

VTrans Bicycle and Pedestrian Strategic Plan

March 2021



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Glossary

Bicycle Level of Comfort (BLOC)*: Bicycle Level of Comfort (BLOC), developed as part of the VTrans On-Road Bicycle Plan, for roadways is a measure of roadway conditions on a scale of 1 to 4:

- 1 - Welcoming to most bicyclists
- 2 - Comfortable for most adult bicyclists
- 3 - Comfortable for experienced and confident bicyclists
- 4 - Uncomfortable for most bicyclists

VTrans Bicycle Corridor Priority Map*: The map, developed as part of the VTrans On-Road Bicycle Plan, represents current and potential bicycle use on state roads.

Complete Streets: Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

E-device: Refers to devices such as bicycles, scooters, or wheelchairs that include electric power. These may be fully powered (e.g., throttle) or assist a person in movement (e.g., pedal assist).

Agency Projects and Activities: This term is used to refer to a diverse range of projects and activities carried out by VTrans including, but not limited to, planning, design, construction, construction work zones, and maintenance.

**See Introduction in Chapter 1 for additional details*

Important Terms

Vulnerable Users: The term “vulnerable users” refers to people most at risk in traffic (i.e., those unprotected by an outside shield). This typically refers to people walking and bicycling and includes those using mobility assistance devices.

People Walking and Bicycling: This new phrasing used throughout the BPSP was developed to bring attention to the fact that people walk and bike throughout Vermont and should be safely and comfortably accommodated.

Pedestrians and Bicyclists: These are the terms typically used to describe people who walk or bike. The BPSP makes an effort to reframe the phrase to humanize more vulnerable road users (e.g., “people walking and bicycling”). This phrase is used in the BPSP when referencing document or organizational names (e.g., VTrans Bicycle and Pedestrian Program) as well as specific text previously included in past plans. An effort has been made to not use this phrase when referring to people in the BPSP.

VTrans On-Road Bicycle Plan: This plan helps VTrans understand where to focus limited resources towards bicycle improvements and allow better integration into Agency projects and activities, with emphasis on those roads designated as high-use priority bicycle corridors. Phase I determined the demand for bicycling on state roads, and Phase II evaluated the conditions of these roadways for bicycling. For more information see the Introduction in Chapter 1 of this document or <https://vtrans.vermont.gov/planning/bikeplan>



People biking crossing an intersection in a bike lane

Acronyms

Table 1: Relevant VTrans Acronyms

Acronym	Name
AMB	VTrans Asset Management Bureau
BPC	VTrans Bicycle and Pedestrian Coordinator (otherwise known as the VTrans Bicycle and Pedestrian Program Manager)
BPSP	VTrans Bicycle and Pedestrian Strategic Plan 2021
CMG	VTrans BPSP Core Management Group
LCQ	Local Concerns Questionnaire
MA	VTrans Municipal Assistance Program (includes Bicycle and Pedestrian Program)
NPS	New Project Summaries
PDB	VTrans Project Delivery Bureau
VBPP	VTrans Bicycle and Pedestrian Program
VLR	Vermont Local Roads
VPSP2	VTrans Project Selection and Prioritization Process
VTrans	Vermont Agency of Transportation
VTTC	VTrans Training Center

Other Relevant Acronyms

AARP: American Association of Retired Persons

AASHTO: American Association of State Highway and Transportation Officials

ACCD: Agency of Commerce & Community Development

ADA: Americans with Disabilities Act

AICP: American Institute of Certified Planners

ANR: Vermont Agency of Natural Resources

ARRA: American Recovery and Reinvestment Act

BLOC: Bicycle Level of Comfort

BP: Bicycle and Pedestrian (often used to refer to the grant program)

CATMA: Chittenden Area Transportation Management Association

CCRPC: Chittenden County Regional Planning Commission

CDOT: Colorado Department of Transportation

COVID-19: A novel coronavirus that led to a global pandemic in early 2020, affecting in-person meetings scheduled for the BPSP and altered usage of roadways, bicycle and pedestrian facilities, both short term and long term. As of early 2021 the pandemic still impacts daily life and travel patterns significantly.

DHCD: Department of Housing & Community Development

DMV: Department of Motor Vehicles

FHWA: Federal Highway Administration

GMT: Green Mountain Transit

MassDOT: Massachusetts Department of Transportation

MDOT: Michigan Department of Transportation

MPO: Metropolitan Planning Organization (i.e., Chittenden County Regional Planning Commission)

NACTO: National Association of City Transportation Officials

PDH: Professional Development Hours

ROW: Right-of-way

RPC: Regional Planning Commission (including the Metropolitan Planning Organization)

RSG: Resource Systems Group (BPSP Consultant)

SRTS/ SR2S: Safe Routes to School

TAP: Transportation Alternatives Program

TPI: Vermont Transportation Planning Initiative

UVM: University of Vermont

UVM TRC: University of Vermont Transportation Research Center

VCIL: Vermont Center for Independent Living

VDH: Vermont Department of Health

VEIC: Vermont Energy Investment Corporation

VHSA: Vermont Highway Safety Alliance

VNRC: Vermont Natural Resources Council

VPSP2: VTrans Project Selection and Prioritization Processes

Executive Summary

The overall goal of the VTrans Bicycle and Pedestrian Strategic Plan (BPSP) is to identify strategies that will broaden the inclusion of bicycling and walking throughout VTrans projects and activities. Additionally, the BPSP:

- Identifies key partnerships with external stakeholders that will result in improved conditions for bicycling and walking.
- Assists VTrans in understanding where to focus limited resources towards bicycle and pedestrian improvements and allow better integration into Agency projects and activities.
- Includes performance indicators that build upon two key outcomes of the VTrans On-Road Bicycle Plan Phase 1 (the VTrans Bicycle Corridor Priority Map) and Phase 2 (the Bicycle Level of Comfort (BLOC) map).



Students walking to school

(Source: Vermont Safe Routes to School)

VTrans and its partners do great work which can be built upon. The following programs and collaborations are already incorporating the needs of people walking and bicycling, or have useful lessons to draw from. Many of these programs and processes are mentioned in specific strategies:

- Vermont Bicycle and Pedestrian Program
- Vermont Bicycle and Pedestrian Grant Program
- Transportation Alternatives Program
- Local Concerns Questionnaires
- New Project Summaries
- Safe Routes to School
- Transportation Planning Initiative
- Better Connections Program

VTrans actively works with many external partners who are vital to the success of implementing the BPSP. The following are some of the existing partners who provided input for the BPSP and are part of various strategies for implementing the BPSP:

- Regional Planning Commissions (RPCs)
- Vermont Agency of Commerce and Community Development (ACCD)
- Vermont Department of Health (VDH)
- Vermont Highway Safety Alliance (VHSA)
- Local Motion
- Municipalities
- And many others!

Vision, Mission & Goals

The vision and goals were developed to identify VTrans' commitment to vulnerable users as well as guide the BPSR recommendations.

The vision defines the desired condition for people walking and bicycling in Vermont after the goals, objectives, and strategies have been accomplished. Accomplishing the vision

requires the efforts of many different VTrans sections as well as coordination with external organizations and stakeholders throughout Vermont.

The goals provide a framework for strategy development and start to identify how VTrans can reach its vision.

Vision & Mission



The needs of people walking and bicycling of all ages and abilities will be considered in all VTrans activities.

VTrans staff will continue to work collaboratively internally and with external partners to improve safety, connectivity, and access to promote walking and bicycling.

MISSION: Safety, health, economic, environmental, and quality of life benefits resulting from an increase in walking and bicycling will be achieved through education and training, innovative planning and design practices, the consideration of community needs, and effective communication. Clearly define expectations for VTrans staff of the importance of creating equitable and maintainable transportation networks.

Goals



Safety & Network Improvement

Invest in readily maintainable infrastructure to ensure safety, mobility, accessibility, and comfort for those walking and bicycling within available resources. Prioritize network improvements which emphasize safety as well as stimulate outdoor recreation, environmental benefits, tourism, economic growth, productivity, and competitiveness for Vermont businesses.



Education & Innovation

Educate VTrans staff and external partners about the needs of those walking and bicycling and promote innovative practices that improve the safety and performance of existing and future walking and bicycling networks.



Inclusion & Integration

Develop and foster a culture where the needs of those walking and bicycling are considered in all VTrans activities.



Communication & Collaboration

Identify the needs and resources of those walking and bicycling through frequent and effective communication and collaboration regarding VTrans activities.



Effectiveness, Accountability, & Community Needs

Improve VTrans' effectiveness in implementation of strategies for those walking and bicycling through clear employee expectations, greater accountability, and consideration for the desires of local communities.

Recommendations

The BPSP outlines the recommended strategies to achieve the vision and goals. These 51 strategies are grouped into 10 overarching objectives. Strategies include details about who would be responsible for implementation and partnership opportunities, as well as a timeframe and level of effort required for implementation.

The plan also identifies performance indicators to track VTrans progress on BPSP implementation and effectiveness. A dashboard will be created to share these indicators.

Objective 1 Fund, promote, and implement appropriate infrastructure to encourage people to walk or bike

Objective 2 Utilize existing VTrans initiatives (e.g., NPS, LCQ, Corridor Plans, VPSP2, etc.) to further improve conditions for people walking and bicycling

Objective 3 Empower a broad range of VTrans staff to have the technical knowledge to regularly incorporate improvements for bicycling and walking into all VTrans activities

Objective 4 Educate external partners about the needs of people walking and bicycling so they can be integrated into planning, designing and maintaining facilities

Objective 5 Use a wide variety of methods to educate the public on the safety and needs of people walking and bicycling

Objective 6 Incorporate walking and bicycling considerations into the planning and design of transit facilities and vehicles

Objective 7 Develop new and increased collaborations with groups outside VTrans

Objective 8 Promote the health, economic, and environmental benefits of recreation and active transportation opportunities

Objective 9 Identify existing, or develop future, data sources to measure the prevalence, safety, and health of people walking and bicycling

Objective 10 Inform external partners and the general public of VTrans' efforts, opportunities, and limitations related to providing infrastructure for people walking and bicycling

High Priority Strategies

The following 9 strategies have been identified as a high priority*:

Strategy 1.2: Annually rerun the Bicycle Level of Comfort model (developed in Phase II of the On-Road Bicycle Plan) for the Vermont state road network as relevant datasets are updated for the purpose of tracking progress towards a more friendly road network for people on bicycles

Strategy 1.5: Evaluate how existing VTrans programs and grants can become more equitable, particularly as it relates to high-need and marginalized communities

Strategy 2.1: Complete New Project Summaries (NPS) for all Highway projects to ensure Project Managers are aware of potential design considerations for people walking and bicycling

Strategy 2.2: Continue to include an opportunity in the New Project Summaries and Local Concerns Questionnaires to discuss projects with Towns and RPCs. These discussions should include topics such as planned bicycling or walking networks, transit service, etc.

Strategy 2.3: Continue to include the needs of people walking and bicycling in corridor management plans developed for state highways

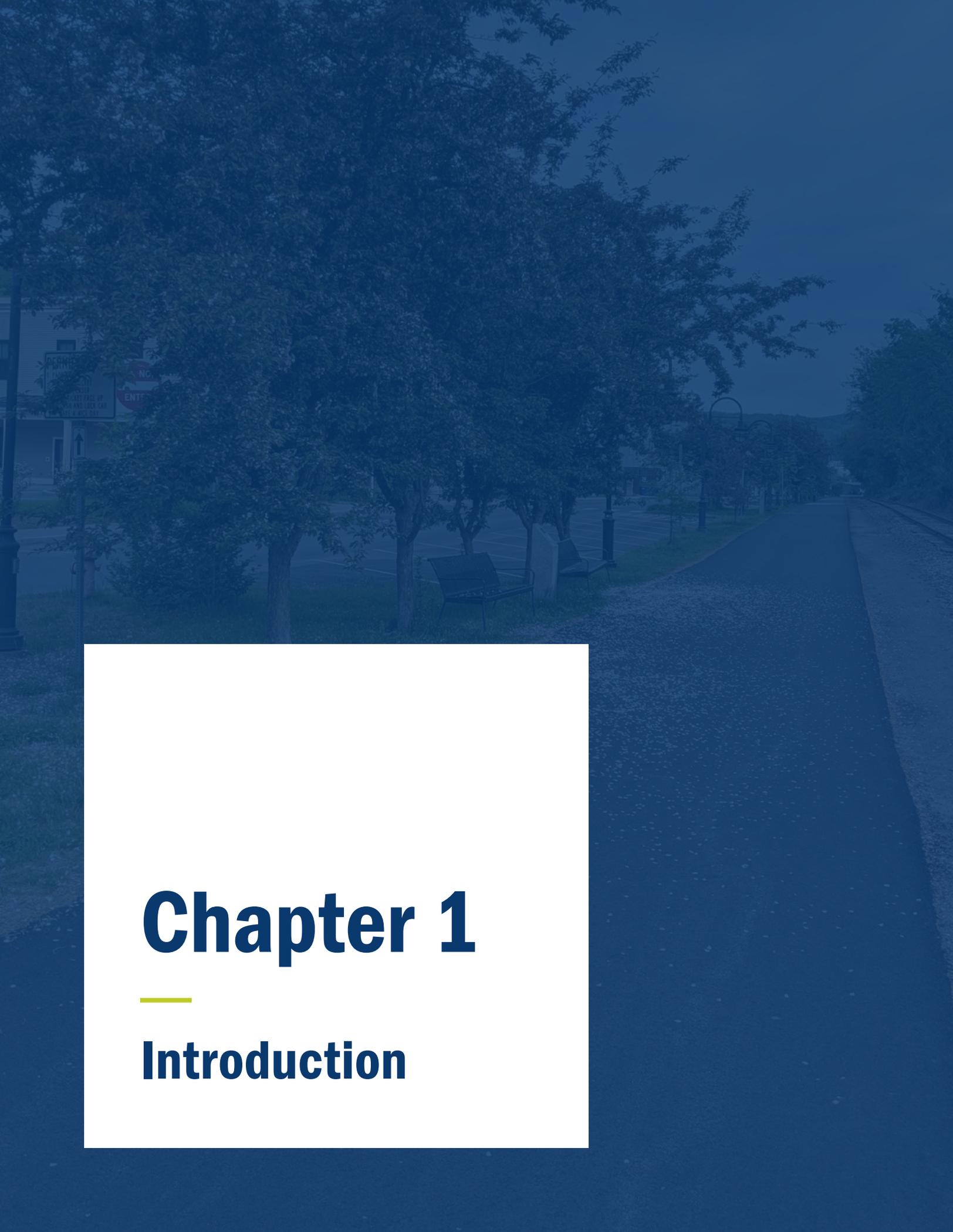
Strategy 2.7: Continue to utilize the Local Concerns Questionnaires in bridge/culvert projects early in the project definition process to gather information about planned walking and bicycling networks and improvements; expand their usage to other highway modes, including paving, roadway, safety and traffic signals; continue to integrate Local Concerns Questionnaires into the NPS process as it expands

Strategy 3.1: Conduct design workshops to educate VTrans engineers, designers, landscape architects, planners, maintenance staff, and project managers on best practices regarding the needs of people walking or bicycling

Strategy 4.3: Maintain the online portal where external partners and VTrans staff can easily access nationally recognized pedestrian and bicycle best practice guidelines and manuals (e.g., FHWA, AASHTO, NACTO etc.) as well as state-specific guidelines

Strategy 10.1: Develop and distribute materials which highlight successful collaboration efforts with municipalities to promote the collaboration process with other municipalities

 **For more information about the BPSP visit:** <https://vtrans.vermont.gov/PLANNING/BPSP> 



Chapter 1



Introduction

1.1 Bicycle and Pedestrian Strategic Plan Purpose

The overall goal of the VTrans Bicycle and Pedestrian Strategic Plan (BPSP) is to identify strategies that will broaden the inclusion of bicycling and walking throughout VTrans projects and activities. Additionally, the BPSP identifies key partnerships with external stakeholders that will result in improved conditions for bicycling and walking. The BPSP will assist VTrans in understanding where to focus limited resources towards bicycle and pedestrian improvements and allow better integration into Agency projects and activities. The BPSP also includes performance indicators that build upon two key outcomes of the VTrans On-Road Bicycle Plan Phase 1 (the VTrans Bicycle Corridor Priority Map) and Phase 2 (the Bicycle Level of Comfort (BLOC) map) which were completed in the late 2010s.



People walking in a mid-block crosswalk on State Street in Montpelier



Person walking on a sidewalk on North Street in Bennington



Crosswalk striping in Montpelier

1.2 Document Structure

Throughout the year-long planning process, seven technical memoranda were developed to document the research, meetings, and findings by the project team. The BPSP was created to highlight key information included in the seven technical memoranda.* This

key information will help guide the VTrans bicycle and pedestrian program and its annual work program to better integrate the needs of people walking and bicycling into all VTrans activities.

The BPSP Includes the Following Chapters:

- **Chapter 1: Introduction** - Identify the purpose and overall document structure of the BPSP
- **Chapter 2: Vision & Goals** - Identify the vision and goals for the BPSP
- **Chapter 3: Recommendations** - Outline the recommended strategies and performance indicators that should be implemented to reach the BPSP vision
- **Chapter 4: Best Practices Comparison** - Record best practices other state transportation agencies use to improve conditions for people walking and bicycling
- **Chapter 5: Engagement Strategy** - Outline the strategy used to engage with BPSP stakeholders
- **Chapter 6: VTrans Pedestrian & Bicycle Analysis** - Provide a review of past plans, a summary of progress to-date regarding the previous policy plan (2008), and a summary of key information gathered during BPSP stakeholder meetings

**Full copies of the seven technical memoranda can be found in the appendices*

1.3 Key Programs and Collaborations

VTrans and its partners do great work which can be built upon. The following programs and collaborations are already incorporating the needs of people walking and bicycling, or have useful lessons to draw from. Many of these programs and processes are mentioned in specific strategies.

The [VTrans Bicycle and Pedestrian Program](#) (VBPP) has a very collaborative nature. The Bicycle and Pedestrian Program Manager (Also known as the Bicycle and Pedestrian Coordinator, BPC) is actively engaged in various projects and also reviews projects as needed to provide bicycle and pedestrian design expertise as follows:

- Design plans for town and state infrastructure that is funded by VTrans (e.g., paving projects, bridge replacements, Bicycle and Pedestrian Grants)
- Demonstration/ Pop-up projects
- Municipal planning projects funded by VTrans (e.g., Better Connections)
- Act 250 applications for projects that impact bicycling or walking access or safety
- Provide technical assistance to RPCs, Towns, and other external stakeholders regardless of available funding

In addition to design reviews, the VBPP collaborates with internal and external

stakeholders on policy and safety education. Examples are the recently completed VTrans Demonstration Projects Guide, and working with Local Motion to support ongoing Safe Routes to School education.

Local Concerns Questionnaires* (LCQ) were created in 2012 to assist with the scoping process for VTrans bridge and large culvert projects. These questionnaires are sent to the Municipality and Regional Planning Commission where the project is located. The questionnaires guide the Commission through various questions which, among other things, assesses bicycle and pedestrian usage of the structure now, anticipated uses in the future, and any challenges which currently face bicyclists and pedestrians traveling over the bridge. This information is then considered as the VTrans team defines the scope of the project.

New Project Summaries (NPS)** were started in 2020 to allow the VTrans Asset Management Bureau to pass along information to the VTrans Project Delivery Bureau once a concept becomes a project, namely when it receives a project number and funding is allocated for scoping. The information is collated from various sources, including from Municipalities and Regional Planning Commissions, with a questionnaire similar to the Local Concerns Questionnaire, and is then passed along to the Project

**See Appendix 2b for the Local Concerns Questionnaire*

***See Appendix 2c for the New Project Summary Questionnaire*

Manager for scoping and project definition. This effort includes specific questions that assess bicycle and pedestrian usage, needs, and challenges. NPS are currently collated for highway paving projects, but it is hoped to soon also include bridge, large culvert, intersection, and various other VTrans project types.

The [Better Connections Program](#) is an integrated planning program that funds municipal efforts to increase transportation options, improve water quality, public health, and economic vitality in Vermont's community centers. The program started in 2015 and is funded by VTrans in partnership with the Vermont Agency of Commerce and Community Development (ACCD). Additionally, the Vermont Department of Health (VDH) and the Vermont Department of Environmental Conservation (DEC) have become new partners. The program integrates bicycle and pedestrian needs within the projects but, more importantly for this Plan, gives a good example of several innovations:

- Builds the type of cross-agency partnerships in state government that are logical and better serve the public.
- Provides communities with the resources to do what is needed and necessary to build buy-in, which is a critical step towards local implementation.
- Assists communities with moving planning projects towards implementation.

[Safe Routes to School](#) (SRTS/SR2S) is a program based on a simple premise that children should be able to safely walk and bike to school. Vermont's program is part of the VTrans Bicycle and Pedestrian Program with assistance provided to schools via Local Motion, RPCs and a panel of Regional Experts.

The [Vermont Bicycle and Pedestrian Grant Program](#) uses state and federal funds to support municipalities scoping and constructing bicycle and pedestrian facilities and infrastructure. The program has two components - large scale projects (e.g., sidewalks, shoulders and shared use paths) and small scale projects (e.g., traffic signals, pedestrian crossings and other facilities which have a smaller cost). Eligibility for this program is defined by VTrans.

The [Transportation Alternatives Grant Program](#) uses federal funds to support municipalities and others to scope and construct bicycle and pedestrian facilities alongside other projects such as stormwater management. Eligibility for this program is defined by the Federal Highway Administration (FHWA).

BEGIN
RIGHT TURN LANE
←
YIELD TO BIKES

Chapter 2



Vision & Goals

2.1 Introduction

The vision and goals were developed to identify VTrans' commitment to vulnerable users as well as guide the BPSR recommendations. Using an iterative engagement process, the vision and goals were developed based on feedback received from the Core Management Group (CMG) and the Stakeholder Group.

The vision defines the desired condition for people walking and bicycling in Vermont after the goals, objectives, and strategies have been accomplished. Accomplishing the vision

will require the efforts of many different VTrans sections as well as coordination with external organizations and stakeholders throughout Vermont.

The goals provide a framework for strategy development and start to identify how VTrans can reach its vision.

Additional detail regarding how the BPSR Vision and Goals were developed can be found in Appendix 4.



Barre Town Bike Path

2.2 Vision

The following vision and mission were developed:



The needs of people walking and bicycling of all ages and abilities will be considered in all VTrans activities.

VTrans staff will continue to work collaboratively internally and with external partners to improve safety, connectivity, and access to promote walking and bicycling.

MISSION: Safety, health, economic, environmental, and quality of life benefits resulting from an increase in walking and bicycling will be achieved through education and training, innovative planning and design practices, the consideration of community needs, and effective communication. Clearly define expectations for VTrans staff of the importance of creating equitable and maintainable transportation networks.

VTrans Vision: A safe, reliable and multimodal transportation system that grows the economy, is affordable to use and operate, and services vulnerable populations. The full mission, vision and goals are available at:

<https://vtrans.vermont.gov/about/mission-and-vision>

2.3 Goals

The following goals were developed:



Safety & Network Improvement

Invest in readily maintainable infrastructure to ensure safety, mobility, accessibility, and comfort for those walking and bicycling within available resources. Prioritize network improvements which emphasize safety as well as stimulate outdoor recreation, environmental benefits, tourism, economic growth, productivity, and competitiveness for Vermont businesses.



Education & Innovation

Educate VTrans staff and external partners about the needs of those walking and bicycling and promote innovative practices that improve the safety and performance of existing and future walking and bicycling networks.



Inclusion & Integration

Develop and foster a culture where the needs of those walking and bicycling are considered in all VTrans activities.



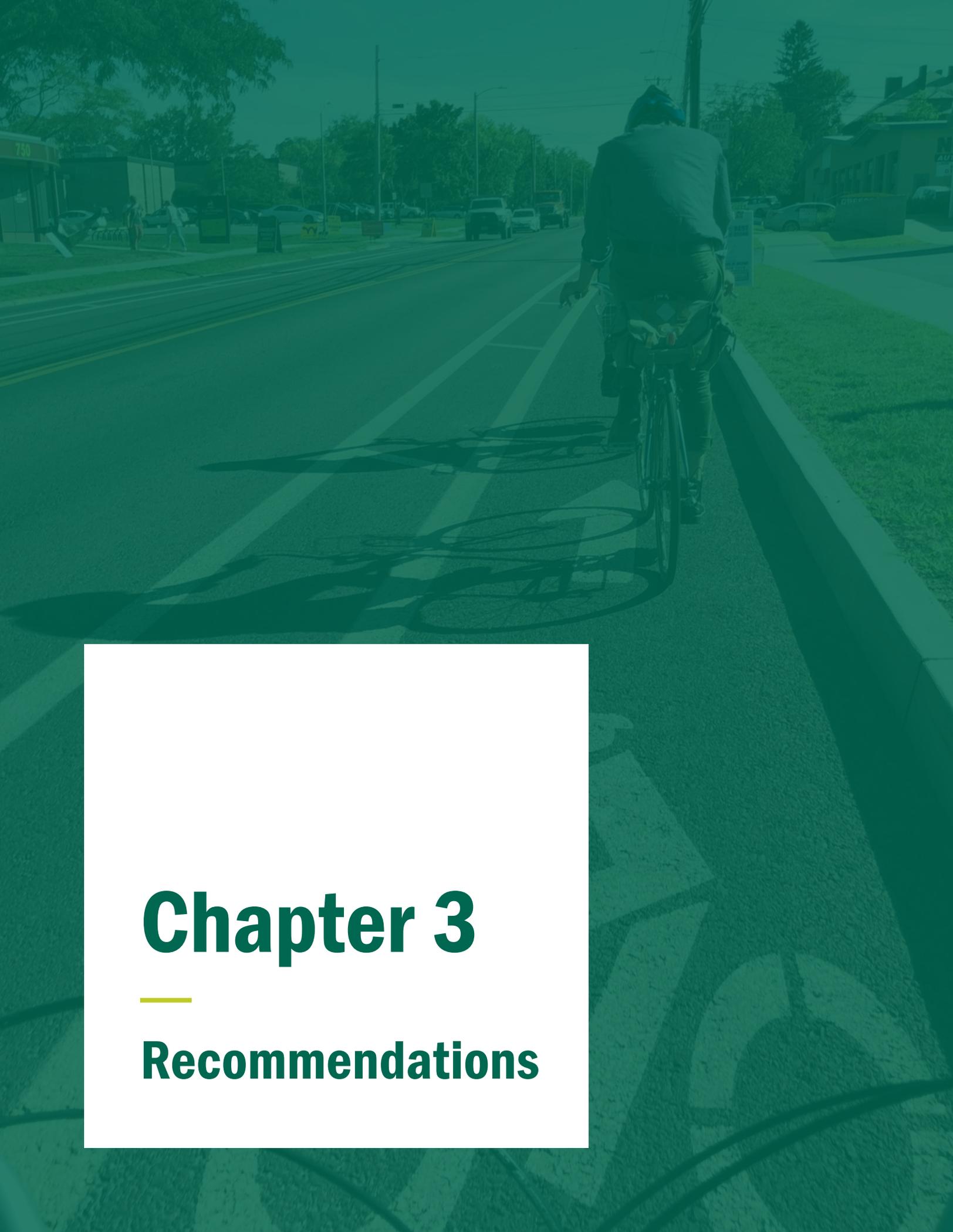
Communication & Collaboration

Identify the needs and resources of those walking and bicycling through frequent and effective communication and collaboration regarding VTrans activities.



Effectiveness, Accountability, & Community Needs

Improve VTrans' effectiveness in implementation of strategies for those walking and bicycling through clear employee expectations, greater accountability, and consideration for the desires of local communities.



Chapter 3

Recommendations

3.1 Introduction

This chapter describes the strategies that are recommended to achieve the vision and goals identified in the BPSP. The BPSP strategies were identified based on the analysis and meetings conducted for this planning effort. There are a total of 51 recommended strategies grouped into 10 overarching objectives.

To assist with implementation, the BPSP includes:

- VTrans' role for each strategy
- Agencies to partner with to advance a strategy
- The party responsible for implementation
- A timeframe for implementation
- The level of effort required to implement a strategy
- Whether a strategy is a high priority

This chapter also identifies performance indicators to track VTrans' progress on BPSP implementation and effectiveness.

Additional information on the BPSP Recommendations can be found in Appendix 7.



Downtown Newport waterfront boardwalk

3.2 Objectives

The objectives represent common themes in their grouped strategies and provide a framework for implementation. The objectives are listed below in no particular order of

importance. Nor are they listed according to each of the five specific goals because each may support one or more goals.

Objective 1 Fund, promote, and implement appropriate infrastructure which will encourage people to walk or bike

Objective 2 Utilize existing VTrans initiatives (e.g., NPS, LCQ, Corridor Plans, VPSP2, etc.) to further improve conditions for people walking and bicycling

Objective 3 Empower a broad range of VTrans staff to have the technical knowledge to regularly incorporate improvements for bicycling and walking into all VTrans activities

Objective 4 Educate external partners about the needs of people walking and bicycling so they can be integrated into planning, designing and maintaining facilities

Objective 5 Use a wide variety of methods to educate the public on the safety and needs of people walking and bicycling

Objective 6 Incorporate walking and bicycling considerations into the planning and design of transit facilities and vehicles

Objective 7 Develop new and increased collaborations with groups outside VTrans

Objective 8 Promote the health, economic, and environmental benefits of recreation and active transportation opportunities

Objective 9 Identify existing, or develop future, data sources to measure the prevalence, safety, and health of people walking and bicycling

Objective 10 Inform external partners and the general public of VTrans' efforts, opportunities, and limitations related to providing infrastructure for people walking and bicycling

3.3 Strategies

This section outlines the strategies for the BPSP. The strategies are organized by the 10 objectives. Each strategy includes the following information:

High Priority: VTrans has identified a select number of strategies as High Priority Strategies to be prioritized for implementation.

VTrans' Role: This item identifies how involved VTrans should be to progress the strategy. The categories include:

- **Primary:** VTrans takes the lead.
- **Joint:** VTrans works with another agency or organization.
- **Secondary:** VTrans provides support to another agency or organization as necessary.

Implementation: This item identifies the party responsible for implementing the strategy.

Timeframe: This item recommends a timeframe for strategy implementation. The categories include:

- **In Process:** Actions have been taken to begin implementing the strategy.
- **Short-Term:** To be completed within five years.

