



# Quincy & Ocean State A Partnership to Innovate

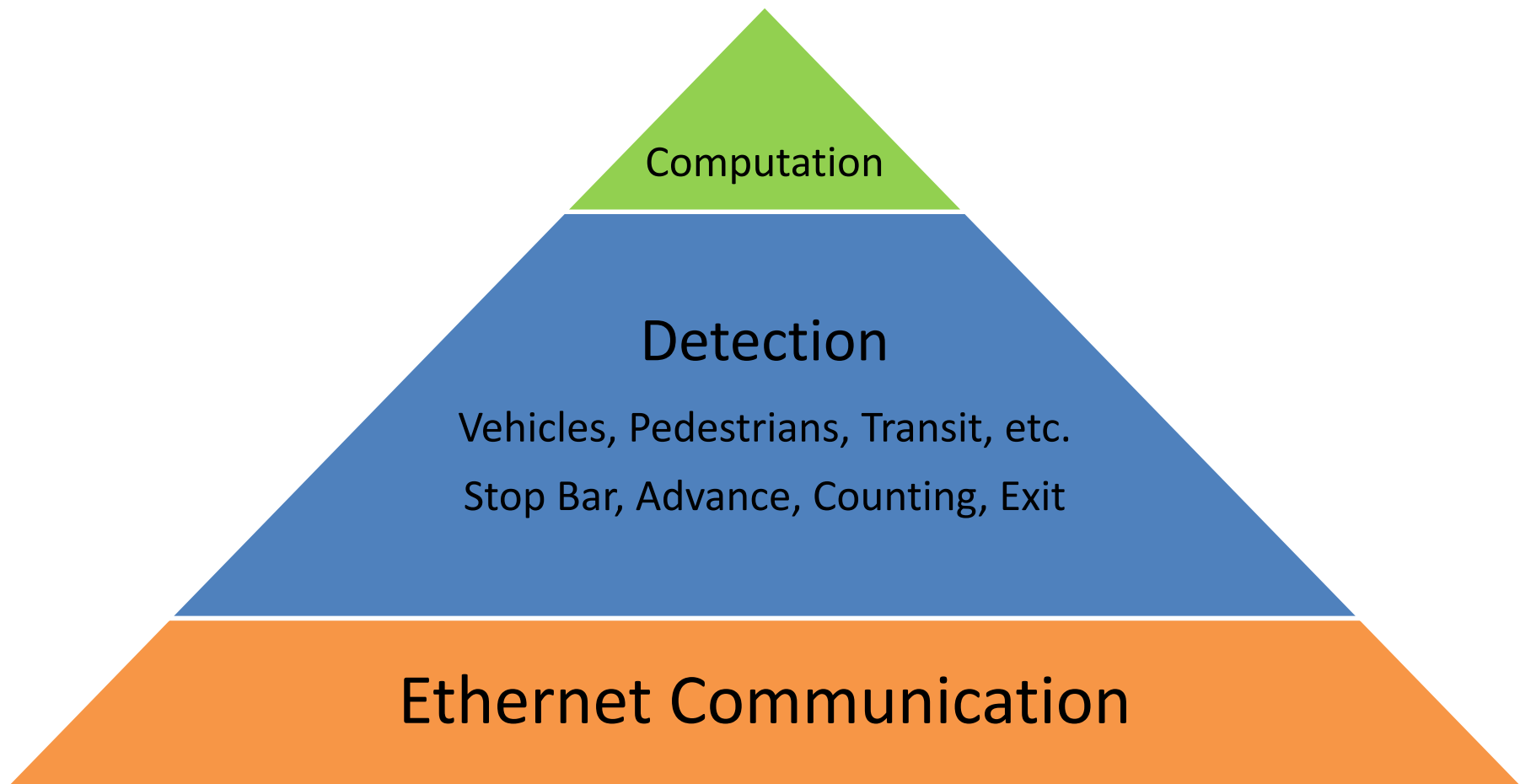
Christopher Cassani & Mike Wasielewski  
City of Quincy & Ocean State Signal



