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# **Case Management: Code Compliance Audit**

March 30, 2018



**City of Fort Worth  
Department of Internal Audit**

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Fort Worth, Texas 76102

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**The Case Management: Code Compliance Audit was conducted as a part of the Department of Internal Audit's Fiscal Year 2017 Annual Audit Plan.**

### **Audit Objective**

The objective of this audit was to determine the effectiveness and efficiency of code compliance case management oversight, tracking and complaint resolution.

### **Audit Scope**

Our audit covered the period October 1, 2015 through September 30, 2016.

### **Opportunities for Improvement**

Audit trails and rationale for deleted complaints

Responses to Priority 1 complaints within one working day

Improved CodeOps reporting and assigning capabilities

Valid CodeOps data entry

Accurate (Council District) values applied to complaints, cases and violations

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## **Executive Summary**

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As a part of our FY2017 Annual Audit Plan, the Department of Internal Audit conducted a Case Management: Code Compliance Audit that covered FY2016. We reviewed case management and oversight processes to determine whether: 1) complaints were addressed in a timely manner; 2) cases resulting from complaints were tracked and resolved according to department procedures; and, 3) inspection results were sufficiently documented in the Code Compliance Department's case management system database (CodeOps).

We concluded that not all Priority 1 incidents were inspected within one working day, as required by City policy.

We noted that CodeOps adequately maintains information related to complaints/cases, but additional controls are needed to ensure complaints are deleted for valid reasons (e.g., court-mandated deletions) and receive appropriate management review prior to deletion. We identified numerous complaints missing from their numerical sequence, with no historical audit trails to verify the validity of the deletions. Additionally, we documented the following deficiencies related to CodeOps:

- different Council District values were assigned to the same complaint address;
- purged complaints were displayed in the City's Open Data Portal;
- current reports identified complaints that were assigned to former City employees (two of whom never worked for the Code Compliance Department); and,
- data entry fields are not restricted to ensure that only approved priority levels can be entered for violations.

Our audit findings are discussed in further detail within the [Detailed Audit Findings](#) section of this report.

## Table of Contents

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Background .....	1
Objective .....	6
Scope .....	6
Methodology .....	6
Audit Results .....	7
Overall Evaluation .....	12
Detailed Audit Findings .....	13
Acknowledgements .....	20
Exhibits – Addresses with $\geq 5$ Complaints	
Exhibit I – District 2 .....	21
Exhibit II – District 3 .....	23
Exhibit III – District 4 .....	24
Exhibit IV – District 5 .....	25
Exhibit V – District 6 .....	27
Exhibit VI – District 7 .....	29
Exhibit VII – District 8 .....	30
Exhibit VIII – District 9 .....	31
Exhibit IX – CodeOps Report Menu .....	32
Exhibit X – Locations of Addresses with $\geq 5$ Complaints .....	33



## Background

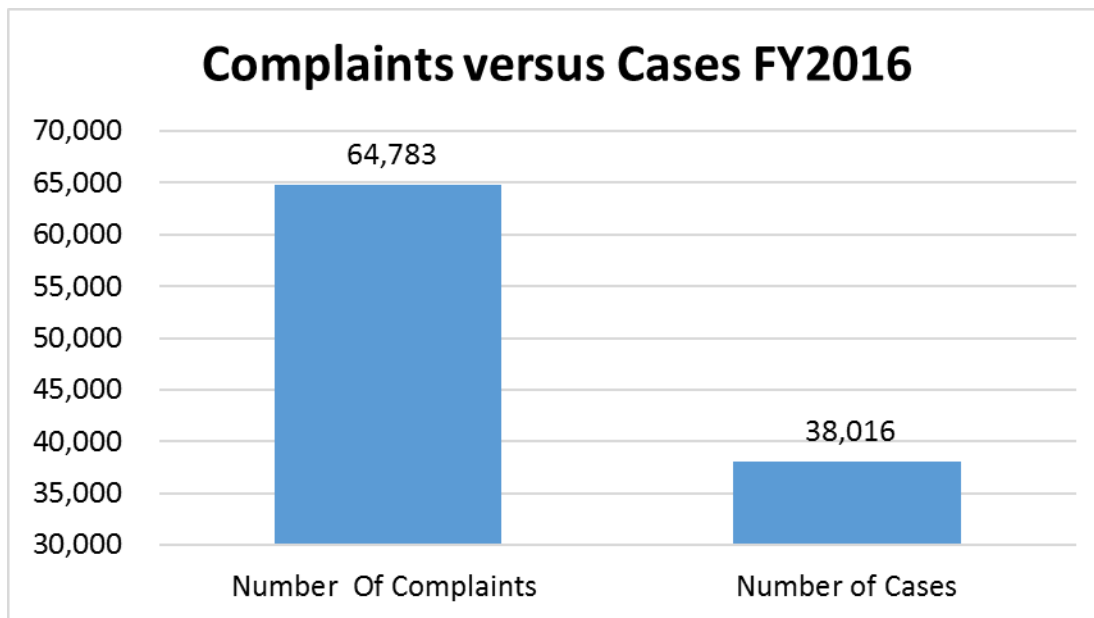
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The Code Compliance Department's mission is to preserve and enhance public health, welfare and safety through services that focus on education, prevention, compliance and community partnerships. The Code Compliance Department consists of six divisions.

- Administration
- Animal Welfare
- Code Enforcement
- Environmental and Health Services
- Environmental Protection
- Solid Waste Services

Code Officers, assigned to the Neighborhood Investigations Section of the Code Enforcement Division, routinely patrol neighborhoods to identify code violations and investigate complaints received over the phone, in person or via the on-line complaint reporting system. Therefore, complaints may be initiated by citizens and Code Officers.

As noted in the following chart, during FY2016, the Code Compliance Department documented a total of 64,783 complaints. Of the complaints received, 38,016 (59%) resulted in cases being filed against property owners. Since multiple violations can be associated with a single case, a total of 76,759 violations were associated with the 38,016 cases.

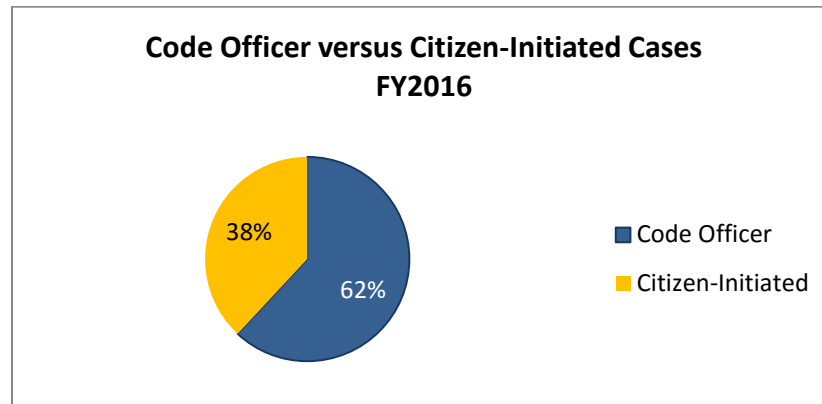


Source: CodeOps

The City of Fort Worth (CFW) has 34 Code Officers and four supervisors that service nuisance-related complaints within the five City code districts (North, South, Central, East and West). During the audit period, the five code districts were comprised of 81 beats. Complaints and violations were related to issues such as trash and debris, junk vehicles, zoning violations, environmental investigations and high grass/weeds. Code Officers are tasked with identifying and investigating complaints and violations based on ordinances established by the Mayor and City Council.



Code Officers also perform proactive inspections to identify code violations not reported by citizens. According to reports provided by the Code Compliance Department, Code Officers proactively identified 62% of the code violation cases during FY2016. The remaining 38% were from citizens, local business owners, etc.



Source: Code Compliance Department

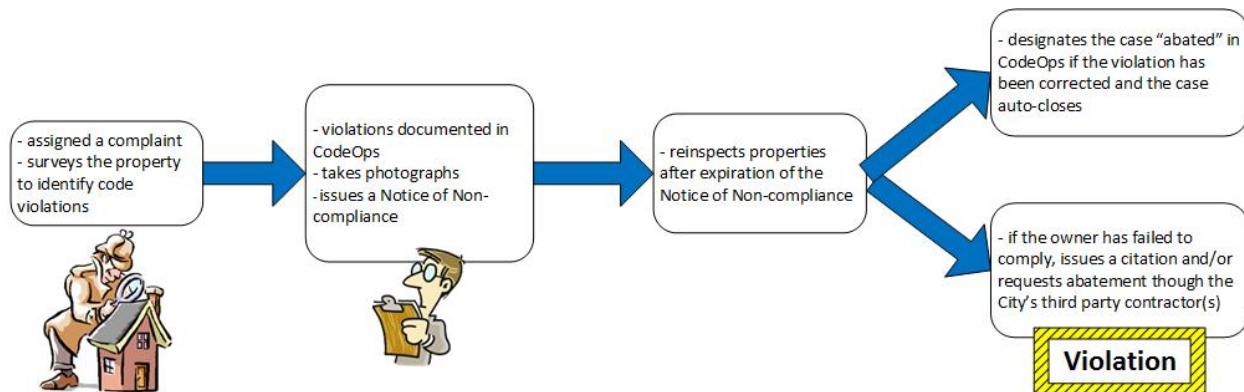
CodeOps was developed by the Code Compliance and Information Technology Solutions Departments to be used exclusively by the Code Compliance Department for tracking complaint and case resolution. CodeOps is a server-based system that assigns complaints to Code Officers based on specific areas of the city to which officers are assigned. This system allows Code Officers remote access to print inspection results and generate warning notices and mowing tickets. During our audit period, complaints were processed through the City's Call Center located within the Code Compliance Department via the Information Technology Service Management (ITSM) system. Call intake information related to Code issues (e.g., enforcement, animals and solid waste) were routed directly to the CodeOps system via a real time interface. Other complaints were routed to the applicable departments (i.e., City Manager's Office, Transportation and Public Works, etc.). As of August 15, 2017, the City started using the Customer Response Management (CRM) system in the Call Center to manage service and complaint calls. Callers receive a confirmation number to use when checking complaints.

CodeOps assigns each complaint a unique identifier/system-generated number. Once the complaint is initiated, the designated Code Officer inspects the property. If the Code Officer does not observe a violation, the complaint is considered invalid and is closed within CodeOps. If the Code Officer observes a violation, the complaint is considered valid and also closed. However, a case is opened and assigned a case number that is systematically generated. The Code Officer documents violations in CodeOps, takes photographs of each violation and issues a Notice of Non-compliance to the owner.

Owner information is obtained by speaking to the owner or through information obtained from the Tarrant County Appraisal District (TAD). A link to TAD is established so owner information can be obtained through CodeOps. The Notice of Non-compliance describes the violation, corrective action needed and includes the date on which the property must come into compliance. In cases where the non-compliant property is occupied and the owner or occupant refuses permission for the officer to inspect, the Code Officer must obtain a search warrant.



Code Officers re-inspect properties after the expiration date on the Notice of Non-compliance. The Code Officer may grant an extension if work is under way or progress has been made. If the owner has failed to comply, the Code Officer can issue a citation and/or request abatement through the City's third-party contractor(s). The Code Officer designates the case "abated" in CodeOps once the violation has been corrected. CodeOps then systematically closes the abated case. The following illustration summarizes the process when violations are identified.

