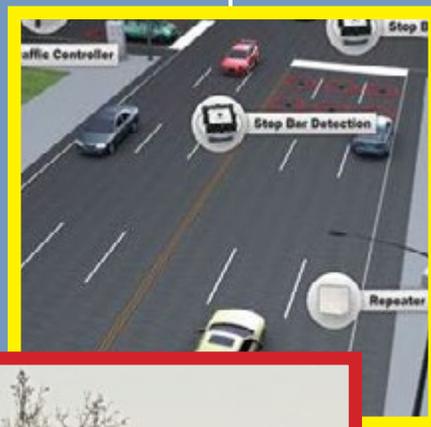




# TRAFFIC MANAGEMENT CENTER

Second Quarter 2020 ITS Report



by Frank Hickman  
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# LED Street Light Maintenance, May 2020 on Princess Anne Road – from Landstown Center Way to Nimmo Parkway

**Operations** Street Light Maintenance staff began a long-term rehabilitation project in May 2020 of the existing primary LED streetlight systems along Princess Anne Road. The areas of improvement include:

The replacement of LED drivers in all primary street lighting fixtures along Princess Anne Road, Landstown Center Way, and Nimmo Parkway (Princess Anne Rd to Holland Rd). This consists of more than 200 locations.

To reinforce the top portion of every fiberglass primary streetlight pole along Princess Anne Rd (from Landstown Center Way to Nimmo Parkway) due to post construction/installation issues. Wind and vibration caused excessive wear on the dual arm light fixture installations causing excessive wear on the fiberglass that could lead to eventual arm connection failure.

## LED Driver Replacement

It was found during a city-wide survey of the LED street lighting assets that the light levels were greatly diminished along the Princess Anne Rd corridor compared to other lit corridors in the city. When compared to the post installation light levels collected in 2014, the lumen output was averaging 50-75 less, which agreed with what was being visually seen in the field.

The manufacturer was contacted and it was discovered that the light fixtures received for the Princess Anne Rd project were part of a defective shipment. This defect caused the LED driver to overheat and melt the optic, causing a reduced light output and eventually fixture failure. The manufacturer agreed to replace all drivers at no cost. The Street Light maintenance staff will take the lead in performing the work.



Damaged/Overheated LED Panels



Will be replaced in 220 light fixtures on the Princess Anne Road corridor

## Pole Top Reinforcement

It was noticed by staff during surveys of the LED street lighting assets, that the support arms attached to many of the fiberglass poles along the Princess Anne Road corridor were out of alignment. Some fixtures freely moved in the wind. Further investigation revealed that the fiberglass thickness at the top of the pole was not sufficient to support the dual arm fixture installation. The upper end of the poles compressed during installation. This allowed the bolts to carve into the bolt holes, rounding them out and making the bolt holes larger. This in turn allowed the arms to move, which only made the issue worse.



Overhead view of damaged pole.



Front view of damaged pole.  
Showing elongated bolt hole due to fixture movement



Ground level view of off-center light fixture. Light arms should be perpendicular to the pole NOT angled as shown.

After several meetings with the pole manufacture there were two options available:

1. **Replace all poles** with a new version that is correctly designed to support the dual arm design (cost is \$1500/pole)
2. To **design a pole sleeve** that would fit over the top 5 feet of the existing pole and be permanently attached when combined with the existing pole (cost is \$250/sleeve)

The second option (pole sleeve) was chosen based on cost and ease of installation considerations. The sleeve would be manufactured to: slide down over the top 5 foot of the existing pole; be 1.5 times thicker than the original pole; come with a redesigned pole cap; be pre-tapped for mounting to the existing arm. A **support bracket** was crafted by staff for holding the street light arms and fixtures in place in the air while the new sleeve is installed; then the arms are re-fastened to the poles and the light fixtures are wired back in place.



Staff designed and fabricated this support bracket. This bracket held the streetlight arms and fixtures in place in the air while the new fiberglass sleeve was installed. This allow immediate reattachment of the light fixture after the new sleeve was in place.

Construction Inspectors **Nicholas Lopes** and **Kaya Fletcher** shown during fabrication.



Work progress proceeding on Nimmo Parkway. Over 120 poles will need to be refitted with the new sleeves.



Staff reinstalling light fixtures to the new support sleeve.

Construction Inspectors *Kaya Fletcher* and *Mark Carney* are in the lifts.

Staff has completed a successful trial deployment of the sleeves on five (5) poles.

Choosing the pole sleeve option over the pole replacement option will save the City of Virginia Beach \$168,000 in material costs.

Once the sleeves are delivered staff will install them along with the new LED drivers at each location.

# High Water Sign Installation Project, June 2020

The goal of the project is to provide a warning to motorists of areas that are prone to flooding and to quickly relay that information to the motorist through an easily flipped sign.



This project concept was conceived and developed by the Traffic Engineering bureau with **Brian Proctor** (Engineer I) providing the initial guidance. **James Cross** (Traffic Technician II) served as task manager, coordinating meetings with Operations stakeholders (Traffic Operations, Stormwater Operations, GIS group, and sign vendors). The **Traffic Operations Signs shop** executed the project.

### High Water Signs



**Who:** Stormwater Operations/Traffic Operations request

**Where:** Pungo/Creeds/Blackwater

**What:** Development & installation of "high water" flip signs.

**Why:** To provide a warning to motorists of areas that are prone to flooding and more quickly & easily get that information to the motorist through an easily flipped sign. When in the standard position, it lets motorists aware they are in an area that may flood and when the signs are flipped, it lets motorists know the road is currently flooded and not to proceed.

**Status:** Work orders are 60% prepared and submitted to Traffic Operations. Traffic Operations will start installations the week of June 22.





