

# COMPLETE STREETS DURING CONSTRUCTION

MAINTAINING ACCESSIBILITY FOR ALL

*Presented by*



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# Presentation Outline

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- **Brief Overview of Complete Streets**
- **Project Planning**
- **Project Outreach**
- **Complete Streets Construction Management Plan (CMP) Elements**



# Brief Overview of Complete Streets

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**“Complete Streets are streets for everyone.** They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.”

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“A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks.”



**Smart Growth America**  
Making Neighborhoods Great Together



**National Complete Streets Coalition**



# Brief Overview of Complete Streets

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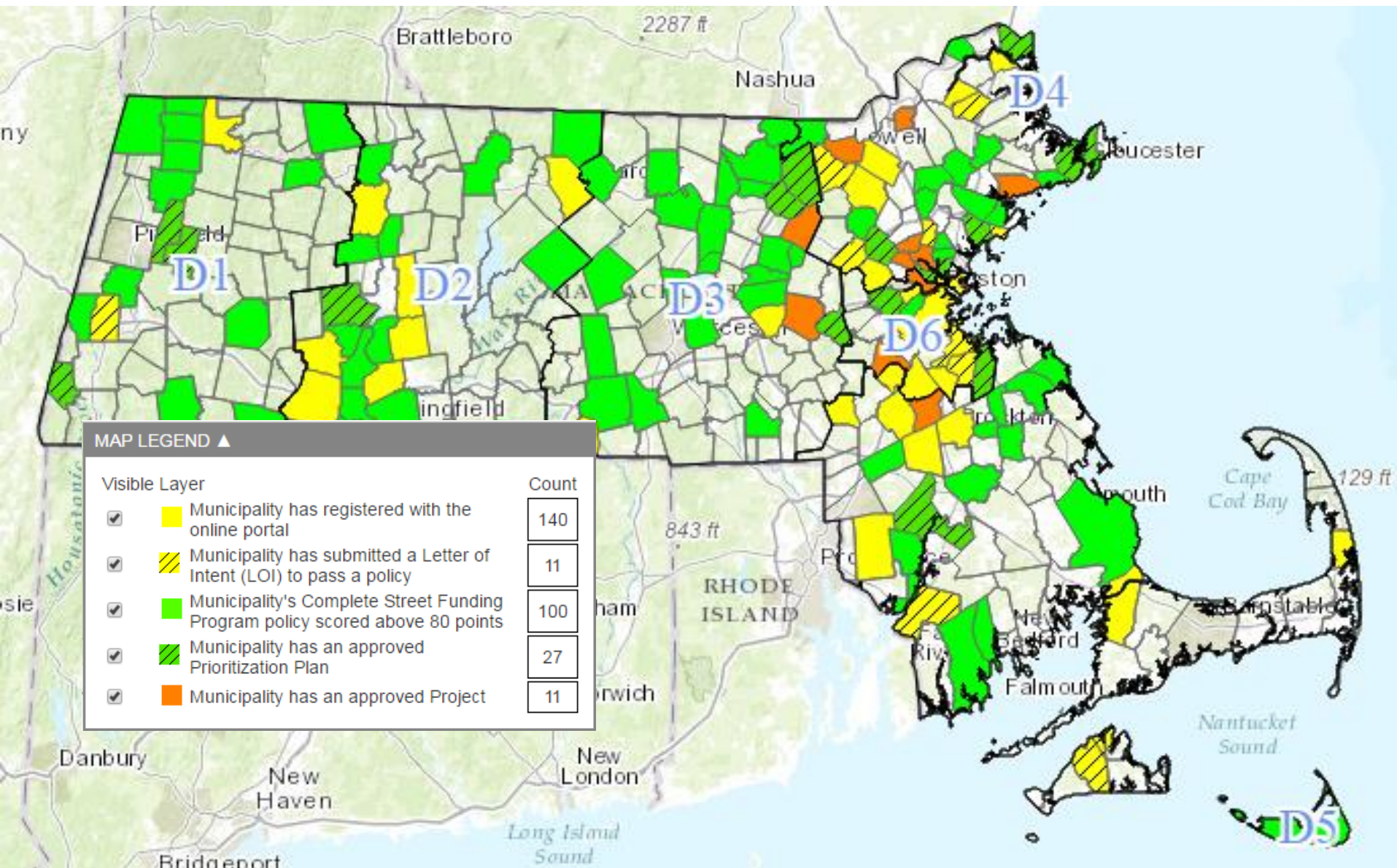
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# Cities and Towns with Complete Street Initiatives



