursuing grant opportunities for watercraft acquisition.
- Public contact opportunities provide excellent public relations and customer service opportunities.
- By providing lake special event emergency services, the department can support events that provide economic growth and public draw to the city.
- Partnership with other local agencies to collaborate on hazmat training reduces overall cost.
- Our relatively small hazmat team can seek grant funded training opportunities and become a leader in the region.
- Professional development industry contact development and networking.
- Expansion of customer service programs based on successes of other departments.
- Improved moral and self esteem of employees through personal professional development support.
- Professional development training opportunities not available locally.
- Professional development provides a vehicle for employees to identify and capture programs and skills that improve the service level of the Peoria Fire Department.
- Improved cost recovery, intra-agency relations, and multijurisdictional consistency by opening internal professional development programs to outside agencies and departments.
- The close contact with the public during special events provides excellent public relations and customer service opportunities.
- By providing special event support services, the city maintains control over public safety service levels during various sized events.
- Look for better ways to receive and disseminate valuable TLO information.
- Building better relationships with our TLO Police Department counterparts.
- With a well established and seasoned Technical Rescue Team, we have the ability to implement new operational procedures and improve overall safety in Peoria, and set a higher standard in the region.
- Our relatively small, highly experienced, team can develop new procedures and chart a new paradigm shift in the way technical rescue training is conducted.
- Create an Emergency Medical subdivision of the Wild land Team to support large incidents with medical personnel, with no cost to the city.

- Procurement of additional wild land apparatus will provide enhanced protection to Northern Peoria during our fire season and will generate revenue during other areas fire seasons (fire seasons do not tend to overlap).
- Partner with larger agencies for additional wildland deployment opportunities.
- Community growth (especially in Northern Peoria) will necessitate the building of more Fire Stations and staffing of more apparatus—thus, providing better EMS coverage.
- The Peoria Fire Department is in a position to consider staffing and operating its own ambulance companies. This would generate needed revenues and provide for better coverage throughout the City.
- Look for new and improved training methods and opportunities.
- Train with Fire Departments from other Cities.

Threats

- The fire department currently has no ability to fight a fire at Pleasant Harbor Marina, which is a potential $65+ million exposure.
- Minimized and seasonal staffing at the lake delays patient access, treatment, and transport times.
- Poor public relations caused by the inability to respond to on-water incidents in a timely and effective manner.
- Lack of adequate equipment, training, and support may put personnel at risk during fire and rescue operations at the lake.
- The recent addition of the Scorpion Bay Marina and planned future expansion will further tax the existing service delivery system.
- The lake is high profile during the active (months), but easily forgotten during off-season times.
- The Federal Government could quit supporting the Hazmat program financially.
- The State of Arizona could deem the Fire Department's hazmat participation unnecessary.
- The City of Peoria could discontinue proposed future funding for hazmat.
- Professional development of personnel may be perceived as excessive, especially during times of fiscal scarcity.
- An accountability process for professional development is necessary to ensure quality, rule compliance, and applicability.
- Professional development of personnel is an easy target for budget cuts.
- Fire department personnel are traditionally more expensive than private sector providers, who may under staff special events to reduce costs. Inadequately staffed events can negatively impact emergency service availability in surrounding areas.
- Cost recovery efforts can negatively affect the ability of the city to be competitive in attracting special event venues.
- The Federal Government could quit supporting the TLO program financially.
- The State of Arizona could deem the Fire Department's participation in TLO unnecessary.
- The City of Peoria could discontinue TLO funding.
- Inherently low call volume can target downsizing of Technical Rescue Program.
- Budget constraints may make additional initial training of TRT team members very difficult.
- Inherent low call volume for TRT can lower team morale.
- Call volume may decrease as other cities join system for state and national wildland deployment

- Wild land fire fighting is especially difficult dangerous work and keeping a fully staffed team motivated can be difficult.
- Loss of key wildland personnel during critical times.
- Increased demand for emergency medical services—especially in sparsely populated and growing areas.
- In the post-9/11 age, there are new and reemphasized responsibilities (e.g., WMD response, terrorist threats, Domestic Preparedness, etc.).
- There is the need to inoculate and protect personnel from possible pandemics.
- The economic downturn may affect the ability to staff apparatus.

