Somerset County Goes Green!

Traffic Signal Optimization Project

Just like the engine in a car, Somerset County's traffic signals need a tune-up regularly to run in peak condition. As traffic patterns change, traffic signal timings need to be updated to operate efficiently. Using a grant from the Energy Efficiency Community Block Grant Program (EECBG) sponsored by the Department of Energy, Somerset County performed a signal timing optimization of 135 traffic signals within Somerset County (8 State signals, 119 County signals, and 8 Local signals) to improve fuel consumption and reduce greenhouse gas emissions by reducing the amount of time vehicles spend waiting at traffic lights. The program grouped the County's signal system into 28 clusters, performed traffic counts at each intersection, determined the best signal timing based on current volumes, and implemented the new timings. When beneficial, traffic signals within a cluster were programed to work in coordinated systems.

Overall, Somerset County's traffic signal system was found to operate very efficiently, but there was room for improvement. Before the optimization, 19 signals were identified as marginal or failing, after the optimization, only five will continue to operate at marginal or failing levels.

The Traffic Signal Optimization reduced vehicle-hours of delay by 21% during the morning peak hour, 11% during the evening peak hour, and 7% off peak. The optimization also reduced fuel consumption and greenhouse gas emissions by 2.2% each day. That's over 1,100 less gallons of fuel burned each day, without building any additional roads or lanes.

The project also recommended some low cost improvements such as GPS Clocks to be installed along key coordinated corridors to keep traffic signal coordination from 'drifting.' Drifting occurs when the clocks inside the traffic signal controllers lose a few seconds over time.

Two of Somerset County's key corridors were intentionally omitted from the Traffic Signal Optimization Project, Easton Avenue (CR 527) in Franklin Township and Main Street (CR 533) in Manville. These two corridors were optimized by Somerset County staff prior to the County wide optimization project. Design is also underway to install an interconnected signal system for The Easton Avenue and Main Street corridors, which will allow Somerset County modify the timing at these signals on a day by day basis to adjust the signals along these corridors all at once, automatically based on changes to traffic flow.

For more information on Somerset County's Traffic Signal Optimization Project, please contact Joseph Fishinger at the Somerset County Engineering Department at 908-231-7024 or via email at fishinger@co.somerset.nj.us.