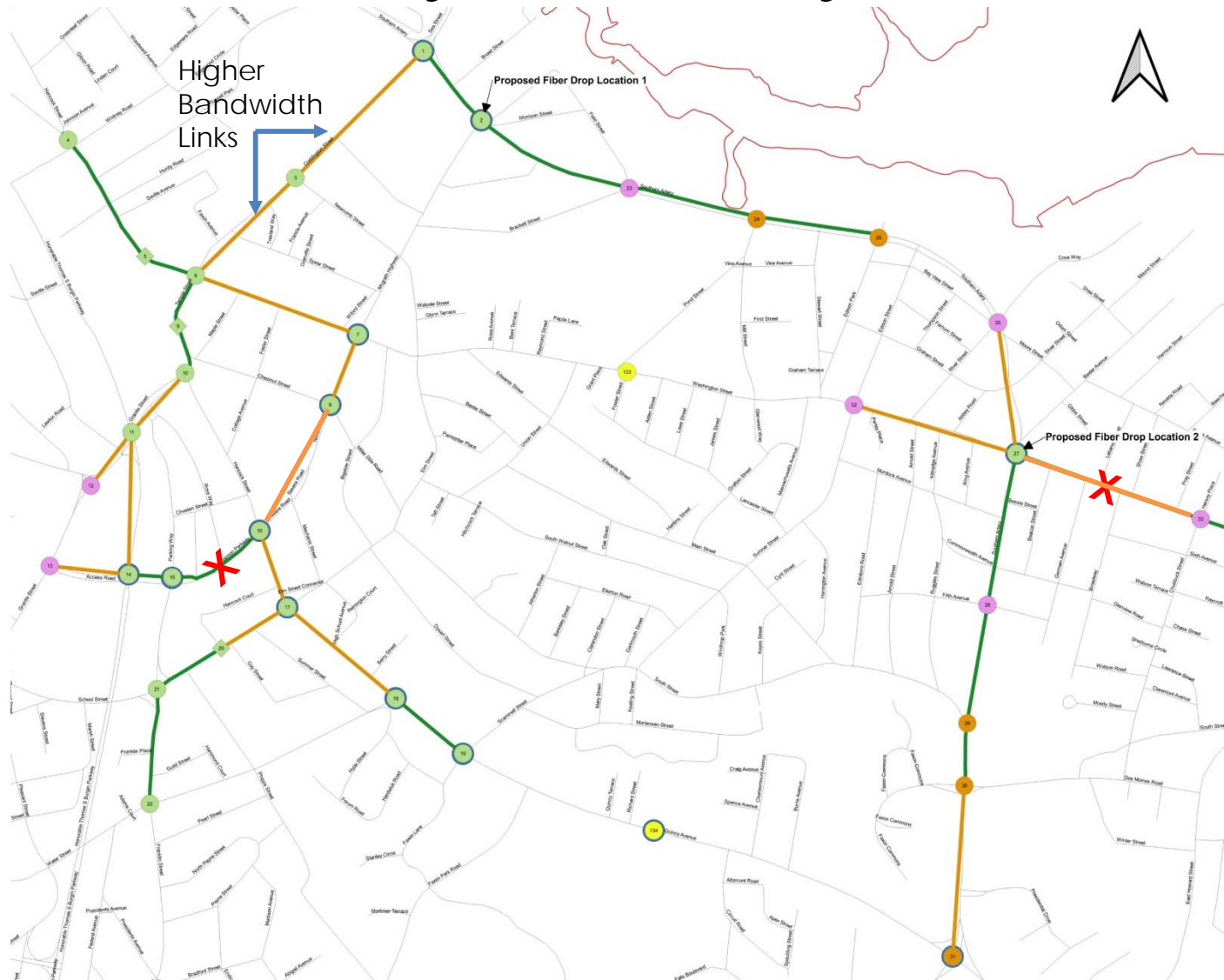
# Project Timeline

- January 2018 – City explores Adaptive Signal Control
- Spring 2018 – RFQ issued, 3 responses
- Spring/Summer 2018 – City selected Ocean State Signal / Rapid Flow Technologies team
- Summer/Fall 2018 – Communication & Detection Upgrades
- Winter/Spring 2019 – System Activation