- **Medium-Term:** To be completed within five to ten years. Work on the strategy may begin sooner, but full implementation of the strategy may take time due to funding availability, complexities of scope, or other similar challenges.
- **Long-Term:** It is unlikely the strategy will be completed for at least ten years. Work on the strategy may begin sooner, but full implementation of the strategy may take increased time due to funding availability, complexities of scope, harmonization or other similar challenges which push this project out of the Medium-Term category.

Level of Effort: This item identifies the level of effort necessary to progress the strategy. The categories include:

- **Low:** The strategy can easily be incorporated into an existing program or process.
- **Medium:** The strategy will need moderate time and funding for implementation. It may need broad reach across VTrans or coordination with several external partners which requires additional effort.
- **High:** The strategy will need significant time and/or funding for implementation. For example, a consultant needs to be hired or a contract for services needs to be established.

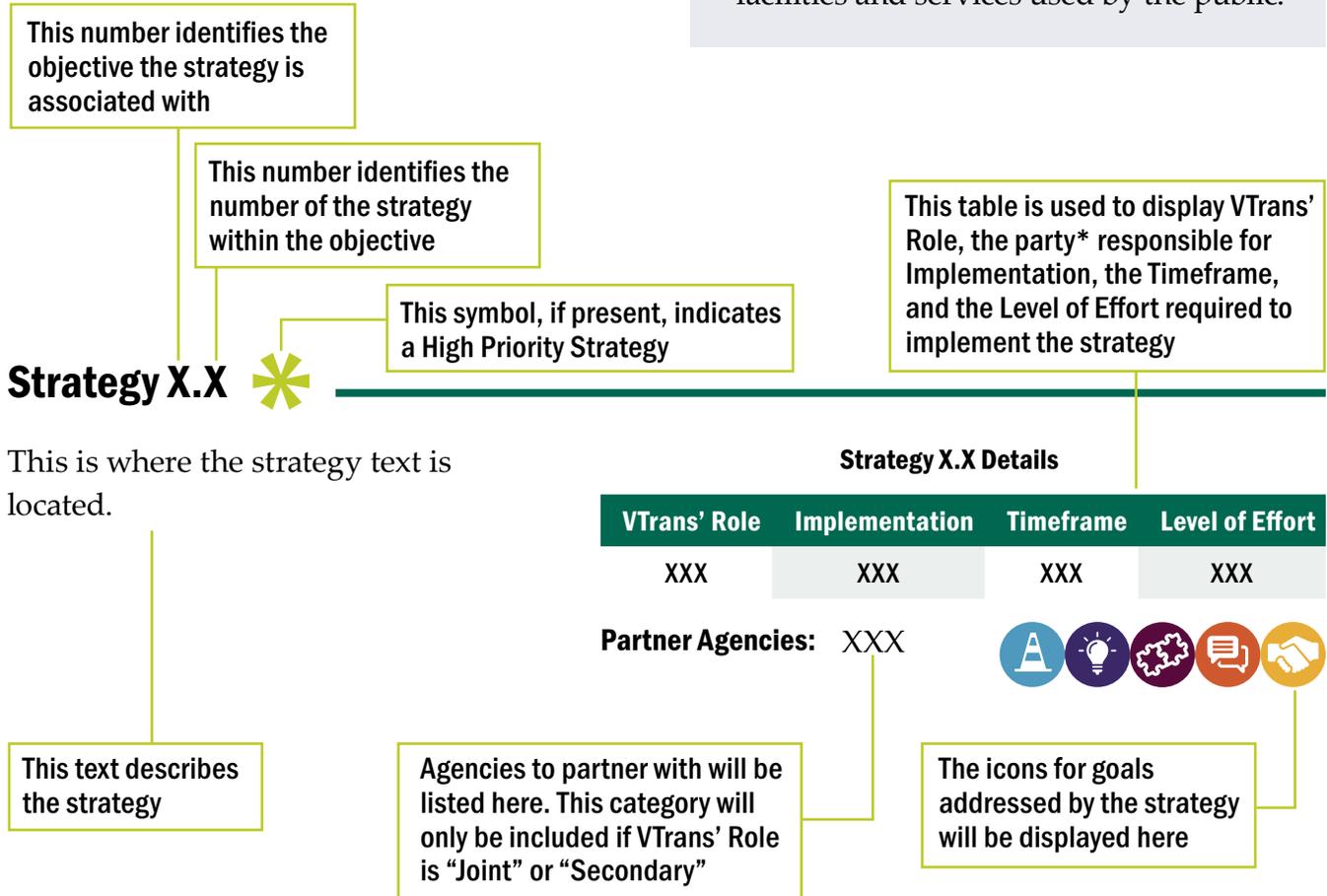
Goals Addressed: The goals addressed by each strategy will be identified by displaying the relevant goal icons. The goal icons include:

-  **Safety and Network Improvement**
-  **Education and Innovation**
-  **Inclusion and Integration**
-  **Communication and Collaboration**
-  **Effectiveness, Accountability, and Community Needs**

The graphic below provides an overview of how the information is displayed for each strategy on the following pages.

Strategies Related to ADA Accessibility

ADA accessibility is an important consideration when installing, maintaining and replacing pedestrian infrastructure across the state. ADA needs are also considered when planning for transit, rail, aviation and bicycling. The [2020 VTrans ADA Transition Plan](#) documents strategies as it relates to the above modes. The ADA Transition Plan includes specific prioritized work items for all VTrans facilities and services used by the public.



*Acronyms located in Glossary on page 8

Objective 1

Fund, promote, and implement appropriate infrastructure which will encourage people to walk or bike

Strategy 1.1

Review and update the Complete Streets Checklist* to ensure that it adequately supports consideration of walking and bicycling in the project planning and design stages

Strategy 1.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & PDB)	Short-Term	Medium



Action Items:

- Ensure that the use of the checklist is incorporated in the project development process via standard operating procedures, etc.
- Strengthen or expand the Checklist to embed it in the project development process

Strategy 1.2

Annually rerun the Bicycle Level of Comfort model (developed in Phase II of the On-Road Bicycle Plan) for the Vermont state road network as relevant datasets are updated for the purpose of tracking progress towards a more friendly road network for people on bicycles

Strategy 1.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & Mapping)	Short-Term	Medium



Strategy 1.3

Regularly monitor implementation of pedestrian improvements on VTrans facilities, for example progress towards making pedestrian signals fully accessible and installation of Rectangular Rapid Flashing Beacons (RRFBs)

Strategy 1.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & PDB)	Short-Term	Low



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

*See Appendix 2d for the Complete Streets Checklist

Strategy 1.4

Ensure maintenance of walking and bicycling facilities is addressed during the planning, design, and implementation phases of projects

Strategy 1.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (PDB, District & MA)	Medium-Term	Medium



Strategy 1.5

Evaluate how existing VTrans programs and grants can become more equitable, particularly as it relates to high-need and marginalized communities

Strategy 1.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC, MA & Planning)	Short-Term	Medium



Action Items:

- Reach out to Vermont and National organizations who have transportation equity as a focus to get input on how to do this (e.g., Old Spokes Home in Burlington)
- Integrate the state's Equity Impact Assessment tool into bicycling and pedestrian programs and grants

Strategy 1.6

Support implementation of the recommendations and strategies within the "Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy" Final Report (Sept 2013), particularly as relates to improving multi-modal coordination and integration

Strategy 1.6 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & PDB)	In Process	Medium



Action Items:

- Continue to support multimodal planning programs such as Better Connections
- Continue to support integration of the needs of people who walk and bicycle into VPSP2
- Pursue integration of the needs of people who walk and bicycle into the Vermont State Standards

Goal Icons

 Safety and Network Improvement

 Education and Innovation

 Inclusion and Integration

 Communication and Collaboration

 Effectiveness, Accountability, and Community Needs

Objective 2

Utilize existing VTrans initiatives (e.g., NPS, LCQ, Corridor Plans, VPSP2, etc.) to further improve conditions for people walking and bicycling

Strategy 2.1 *

Complete New Project Summaries (NPS) for all Highway projects to ensure Project Managers are aware of potential design considerations for people walking and bicycling

Strategy 2.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (AMB)	In Process	Low



Strategy 2.2 *

Continue to include an opportunity in the New Project Summaries and Local Concerns Questionnaires to discuss projects with Towns and RPCs; these discussions should include topics such as planned bicycling or walking networks, transit service, etc.

Strategy 2.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (AMB)	In Process	Low



Strategy 2.3 *

Continue to include the needs of people walking and bicycling in corridor management plans developed for state highways

Strategy 2.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Planning & AMB)	In Process	Low



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 2.4

Continue to utilize the VTrans Bicycle Corridor Priority Map to help define and prioritize Agency projects and activities; work to incorporate reference to the map in documented Agency work

Strategy 2.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (AMB, PDB & BPC)	In Process	Low



Strategy 2.5

Continue to utilize the VTrans ADA Transition Plan to help define and prioritize Agency projects and activities, particularly as relates to pedestrian accessibility

Strategy 2.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (AMB, PDB & BPC)	Short-Term	Low



Strategy 2.6

Ensure that project descriptions in VTrans data sets, especially in VPINS, include indication of what bicycling and walking improvements are included

Strategy 2.6 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Mapping & AMB)	Medium-Term	Medium



Action Items:

- Encourage VTrans Project Managers to include information about any improvements that will improve bicycle and pedestrian facilities within the VTransparency Project Factsheets

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 2.7

Continue to utilize the Local Concerns Questionnaires in bridge/culvert projects early in the project definition process to gather information about planned walking and bicycling networks and improvements; expand their usage to other highway modes, including paving, roadway, safety and traffic signals; continue to integrate Local Concerns Questionnaires into the NPS process as it expands

Strategy 2.7 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (PDB)	In Process	Low



Strategy 2.8

Integrate walking and bicycling consideration into future iterations of VTrans' Access Management Resources

Strategy 2.8 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Permitting)	Medium-Term	Medium



Strategy 2.9

Explore integrating VPSP2 (VTrans' Project Selection & Prioritization Process) criteria into VTrans grants that fund bicycle and pedestrian infrastructure such as the Bike/Ped program and the Transportation Alternatives program

Strategy 2.9 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (AMB, BPC & MA)	Medium-Term	Medium



Goal Icons

-  Safety and Network Improvement
-  Education and Innovation
-  Inclusion and Integration

-  Communication and Collaboration
-  Effectiveness, Accountability, and Community Needs

Objective 3

Empower a broad range of VTrans staff to have the technical knowledge to regularly incorporate improvements for bicycling and walking into all VTrans activities

Strategy 3.1

Conduct design workshops to educate VTrans engineers, designers, landscape architects, planners, maintenance staff, and project managers on best practices regarding the needs of people walking or bicycling

Strategy 3.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC, AMB, PDB & VTTC)	Short-Term	Medium



Action Items:

- Utilize national workshops and trainings where suitable for the Vermont context
- When workshops/ trainings are conducted by VTrans staff, create short knowledge exams for each training to test what people learned. (This concept is used in some federal trainings, such as those run by the National Highway Institute)

Strategy 3.2

Develop and promote educational materials related to the use of the Complete Streets Checklist for VTrans staff to ensure consideration of walking and bicycling during project development

Strategy 3.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & PDB)	Short-Term	Low



Strategy 3.3

Incorporate walking and bicycling considerations into Standard Operating Procedures or other written guidance used by VTrans for design, planning, maintenance, safety, work zones, etc.

Strategy 3.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC, PDB & OPPs)	Medium-Term	Medium



Goal Icons

-  Safety and Network Improvement
-  Education and Innovation
-  Inclusion and Integration

-  Communication and Collaboration
-  Effectiveness, Accountability, and Community Needs

Strategy 3.4

Create a document that outlines the most important aspects of the Bicycle and Pedestrian Program Manager’s work and identify external and internal partners for collaboration, and the context for such collaboration

Strategy 3.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC)	Short-Term	Low



Strategy 3.5

Develop a curriculum of Bicycle and Pedestrian trainings that can be offered through the State of Vermont Learning Management System, including trainings developed through Strategy 3.1 as well as national trainings that are appropriate to the Vermont context

Strategy 3.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC, PDB, VTTC & VLR)	Medium-Term	Medium



Action Items:

- Work with the VTrans Training Center to establish a curriculum and method to track trainings through the Learning Management System
- Work with Vermont Local Roads (VLR) to share this curriculum with RPCs and Town Staff through the Learning Management System already used by VLR

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Objective 4

Educate external partners about the needs of people walking and bicycle so they can be integrated into planning, designing and maintaining facilities

Strategy 4.1

Conduct workshops and provide technical assistance to RPCs, municipal staff and officials, consultants, and advocacy groups

Strategy 4.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & VLR)	Short-Term	Medium



Strategy 4.2

Develop and promote educational materials related to the topic of Complete Streets for RPCs, municipal staff and officials, consultants, and advocacy groups to ensure consideration of walking and bicycling during project development

Strategy 4.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & VLR)	Medium-Term	Medium



Strategy 4.3 *

Maintain the online portal where external partners and VTrans staff can easily access nationally recognized pedestrian and bicycle best practice guidelines and manuals (e.g., FHWA, AASHTO, NACTO etc.) as well as state-specific guidelines

Strategy 4.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC)	In Process	Low



Action Items:

- Continue to maintain the [Bicycle and Pedestrian Design Resources](#) webpage or equivalent

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 4.4

Continue to assist in the sponsorship and organization of the Vermont Walk-Bike Summit. This event is currently held bi-annually and organized by Regional Planning Commissions in collaboration with VTrans.

Strategy 4.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & Planning) & RPCs	In Process	Medium

Partner Agencies: RPCs



Adaptive reuse bridge in Highgate Falls

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Objective 5

Use a wide variety of methods to educate the public on the safety and needs of people walking and bicycling

Strategy 5.1

Develop a plan for safety education related to vulnerable users that identifies education efforts and prioritizes their implementation

Strategy 5.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC) & VHSA	Medium-Term	Medium

Action Items:

- Work with the DMV on the Driver's Education curriculum to be more inclusive of information about all modes sharing the road safely
- Work with the DMV to ensure that questions related to walking and bicycling and interacting with these modes as a driver are part of every test
- Collaborate with AARP to provide education to their constituents on safe walking, bicycling and driving

Partner Agencies: VHSA



Strategy 5.2

Leverage new technology platforms (e.g., all social media platforms, YouTube ads, podcasts, etc.) to distribute safety messaging regarding vulnerable users; collaborate with the stakeholders of the Vermont Highway Safety Alliance (VHSA) to leverage earned media

Strategy 5.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & Outreach) & VHSA	Short-Term	Low

Partner Agencies: VHSA



Action Items:

- PSA creation contest and encourage sharing via social media

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 5.3

Continue support for the Safe Routes to School Program, including collaboration with school districts to educate and engage with school-age children and their parents to promote safe practices for vulnerable users

Strategy 5.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & Planning), RPCs & Local Motion	In Process	Low

Partner Agencies: RPCs, Local Motion



Strategy 5.4

Monitor changes in use of micromobility (e.g., e-bikes, e-scooters, automated vehicles) and incorporate safety education to address known issues

Strategy 5.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC) & VHSA	Medium-Term	Medium

Partner Agencies: VHSA



Strategy 5.5

Coordinate with the Department of Health to promote walking and bicycling as a means to meet physical activity and mental health goals, improving quality of life for Vermont residents

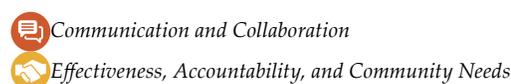
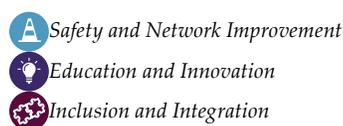
Strategy 5.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC) & VT Dept. of Health	Short-Term	Low

Partner Agencies: VT Dept. of Health



Goal Icons



Objective 6

Incorporate walking and bicycling considerations into the planning and design of transit facilities and vehicles

Strategy 6.1

Participate in the development of a guidance document to facilitate multimodal travel. Sections of the document may include: information about amenities to include around transit locations (e.g., benches, bicycle racks, etc.), transit stop siting guidance to accommodate the first/last mile for those walking and bicycling, and other factors that contribute to multimodal connectivity

Strategy 6.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC, Planning & Public Transit) & Transit Providers	Medium-Term	Medium

Partner Agencies: Transit Providers



Strategy 6.2

Work with VTrans Transit section to develop a transit stop checklist and evaluation process to assess connectivity for those walking and bicycling

Strategy 6.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & Public Transit) & Transit Providers	Short-Term	Low

Partner Agencies: Transit Providers



Strategy 6.3

Encourage and fund the installation of bicycle racks on buses

Strategy 6.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (Public Transit) & Transit Providers	In Process	Low

Partner Agencies: Transit Providers



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Objective 7

Develop new and increased collaborations with groups outside VTrans

Strategy 7.1

Continue to build on the foundation of coordination and collaboration with RPC planners through the Transportation Planning Initiative (TPI)

Strategy 7.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Planning & BPC)	In Process	Low



Strategy 7.2

Collaborate with RPCs/MPO/Municipalities to identify a formal process to share and discuss upcoming local project plans along Class 1 Town highways or that span multiple jurisdictions to develop projects that reflect best practices and community desires

Strategy 7.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC, PDB & Planning) & RPCs	Medium-Term	Medium

Partner Agencies: RPCs



Strategy 7.3

Collaborate with transit agencies to include location and use information on walking and bicycling facilities (e.g., paths bike lanes, etc.) and amenities (e.g., benches, bike racks, etc.) in future mobile applications (e.g., bus tracking app) to encourage multimodal transportation options and transit connectivity

Strategy 7.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Public Transit)	Medium-Term	Medium



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 7.4

Continue to collaborate with groups (e.g., ACCD, VDH, AARP) outside VTrans to ensure infrastructure for those walking and bicycling are considered in existing and future programs at the local level (e.g., Municipal Planning Grants, Downtown Transportation Fund, Community Challenge Grants, Placemaking Demonstration Grants, and VDH’s Healthy Community Design efforts)

Strategy 7.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (Planning)	Short-Term	Low

Partner Agencies: ACCD, VDH, AARP



Strategy 7.5

Continue to work with municipalities to improve bicycling and walking conditions on town highways and private roads through a variety of methods including, but not limited to, zoning, subdivision regulations, municipal planning, design and construction practices, and town plans

Strategy 7.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & VLR) & RPCs	Medium-Term	Medium

Partner Agencies: RPCs, ACCD



Strategy 7.6

Establish a regular stakeholder group coordination meeting that builds upon the coordination and collaboration between the Stakeholders of the VTrans Bicycle and Pedestrian Strategic Plan

Strategy 7.6 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & Planning)	Short-Term	Low

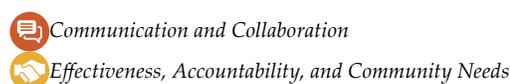
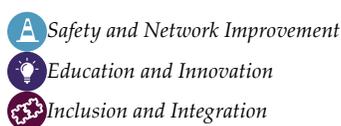
Partner Agencies: RPCs, Local Motion, ACCD, VDH, AARP, others



Action Items:

- Establish regular bicycle and pedestrian stakeholder meetings either quarterly or bi-annually

Goal Icons



Objective 8

Promote the health, economic, and environmental benefits of recreation and active transportation opportunities

Strategy 8.1

Update the 2012 Economic Impact Study of Bicycling and Walking in Vermont

Strategy 8.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC)	Medium-Term	High



Strategy 8.2

Collaborate with advocacy groups, businesses, and the Vermont Department of Forests, Parks and Recreation to develop programs which promote bicycle tourism (e.g., bike routes, Farm to Fork bicycle trips)

Strategy 8.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Secondary	VT Dept. of Tourism	Medium-Term	Medium

Partner Agencies: VT Dept. of Tourism and Marketing



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 8.3

Continue to include walking and bicycling as contributing activities that support environmental policies and initiatives including, but not limited to, the Vermont Comprehensive Energy Plan, the forthcoming Vermont Climate Action Plan required by the Global Warming Solutions Act (Act 153, 2020), VTrans corridor plans, regional and municipal plans, state and local land use permits, Vermont Department of Health active transportation plans, and other carbon emission reductions and climate change initiatives

Strategy 8.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (Planning & Environmental Policy) & RPCs	In Process	Low

Partner Agencies: RPCs, VT Dept of Public Service, VT Agency of Natural Resources



Bike trailer

(Source: Local Motion)

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Objective 9

Identify existing, or develop future, data sources to measure the prevalence, safety, and health of people walking and bicycling

Strategy 9.1

Identify and publicize data from surveys conducted regionally and statewide (e.g., CATMA survey) that measure the prevalence and travel behaviors of those walking and bicycling in Vermont

Strategy 9.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Secondary	VTrans (BPC), UVM, CATMA, & VT Dept. of Health	Medium-Term	Medium

Partner Agencies: UVM, CATMA, VT Dept. of Health



Strategy 9.2

Continue to collaborate with the VTrans Office of Highway Safety to review and discuss possible modifications to the crash reporting system as micromobility evolves

Strategy 9.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (Safety) & VHSA	Medium-Term	Medium

Partner Agencies: VHSA



Strategy 9.3

Continue to collaborate with external partners (e.g., RPCs) to maintain count programs that capture bicycling and walking activity across the state

Strategy 9.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC) & RPCs	In Process	Medium

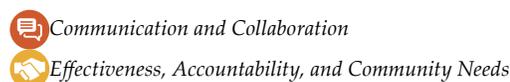
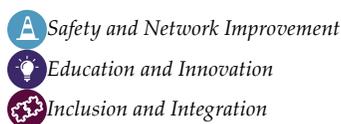
Partner Agencies: RPCs



Action Items:

- Continue to include bicycle and pedestrian counts as a task with the TPI Annual Guidance

Goal Icons



Strategy 9.4

Coordinate with the Operations and Safety Bureau to transition the non-motorized count program to become their responsibility (i.e., conduct VTrans counts, organize and publish data, and work with RPCs)

Strategy 9.4 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & Data Management)	Medium-Term	Medium



Strategy 9.5

Where possible, incorporate counting features to collect data on levels of those walking and bicycling into intersections, permanent traffic counters, and other traffic monitoring installations

Strategy 9.5 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC & PDB) & Municipalities	Medium-Term	Medium

Partner Agencies: Municipalities



Strategy 9.6

Develop a process to share transportation-related data (e.g., GIS data, count data, project data, etc.) between groups (state agencies and external organizations) to help inform planning, design, and prioritization of infrastructure which will encourage people to walk and bike

Strategy 9.6 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & Mapping)	Medium-Term	High



Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Strategy 9.7

Identify bicycle and pedestrian research topics from the BPSP strategies that may benefit from additional study or can be adopted from recent literature

Strategy 9.7 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC & Research)	Short-Term	Medium

Action Items:

- Encourage Municipal Assistance and other Project Delivery Staff to become champions for bicycle and pedestrian research projects
- Implement results of Bicycle and Pedestrian research and innovations conducted outside Vermont
- Develop research problem statements for funding through the VTrans Research Program, New England Transportation Consortium, and the National Cooperative Highway Research Program



Bike rack in Barre

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

Objective 10

Inform external partners and the general public of VTrans' efforts, opportunities, and limitations related to providing infrastructure for people walking and bicycling

Strategy 10.1

Develop and distribute materials which highlight successful collaboration efforts with municipalities to promote the collaboration process with other municipalities

Strategy 10.1 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Joint	VTrans (BPC) & RPCs	Short-Term	Low

Partner Agencies: RPCs



Strategy 10.2

Develop materials which outline the project development process (planning, design, implementation, and maintenance) for municipalities and the general public to inform them of VTrans' efforts, opportunities, and limitations

Strategy 10.2 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC)	Short-Term	Medium



Goal Icons

-  Safety and Network Improvement
-  Education and Innovation
-  Inclusion and Integration

-  Communication and Collaboration
-  Effectiveness, Accountability, and Community Needs

Strategy 10.3

Continue to inform the public of maintenance and construction activities related to infrastructure for people walking and bicycling and improve communication on completed and upcoming maintenance and construction activities

Strategy 10.3 Details

VTrans' Role	Implementation	Timeframe	Level of Effort
Primary	VTrans (BPC, Outreach & Districts) & RPCs	Short-Term	Low

Partner Agencies: RPCs



Action Items:

- Continue to promote use of VTransparency maps and information
- Create dashboard to share performance indicators with external partners and the general public
- Building off the successes mentioned within this BPSP, develop an outreach strategy to share these successes with external partners and the general public. Methods to consider include social media posts, newsletter posts, hosting webinars, presentations at the Vermont Walk-Bike Summit, etc.



Downtown Barre

Goal Icons

- Safety and Network Improvement
- Education and Innovation
- Inclusion and Integration

- Communication and Collaboration
- Effectiveness, Accountability, and Community Needs

High Priority Strategies

The following 9 strategies have been identified as a high priority*:

Strategy 1.2: Annually rerun the Bicycle Level of Comfort model (developed in Phase II of the On-Road Bicycle Plan) for the Vermont state road network as relevant datasets are updated for the purpose of tracking progress towards a more friendly road network for people on bicycles

- **VTrans' Role:** Primary
- **Implementation:** VTrans BPC & Mapping
- **Timeframe:** Short-Term
- **Level of Effort:** Medium

Strategy 1.5: Evaluate how existing VTrans programs and grants can become more equitable, particularly as it relates to high-need and marginalized communities

- **VTrans' Role:** Primary
- **Implementation:** VTrans BPC, MA & Planning
- **Timeframe:** Short-Term
- **Level of Effort:** Medium

Strategy 2.1: Complete New Project Summaries (NPS) for all Highway projects to ensure Project Managers are aware of potential design considerations for people walking and bicycling

- **VTrans' Role:** Primary
- **Implementation:** VTrans AMB
- **Timeframe:** In Process
- **Level of Effort:** Low

Strategy 2.2: Continue to include an opportunity in the New Project Summaries and Local Concerns Questionnaires to discuss projects with Towns and RPCs; these discussions should include topics such as planned bicycling or walking networks, transit service, etc.

- **VTrans' Role:** Primary
- **Implementation:** VTrans AMB
- **Timeframe:** In Process
- **Level of Effort:** Low

Strategy 2.3: Continue to include the needs of people walking and bicycling in corridor management plans developed for state highways

- **VTrans' Role:** Primary
- **Implementation:** VTrans Planning & AMB
- **Timeframe:** In Process
- **Level of Effort:** Low

Strategy 2.7: Continue to utilize the Local Concerns Questionnaires in bridge/culvert projects early in the project definition process to gather information about planned walking and bicycling networks and improvements; expand their usage to other highway modes, including paving, roadway, safety and traffic signals; continue to integrate Local Concerns Questionnaires into the NPS process as it expands

- **VTrans' Role:** Primary
- **Implementation:** VTrans PDB
- **Timeframe:** In Process
- **Level of Effort:** Low

Strategy 3.1: Conduct design workshops to educate VTrans engineers, designers, landscape architects, planners, maintenance staff, and project managers on best practices regarding the needs of people walking or bicycling

- **VTrans' Role:** Primary
- **Implementation:** VTrans BPC, AMB, PDB & VTTC
- **Timeframe:** Short-Term
- **Level of Effort:** Medium

Strategy 4.3: Maintain the online portal where external partners and VTrans staff can easily access nationally recognized pedestrian and bicycle best practice guidelines and manuals (e.g., FHWA, AASHTO, NACTO etc.) as well as state-specific guidelines

- **VTrans' Role:** Primary
- **Implementation:** VTrans BPC
- **Timeframe:** In Process
- **Level of Effort:** Low

Strategy 10.1: Develop and distribute materials which highlight successful collaboration efforts with municipalities to promote the collaboration process with other municipalities

- **VTrans' Role:** Joint (Collaborate with RPCs)
- **Implementation:** VTrans (BPC), & RPCs
- **Timeframe:** Short-Term
- **Level of Effort:** Low

3.4 Performance Indicators

The following performance indicators were developed to track progress of BPSP implementation. The indicators were selected based on data availability and tracking capabilities. The following performance “indicators” do not give the details about a target that would make them a performance “measure”. Many of the indicators have not been collated and tracked in the past. Setting a target for achievement was not feasible. It is hoped that as indicator tracking progresses targets can be set for some, if not all, of these indicators. This should be possible within a 5 year period.

It is planned for the performance indicators to be publicly available, likely through an online dashboard.

Infrastructure and Maintenance

1. For high priority bicycle corridors, increase the percentage of roadway miles that are in either Bicycle Level of Comfort (BLOC) Categories 2 or 3
2. For high priority bicycle corridors, decrease the percentage of roadway miles that are in BLOC Category 4
3. For high priority bicycle corridors, increase the percentage of roadway miles that have shoulder widths of four feet or more on both sides of the road
4. For high priority bicycle corridors, increase the percentage of roadway miles that have bicycle lanes on both sides of the road

Bicycle Level of Comfort and Priority Bicycle Corridors

As part of the On-Road Bicycle Plan (Phases 1 and 2), two maps were created to categorize state highways. They can be found online at <https://vtrans.vermont.gov/planning/bikeplan>

The Bicycle Priority Map was finalized in March 2016 and is being integrated into decision making for VTrans activities.

The Bicycle Level of Comfort (BLOC) methodology and map were developed and refined in 2017 to assess how a bicyclist may experience state highways. This analysis can be rerun on an annual basis to show progress as VTrans works on roads to improve conditions in ways that benefit bicyclists such as increasing shoulder widths and adding bicycle lanes. The following are the four BLOC categories:

- 1 - Welcoming to most bicyclists.
- 2 - Comfortable for most adult bicyclists.
- 3 - Comfortable for experienced and confident bicyclists.
- 4 - Uncomfortable for most bicyclists.