# Project Planning

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First Avenue Improvements,  
New York City



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# Project Planning

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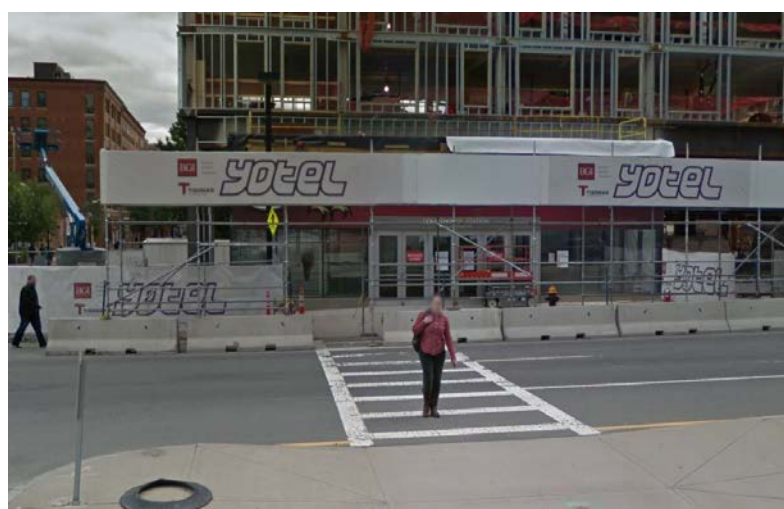
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# ADA Title II Regulations Adopted by Design Guides





# Existing Project Site and Land Uses



# Information Tempers Expectations



# Methods to Reach Out to Public

- Wayfinding Signage
- Portable Changeable Message Signs (PCMS)
- Variable Message Signs (VMS)
- Project Web Sites
- E-mail Blasts
- Flyers





# Complete Streets CMP Elements

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## **Construction Management Plan (CMP)**

A living, collaborative document that communicates to the public logistic and sequencing for roadway construction, building construction, or maintenance projects. The CMP clearly lays out how the project is undertaken, what steps are taken to maintain access for all users and what means are used to communicate the project to the public.



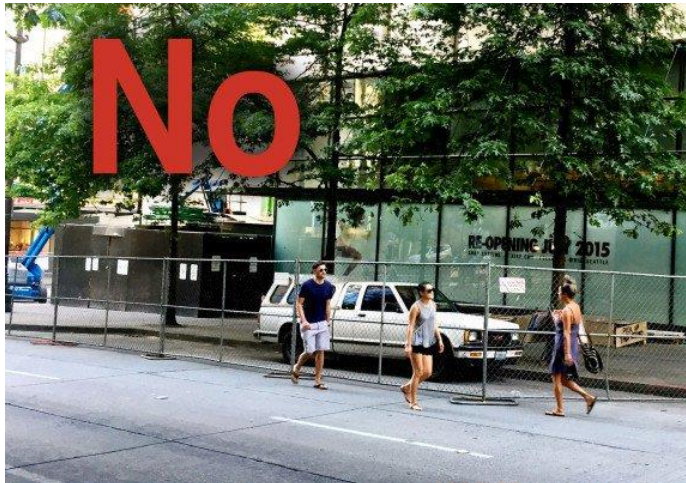
# Complete Streets CMP Elements

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- Pedestrians
- Bicycles
- Automobiles
- Transit
- Emergency Access
- Construction Activities



