



Performance Audit:

Fire Hydrant Inspection and Maintenance

What We Found

The Atlanta Fire Rescue Department and Department of Watershed Management are responsible for inspecting and maintaining fire hydrants, respectively. Although the two departments service different populations of hydrants, the number of hydrants for which both departments are responsible do not align in their respective databases, which could result in incomplete inspections and repairs. We identified 1,463 hydrants with no fall 2018 inspection dates recorded in Fire Rescue's database. The Atlanta Fire Rescue Department uses unreliable technology that fails to capture all inspection results and inconsistently records inspections on hydrant cards.

The Atlanta Fire Rescue Department does not consistently communicate hydrant repair requests to Watershed Management. Two-thirds of sampled repair requests from the fall 2018 inspection season were not provided to Watershed Management as of March 2019. Other jurisdictions within Watershed Management's service area also reported repair needs inconsistently. The Department of Watershed Management partially implemented a Geographic Information System (GIS) application to link its fire hydrant asset numbers with hydrant identification numbers used by the Atlanta Fire Rescue Department. Full implementation of the application would allow the Atlanta Fire Rescue Department to simultaneously record inspection results and submit hydrant repair requests in real time.

The Department of Watershed Management developed service level agreements to measure how long it should take to resolve different types of hydrant repairs; however, it has not established service level agreements for work orders related to missing or out-of-service hydrants or the installation of a new hydrant. The department decreased median fire hydrant repair times by more than 80% from 2015 through 2018, which it attributes to the addition of contractors to address the backlog of repairs and the hiring of permanent leadership staff.

Why We Did This Audit

We undertook this audit because faulty or nonfunctioning fire hydrants can hamper emergency responses and endanger firefighters and the public. Leaking hydrants can cause significant property damage. The Atlanta Fire Rescue Department is responsible for inspecting fire hydrants and the Department of Watershed Management's Office of Linear Infrastructure Operations is responsible for maintaining fire hydrants.

What We Recommended

The Atlanta Fire Rescue Department should:

- revise its policy to include inspections
- enforce its policy and city code to inspect all private fire hydrants
- create a policy to communicate hydrant installation and removals

The Department of Watershed Management should:

- create and formalize memorandums of understanding with the Atlanta Fire Rescue department and other jurisdictions in its service area
- continue to track progress toward meeting service level agreements
- complete the hydrant asset identification project to reconcile the departments' records
- work with the Atlanta Fire Rescue Department to use the Geographic Information System (GIS) application as a comprehensive inspection and repair database

Management Responses to Audit Recommendations

Summary of Management Responses

Recommendation #1: We recommend that the Atlanta Fire Rescue Department revise its policy to include specific verification procedures to ensure that all hydrants are inspected as required and the hydrant database is updated with the inspection date and results.

Response & Proposed Action: The AFRD Hydrant Maintenance Procedure will be revised by the AFRD Operations Committee. This policy revision will include the following actions to become sustainable and viable for daily use. **Agree**

- Outlining of the process for reporting hydrant repair requests and confirmation of completed repairs with DWM.
- Management of follow-up hydrant inspections and development of a real-world re-inspections process that incorporates time necessary to complete hydrant repairs.
- Reestablishing the process for updating the existing hydrant database.
- Enforce the use of hydrant cards as a secondary system for validation of Inspections.
- Redefine the 45-day inspection window and active management oversight process.

Incorporating the use of the Hansen database for future hydrant management efficiencies thus communicating vital hydrant status information between AFRD & DWM.

Timeframe: July 2020

Recommendation #2: We recommend that the Atlanta Fire Rescue Department enforce the department's policy and city code to inspect all private hydrants within the city limits.

Response & Proposed Action: The AFRD Hydrant Maintenance Procedure will be revised by the AFRD Operations Committee to include the overall management of private hydrants. This policy revision will include the following action to become sustainable and viable for daily use with regards to private hydrants. **Agree**

- Revision of the practical management process of private hydrants with regards to the COA Code of Ordinance.

Timeframe: July 2020

Recommendation #3: We recommend that the Atlanta Fire Rescue Department and the Department of Watershed Management create a policy to communicate hydrant installations and removals.

a. The policy should also include procedures for updating the fire hydrant database.

