

*Appendix C of NCHRP Synthesis 606: Integrating Freight and Active Transportation into Policies, Programs, Plans, and Project Development, NCHRP Project 20-05/Topic 53-17*

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Appendix C1: Transportation Plan Review Guide

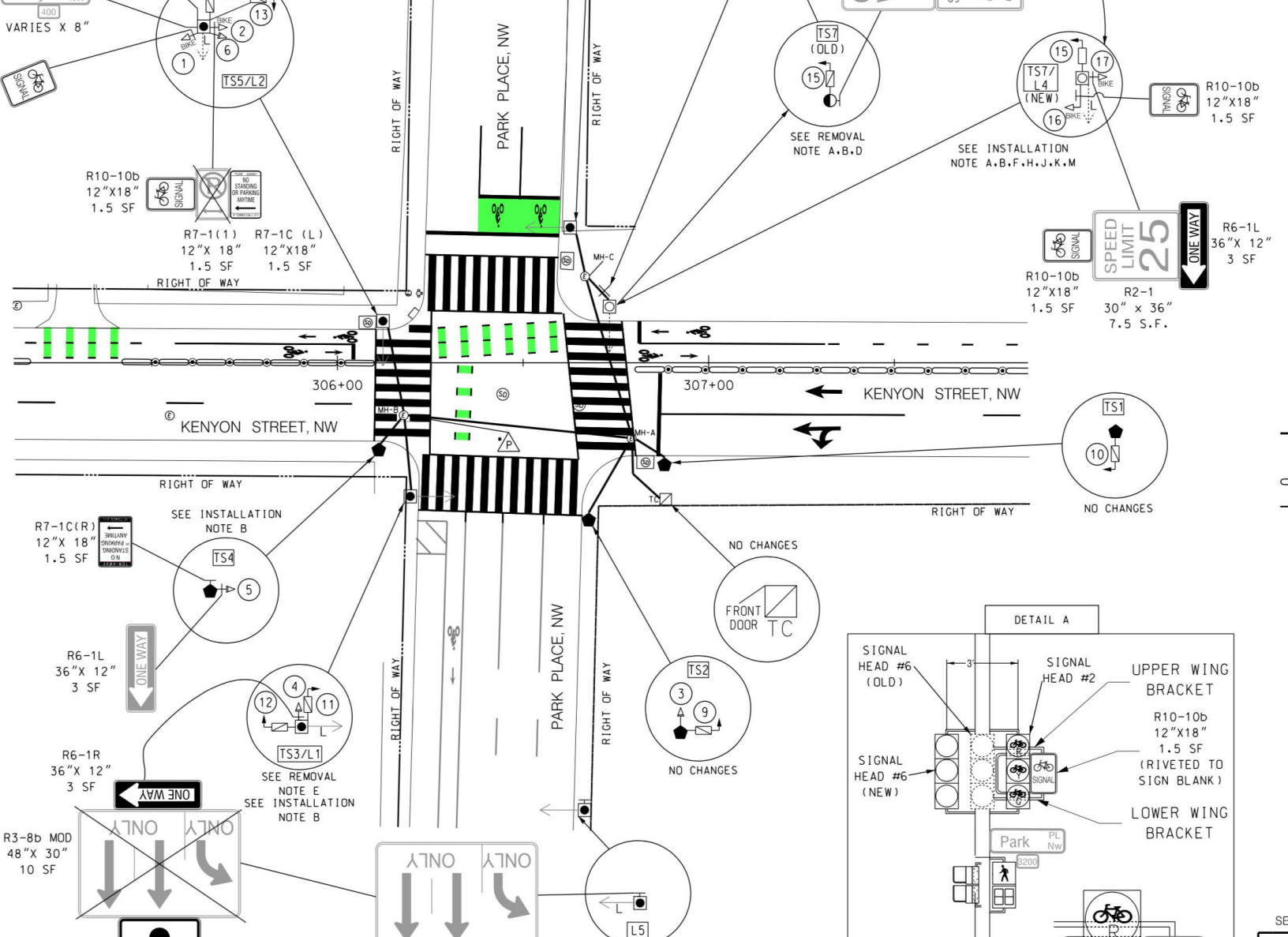
Appendix C2: PBL Project Checklist

Appendix C3: Completing Our Streets—Reflections in Five Years of the MassDOT Complete Streets Funding Program

Appendix C4: A Sample Meeting Agenda of the Washington DOT M2 Team (Multimodal, Multidisciplinary Team)

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Appendix C1: Transportation Plan Review Guide



# ProTrack+ Tutorial

## Transportation Plan Review

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# Introduction

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This tutorial provides an introduction to the ProTrack+ [Transportation Plan Review \(TPR\)](#) module. TPR allows project managers to collect comments and suggestions on several types of project types (Capital Projects, Surveyor's Orders, Development Reviews and Internal Consulting) from reviewers throughout DDOT and DTAP vendors.

Comments from DDOT reviewers—which are made via an Excel file or on a redlined document— are gathered together in one request, streamlining the transportation plan review process by eliminating the need for various chains of emails and other correspondences.

For further information about ProTrack+, including more information about the features introduced in this tutorial, please visit the [ProTrack+ page](#) on DDOT's wiki site, which features informational videos and guidebooks about the application.

To sign up and create a username for the ProTrack+ application, or for further questions about ProTrack+, please contact [ptpsupport@dc.gov](mailto:ptpsupport@dc.gov).

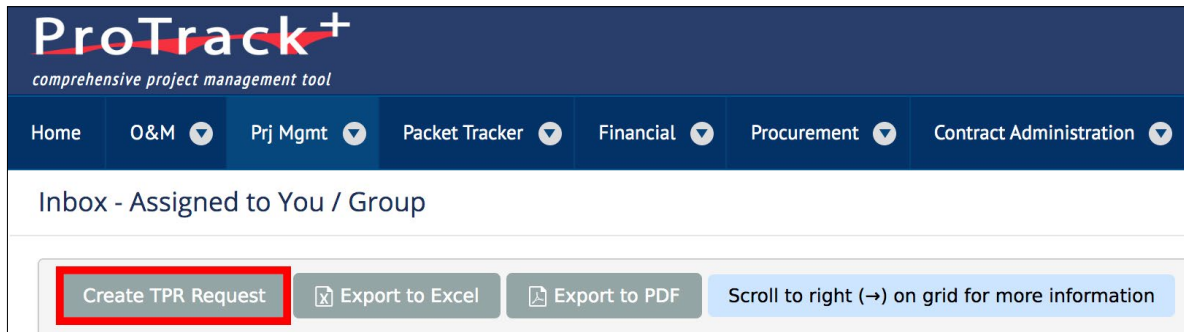
**To locate the TPR module, go to:** ProTrack+ home page → "Prj Mgmt" tab → Transportation Plan Review.

If you are viewing the digital version of this document, **this is an interactive PDF**. There are embedded hyperlinks throughout the document. The Table of Contents and any reference to a page number is clickable and will take you to that page. **Additionally, the "d.delivers" image in the bottom right corner of every page in this document will take you back to this Table of Contents page if clicked.**

# Creating a Transportation Plan Review Request

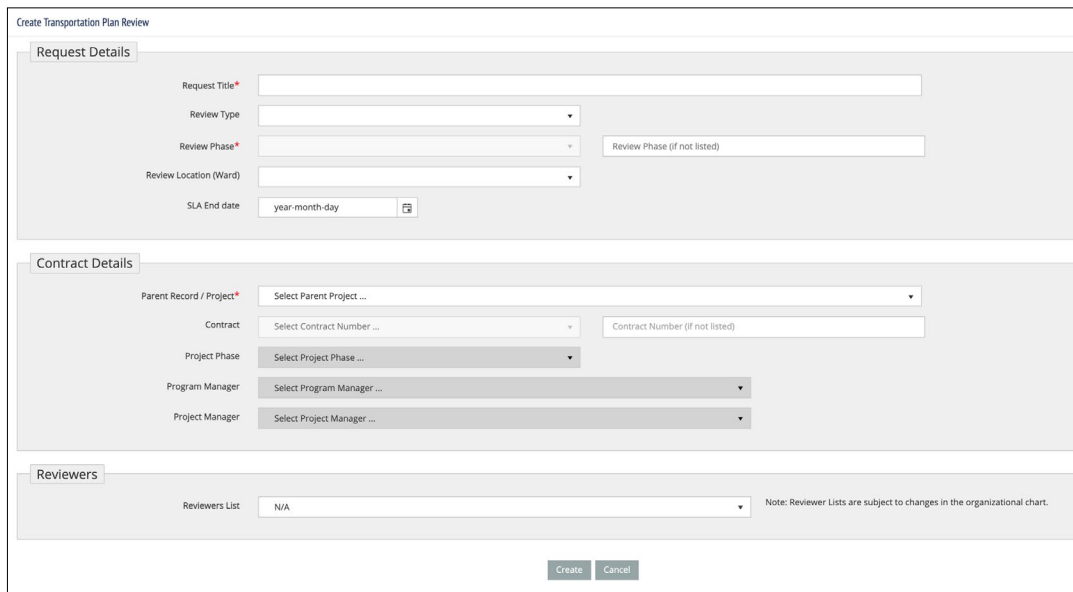
**Note:** To locate the TPR module's Inbox go to the ProTrack+ home page → "Prj Mgmt" tab → Transportation Plan Review → Inbox - Assigned to You / Group

## STEP #1



- Click on "Create TPR Request"

## STEP #2

The screenshot shows the "Create Transportation Plan Review" form. It is divided into three main sections: "Request Details", "Contract Details", and "Reviewers".  
1. **Request Details:** Includes fields for "Request Title\*", "Review Type" (dropdown), "Review Phase\*" (dropdown), "Review Phase (if not listed)" (text input), "Review Location (Ward)" (dropdown), and "SLA End date" (calendar picker).  
2. **Contract Details:** Includes fields for "Parent Record / Project\*" (dropdown), "Contract" (dropdown), "Contract Number (if not listed)" (text input), "Project Phase" (dropdown), "Program Manager" (dropdown), and "Project Manager" (dropdown).  
3. **Reviewers:** Includes a "Reviewers List" dropdown menu with "N/A" selected. A note states: "Note: Reviewer Lists are subject to changes in the organizational chart." At the bottom of the form, there are "Create" and "Cancel" buttons.

### Request Details Section

- Title the request and fill out all remaining fields
- If any option listed in the "Review Phase" field does not apply, leave the field blank and manually enter the appropriate review phase in the field to the right
- Enter a realistic deadline for your reviewers in the "SLA End Date" field

### Contract Details Section

- Select the corresponding Parent Record / Project ID and complete as many of the other fields as necessary

### Reviewers Section

- Select "N/A" if you'd like to make your own list, or select a pre-populated list

Click the "Create" button when finished

# Creating a Transportation Plan Review Request

## STEP #3

Documents (Drawings, Specs, etc.)

Original Documents/Plans

Note:

- On clicking 'Add New Document' button, **select the appropriate document type** before uploading the document.
- Maximum file size permitted is 250 MB.