# Pedestrian Accommodations





# Common Mistakes During Construction

## ■ Sidewalk Construction

- Fully Close Sidewalk for Construction or Extra Site Staging
- No Proper Detours



- No Protected Pedestrian Path of Travel



# Common Mistakes During Construction

- Work and Equipment that Impedes Access to Next Block
- No Where to Detour Pedestrians on Current Sidewalk



# Common Mistakes During Construction

## ■ Loss of Existing Pedestrian Signal Accessibility

- Construction Staging May Block Access to Pedestrian Facilities
- Common Examples:
  - Sidewalk Replacement
  - Removing Medians with Signal Equipment
  - Replacing Traffic Signal Equipment





# Complete Streets CMP Elements

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- Creating an Alternate Route without Laying Asphalt or Another Smooth Continuous Surface



# Standards To Be Met During Construction

## *Americans with Disabilities Act of 1990*

### **“R201.2 Temporary and Permanent Facilities**

*The requirements in this document [PROWAG] shall apply to temporary and permanent facilities in the public right-of-way.”*

*Source: PROWAG*

### **“AAB 521 CMR 2.00: 2.6 Maintenance of Access Features**

*At all times, accessibility features must be maintained  
and fully operational”*

*Source: MA AAB Rules and Regulations*

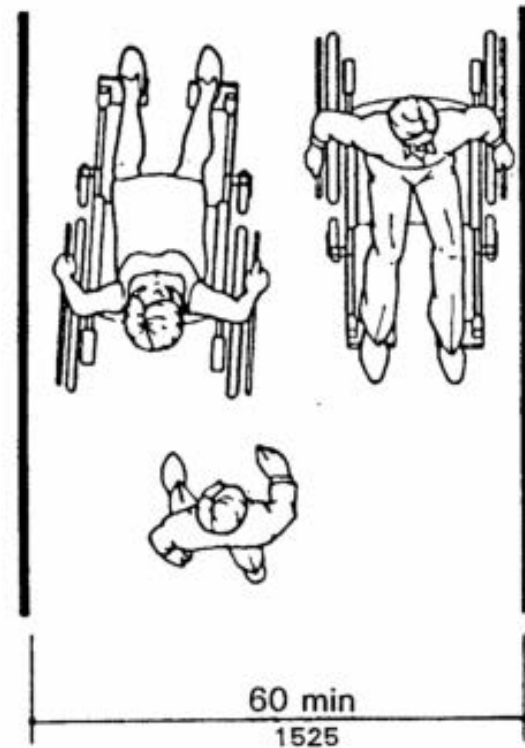
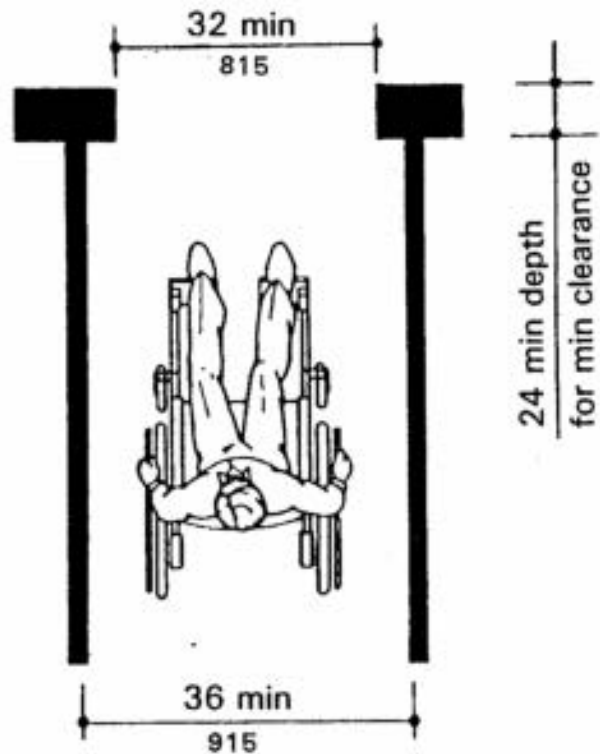
*“A “path of travel” includes a continuous, unobstructed way of pedestrian passage by means of which the altered area may be approached, entered, and exited.”*

