# Auburn Fire Department
# Performance and Management Analysis

# CITY OF AUBURN, MAINE

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# SECTION I: REVIEW OF CURRENT SERVICE DELIVERY

# 1. ORGANIZATIONAL OVERVIEW

This report includes an in-depth study of all aspects of the administrative, operational, and support service of the Auburn Fire Department located in Auburn, Maine as completed by the Matrix Consulting Group.

## 1. PROJECT INTRODUCTION AND OBJECTIVES.

The evaluation and assessment of the Fire Department included a comprehensive review, analysis and discussion of the following areas:

- Community and Organizational Overview
- Management and Administrative Components
- Fire Protection, Rescue, and EMS Planning
- Personnel Management
- Emergency Incident Staffing
- Training Programs
- Capital Assets
- Fire Prevention and Public Education Programs
- Deployment Strategies and Performance
- Information Technology
- Disaster and Emergency Preparedness
- Fiscal Analysis

Using data supplied by the city, agency, information systems and GIS modeling the study serves to provide benefits and improvements in providing Fire, EMS and Rescue services to the residents of Auburn and to those who travel through and visit the

community.

The basis of the evaluation, analysis of data, and reference information is from Maine State law and regulations, the National Fire Protection Association (NFPA), the Center for Public Safety Excellence (CPSE), firefighter health and safety requirements, federal and state mandates and what are currently considered generally accepted best practices in providing emergency service delivery.

Each section in the report provides the reader with general information about that objective, observations, analysis, and a discussion of any significant issues or conditions that are pertinent. Matrix's observations are supported by data collected as part of reviewing documents and interviews with key department staff. Finally, specific recommendations are included to address identified issues or to take advantage of opportunities that may exist.

## 2. RESPONSIBILITIES AND LINE OF AUTHORITY

Governance of the Auburn Fire Department (AFD) is by the Auburn City Council. The Council is elected directly by the voters and consists of seven (7) Councilors and one (1) Mayor, with five (5) Councilors being elected from a specific Ward and two (2) Councilors and Mayor being elected at large. The day-to-day oversight of the city is the responsibility of a city manager, which is hired by the city council.

Auburn Fire Department is one of several municipal services provided by the City of Auburn. The Fire Chief is the position appointed to provide overall management and direction to AFD. It is important to note at the time of this study the Fire Chief position is vacant and the Deputy Fire Chief is functioning in the role of Fire Chief. The Fire Chief reports to the Chief of Police, who serves as the Divisional Head for Public Safety. The

Police Chief reports to and works directly for the City Manager.

Initial interviews for this report included the Elected Officials, Police Chief, Deputy Fire Chief, Fire Prevention Officer, Battalion Chiefs, support staff and line personnel. It appeared that all members of AFD are committed to this study. Shift fire personnel particularly enjoy a positive working relationship with each other.

## 3. CITY AND ORGANIZATIONAL OVERVIEW

The City of Auburn was incorporated in 1842 and became the County seat of Androscoggin County in 1854. According to the 2010 US Census, the population of Auburn is 23,055. This reflects a decline in population of 4.1% over the past two Census periods. The City of Auburn covers approximately 65.8 square miles.

The Auburn Fire Department protects the 65.8 square (59.8 land / 6 water) miles from 3 fire stations, which are located in the most populated portions of the City.

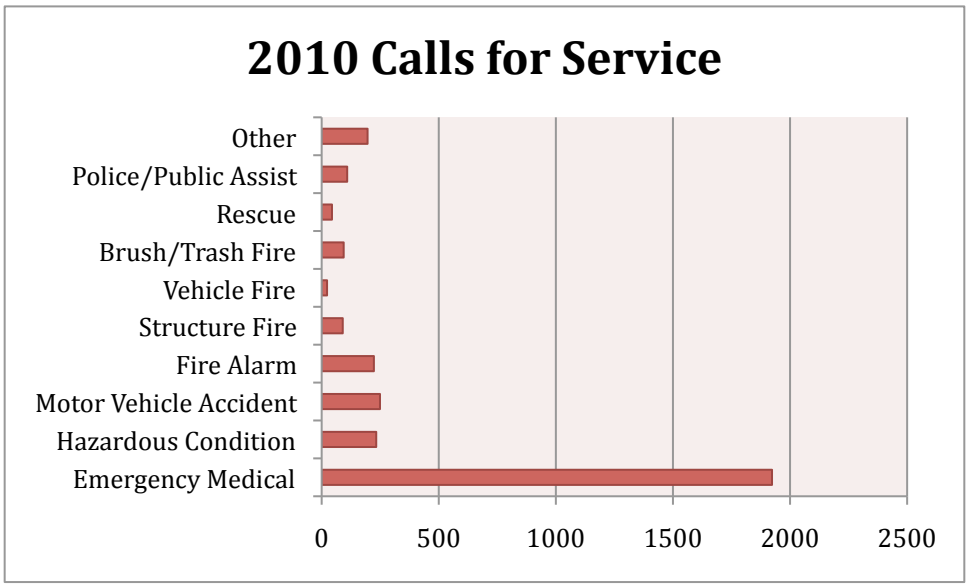
**Auburn, Maine Fire Stations**

| Station | Address |
|---|---|
| Station 2 | 181 South Main Street |
| Station 3 / Central | 550 Minot Avenue |
| Station 5 | 651 Center Street |

The Auburn Fire Department provides response to fires, emergency medical emergencies, hazardous materials incidents, natural and man-made disasters, mutual aid assistance to neighboring departments and related emergencies in an effort to reduce life and property loss. The Department provides specialized rescue operations, and supports a regional hazardous material team. In addition, the Fire Department inspects businesses and properties, assists with code enforcement, and conducts public

education programs. There are three functional areas in the Fire Department: Fire Operations (Fire and EMS first responder), Fire Prevention, and Support Services.

The following chart shows the 2010 calls for service for AFD. In most communities, fire calls account for a small portion of the emergency activity of the Fire Department and this is the case in Auburn. Emergency medical service (EMS) activity accounts for the greatest workload in terms of emergency response in the community.



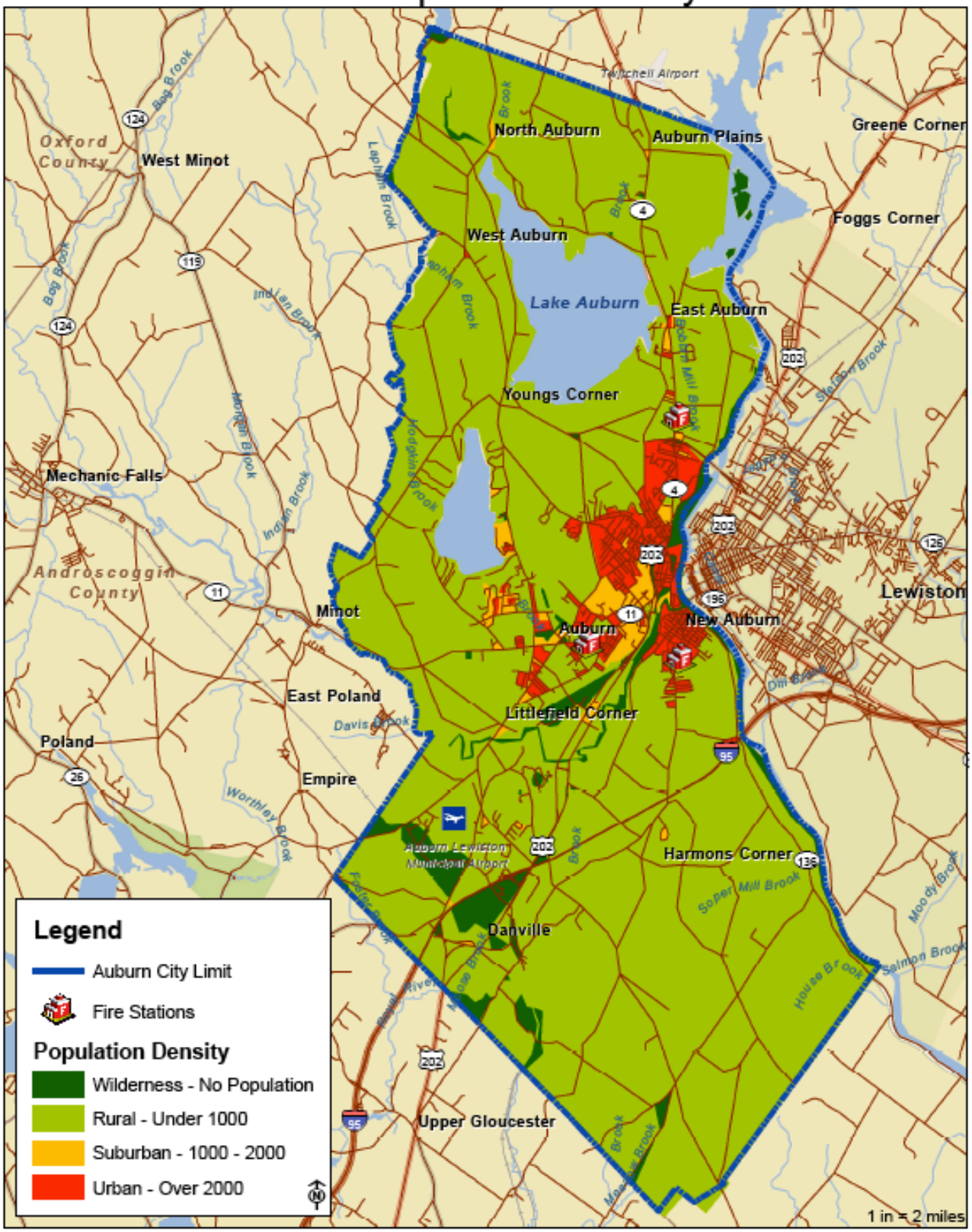

AFD responded to a total of 3,184 calls for service in 2010 according to records obtained by the Auburn-Lewiston 9-1-1 Center. Of the 3,184 calls for service in 2010, 1,923 (**60.4%**) were EMS related while 207 (**6.5%**) were fire related and all other call types accounted for 1,054 (**33.1%**). Calls for service in 2010 decreased 16.8% when compared with the 3,882 calls responded to in 2009 and 19.2% when compared with the 3,972 calls responded to in 2008.

AFD protects a service area that can best be described as a mix of Urban, Suburban and Rural. According to the 2010 United States Census Auburn has a

population of 23,055 and covers a land area of 59.8 square miles for a density of 386 residents per square mile. Since much of Auburn is rural, for the purposes of a fire protection study it makes sense to split the areas into different density categories. An urban setting is best described as having a population of over 30,000 and/or a density of more than 2,000 residents per square mile. A Suburban setting is described as having a population of 10,000 to 29,999 and/or a density of 1,000 to 2,000 residents per square mile. A rural setting is described as having a population of less than 10,000 or a density of less than 1,000 residents per square mile. Auburn clearly fits each of these descriptions in different sections of the City.

The map on the following page shows the areas of Auburn which best fit the three population setting by residents per square mile. As shown most of Auburn falls into the rural setting, while the main portion of the City is urban and immediate outlining areas suburban. It is important to note that while the southwester portion of the City is classified as rural due to population criteria the industrial uses and airport present in this area create a special risk that should be treated as urban in terms of emergency response.

# Area Population Density



## 4. INSURANCE SERVICES OFFICE (ISO)

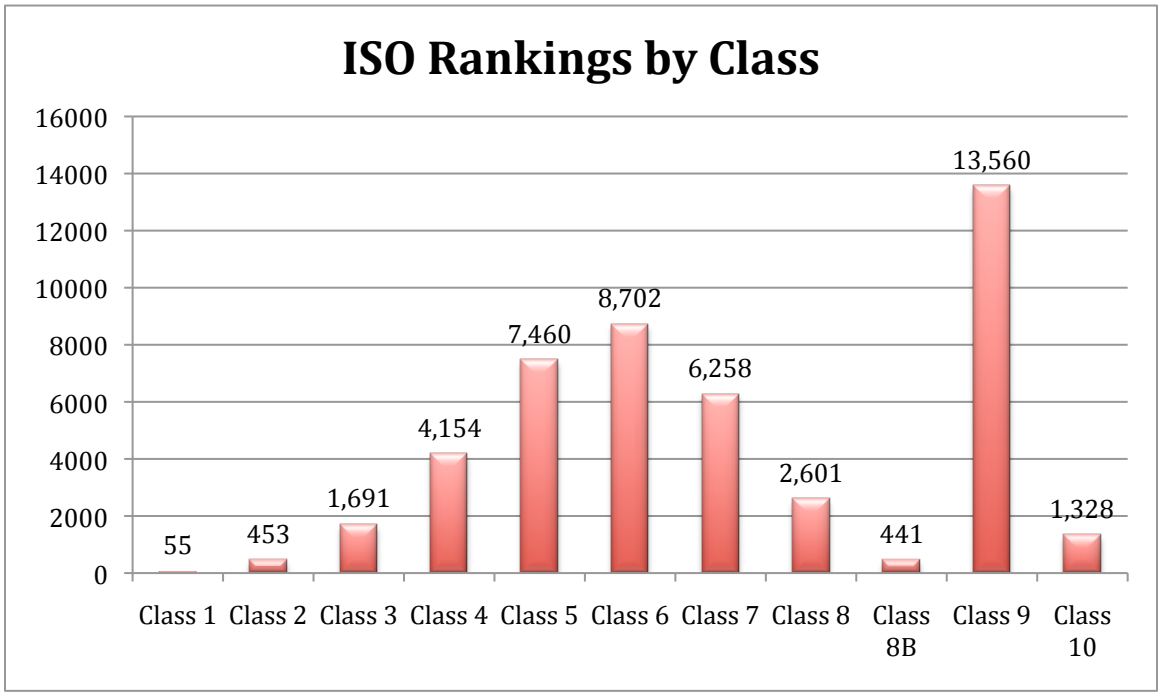
The current ISO property class rating for the City of Auburn is Class 3 in the city and Class 9 in the rural areas. The class rating is important to the community as many property insurance companies base the fire risk portion of premiums on the community's ISO rating. If Auburn improved from a Class 3 to a Class 2, insurance rates would decrease slightly for homeowners and businesses. Businesses see even greater rate benefits as a community continues to improve their rating down to the optimal rating of Class 1.

According to ISO:

*"Virtually all U.S. insurers of homes and business property use ISO's PPC (Public Protection Classification) in calculating premiums. In general, the price of fire insurance in a community with a good PPC is substantially lower than in a community with a poor PPC, assuming all other factors are equal."* [(1)]

The ISO uses a 1 to 10 rating scale, with Class 1 being the best level of service and Class 10 representing no fire service being provided at all. The ISO reviews fire protection in three major categories:

- Communication (10%)
- Water Supply (40%)
- Fire Department (50%)




According to the Fire Chief, the last Insurance Services Office survey of the Auburn Fire Department occurred approximately fifteen (15) years ago. At that time ISO assigned a Class 3 rating to the main portion of the City and a Class 9 to the rural areas. As the chart above illustrates, the achievement of a Class 3 rating places AFD in an elite category.

The current ISO credit system is broken down into the following maximum percentage points [(2)].

| FIRE DEPARTMENT CLASSIFICATION | MAXIMUM PERCENT |
|---|---|
| **Credit for:** | |
| ENGINE COMPANIES | 10.00 |
| RESERVE PUMPERS | 1.00 |
| PUMP CAPACITY | 5.00 |
| LADDER-SERVICE COMPANIES | 5.00 |
| RESERVE LADDER COMPANIES | 1.00 |
| DISTRIBUTION | 4.00 |
| COMPANY PERSONNEL | 15.00 |
| TRAINING | 9.00 |
| **TOTAL** | **50.00** |

The implementation of annual training drills would positively impact the next ISO rating.

- Multi-company training drills with first due mutual-aid companies.
- Training on multi-story operations.
- Nighttime company and multi-company evolutions.

The ISO Fire Suppression Rating Schedule states that response areas with five buildings that are three stories or 35 feet or more in height, or with five buildings that have a Needed Fire Flow (NFF) greater than 3,500 GPM, or any combination of these criteria, should have a ladder company. Based on this requirement it is important that Auburn keep a ladder company in service.

***Recommendation 1: Develop an ISO improvement plan for Auburn Fire Department that focuses on maintaining the strengths of the agency while improving identified deficiencies.***

***Recommendation 2: Develop an annual training plan that includes multi-company and nighttime evolutions with mutual-aid partners.***

It is important to note that the ISO is currently reviewing the merits of updating the content of the Fire Suppression Rating Schedule (FSRS). If the program is updated

there will be an increased reference to National Fire Protection Association (NFPA) standards. Possible revisions include [3].

- Eliminating the current ISO equipment inventory and replacing it with reference to pumper and ladder equipment listed in NFPA 1901.
- Recognition of Initial Rapid Intervention Crew and Rapid Intervention Crew teams according to NFPA 1500.
- Additional emphasis on firefighter safety and training:
  - Training and credentialing for fire officers in accordance with National Incident Management System (NIMS) recommendations and NFPA 1021.
  - Training for fire apparatus drivers and operators in accordance with NFPA 1002 and 1451.
  - Reference to firefighter safety requirements.
- Recognition of automatic-aid personnel responding to first-alarm structure fires.
- Extension of full credit for automatic-aid response plans to first-alarm structure fires when the departments have satisfied the certain criteria for interoperability.

An additional key point noted is increased reference to the American Water Works Association (AWWA) standards. Possible revisions here include:

- Recognition for fire hydrants that produce flows up to 1500 GPM.
- More emphasis on hydrant inspection programs, including hydrant flow testing.
- A reference to implementation of master or strategic planning.
- Recognition of partial or full Commission on Fire Accreditation International (CFAI) accreditation through the Center for Public Safety Excellence (CPSE).
- Recognition for adoption and enforcement of model building and fire prevention codes.
- Recognition for public fire safety education programs.
- Recognition for adoption of fire department standard operating procedures via NIMS standards or FEMA publication FA-197.

- Recognition for adoption of a fire department incident management system according to NFPA 1561.

It is critical that as AFD reviews their readiness for a future ISO inspection, the contemplated changes are considered during decision-making process.

***Recommendation 3: Auburn Fire Department should consider seeking accredited status through the Commission on Fire Accreditation International (CFAI).***

## 5. ORGANIZATIONAL STRUCTURE AND CHAIN OF COMMAND

The staffing of the Auburn Fire Department by classification is shown in the table below:

**Auburn Fire Department**
**Authorized Positions FY 10-12**

| Position | FY 2010 | FY 2011 | Current | Vac / Over |
|---|---|---|---|---|
| Fire Chief | 1 | 1 | 0 | (1) |
| Assistant Fire Chief | 1 | 0 | 0 | 0 |
| Deputy Fire Chief | 0 | 0 | 1 | 0 |
| Administrative Assistant | 0.5 | 0.5 | 0 | (0.5) |
| Fire Prevention Officer | 1 | 0 | 1 | 1 |
| Office Manager | 1 | 1 | 1 | 0 |
| Fire Planner | 0 | 0 | 1 | 1 |
| Battalion Chief | 4 | 4 | 3 | (1) |
| Captain | 4 | 4 | 3 | (1) |
| Lieutenant | 16 | 16 | 16 | 0 |
| Firefighter | 36 | 36 | 32 | (4) |
| **Total** | **64.5** | **62.5** | **58** | **(5.5)** |

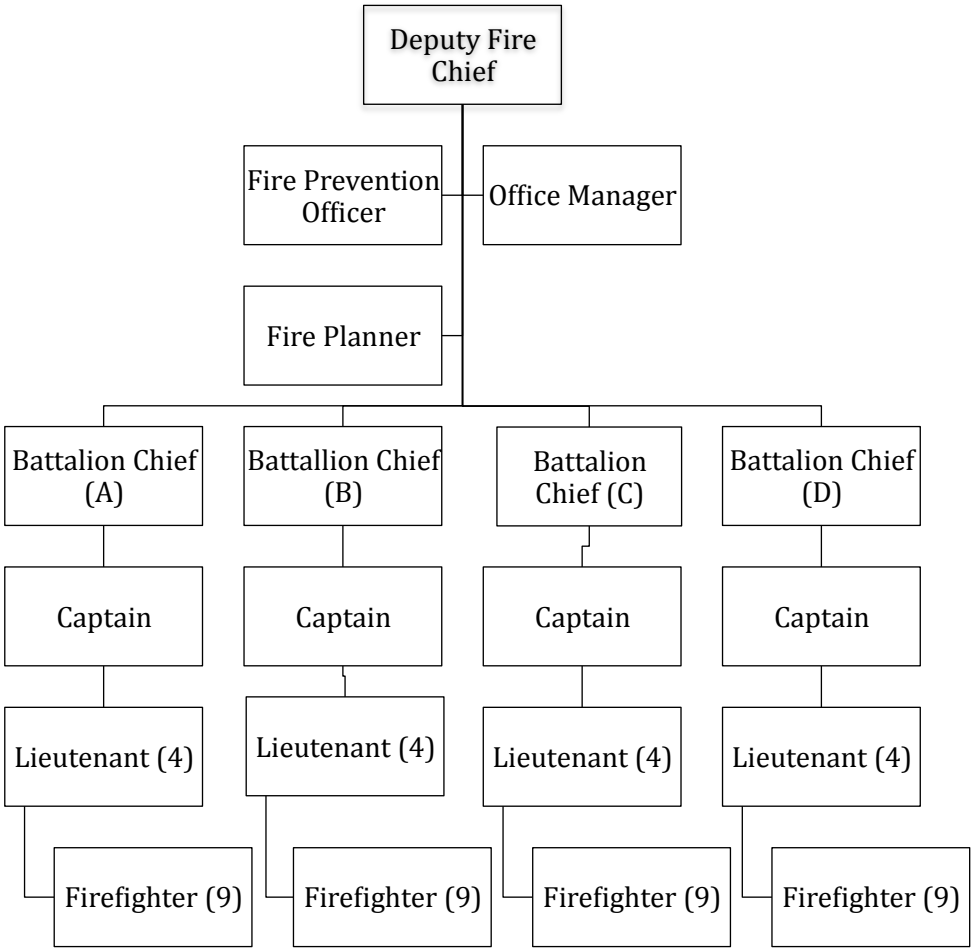
The following points highlight the information presented above:

- The current number of authorized positions is 63.5 and includes 5.5 vacancies. This includes 4 positions at the Firefighter level, one Battalion Chief, one Captain and the Fire Chief. The Administrative Assistant has been reclassified as a Fire Planner and is currently working as one FTE.

- The overall number of authorized positions has decreased by one (1) since FY 2010, when the Department had 64.5 authorized positions.

- By classification, the number of personnel assigned to shift duties has remained constant with a staffing of four (4) Battalion Chiefs, Four Captains, sixteen Lieutenants and 36 Firefighters assigned to the three stations on a 24/72 shift schedule.