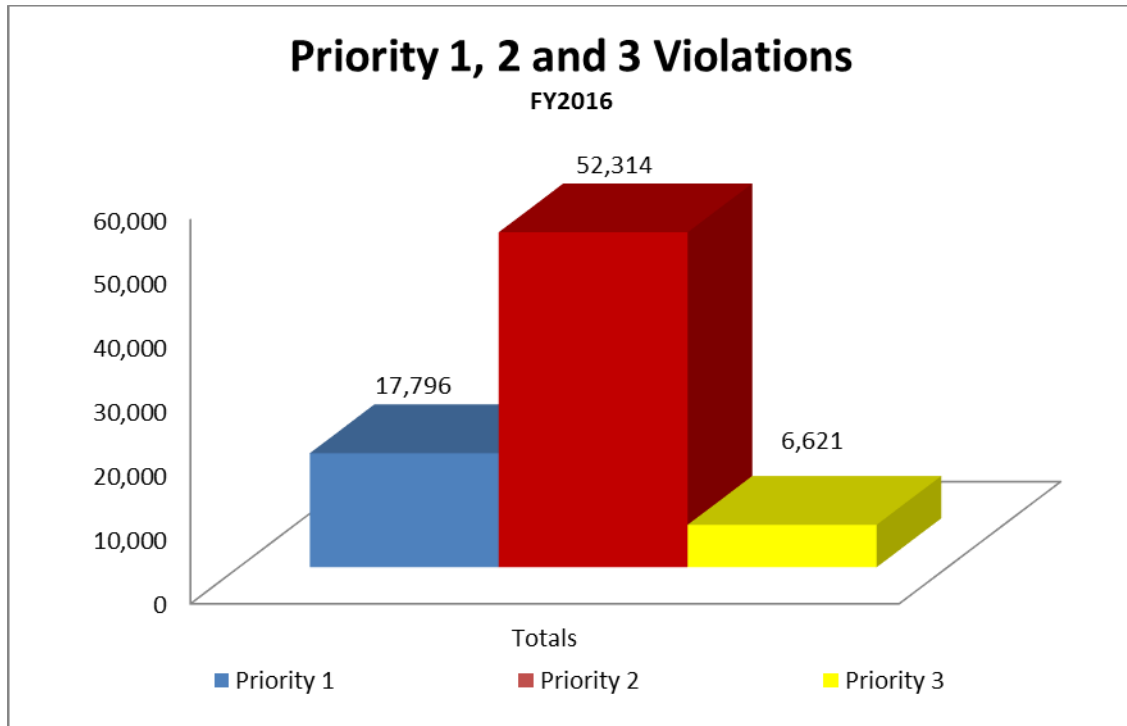


Code Officers patrol neighborhoods in City vehicles that are equipped with a Global Positioning System (GPS) tracking device. The Code Compliance Department uses Networkfleet, Inc.'s Automatic Vehicle Location System (AVLS) to provide real-time tracking of vehicle locations. Vehicle utilization, fuel usage, miles per gallon, idle time, and speed violations are some of the reports that are provided by AVLS. Code Compliance staff indicated that supervisory personnel review trip sheets, along with CodeOps and GPS data, to monitor its fleet and Code Officers.

According to the Code Compliance Department's Policy and Procedure Manual, complaints are prioritized based on the risk posed.

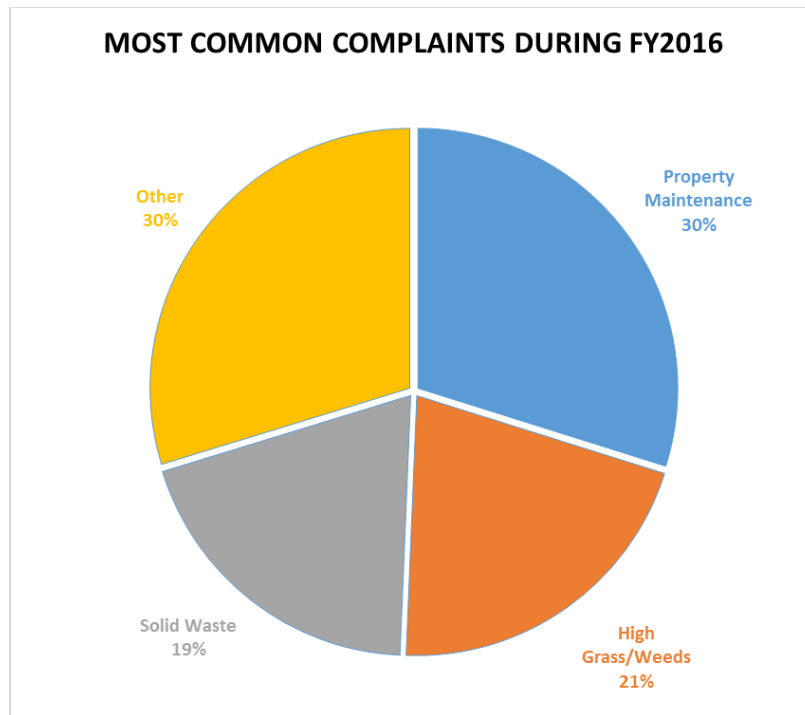
- Priority 1: Complaints that involve an imminent risk to public health and safety. A Priority 1 requires inspection within one working day of receipt.
- Priority 2: Any complaint that involves an immediate threat to the livability of the community or perception of the same. A Priority 2 requires inspection within three working days of receipt.
- Priority 3: Calls for services that have been in existence for some time and whereby a delayed response would not substantially increase any detrimental impacts on the livability of the community. A Priority 3 requires inspection within seven to 10 (implied as working) days or as resources permit.

A key performance indicator for the Code Compliance Department is for Code Officers to focus their efforts on issues that have the greatest life, health and/or safety impact. As noted in the following chart, a majority (91%) of the violations identified by Code Officers were Priority 1 and 2 during FY2016.



Source: Code Compliance Department

As noted in the following chart, the most common complaints filed during FY2016 related to property maintenance (30%), high grass/weeds (21%) and solid waste (19%). The remaining complaints, which accounted for 30% of the total annual complaints, related to violations involving vehicles, zoning, health hazards, multi-family, substandard buildings and animals. The CFW uses third party contractors to abate most non-compliant properties related to high grass/weeds and/or debris violations. These contractors have access to a CodeOps module that allows them to electronically receive abatement orders and submit pictures to evidence abatement work performed.



Source: CodeOps





## Objective

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The objective of this audit was to determine the effectiveness and efficiency of code compliance case management oversight, tracking and complaint resolution.

## Scope

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Our audit covered the period October 1, 2015 through September 30, 2016, and was limited to the management of complaints assigned to the Neighborhood Investigations Section of the Code Enforcement Division. Our audit did not include a review of the City's enforcement of its Code of Ordinances.

## Methodology

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To achieve the audit objective, the Department of Internal Audit performed the following:

- interviewed Code Compliance and Information Technology Solutions (ITS) Department staff;
- reviewed the CFW's Code of Ordinances and the Code Compliance Department's policies and procedures;
- physically observed Code Compliance's field operations by participating in a ride-along;
- reviewed complaints captured within the Open Data Portal that is made available to the general public;
- reviewed complaints and cases captured within CodeOps;
- reviewed GPS data;
- reviewed TAD property records; and,
- evaluated internal controls related to Code Compliance's case management system.

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions 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.



## Audit Results

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During this audit, the Department of Internal Audit reviewed the processing and resolution of code complaints.

- A sample of 30 complaints (received and entered into CodeOps during the month of August 2016) was selected for testing to determine compliance with the CFW's Code Compliance complaint resolution policies and procedures. We found no deviations from established policies and procedures.
  - Thirteen (13) of the 30 complaints resulted in a "Violation Found" and were associated with a unique case number. The cases contained descriptive information to support Code Officer conclusions. Notices of Violations were factual and issued timely, and photographs were included to support violations observed.
  - Four (4) complaints, "Referred to Solid Waste" for abatement, were associated with unique case numbers. All cases included necessary information and work orders for the Solid Waste Division to follow-up and abate the violations. Third party contractors, who were notified as required, posted before and after pictures within CodeOps to evidence proper abatement of the code violations.
  - Eight (8) complaints resulted in the officer determining "No Violation Observed". The complaints were, therefore, systematically closed in CodeOps.
  - Three (3) complaints were duplicated (same property address and same issue). No violation observed was concluded for one complaint. The remaining two complaints were previously referred to Solid Waste.
  - One (1) complaint was referred to the Police Department and one (1) other to an outside agency. Outcomes from these referrals were considered outside the scope of this audit.
- Geographic Information System (GIS) and additional data are made available by the CFW to the public, free of charge, through its CFW's Open Data Portal application. During our audit, we identified complaints that were purged from CodeOps, but were still maintained in the Open Data Portal. Based on discussions with Code Compliance management, information is purged by individuals with administrative access. However, documented policies and procedures had not been developed to address purging information from CodeOps. During FY2016, we determined that 64 complaints, 82 violations and 58 cases were purged. No specific reasons were noted as to why the complaints, violations and cases were purged.
- We initially tested a sample of 50 Priority 1 violations occurring in FY2016. The test was limited to determining whether Code Officers responded within one working day as required by departmental policy. Based on our results, Code Officers responded to 82% of the violations within one working day of complaint receipt. On average, the remaining Priority 1 violations (18%) were initially responded to five days after complaint receipt.

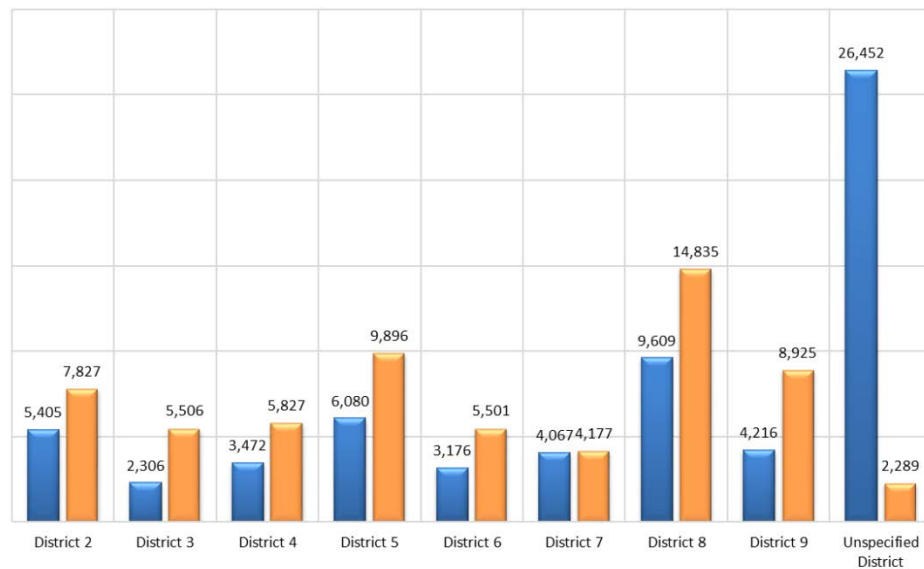
We conducted further analysis of 14,986 Priority 1 violations from FY2016. This analysis supported our original test results that 82% of the violations were addressed within one working day and 18% were initially responded to several days (an average of four days) after complaint receipt.

- In addition, we found 16 violations where no priority was assigned and 12 violations where a Priority 4 was assigned. Priority 4 violations are not defined in Code Compliance's policies and procedures manual.



- During our audit period, complaints were processed through the City’s Call Center located within the Code Compliance Department. As noted in the Background section of this report, Call Center staff used the ITSM to manage service and complaint calls. However, there was no process in place to verify all Code Compliance complaints entered into the ITSM system were transferred into CodeOps for disposition. It should be noted that on August 15, 2017, the City started using the CRM system in the Call Center to manage service and complaint calls. With this new system, ITS personnel run interface reject reports to identify Code-related calls that were entered into the CRM system but did not get transferred into CodeOps. This recently-implemented process helps ensure all Code-related calls are entered into CodeOps.
- While reviewing CodeOps reporting capabilities, we determined that CodeOps generated inaccurate and/or inconsistent reports. For example, Internal Audit compared reports that were created using “all” Council Districts to those created when using “specific” Council Districts. Totals from all the Council Districts query exceeded those that resulted after summing queries for each individual Council District. We also identified significant differences in complaint totals, and concluded that two police officers (one current and one retired) and a former Code Compliance employee were erroneously listed as assigned officers.
- During our review of FY2016 complaint data, we identified 509 instances where addresses with more than one complaint had a different Council District assigned to each complaint.
- We also reviewed FY2016 complaint information to determine activity by Council District. As noted in the following chart, we identified 26,452 complaints with no Council Districts within CodeOps. Internal Audit successfully associated (geo-coded) addresses related to 24,163 of the 26,452 complaints to Council Districts. Information related to the remaining 2,289 complaints was not sufficient to determine a valid address.

