

*Baltimore-Washington Regional  
Traffic Signal Forum  
May 25, 2011*

*Modernization of the  
Montgomery County  
Traffic Signal  
System*



## *Objective*

Deployment of a modern, state of the art, distributed traffic control system to replace the County's thirty year old computerized signal system



## *Background*

- 1978 - the county's present computerized traffic control system, COMTRAC, was installed.
- 1988 - Redundant back up system installed
- 1993 - integrated with ATMS
- 1994 - last purchase of local adapter units (LAU) i.e. modem
- 2000 - initiated ATMS software enhancements to accommodate future replacement of signal system
- 2009 - began deployment of replacement system



## *New System Components*

- Central system
  - High end blade servers (stand alone and virtual environments)
- Communications plant
  - Gigabit field network over existing fiber
  - DSL deployed for last mile (up to 15 mbps) using existing copper
- Intersection hardware
  - NTCIP Controller
  - DSL Modem
  - BBU/UPS



# Central Computers and Comm Racks

8'



**OLD**

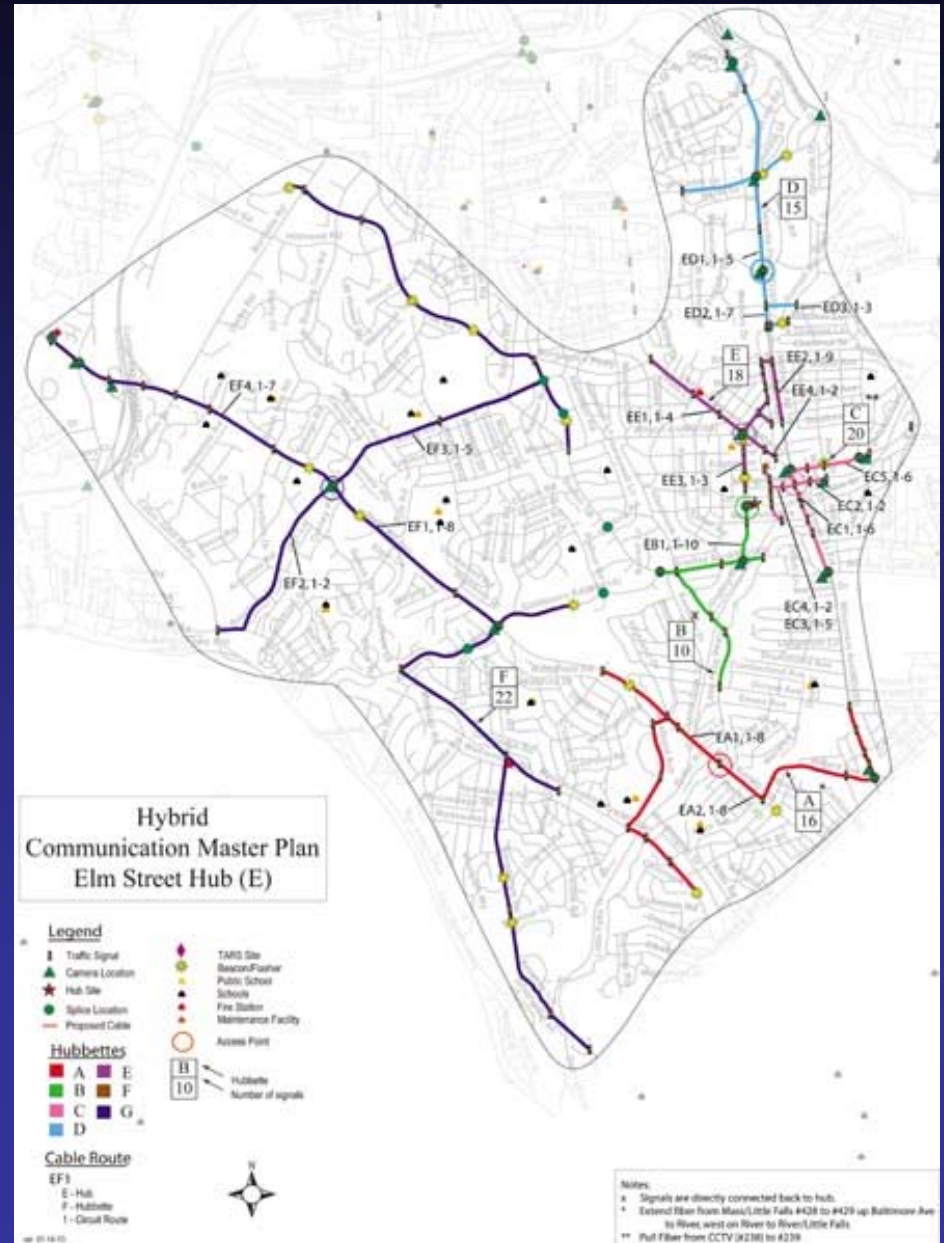
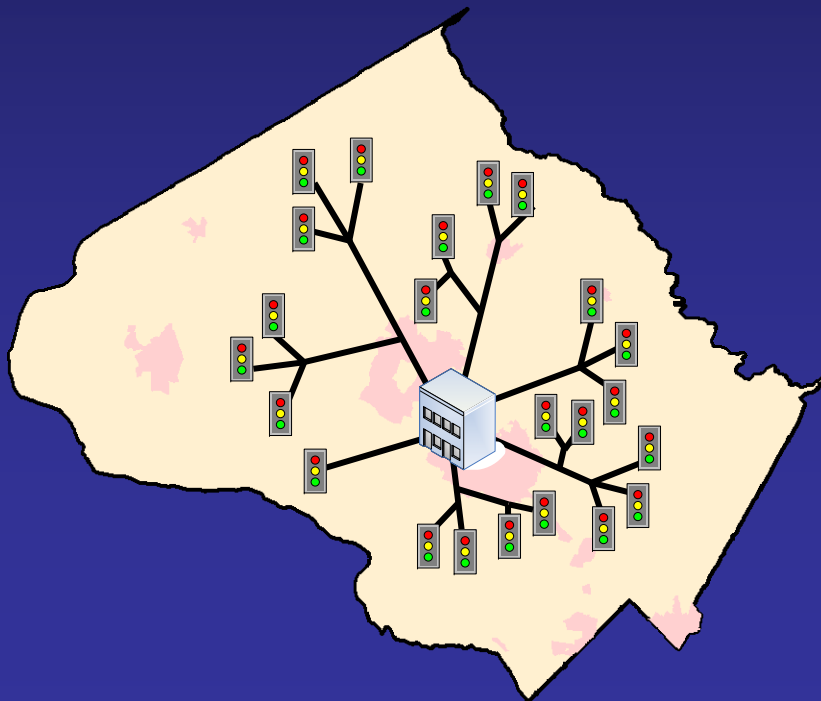
**NEW**