The organizational chart that follows provides a graphical depiction of the reporting relationships of the Departmental personnel:



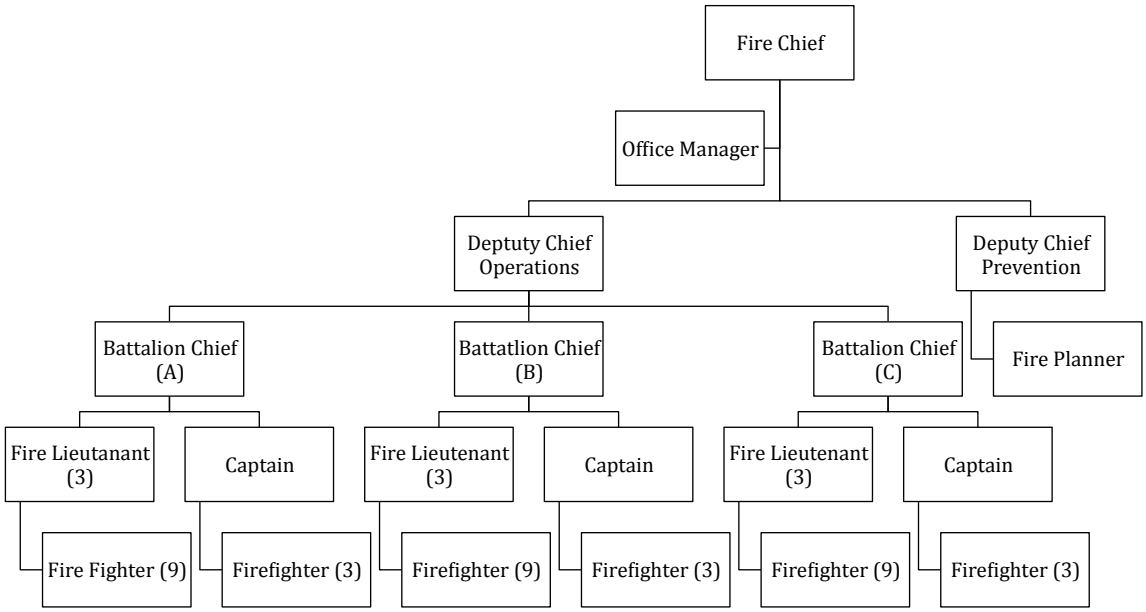

The typically accepted span of control for the fire service is five to seven subordinates per supervisor. Auburn Fire Department is currently maintaining an effective span of control in their reporting structure with the exception of the Battalion Chiefs who have a 1:1 span of control with only the Captains reporting to them. In order for the span to be effective, both the shift Lieutenants and shift Captains should report to the Battalion Chiefs. There is also an additional Lieutenant on each shift with no

direct supervisory authority over an engine or ladder company. This position is functioning as a line firefighter and should be re-classified to firefighter.

There is also no administrative command staff present in the Auburn Fire Department and many critical tasks have been pushed to the shift level. This is problematic, as the schedule of shift personnel does not allow adequate attention to be given to these tasks, which require daily attention and oversight.

Auburn Fire Department currently operates shift personnel on a 24 hour on / 72 hour off shift rotation, which equates to a 42 hour workweek. This shifting pattern has caused questions about why personnel sleep while on-duty if they are working what is basically a 40-hour week. The demographics of the City of Auburn do not support the idea of 8 or 12-hour shifts as personnel would effectively be on standby during the late night hours as there is no opportunity to conduct inspections, train, or provide public education opportunities in the overnight hours. A possible solution is the adoption of a 56-hour workweek by moving to a 24 hour on / 48 hour off shifting pattern with four Kelly Days off per year. This would allow staffing levels to increase on each shift while reducing overtime caused by staffing shortages since authorized and minimum-staffing levels will not be so tight. The change also reduces the total staffing of the AFD by 3.5 personnel. The Fair Labor Standards Act (FLSA) allows this type of shifting pattern for fire personnel and it is the most utilized shifting pattern in the United States.

Below is the recommended organizational structure if the agency moved to a 24/48 hour shifting pattern:




This revised shifting pattern allows the addition of much-needed administrative positions in Auburn, while increasing staffing on each unit to four personnel with minimum staffing of three personnel. The Captain would be relocated from Station 3 to Station 5 and serve as the Station commander for the two-company station. The fourth Lieutenant position would be eliminated. The Fire Prevention Officer would be reclassified to the Deputy Chief of Prevention and the Fire Planner reporting to this position. The table below shows the current staffing and proposed staffing levels for the AFD.

**Auburn Fire Department**
**Positions if Reorganized**

| Position | Current | Proposed | Difference |
|---|---|---|---|
| Fire Chief | 0 | 1 | 1 |
| Deputy Fire Chief | 1 | 2 | 1 |
| Administrative Assistant | 0.5 | 0 | (0.5) |
| Fire Prevention Officer | 1 | 0 | (1) |
| Office Manager | 1 | 1 | 0 |
| Fire Planner | 1 | 1 | 0 |
| Battalion (Platoon) Chief | 4 | 3 | (1) |
| Captain | 4 | 3 | (1) |
| Lieutenant | 16 | 12 | (4) |
| Firefighter | 36 | 36 | 0 |
| **Total** | **62.5** | **59** | **(3.5)** |

**Auburn Fire Department**
**Current / Proposed Personnel Costs**

| Position | Current Average Salary Cost | Proposed Average Salary Cost |
|---|---|---|
| Fire Chief | $0 | $85,309 |
| Deputy Chief | 66,806 | 133,612 |
| Fire Prevention Officer | 56,511 | 0 |
| Officer Manager | 37,689 | 37,689 |
| Fire Planner | 25,459 | 25,459 |
| Battalion Chief | 228,572 | 171,429 |
| Captain | 245,460 | 154,095 |
| Lieutenant | 786,880 | 590,160 |
| Firefighter | 1,434,240 | 1,434,240 |
| **Total** | **$2,881,617** | **$2,631,993** |

As shown above, by converting to a 24/48-shift schedule and adding the administrative positions the City of Auburn would save approximately $250,000 annually in fire personnel salaries.

***Recommendation 4: Consider adopting the 24/48-shift schedule with Kelly Days.***

***Recommendation 5: Consider eliminating the fourth shift Lieutenant position if 24/48 is adopted or reducing to rank of Firefighter is current schedule remains.***

***Recommendation 6: Consider adding a Deputy Chief of Operations position that would report the Fire Chief to assume critical duties currently performed by shift supervisors.***

## 6. FINANCIAL RESOURCES

The City of Auburn operates a fiscal year from July 1 through June 30. The population has been fairly steady since the 1950 Census ranging from approximately 23,000 to 24,000 residents. The current depressed economic conditions being experience nationwide have negatively affected the City's General Fund This reduction in General Fund revenues has affected the ability of the City to fund essential and emergency services, like fire and police protection.

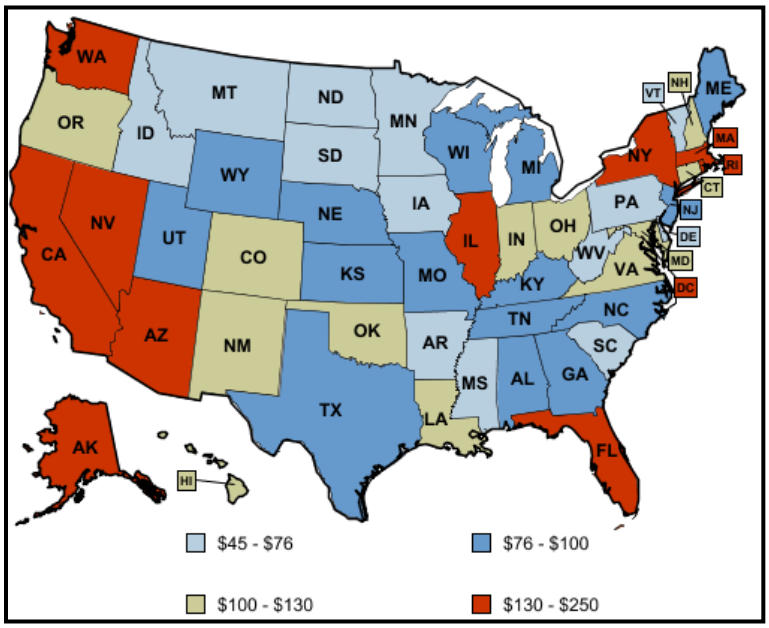
According to the City of Auburn FY 2011 – 2012 budget documents the budget for fire services in Auburn is as follows:

**Auburn Fire Department**
**FY 2009 - FY 2011 Budget Comparison**

| Line Items | FY 2009 Actual | FY 2010 Approved | FY 2011 Request | Change |
|---|---|---|---|---|
| Regular Salaries | 2,829,036 | 2,819,680 | 2,861,613 | 41,933 |
| Acting Rank | 8,627 | 6,895 | 7,102 | 207 |
| Holiday Pay | 124,115 | 139,920 | 127,579 | (12,341) |
| Sick Leave Incentive | 894 | 0 | 0 | 0 |
| Overtime | 305,665 | 176,122 | 171,317 | (4,805) |
| **Total Salaries & Overtime** | **3,268,337** | **3,142,617** | **3,167,611** | **24,994** |
| Uniform Allowance | 23,377 | 19,200 | 19,470 | 270 |
| Physicals | 2,522 | 1,400 | 1,404 | 4 |
| OSHA Safety Costs | 6,440 | 15,710 | 11,710 | (4,000) |
| Turnout Gear | 21,225 | 16,560 | 11,780 | (4,780) |
| PS – General / Uniform | 9,641 | 5,900 | 8,670 | 2,770 |
| Office Supplies | 679 | 700 | 1,468 | 768 |
| Other Supplies | 33,932 | 45,588 | 37,794 | (7,794) |
| MV Supplies | 16,596 | 25,437 | 24,525 | (912) |
| Utilities | 114,293 | 133,298 | 123,597 | (9,701) |
| Repairs | 90,119 | 100,983 | 109,032 | 8,049 |
| Training & Tuition | 9,230 | 30,275 | 14,225 | (16,050) |
| Travel | 571 | 200 | 500 | 300 |
| Dues & Subscriptions | 3,647 | 3,065 | 2,955 | (110) |
| Postage | 368 | 600 | 600 | 0 |
| **Total General Expenses** | **332,539** | **398,916** | **367,730** | **(31,186)** |
| **Total** | **$3,600,876** | **$3,541,533** | **$3,535,341** | **($6,192)** |

As shown above, the City of Auburn expends approximately $3.5 million annually to pay for personnel and expenditures related to operating the municipal fire

department. The FY 2011 requested budget is $3,535,341. This is approximately 0.17% below the approved budget for FY 2010 and 1.8% below FY2009 actual expenditures. With a total population of 23,055 this equates to per capita spending of $153.34 for fire protection in the City of Auburn.




The above map is for comparison purposes to illustrate the various levels of local fire protection spending per capita for all 50 states in 2006. As you can see in 2006 cities in Maine spent on average between $76-100 per capita on fire protection, ranking it below the 50th percentile for the Country (4). This is largely due to the rural nature of Maine and the large percentage of volunteer and on-call departments in the State. However, it should be noted that the spending of approximately $153 per capita does indicate that there is a strong desire in Auburn to maintain a high level of fire protection for its citizens.

## 7. FIRE SUPPRESSION INFRASTRUCTURE

In order to deliver effective fire and rescue services there must be efficient notification of an emergency, rapid response from well-placed facilities, appropriate apparatus, sufficient staffing, and well-practiced procedures.

For the community the most visible and important service provided by the Auburn Fire Department is the response to and control of emergency events. The following emergency services are provided by AFD:

- Fire Suppression
- EMS (First Responder)
- Hazardous materials emergency response
- Technical rescue and other specialized rescue services

To support the core services listed above, the Auburn Fire Department has a training program with well-established training goals developed by a shift Captain. The shift training is focused on the basic requirements for firefighting and meeting State mandates for annual training.

# 2. MANAGEMENT COMPONENTS

The Auburn Fire Department faces challenges related to organizational growth and management in addition to the operational challenges of providing efficient and effective emergency response. The business management of a fire department always presents unique issues involving administration of financial resources, the setting of goals and objectives, internal and external communications, information management, and security. This section examines the efforts of AFD in this area and its preparation for the future as the City of Auburn and the emergency response needs of the community become more complex.

## 1. MISSION AND VISION STATEMENT

Having clear mission and vision statements provides members with the foundation of why the agency exists and where they are headed. While the development of these statements is important, they must be constantly communicated to ensure all personnel are operating from the same baseline information on what the purpose of the agency is so all members are working together to achieve the shared vision.

The Auburn Fire Department has adopted the following Mission Statement:

*"Protect life and property through delivery of superior and affordable services with integrity, respect and without prejudice."*

While the agency does have a Mission Statement to explain why they exist, there currently is no Vision Statement to let members of the Fire Department know where they are headed. The agency does have a Value Statement, which contains many of

the key components of a Vision Statement, but lacks the clarity of a clear Vision Statement.

The Auburn Fire Department has adopted the following Value Statement:

"Through commitment to innovation, service, and excellence, we will strive to be leaders in fire, life safety, and emergency medical services, so that we remain critical to maintaining and improving the community's quality of life. We will offer a professional approach including appearance and behavior, respectful attitude, compassion, and quality service to the community. We will recognize each firefighter as a value member of the Auburn Fire/Rescue Department by valuing input, showing compassion, providing open communications, and supporting the team approach. In the end; prevent harm, survive, and be nice."

***Recommendation 7: Develop a Clear Vision Statement for the Agency as part of the strategic planning process.***

## 2. STRATEGIC PLANNING

The City of Auburn completed a comprehensive strategic planning process in 2010. Components of the City Plan apply to public safety; including the fire department. The fire department has not formally conducted a strategic planning process specific to their long-term mission, which involves staff from all levels of the organization as well as external stakeholders from the community. Because of a lack of strategic planning, personnel are directing the majority of their efforts to immediate issues of the day and are unable to devote time toward significant planning for future service delivery needs, or developing new programs and services desired by the residents and business community of Auburn. A customer-centered strategic planning process specific to the fire department could resolve much of this deficiency and give the department a clear sense of direction.

***Recommendation 8: Conduct a strategic planning process, which involves both internal and external stakeholders.***

## 3. GOALS AND OBJECTIVES

The Auburn Fire Department clearly realizes the importance of developing clear goals with measurable objectives. AFD has developed specific goals with measurable benchmarks to monitor the progress towards achieving the goals. These annual goals are formulated and published in an Annual Work plan. While this annual plan provides clear goals and objectives, it is unclear how the department plans to assign responsibility for or monitor progress toward implementation of these state goals and objectives. The agency would benefit from developing an accountability program for each goal to show who it assigned to, what the deadline(s) are for achieving, and how periodic updates toward reaching the goal will be communicated. These are commonly referred to as a RACI matrix and include Responsible – Accountable – Consulted – Informed:

**Responsible** – Those who do the work to achieve the task.

**Accountable** – Those who are ultimately accountable for correct and thorough completion of the deliverable or task.

**Consulted** – Those whose opinions are sought; and with whom there is two-way communication.

**Informed** – Those who are kept up-to-date on the progress and ultimately on the completion of the task or deliverable.

***Recommendation 9: Develop a RACI or similar matrix to track responsibility and progress toward the achievement of annual goals and objectives.***

## 4. POLICIES AND PROCEDURES

Successful organizations are typically governed by a clear set of policies and procedures, which include rules and regulations regarding expectations related to a standard code of conduct. These policies set the boundaries for what level of

performance is expected of employees as well as what behavior will and will not be accepted. The policy and procedure manual should be continually reviewed and updated to reflect changes in the organization.

Another factor to consider regarding policy and procedure manuals is their availability to all personnel. If policies and procedures are not available or training is not provided the agency faces a significant legal risk. It is critical that the agency ensures practices within the agency follow the policy or that the policy is changed to match current practices. Enforcement of policies, procedures, and rules & regulations is critical for the agency to ensure a gradual shit away from written guidelines does not occur.

The Auburn Fire Department has an adopted policy manual with the majority of policies written and adopted in 2005. The most recent amendments occurred in October 2009. While development of policies largely occurs by the command staff, the process is inclusive and all personnel are given the opportunity to provide input into current and proposed policies.

Our review of the manual showed that the agency clearly tracks the date the police went into effect and any revision dates, but the Fire Chief does not sign each policy showing the head of the agency has approved it.

***Recommendation 10: Add a signature box to the header of each policy requiring the Chief's signature and date upon development and revisions to agency policies and procedure.***

## 5. INTERNAL AND EXTERNAL COMMUNICATION

Effective internal and external communication in public safety organizations is critical for the organization to be successful. Due to the personal risk associated with

the work performed communication must be clear and effective to internal stakeholders. Internal communication must occur in all directions and at all levels to be successful.

Similarly, external communication and community relations programs must be well structured. These systems can take any number of forms. In some organizations, all members are responsible for communicating with the public. In others, a specific person or group is responsible for the public information function.

Successful organizations utilize a multi-faceted approach to communication. Whether for internal or external communications, each agency must determine its own approach.

Daily shift briefings are the cornerstone to the communication process at AFD. It is in these morning briefings that events experienced by the previous shifts and any departmental communication is passed between shifts and shared with members of the organization. This process is critical as shift personnel are off 3 days between shift assignments. The Deputy Chief also maintains an open door policy and remains available to personnel with questions or concerns.

Email is available to all personnel and is the primary means of distributing information that needs to be consistent and reached by all members of the agency, such as memorandums.

It is equally important for agencies to spend time communicating with external stakeholders. A strong community relations program can include any number of methods to ensure the public receives information the fire department feels is important for the community.

Gaining public trust is an important task for fire departments. Auburn Fire Department like many agencies is not taking full advantage of communicating with the public. While the agency does a good job of conducting public education programs, there is no written community relation's plan and most messages about city services are left to the City of Auburn to communicate. The agency is also not surveying the community about what services are important to them to ensure that AFD is focused on providing what the community wants and expects.

Review of the agencies policies and procedures did not indicate any member of the agency responsible for communicating with members of the media. This duty should be assigned to non-shift member for routine communication and with the Battalion Chiefs for information related to ongoing emergency incidents.

***Recommendation 11: Strengthen the website presence of AFD to include regular news and community communication.***

***Recommendation 12: Develop and implement an external communication plan that includes community groups and public surveys.***

***Recommendation 13: Develop a policy to assign responsibility for communication with members of the media during emergency and non-emergency situations.***

## 6. DECISION MAKING PROCESS

Businesses recognize that when employees are provided with the opportunity to engage in the decision-making process, the organization benefits from a higher level of commitment and ownership in the success of the organization.

For fire departments, the opportunities to delegate decision-making down through the organization are quite numerous. Chief officers (deputy and battalion chiefs) are often given the task of making staffing decisions. Company officers can be given

responsibility and/or authority for scheduling, program management, training, and station operations. Firefighters can make determinations as to patient care or station and apparatus maintenance.

The decision-making process for Auburn Fire Department is defined and participatory where appropriate. The relatively small size of the organization lends itself to a more personal and informal decision-making process. The Deputy Fire Chief encourages and practices communications at the most basic levels. Where command staff solicits participation, those involved should be knowledgeable of the key findings by which the decision was made. This process may go a long way in acceptance of the decision and providing a sense of worth and value in the employees, even though the final decision may not reflect their input.

## 7. REPORTING AND RECORDS

Records management is a critical function for any organization. A variety of uses are made of written records and, therefore, their integrity must be protected. Maine State Law requires that the local governments allow public access to certain fire and EMS records and data. The agency has written procedures in place to provide members information about how and when it is appropriate to release information related to patients treated, but nothing related to allow public and media access to other records and who is authorized to release such information.

Equally important is to ensure that records protected by the Health Insurance Portability and Accountability Act (HIPPA) are never released to the public and media. This Federal Legislation includes regulations that require all individually identifiable health care information be protected to ensure privacy and confidentiality when stored,

maintained, or transmitted. Medical incident records contain protected medical information and sufficient personal information regarding the patient to create a concern over HIPPA requirements. Auburn Fire Department currently operates as a first responder so there is limited patient information stored at the Department. By written policy only "office staff" is authorized to process requests for information and Deputy Chief is notified whenever a request is made.

***Recommendation 14: Develop a policy to assign responsibility for release of agency information and reports, which specifically states what can be released and by whom.***

## 8. CRITICAL ISSUES

City and fire department officials should be aware of issues internally, which could be considered critical. This will ensure they are prepared to face the concerns of internal stakeholders. Personnel need to know that their concerns have been heard and are a priority for management to respond to where appropriate.

In order to determine which issues are critical to the organization a number of stakeholder interviews and an organization wide survey were conducted to allow the members an opportunity to voice their concerns and to express where the agency is providing exceptional service to the community. The results of the organizational survey are included in the Appendix of this document.

During these processes, many employees raised similar topics as being of great concern for the Department. The following issues list describes those items:

- Too many critical tasks are pushed down to the Shift Captain level.
- No consistency in data entry into excels spreadsheets for vehicle maintenance, training or equipment maintenance.

- Current records management system (RMS) does not allow data analysis and is not specific for needs of a modern fire agency.

- No career development in place in agency. Personnel not prepared for promotions.

- Shift briefing is too informal. Important topics are missed depending on who conducts briefing.

- Several SOP's are out of date and require updating. No formal system for annual review or updating.

- Lack of certainty on where the agency is headed.

- No pre-incident planning for occupancies in manufacturing areas.

- No engineer rank or driver/engineer training program for personnel driving fire apparatus.

- Employees of the Fire Department are dedicated to providing excellent service to the residents of Auburn.

- Lack of a Senior Management team is hurting the agency in reaching their potential.

- No formal apparatus replacement plan or schedule.

- Stations are not appropriate for the agency needs.

These issues were subjects of review in this study and resulted in several of its recommendations.

# 3. PERSONNEL MANAGEMENT

The Auburn Fire Department uses a full-time professional staff to accomplish the service delivery needs of the community. The Deputy Fire Chief, Office Manager and Fire Planner accomplish the majority of administrative functions for the agency. Emergency response personnel work a 24-hour on and 72 hour off shifting pattern with 15 scheduled personnel and a minimum daily staffing of 13 personnel. This shift schedule is consistent with the 42-hour average work-week outlined in the current agreement. There are two civilian positions in the agency with one serving as the office manager and the other as the fire planner. During interviews it was very clear that personnel enjoy the current shift-scheduling pattern, but several indicated they were open to the idea of a 24/48 shifting pattern with Kelly Days. Another benefit of the 24/48 shift-pattern is that it is the shifting pattern used by Lewiston Fire Department and personnel responding to emergencies together for mutual aid would be able to train on evolutions together. The proposed 24/48 schedule would provide a daily shift staffing of 17 scheduled personnel and maintain the 13 personnel minimum staffing.

## 1. REPORTS AND RECORDS

Internal records and reporting systems appear to be minimally adequate. The CAD RMS system in use was not designed for fire records and the agency has had to create a number of excel spreadsheet to try and track equipment and apparatus maintenance and training records. The agency maintains records on employment history, equipment and apparatus testing, building inspections, fire code enforcement, and emergency response reports.

The current records management system (RMS) is computerized and compliant with NFIRS (National Fire Incident Reporting System) standards. The agency has incident information, staff activity, and other analysis immediately available for review; however data analysis is limited by the current system. The contract ambulance company maintains patient care reports.

## 2. OVERTIME / COMPENSATORY TIME

The agency works to reduce overtime by scheduling absences in advance. The current staffing of the department would allow a maximum two (2) absences before overtime is required to fill minimum staffing requirements.

The table below illustrates the current actual daily staffing by unit/shift for the period July 2010 – June 2011:

**Auburn Fire Department**
**Average Staffing by Unit / Shift**

| Shift | Unit 315 | Engine 2 | Engine 3 | Engine 5 | Tower 5 | Daily Average |
|---|---|---|---|---|---|---|
| A | 1.1 | 3 | 3.25 | 3 | 3 | 13.35 |
| B | 1 | 3 | 3.38 | 3 | 3.09 | 13.47 |
| C | 1 | 3 | 3.33 | 3 | 3.09 | 13.42 |
| D | 1.2 | 3 | 3.33 | 3 | 3 | 13.53 |
| **Average** | **1.08** | **3** | **3.33** | **3** | **3.05** | **13.46** |

As illustrated above, the actual daily staffing for the Auburn Fire Department is approximately 13.5 personnel, which is just slightly above the minimum staffing level of 13. D shift has the highest average staffing at 13.53 and A shift the lowest at 13.35 personnel on duty per shift.

As indicated above, the project team obtained a sampling of attendance rosters for the first week of each month beginning in July 2010 and ending in June 2011. The

following information is arrived from an analysis of this information and represents 83 shifts over the one year period with projections based on this data:

- The unit with the most regular hours worked during each year was Engine 3, which averaged a staffing level of 3.33 personnel each shift. This equals approximately 80 man-hours available per day on Engine 3. Overall daily average staffing was highest on D shift with approximately 325 man-hours available on D Shift.

- As shown above, Operations personnel within the Department worked an annualized estimate of 1,226.4 overtime hours in FY 2010/11 (for all reasons/types of overtime). This equates to a daily average of .14 overtime shifts (24 hour shifts) each day during the fiscal year. The highest overtime occurred on A shift with an average requirement of .21 personnel per day on overtime. Engine 2 on A shift also had the highest overtime requirement at .50 personnel per shift on average or half the shifts requiring overtime to meet staffing requirements.