Response & Proposed Action: The AFRD will work closely with the DWM to define the communications of hydrant installations and removals. AFRD will also improve its record keeping (Fire database entry and updates) based on these actions. In addition, these recordkeeping procedures will be incorporated in the AFRD Maintenance SOP as relevant to the process. **Agree**

Timeframe: July 2020

Recommendation #4: We recommend that the Department of Watershed Management create and formalize memorandums of understanding between the department and each of the other jurisdictions to document each entity's roles and responsibilities.

The agreement should:

- a. include responsibilities for hydrant inspections
- b. describe how and when repair requests will be reported
- c. describe how hydrant status will be reported back to the jurisdictions once repairs are completed

Response & Proposed Action: The AFRD is amenable to the establishment of a Memorandum of Understanding (MOU) with the Department of Watershed Management to further define its role in the hydrant maintenance process and for the ultimate purpose of establishing clear expectations in the maintenance process between the two COA entities. This document should be developed and drafted under the direction of DWM as they are the recipient of the services provided by AFRD. This document should include: hydrant responsibilities, repair request reporting procedures, hydrant status information sharing, etc. **Agree**

Timeframe: June 2020

Recommendation #5: We recommend that the Atlanta Fire Rescue Department and the Department of Watershed Management complete the hydrant asset identification project, which maps Watershed Management asset identification numbers with Fire Rescue’s hydrant identification numbers.

Response & Proposed Action: The AFRD, along with DWM, will continue with the Hydrant Asset Project with the goal of ultimately moving to one database for the purpose of managing this asset for the COA. The AFRD’s position has been to ultimately migrate to the DWM hydrant database. This would ultimately provide a master list of Fire Hydrants for the COA that could effectively assist with management by all entities involved. **Agree**

Please note below the areas crucial to the AFRD that must be address in this collaborative effort.

- Maintaining the unique identifiers for AFRD.
- Development/ improvement of backup system with hydrant card use.
- Purchase/acquire necessary resources to meet MOU with regards to field inspections and reporting.
- Updating AFRD policy to incorporate the use of DWM database.

Timeframe: June 2020

Recommendation #6: We recommend that the Atlanta Fire Rescue Department and the Department of Watershed Management determine the feasibility of using Watershed Management’s GIS application as a comprehensive inspection and repair database.

- a. Watershed Management should customize the application, based on Fire Rescue’s needs, to replace the department’s current hydrant database.
- b. Watershed Management should ensure that the database is backed up daily.
- c. Fire Rescue should continue to update hydrant cards as a secondary data source.
- d. Fire Rescue should identify resources to purchase any needed external devices needed to access the application in the field to conduct inspections.
- e. Fire Rescue should update its policies to incorporate use of the database.

Response & Proposed Action: DWM will work with AFRD to ensure the application contains information needed by AFRD and ensure that the application is properly supported. **Agree**

Timeframe: June 2020

Recommendation #7: We recommend that the Atlanta Fire Rescue Department update its policy to include specific procedures for documenting inspections on the hydrant cards.

Response & Proposed Action: The Temporary Actions AFRD will take pending the completion of the Hydrant Asset Collaboration Project **Agree**

- Revision of the AFRD Hydrant Maintenance Policy to meet today's business practice.

Timeframe: October 2019

Recommendation #8: We recommend that the Atlanta Fire Rescue Department enforce hydrant card verification to ensure that inspections and needed repairs are accurately documented in the hydrant database.

Response & Proposed Action: Proposed Action: The AFRD will enforce hydrant card use and verify/ to ensure that repairs are documented in its database and reported to DWM pending the implementation of a consolidated platform. **Agree**

Timeframe: October 2019

Recommendation #9: We recommend that the Department of Watershed Management continue to track progress toward meeting service level agreements and consider the feasibility of adding additional resources to help meet the targets.

Response & Proposed Action: DWM agrees with the recommendation. DWM has dedicated additional resources towards scheduling and performing related work since 2017 and will continue this effort in addition to our monthly reporting. **Agree**

Timeframe: September 2019
