

# Transit Signal Priority Update

Cambridge Transit  
Advisory Committee

April 6, 2016



# Agenda

- ▶ Overview of Transit Signal Priority
- ▶ Challenges of TSP in Cambridge
- ▶ Status of Projects
  - ▶ MBTA TSP pilot
  - ▶ Signal communication
  - ▶ Participatory Budgeting
- ▶ Next Steps



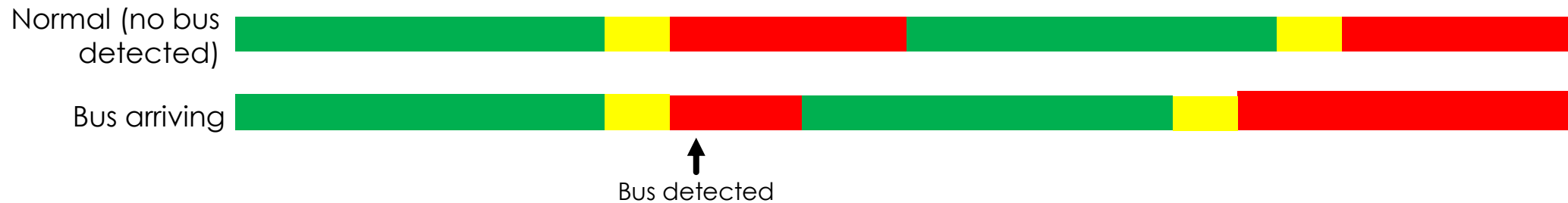
