



The Next Great Thing in Transit Signal Priority

ITS Carolinas Annual Meeting

February 2018

Charles Abel – City of Charlotte Jon Ringler – Econolite Systems



The Next Great Thing





2005





July 2006

2.1 VISON

The Charlotte TSP Integration Project will develop and deploy a complete system which will allow the City of Charlotte, NC to provide Transit Signal Priority (TSP) at signalized intersections. The system will utilize features of Charlotte's three in-place Siemens' products (*TransitMaster, i2, NextPhase*) to provide an integrated system that:

- Identifies buses in need of priority treatments
- Transmits requests for TSP to the signalized intersections on the bus route
- Determines feasibility/method of providing localized TSP
- Initiates on-street TSP treatments in advance of the bus arrival
- Terminates TSP upon bus passage
- Logs and reports TSP requests and service provided



History

- 2008 Began designing corridors to use Opticom for detecting buses and fire trucks
- 2010 Opticom emitters installed on all buses and fire trucks; receivers at signalized intersections of the first corridor
- 2011 City changes out signal software to Econolite
- 2012 City equips 4th corridor for transit priority and emergency preemption
- 2013 CATS receives additional grant to expand transit signal priority. City decides to try again with our new signal software vendor.



The Next Great Thing





About CATS

- 325 Fixed Route Vehicles
- 1,324 directional route miles
- 25 Million Passengers





About CFD

- 42 Fire Stations
- 80+ Frontline Vehicles
- 110,000 Calls Annually
- Average Response 4 Minutes 34 Seconds







Vehicle Class

• Adjudicate Demand based on vehicle class

- Emergency
- Transit
- Freight
- Soccer dad
- etc...
- Define level of aggressiveness per class
 - Eliminate / shorten / lengthen phases
 - Skip / drop / shorten pedestrian movement





Value Proposition

- Infrastrucutre...less
 - No Opticom devices
 - No field maintenance
 - Heavier reliance on network
- Operation Value
 - CDOT: fewer preemptions, less total time in transition
 - Transit: Enhanced on-time performance
 - Fire: Improved Response Time
- Sense of the entire route



Transit Case





Fire Case































































Where are we...

- Behind
- ...way behind
- Development has been complete and working through bugs
- After fits, starts and stops, we're just now completing a live field test on 13 intersections along Beatties Ford Rd
- If all continues to go well, we have Independence Boulevard set to go.
- Planning for total system rollout, with schedule to complete in late June 2018.



Special Thanks to...

CDOT Staff Terry Gortney Shawn Dowdell



Questions