+ Add New Document

Document Type	Title	Caption	File Name	File Size(KB)	Upload Date	By PTP User	By DTAP User
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Comments

+ Add Comment

Comment	Creation Date	By PTP User
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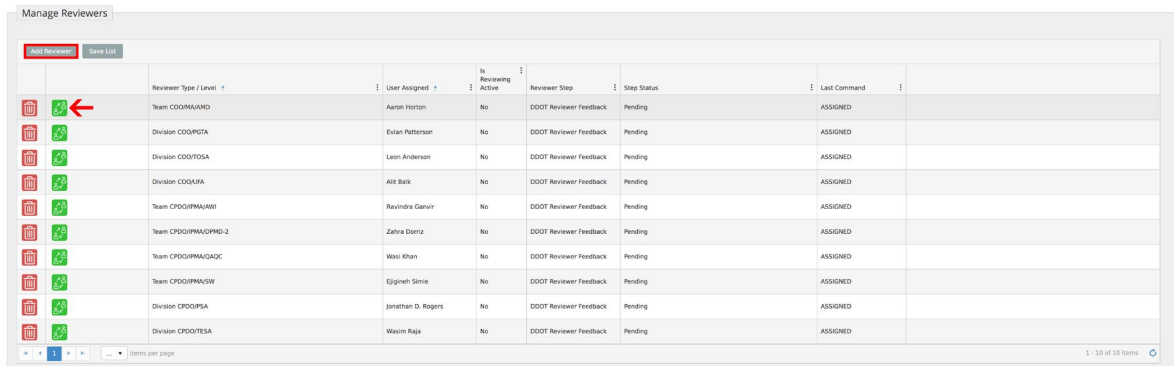
Items per page





















No items to display

- Click the “+Add New Document” button to add documents (for example, drawings and specifications) for your selected reviewers to examine. **Note:** *Maximum file size is 250 MB. You might need to break your large PDFs into parts to keep under this file size limit.*
- Select “+Add Comment” to enter comments for your reviewers, similar to what you would previously place in the body of an email

# Creating a Transportation Plan Review Request

## MANAGE REVIEWERS - PRE-POPULATED LIST



		Reviewer Type / Level	User Assigned	Is Reviewing Active	Reviewer Step	Step Status	Last Command
		Team CDDM/AMND	Austin Horton	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Division CDD/PGTA	Evan Patterson	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Division CDD/TOSA	Leon Anderson	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Division CDD/LSA	Ali Balk	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Team CPD/PPMA/AB	Ravindra Ganvir	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Team CPD/PPMA/QPD-2	Zahra Dorniz	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Team CPD/PPMA/QAD	Wasil Khan	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Team CPD/PPMA/SW	Egineh Simic	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Division CPD/PSA	Jonathan D. Rogers	No	DDOT Reviewer Feedback	Pending	ASSIGNED
		Division CPD/RTSA	Wasim Raja	No	DDOT Reviewer Feedback	Pending	ASSIGNED

- Go to the Manage Reviewers Section
  - If you selected a pre-populated list in the Reviewers section (Step #2) you will see a list of reviewers that has been pre-selected for you in the Manage Reviewers section
  - To reassign review responsibilities to someone else, select the green “Reassign” icon
  - To add another reviewer, click the “Add Reviewer” button
- Scroll down to the bottom of the page and click “Save” or “Submit” when finished. Clicking “Submit” will trigger an email to notify all of the reviewers that their input has been requested.**

# Creating a Transportation Plan Review Request

## MANAGE REVIEWERS - MANUAL LIST

The screenshot shows the 'Manage Reviewers' interface. At the top, there are two buttons: 'Add Reviewer' and 'Save List', both highlighted with red boxes. Below these buttons is a table with the following columns: 'Reviewer Type / Level', 'User Assigned', 'Is Reviewing Active', and 'Reviewer Step'. The first row of the table has the following values: 'Individual User' (with a dropdown arrow), '-- Individual --' (with a dropdown arrow), 'No', and an empty cell. There are also some icons (trash, check, refresh) on the left side of the table.

- Go to the Manage Reviewers section
- If you selected “N/A” in the Reviewers section (Step #2) you can manually enter each reviewer you would like to examine your documents by clicking on the “Add Reviewer” button
- Select “Individual User,” “Admin Representative,” “Division Representative” or “Team Representative,” or “Ad Hoc Reviewer” from the “Reviewer Type / Level” drop-down menu. **Note:** *If you select “Individual User” the reviewer will not be able to add sub-reviewers (see [Page 8](#)).*
- To save your manual Manage Reviewers list, click the “Save” button in the Manage Reviewers section

**Scroll down to the bottom of the page and click “Save” or “Submit” when finished. Clicking “Submit” will trigger an email to notify all of the reviewers that their input has been requested.**

# Responding to a Request for Review

**Note:** To locate the TPR module's Inbox go to the ProTrack+ home page → "Prj Mgmt" tab → Transportation Plan Review → Inbox-Assigned to You / Group

## STEP #1

Inbox - Assigned to You / Group

Create TPR Request | Export to Excel | Export to PDF | Scroll to right (→) on grid for more information

Request IDBI	Request Title	Review Type	Review Phase	Review Location (Ward)	Contract Number
TPR200003	Cleveland Park Streetscape and Drainage Improvement_100% Design review	Capital Project	100% Review	Ward 3	

- Find the project that you would like to review in your Inbox and click on the purple "Review" icon

## STEP #2

Documents (Drawings, Specs, etc.)

Document Type	Title	Caption	File Name	File Size(KB)	Upload Date	By FTP User	By DTPM User
Drawing	Second Public Meeting presentation		Kennedy # Project Public Meeting Presentation Slides_01.21.20.pdf	3505	1/30/2020 12:07:20 PM	Ghimay, Stefaniachael	
Specification	100% Project Specification		NH-1140211 - Cleveland Park_100 percent Special Provisions_20200108.pdf	218	1/30/2020 10:23:41 AM	Ghimay, Stefaniachael	
Drawing	100% design Plan		NH-1140211 - Cleveland Park_100 percent Plans_20200306.pdf	92251	1/30/2020 10:22:59 AM	Ghimay, Stefaniachael	

- Download any documents that you would like to review in the "Documents" section

## STEP #3

Reviewer Feedback

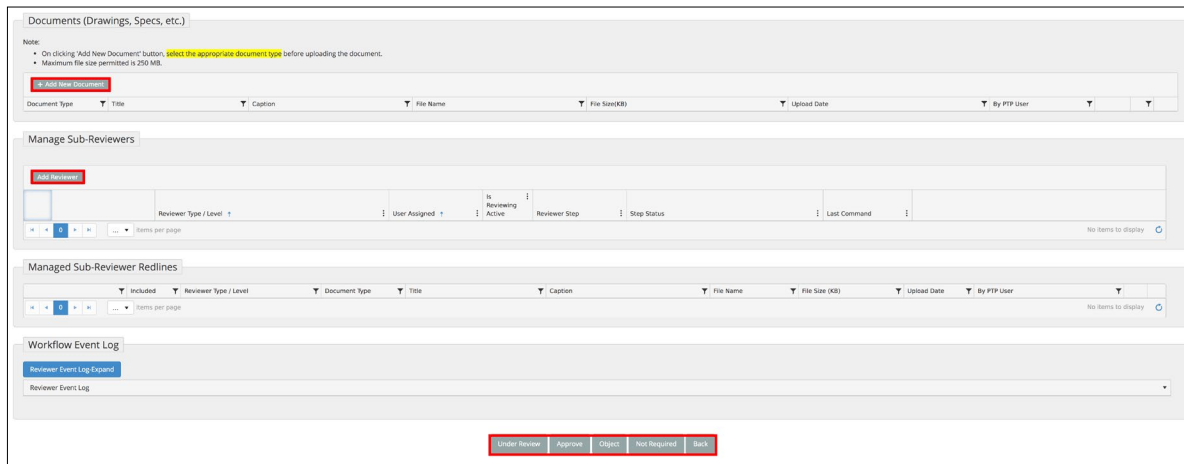
Reviewer Level	User Assigned	Is Reviewing Active	Reviewer Step	Step Status	Last Command
COO/MA/AMD Team	Aaron Horton	Yes	DDOT Reviewer Feedback	Pending	ASSIGNED
COO/PGTA Division	Evian Patterson	Yes	DDOT Reviewer Feedback	Pending	ASSIGNED
COO/PSRA Division	Elliott Garrett	Yes	DDOT Reviewer Feedback	Pending	ASSIGNED
COO/SLA Division	Jama Abdi	Yes	DDOT Reviewer Feedback	Pending	REASSIGNED
COO/TOSA Division	Leon Anderson	Yes	DDOT Reviewer Feedback	Pending	ASSIGNED
COO/UFA Division	Alli Balk	Yes	DDOT Reviewer Feedback	Pending	ASSIGNED

Find your name in the "Reviewer Feedback" section and either:

- Click on the "Review" icon to provide your review (proceed to Step #4), or
- Select the "Re-Assign" icon to assign the review to someone else in your division, administration, or team, depending on what role you were given by the TPR creator

# Responding to a Request for Review

## STEP #4



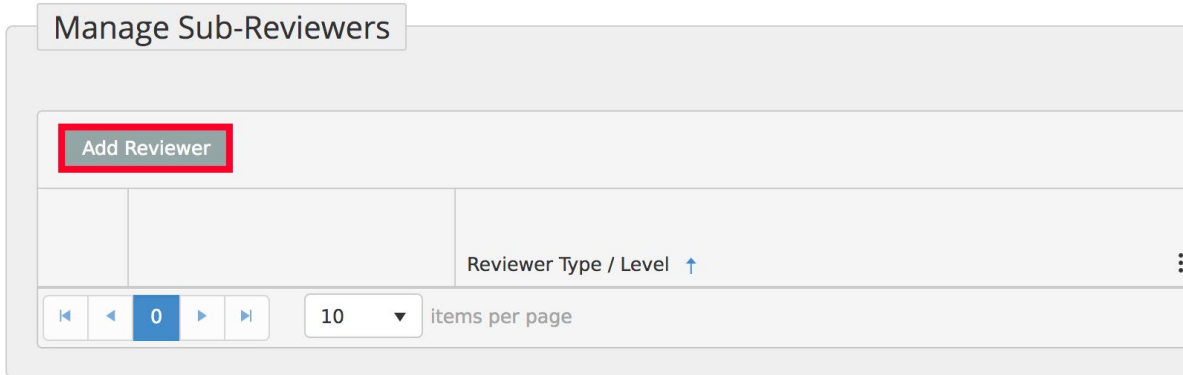
- Click on “+Add New Document” button to add a redlined version of a document or an Excel file with your comments. **Note:** *Maximum file size is 250 MB. You might need to break your large PDFs into parts to keep under this file size limit.*
- Select “Add Reviewer” in the Manage Sub-Reviewers section if you’d like to allow other team members to review the TPR documents (see [Page 8](#) for more information)

**Click the appropriate button at the bottom of the page after you’re finished.**

# Assigning Sub-Reviewers

**Note:** A representative from an administration, division or team can create and manage sub-reviewers, which are individuals who can examine the documents related to the Transportation Plan Review (TPR). To access the Manage Sub-Reviewers tab, follow Steps #1 and #3 on [Page 6](#) and click the “Review” icon.