# Types of Signal Priority

## Simple

### ▶ Green extension



### ▶ Early green/red truncation

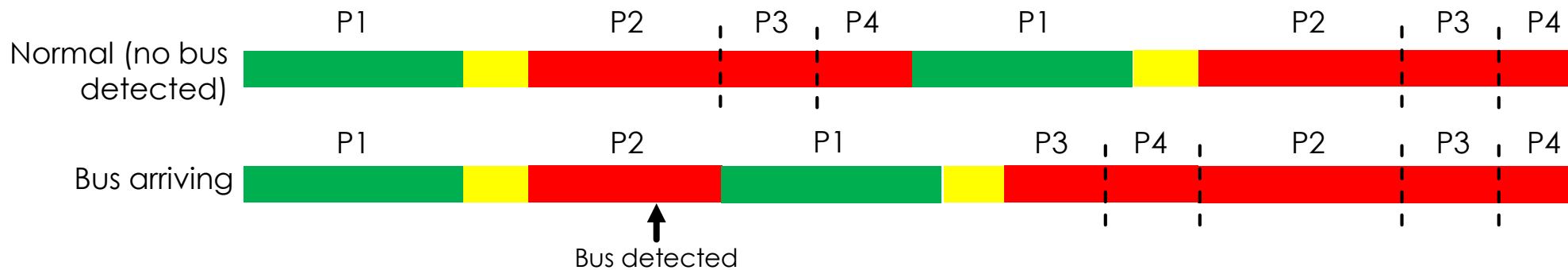


# Types of Signal Priority Complex

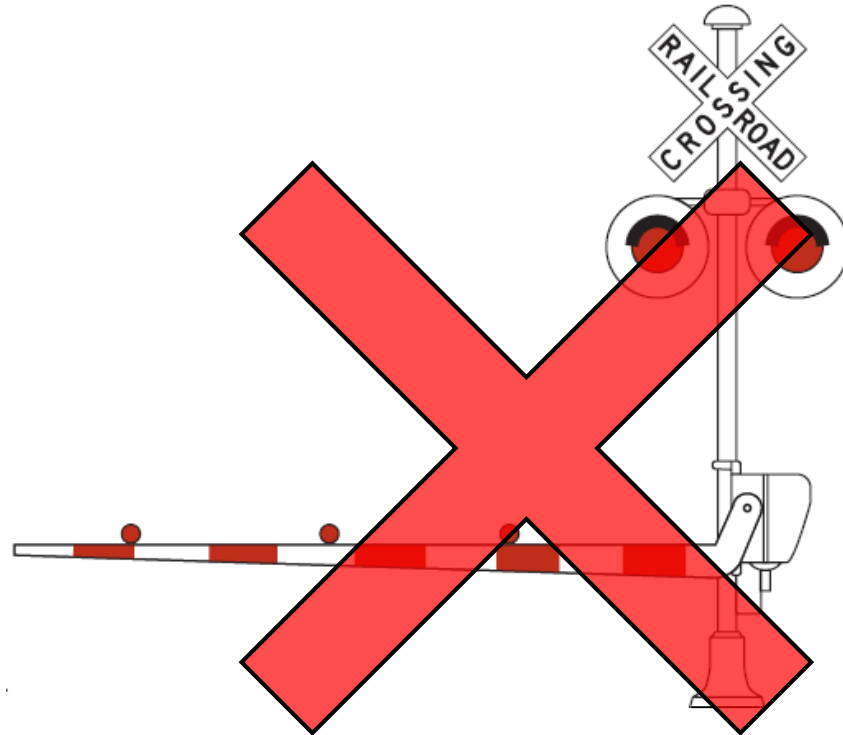
## ▶ Phase skipping



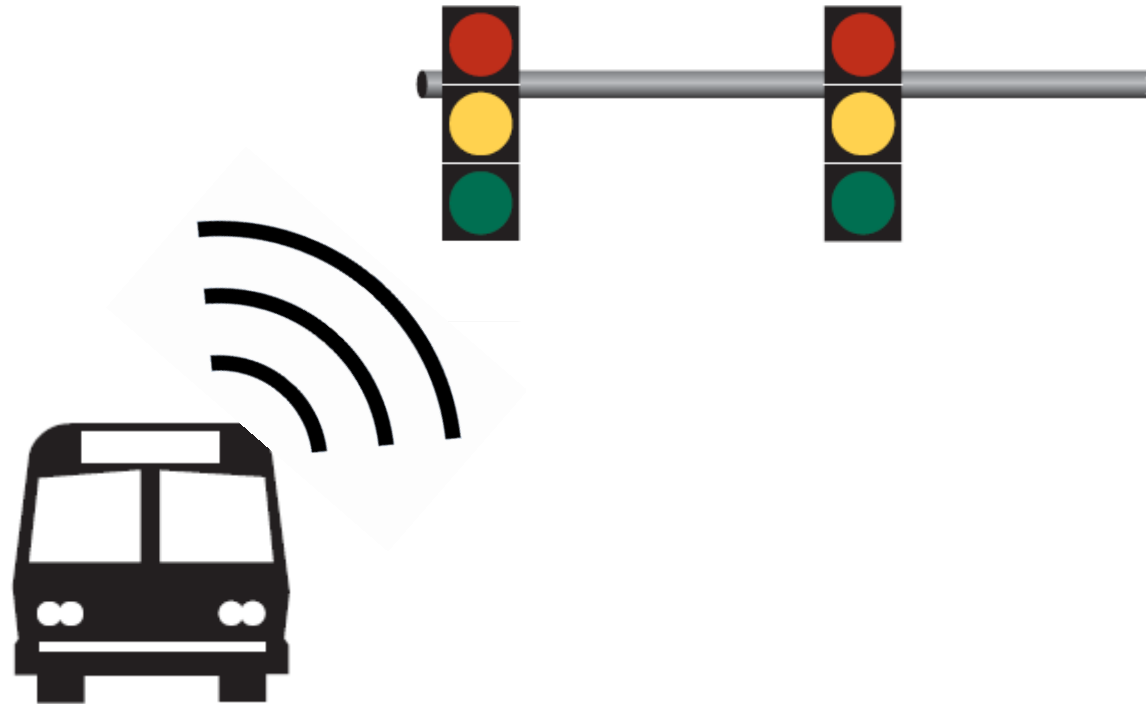
## ▶ Phase rotation



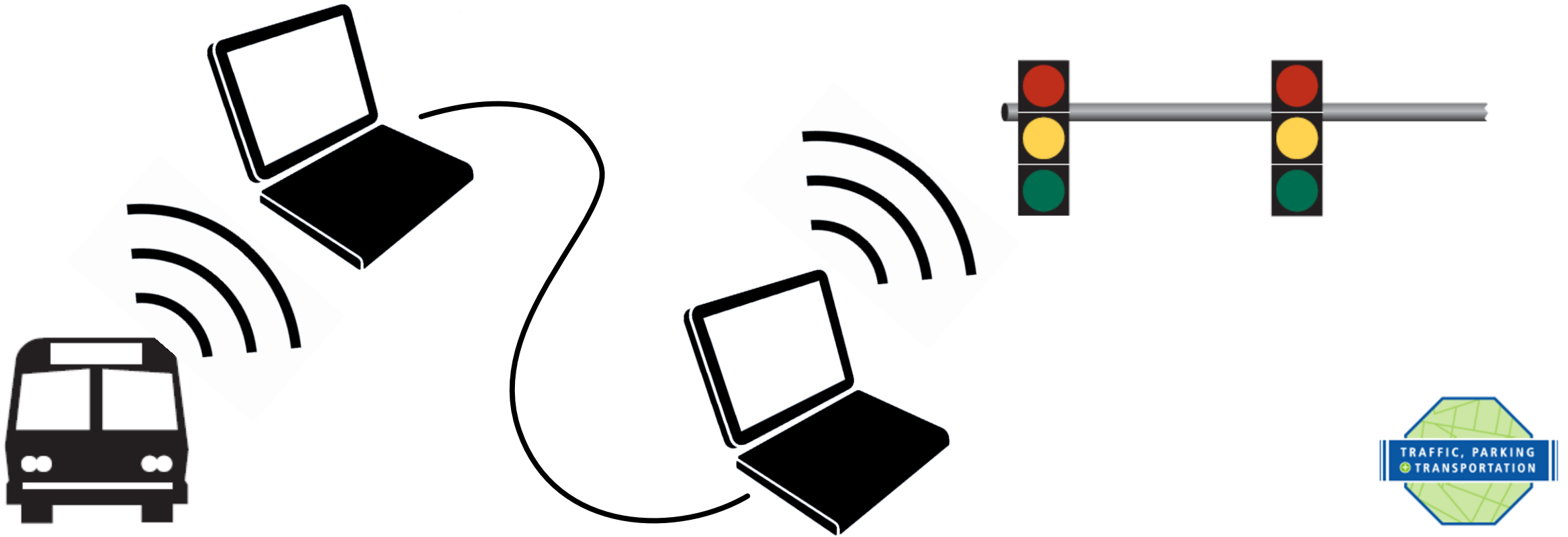