### FY2016 COMPLAINTS (by Council District)



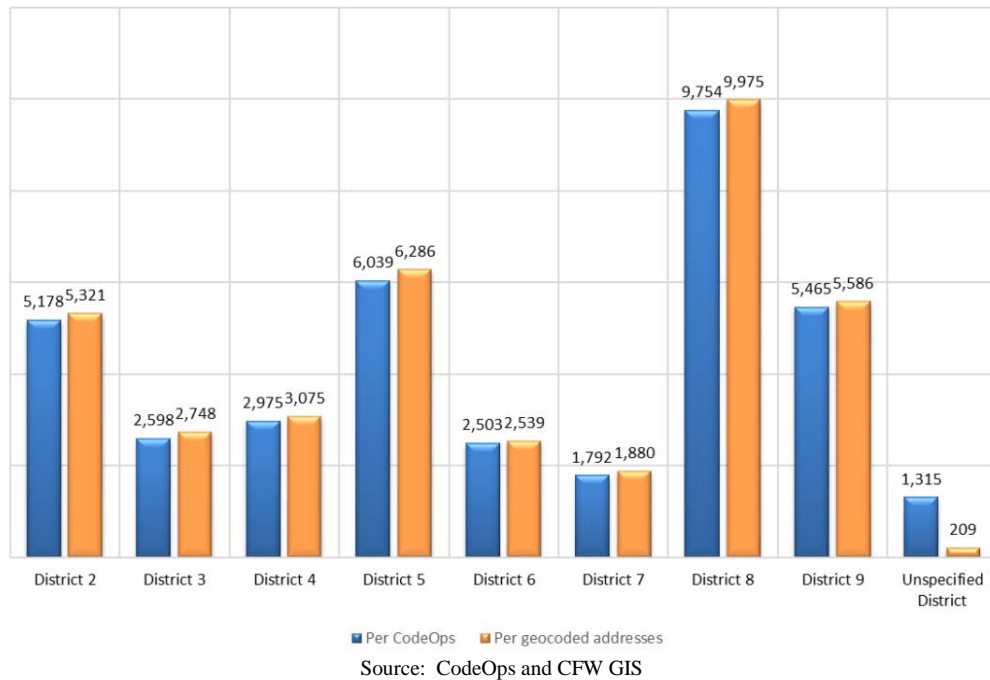
■ Per CodeOps ■ Per geocoded addresses

Sources: CodeOps and CFW GIS

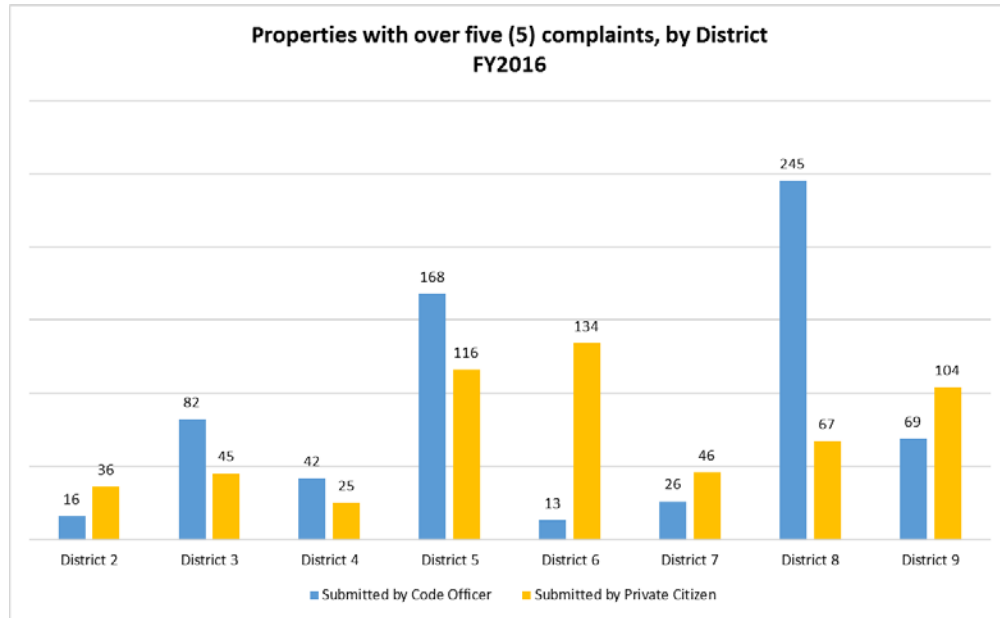


- In addition, we identified 1,315 cases that did not have Council District values assigned within CodeOps. As documented in the following chart, Internal Audit retrieved address information from CodeOps, related to these cases, and was able to geocode all but 209 to the appropriate Council District. The information related to the 209 cases was not sufficient to determine a valid address. Since an accurate address must exist in order for a case to be initiated, Internal Audit was unable to determine why complaints with invalid addresses became cases.

**FY2016 CASES  
(by Council District)**



- Internal Audit also reviewed CodeOps for Council Districts in which five or more complaints were assigned to one address. As noted in the following chart, five or more complaints for a single address were submitted by citizens (more so than Code Officers) for four of the eight Council Districts.



Source: CodeOps and CFW GIS



**Council District 2 (See Exhibit I for more detailed information)**

Nine (9) addresses received a total of 52 complaints. The majority of these addresses were residential properties, for which citizens submitted 69% of the complaints. Most complaints were related to *property upkeep*.

**Council District 3 (See Exhibit II for more detailed information)**

Seventeen (17) addresses received a total of 127 complaints. The majority of these addresses were occupied *commercial properties* with the majority of the complaints coming from Code Officers.

**Council District 4 (See Exhibit III for more detailed information)**

Eleven (11) addresses received a total of 67 complaints. The majority of these addresses were occupied residential properties that accounted for 69% of all complaints. For these residential properties, a proportionate number of complaints were submitted by Code Officers and citizens. Most of the complaints related to *bulk trash, high weeds, litter, and junk vehicles*.

**Council District 5 (See Exhibit IV for more detailed information)**

Forty-two (42) addresses received a total of 284 complaints. A total of 115 complaints were associated with 15 addresses related to occupied residential addresses. Citizens initiated 80 of those complaints. In contrast, a total of 27 commercial properties resulted in 169 complaints.

**Council District 6 (See Exhibit V for more detailed information)**

Twenty-one (21) addresses received a total of 147 complaints. Approximately 69% of the complaints were related to occupied residential properties. Ninety-one percent of the complaints were submitted by citizens and related to *junk vehicles and high grass/weeds*.

**Council District 7 (See Exhibit VI for more detailed information)**

Eleven (11) addresses received a total of 72 complaints. Approximately 64% of the complaints were related to occupied residential properties. Forty-six of the 72 complaints were submitted by citizens and related mainly to *litter*.

**Council District 8 (See Exhibit VII for more detailed information)**

Fifty-one (51) addresses received a total of 312 complaints. Thirty-three (33) addresses involved *vacant properties*, representing a majority (66%) of the complaints. Approximately 90% of the complaints were submitted by Code Officers.

**Council District 9 (See Exhibit VIII for more detailed information)**

Twenty-five (25) addresses received a total of 173 complaints. The largest number of complaints related to addresses involving occupied residential properties with *illegal parking*.



## Overall Evaluation

High	Medium	Low
<a href="#">Complaints deleted without proper audit trail in CodeOps, with data remaining visible to the public</a>		
	<a href="#">Timeliness of investigating Priority 1 incidents not adhering to department policy</a>	
	<a href="#">Inaccurate and/or inconsistent CodeOps system reporting (e.g., different Council Districts for multiple complaints at the same address)</a>	
	<a href="#">Data fields within CodeOps not restricted to prevent invalid data entry</a>	



## Detailed Audit Findings

### 1. Complaints deleted within CodeOps do not have a proper audit trail, and remain visible to the public.

The adequacy of audit trails and logs, which document changes to data, is critical for confirming the authenticity and integrity of transactions. Audit trails must be available, and maintain a record of system transactions and the identification of the users creating those transactions.

- The Department of Internal Audit conducted a query of the entire CodeOps database and concluded that 1,029 complaints were missing from the numerical sequence. We then selected a sample of 110 of these complaints for additional review and analysis.

- Thirty-five (35) of the complaints had been purged, but remained visible to the public. ITS staff informed us that the reason purged complaints were removed from CodeOps, but remained visible to the public (via the Open Data Portal), was because the software did not properly update to remove purged complaints.

Also, during the process of entering a complaint, the system could not have processed the complaint entry, but did update the complaint number counter. In that instance, a complaint number would exist although no complaint was associated with that particular complaint number.

- The remaining 75 complaints had been deleted with no evidence of supervisory review. According to Code Compliance Department staff, deletions may have occurred due to court-mandated expungement, recurring mow violations to previous property owners, and/or complaints entered incorrectly within the on-line system.
- We concluded that during FY2016, 64 complaints, 82 violations and 58 cases were purged. A total of 198 records were purged by Code staff and six by ITS staff, none of which required a secondary review or approval. According to Code Compliance staff, employees with administrative access are the ultimate decision-makers for purges. Although Code Compliance staff provided general reasons why purges occur, we could not determine specific reasons for these purges.
- We also sampled 50 FY2016 complaint numbers which were missing from the CodeOps database. Although the CodeOps database did not contain information related to the 50 complaints, 42 of the 50 complaints remained visible to the public via the Open Data Portal. Since the complaints were not in CodeOps, there was no record of an inspection. The Department of Internal Audit could not conclude whether the 42 complaints should or should not have been inspected by Code Officers. We did note, however, that 20 of the 42 complaints had invalid addresses, based on TAD records.

If complaints are improperly deleted, CodeOps does not represent the true complaint population, and the CFW could be in violation of state records retention requirements. As a result, valid complaints may not be properly inspected to ensure compliance with City Ordinances. Furthermore, if a citizen calls the Code Compliance Department to obtain the status of a complaint that is on the Open Data Portal, but has been deleted in CodeOps, that citizen would be told that the complaint does not exist. Such a response would result in a negative perception of the City and/or distrust of City information.





**Recommendation 1A:** *The Code Compliance Director should develop policies and procedures related to the purging of information from the case management system. These procedures should include maintaining an adequate audit trail for all purged transactions along with supervisory review and sign off for all purged transactions.*

**Auditee's Response:** Concur.

- 1). Develop and implement a policy on the reasons why information should be purged.
- 2). Add purge reason and supervisor approval name as dropdown selections on Purge screen.
- 3). Display this information on the Purge History screen.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance (Policy) and ITS Department (CodeOps Modifications)

**Recommendation 1B:** *The Code Compliance Director, in conjunction with the Chief Technology Officer, should ensure that purged complaints are not retained within the Open Data Portal.*

**Auditee's Response:** Concur. Remove purged complaints from the Open Data Portal and prevent future purged complaints from being retained within the Open Data Portal.

**Target Implementation Date:** June 30, 2018

**Responsibility:** ITS Department

**Recommendation 1C:** *The Code Compliance Director should ensure that complaint documentation is retained according to state retention schedules.*

**Auditee's Response:** Concur. While the Code Compliance Department already retains information in accordance to state retention schedules, there is a missing link for capturing/recording the deletion of electronic files. Once recommendation 1A is implemented, there will be a better record to prove this point.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance for establishing policy, and ITS for making any required application changes to capture the deletions of records, reasons for deletions and necessary deletion approvals as requested by Code Compliance to comply with this recommendation.