The final exhibit in this section shows the total amount of leave utilized by Department personnel over the 83-shift sample period.

**Auburn Fire Department**
**Leave Utilization, July 2010 through June 2011**

| Shift | Vacation | Sick | Injury | Floating Holiday | Wellness | Funeral | Comp Time | Military | Total |
|---|---|---|---|---|---|---|---|---|---|
| A | 25 | 11 | 0 | 4 | 1 | 0 | 0 | 0 | 41 |
| B | 20 | 13 | 0 | 5 | 2 | 0 | 0 | 3 | 43 |
| C | 14 | 14 | 1 | 2 | 5 | 1 | 2 | 5 | 44 |
| D | 21 | 9 | 4 | 3 | 0 | 1 | 0 | 0 | 38 |
| **Total** | **80** | **47** | **5** | **14** | **8** | **2** | **2** | **8** | **166** |

As shown above, leave utilization (vacation, holiday, sick leave, etc.) is fairly consistent between the four shifts over the 83-shift period. The shift with the highest utilization of leave time was C-shift with 44 shifts of leave and lowest leave rate used by D-shift with 38 shifts of leave used. Based on these figures the agency should expect shift personnel to use the equivalent of approximately 729 shifts or 17,490 hours of leave on an annualized basis.

## 3. LABOR / MANAGEMENT RELATIONSHIP

Having established labor management relations allows the organization to develop rules and policies, which govern and organize employment. This establishes the regulations and ensures they positively affect the needs and interests of the employees and employers.

The Auburn Fire Department has well established employee representation. The Shift personnel are represented by Local # 797 and have a current bargaining agreement went into place effective January 1, 20110 and expired on December 31, 2011. This agreement states it is the sole bargaining agent for all members of the Auburn Fire Department except for the Chief, Deputy Chief and clerical staff and includes firefighters, lieutenants, captains and battalion chiefs.

There was discussion during interviews that the Union is too involved in internal operating issues and the agency would be better served by allowing administration to run the department with the Union focused on employment issues. There was also discussion related to the ineffectiveness of discipline, as all supervisors are part of the same bargaining agreement as line staff.

## 4. DISCIPLINARY SYSTEM

The maintenance of discipline in an emergency services organization is paramount toward ensuring the agency is well run. There is a fine line between allowing members the latitude to perform functions using their best judgment and holding them accountable for their actions. Employees should be encouraged to behave in a way that exhibits high morale and maintains a safe and healthy working environment.

The City of Auburn has published and adopted a formal, progressive disciplinary process that applies to all City employees. Members of the Union have a specific evaluation policy that guides annual performance evaluations. The current Union Contract further clarifies the grievance process and specific steps, which must be followed during and employee filed grievance.

## 5. RECRUITMENT AND TESTING

As is the case with all businesses, the recruitment of the right personnel is an important function for emergency service agencies. There is tremendous trust placed in public safety personnel by the community. All applicants should be assessed for those attributes considered most important to effectively perform the position for which they applied. The hiring process should be comprehensive to ensure that the personnel are both capable of performing the emergency service delivery tasks and that they will be positive ambassadors for the fire department.

The Human Resources department serves as the main recruiting arm of the City of Auburn. The department accepts the requests to advertise for positions and advertises in selected publications. The Fire Department assists Human Resources in the process.

The agency should formalize the recruitment and testing process to include a policy to ensure all applicants are handled consistently during the process. The program should include the following components:

1. A mechanism to identify and announce positions (7B1).
2. The agency and city members that will be part of the recruitment and selection process (7B2).

3. The processes and screening devices that will be used for the recruitment and selection of personnel to ensure compliance with local, state and federal requirements (7B3).
4. How the agency will work toward achieving a workforce that reflects the population served (7B4).

***Recommendation 15: Develop a formal recruitment and selection policy that is in compliance with local, state and federal requirements.***

***Recommendation 16: Develop, validate, and implement a Candidate Physical Ability Test (CPAT) testing process to ensure candidates have the required fitness to engage in firefighting activities.***

***Recommendation 17: Utilize medical physical assessments that follow job related standards such as are found in NFPA 1582.***

## 6. FIREFIGHTER HEALTH AND WELLNESS

The physical demands of firefighting and emergency response activities require that members actively incorporate health and wellness into the work environment. Benefits related to the cost effectiveness of injury prevention as related to rehabilitation and work replacement is well documented.

The City of Auburn has an established a Health Promotion Program designed to improve the health of each employee, their spouse and dependents through a personal risk assessment, continual education and personal wellness plans. This is a voluntary program, primarily focused on prevention.

The Auburn Fire Department provides employees with time and equipment to work out while on duty and encourages them to do so. There are no policies in effect to guide and direct the fitness program of the agency. The agency should develop a policy, which meets the recommendations included in NFPA 1500, Standard on Fire

Department Occupational Safety and Health Program. The policy should place the responsibility for safety and health on all members of the agency and task supervisors with enforcing the requirements of occupational safety and health. The Auburn Fire Department also does not have a provision for fitness evaluations of employees to ensure they are fit for duty.

***Recommendation 18: Develop a policy to guide and direct the fitness program of the agency (7G5).***

***Recommendation 19: The agency should provide for initial, regular and rehabilitative medical and physical fitness evaluations (7G1).***

***Recommendation 20: Train shift personnel from each shift according to the IAFC/IAFF Peer Fitness Standards to further guide the fitness and wellness program for the agency.***

***Recommendation 21: Administer a stress test at the time of hire and periodically on incumbent employees based on age and risk factors.***

# 4. INCIDENT STAFFING

In order for a fire department to successfully mitigate emergency situations it requires an adequate, well-trained staff of emergency service personnel to utilize apparatus and equipment effectively and efficiently. When there are too few emergency personnel at a scene the response effectiveness is reduced and the risk of injury to those responding increases.

There are a number of tasks, which must occur simultaneously to adequately combat different types of fires. The absence of adequate personnel to perform theses tasks requires each task to be prioritized and completed in chronological order. These fire ground tasks include command, scene safety, search and rescue, water supply, fire attack, pump operations, ventilation, back up, and rapid intervention.

An initial full alarm assignment should be able to provide personnel to accomplish the following tasks:

- Establish incident command outside of the hazard area. This will allow coordination and direction of the incoming emergency response personnel and apparatus. A minimum of one person should be dedicated to this task.

- Establish an uninterrupted water supply of at least 400 gallons per minute for 30 minutes. Once established the supply line can be maintained by the pump operator to ensure uninterrupted water supply. A minimum of one person is assigned to this task that can then assume support role.

- Establish an effective water flow rate of 300 gallons per minute. This will be supplied to a minimum of two hand lines each operating at a minimum flow of 100 gallons per minute. Each hand line must have two individuals assigned with one serving as the attack line and the other as a back-up line.

- Provision of one support person to handle the hydrant hookup, utility control, forcible entry, and assist in deploying fire hose lines.

- Establish a search and rescue team. Each team will consist of a minimum of two personnel.
- Establish a ventilation team. Each team will consist of a minimum of two personnel.
- Establish an initial rapid intervention team (RIT). Each RIT team shall consist of a minimum of two properly trained and equipped personnel.

Critical tasking will vary depending on the size and nature of the incident. The Commission on Fire Accreditation International (CFAI) provides a sample critical tasking analysis for the number of emergency workers required for the various levels of risk [(6)]. The CFAI analysis is summarized in the table below showing the minimum required personnel to mitigate the initial emergency response requirements by occupancy risk:

| Critical Task | Maximum Risk | High Risk | Moderate Risk | Low Risk |
|---|---|---|---|---|
| Attack Line | 4 | 4 | 4 | 2 |
| Search and Rescue | 4 | 2 | 2 | 0 |
| Ventilation | 4 | 2 | 2 | 0 |
| Backup Line | 2 | 2 | 2 | 2 |
| Rapid Intervention | 2 | 2 | 0 | 0 |
| Pump Operator | 1 | 1 | 1 | 1 |
| Water Supply | 1* | 1* | 1* | 1* |
| Support (Utilities) | 1* | 1* | 1* | 1* |
| Command | 1 | 1 | 1 | 1 |
| Safety Officer | 1 | 1 | 1 | 1 |
| Salvage/Overhaul | 2 | 0 | 0** | 0 |
| Command Aid | 1 | 1 | 0 | 0 |
| Operations Chief | 1 | 1 | 0 | 0 |
| Logistics | 1 | 0 | 0 | 0 |
| Planning | 1 | 0 | 0 | 0 |
| Staging Officer | 1 | 1 | 0 | 0 |
| Rehabilitation | 1 | 1 | 0 | 0 |
| Division Supervisors | 2 | 1 | 0 | 0 |
| High-rise Evacuation | 10 | 0 | 0 | 0 |
| Stairwell Support | 10 | 0 | 0 | 0 |
| **Total Personnel** | **50-51** | **21-22** | **14-15** | **8-9** |

*Tasks can be performed by the same individual **Task can be performed by the attack crew

It is essential that there exist a response plan in place to be able to deliver a sufficient number of personnel to the scene to accomplish the critical tasks. Structure

fires are the most labor-intensive incidents and depending on weather conditions can require additional personnel to maintain an effective operation. The majority of risks in the City of Auburn will fall into the moderate category as this risk category describes a typical single family home. As the size of structure, complexity of the incident, or life safety risks increase so does the risk category. For this reason high occupancy and unprotected structures fall into the high-risk category. This will include assemblies, schools and buildings in the historic downtown.

At current minimum daily staffing levels, AFD has 13 personnel available for immediate response to all emergencies. If fully staffed the daily workforce can be as high as a maximum of 15 personnel. As shown above this is an effective response force for the typical risk found in Auburn, but not for the more complex risks in the community. It is not fiscally possible or responsible to staff for the worst-case scenarios, which is why Auburn, like most communities has mutual aid agreements in place with surrounding jurisdictions.

Lewiston is the agency with the closest proximity to the high and maximum risk occupancies and has a typical daily staffing of 21 firefighters. This additional response can bring the effective response force to 34 – 36 firefighters, which is sufficient to handle most risks in Auburn.

There are two methods by which resources are typically shared by municipalities, mutual aid and automatic aid. Mutual aid is a traditional agreement where assistance is requested from surrounding jurisdictions when the size and scope of an incident or series of incidents exceeds the resources of the responsible agency. In an automatic aid agreement resources are shared by sending the closest available unit to emergency

incidents regardless of jurisdictional boundaries. This ensures the timely arrival of emergency response personnel.

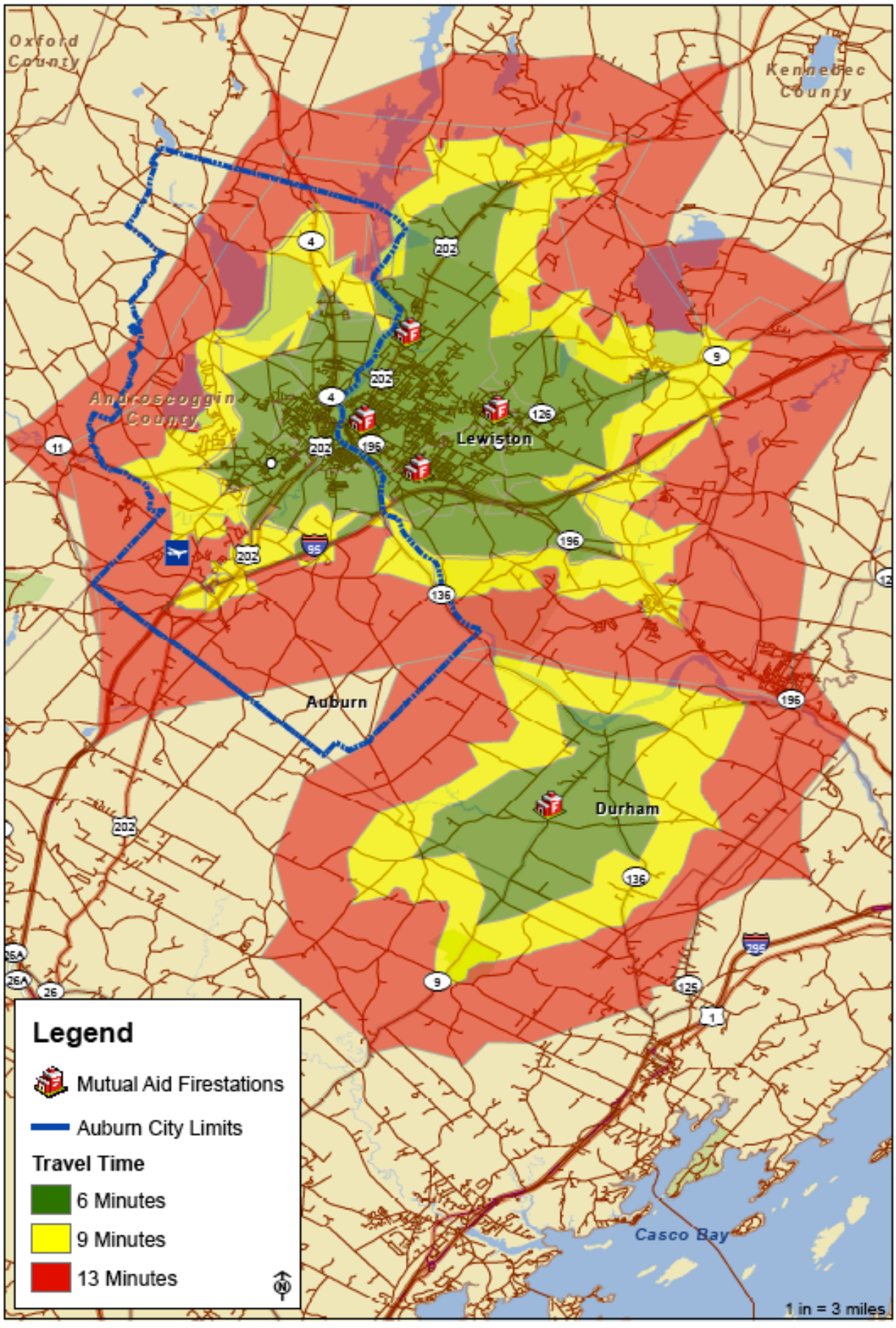
In order to receive credit under ISO requirements, an agency must have a written automatic aid agreement, which:

- Includes a prearranged first-alarm response according to a definite plan.
- Aid is provided 24 hours per day, 365 days a year.
- Offsets a need in the community. For example a neighboring agency's ladder company responding by an automatic aid agreement can meet the ladder requirement if it is able to cover at least 50 percent of the ladder company standard.

Auburn Fire Department currently operates with a "mutual/automatic" aid agreement with the City of Lewiston and a "Automatic Mutual Aid Agreement with Turner, Minot, Poland, Durham, Oxford and New Gloucester.

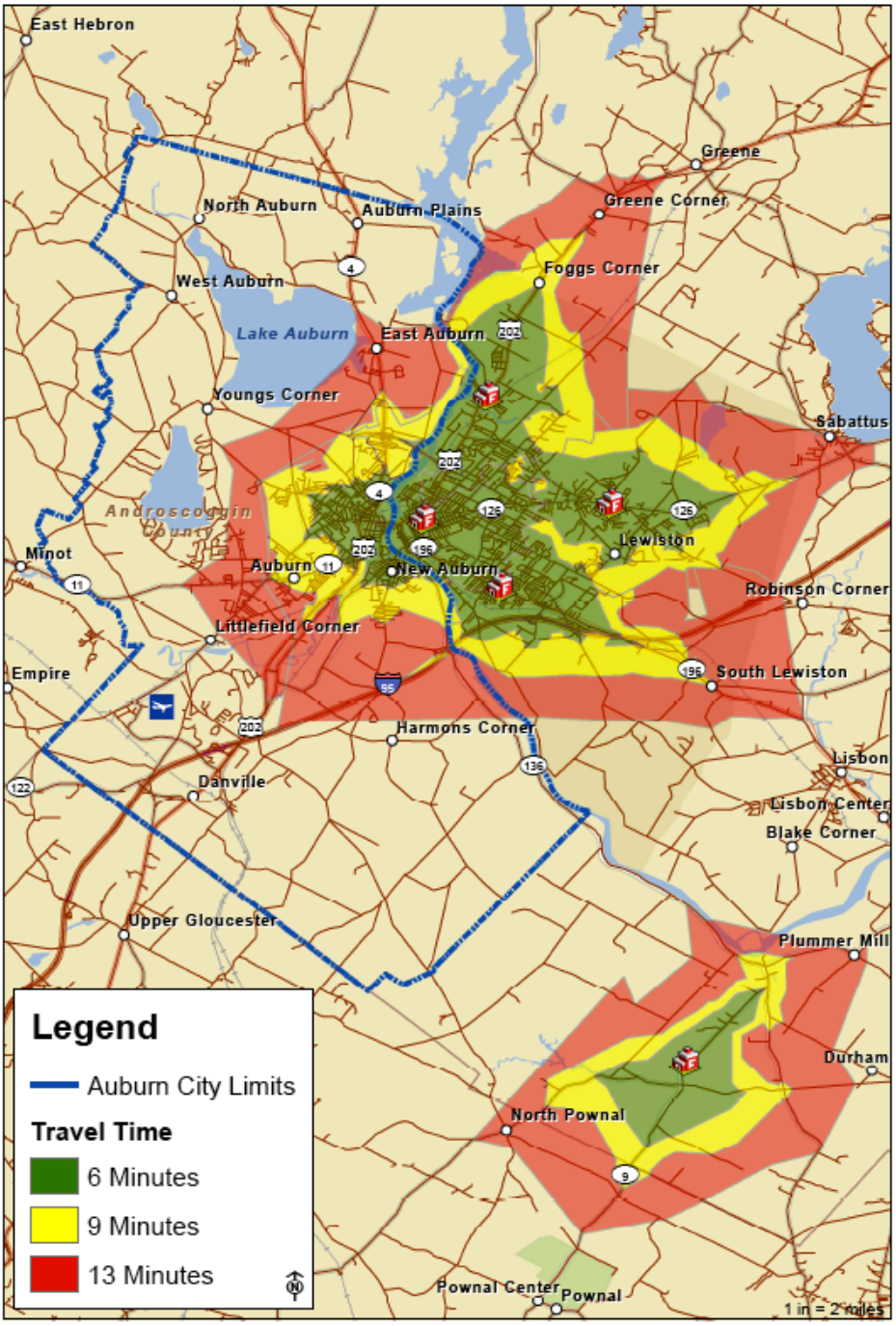
The following map shows the mutual aid travel that can be expected from Durham and Lewiston in the summer months with clear road conditions. As shown there are several areas of Auburn where Lewiston can provide excellent response times and pre-arranged automatic aid by call type would greatly benefit the City of Auburn.

## Travel Time Capability (Summer) - Mutual Aid Service Area



It is also important to consider how adverse weather conditions will impact response from mutual/automatic aid partners. The following map shows the expected travel times in the winter months with snow covering the roadways.

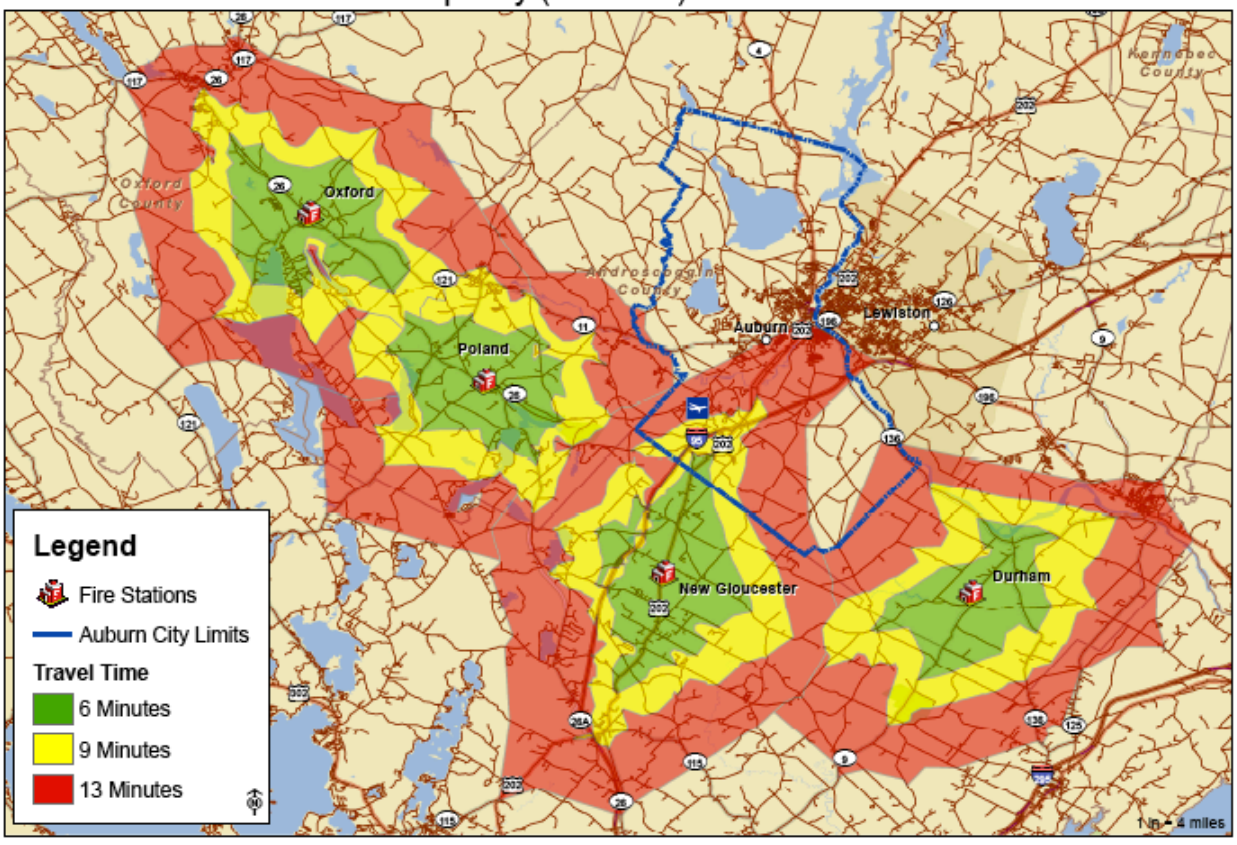
**Travel Time Capability (Winter) - Mutual Aid Service Area**



As shown, the travel area covered in 6 minutes or less is much smaller, but Lewiston is still able to provide effective coverage to a portion of the City of Auburn. For mutual aid in the rural areas, where much of the response force is on call, it is even more critical to ensure mutual aid partners are responding immediately. This is especially true on fire calls where they are relied upon to bring a tender to establish a water supply.

The following map shows the expected travel times of mutual aid partners to the rural areas of Auburn.

Travel Time Capacity (Summer) - Tanker Service Area




As shown, the Auburn Fire Department can typically expect a tanker to take from nine (9) minutes to well over 13 minutes to respond to a working fire in the rural areas.