*Source: ADA Title II*



# Design Regulations for Path of Travel

## ■ Wheelchair Passage Width





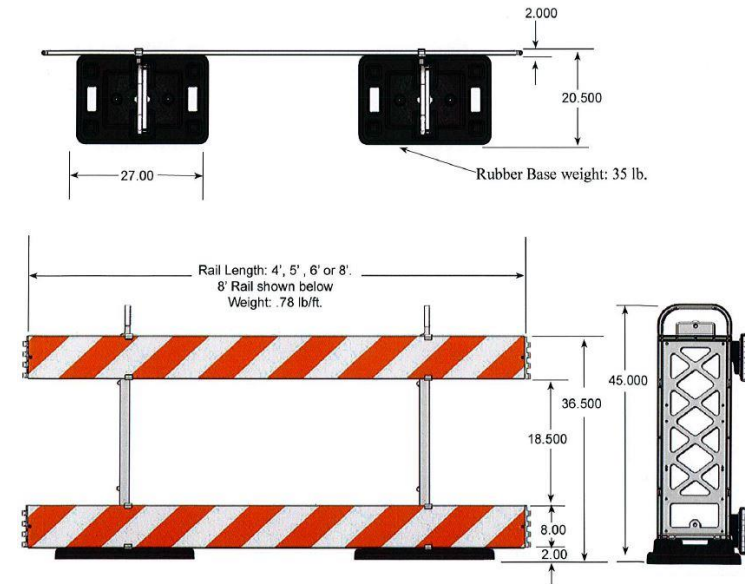
# Wayfinding Signage



# Pedestrian Management Guidance System

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- Short-term Use, Mostly for Sidewalk Reconstruction or Utility Connections
- Light-weight, Easily Moveable
- Provides Handrail and Detectable Edge for Visually Impaired
- Not Crash-worthy
- Best for Non-roadway Applications





# Pedestrian Management Guidance System

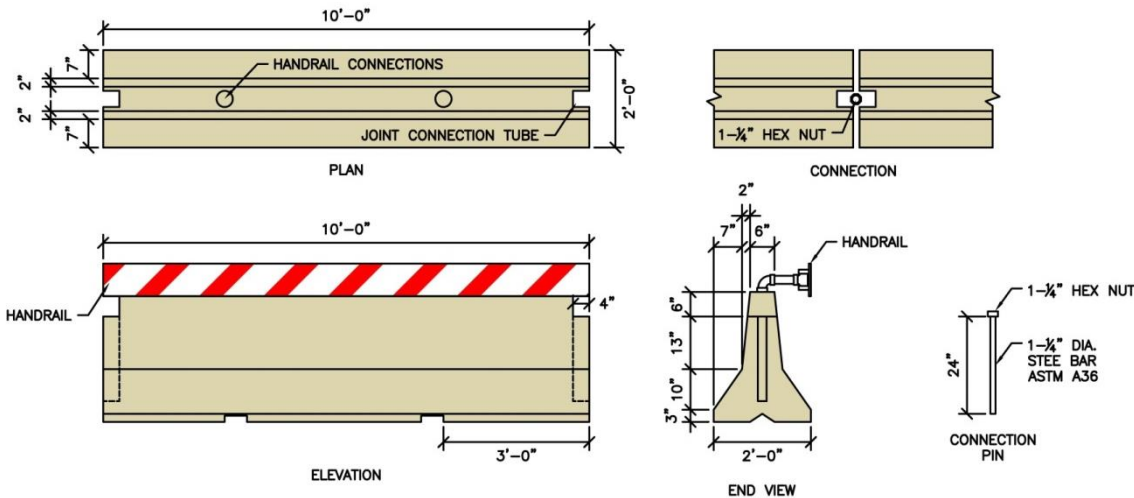
- Accessible Pedestrian Route with Positive Protection Barrier Separation from Vehicles





