Truck Priority

- Primary Objective
  - Reduce delay to the public due to platooning

- Secondary Objective
  - Reduce delay to heavy commercial vehicles
  - Reduce stops to heavy commercial vehicles
Truck Priority System Design
No Loop Occupied

+24VDC
LOGIC GRD

OUTPUT TO CONTROLLER (+24VDC)

UPSTREAM DETECTOR CHANNEL
DOWNSTREAM DETECTOR CHANNEL
Truck Priority System Design
Upstream Loop Occupied

- Upstream Detector Channel
- Downstream Detector Channel

+24VDC
Logic GRD

Output to Controller (+24VDC)

9/17/2012
Truck Priority System Design
Downstream Loop Occupied

+24VDC
LOGIC GRD

UPSTREAM DETECTOR CHANNEL

DOWNSTREAM DETECTOR CHANNEL

OUTPUT TO CONTROLLER (+24VDC)
Truck Priority System Design
Both Loop Occupied

UPSTREAM DETECTOR CHANNEL

+24VDC

LOGIC GRD

DOWNSTREAM DETECTOR CHANNEL

OUTPUT TO CONTROLLER (+24VDC)

9/17/2012
Location

Clear Water, MN
- TH24 and Sherburne CSAH 8
Hwy 24 and Sherburne CSAH 8

- Isolated signal
- No advance detection
- 55mph
- TH 24
  - AADT 17,800
  - HC 1850 (10.4%)
- CSAH 8
  - AADT 1,900
Smallest Vehicles Detected
Largest Vehicles Not Detected
Observed Benefit

- All vehicle Benefit
  - Delay reduction of 308 hours/year

- Heavy Commercial Vehicle Benefit
  - Delay reduction of 158 hours/year, 1st observation
    - Operating Cost Savings of $14,924
  - Delay reduction of 514 hours/year, 2nd observation
    - Operating Cost Savings of $48,577
  - Reduction in average stops 7.4%
Recommendations

- Expand the priority to intersections with
  - High truck volumes
  - Seasonal trucking routes

- Expand the priority to multilane roadways
  - Trucks benefit from reduced delay and number of stops
  - Little or no benefit to Non-trucks
Questions?

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http://www.dot.state.mn.us/guidestar/2006_2010/truck_priority.html