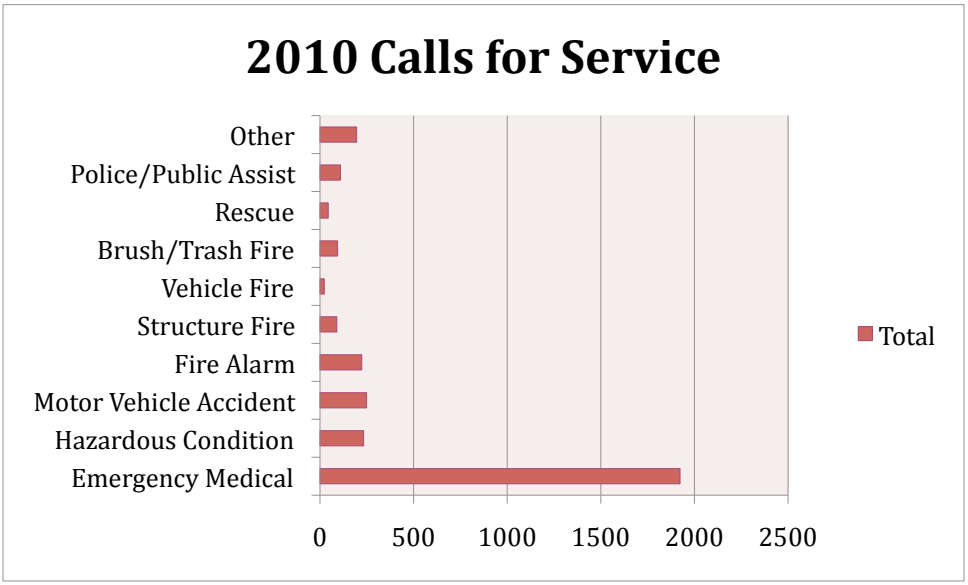
***Recommendation 22: Establish pre-arranged first alarm response plans with the City of Lewiston to respond to critical incidents at initial time of dispatch.***

***Recommendation 23: Establish an automatic first alarm response plan with rural mutual aid partners for any reported working fire.***

## 2. EMERGENCY RESPONSE ACTIVITY

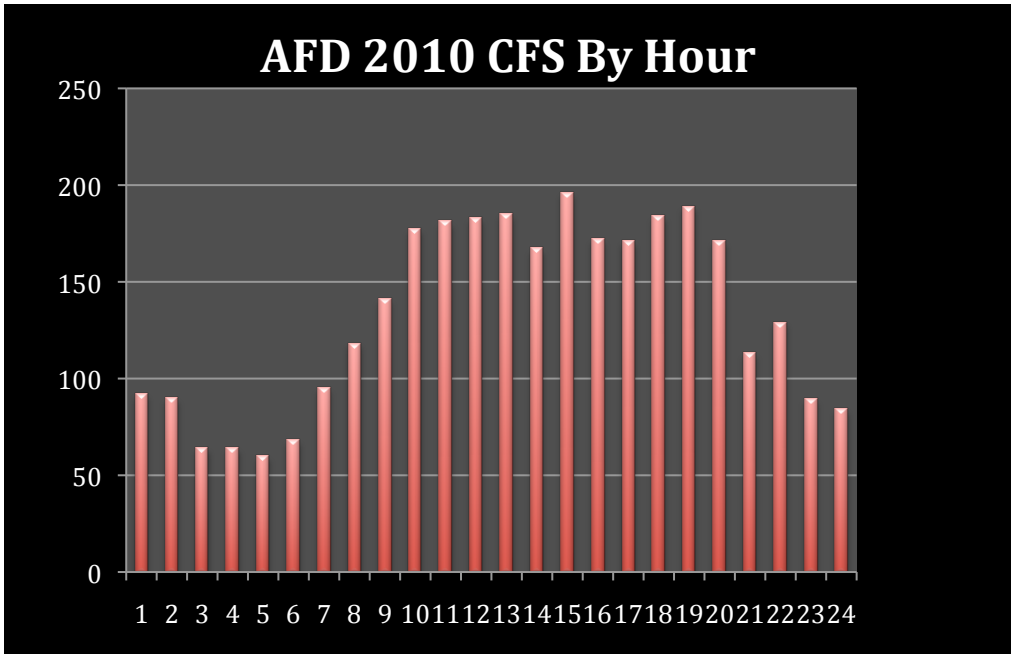
The current trend for fire departments across the country is that there is a declining number of fire calls over the past decade. As the frequency of fire calls reduced, the workload of fire departments increased as they became increasingly responsible for more issues in communities, these include: medical calls, hazardous materials incidents, technical rescue and every type of household emergency. This has created the need for not only personnel trained as firefighters, but also who can respond to all hazards found within a community.

The following chart shows the calls for service responded to by Auburn Fire Department in the calendar year 2010.

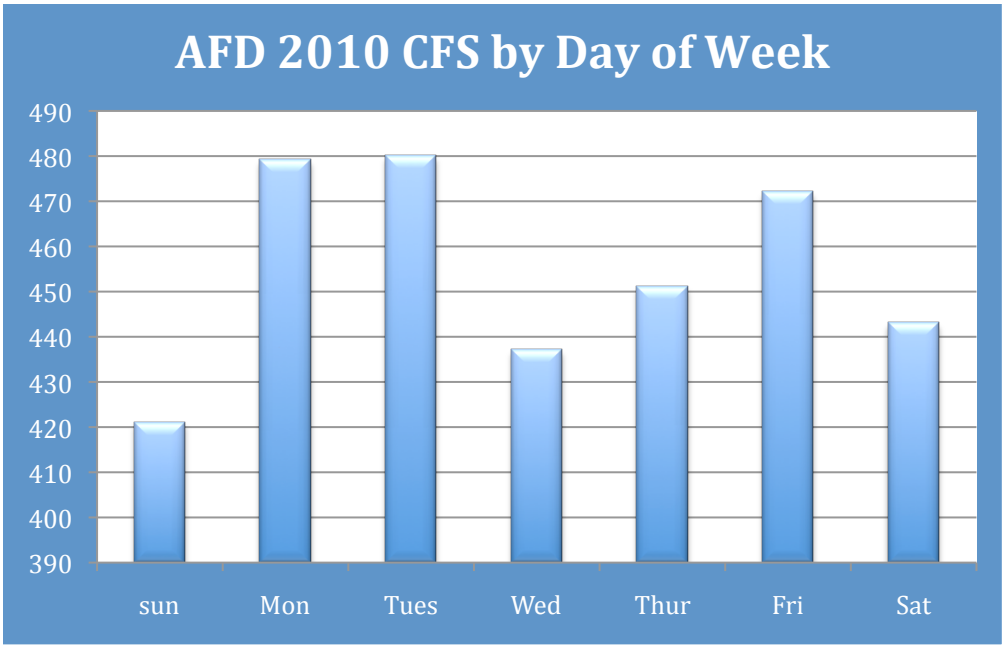


As is the case for most fire departments across the country, the majority of incidents responded to by AFD are medical related.

When calls for service are examined by time of day, Auburn Fire Department shows a trend of responding to the majority of calls between 10:00 a.m. and 9:00 p.m. The lowest demand of calls for service occurs between midnight and 6:00 a.m.




Calls for service range from 419 to 480 by day of the week. Sunday has the lowest call demand with Monday and Tuesday having the highest at 479 and 480 respectfully. Friday is also a fairly busy day with 472 calls for service occurring on Friday in 2010.


AFD 2010 CFS by Day of Week
490
480
470
460
450
440
430
420
410
400
390
sun
Mon
Tues
Wed
Thur
Fri
Sat

# 5. TRAINING

This chapter evaluates departmental training and career development programs.

## 1. TRAINING AND SKILLS DEVELOPMENT

Firefighters operate in a complex, dangerous, and dynamic work environment. In a typical year there are over 100 fatalities and 3,000 serious injuries suffered by firefighters worldwide [(5)]. Effective training is a critical component to prepare personnel to meet the challenges of the various situations and work environments in which they will operate. The delivery of safe and effective emergency services depends on having a well-trained response force.

The reason it is important to establish and maintain an effective training is for firefighter safety. Given the various risks and complexity of the service area Auburn Fire Department responds to both officers and responding personnel must be trained appropriately. The city of Auburn has a comprehensive plan, which plans for growth in the southern portion of the city. This growth is anticipated to add to both the residential and commercial tax-base. This will result in increased service demands for fire personnel. As the city grows, there will likely be new hazards encountered by fire personnel.

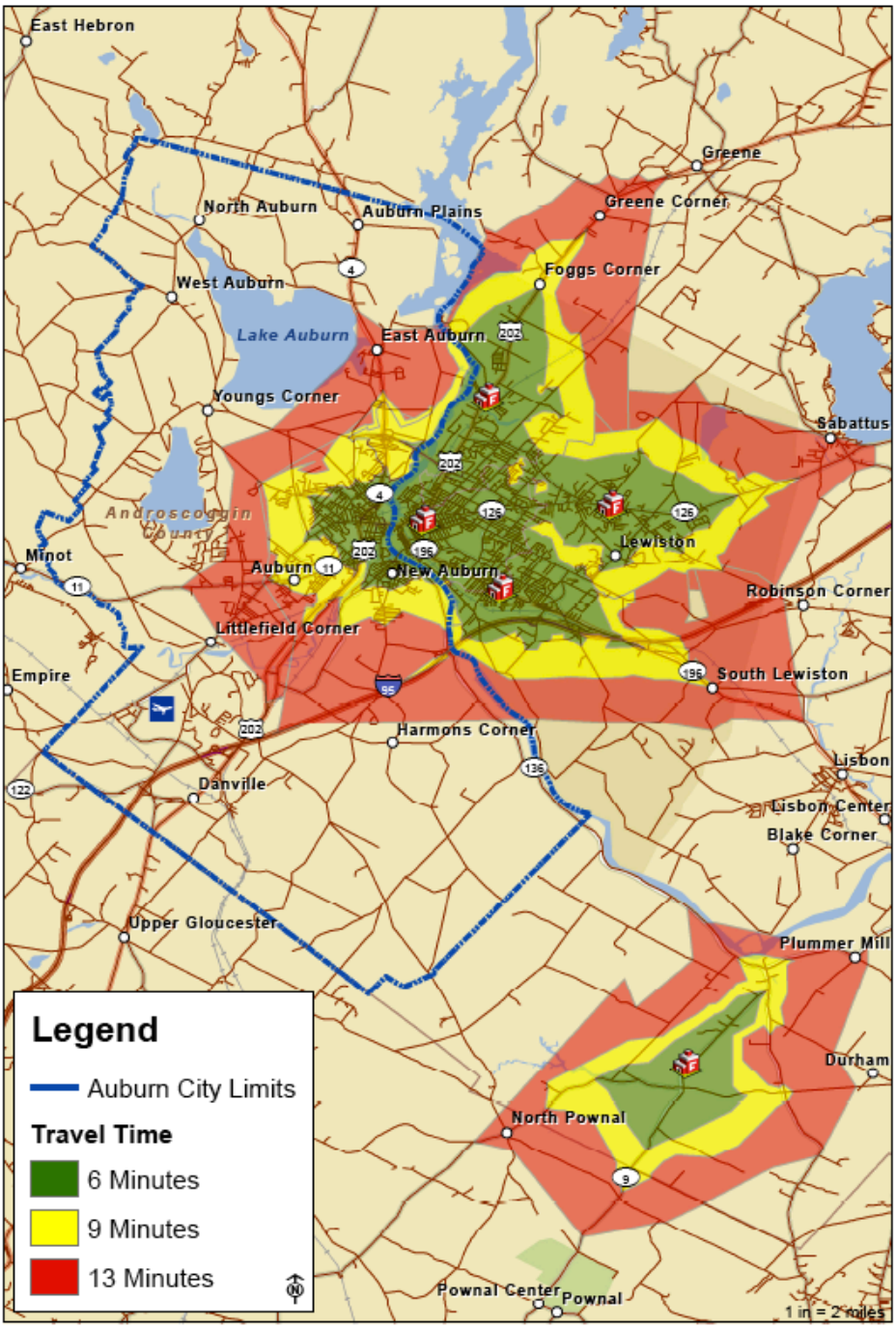
The absence of a comprehensive training program compromises the outcomes of emergency situations and places response personnel at increased risks of injury on emergency scenes. Failure to train also exposes the City of Auburn to liability action by employees. Therefore, training must be viewed as a critical function of AFD.

The training program must be designed to develop self-confidence to perform correctly when faced with stressful and hostile working conditions. The training program should be systematic, while providing constructive feedback to trainees, firefighters and company officers. The goal of the program should focus on performance and ensuring personnel can perform at a high level when an emergency situation exists. Too often, training programs are focused on acquiring a specified number of annual training hours and the quality of the training takes a back seat to hours.

The International Fire Service Training Association (IFSTA) is regarded as the national authority of training for the American fire service. According to IFSTA an effective training program will include: continuous training of all levels of personnel in the department, a master outline or training plan, a system for evaluating the scope, depth, and effectiveness of the training program; and a method for revising the program as needed.

IFSTA continues to state that effective training programs will included the

**Travel Time Capability (Winter) - Mutual Aid Service Area**




following elements.

| | |
|---|---|
| Training Administration | Training Division Staffing |
| Training Schedules | Training Facilities |
| Training Goals and Objectives | Motivation for training |

| | |
|---|---|
| Methodology for Success | Company Operations and Performance |
| Varied types of Reinforcement | Member Targeted Training |
| Organizational Priority for Training | Peer Group Commitment to Training |

## 2. PERISHABLE SKILLS TRAINING

All training provided to emergency personnel should be based on established standards of practice. This focus will ensure personnel will perform as they are trained in emergency situations. Auburn Fire Department has a well-established training program, which falls under the direction of a shift captain. The Captain works with an established training committee to develop annual training goals, which are designed to meet the basic mandates required by Maine for continuing education of firefighters.

The AFD has a policy outlining the requirements for documenting employee training. The purpose of this policy is to ensure all training conducted is documented and entered into the excel spreadsheet to prove compliance with both the Main Department of Labor's Compliance Directive and ISO Grading Schedule.

There is a second policy that clearly places the responsibility for Company Training on the Company Officer. The Department primarily uses IFSTA for the instruction and student materials of this training. It is the responsibility of the Company Officer to ensure training is documented when it occurs.

There are no policies in place, which address time and frequency of company evolutions and multi-company evolutions or drills and any training of this type. There are also no policies, which indicate the minimal levels of training for each position in the organization and a staff development program is clearly lacking. The most critical of these positions is the driver-operator. While Auburn does not have a driver-operator position that is dedicated solely to the driving of emergency apparatus, any personnel

tasked with driving apparatus as part of their job duty should receive formal driver-operator training and certification. This is a significant liability issue for the Auburn Fire Department and the City of Auburn as driving these specialty vehicles and operating them at emergency scenes effectively is critical to the well being of the traveling public and the personnel assigned to the equipment.

The current training program in place at AFD is effective at ensuring personnel maintain their perishable skills.

The use of performance-based training requires that personnel can demonstrate that critical skills are taught and practiced. AFD use some performance-based training for hose evolutions, air pack drills, and ladder drills. It is the responsibility of the shift Captain to ensure that skills are tested and evaluated according training plan.

The following table shows the number of training hours for Auburn Fire personnel in 2010. The agency currently reports physical training (workouts) in their training report. These hours have been removed to reflect actual structured departmental or outside training that occurred in AFD in 2010.

**Auburn Fire Department**
**Training Hours 2010**

| Month | A Shift | Avg | B Shift | Avg | C Shift | Avg | D Shift | Avg | Dept Avg | Dept Total |
|---|---|---|---|---|---|---|---|---|---|---|
| January | 43.5 | 2.9 | 184.5 | 12.3 | 264 | 15.5 | 62.5 | 4.2 | 34.9 | 554.5 |
| February | 111 | 7.4 | 268 | 17.9 | 354 | 20.8 | 99.5 | 6.6 | 52.7 | 832.5 |
| March | 385 | 25.7 | 646 | 43.1 | 651.5 | 38.3 | 260 | 17.3 | 124.4 | 1942.5 |
| April | 234.5 | 15.6 | 215.5 | 14.4 | 427.5 | 25.1 | 140.5 | 9.4 | 64.5 | 1018 |
| May | 60 | 4.0 | 236 | 15.7 | 319 | 18.8 | 55.5 | 3.7 | 42.2 | 670.5 |
| June | 117.5 | 7.8 | 173 | 11.5 | 228 | 13.4 | 44.5 | 3.0 | 35.7 | 563 |
| July | 115.5 | 7.7 | 138 | 9.2 | 280 | 16.5 | 67.5 | 4.5 | 37.9 | 601 |
| August | 146 | 9.7 | 184.5 | 12.3 | 227 | 13.4 | 40 | 2.7 | 38.1 | 597.5 |
| September | 198.5 | 13.2 | 284.5 | 19.0 | 407 | 23.9 | 182.5 | 12.2 | 68.3 | 1072.5 |
| October | 69 | 4.6 | 239 | 15.9 | 180.5 | 10.6 | 60 | 4.0 | 35.2 | 548.5 |
| November | 31 | 2.1 | 127 | 8.5 | 229.5 | 13.5 | 77.5 | 5.2 | 29.2 | 465 |
| December | 30 | 2.0 | 67 | 4.5 | 148 | 8.7 | 55 | 3.7 | 18.8 | 300 |
| **Total** | **1541.5** | **102.8** | **2763** | **184.2** | **3716** | 218.6 | **1145** | **76.3** | 581.9 | **9165.5** |

As shown, there is a great disparity in the amount of training received by personnel depending on which shift they are assigned to. This illustrates that some company officers are doing the minimum training required while others take the training of their personnel and its importance more seriously. Overall the department averaged approximately 582 training hours per personnel in 2010. C-shift averaged the highest training at approximately 220 hours per personnel, while D-Shift averaged the lowest at approximately 76 hours per personnel in 2010.

This disparity is a clear illustration of the difficulty with something as important as training being pushed to a shift officer, as there is no consistency with data entry or training received and the department is essentially training as four separate departments. While you would expect some difference in total training hours per shift due to specialty schools and individual preferences you would not expect a difference as large as the 69% more training occurring on C-shift as compared to D-shift.

***Recommendation 24: Develop a monthly training plan for all staff to ensure they remain proficient in their assigned tasks. Assign the Battalion Chiefs the responsibility for ensuring all training is entered into the training RMS for each of their assigned companies prior to the end of each shift.***

***Recommendation 25: Train all personnel responsible for driving emergency apparatus to the Driver/Operator certification level.***

***Recommendation 26: Ensure all personnel conducting training are certified as instructors (8B1).***

***Recommendation 27: Develop a career development track, which outlines courses required for personnel to assume positions in AFD (8A5).***

***Recommendation 28: Develop performance measures for skills training to ensure personnel can display proficiency with established performance requirements (8B3).***

## 3. TRAINING OVERSIGHT

A Captain on C-shift is currently responsible for the coordination and development of training at AFD. The shift Officers ensure the training is implemented according to the schedule.

The Fire Captain in coordination with the Training Committee develops annual training goals and objectives. The department should conduct an annual needs assessment to identify training needs and further the use of Battalion Chiefs in the development of training goals and objectives and implementation of shift training. The agency would also be better served with the overall oversight of training is handled by an administrative position to ensure all shifts are training equally and adhering to the same quality standards.

***Recommendation 29: Develop a process where an annual needs assessment is conducted to determine training needs and Battalion Chiefs are part of the planning process.***

***Recommendation 30: Consider creating a Deputy Chief of Operations position to assume responsibility for training of shift personnel.***

## 4. TRAINING FACILITIES

The Auburn Fire Department currently maintains a training and drill facility behind Station 3. The facility is adequate to meet the basic perishable training needs of the organization. The review of training records indicated that the majority of training either occurs in a classroom setting in the station or in the field, but is conduced by AFD personnel. The agency should invest in personnel by budgeting and sending members to advanced schools to enhance the knowledge, skills, and abilities of their personnel.

## 5. TRAINING RECORDS

NFPA 1401, states the importance of accurately recording, maintaining, and preserving training records. The Auburn Fire Department currently enters training records into excel spreadsheets. This serves to minimize liability exposure by having a method to keep track of training records of personnel. During station interviews several personnel indicated that not all training is entered in these spreadsheets, which brings into questions the accuracy and completeness of the current training records. The agency would benefit from obtaining a records management system (RMS) that includes modules to track personnel, training, equipment, apparatus and CFS. This type of system would ensure that all business processes of the AFD are located in a single RMS and have the capability of being tracked and data reported accurately.

***Recommendation 31: Consider acquiring a fire specific RMS for the storage and tracking of important fire department data.***

# 6. FIRE PREVENTION AND PUBLIC EDUCATION

As a community develops its fire prevention program, four key components should be included to support the goal of reducing the danger and incidence of fires.

- Public Education
- Code Enforcement
- Fire Suppression
- Fire Investigation

Each of these functions should work together to achieve the fire prevention goals of the community.

Having a proactive risk management program as part of the fire prevention program will provide a department with the best opportunity to minimize the losses and trauma associated with fires. The International Association of Fire Chiefs (IAFC) has defined a proactive fire service as one that embraces new, proven technology and built-in protection, like automatic fire sprinklers and early detection systems, combined with aggressive code enforcement and strong public education.

The fire department should work with developers to actively encouraging the use of fire resistive construction and built-in early warning and fire suppression systems. Educating the public to recognize and minimize the risks associated with fire should also be a major focus of the department.

## 1. OVERVIEW

The Auburn Fire Department has suffered from a long-term vacancy in the Fire Prevention Officer position and since the appointment of a person to this position just

prior to this study beginning is in the process of formalizing the structure of the fire inspection program. The purpose of the Fire Prevention Officer is the enforcement of fire and life safety codes, follow-up on violations noted during company inspections, plan reviews, investigating cause and origin on suspicious fires and making recommendations to code implementation.

In terms of Fire Inspections and Public Education, the two should have different program focus.

**Fire Inspections should focus on:**

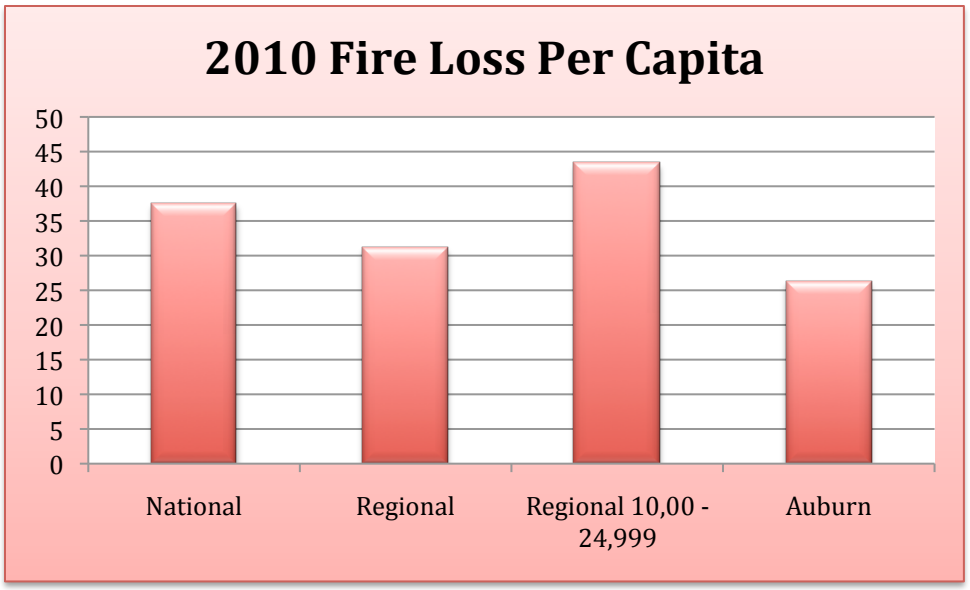
- Examining what is most likely to cause a fire and where it will start.
- Determining how occupants would escape the building in the event of a fire.
- Finding what in the building would cause the fire to spread or increase in intensity.

**Public Fire Education should focus on:**

- Teaching the occupants to make the building safer.
- Providing information that promotes a positive image of the fire department.
- Fostering a positive attitude about fire safety.

Annual fire loss is a valuable measurement to judge the effectiveness of the fire prevention program. The Auburn Fire Department uses fire loss as one of its service level indicators on the annual report provided to the Assessors Office. For the calendar year 2010 the fire loss in Auburn was $605,000, which equates to a fire loss of $26.25 per capita. Based on this data AFD is experienced lower fire loss per capita than communities nationally and regionally with populations between 10,000 and 24,999. They also experience lower per capita fire loss than the Northeast United States region as a whole.

The following chart compares the fire loss per capita for fire departments serving similar sized populations to AFD [8]




These numbers can be deceiving when reporting a single year since the dollar loss associated with one large fire can change the per capita loss significantly for a single year.

***Recommendation 32: Begin tracking annual fire loss per capita and average 5-year trends to ensure your fire prevention efforts remain effective.***

## 2. FIRE CODE ENFORCEMENT

As discussed earlier, Auburn maintains an effective response force for the typical fire risk present in the community, but needs to rely on outside agency for large working fires. To reduce the likelihood of large commercial fires and the associated risk to responding personnel, the Department must focus on preventative efforts. One of the early elements of the fire prevention program occurs during the plan review of new construction and remodels of commercial occupancies. This review examines the proposed projects to ensure they are compliant with local fire code requirements. The

more involved the fire department is in the plan review process the less potential exists for future fire protection issues in a community.

