July 13, 2018

Performance Audit of the Englewood Fire Marshal function for:

City of Englewood

Prepared by:

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July 13, 2018

Mr. Eric Keck
City Manager
City of Englewood
1000 Englewood Parkway,
Englewood, CO 80110

Dear Mr. Keck:

On behalf of CliftonLarsonAllen ("CLA"), we are pleased to present the results related to the performance audit of the Fire Marshal function ("audit"). This report provides you and the City of Englewood ("the City") with the results of the audit. This report presents the results of objective analyses carried out by CLA so that the City and those charged with governance and oversight may use the information provided to improve operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and to contribute to public accountability.

The performance audit was conducted in accordance with Generally Accepted Government Auditing Standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusion based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This engagement is not an assurance audit as defined by professional standards and should not be construed as such.

A performance audit is an objective, systematic examination of evidence to assess independently the performance of an organization, program, activity, or function. The purpose of a performance audit is to provide information to improve public accountability. Performance audits encompass a wide variety of objectives, including those related to assessing program effectiveness and results; economy and efficiency; internal control; compliance with legal or other requirements; and objectives related to providing prospective analyses, guidance, or summary information.
We appreciate the opportunity to assist the City in conducting this performance audit. Management and staff involved in the process were a pleasure to work with and very open to sharing their opinions and knowledge. This cooperation was invaluable to the outcome of this project. If you have any questions, please feel free to contact us for assistance.

Sincerely,

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP
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EXECUTIVE SUMMARY

Englewood Fire Marshal reports directly to the Police Chief, John Collins. This reporting relationship appears to be the most appropriate due to the independence achieved and the support of organizational goals. Several issues are evident with the current organization that could be improved. Most noticeable, lack of budget control and visibility.

To help prevent fires and comply with State and City regulations, the Englewood Fire Marshal’s Office performs annual code enforcement inspections of all existing commercial buildings. Inspectors are meeting workload standards consistent with best practice. However, fire inspections are not performed on 100% of the 3,000 plus commercial properties. A lack of inspection of existing commercial buildings puts the City of Englewood at increased risk of fire and not meeting contractual obligations with City & County of Denver.

There are a number of reasons that attribute to the cause of why annual review and inspections of all existing commercial properties were not performed. One such reason is the City’s rapid growth. Revenue from fire permits are increasing year over year, with 2018 revenue projected to exceed more than $150,000 for this activity.

Regardless of the lack of inspections being performed of all existing commercial properties, the intended outcome remains the same; a reduction in the number of structural fires and corrected conditions of hazards that pose threat to life and property within the City. Data obtained shows structural fires are declining year over year.
Scope

The audit reviewed the Fire Marshal function for the City of Englewood. The audit scope varied depending on the analysis being performed. Applicable data was obtained from January 2011 through June 30, 2018.

Objective

Our performance audit of the Fire Marshal office had the following objectives:

1. To assess plan reviews and inspection specifically related to the effectiveness of cross-departmental functionality
2. To assess organizational efficiency related to the current placement of the Fire Marshal function within the Police Department
3. To assess similar municipal structures
4. To assess adequacy of the staffing relative to the workload
5. To provide recommendations of effectiveness and efficiency improvements, if any

Methodology

This audit was performed using a variety of traditional methodologies that included but were not limited to the following:

• Reviewing applicable codes, rules, policies and procedures, reports, department goals and objectives, and performance measures to gain an understanding of the Fire Marshal activities
• Reviewing contract between the City and Denver Fire Department to determine contract requirements, reporting relationships, and performance measures
• Conducting interviews with; Fire Marshal and staff, Chief of Police, Chief Building Official, and City Manager
• Analyzing the Fire Marshal and Fire Inspectors work related data to determine the efficiency and effectiveness of staffing relative to work load
• Researching National Fire Prevention Association (NFPA) and Fire Protection Research Foundation (NPRF)

1 Research was performed as part of this performance audit to identify other municipalities with similar structure or reporting relationship as the Englewood Fire Marshal function. We were unable to identify another Fire Marshal function with reporting relationship to the Chief of Police. However, police and fire have historically worked closely together in most if not all municipalities.
BACKGROUND

The City of Englewood and Denver entered into an Intergovernmental Agreement (IGA) to provide fire suppression services by Denver Fire Department (DFD) on June 1, 2015. Englewood retained responsibility for fire prevention services, including enforcement of Englewood’s Building and Fire Codes, fire safety inspections, and issuance of building permits and certificates of occupancy.

