Use and Monitoring of the NetworkFleet GPS

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Office of the City Auditor
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Verizon Connect Overview

- Verizon Connect NetworkFleet (GPS) is the City’s contracted cloud-based fleet management solution that offers fleet tracking, monitoring, vehicle diagnostics, and GPS Tracking.
- NetworkFleet tracking is a management system that uses GPS to monitor tracked assets’ activity (vehicles, operators, equipment).
- NetworkFleet tracking uses telematics technology to collect data from a fleet of assets.
- This data is normally collected in real-time (actively), so it is more useful for fleet managers, who use the data to make strategic decisions about operations.
GPS Devices and Services

Verizon provides two GPS systems, 5200 and 5500, for installation in City maintenance equipment, vehicles, and trucks.

- Network Fleet 5200 is a small “plug and play” device built for heavy-duty specifications.
- The 5500 series is a lightweight unit installed under the dash.
- Both units can be installed by the customer within 30 minutes and are easily transferable among other vehicles.

<table>
<thead>
<tr>
<th>GPS Series</th>
<th># of GPS Units as of July 31, 2020</th>
<th>GPS Device Cost (one-time payment for each unit)</th>
<th>GPS Monthly Service Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200</td>
<td>4</td>
<td>$85</td>
<td>$17</td>
</tr>
<tr>
<td>5500</td>
<td>398</td>
<td>$85</td>
<td>$19</td>
</tr>
</tbody>
</table>
Purpose & Scope

Purpose

- This audit was performed as part of the 2020 Audit plan

Scope

- The scope of the audit includes activities and transactions between 2015-2020 (the implementation date of the NetworkFleet system in City departments to the completion of the audit phases.)
GPS Survey Results

We surveyed 16 Departments:

- **10 out of 16** do not use any GPS to track their vehicles.
  - Departments are willing to install GPS if provided with the budget appropriations.

- **2 out of 16** use a different GPS.

- **4 out of 16** use NetworkFleet (units are active/inactive).
  - Departments with GPS installed were not using the NetworkFleet system for tracking and monitoring vehicle activities and fuel consumption. GPS cost savings to the City could not be determined.
GPS Survey Results (continued)

The City incurred $417,240 between FY2015 to FY2020 for GPS units and monthly monitoring services.

<table>
<thead>
<tr>
<th>Departments Surveyed</th>
<th>Vehicles with NetworkFleet GPS Installed</th>
<th>Vehicles with GPS not NetworkFleet</th>
<th>Cost Incurred from FY15 to FY20</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Services Board (CSB)</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Cultural Facilities, Arts and Entertainment (CFAE)</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Emergency Preparedness &amp; Response</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Fire &amp; Rescue</td>
<td>-</td>
<td>√</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>General Services</td>
<td>√</td>
<td>-</td>
<td>$205,517</td>
<td>GPS services were paid through Departmental Support Fund and Internal Service Maintenance Fund. Fleet pays invoices for General Fund Departments (i.e., Human Services, PW-Streets and Bridges, PW-Storm Water, RPOS, and Transit etc.).</td>
</tr>
<tr>
<td>Human Services</td>
<td>-</td>
<td>√</td>
<td>$0</td>
<td>GPS costs were paid through Departmental Support Fund.</td>
</tr>
<tr>
<td>Information Technology (IT)</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Libraries</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Nauticus</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Neighborhood Development</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Public Works (PW)</td>
<td>√</td>
<td>-</td>
<td>$82,904</td>
<td>Waste Management manages and pays for GPS services directly.</td>
</tr>
<tr>
<td>Recreation, Parks, Open Space (RPOS)</td>
<td>-</td>
<td>-</td>
<td>$329</td>
<td>GPS costs were paid through Departmental Support Fund in FY15. Department does not currently use GPS.</td>
</tr>
<tr>
<td>Transit</td>
<td>√</td>
<td>-</td>
<td>$0</td>
<td>GPS costs were paid through Departmental Support Fund.</td>
</tr>
<tr>
<td>Utilities</td>
<td>√</td>
<td>-</td>
<td>$128,490</td>
<td>All Costs were paid directly through their own budget appropriations.</td>
</tr>
<tr>
<td>Virginia Zoological Park</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

✓ = Vehicles with GPS

(-) = Vehicles without GPS
GPS Cost Determination

Vehicles without GPS:

We selected the top 4 departments with the highest # of vehicles per survey results and performed a GPS cost determination for departments who currently do not utilize NetworkFleet GPS services.