5. Sweep all high priority bicycle corridors by May 31st each year
 - Long-term: Sweep all high priority bicycle corridors and curbed areas by May 31st each year
6. Sweep all state highways by June 30th each year
7. Increase the number of bicycle parking spaces at State Park and Ride lots
8. Increase the number of VTrans signals inventoried for pedestrian accessibility (see the ADA Transition Plan for additional details)
 - Long-term: Increase the number of pedestrian signals that are fully accessible (see the ADA Transition Plan for additional details)

Pedestrian and Bicyclist Activity

9. Commute mode share for walking or biking (National Household Travel Survey or American Community Survey)
10. Number of pedestrian and bicyclist counts entered into the UVM database annually

Safety

11. Number of bicyclist-involved major crashes, as defined in the SHSP five-year rolling averages
12. Number of pedestrian-involved major crashes, as defined in the SHSP five-year rolling averages

Education

13. Long term: Increase the number of people who have taken one or more trainings that are part of the envisioned Vermont Bicycle and Pedestrian Curriculum

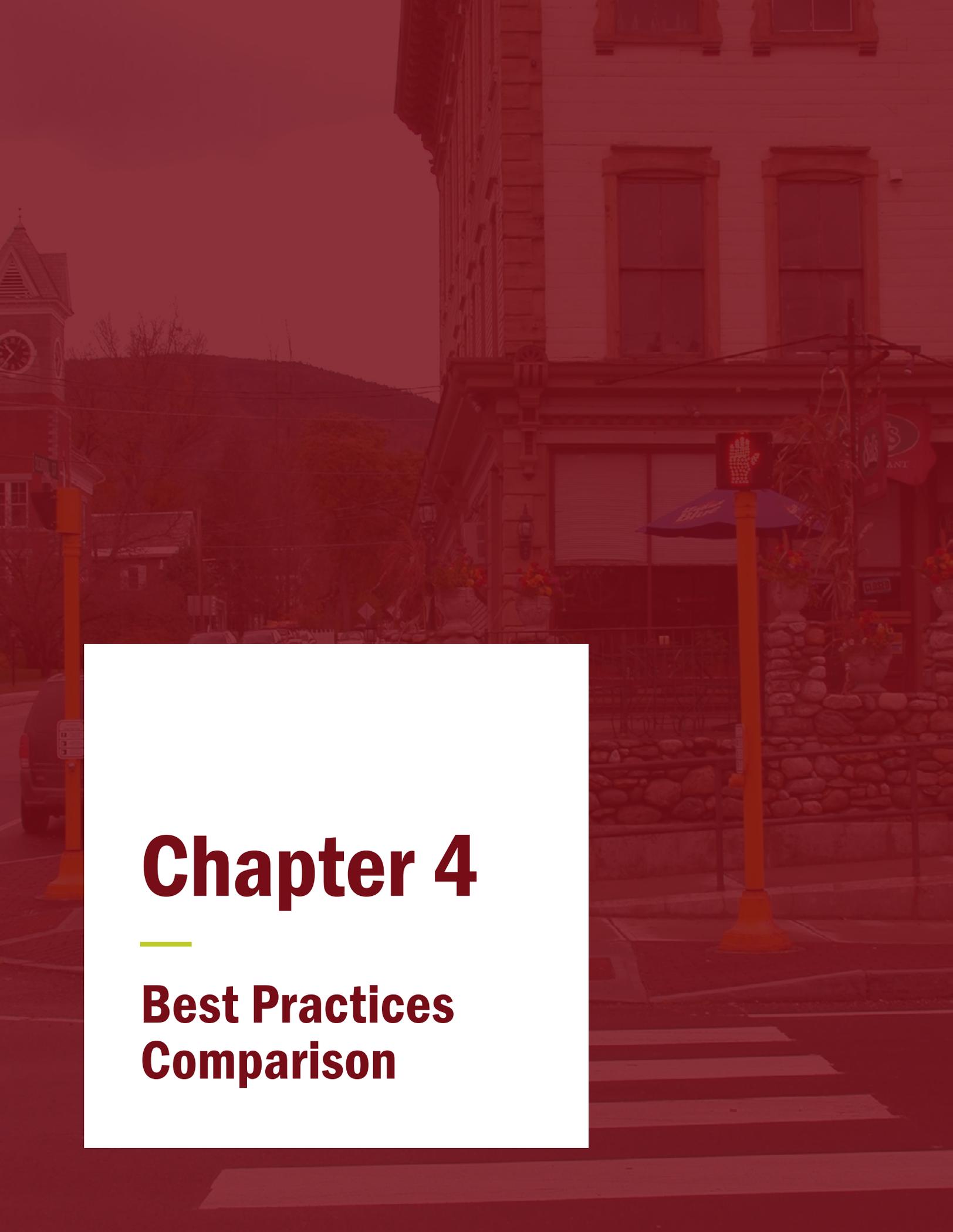
Transit Connectivity

14. Increase the number of transit stops inventoried for bicycle parking and sidewalk facilities
 - Long-term: Increase number of transit stops with sidewalk access
 - Long-term: Increase number of transit stops with bike parking
15. Increase percentage of buses with bicycle racks

***VTrans should report out on these indicators annually to track progress and adjust actions as necessary to further progress the strategies identified in this document**

Additional Performance Indicators

The Vermont Department of Health also tracks several indicators and measures which have overlapping relevance with the work of this plan. The [“Physical Activity, Nutrition and Weight Scorecard”](#) includes measures related to physical activity. The [VTrans Strategic Highway Safety Plan](#) also includes performance indicators for Critical Emphasis Areas.



Chapter 4

Best Practices Comparison

4.1 Introduction

The Best Practices Comparison chapter summarizes responses and input from those working to improve walking and bicycling conditions within other state transportation agencies. The communication and implementation strategies shown to be successful for other state transportation agencies were used to inform the recommended strategies for the BPSP, as appropriate.

Agency staff in other states, often in positions similar to VTrans' Bicycle and Pedestrian Program Manager, were contacted to request their participation and expertise. Those contacted were in no way obligated to participate, but any feedback received was greatly appreciated. Those contacted were informed of the intent of the BPSP, the type of information to be gathered, and how their knowledge will help further the goals of the BPSP.



Bike lane and sidewalk in West Brattleboro

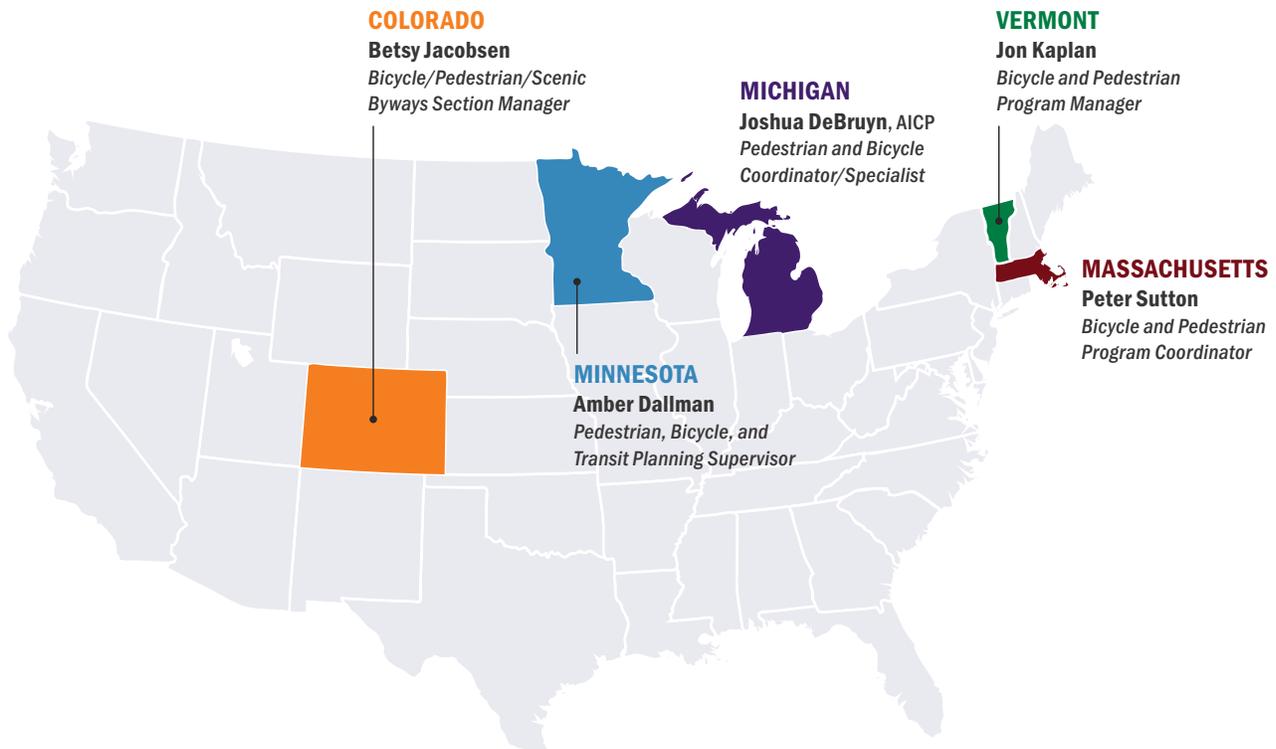
4.2 Transportation Agencies Interviewed

The consultant team worked with the VTrans BPSF Project Managers and the Core Management Group (CMG) to identify other state transportation agencies which have good practices to integrate the needs of people walking and bicycling into their activities. Knowing what these agencies do to support active transportation modes can help VTrans identify future organizational improvements to implement internally in order to better accommodate people walking and bicycling. The states and their associated employees working to improve conditions for these users interviewed as part of this effort can be found in the graphic below.

These states were selected for a combination of their successful programs, four-season weather conditions, and rural regions

similar to Vermont. A fifth state, Delaware was identified due its similar scale and population to Vermont, but agency staff did not respond to the survey request. The responses received provided support for potential recommendations in Vermont in conjunction with input from VTrans and other stakeholders.

In addition to the feedback from the four state transportation agencies, Jon Kaplan, the current Bicycle and Pedestrian Program Manager at VTrans, was interviewed to provide a baseline of VTrans' current operations with regards to the questions. This helped compare current VTrans efforts to those of other states which may currently be doing more than Vermont to accommodate people who choose to walk or bike.





Cross Vermont Trail in Montpelier

4.3 Questions Asked

Based on feedback from the VTrans BPSP Project Managers and the Core Management Group (CMG), the following questions were asked to gather information on how other

state transportation agencies incorporate pedestrian and bicycle needs into projects, programs, and policies.

1. How does the transportation agency ensure the needs of pedestrians and bicyclists are incorporated in agency projects/programs/policies?
2. What are the intra-agency communications like? What kind of tools are used to communicate? How often do different departments communicate?
3. Where (positions, departments, etc.) do responsibilities lie for pedestrian and bicycle project/programming/policy implementation?
4. Who (position, department, etc.) does what (action steps) to get pedestrian and bicycle projects/programs/policies implemented?
5. What documentation exists to ensure that pedestrian and bicycle needs are considered?
6. How do your departments get the proper people to take ownership of pedestrian and bicycle priorities and move these priorities forward? How does the agency motivate people when they push back against pedestrian and bicycle accommodations?
7. How do all the departments work together?
8. How is success of pedestrian and bicycle projects/programs/policy implementation measured and followed up on?
9. Where are pedestrian and bicycle planning and design resources and requirements located and referred to so that all transportation agency employees know about them?
10. Any other comments or advice the interviewee may have to contribute.

4.4 Highlights of Responses

This section identifies highlights of the responses from each state transportation agency representative by question. The responses listed in this section are considered

to be vital information for the BPSF and are adapted from interview notes and email responses. A full summary of responses can be found in Appendix 2a.

Table 2: Question 1 Highlights

Question 1: How does the transportation agency ensure the needs of pedestrians and bikes are incorporated in other agency projects/programs/policies?	
Vermont	<ul style="list-style-type: none"> • There is no formal structure to ensure these needs are met • Must have good working relationship with Structures • Paving projects regularly include the VTrans Bicycle and Pedestrian Program Manager • A main goal is to formalize inclusion of these needs • Designers should refer to Complete Streets Guidance • Traffic Impact Studies include pedestrian and bicycle considerations
Colorado	<ul style="list-style-type: none"> • Policy 1602- Elevating Bicycle and Pedestrian Opportunities in Colorado • Procedural Directive – identify parties responsible for implementation of pedestrian and bicycle facilities
Massachusetts	<ul style="list-style-type: none"> • MassDOT’s Healthy Transportation Policy – an engineering directive to formalize the commitment to all modes • Design Criteria for MassDOT Highway Division Projects – includes design criteria for pedestrian and bicycle facilities
Michigan	<ul style="list-style-type: none"> • Complete Streets Policy – enhance multi-modal considerations • Context Sensitive Solutions Policy – an effort to better identify community needs • Multi-Modal Development and Delivery – an effort to update programs, policies, and guidelines
Minnesota	<ul style="list-style-type: none"> • There are scoping field walks to integrate needs early on • SRTS programs • Transportation Alternatives Solicitations based on community needs

Table 3: Question 2 Highlights

Question 2: What are the intra-agency communications like? What kind of tools are used to communicate? How often do different departments communicate?	
Vermont	<ul style="list-style-type: none"> • Good communication practices • Good working relationships
Colorado	<ul style="list-style-type: none"> • Meetings on an as-needed basis • Email is the primary communication tool, in addition to phone calls, in person meetings, webinars, etc
Massachusetts	<ul style="list-style-type: none"> • Weekly meetings are held between various division leaders • Training sessions
Michigan	<ul style="list-style-type: none"> • 3 weekly agency supported newsletters • Alignment teams communicate on an as-needed basis • Communication tools include Sharepoint, Projectwise, and email
Minnesota	<ul style="list-style-type: none"> • Good working relationships • Communication tools include meetings, phone calls, emails, and Sharepoint • Good collaboration and engagement practices

Table 4: Question 3 Highlights

Question 3: Where (positions, departments, etc.) do responsibilities lie for pedestrian and bicycle project/programming/policy implementation?	
Vermont	<ul style="list-style-type: none"> • Project managers
Colorado	<ul style="list-style-type: none"> • All CDOT employees • Multi-Modal Planning Branch employees are the subject matter experts
Massachusetts	<ul style="list-style-type: none"> • Secretary's Office employees
Michigan	<ul style="list-style-type: none"> • A Multi-Bureau Responsibility • Regional staff specific to pedestrian and bicycle needs
Minnesota	<ul style="list-style-type: none"> • Office of Transit and Active Transportation employees

Table 5: Question 4 Highlights

Question 4: Who (position, department, etc.) does what (action steps) to get pedestrian and bicycle projects/programs/policies implemented?	
Vermont	<ul style="list-style-type: none"> • The Bicycle and Pedestrian Program Manager is typically involved as well as other VTrans project managers
Colorado	<ul style="list-style-type: none"> • Early action and inclusion of these needs are the keys to success • The Procedural Directive provides specific responsibilities
Massachusetts	<ul style="list-style-type: none"> • Director of Sustainable Mobility
Michigan	<ul style="list-style-type: none"> • There are multiple responsible parties, but it often involves the support of the Pedestrian and Bicycle Coordinator
Minnesota	<ul style="list-style-type: none"> • Important to meet with appropriate groups • Support from senior leadership is key for success

Table 6: Question 5 Highlights

Question 5: What documentation exists to ensure that pedestrian and bicycle needs are considered?	
Vermont	<ul style="list-style-type: none"> • Complete Streets Policy and Checklist • Grant applications' guidelines • On-Road Bicycle Plan: Phase I priority map
Colorado	<ul style="list-style-type: none"> • Policy 1602 and the related Procedural Directives
Massachusetts	<ul style="list-style-type: none"> • 2019 Statewide Pedestrian Plan and Resource Guide • 2019 Statewide Bicycle Plan and Resource Guide • Separated Bike Lane Planning & Design Guide • Project Development & Design Guide
Michigan	<ul style="list-style-type: none"> • Multi-Modal Development and Delivery – an effort to update programs, policies, and guidelines
Minnesota	<ul style="list-style-type: none"> • Complete Streets Policy • Complete Streets Project Reports

Table 7: Question 6 Highlights

Question 6: How do your departments get the proper people to take ownership of pedestrian and bicycle priorities and move these priorities forward? How does the agency motivate people when they push back against pedestrian and bicycle accommodations?	
Vermont	<ul style="list-style-type: none"> • Support from project managers
Colorado	<ul style="list-style-type: none"> • Identify multiple benefit opportunities • Flexibility and open-mindedness from employees results in improved pedestrian/bicyclist conditions
Massachusetts	<ul style="list-style-type: none"> • MassDOT's Healthy Transportation Policy
Michigan	<ul style="list-style-type: none"> • Support from senior leadership • Flexibility and open-mindedness from employees results in improved pedestrian/bicyclist conditions • Embracing good judgment
Minnesota	<ul style="list-style-type: none"> • Support from senior leadership • Flexibility and open-mindedness from employees results in improved pedestrian/bicyclist conditions

Table 8: Question 7 Highlights

Question 7: How do all the departments work together?	
Vermont	<ul style="list-style-type: none"> • There are good working relationships and collaboration and there is an online shared review process
Colorado	<ul style="list-style-type: none"> • Departments make an effort to get involved • There have been invitations from other divisions to collaborate
Massachusetts	<ul style="list-style-type: none"> • Regularly scheduled internal meetings • Bicycle and Pedestrian Advisory Board meetings
Michigan	<ul style="list-style-type: none"> • There are good working relationships and collaboration with various groups • Highway Staff recognize the need for expertise in this area
Minnesota	<ul style="list-style-type: none"> • There are good working relationships and collaboration with various groups

Table 9: Question 8 Highlights

Question 8: How is success of pedestrian and bicycle project/program/policy implementation measured and followed up on?	
Vermont	<ul style="list-style-type: none"> • Improvements are needed in this area • Grant program information identifies improvements made • Maintenance is not currently tracked, but could feasibly be tracked
Colorado	<ul style="list-style-type: none"> • Non-motorized counts and Strava data are used to inform future improvements • Beginning to use before/after use data • BMI levels are no longer used
Massachusetts	<ul style="list-style-type: none"> • MassDOT identifies performance measures • Equity
Michigan	<ul style="list-style-type: none"> • There are no performance measures at this time • Non-implementation of pedestrian and bicycle facilities is tracked by MDOT
Minnesota	<ul style="list-style-type: none"> • Performance measures group defines some pedestrian- and bicycle-related performance measures

Table 10: Question 9 Highlights

Question 9: Where are pedestrian and bicycle planning and design resources and requirements located and referred to so that all transportation agency employees know about them?	
Vermont	<ul style="list-style-type: none"> • They are spread across multiple platforms
Colorado	<ul style="list-style-type: none"> • CDOT Website • Trainings
Massachusetts	<ul style="list-style-type: none"> • Bicycle and pedestrian transportation site on Mass.gov
Michigan	<ul style="list-style-type: none"> • Internal wiki-style pages • GovDelivery style email listservs
Minnesota	<ul style="list-style-type: none"> • Agency adoption and distributed via email

Other Input or Advice

Interviewees were given the opportunity to provide any additional input or advice for the VTrans BPSP Project Managers.

Colorado:

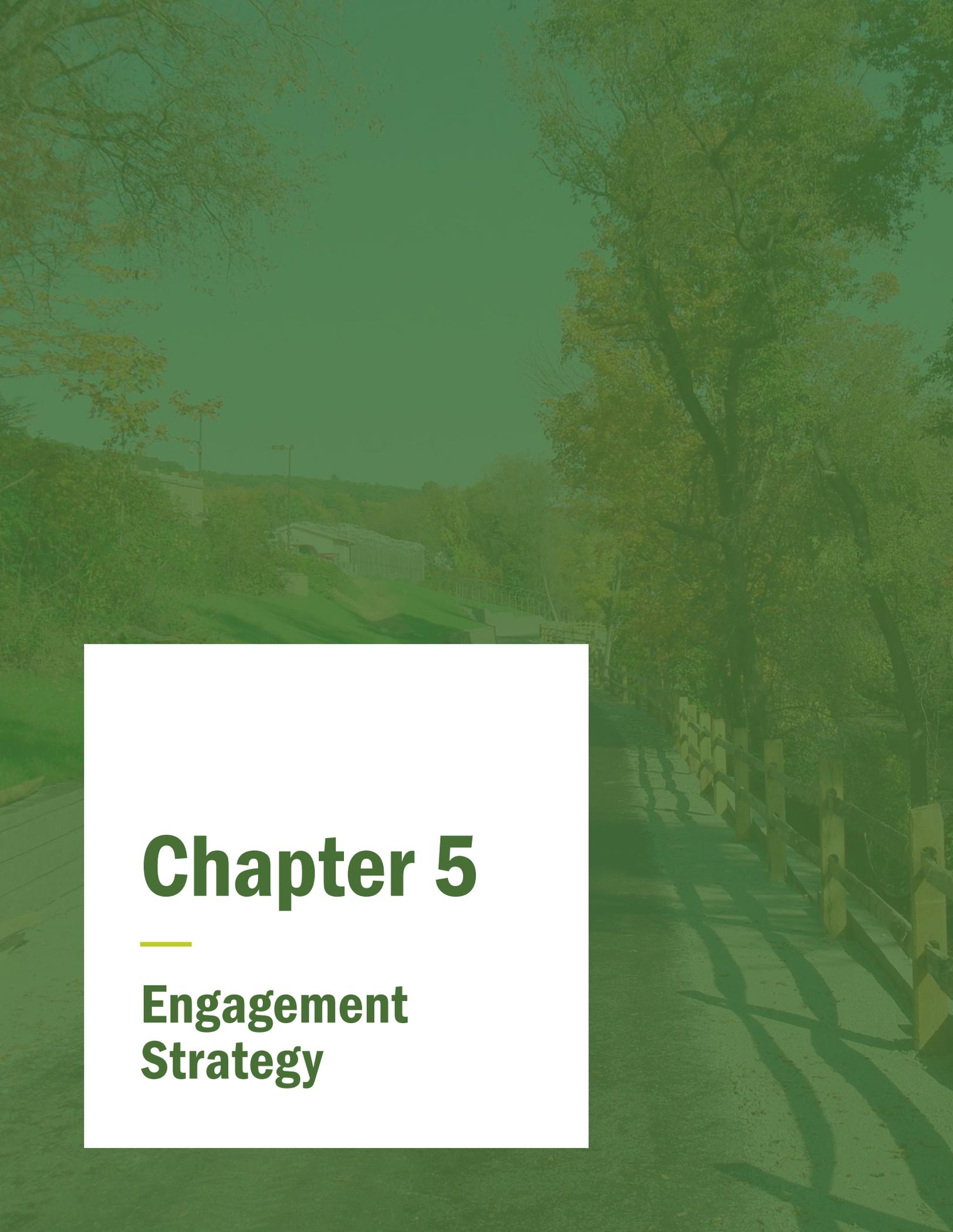
- Implementation needs financial and executive support
- Mindset shift is necessary for change
- Agency staff intentionally avoided using the term “Complete Streets” in Policy 1602 to avoid “scaring” people

Minnesota:

- Interviewees recommend separating pedestrian and bicycle efforts



Students walk to school in Winooski



Chapter 5

Engagement Strategy

5.1 Introduction

In support of the BPSP, stakeholder outreach and engagement was a central effort. This Engagement Strategy outlines the framework for a range of engagement activities and groups involved in the process.

The Engagement Strategy identifies stakeholders and their respective role, presents the goals for engagement, and describes the engagement strategies used throughout this planning effort.

A full report on the BPSP Engagement Strategy can be found in Appendix 3.



*Green Streets Challenge Bike Event in Rutland
(Source: Local Motion)*

5.2 Engagement Groups

The target audience for the Engagement Strategy was divided into the Core Management Group, Stakeholder Group, and Focus Groups.

Core Management Group (CMG)

The Core Management Group (CMG) served as an internal steering committee. It was led by the VTrans Project Managers and included additional VTrans representatives. The CMG reviewed and provided feedback on major deliverables and also met four times in-person or via webinar/conference call throughout the project timeline. The CMG was included in additional discussions outside the scheduled meetings as necessary to provide insight and perspective throughout development of the BPSF.

Stakeholder Group

The Stakeholder Group included individuals who have the expertise and interest in coordination of pedestrian and bicycle needs in future projects, programs, and policies. The Stakeholder Group is comprised of individuals from other state agencies, Regional Planning Commissions (RPCs), local municipalities, advocacy groups, non-profits, and businesses. These participants met three times via webinar or conference calls to learn about the project progress and provide feedback on the information presented. Members of the CMG were encouraged to attend and participate in the Stakeholder Group meetings.



The CMG met in September, 2019 to kickoff the project

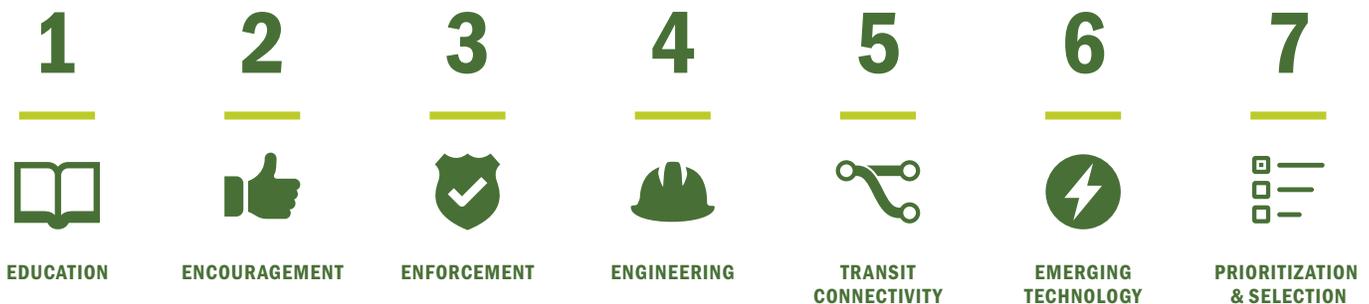
RPCs / TPI

The consultant team attended one Transportation Planning Initiative (TPI) meeting with VTrans and representatives from each of the State's Regional Planning Commissions (RPCs). The meeting was used to help identify opportunities for future partnerships and collaborations between VTrans and the RPCs, to discuss emerging technologies, to evaluate how well VTrans bicycle and pedestrian policies are integrated at the regional level, to review the bicycle and pedestrian grant program, and to talk about constraints faced by RPCs related to implementation (i.e. maintenance, costs, etc.).

Focus Groups*

Many members of the CMG and the Stakeholder Group, as well as other identified individuals as appropriate, were grouped into seven Focus Groups to provide insight into specific topics. There were individuals who participated in more than one Focus Group, depending on their expertise. Each Focus Group met via webinar or conference call for 90 minutes in March, 2020. Each group included six to eight participants.

The goal of each conversation was to identify how VTrans advances a particular topic throughout the state or engages on a particular topic with stakeholders. Success stories and opportunities for new ideas were identified during the meetings. Each group was focused around a particular theme, identified as a key aspect to successful planning for people who walk and bike. The seven focus groups themes are listed in the graphic below and described in the narrative in Chapter 4.



*See Comprehensive Evaluation in Chapter 6 for additional information about the Focus Groups

5.3 Goals for Engagement

The goals for engagement differed slightly between the three engagement groups, as the responsibilities and knowledge of each group varied relative to the overarching goals of the BPSF. The overall goals for the Engagement Strategy for the BPSF were to:

- Understand participants' expectations for integration of pedestrian and bicycle needs in all VTrans activities.
- Engage participants early on to understand what they want to see in the plan, then identify proposed strategies which meet these expectations while reconciling differences between those engaged, and feasible and realistic strategies.
- Offer multiple platforms and opportunities to provide input, including online, conference calls, and in-person opportunities.
- Convey complex, technical information using plain language and graphics.
- Comply with VTrans guidelines on engagement activities.



Students walk to school in Windsor

5.4 Engagement Strategies

In-Person Meetings: The CMG met in-person twice during the project timeline. This enabled members to collaborate with others in the room and provide direct feedback to the project team. Additional meetings which were intended to be conducted in-person (Focus Group meetings and additional CMG meetings) were held virtually due to the COVID-19 pandemic.

Webinars / Conference Calls: Webinars and conference call meetings provided the same feedback opportunities as the in-person meetings but offered more scheduling flexibility, especially for a group as large as the BPSP Stakeholder Group. Ultimately, a large number of project meetings were held virtually due to the COVID-19 pandemic.

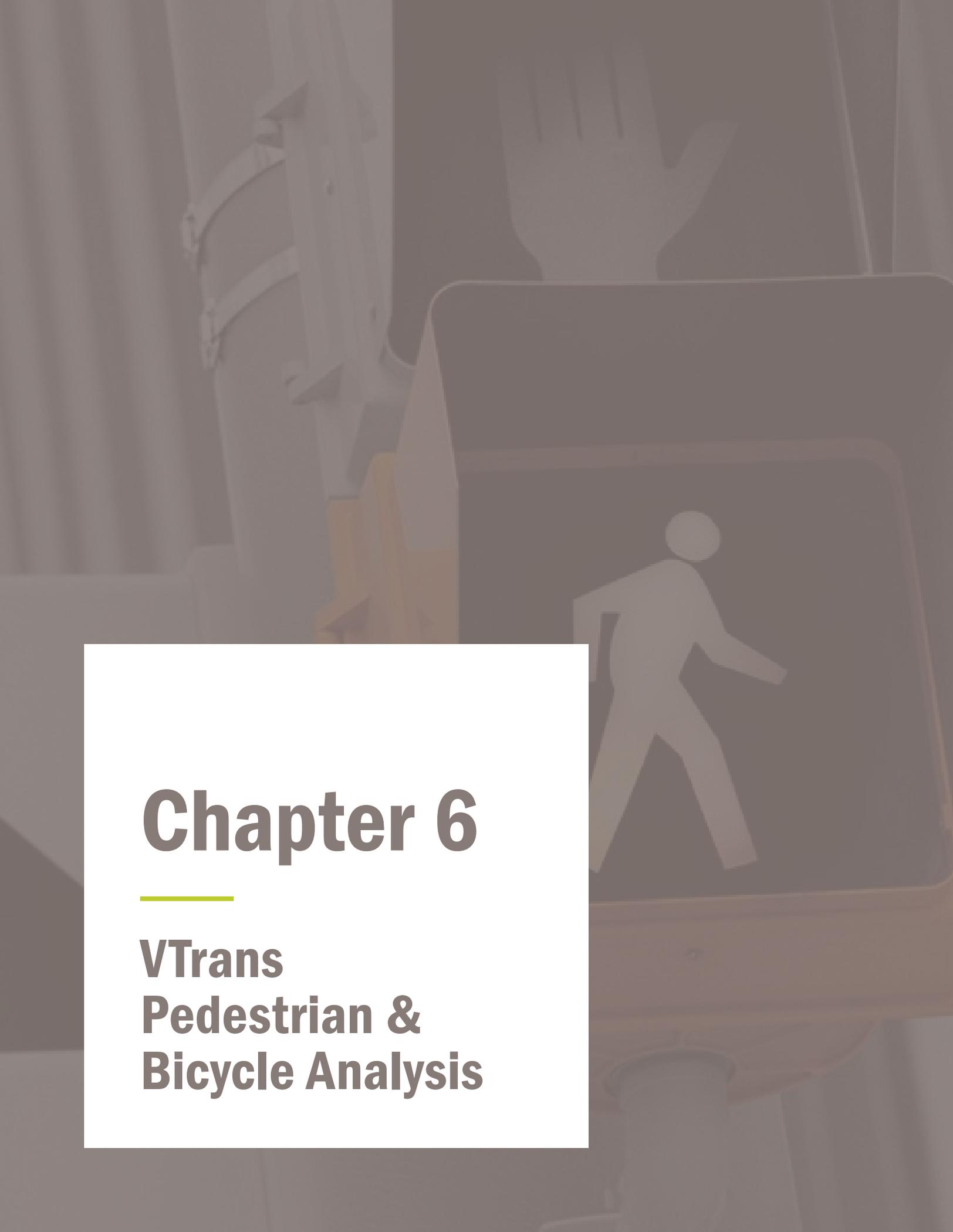
Project Webpage: A project webpage was created via SharePoint to share status updates and deliverables with the Core Management Group, Stakeholder Group, and Focus Groups. The webpage was updated as deliverables (technical memoranda and presentations) were ready to be released.