Training Division SWOT Analysis

Strengths

- Ensures that personnel meet recognized standards of performance and continuing education that are consistent with federal, state and the regional public safety system for all levels of technical and professional proficiency. Provides for current mandated certifications and training levels and seamless service levels.
- Reduces liability and risk by requiring personnel to meet certification, continuing education and performance standards. Supports the Police Department with training infrastructure for CPR.
- Builds morale, confidence, and proficiency. Supports Council Goals 1, 2, 4 and 6.
- Enables a system of checks and balances that ensures personnel meet performance standards and meet enhanced levels of service delivery.
- Provides important data for forecasting budgeting and providing high value training.
- Provides required data for the State and national requirements
- Division is kept apprised of customers needs for service and expectations. Including end users of the 911 system as well as hospital, legal, other emergency service providers and inter-city departments.
- Provides contract management ensuring the highest level of value for contractual services. (Ambulance, hospitals, colleges and medical supply vendors)
- Provides internal career development and succession planning
- Ensures compliance with HIPAA, OSHA and state laws
- Holds division accountable to meet customer expectations
- Provides for internal EMS supply and equipment needs, ensuring the highest quality equipment for service delivery.
- Provides for community building through participation in various regional and state committees and organizations.
- Builds morale which improves productivity
- Helps develop strategies for the department
- Provides community training through CPR and CCR.

Weaknesses

- Ignoring or lack of adherence to external customer request can develop mistrust towards the department
- Internal infrastructure is reliant on many aspects of customer service
- Required training can be costly and unfunded.
- Required training often requires personnel to be out of service which removes them from service delivery.

- Coordination, tracking and compliance monitoring is time intensive.
- Insufficient resources to provide high percentage Q & A. Only able to evaluate a small percentage of department (random sampling)
- The system used now for Q & A is manually performed which time is consuming.

Opportunities

- Explore the use of alternate delivery methods for training, such as video conferencing and computer based training when allowed by professional standards. Initial investment will yield long term savings.
- Pursue joint partnerships to share training expenses and resources.
- Consider feasibility of use of an adaptive response unit to cover units during training.
- Compare costs with possible savings.
- Acquire software and equipment that are designed to capture information pertinent to quality assurance (electronic medical documentation)
- The ability to go beyond customers needs
- Promote cost effective enhanced service delivery through partnerships, relationships and contract management.
- Build loyalty

Threats

- Inability to meet standards may subject the city to lawsuits. Loss of certification will impact staffing costs.
- Non-compliance to standards may result in injuries to customers or personnel and decrease the delivery of service
- The lack of resources limits the division to do random sampling, which could have some potential issues, can go unchecked until it surfaces through a complaint or lawsuit.
- Reduction of core services because the department cannot oversee them affectively.
- No follow thru could alienate customers
- Lack of supply and internal customer service could threaten infrastructure support of service delivery
- No follow thru could create low morale resulting in low productivity
- Failure to respond to legal request could result in litigation.

Appendix C: Peoria Fire Department Operational Plan (sample cost of service study – Operations)

					$ 353,139	$ 319,875	$ 1,199,647	$ 3,181,109	$ 4,807,886	$ 12,930,458		$ 1,863,085	$ 307,373
Core/Non	Num	Service	Cost of Service	FTE	Deputy Fire Chief (3)	Battalion Chief (3)	Fire Captain (38)	Engineer (32)	Firefighter (64)	Dir/Function TOTAL	Personnel Cost	Non_Personnel*	Overtime & Standby
KEY FUNCTION =		Fire Operations			3	3	38	32	64				
Core	1	Provide fire protection	7,895,618	79.380	17%	17%	72%	72%	144%	72%	7,681,085	767,107	87,964
Core	2	Provide emergency medical services	8,682,704	89.069	22%	22%	95%	95%	60%	64%	8,170,791	1,377,630	306,290
Core	3	Specialized response to Level I assist	407,134	4.849	5%	5%	3%	3%	2%	3%	355,125	50,845	13,224
Core	4	Technical Rescue response	595,582	5.949	5%	5%	4%	5%	3%	4%	507,625	69,119	19,038
Core	5	Hazardous Materials response	718,566	6.621	5%	5%	4%	5%	5%	5%	608,082	88,064	22,619
Core	6	Professional development of personnel	1,257,298	11.020	27%	27%	8%	6%	4%	8%	1,054,168	153,213	39,852
Core	7	Wildland Deployment personnel/equip	278,025	2.600	5%	5%	1%	2%	2%	2%	235,329	33,884	8,812
Core	8	Terrorism Liaison Officer Program	138,709	0.899	2%	2%	0%	0%	0%	1%	99,001	14,255	26,708
Core	9	Special Event support	254,951	2.422	2%	2%	1%	2%	2%	2%	215,799	31,077	8,081
			15,969,638	145.009	100%	100%	100%	100%	100%	100%	12,939,458	1,863,085	507,573

Cost of Core Functions 15,309,850 (Assumes current service level for PM activities)

Cost of Non-Core Functions (Includes budget documents, monitoring CIP and Ops, and position control)

15,309,850

FTE - Core Functions 144.00 (Assumes current service level for PM activities)

FTE - NonCore Functions 0.02 (Includes budget documents, monitoring CIP and Ops, and position control)

145.02 *

*Employee count: one Deputy Chief and one Administrative Assistant II are in Admin's budget

* $23,020 of this OT and Standby is from Admin division in the 1750 budget

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