Complete Streets 201 Training
Facts

Complete Streets: A Complete Street is one that provides safe and accessible options for all travel modes – walking, biking, transit, and vehicles – for people of all ages and abilities. Complete Streets improvements may be large scale, such as corridor wide improvements, or focused on the needs of a single mode.

* **Sidewalks reduce pedestrian crashes 88%** (FHWA)
* **Shoulders reduce pedestrian crashes 71%** (FDOT)
* **Medians reduce crashes 40%** (NCHRP)
* **Road diets reduce crashes 18 to 49%** (ITE)
* **Countdown signals reduce crashes 25%** (FHWA)
* **In 2015 there were 77 Massachusetts pedestrian fatalities** (MassDOT – Preliminary Data)
* **18.7% of Americans have some type of disability** (2010 US Census)
* **In Massachusetts, 14.5% of 10 to 17 year olds are obese** (State of Obesity, 2011)
* **In Massachusetts, the population age 65+ is estimated to increase from 14% to 21%** (2010 -2030) (2009 National Household Travel Survey)
* **About ½ of all non-drivers over the age of 65 in the US would like to get out more often** (2009 National Household Travel Survey)
* **People in communities with sidewalks are 47% more likely to get regular physical activity** (Black & Macinko, 2008)
* **Walkable places can reduce per-capita vehicle travel by 10 to 30%** (AIA)
* **88% reduction in pedestrian crashes by adding sidewalks** (FHWA)
* **50% more energy to push a wheelchair at a 3% cross slope than at 2%** (US Access Board)
* **In 2015 there were 12 Massachusetts bicyclist fatalities** (MassDOT – Preliminary Data)
* **Bike lanes reduce bicycle crashes by 50% reduction** (William Moritz, U.W.)
* **343 Massachusetts roadway fatalities in 2015** (MassDOT – Preliminary Data)

References

Accident Rates for Various Bicycle Facilities
http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2012.300762

Countdown signals: 2007 Federal Highway Administration Crash Reduction Factors Study
http://safety.fhwa.dot.gov/

Danish Study
http://www.mdpi.com/1660-4601/11/12/12632

FHWA, An Analysis of Factors Contributing to "Walking Along Roadway" Crashes: Research Study and Guidelines for Sidewalks and Walkways
http://www.pedbikeinfo.org/collateral/PSAP%20Training/gettraining_references_WalkingAlongRoadway.pdf

Impact Speed and A Pedestrian's Risk of Severe Injury or Death
https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf

MA Household Travel Survey 2011
http://www.ctps.org/data/pdf/studies/other/Exploring_2011_Travel_Survey.pdf

National Household Travel Survey 2009
http://nhts.ornl.gov/

NCHRP Report 420 Impacts of Access Management Techniques
http://safety.fhwa.dot.gov/intersection/other_topics/fhwasa09027/resources/NCHRP%20Impacts%20of%20Access%20Management%20Techniques.pdf

Black & Macinko
https://www.ncbi.nlm.nih.gov/pubmed/18254880

State of Obesity
http://stateofobesity.org/states/ma/

Transportation Research Board
http://www.trb.org/Main/Home.aspx

Update of Florida Crash Reduction Factors and Countermeasures to improve the Development of District Safety Improvement Projects
http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_SF/FDOT_BD015_04_rpt.pdf

Walkability and body mass index density, design, and new diversity measures
http://www.ajpmonline.org/

Walkscore
https://www.walkscore.com/MA/Somerville

Resources

Accommodating Bicycle and Pedestrian Travel
http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design.cfm

Americans with Disability Act Accessibility Guidelines
https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag

A Policy on Geometric Design of Highways and Streets
https://bookstore.transportation.org/collection_detail.aspx?ID=110

Bus Stop Design Guidelines

Census Data 2010
http://www.census.gov/2010census/data/

Complete Streets Portal
https://www.masscompletestreets.com/

FHWA Crash Reduction Factors
http://safety.fhwa.dot.gov/tools/crf/

Guide for the Development of Bicycle Facilities
https://bookstore.transportation.org/collection_detail.aspx?ID=116

Healthier Communities Through Design
http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aiab096790.pdf

Highway Capacity Manual
http://hcm.trb.org/?qr=1

Manual on Uniform Traffic Control Devices
http://mutcd.fhwa.dot.gov/

MAPC Local Access Portal
http://localaccess.mapc.org

Massachusetts Highway Department Project Development and Design Guide
https://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/ProjectDevelopmentDesignGuide.aspx