COVID-19 and Engagement

In Spring of 2020, the COVID-19 pandemic resulted in the declaration of a state of emergency. With this, the State of Vermont implemented executive orders per Center for Disease Control guidelines to limit gatherings and practice social distancing. Planned in-person meetings were held virtually in response.

Although the COVID-19 pandemic presented challenges, innovative responses were developed by the project team. Collaborative efforts between VTrans and the consultant team afforded the exploration of continuing stakeholder engagement through hosting virtual meetings.

These virtual engagement strategies enabled the planning process to move forward despite COVID-19 restrictions.

The background is a grayscale, semi-transparent image. On the right side, a hand is visible resting on a laptop trackpad. Below the hand, a white pedestrian crossing sign is mounted on a wooden post. The sign depicts a stylized figure of a person walking. The overall scene suggests a focus on user interface design and transportation infrastructure.

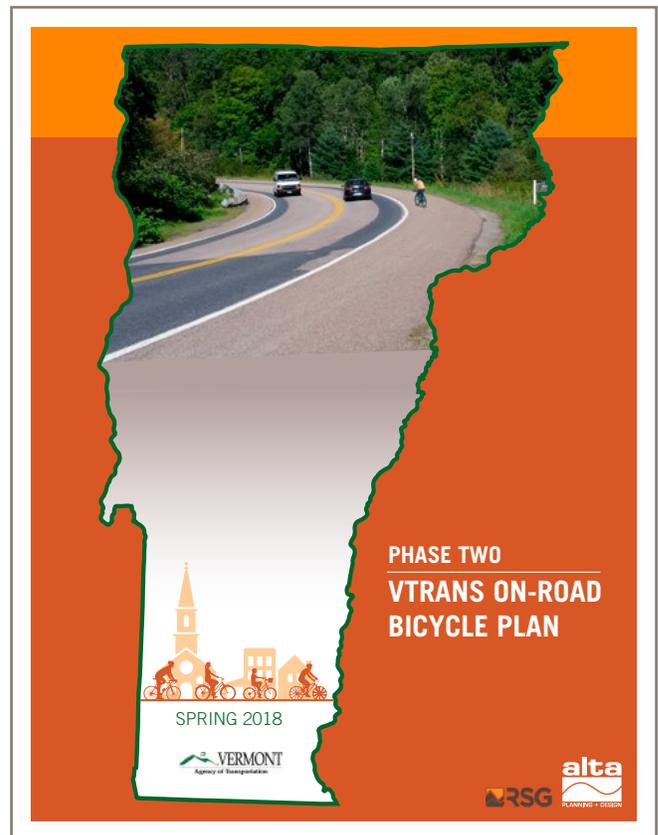
Chapter 6

VTrans Pedestrian & Bicycle Analysis

6.1 Introduction

To understand how VTrans will move towards the realization of its vision and goals, it is important to understand the current status of bicycling and walking in Vermont. To review how VTrans has addressed the needs of those walking and bicycling over time, this chapter provides an overview of:

- Relevant past plans
- Progress to date regarding the actions identified in the 2008 VTrans Pedestrian and Bicycle Policy Plan
- Feedback gathered during the RPC / TPI and Focus Group meetings



The BPSP is the third phase in development of the VTrans On-Road Bicycle Plan. Phase I determined the demand for bicycling on state roads, and Phase II evaluated the conditions of these roadways for bicycling.

6.2 Document Review

This section summarizes internal and external plans, policies, and standards that impact pedestrian- and bicycle-related planning and implementation within VTrans. The review summarizes documents that set a foundation for the BPSP and focuses on identifying the extent to which plans discuss the topics of pedestrian and bicycle

infrastructure planning and implementation as they relate to the intent of the BPSP. A total of 25 documents were reviewed for this effort. All documents were produced by VTrans unless otherwise noted.

A more detailed summary of the full document review can be found in Appendix 1.

Table 11: Plans Reviewed

Plan Name	Year	Plan Name	Year
Bicycle and Pedestrian Grant Program Guide	2019	VTrans On-Road Bicycle Plan: Phase I	2016
Federal and State Grants for Bicycle and Pedestrian Projects	2016-2019	Agency Strategic Plan	2015
Guidelines for Pedestrian Crossing Treatments	2019	Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy	2013
Revamping VTrans' Project Selection & Prioritization Processes Update	2019	Complete Streets Guidance	2012
Traffic Impact Study Guidelines	2019	Vermont Public Transit Policy Plan	2012
Vermont Safe Routes to School Safety and Enforcement	2019	Operations and Program Development Project Coordination Procedure	2011
2040 Vermont Long-Range Transportation Plan	2018	Vermont Pedestrian and Bicycle Policy Plan	2008
Snow and Ice Control Plan	2018	Enhancements to Transportation Projects Policy ("The Amenities Policy")	2007
Transportation Planning Initiative – Manual and Guidebook	2018	Highway Design "Level of Service" Policy	2007
Vermont Bicycle and Pedestrian Work Zone Traffic Control Guide	2018	Access Management Program Guidelines	2005
Vermont On-Road Bicycle Plan: Phase II	2018	Vermont Pedestrian and Bicycle Facility Planning and Design Manual	2002
Vermont Bicycling Laws (by the Vermont State Legislature)	2017	Sidewalks Construction & Maintenance Policy	2001
Complete Streets: A Guide for Vermont Communities (by the Vermont Department of Health)	2016	Vermont State Design Standards	1997

Document Review Summary

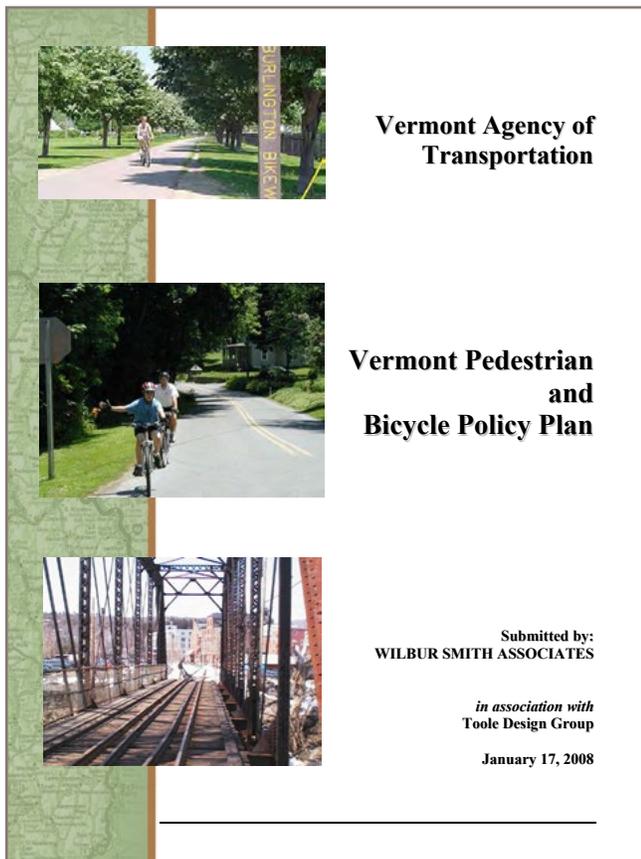
In general, many of the documents reviewed emphasize the need for a transportation system that supports safety, mobility, accessibility, and connectivity for all user-types (motorists, people walking and bicycling, those with limited mobility, etc.). **Many documents go so far as to identify that the needs of people walking and bicycling are to be considered for all future transportation improvements.** Major themes apparent throughout the documents reviewed can be found in the graphic below.

While these are good principles to embody during all phases of project, program, and policy development, there is no current system for ensuring that the needs of Vermont’s most vulnerable road users are addressed during these activities. A clear system of checks and balances as well as an organizational structure outlining strategic action steps, responsible divisions and employment positions, communication tools, and reasonable timelines are necessary to help guide VTrans’ employees and create a statewide transportation system that is safe and comfortable for all modes of travel.



6.3 Progress To-Date

The Progress To-Date Report examines the strategies established in the VTrans Pedestrian and Bicycle Policy Plan (2008), related performance monitoring efforts, and Standard Operating Procedures. The consultant team coordinated with the VTrans BPSP Project Managers to assess the effectiveness of these efforts and the staying power of the identified performance measures.



Cover of the Vermont Pedestrian and Bicycle Policy Plan (2008)

Progress To-Date Summary

The consultant team conducted an interview with Jon Kaplan, VTrans' Bicycle and Pedestrian Program Manager, to help assess the actions and performance measures included in the 2008 Pedestrian and Bicycle Policy Plan. The following tables summarize the progress to-date on a few select* actions (Table 12). The summaries collected helped identify the strategies and performance measures for the BPSP.

Only actions assigned to VTrans ("VT" actions) and the VTrans Bicycle and Pedestrian Program ("BP" actions) were reviewed and analyzed. The BPSP is a document that focuses on the efforts of VTrans as an agency, rather than a statewide plan. As such, strategies included in the BPSP focused on efforts accomplished by VTrans staff and/or funding. Established partners of VTrans, such as RPCs and Local Motion, are listed as collaborators who will help implement particular strategies.

A full summary of the Progress To-Date Report can be found in Appendix 5.

*See Appendix 5 for the progress to-date summaries for all actions and performance measures from the 2008 Policy Plan

**Table 12: Progress To-Date for Selected* Actions
from the 2008 Pedestrian and Bicycle Policy Plan**

Action ID	2008 Action	Action Progress To-Date Summary
CVT.4	Continue to share project plans for upcoming transportation projects with the RPCs/MPO.	This has been done in the past, specifically with paving projects. This should continue into the future to help with communication and standardization. Additionally, to ensure this happens, a strategy should recommend a formal process to share upcoming project plans with RPCs/MPO.
CVT.5	Continue coordination efforts with other state and federal agencies and other groups.	VTrans coordinates regularly with certain organizations, specifically ACCD, VDH, AARP-VT, and VNRC.
CVT.6	Maintain the VTrans design manuals, design details, and standard drawings to include the most recent non-motorized transportation facility design treatments.	Future strategies should emphasize and promote the use of nationally recognized best practices and manuals (FHWA, AASHTO, etc.), while still enabling Vermont to utilize state-specific best practices. These resources should be available in one location (e.g., online, in-house file share system, etc.) to be easily accessible by all VTrans employees.
CVT.9	Consider staffing needs of the VBPP necessary to accomplish the current and strategic actions contained in this Policy Plan.	Improved integration of bicycle and pedestrian needs across all VTrans staff will lessen the burden on the Bicycle and Pedestrian Program employees.
LVT.4	Establish a long-term pedestrian and bicycle facility inventory and counting program. (VTrans, RPC/MPO)	UVM TRC reviewed VTrans data and helped with an inventory, but more work needs to be done to get a robust inventory. Additional inventory and counting efforts are conducted by the RPCs' Transportation Planning Initiative (TPI).
LBP.2	Determine the value and viability of using a Bicycle Level of Service (BLOS), Bicyclist Compatibility Index (BCI) or other appropriate measurement to gauge roadway bicycle suitability in Vermont. (VTrans, RPC, and MPO)	This was completed by developing the On-Road Bicycle Plan Phase I (2016) and Phase II (2018). A future strategy may recommend updating this measurement every few years to reflect changes to the state network and best practices.

*See Appendix 5 for the progress to-date summaries for all actions from the 2008 Policy Plan



North Main Street in Barre

6.4 Comprehensive Evaluation

The consultant team coordinated with the VTrans BPS Project Managers to hold seven themed Focus Group Meetings and one meeting with Regional Planning Commission staff. The seven Focus Group Meeting themes were:

- Education
- Encouragement
- Enforcement
- Engineering
- Transit Connectivity
- Emerging Technology
- Prioritization and Selection

This section provides a summary of the feedback gathered during these meetings. A full report on these meetings can be found in Appendix 6.

**See Appendix 6 for the full lists of prompt questions used during the meetings*

Meeting Summaries

The Project Team conducted a total of eight group interviews, including one meeting with RPC members from around the state, and seven Focus Groups representing internal VTrans departments and external collaborative partners in a variety of theme areas. All meetings were held virtually due to COVID-19 restrictions. The meetings were 90 minutes long and included a brief presentation (15-20 minutes) to inform each group of the BPS and meeting purposes, followed by a group discussion guided by prompt questions* to gather feedback from meeting attendees. These prompt questions were identified to help facilitate discussion, but not provide a rigid structure to the meeting.

The following section describes the meetings and theme areas, summarizes the identified strengths and weaknesses, and suggests potential opportunities for the BPS to address.

RPC / TPI Meeting

This meeting occurred during the monthly Transportation Planning Initiative (TPI) meeting with representatives from the State’s Regional Planning Commissions (RPCs). This meeting intended to:

- Identify opportunities for future partnerships and collaborations between VTrans and the RPCs.
- Discuss emerging technologies.
- Evaluate how well VTrans policies to support walking and bicycling are integrated at the regional level.
- Review the bicycle and pedestrian grant program.
- Identify constraints faced by RPCs related to implementation (i.e., maintenance, costs, etc.).

Table 13: Strengths and Weaknesses Identified During the RPC / TPI Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • VTrans Bicycle and Pedestrian Program Manager • VTrans commitment to needs of people walking and bicycling • Statewide standards and leadership • Implementation of wider shoulders for bicycling • Existing grant programs 	<ul style="list-style-type: none"> • Long lead times for project implementation • Lack of state laws surrounding new transportation-related technologies • Lack of appropriate infrastructure to encourage bicycling • Lack of public knowledge of VTrans’ efforts and limitations • Lack of mechanism to fund projects which require multiple implementation phases or those with large budgets (i.e., budgets over the \$300k limit for existing grant projects within the TA program) • Project funding requests exceed available funding • Strict requirements and permits can limit implementation

BPSP Opportunities based on the RPC / TPI Meeting:

- Conduct workshops and provide technical assistance for municipal staff, local officials, and advocate groups
- Develop guidelines for infrastructure continuity and standardization to develop a process for standard design and implementation of walking and bicycling infrastructure across the state; guidelines should allow for some flexibility to incorporate community character in the design, where appropriate, and to streamline implementation, where feasible
- Leverage VPSP2 to address the needs of people of walking and biking in projects with large budgets and timelines
- Develop a system which considers the needs of people walking and bicycling in large-scale projects which span multiple jurisdictions and regions
- Develop strategies to improve coordination and collaboration with RPCs
- Inform the general public of VTrans’ efforts and limitations when it comes to pedestrian and bicycle needs and infrastructure



Education Focus Group Meeting

EDUCATION

The Education Focus Group included individuals from a wide variety of organizations that participate in education-related activities, such as: driver education, public health, law enforcement, advocacy groups, Vermont State Highway, and VTrans Operations and Safety. This meeting intended to:

- Discuss the constraints and effectiveness of existing educational messaging and curricula, with a focus on improving safety for people walking and bicycling, including educational programs targeted at people driving private motor vehicles.
- Assess the content of existing programming and the effectiveness of the delivery method.
- Provide guidance to VTrans on how bicycle and pedestrian considerations can inform all VTrans activities.
- Make recommendations for focus areas and media strategies for future educational messaging.

BPSP Opportunities based on the Education Focus Group Meeting:

- Develop standard, easy-to-understand publications regarding statutes related to people walking and bicycling to educate all road users
- Identify a long-term measurement of education efforts
- Track behavior change over a long period of time to measure effectiveness of education
- Educate drivers on new and updated rules surrounding people walking and bicycling
- Leverage new technology platforms (e.g., YouTube ads, podcasts, etc.) to distribute safety messaging regarding people walking and bicycling
- Engage with and educate college-aged populations to promote safety for people walking and bicycling

Table 14: Strengths and Weaknesses Identified During the Education Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • Campaigns to “humanize” people walking and bicycling • Student PSAs and video contests centered around distracted driving • Education campaigns at events (e.g., farmer’s markets, Champlain Valley Fair, etc.) 	<ul style="list-style-type: none"> • State statutes are difficult for the public to understand • Education is generally difficult to measure, especially over a short period of time • Lack of education after someone obtains their driver’s license



Encouragement Focus Group Meeting*

ENCOURAGEMENT The Encouragement Focus Group included individuals from a wide variety of organizations that participate in encouragement-related activities. Organizations that participated include: Bennington County Regional Planning Commission (BCRPC), Champlain College, University of Vermont Transportation and Parking, AARP Vermont, Chittenden Area Transportation Management Association (CATMA), Local Motion, and VTrans Public Transit. This meeting intended to:

- Evaluate existing programming dedicated to promoting walking and bicycling among Vermont residents.
- Work on identifying existing and new potential partners (internal and external to VTrans) to further encouragement programming efforts, including groups providing economic perspectives on outdoor recreation.
- Document the effectiveness of existing strategies to promote walking and bicycling through the lens of health/exercise, climate change/conservation, and economic impacts/cost savings.
- Identify opportunities for VTrans to directly or indirectly encourage people to walk or bike in all VTrans activities.

Table 15: Strengths and Weaknesses Identified During the Encouragement Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • Adequate bike parking options, where provided, encourages Link / transit use • Bike Smart (run by Local Motion) program for elementary and middle school students • Department of Health is a key resource and partner for the encouragement of walking and bicycling • Various workshops which: <ul style="list-style-type: none"> • Teach students how to drive safely around bicycles. • Show people it is feasible to bike/walk to destinations. • Week long bike/walk to work/school challenges • Biennial employee and transportation survey conducted by CATMA 	<ul style="list-style-type: none"> • Lack of appropriate infrastructure • Lack of quality bike parking options at schools • Lack of programming and education for high school students • Additional education is needed around Complete Streets • Unsure how to monitor effectiveness of encouragement efforts • Financial limitations for Complete Streets initiative desired by municipalities

*Other groups unable to attend the meeting were given the option to provide input via email (Vital Communities, Onion River Outdoors, Agency of Natural Resources (ANR), and Vermont Department of Health).

BPSP Opportunities based on the Encouragement Focus Group Meeting:

- Implement appropriate infrastructure to encourage bicycling
- Identify improvements to education surrounding people walking and bicycling, ultimately encouraging walking or bicycling or using proper behavior when driving in the vicinity of people walking or bicycling
- Engage with and encourage school-age children, and their parents, to bike and walk
- Develop a program to implement high-quality bike parking options
- Identify specific benchmarks, initiatives, and incentives to improve walkability and bikeability
- Develop new and increased collaborations with groups outside VTrans
- Update the bicycling/walking economic impact report (the last Economic Impact Report was developed in 2012)
- Promotion of bike tourism (e.g., bike routes, bike to brewery tours, etc.)
- Identify surveys conducted regionally and statewide (e.g., CATMA survey) and determine which, if any, can be used to measure bicycling and walking in Vermont



Landscaped curb extension in St. Albans



Enforcement Focus Group Meeting

ENFORCEMENT The Enforcement Focus Group engaged with various law enforcement entities as well as the Department of Motor Vehicles, the Vermont State Highway Safety Office, and VTrans Highway Research. This meeting intended to:

- Evaluate existing state laws and ordinances and review enforcement practices.
- Assess the effectiveness of existing bicycle- and walking-related enforcement materials, including curricula specific to drivers' interactions with people walking and bicycling.
- Identify VTrans activities that can assist with improved enforcement opportunities with regard to travel by those walking or bicycling.

Table 16: Strengths and Weaknesses Identified During the Enforcement Focus Group Meeting

BPSP Opportunities based on the Enforcement Focus Group Meeting:

- Educate the public on new and existing laws related to the safety of people walking and bicycling using easy-to-understand language
- Consider a “Stop, Look & Wave” program to humanize people walking and bicycling; this type of program has been successful in other states
- Increase collaboration between VTrans and law enforcement to develop safety messages to be distributed throughout the state
- Collaborate with the VTrans Office of Highway Safety to develop crash reports which include important information on crashes involving persons walking or bicycling which will help identify the needs of these vulnerable users and inform future infrastructure and policy decisions

Strengths	Weaknesses
<ul style="list-style-type: none"> • Drug and alcohol data for people walking and bicycling involved in crashes is now being collected • Working directly with the source of specific traffic issues has seen success (e.g., college cycling team) • School resource officers give students positive reinforcement • Use of targeted enforcement actions coordinated with media campaign (example: publicizing crosswalk enforcement, then writing warnings during enforcement actions to encourage compliance and educate the public) 	<ul style="list-style-type: none"> • Unsure how to enforce proper use of crosswalks • Children often learn incorrect or bad behavior from their parents • Lack of time to stop and educate or ticket offenders (e.g., when witnessing bad behavior on the way to another call) • Law enforcement has many competing interests that require their attention (e.g., opioid crisis) • Limited resources • Laws cannot keep up with the fast-paced changes of technology • Crash reports often do not have enough meaningful information on crashes involving persons walking or bicycling; this information is typically only included in the more detailed narrative of the crash



Engineering Focus Group Meeting

ENGINEERING

The Engineering Focus Group Meeting was comprised of individuals from the Vermont Center for Independent Living, Stantec, City of Burlington, Local Motion, and multiple VTrans sections (Traffic Operations/ Mobility, Highway Safety and Design, Asset Management, and Districts 1 and 3). This meeting intended to:

- Evaluate existing engineering guidance related to walking and bicycling infrastructure.
- Review intersection and crossing treatment policies.
- Review existing policies related to implementation (including detours during construction), maintenance, and operations, as well as efforts for demonstration and pilot projects.



Curb ramp installation

Table 17: Strengths and Weaknesses Identified During the Engineering Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • VTrans BP Section is knowledgeable and is seen as a resource within and outside VTrans • VTrans BP Section looks to national best practice standards, such as NACTO • VTrans project managers are generally willing to incorporate bike-ped features 	<ul style="list-style-type: none"> • Reliance on individuals within VTrans BP section for knowledge on the needs and facilities for people walking and bicycling • Limited opportunity to consult VTrans BP section in earlier stages of project development • Common resources used in designing to capacity do not include data on people walking and bicycling (AADT counts) • No formal process to implement a pop-up / demonstration project on state highway ROW (guidance under development) • National guidance and standards not always applicable / appropriate for Vermont (limited ROW, topography, climate) • Features for those walking or bicycling may be removed if resources are limited



Siboinebi Bike Path along Barre Street in Montpelier

BPSP Opportunities based on the Engineering Focus Group Meeting:

- Training for designers, resident engineers, and project managers about best practices regarding the needs of people walking or bicycling; this presents an opportunity for Professional Development Hours (PDH) and cross-organizational (local / regional / state) networking
- Develop a process to reach out to Towns / RPCs at initiation of all projects (for example, New Project Summaries) to discuss the needs and demands of people walking and bicycling
- Incorporate counting features to include people walking and bicycling into future signal, permanent traffic counter, and other traffic monitoring installations
- Evaluate the use of the Complete Streets Checklist in the project planning and design stages; consider strengthening or expanding the Checklist to embed it more officially in the stages of the project development process
- Develop and promote educational materials around the use of the Complete Streets Checklist for internal VTrans staff and external consultants / municipalities
- Consider adding features for people walking and bicycling to fact sheets and Vermont Project Information Network (VPINs) listings



Transit Connectivity Focus Group Meeting

TRANSIT
CONNECTIVITY

Individuals representing the City of South Burlington, Green Mountain Transit, Chittenden County Regional Planning Commission (CCRPC), Chittenden Area Transportation Management Association (CATMA), Vermont Center for Independent Living, and VTrans Public Transit met to discuss transit connectivity needs. This meeting intended to:

- Evaluate the intersection of Agency and transit provider services for identifying and implementing service improvements for people walking and bicycling.
- Discuss barriers to providing high-quality first-last mile connectivity for people walking and bicycling to transit stops and stations.
- Identify Agency policies that impact transit service and discuss national best practices to compliment bicycle, pedestrian, and transit use.

Table 18: Strengths and Weaknesses Identified During the Transit Connectivity Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • Transit services generally recognize the interoperation of transit / walk / bike; for example, all GMT buses include bicycle racks • Bus bicycle rack usage is counted on the farebox, but not always included in ridership statistics • Transit service and site amenities are included considerations in state (and some local) permitting 	<ul style="list-style-type: none"> • Rural corridor service faces challenges serving walk / bike populations other than riders living near stops • Infrastructure to support walking and bicycling between village centers and Park & Rides (located outside of centers) can be inadequate • Bike capacity on buses is limited; often limited secure bike parking at stops; some e-bikes are heavy / hard to secure on bus racks • Siting of transit stops can be challenging; working with state, local and transit agencies, no one is in charge; may require crossing infrastructure



Link Express bus

BPSP Opportunities based on the Transit Connectivity Focus Group Meeting:

- Coordination of walk / bike / transit information in a mobile application platform, with access to transit token app, and increased wayfinding
- Identify priority transit improvements at state designated High Crash Locations
- Opportunity for improvement of data collection (number of bikes on route) and data sharing to inform planning, design, prioritization
- Participate in the development of a transit stop siting and amenity guideline to facilitate multimodal travel
- Evaluate accessibility of transit stops for people walking to/from the stop
- Opportunity for education about e-devices on transit (e.g., e-bikes, e-scooters, remove battery or leave battery in, etc.)
- Revise grant selection criteria to include additional points for last-mile transit connectivity, amenities in high-use transit corridors, or other transit benefits
- Include transit connectivity category in New Project Summaries



Rutland E-bike Lending Library

(Source: Rutland RPC)



Emerging Technology Focus Group Meeting

EMERGING TECHNOLOGY

The Emerging Technology Focus Group was comprised of representatives from VBike, Chittenden County Regional Planning Commission (CCRPC), Chittenden Area Transportation Management Association (CATMA), Vermont Energy Investment Corporation (VEIC), and University of Vermont (UVM) Transportation Research Center, as well as VTrans Policy and Planning and the Operations and Safety Bureau. This meeting intended to:

- Evaluate policy-level needs for addressing emerging issues related to electric vehicles, semi- and fully-automated vehicles, micromobility (i.e., e-bikes, scooters, bikeshare, etc.), microtransit, and their interactions with people walking and bicycling.
- Identify gaps in policy, guidance, and available research, particularly related to people bicycling and walking.



Greenride Bikeshare bikes in Burlington

Table 19: Strengths and Weaknesses Identified During the Emerging Technology Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • E-bikes have the potential to expand bicycling opportunities as transportation • Many organizations are excited to capture e-device usage (e.g., CATMA, VEIC, utility companies, retailers, etc.) • Electric utilities offer rebates for e-devices to increase adoption rates 	<ul style="list-style-type: none"> • Uncertainty about which emerging technologies will have staying power • Emerging technologies (EVs in particular) may be seen as a solution to emissions, but they do not address concerns around land use and sprawl • Insufficient data to recognize hazards of emerging technologies • Automated vehicles (AVs) may result in increased VMT, more traffic, and more conflicts for people walking and bicycling • E-bikes increase the speed / weight differential between people walking and bicycling • There is a wide variety of e-devices and operating characteristics with little regulation (e.g., enclosed electric bicycles, trikes, one-wheelers, etc.) • Lack of quality data or data collection programs for e-device adoption

BPSP Opportunities based on the Emerging Technology Focus Group Meeting:

- Coordinate more secure bicycle parking (e.g., bike lockers) and e-bike charging opportunities at Park & Ride locations
- Seek to define e-device users as “vulnerable users” in Vermont State Statutes with e-device classification (speed, weight, etc.) regarding use on varying on- and off-road infrastructure
- Consider a crash reporting mechanism for e-devices
- Monitor reports of safety hazards associated with emerging technologies (ped / bicyclist crashes associated with quiet EVs; higher speed bicycle crashes on shared paths; etc.) and consider methods to capture data to quantify and address the emerging issues
- Coordinate updates to Department of Health and VTrans educational materials to include emerging technologies, micromobility options (e.g., e-bikes, scooters, bikeshare, etc.), e-devices, innovative and modern equipment, and a broader representation of people
- Consider count programs to capture the adoption and use of e-devices



Prioritization and Selection Focus Group Meeting

PRIORITIZATION & SELECTION

Representatives from the Vermont General Assembly, Agency of Commerce and Community Development (ACCD), Department of Housing and Community Development (DHCD), Town of Williston, and Two Rivers - Ottauquechee Regional Commission (TRORC), as well as multiple VTrans sections (Policy and Planning, Asset Management, and Municipal Assistance) met to discuss the prioritization and selection processes and needs. This meeting intended to:

- Discuss existing grant program selection criteria, with perspective towards past and future dedicated funding streams for projects and programs to support walking and bicycling.
- Make recommendations on how to better align the program with VTrans’ strategic goals, Complete Street initiatives, and the VTrans Project Selection and Prioritization Process (VPSP2).
- Assess the effectiveness of project bundling and make program recommendations based on national best practices.