## STEP #1



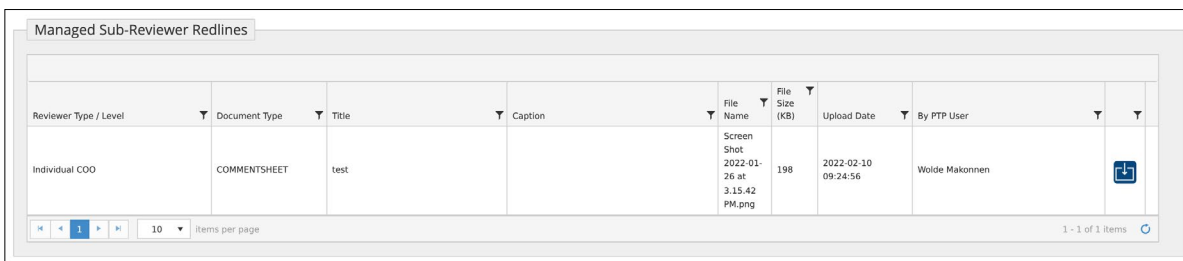
Find the “Manage Sub-Reviewers” section and click the “Add Reviewer” icon

## STEP #2



- When you have selected your sub-reviewer, please select the “checkbox” icon. The sub-reviewer will now have the ability to review the TPR request in their Inbox using the steps on [Pages 6-7](#).

## MANAGED SUB-REVIEWER REDLINES



- After your sub-reviewer has added their comments, their documents will show up the “Managed Sub-Reviewer Redlines” section. Click on the blue “Download” icon to view their submissions.



# Sharing Documents with Linked DTAP Vendors

**Note:** TPR creators can share TPR documents with outside vendors (eg, construction companies, engineering firms) that are registered on the District Transportation Access Portal (DTAP). Users must have first clicked the “Submit” button at the bottom of the TPR record to enable the “Publish” button (see [Pages 4 and 5](#)).

## STEP #1



- Go to the [TPR module’s Inbox](#) (ProTrack+ home page→“Prj Mgmt” tab→Transportation Plan Review→Inbox-Assigned to You / Group)
- Click on either the purple “Review” icon or the orange “Edit” icon alongside the TPR in question to open the record

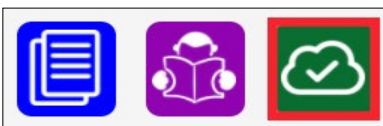
## STEP #2

Linked Vendors			
+ Add Vendor			
Business Name	Code	# Documents	
Company A		0	

10 Items per page 1 - 1 of 1 items

- Go to the “Linked Vendors” section and click the “+Add Vendor” button
- Select a vendor from the drop down menu
- Click the “Update” button”

## STEP #3



- Go to the [TPR module’s Inbox](#) (ProTrack+ home page→“Prj Mgmt” tab→Transportation Plan Review→Inbox-Assigned to You / Group)
- Click on the green “Publish” icon alongside the TPR in question
- Scroll down to the “Reviewer Redlines” section and select the reviewer redlines you would like to share with the DTAP vendor(s) you selected

# Sharing Vendor Documents with TPR Reviewers

**Note:** The actions below can be undertaken by the TPR creator after linked vendors (see [Page 9](#)) upload documents via the District Transportation Access Portal (DTAP) (see [Page 12](#)).

## STEP #1



- Go to the [TPR module's Inbox](#) (ProTrack+ home page→“Prj Mgmt” tab→Transportation Plan Review→Inbox-Assigned to You / Group)
- Click on either the purple “Review” icon or the orange “Edit” icon alongside the TPR in question to open the record

## STEP #2

	Included	Document Type	Title	Caption	Filename	File Size (KB)	Upload Date	By DTAP User	From Vendor	
	<input type="checkbox"/>	Drawing	test vendor		slide 2	569	10/23/2020 10:57 AM	Christopher Quay	Quay	

- Scroll down to the “Vendor Documents/Plans” section
- Click the green “Include” icon alongside a vendor’s document to include the document and share it with sub-reviewers. Proceed to Step #3. **Please note:** Not including a document will keep it hidden from sub-reviewers.
- To include all documents and share them with sub-reviewers click the “Include All” button

## STEP #3

	Included	Document Type	Title	Caption	Filename	File Size (KB)	Upload Date	By DTAP User	From Vendor	
	<input checked="" type="checkbox"/>	Drawing	test vendor		slide 2	569	10/23/2020 10:57 AM	Christopher Quay	Quay	

- Click the checkmark icon if you are including one document at a time (after taking the second action in Step #2 above)
- **Please note:** After you have included documents, to reverse this action and “hide” them from sub-reviewers click on the green “Exclude” icon () alongside the document you would like to hide

# DTAP Vendors - Downloading Documents

**Note:** Vendors that are registered on the District Transportation Access Portal (DTAP) can view TPR documents and upload documents to a TPR if they are “linked” via the TPR module (see [Page 9](#)).


## STEP #1



- DTAP vendors should sign into [DTAP](#) and then navigate to “Prj Mgmt” tab→ Transportation Plan Review→Inbox-Assigned to You / Group
- Select the “Detail” icon

## STEP #2

Documents (Drawings, Specs, etc.)

Original Documents/Plans							
Document Type	Title	Caption	Filename	File Size (KB)	Upload Date	By PTP User	
Drawing	test	test	Screen Shot 2020-09-25 at 6.40.42 PM.png	108	10/21/2020 04:14 PM	Christopher Quay	

- Scroll through the record to see various details about the project
- Download all documents in the “Documents (Drawings, Specs, etc.)” or “Reviewer Redlines” sections by clicking the “Download” icon

# DTAP Vendors - Uploading Documents

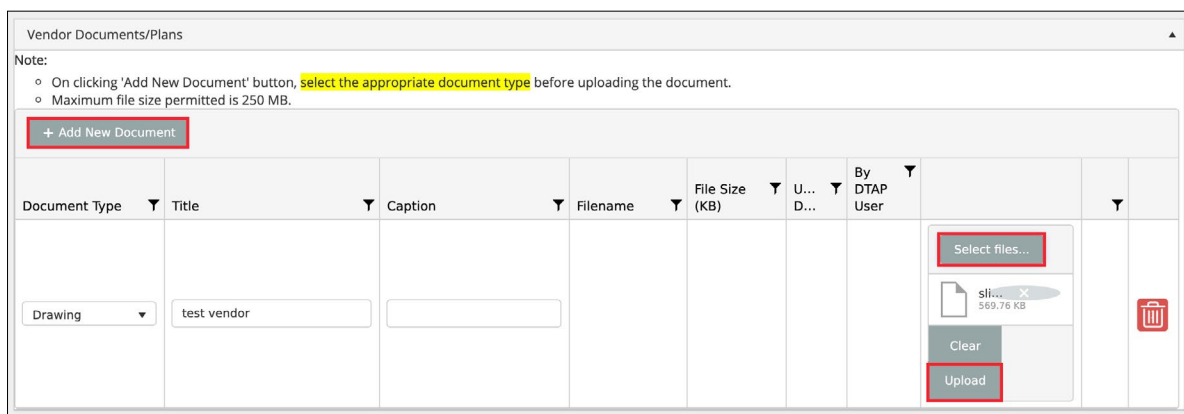
**Note:** Vendors that are registered on the District Transportation Access Portal (DTAP) can view TPR documents and upload documents to a TPR if they are “linked” via the TPR module (see [Page 11](#)).

## STEP #1

	TPR200010	Cleveland Park Streetscape
---	-----------	----------------------------

- DTAP vendors should sign into [DTAP](#) and then navigate to “Prj Mgmt” tab→ Transportation Plan Review→Inbox-Assigned to You / Group
- Select the “Upload” icon

## STEP #2



Vendor Documents/Plans

Note:

- On clicking 'Add New Document' button, select the appropriate document type before uploading the document.
- Maximum file size permitted is 250 MB.

+ Add New Document

Document Type	Title	Caption	Filename	File Size (KB)	U... D...	By DTAP User
Drawing	test vendor					

Select files...  
sliv... X  
569.76 KB  
Clear  
Upload

- Scroll down to the “Vendor Documents/Plans” section
- Click the “+Add New Document” button
- Click the “Select files...” button
- Select the file you’d like to share from your device
- Click the “Upload” button

**Your document(s) have now been shared with the TPR creator in ProTrack+!**

## Appendix C2: PBL Project Checklist

Stage	Step	Staff/Division Responsible	Length of Time
1) Design	1.1 Before Traffic Analysis (Data Collection; LOS)	Contractor	10 days
	1.2 Environmental review for all PBLs (Form 1)	Environmental	21 days
	1.3 (if federal funding is used) Additional environmental review (Categorical Exclusion, NEPA)	Environmental	40 days
	1.4 Bus Coordination	TDD, WMATA, Bus Priority Program	5 days
	1.5 Curbside Management/Parking Coordination	Curbside Management	10 days
	1.6 Urban Freight Coordination	Sustainable Transpo-Urban Freight	10 days
	1.7 Historical Review (106)	SHPO	14 days
	1.8 CaBi/MiMo/Bike Parking Review	Sustainable Transpo	2 days
	1.9 Engineering/Signals & Signs Coordination/Actual Design (TESD)	TESD	7 days
	1.1 Traffic Safety Review (TOSD)	TOSD	5 days
	1.11 Field Visit	Project Manager	1 day
	1.12 Finalization-Have 30% Design	PSD + Contractor	60 days
2) Community Engagement	2.1 Send Advanced Notification Letter to ANC Chair (e-mail and certified mail)	Project Manager	2 days
	2.2 Issue NOI (30 day comment period)	Project Manager	2 days
	2.3 Meet w/ ANC if they request a meeting	Project Manager	1 day
	2.4 ANC offers resolution in support or votes against	ANC	14 days
	2.5 (If ANC against) DDOT Action Letter (Letter of Great Weight) (get CEA's approval and send v	Project Manager	5 days
	2.6 Outreach to BIDS, City Council, Community Organizations, Police Department (District Com	Project Manager, Comm. Engage	14 days
	2.7 Outreach to Community Members (Individuals)	Project Manager, Comm. Engage	14 days
	2.8 Field Visit (invite any stakeholders if needed)	Project Manager, Comm. Engage	1 day
	2.9 Add all community engagement documents to the DDOT NOI site for public records keeping	Project Manager	1 day
3) Construction Preparation	2.1 Finalization-100% Design Moving Forward	PSD + Contractor	5 days
	3.1 Director approval	Director's Office	5 days
	3.2 Communicate materials order (paint, flex posts, curb stops, etc.) to construction contractor	Project Manager	2 days
	3.3 If needed, order special materials if not in construction contract and do shop order for insta	Project Manager, TOSD	10 days
	3.4 Order signs (order at least 4 weeks in advance--should be concurrently with materials orde	Project Manager	5 days
	3.5 Fabricate signs	Contractor, FOB	14 days
	3.6 Field Visit	Project Manager, Contractor	1 day
	3.7 If necessary, work with contractor on traffic control plan (TCP)	Project Manager, PSRA, Contractor	3 days
	3.8 Work with community on parking plan for construction period	Project Manager, Comm. Engage	5 days
4) Construction Implementation	4.1 Go into TOPS admin and allow contractor access to print NPAT signs for work zone	Project Manager	1 day
	4.2 Additional coordination with Community Engagement, Sustainable T, and Curbside Manage	Project Manager	5 days
	4.3 Print and distribute door hangers or fliers if available	Project Manager, Comm. Engage	2 days
	4.4 Send final e-mail to stakeholders when installation is imminent	Project Manager	1 day
	4.5 Send one-pager on community involvement history to DDOT internal staff	Project Manager	1 day
	4.6 Print and post "Emergency No Parking" signs	Contractor	1 day
	4.7 Work with DPW to ensure towing is enforced so contractor can do construction/install infra	Project Manager	5 days
	4.8 Install and remove signs	Contractor	5 days
	4.9 Remove meters	Curbside Management	10 days
5) Review	4.1 Re-surfacing- Replace what's existing for new lanes. Give asset management bike lane strip	Project Manager, Asset Management	21 days
	4.11 Install bike lane (striping, flex posts, paint, curb stops)	Contractor	5 days
	4.12 Install signals/make signals changes	TOSD, Contractor	30 days
	5.1 Conduct post-installation assessment (verify signs, markings, other materials)/Field Visit	PSD, TOSD, TESD	2 days
	5.2 Collect post-installation data (multi-modal traffic volumes, drive time analysis, photos, spee	Research, PSD, TOSD, TESD	6 months
	5.3 After Traffic Data Analysis	Research, PSD, TOSD, TESD	9 months
5.4 Cross-administration review	All	10 days	
5.5 Billing	Project Manager	3 days	