The design and construction of a building can help contain a fire. Placement of walls and exits will affect the ability of people in the building to exit in a safe and expedient manner. Regular inspection and maintenance is required of buildings and their fire protection systems to ensure they are working properly. Inspections should ensure paths to exits are clear, fire extinguishers have current inspections, fire protection systems have current inspections, fire detection systems are working properly, and emergency lighting operates.

The Fire Prevention Officer oversees the fire and life safety program for the City of Auburn. This includes plan reviews for new construction and periodic site inspections during the construction process. If the agency does not have the capacity or capability of reviewing the plans they are reviewed by the State of Maine. Building permits and final certificate of occupancy permits are approved by the City of Auburn Planning and Permitting Department after the Fire Prevention Officer has signed off on the fire and life safety portion. The process is well established and ensures the fire department is involved in new construction occurring in the City.

The City of Auburn has adopted the 2006 International Fire Codes. While most commercial building are required to have fire sprinklers in the International Code, over three-fourths of the fire deaths experienced in the United States each year occur in single-family homes, where sprinklers are not required. The installation of residential fire sprinklers is becoming a trend in many communities across the country and is required in the 2009 International Fire Code.

***Recommendation 33: Consider adopting the 2009 International Fire Code, including the provisions for residential fire sprinklers.***

## 3. OCCUPANCY INSPECTIONS

Occupancy inspections are used to locate and mitigate potential fire hazards to reduce or prevent the occurrence of fire in a community. Different types of occupancies pose different levels of fire risk and require different inspection schedules. These inspections ensure compliance with applicable codes and verify activities are being conducted in a safe manner.

Fire departments can use inspection time as an opportunity to educate the occupants while mitigating hazards that exist in the buildings. Inspections of commercial, industrial, places of assembly, and facilities open to the public are designed to identify and eliminate potential fire hazards before an emergency occurs.

NFPA standards recommend the frequency of fire safety inspection, which vary by the type of occupancy. Generally, inspections are classified by the degree of hazard with higher hazards being inspected more frequently.

The following table illustrates the NFPA recommended frequency of inspection by hazard class and facility type:

| Hazard | Example Facilities | Inspection |
|---|---|---|
| **Low** | Small stores, general offices, medical offices, non-flammable storage, and apartment common areas. | **Annual** |
| **Moderate** | Gas stations, stores larger than 12,000 square feet, restaurants, schools, hospitals, manufacturing facilities, small industrial uses, auto repair shops, storage of moderate flammables or hazardous materials. | **Semi-annual** |
| **High** | Nursing homes, large users of flammable liquids or hazardous materials, bulk flammable liquid storage facilities, facilities classified to handle "extremely hazardous substances." | **Quarterly** |

During interviews with AFD personnel it became clear that while AFD recognizes the importance of conducting fire and life safety inspections on a regular basis many occupancies in the City are not being inspected.

The current occupancy inspection program in place has no inspection schedule in place. According to the Fire Prevention Officer there are many businesses requiring an inspection and AFD has not prioritized their inspections based on occupancy or risk. The backlog in inspections is largely due to the amount of time this position remained vacant and the agency is working to rectify this situation.

The Department should develop a goal to inspect higher risk occupancies and all occupancies with a sprinkler or detection system annually. The Fire Prevention Officer and Fire Planner both indicated that developing a formal inspection schedule is a priority for them.

Auburn Fire Department is using on-duty fire personnel to conduct company inspections, which is a common method for inspecting low hazard occupancies. These inspections serve several purposes including: building familiarization, pre-fire planning, training, identification of fire code violations, and public relations. If serious fire code violations are discovered those are sent to the Fire Prevention Officer for follow-up.

These company inspections should occur in the first due response area to ensure personnel remain available for immediate response. One issue identified is that no personnel conducting company inspections are trained as inspectors. The agency should ensure that at least one person conducting company inspections is trained as an inspector and serves as the lead inspector during company inspections.

Auburn fire personnel are currently not performing any pre-fire planning activities on commercial occupancies in the City.

A self-inspection program for small, low risk occupancies is another program that can be developed to reduce the workload on prevention and line staff. When administered properly, these programs are an effective way to address inspecting small business.

**Recommendation 34: Consider *adopting the NFPA recommended inspection frequency standard.***

***Recommendation 35: Formalize and schedule company inspections on a regular basis.***

***Recommendation 36: Develop a risk classification for commercial occupancies and pre-fire plan occupancies based on risk.***

***Recommendation 37: Consider establishing a self-inspection program for small, B-type occupancies.***

## 4. PUBLIC EDUCATION PROGRAMS

Providing public fire education programs can have a very positive effect on minimizing the occurrence of fire in a municipality. Strong education provides an opportunity to minimize the effects of fire, medical emergencies, and disasters on a community.

There is no formal public fire education program in place in Auburn. AFD will conduct public education programs when requested, but there is no effort to market public education opportunities to the residents and businesses of Auburn. These types of programs often seen in communicates include CPR classes, juvenile fire starter program, fire extinguisher training, station tours, general fire safety, residential safety inspections, distributing public safety announcements and smoke detector installs.

A smoke alarm program is a very effective means to decrease fire-related fatalities. Most of the fires in the United States occur in residential occupancies. In 2009 fires caused 3,010 deaths and 17,050 injuries in the United States. This is a dramatic decline, which can be linked to smoke detector use. In 1975 less than 5% of homes had working smoke alarms; today that number is closer to 90% [(8)]. In the same time period deaths dropped from 9,000 to the current number of just over 3,000 annually. Auburn Fire Department should expand their efforts to ensure that every home in Auburn has a working smoke detector.

## 5. PUBLIC INFORMATION AND MEDIA RELATIONS

Maintaining positive public relations is the responsibility of all employees of AFD. The public information component is important in developing positive public attitudes toward the department. Establishing and maintaining a good working relationship with the news media will assist AFD in meeting their public education goals by communicating with the residents and businesses they serve.

Per AFD policy only the Office Staff is authorized to release information requested of the Department. There is no policy specific to the media or involving media present at emergency scenes. The policy does not address how relationships with local

media will be developed and maintained, nor does it discuss what is releasable and what is not releasable in press releases or during discussions with the media.

***Recommendation 38: Develop a media relation's policy to provide guidance on what information is not to be released and how media should be handled on emergency scenes.***

## 6. FIRE CAUSE DETERMINATION

The Fire Prevention Officer is tasked with the responsibility for determining the initial cause and origin of fires in Auburn. If a fire is deemed suspicious the State Fire Marshal assumes the investigation. There is a move at the State level to reduce State Fire Marshal involvement to investigating serous fires and those with loss of life. If this change occurs, the AFD should develop a procedure for joint investigation with members of the Auburn Police Department to ensure the prosecution of offenders occurs according to established policies for filing criminal cases in Auburn.

## 7. USE OF STATISTICAL DATA

Accurately documenting and recording the records related to emergency response provides the department an opportunity to evaluate the performance of their emergency response and prevention programs. With a coordinated data collection and analysis process in place, incident records can be analyzed to determine a number of important incident factors.

The Auburn Fire Department uses IMC as their RMS system to record emergency response data. This is a component of the CAD/RMS used by the Auburn-Lewiston 9-1-1 center.

Fire cause and origin information is documented in the records management system (RMS) and included in the department's NFIRS record of the incident.

The fire department is effectively utilizing their RMS system to its limited capacity. It solely manages calls for service (CFS) records and the agency has had to create a variety of makeshift excel spreadsheets to capture other data for the agency. During interviews it was discovered that the Fire Department is not conducting routine analysis of the fire records. This analysis should occur to identify fire risk and occurrence so the findings can be correlated into the planning efforts of the department.

A well-maintained historical record serves as a valuable tool for planning and decision-making. These records provide valuable historical data for outside agencies such as the ISO when they conduct a site visit to evaluate the department's current ISO rating. The department can also use this data to produce an annual report of fire department activity.

Auburn Fire Department does not currently produces an annual report. The agency should produce an annual report for elected officials and the community, which includes numerical data on activity, training hours, response time, incidents and fire loss. The report should also conduct analysis and provide statistical analysis with trends on community service level indicators. A final element is showing the community what was achieved with budgeted funds to give a clear indication of what the agency implemented or improved over previous years.

***Recommendation 39: Incorporate the use of prevention data and analysis into department operations and planning activities.***

***Recommendation 40: Publish an annual department report containing an overview of major events, significant changes, and analysis of performance trends.***

# 7. CURRENT DEPLOYMENT STRATEGIES AND PERFORMANCE

## 1. Distribution Analysis

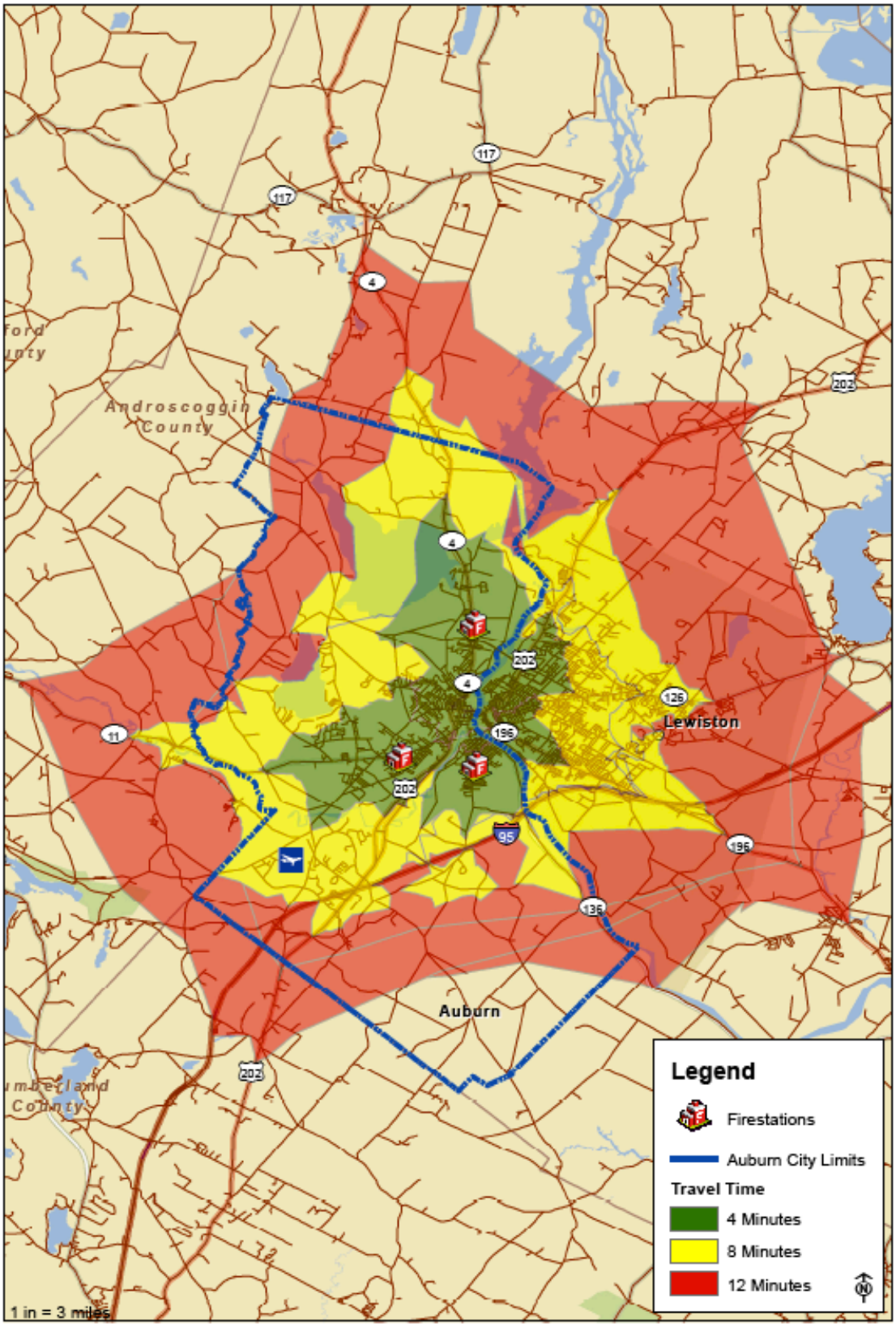
The Auburn Fire Department operates from three fire stations located within the city limits of Auburn. These stations are responsible for providing emergency response in a 65.8 square mile area. The current stations are located in the most populous portions of the City. The north and south portions of the City are more rural and pose significantly less fire threat than the central portion of Auburn.

The Comprehensive plan for the City shows a desire for growth further south in Auburn, near the existing municipal airport. This plan still leaves much of the northern and southern portions of Auburn in their current rural setting.

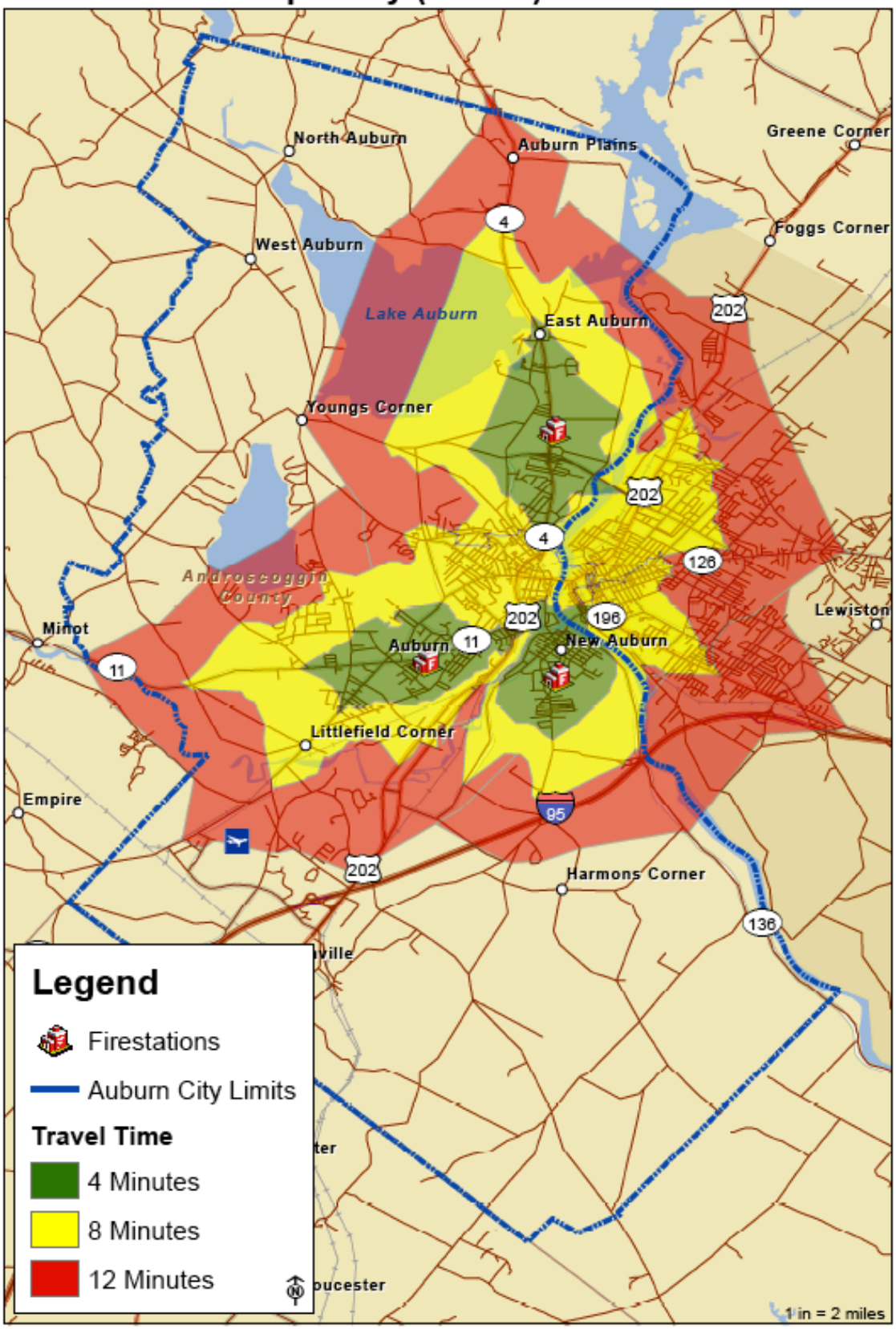
The following maps demonstrate the travel time capability for emergency apparatus when it leaves the fire station using the current station locations. The first map shows projected travel times in summer and times when road conditions are good. The second map shows projected travel times after a snowfall when roads have not been plowed.

As shown, the current station locations allow the most populous portions of Auburn to reached in four-minutes of travel time and the majority of the City to be reached within 12 minutes travel time.

## Travel Time Capability (Summer) - Fire Service Area

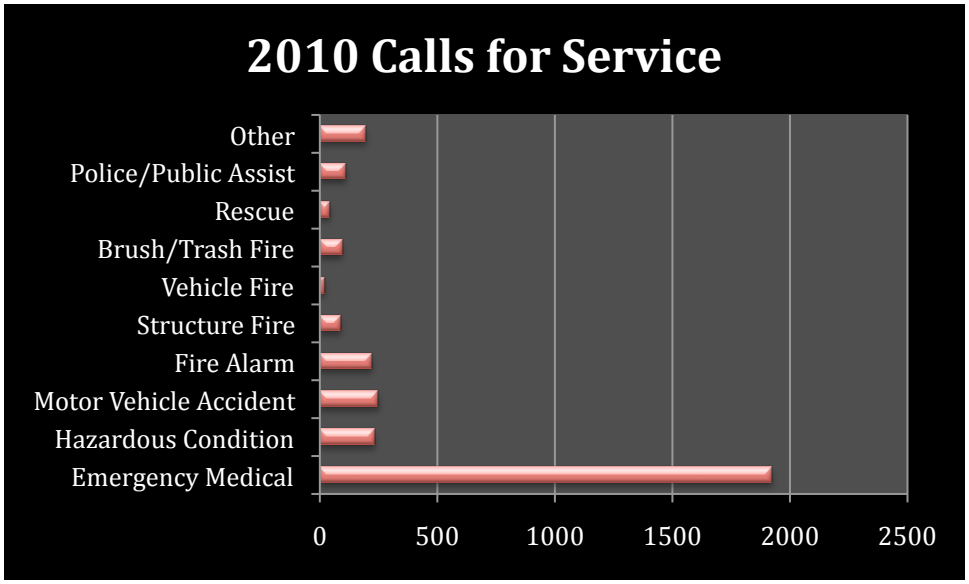


## Travel Time Capability (Winter) - Fire Service Area

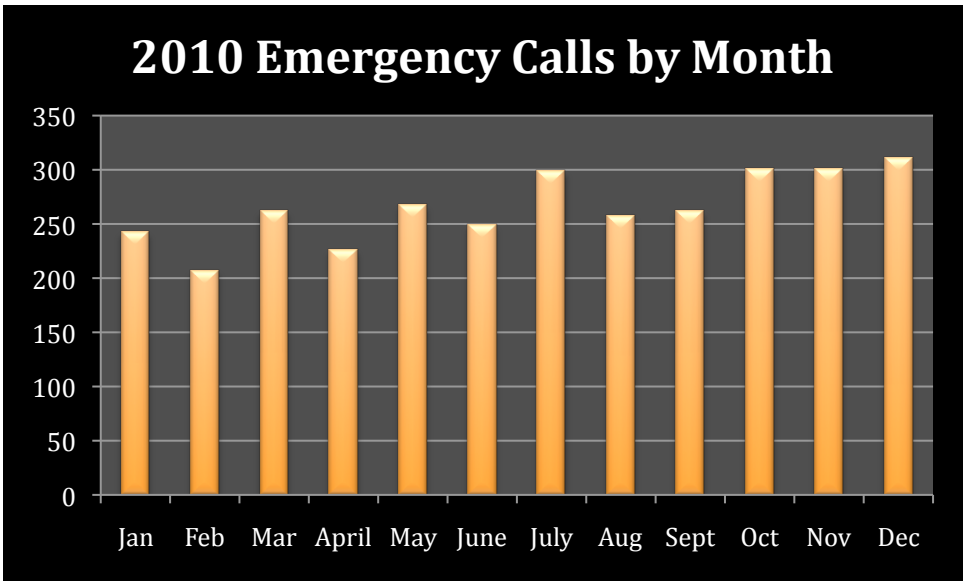


## 2. DEMAND ANALYSIS

Call for service data was provided for the 2010. The following chart details the volume of calls for that period.




A review of incidents by month will indicate if there are seasonal demands, which cause an increase in emergency service delivery.




The review of calls by month indicated that call volume for the fire department is relatively stable throughout the year with increases in call volume experienced in July,

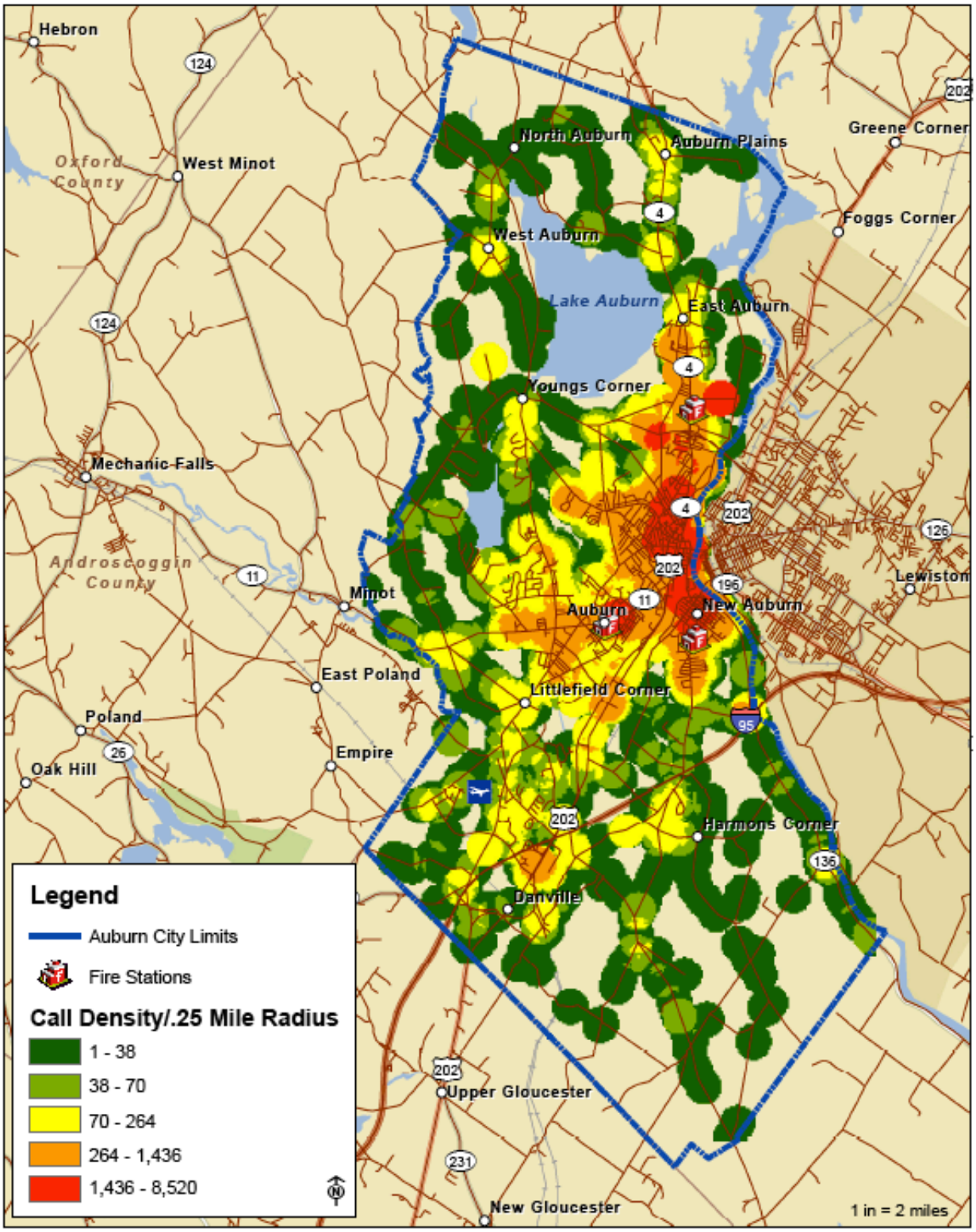
October, November and December. February is the slowest month in terms of call volume for the fire department.