**2. Priority 1 complaints were not investigated with one working day, as required by departmental policy.**

The Code Compliance Department's policy manual states that officers shall respond to Priority 1 incidents, either upon receipt of the information or within one working day of receipt, dependent upon the circumstances. Current procedures dictate that priorities (other than complaints such as dangerous dog) not be determined until the property has been inspected. For example, if a high grass and weeds complaint is received on a Monday and the Code Officer inspects the property on Wednesday, 48 hours would have passed before the Code Officer initially inspected the property. Therefore, the one working day requirement is not met if the inspection results in a Priority 1 determination.

The Department of Internal Audit reviewed 50 Priority 1 complaints received between July and September of 2016. We concluded that nine of those 50 complaints (18%) were not inspected within one working day



of complaint receipt. As documented in the following chart, the average number of days in which those nine complaints were inspected was five days after the City's receipt of the complaint. We saw no pattern based on complaint comments noted within CodeOps. It should be noted that the number of days calculated by Internal Audit included Saturdays on which a skeleton crew is deployed.

Complaint Number	Complaint Type	Complaint Comments	Date Received	Next Working Date	Date Responded	Number of Work Days Before Responding	Council District
C-626933	Substandard Building	Substandard building in back of lot used as an apartment that is not within living conditions	08/05/2016 (Friday)	08/06/2016 (Saturday)	08/09/2016 (Tuesday)	3	8
C-638062	Health Hazard and High Grass	Green pool is causing massive amounts of mosquitoes. Yard is very high	09/23/2016 (Friday)	09/24/2016 (Saturday)	10/01/2016 (Saturday)	7	3
C-634909	Health Hazard	No Air Conditioning	09/14/2016 (Wednesday)	09/15/2016 (Thursday)	09/17/2016 (Saturday)	3	8
C-636525	Health Hazard	Stagnate above ground pool and horrid mosquito population	09/19/2016 (Monday)	09/20/2016 (Tuesday)	09/22/2016 (Thursday)	3	7
C-634546	High Grass	High grass/weeds	09/13/2016 (Tuesday)	09/14/2016 (Wednesday)	09/15/2016 (Thursday)	2	2
C-620896	High Grass	The grass, weeds, dead trees and shrubs are so overgrown that you can hardly see the house especially in the back.	07/06/2016 (Wednesday)	07/07/2016 (Thursday)	07/11/2016 (Monday)	4	3
C-638246	Health Hazard	Several tires in backyard holding water	09/25/2016 (Sunday)	09/26/2016 (Monday)	10/06/2016 (Thursday)	10	9
C-625396	Health Hazard	No Air Conditioning, no running water	07/28/2016 (Thursday)	07/29/2016 (Friday)	08/01/2016 (Monday)	3	6
C-636386	High Grass	2 foot high grass overgrown into street	09/19/2016 (Monday)	09/20/2016 (Tuesday)	09/27/2016 (Tuesday)	7	6

Further analysis of 14,986 Priority 1 violations (in FY2016) supported the sample results. For example, approximately 82% of the violations were addressed within one working day. On average, the remaining 18% were initially inspected four days after receipt.



Code Compliance received 64,783 complaints during FY2016 and created 38,016 cases from these complaints. On average, each case requires approximately three follow-up inspections after the initial inspection to gain compliance. We determined that approximately 160,000 inspections would be needed to address the complaints and follow-up on cases from FY2016. This would result in each available Code Officer completing and documenting 22 inspections each day in order to meet the one working day inspection requirement.

Delays in investigating Priority 1 complaints could expose the City and its citizens to imminent health and safety risks.

**Recommendation 2:** *The Code Compliance Director should evaluate the reasonableness of the one work day requirement (i.e., consider extending the timeline for incidents that do not pose an immediate health and safety risk), and either enforce the current policy or make necessary policy revisions.*

**Auditee's Response:** Concur. Based on staffing levels and workload, the Code Compliance Department has a goal to inspect 80% of priority one complaints within 24 hours. The ITS Department will develop a new SQL report showing the number of days to do an inspection, by complaint, with date parameter.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance will update response policies to match key performance indicator and will work with ITS to develop tools to monitor compliance.

### 3. CodeOps reports are inconsistent and include terminated and/or non-Code Compliance employees.

Best Practices entail that case management systems have reporting capabilities sufficient to provide accurate and consistent information to stakeholders. During our audit, we identified inconsistencies and/or inaccuracies within the Reports tab of the CodeOps dashboard.

- The CodeOps dashboard allows users to create reports based on complaint, case, and violation parameters (See Exhibit IX). Users can also create reports using a specific or all Council Districts. Internal Audit compared reports that were created using "all" Council Districts to those created when using "specific" Council Districts. As noted in the following table, when the specific Council District data was summed and compared to "all" Council District data, we identified differences in complaint, violation and case totals.

April 2016 through September 2016			
Parameter Used	# of Complaints	# of Violations	# of Cases
All Council Districts	39,759	33,545	21,559
Specific Council Districts	22,935	32,679	20,827
Variance	16,824	866	732

Because complainants may submit inaccurate and/or incomplete address information, it is expected that some complaints may not be associated with a specific Council District. However, since an accurate address must exist in order for a violation and case to be initiated, the noted violation and case variances (866 and 732, respectively) seem unreasonable.



- The CodeOps dashboard also shows the number of assigned complaints by officer. Based on our audit results, the report (with a September 13, 2017 run date) included 102 complaints assigned to two police officers (one of whom retired in 2014), and 20 complaints assigned to a Code Compliance employee whose employment with the City terminated in 2010. Code Compliance staff asserted that the assignment errors were identified on a daily basis, and complaints were reassigned to the appropriate Code Officer. Internal Audit obtained the list of complaints assigned to the two police officers and the terminated Code Compliance employee, and concluded that the erroneously-assigned complaints had been reassigned to current Code Officers.

Code Compliance staff indicated that a “glitch” occurred in CodeOps, as CodeOps is supposed to assign complaints based on assignments in the “Code Officer Assignment Manager” module. Code Compliance staff also indicated they are not sure why the report would have the names of the three non-Code employees since complaints were reassigned to current Code Officers. Code Compliance’s solution to this “glitch” was to completely remove the non-Code employees from the system. Although the complaints were received and assigned during FY2016, the removal of non-Code Officers occurred during this audit, which was conducted in FY2017. However, this removal did not cause the report to be updated. As of the end of audit fieldwork, the report still listed these terminated Code Officers.

Because reports generated by CodeOps are unreliable and may not reflect Code Officers’ actual workloads, management’s reliance on those reports could result in an inaccurate assessment of code complaints, violations, cases and/or staff performance.

**Recommendation 3A:** *The Code Compliance Director should develop and implement an exception report for the purpose of identifying data exceptions (e.g., complaints without a Council District) within CodeOps.*

**Auditee’s Response:** Concur. Several exception reports already exist, are monitored, and identified exceptions are corrected timely. In regard to Council Districts, the following actions will be taken. 1) Develop a new SQL report showing open cases without Council Districts, with date parameter. 2) On cases with invalid addresses, require Council District to be input before case can be worked. 3) Add dropdown list of districts 2 – 9 to force valid entry.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance will review all exception reports for accuracy and completeness and work with ITS Department to make any necessary additions or changes to reports.

**Recommendation 3B:** *The Code Compliance Director should ensure the timely correction of identified data exceptions so that the information contained within CodeOps is accurate for reporting.*

**Auditee’s Response:** Concur. Several exception reports already exist, are monitored, and identified exceptions are corrected timely. In regard to Council Districts, the following actions will be taken. Develop and implement a policy that supervisors will check and resolve identified exceptions from the new SQL report daily.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance will review all exception reports for monitoring data accuracy and completeness and work with ITS Department to make any necessary additions or changes to reports.

**Recommendation 3C:** *The Code Compliance Director should monitor assignments within CodeOps and if any errors are identified, determine why and implement a solution to prevent future occurrences.*



**Auditee's Response:** Concur. Several exception reports already exist, are monitored, and identified exceptions are corrected timely. The following actions will be taken. Develop and implement a policy that supervisors will report errors they cannot resolve to the Superintendents to determine the cause and implement a solution to prevent future occurrences.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance Department

**Recommendation 3D:** *The Code Compliance Director, in conjunction with the Chief Technology Officer, should ensure that CodeOps report configuration reads the most current data.*

**Auditee's Response:** Concur. Verify that CodeOps reports are accurate and make any necessary corrections to ensure data accuracy.

**Target Implementation Date:** May 31, 2018

**Responsibility:** Code Compliance will work with ITS to complete this review.

#### **4. CodeOps allows invalid data entry.**

According to the Control Objectives for Information and Related Technology (COBIT) standards, the execution of business process activities and related controls should be operated in such a way as to ensure that information processing is valid, complete, accurate, timely, and secure. This would include the validation of data entry, the rejection of data entered incorrectly, and the correction of incorrect data entries.

During our review of data related to violations by priority level, we determined that Code Officers assigned a Priority 4 value to 12 violations, and failed to assign any priority value to 16 violations. Current department policy only indicates three priority levels that can be assigned to a violation.

Since responses to violations are based upon the priority level assigned within the CodeOps system, having violations assigned to incorrect or no priority level could result in a hazardous or dangerous violation not being addressed timely, thereby placing citizens in danger.

**Recommendation 4:** *The Code Compliance Director, in conjunction with the Chief Technology Officer should consider establishing data entry controls that help ensure that CodeOps report configuration reads the most current data.*

**Auditee's Response:** Partially Concur. Records should contain the appropriate Council District at the time the violation existed. If Council District lines change, closed records should not be updated with the new changes, only open records should be updated. Audit will provide a spreadsheet of the 509 addresses that had complaints with different Council Districts so that Code Compliance can review these cases and determine what procedure are necessary to ensure Council District data is accurate at the time of violation. Code Compliance will work with ITS to make any systems changes deemed necessary.

**Target Implementation Date:** June 30, 2018

**Responsibility:** Code Compliance in conjunction with ITS Department



**5. There are multiple complaints for the same address, within CodeOps, that are associated with different Council Districts.**

The City of Fort Worth's GIS collects detailed information to provide users with the most complete information possible related to a specific address. The accuracy of this map is incumbent upon the accuracy of the data used to produce it.

Addresses entered as part of a new complaint in CodeOps are validated against the City's GIS database. GIS data attributes, such as Council District and police beat, are then added to the complaint record. During our review of complaint data within CodeOps, the Department of Internal Audit identified 509 instances where addresses with multiple complaints had different Council District values assigned. ITS staff indicated that intermittent issues with the GIS system contributed to the incorrect Council District values.

Because CodeOps data is transferred to the Open Data Portal for public reporting purposes, information associated with fields such as Council District should be accurate. Without accurate Council District information, City Council members, their constituents and Code Compliance managers will not have an accurate assessment of code complaints, violations, and cases.

**Recommendation 5A:** *The Code Compliance Director, in conjunction with the Chief Technology Officer, should consider establishing data entry controls to help prevent invalid data entry.*

**Auditee's Response:** Concur.

- 1) ITS will provide a spreadsheet of the Priority 4 and blank priority violations
- 2) Verify that all active ordinances have priorities set
- 3) In Administration module, make priority level required for ordinance and replace priority text box with dropdown list containing 1, 2 and 3.

**Target Implementation Date:** June 30, 2018

**Responsibility:** Code Compliance Department will update priority level as necessary and work with the ITS Department to ensure only valid priority entries are accepted by the system. Code Compliance will review policies for assigning priority levels and ensure staff follow department policies when assigning priority.