Table 20: Strengths and Weaknesses Identified During the Prioritization and Selection Focus Group Meeting

Strengths	Weaknesses
<ul style="list-style-type: none"> • Great strides have been made to coordinate shoulder widening on high priority bicycle corridors with paving projects (where feasible) • Current grant funding criteria are weighted towards downtown and village centers which generally have the land use density to support higher rates of people walking and bicycling • Grant funding is usually well distributed geographically, though not formally • Grant funding criteria prioritize data-based requests • Corridor management plans offer opportunities for long range planning and implementation of infrastructure for people walking and bicycling • Local concerns questionnaires are helpful early in the planning process, before designs are developed • RPCs provide a valuable resource for towns to navigate the grant funding program 	<ul style="list-style-type: none"> • Inclusion of features to support walking and bicycling on state projects often requires Town initiative and associated staffing • VTrans BP Section is synonymous with one person - there is too much reliance on a single person rather than a formal process • Current grant funding prioritization criteria may not appropriately consider denser developments outside of the village center / downtown area • Need improved communication with Towns during project development to ensure Towns have ability to shape design • Local concerns questionnaires (to be replaced with the New Project Summaries) are presented only in early stages of projects; potential for more opportunities for feedback and review throughout design • Towns with technical staff and consultants may be able to more thoroughly develop grant application materials than those with fewer professional resources

BPSP Opportunities based on the Prioritization and Selection Focus Group Meeting:

- Include an opportunity to discuss projects with Towns in the New Project Summaries, including bicycle plans, routes for people walking or bicycling, transit service, etc.
- Update grant funding prioritization / selection criteria to include a last-mile connection consideration
- Encourage the use of Downtown Transportation Fund (administered by ACCD) for other state designated areas, like Village centers and other growth centers
- Continue to consider the needs of people walking and bicycling in corridor plans being developed for state highways to identify opportunities for harmonization in future construction projects
- Consider highlighting successful collaboration efforts with Towns to promote the collaboration process with other Towns
- Provide guidance to Town staff on restriping / lane width reductions to allow for larger shoulders
- Explore local concerns questionnaires for use on paving projects



Bike lane with green paint along Barre-Montpelier Road in Berlin



Person bicycling in Brattleboro



Appendix 1

Document Review



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MEMORANDUM

To: Sommer Bucossi (VTrans), Jon Kaplan (VTrans)
 From: Laura Byer (Alta), Jeff Olson (Alta)
 Date: October 28, 2020

Re: Memo #1: Document Review

Introduction

This memorandum summarizes internal and external plans, policies, and standards that impact pedestrian- and bicycle-related planning and implementation within the Vermont Agency of Transportation (VTrans). The review summarizes documents that set a foundation for the Bicycle and Pedestrian Strategic Plan (BPSP). The document review focused on identifying the extent to which plans discuss the topics of pedestrian and bicycle infrastructure planning and implementation as they relate to the intent of the BPSP. This review begins by listing the 25 documents reviewed for this effort. This document then provides a high-level summary of common themes identified within the plans reviewed. Plans reviewed for this effort are then summarized using individual tables as well as a bulleted list of key takeaways for each plan.

Plans Reviewed

Table 1: Plans Reviewed

PLAN NAME	SOURCE	YEAR
Bicycle and Pedestrian Grant Program Guide	Vermont Agency of Transportation	2019
Federal and State Grants for Bicycle and Pedestrian Projects	Vermont Agency of Transportation	2016-2019
Guidelines for Pedestrian Crossing Treatments	Vermont Agency of Transportation	2019
Revamping VTrans' Project Selection & Prioritization Processes Update	Vermont Agency of Transportation	2019
Traffic Impact Study Guidelines	Vermont Agency of Transportation	2019
Vermont Safe Routes to School Safety and Enforcement	Vermont Agency of Transportation	2019
2040 Vermont Long-Range Transportation Plan	Vermont Agency of Transportation	2018
Snow and Ice Control Plan	Vermont Agency of Transportation	2018
Transportation Planning Initiative – Manual and Guidebook	Vermont Agency of Transportation	2018
Vermont Bicycle and Pedestrian Work Zone Traffic Control Guide	Vermont Agency of Transportation	2018

Vermont On-Road Bicycle Plan: Phase II	Vermont Agency of Transportation	2018
Vermont Bicycling Laws	Vermont State Legislature	2017
Complete Streets: A Guide for Vermont Communities	Vermont Department of Health	2016
VTrans On-Road Bicycle Plan: Phase I	Vermont Agency of Transportation	2016
Agency Strategic Plan	Vermont Agency of Transportation	2015
Strengthening Vermont’s Economy by Integrating Transportation and Smart Growth Policy	Vermont Agency of Transportation	2013
Complete Streets Guidance	Vermont Agency of Transportation	2012
Vermont Public Transit Policy Plan	Vermont Agency of Transportation	2012
Operations and Program Development Project Coordination Procedure	Vermont Agency of Transportation	2011
Vermont Pedestrian and Bicycle Policy Plan	Vermont Agency of Transportation	2008
Enhancements to Transportation Projects Policy (“The Amenities Policy”)	Vermont Agency of Transportation	2007
Highway Design “Level of Service” Policy	Vermont Agency of Transportation	2007
Access Management Program Guidelines	Vermont Agency of Transportation	2005
Vermont Pedestrian and Bicycle Facility Planning and Design Manual	Vermont Agency of Transportation	2002
Sidewalks Construction & Maintenance Policy	Vermont Agency of Transportation	2001
Vermont State Design Standards	Vermont Agency of Transportation	1997

Summary

In general, many of the documents reviewed **emphasize the need for a transportation system that supports safety, mobility, accessibility, and connectivity for all user-types** (motorists, pedestrians, bicyclists, those with limited mobility, etc.). **Many documents go so far as to identify that pedestrian and bicycle needs are to be considered for all future transportation improvements.** Major themes apparent throughout the documents reviewed include:

- Safety
- Mobility
- Multimodal Transportation System
- Accessibility
- Community Needs
- Connectivity

- Aims to guide investment in transportation projects through 2040 while considering the needs of all modes of travel. [*2040 Vermont Long-Range Transportation Plan*]
- Roads should include contextually appropriate bicycle and pedestrian accommodations where these users are permitted by law. [*Vermont State Design Standards*]
- All right-of-way users should be considered in access designs. [*Access Management Program Guidelines*]
- Where pedestrians and bicyclists are allowed, all transportation projects in Vermont will be designed and constructed under the assumption that they will be used by pedestrians and bicyclists. [*Vermont Pedestrian and Bicycle Facility Planning and Design Manual*]
- **Funding and Resource Allocation:**
 - Help identify where to focus limited resources for bicycle improvements. [*Vermont On-Road Bicycle Plan: Phase II*]
 - Federal awards in recent years have remained relatively consistent, ranging from \$2.8M to \$3.3M per year. [*Federal and State Grants for Bicycle and Pedestrian Projects*]
 - State awards more than tripled between 2016 and 2017 (\$90K to \$296K), but have remained consistent at around \$300K since 2017. [*Federal and State Grants for Bicycle and Pedestrian Projects*]
 - New sidewalks and sidewalk upgrades are the most common projects awarded funds. [*Federal and State Grants for Bicycle and Pedestrian Projects*]
 - Evaluation criteria include: Community Need, Economic Development, Well-Supported Budget, Local Funding, Complexity, Project Coordination, Equity, Multimodal Potential, State Designated Centers, Project Commitment, Funding Need, Funding Documentation, and Project Budget. [*Bicycle and Pedestrian Grant Program Guide*]
 - This tool can be used to help determine when and where to focus resources for bicycle facility implementation. [*VTrans On-Road Bicycle Plan: Phase I*]
- **Partnerships:**
 - Partner with other groups and agencies to improve bicycling conditions through new and improved policies, enforcement, and education. [*Vermont On-Road Bicycle Plan: Phase II*]
 - Collaboration between law enforcement and community members can foster a safe environment for children to walk or bike to and from school. [*Vermont Safe Routes to School Safety and Enforcement*]
 - Community-based programs may include corner captains to keep an eye on the street during school arrivals and dismissals or safe houses offering a refuge for students during school arrivals or dismissals if necessary. [*Vermont Safe Routes to School Safety and Enforcement*]
 - TPI is a partnership between VTrans and Vermont's Regional Planning Commissions (RPCs). [*Transportation Planning Initiative – Manual and Guidebook*]
 - Local communities are responsible for sidewalk snow removal. [*Snow and Ice Control Plan*]
 - Sidewalk maintenance is a municipal responsibility, which must be agreed upon before construction. [*Sidewalks Construction & Maintenance Policy*]
 - TPI responsibilities include: TAC meetings, transportation use counts, Regional Transportation Plans, Act 250 hearings, local assistance, scoping studies, infrastructure inventories, and other forums and meetings. [*Transportation Planning Initiative – Manual and Guidebook*]

- If a pedestrian or bicycle facility is desired by a municipality, but that facility has not been deemed “functionally necessary”, the facilities can be implemented if the municipality agrees to fund 100% of the construction and maintenance costs. [*Enhancements to Transportation Projects Policy (“The Amenities Policy”)*]
- Common themes in TPI’s guiding principles include: conformance with transportation laws, public input, environmental interests, and collaboration, communication, and cooperation between stakeholders. [*Transportation Planning Initiative – Manual and Guidebook*]
- Frequent and open communication between divisions is critical to high quality and cost-effective transportation facilities. [*Operations and Program Development Project Coordination Procedure*]
- **Programming:**
 - Law enforcement-based programs may include: crossing guard trainings, school zone patrols (especially during school arrivals and dismissals), safety workshops for students, and rewarding good walking and bicycling behavior during school arrivals and dismissals. [*Vermont Safe Routes to School Safety and Enforcement*]
- **Design:**
 - Access management designs should prioritize safety, mobility, and efficiency for all users. [*Access Management Program Guidelines*]
 - These guidelines can be used to help apply consistency to access management designs. [*Access Management Program Guidelines*]
 - The design standards resulted from collaboration with numerous state agencies and organizations as well as input from private citizens. [*Vermont State Design Standards*]
 - Improve upon and expand the transit user experience through improved pedestrian connections to transit stops, bike parking opportunities at major transit stops, and ADA-compliant facilities. [*Vermont Public Transit Policy Plan*]
 - The highest level of temporary bicycle or pedestrian facility should be installed, when feasible. [*Vermont Bicycle and Pedestrian Work Zone Traffic Control Guide*]
 - Roads with lower levels of service (LOS) should be enhanced with improved pedestrian crossings and signals. [*Highway Design “Level of Service” Policy*]
 - Pedestrian crossings should be implemented and designed consistently throughout the state. [*Guidelines for Pedestrian Crossing Treatments*]
 - BPSP-related practices and principles include: ADA compliance, on-road bike infrastructure, pedestrian crossing enhancements, sidewalk upgrades, shared use paths, and bicycle and pedestrian amenities. [*Complete Streets Guidance*]
 - All sidewalks constructed by VTrans, other state agencies, municipalities, or private entities are required to meet appropriate state and federal design standards. [*Sidewalks Construction & Maintenance Policy*]
 - Bicycle- and pedestrian related transportation demand strategies specifically identify the following facilities for work place and infrastructure investments: showers, secure and covered bicycle parking, sidewalks, bike lanes, and shared use paths. [*Highway Design “Level of Service” Policy*]

- There is a need for a comprehensive improvement plan which identifies opportunities to enhance bicycle conditions on state roads. [*VTrans On-Road Bicycle Plan: Phase I*]
- **Data Collection and Analysis:**
 - Use data-driven strategies to help guide bicycling improvements. [*Vermont On-Road Bicycle Plan: Phase II*]
 - Traffic impact studies should realistically project bicycle and pedestrian trips using an appropriate trip generation methodology. [*Traffic Impact Study Guidelines*]
 - Additional performance measures to consider: shared use path and transit connections to residential and employment areas, pedestrian crossings at intersections, on-road bicycle facility mileage. [*Complete Streets: A Guide for Vermont Communities*]
 - Prioritize transportation project and improvements through data-driven and performance-based measures. [*Revamping VTrans' Project Selection & Prioritization Processes Update*]
- **VTrans' Internal Highlights:**
 - Recruit and retain excellent, qualified, and diverse VTrans employees. [*Agency Strategic Plan*]
 - Review and update VTrans "Project Development Process", "Project Prioritization and Project Selection", and other design standards and guidelines to support consistent smart growth principles. [*Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy*]
 - Impacts should be mitigated through public transit services, bicycle facilities, pedestrian facilities, and other transportation demand management (TDM) measures. [*Traffic Impact Study Guidelines*]
 - On Line Shared Review (OLSR) is an online review process to facilitate communication between project managers and other essential individuals and identify communication responsibilities during various project phases. [*Operations and Program Development Project Coordination Procedure*]
 - All VTrans Divisions should build and maintain the ability and expertise to address pedestrian and bicycle needs and issues and participate in related training sessions. [*Vermont Pedestrian and Bicycle Policy Plan*]
 - In the long-term, VTrans can use this tool to set and track performance measures. [*VTrans On-Road Bicycle Plan: Phase I*]

Full Review Tables

Table 2: Bicycle and Pedestrian Grant Program Guide

PLAN NAME	AGENCY	YEAR
Bicycle and Pedestrian Grant Program Guide	Vermont Agency of Transportation	2019
PURPOSE		
<p>The intent of the VTrans Bicycle and Pedestrian Program is to improve access and safety for people walking and bicycling through the planning, design and construction of infrastructure projects. This is in direct support of the Agency of Transportation's Strategic Goal #3: Provide Vermonters energy efficient travel options, specifically through the increased use of walking and biking for transportation. The Bike/Ped Program is administered within the VTrans Municipal Assistance Bureau (MAB).</p>		

EVALUATION CRITERIA	
Scoping Projects	Community Need: 15 points
Federally Funded Design/Construction Projects	Community Need: 25 points
	Economic Development: 10 points
	Well-Supported Budget: 20 points
	Leverage of Local Funding: 5 points
	Complexity: 10 points
	Project Coordination: 5 points
	Equity: 5 points
	Multi-Modal Potential: 5 points
	State Designated Centers: 5 points
	Project Commitment: 10 points
Additional Funding for Existing Federally-Funded Projects	Project Funding Need: 20 points
	Funding Documentation: 10 points
Small-Scale Projects	Demonstrated Project Need: 15 points
	Project Budget: 10 points
	Complexity: 10 points
	Project Coordination: 5 points
	Project Commitment: 10 points
KEY TAKEAWAYS	
<ul style="list-style-type: none"> • Aims to improve access and safety for pedestrians and bicyclists. • Support energy efficient travel options, specifically by promoting walking and bicycling. • Evaluation criteria include: Community Need, Economic Development, Well-Supported Budget, Local Funding, Complexity, Project Coordination, Equity, Multimodal Potential, State Designated Centers, Project Commitment, Funding Need, Funding Documentation, and Project Budget. 	

Table 3: Federal and State Grants for Bicycle and Pedestrian Projects

PLAN NAME		AGENCY	YEAR
Federal and State Grants for Bicycle and Pedestrian Projects		Vermont Agency of Transportation	2016-2019
PURPOSE			
Examine federal and state funds awarded to bicycle and pedestrian projects in recent years.			
YEAR	FEDERAL VS STATE	PROJECT TYPES	AMOUNT AWARDED
2019	Federal	Design/Construction: Crossing Enhancements, Sidewalks, Shared Use Paths, Sidewalk Upgrades, Bike Upgrades Scoping Study: Sidewalks, Streetscapes, Bike Lanes	\$3.3M

		Existing Projects: Shared Use Paths, Sidewalk Upgrades, Sidewalks	
	State	Sidewalk Upgrades, Sidewalks	\$300K
2018	Federal	Design/Construction: Sidewalks, Shared Use Paths Scoping Study: Sidewalks, Streetscapes, Bike Lanes, Shared Use Paths Existing Projects: Shared Use Paths, Sidewalk Upgrades, Sidewalks, Streetscapes	\$3.0M
	State	Intersection Treatments, Sidewalk Upgrades, Crossing Enhancements, Bikeshare Expansion, On-Road Bicycling Shoulder, New Sidewalks	\$300K
2017	Federal	Design/Construction: Park Access, Streetscapes, Sidewalk Upgrades, Bike Lanes, Sidewalks Scoping Study: Sidewalks Existing Projects: Sidewalk Upgrades, Sidewalks, Streetscapes	\$3.0M
	State	Crossing Enhancements, Sidewalks, Sidewalk Upgrades	\$296K
2016	Federal	Design/Construction: Sidewalks, Bike Lanes, Shared Use Paths Scoping Study: Streetscapes	\$2.8M
	State	Crossing Enhancements, Sidewalk Upgrades, Sidewalks	\$90K
KEY TAKEAWAYS			
<ul style="list-style-type: none"> Federal awards in recent years have remained relatively consistent, ranging from \$2.8M to \$3.3M per year. State awards more than tripled between 2016 and 2017 (\$90K to \$296K), but have remained consistent at around \$300K since 2017. New sidewalks and sidewalk upgrades are the most common projects awarded funds. 			

Table 4: Guidelines for Pedestrian Crossing Treatments

PLAN NAME	AGENCY	YEAR
Guidelines for Pedestrian Crossing Treatments	Vermont Agency of Transportation	2019
PURPOSE		
The purpose of this guideline is to ensure that pedestrian crossings are treated consistently throughout the state, on both state highways and local roads, by providing guidance on the location of marked and unmarked crossings, and the associated pavement markings and signs.		
KEY TAKEAWAYS		
<ul style="list-style-type: none"> Pedestrian crossings should be implemented and designed consistently throughout the state. Document largely consists of design guidelines for physical infrastructure and does not include policy/agency related strategies. 		

Table 5: Revamping VTrans' Project Selection & Prioritization Processes Update

PLAN NAME	AGENCY	YEAR
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Revamping VTrans' Project Selection & Prioritization Processes Update	Vermont Agency of Transportation	2019
PURPOSE		
Performance based and data driven project selection and prioritization framework to: (1) Identify and define how ideas for transportation improvements can become transportation projects, and (2) Take advantage of "harmonization" opportunities to address transportation needs to deliver increased value through our transportation projects.		
GOALS		
Develop a fair, consistent, reliable and standardized project selection and prioritization framework.		
Ensure alignment with statewide vision, goals, and objectives and national performance goals.		
Communicate "transportation" value and provide "best value" to our taxpayers.		
Move toward holistic corridor management & planning.		
EVALUATION CRITERIA		
Safety	Mobility / Connectivity	
Asset Condition	Resiliency	
Community	Environment	
Economic Access	Health Access	
KEY TAKEAWAYS		
<ul style="list-style-type: none"> • Prioritize transportation project and improvements through data-driven and performance-based measures. • Prioritization should be fair, consistent, standardized, as well as align with state and national goals. • Prioritization evaluation criteria include: Safety, Condition, Community Needs, Economy, Mobility / Connectivity, Resiliency, Environmental Health, and Personal Health. 		

Table 6: Traffic Impact Study Guidelines

PLAN NAME	AGENCY	YEAR
Traffic Impact Study Guidelines	Vermont Agency of Transportation	2019
PURPOSE		
VTrans Development Review and Permitting Services is charged with the review of Traffic Impact Studies for proposed development in the State of Vermont. This document is provided as a guideline for Traffic Engineers preparing Traffic Impact Studies to address the traffic impacts that development projects have on the ability of the transportation infrastructure to handle those projects' demands. It is also provided as a reference for the VTrans Development Review and Permitting Services as well as other professional(s) reviewing such analyses.		
DETAILS (as relevant to the BPSP)		
Existing Conditions Data and Analysis: Bicycle and Pedestrian Facilities	Existing and committed bicycle and pedestrian facilities. Provide information on existing and committed bicycle and pedestrian facilities in the area. This information may be obtained from the local municipality or from the VTrans Bicycle and Pedestrian Program. The term "committed" in this context refers	

	to facilities for which funding exists. If no such facilities exist, this should be so noted.
	“Safe Routes to School Program” facilities. If a project area includes a designated “Safe Route to School” or other popular pathway, these should be described in the Existing Conditions section of the TIS.
Project Parameters: Proposed Pedestrian and Bicycle Facilities	If it is proposed that the development be connected to planned or committed pedestrian or bicycle facilities, that the details of such connections should be shown.
Traffic Projections for Access(es) and Other Study Intersections and Highway Sections: Alternative Transportation Analyses	Bicycle and Pedestrian. Bicycle and pedestrian generated trips should also be estimated using appropriate methodology. Again, such an analysis should be realistic in its projections and preferably should be compared to services at similar developments in the area.
Capacity and Warrant Analyses: Consideration of Bicycle and Pedestrian Access and Safety	If there are existing bicycle and/or pedestrian facilities in the area to be impacted by a proposed development, assessment should be included of how these facilities may be impacted. For example, if there are bicycle lanes on the roadway and a turn lane is needed to mitigate traffic impacts, provision must be made for continuity of the bicycle lane. Infrastructure changes proposed to mitigate traffic impacts should not result in the degradation of bicycle or pedestrian access or safety.
Impact Mitigation Recommendations: Recommended Transportation Demand Management (TDM) measures (vanpools, ridesharing, flextime, etc.)	TDM measures should also be considered. TDM measures include flexible work hours or adjusting shift schedules to avoid peak hours of the adjacent roadway, promoting ridesharing or vanpooling and promoting alternate modes of travel to include bicycle, pedestrian and public transportation. A more extensive list is shown in Appendix E Attachment: Transportation Demand Management Strategies.
Impact Mitigation Recommendations: Recommended Public Transportation, Pedestrian and Bicycle Facilities	Developers can mitigate impacts through the appropriate use of public transportation services as well as bicycle and pedestrian facilities. Estimates of the number (or percent) of trips mitigated by use of public transportation, bike and pedestrian facilities should be realistic and based on local/regional observations or comparable data from similar regions around the country.
KEY TAKEAWAYS	
<ul style="list-style-type: none"> • Traffic impact studies should document existing and proposed bicycle and pedestrian facilities in the area of study as well and how they will be impacted by a proposed development. • Traffic impact studies should realistically project bicycle and pedestrian trips using an appropriate trip generation methodology. • Impacts should be mitigated through public transit services, bicycle facilities, pedestrian facilities, and other transportation demand management (TDM) measures. 	

Table 7: Vermont Safe Routes to School Safety and Enforcement

PLAN NAME		AGENCY	YEAR
Vermont Safe Routes to School Safety and Enforcement		Vermont Agency of Transportation	2019
PURPOSE			
This VT SRTS MiniGuide explains how law enforcement and community members can work together to create and sustain a safe environment for walking and biking to school.			
RECOMMENDED STRATEGIES (as relevant to the BPSP)			
Community	Corner Captains: Stationed outside at designated locations, corner captains can improve personal security by serving as “eyes on the street” and supervise during the morning and afternoon.		
	Safe Houses Program: A Safe House is a home along a route to school that is clearly marked as a safe place for students if they need assistance or help while walking or biking to or from school.		
Law Enforcement	Adult Crossing Guard Program: Adult crossing guards help students cross the streets near schools. Guards must be trained and have a complete understanding of their roles and responsibilities.		
	Patrol School Zones: Police officers patrol near school during arrival and dismissal to direct traffic, crack down on unsafe driving, or target criminal activity near the school.		
	Safety Workshops for Students: Law enforcement staff conduct workshop to teach students about specific traffic or safety related issues.		
	Caught Being Good Program: Law enforcement staff hand out small rewards when they notice students practicing safe walking and biking behaviors, and drivers operating safely and courteously.		
KEY TAKEAWAYS			
<ul style="list-style-type: none"> • Collaboration between law enforcement and community members can foster a safe environment for children to walk or bike to and from school. • Community-based programs may include corner captains to keep an eye on the street during school arrivals and dismissals or safe houses offering a refuge for students during school arrivals or dismissals if necessary. • Law enforcement-based programs may include: crossing guard trainings, school zone patrols (especially during school arrivals and dismissals), safety workshops for students, and rewarding good walking and bicycling behavior during school arrivals and dismissals. 			

Table 8: 2040 Vermont Long-Range Transportation Plan

PLAN NAME		AGENCY	YEAR
2040 Vermont Long-Range Transportation Plan		Vermont Agency of Transportation	2018
PURPOSE			

The 2040 Vermont Long-Range Transportation Plan (LRTP) is the state’s long-range transportation plan for all modes of travel. The LRTP serves as a framework, guiding transportation decision-making and investments looking out over the horizon of the next 20 years.

VISION

A safe, reliable and multimodal transportation system that grows the economy, is affordable to use and operate, and serves vulnerable populations.

GOALS / OBJECTIVES / STRATEGIES (as relevant to the BPSP)

Improve safety and security across all transportation modes	Reduce the number of crashes on Vermont highways, with a focus on those resulting in a fatality or incapacitating injury.	Address safety issues as a component of each modal plan (public transit, bike-ped, rail, aviation).
		Review the needs of all modes as part of the project development process, employing Complete Streets principles in accordance with state policy.
Preserve and improve the condition and performance of multimodal transportation system	Make strategic investments to preserve and improve conditions of highways, railroads, airports, bike-paths, trails, sidewalks, and public transit infrastructure.	Develop long-range multimodal corridor management plans in coordination with local governments and regional planning agencies.
	Provide a transportation system that adequately serves current and future demand.	Review agency policies to ensure that capacity decisions are balanced with other community needs and objectives.
Provide mobility options and accessibility for all users of the transportation system	Increase the viability of active forms of transportation through improved infrastructure and connectivity.	Continue to support the AOT Bicycle and Pedestrian Grant Program
		Develop and implement projects and schedule maintenance activities in support of priority corridors identified in the Vermont On-Road Bicycle Plan.
		Lead and/or support public outreach and education on non-motorized transportation options.
		Review the needs of all modes as part of the project development process, employing Complete Streets principles in accordance with state policy.
	Increase awareness of transportation options for residents and visitors.	Lead and/or support public outreach and education on transportation options through programs such as Go VT, 511, and social media.
		Develop new strategic education campaigns promoting the various modes of transportation.

Leverage transportation investments to increase Vermont's economic vitality.	Strategically invest in highways and bridges, railroads, airports, and public transit and bicycle and pedestrian facilities to support economic access and growth.	Maintain state-owned rail-trails in a state of good repair and make improvements as necessary
	Grow tourism-oriented transportation services.	Develop projects and schedule maintenance in support of priority corridors identified in the Vermont On-Road Bicycle Plan.
		Lead and/or support public outreach and education on non-motorized transportation options.
		Review the needs of all modes as part of the project development process, employing Complete Streets principles in accordance with state policy.
	Support transportation initiatives which enhance recreation opportunities.	Develop projects in support of priority corridors identified in the Vermont On-Road Bicycle Plan.
		Develop projects in support of state-designated Vermont Byways.
		Develop and implement a statewide strategy for maximizing the appeal and the economic benefit of Vermont's highways for bicycle tourism.
		Participate in the Vermont Outdoor Recreation Economic Collaborate (VOREC) and consider the recommendations of VOREC in transportation planning and project development.
		Support recreation trails systems by improving on-road connections to nearby villages and urban centers.
	Practice environmental stewardship.	Reduce the overall level of energy use by the transportation system users.
Support livable, healthy communities.	Maintain and strengthen the vitality of Vermont's villages and downtowns.	Develop standards for traffic calming on state highways in villages and downtowns.
	Make transportation investments that promote active	Support investments in and around villages and downtowns that accommodate and improve the viability and safety of active transportation, such as walking and bicycling.

	transportation and reduce social isolation.	Update the Vermont State Standards, incorporating state of the practice in highway design to ensure Vermont transportation facilities are designed to meet current state and community needs and accommodate a variety of users.
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KEY TAKEWAYS

- Aims to guide investment in transportation projects through 2040 while considering the needs of all modes of travel.
- Major themes within the project goals, objectives, and strategies include: Safety, Multimodal Condition, Mobility, Accessibility, Economic Vitality, Environmental Health, and Quality of Life.
- Numerous goals, objectives, and strategies reference bicycle and pedestrian travel as a way to improve Vermont’s transportation system.

Table 9: Snow and Ice Control Plan

PLAN NAME	AGENCY	YEAR
Snow and Ice Control Plan	Vermont Agency of Transportation	2018

PURPOSE

The purpose of this plan is to define levels of service, operational procedures, and best management practices (BMPs) for performing winter maintenance activities on Vermont’s Highways. It supports VTrans’ mission and goals to provide for the safe and efficient movement of people and goods; and to preserve, maintain, and operate the transportation system in a cost effective and environmentally responsible manner.

OPERATIONS (as relevant to the BPS)

Sidewalks: The maintenance of the sidewalks, including snow removal, is the responsibility of local communities. In addition, in communities where on-street parking is permitted, snow removal from the parking areas, including plowing and or hauling away, is a local responsibility.

Widening or Pushing Back Snow Banks: Following storms with heavy snowfall, or when several storms result in substantial snow banks, VTrans may push back snow banks with truck wings or a motor grader. This provides room for future snow storage, reduces or prevents melted snow from running out onto the roadway pavement and creating icing conditions, and increases safe sight distance at intersections. There is no practical way to prevent depositing snow in previously cleaned driveways or walkways.

KEY TAKEWAYS

- Local communities are responsible for sidewalk snow removal.
- VTrans “may” push snow to make room for future snow storage or prevent snow from melting into the roadway. This document makes no mention of how pushing snow back from the lanes or shoulder can improve conditions for bicyclists. VTrans indicated this practice may also result in snow being pushed onto walkways/sidewalks, and that this outcome may be unavoidable.

Table 10: Transportation Planning Initiative – Manual and Guidebook

PLAN NAME	AGENCY	YEAR
Transportation Planning Initiative – Manual and Guidebook	Vermont Agency of Transportation	2018

TPI PURPOSE

The TPI program began in the early 1990's and grew out of the public perception that transportation system design decisions were made with limited input from the public and strict adherence to national design standards resulting in projects that were out of character for Vermont. TPI is a partnership between VTrans and 10 of Vermont's 11 Regional Planning Commissions (RPCs). Chittenden County Regional Commission is a Metropolitan Planning Organization (MPO) and is not directly funded through the TPI, its work is done in concert with VTrans and other TPI partners and they actively participate in all TPI activities.

