

PRINCE GEORGE'S COUNTY TRAFFIC SIGNAL PROGRAMS

Prince George's County Department of Public Works and Transportation



Jack B. Johnson
County Executive



Haitham A. Hijazi
Director

SIGNAL PROGRAMS

PRINCE GEORGE'S COUNTY

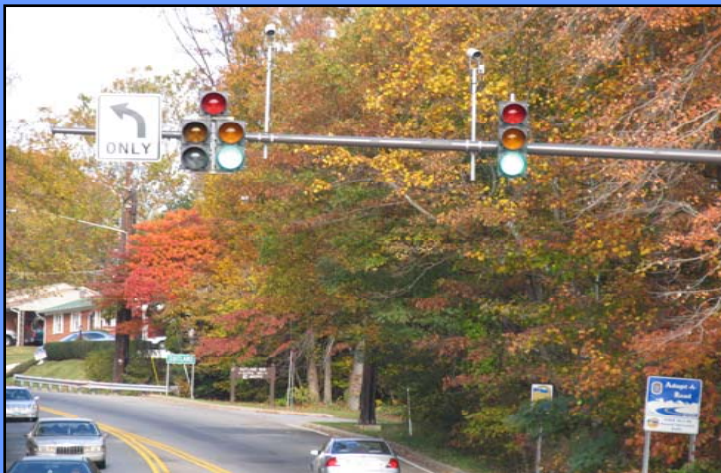
LED UPGRADE PROGRAM

BATTERY BACK-UP (UPS) SYSTEM WITH ALARMS

PAVEMENT TEMPERATURE & AIR TEMPERATURE
PROBES

LED PROGRAM

PRINCE GEORGE'S COUNTY



LED FEATURES

120 VOLT SYSTEM

COMPLIES WITH ITE STANDARDS

WORKS WITH MAST ARM OR SPAN WIRE APPLICATIONS

UPS SYSTEM FOR LED TRAFFIC SIGNALS

PRINCE GEORGE'S COUNTY

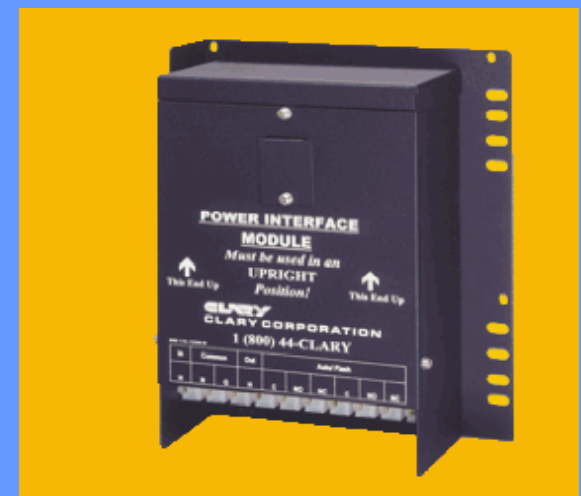
**875 WATTS OF CONTINUOUS CLEAN POWER
TO CABINET**