# Signal Priority $\neq$ Signal Preemption



# Transit Signal Priority Direct Communication



# Transit Signal Priority Center-to-Center Communication



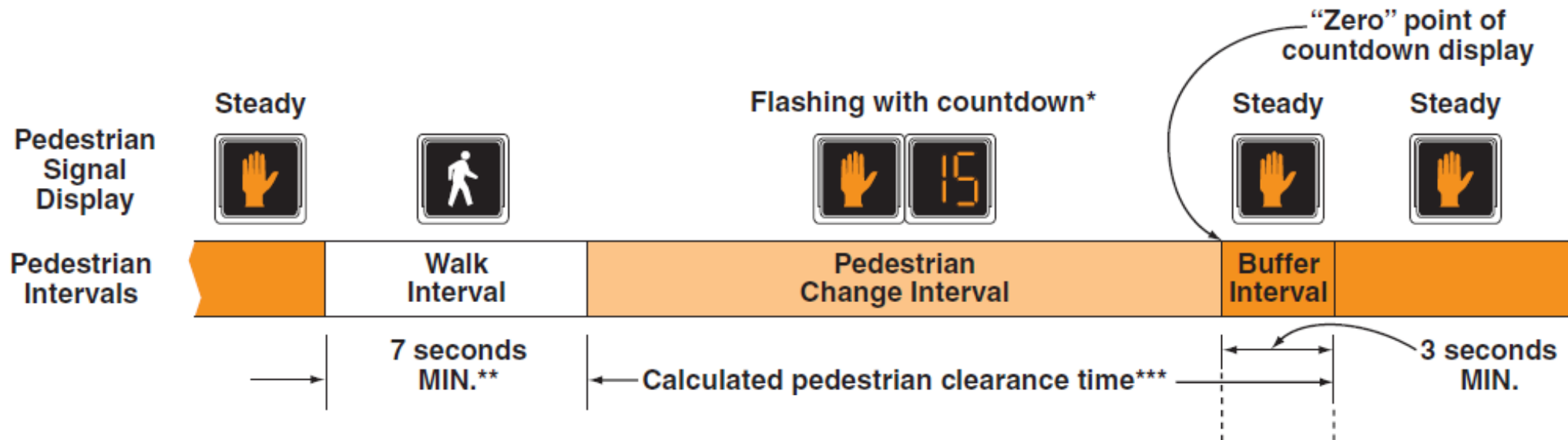
# Challenges of TSP in Cambridge

- ▶ Maintaining safe pedestrian crossings
- ▶ Limited parallel routes
- ▶ Crossing bus routes
- ▶ Signal communications