**Recommendation 5B:** *The Code Compliance Director, in conjunction with the Chief Technology Officer, should ensure that a process is developed and implemented to regularly validate CodeOps complaint, violation and case data that is added from Geographic Information System (GIS), and promptly correct any errors.*

**Auditee's Response:** Concur. Audit will provide a spreadsheet of the 509 addresses that had complaints with different Council Districts so that Code Compliance can review these cases and determine what procedures are necessary to ensure Council District data is accurate at the time of violation. Code Compliance will work with ITS to make any systems changes deemed necessary.

**Target Implementation Date:** June 30, 2018

**Responsibility:** Code Compliance, in conjunction with ITS Department



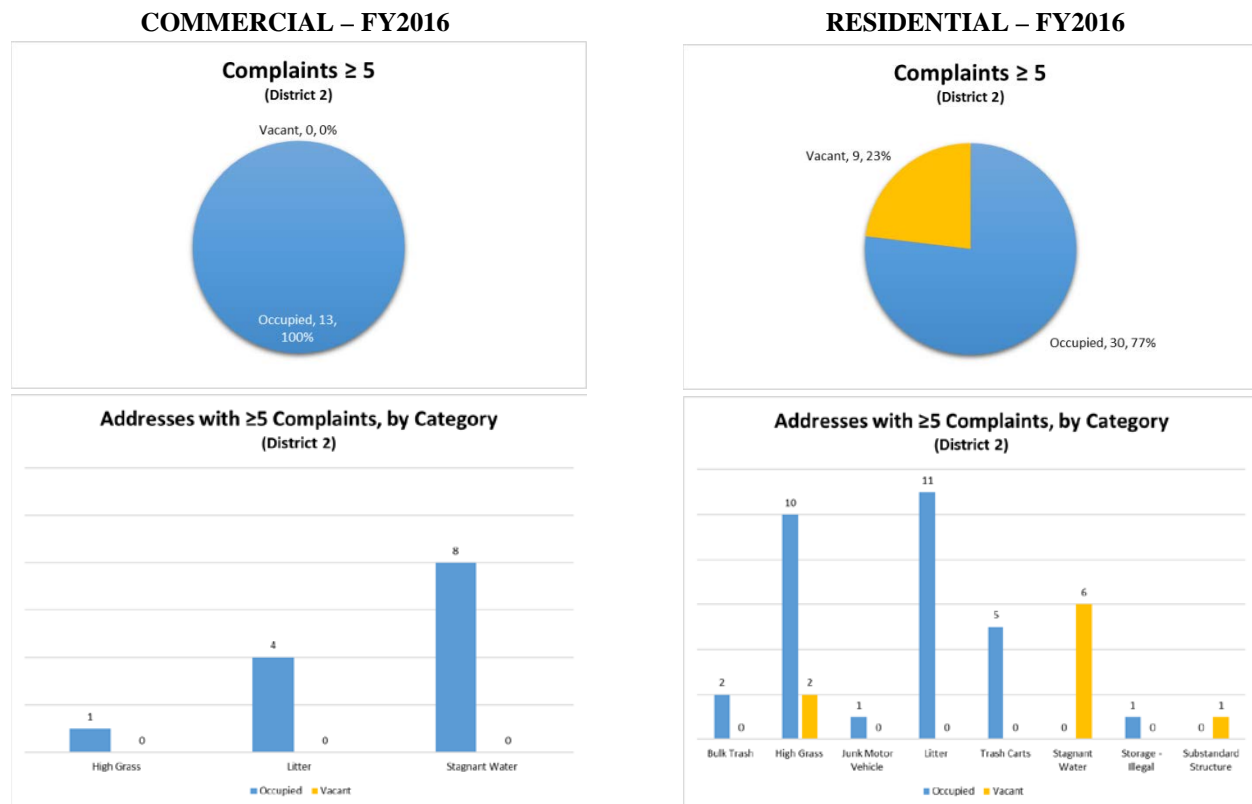
## Acknowledgements

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The Department of Internal Audit would like to thank staff from the Code Compliance and Information Technology Solutions Departments for their cooperation and assistance during this audit.



## Exhibit I – Addresses with ≥ 5 Complaints (District 2)



Source: CodeOps

### Council District 2 - Honorable Carlos Flores

Nine (9) addresses received five or more complaints. A total of 52 complaints were assigned to these nine addresses. Code Officers submitted 16 complaints (31%) and citizens submitted the remaining 36 complaints (69%).

Thirteen of the 52 complaints (25%) were related to occupied commercial properties, 30 complaints (58%) were related to occupied residential properties, and the remaining nine complaints (17%) were related to vacant residential properties.

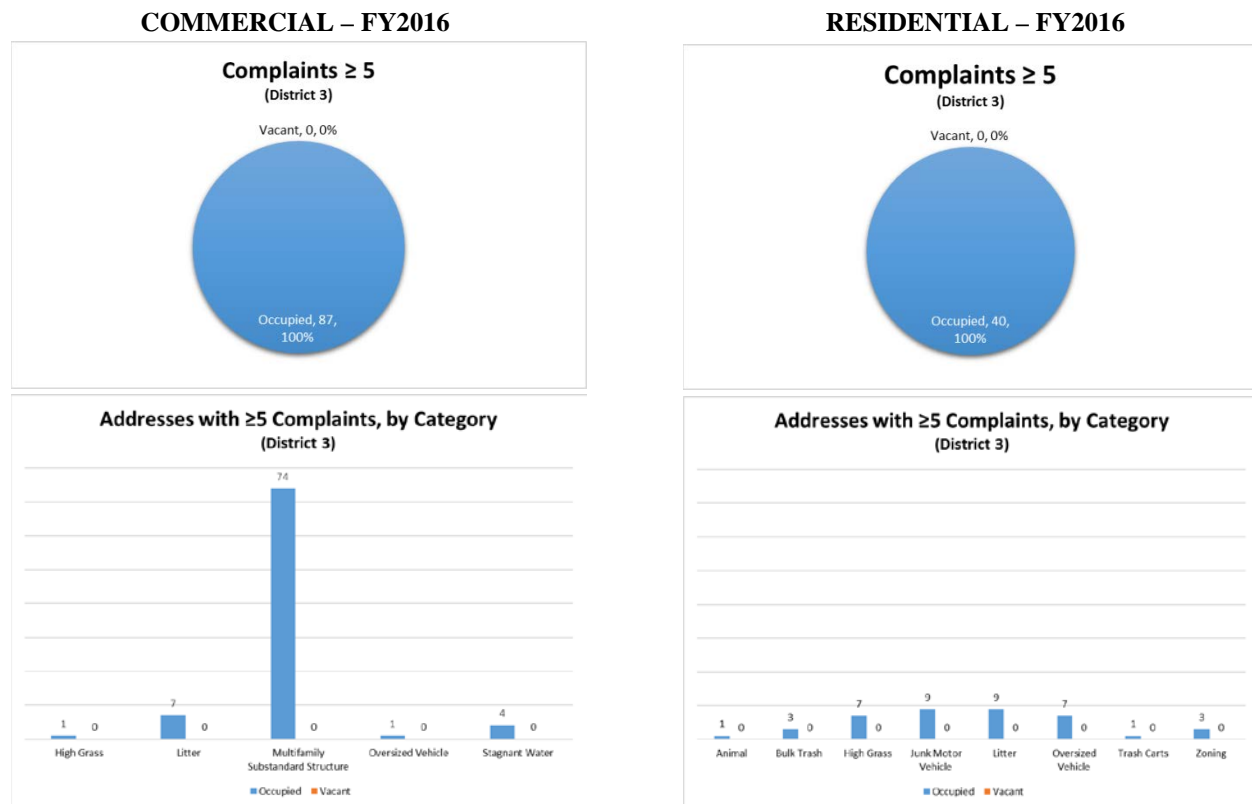
- Commercial (13 complaints) - Eight (8) complaints were received from private citizens regarding a community pool. The complaints were referred to the Environmental and Health Services Division of the Code Compliance Department, and the violation was abated. No additional complaints had been submitted for this address since August 8, 2016. The remaining five complaints were submitted by Code Officers, with four referred to Solid Waste and abated. The remaining issue, related to high grass/weeds, was also abated.
- Residential (30 complaints) - Six (6) addresses were occupied properties, with citizens submitting 19 of the 30 (63%) complaints. Unfounded, repetitive complaints were noted as being associated with issues (e.g., trash cart placement, high grass/weeds, trash and illegal storage) that could be visually investigated without engaging the home owner/residence. The remaining 11 complaints (37%) were submitted by Code Officers and related to a junk motor vehicle, high grass/weeds and trash/litter)
- Vacant Residential (9 complaints) - One (1) address was a vacant residential property, with all nine complaints submitted by private citizens. Code Officers addressed the complaints related to fencing in need





of repair, high grass/weeds, and stagnant water in a swimming pool. The violations were abated. No additional complaints had been submitted for this address since August 2016.

## Exhibit II – Addresses with ≥ 5 Complaints (District 3)



Source: CodeOps

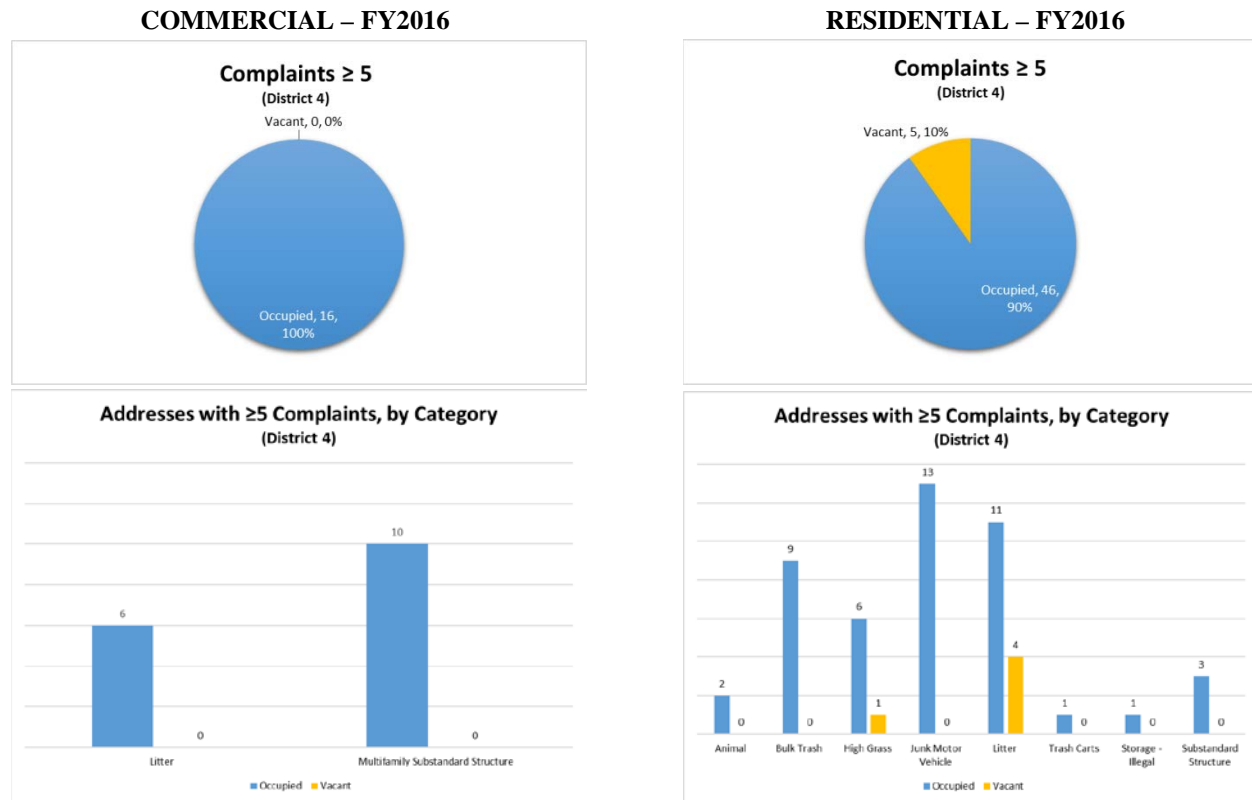
### Council District 3 - Honorable Brian Byrd

Seventeen addresses received five or more complaints. A total of 127 complaints were assigned to the 17 addresses. Code Officers submitted 82 (65%) of the complaints, while citizens submitted the remaining 45 (35%) complaints.