**COMMUNICATES USING TCP/IP & RS 232,
OVER MODEMS AND/OR ETHERNET**

**SENDS ALARMS BACK TO THE TRIP CENTER
(TMC)**

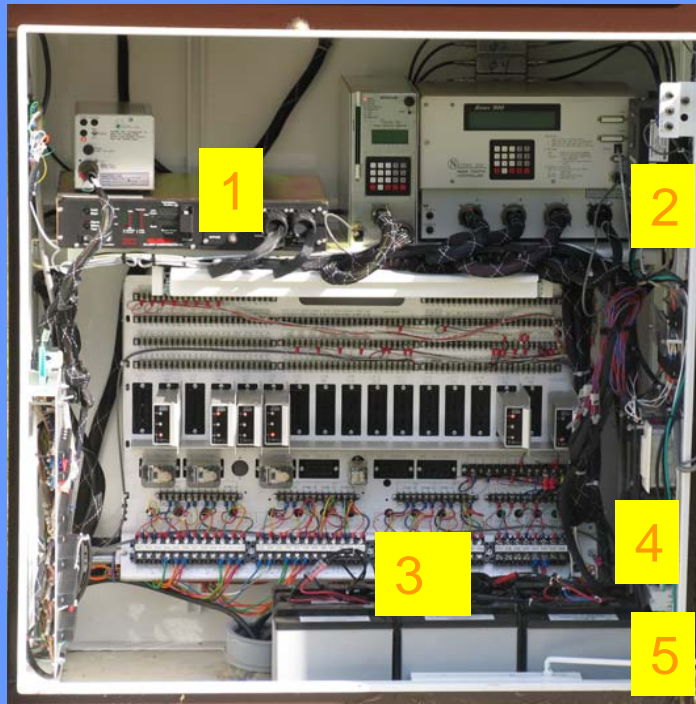
**REGULATES POWER TO SIGNAL
CONTROLLER AND SIGNAL CONTROLLER
CABINET**

**4 HOURS OF BACK-UP POWER TO PROVIDE
NORMAL OPERATION OF THE TR
SIGNAL**



BATTERY BACK-UP (UPS) SYSTEM

PRINCE GEORGE'S COUNTY

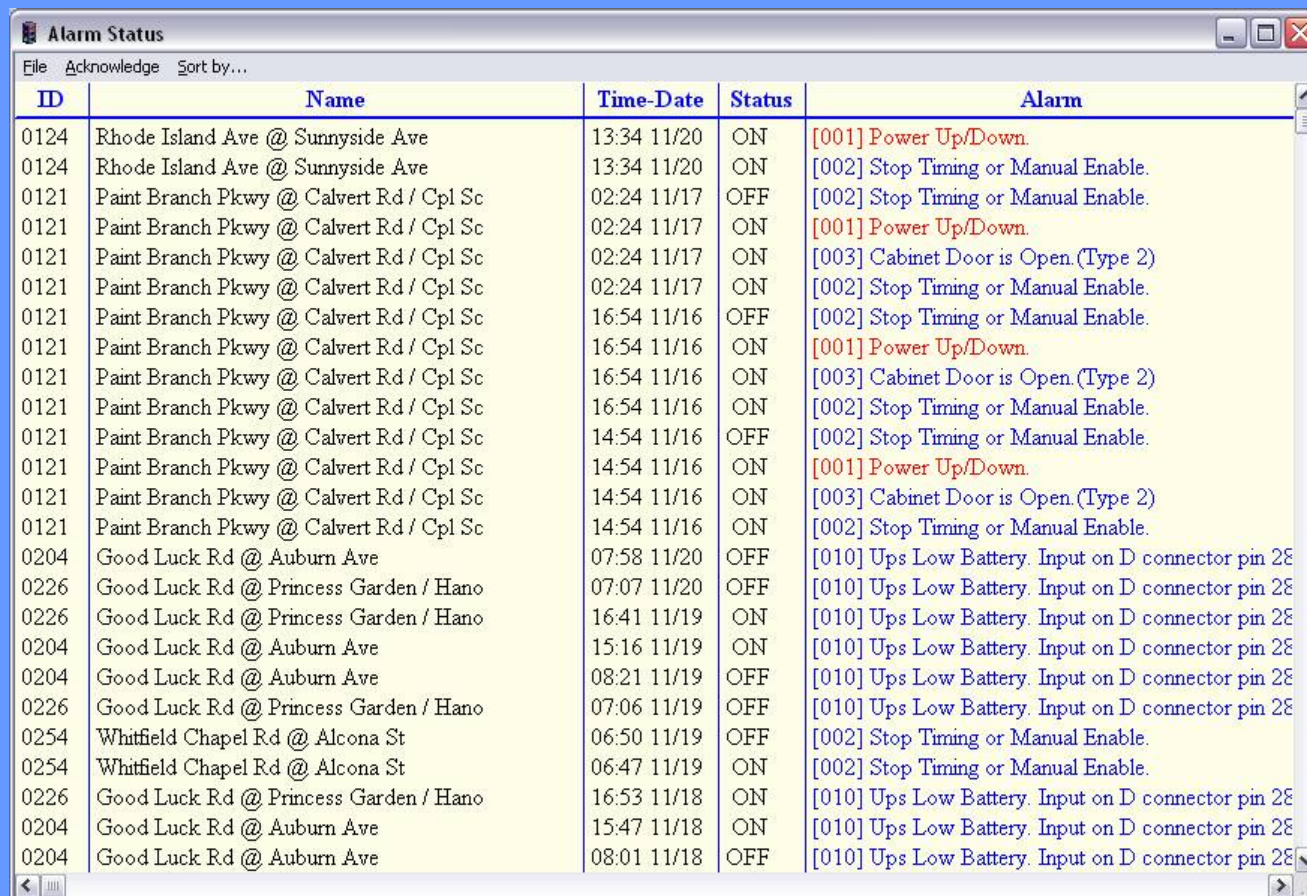


COMPONENTS

1. UPS CONTROL UNIT
2. POWER INTERFACE MODULE (PIM)
3. BATTERY CELLS
4. CIRCUIT BREAKER
5. UTILITY FEED

ALARM STATUS DISPLAY

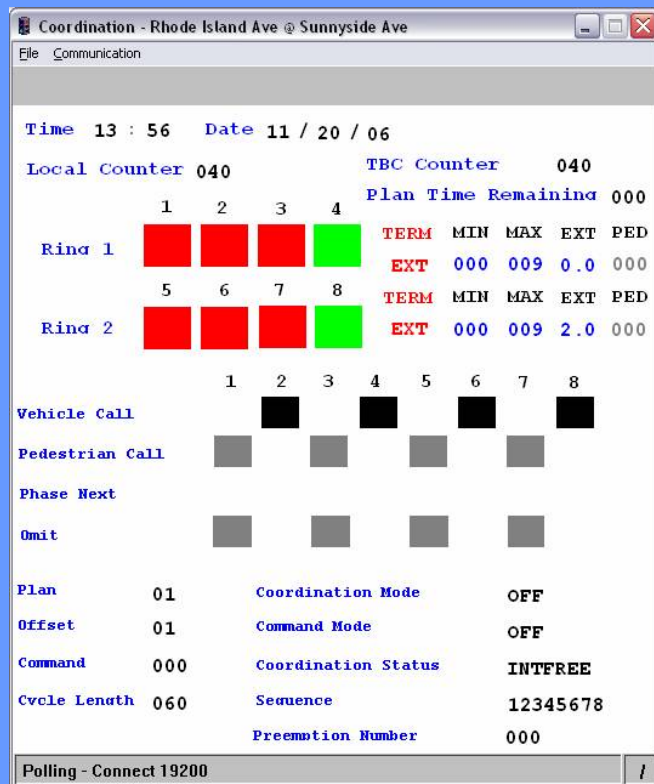
PRINCE GEORGE'S COUNTY



ID	Name	Time-Date	Status	Alarm
0124	Rhode Island Ave @ Sunnyside Ave	13:34 11/20	ON	[001] Power Up/Down.
0124	Rhode Island Ave @ Sunnyside Ave	13:34 11/20	ON	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	02:24 11/17	OFF	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	02:24 11/17	ON	[001] Power Up/Down.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	02:24 11/17	ON	[003] Cabinet Door is Open. (Type 2)
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	02:24 11/17	ON	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	16:54 11/16	OFF	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	16:54 11/16	ON	[001] Power Up/Down.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	16:54 11/16	ON	[003] Cabinet Door is Open. (Type 2)