# Temporary Pedestrian Barriers and Barricades

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PORTABLE PRECAST CONCRETE BARRIER WITH HAND RAIL



WATER-FILLED TEMPORARY BARRIER



TYPE III BARRICADE



TYPE II BARRICADE

*MassDOT E 403.6.0*

MASH TL-II min. rated

# Alternate Path of Travel Example

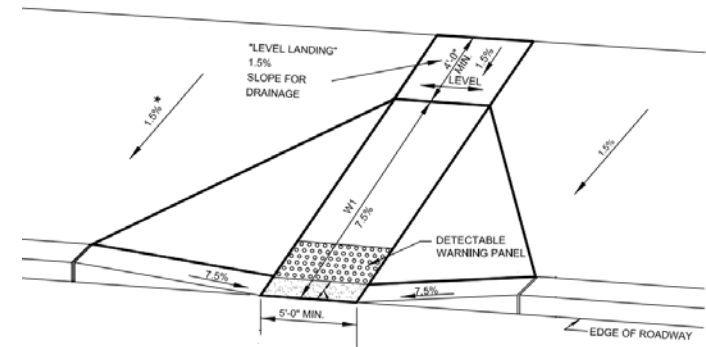
- Long-term Use, Mainly for Building Construction
- Typically Portable Precast Concrete Barriers, Not Easily Moveable



# Design Regulations for Accessible Curb Ramps

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- Ramp Must Meet Same ADA Guidelines as Permanently Installed Ramps
  - Slope Regulations
  - Detectable Warning Units
  - Level Landings





# Portable Temporary Curb Ramp

- Parallel Used in Alternative Path Off of Sidewalk
- Can Maintain 4-foot Landings without Extending Far into Roadway



# Temporary Building Access

## ■ Meet ADA Guidelines

- Slope (1:12 max),  
Rise (30" max)
- Clear Width (48" min)
- Rail Height (18"-20"  
Bottom Rail, 34"-38" Top Rail)
- Level Landings (60" Clear min)



# Pedestrian Detours

- Detours Should be Path of Least Inconvenience
- Appropriate Wayfinding Signage Should be Used to Direct Pedestrians
- Not Preferred for Long Duration Closures
- Be Cognizant of Local Populations





# Temporary Pedestrian Signals

- Relocate Signals on Temporary Foundations
- Must Adhere to Height (7' min) and Side Offset (1.5' - 6' typ.) Requirements
- Audible Pushbuttons for Visually Impaired 42" Above Ground Level



# COMPLETE STREETS CMP ELEMENTS

## Bicycle Accommodations

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# COMPLETE STREETS CMP ELEMENTS

## Wayfinding Signage

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# Delineators for Separated Exclusive Path

- Longitudinal Channelizing System that “Should Not be Used to Protect Pedestrians – including Workers – from Vehicle Impacts or Obstacles” - MUTCD



# Exclusive, Mixed-use and Shared-use Paths



- Provide Positive Protection Accessible Pedestrian Route while Maintaining Existing Bike Lane



- Provide Temporary Mixed-use Path and Emphasize Sharrow Lane for Closed Sidewalk and Bike Path

# COMPLETE STREETS CMP ELEMENTS

## Shared-use Path

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- Temporary Sharrow Markings During Construction