Appendix C3: Completing Our Streets—Reflections in Five Years of the MassDOT Complete Streets Funding Program



# Completing Our Streets

Reflections on Five Years  
of the MassDOT Complete  
Streets Funding Program

MARCH 2021







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<b>Broad Program Participation</b>	<b>6</b>
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# Executive Summary

Brought to life by the Massachusetts State Legislature in 2014, the MassDOT Complete Streets Funding Program was launched as a first-of-its-kind program in the nation – one that embedded Complete Streets as both policy and practice into our State and local governments. Since the program officially launched in 2016, Complete Streets policies, prioritization plans, and projects have flourished in the Commonwealth, gaining the attention of State Departments of Transportation across the country and the National Complete Streets Coalition.

Before the program launched, just five percent of Massachusetts’ 351 municipalities had adopted Complete Streets policies. Since the program went live in 2016, over two-thirds of all municipalities have adopted Complete Streets policies, with 86 new policies passing in the first year alone. Since then,

policies have turned into practice. With over \$62M in financial support awarded to eligible municipalities between 2016 and 2020, projects that promote Complete Streets – safe places to walk and bike, universally accessible sidewalks, and improved transit connections – have come to life all across Massachusetts.

The MassDOT Complete Streets Funding Program has built momentum that is paying dividends well beyond its original ambitions. What began as an incentive program has become a local-level movement. More and more municipalities are investing in Complete Streets beyond the funding provided by the MassDOT Complete Streets Funding Program. As a result, residents across Massachusetts are reaping the benefits of expanded transportation options, safer streets for all users, and a more equitable transportation system.

“There is a continuous awareness on the part of those of us who plan any transportation related projects of the need to consider all users and all modes... There has also been awareness on the part of our administration, Elder Services, Capital Improvement Planning Committee, and Select Board of the need to think broadly about how we can bring elements to projects that serve those who can’t (or don’t wish to) drive, and how projects can be better improved for everyone’s access.”  
- North Reading



Montague, MA

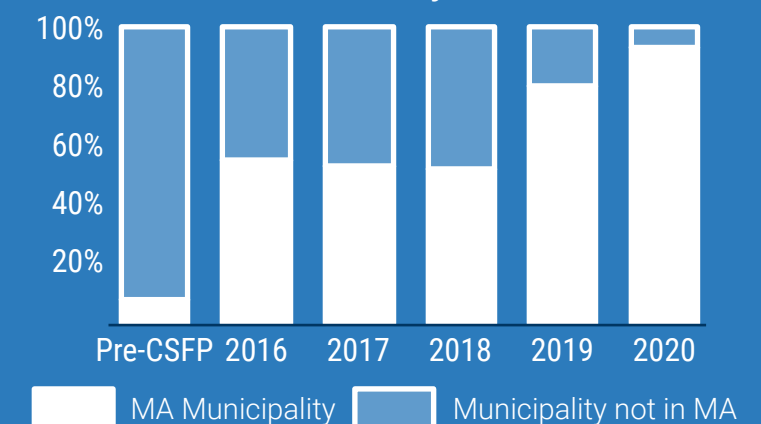
## What is a Complete Street?

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 are diverse in their design features and responsive to their unique community contexts. Every city and town in the Commonwealth has the potential to implement a Complete Streets approach in their municipality to foster healthy, livable, and inclusive communities.

## Massachusetts Leads the Nation

The Complete Streets Funding Program has set MassDOT apart from other state Departments of Transportation. Since 2016, nearly 60 percent of all municipal-level Complete Streets policies and ordinances adopted throughout the US were from Massachusetts. The program has not only encouraged widespread adoption of Complete Streets policies, but has encouraged communities to adopt truly comprehensive and ambitious policies. Every year since 2013, Smart Growth America has recognized one or more Massachusetts cities and towns on their annual list of the “Best Complete Streets Policies.”

## New Municipal Complete Streets Policies and Ordinances Passed By Year





## The MassDOT Complete Streets Funding Program

At its core, the MassDOT Complete Streets Funding Program was designed to bring the benefits of Complete Streets to every corner of the Commonwealth. The program was informed by conversations with a diverse group of stakeholders from the municipal, regional, and state level, and incorporates policy guidance, training opportunities, technical assistance, and project funding to help municipalities embrace complete streets and overcome common barriers to implementing projects.

With input from the Stakeholder Group that helped identify the needs of communities across the State, the program structure was established to achieve the following key objectives:

- » Encourage broad program participation by providing technical assistance and incentives for adoption of Complete Streets policies.
- » Transform walking, biking, and transit for users of all ages and abilities by addressing critical gaps in infrastructure through funding for Complete Streets projects.
- » Advance equitable communities by proactively earmarking funding for underserved communities.
- » Promote a strategic and comprehensive approach to complete streets by providing municipalities with technical assistance to create Complete Streets Prioritization plans.
- » Distribute funding for project construction to support municipalities committed to complete streets best practices.

“ We are proud to continue supporting our municipal partners so they can achieve their transportation and economic development goals. This funding program enables communities across the Commonwealth to carry out projects that install new sidewalks, bicycle lanes, crosswalks and intersections for people to safely and easily reach the places they need to go.” - Lieutenant Governor Karyn Polito

Sandwich, MA

## Program Structure

The Program uses a tiered structure to help municipalities advance from policy into practice. This process deepens program involvement and commitment to Complete Streets action over time.

- » Tier I: Municipalities undergo training and develop and pass a Complete Streets Policy
- » Tier II: Municipalities work with the community to develop a Complete Streets Prioritization Plan to guide smart investments in infrastructure
- » Tier III: Municipalities receive funding to construct Complete Streets projects

## Coalitions and Connections

Participation in the Complete Streets Funding Program has proven to be an opportunity for communities to build and strengthen support for Complete Streets.

## Growing Public Support



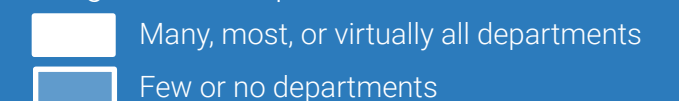
Participating municipalities who shared that their Program involvement has...



## Interdepartmental Coordination



Tier III municipalities who shared that the Program has impacted...



Source: Fall 2019 survey of representatives of participating municipalities



# Catalyzing Local Change Since 2016

What began as a state-level incentive program has grown into a locally-driven force for positive change. Municipalities across the Commonwealth have not only adopted policies, prioritization plans, and projects that advance Complete Streets in their communities, but have changed

the way departments interact, decisions are made, and resources are allocated at all levels of government. These changes have created the foundations for making the Complete Streets approach sustainable in Massachusetts.



Swampscott, MA

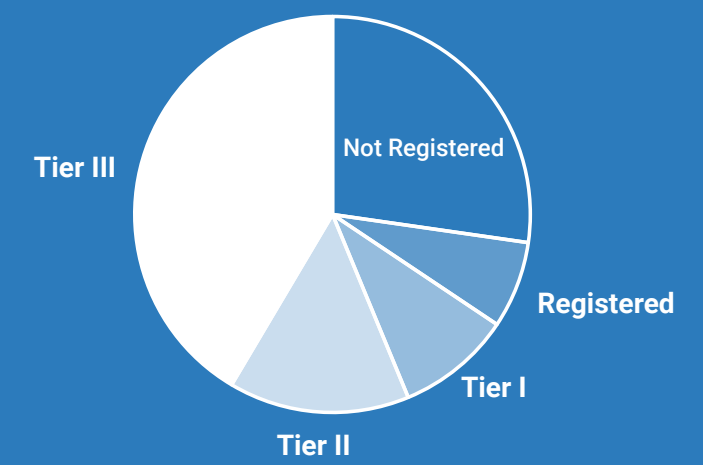
## Program Participation and Funding Awards

**More than two-thirds** of MA cities and towns participate in the program.

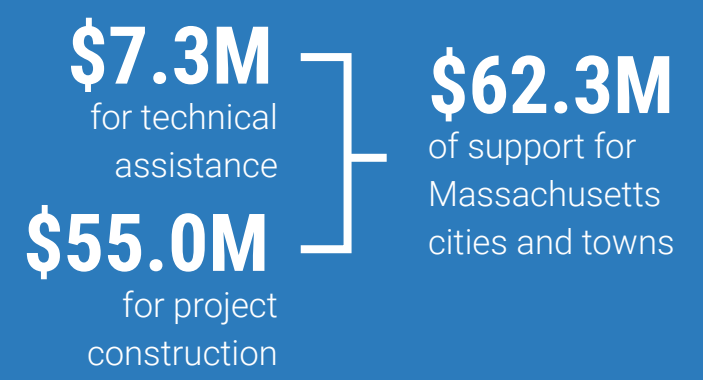
**Nearly ninety percent** of MA municipalities have completed MassDOT Complete Streets training.

**Over half** of participating cities and towns have received funding to construct a complete streets project.

### Program Participation as of Spring 2021



Since the program's inception in 2016, **over \$62M** has been awarded to municipalities across the Commonwealth for technical assistance and capital costs.