As you will recall from an earlier section the calls for service demand also varied by day of week with slightly higher call volume on Monday and Tuesday. When calls for service by hour of the day were reviewed, it showed a gradual increase in call volume beginning at 10:00 a.m. and a decrease beginning at 9:00 p.m.

A review of the geographic location of calls will allow the assessment of current station locations as compared to the call demand for fire services. This will also allow a graphic representation of areas, which may not be adequately covered by the three stations.

The following map indicates the distribution of incidents responded to by AFD using 2008 - 2010 call for service data.

## 2008 - 2010 Service Demand Density - Fire Calls

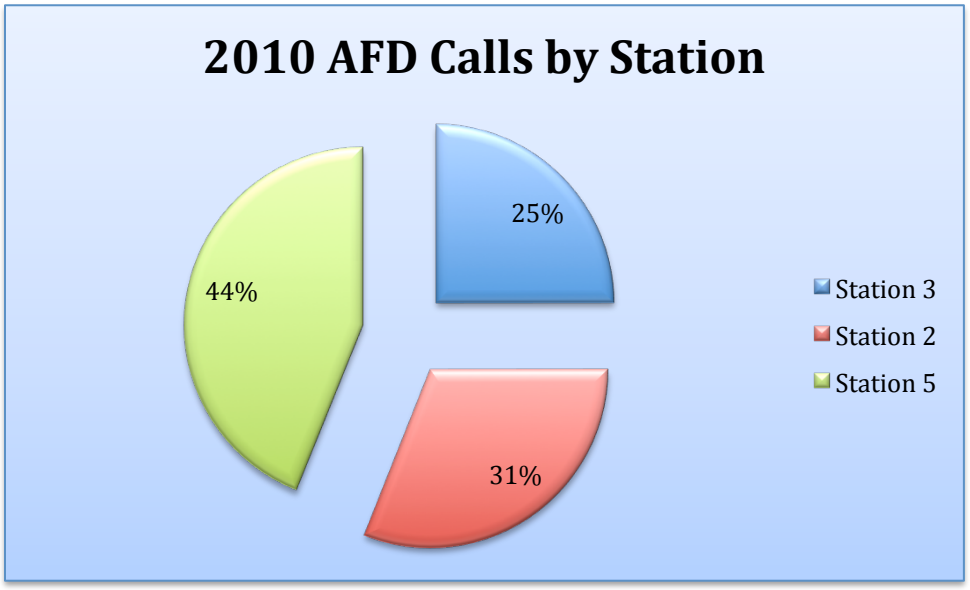


The map shows the highest volume for fire service calls exists in the center of the City with one additional pocket of higher call activity just south of the municipal airport. As expected, the rural areas of the City experience much lower calls volumes ranging from 0 – 38 in the three year period.

## 3. WORKLOAD AND FAILURE RATES

The workload of emergency response units can be a factor in response time performance. If a station is committed to a call, it is not available for emergency response and another station would be required to respond out of district to handle the emergency.

The following chart shows the number of incidents responded to in 2010 by each station. As shown, Station 5 responds to 44% of emergency calls as the primary unit, while Station 2 responds to 31% and Station 3 25%. This makes sense as Station 5 houses both an Engine and Ladder Company and the other stations are single unit stations.



Another method to review resource workload and availability is to examine concurrent calls for service. This is when more than one emergency call occurs at the same time. This is important since there are limited resources available to respond to calls, available resources are quickly stretched thin and response time extend as mutual aid units must be called or the calls hold until apparatus can clear from the current emergency call.

The following chart examined calls between in 2010 to see how often multiple calls were received during the same time periods.

| Level | Number of Calls | Percentage |
|---|---|---|
| Single | 2513 | 78.95% |
| 2 | 571 | 17.93% |
| 3 | 76 | 2.38% |
| 4 | 14 | 0.43% |
| 5+ | 9 | 0.28% |

The majority of fire calls in Auburn happen singularly. Many of the multiple response calls involved medical calls, which only require a single unit response. As the City continues to grow it is important to measure the call concurrency issue. This is especially true if multiple fire calls are received concurrently as they require multiple unit response, which stretch resources to capacity and extend response times.

***Recommendation 41: Develop response plans that provide for emergency response coverage of concurrent calls.***

Another indicator of availability is scene time for emergency crews. It is important to note that the dispatch center does not close the call until the unit returns to the station. This fact makes scene times misleading as if the engine or ladder company conduct other business while returning to the station it will be reflected as part of the

scene time. As a first responder for EMS calls Auburn should have relatively short scene times. The agency should work with the dispatch center to implement a practice of closing calls when the unit clears the call and is available to respond to another emergency.

***Recommendation 42: Work with Auburn-Lewiston 9-1-1 to begin closing calls when the unit clears the scene and is available to respond to additional calls.***

## 4. RESPONSE TIME STANDARDS

The primary goal of an emergency service delivery system should be to provide sufficient resources to the scene of an emergency in time to take effective action to mitigate the impacts of the situation. Rapid response is required for fires, medical calls and many other emergency situations.

When calculating response times there are three components, which should be recorded:

1. **Call Processing** – The time from call receipt to dispatch of emergency personnel.
2. **Turnout** – The time from dispatch of the call to units responding to the call.
3. **Travel Time** – The time from initial response to arrival at the emergency.

The goal (benchmark) for call processing should be 90% of priority one calls in 60 seconds with 90% of calls processed in 90 seconds the baseline acceptable performance standard. The goal (benchmark) for turnout should be 90% of calls responded to within 60 seconds with 90% responded to in 90 seconds the minimal (baseline) performance standard. The goal for travel time will be dependent on the type of area being served and will be discussed later in the report. This is important as the

two components of response time that are controllable are dispatch and turnout times. Travel time will be dictated by distance, weather and road conditions.

Tracking call processing and turnout time performance is problematic in Auburn as the dispatch center currently only reports time in whole minutes. This does not allow an accurate evaluation of performance for any of the response elements as a call showing received at 06:00 may have been received anytime from 06:00:00 to 06:00:59 and dispatch time showing 06:01 could actually be 06:01:00 to 06:01:59 meaning the call could have been processed in as little as 1 second or as long as 1 minute 59 seconds. The same holds true for turnout time. As shown in the earlier map, Auburn should expect good travel times in the urban portions of the city. The dispatch center also has no established performance targets for timely dispatching of high priority calls.

***Recommendation 43: Work with Auburn-Lewiston 9-1-1 to begin reporting call data in hh:mm:ss.***

***Recommendation 44: Work with Auburn-Lewiston 9-1-1 to establish and report performance standards related to the call processing of high priority calls.***

***Recommendation 45: Establish performance standards related to turnout times of fire personnel on high priority calls and report performance.***

## 5. EMERGENCY CALL DYNAMICS

The development of fires in buildings occurs in a predictable fashion. Ignition of the fire begins this sequence of events. It can take from several minutes to hours from the time of ignition until flames are visible. The smoldering stage of a fire is often one of the most dangerous as large amounts of toxic smoke can be generated.

Once flames are present the sequence continues to evolve rapidly. Flammable gases accumulate at the ceiling as combustible materials near the flame heat and ignite. Soon the gases at the ceiling reach ignition temperature and cause an event

known as flashover. Once flashover occurs, the damage caused by the fire is significant and the environment within the room becomes incompatible with human life.

Flashover can occur as soon as five to eight minutes after the appearance of flames in a typically furnished and ventilated building. This is the reason that many fire departments have a stated goal of applying water to structure fires before the fire reaches the flashover state.

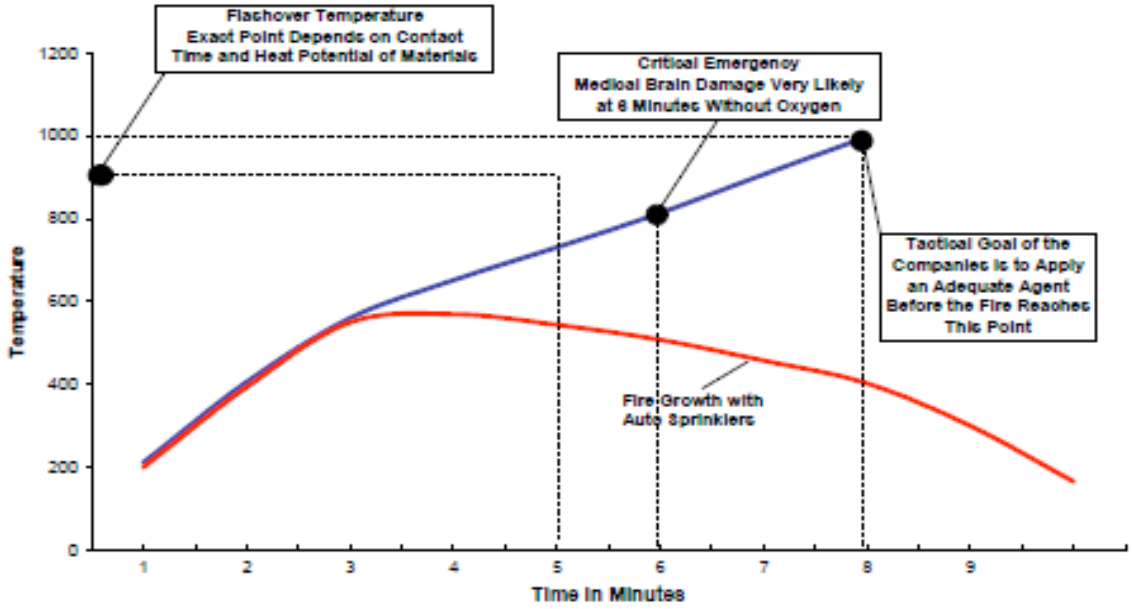
The longer the fire burns the more damage is done to the structural components of a building. Lightweight trusses and smaller wood framing is less resistive to fire than building with heavy timber construction. The weakening of the structure creates a dangerous environment for firefighters to operate.

Building contents are also made of materials, which generate a great deal of heat. The widespread use of plastics in furnishings and other building components rapidly accelerates the fire spread and increases the amount of water required to extinguish the blaze. All these factors make early application of water essential for a successful outcome.

In terms of medical events, cardiac arrest is the most significant life threat. A victim suffering from cardiac arrest has only minutes to receive definitive care if there is to be a successful resuscitation.

The chances to recover from cardiac arrest drop quickly as time progresses. This explains why the stages of medical response mirror the components described for an effective fire response. Rapid defibrillation and administration of medication has shown to improve the opportunity for successful resuscitation and ultimate survival from cardiac arrest.

The following chart illustrates the time sequences for fire and medical calls.




## 6. NFPA STANDARDS

The National Fire Protection Association has developed response time standards for fire departments staffed by career firefighters. It is important to note that NFPA standards are not legal mandates, but rather something to benchmark the performance of a fire department against to measure performance.

NFPA 1710 contains time performance standards for structural fire response as well as medical response.

It is recommended that the first company arrive at the scene of a structure fire within five minutes of being dispatched 90% of the time. The use of the 90$^{th}$ percentile allows the majority of incidents to be evaluated as compared to “average” performance. This standard allows unusually long response times to be removed from the equation, as they are not typical of agency performance. It also provides the community with a

real expectation of how long emergency response will take after they initiate a 9-1-1 call.

The standard also establishes a "company" as consisting of four personnel. This does not mean that four people must staff engine companies, but that true response time is not counted until four people have reached the scene to function as a single unit. For example, in Auburn if the Battalion Chief responds to all structure fires and the engine is staffed with three personnel, when all four members are on scene the response time would be measured.

NFPA 1710 describes the following performance as meeting the structure fire response criteria:

- Turnout time within one minute, 90 percent of the time.
- Arrival of the first "company" within five minutes of dispatch 90 percent of the time, or
- Arrival of the entire initial response assignment (all units assigned to the call) within nine minutes of dispatch, 90 percent of the time.

NFPA 1710 also has three time standards within the Standard for emergency medical response:

- Turnout time within one minute, 90 percent of the time.
- Arrival of a unit with first responder or higher capability within five minutes of dispatch, 90 percent of the time.
- Arrival of an advanced life support unit, where this service is provided by the fire department, within nine minutes of dispatch, 90 percent of the time.

The Commission on Fire Accreditation International understands the cost implications for most communities to fully comply with the above standards. For community with urban, suburban and rural areas like Auburn, accreditation standards allow for a longer response time. This nationally recognized "best practice" standard is

a great place to start as communities are looking to improve the performance of their fire department [(6)].

The benchmark performance standard (one that municipalities should strive to achieve) for fire calls in urban areas is as follows:

- Dispatch of units (call processing) within 60 seconds of call, 90% of the time.
- Turnout time within 80 seconds of dispatch, 90% of the time.
- Arrival of the first unit within 4 minutes of turnout and the second unit within 8 minutes, 90% of the time.

The baseline performance standard (acceptable performance to be a credible agency) for fire calls in urban areas is as follows:

- Dispatch of units (call processing) within 90 seconds of call, 90% of the time.
- Turnout time within 90 seconds of dispatch, 90% of the time.
- Arrival of the first unit within 5 minutes/12 seconds (travel time) and the second unit 10 minutes/24 seconds, 90% of the time.

For EMS calls the performance standards are the same with the exception of a 60 second turnout time expectation for benchmark performance.

In areas of Auburn classified as suburban the benchmark is for arrival of the first unit within 5 minutes of turnout and the second unit within 8 minutes of turnout. The baseline performance in suburban settings is 6 minutes 30 seconds and 10 minutes 24 seconds respectfully.

In the areas of Auburn classified as rural the benchmark is for the first unit to arrive in 10 minutes 90% of the time and the second unit in 14 minutes 90% of the time after turnout. The baseline performance expectations are measured at the 70% for rural areas and are 13 minutes and 18 minutes 12 seconds respectfully.

## 7. HISTORICAL RESPONSE TIME PERFORMANCE

The adoption of the baseline performance expectations would require that Auburn Fire Department respond to 90% of fire and EMS calls within 8 minutes/12 seconds, total response time in the areas classified as Urban.

As stated earlier in the report, times are currently only recorded in whole minutes and show the following performance for 2010:

| Call Processing | Turnout | Travel | Total |
|---|---|---|---|
| 3:00 | 3:00 | 7:00 | 13:00 |

This data does show the need for improvement in call processing and turnout times as even with the reporting of times by the dispatch center we would expect call processing and turnout times to be 2 minutes or less. Travel time reflects the overall travel time for all areas of Auburn and appears to be inline with travel expectations. Also, since this information reflects all types as there are no priorities of call-type in the data, there are more calls than should be counted.

An agency must separate non-emergency calls from true emergency calls to determine how well they are performing. Auburn Fire Department currently treats all calls in a single priority. It is recommended that the agency determine which calls are a true priority and require code response and which calls are not a priority and can be responded to with normal driving conditions and obeying all traffic laws. It is well established that most fire alarm calls are false and therefore the risks to emergency response to firefighters and the public does not warrant the use of lights and sirens for these types of calls.

***Recommendation 46: Develop deployment strategies to achieve the desired level of service for each of the unique service areas in Auburn.***

***Recommendation 47: Develop a system to accurately capture the time elements of emergency response and publicly report your performance.***

# SECTION II:  SYSTEM DEMAND PROJECTIONS

# 1. SYSTEM DEMAND PROJECTIONS

## 1. CURRENT POPULATION INFORMATION

According to the U.S. Census Bureau, the population of Auburn was 23,055 in 2010. This is a slight decrease from the 2000 Census, which recorded the population as 23,203 and a further decline from 1990 when the population was of 24,039.

Auburn also enjoys a relatively young population with a median age of 38 years old. The two smallest population segments are those under 18 - 24 years of age and those over 65. A lower percentage of citizens over 65 is positive from a fire and EMS perspective as they are the highest users of EMS service and one of the population groups with the highest historical risk for fire fatalities.

## 2. POPULATION GROWTH PROJECTIONS

According the City of Auburn, 2010 Comprehensive Plan, the City desires to increase Auburn's population an maintain community diversity by providing a variety of reliable and cost-effective services and facilities. This goal would reverse the trend of the declining population that Auburn has experienced the over the previous 20 years.

## 3. COMMUNITY RISK ANALYSIS

The assessment of the relative risk of properties is based on a number of factors. Properties with high fire and life safety risks require a greater number of personnel and apparatus to respond to effectively mitigate the emergency. Staffing and deployment decisions should be made with great consideration of the level of risk within different geographic sub-areas of the City.

A community risk assessment is developed based on land use within the community. These land uses are typically found in the City planning department and have specific zoning designations. Risk can then be translated to the land use maps based on the planned uses of land.

**Low Risk =** Areas zoned and used for agricultural purposes, open spaces, low- density residential developments, and other low intensity uses.

**Moderate Risk =** Areas zoned for medium-density single family properties, small commercial and office uses, low-intensity retail sales, and equivalently sized business activities.

**High Risk =** Higher intensity business districts, mixed use areas, high-density residential, industrial, warehouses, and large mercantile centers.

The current land-use map for the City of Auburn indicates that the majority of land is reserved for agricultural/rural uses and low and medium-density residential. There is also a large section of industrial use planned in the central and western portions of the city. The current center of the City poses a higher fire risk with much of the commercial development occupying in this area. The industrial area of the City may pose the highest fire risk depending on how the industrial uses develop and the types of fire prevention systems required as development occurs. The fire department must take an active role in this area as it develops to ensure fire and life safety concerns are addressed.

The following maps show the future land use designation and growth areas for the City of Auburn as outlined in the 2010 Comprehensive Plan.

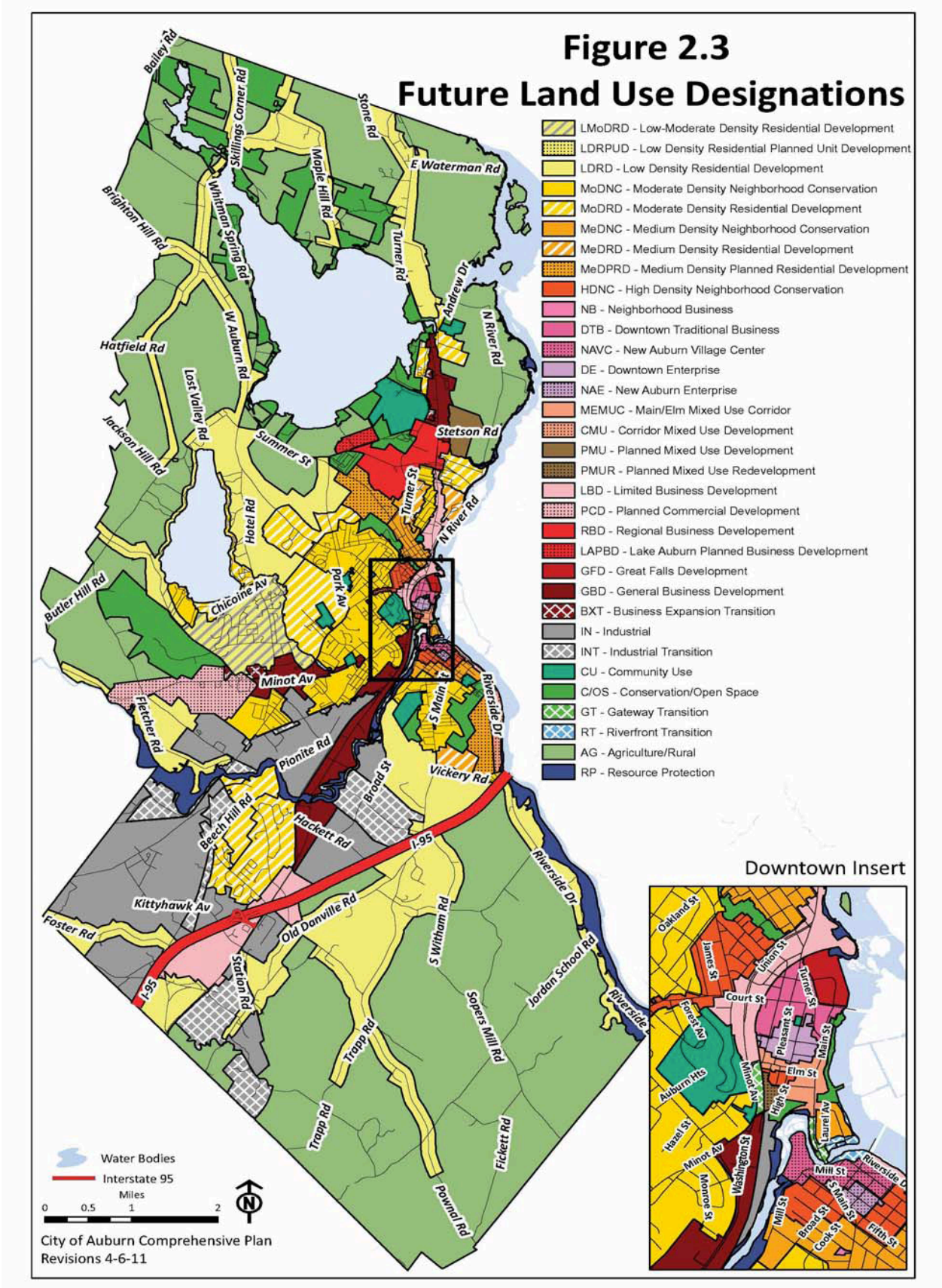


Figure 2.3
Future Land Use Designations
LMoDRD - Low-Moderate Density Residential Development
LDRPUD - Low Density Residential Planned Unit Development
LDRD - Low Density Residential Development
MoDNC - Moderate Density Neighborhood Conservation
MoDRD - Moderate Density Residential Development
MeDNC - Medium Density Neighborhood Conservation
MeDRD - Medium Density Residential Development
MeDPRD - Medium Density Planned Residential Development
HDNC - High Density Neighborhood Conservation
NB - Neighborhood Business
DTB - Downtown Traditional Business
NAVC - New Auburn Village Center
DE - Downtown Enterprise
NAE - New Auburn Enterprise
MEMUC - Main/Elm Mixed Use Corridor
CMU - Corridor Mixed Use Development
PMU - Planned Mixed Use Development
PMUR - Planned Mixed Use Redevelopment
LBD - Limited Business Development
PCD - Planned Commercial Development
RBD - Regional Business Developement
LAPBD - Lake Auburn Planned Business Development
GFD - Great Falls Development
GBD - General Business Development
BXT - Business Expansion Transition
IN - Industrial
INT - Industrial Transition
CU - Community Use
C/OS - Conservation/Open Space
GT - Gateway Transition
RT - Riverfront Transition
AG - Agriculture/Rural
RP - Resource Protection
Downtown Insert
Water Bodies
Interstate 95
Miles
0 0.5 1 2
City of Auburn Comprehensive Plan
Revisions 4-6-11