- Bicycle Wayfinding Signage for Interim Conditions



# Common Mistakes During Construction



- Workzone Encroaching Bike Path
- Poor Markings and Cones



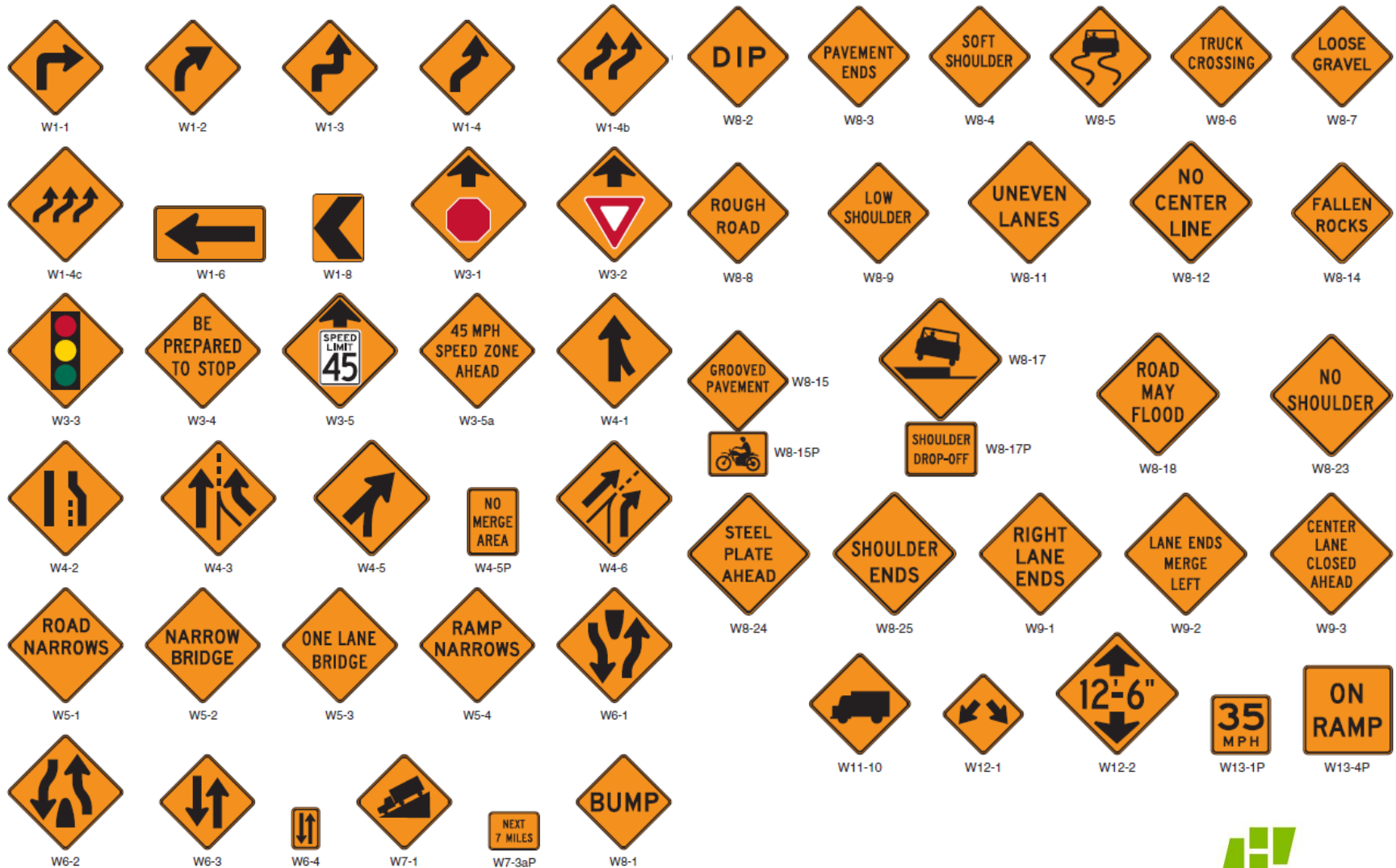
- Placement of Sign Impedes Bicycles



# Automobile Accommodations



# Wayfinding Signage



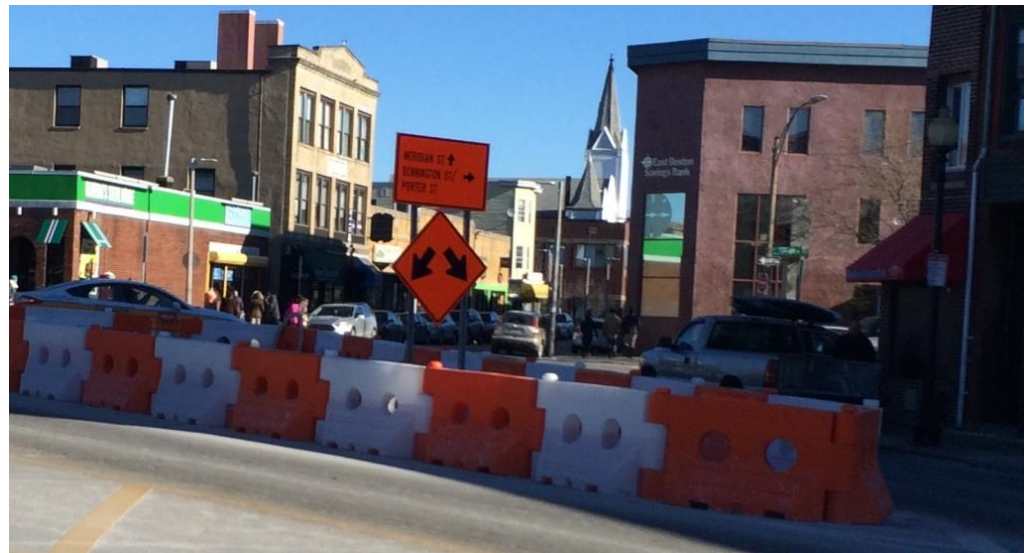


# COMPLETE STREETS CMP ELEMENTS

## Site Specific Signage

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- Clearly Communicate Routes and Businesses Open During Construction



# Lane Shift

- Temporary Markings to Delineate Travel Lane
- Markings Define Edge in Event Cones/Drums are Knocked Over



# Portable Changeable & Variable Signs



- Utilize Existing Infrastructure:
  - 119 PCMS Installed in Massachusetts between 2012 and 2014
  - Over 450 variable message boards currently installed in Massachusetts



- Implement 2 Weeks Prior to Start of Construction
- Notify Users Prior to Major Changes in Traffic Patterns



# COMPLETE STREETS CMP ELEMENTS

## Transit Accommodations

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# COMPLETE STREETS CMP ELEMENTS

## Transit Accommodations

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### STAGE 1: DAY



The sidewalk in front of 60 State Street will be widened, and the median along Congress Street will be removed to accommodate the construction of a new headhouse and tunnel. All existing parking regulations will remain the same. The Fleet Bank storefront will be permanently closed. All building access will remain the same.

### STAGE 1: NIGHT



The corner of State Street and Congress Street in front of 60 State Street will be an active work zone, closing the crosswalk across Congress and detouring the crosswalk across State. Northbound Congress Street will be reduced to one lane.



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# Emergency Access Accommodations