8"



# Communications Network

Old



# *Communications*

- Utilizing the county-wide FIBERNET (DOT fiber and electronics)
- Reconfiguring copper plant for last mile runs, use DSL from fiber to intersection
- Allows for central system redundancy stationed anywhere on the fiber network
- Provides high speed data access to the most remote signals in the county

# *New System Capabilities*

- Upload/download of timing data
- Multiple timing plans
- Responsive/adaptive control
- More detailed status information from the signal controller
- Distributed control of intersections, reduces potential for single point failures
- Allows consideration of deployment of other ITS technologies at the intersection level
- Hooks in place for Transit Signal Priority

## *Project Status*

- Deployed gigabit network over Fibernet
- Ongoing signal timing and coord conversions just ahead of deployment
- Deploying DSL aggregators and modems
- Have converted 350 of 800 signals
- UPS/BBU deployed at over 100 intersections or comm hubs



## *Signal Timing*

- Did not want to lose the fruit of years of modified signal timings and “tweaks”
- Considerable time and effort going into converting timing plans from old system to new
- Have developed a “just in time” signal timing conversion process
- Coordination remains in sync between old and new systems (boundary concerns)



# *Questions/Follow Up*

Mike Kinney

Senior Engineer

Montgomery County DOT

*[michael.kinney@montgomerycountymd.gov](mailto:michael.kinney@montgomerycountymd.gov)*