OBJECTIVES / PERFORMANCE EMASURES

Cooperation & Coordination between VTrans, RPCs, and Municipalities	Number of Transportation Advisory Committee (TAC) Meetings
	Number of Counts: Traffic, Bike/Ped, Park & Ride
	Number of Safety Forums, Standards, Road Foreman, Other Meetings
Conformance with Act 200 & Facilitation of Decentralized Decision-Making	Number of Regional Transportation Plans
	Number of Act 250 Hearings with Transportation Comments
	Number of Accelerated Bridge Project Meetings
Provide Transportation Planning Support To Municipalities	Percent of TPI Budget Spent on Local Assistance
	Number of Scoping Studies Completed
	Number of Inventories: Bridge, Culvert, Erosion, Sidewalk, Sign

GUIDING PRINCIPLES

- Conformance with federal transportation law (local consultation and broad citizen participation)
- Conformance with Act 200 (decentralized and coordinated decision making and developing regional plans)
- To develop and maintain comprehensive transportation plans that are incorporated into the Regional Plan
- To provide transportation planning support and resources to Municipalities
- To develop and sustain a collaborative and cooperative transportation planning relationship between VTrans, VT municipalities and regions, and
- To assist VTrans with public outreach for high profile/impact VTrans projects
- To ensure that there is a strong link between transportation planning and the programs it relates to, such as water quality, energy conservation, hazard mitigation, etc.
- To provide a platform for discussing complex state, regional and municipal issues as they relate to transportation.

KEY TAKEAWAYS

- TPI is a partnership between VTrans and Vermont's Regional Planning Commissions (RPCs).
- TPI responsibilities include: TAC meetings, transportation use counts, Regional Transportation Plans, Act 250 hearings, local assistance, scoping studies, infrastructure inventories, and other forums and meetings.
- Common themes in TPI's guiding principles include: conformance with transportation laws, public input, environmental interests, and collaboration, communication, and cooperation between stakeholders.

Table 11: Vermont Bicycle and Pedestrian Work Zone Traffic Control Guide

PLAN NAME	AGENCY	YEAR
Vermont Bicycle and Pedestrian Work Zone Traffic Control Guide	Vermont Agency of Transportation	2018
STATEMENT (as relevant to the BPSP)		
As part of the Vermont Agency of Transportation’s commitment to the safety of all roadway users within work zones, the accessibility and safety of bicyclists and pedestrians shall be considered during the planning and development of Temporary Traffic Control (TTC) Plans.		
The highest level of temporary facility will be provided when a facility specifically intended for bicycling or walking is impacted (e.g. sidewalk, bicycle lane or shared-use path).		
When sidewalks, shared use paths, or roadway shoulders are closed due to construction, a temporary facility should match (or exceed) the level of accessibility that existed before construction wherever possible or practical.		
It is important to consider the work zone needs of bicyclists and pedestrians as early as possible in the project development process. A temporary walkway or bikeway may require the use of property outside the existing right-of-way and identifying these needs prior to the right-of-way acquisition process is critical. Although there may be times where it is infeasible to fully meet the needs of bicyclists and pedestrians, every effort should be made to address their access and safety in the TTC plan.		
KEY TAKEAWAYS		
<ul style="list-style-type: none"> • Temporary Traffic Control (TTC) Plans will consider the accessibility and safety needs of bicyclists and pedestrians. • The highest level of temporary of bicycle or pedestrian facility should be installed, when feasible. • Early identification of bicycle and pedestrian needs is critical to TTC Plans. 		

Table 12: Vermont On-Road Bicycle Plan: Phase II

PLAN NAME	AGENCY	YEAR
Vermont On-Road Bicycle Plan: Phase II	Vermont Agency of Transportation	2018
PURPOSE		
The overall goal of the effort is to improve the condition of state roads to enhance safety and better accommodate the needs of all bicyclists. The Plan’s emphasis is on those roads designated as high-use priority bicycle corridors. The Plan will assist VTrans in understanding where to focus limited resources towards bicycle improvements and allow better integration into Agency projects and activities.		
POLICIES AND STRATEGIES		
Establish minimum target BLTS score on High, Medium, and Low-Use Corridors, and seeking opportunities to meet these targets through project identification and development for the High-Use Corridors. The target scores for these Medium and Low-Use Corridors may be different, since demand for bicycling along these corridors is less than in the High-Use corridors.		
Review crash analysis and Hot Spot data to determine if counter-measures to reduce crashes can be incorporated during planning, project identification and project development phases of projects.		

Continue to work with partner agencies to improve bicycling conditions state-wide; This could include establishing policies to work with local agencies to identify parallel bicycling routes to state roads, if the state road cannot be improved to accommodate bicyclists to an acceptable level. Also, continue to work with municipalities to improve bicycle conditions on Class 1 Highways, and other roadways that VTrans does not have jurisdiction for (given than 9 out of 10 Hot Spots were located along Class 1 Highways)
Update design guidance to improve roadways for bicycling in urban and rural contexts.
Continue to advance and refine design practices that impact bicycling comfort and safety, including rumble strip design practices, maintenance practices, speed assessments and shoulder width standards.
Continue to collect state-wide data on roadway factors that influence bicycling comfort, such as pavement data, accurate shoulder data, and dedicated bicycle facility information.
Continue to work with the law enforcement community on bicycle-vehicle crash data collection, and continue to use data to influence roadway design decisions that could mitigate crash rates and severity
Continue to advance and formalize policies that improve bicyclist safety, such as driver/bicyclist awareness and behavior campaigns and education programs.
KEY TAKEAWAYS
<ul style="list-style-type: none"> • Better accommodate the needs of all bicyclists with an emphasis on safety. • Help identify where to focus limited resources for bicycle improvements. • Use data-driven strategies to help guide bicycling improvements. • Partner with other groups and agencies to improve bicycling conditions through new and improved policies, enforcement, and education.

Table 13: Vermont Bicycling Laws

PLAN NAME	AGENCY	YEAR
Vermont Bicycling Laws	State of Vermont	2017
BICYCLE DEFINITION		
<p>“BICYCLE” means every pedal-driven device propelled by human power having two or more wheels on which a person may ride, including a so-called pedal vehicle which may have an enclosed cab.</p>		
LAWS		
Passing Vulnerable Users	The operator of a motor vehicle approaching or passing a vulnerable user shall exercise due care, which includes increasing clearance to a recommended distance of at least four feet, to pass the vulnerable user safely.	
Bicyclists Position on Road	<p>Bicyclists generally shall ride as near to the right side of the roadway, except when:</p> <ul style="list-style-type: none"> • Preparing for a left turn. • Approaching an intersection with a right-turn lane, if not turning right. • Overtaking another vulnerable user. • When taking reasonably necessary precautions to avoid hazards or road conditions. 	

Riding Two Abreast	Persons riding bicycles upon a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles. Persons riding two abreast shall not impede the normal and reasonable movement of traffic.
Lights at Night	Between sunset and sunrise, bicyclist must use a white light on the front of their bike (500 feet of visibility) and a red light on the back of their bike (300 feet of visibility).
Hand Signals	Bicyclists should use appropriate hand signals on the left side to indicate change of speed or direction.
Harassment	The operator of a vehicle shall not, in a careless or imprudent manner, approach, pass, or maintain speed unnecessarily close to a vulnerable user and an occupant of a vehicle shall not throw any object or substance at a vulnerable user.
Bicyclists Not Required to Use Bike Path	Bicyclists are permitted to use the road, even where there is an adjacent path.
Riding on Sidewalks and Crosswalks	There is no state law that prohibits bicyclists from riding on sidewalks. However, municipalities have the authority to regulate their own sidewalks. Some municipalities limit riding on sidewalks, especially for adults or in downtown areas. Bicyclists do not have the right-of-way in crosswalks under state law unless they dismount and walk.
Riding on Shoulders	“Paved road shoulders are considered bicycle lanes” which the statute defines as for preferential use by bicycles.
KEY TAKEAWAYS	
<ul style="list-style-type: none"> • Bicyclists have the same rights and responsibilities as motorists. • Bicyclists are permitted in the right lane, on the right shoulder, on an off-road path, in a left lane under certain circumstances, and on sidewalks, unless municipal laws prohibit bicycle use on sidewalks. 	

Table 14: Complete Streets: A Guide for Vermont Communities

PLAN NAME	AGENCY	YEAR
Complete Streets: A Guide for Vermont Communities	Vermont Department of Health	2016
ACT 34 OF THE 2011 LEGISLATURE		
<p>The purpose of this bill is to ensure that the needs of all users of Vermont’s transportation system—including motorists, bicyclists, public transportation users, and pedestrians of all ages and abilities—are considered in all state and municipally managed transportation projects and project phases, including planning, development, construction, and maintenance, except in the case of projects or project components involving unpaved highways. These “complete streets” principles shall be integral to the transportation policy of Vermont.</p>		
PURPOSE		
<p>This document reviewed the performance measures included in the 2008 VTrans Pedestrian and Bicycle Policy Plan. It identified that some of these measures include potentially difficult data to collect. For municipal purposes a modified subset of the measures included in the 2008 Policy Plan are recommended.</p>		

RECOMMENDED SUBSET OF MEASURES	
Usage	The “Usage” measures require data that are difficult to acquire (e.g., minutes of walking/biking per day). If communities wanted to undertake periodic counts of pedestrian and/or biking activity at key locations, or conduct surveys of how children arrive at school, for example, these could be very helpful in their overall assessment of these important contributors to community livability.
Safety	“Safety” is a key variable and can be included. Data on the number of injuries or fatalities of bicycles and pedestrians is available from VTrans.
Facilities	The “Facilities” measures are relevant and easier to implement, and reflect the above NCSC measures.
Training and Assistance	“Training and Assistance” can be measured by participation of staff and board members in training of complete streets principles. In addition to local public works staff and road crews, planning and zoning staff and boards, selectboards and council members should participate.
ADDITIONAL RECOMMENDED MEASURES	
% of residences served directly by walkway(s) or paths.	
% of jobs served directly by walkway(s) or paths.	
% of residences/business jobs accessible to transit (within ½ mile).	
% of intersections on high volume roads with pedestrian crossings.	
% eligible road miles supporting bicycles (bike lane/path, paved shoulder, shared lanes on slow streets).	
KEY TAKEAWAYS	
<ul style="list-style-type: none"> • The needs of all road users should be considered in all state and municipal planning, development, construction, and maintenance projects. • Performance measures to consider from the 2008 Policy Plan: Usage, Safety, Facilities, and Training and Assistance. • Additional performance measures to consider: shared use path and transit connections to residential and employment areas, pedestrian crossings at intersections, on-road bicycle facility mileage. 	

Table 15: VTrans On-Road Bicycle Plan: Phase I

PLAN NAME	AGENCY	YEAR
VTrans On-Road Bicycle Plan: Phase I	Vermont Agency of Transportation	2016
PURPOSE		
The overall goal of the On-Road Bicycle Plan is to develop a comprehensive improvement plan that identifies opportunities to enhance bicycle conditions on state roads designated as high-use priority bicycle corridors.		
SHORT TERM RECOMMENDED USE		
As projects move through the Agency’s scoping, design, and construction process, the Bicycle Use categories can help staff identify whether they expect high bicycle use within a particular project. Knowing which roads are designated as high use bicycle corridors can help the Agency decide when to approve additional expenditures – such as justifying widening shoulders when a retaining wall is required. Traffic management plans can be design to account for locations where high bicycle use is anticipated. In addition		

to capital projects, regular maintenance, such as street sweeping, shoulder striping, and filling potholes can be prioritized on roads expected to experience heavier bicycle traffic.

LONG-TERM RECOMMENDED USE

As a long-term goal, the tool can be used to set performance targets and identify gaps in high use bicycle corridors. For example, the Agency may target a specific bicycle level of service for each bicycle use category. VTTrans can measure its performance by what percentage of roadways meet the pertinent standard, and it can focus attention on gaps in bicycle facilities along high use bicycle corridors, prioritizing projects that fill those gaps.

KEY TAKEAWAYS

- There is a need for a comprehensive improvement plan which identifies opportunities to enhance bicycle conditions on state roads.
- This tool can be used to help determine when and where to focus resources for bicycle facility implementation.
- In the long-term, VTTrans can use this tool to set and track performance measures.

Table 16: Agency Strategic Plan

PLAN NAME	AGENCY	YEAR
Agency Strategic Plan	Vermont Agency of Transportation	2015
VISION		
A safe, reliable and multimodal transportation system that promotes Vermont’s quality of life and economic wellbeing.		
GOALS		
Provide a safe and resilient transportation system that supports the Vermont economy.		
Preserve, maintain and operate the transportation system in a cost effective and environmentally responsible manner.		
Provide Vermonters energy efficient, travel options.		
Cultivate and continually pursue innovation, excellence and quality customer service.		
Develop a workforce to meet the strategic needs of the Agency.		
OBJECTIVES (as relevant to the BPSP)		
Reduce the number of major crashes.		
Increase the resilience of the transportation network to floods and other extreme weather and events.		
Maintain pavement, structures and other transportation system assets in a state of good repair.		
Implement an Asset Management System and integrate it with Planning and Programming (budget decisions).		
Minimize the environmental impacts of the transportation system.		
Increase use of walking, biking, transit, rail, and Travel Demand Management options.		
Staff deliver the outcome as promised and manage any problems.		
Recruit excellent, qualified and diverse employees.		

Retain and develop excellent and diverse employees

KEY TAKEAWAYS

- Maintain a safe, reliable, efficient, and multimodal transit system to support economic opportunities and quality of life.
- Recruit and retain excellent, qualified, and diverse VTrans employees.
- Improve safety for all users while promoting alternative modes of transportation (walking, biking, transit, rail, etc.).

Table 17: Strengthening Vermont’s Economy by Integrating Transportation and Smart Growth Policy

PLAN NAME	AGENCY	YEAR
Strengthening Vermont’s Economy by Integrating Transportation and Smart Growth Policy	Vermont Agency of Transportation	2013
PURPOSE		
<p>The purpose of this project was to demonstrate that policies and programs at the Vermont Agency of Transportation (VTrans) that connect smart growth and transportation will strengthen the state’s economy and support the Agency’s vision for a safe, efficient, and multimodal transportation system.</p>		
GOALS (as relevant to the BPSP)		
Strengthen and expand the VTrans corridor management planning program.		
Revise VTrans guidance and procedures for identifying, defining, and prioritizing transportation projects to incorporate and measure consistency with state land use, economic development, environmental, and community development goals.		
Consolidate and update VTrans design standards to support multimodal objectives.		
Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state planning law.		
Document the smart growth benefits and costs of VTrans policies, programs, and investments.		
ACTIONS (as relevant to the BPSP)		
Develop an interagency competitive planning grant program among VTrans, ACCD, ANR, PSD, VDH, and other interested agencies. (FY 2014)		
Review and update VTrans “Project Development Process” guidance on developing purpose and need statements to include consistency with state statutes, policies, and goals. (FY 2015)		
Review and update VTrans “Project Development Process” guidance on developing scoping studies with an emphasis on evaluating transportation supply and demand solutions. (FY 2015)		
Review and update the VTrans “Project Prioritization and Project Selection” methodology to include bonus points for projects within all state designated community centers and for projects meeting multimodal service criteria. (FY 2016)		
Review and update design standards and guidelines for all transportation modes where necessary to reflect smart growth principles and consolidate into one comprehensive design standards document. (FY 2016)		

Review and update existing VTrans “Traffic Impact Study” guidelines that clearly define new volume-to-capacity thresholds for state designated community centers and require multimodal analysis. (FY 2015)
Develop a VTrans smart growth performance measure system, including quantitative and qualitative cost effectiveness tools, in collaboration with other state agencies. (FY 2016)
KEY TAKEAWAYS
<ul style="list-style-type: none"> • Policies and programs to strengthen the economy while maintaining a safe, efficient, and multimodal transportation system. • Review and update VTrans “Project Development Process”, “Project Prioritization and Project Selection”, and other design standards and guidelines to support consistent smart growth principles.

Table 18: Complete Streets Guidance

PLAN NAME	AGENCY	YEAR
Complete Streets Guidance	Vermont Agency of Transportation	2012
PURPOSE		
<p>Nationally, Complete Streets represents a paradigm shift in traditional road construction philosophy. In Vermont, Complete Streets builds upon the flexibility in design and context sensitive solution practices that have been implemented since 1997 when the Vermont State Standards were established. It was once common practice to reactively attempt to accommodate bicycle and pedestrian friendly practices into projects. While this methodology would often result in a final product that contained benefits to bicyclists and pedestrians it did not allow the designer to consider all alternatives and consult with applicable stakeholders to determine what, or if, improvements would be of true value. Complete Streets principles require designers to consider how a project will incorporate the needs of all facility users, throughout a project’s planning, design, construction, and maintenance phases. This methodology may result in additional benefits including: improving safety for all users, improving connectivity, improving human health, enhancing quality of life and livability, providing an aesthetically pleasing surrounding, supporting current and future economic vitality, and the reduction of pollutants into the environment.</p>		
KEY CONCEPTS		
Engineering or Planning Considerations: The design team must consider the contents of this document in combination with project specific contributing factors including but not limited to:	Existing/Future Standards / Policies / Guidance Documents	
	Right-Of-Way (ROW) Constraints	
	Environmental Constraints	
	Maintenance Requirements & Responsibilities	
Exemptions: It is the responsibility of the VT Agency of Transportation (VTrans) to consider Complete Streets principles for all projects unless one of the three exceptions listed below are met:	Use of the facility by pedestrians, bicyclists, or other users is prohibited by law	
	Outside the scope of the project because of its very nature	
	The cost of incorporating Complete Streets principles is disproportionate to the need or probable use	
	Evaluation Matrix	

<p>Implementation: Complete Streets must be considered throughout all project stages. The following will assist the design team in collecting appropriate data and implementing Complete Streets practices:</p>	Checklists	
<p>Practices and Principles: The following lists Complete Streets topics that have specific practices and principles that may be utilized on applicable VTrans projects (a full description of practices and principles can be found in the Complete Streets Guidance document):</p>	Access Management	Refuge Islands
	ADA Compliant Curb Ramps	Roadway Reconfiguration (“Road Diets”)
	Bike Lanes	Roundabouts
	Crosswalks	Shared Use Paths
	Curb Extensions	Shoulders
	High Visibility Treatments at Mid-Block Crosswalks	Sidewalk Surface Treatments
	Horizontal & Vertical Alignment	Sidewalk Widening/Construction
	Landscaping	Sight Distance
	Pavement Maintenance	Street Furniture
	Pavement Markings	Street Lighting
	Pedestrian Signals and Timing	Superelevation
Public Transit Facilities	Traffic Patterns	
KEY TAKEAWAYS		
<ul style="list-style-type: none"> • The needs of all road users should be considered through all project phases. • Aims to improve: Safety, Connectivity, Personal Health, Quality of Life, Aesthetics, Economic Vitality, and Environmental Health. • BPSP-related practices and principles include: ADA compliance, on-road bike infrastructure, pedestrian crossing enhancements, sidewalk upgrades, shared use paths, and bicycle and pedestrian amenities. 		

Table 19: Vermont Public Transit Policy Plan¹

PLAN NAME	AGENCY	YEAR
Vermont Public Transit Policy Plan	Vermont Agency of Transportation	2012
VISION		
Public transit meets the basic mobility needs of all Vermonters including transit-dependent persons, provides access to employment and other modes, mitigates congestion, preserves air quality and promotes efficient		

¹ *An updated Public Transit Policy Plan is now available and can be viewed at the following link: <https://vtrans.vermont.gov/planning/P TPP>

energy use, and advances the State’s economic development objectives – all in a safe, reliable, cost-effective, and environmentally responsible manner.

GOALS

Provision for basic mobility for transit-dependent persons, as defined in the public transit policy plan of January 15, 2000, including meeting the performance standards for urban, suburban, and rural areas. The density of a service area's population is an important factor in determining whether the service offered is fixed route, demand-response, or volunteer drivers.

Access to employment, including creation of demand-response service.

Congestion mitigation to preserve air quality and sustainability of the highway network.

Advancement of economic development objectives, including services for workers and visitors that support the travel and tourism industry. Applicants for "new starts" in this service sector shall demonstrate a high level of locally derived income for operating costs from fare-box recovery, contract income, or other income.

RECOMMENDED POLICIES (as relevant to the BPSP)

Interface with Land Use Planning	Continue to support efforts to curtail sprawl and create transit-supportive communities consistent with other state-endorsed policies and programs such as Complete Streets and Smart Growth.
	Continue to support the integration of transit services and facilities into State and local planning and design decisions. Include the evaluation of transit potential in project reviews at the State and local levels and the implementation of pedestrian-friendly designs.
Improving the “Transit Experience”	Continue working with transit operators and local communities to improve the transit user experience and attract riders, including choice riders, onto the system. This will include consideration of how to provide good pedestrian connection to transit stops, adequate street crossings, ADA accessible bus stops and pedestrian connections, and bike racks and bike parking at major transit stops and facilities.

KEY TAKEAWAYS

- Transit service should aim to provide mobility for those depending on transit, provide access to areas of employment, mitigate negative effects to the environment and highway network, and advance economic opportunities.
- Transit service should support and align with Complete Street policies and programs.
- Integrate transit services with pedestrian-friendly designs.
- Improve upon and expand the transit user experience through improved pedestrian connections to transit stops, bike parking opportunities and major transit stops, and ADA-compliant facilities.

Table 20: Operations and Program Development Project Coordination Procedure

PLAN NAME	AGENCY	YEAR
Operations and Program Development Project Coordination Procedure	Vermont Agency of Transportation	2011
PURPOSE		
Ongoing communication between the Program Development (PDD) and Operations Divisions (OPS) is vital to designing, constructing and maintaining high quality and cost-effective transportation facilities. The following		

interaction between the Divisions is expected to be followed to encourage thorough communication during the project development process and during construction. This procedure will be followed for all projects being advanced through the Roadway, Traffic and Safety, Structures, Paving, Rail, Local Transportation Facilities (LTF) and Intelligent Transportation Systems (ITS) sections. Aviation, Transportation Buildings and Public Transit Section will follow this procedure as appropriate.

GENERAL

This document describes the communication responsibilities for division staff expected by the Directors. Ongoing communication between all involved at any point during the project delivery process will improve the understanding and working relationships between all employees for the overall best interests of the Agency and the public users of the transportation system.

DOCUMENT REVIEWS / OLSR

The On Line Shared Review (OLSR) process, administered by the Quality Assurance Unit, will be utilized as an effective means to employ centralized, on-line project reviews as directed by the Project Managers. OLSR's will be held during all appropriate project milestones (i.e. Conceptual, Preliminary, Final, and Pre-Contract). The OLSR review comments, subsequent responses to comments, and all archived review documents will be stored and accessible to all involved on the Agency Intranet Site. All OLSR initiations (via e-mail) include, as a minimum: the project phase, the review distribution list, the OLSR deadline (a minimum of two weeks after the shared review has been initiated), and a hyperlink to all related review documents. This document identifies key points during the development of a project at which communication between the developer of a project, the OTA, and other Agency support services, is essential. There are differing means of communication and responsibilities for the following stages in the life of a project:

- Project Scoping
- Preliminary Engineering (Conceptual Plans, Preliminary Plans, Final Plans and Pre-Contract Plans)
- Pre-Construction
- Construction
- Post Construction

KEY TAKEAWAYS

- Frequent and open communication between divisions is critical to high quality and cost-effective transportation facilities.
- OLSR is an online review process to facilitate communication between project managers and other essential individuals and identify communication responsibilities during various project phases.
- No specific mention of integration of bike- or pedestrian-related infrastructure or programming into other VTrans projects.

Table 21: Vermont Pedestrian and Bicycle Policy Plan

PLAN NAME	AGENCY	YEAR
Vermont Pedestrian and Bicycle Policy Plan	Vermont Agency of Transportation	2008
VISION		
The State of Vermont has safe, well used, convenient and accessible conditions for bicyclists and pedestrians of all ages and abilities. Bicycle, pedestrian and roadway networks provide mobility throughout		

the State and links with other transportation modes, while complementing Vermont’s natural environment, community character, and overall quality of life.

POLICY STATEMENT

At each stage of planning, design, construction, implementation, operations and maintenance activities, VTrans-funded projects and programs shall reasonably include pedestrians and bicyclists. New projects, reconstruction projects and other transportation facility improvements will maintain or where feasible improve existing access and conditions for pedestrians and bicyclists to meet applicable Vermont standards. Education and encouragement programs will incorporate pedestrian and bicycle issues, as appropriate.

GOALS

Cultural Environment: Enhance the human scale and livability of Vermont’s communities by improving opportunities for pedestrian and bicycle mobility and access in and between towns, downtowns, villages and rural landscapes.

Economic Vitality: Enhance the economic vitality of Vermont by increasing economic development opportunities (e.g., create small businesses catering to pedestrian and bicycle needs, making commercial districts more attractive and accessible), providing greater transportation efficiency and choice, improving tourism activities, reducing health costs, and limiting the overall demand on the transportation infrastructure that would result from better pedestrian and bicycle transportation options.

Health: Improve the health of Vermonters and reduce health care costs by making it easier, safer and more convenient for citizens to be more physically active by walking and bicycling on a regular basis.

Natural Environment: Improve air quality, reduce greenhouse gas emissions which contribute to climate change, increase energy conservation and reduce vehicle miles traveled per capita by increasing the number of trips made by pedestrians and bicyclists.

Safety: Improve the safety of pedestrian and bicycle travel throughout the entire roadway network, and the accessibility of accessible pedestrian facilities, shared use path, and rail-trail network in Vermont through education and physical improvements.

Transportation Choice: Enhance pedestrian and bicycle transportation options in Vermont so that citizens, regardless of location, socioeconomic status, or health can choose a seamless, convenient and comfortable mode that meets their needs. Promote a transportation network, including roadways, shared use paths, rail trails, rails with trails, and accessible pedestrian facilities that allow pedestrians and bicyclists to reach their destinations throughout the State or to connect to other modes of travel.

OBJECTIVES

As appropriate and feasible, incorporate pedestrian and bicycle transportation needs in VTrans-funded projects and programs.

Build and maintain the ability and expertise within all VTrans Divisions to address pedestrian and bicycle needs and issues.

Provide pedestrian and bicycle planning, technical, educational, and financial assistance to local governments, regional planning organizations, and other State agencies.

Fund planning, design, construction and maintenance of pedestrian and bicycle projects and programs at an adequate level.

Maintain on- and off-road pedestrian and bicycle facilities in good operating condition for their expected use.

Educate motorists, pedestrians, and bicyclists regarding their shared responsibility to obey the law and engage in safe operating behavior.
Encourage more Vermonters to walk and bicycle through programs and promotions.
Work with citizens, municipalities, regional planning organizations, and other State agencies to develop, plan, and implement pedestrian and bicycle plans, projects, and programs.
Develop and apply measures to track progress toward implementing this Plan.
Assess the economic benefits (e.g., small business and community development, transportation efficiency and choice, tourism, and health) and the environmental and cultural benefits (e.g., clean air, clean water, energy efficiency and enhanced community character) of walking and bicycling in Vermont.
Promote land use and development principles throughout Vermont that make pedestrian and bicycle travel more convenient.
Provide a seamless transportation network for pedestrians and bicyclists by improving linkages between walking, bicycling and other modes of transportation.

PERFORMANCE MEASURES

Usage	Number of minutes per day the average Vermont resident spends doing pedestrian and bicycle activity.
	Change in percent of all workers who commute to work by walking or bicycling.
	Number of pedestrians and bicyclists observed in different parts of Vermont.
Safety	Police-reported pedestrian and bicycle crashes per number of minutes spent walking and bicycling.
Facilities	Miles of sidewalk on State-owned roadways.
	Miles of shared-use paths.
	Total number of VTrans funded bicycle and pedestrian projects and new facilities.
Training and Assistance	Total number of VTrans staff and consultants (including regional planning commissions) and local officials who participate in scheduled training sessions on pedestrian and bicycle accommodation and design.
Education and Encouragement	Increase in walking and bicycling to and from school for schools participating in Safe Routes to Schools programs.
	Number of schools and students participating in pedestrian or bicycle safety education programs or events. (e.g., Safe Routes to School, Bike Smart, etc.).
Economic Benefits	[No ongoing performance measure]

KEY TAKEAWAYS

- Major themes of the 2008 Policy Plan include: safety, mobility, integration of bicycle and pedestrian needs, and improved health of all types (personal, environmental, and economic).
- At each stage of planning, design, construction, implementation, operations and maintenance activities, VTrans-funded projects and programs shall reasonably include pedestrians and bicyclists.
- All VTrans Divisions should build and maintain the ability and expertise to address pedestrian and bicycle needs and issues and participate in related training sessions.

Table 22: Enhancements to Transportation Projects Policy (“The Amenities Policy”)

PLAN NAME		AGENCY	YEAR
Enhancements to Transportation Projects Policy (“The Amenities Policy”)		Vermont Agency of Transportation	2007
PURPOSE			
To establish Agency of Transportation policy on enhancements to transportation projects.			
POLICY STATEMENT			
This policy defines the use limits of VTrans-administered funds (including both state and federal non-earmark funds) to support enhancements or amenities to transportation projects. The policy applies to projects administered or developed by VTrans, as well as municipal projects administered under a cooperative agreement between VTrans and the municipality. This policy is part of VTrans’ effort to conserve funding and resources for preservation of transportation facilities in keeping with “Road to Affordability” priorities.			
QUESTIONS / ANSWERS (as relevant to the BPSP)			
Are pedestrian and bicycle facilities considered to be functionally necessary?	In keeping with the VTrans Policies on Pedestrians and Bicycles, appropriate accommodation of pedestrians and bicycles will be incorporated into all transportation projects. Appropriateness will be determined by the VTrans Project Manager in consultation with his/her Program Manager and the VTrans Bicycle and Pedestrian and Safe Routes to Schools Managers.		
Who makes the determinations of functional necessity or core project?	Determinations as to functional necessity and core project are the responsibility of the VTrans project manager		
Is there a process for reviewing such determinations?	A municipality can request that a project manager’s determination be reviewed by the VTrans program manager. A municipality can request further review by the Secretary of Transportation, whose determination is final.		
What if a municipality wishes to incorporate non-functional or non-core elements to a VTrans project?	If a municipality desires to have elements included in a project that are not determined to be functionally necessary, it can do so as non-participating costs if the municipality agrees by a Finance and Maintenance Agreement to fund 100 percent of the construction cost of those items as well as agree to maintain those items with 100 percent locally secured funds.		
KEY TAKEAWAYS			
<ul style="list-style-type: none"> • Pedestrian and bicyclist facilities may be considered as enhancements to other transportation projects if they are deemed “functionally necessary”. • Facilities are determined “functionally necessary” by the VTrans Project Manager in coordination with the VTrans Program Manager, VTrans Bicycle and Pedestrian Manager, and VTrans Safety Routes to Schools Manager. • If a pedestrian or bicycle facility is desired by a municipality, but that facility has not been deemed “functionally necessary”, the facilities can be implemented if the municipality agrees to fund 100% of the construction and maintenance costs. 			