Former Englewood interim Fire Chief Laura Herblan and her staff are responsible for fire prevention services within the Fire Marshal’s Office. The services provided include building and fire protection system plans review, new construction inspections, code enforcement inspections of existing commercial buildings, annual licensing inspections, business license review, and public education. The office currently consists of three (3) full time employees (FTEs), the Fire Marshal, Deputy Fire Marshal, and Fire Inspector with direct reporting relationship to the Chief of Police John Collins.

This performance audit was requested by the City Manager as a result of the Fire Marshal’s staffing budget being reduced by 1 FTE in 2017 and concerns that possible contractual obligations were not being met. Throughout 2016 and subsequent years, the office has been unsuccessful with filling the Fire Inspector position. As a result, the vacancy was filled with a resource in the Police Department. A reduction in the operating budget from 4 FTEs in 2016 to 3 FTE’s in 2018 is reflected in the City’s 2016 – 2018 Approved Budget and Actual personnel expenses (payroll and benefits) in Table 1 below.

<table>
<thead>
<tr>
<th></th>
<th>2016 Budget</th>
<th>2016 Actual</th>
<th>2017 Budget</th>
<th>2017 Actual</th>
<th>2018 Budget</th>
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<tr>
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<td>$137,510.20</td>
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<td>$123,036.44</td>
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<td>$ 94,090.65</td>
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<td>$463,430.16</td>
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<td>$407,421.44</td>
<td>$388,568.97</td>
<td>$323,943.52</td>
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</tbody>
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Source: Englewood Finance and Administrative Services Department on June 27, 2018
OBSERVATIONS & ANALYSIS

Fire Marshal Organizational Alignment

It is desirable for the Fire Marshal to be as independent as possible and not subject to being released from duty for unpopular decisions. Currently, the Fire Marshal has civil service status and is an at-will employee. The Fire Marshal serves as the ‘fire code official’ and is a strong advocate for strict fire code enforcement and for other prevention and safety practices. The Fire Marshal works directly with City management, building inspection services, business groups, and construction industry groups.

Englewood Fire Marshal reports directly to the Police Chief, John Collins. This reporting relationship appears to be the most appropriate due to the independence achieved and the support of organizational goals. The current organizational alignment is shown in Chart 1 below.

Chart 1

The following are seen as strengths with this alignment.

- The Fire Marshal is a sworn personnel officer with the City’s Police Department, fully qualifying the Fire Marshal in each of the functions managed
- The Fire Marshal wears an officer’s uniform which supports and improves the perception of authority
• The Fire Marshal’s office has independent authority to close a structure or building that is found to be unsafe or a fire hazard
• The Fire Marshal has joint authority with the Chief Building Official to make recommendations and participate in the approval process of any construction variance
• Approvals of the Fire Marshal’s office are required before certificate of occupancy is issued by the Building Division

Several issues are evident with the current organization that could be improved. Most noticeable, lack of budget control and visibility. Currently, the Fire Marshal is not involved in the participation of the annual budget, nor is their visibility into the expenditures, which has caused perceptions of unfairness, competition for resources, and lack of understanding for budgeted expenditures. This has directly affected the attainment of the organization’s goals; inspection of all existing commercial properties.

Budgetary control gives a department or in this case the Fire Marshal’s Office a means to look ahead, to set out detailed plans for achieving operational targets, and a clear means of tracking its progress internally. The lack of visibility into the expenditures has prevented this audit from understanding how the Fire Marshal compares to other services provided by the City or other Fire Marshal functions across the nation. Lastly, we were unable to perform analysis on which costs increased or decreased and by how much.

**Annual Code Enforcement Inspections**
The Fire Marshal’s Office strives to provide annual code enforcement inspections of all existing commercial buildings. Properties that are subject to fire safety inspections are maintained in the City’s legacy system High Plains. This is the system that the Fire Inspectors use to plan and schedule their routine periodic inspections. However, this data is known to be incomplete and does not list all existing commercial properties. In 2016, the High Plains data was uploaded to DFD’s system, Fire House. The data was not converted properly resulting in the Fire Inspectors not having complete or accurate data in which to generate their inspection schedules from. As a work around, the Fire Inspectors print their inspection schedules from High Plains and routinely add properties that they identify in the field during their routine periodic inspections. Over time the Fire House system should be corrected through manual updates and continued focus on Fire House scheduling data being built. Although the property inspection records do not appear to be complete, the Fire Marshal’s Office believes that their files are complete with respect to the high-priority properties that they are required or expected to inspect, including all new construction.
It is estimated that Englewood has over 3,000 existing commercial occupancies (schools, businesses, apartment buildings, hotel/motel, etc.) that are required by contract with DFD to be inspected annually to ensure that conditions at those properties are in compliance with existing fire code. Each year the list of inspectable properties increases as the City continues to grow. Regularly inspecting every inspectable property and maintaining a complete and accurate list of properties considered inspecable are characteristics associated with effectiveness and success. Inspections achieve success partly through the direct removal of hazards and partly through indirect educational and motivational effects on the people responsible for property.