<table>
<thead>
<tr>
<th>Department</th>
<th># of Vehicles</th>
<th>1st Year Annual Charges (Purchase Cost + Annual Charges)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation, Parks, Open Space</td>
<td>250</td>
<td>$51,000</td>
</tr>
<tr>
<td>Community Services Board</td>
<td>46</td>
<td>$9,384</td>
</tr>
<tr>
<td>Neighborhood Development</td>
<td>27</td>
<td>$5,508</td>
</tr>
<tr>
<td>Planning</td>
<td>27</td>
<td>$5,508</td>
</tr>
</tbody>
</table>

**Note:** Departmental Support Fund currently pays for annual GPS cost.
Fuel consumption remained consistent between the years with a decrease in 2020 due to COVID. If departments purchased GPS services to monitor and track vehicle activities, they could potentially decrease fuel consumption for future years. We recommend the departments consider performing a cost-benefit analysis to determine if their department/division would benefit from installing and utilizing GPS to its full capabilities.
Benefits of Installing GPS

- **Live Maps** — Watch your fleet in real time.
- **Route Replay** — Replay and compare drivers' routes.
- **Geofences** — Monitor vehicle activity around key locations.
- **Alerts** — Get notified of key issues as they happen.
- **Reports** — View historical data.
- **Fleet Maintenance** — Streamline maintenance schedules.
- **Dashboards** — Visualize key trends and metrics.
Summary of Results (Conclusion)

- The City is paying for GPS services for out-of-service/disposed-of vehicles.

- The City is paying for GPS devices not installed in Department’s vehicles.

- Departments are not using GPS to its fullest capacity to improve operational efficiencies and potential cost savings.

- The City’s source system (FASTER) for tracking vehicles is not consistently reconciled to Verizon Connect billings.

- Departments are not monitoring vehicle activity on a periodic basis.

- Departments do not have internal or operational policies and procedures to manage the NetworkFleet system.
The City paid approximately $11,305 to Verizon for inactive GPS units: $8,740 for GPS purchase and monthly monitoring fees for 41 Out-of-Service/Disposed-of vehicles and $2,565 for GPS units purchased, but not installed in a vehicle.

### Summary of Results (Conclusion)

<table>
<thead>
<tr>
<th>Customer ID</th>
<th>Out of Service/Disposed</th>
<th>Cost Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITY083 - Departmental Support</td>
<td>23</td>
<td>$4,313</td>
</tr>
<tr>
<td>CITY083-001 Utilities</td>
<td>13</td>
<td>$3,629</td>
</tr>
<tr>
<td>CITY083-002 Waste Management</td>
<td>5</td>
<td>$798</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>$8,740</strong></td>
</tr>
</tbody>
</table>

City of Norfolk
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Findings, Recommendations & Management’s Response

1. Ensure Verizon billings are reconciled and accurately reflect vehicles with GPS service.

2. All Departments receive a copy of the monthly Verizon bill and compare VIN#s to the Department vehicle listing.

3. Ensure departments’ designated personnel perform reconciliations and send results to Fleet’s NetworkFleet coordinator.

- **General Services** – Fleet Management will implement a cross-referencing system to compare GPS invoices to the current vehicle status. Fleet will operate this system until departments begin to pay their own invoices.

- **Public Works-Waste Management and Utilities*** have/are discontinuing service with Verizon’s NetworkFleet GPS service.

*Note - **Waste Management** purchased Routeware: Fleet Management Software for the Waste Industry and will be used as a vehicle tracking system in lieu of NetworkFleet.

- **Utilities** discontinued services effective January 1, 2021, stating costs are more than potential benefits (cost savings). Although we did not receive a cost-benefit analysis from the department, all GPS units have been deactivated.
Findings, Recommendations & Management’s Response (cont.)

4. We suggest Fleet’s NetworkFleet coordinator confirm inactive/disposed/out-of-service vehicles in Fleet’s FASTER system and discontinue service with Verizon as applicable.

5. Ensure vehicle discrepancies during the reconciliation process are researched to determine why out of service VINs were included on Verizon billings and paid by the City.

• **General Services** – Fleet Management will implement a cross-referencing system to compare GPS invoices to the current vehicle status. Fleet will operate this system until departments begin to pay their own invoices.

• **Public Works** - Waste Management takes exception to the finding. The Fleet Coordinator previously contacted Verizon on several occasions to have the units deactivated. It was noted on the January 2021 invoice and confirmed by the Fleet Coordinator via e-mail that the billing for these units stopped in January.

• **General Services** – Fleet Management will research vehicle discrepancies.

*Note - **Waste Management** purchased Routeware: Fleet Management Software for the Waste Industry and will be used as a vehicle tracking system in lieu of NetworkFleet.

- **Utilities** discontinued services effective January 1, 2021, stating costs are more than potential benefits (cost savings). Although we did not receive a cost-benefit analysis from the department, all GPS units have been deactivated.
Findings, Recommendations & Management's Response

1. Departments/Divisions develop internal policies and procedures/SOPs specific to their needs for managing the GPS system.

   - **General Services** – Prior to the creation of department/divisions' internal policies, a comprehensive citywide GPS policy should be developed by HR/Risk Management to define the criteria and overall goal for departments/divisions using GPS.

   - **Public Works** - Management agrees an internal policy would benefit all Public Works divisions that utilize VerizonConnect GPS. Specific policies established within each division would also provide guidelines and set expectations for the supervisor(s) overseeing the use of the system and address the applicable recommendations.