Table 23: Highway Design “Level of Service” Policy

PLAN NAME	AGENCY	YEAR
Highway Design “Level of Service” Policy	Vermont Agency of Transportation	2007
PURPOSE		
<p>The purpose of this policy is to establish a Highway Design Performance Measure which addresses mobility and capacity issues on Vermont roadways. The measure selected is the Motor Vehicle Level of Service (LOS) of a facility as defined in the latest version of the Highway Capacity Manual (HCM) 2000 Edition, also known as Transportation Research Board Special Report 209. This policy applies to all roadway facilities.</p>		
POLICY		
<p>It is the Agency’s policy to design its highways and to require others accessing its facilities to effect improvements that will maintain a LOS “C” for the prescribed design period. In interpreting this policy, LOS refers to the overall LOS for the particular facility as defined in the latest HCM. LOS is defined as a quality measure for various highway facilities, which include, but are not limited to:</p> <ul style="list-style-type: none"> • Freeways • Two-lane two-way rural highways • Urban streets • Signalized intersections • Unsignalized intersections <p>Reduced LOS criteria may be acceptable, when approved by the Secretary of Transportation or designee on a case-by-case basis, especially within densely settled areas. Such determination should take into consideration, at a minimum, the following:</p> <ul style="list-style-type: none"> • Current and future traffic volumes • Essential Emergency Response routing and maintenance accessibility • The delay incurred by the traveling public • The volume to capacity (v/c) ratio • Facility safety (crash rates) • The negative impacts (cultural, environmental, etc.) which may result to the surrounding area, because of improvements required to achieve a Level of Service “C” for the facility • Effects of economic suppression due to inadequate infrastructure and subsequent displaced development <p>In extreme circumstances, where the existing LOS is less than desired and where the necessary geometric improvements are not feasible, a lower LOS may be acceptable, as long as the safety and mobility of the traveling public is improved. Strategies affecting such improvements should include traditional traffic engineering approaches such as</p> <ul style="list-style-type: none"> • Installation of traffic and pedestrian signals • Adjustment to signal phasings and timings • Modification to existing lane configurations • Pedestrian crossings • Other, similar measures 		

In addition, where appropriate, these approaches may be carried out with Transportation Demand Management (TDM) strategies or TDM strategies may be carried out independently. Examples of possible alternative strategies or improvements are listed in the Transportation Demand Management Strategies attachment. The attached list is not intended to be all inclusive and is provided for information purposes only. Town and Regional officials should be consulted on any mitigation strategies proposed for projects under their jurisdiction or in their geographic area.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES PROVIDED BY EMPLOYER/DEVELOPER (as relevant to the BPSP)

Work Place	Showers
	Secured Covered Bicycle Parking
Infrastructure Investments	Sidewalks
	Bicycle Lanes and Parking
	Shared Use Paths

KEY TAKEAWAYS

- Safety, mobility, and capacity of the transportation system are main priorities.
- Roads with lower levels of service (LOS) should be enhanced with improved pedestrian crossings and signals.
- Bicycle- and pedestrian related transportation demand strategies specifically identify the following facilities for work place and infrastructure investments: showers, secure and covered bicycle parking, sidewalks, bike lanes, and shared use paths.

Table 24: Access Management Program Guidelines

PLAN NAME	AGENCY	YEAR
Access Management Program Guidelines	Vermont Agency of Transportation	2005
PURPOSE		
<p>VTrans considers access permit applications and approves or denies access using location and design criteria. VTrans does not intend to deny reasonable entrance and exit to or from property abutting the highway except on limited access highways. All segments of the State Highway System shall be assigned an access category with applicable standards. The classification system and standards are intended to (1) protect and promote safety of the traveling public, (2) provide for the mobility of people and goods by preserving reasonable levels of service (LOS), and (3) preserve the functional integrity of the State Highway System by protecting the public investment in the existing highway infrastructure. The standards for each category provide VTrans with the parameters necessary to apply consistent permitting conditions based on a uniform classification system of all State Highways.</p>		
DESIGN ELEMENTS (as relevant to the BPSP)		
<p>Access design shall provide for the safe and convenient movement of all highway right-of-way users including, but not limited to, pedestrians, bicyclists, and the physically handicapped including those in wheelchairs. Sidewalks may be required where appropriate and when requested by local authority.</p>		

An access that crosses or otherwise affects pedestrian, bicycle, or handicapped accessible facilities, shall have the necessary modifications to ensure the safe crossing of the access and the safe use of the facility by pedestrians, bicyclists, and the handicapped.

To minimize pedestrian conflict and total access width at the roadway edge, radii shall not be constructed larger than required to accommodate the volume and types of vehicles using the access on a regular basis.

KEY TAKEAWAYS

- All right-of-way users should be considered in access designs.
- Access management designs should prioritize safety, mobility, and efficiency for all users.
- These guidelines can be used to help apply consistency to access management designs.

Table 25: Vermont Pedestrian and Bicycle Facility Planning and Design Manual

PLAN NAME	AGENCY	YEAR
Vermont Pedestrian and Bicycle Facility Planning and Design Manual	Vermont Agency of Transportation	2002
KEY CONCEPTS (as relevant to the BPSP)		
Introduction	All transportation projects in Vermont will be designed and constructed under the assumption that they will be used by pedestrians and bicyclists (except where specifically prohibited such as on limited access highways).	
Planning for Pedestrian and Bicyclists	Integrate pedestrian and bicycle needs into all levels of transportation planning starting at the earliest possible stage.	
	Pedestrian and bicycle planning should be closely linked with transit planning. The use and function of transit is largely dependent on the presence of adequate pedestrian facilities to provide the connection from the transit system to origins and destinations.	
	The users of pedestrian and bicycle facilities will include disproportionate numbers of senior adults and children including those with a wide variety of disabilities. The safety needs of these users are an important design consideration.	
Signs, Pavement Markings, and Signals	Signs, pavement markings and signals should be used sparingly and only when necessary to clearly convey information to users of a bicycle or pedestrian facility.	
Landscaping and Amenities	Maintenance agreements with local communities, garden clubs or private landowners (where appropriate), need to be worked out in advance of construction.	
	Landscape selection includes coordination for above and below ground utilities as well as safe sight distance and clear distance according to road width, travel speeds and obstacles.	
Maintenance	It is essential that maintenance considerations are considered during the planning and design stages of a project to ensure that a capable	

	maintenance entity is identified and the full cost of maintenance activities are considered.		
PEDESTRIAN POLICY		BICYCLE POLICY	
<p>Whereas:</p> <ul style="list-style-type: none"> • Everyone is a pedestrian; • Walking is a part of every trip; • Pedestrian travel is to be expected on all highways except where prohibited by state law; and • Pedestrian travel is an integral part of the Agency's transportation program. 		<p>Whereas:</p> <ul style="list-style-type: none"> • Bicyclists have the same mobility needs as every other user of the transportation system and use the highway system as their primary means of access to jobs, services and recreational activities; • To varying extent, bicycles will be used on all highways except where prohibited by state law; and • Bicycle travel is an integral part of the Agency's transportation program. 	
PEDESTRIAN GOALS		BICYCLE GOALS	
Encourage more walking.		Encourage more bicycling.	
Reduce the number of pedestrian-motor vehicle crashes and injuries.		Reduce the number of bicycle-motor vehicle crashes and injuries.	
Better address walking as a mode of transportation for all residents and visitors.		Better accommodate those who are dependent upon bicycling as their primary mode of transportation.	
Contribute to the U.S. Department of Transportation goal by helping to double the percentage of walking in the U.S.		Contribute to the U.S. Department of Transportation goal by helping to double the percentage of total trips made by bicycle in the U.S.	
Contribute to national health objectives by providing opportunities for walking as a matter of lifestyle through the creation of pedestrian-friendly facilities, compact growth centers and active community environments.		Contribute to national health objectives of providing opportunities for bicycling as a matter of lifestyle through the creation of bicycle-friendly facilities, compact growth centers and active community environments.	
PEDESTRIAN OBJECTIVES		BICYCLE OBJECTIVES	
Address pedestrian issues in all transportation plans developed with state or federal funds.		Address bicycling issues in all long range transportation plans developed with state or federal funds.	
Incorporate pedestrian facilities in all transportation projects and programs, where applicable.		Incorporate bicycle facilities in the implementation of all transportation projects and programs, where applicable.	
Ensure safe routes of travel for all pedestrians.		Design, construct and maintain all streets and highways where bicyclists are permitted under the assumption that they will be used by bicyclists.	

Promote a connected network of pedestrian facilities in compact villages and urban centers.	Promote a connected network of bicycle facilities in compact villages and urban centers.
Enhance pedestrian mobility and safety in rural areas.	Enhance bicyclists' mobility and safety in rural areas.
Reinforce a sense of neighborhood and community with transportation designs that encourage pedestrian use.	Reinforce a sense of neighborhood and community with transportation designs that encourage bicycle use.
Encourage land use and transportation development that accommodate pedestrians.	Encourage land use and transportation development that accommodate bicyclists.
Enhance intermodal access for individuals with impaired mobility.	Define jurisdictional roles for the provision of bicycle facilities.
Maintain the transportation system so pedestrian use is maximized.	Define jurisdictional roles for the maintenance of bicycle facilities so bicycle use is maximized.
Define jurisdictional roles for providing and maintaining pedestrian facilities.	Encourage towns and villages to use these guidelines in local planning and development.
Encourage towns and villages to use these guidelines in local planning and development.	Promote bicycle safety initiatives and public awareness of the benefits that can be derived from bicycling.
Promote pedestrian safety initiatives and public awareness of the benefits that can be derived from walking.	Promote improved data collection and evaluation techniques of existing and proposed facilities.
Improve data collection and evaluation techniques of existing and proposed facilities.	
KEY TAKEAWAYS	
<ul style="list-style-type: none"> • Where pedestrians and bicyclists are allowed, all transportation projects in Vermont will be designed and constructed under the assumption that they will be used by pedestrians and bicyclists. • Common Themes: Integration, Maintenance, Safety, Mobility, Promotion/Encouragement of Walking and Bicycling, and Health. 	

Table 26: Sidewalks Construction & Maintenance Policy

PLAN NAME	AGENCY	YEAR
Sidewalks Construction & Maintenance Policy	Vermont Agency of Transportation	2001
POLICY STATEMENT		
<p>It is the policy of the Vermont Agency of Transportation that any sidewalk constructed by the Agency, either as a stand alone project or as part of any other Agency funded or permitted construction project, will meet the appropriate state and federal design criteria for pedestrian accommodation. No sidewalk will be built without having in place before construction an agreement between the Agency and the municipality wherein the sidewalk will be built identifying the municipality responsible for all maintenance, including (but not limited to) winter snow and ice removal when deemed appropriate. All sidewalks built by municipalities, other state</p>		

agencies, or private entities in a state highway or right-of-way must meet the above criteria and have such an agreement in place before construction.

KEY TAKEAWAYS

- All sidewalks constructed by VTrans, other state agencies, municipalities, or private entities are required to meet appropriate state and federal design standards.
- Sidewalk maintenance is a municipal responsibility, which must be agreed upon before construction.

Table 27: Vermont State Design Standards

PLAN NAME	AGENCY	YEAR
Vermont State Design Standards	Vermont Agency of Transportation	1997
PURPOSE		
<p>Vermont State Standards for Construction, Reconstruction, and (where specified) Rehabilitation of Roadways and Bridges have been designed with two purposes in mind:</p> <ul style="list-style-type: none"> • To provide clear technical direction to the designers of transportation projects in Vermont. • To achieve roadway and bridge designs which provide access, mobility and safety for users, and which are also sensitive to the social and environmental context of Vermont. <p>The design of new transportation facilities in Vermont must balance multiple factors:</p> <ul style="list-style-type: none"> • The physical attributes of roadways which are important for user safety. • The transportation planning policies guiding the region and community. • The need for access to, and mobility along, a roadway. • The presence of historic sites and districts. • The presence of natural resources and environmental factors. • The social context of the communities within which the facility exists. • The economic development needs of the community, region, and state. 		
HOW STANDARDS WERE DEVELOPED		
<p>The standards presented in this document represent the work of the Vermont Design Standards Committee, established in 1994 as a part of the Long Range Transportation Plan. The group met regularly for over 21 months between April 1994 and January 1996. The meetings were focused on completing recommendations for revised standards based upon input from engineering, planning, and resources perspectives. The Design Standards Committee was comprised of representatives including VAOT staff from the engineering and planning divisions and legal units, the Agency of Natural Resources, the Division of Historic Preservation, Regional Planning Commissions, the Vermont Council on the Arts, the Preservation Trust of Vermont and the Federal Highway Administration. Numerous private citizens, from lay person to professional, also served on the committee.</p>		
BICYCLE AND PEDESTRIAN CONSIDERATIONS		
<p>Bicycle and pedestrian traffic may be expected along the sides of most Principal Arterial, Minor Arterial, Collector, and Local roads and streets (except those Principal Arterials and Minor Arterials which are designed and posted as limited access facilities). Where bicycles and pedestrians are allowed by law, the roadway should be designed and constructed under the assumption that it will be used by bicyclists and pedestrians. Bicycles require a paved surface; pedestrians, however, may often be adequately</p>		

accommodated on unpaved roadway shoulders. There are many ways in which roadway corridors should be improved to more safely accommodate bicycle and pedestrian traffic. Bicycle accommodation within the highway corridor may take four forms: (1) shared use of the highway by bicycles and motor vehicles, (2) designated bicycle route, (3) designated bicycle lane, or (4) a separated bicycle path.

KEY TAKEAWAYS

- The design standards resulted from collaboration with numerous state agencies and organizations as well as input from private citizens.
- Roads should include contextually appropriate bicycle and pedestrian accommodations where these users are permitted by law.
- Designs should improve access, mobility, and safety for all users.

A green-tinted photograph of a road scene. In the foreground, a cyclist is riding a road bike on a paved road. In the background, several cars are parked or driving on the road. A road sign with the number '302' is visible. The overall scene is set against a backdrop of trees and a clear sky.

Appendix 2



Best Practices

Appendix 2 contains the following documents:

2a: Best Practices Comparison

2b: Local Concerns Questionnaire

2c: New Project Summary Questionnaire

2d: Vermont Complete Streets Checklist

To: Jon Kaplan (VTrans), Sommer Bucossi (VTrans)
From: Laura Byer (Alta), Jeff Olson (Alta), Erica Wygonik (RSG)
Date: December 16, 2019

Re: Memo #2: Best Practices Comparison

Introduction

The Vermont Agency of Transportation (VTrans) is developing a Bicycle and Pedestrian Strategic Plan (BPSP) to better integrate bicycle and pedestrian needs and priorities into all VTrans activities. These activities may include infrastructure projects and facility maintenance as well as program and policy development. The Best Practices Comparison summarizes responses and input from those working to improve walking and bicycling conditions within other state transportation agencies regarding specific questions about their efforts. The communication and implementation strategies shown to be successful for other state transportation agencies will be used to inform the recommended strategies for the BPSP, as appropriate.

Those working to improve pedestrian and bicycle conditions in other selected state transportation agencies, often in positions similar to VTrans' Bicycle and Pedestrian Program Manager, were contacted via email requesting their participation and expertise. Those contacted were in no way obligated to participate, but any feedback received was greatly appreciated. The email explained the intent of the BPSP, the type of information to be gathered, and how their knowledge will help further the goals of the BPSP. Those contacted were given the option of a 30 to 60-minute phone interview or to answer the questions via email, whichever they preferred.

Transportation Agencies Interviewed

The consultant team worked with the VTrans Project Managers and the Core Management Group (CMG) to identify other state transportation agencies which have good practices regarding the integration of pedestrian and bicycle needs into their activities. Knowing what these agencies do to support alternative, active transportation modes can help VTrans identify future organizational improvements to implement internally in order to better accommodate pedestrians and bicyclists. The states and their associated employees working to improve pedestrian and bicycle conditions interviewed as part of this effort include:

- **Colorado:** Besty Jacobsen, Bicycle/Pedestrian/Scenic Byways Section Manager [*Phone Interview*]
- **Massachusetts:** Peter Sutton, Bicycle and Pedestrian Program Coordinator [*Email Response*]
- **Michigan:** Joshua DeBruyn, AICP, Pedestrian and Bicycle Coordinator/Specialist [*Email Response*]
- **Minnesota:** Amber Dallman, Pedestrian, Bicycle, and Transit Planning Supervisor [*Phone Interview*]

These states were selected for a combination of their successful programs, four season weather conditions and rural regions similar to Vermont. A fifth state, Delaware was identified due its similar scale and population to Vermont, but they did not respond to the survey request. The responses received will provide support for potential recommendations in Vermont in conjunction with input from VTrans and other stakeholders.

In addition to the feedback from the four (4) state transportation agencies, Jon Kaplan, the current Bicycle and Pedestrian Coordinator at VTrans, was interviewed [*Phone Interview*] to provide a baseline of VTrans' current

operations with regards to the questions. This will help compare current VTrans efforts to those of other states which may currently be doing more to accommodate pedestrians and bicycles.

Questions Asked

Based on feedback from the VTrans Project Managers, the following questions were asked to gather information on how other state transportation agencies incorporate pedestrian and bicycle needs into VTrans projects, programs, and policies:

1. How does the transportation agency ensure the needs of pedestrians and bikes are incorporated in other agency projects/programs/policies?
2. What are the intra-agency communications like? What kind of tools are used to communicate? How often do different departments communicate?
3. Where (positions, departments, etc.) do responsibilities lie for pedestrian and bicycle project/programming/policy implementation?
4. Who (position, department, etc.) does what (action steps) to get pedestrian and bicycle projects/programs/policies implemented?
5. What documentation exists to ensure that pedestrian and bicycle needs are considered?
6. How do your departments get the proper people to take ownership of pedestrian and bicycle priorities and move these priorities forward? How does the agency motivate people when they push back against pedestrian and bicycle accommodations?
7. How do all the departments work together?
8. How is success of pedestrian and bicycle project/program/policy implementation measured and followed up on?
9. Where are pedestrian and bicycle planning and design resources and requirements located and referred to so that all transportation agency employees know about them?
10. Any other comments or advice the interviewee may have contributed will be recorded here.

Highlights of Responses

This section lists highlights from the responses from each state transportation agency representative by question. The responses listed in this section are major highlights of interview notes and email responses.

Table 1: Question 1 Highlights

Question 1				
How does the transportation agency ensure the needs of pedestrians and bikes are incorporated in other agency projects/programs/policies?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • No formal structure to ensure these needs are met • Good working relationship with Structures 	<ul style="list-style-type: none"> • Policy 1602: Elevating Bicycle and Pedestrian Opportunities in Colorado • Procedural Directive – 	<ul style="list-style-type: none"> • MassDOT’s Healthy Transportation Policy – an engineering directive to formalize the 	<ul style="list-style-type: none"> • Complete Streets Policy – enhance multi-modal considerations • Context Sensitive Solutions Policy – an effort to better 	<ul style="list-style-type: none"> • Scoping field walks to integrate needs early on • SRTS programs • Transportation Alternatives Solicitations

<ul style="list-style-type: none"> • Paving projects regularly include the VTrans Bicycle and Pedestrian Program Manager • A main goal is to formalize inclusion of these needs • Designers should refer to Complete Streets Guidance • Traffic Impact Studies include pedestrian and bicycle considerations 	<p>identify parties responsible for implementation of pedestrian and bicycle facilities</p>	<p>commitment to all modes</p> <ul style="list-style-type: none"> • Design Criteria for MassDOT Highway Division Projects – includes design criteria for pedestrian and bicycle facilities 	<p>identify community needs</p> <ul style="list-style-type: none"> • Multi-Modal Development and Delivery – an effort to update programs, policies, and guidelines 	<p>based on community needs</p>
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Table 2: Question 2 Highlights

Question 2				
What are the intra-agency communications like? What kind of tools are used to communicate? How often do different departments communicate?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Good communication practices • Good working relationships 	<ul style="list-style-type: none"> • Meetings on an as-needed basis • Email is the primary communication tool, in addition to phone calls, in person meetings, webinars, etc. 	<ul style="list-style-type: none"> • Weekly meetings are held between various division leaders • Training sessions 	<ul style="list-style-type: none"> • 3 weekly agency supported newsletters • Alignment teams communicate on an as-needed basis • Communication tools include Sharepoint, Projectwise, and email 	<ul style="list-style-type: none"> • Good working relationships • Communication tools include meetings, phone calls, emails, and Sharepoint • Good collaboration and engagement practices

Table 3: Question 3 Highlights

Question 3				
Where (positions, departments, etc.) do responsibilities lie for pedestrian and bicycle project/programming/policy implementation?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Project managers 	<ul style="list-style-type: none"> • All CDOT employees 	<ul style="list-style-type: none"> • Secretary's Office employees 	<ul style="list-style-type: none"> • A Multi-Bureau Responsibility 	<ul style="list-style-type: none"> • Office of Transit and Active

	<ul style="list-style-type: none"> • Multi-Modal Planning Branch employees are the subject matter experts 		<ul style="list-style-type: none"> • Regional staff specific to pedestrian and bicycle needs 	Transportation employees
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Table 4: Question 4 Highlights

Question 4				
Who (position, department, etc.) does what (action steps) to get pedestrian and bicycle projects/programs/policies implemented?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • The Bicycle and Pedestrian Program Manager is typically involved as well as other VTrans project managers 	<ul style="list-style-type: none"> • Early action and inclusion if these needs are key to success • The Procedural Directive provides specific responsibilities 	<ul style="list-style-type: none"> • Director of Sustainable Mobility 	<ul style="list-style-type: none"> • Multiple responsible parties, but often involves support of the Pedestrian and Bicycle Coordinator 	<ul style="list-style-type: none"> • Important to meet with appropriate groups • Support from senior leadership is key for success

Table 5: Question 5 Highlights

Question 5				
What documentation exists to ensure that pedestrian and bicycle needs are considered?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Complete Streets Policy and Checklist • Grant applications' guidelines • On-Road Bicycle Plan: Phase I priority map 	<ul style="list-style-type: none"> • Policy 1602 and the related Procedural Directive 	<ul style="list-style-type: none"> • 2019 Statewide Pedestrian Plan and Resource Guide • 2019 Statewide Bicycle Plan and Resource Guide • Separated Bike Lane Planning & Design Guide • Project Development & Design Guide 	<ul style="list-style-type: none"> • Multi-Modal Development and Delivery – an effort to update programs, policies, and guidelines 	<ul style="list-style-type: none"> • Complete Streets Policy • Complete Streets Project Reports

Table 6: Question 6 Highlights

Question 6				
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How do your departments get the proper people to take ownership of pedestrian and bicycle priorities and move these priorities forward? How does the agency motivate people when they push back against pedestrian and bicycle accommodations?

Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Support from project managers 	<ul style="list-style-type: none"> • Identify multiple benefit opportunities • Flexibility and open-mindedness from employees result in improved ped/bike conditions 	<ul style="list-style-type: none"> • MassDOT's Healthy Transportation Policy 	<ul style="list-style-type: none"> • Support from senior leadership • Flexibility and open-mindedness from employees result in improved ped/bike conditions Embracing good judgment 	<ul style="list-style-type: none"> • Support from senior leadership • Flexibility and open-mindedness from employees result in improved ped/bike conditions

Table 7: Question 7 Highlights

Question 7

How do all the departments work together?

Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Good working relationships and collaboration as well as the online shared review process 	<ul style="list-style-type: none"> • Make an effort to get involved • Invitations from other divisions to collaborate 	<ul style="list-style-type: none"> • Regularly scheduled internal meetings • Bicycle and Pedestrian Advisory Board meetings 	<ul style="list-style-type: none"> • Good working relationships and collaboration with various groups • Highway Staff recognize the need for expertise in this area 	<ul style="list-style-type: none"> • Good working relationships and collaboration with various groups

Table 8: Question 8 Highlights

Question 8

How is success of pedestrian and bicycle project/program/policy implementation measured and followed up on?

Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Improvements are needed in this area • Grant program information identifies improvements made 	<ul style="list-style-type: none"> • Non-motorized counts and Strava data are used to inform future improvements • Beginning to use before/after use data 	<ul style="list-style-type: none"> • MassDOT identifies performance measures • Equity 	<ul style="list-style-type: none"> • No performance measures at this time • Non-implementation of pedestrian and bicycle facilities is tracked by MDOT 	<ul style="list-style-type: none"> • Performance measures group defines some pedestrian- and bicycle-related performance measures

<ul style="list-style-type: none"> • Maintenance is not currently tracked, but could feasibly be tracked 	<ul style="list-style-type: none"> • BMI levels are no longer used 			
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Table 9: Question 9 Highlights

Question 9				
Where are pedestrian and bicycle planning and design resources and requirements located and referred to so that all transportation agency employees know about them?				
Vermont	Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Spread across multiple platforms 	<ul style="list-style-type: none"> • CDOT Website • Trainings 	<ul style="list-style-type: none"> • Bicycle and pedestrian transportation site on Mass.gov 	<ul style="list-style-type: none"> • Internal wiki-style pages • GovDelivery style email listservs 	<ul style="list-style-type: none"> • Agency adoption and distributed via email

Table 10: Other Input/Advice

Other			
Any other comments or advice the interviewee may have to contribute			
Colorado	Massachusetts	Michigan	Minnesota
<ul style="list-style-type: none"> • Implementation needs financial and executive support • Mindset shift is necessary for change • Intentionally avoided using the term “Complete Streets” in Policy 1602 to avoid “scaring” people 	<ul style="list-style-type: none"> • [None listed via email] 	<ul style="list-style-type: none"> • [None listed via email] 	<ul style="list-style-type: none"> • Recommend separating pedestrian and bicycle efforts

Full Summary of Responses

This section lists a summary of responses from each state transportation agency representative by question. The responses listed in this section are highlights and summaries of interview notes and email responses.

Question 1: How does the transportation agency ensure the needs of pedestrians and bikes are incorporated in other agency projects/programs/policies?

Vermont:

- **Current Limited Formal Structure:** There is limited formal structure throughout VTrans to ensure this occurs.

- **Structures Relationship:** The Structures scoping unit was highlighted as a successful relationship – they include a question about bicycle and pedestrian use of bridges in their questionnaire for municipalities, and they reach out to the VTrans Bicycle and Pedestrian Program Manager regularly to get his input, involve him in stakeholder outreach, and include him in the Online Shared Review Process.
- **Paving Projects:** The VTrans Bicycle and Pedestrian Program Manager is regularly included in Paving projects also – it is not clear if this occurs due to personal relationships he has cultivated or if there are standard operating procedures to ensure it occurs (someone would have to check with the paving program project managers about their SOPs).
- **Goal to Formalize Behaviors:** A goal is to make sure these behaviors extended throughout VTrans and are formalized, not just based on any individuals’ personal relationships.
- **Complete Streets Guidance:** Designers should be consulting the Complete Streets Guidance and completing the checklist, and it is not clear if that is happening.
 - Checklist located in Appendix B of the document at this link:
<https://vtrans.vermont.gov/sites/aot/files/highway/documents/publications/Complete%20Streets%20Guidance%20Document.pdf>
- **Traffic Impact Studies:** Bicycle and pedestrian sensitivity is part of traffic impact studies but it is unclear whether these needs are adequately addressed.

Colorado:

- **Policy 1602: Elevating Bicycle and Pedestrian Opportunities in Colorado:** The purpose of Policy 1602 is as follows: “The Transportation Commission supports the Colorado Department of Transportation in elevating the needs of bicyclists and pedestrians in the planning, design, and operation of transportation facilities as a necessary component of all projects. The Department will promote transportation mode choice by enhancing safety and mobility for bicyclists and pedestrians on or along the state highway system. This includes all aspects of accommodating pedestrians and bicyclists, from planning, programming, design, construction, to operation, maintenance and education.”
 - Link: <https://www.codot.gov/admin/programs/bikeped/documents/1602-0-policy-bike-pedestrian>
- **Procedural Directive:** The purpose of the Procedural Directive for Policy 1602 is as follows: “The purpose of this Procedural Directive is to comply with § 43-1-120, C.R.S. and relevant federal regulations with require the Department to incorporate Bicycle and Pedestrian facilities in CDOT projects...” The Procedural Directive identifies clear responsibilities for CDOT divisions, branches, etc. with regards to pedestrian and bicycle needs. It also limits the number of ways projects can be exempt from providing pedestrian and bicycle facilities. Additionally, the Procedural Directive created a pedestrian/bicycle engineering representative in each of CDOT’s 5 regions, providing an immediate go-to person for pedestrian- and bicycle-related questions in each region.
 - Link: <https://www.codot.gov/admin/programs/bikeped/documents/1602-1-2013-bicycle-and-pedestrian-policy>

Massachusetts:

- **MassDOT’s Healthy Transportation Policy:** An Engineering Directive that formalizes MassDOT’s commitment to the implementation and maintenance of transportation networks that serve all mode

choices for our customers. This directive identifies multiple requirements to ensure that healthy transportation modes are considered equally as potential solutions within project designs.

- Link: <https://www.mass.gov/files/documents/2018/03/07/p-13-0001.pdf>
- **Design Criteria for MassDOT Highway Division Projects:** This Engineering Directive identifies the design criteria for roadways and bridges as well as pedestrian and bicycle accommodation that shall be applied to MassDOT Highway Division projects.
 - Link: <https://www.mass.gov/files/documents/2018/03/05/E-14-006.pdf>

Michigan:

- **Complete Streets (CS) Policy:** Enhances the needs for multi-modal considerations.
 - Policy is attached to this document as an appendix.
- **Context Sensitive Solutions (CSS) Policy:** Directs project managers to engage in meaningful stakeholder engagement early in the project planning and design process to identify community needs and desires.
 - Link: https://www.michigan.gov/mdot/0,4616,7-151-9621_41446---,00.html
- **Multi-Modal Development and Delivery (M2D2):** A multi-year effort to review and update programs, policies, and guidelines to incorporate multi-modal transportation concepts.