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	16:54 11/16	ON	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	14:54 11/16	OFF	[002] Stop Timing or Manual Enable.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	14:54 11/16	ON	[001] Power Up/Down.
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	14:54 11/16	ON	[003] Cabinet Door is Open. (Type 2)
0121	Paint Branch Pkwy @ Calvert Rd / Cpl Sc	14:54 11/16	ON	[002] Stop Timing or Manual Enable.
0204	Good Luck Rd @ Auburn Ave	07:58 11/20	OFF	[010] Ups Low Battery. Input on D connector pin 28
0226	Good Luck Rd @ Princess Garden / Hano	07:07 11/20	OFF	[010] Ups Low Battery. Input on D connector pin 28
0226	Good Luck Rd @ Princess Garden / Hano	16:41 11/19	ON	[010] Ups Low Battery. Input on D connector pin 28
0204	Good Luck Rd @ Auburn Ave	15:16 11/19	ON	[010] Ups Low Battery. Input on D connector pin 28
0204	Good Luck Rd @ Auburn Ave	08:21 11/19	OFF	[010] Ups Low Battery. Input on D connector pin 28
0226	Good Luck Rd @ Princess Garden / Hano	07:06 11/19	OFF	[010] Ups Low Battery. Input on D connector pin 28
0254	Whitfield Chapel Rd @ Alcona St	06:50 11/19	OFF	[002] Stop Timing or Manual Enable.
0254	Whitfield Chapel Rd @ Alcona St	06:47 11/19	ON	[002] Stop Timing or Manual Enable.
0226	Good Luck Rd @ Princess Garden / Hano	16:53 11/18	ON	[010] Ups Low Battery. Input on D connector pin 28
0204	Good Luck Rd @ Auburn Ave	15:47 11/18	ON	[010] Ups Low Battery. Input on D connector pin 28
0204	Good Luck Rd @ Auburn Ave	08:01 11/18	OFF	[010] Ups Low Battery. Input on D connector pin 28