2. Management assign responsibility to manage and monitor GPS system to personnel within the Department/Division.

   - **General Services** – Personnel have been assigned.

   - **Public Works** - Management agrees an internal policy would benefit all Public Works divisions that utilize VerizonConnect GPS. Specific policies established within each division would also provide guidelines and set expectations for the supervisor(s) overseeing the use of the system and address the applicable recommendations.

**Note** - **Utilities** discontinued services effective January 1, 2021, stating costs are more than potential benefits (cost savings). Although we did not receive a cost-benefit analysis from the department, all GPS units have been deactivated.
Findings, Recommendations & Management’s Response (cont.)

**Finding #2**
Departments are not utilizing system capabilities to its fullest capacity.

3-Management monitors activity and reviews system reports on a consistent basis to ensure compliance with Department and City vehicle policies and procedures.

4-A Fleet employee be the designated GPS Point of Contact for Verizon and City Departments paid through Departmental Support. Ensure the employee has knowledge to assist and train personnel to utilize the system for City’s maximum benefit.

- **General Services** – Management monitoring and system review will be established once a citywide policy and expectations are developed.

- **Public Works** - Specific policies established within each division would also provide guidelines and set expectations for the supervisor(s) overseeing the use of the system and address the applicable recommendations.

- **General Services** – A Fleet employee will be designated as a Verizon point of contact for bill payment until departments pay their own invoices. General Services will provide a department representative to assist and train personnel to utilize the system for the City’s maximum benefit.

- **Public Works** - We will investigate the availability of training resources for GPS. A structured training session to include all operational features would help end-users feel more comfortable and ultimately help them become efficient users once knowing the system capabilities.

**Note** - Utilities discontinued services effective January 1, 2021, stating costs are more than potential benefits (cost savings). Although we did not receive a cost-benefit analysis from the department, all GPS units were deactivated.
**Finding #2**
Departments are not utilizing system capabilities to its fullest capacity.

5- Ensure Fleet’s Point of Contact communicates with the Department on how to operate the system for first time purchasers of the NetworkFleet system.

6- Provide updated GPS system manual for Departments immediately after GPS installation.

- **General Services** – Once the Department administrator is assigned, the Fleet administrator will guide and assist the departments/divisions with the GPS dashboard and training modules via self-service reference guide.
1- GPS Expenditures were charged to unit 202 (Boards and Commission) and activity code 432 (Golf Support). We inquired with Budget regarding the charges. Budget created a new activity code for GPS charges under activity code 490 (Citywide GPS Tracking) which is also the Activity Code for Virginia Arts Festival. We recommend a unique activity code for Citywide GPS expenditures be established.

2- We noted for Public Works and Utilities, the vehicle unit # for an active vehicle was previously associated with an Out of Service vehicle VIN#, which may cause billing errors when Verizon invoiced the departments. We recommend VIN#'s and vehicle unit #'s remain unique to one vehicle (VIN#) and not assigned to any other vehicle to ensure billing is accurate, and vehicle inventory is reliable.

3- Departments without GPS consider performing a cost-benefit analysis to determine if the department/division would benefit from installing GPS.

4- GPS installed in vehicles is a control to deter employees from conducting personal business with City vehicles, reduce excessive fuel costs, and avoid inappropriate use of City time. We found management may only monitor vehicles after the fact when an issue or complaint arises. The system can be used more effectively and efficiently by monitoring GPS vehicle activity regularly, addressing issues, preventing complaints from occurring.
Audit Objectives

1. Determine if departments are utilizing the capabilities of the system for monitoring and tracking vehicles;

2. Determine the potential savings to the City using the NetworkFleet GPS;

3. Determine if payment for GPS services agreed with the NetworkFleet contract.
Audit Methodology

- Requested GPS policies and procedures/SOPs and contracts between the City and Verizon (NetworkFleet) to gain an understanding of current processes,
- Researched NetworkFleet and gained knowledge of system advantages and capabilities,
- Conducted Departmental Surveys to identify departments which have GPS and use NetworkFleet system,
- Downloaded AFMS transactions to determine the cost for GPS and monthly monitoring services,
- Performed fuel consumption analysis to measure potential cost savings,
- Performed cost determination analysis for departments without GPS installed,
- Conducted a physical inventory review to ensure accuracy of vehicles billed.
Governmental 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 objectives.

We relied on the data generated from the City’s Advantage Financial Management System (AFMS), City Fleet FASTER system, and Verizon Connect (NetworkFleet) system for billing accuracy when conducting this audit. The extent of our evaluation was dependent upon the expected importance of the data to the final report, strengths or weaknesses of any corroborating evidence, and anticipated level of risk in using the data. We determined the financial information from AFMS and Verizon (NetworkFleet) to be reliable and, therefore, the level of risk from using this information to be low.
We want to thank Management and Departments of the City of Norfolk for their cooperation and responsiveness to requests during the audit.

If you have any questions, I can be reached at 664-4044 or via email at tammie.dantzler@norfolk.gov.