

**TRANSPORTATION AND STORMWATER  
SERVICES DEPARTMENT  
TRAFFIC MANAGEMENT CENTER  
AND  
TRAFFIC INVESTIGATIONS  
AUDIT 18-13  
SEPTEMBER 20, 2018**



# CITY OF TAMPA

Bob Buckhorn, Mayor

Internal Audit Department

Christine Glover, Internal Audit Director

September 20, 2018

Honorable Bob Buckhorn  
Mayor, City of Tampa  
1 City Hall Plaza  
Tampa, Florida

RE: Transportation and Stormwater Services - Traffic Management Center and  
Traffic Investigations, Audit 18-13

Dear Mayor Buckhorn:

Attached is the Internal Audit Department's report on the Traffic Management Center  
(including the Project Coordination section) and Traffic Investigations.

Traffic Management Center and Traffic Investigations personnel have already taken  
positive actions in response to our recommendations. We thank the management and  
staff of the Transportation and Stormwater Services Department for their cooperation  
and assistance during this audit.

Sincerely,

/s/ Christine Glover

Christine Glover  
Internal Audit Director

cc: Dennis Rogero, Chief of Staff  
Sonya Little, Chief Financial Officer  
Ernest Mueller, Chief Assistant City Attorney  
Brad Baird, Administrator of Public Works and Utilities Services  
Jean Duncan, Director of Transportation and Stormwater Services  
Vik Bhide, Chief Traffic Management Engineer  
Milton Martinez, Transportation Professional Engineer

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/s/ Vivian Walker

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Auditor

/s/ Christine Glover

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Audit Director

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**BACKGROUND**

Transportation and Stormwater Services has three Divisions: Transportation Engineering, Stormwater Engineering, and Transportation and Stormwater Services Operations (TSSOps). The Traffic Management Center (TMC) is a section within TSSOps and is a team of 33 (currently 1 vacancy). It is “responsible for operating and maintaining the City of Tampa’s (COT) traffic signal system, managing the street lighting system and managing traffic signal-related projects.”<sup>1</sup> There are four divisions: Project Coordination, Street Lighting, Traffic Signal Maintenance, and Traffic Management Operations. This audit reviewed the activities of Project Coordination and Traffic Management Operations (which includes traffic counts). Street Lighting and Traffic Signal Maintenance will be reviewed as separate audits. Additionally, although organizationally the traffic count section is a part of TMC, the Traffic Investigations Section (TI) of TSSOps is the area that generates requests for traffic counts. Therefore, TI was included in this audit.

Various tools are used to assist with monitoring traffic by TMC, including: google map, twitter feeds, cameras, and Waze (a navigation software). Logistically, the TMC uses space in the Tampa Hillsborough Expressway Authority (THEA) building. Contractually, the office space TMC uses is part of the agreement for its operation of the reversible elevated lane (REL) on the Selmon Expressway. Three times during the day (Monday through Friday), the direction of the REL traffic is changed. This process is observed both remotely via camera and on-site.

TI is responsible for addressing requests from the public related to “promoting traffic operation safety and efficiency along the vast COT transportation network.”<sup>2</sup> Requests received by TI are forwarded to the traffic count section of TMC. The traffic count section acquires the necessary data to evaluate the request via speed studies or turning movement counts.

**STATEMENT OF OBJECTIVE**

This audit was conducted in accordance with the Internal Audit Department's FY2018 Audit Agenda. The objective of this audit is to ensure that the system of internal controls related to TMC and TI operations is adequate.

**STATEMENT OF SCOPE**

The audit period covered TI activity that occurred from October 2017 through March 2018. Tests were performed to determine whether TI documented traffic investigation requests to support the resolution. Original records as well as copies were used as evidence and verified through observation and physical examination.

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<sup>1</sup> City of Tampa website: [www.tampagov.net](http://www.tampagov.net) for Traffic Management Center

<sup>2</sup> City of Tampa website: [www.tampagov.net](http://www.tampagov.net) for Traffic Investigations

## **STATEMENT OF METHODOLOGY**

The process for switching the REL was observed to ensure TMC's compliance with THEA's agreement and to evaluate the safety measures taken. The observation included the procedures followed by the Console Operator as well as riding along in the sweep vehicle during one of the switches. TMC uses THEA provided software DYNAC to administer the REL. DYNAC is owned and administered by THEA.

Additionally, the following observation and review was performed:

- Observed the traffic count team setup turning movement counts, speed and volume counts at three different locations.
- Judgmentally selected five traffic investigation requests and reviewed compliance with the current practice for resolving a request. The requests were identified from the work order system used by TSS. This system was evaluated during the audit of TSS Special Events and Signs and deemed reliable.

## **STATEMENT OF AUDITING STANDARDS**

We conducted this performance 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 objective.

## **NOTEWORTHY ACCOMPLISHMENTS**

TMC should be commended for developing Active Traffic Management (ATM) reports. ATMs are a pro-active way of identifying and documenting traffic conditions along City roadways in the peak hours. These conditions include incidents, work zones, non-recurring congestion and any other events on the roadways that impact peak traffic. Daily, a report is generated during the morning and evening shifts that provide traffic conditions. The report includes the weather, any incidents, road closures, and events. The report is distributed – by TMC staff manning the traffic consoles – to TMC Management and staff, TSSOps, and Florida Department of Transportation's Traffic Operations team.

Additionally, reports from each TMC business unit are generated that include an overview of projects and TMC operations are prepared on a quarterly basis. These reports are distributed to various stakeholders in the City and actually presented to the TSSOps Director and Public Works and Utility Services Administrator.