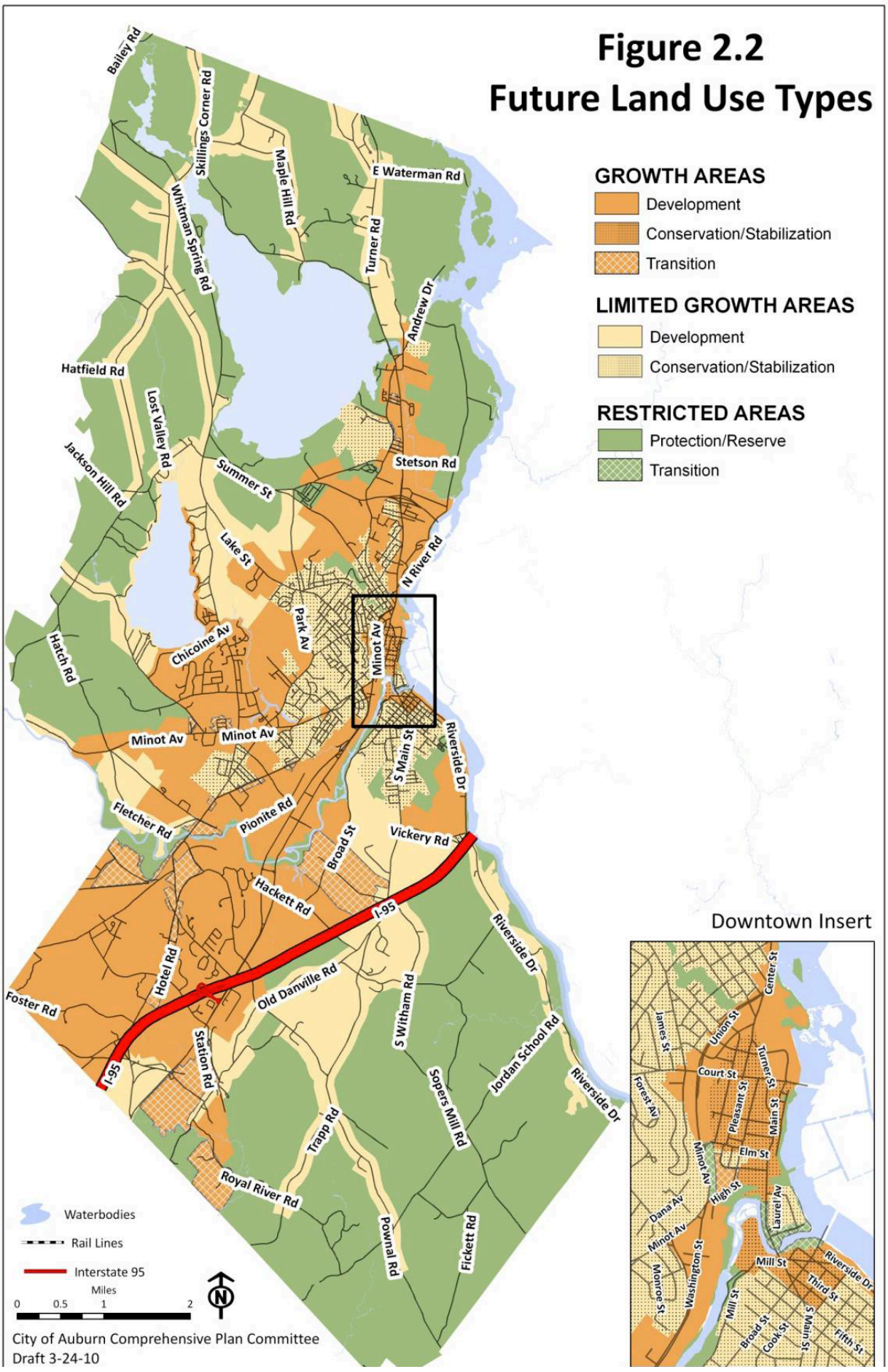


Figure 2.2
Future Land Use Types
GROWTH AREAS
Development
Conservation/Stabilization
Transition
LIMITED GROWTH AREAS
Development
Conservation/Stabilization
RESTRICTED AREAS
Protection/Reserve
Transition
Bailey Rd
Skillings Corner Rd
Maple Hill Rd
E Waterman Rd
Whitman Spring Rd
Turner Rd
Andrew Dr
Hatfield Rd
Lost Valley Rd
Jackson Hill Rd
Summer St
Stetson Rd
Lake St
N River Rd
Park Av
Chicoine Av
Hatch Rd
Minot Av
Minot Av
Minot Av
S Main St
Riverside Dr
Fletcher Rd
Pionite Rd
Broad St
Vickery Rd
Hackett Rd
I-95
Riverside Dr
Hotel Rd
Old Danville Rd
S Witham Rd
Foster Rd
Station Rd
Jordan School Rd
Riverside Dr
Sopers Mill Rd
Trapp Rd
Royal River Rd
Pownal Rd
Fickett Rd
Waterbodies
Rail Lines
Interstate 95
Miles
0 0.5 1 2
N
City of Auburn Comprehensive Plan Committee
Draft 3-24-10
Downtown Insert
James St
Union St
Center St
Court St
Turner St
Forest Av
Pleasant St
Main St
Elm St
Minot Av
High St
Dana Av
Minot Av
Laurel Av
Washington St
Monroe St
Mill St
Riverside Dr
Third St
Mill St
Broad St
Cook St
S Main St
Fifth St

## 4. SERVICE DEMAND PROJECTIONS

The prediction of increases in service demand projections is difficult to determine as great variations can occur depending on the type of occupancies constructed in the City. It is a fair estimation that the area of Auburn that will experience the highest increase in service demands is the area along I-95 as growth continues to move in toward that area of the City.

# SECTION III: FUTURE SERVICE DELIVERY MODELS

# 1. FUTURE DEPLOYMENT RECOMMENDATIONS

The City of Auburn continues to project that the majority of growth will occur in the western portions of the community. This portion of the Master Plan is intended to provide strategic direction toward meeting the emergency service needs of the community as this growth occurs.

# 2. STANDARDS OF RESPONSE COVERAGE

## 1. FIRE STATION LOCATIONS

The use of geographic information systems (GIS) allows for scientific modeling of response times using the existing road network in a community. This process allows the evaluation of current deployment and future strategies with accuracy and detail. All scenarios use the existing stations and then add one additional station to the equation to determine which location should be constructed first according to current demand loads. For the purposes of creating the response time, we utilized a four-minute and five-minute/twelve second aggregate to allow AFD to evaluate their ability to meet best practices benchmark and baseline performance standards with the current and future station locations.

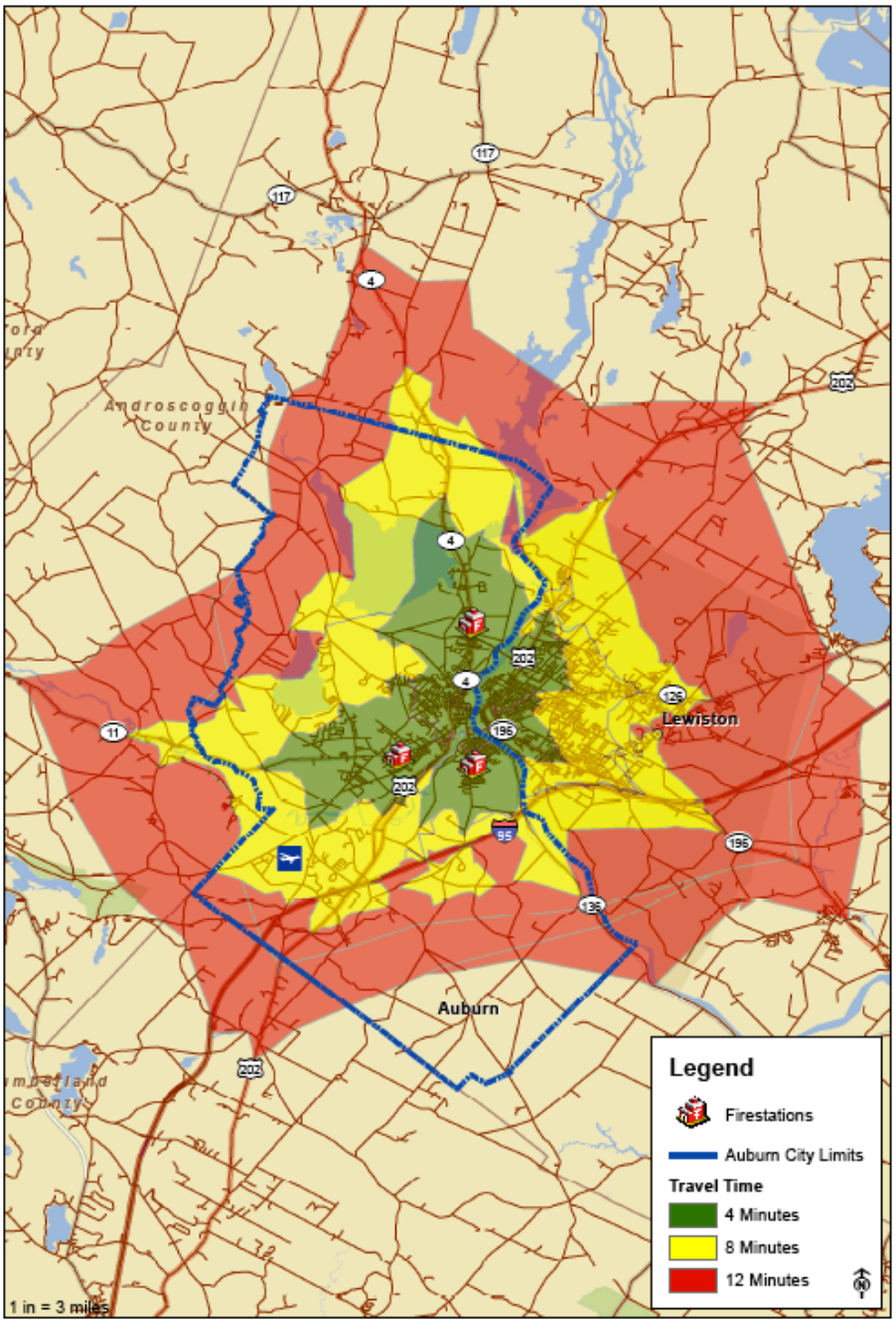
Staffing the stations can be achieved in several ways: fully paid, partial paid supplemented by on-call personnel, or partially paid supplemented by on-duty volunteer personnel. It is critical that whichever staffing pattern is chosen by the City of Auburn, a full crew should be available to respond at all times regardless of the method of compensation. Waiting on volunteers to respond and support paid staff will only delay the execution of critical tasks discussed earlier.

The major issue facing Auburn is the lack of immediately available mutual aid from neighboring jurisdictions outside of that it can expect from Lewiston.

## 2. PROJECTED PERFORMANCE

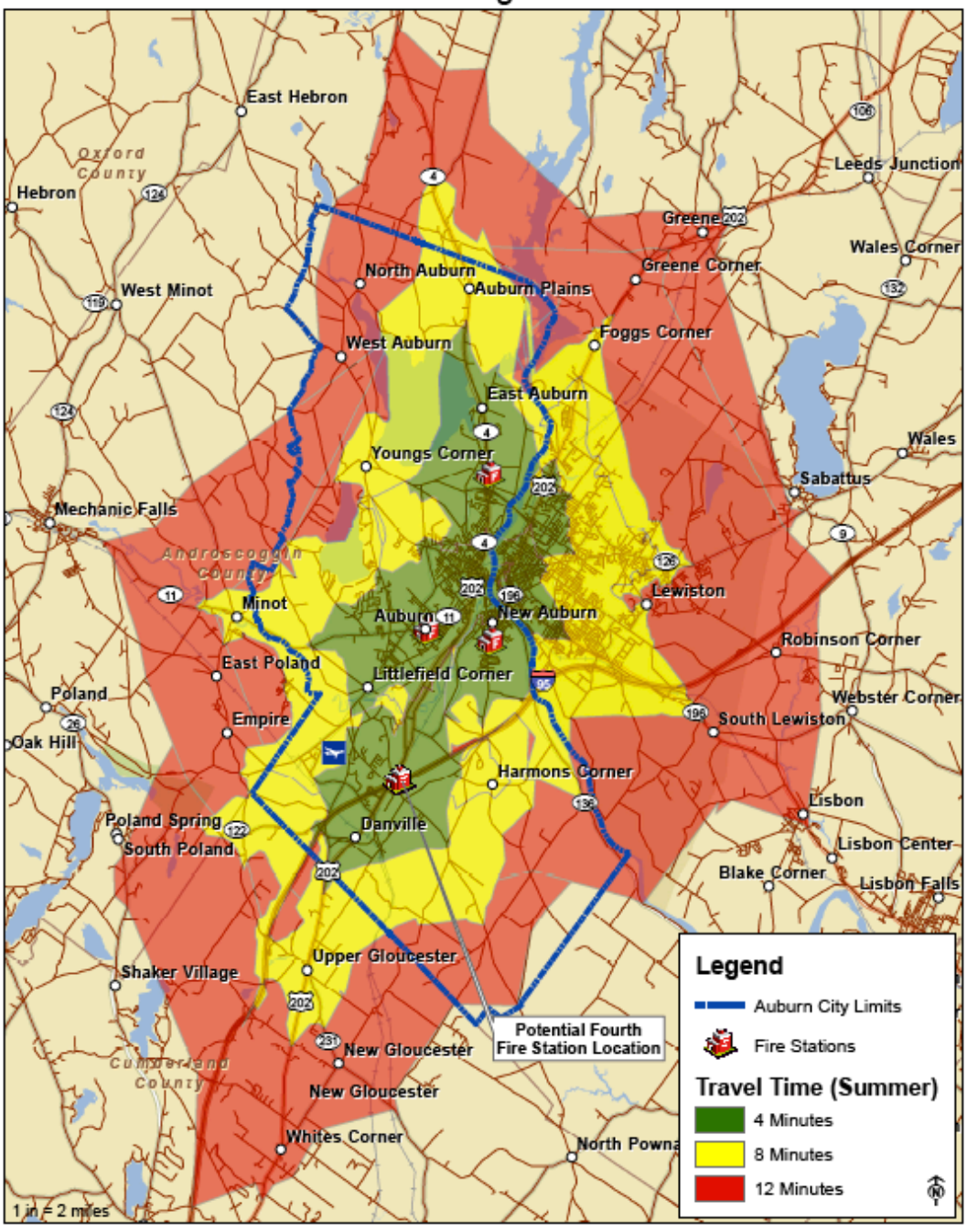
The following maps illustrate the coverage expected from 4 minutes to twelve minutes travel time given the current station locations. As shown a gap exists in the most southern portions of the community for even a 12-minute travel time.

Travel Time Capability (Summer) - Fire Service Area



The following map shows the projected travel times with the construction of a fourth fire station in the industrial growth area shown in the Comprehensive Plan. As shown the addition of a fourth station provides excellent coverage to projected growth areas of the City.

Increased Service Area Coverage - Addition of Fourth Station

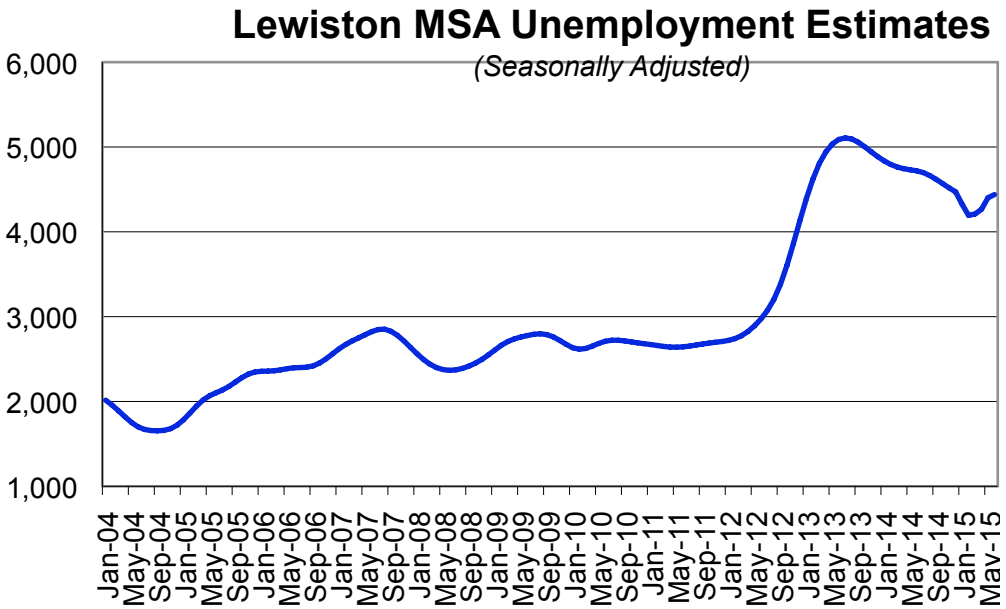


# 3. SYSTEM EXPANSION COSTS

## 1. ECONOMIC FACTORS

Many factors impact the various revenue sources, which fund the operations of the City of Auburn. The declining economy and ultimately declining income of the City leave fewer dollars available for expenditures. The City has worked to continue to provide critical services on a relatively flat tax-base. Declining property values have also resulted in a negative impact on property taxes. Unemployment and consumer uncertainty cause less spending and ultimately less sales tax revenue for the City.

Unemployment is one gauge of economic health for a community, with statistics available for metropolitan areas. The following figure is a historical review of annual average unemployment for the Lewiston Metropolitan Statistical Area (MSA) [(10)] from January 2000 – May 2011.



Unemployment rose steadily in the MSA since January 2000 with a high reached in May 2009. The most current monthly figures show a slight decline from the high in 2009.

# 4. RECOMMENDED LONG TERM STRATEGY

This chapter focuses on the long-term strategy related to the fire station locations and how Auburn officials can determine timing for adding additional stations if warranted. It is important to note that while the current locations of fire stations are meeting the needs of the community, the City should incorporate planning for required renovations to these facilities as they continue to age.

## 1. FIRE STATION LOCATIONS

The preferred method used today for determining fire station locations is through geographical information systems (GIS). This method can take into account road networks, impedance factors, turn impedance, and elevation impedance.

For many years the basic criterion for station placement was road mileage only. The standard came from the ISO based on 1.5-mile station separation. The thought was that a fire apparatus could respond on 1.5 miles of roadway within five minutes of an emergency call.

The concept of using actual travel time more accurately represents the level of service for an all-risk approach. This method is performance-based and when performance lags steps can be taken to correct the issue.

One point that needs to be re-stated is that response time criteria should only be applied to calls that are high priority emergency calls. When incidents are analyzed, the data should be reviewed to ensure that nonemergency calls are not used when calculating performance. Non-life threatening calls, which are routinely handled by AFD,

should not be included in this analysis. To include these times in the analysis will skew the outcome, leading to false service indicators.

## 2. IMPROVING CALL PROCESSING AND TURNOUT TIMES

Improving the current call processing and turnout times will positively affect response times without the need to construct additional facilities. Options for improving call-processing time include:

- Update existing guidelines for call taking.
- Review current standards for dispatch processing time.
- Require a performance level of dispatchers.
- Recommend a standard call processing time of; less than 60 seconds, 90% of the time for high priority calls.
- Benchmark and monitor call processing time.
- Recommend a standard turnout time of; less than 60 seconds, 90% of the time for high priority calls.
- Benchmark and monitor turnout time

## 3. DETERMINING WHEN A STATION IS NEEDED

A question that must be addressed by the City of Auburn is when is the right time to construct the 4$^{th}$ station. How will officials know if a 5$^{th}$ station is eventually needed in the community? A quantifiable threshold must be developed to determine the point at which a station is needed. Ultimately the final answer will be made with a combination of financial measures and professional judgment from the leaders in the City.

The Commission on Fire Accreditation International (CFAI) has developed a Trigger Mechanism Decision Matrix to provide options available when faced with various factors [(9)]. The system approach would suggest a tiered application of solution based on thresholds. In this system, first actions are to be analyzed when the performance indicators are within ten percent of the threshold values. At the point the threshold values are met, additional actions are indicated, and if the threshold are exceed, new resources may need to be employed within the first due area to increase performance.

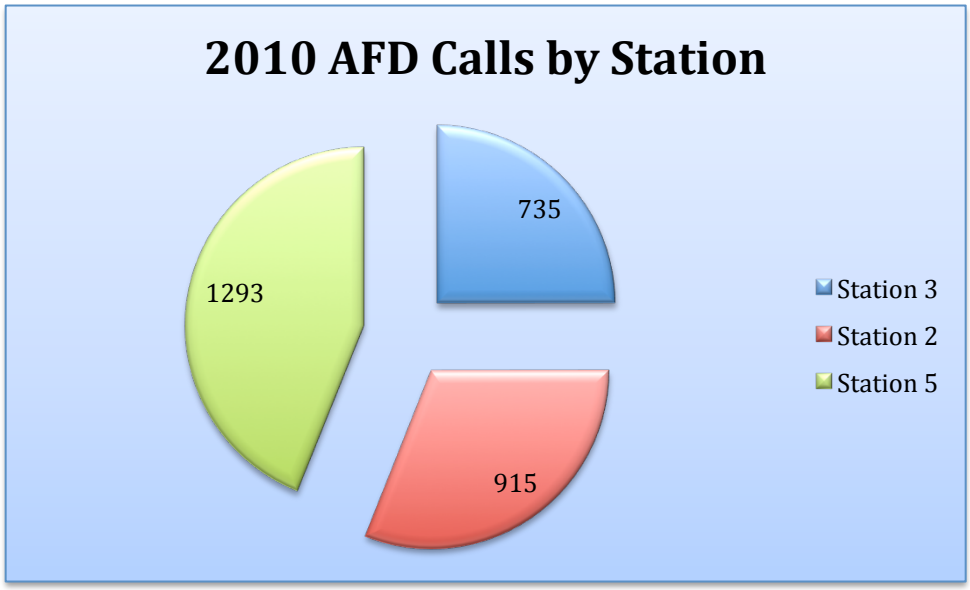
The Trigger Mechanism Decision Matrix is found on the following page:

| THRESHOLD | POSSIBLE SOLUTIONS |
|---|---|
| Units within 90% of Threshold values:<br>Unit/Station call loading<br>• Above 3,150 calls per year – single unit<br>• Above 7,900 calls per year – two units<br>• Above 12,600 calls per year – three units<br>First due unit availability less than 82%<br>First due reliability under 82%<br>Performance gap rate of 1 - 2% | • Change cover status/dynamic deployment<br>• Decrease first-due area<br>• Redeploy adjacent resources<br>• Reconfigure station resources<br>• Eliminate planned out of service time |
| Units at Threshold Values:<br>Unit/Station call loading<br>• 3,500 calls per year – single unit<br>• 8,760 calls per year – two units<br>• 14,000 calls per year – three units<br>Unit availability under 80%<br>First due reliability under 80%<br>Performance gap rate of 3 – 5% | • Increase capacity of adjacent units<br>• Increase/decrease mutual aid<br>• Implement peak staffed units<br>• Redeploy resources to problem areas<br>• Relocate existing fire stations |
| Units over 110% of Threshold Values:<br>Unit/Station call loading<br>• Above 3,850 calls per year – single unit<br>• Above 9,650 calls per year – two units<br>• Above 15,400 calls per year – three units<br>Unit availability under 78%<br>First due reliability under 78%<br>First due availability under 78%<br>Performance gap rate over 5% | • Add new resources to station<br>• Add new resources to adjacent stations<br>• Add new station(s) |

According to CFAI, trigger mechanism, when developed and employed with good science and data, can be a very valuable tool in compliance methodology [(9)].

The following chart shows the current annual responses from each station. As shown there are no stations meeting the number of calls and reliability is still strong, but AFD should closely monitor response times to determine when calls are occurring outside the current effective response area. It is important to note that these calls only

reflect the primary station responding as the dispatch center does not indicate all responding units to a call in their CAD data.




Below is a table to quantify the trigger points for opening a new fire station in a developing community. This will serve as a good indicator if calls for service increases are experienced as growth occurs in accordance with the Auburn Comprehensive Plan. Given the timeframe required to design and construct a new facility, it is important these decisions are properly anticipated with good planning.

| Action | Travel Distance | Response Time | Percent of Calls | Building/Risk Inventory |
|---|---|---|---|---|
| Maintain Status Quo | All risks within locally adopted distance | First due unit is within locally adopted standards | Enter % of current out of district calls | Enter local building/risk inventory |
| Temporary facilities and minimal staffing | Risks 1.5 to 3.0 miles from existing station | First due unit exceeds 5 minute travel time 10% of the time, but does not exceed 8 minutes | More than 10% of calls are out of district | New area has 25% of the same risk distribution as in initial area of coverage |
| Permanent Station Needed | Risk locations exceeding four miles from the station | First due company exceed 5 minute travel time 20 – 25% of the time. Some calls over 8 minutes | More than 20 – 25% of calls in outlying areas | New area has 35% of same risk distribution as in initial area of coverage |
| Permanent Station Essential | Outlying risk locations exceed five miles from station | First due unit exceeds 5 minute travel time 30% of the time. Some calls over 10 minutes | More than 30% of calls are in outlying area | New area has 50% of same risk distribution as in initial area |

The City of Auburn Fire Department does not currently make use of service delivery zones. These are zones that have different response criteria based on population density, types of property uses, and anticipated levels of risk. If response zones are used they should be reviewed and (if applicable) adopted by the elected officials. This is appropriate since the decision will for the foundation for current and future deployment of emergency services and the resulting of service anticipated by taxpayers. This may be a beneficial strategy as areas annexed in the future may be more rural in nature than the existing City.

