

Pedestrian Safety Action Plan - Local Call for Projects  
Appendix F - Countermeasure Resource List

<b>Countermeasure Resource List for PSAP Local Call for Projects</b>					
<b>Countermeasure Type</b>	<b>PSAP Plan Ref. Pages (1):</b>	<b>MUTCD 2009 Edition &amp; Other Document Pages (2)</b>	<b>NYS DOT Highway Design Manual Pages (3):</b>	<b>NYS DOT Traffic Safety &amp; Mobility Instructions &amp; Other Document Pages (4):</b>	<b>NCHRP Synthesis 498, Application of Pedestrian Crossing Treatments for Streets and Highways, Pages (5):</b>
<b>Part One - Uncontrolled Crosswalk Countermeasures</b>					
1. Hi Vis Crosswalk Markings (upgrade or replacement of existing markings)	29-35, 42-47, 48-59,	Sect. 3B.18 (383-385)	18-43 to 18-47	DOT TSMI 16-05	47-48, 58-59, 122-124
2. Double Posted Pedestrian Crossing Signs (W11-2)	29-35, 42-47, 48-59	Missouri DOT, 903.6.28 (6)		NCHRP Rpt. 476 (7)	
3. Pedestrian Warning Signs	29-35, 42-47, 48-59	Sect. 2C.01-.05, 2C.50			49-50, 58-59, 129-130
4. Advanced Pedestrian Crossing Signs	29-35, 42-47, 48-59	Sect. 2C.50 (131-132)		DOT TSMI 17-02	49-50, 49-50, 58-59, 124-126
5. Sharks Teeth/Advanced Yield Here Markings (at midblock crossings)	29-35, 42-47, 48-59	Sect. 3B.16 (381-383)		DOT TSMI 17-02	48-49, 58-59
6. Yield to Pedestrian Signs	29-35, 42-47, 48-59	Sect. 2B.11 (54-56)			48-49, 58-59
7. Restrict Parking (consideration at intersections)	29-35, 42-47, 48-59	Sect. 3B.19 (385-386)	18-59	DOT TSMI 17-02	57, 58-59
8. In Street Pedestrian Signs	29-35, 42-47, 48-59	2B.12(55-6)7B.12(741-2)		DOT TSMI 16-02	49, 58-59, 126-128
9. Rectangular Rapid Flashing Beacon Installation	29-35, 42-47, 48-59	Boulder ref. from TSMI 15-03 (8)		DOT TSMI 15-03	51-52, 58-59, 132-135
10. HAWK Beacon Installation	29-35, 42-47, 48-59	4C Warrants, Fig 4F-1 & 2		Boulder ref. from TSMI 15-03 (8)	52-54, 58-59, 135-136
11. Full (3 Color) Signal Installation with Countdown Indicators	29-35, 42-47, 48-59	4B.02,03,04,05 (434-435)	18-46 to 18-49	DOT TSMI 17-02	55, 58-59, 137-141
12. Curb Extensions & Pedestrian Refuge Medians and/or Corner Refuge Islands	29-35, 42-47, 48-59	3H.01,3I.01-06(429-431)	18-41 to 18-42	2005 FHWA Crosswalk Rept. (9)	38-39, 41-42,45-46, 58-59, 115-118
13. Enhanced Illumination at Crossings (with local agreement for maintenance and utility costs)	29-35, 42-47		18-13 to 18-14, 18-26 to 18-29, 18-33		21-22, 24, 44, 46, 121
<b>Part Two - Signalized Intersection Crossing Countermeasures</b>					
1. Retime traffic signals for proper pedestrian clearance time/intervals	29-35, 42-47	Sect. 4E.06, 497-499	18-30, 18-46 to 18-49	DOT TSMI 17-02	
2. Retime traffic signals for better coordination (and bandwidth use)	29-35, 42-47	Sect. 4E.06, 497-499	18-46 to 18-49	DOT TSMI 17-02	
3. Install back plates with retro-reflective borders	29-35, 42-47	MUTCD, Definition, p. 20		DOT TED OS 05-001	
4. Upgrade pedestrian signals to Countdown Indications (at eligible locations)	29-35, 42-47	Sect. 4E.07, 499-500	18-46 to 18-49	DOT TSMI 17-02	55
5. Upgrade marked crosswalk to Hi Vis and/or add Hi Vis at unmarked locations	29-35, 42-47	Sect. 3B.18, 383-387,	18-43 to 18-46	2005 FHWA Crosswalk Rept. (9)	
6. Restrict Parking (consideration at intersections)	29-35, 42-47	Sect. 3B.19, 385-387,		DOT TSMI 17-02	57
7. Evaluate Left Turn Phasing (see table for possible countermeasure applications)	29-35, 42-47	Sect. 4D.17-20, 465-474		DOT TSMI 17-02	
8. Accessible Pedestrian Signals (APS)	29-35, 42-47	Sect. 4E.09-13, 504-508	18-30, 18-33 to 18-34, 18-48	DOT TSMI 15-01	
9. Leading Pedestrian Interval (LPI)/No Turn On Red LED & Accessible Ped. Signal	29-35, 42-47	Sect. 4E.06, 497-499	18-48 to 18-49	DOT TSMI 17-02	55-56, 142-143
10. Install a new pedestrian signal with countdown indications	29-35, 42-47	Sect. 4E.01-08, 495-503	18-30, 18-46 to 18-49	DOT TSMI 17-02	
11. Add advance cross street name signs	29-35, 42-47	2C.58 (133)&2D.44(163)		DOT TSMI 17-02	
12. Add signal ahead sign	29-35, 42-47	Sect. 2C.36-39, 123-125		DOT TSMI 17-02	
13. Add Turning Vehicle Yield to Pedestrian Sign (R10-15)	29-35, 42-47	Sect. 2B.53 (95-96 )		DOT TSMI 17-02	
14. Add No Turn On Red Signs (standard or LED/blank-out) with optional plaques (R10-11, R10-30, NYR7-4P & NYR7-5P)	29-35, 42-47	Sect. 2B.54 (95-97) & NYS Supplement (10)		DOT TSMI 17-02	56-57, 143-145
15. Move regulatory signs overhead	29-35, 42-47	2A.17(41-43)2B.12(55-56)		DOT TSMI 16-02	
12. Curb Extensions & Pedestrian Refuge Medians and/or Corner Refuge Islands	29-35, 42-47, 48-59	3H.01,3I.01-06(429-431)	18-41 to 18-42	2005 FHWA Crosswalk Rept. (9)	38-39, 41-42,45-46, 58-59, 115-118
16. Enhanced Illumination at Crossings (with local agreement for maintenance and utility costs)	29-35, 42-47		18-13 to 18-14, 18-26 to 18-29, 18-33		21-22, 24, 44, 46, 121