We analyzed 2-1/2 years of inspection data from January 2016 through June 2018. While Fire Inspectors are annually assigned specific structures to inspect, not all inspections, as shown in Chart 2 below, are completed. Since the new commercial property inspections will continue to increase the number of inspectable properties on an annual basis, it is important to address this current and continued gap in annual inspections.

![Chart 2](image)

To determine whether Englewood Fire Inspectors are meeting workload standards related to number of inspections performed per inspector, we conducted research and performed analysis on inspection data provided by both the Fire Marshal’s Office the Chief Building Official. The Fire Marshal does not estimate the amount of time each inspection will take. Therefore, we used the number of inspections an inspector can conduct on a daily and annual basis compared to national averages. Research of TriData\(^2\) shows, based on a 10-hour day, that on average each inspector

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\(^2\) TriData is a nationally recognized firm specializing in public safety research and consulting. It has been conducting fire and emergency service research and studies since 1981. TriData has conducted extensive research on effective fire prevention strategies worldwide.
should be able to perform between five (5) and seven (7) inspections each day. This is an average of between 800 to 1,120 inspections per year. Factors such as travel time, size and difficulty of inspection, and type of inspection performed are taken into account.

To determine how many inspections of existing commercial properties are performed daily and annually by the two (2) full-time Englewood Fire Inspectors, we started with their available time. For 2016 & 2017 there was a total of 3,020 and 3,812 hours available respectively for both inspectors. This is based on 2,080 hours reduced by annual leave, holiday, personnel leave, and short-term disability. Additionally, one inspector’s date of hire was 2/29/2016 and the other was 4/4/2016.

TriData shows, on average each inspector should be able to perform 5 – 7 inspections per day and 800 – 1,120 per year

Fire Marshal inspection data provided for the two year period FY2016/17, shows average of seven (7) daily inspections and average of 1,150 annual inspections. Indicating that Englewood Fire Inspectors are meeting workload standards consistent with best practice. However, the ability to meet the requirement of all inspections is still a concern and leaves the City at risk of increased fires and inability to meet contractual obligations with Denver Fire.

As noted in Chart 2 above, it is apparent that current staffing is not sufficient to meet the fire prevention requirements based on contractual obligations. Table 2 shows that with 3 inspectors an average of 3,450 inspections can be performed annually. Since the new commercial property inspections will continue to increase the total number of inspectable properties on an annual basis adding an additional full-time Fire Inspector may not be a long term solution. However, there are other methodologies that the City can investigate in order to expand on the existing fire inspection activities.

Table 2

<table>
<thead>
<tr>
<th>Average Annual Inspections</th>
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<tbody>
<tr>
<td>w/1 Inspector</td>
</tr>
<tr>
<td>w/2 Inspectors</td>
</tr>
<tr>
<td>w/3 Inspectors</td>
</tr>
</tbody>
</table>

|                | 1,150 | 2,300 | 3,450 |

Source: Created by consultant based on data provided by FMO

One such methodology that is a critical component to determining the proper staffing and deployment model for a fire prevention program is the completion of a Risk Assessment. This is where the office collects and organizes risk evaluation information about individual commercial properties, with factors rated to derive a “risk score” or “priority level” for each property. This is done by assessing the type and occupancy of each property and assigning a score (low, medium,
high) or a priority level (one, two, or three). Depending on the score or priority level assigned, the property would be inspected once every 3-years, 2-years, or every year. This approach can reduce the workload on fire inspection personnel and make them more available for higher risk category inspections.

It is important to note the following: 1) the current contract with DFD does not support this approach and would require further discussions and possible amendment to the contract if there was agreement. 2) There may be a cost associated with purchasing the required software if current software does not have this functionality. 3) There will be time needed to populate the required information to rate/score all the properties, including an estimate of time required per inspection of each property/occupancy type.