# Maintaining Safe Pedestrian Crossings



# Challenges of TSP in Cambridge

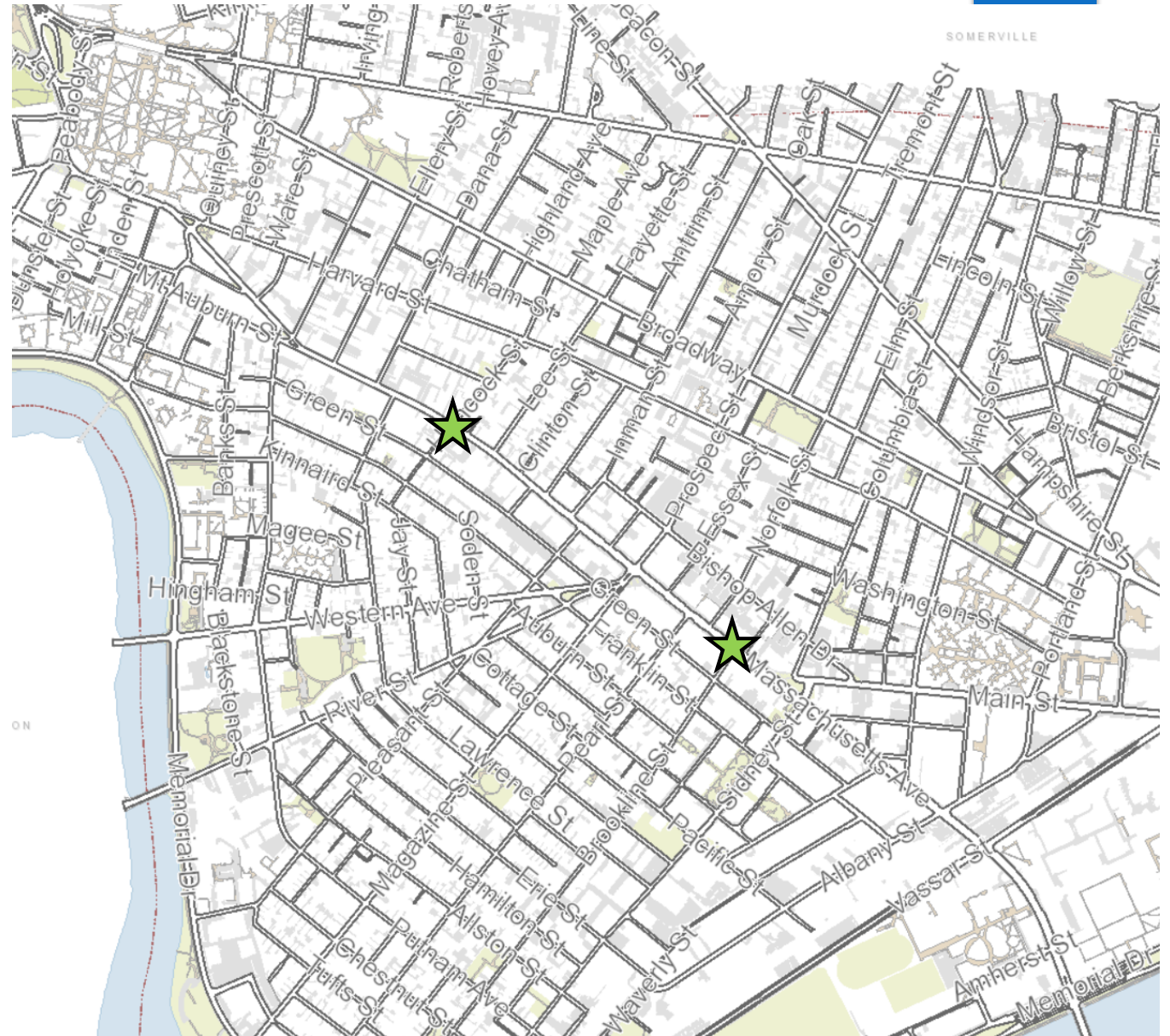
- ▶ Maintaining safe pedestrian crossings
- ▶ Limited parallel routes
- ▶ Crossing bus routes
- ▶ Signal communications



# Status of Related Projects

## MBTA TSP Pilot

- Upgrading/restoring TSP in Boston (Green Line and buses)
- Pilot TSP in surrounding communities
- Draft Concept of Operations developed
- Conceptual system architecture in development
- Pilot implementation: Massachusetts Avenue
  - Hancock Street
  - Brookline Street



# Status of Related Projects

## Signal Communications

- Massachusetts Avenue
  - Hancock Street
  - Inman Street
  - Prospect Street
  - Essex Street
  - Brookline Street
- Prospect Street
  - Bishop Allen Drive
  - Harvard Street
  - Broadway
- Broadway
  - Inman Street



# Status of Related Projects

## Participatory Budgeting

- \$250,000 approved for FY17
- Massachusetts Avenue
  - Putnam Avenue
  - Hancock Street
  - Brookline Street
  - 77/MIT
  - Amherst Street
- Quincy Street/Broadway



# Next Steps

- ▶ Complete inventory of traffic signal controllers
- ▶ Install pilot wireless communications network
- ▶ Complete planning documents for TSP pilot
- ▶ Install pilot TSP locations
- ▶ Expand TSP to additional locations on Massachusetts Avenue