**Web Links to All Documents Referenced Above (if the browser blocks the web link or if the link address below has changed - look up title provided in any reputable search engine):**

- (1) New York State Pedestrian Safety Action Plan, June 20, 2016 - please go to: <https://www.ny.gov/pedestrian-safety-action-plan/pedestrian-safety-action-plan>
- (2) Federal Manual of Uniform Traffic Control Devices (MUTCD), 2009 Edition - please go to: [https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf\\_index.htm](https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm)
- (3) New York State Highway Design Manual, Chapter 18 - Pedestrian Facility Design, June 24, 2015 - please go to: <https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-18>
- (4) New York State Department of Transportation - Traffic Safety & Mobility Instructions (TSMI's) - please go to: <https://www.dot.ny.gov/divisions/operating/oom/transportation-systems/official-issuances>
- (5) NCHRP Synthesis 498, Application of Pedestrian Crossing Treatments for Streets and Highways - please go to: <https://www.nap.edu/catalog/24634/application-of-pedestrian-crossing-treatments-for-streets-and-highways>
- (6) Missouri DOT, Category 903 Highway Signing, 903.6.28, 2016 - please go to: [epg.modot.org/index.php?title=903.6\\_Warning\\_Signs#903.6.28\\_Advance\\_Traffic\\_Control\\_Signs\\_28W3-1.2C\\_W3-2.2C\\_w3-3.2C\\_W3-4.29\\_28MUTCD\\_Section\\_2C.36.29](http://epg.modot.org/index.php?title=903.6_Warning_Signs#903.6.28_Advance_Traffic_Control_Signs_28W3-1.2C_W3-2.2C_w3-3.2C_W3-4.29_28MUTCD_Section_2C.36.29)
- (7) NCHRP Report 476, Guidelines for Design and Construction of Nighttime Traffic Control for Highway Maintenance and Construction - please go to: [onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_476.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_476.pdf)
- (8) City of Boulder Transportation Division - Pedestrian Crossing Treatment Installation Guidelines, Nov. 2011 - please go to: <https://www-static.bouldercolorado.gov/docs/pedestrian-crossing-treatment-installation-guidelines-1-201307011719.pdf>
- (9) Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations - Final Report and Recommended Guidelines, September 2005 - please go to: <http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf>
- (10) New York State Supplement to the Manual of Uniform Traffic Control Devices for Streets and Highways (2009 Edition) - please go to: <https://www.dot.ny.gov/divisions/operating/oom/transportation-systems/repository/B-2011Supplement-adopted.pdf>