



# City of Baltimore Integrated Traffic Management System



## Traffic Signal System Upgrade Coming On Strong

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- ❑ **City of Baltimore Signal System**
  - **What we have done**
  - **Challenges**
  - **Potential future work**



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Mayor O'Malley's Initiative for Advanced  
Traffic Control and Traffic Management in  
the City of Baltimore

➤ <b>Controller Replacement</b>	<b>\$11M</b>
➤ <b>Communications Cabinets</b>	<b>\$1M</b>
➤ <b>Central System Hardware and Software Upgrade</b>	<b>\$5.7M</b>
➤ <b>New TMC</b>	<b>\$3 M</b>
➤ <b>Signal Timing Optimization Phase 1</b>	<b><u>\$1M</u></b>
	<b>\$21.7 M</b>



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## Old System-1970s Technology





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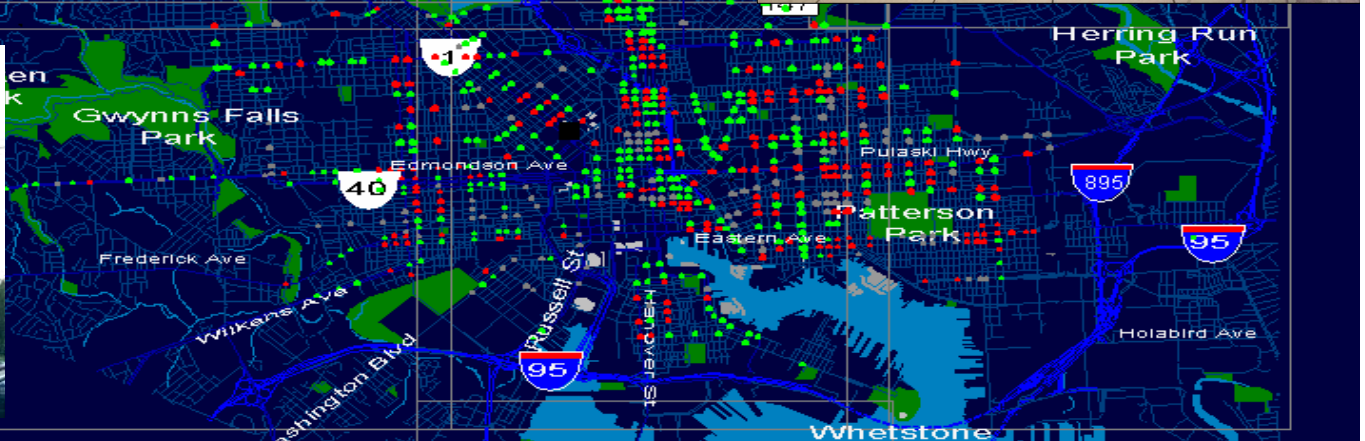
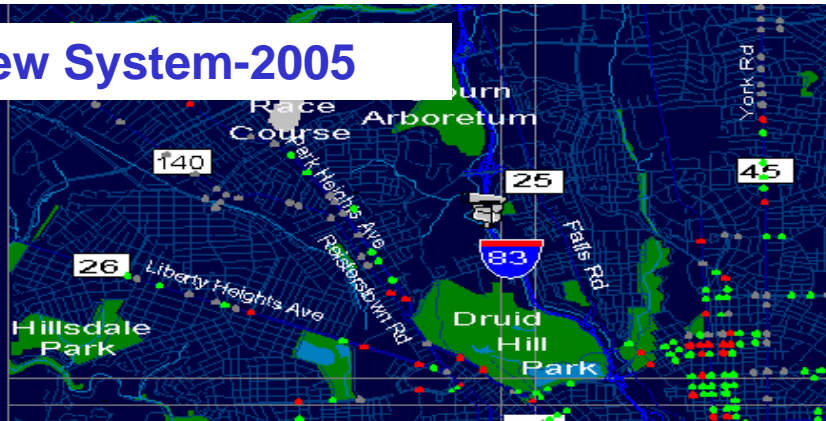




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## New System-2005



Signal 1054: Boston @ Chester, Fleet

Options

Signal 100-4  
Fleet St @  
Chester St

Fleet St

Boston St

Phase	1	2	3	4	5	6	7	8
Actual	33	19	39					
Programmed								

ON	PED	CALL	NEXT
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●

Information: Timing | Alarm Detail

Desired Method / Pattern: TOD / Local | Current Pattern: 6

Coordinates: Unknown | Actual: 37 | 0 | 0 | Programmed: NA | 0 | 0

AlarmGroup: Flash | Other:

Last Check: 10:50:25 | Time Error: 300 min, 0 sec | Sync Controller Time:  | Get Controller Time:

Pattern Data Unavailable.

Overlap	A	B	C	D	Special Functionals
Time	39				● 5
ON	●	●	●	●	● 6
PED	●	●	●	●	● 7
CALL	●	●	●	●	● 8

Priority/Precedence

1 Unknown	5 Unknown	9 Unknown
2 Unknown	6 Unknown	10 Unknown
3 Unknown	7 Unknown	
4 Unknown	8 Unknown	





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## Challenges

- **Moving traffic during installation**
- **Police for intersection Control**
- **Replacing up to 10 controllers per day**
- **Transition from old system to new system while maintaining signal coordination**
- **Fabrication of controllers/Inventory**
- **Maintaining exiting system until the end**



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## Future Work

- **CCTV Cameras**
- **LED Signal Retrofit**
- **Fiber Optic Backbone to Area Cabinets and beyond**
- **System Detection and Traffic Responsive Operation**
- **Signal Timing Optimization**
- **Expansion of Existing Dynamic Message Sign (DMS) System**