MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

Located just outside Washington D.C., Montgomery County, Maryland is the state's most populous county with more than 1 million residents, several large cities and rural areas. Thanks to its proximity to the nation's capital, the county also sees plenty of travelers daily. Whether it's tourists or employees of various U.S. government offices, research centers, and businesses, Montgomery County is a hub of activity all year round. Find out how Earth Networks works with the Montgomery County Division of Highway Services, a branch of the county Department of Transportation (MCDOT) to ensure the safety of walkers, bikers, riders, and drivers in all types of weather.

WINTER TRAFFIC NIGHTMARES

Depending on the season, a variety of weather conditions from flooding to ice and snow threaten to disrupt life and operations for Montgomery County residents and businesses. With densely packed urban centers and rural mountains over 500 square miles, conditions can vary greatly depending on up-county and down-county weather and are difficult to accurately forecast. During the winter months, MCDOT is responsible for clearing 5,300 lane miles, 70,000 county-maintained parking spots, and 78 transit routes.

Director Roshdieh and Chief Richard Dorsey reviewing a storm's trajectory

Depending on snowfall amounts, MCDOT requires different levels of equipment to perform their duties. They have 200 pieces of in-house equipment, which is only sufficient for handling snow storms up to 4 inches. For storms above 4 inches, MCDOT relies on private contractors to assist with snow removal. Because Montgomery County must compete with other neighboring municipalities for contractor resources, knowing what weather conditions to expect before a storm hits is critical for planning and minimizing disruptions.

When winter weather threatens our region, we rely upon real-time observations and advance forecasts from Earth Networks to build a comprehensive storm timeline in order to keep roads clear and residents safe.

– Timothy Serrano, Executive Administration Aide, Storm Operations Center Manager

WEATHER INTELLIGENCE FIT FOR A COUNTY

While there are a lot of different weather data providers out there, MCDOT has relied most heavily on Earth Networks for the most accurate, real-time weather data to inform and protect their residents since 2007. They use Earth Networks weather visualization software, Sferic Maps, to monitor radar, wind speed, and temperature profiles. In addition, Earth Networks' Meteorological Operations Team sends MCDOT a daily email with a day-to-day summary forecast and a 3 to 5-day outlook tailored specifically to their needs. With Earth Networks forecasts, MCDOT creates linear projections, flow charts, and mapping that helps them successfully manage their salting, plowing, and hauling operations during severe winter weather.

OVERVIEW

During the winter months, the Montgomery County Department of Transportation faces blizzards, rain, and freezing temperatures. Hyper-local forecasting and real-time weather data provide advanced lead times for plowing, salting, and hauling operations.
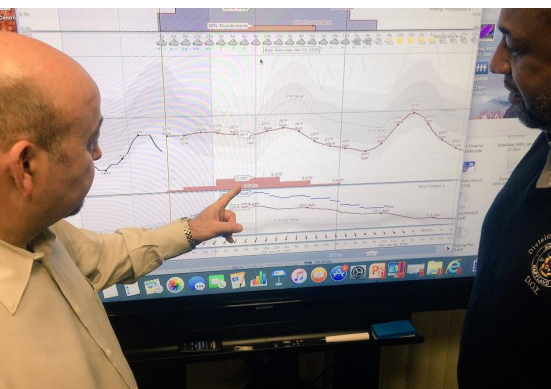
CHALLENGES

Mitigate winter weather risks for over 5,300 lane miles, 70,000 parking spaces, and 78 transit routes in Maryland's most populous county and determine the resources necessary for the county's varying winter weather conditions.

SOLUTION

Installed web-based weather visualization software that provides forecasting and real-time, hyper-local precipitation, wind, and temperature data points so they can plan, implement clean-up, and recover from winter weather events efficiently.

RESULTS

The Montgomery County Department of Transportation operated smoothly during one of the Mid-Atlantic's worst winter storms: Winter Storm Jonas. During January 2016, MCDOT planned ahead of time to acquire 825 pieces of equipment to plan and start cleanup efforts just one day after the storm moved out of the region.

WHY IT MATTERS

On January 20, 2016, MCDOT began preparing for Winter Storm Jonas. This Nor'easter would go down in winter weather history as a Category 5 "extreme" storm for the Northeast, dumping more than 2 feet of heavy snow on the region over 2 days. The deadly storm, killed 27 people and crippled the D.C. area even three days after it moved out of the region.

MCDOT used Earth Networks weather visualization software for nine days straight to aid in forecast and resource planning. With Earth Networks data, MCDOT was able to build a model of the storm and their response five days before it hit. During the storm, MCDOT held teleconferences every 6 hours with elected officials and shared weather camera and forecasting from Earth Networks hardware and software to residents. As residents panicked, the MCDOT snow portal received over 2.7 million hits. Their 24/7 call center easily relayed the latest weather data with Earth Networks weather data. MCDOT also helped power companies, service providers, and schools in the county planning for the inclement weather.

MONTGOMERY COUNTY TRANSPORTATION SYSTEM

Highway Services

- 602 lane miles of Emergency Routes
- 364 lane miles of Salt Routes
- 5,123 lane miles to clear in total
- 4,157 lane miles of Neighborhood Plow Routes
- 1,200 miles of sidewalk

Transit Services

- 78 Transit Routes
- 5,300 Bus Stops
- 343 Buses
- Ridership 85,000 Daily, 27 million Annually

Parking Services

- 70,000 County-maintained parking spots
- 36 County garages and facilities
- 85 miles of high traffic corridors

EQUIPMENT & RESOURCE ALLOCATION
5 Tier Resource Deployment

Tier 5 — >12 inches
Tier 4 — 8–12 inches
Tier 3 — 3–7 inches
Tier 2 — 1–3 inches
Tier 1 — 0–2 inches

Pieces of Equipment
0   50   100   150   200   250   300   350   400   450