SIGNAL COORDINATION SCREEN

PRINCE GEORGE'S COUNTY



Allows for real-time monitoring of traffic and signal operation from the TRIP Center.

BENEFITS TO THE COUNTY

PRINCE GEORGE'S COUNTY

**LED HEADS REDUCE POWER
CONSUMPTION BY 80%**

**LONGER LIFE THAN
TRADITIONAL INCANDESCENT
BULBS**

**REDUCED CALLS TO CHANGE
BULBS AND OVERALL
MAINTENANCE COSTS**

TEMPERATURE PROBES

PRINCE GEORGE'S COUNTY

GROUND TEMPERATURE

Probes are embedded into the asphalt
Temperature data is transmitted to the controller and then to a temperature probe database.

GIS map is populated with temperatures

AIR TEMPERATURE

Probes are embedded into the NEMA CABINET

Temperature data is transmitted to the controller.

Temperature probe database is populated.

BEFORE

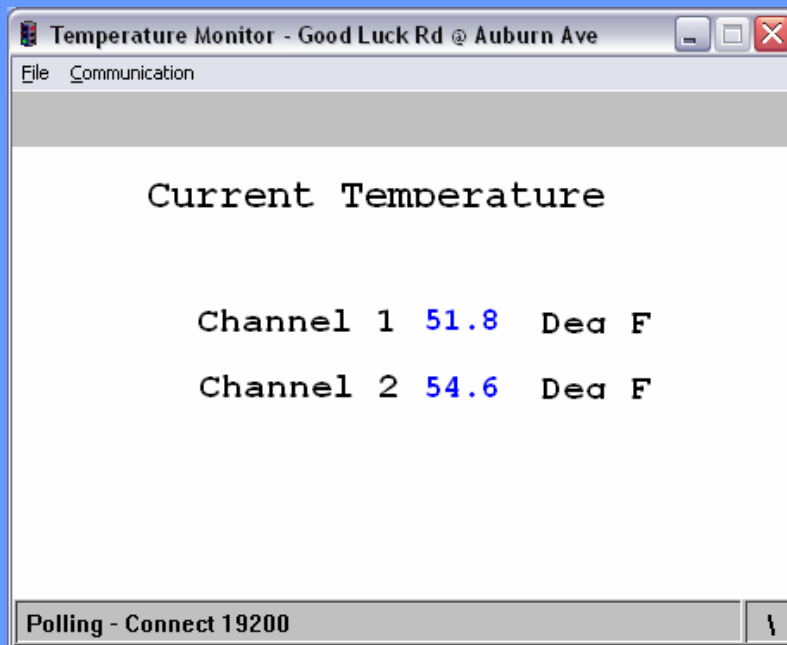


AFTER



TEMPERATURE PROBES

PRINCE GEORGE'S COUNTY