## **AUDIT CONCLUSIONS**

Based upon the work performed and the audit findings noted below, we conclude that the system of internal controls related to TMC and TI operations appears to be adequate. However, improvements are needed in documenting processes for TI investigations, TMC Project Coordination, and implementing a safe environment for setting up traffic count equipment.

## **TRAFFIC COUNT SETUP**

**STATEMENT OF CONDITION:** The process for setting up the equipment used for speed studies on an arterial roadway needs to be improved. Arterial roadways are defined as "a high-capacity urban road. The primary function of an arterial road is to deliver traffic from collector roads to freeways or expressways, and between urban centres at the highest level of service possible."<sup>3</sup>

An observation of equipment setup for a speed study on one arterial roadway resulted in safety concerns for the Technicians. Specifically, the equipment used to re-direct traffic was inadequate. The Technicians' vehicles were parked in one lane of a four lane roadway. Orange cones and a "Men Working" sign were also placed in that same lane. The Technicians had to cross the remaining three lanes of traffic in the middle of a roadway without traffic being stopped. Additionally, without traffic being stopped, the tubes used to obtain the data had to be affixed to the roadway with an adhesive.

After discussing the scenario with Management, it was noted that the proper setup should have included a third employee as an additional safety measure. However, additional people would have not provided physical safety measures against on-coming vehicular traffic.

**CRITERIA:** Prudent safety measures warrant interruption of traffic flow to ensure employees' safety is priority.

**CAUSE:** Improper safety equipment on site to properly control traffic while equipment is being set-up.

**EFFECT OF CONDITION:** Inadequate safety equipment to prevent on-coming vehicular traffic from colliding with employees, resulting in injury.

**RECOMMENDATION 1:** Management should re-evaluate the method being used to obtain speed study data on arterial roadways to ensure employee safety is priority.

**MANAGEMENT RESPONSE:** We agree with your recommendations. We have reviewed your recommendation and will make adjustments to our SOP accordingly. The new SOP for counts shall include additional safety considerations for the technicians along higher-volume collectors with a two pronged approach. On high volume roadways, the nonintrusive MIOVision cameras will be used if at all possible to collect the approach volume / classification data. When MIOVision cannot be used to conduct a study, we will have the technicians adjust their schedules to ensure that equipment is installed prior to 7:30 AM when traffic volumes and associated risk exposure is much lower.

**TARGET IMPLEMENTATION DATE:** November 30, 2018

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<sup>3</sup> Wikipedia definition for Arterial Road

## **STANDARD OPERATING PROCEDURES**

**STATEMENT OF CONDITION:** Currently, there are no standard operating procedures (SOP) for TI or the Project Coordination section of the TMC. TSSOps has a consultant that is working with all areas to develop policies and procedures. Additionally, it was noted that the SOP for the traffic count process has not been signed by the TSS Director and does not include the timelines established internally for responding to requests from TI.

**CRITERIA:** City Code Section 2-46 "Duties of departments" requires departments to "create and maintain . . . together with the functions, policies, decision, procedures, and essential transactions, of the department."

**CAUSE:** Lack of SOPs is due primarily to no enforcement to develop them by previous Department Management. TSSOps is currently developing SOPs, with the assistance of a consultant. Upon completion, all SOPs will be approved and signed by the Director.

**EFFECT OF CONDITION:** Lack of compliance with City Code. Additionally, lack of SOPs can result in either inefficient operations or required actions being omitted.

**RECOMMENDATION 2:** TI and TMC Management should ensure SOPs are developed that address all levels of their operation. Additionally, all SOPs require the TSSOps Director's signature.

**MANAGEMENT RESPONSE (TI):** We agree with the audit's findings and recommendations. We are currently developing SOPs for the Transportation Engineering Division and expect this work to continue through September 2018. The TSS Director will sign SOPs upon completion and acceptance.

**TARGET IMPLEMENTATION DATE (TI):** Estimated implementation of SOPs, December 2018.

**MANAGEMENT RESPONSE (TMC):** Agreed. Our action plan will be to execute the SOP. This will include approval and signature by Department Director.

**TARGET IMPLEMENTATION DATE (TMC):** December 2018

## **RECORDS RETENTION**

**STATEMENT OF CONDITION:** TI does not record all telephone requests received related to traffic issues. TSSOps has a Customer Service, Administrative Support, and Procurement (CAP) group that is intended to be the primary contact and repository of requests for service. However, calls and requests are received directly by employees in TI, but there is no process in place to document the request or the response provided. The TI Construction Project Coordinator indicated that a log is kept of calls received if some action will be requested of a Technician; however, if the conversation results in no future action, no information is retained.

**CRITERIA:** Florida public records guidelines have a general record titled "complaints: citizens / consumers / employee." The description includes a record type that identifies the "date, nature of complaint, whom referred, action taken, and signature of person taking the action." The retention period for this record type is one "anniversary year" after complaint resolution.

**CAUSE:** Management indicated that there is currently no software system to enable all requests to be maintained in one location. Currently, there is no SOP requiring forwarding of requests to CAP.

**EFFECT OF CONDITION:** TI is not complying with public records guidelines by not documenting all calls received for service. Additionally, without documentation to support the resolution of all telephone requests, an injury or loss at a location – which may have been previously reported – could create a liability for the City.

**RECOMMENDATION 3:** Management should develop a process that either requires all requests to go through CAP or create a tracking method to capture requests manually to be subsequently forwarded to CAP.

**MANAGEMENT RESPONSE:** We agree with the audit's findings and recommendations. We are inserting a procedural line in our draft SOPs to record customer requests and then forward those requests to CAP. We continue to develop draft SOPs for the Transportation Engineering Division and expect this work to continue through September 2018. The TSS Director will sign SOPs upon completion and acceptance.

**TARGET IMPLEMENTATION DATE:** December 2018