# Adaptive Signal Control



# Quincy Center System



# Citywide System

Quantity	Item
1	System Server
1	Dedicated Traffic Workstation
2	Fiber Optic Data Connections to City Network
18	New Traffic Signal Controllers
15	Reset & Reprogram Traffic Signal Controllers
10	Retain Existing Traffic Signal Controllers
43	Ethernet Switches
34	Ethernet Radios (17 Links)
17	New Video Detection Systems
8	Modify Existing Video Detection Systems
8	Video Encoders
7	Advance Video Detection Cameras
21	Surtrac Adaptive Processors
13	GPS Based Preemption Units
<b>186</b>	<b>CONNECTED DEVICES ONLINE</b>

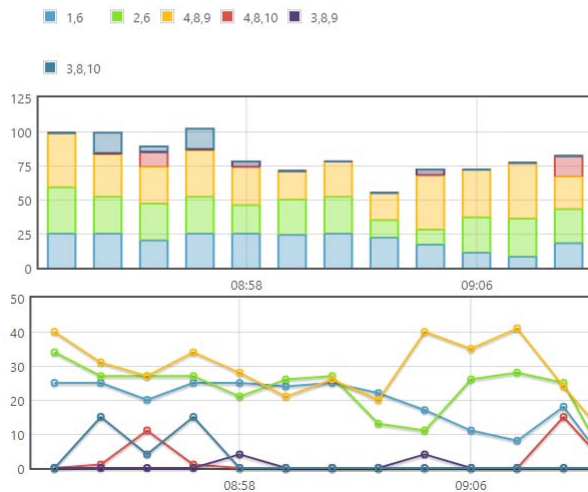
# Surtrac

- Utilizes city's existing infrastructure where possible
- Developed specifically for urban grid roadway systems
- Intersection-to-intersection communication of observed traffic demands
- Real-time timing adjustments made possible by system's algorithms
- Multiple modeling concepts can be applied for AM/PM/mid-day periods
- Multi-modal optimization possible for pedestrians, cyclists, vehicles and transit
- Connected vehicle ready

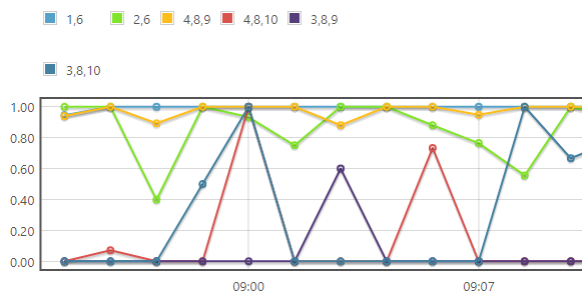
# Surtrac



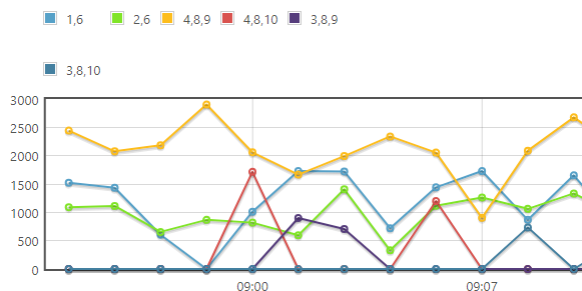
## Statistics for Washington\_Temple Phase durations (seconds) by cycle



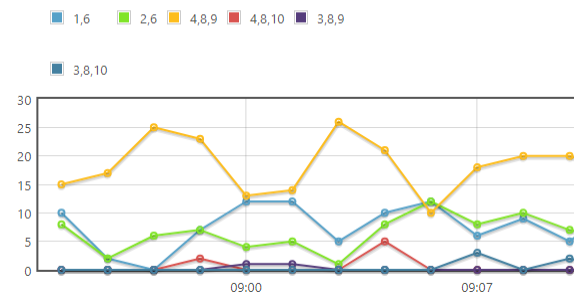
## Phase utilization by cycle



## Flow rate (vehicles/hour) by cycle



## Vehicles by cycle





# Lessons Learned

- Totally overhauling traffic infrastructure is HARD!
- Benefits and risks of a 'design-build' approach
- Taking ownership of detection & radio installation by the municipality
- Communication between the City, Ocean State & Surtrac as Ocean State's sub
- Retrofitting existing video detection versus upgrading to new technology
- Training City staff on new platforms



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