Eighty-seven of the 127 complaints (69%) involved occupied commercial properties, 40 complaints (31%) involved occupied residential properties, and there were no complaints related to vacant properties.

- Commercial (87 complaints) - Ten addresses were occupied commercial properties (including eight multi-family dwellings). Code Officers submitted 79 of the 87 complaints while conducting routine multi-family inspections and monitoring other commercial properties. The complaints were mainly related to litter/debris, substandard structures and stagnant water. Code Officers noted that the two remaining commercial properties had recurring issues with litter around dumpsters. The properties were abated. The remaining 8 complaints were submitted by private citizens and related mainly to substandard structures and zoning.
- Residential (40 complaints) - Seven addresses were occupied residential properties. Repetitive complaints by private citizens were mainly associated with issues such as high grass/weeds, junk vehicles, trash/debris, litter and zoning issues that could be visually investigated without engaging the home owner/residence.

## Exhibit III – Addresses with ≥ 5 Complaints (District 4)



Source: CodeOps

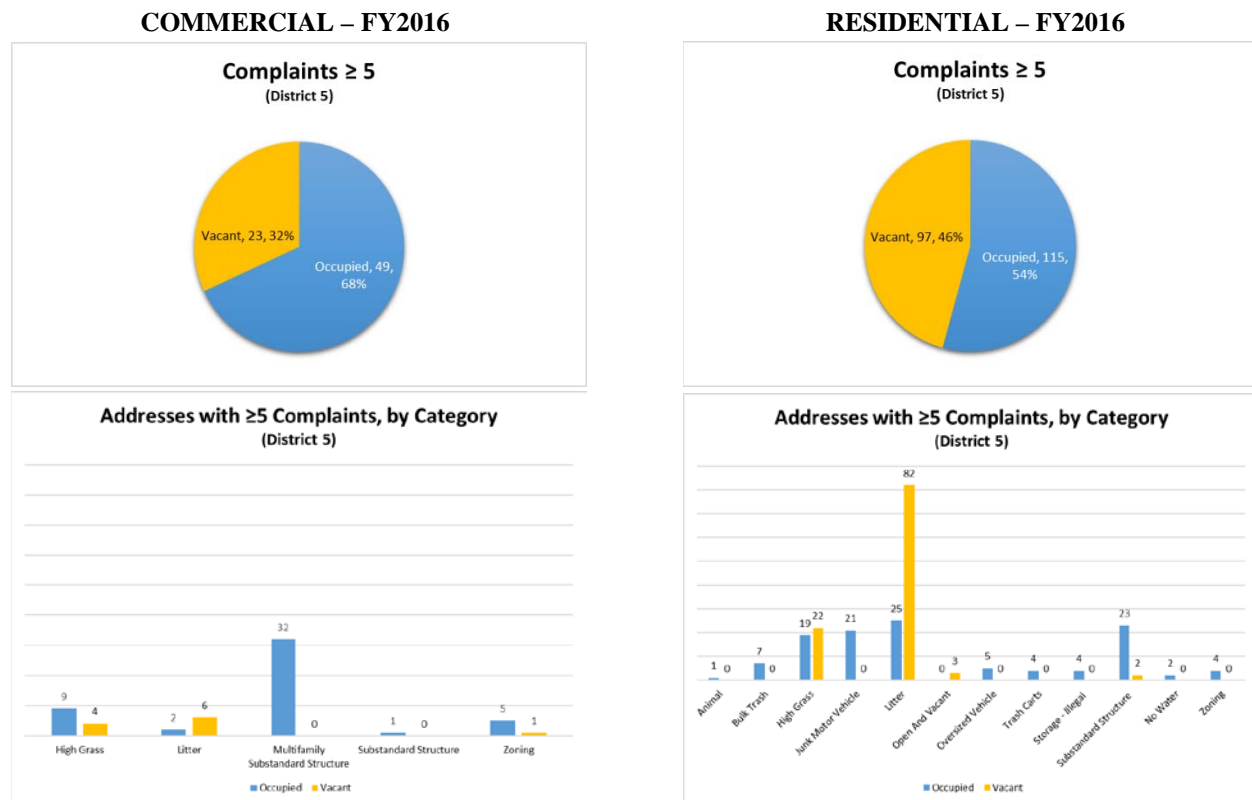
### Council District 4 - Honorable Cary Moon

Eleven addresses received five or more complaints. A total of 67 complaints were assigned to these 11 addresses. Code Officers submitted 42 or 63% of the complaints, while citizens submitted the remaining 25 (37%) complaints.

Sixteen complaints (24%) were related to occupied commercial properties, 46 complaints (69%) were related to occupied residential properties, and the remaining five complaints (7%) were related to vacant properties.

- Commercial (16 complaints) - Code Officers submitted 15 of 16 complaints for three (3) commercial properties (including two multi-family dwellings), mainly related to substandard structures and litter. The remaining commercial property had one complaint related to litter that was submitted by a private citizen.
- Residential (46 complaints) - Seven addresses were occupied residential properties with 46 complaints. Private citizens submitted 24 complaints and Code Officers submitted the remaining 22 complaints. Five illegal parking complaints, submitted by private citizens, were referred to the Fort Worth Police Department. The complaints were substantiated in most instances, with violations verified. Private citizen complaints were included in cases already opened and addressed, by the Code Officer, during re-inspection. These locations experienced repeat violations for bulk trash, high grass/weeds, junk vehicles, litter, substandard structures and animals.
- Vacant Residential (5 complaints) – A Code Officer submitted five complaints for one address. The vacant, residential lot had a history of litter/debris and high grass/weeds. Violations were abated by the City.

## Exhibit IV – Addresses with ≥ 5 Complaints (District 5)



Source: CodeOps

### Council District 5 - Honorable Gyna Bivens

Forty two (42) addresses received five or more complaints. A total of 284 complaints were assigned to these 42 addresses. Code Officers submitted 168 (59%) complaints and citizens submitted the remaining 116 (41%) complaints.

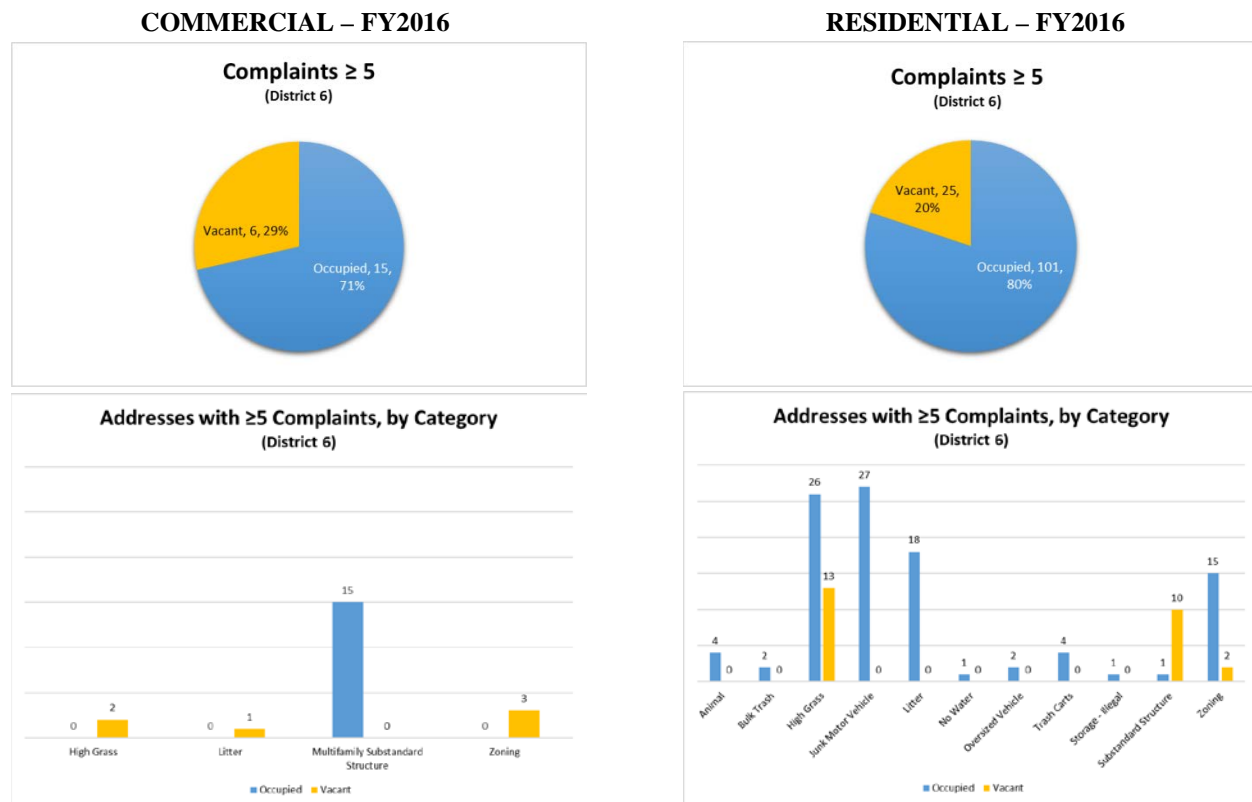
Forty-nine of the 284 complaints (17%) were related to occupied commercial properties, 115 complaints (41%) were related to occupied residential properties, and the remaining 120 complaints (42%) related to vacant properties.

- Commercial (49 complaints) - Code Officers submitted 31 of 49 (63%) complaints for eight occupied, commercial property addresses (including five multi-family dwellings). The complaints were related to maintenance/repair issues. The remaining three commercial properties experienced litter, high grass/weeds and zoning issues that were addressed by Code Officers monitoring commercial properties. Private citizens submitted 18 complaints (37%) for substandard structures and litter issues at the multi-family dwellings, and zoning and substandard structures at two other commercial properties.
- Residential (115 complaints) - Fifteen addresses were occupied residential properties with private citizens submitting 80 of the 115 (70%) complaints. The majority of the complaints were for high grass/weeds, substandard structures, trash/debris, litter, junk vehicles, and zoning issues. Code Compliance records indicate that a private citizen submitted 21 complaints for one address. The case was subsequently abated and closed. Code Officers submitted the remaining 35 complaints (30%) for various issues with bulk trash/debris, high grass/weeds, junk vehicles and substandard structures being the predominant complaints.
- Vacant (120 complaints) - Code Officers submitted 102 of the 120 complaints (85%) for 19 vacant property addresses. Complaints related to two vacant sites were commercial properties. Private citizens submitted



17 complaints (14%) and CFW Police submitted one complaint (1%). All complaints were mainly related to trash/debris (litter), substandard structures and high grass/weeds.

## Exhibit V – Addresses with ≥ 5 Complaints (District 6)



Source: CodeOps

### Council District 6 - Honorable Jungus Jordan

Twenty-one addresses received five or more complaints. A total of 147 complaints were assigned to these 21 addresses. Citizens submitted 134 of the 147 (91%) complaints, while Code Officers submitted the remaining 13 complaints (9%).