- Provide Gates Clear of Obstructions for Emergency Access



- Proper Signage Quickly Directs Emergency Personnel

# Construction Activities Accommodations

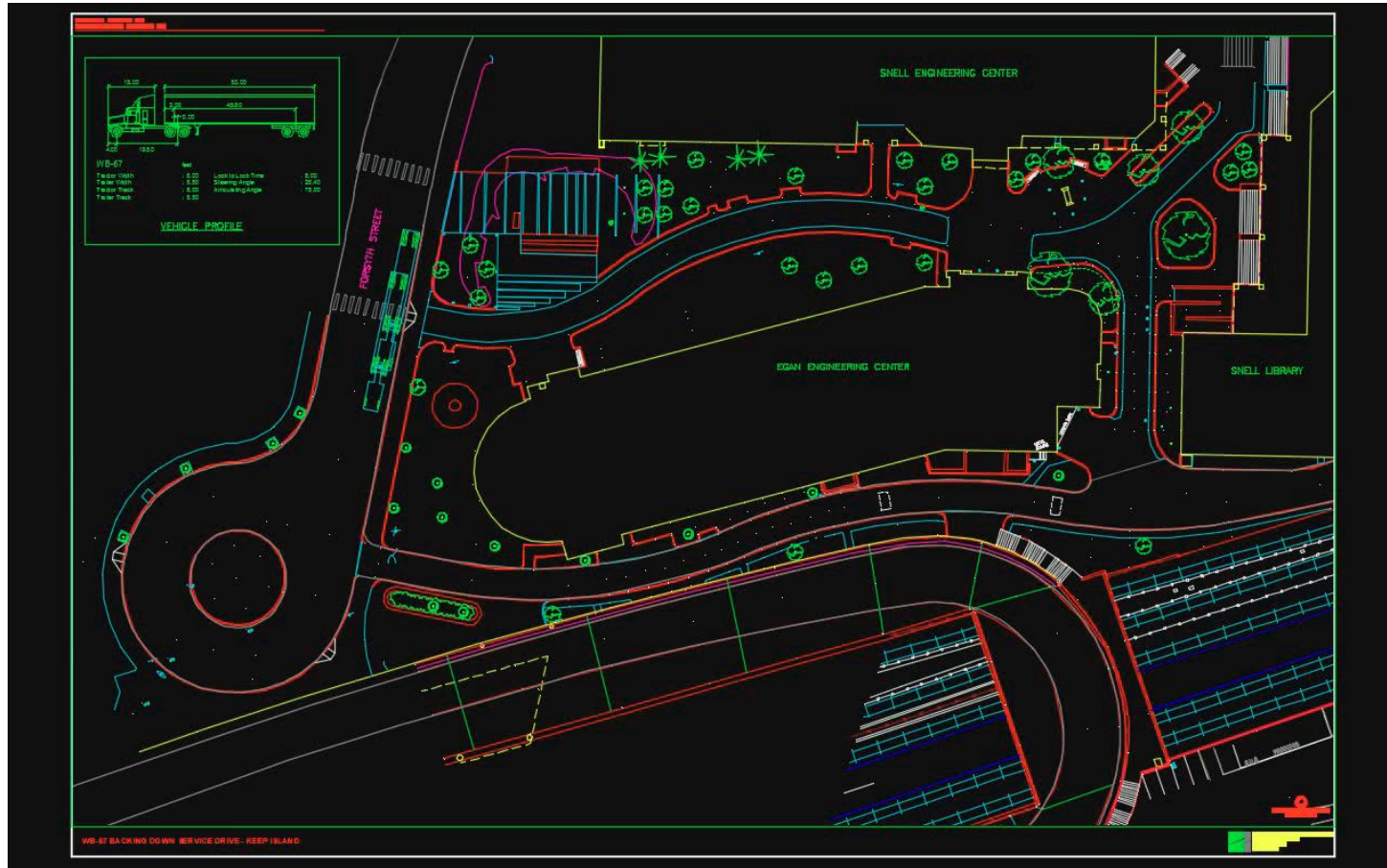
- Maintain Accessible Pedestrian Route While Providing Protection from Workzone
- Provide Adequate Workzone Areas and Access



# Construction Activities Accommodations

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## ■ Truck turning simulation





# How to Maintain Throughout the Project

- Design Temporary Traffic Control Plans (TTCP) to Meet ADA, FHWA and MUTCD Requirements
- Consider All Users During Design and Implementation for Each Phase of the Project
- Open Early Coordination with Authorities Having Jurisdiction
- Provide Full Detail in Special Provisions for Devices Necessary and Means and Methods for Implementing Proposed Measures
- **More Work Upfront Reduces Problems in the Future**



# Questions?



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