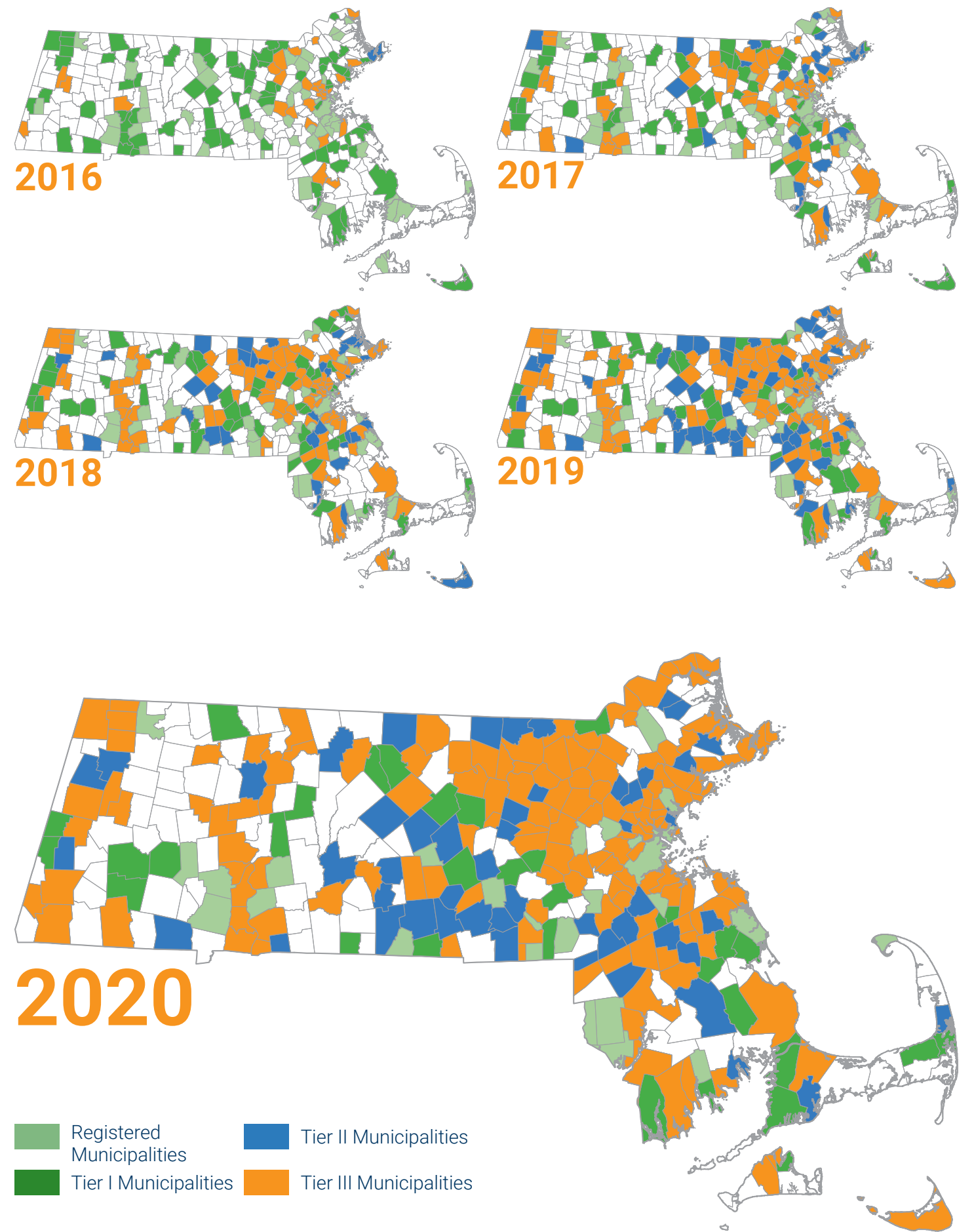


## Broad Program Participation

The Complete Streets Funding Program has engaged Massachusetts communities of all shapes and sizes, helping to build municipal capacity for moving Complete Streets forward. As a result, the program has an excellent rate of advancement – 86% of communities that have passed a Complete Streets policy at Tier I have moved on to Tier II or Tier III.

- » **256 communities are registered in the program**
- » **Tier I: 231 communities have passed a policy**
- » **Tier II: 198 communities have completed a prioritization plan**
- » **Tier III: 146 communities have received funding for a construction project**

Cambridge, MA







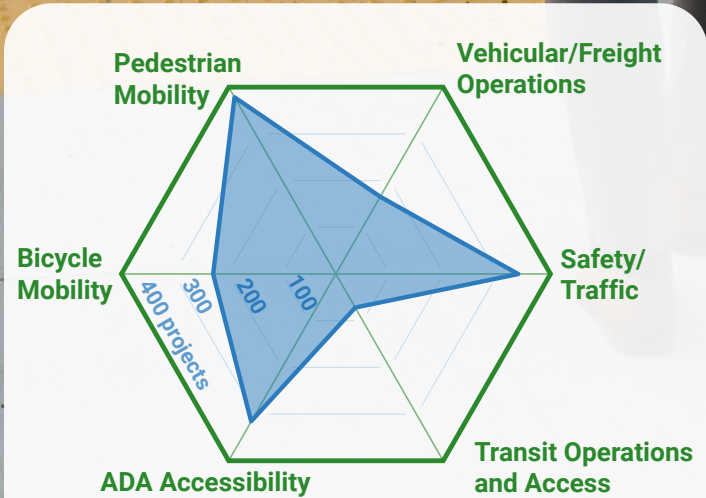
## Transforming Walking, Biking, and Transit

Cities and towns across the Commonwealth have constructed or secured funding for 478 Complete Streets projects to address critical infrastructure gaps and improve walking, biking, and transit access in their communities.

Using Complete Streets Funding Program funding, Massachusetts cities and towns have built:

- » 17+ Miles of New or Reconstructed Sidewalks
- » 17+ Miles of New Bike Lanes and Shared-Use Paths
- » 492+ ADA-Compliant Curb Ramps
- » 67+ Rectangular Rapid-Flashing Beacons (RRFBs)
- » 70+ New or Repainted Crosswalks
- » And much more

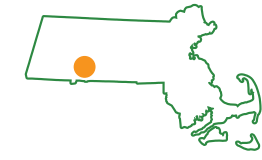
*“ We finished a project in 2018, and now the Town Residents are asking that we develop a plan to maintain sidewalks in the neighborhood where the project was completed – the area never looked so good. This program made a huge difference.” - Hinsdale*



Nearly two-thirds of projects advance three or more objectives of Complete Streets

Malden, MA

**CASE STUDY:**  
**West Springfield**  
 Award Amount: \$384,000  
 Total Cost: \$436,871  
 Population: 28,666

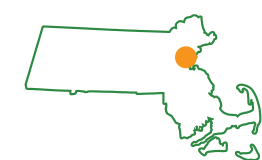


- » 0.12 miles of sidewalk
- » 8 new curb ramps
- » 12 RRFBs
- » 8 new enhanced warning signs



West Springfield leveraged Complete Streets funding to improve conditions for walking in an Environmental Justice Community by creating safer connections to an elementary school, the public library, and the Council on Aging. High visibility crosswalks placed in front of the Council on Aging provide safer access for seniors to the Town Common and to transit stops located across the street. New sidewalks connect people walking to the Central Business District and other key destinations.

**CASE STUDY:**  
**Everett**  
 Award Amount: \$399,950  
 Total Cost: \$864,000  
 Population: 45,856



- » 8 RRFBs
- » 3 new bike racks
- » 3 new bus shelters



Everett used Complete Streets funding to bring crossing best-practices to seven local schools located along a densely-populated street with high pedestrian volumes. The City also used funds to install new bike parking and bus shelters to make biking and transit more secure and comfortable.



## Advancing Equitable Communities

The Complete Streets Funding Program was designed with the understanding that Massachusetts municipalities have varying levels of need for funding assistance to meet Complete Streets goals. Additionally, certain populations experience critical infrastructure gaps for walking and biking with elevated frequency and intensity.

The Complete Streets Funding Program is focused on both meeting the needs of underserved cities and towns and guiding participating municipalities to prioritize projects that would improve walking, biking, and taking transit for children, senior citizens, and people living in Environmental Justice Communities. Nearly two-fifths of all funding for technical assistance and project construction since 2016 has been awarded to municipalities with median incomes below the statewide median.

Out of 478 projects, the Complete Streets Funding Program has funded:

- » **258 Projects creating new Safe Routes to School**
- » **145 Projects creating new Safe Routes for Seniors**
- » **169 Projects addressing needs in Environmental Justice Communities**

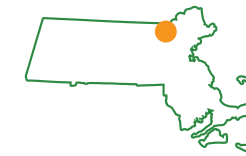
**Environmental Justice Communities** are identified by the State of Massachusetts as communities that may be vulnerable to undue environmental burdens. They are recognized in initiatives across the spectrum of state policies and programs as the Commonwealth seeks to better serve the environmental needs of low-income communities and communities of color.



Salem, MA

## CASE STUDY: Lowell

**Award Amount: \$400,000**  
**Total Cost: \$1,004,579**  
**Population: 111,249**



- » **0.28 miles of shared-use path**
- » **2 new curb ramps**
- » **2 raised crosswalks**



Lowell secured Complete Streets funding to build a new shared use path segment that connects residents in an environmental justice community to the Gallagher Multi-Modal Bus/Train Terminal, Rogers School STEM Academy, and Markham Village apartments. The project was born as part of the City's South Common Master Plan.

## CASE STUDY: Plymouth

**Award Amount: \$200,000**  
**Total Cost: \$674,134**  
**Population: 59,331**



- » **4 new curb ramps**
- » **0.6 miles of sidewalk**



With a focus on students, seniors, and tourists, Plymouth used Complete Streets funds to provide universal accessibility on Allerton Street. Connecting to Route 44, Cold Spring Elementary School, senior housing, and the National Monument for the Forefathers, this simple but effective Complete Streets project has made it possible for mobility-limited seniors, families with strollers, and other disabled people to more safely and freely move around their community.



## Promoting Comprehensive Approaches to Complete Streets

The process of advancing through the policy, plan, and project application development phases of the Complete Streets Funding Program has created a range of opportunities for stakeholders to connect and coalitions to build.

In a fall 2019 survey for municipalities:

- » Over 75 percent of respondents from Tier II and III municipalities shared that the Complete Streets process has created more support for advancement of walking, biking, and transit among municipal staff and departments.
- » Two-thirds of respondents from Tier III municipalities shared that goals and objectives from their CS policy have been incorporated into “many,” “most,” or “virtually all” departments or decision-making processes
- » Over sixty percent of responding Tier II and III municipalities have dedicated funding for Prioritization Plan projects outside of MassDOT funding
- » Seventy percent of respondents from participating municipalities feel that the program has made the general public more supportive of Complete Streets projects.