**Fire Permits, Inspections, Plans and Project Reviews**

There are a number of reasons that attribute to the cause of why annual review and inspections of all existing commercial properties were not performed. One such reason is workload does not allow time to do an adequate number of fire inspections. 3) Another reason is the City’s rapid growth and continued growth throughout the City, resulting in a steady increase in new construction.

The City’s code requires review and inspection of all new commercial construction. Englewood complies with the International Fire Code, 2015 Edition, as the Fire Code for the City. The Building Inspectors and Fire Inspectors enforce the current fire and life safety codes through inspection and plan review.

The Fire Marshal has been training her team on portions of this activity to expand the skills and abilities of the current Deputy Fire Marshal and Fire Inspector to include plans review and inspections. The Deputy completes reviews of Fire Operational Permits for businesses and the Inspector completes Development Review Team reviews for site plans; both of them are reviewing special event permits. This is a typical progression for learning to read plans and developing their skill set to eventually take on larger project reviews and complex plan reviews.

Currently the Fire Marshal holds the State of Colorado Fire Inspector III- Plans Examiner (2007-Current) - Public Schools and Health Care Facilities. This is in addition to the numerous listed certifications: 4

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3 See Appendix A for workload activities completed during 2017
4 See Appendix B for Deputy Fire Marshal and Fire Inspector certifications.
• International Code Council Fire Inspector I and II (2005-Current)
• State of Colorado Fire Suppression System Inspector (2002-Current)
• State of Colorado Fire Fighter II (2001-Current)
• Hazardous Material Safety Officer- NFPA 472
• CPR-Healthcare Provider (2000-Current)
• FEMA Emergency Management Institute’s Professional Development Series (PDS) Certification (2012-Current)
• Numerous Incident Command Level Certifications to include: I100,200,300,400,700,800

Since the Fire Marshal is the only one in the Fire Marshal’s office with the necessary training and education, with the State of Colorado Fire Inspector III certification, the Fire Marshal focuses the majority of her time towards new commercial construction reviews and inspections. As shown in Chart 3, over a four (4) year period (2014 – 2017) the Fire Marshal reviewed a total of 1,207 projects and plans, this is an average of 325 annually.\(^5\)

![Chart 3](image)

The Building Division and Fire Marshal strive to review all commercial projects in 10-15 business days for the first review and half that time for subsequent review. Our analysis showed a prioritization of this City service with all project and plans reviewed by the Fire Marshal on average within 7.6 and 9.2 days respectively. Additionally, 38% of the time plans are reviewed within 5 days. Lastly, the Fire Marshal completes her reviews on average 3.5 days prior to due date.

\(^5\) In 2016 the Fire Marshal was out on maternity leave, during this time DFD performed the project and plan review.
Using the City’s TRAKiT system, we examined the plan reviews performed by the Fire Marshal, fire permits issued and related fees, which are paid through the Building Division. Our analysis over a five (5) year period 2014 – 2018, shown in Chart 4 below, revenue from fire permits are increasing year over year, with the exception of 2016 when the Fire Marshal was out on maternity leave. Based on data provided and annual trends, 2018 revenue is projected to exceed more than $150,000 for this activity.

Effective January 1, 2014 the City adapted a fee schedule for the first time for fire permits, payable at the time of building permit. The inspection fees were authorized to pay for additional staff to conduct more frequent fire inspections. A thorough analysis of the appropriateness of the fire inspection fees were not conducted, rather the City adopted Littleton’s fee schedule. Best practice supports regular fee review to ensure that an organization’s fee structure aligns with the actual cost of providing related services. Some cities conduct these reviews on an annual basis and incrementally adjust fees accordingly.

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6 Fee Schedule established by Resolution No. 72, Series of 2013 (October 7, 2013). See Appendix C for Fire Prevention Fee Schedule.
Denver Fire Department - Fire Protection and Emergency Medical Services (EMS)

Fire prevention is probably the most cost efficient expenditure of fire related funds. Strong prevention programs should ultimately reduce the number and severity of fires, fire deaths, injury—to both citizens and firefighters—and property loss. Based on analysis performed of inspections on existing commercial properties, annual inspections are not enough to address all existing commercial properties.

Fire rates and hazardous material rates can be analyzed over time to see that inspections programs are reducing fires within the community. Lower rates may be a sign of increased education, awareness, safety precautions in handling and storing hazardous materials. Regardless of the lack of inspections being performed of all existing commercial properties, ultimately, the intended outcome remains the same; a reduction in the number of structural fires and corrected conditions of hazards that pose threat to life and property within the City.

