

# CURRENT IMAGERY FUELS LOCAL INFRASTRUCTURE

## DURHAM, N.C. TACKLES CITY REVITALIZATION

There's an economic and cultural renaissance of sorts happening in the city of Durham, North Carolina. With a renewed revitalization of its downtown district, the redevelopment and repurposing of former tobacco districts into tech hubs and chic, loft-style apartments complexes, the city is rapidly growing beyond its most recently reported 250,000 population numbers. Durham is known for being one of the points in the high-tech research and development triangle and home to Duke University.

### THE CHALLENGE

The city's growth explosion prompted Edward Cherry, GIS administrator for the City of Durham Public Works Department, and his staff of 14 GIS professionals, to seek out ways to streamline data collection for the city's public works department. The department is tasked with managing all infrastructure data for the city, including mapping the impervious area for the city's \$16M a year Stormwater Utility Fee fund. "That is half a billion square feet of impervious area that we manage through digitization and review daily," said Cherry. "That fund was one of the main drivers for us purchasing satellite imagery."



After using several satellite imagery systems that were all fraught with the same problems - low resolution and infrequent captures - Cherry determined the city needed far superior quality in their mapping imagery. The demands of the growing city necessitated an imagery provider equipped to supply crystal-clear images that were up-to-date, captured multiple times of year in both leaf-off and leaf-on seasons, while also allowing accessibility through web-based services.

## THE SOLUTION

Nearmap's aerial imagery, captured every six months at a 2.8" ground sampling distance, proved to be the superior quality Durham's public works department needed. Dozens of projects - from road maintenance and pothole patching to water sampling and degradation - are all utilizing the improved imagery, which has proven to save the city money, reduce time spent out in the field, and allow crews to use real-time imagery when they are out working in the field.

"With over four to five different image captures at the high-resolution, they can see sections that have been paved most recently. We don't need to send crews out to an area where a stretch has already been paved."

- Edward Cherry, GIS Administrator at City of Durham Public Works Department

## IMPACT

### BETTER MONITORING OF PAVEMENT CONDITIONS

The city of Durham pays for a road-condition survey, evaluating the level of degradation. With Nearmap imagery, surveyors can see sections that have recently been paved and those in need of repair, thanks to frequent aerial captures.

### TIME SAVINGS AND DOCUMENTING OF ROAD REPAIRS

The patching of potholes is a constant, ongoing project. Nearmap imagery has helped the city eliminate several steps in the process. Workers can access the areas of interest on their phone, edit and draw on the areas that need patching, and do this without ever having to set foot onsite.

### MORE DETAILED MAPS OF CITY RIPARIAN ZONES

Previous surveys had only leaf-off imagery which limited surveys of riparian areas. With leaf-off and leaf-on imagery, riparian buffers around streams can now be monitored for growth and expansion. This allows the city to start pulling in land cover classifications that are more accurate.

### ACCURATE AND DETAILED CUSTOMER BILLING

Serving some 78,000 customers throughout the city, the public works office has found the high-res imagery has improved their billing processes by producing web service maps that capture individual storylines. Stormwater billing customers can visualize their property with the impervious area mapped out and tied to their billing records.



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