MassDOT Construction Standard Details, June 2014
https://www.massdot.state.ma.us/Portals/8/docs/construction/ConstStandardDetails2014Jun.pdf

MassDOT HSIP Portal
http://gis.massdot.state.ma.us/maptemplate/topcrashlocations

Public Rights of Way Accessibility Guidelines
https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines

Recommended Community Strategies and Measurements to Prevent Obesity in the United States
http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf

Road Diets: Road Diet Handbook, Setting Trends for Livable Streets

Separated Bike Lane Planning and Design Guide - FHWA
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm

Separated Bike Lane Planning and Design Guide- MassDOT
https://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/SeparatedBikeLanePlanningDesignGuide.aspx

Urban Street Design Guide
http://nacto.org/publication/urban-street-design-guide/

US Access Board
https://www.access-board.gov/

ELIGIBLE COMPLETE STREETS INFRASTRUCTURE

Back to Prioritization Plan sheet

If a project or element does not appear in this list it may still be eligible for funding. The applicant should provide justification for the decision based upon the classification of comparable

S - Traffic & Safety	**B - Bicycle Facilities**	**P - Pedestrian Facilities**	**T - Transit Facilities**
S1. Pavement markings or signage that provides a new separate accommodation for bicycle, pedestrian or transit modes	**B1**. Improvement of shared use paths (non-safety related)	**P1**. Sidewalk repairs (tree roots, uplifted panels, etc.)	**T1**. Improving transit connections for pedestrians, including: ramps, providing and/or moving crosswalks, signing
S2. Removal of protruding objects (pedestrian path of travel, bicycle, vehicular or transit facility)	**B2**. Designated bicycle lanes	**P2**. Providing ADA/AAB compliant curb ramps	**T2**. Improving transit connections for bicyclists, including: providing secure bicycle parking, signing
S3. Pedestrian signal & timing (minor updates)	**B3**. Bicycle parking fixtures and/or shelters at transit and other locations	**P3**. Detectable warning surfaces	**T3**. Transit shelter
S4. Changing pedestrian signal timing (i.e., lead pedestrian interval)	**B4**. On-street bicycle parking	**P4**. Pedestrian wayfinding signs	**T4**. Transit signal prioritization
S5. Radar speed feedback ("Your Speed") signs	**B5**. Provide bicycle-safe drain grates and other hardware	**P5**. Providing new sidewalks	**T5**. Bus pull-out areas
S6. Reducing corner radii to lower vehicle speeds and/or decrease pedestrian crossing distances	**B6**. Bicycle boulevards	**P6**. Providing pedestrian buffer zones	**T6**. Railroad grade crossings improvements (signs, flange way fill, etc.)
S7. Additional regulatory signing (for existing regulations)	**B7**. Bicycle wayfinding signs	**P7**. Pedestrian Refuge Islands	**T7**. Transit contra-flow lanes
S8. Speed humps/speed tables	**B8**. Shared lane markings (sharrows)	**P8**. Curb extensions at pedestrian crossings	**T8**. Park-n-ride facilities
S9. Street lighting	**B9**. Bike route signs	**P9**. Crosswalks	**T9**. Transit-only lanes
S10. Road diets	**B10**. New shared use paths	**P10**. Widening existing sidewalks	**TO**. Tansit Facilities - Other
S11. Speed attenuation devices	**B11**. Designated Separated Bicycle Lane	**P11**. Accessible pedestrian signals	
S12. Roadway resurfacing or micro surfacing if restriping for new bicycle lanes	**B12**. Elimination of hazardous conditions on shared use paths	**P12**. New or improved crossing treatments at intersections, midblock, etc. including RRFB's and HAWK signals	
S13. Intersection reconstruction – reducing complexity and crossing distance	**B13**. Intersection treatments (bicycle signals, bicycle detection, bike lane extensions, turn boxes)	**P13**. New pedestrian accommodations at existing traffic signals	
S14. New curbing or edging on uncurbed streets.	**BO**. Bicycle Facilities - Other	**P14**. Interim public plazas	
S15. Addition of or widening of shoulders		**P15**. Traffic re-routing to create pedestrian zones	
S16. Intersection signalization (major updates/upgrades & new Installation)		**P16**. Providing medians with ADA/AAB-compliant design	
S17. Traffic calming measures		**PO**. Pedestrian Facilities - Other	
S18. Roundabouts			
SO. Traffic & Safety - Other			

Source: Accommodating Bicycle and Pedestrian Travel: A Recommended Approach; United States Department of Transportation Federal Highway Administration, May 7, 2012.