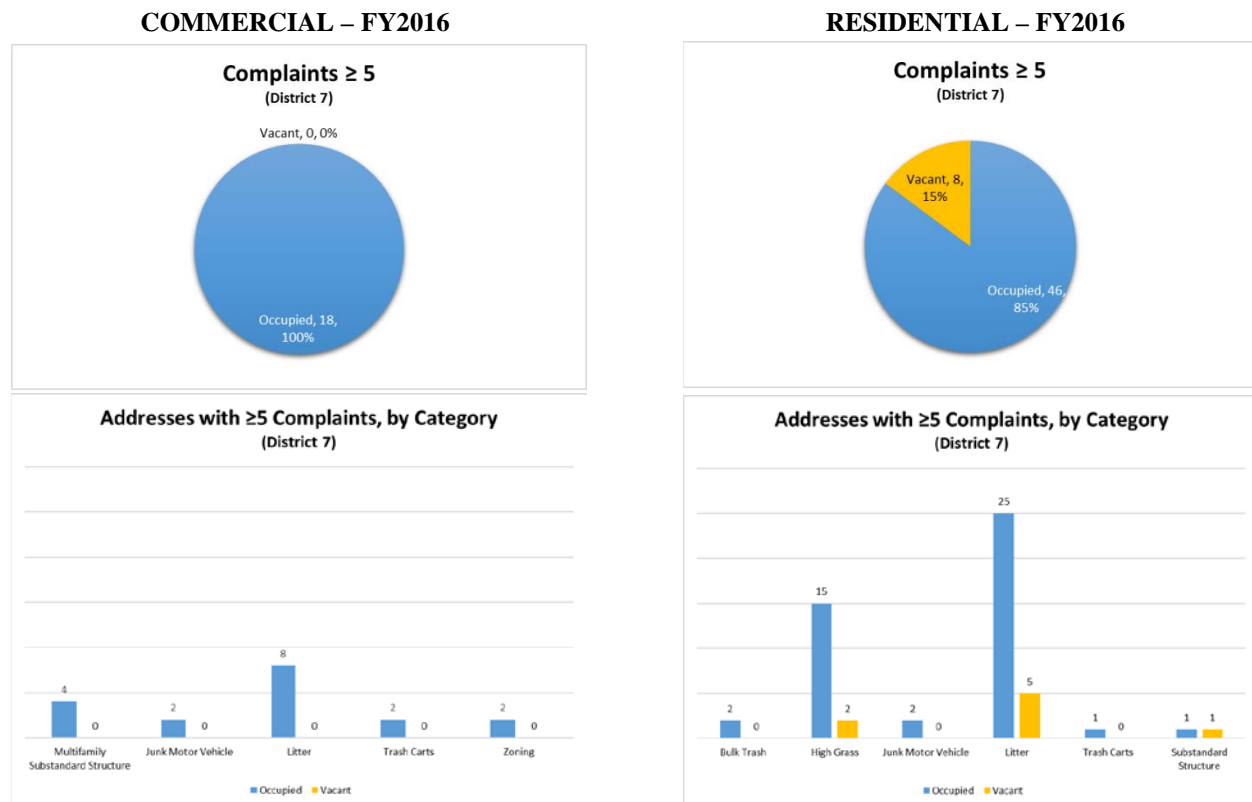
Fifteen (15) of the 147 (10%) complaints were related to occupied commercial properties, 101 complaints (69%) were related to occupied residential properties, and the remaining 31 (21%) were related to vacant properties.

- **Commercial (15 complaints)** – Fifteen (15) complaints were related to occupied commercial properties for issues such as substandard structures, trash/debris, and bugs at three multi-family property addresses. Nine complaints (60%) were submitted by private citizens and the remaining 6 complaints (40%) were submitted by Code Officers.
- **Residential (101 complaints)** - Private citizens submitted 97 of the 101 (96%) complaints for 14 occupied residential property addresses. Two addresses were the subject of the 14 complaints (submitted on the same day, by two persons) concerning illegal parking issues that were referred to the Fort Worth Police Department. The other 12 addresses received the remaining 83 complaints by private citizens. The complaints were mainly related to high grass/weeds, trash/litter, parking of vehicles, trailers and junk cars. Additional complaints from private citizens were included in cases already opened by the Code Officer and addressed during re-inspection. Supporting documentation indicated that most issues could be verified or refuted upon visual observation by the Code Officer and without engaging the home owner. Code Officers submitted the remaining four complaints (4%) mainly related to litter and high grass/weeds.
- **Vacant (31 complaints)** – Private citizens submitted 28 of the 31 (90%) complaints for four vacant properties that were mainly related to substandard structures, high grass/weeds, zoning and litter. Code Officers



submitted the remaining three complaints (10%) for substandard structures, high grass/weeds and litter for three of the aforementioned vacant properties.

## Exhibit VI – Addresses with ≥ 5 Complaints (District 7)



Source: CodeOps

### Council District 7 - Honorable Dennis Shingleton

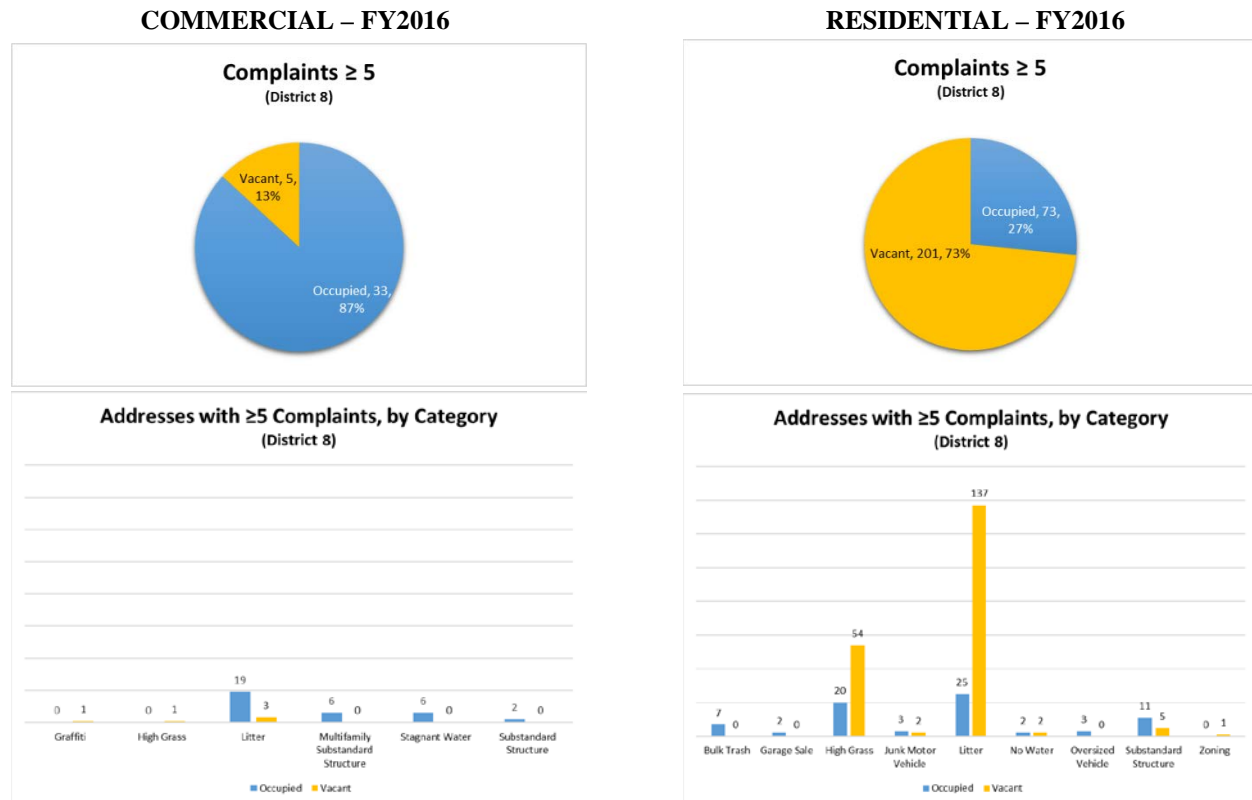
Eleven (11) addresses received five or more complaints. A total of 72 complaints were assigned to these addresses. Code Officers submitted 26 of the 72 (36%) complaints, while citizens submitted the remaining 46 complaints (64%).

Eighteen of the complaints (25%) were for occupied commercial properties, 46 complaints (64%) were for occupied residential properties, and the remaining eight complaints (11%) were related to vacant properties.

- **Commercial (18 complaints)** – The 18 complaints were related to three commercial multifamily property addresses, and were related to trash carts, litter, junk motor vehicles, substandard structures, and zoning. Five of the complaints were referred to Solid Waste. Code Officers submitted 10 complaints (56%), and the remaining eight complaints (44%) were submitted by private citizens.
- **Residential (46 complaints)** – Private citizens submitted 31 of the 46 (67%) complaints for seven occupied, residential property addresses. These complaints were related to trash, litter, high grass/weeds, substandard structures, and junk vehicles. Code Officers submitted the other 15 complaints (33%) related to the same issues. The complaints from private citizens were included in cases already opened by Code Officers and were abated.
- **Vacant (8 complaints)** – Private citizens submitted seven complaints (88%) that were applicable to one vacant, residential property address. The complaints were related to substandard structure, litter, and high grass/weeds. The remaining complaint (12%) was submitted by a Code Officer for litter. The property owner was non-responsive and the City abated the violation.



## Exhibit VII – Addresses with ≥ 5 Complaints (District 8)



Source: CodeOps

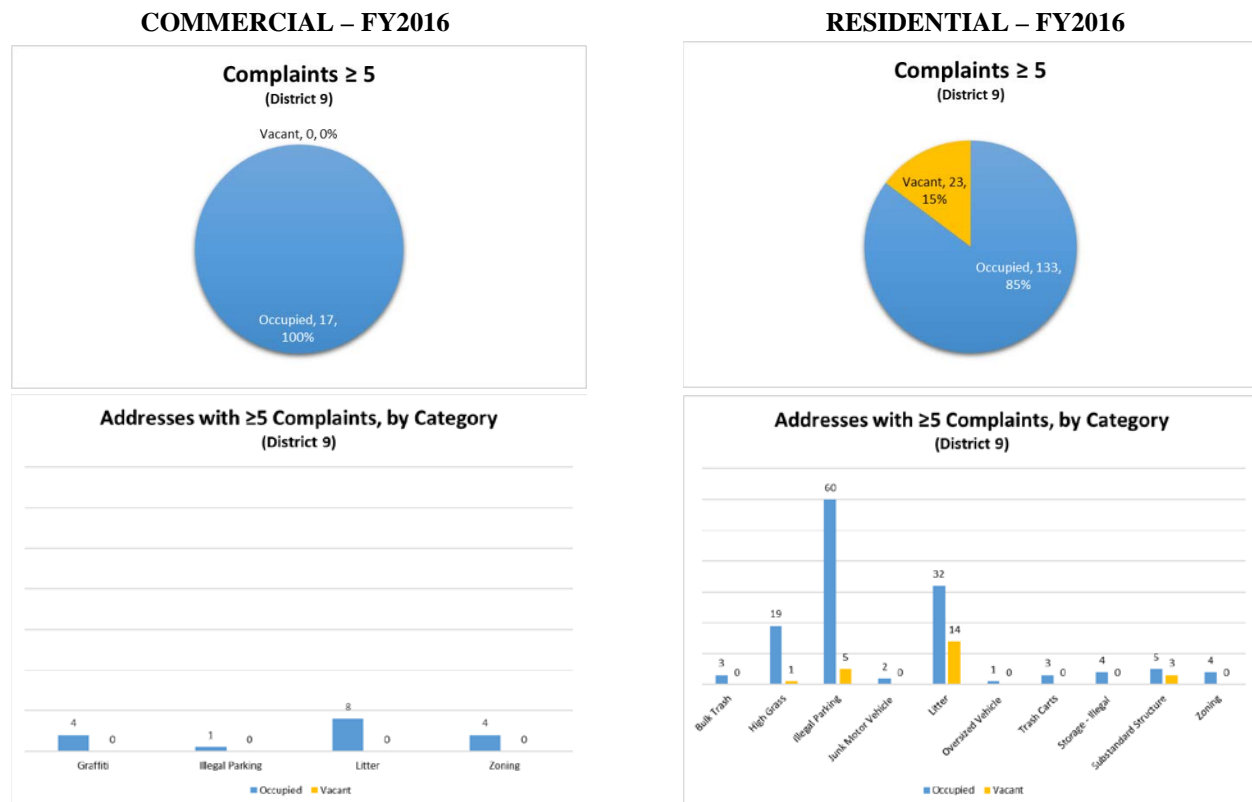
### Council District 8 - Honorable Kelly Allen Gray

Fifty-one addresses received five or more complaints. A total of 312 complaints were assigned to these 51 addresses. Code Officers submitted 245 of the 312 complaints (79%) and private citizens submitted the remaining 67 complaints (21%).