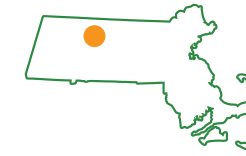
“We’re developing the capital budget now for the next fiscal year, and using [our] Complete Streets policy to guide our transportation investment plans.” - Great Barrington

Melrose, MA



## CASE STUDY: Montague

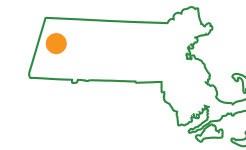
Award Amount: \$311,360  
Total Cost: \$353,408  
Population: 8,334



Nestled in the Pioneer Valley, the small town of Montague has harnessed the Complete Streets Funding Program as a tool to bring together Town Hall, the private sector, and the public in proactive community development. Through the Complete Streets Funding Program process, the town has garnered private investment to dedicate to wider community objectives, such as obtaining grant funding for trees and comprehensive traffic calming in Montague Center. The program is guiding future planning and consensus on roadway improvements by the DPW, planner, select board, and general public.

## CASE STUDY: Hinsdale

Award Amount: \$400,000  
Total Cost: \$400,000  
Population: 1,853



- » 0.67 miles of sidewalk
- » 10 curb ramps
- » 2 speed feedback signs
- » 5 crosswalks

Used primarily to address systemic safety issues around the Kittredge Elementary School and the Hinsdale Library, Hinsdale used Complete Streets funding to replace sidewalks, install ADA-compliant curb ramps and crosswalks, and install speed feedback signs along Longview Ave.



## Looking Ahead

Since MassDOT's first-of-its-kind Complete Streets Funding Program launched five years ago, our cities and towns have built numerous Complete Streets projects, established Complete Streets as a shared language within city and town halls, and witnessed firsthand the program's positive impact on daily mobility experiences across the Commonwealth. MassDOT has learned, however, that the program's most vital metric will always be the local-scale commitment and energy it cultivates within Massachusetts cities and towns. **MassDOT's goal is for all 351 cities and towns in Massachusetts to be actively engaged in and supported by the Complete Streets Funding Program.**

MassDOT will open the next chapter of the Complete Streets Funding Program by making it easier for communities of all shapes and sizes to join and advance through the program. Communities new to the program will be supported by targeted outreach materials, clarified guidance, and more frequent introductory-level Complete Streets trainings. Smaller and rural communities have been underrepresented in the program since its inception, and MassDOT will renew its focus on increasing the geographic reach

of participation across the program tiers. MassDOT will engage directly with smaller and rural communities to share how the Complete Streets Funding Program can address their needs and provide trainings specific to designing Complete Streets in rural contexts.

The core strength of the Complete Streets Funding Program is the way it builds momentum. This momentum is made exponentially stronger by a culture of Complete Streets that the program helps foster, but that ultimately rests with local departments, elected officials, and the public. MassDOT will build on this strength by helping communities advance through the program in new ways while challenging cities and towns to deepen their commitment to Complete Streets, even beyond the Complete Streets Funding Program. MassDOT will formalize a mechanism for modifying Prioritization Plans as a way to empower communities to be responsive and intentional as conditions change. In addition, MassDOT will check in annually with participating municipalities to continually evaluate Complete Streets successes both within and outside of Complete Streets Funding Program activity.



Above all, MassDOT expresses its thanks to the city and town staff, elected officials, and community members who have invested their time and energy in advancing the Complete Streets Funding Program together. We are proud of what we accomplished in five years and look forward to growing our partnerships and commitment to Complete Streets with you. **Together, we can empower Massachusetts communities to lead the region and the nation by example.**



# M2 Team Meeting

July 13, 2022

## Agenda

1:00 p.m.  
to  
3:00 p.m.

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### Microsoft Teams Link on the Outlook Calendar Invite

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**1:00 - 1:30 South Pierce County Multimodal Connectivity Study** George Mazur

*Legislative provisos direct OR to study “additional connectivity” in South Pierce County (see attached PDF for study area). OR will be looking for input from the M2 Team on the following items:*

- 1. How to address the Cross-Base Highway (SR 704)*
- 2. Establishing study area boundaries to minimize overlap with a separate study of SR 512.*

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**1:30 – 2:10 TSMO and Planning – SR 503 Study** Kelly Smith  
Pamela Vasudeva

*Pamela and Kelly will be looking for input from the M2 Team on the following items related to TSMO:*

- 1. how and why TSMO should be included in the planning phase of project delivery*
- 2. opportunities for updating planning documents to include TSMO*
- 3. how SWR is developing TSMO guidance to ensure it is incorporated in the SR 503 planning study.*

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**2:10 – 2:40 National Electric Vehicle Infrastructure (NEVI) Plan** Tonia Buell  
Brigid Dean

*Tonia and Brigid will present an overview and update on WSDOT’s efforts with, and participation in, the NEVI Plan. The NEVI Plan will be updated annually, providing more opportunities to provide future input.*

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**2:40 – 2:45 Draft State Freight Plan - M2 Team Review** Trevor Daviscount

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**2:45 – 2:55 M2 Team Teams Channel** Brigid Dean  
Richard Warren

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**2:55 – 3:00 Wrap up** Richard Warren

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Appendix C5: Washington State DOT Project Delivery Memorandum—Complete Streets Implementation

June 27, 2022

TO: WSDOT Project Development Engineers

FROM:  Mark Gaines, Development Division Director, State Design Engineer

SUBJECT: Project Delivery Memo #22-03 – Complete Streets Implementation

### **Purpose**

The purpose of this Project Delivery Memo is to provide policy and instruction for WSDOT staff who plan and design WSDOT projects. New Washington State legislation in RCW 47.24 directs the Department to incorporate "Complete Streets" features for certain specified projects.

### **Background**

Complete Streets is an approach to planning, designing, building, operating, and maintaining streets that enables access along and across the street for all people, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets prioritizes more comfortable and equitable, context sensitive network connectivity for all roadway users through close coordination with our local partners and stakeholders. This is aligned with WSDOT's policy and commitment to develop and maintain an interconnected and integrated multimodal transportation system that provides all Washington travelers with safe, sustainable, and equitable access.

Under ESSB 5974 (2022), the legislature directed the Department to incorporate the principles of Complete Streets with facilities that provide street access with all users in mind, including pedestrians, bicyclists, and public transportation users, on all projects to be constructed on state highways routed over city streets with an estimated cost of \$500,000 or more, where the design phase of the project begins on or after July 1, 2022. ESSB 5974 expressed an intent to improve the safety, mobility, and accessibility of state highways.

The Department's existing statutory authority, including RCW 47.01.260, RCW 47.30.030, and RCW 47.01.078, also allows the Department to incorporate the principles of Complete Streets in the design and construction of projects on state limited access highways, on city streets that are not designated as state highway that pass through a state limited access facility, and on state routes within counties.

Based on the foregoing, it is the stated policy of the Department to incorporate the principles of Complete Streets with facilities that provide street access with all users in mind, including pedestrians, bicyclists, and public transportation users, on projects to be constructed on state highways consistent with ESSB 5974 and with existing statutory authority.



All projects over \$500,000 beginning design on or after July 1, 2022, will be analyzed with a Complete Street mindset. Projects in incorporated cities, in areas where active transportation gaps have been identified in WSDOT or local plans, or in overburdened communities shall be designed to complete active transportation networks for people walking and bicycling unless a compelling reason not to implement those improvements in that project can be justified to Regional Administrators. Allowable Complete Streets solutions may include reallocating space within the existing area occupied by transportation facilities, including reduction in the size and number of vehicle lanes and reduction in vehicle speeds.

Highways are assessed with respect to the performance of biking, walking and other pedestrian modes using Level of Traffic Stress (LTS) and route directness. LTS is a metric that is used during planning and design to provide an indication of the relative stress experienced by bicycle riders and pedestrians. LTS is a numeric rating from 1 to 4, where a lower number indicates lower stress for a bicyclist (expressed as BLTS) or for a pedestrian traveler (expressed as PLTS). At a minimum, the numeric LTS rating is based on Average Annual Daily Traffic (more commonly known as AADT), posted speed and the number of travel lanes of the highway segment. Other roadway characteristics can be used to refine an LTS designation. LTS can be used to summarize a highway's essential characteristics, including design elements, features, dimensions, and configuration. Route directness refers to the amount of out of direction travel pedestrians and bicyclists must engage in to travel between destinations. It is measured in terms of a Route Directness Index (RDI). See '*Design Bulletin #2022-01: Designing for Level of Traffic Stress*' (attached) for more information.

The cost and complexity of Complete Streets design features generally increases with higher posted speeds. This reflects the need to implement more costly design strategies (e.g., installation of concrete barrier, separated paths, etc.) to facilitate safer bicyclist and pedestrian connectivity.

The 2021 Legislature passed the Healthy Environment for All (HEAL) Act, which requires WSDOT to identify and address environmental health disparities in overburdened communities and vulnerable populations. As defined in RCW 70A.02.010, an overburdened community is a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts. The aforesaid RCW further defines vulnerable populations as being groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms and includes but is not limited to: (i) racial or ethnic minorities; (ii) low-income populations; (iii) populations disproportionately impacted by environmental harms; and (iv) populations of workers experiencing environmental harms. WSDOT will evaluate the needs of vulnerable populations living in overburdened communities through early community-centered engagement when assessing the possible implementation of Complete Streets to result in community-centered outcomes.

WSDOT projects that implement Complete Streets principles are expected to meet minimum threshold criteria (as described in the following section) with respect to public engagement, overburdened communities, network gaps, level of traffic stress, visibility, route directness, and operating speeds. In addition, they are expected to use a documented process (such as Basis of Design) for establishing and selecting the most advantageous and practical design(s).

### **Direction**

Apply Complete Streets principles on all projects starting design<sup>1</sup> on or after July 1, 2022, that have a cumulative budget for all phases (PE, RW and CN) of \$500,000 or more

that are in incorporated cities, or in areas where active transportation network gaps have been identified in WSDOT (or local) plans, or overburdened communities exist, unless there is a compelling reason to not implement, and as approved by the Region Administrator. A *'Model Process for Complete Streets'* will be made available to assist in incorporating the intent of Complete Streets in scoping, pre-design and design. Use these resources as deemed appropriate in coordination with subject matter experts and local stakeholders to advance Complete Street projects.

Projects implementing Complete Streets:

- Are developed in cooperation with the affected community through active public engagement.
- Address unique concerns, related to Complete Streets, of overburdened communities.
- Address active transportation network gaps that have been identified through a WSDOT or local plan and/or through public engagement.
- Eliminate bicycle and pedestrian network gaps within the project limits.
- Provide bicycle and pedestrian facilities that offer LTS 1 or 2 in alignment with *'Design Bulletin #2022-01: Designing for Level of Traffic Stress'*. \*
- Provide a separation from vehicular traffic when it is determined that a posted speed must be maintained at greater than 30 mph. See *'Design Bulletin #2022-01: Designing for Level of Traffic Stress'* for more information. \*

\*A Design Analysis is required for projects that are determined to be subject to the Complete Streets requirement and do not meet these criteria.