Data obtained from the Fire Marshal and Denver Fire on structural fires, show the number of fires declining year over year. Our analysis performed on the data provided show structural fires reduced from 30 in FY15 to 24 in FY16 and further reduced to 20 in FY17 as shown in Chart 5.7

![Chart 5](image)

Reduced fire rates indicate that fire prevention activities, such as fire inspections are effective at evaluating hazards and motivating business owners and building managers on fire prevention.

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7 Reported annually to National Fire Incident Reporting System (NFIRS).
Although structural fires are on the decline, hazardous material (HazMat) responses have increased over the past 2 years. As shown in Chart 6, hazardous material responses went from 83 in FY15 to 138 in FY16 and 144 in FY17. This is an increase of 61 over the two year period (2015 – 2017).

One difference that could be attributed to the increase is that Denver Fire codes CO2 (carbon dioxide) responses as HazMat calls and Englewood Fire Department did not. DFD’s reporting of HazMat incidents does little to aid the Fire Marshal’s Office in their fire prevention activities. As the incident responses for HazMat are not specific to business addresses and typically include outside hazards such as spills and leaks that are not structure specific. Through our research, we found that this a common problem for fire prevention functions.

This being said, the Fire Marshal’s Office has a Hazardous Materials Management Plan (HMMP), which is used to describe the company’s procedures for storing, using, managing, and disposing of hazardous materials in a safe manner. A HMMP and Inventory Statement is required to be submitted for review prior to a Certificate of Occupancy by the Fire Marshal's Office. Additional data on HazMat related responses would further strengthen the HMMP process, as well as, fire prevention practices.

Fire Marshal’s Office Performance Measures

The Fire Marshal’s Office regularly reports on various performance measures related to prevention activities. Additional measures are reported by DFD annually to the National Fire Incident Reporting System (NFIRS) to report fires and other incidents responded to. Although the Fire Marshal’s Office has established some operational goals, such as review all new construction plans within 15 days and inspect all existing commercial properties annual, they lack a balanced set of performance measures. Below in Table 4 is a listing of performance measures with examples for the Fire Marshal function, that when all types of measures are implemented will provide a balance set of results.
Performance measures provide a means of defining program service levels both at the operational and strategic level. Secondly, performance measures provide a means to clarify programs in terms that are understandable and are typically formulated as inputs, outputs, and outcomes. Lastly, performance measures offer opportunities to improve the services of a program.

<table>
<thead>
<tr>
<th>Type</th>
<th>What Does it Measure?</th>
<th>Generic Example</th>
<th>Example for Fire Marshal Function</th>
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</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>The amount of resources needed to provide a particular service</td>
<td>Labor, materials, equipment, supplies, or demand factors such as target populations</td>
<td>- Number of existing commercial properties&lt;br&gt;- Number of plan reviews received&lt;br&gt;- Available time per Fire Inspector</td>
</tr>
<tr>
<td>Outputs</td>
<td>The amount of products or services provided</td>
<td>Workload measures</td>
<td>- Number of inspections performed on existing commercial properties&lt;br&gt;- Number of plan reviews processed or approved</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Whether services are meeting proposed targets</td>
<td>Percentage increase or decrease in a specific goal</td>
<td>Percentage increase in new construction plan reviews received</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Productivity</td>
<td>Ratio of outputs per unit of time, cost per unit of output</td>
<td>- Cost to inspect an exiting structure based on amount of time and occupancy type&lt;br&gt;- Cost of re-inspection based on amount of time&lt;br&gt;- Cost per plan review processed or approved</td>
</tr>
<tr>
<td>Quality</td>
<td>The effectiveness in meeting the expectations of customers and stakeholders</td>
<td>Reliability, accuracy, responsiveness</td>
<td>- Number of inspection violations or re-inspections&lt;br&gt;- Number of properties that were not in scheduling system that were added</td>
</tr>
</tbody>
</table>

Source: Created by consultant for Fire Marshal’s Office
RECOMMENDATIONS

We offer the following recommendations to assist the Fire Marshal’s Office with improving efficiency and effectiveness of the fire prevention inspection activities.

1. **Budget Control:**
   For the Fire Marshal’s Office to best exercise their accountability function, it is recommended that the Fire Marshal be included in the oversight of the operational budget with approval by the Chief of Police and ultimately by the City Manager.