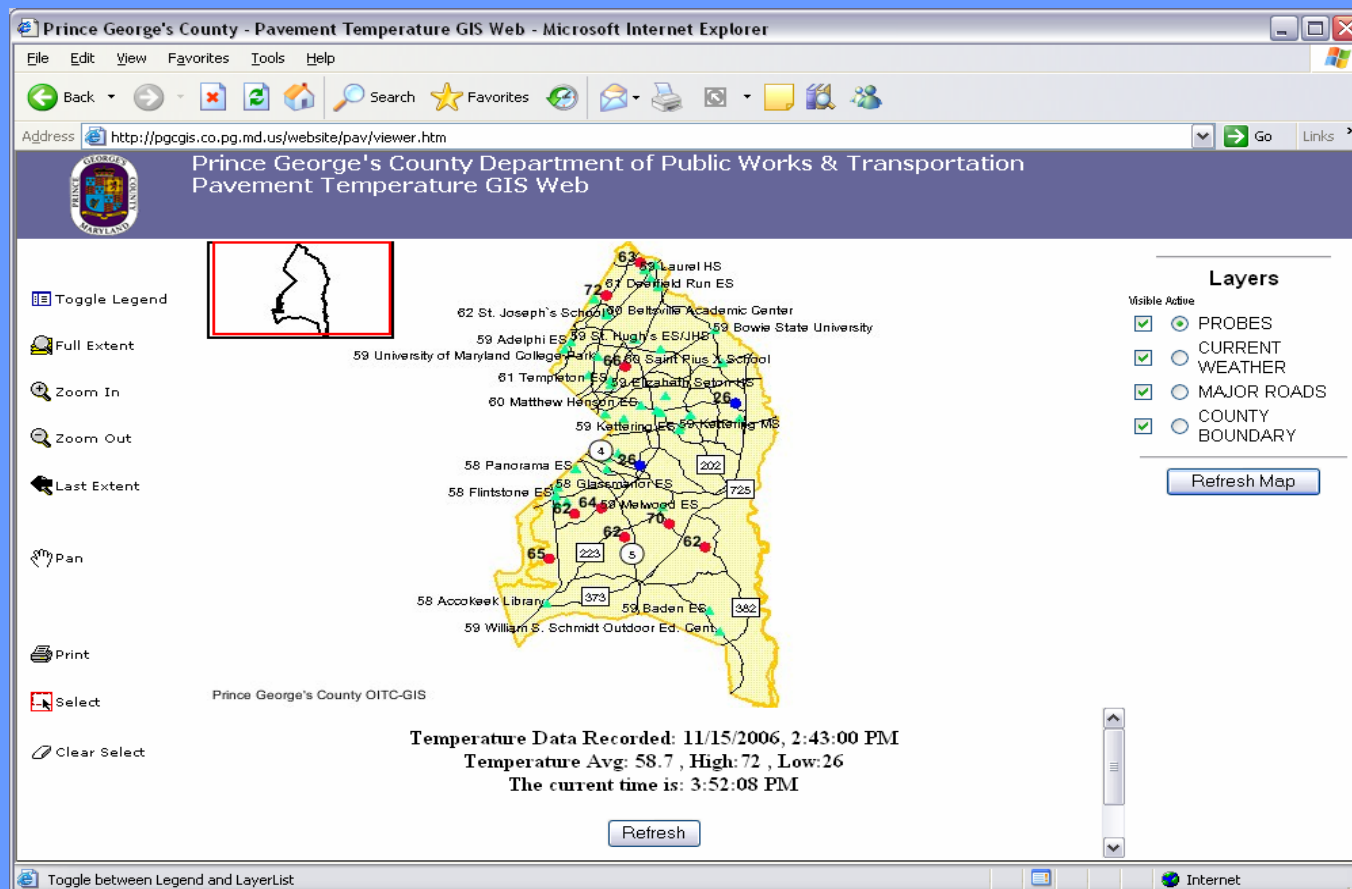
Displays, in real-time, the current pavement and air temperatures at the signalized intersection

Channel 1 is the current Pavement temperature

Channel 2 is the current Air temperature

GIS TEMPERATURE MAP PAGE

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LESSONS LEARNED

PRINCE GEORGE'S COUNTY

- Need for reliable communication to field devices.
- Need for coordination with contractors regarding construction projects within the vicinity of signalized intersections that may affect the operation of the signals.
- Need for regular scheduled calibration of temperature probes.
- Need for application support from vendors.
- Need for open communication with other departments within the County as it pertains to our functions.

QUESTIONS

PRINCE GEORGE'S COUNTY



Thank You