## 4. RESPONSE ZONES

CFAI provides clear definitions for what constitutes the three response zones we will discuss [(6)].

Urban Response Zones are areas with higher population density and greater community risk properties, corresponding with higher service demands. An Urban Zone is defined 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. The benchmark and baseline performance standards for an Urban Zone are:

| | 1st Unit | 2nd Unit | 1st Alarm Assignment | Performance |
|---|---|---|---|---|
| Benchmark | 4 minutes | 8 minutes | 8 minutes | 90% |
| Baseline | 5 minutes / 12 seconds | 10 minutes / 24 seconds | 10 minutes / 24 seconds | 90% |

Suburban Response Zones will extend from the urban zones, usually along major arterials, and are generally newly developed areas or have a high growth potential. The response objective of a Suburban Zone is slightly longer than an Urban Zone because of the more moderate call volume and reduced level of community risk. A Suburban Zone is defined as an area having a population of 10,000 – 29,999 and/or a population density of 1,000 to 2,000 people per square mile. The benchmark and baseline performance standards for a Suburban Zone are:

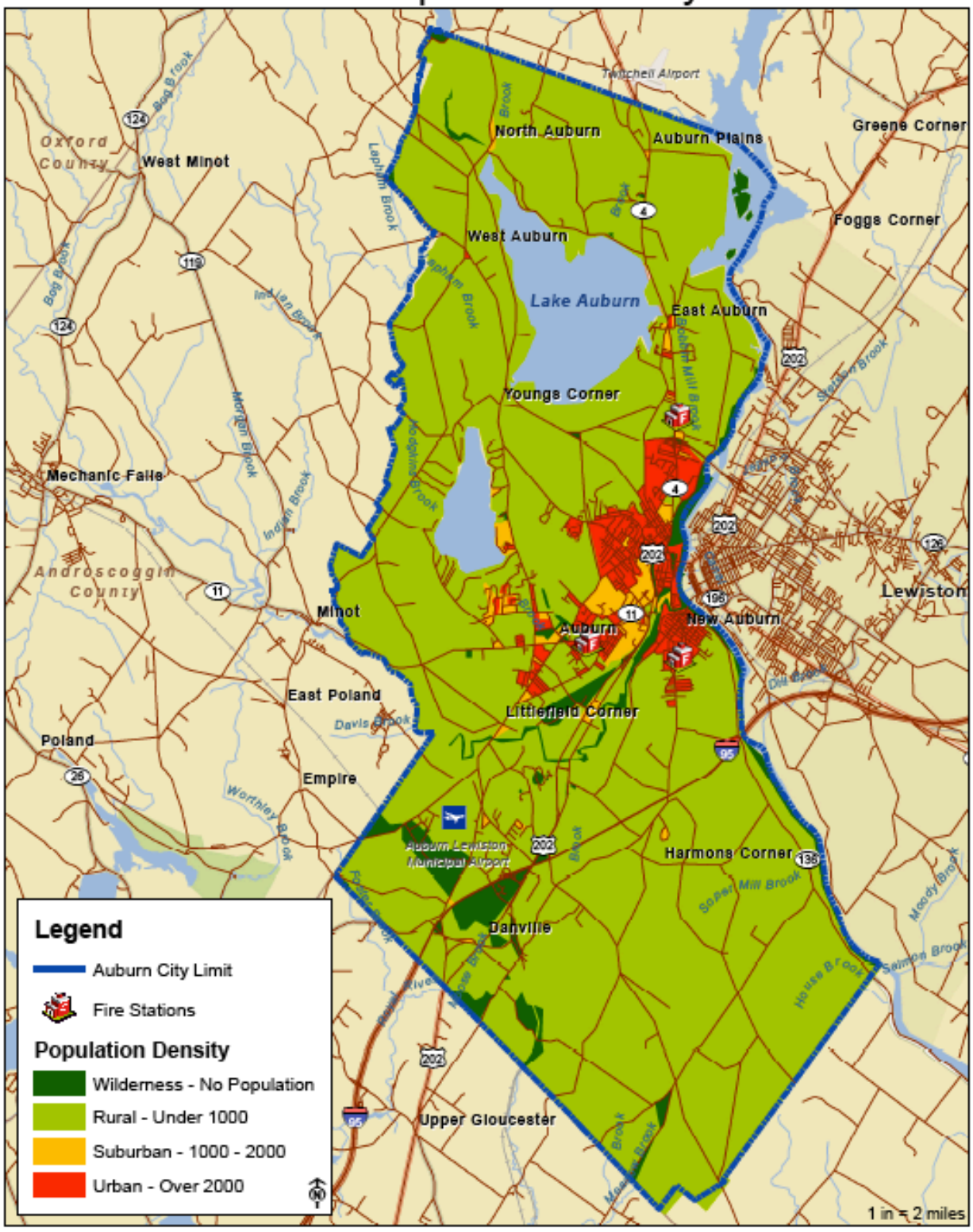
| | 1st Unit | 2nd Unit | 1st Alarm Assignment | Performance |
|---|---|---|---|---|
| Benchmark | 5 minutes | 8 minutes | 10 minutes | 90% |
| Baseline | 6 minutes / 30 seconds | 10 minutes / 24 seconds | 13 minutes | 90% |

Rural Response Zones are areas with low population density and lower community risk properties, corresponding with low service demands. The population of this zone should be forecasted to stay low, like much of the agricultural land surrounding Auburn. Development in the Rural Response Zone should be expected to remain light. The Rural Zone is defined as an area having a population of less than 10,000 people and/or a population density of less than 1,000 people per square mile. The benchmark and baseline performance standards for a Rural Zone are:

| | 1st Unit | 2nd Unit | 1st Alarm Assignment | Performance |
|---|---|---|---|---|
| Benchmark | 10 minutes | 14 minutes | 14 minutes | 90% |
| Baseline | 13 minutes | 18 minutes / 12 seconds | 18 minutes / 12 seconds | 70% |

Shown in the map below are the current population density and recommended response zones for Auburn.

# Area Population Density



***Recommendation 42: Consider adopting modified tiered response time objectives for areas of Auburn not meeting the population density of the Urban Response Zone.***

# APPENDIX A –
# SUMMARY TABLE OF RECOMMENDATIONS

***Recommendation 1: Develop an ISO improvement plan for Auburn Fire Department that focuses on maintaining the strengths of the agency while improving identified deficiencies.***

***Recommendation 2: Develop an annual training plan that includes multi-company and nighttime evolutions with mutual-aid partners.***

***Recommendation 3: Auburn Fire Department should consider seeking accredited status through the Commission on Fire Accreditation International (CFAI).***

***Recommendation 4: Consider adopting the 24/48-shift schedule with Kelly Days.***

***Recommendation 5: Consider eliminating the fourth shift Lieutenant position if 24/48 is adopted or reducing to rank of Firefighter is current schedule remains.***

***Recommendation 6: Consider adding a Deputy Chief of Operations position, which would report the Fire Chief to assume critical duties currently performed by shift supervisors.***

***Recommendation 7: Develop a Vision Statement for the Agency as part of the strategic planning process.***

***Recommendation 8: Conduct a strategic planning process, which involves both internal and external stakeholders.***

***Recommendation 9: Develop a RACI or similar matrix to track responsibility and progress toward the achievement of annual goals and objectives.***

***Recommendation 10: Add a signature box to the header of each policy requiring the Chief's signature and date upon development and revisions to agency policies and procedure.***

***Recommendation 11: Strengthen the website presence of AFD to include regular news and community communication.***

***Recommendation 12: Develop and implement an external communication plan that includes community groups and public surveys.***

***Recommendation 13: Develop a policy to assign responsibility for communication with members of the media during emergency and non-emergency situations.***

***Recommendation 14: Develop a policy to assign responsibility for release of agency information and reports, which specifically states what is allowed to be released and by whom.***

***Recommendation 15: Develop a formal recruitment and selection policy that is in compliance with local, state and federal requirements.***

***Recommendation 16: Develop, validate, and implement a Candidate Physical Ability Test (CPAT) testing process to ensure candidates have the required fitness to engage in firefighting activities.***

***Recommendation 17: Utilize medical physical assessments that follow job related standards such as are found in NFPA 1582.***

***Recommendation 18: Develop a policy to guide and direct the fitness program of the agency (7G5).***

***Recommendation 19: The agency should provide for initial, regular and rehabilitative medical and physical fitness evaluations (7G1).***

***Recommendation 20: Train shift personnel from each shift according to the IAFC/IAFF Peer Fitness Standards to further guide the fitness and wellness program for the agency.***

***Recommendation 21: Administer a stress test at the time of hire and periodically on incumbent employees based on age and risk factors.***

***Recommendation 22: Establish pre-arranged first alarm response plans with the City of Lewiston to respond to critical incidents at initial time of dispatch.***

***Recommendation 23: Establish an automatic first alarm response plan with rural mutual aid partners for any reported working fire.***

***Recommendation 24: Develop a monthly training plan for all staff to ensure they remain proficient in their assigned tasks. Assign the Battalion Chiefs the responsibility for ensuring all training is entered into the training RMS for each of their assigned companies prior to the end of each shift.***

***Recommendation 25: Train all personnel responsible for driving emergency apparatus to the Driver/Operator certification level.***

***Recommendation 26: Ensure all personnel conducting training are certified as instructors (8B1).***

***Recommendation 27: Develop a career development track, which outlines courses required for personnel to assume positions in AFD (8A5).***

***Recommendation 28: Develop performance measures for skills training to ensure personnel can display proficiency with established performance requirements (8B3).***

***Recommendation 29: Develop a process where an annual needs assessment is conducted to determine training needs and Battalion Chiefs are part of the planning process.***

***Recommendation 30: Consider creating a Deputy Chief of Operations position to assume responsibility for training of shift personnel.***

***Recommendation 31: Consider acquiring a fire specific RMS for the storage and tracking of important fire department data.***

***Recommendation 32: Begin tracking annual fire loss per capita and average 5-year trends to ensure your fire prevention efforts remain effective.***

***Recommendation 33: Consider adopting the 2009 International Fire Code, including the provisions for residential fire sprinklers.***

**Recommendation 34: Consider** ***adopting the NFPA recommended inspection frequency standard.***

***Recommendation 35: Formalize and schedule company inspections on a regular basis.***

***Recommendation 36: Develop a risk classification for commercial occupancies and pre-fire plan occupancies based on risk.***

***Recommendation 37: Consider establishing a self-inspection program for small, B-type occupancies.***

***Recommendation 38: Develop a media relations policy to provide guidance on what information is not to be released and how media should be handled on emergency scenes.***

***Recommendation 39: Incorporate the use of prevention data and analysis into department operations and planning activities.***

***Recommendation 40: Publish an annual department report containing an overview of major events, significant changes, and analysis of performance trends.***

***Recommendation 41: Develop response plans that provide for emergency response coverage of concurrent calls.***

***Recommendation 42: Work with Auburn-Lewiston 9-1-1 to begin closing calls when the unit clears the scene and is available to respond to additional calls.***

***Recommendation 43: Work with Auburn-Lewiston 9-1-1 to begin reporting call data in hh:mm:ss.***

***Recommendation 44: Work with Auburn-Lewiston 9-1-1 to establish and report performance standards related to the call processing of high priority calls.***

***Recommendation 45: Establish performance standards related to turnout times of fire personnel on high priority calls and report performance.***

***Recommendation 46: Develop deployment strategies to achieve the desired level of service for each of the unique service areas in Auburn.***

***Recommendation 47: Develop a system to accurately capture the time elements of emergency response and publicly report your performance.***

# APPENDIX B – RESULTS OF THE EMPLOYEE SURVEY

The Matrix Consulting Group developed and distributed a survey in order to provide Fire Department employees with an opportunity to have input into the study. The following draft summary provides information regarding this survey instrument.

## 1. AN ANONYMOUS SURVEY WAS DISTRIBUTED TO ALL AFD EMPLOYEES

An anonymous survey was distributed online to Fire Department employees in order to allow them the opportunity to provide confidential input with regard to service levels, staffing, and operation practices of the Auburn Fire Department. There were a total of 31 responses, out of 58 electronically distributed surveys, equaling a response rate of 53%

Respondents indicated the degree to which they either agreed or disagreed with each statement in the survey, given the following options: “Strongly Agree”, “Agree”, “Disagree”, “Strongly Disagree”, or “No Response”. For discussion purposes in this document, the project team groups the “Strongly Agree” and “Agree” responses into one grouping when reporting employee responses; the same is true for the “Strongly Disagree” and “Disagree” responses.

The sections below summarize the results of the employee survey.

## 2. EMPLOYEES BELIEVE THEY PROVIDE HIGH QUALITY FIRE SERVICES, AS DOES THE AMBULANCE PROVIDER FOR EMERGENCY MEDICAL SERVICES.

Respondents were given a series of statements regarding community service level expectations, response times, and technology-aided services in the field. The survey questions and their responses are summarized in the table, below:

| **1. Our Department meets the community's expectations for fire and services.** | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 25 | 4 | 2 |
| **Percent** | 81% | 13% | 6% |
| **2. The ambulance provider meets the community expectations for EMS delivery.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 21 | 14 | 1 |
| **Percent** | 52% | 45% | 3% |
| **4. We provide a high level of service to the community.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 30 | 1 | 0 |
| **Percent** | 97% | 3% | 0% |
| **14. We have the equipment we need to effectively provide service.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 14 | 14 | 1 |
| **Percent** | 48% | 48% | 3% |
| **16. Overall, we provide good response times to community calls for service.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 30 | 1 | 0 |
| **Percent** | 97% | 3% | 0% |
| **17. We get out of our station quickly in response to emergency calls.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 27 | 4 | 0 |
| **Percent** | 87% | 13% | 0% |
| **18. We have maximized the use of technology in delivering services in the field.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 11 | 19 | 1 |
| **Percent** | 35% | 61% | 3% |
| **19. We have the personal equipment and field apparatus to provide high levels of service.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 11 | 20 | 0 |
| **Percent** | 35% | 65% | 0% |

The following points summarize the statistical information provided in the table, above:

- A significant majority of respondents, 81%, agreed with the statement "Our Department meets the community's expectations for fire services". About 13% disagreed with the statement, while 6% were neutral.

- A slight majority of respondents, 52%, agreed with the statement " The ambulance provider meets the community expectations for EMS delivery". About 45% disagreed and 0 were neutral.

- A significant majority of respondents, 97%, agreed with the statement "We provide a high level of service to the community". Roughly 3% of respondents disagreed, while 0 were neutral.

- Respondents were split over having the equipment needed to effectively provide service with 48% agreeing, 48% disagreeing and 3% being neutral.

- A significant majority of respondents, 97%, agreed with the statement "Overall, we provide good response times to community calls for service". Only 3% of respondents disagreed and 0 were neutral.

- A significant majority of respondents, 87%, agreed with the statement "We get out of our station quickly in response to emergency calls". About 13% disagreed with the statement.

- The majority of respondents, 61%, disagreed with the statement "We have maximized the use of technology in delivering services in the field". About 35% of respondents agreed with the statement, while 3% were neutral.

- The majority of respondents 61% disagreed with the statement "We have the personal equipment and field apparatus needed to provide high levels of service". About 35% of the respondents agreed with the statement, while 3% were neutral.

Overall, respondents believe they provide a high level of service that meets the communities expectations for Fire and EMS, including getting out of stations quickly to provide good response times to community calls for service. However, disagreed that they have the equipment and apparatus they need and that the Department maximizes the use of technology in order to deliver services in the field.

## 3. EMPLOYEES BELIEF ARE MIXED ABOUT WHETHER STAFF RESOURCES ARE APPROPRIATE GIVEN CURRENT WORKLOADS.

Respondents were given two statements regarding their current workload and staff resources. The survey questions and their responses are summarized in the table, below:

| **14. Staff resources are appropriate given call for service workloads.** | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 13 | 17 | 1 |
| **Percent** | 42% | 55% | 3% |
| **24. Please select one of the following choices to describe your current workload:** | | | |
| **Always busy, can never catch up.** | | 5 | 17% |
| **Often busy, but can generally keep up.** | | 12 | 40% |
| **Right balance of work and time.** | | 12 | 40% |
| **Easily handle more work given available time.** | | 1 | 3% |

The following points summarize the statistical information provided in the table, above:

- A slight majority of respondents, 55%, disagreed with the statement "Staff resources are appropriate given call for service workloads". About 42% of respondents agreed with the statement, while 3% were neutral.

- Question #24 asked respondents to describe their current workload. The answers were fairly well split with, 40%, responded that often they are busy, but can generally keep up and roughly 40% of respondents believe they have the right balance of work and time, while 17% responded they are always busy and can never catch up and 3% indicating they could handle more work.

In summary, respondents were mixed about staff resources being appropriate given call for service workloads.

## 4. EMPLOYEES BELIEVE THAT THEY ARE PROVIDED ADEQUATE TRAINING TO PROVIDE HIGH LEVELS OF SERVICE.

Respondents were given a series of statements regarding the training they receive, as well as the condition of their fire station. The survey questions and their responses are summarized in the table, below:

| 22. The training we receive is well planned and organized. | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 25 | 6 | 0 |
| **Percent** | 81% | 19% | 0% |
| **23. Our computerized systems allow us to do our jobs effectively.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 9 | 21 | 1 |
| **Percent** | 29% | 68% | 3% |

| 21. The amount of training I receive is adequate. | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 17 | 14 | 0 |
| **Percent** | 55% | 45% | 0% |
| **20. Our fire station is in good condition and provides a comfortable place to work.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 8 | 23 | 0 |
| **Percent** | 26% | 74% | 0% |

The following points summarize the statistical information provided in the table, above:

- A majority of respondents, 81%, agreed with the statement “The training we receive is well planned and organized”. About 19% of respondents disagreed with the statement, while 0% were neutral.

- A majority of respondents, 68%, disagreed with the statement “Our computerized systems allow us to do our jobs effectively”. About 29% of respondents agreed with the statement, while 3% were neutral.

- A slight majority of respondents, 55%, agreed with the statement “The amount of training I receive is adequate”. About 45% of respondents disagreed with the statement and 0% were neutral.

- A majority of respondents, 74%, disagreed with the statement “Our fire station is in good condition and provides a comfortable place to work”. Roughly 26% of respondents agreed with the statement, while 0% were neutral.

Overall, respondents believe that they receive adequate training that it is well planned and organized. However, respondents have mixed feelings regarding whether they have the right equipment to provide effective service, do not believe their computerized systems allow them to do their job effectively, or that their fire station is in good condition or provides a comfortable place to work.

## 5. EMPLOYEES BELIEVE THAT SUPERVISORS DO A GOOD JOB SETTING EXPECTATIONS AND COMMUNICATING DEPARTMENT PRIORITIES.

Respondents were given a series of statements regarding departmental supervision and communication, incident management, and personnel accountability. The survey questions and their responses are summarized in the table, below:

| **3. Staff in the AFD is held accountable for their actions.** | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 19 | 12 | 0 |
| **Percent** | 61% | 39% | 0% |
| **5. The chain of command is properly followed in the Auburn Fire Department.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 20 | 10 | 1 |
| **Percent** | 65% | 32% | 3% |
| **7. My immediate supervisor is effective at setting expectations and monitoring my performance.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 22 | 5 | 3 |
| **Percent** | 73% | 17% | 10% |
| **9. Managers and Supervisors do a good job of communicating Department priorities.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 14 | 17 | 0 |
| **Percent** | 45% | 55% | 0% |
| **10. The City provides appropriate support for the Fire Department.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 4 | 27 | 0 |
| **Percent** | 13% | 87% | 0% |
| **11. During incidents, personnel are efficiently and effectively managed using the ICS.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 27 | 3 | 1 |
| **Percent** | 87% | 10% | 3% |
| **12. People in this Department are consistently held accountable for their actions.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 18 | 12 | 0 |
| **Percent** | 60% | 40% | 0% |
| **10. The AFD effectively utilizes quality control practices (i.e., post-incident reviews, critiques, QA/QC, etc.) to improve how we operate.** | | | |
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 18 | 12 | 1 |
| **Percent** | 58% | 39% | 3% |

| 10. Mutual aid is available and effective in assisting us to resolve critical/major incidents. | | | |
|---|---|---|---|
| **Response Summary** | **Agree** | **Disagree** | **Neutral** |
| **Number** | 18 | 11 | 2 |
| **Percent** | 58% | 35% | 6% |

The following points summarize the statistical information provided in the table, above:

- A majority of respondents, 61%, agreed with the statement "Staff in the Auburn Fire Department is held accountable for their actions", Roughly 39% disagreed with the statement.

- A majority of respondents, 65%, agreed with the statement "The chain of command is properly followed in the Auburn Fire Department". Roughly 32% disagreed and 3% were neutral with the statement.

- A majority of respondents, 73%, agreed with the statement "My immediate supervisor is effective at setting expectations and monitoring my performance". Roughly 17% of respondents disagreed with the statement, and 10% were neutral.

- A slight majority of respondents, 55%, disagreed with the statement "Managers and supervisors do a good job communicating Department priorities". Roughly 45%, disagreed with the statement.

- A significant majority of respondents, 87% disagreed with the statement "The City provides appropriate support for the Fire Department". Roughly 13% agreed with the statement.

- A majority of respondents, 87%, agreed with the statement "During incidents, personnel are efficiently and effectively managed using the ICS". Roughly 10% disagreed with the statement, while 3% were neutral.

- A majority of respondents, 60%, agreed with the statement "People in this Department are consistently held accountable for their actions". Roughly 40% of respondents disagreed with the statement.

- A similar majority of respondents, 58%, agreed with the statement "The AFD effectively utilizes quality control practices (i.e., post-incident reviews, critiques, QA/QC, etc.) to improve how we operate". Roughly 39% of respondents disagreed with the statement, while 3% were neutral.

- Finally, a majority of respondents 58%, agreed with the statement "Mutual aid is available and effective at assisting us to resolve critical/major incidents". Roughly 35% disagreed with the statement and 6% were neutral.

In summary, respondents believe that supervisors and managers do an effective and efficient job of setting expectations, and monitoring individual performances, but do not do well at communicating department priorities. The respondents also do not believe they are appropriately supported by the City. Personnel believe ICS is effectively used to manage personnel during incidents, and using post-incident reviews and QA/QC practices to improve how the AFD operates.

## 6. NARRATIVE SURVEY RESPONSES

In addition to the survey's forced choice questions, respondents were asked to provide their views regarding the primary strengths and primary improvement opportunities in the AFD. The responses were grouped and summarized as a whole.

### (1) What are the Primary Strengths of the Department?

Those who chose to answer the open-ended question felt that the strengths of their Department were the dedicated and hard working staff. The comments are summarized below:

- Fire Attack
- Hard Working
- Dedicated
- Knowledgeable
- Progressive

The most frequent responses related to the quality and commitment of the staff, and their ability to work and make-due with the equipment and staff they have on-hand.

This is reflective of the high percentage of respondents who felt that they provide a high level of service and that while they are often busy, they can generally keep up.

**(2) What Are the Primary Improvement Opportunities in the AFD?**

Those who chose to answer the open-ended question felt that the improvement opportunities facing the Department were staffing and communication related. The comments are summarized below:

- Consistent leadership
- Improved communication
- Update / repair fire stations
- Additional senior management needed
- Lack of leadership and direction in Department
- Improve use of technology
- Apparatus replacement plan

The most frequent responses related to improving departmental communication and individual accountability, and repairing or upgrading the fire stations. This is reflective of the high percentage of respondents who don't feel that "staff resources are appropriate given call for service workloads", that " or that "our fire station is in good condition".

# APPENDIX C – REFERENCES

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