Occupied residential properties received 73 complaints (23%), occupied commercial properties received 33 complaints (11%) and vacant properties received the remaining 206 complaints (66%).

- Commercial (33 complaints) - Six (6) addresses were occupied commercial properties (including one multi-family dwelling) with 20 of the 33 (61%) complaints submitted by Code Officers. The multi-family location had tenant complaints and an issue with trash overflow at a dumpster. The 13 complaints (39%) submitted by private citizens were mainly related to litter/trash, dumpsters overflowing and tenant-related issues.
- Residential (73 complaints) - Twelve (12) addresses were occupied residential properties where 40 of 73 (55%) complaints were submitted by Code Officers. These 40 complaints were mainly related to high grass/weeds, litter, trash, substandard structure and vehicle issues (junk motor vehicles and over-sized vehicles). The 33 complaints (45%) from private citizens were included in the cases already opened by the Code Officers and addressed during re-inspection; most of the issues could be verified or refuted through visual observation by the Code Officer without engaging the resident. These complaints were also related to high grass/weeds, litter/trash, substandard homes, and trash/junk.
- Vacant (206 complaints) - Thirty-three (33) addresses were vacant properties in which 185 of the 206 (90%) complaints were submitted by Code Officers. These vacant sites had repeated issues mainly involving litter, high grass/weeds, substandard structures, and trash/debris. The remaining 21 complaints (10%) were submitted by private citizens and were also mainly related to high grass/weeds, litter, junk motor vehicles and trash/debris.

## Exhibit VIII – Addresses with ≥ 5 Complaints (District 9)



Source: CodeOps

### Council District 9 - Honorable Ann Zadeh

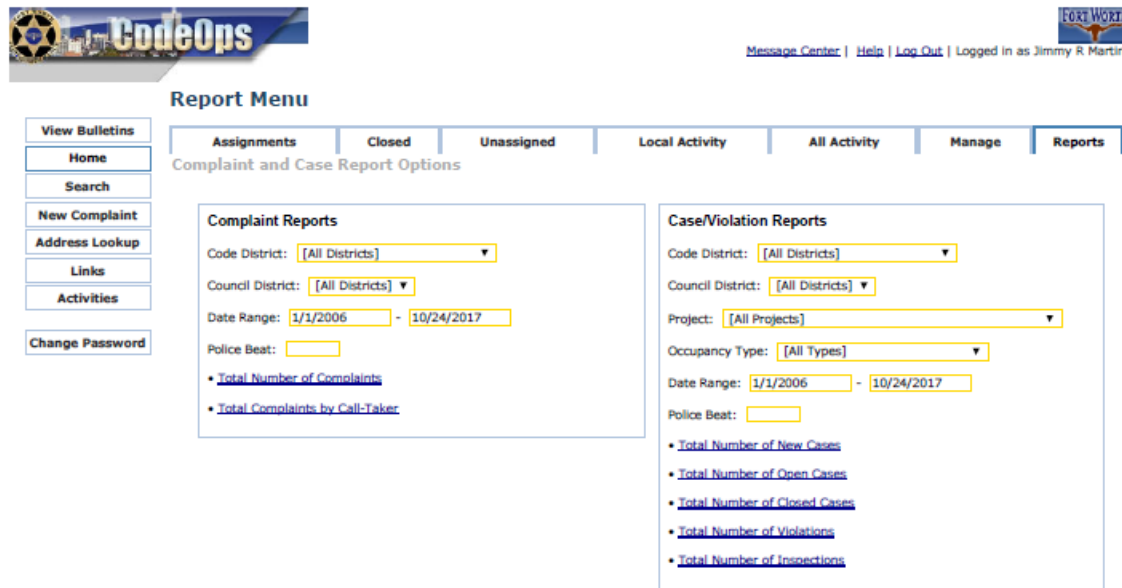
Twenty-five addresses received five or more complaints. A total of 173 complaints were assigned to these 25 addresses. Code Officers submitted 69 of the 173 complaints (40%), while citizens submitted the remaining 104 complaints (60%).

Seventeen of the 173 complaints (10%) were related to occupied commercial properties, 133 complaints (77%) were related to occupied residential properties, and the remaining 23 (or 13%) were related to vacant properties.

- Commercial (17 complaints) - Code Officers submitted 14 of the 17 (82%) complaints that were mainly related to trash/litter for three addresses. The remaining three complaints (18%) were submitted by private citizens and related mainly to illegal parking.
- Residential (133 complaints) - Private citizens submitted 93 of the 133 (70%) complaints that were related to 18 occupied, residential property addresses. The 93 complaints were related to illegal parking, high grass/weeds, litter, substandard structures, trash carts, illegal storage, and trash/debris. One address had 31 complaints, 30 of which were submitted by one citizen related to illegal parking. The remaining 40 complaints (30%) were submitted by Code Officers and mainly related to high grass/weeds, trash/debris, litter and substandard structure.
- Vacant (23 complaints) - Code Officers submitted 15 of the 23 (65%) complaints that related to four vacant property addresses. These vacant properties had issues mainly related to litter and zoning. The remaining eight complaints (35%) were submitted by private citizens and were related to illegal parking (car parked on front lawn), litter, and substandard structures.



## Exhibit IX – CodeOps Report Menu



The screenshot displays the CodeOps web application interface. At the top left is the Fort Worth logo. The main header area includes a 'CodeOps' banner and a navigation bar with links for 'Message Center', 'Help', 'Log Out', and a user status 'Logged in as Jimmy R. Martin'. Below the header is the 'Report Menu' section, which features a sidebar with navigation links: 'View Bulletins', 'Home', 'Search', 'New Complaint', 'Address Lookup', 'Links', 'Activities', and 'Change Password'. The main content area has tabs for 'Assignments', 'Closed', 'Unassigned', 'Local Activity', 'All Activity', 'Manage', and 'Reports'. The 'Reports' tab is active, showing 'Complaint and Case Report Options'. This section is divided into two panels: 'Complaint Reports' and 'Case/Violation Reports'. Each panel contains dropdown menus for 'Code District' and 'Council District', a 'Date Range' selector (set to 1/1/2006 - 10/24/2017), and a 'Police Beat' input field. Below these fields are links for 'Total Number of Complaints' and 'Total Complaints by Call-Taker' in the Complaint Reports panel, and 'Total Number of New Cases', 'Total Number of Open Cases', 'Total Number of Closed Cases', 'Total Number of Violations', and 'Total Number of Inspections' in the Case/Violation Reports panel.

**Report Menu**

Assignments | Closed | Unassigned | Local Activity | All Activity | Manage | **Reports**

Complaint and Case Report Options

**Complaint Reports**

Code District: [All Districts] ▼

Council District: [All Districts] ▼

Date Range: 1/1/2006 - 10/24/2017

Police Beat: [ ]

- [Total Number of Complaints](#)
- [Total Complaints by Call-Taker](#)

**Case/Violation Reports**

Code District: [All Districts] ▼

Council District: [All Districts] ▼

Project: [All Projects] ▼

Occupancy Type: [All Types] ▼

Date Range: 1/1/2006 - 10/24/2017

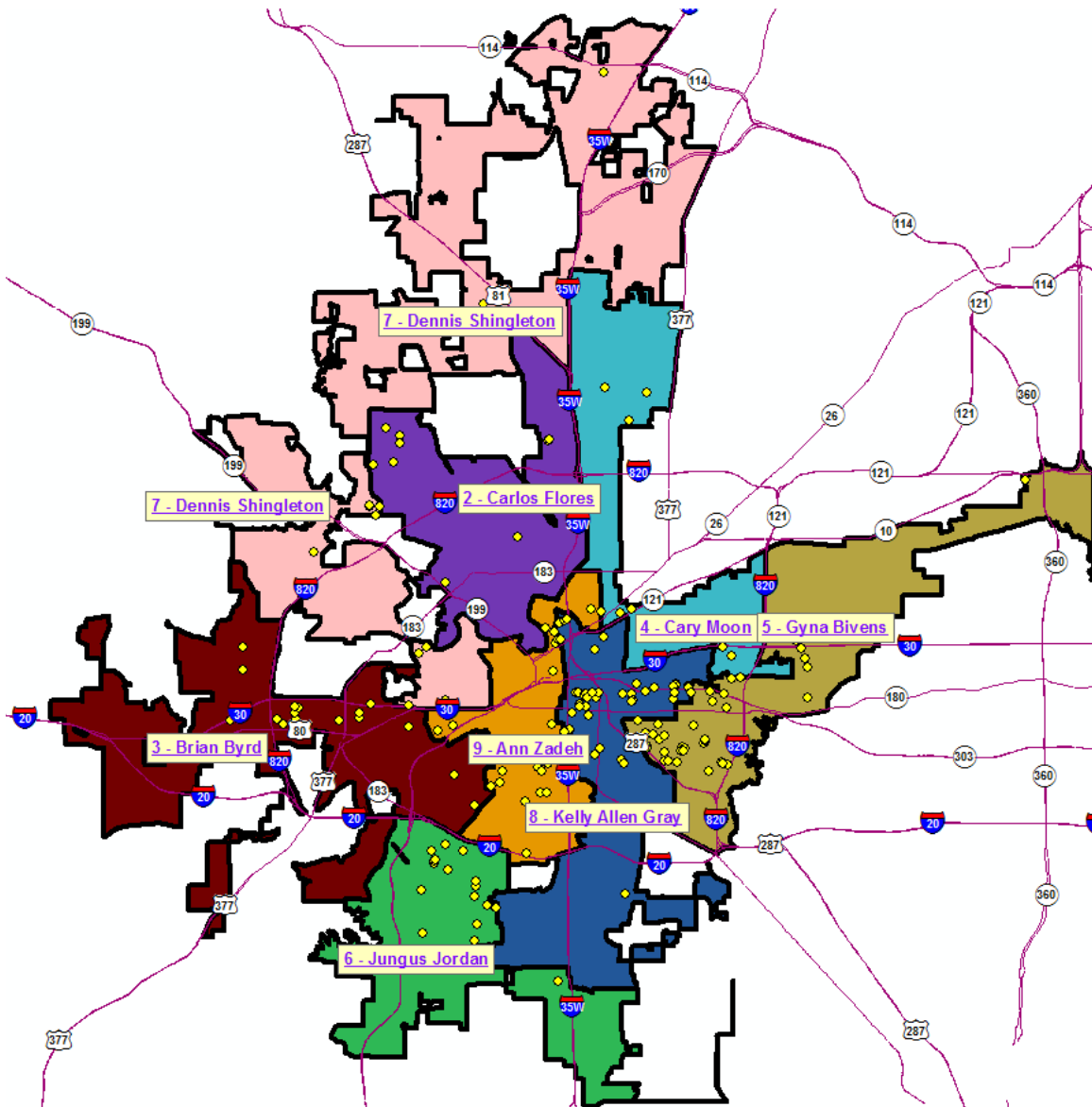
Police Beat: [ ]

- [Total Number of New Cases](#)
- [Total Number of Open Cases](#)
- [Total Number of Closed Cases](#)
- [Total Number of Violations](#)
- [Total Number of Inspections](#)

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Source: CodeOps

## Exhibit X – Locations of Addresses with ≥ 5 Complaints



Source: CFW GIS