2. **Budget Visibility:**
   The City should track both personnel and non-personnel operating expenses for the Fire Marshal’s Office separately from the Police Department to allow for visibility, comparability, and analysis of information.

3. **Additional Full-Time Fire Inspector:**
   Based on available funding one additional full-time fire inspector (or one to two part-time inspectors) should be added to the Fire Marshal Office for the direct purpose of conducting fire inspections on existing commercial properties and enforcing the fire prevention code. Additionally, the pay scale should be evaluated against current job market based on feedback from previous attempts to fill this position.

4. **Risk-Based Multi-Year Inspection:**
   The Fire Marshal should define a multi-year inspection schedule by occupancy type based on risk that provides coverage to all structures. This involves identifying high risk occupancy types and specific high risk structures throughout the City and defining an inspection frequency for each. This risk-based approach would allow the Fire Marshal’s Office to spread out the existing inspections of the lower risk structures to multi-year inspections and focus on higher risk structures every year. This method would require additional steps, such as, possible amendment to existing DFD contract, researching existing software functionality or purchasing required software, and additional time to populate the system with the required information.
5. **Fire Prevention Fee Analysis:**

The City should conduct a fee study annually based on either activity-based cost analysis to determine the true cost of providing fire permitting and inspection services or based on criteria such as the “Denver-Boulder-Greeley Consumer Price Index” or “Municipal Cost Index” to update fees.\(^8\) Using this approach, revenue from increased or expanded fire prevention fees would directly pay for additional personnel to aid in fire prevention division activities. An increase in fees allows the Fire Marshal’s Office to provide more services and lower fire risk without effecting other City departments. Nevertheless, fee increases may harm relationships with developers, business owners, and other community members.

6. **Hazardous Material Responses & Reporting:**

To help improve the fire prevention function, the Fire Marshal should work with DFD to determine if they can receive better information, such as business/structure location, source, and type of hazardous material, for each HazMat response related to a commercial building. This information should be used to improve existing fire prevention activities and the HMMP process.

7. **Performance Measures:**

The Fire Marshal’s Office should identify and implement performance measurements to not only include inputs (personnel availability) but outputs, outcome, and efficiency, measures. Actual performance of the fire inspection functions and individual inspectors should be measured against workload standards. Additionally, oversight and monitoring of the performance information should be put in place to help improve accountability and ensure that there are appropriate improvements in the efficiency of operations, as well as, proper alignment/staffing of resources. In addition to Table 4 of the report, Appendix D lists best practice methodologies that the Fire Marshal should review and include, where applicable.

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\(^8\) When adjusting fees for inflation, many cities use indices, such as the Municipal Cost Index (MCI), which combines three different indices including the Consumer Price Index, Construction Cost Index, and Producer Price Index.
Appendix A – 2017 Miscellaneous Workload Activities for Fire Marshal Office

2017 Year End Activities:

- 6 Englewood University Classes
- 3 Mapping process Meetings – Denver Peak Academy
- 27 Fire Drills
- 19 emergency planning / evacuation drills
- 4 Fire Safety egress training for City Employees
- Pirates Cove Water Park project still in the works
- 5 public ED classes
- 4 hours of 1403 live fire instructor
- 4 hours of live fire training as Instructor
- 4 hours live fire training as firefighter
- 20 hours of HAZ-Mat Training
- 4 hours of Fire Suppression Rules Update
- 40 of ICC TNG
- 4 hours of Krev Training
- About 30 to 40 hours of lost computer data due to cyber hack
- About 12 to 20 hours of computer work for firehouse, Highplains, training
- One Illegal MJ grow shut down off Tejon St. with multiply follow-ups still on the list.
- 13 Marijuana establishments (legal/illegal) inspections
- 38 impact / code enforcement assists
- 72 other assists
- 9 Motel Inspections includes follow-ups
- 55 hours of Fire Inspector Oral Boards
- Development Review Team (DRT)
- Special meetings for events
- Liaison with the Denver Fire Department (DFD)
- 3 Meetings with DFD for implementing new forms
- Vehicle Maintenance
- Yearly Calendar planning VAC, travel, camping, holiday Ext.
- 57 Colorado Open Records Act (CORA) requests
- 41 EFD/EMS incident and/or billing questions
- 33 environmental site assessments
- 92 Fire code analysis / assistance / interpretation
- 4th of July (pyrotechnics permit, inspection, staff)
- EPD Citizen’s Academy – Instruct Fire
- Prevention Class National Night Out
- Coffee with a COP – City of Englewood
- Arapahoe Douglas County Hazardous Materials Inventory
- Management System SARA Title III
- CBRE – new EPD Facility (focus groups, RFP interviews, meetings)