Signs Markings Maintenance Supervisor, **Damanion Brown** checking grades



Inspecting a sign installation on Indian River Road. **James Cross**, Traffic Technician II.



Staff installing signage. Pictured Signs Mechanic I **Chris Masino** and Traffic Aide **Joe McGary**

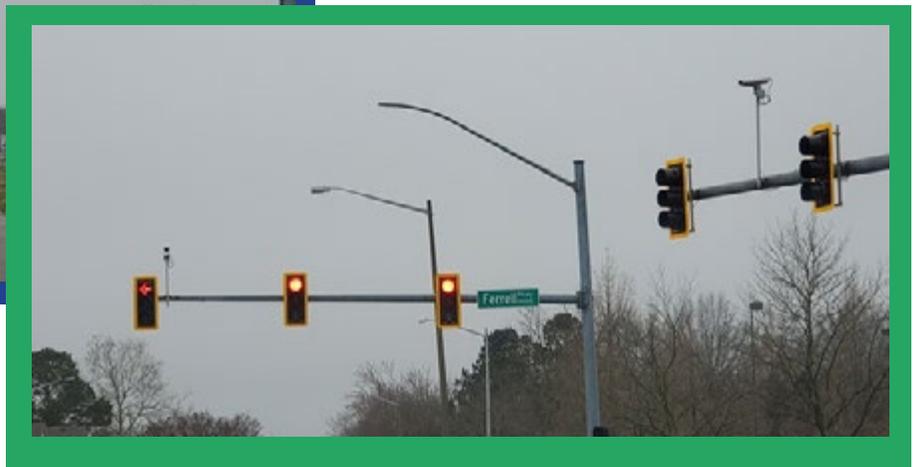
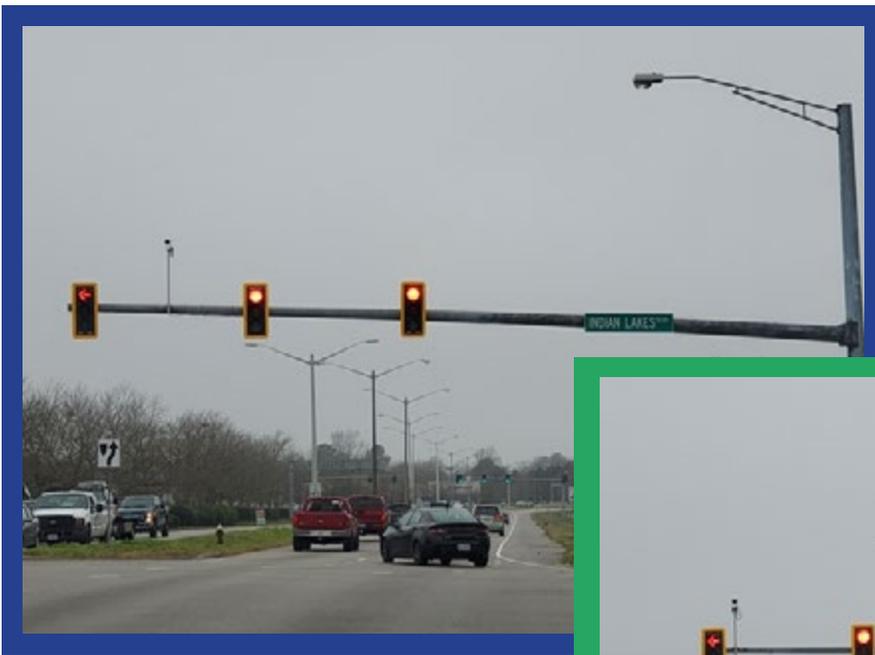


Sign Mechanic Aide, **Alphonzo Wilson** working an installation in Pungo

The Traffic Management Center (TMC) staff is also looking at ways to improve the roadside flood warning situation. Staff is exploring ways to tie in the USGS food level guages and roadside water level detectors to static road signs that would flash when ever road flooding was happening. Staff plans to have a working prototype this year.

## Yellow Reflectorized Traffic Signal Back Plates at Ferrell Parkway/Indian Lakes Boulevard

*Traffic Operations* and *Traffic Engineering* generated a Traffic Safety Improvement project to install reflectorized back plates at several intersections throughout the City. As part of this traffic safety project, Traffic Operations completed the installation of reflectorized back plates at the intersection of Ferrell Parkway and Indian Lakes Blvd in January 2020. Signal heads that have back plates quipped with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions.



This work represents the latest phase in a project effort started third quarter (July -September) of 2019.

All this work was accomplished by in-house staff. We had a total of 14 personnel working on overtime {Six (6) Electronic Technicians and Eight (8) Traffic Sign Mechanics}. Total cost of installation construction \$8,648.94.

This in-house effort represents a savings of \$50,000.00 over a contracted effort.

# Traffic Management Operations Division Response Information (April-June 2020)



## Some of the vital statistical areas we addressed:

1. Number of Traffic Counts – 121
2. Number of Utility Locate Tickets (Miss Utility) Received/Checked/Marked – 4,735/3,951/783
3. Number of Traffic Signal Preventive Maintenance Actions completed – 165
4. Number of Traffic Sign Work Orders Completed – 256
5. Feet of Installed Thermoplastic paint – 7,369



## Provided event support for the following Special Events:

1. College Beach Weekend at Oceanfront
2. May 31 Black Live Matter march
3. June 6, Town Center, Black Lives Matter march
4. June 12th Civil War Monument traffic control at Municipal Center
5. June 26th Civil war Monument traffic control at Municipal Center
6. VIBE District Crosswalk Painting/Cypress Ave.
7. VIBE District Crosswalk Painting/ Mediterranean Ave.
8. VIBE District Crosswalk Painting/Parks Ave.