Use WSDOT Design Manual (DM) guidance when developing Complete Streets designs, in accordance with the WSDOT Practical Solutions approach (see DM Division 11). This approach includes developing and assessing design alternatives, design element selection, dimensioning, and target speed based on local agency coordination, and community outreach and context. When selecting a design alternative per DM 1104,

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<sup>1</sup> Design starts at the approval of the Project Summary Documents (i.e., Project Profile, Basis of Design, and Environmental Review Summary) or as directed by CPDM. Contact the CPDM Priority Programming Manager to determine if a project in pre-design prior to July 1, 2022, is exempt.

reference the extent to which alternatives address the principles of Complete Streets outlined in this document's '*Background*' section above.

Determine the appropriate design for the project that promotes continuity and function, while utilizing the DM guidance as a baseline. This is accomplished through interagency coordination and may identify the need to implement design dimensions and/or elements on WSDOT projects that are not otherwise included in the DM. Consult with your ASDE to document the decision to select dimensions that are outside of the guidance provided in the DM for a design element with a Design Analysis.

Include a design option in the Basis of Design alternatives analysis that limits the expansion of the roadway footprint (road diet). Potential modifications to the highway's layout (e.g., narrowing of lanes, road diet or elimination of lanes) may reduce the highway's vehicular Level of Service (LOS), but provide for the introduction of Complete Streets design features at lower cost. Options that reduce vehicle LOS are acceptable on a case-by-case basis in cooperation with the local agency. Consult with your ASDE to assess the potential for mode shift as part of this analysis.

If a project will not be required to provide a Complete Street, then apply existing guidance supporting project decisions with respect to the need for a multimodal design, in particular DM Chapter 1102, and Sections 1103.03(1), 1103.03(2), and 1103.03(3).

### **Complete Street Resources**

There are numerous external references available that describe the function and various design options that apply to Complete Streets, and project staff are encouraged to consult these when considering the various needs associated with a project. Some of these resources are provided in the '*Design Bulletin #2022-01: Designing for Level of Traffic Stress*', while others are available from FHWA, other state or local agencies, and associated organizations. When a design criteria or concept departs from the comparable WSDOT standard, use a Design Analysis process to document the decision. Contact your ASDE for more information.

### **Questions**

For questions or information on how to implement this Project Delivery Memo, contact your Assistant State Design Engineer.

MG:km:jd

Attachments: Design Bulletin #2022-01: Designing for Level of Traffic Stress  
Complete Streets Glossary of Terms

cc:

Marshall Elizer, Assistant Secretary, Multimodal Development & Delivery  
Allison Camden, Deputy Assistant Secretary, Multimodal Development & Delivery



To WSDOT PDEs

June 27, 2022

Page 5

Kevin Dayton, Assistant Secretary for Regions, Chief Engineer  
Dave Bierschbach, Regional Administrator for North Central Region  
Carley Francis, Regional Administrator for Southwest Region  
Mike Gribner, Regional Administrator for Eastern Region  
Brian Nielsen, Regional Administrator for Northwest Region  
Steve Roark, Regional Administrator for Olympic Region  
Todd Trepanier, Regional Administrator for South Central Region  
Steve Breaux, Legislative Relations Director  
Barb Chamberlain, Active Transportation Division Director  
Dongho Chang, Transportation Ops. Division Director, State Traffic Engineer  
Chris Christopher, Construction Division Director, State Construction Engineer  
Celeste Gilman, Strategic Policy Administrator  
John Milton, Transportation Safety & Systems Analysis Division Director



## Background

Projects that are subject to this bulletin are directed to provide for facilities that contribute to network connectivity and safety through the design and construction of sidewalks, shared-use paths, bicyclist facilities, and crossings that serve to integrate the state route into the local network, in accordance with aspects of the provisions within the WSDOT Active Transportation Plan (ATP) as outlined below.

The WSDOT Active Transportation Plan sets out agency goals and performance metrics that apply to how facilities for bicyclists and pedestrians on state highways are designed in population centers. One purpose of the plan is to identify gaps in the pedestrian and bicycle network, where a gap is defined as either a physical barrier, or a highway segment that provides for a pedestrian or bicycle Level of Traffic Stress (LTS) 3 or 4 and/or a Route Directness Index greater than 2. The plan calls for an increase in the total linear length (miles) of WSDOT-owned infrastructure (or other connections identified as a parallel local facility), that provide for a bicyclist and pedestrian LTS rating of 1 or 2.

Connected to the ATP, WSDOT studied route directness and reported the findings in the ATP as well as a separate report titled [Multimodal Permeability Pilot](#).

For purposes of design, a decision is first made about the type of facility that will be provided to bring the highway segment represented by the project into compliance with the direction to provide a complete street. As part of that process, when it has been determined that a shared use path will be provided as all or part of the project solution to fulfill this requirement, refer to WSDOT Design Manual Chapter 1515 for guidance on configuration and dimensions and other design criteria associated with that facility.

For other types of active transportation facilities that are adjacent to vehicle traffic, LTS will be one of the metrics that WSDOT uses and applies during the planning and design process. LTS can be used to determine essential design characteristics of those facilities, including design elements, target speed, features, dimensions, and configuration of highway facilities. Bicycle Level of Traffic Stress (BLTS) provides an indication of the performance and relative comfort with respect to bicycle riders, while Pedestrian Level of Traffic Stress (PLTS) applies to people who are neither on a bicycle nor in a motor vehicle. LTS can be analyzed for either an existing or proposed condition and applies whether or not a bicycle lane or sidewalk is present.

At a minimum, LTS for highway segments is calculated based on the posted speed of a facility, the vehicle traffic level, and the cross-section characteristics. For purposes of design and this bulletin, this is called Basic LTS. It's expressed as an integer from 1 to 4, where a lower number indicates a greater willingness for active travelers to use the facility. The roadway characteristics serve as a proxy for stress, which is not measured directly. Basic LTS is determined by referring

to tables that are developed for that purpose. For purposes of design, LTS tables provide a useful starting point for determining the type of facility that will achieve LTS 2 or better. Once the Basic LTS is determined, a refined LTS is accomplished following the more detailed consideration of additional factors not considered in the tables used to determine Basic LTS. Local conditions used to refine LTS include major driveways, turn lanes, truck traffic, constraints imposed by culverts, debris intrusion from outside the roadway (gravel roads), etc.

Although the guidance that follows can be used in a general sense, it is specifically applied by WSDOT to state highways that are identified for complete streets treatment according to ‘*Project Delivery Memo #22-03*’.

## Basic LTS

When selecting the cross-section layout and dimensions for a complete street, first determine the level of traffic stress in both the existing and design (final) condition. The design goal is to provide for a level of traffic stress value for both bicycles (BLTS) and pedestrians (PLTS) of 1 or 2.

In addition, always provide a separation from vehicle traffic for bicycle and pedestrian facilities where the posted speed is (or if different in the design year is anticipated to be) greater than 30 mph. Separation can be provided by adding a physical barrier (such as curb, traffic barrier, flexible delineators), or providing a separate bicycle and/or pedestrian facility (e.g., shared use path). Whether or not the posted speed is greater than 30 mph, use the following tables to determine the existing BLTS and PLTS for the project vicinity, and to determine the type and dimension of bicycle and pedestrian facilities and buffers or separations required for the design to achieve BLTS and PLTS 1 or 2. Note that speed referred to in the tables is posted speed.

## BLTS and PLTS for mixed traffic (no marked bicycle lane, with or without shoulder)

Recommended General LTS table (not accounting for bike lanes or sidewalk) used to develop tables below

Lanes	AADT	<=20	25	30	35	40	45	50+
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	3	4	4	4	4
	751-1500	1	2	3	4	4	4	4
	1501-3000	2	2	3	4	4	4	4
	3000+	2	3	3	4	4	4	4
2 thru lanes per direction	0-7000	3	3	3	4	4	4	4
	>7000	3	3	4	4	4	4	4
3+ thru lanes per direction	Any ADT	4	4	4	4	4	4	4



**BLTS Criteria for Bike Lane without Separation from Traffic (paint stripe or buffer < 2 feet wide)**

Protected Bicycle Lane (parking or robust vertical barrier separation)								
Lanes	AADT	<=20	25	30	35	40	45	50+
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	1	2	2	2	2
	751-1500	1	1	1	2	2	2	2
	1501-3000	1	1	1	2	2	2	2
	3000+	2	2	2	2	2	2	2
2 thru lanes per direction	0-7000	2	2	2	2	2	2	2
	>7000	2	2	2	2	2	2	2
3+ thru lanes per direction	Any ADT	2	2	2	2	2	2	2

Vertically Delineated Bicycle Lane (Buffered bike lane with flexible delineator/candlestick)								
Lanes	AADT	<=20	25	30	35	40	45	50+
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	2	3	3	3	4
	751-1500	1	1	2	3	3	3	4
	1501-3000	1	1	2	3	3	3	4
	3000+	2	2	2	3	3	4	4
2 thru lanes per direction	0-7000	2	2	2	3	3	4	4
	>7000	2	2	3	3	3	4	4
3+ thru lanes per direction	Any ADT	2	2	3	3	3	4	4

**BLTS Criteria for Bike Lane with Separation from Traffic (buffer 2 feet wide or greater)**

Protected Bicycle Lane (parking or robust vertical barrier separation)								
Lanes	AADT	<=20	25	30	35	40	45	50+
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	1	2	2	2	2
	751-1500	1	1	1	2	2	2	2
	1501-3000	1	1	1	2	2	2	2
	3000+	2	2	2	2	2	2	2
2 thru lanes per direction	0-7000	2	2	2	2	2	2	2
	>7000	2	2	2	2	2	2	2
3+ thru lanes per direction	Any ADT	2	2	2	2	2	2	2

Vertically Delineated Bicycle Lane (Buffered bike lane with flexible delineator/candlestick)								
Lanes	AADT	<=20	25	30	35	40	45	50+
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	2	2	3	3	4
	751-1500	1	1	2	2	3	3	4
	1501-3000	1	1	2	2	3	3	4
	3000+	2	2	2	3	3	4	4
2 thru lanes per direction	0-7000	2	2	2	3	3	4	4
	>7000	2	2	3	3	3	4	4
3+ thru lanes per direction	Any ADT	2	2	3	3	3	4	4



## PLTS based on Sidewalk Width

Greater than Minimum Sidewalks Present (6' or greater)									
Lanes	AADT	<=20	25	30	35	40	45	50+	
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	2	2	3	4	4	4
	751-1500	1	1	2	2	3	4	4	4
	1501-3000	1	1	2	2	3	4	4	4
	3000+	2	2	2	2	3	4	4	4
2 thru lanes per direction	0-7000	2	2	2	2	3	4	4	4
	>7000	2	2	2	2	3	4	4	4
3+ thru lanes per direction	Any ADT	2	2	2	3	3	4	4	4

Minimum Sidewalk Facility Present (5')									
Lanes	AADT	<=20	25	30	35	40	45	50+	
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	2	4	4	4	4	4
	751-1500	1	1	2	4	4	4	4	4
	1501-3000	1	1	2	4	4	4	4	4
	3000+	2	2	2	4	4	4	4	4
2 thru lanes per direction	0-7000	2	2	2	4	4	4	4	4
	>7000	2	2	3	4	4	4	4	4
3+ thru lanes per direction	Any ADT	2	2	3	4	4	4	4	4