Training Completed By Staff

- Colorado Chapter of International Code Council
  - Marijuana and Distilled Spirits
  - Advanced Studies of the International Build Code
- Power, Politics and Organizational Culture
- Electrical Plan Review for the Non-Electrician
- Flammable and Combustible Liquids
- Existing Buildings - Assessment Essentials for Building, Fire, and Design Professionals
- Fire Alarm Plan Review
- Risk Reduction
- 2015 International Fire Code Overview

- Englewood University
- Hazardous Materials - Flammable Liquid Incident
- Command Fire Investigation
- Advanced Fire Investigation
- Vehicle Fire Investigations
- NFPA 921 Update for 2017
- Legal and Constitutional Issues and Updates
- The Psychology of Eyewitness Testimony
- Fuel Air Explosions
- Fire and Smoke Dampers - Complying with NFPA 80 and NFPA 105 Wildfire Preparedness
- IAFC Conflict Resolution - Taking the Heat Out of Conflict Fire Protection During Construction
- NFPA 25 Refresher
- Colorado Fire Suppression Rules - NFSA State Rules Update

Certifications Renewals
- State of Colorado Fire Inspector - III Plans Examiner (Public Schools)
Appendix B – Deputy Fire Marshal & Fire Inspector Certifications

Deputy Fire Marshal

- International Code Council Fire Inspector I
- State of Colorado Hazardous Materials Operations
- State of Colorado Fire Fighter II
- Pro Board Fire Inspector I and II
- State of Colorado Driver Operator
- State of Colorado Fire Instructor
- State of Colorado Live Fire Instructor
- With numerous Incident Command Level certifications to include: I100, 200, 700, 800

Fire Inspector

- International Code Council Fire Inspector I
- State of Colorado Hazardous Materials Operations
- State of Colorado Fire Fighter II
- With numerous Incident Command Level Certifications to include: I100, 200, 300, 800
Appendix C – Englewood Fire Prevention Fee Schedule

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Application Fee/All Permits</td>
<td>$150.00</td>
</tr>
<tr>
<td>New Construction Building Plan Review</td>
<td>$600.00</td>
</tr>
<tr>
<td>$2,001.00 to $25,000.00</td>
<td>Over 10,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$600.00 + $.035/sq ft over 10,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>Over 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$2,000.00 + $.030/sq ft over 10,000 sq ft</td>
</tr>
<tr>
<td>Tenant Finish/Remodel/Additions</td>
<td>0 – 10,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$250.00 + $.035/sq ft</td>
</tr>
<tr>
<td></td>
<td>Over 10,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$600.00 + $.030/sq ft over 10,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>Over 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$1,800.00 + $.025/sq ft over 50,000 sq ft</td>
</tr>
<tr>
<td>Parking Structures</td>
<td>1/3 of New Construction Fee</td>
</tr>
<tr>
<td>Fire Sprinkler System</td>
<td>0 – 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$200.00 + $.025/sq ft</td>
</tr>
<tr>
<td></td>
<td>Over 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$1,450.00 + $.020/sq ft over 50,000 sq ft</td>
</tr>
<tr>
<td>Fire Alarm System</td>
<td>0 - 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$200.00 + $.025/sq ft</td>
</tr>
<tr>
<td></td>
<td>Over 50,000 sq ft</td>
</tr>
<tr>
<td></td>
<td>$1,450.00 + $.020/sq ft over 50,000 sq ft</td>
</tr>
<tr>
<td>Commercial Kitchen Hood Systems</td>
<td>$150.00</td>
</tr>
<tr>
<td>Other Plan Review (Operations Permits)</td>
<td>$100.00 / $150.00 with Inspection</td>
</tr>
<tr>
<td>Ops Permits under IFC Section 105.6</td>
<td>Annually</td>
</tr>
<tr>
<td>Hazardous Materials Inventory Plan (HMIP)</td>
<td>$200.00 Two Year Permit</td>
</tr>
<tr>
<td>Environmental Site Assessment</td>
<td>$100.00 Per Address</td>
</tr>
<tr>
<td>Miscellaneous Permits</td>
<td>$150.00</td>
</tr>
<tr>
<td>Work without a Permit</td>
<td>Double the Permit Fee</td>
</tr>
<tr>
<td>Re-Inspection Fee</td>
<td>$150.00 (Fee increases by; $100.00 for each additional inspection)</td>
</tr>
<tr>
<td>Re-Issue of Permit/Plan Review Comments</td>
<td>$25.00</td>
</tr>
<tr>
<td>Hourly Rate, Review/Inspections</td>
<td>$80.00</td>
</tr>
</tbody>
</table>

EFD evaluates all plans and construction documents to determine if all related documents meet the requirements of the codes and standards adopted by the City of Englewood and the EFD. Obtaining multiple permits is required for the majority of projects. The sequence or progression of the permitting process is of utmost importance to ensure that all projects are tracked appropriately throughout the plan review and inspection process. Submittals for systems will not be processed until the new building or tenant improvement construction documents have been reviewed.
## Appendix D – Eleven Core Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Comments on Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Structure fire rate per 1,000 inspectable properties (Existing buildings)</td>
<td>Use five-year averages to compensate for small numbers of fires per year. May exclude intentional fires. Designed for routine inspections. Use instead of structure fire death rate, which will not have enough incidents per year for meaningful statistical results. However, calculate measures #5-7 separately for fatal fires and/or develop matrix for fatal fires showing points addressed in measures #5-7, in order to obtain information targeted on fatal fires.</td>
</tr>
<tr>
<td>2. List inspectable-property structure fires with at least $25,000 in loss; show matrix with presence and importance to fire severity of standard list of major hazards. (New construction and existing buildings)</td>
<td>Work with insurance companies to get best loss estimates. Consider including indirect loss, such as business interruption costs. Link to measure #4, which identifies major classes of hazards to be tracked separately. Distinguish hazards associated with new construction versus routine inspections.</td>
</tr>
<tr>
<td>3. Estimated monetary value per additional inspection, by major property use group. (Existing buildings)</td>
<td>Calculate using the formula: Value of one annual inspection = (Fire loss per year) x (% loss preventable by inspection) / (# occupancies) Link to measure #5, which sets up formula for what is preventable.</td>
</tr>
<tr>
<td>4. Number of violations found per inspection, overall and separately for (a) sprinkler-related and (b) safe evacuation related. For new construction, also identify number of conditions that could not be inspected because they were not inspected while still exposed. (New construction and existing buildings)</td>
<td>The focus on sprinkler status and evacuation-related violations is one way of singling out problems that are frequently cited as major reasons for multiple-death fires in inspectable properties. Hazardous-material-related violations, compartmentation-related violations, and detection/alarm-related violations are other major groups that could be given their own focus. Link to measure #2, which can use the same major-hazard groups selected for focus here.</td>
</tr>
<tr>
<td>5. Percentage of fires that were preventable or could have been mitigated by inspection or by the educational and motivational elements of inspection. (Existing buildings)</td>
<td>Link to measure #3 on estimated value of an additional inspection, which will use the same framework for judging fires preventable or amenable to mitigation.</td>
</tr>
<tr>
<td>6. Percentage of fires where there were pending, uncorrected violations present at the time of the fire. (Existing buildings)</td>
<td>Designed primarily to focus on problems post-inspection in achieving removal of hazards and code compliance.</td>
</tr>
<tr>
<td>7. Percentage of fires in properties subject to inspection that were not listed in inspection files. (Existing buildings)</td>
<td>Code by reason not listed.</td>
</tr>
<tr>
<td></td>
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<td>---</td>
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</tr>
<tr>
<td><strong>8. Percentage of inspections for which time since last inspection is greater than the department’s target cycle time.</strong> (Existing buildings)</td>
<td>This measure should be analyzed separately for different major occupancy groups.</td>
</tr>
<tr>
<td><strong>9. Number of building systems and features, from defined list, for which inspection and approval were not completed, per new construction project.</strong> (New construction)</td>
<td>A building system or feature would go on this list if no timely inspection had occurred.</td>
</tr>
<tr>
<td><strong>10. Percentage of inspections conducted by inspectors with all necessary certifications for their assignment.</strong> (New construction and existing buildings)</td>
<td>This measure should be analyzed separately for different major occupancy groups. It may be appropriate to analyze initial inspections and follow-up inspections separately or to separate assignments in other ways that relate to differences in required certifications. A list of necessary certifications needs to be developed to support the measure.</td>
</tr>
<tr>
<td><strong>11. Percentage of inspections conducted by full-time inspectors.</strong> (New construction and existing buildings)</td>
<td>This measure should be analyzed separately for different major occupancy groups.</td>
</tr>
</tbody>
</table>