## PLTS based on Buffer Type

Sidewalk protected by robust physical barrier									
Lanes	AADT	<=20	25	30	35	40	45	50+	
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	1	2	2	2	2	2
	751-1500	1	1	1	2	2	2	2	2
	1501-3000	1	1	1	2	2	2	2	2
	3000+	2	2	2	2	2	2	2	2
2 thru lanes per direction	0-7000	2	2	2	2	2	2	2	2
	>7000	2	2	2	2	2	2	2	2
3+ thru lanes per direction	Any ADT	2	2	2	2	2	2	2	2

Wide sidewalk or sidewalk with buffer									
Lanes	AADT	<=20	25	30	35	40	45	50+	
1 thru lane per direction (or 1 lane one-way street)	0-750	1	1	2	2	3	3	4	4
	751-1500	1	1	2	2	3	3	4	4
	1501-3000	1	1	2	2	3	3	4	4
	3000+	2	2	2	2	3	3	4	4
2 thru lanes per direction	0-7000	2	2	2	2	3	3	4	4
	>7000	2	2	2	2	3	3	4	4
3+ thru lanes per direction	Any ADT	2	2	2	2	3	3	4	4



*“Robust physical barrier” refers to any one of the available separated bicycle lane treatments (see definitions) in the case of bicycles (except flexible delineators), and in the case of pedestrians either 1) a separated bicycle lane, 2) planting strip and/or street trees, or 3) vehicle parking located between the rightmost vehicle lane and the pedestrian facility. Utilize DM 1239.08 when designing outer separation treatments.*

## Refined LTS

Once the Basic LTS for a project is determined per the tables above, and a design is selected that meets the required LTS 1 or 2, examine the additional issues in the list below to consider the need to provide design treatments in addition to those described in the Basic LTS solutions. Most of the issues in the list do not provide a quantitative basis for examining the existing or proposed (design) condition. Therefore, work with SMEs to consider each category listed, and determine options for addressing each issue in order to reduce travel stress in the design for bicycles and pedestrians.

The refined LTS is considered complete when a design approach to addressing the travel stress issues listed below have been determined and documented through a collaborative process (normally during pre-design), with the intention that those approaches will be incorporated into the design. The designer can then document that the Basic LTS has now been upgraded to the Refined (and final) LTS for the project.

- Route directness
- Crosswalks
- Driveways
- Turn lanes
- Large (e.g., freight) vehicle traffic
- Minor pinch points (culverts, drain grates, offroad gravel intrusion, etc.)

Note that major pinch points (such as bridges) also introduce travel stress but are defined as those narrow locations where the introduction of complete streets elements can't be implemented without significant additional investments. Although these are anticipated to occur at times, since they are associated with not meeting the complete streets requirement at a particular location where that is required, they need to be documented according to provisions of *Project Delivery Memo #22-03*.

One exception to the qualitative nature of the additional issues list above is route directness. Route directness is measured in terms of a Route Directness Index (RDI). Major roadways present crossing barriers for active travelers that can impose significant out of direction travel burdens. An RDI of one means direct travel is possible. An RDI of 2 means the traveler must go twice the line-of-sight distance to reach a destination because of a lack of crossing opportunities (or because an available crossing is high LTS and/or imposes undo delay). Research shows that





pedestrians in particular are unwilling to travel far out of direction to reach a destination. RDI's greater than 2 strongly reduce the utility of active trips by increasing the travel time, physical effort, and weather exposure for traveler experiences. A minimum RDI threshold value of 2 for state routes is proposed in the WSDOT Active Transportation Plan.

While this threshold for RDI has been established in the Active Transportation Plan, the process for evaluating it is still in development. In the meantime, consult SMEs on the best approach to incorporating RDI concepts into the project design.

More information about refining LTS and applying RDI is in development and will become available through subsequent updates to this bulletin.

## Complete Street Resources

The following is a non-exhaustive list of references:

- [Washington State Active Transportation Plan - 2020 and Beyond](#)
- [FHWA Complete Streets](#)
- [FHWA Separated Bike Lane Planning and Design Guide](#)
- [FHWA Bikeway Selection Guide](#)
- [Small Town and Rural Multimodal Networks \(dot.gov\)](#)
- [Achieving multimodal networks 2016 \(FHWA\)](#)
- [Interim Approvals Issued by FHWA - FHWA MUTCD \(dot.gov\)](#)
- [AASHTO Bicycle Design Guide](#)
- [AASHTO Pedestrian Design Guide](#)
- [NACTO Urban Bikeway Guide](#)
- [NACTO Don't Give Up at the Intersection](#)
- [Florida DOT Complete Streets](#)
- [New Jersey DOT Complete & Green Streets.](#)
- [Ohio DOT Multimodal Design Guide](#)
- [Massachusetts DOT Separated Bike Lane Planning and Design Guide](#)
- [Smart Growth America](#)

# Complete Streets for State Highways in Washington

## Glossary of Terms

**Active Transportation:** Forms of pedestrian mobility including walking or running, the use of a mobility assistive device such as a wheelchair, bicycling and cycling irrespective of the number of wheels, and the use of small personal devices such as foot scooters or skateboards. Active transportation includes both traditional and electric assist bicycles and other devices. Planning for active transportation must consider and address accommodation pursuant to the Americans with Disabilities Act and the distinct needs of each form of active transportation.

**All ages and abilities facility (“AAA facility”):** “A bicycle, pedestrian facility, or shared use path that allows users of all ages and abilities to safely and comfortably use the facility independently or, for children, with the same level of adult supervision as would be typical for a neighborhood sidewalk. Examples of AAA facilities include off-street trails and shared use paths, protected or separated bike lanes, and neighborhood greenways. Conventional bike lanes, buffered bike lanes, and shared lanes typically do not meet AAA facility expectations.

**Bicycle boulevard:** Streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority through the use of signs, pavement markings, and speed and volume management measures to discourage through trips by motor vehicles and through the creation of safe, convenient bicycle crossings of busy arterial streets.

Related terms: neighborhood greenways, bikeways

**Bicycle facility:** A facility intended for bicycle<sup>1</sup> travel which designates space for bicyclists distinct from motor vehicle traffic. A bicycle facility does not include shared lanes (including shared lanes with shared lane markings), sidewalks, or signed routes, but does include bicycle boulevards, trails, and shared-use paths.<sup>2</sup> As with pedestrian facilities, cycling facilities need to be designed for ADA compliance. Such facilities may also be used by people on micromobility devices.

**Bike lane:** A portion of a highway or street identified by signs and pavement markings as reserved for bicycle use.

**Buffered bicycle lane:** A bike lane with pavement markings delineating a buffer space between the bike lane and adjacent motor vehicle lane or parking lane. A buffered bike

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<sup>1</sup> Washington State law defines bicycles as two-wheeled or three-wheeled devices (RCW 46.04.071). The term “bicycle facility” is not intended to restrict the definition of cycling based on the number of wheels on the device.

<sup>2</sup> Adapted from FHWA Bikeway Selection Guide

lane does not include designed vertical elements in the buffer—refer to Separated Bicycle Lane.

**Complete streets:** An approach to planning, designing, building, operating, and maintaining streets that enables safe access along and across the street for all people, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

**Context sensitive solutions:** A collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting. This approach leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, accessibility, and infrastructure conditions.<sup>3</sup>

**Practical solutions:** Performance-based approach to transportation and organizational decision making. This data-driven approach uses tools, data analytics, performance measures, and stakeholder input to (1) seek lower-cost approaches and efficiencies in expanding and operating the multimodal transportation system to reduce travel demand and the need for building costly new infrastructure, (2) identify, evaluate, analyze, and manage risk to WSDOT’s strategic objectives, and (3) identify and implement agency efficiencies. WSDOT Executive Order E 1090.01.

**Separated bicycle lanes (SBL):** Bicycle facilities physically separated from motor vehicle traffic and distinct from the sidewalk. SBLs may be one-way or two-way, and may be at street level, sidewalk level, or at a level between street and sidewalk level. The physical separation includes a designed vertical element between the motor vehicle traffic and the bikeway; these vertical elements may include curb (including the curb of a raised PBL), concrete buffers, flexible delineators, planter boxes, etc. Physical separation identified only with pavement markings does not constitute a separated bike lane—refer to buffered bicycle lane.

**Shared lane or roadway:** A roadway that is open to both bicycle and motor vehicle travel. This may be a new or existing roadway/highway, a street with wide curb lanes, or a road with paved shoulders. In the State of Washington, as with most states, all vehicular lanes are shared lanes by definition unless bicycling is explicitly prohibited. The use of the term “shared lane” should not be confused with “shared lane marking” (see below).

**Shared lane marking or sharrow:** A clearly visible lane marking placed within shared lanes or bicycle boulevards to assist people on bicycles in determining the most appropriate lateral position to ride in a shared lane and to alert motor vehicle drivers and other bicyclists to the position that bicyclists are most likely to occupy within the traveled way.

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<sup>3</sup> Source: AASHTO Center for Environmental Excellence, <https://environment.transportation.org/education/practical-applications/context-sensitive-solutions/context-sensitive-solutions-overview/>

**Shared use path (SUP):** A facility physically separated from motorized vehicular traffic within the highway right-of-way or on an exclusive right of way with minimal crossflow by motor vehicles. Shared-use paths are primarily used by bicyclists and pedestrians, including joggers, skaters, and pedestrians with disabilities, including those who use nonmotorized or motorized wheeled mobility devices. With appropriate design considerations, equestrians may also be accommodated by a shared-use path facility. In certain locations with very high pedestrian and bicycle traffic, a shared use path may include modal separation between bicycle and pedestrian traffic.

**Traffic calming:** Design techniques that have been shown to reduce traffic speeds and unsafe maneuvers. These techniques can be stand-alone or used in combination. Examples include vertical deflection (e.g., speed humps, speed tables, raised crossings), horizontal shifts (e.g., chicanes, lateral lane tapers), and design elements that encourage a driver's perception of a lower speed facility (often referred to as "visual friction", these features include lane narrowing, curb extensions, median islands, specific pavement markings, etc.). This list of example traffic calming features is not exhaustive.

**Vulnerable user:** Under RCW 46.61, and as applied in this text, a "vulnerable user" of a public right-of-way means:

- A pedestrian, which includes people on foot or using wheelchairs;
- A person operating or riding any of the following on a public way:
  - A bicycle;
  - An electric-assisted bicycle;
  - An electric personal assistive mobility device;
  - A moped;
  - A motor-driven cycle;
  - A motorized foot scooter.

Note that the RCW identifies additional vulnerable users of the public right-of-way that are not included in the context of this text, including people riding animals, farm equipment, or motorcycles.

## GLOSSARY RESOURCES

- WSDOT Glossary: <https://wsdot.wa.gov/about/library-research-reports/wsdot-glossary-and-abbreviations-acronyms-list>
- Terms in development for Active Transportation: [Active Transportation Glossary](#)
- Final Draft Glossary Guide: [GlossaryGuideFinal9-30-2021 \(1\).pdf](#)
- [Active Transportation Plan 2021](#)