Minnesota:

- **Scoping Field Walks:** conducted by leadership and result in a report to use throughout the lifetime of a project to help integrate pedestrian and bicycle needs at the beginning of a project.
- **SRTS Programs:** dedicated funding for learning opportunities and promotion of walking and bicycling. Also looking into developing demonstration project guidance. Minnesota has some state level funds for SRTS, which are primarily for infrastructure. Minnesota also uses some of the federal TA funds for program administration. The State Department of Health funded an expansion of the curriculum to include students with disabilities (likely funded with federal/CDC funds). Delivery of training is funded by a mix of state and federal funds. State funds are also used for encouragement events, like walk and bike to school day. SRTS is a collaborative program in Minnesota, and the State Department of Health supports local public health agencies working on plans and programming locally. Additionally, Blue Cross Blue Shield (BCBS) of Minnesota convenes monthly partner calls to facilitate discussion of those working on SRTS.
- **Transportation Alternatives Solicitations:** recent proposals are often related to walking and bicycling, likely based off community needs and desires.

Question 2: What are the intra-agency communications like? What kind of tools are used to communicate? How often do different departments communicate?

Vermont:

- **Communication and Relationships:** VTTrans, and specifically the bicycle/pedestrian staff, have good relationships with a handful of other agencies they collaborate with. There is a joint grant program with Commerce & Community development, managed out of VTTrans' Planning group, Better Connections. They have common interest in nonmotorized transport and downtowns and village centers, and they server on each other's grant review committees. They also have a good, long-standing working relationship with the Department of Health. These are not necessarily formal relationships, and they have developed over the years through individual staff building relationships.

Colorado:

- **Meetings:** The only regularly scheduled meetings are staff meetings within the Multi-Modal Planning Branch. All other meetings are scheduled on an as-needed basis.
- **Communication Tools:** Primarily email, but also includes phone calls, in-person meetings, webinars or screen-shares, etc. The meeting format typically depends on what the meeting is about, where meeting members are located, and schedule needs.

Massachusetts:

- **Weekly Meetings:** Weekly meetings are held between the Secretary's Office, District Highway Directors, Planning, Highway Design, Safety and Complete Streets or any combination thereof to discuss projects, policies and programs.
- **Training Sessions:** regularly scheduled training sessions for all MassDOT staff in partnership with UMASS Transportation Center's Baystate Roads program, a program designed to improve access to highway, road, and street technology for local agencies.
 - Baystate Roads Program: https://www.umasstransportationcenter.org/umtc/Baystate_Roads.asp

Michigan:

- **Agency Supported Newsletters:** 3 weekly newsletters are developed and distributed by MDOT Office of Communications to distribute general information of interest to the whole Department, information that is specific to MDOT's central office, and information focused on policy and legislation at the state and federal levels.
- **Alignment Teams:** Special interest groups that communicate on an as-needed basis (typically monthly or bi-monthly) to discuss recent hot topics, concerns, changes in policies, etc. related to each group's particular interest and expertise.
- **Communication Tools:** Common communication tools include Sharepoint, Projectwise, and email.

Minnesota:

- **Strong Relationships:** it is important to keep strong relationships with partner agencies as well as internal divisions, bureaus, and sections and keep in touch regularly.
- **Communication Tools:** utilize in-person meetings, phone calls and emails to regularly communicate for both as-needed meeting and regularly scheduled meetings. Sharepoint site is used to share documents internally.
- **Collaboration:** engage stakeholders from other internal divisions, bureaus, and sections as well as partner agencies on major projects, plans, and research endeavors.

Question 3: Where (positions, departments, etc.) do responsibilities lie for pedestrian and bicycle project/programming/policy implementation?

Vermont:

- **Project Managers:** Primary responsibility for inclusion of pedestrian and bicycle accommodation at the project level is by the Project Manager, as the PM needs to sign-off on the Complete Streets Checklist.

Colorado:

- **All CDOT Employees:** All persons involved in project scoping, planning, engineering, implementation, etc. are responsible for the inclusion of pedestrian and bicycle needs.
- **Multi-Modal Planning Branch:** The Multi-Modal Planning Branch, which is part of the Division of Transportation Planning Development, are the subject matter experts on pedestrian and bicycle needs.

Massachusetts:

- **Secretary's Office:** The Secretary's Office has a Director of Sustainable Mobility. This office and position work in partnership with all MassDOT departments including District Highway Directors, Planning, Highway Design, Safety, Complete Streets, Rail and Transit to progress the needs of pedestrians and bicyclists.
- **Maintenance:** Each of the six MassDOT districts has a bicycle and pedestrian coordinator who oversees infrastructure and maintenance needs within their jurisdiction. These coordinators work closely alongside district maintenance staff to ensure needs are met.

Michigan:

- **A Multi-Bureau Responsibility:** Employees working on pedestrian- and bicycle-related activities are integrated throughout MDOT bureaus to distribute the needs of pedestrians and bicycles throughout the agency.
- **Regions:** MDOT divides the state into 7 regions, each of which has 1-3 planners or engineers who handle pedestrian- and bicycle-related activities (often community engagement). Regional staff share information through meetings, emails, or phone calls.
- **Maintenance:** With respect to maintenance, MDOT's involvement is very limited when it comes to pedestrian and bicycle infrastructure. If maintenance issues arise, they are handled on a case by case basis by the different field offices. For most pedestrians and bicycle facilities we defer maintenance responsibilities to the local agency or another entity. If a maintenance issue is brought to MDOT's attention we will address it as necessary and that may include passing the issue to the responsible local agency.

Minnesota:

- **Office of Transit and Active Transportation:** has 9 employees working directly on pedestrian and bicycle needs and coordinates directly with the Office of Traffic Engineering. There are 2 additional employees also working specifically on pedestrian and bicycle needs in other areas of MnDOT.
- **Maintenance:** Given the way that MnDOT's maintenance fleet and personnel are set up, the agency is not well positioned to conduct winter maintenance on pedestrian or bicycle facilities in an efficient and timely manner. During the project scoping process, MnDOT works to identify walking and bicycling maintenance needs in coordination with project managers and maintenance professionals and then ensure that we have agreements with local agencies in place for long-term care of pedestrian and bicycle facilities.

Question 4: Who (position, department, etc.) does what (action steps) to get pedestrian and bicycle projects/programs/policies implemented?

Vermont:

- **Stand-Alone Projects:** There are few standalone bike/ped projects, and those tend to be rail trail projects with their own assessments. That is a fairly straightforward system, led by the Bike/Ped Coordinator, with sign-off by their supervisor.
- **Grant Projects:** Grant projects have a clear selection process with specific criteria. Towns typically hire consultants to design and construct them, with oversight by VTrans.
- **VTrans Projects:** VTrans projects are generally a part of a larger project and follow the regular process, starting with the TIP.

Colorado:

- **Early Action/Inclusion:** The needs and desires of the community in relation to pedestrian and bicycle facilities need to be part of early conversations, preferably before the scoping phase.
- **Procedural Directive:** The Procedural Directive identifies staff responsibilities for pedestrian and bicycle implementation. This includes multiple responsibilities and action steps for the following positions, divisions, branches, etc.:
 - Chief Engineer
 - Region Transportation Directors
 - Region Program Engineers, Resident Engineers, and Project Engineers
 - Region Bicycle and Pedestrian Representative
 - Division of Highway Maintenance
 - Multimodal Planning Branch Bicycle and Pedestrian Section
 - Multimodal Planning Branch and Region Planners
 - Division of Project Support
 - Office of Transportation Safety
 - Division of Traffic System Management and Operations
 - Division of Transit and Rail

Massachusetts:

- **Director of Sustainable Mobility:** The Director of Sustainable Mobility (part of the Secretary's Office) works in partnership with all MassDOT departments including District Highway Directors, Planning, Highway Design, Safety, Complete Streets, Rail and Transit to progress the needs of pedestrians and bicyclists.

Michigan:

- **Multiple Responsible Parties:** Implementation is a complicated and complex effort involving many individuals across the Department. MDOT Policy Staff, Local Agency Programs, and Traffic and Safety Staff and common sections involved, often with support of the Pedestrian and Bicycle Coordinator.

Minnesota:

- **Meeting with Appropriate Groups:** this is to discuss processes, answer questions, and gather feedback on upcoming pedestrian and bicycle initiatives with internal divisions, bureaus, and sections.
- **Senior Leadership:** support from senior leadership is key to moving initiatives forward.
- **Pushback:** policy-level pushback happens but policies are in place to work through feedback and reconcile differences. Project-level pushback often reveals feelings that OTAT is asking for too much and final plans result from compromising on a number of factors (priorities, budgets, needs, etc.).

Question 5: What documentation exists to ensure that pedestrian and bicycle needs are considered?

Vermont:

- **Complete Streets Policy and Checklist:** The Complete Streets policy and checklist is the clearest guidance for ensuring bicycle and pedestrian needs are considered. It is not clear how consistently it is being used. The design standards also have some information.
- **Grant Applications:** Grant applications have clear guidelines.

- **On-Road Bicycle Plan: Phase I:** The priority map (developed in Phase 1 of the on-road bike plan) is well used to help identify needs in formal scoping reports as well as various maintenance activities like sweeping.

Colorado:

- **Policy 1602 and Procedural Directive:** see response to Question 1.

Massachusetts:

- **2019 Statewide Pedestrian Plan and Resource Guide:** The Pedestrian Transportation Plan is the State’s roadmap to make walking a safe, comfortable, and convenient option for short trips for all people. The Resource Guide was created for municipal staff, elected officials, community members, and anyone interested in walking and introduces core concepts to enhance community walkability and directs readers to additional resources for more detailed information.
 - Link: <https://www.mass.gov/service-details/pedestrian-plan>
- **2019 Statewide Bicycle Plan and Resource Guide:** The Bicycle Transportation Plan is the State’s roadmap to make biking a safe, comfortable, and convenient option for everyday travel. The Resource Guide was created for municipal staff, elected officials, community members, and anyone interested in biking and introduces core concepts to enhance community bikeability and directs readers to additional resources for more detailed information.
 - Link: <https://www.mass.gov/service-details/bicycle-plan>
- **Separated Bike Lane Planning & Design Guide:** This is a resource for considering, evaluating and designing separated bike lanes as part of a complete streets approach for safe and comfortable accommodations.
 - Link: <https://www.mass.gov/lists/separated-bike-lane-planning-design-guide>
- **Project Development & Design Guide:** The purpose of the Project Development & Design Guide is to provide designers and decision-makers with a framework for incorporating context sensitive design and multi-modal elements into transportation improvement projects.
 - Link: https://www.mass.gov/files/documents/2018/08/08/pddg.pdf?_ga=2.111205254.307176994.1573248580-227417935.1551289539

Michigan:

- **Culture Shift:** Ensuring the needs of pedestrians and bicycles are considered requires a change in departmental culture. The M2D2 (referenced in Question #1) is one step being taken to create a multi-modal culture.
- **Non-Implementation:** The Complete Streets Policy requires an exemptions process when pedestrian and bicycle accommodations are not implemented. Additionally, notes to project files are required when projects do not include pedestrian and bicycle accommodations.

Minnesota:

- **Complete Streets Policy:** based on the Complete Streets Policy, MnDOT must consider the needs of all users in all phases of planning, project development, operation, and maintenance activities.
 - Complete Streets Policy can be found here: <http://www.dot.state.mn.us/policy/operations/op004.html>

- **Complete Streets Project Reports:** these reports require identification of whether current conditions are meeting the need of all user groups and are intended to document and track MnDOT’s implementation of the Complete Streets Policy.
 - Complete Streets Project Report template can be found here: https://www.dot.state.mn.us/planning/completestreets/docs/CS_ProjectReportNew.pdf

Question 6: How do your departments get the proper people to take ownership of pedestrian and bicycle priorities and move these priorities forward? How does the agency motivate people when they push back against pedestrian and bicycle accommodations?

Vermont:

- **Project Manager Support:** Generally, this relies on the Project Manager taking ownership. It is not clear that this is well institutionalized.

Colorado:

- **Benefits from Multiple Angles:** CDOT has found success getting people “on board” with pedestrian and bicycle facilities by highlighting the numerous benefits of active transportation. Some examples include: economic impacts, quality of life improvements, congestion reduction, air quality, maintenance costs, etc. Showing concrete data as to how pedestrian and bicycle facilities and use improve multiple fields helps promote and better establish their benefits.
- **Attitude Shift:** The primary driver for accepting and including pedestrian and bicycle accommodations is a change in attitudes for those in charge. A positive outlook on, and openness to, these types of facilities result in higher implementation rates.

Massachusetts:

- **MassDOT’s Healthy Transportation Policy:** An Engineering Directive that formalizes MassDOT’s commitment to the implementation and maintenance of transportation networks that serve all mode choices for our customers. This directive identifies multiple requirements to ensure that healthy transportation modes are considered equally as potential solutions within project designs.
 - Link: <https://www.mass.gov/files/documents/2018/03/07/p-13-0001.pdf>

Michigan:

- **Leadership Support:** Support and buy-in from those in MDOT leadership positions is key to creating a multi-modal culture within the department.
- **Growth:** MDOT’s Strategic Plan and focus on innovation challenges staff to be creative, responsive, and safety focused, resulting in and embrace of untraditional but effective solutions.
- **Other Considerations:** It is important to embrace engineering judgement, encourage innovation and creativity, identify and consider community needs, have a good understanding of safety needs, and continue to challenge the status quo.

Minnesota:

- **Senior Leadership:** pedestrian and bicycle needs have received good support from those in senior leadership positions, especially due to recent pedestrian crashes.
- **Flexibility and Growth:** flexibility and growth, especially among project managers and leaders is key to integration of pedestrian and bicycle needs in everyday MnDOT activities. There is a number of MnDOT employees who are open to new, innovative ideas, while others may be reluctant to follow new paths (such as alternative transportation modes). Those that are reluctant can often be persuaded by

senior leadership. Considering the “human context” of projects, programs, and policies, not solely relying on guidebooks, and considering the problems communities are trying to solve will help develop true complete streets that meet local needs.

Question 7: How do all the departments work together?

Vermont:

- **Relationships and Collaboration:** Folks work together well, and the online shared review is a formal process that supports collaboration. At this point, most people know the VTrans Bicycle and Pedestrian Program Manager, and reach out with questions as they come up. People tend to ask questions as opposed to being aware of existing resources. There is an impression that existing communication is dependent on existing staff relationships as opposed to formal guidelines about expectations or roles.

Colorado:

- **Getting Involved:** The Multi-Modal Planning Branch gets involved in multiple divisions throughout CDOT. The branch is currently working with Division of Standards on an update to the roadway design guide to make sure the guide is multi-modal. The team also supervises grants for a Colorado MPO, conducts trainings for CDOT employees (as well as others – see the response for Question 9 for more information), collaborates on business development and safety. The branch is always on the lookout for ways to get involved.
- **Invitations from Other Divisions:** The Multi-Modal Planning Branch has been working on incorporating pedestrian and bicycle needs into CDOT activities for many years. Today, their tenure has now resulted in other Divisions reaching out to them for involvement and guidance.

Massachusetts:

- **Internal Meetings:** Bi-weekly meetings are held between Secretary’s office, Planning, Highway Design, Safety and Complete Streets as part of the larger MassTrails Team to discuss projects, policies, and programs.
 - MassTrails Team Link: <https://www.mass.gov/welcome-to-masstrails>
- **Bicycle and Pedestrian Advisory Board Meetings:** Statewide Bicycle and Pedestrian Advisory Board meetings are held bi-monthly. The Massachusetts Bicycle and Pedestrian Advisory Board serves in an advisory role on advancing bicycle and pedestrian transportation for MassDOT and other State Agencies. The Board plays a critical role in the improvement of active transportation networks in Massachusetts.
 - Bicycle and Pedestrian Advisory Board Link: <https://www.mass.gov/service-details/bicycle-and-pedestrian-advisory-board>

Michigan:

- **Highway Staff:** Those working on the “highway” side recognize the expertise and realistic solutions that other MDOT staff may have regarding pedestrian and bicycle needs.
- **Modal Staff:** Modal Staff are given many training opportunities as well as real-world experiences, positioning themselves as agency experts on pedestrian and bicycle needs related to design, planning, and policy development. They also work hard to foster relationships, collaborate, and compromise to mutually agreed upon outcomes.

- **Relationships:** Good working relationships, the ability to work collaboratively and compromise, flexibility, and innovation are keys to successful MDOT projects. Different sections are respectful of others' expertise and often consult each other for input and guidance.
- **Collaboration:** Some of the different areas of the Department where collaboration occurs include: Research, Policy formation, review and approval of TAP/SRTS/ CMAQ projects, modal input on design, serving as a liaison between DOT and local agencies or advocacy groups, etc.

Minnesota:

- **Relationships and Collaboration:** It is important to maintain and foster good working relationships with all agency groups as well as group outside MnDOT. Collaboration is key to project success.

Question 8: How is success of pedestrian and bicycle project/program/policy implementation measured and followed up on?

Vermont:

- **Improvements are Needed:** There is a feeling this is an area that could be improved upon. There is not currently an ability to say that X miles of bike lanes were added to the state system, or X miles of paved shoulders 3 feet or wider were added. The mapping section is working on developing tools to support that. There is a rough inventory of pedestrian signals.
- **General Grant Program Information:** They have general information for the grant program, for example, that they provided funding for X feet of new sidewalk.
- **Maintenance:** They do not yet, but conceivably could, report on maintenance (sweeping or plowing) of High Priority Bike corridors.

Colorado:

- **Non-Motorized Counts:** Pedestrian and bicycle counts have proved to be successful in the past with regards to measuring the success of pedestrian and bicycle facilities or to help inform recommendations. Recently, non-motorized counts showed a need for, and resulted in, a change in a maintenance plan to better accommodate roadway users (specifically bicyclists in this example). This method is generally seen as successful by CDOT.
- **Strava Data:** CDOT has successfully used Strava data to help inform future work. For example, if Strava shows a high number of bicycle users along a particular roadway, CDOT can prioritize incorporating bicycle facilities during future on that same roadway. They are using this method to incorporate bicycle recommendations into their statewide plan. This method is generally seen as successful by CDOT.
- **Before/After Use Data:** CDOT is also working on collecting data to compare the number of non-motorized users before and after pedestrian and bicycle facilities are implemented. CDOT is still in the early phases of this data collection.
- **BMI Levels:** CDOT used to compare resident BMI levels with frequency of pedestrian and bicycle facilities. They often saw that higher BMI levels were associated with fewer pedestrian and bicycle facilities, but were unable to identify a definitive correlation. Therefore, this method is generally not seen as successful.

Massachusetts:

- **Performance Measures:** As part of MassDOT's bicycle and pedestrian action plans, performance measures were established to be more clear, concise, and focused on outputs (for initiatives) that lead to outcomes (for goals), not just inputs.

- **Equity:** Equity checks for each performance measure were also included as an additional metric to assist in identifying any disparities that affect minority populations, women, low-income populations, limited English proficiency populations, persons with disabilities, and/or people under 18 or 65 and older.
- **Performance Measures and Equity Checks include:**
 - Massachusetts Pedestrian Transportation Plan:
 - Goal 1: Eliminate pedestrian fatalities and serious injuries.
 - Performance Measure: Rate of fatalities and serious injuries among people walking
 - Equity Check: Are certain populations at a higher risk for fatalities and serious injuries while walking?
 - Performance Measure: Percentage of residents who have the option to use pedestrian facilities to travel for all short trips from their home
 - Equity Check: Do certain populations have less access to pedestrian facilities near their homes?
 - Goal 2: Increase the percentage of short trips made by walking.
 - Performance Measure: Percentage of Massachusetts residents' short trips that are made by walking
 - Equity Check: Do certain populations make a smaller percentage of their short trips by walking?
 - Performance Measure: Percentage of short trips taken in Massachusetts that could have been made by walking
 - Equity Check: Can certain populations make a smaller percentage of their short trips by walking?
 - Massachusetts Bicycle Transportation Plan:
 - Goal 1: Eliminate bicyclist fatalities and serious injuries.
 - Performance Measure: Rate of fatalities and serious injuries among people biking
 - Equity Check: Are certain populations at a higher risk for fatalities and serious injuries while biking?
 - Performance Measure: Percentage of residents who have the option to use the high-comfort bike network to reach destinations within 6 miles of their home— indicates how well high-comfort bikeways provide the foundation for safe travel by bicycle.
 - Equity Check: Are certain populations less able to reach destinations within 6 miles of their home?
 - Goal 2: Increase the percentage of everyday trips made by bicycling.
 - Performance Measure: Percentage of Massachusetts residents' trips under 6 miles that are made by bike
 - Equity Check: Do certain populations make a smaller percentage of their trips under 6 miles by bike?
 - Performance Measure: Percentage of trips under 6 miles taken in Massachusetts that could be made using the high-comfort biking network—

indicates how well high-comfort bikeways serve existing trips under 6 miles, which would be bikeable if facilities existed.

- o Equity Check: Can certain populations make a smaller percentage of their trips under 6 miles using the high-comfort biking network?

Michigan:

- **Performance Measures:** There are no pedestrian- or bicycle-specific performance measures at this time.
- **Non-Implementation:** MDOT tracks and reports instances where the desires of local communities are not met with respect to complete streets.

Minnesota:

- **Performance Measures:** MnDOT has a group dedicated to identifying and tracking performance measures across the agency. There is a performance measure topic related to pedestrian and bicycle travel, which the OTAT collaborates on. Measures are often ADA-specific but do not necessarily address the needs of all pedestrians. Though it doesn't always happen, other divisions, bureaus, and sections should also consider pedestrians and bicycles in performance measures.
 - o MnDOT performance measures related to pedestrian and bicycle needs include:
 - Pedestrian Accessibility and Safety:
 - Percentage of State-Owned Sidewalk Miles Substantially Compliant with ADA Standards
 - Percent of State Highway Curb Ramps That are Compliant with ADA Requirements
 - Percent of Eligible State Highway Intersections with Accessible Pedestrian Signals Installed
 - Multimodal Perceptions of Safety:
 - Annual Percent of MnDOT Omnibus Survey Respondents Perceiving Safe Environments for Bicycling/Walking
 - Annual Percentage of Respondents That Agree with the Following Statements: MnDOT can be Relied Upon to Deliver Minnesota's Transportation System
 - Annual Percent of Respondents That Agree with the Following Statements: MnDOT Considers Customer Concerns When Developing Transportation Plans
 - Annual Percent of Respondents That Agree with the Following Statements: MnDOT Acts in a Fiscally Responsible Manner
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Building Roads and Bridges
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Maintaining Roads and Bridges
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Communicating Accurate Info to MN Citizens About Their Transportation Plans and Projects
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Providing Alternative Transportation Options for the Future
 - State Road & Highway Maintenance (Reported Annually in Omnibus)

- Roadway Fatalities:
 - Total Number of Fatalities on Minnesota Roadways Resulting From Crashes Involving a Motor Vehicle Each Year (includes pedestrians and bicycles)
- Roadway Serious Injuries:
 - Total Number of Serious Injuries on Minnesota Roadways Resulting From Crashes Involving a Motor Vehicle Each Year (includes pedestrians and bicycles)
- Additional information about MnDOT Performance Measures can be found here: <https://www.dot.state.mn.us/measures/>

Question 9: Where are pedestrian and bicycle planning and design resources and requirements located and referred to so that all transportation agency employees know about them?

Vermont:

- **Resources Across Multiple Platforms:** The resources that exist are not in one centralized location. The external facing website has some resources. There is an internal SharePoint site with some process related information for locally managed projects. Publications and maps are scattered throughout VTrans. Institutional knowledge is required to track certain things down. For example, the bicycle priority map is seen as a valuable resource, but is available on the planning website under the bike/ped plan because that is who managed the effort.

Colorado:

- **CDOT Website:** CDOT’s website has a page specific to the pedestrian and bicycle program which provides information about, and links to, a number of state resources as well as nationally-recognize resources (AASHTO, FHWA, NACTO, etc.) for use by CDOT employees.
 - Link: <https://www.codot.gov/admin/programs/bikeped/bicycle-and-pedestrian-program.html>
- **Trainings:** The Multi-modal Planning Branch typically conducts 8 training classes a year (depending on budget available) on pedestrian and bicycle facility design criteria across the state. Priority for these classes is given to CDOT employees, but the classes are also open to others (county or municipal leaders, advocates, etc.)

Massachusetts:

- **Bicycle and Pedestrian Transportation Site:** A page on the mass.gov website contains links for bicycle and pedestrian related plans and resources.
 - Link: <https://www.mass.gov/bicycle-and-pedestrian-transportation>

Michigan:

- **Resources:** Pedestrian and bicycle planning and design resources are integrated into MDOT Road Design Manual and other similar publications. MDOT maintains several active Wiki style pages that include pedestrian and bicycle resources. MDOT utilizes GovDelivery style email listservs to share information about updates to guidance and materials.
 - Bicycle Resources: https://www.michigan.gov/mdot/0,4616,7-151-9615_11223---,00.html
 - MDOT Road Design Manual: <https://mdotcf.state.mi.us/public/design/englishroadmanual/>
 - GovDelivery Style Email Listservs: <https://content.govdelivery.com/accounts/MIDOT/bulletins/26834e2>

Minnesota:

- **Agency Adoption:** design resources and requirements that have been adopted by MnDOT are typically distributed via email to designers through a technical memorandum.
- **Employees Need to Reference Materials:** Implementation of adopted design resources and requirements depends on use and reference from MnDOT designers. It has been indicated that this happens sometimes, but not all the time.

Other: Any other comments or advice the interviewee may have contributed

Colorado:

- **Implementation Needs Support:** Implementation for this effort requires sufficient funds and the support (and “will”) of those in executive management positions. The person in charge, and their beliefs and priorities, determines how hard you can push others on certain initiatives.
- **Mindset:** The implementation of pedestrian and bicycle needs requires a shift in peoples’ mindset to automatically consider these needs as priorities, which is often a long, difficult process.
- **Avoided “Complete Streets” Term:** CDOT intentionally avoided using the term “Complete Streets” when naming Policy 1602 to avoid “scaring” people. CDOT has found that people are more amenable to pedestrian and bicycle improvements rather than “Complete Street” improvement, solely based on the terminology.

Massachusetts:

- [None listed via email]

Michigan:

- [None listed via email]

Minnesota:

- **Separating Pedestrian and Bicycle Efforts:** Recommends keeping pedestrian and bicycles separate due to different needs and contexts for the two groups. MnDOT has typically seen more success when pedestrians and bicycles are addressed separately.

Additional Information Requested

The following information was requested in a follow-up email after a draft of this memorandum was reviewed by VTrans. This information was not received by the delivery date of this document.

- Colorado:
 - More detailed information about performance measures
 - Information about maintenance practices
- Michigan
 - Detailed description of how MDOT tracks and reports instances where the desires of local communities are not met with respect to complete streets

If additional information answering the questions above is received, it will be added to the memorandum.

STATE TRANSPORTATION COMMISSION POLICY ON COMPLETE STREETS

July 26, 2012

Background

Public Act 135 of 2010 requires the development of a complete streets policy to promote safe and efficient travel for all legal users of the transportation network under the jurisdiction of the Michigan Department of Transportation (MDOT). Public Act 135 defines complete streets as "...roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle."

The Complete Streets Advisory Council (CSAC) also was created by Public Act 135 of 2010 to advise the State Transportation Commission (STC) as it developed this policy. CSAC members were appointed by the Governor and represent a broad cross-section of transportation system owners, users, and stakeholders, including MDOT and the STC.

The STC is authorized by the State Constitution to set policy for MDOT, and in that role has enacted this Complete Streets policy. MDOT is responsible for implementation of Commission policy for those portions of the transportation system that are under its jurisdiction – about 10,000 of the 110,000 miles of roads, bridges and highways in Michigan. In addition, MDOT, in its role of administering the local federal-aid program in Michigan, can help local jurisdictions understand the provisions of this policy and work with them to further the development of complete streets.

Vision

The STC supports the vision statement as adopted by the CSAC.

- A *transportation network* that is accessible, interconnected, and multimodal and that safely and efficiently moves goods and people of all ages and abilities throughout the State of Michigan.
- A *process* that empowers partnerships to routinely plan, fund, design, construct, maintain and operate complete streets that respect context and community values.
- *Outcomes* that will improve economic prosperity, equity, accessibility, safety, and environmental quality.

Purpose

This policy provides guidance to MDOT for the planning, design, and construction or reconstruction of roadways or other transportation facilities in a manner that promotes complete streets as defined by the law, and that is sensitive to the surrounding context.

MDOT will pursue a proactive and consistent approach to the development of complete streets, in keeping with its mission to provide the highest quality integrated transportation services for economic benefit and improved quality of life. A successful complete streets approach will require mutual commitment and collaboration on the part of transportation agencies, stakeholders and the public to identify appropriate opportunities to plan, develop, construct, operate and maintain infrastructure without undue costs or scheduling burdens.

MDOT will consider complete streets features for roadways and other transportation facility construction or reconstruction projects it undertakes, or permits other public or private entities to construct within the state trunk line right of way, working through its context sensitive solutions process. The department will use this process and work with customers, local residents, road users and stakeholders to analyze proposed projects for the opportunity to design and construct facilities that contribute to complete streets. As part of that analysis, the department will consider:

- Local context and recognize that needs vary according to regional urban, suburban, and rural settings;
- The functional classification of the roadway, as defined by the Federal Highway Administration and agreed to by MDOT and local transportation agencies;
- The safety and varying mobility needs of all legal users of the roadway, of all ages and abilities, as well as public safety;
- The cost of incorporating complete streets facilities into the project and whether that cost is proportional to the overall project cost, as well as proportional to the current or future need or probable use of the complete streets facility;
- Whether adequate complete streets facilities already exist or are being developed in an adjacent corridor or in the area surrounding the project;
- Whether additional funding needed to incorporate the complete streets facility into the project is available to MDOT or as a contribution from other transportation or government agencies from federal, state, local or private sources.

MDOT is encouraged to use low-cost solutions to increase safety and mobility where practical, but to recognize that more costly improvements may be needed on some facilities.

MDOT also is encouraged to take a network approach to the provision of multi-modal access, and recognize that improvements to a part of the road network outside MDOT's jurisdiction might provide a more viable alternative and safer access for all users. MDOT will encourage local jurisdictions to develop local and regional transportation plans that ensure projects are consistent and appropriate to the context. MDOT will work with local road agencies and its grant and funding recipients to encourage network continuity. Responsibilities for operation and maintenance of facilities in MDOT right-of-way shall be determined and outlined prior to construction of such facilities, except where a pre-existing maintenance agreement is in place. Maintenance agreements will be required as a provision of the entire project. Local responsibility for complete streets facility maintenance, in particular for facilities outside the travel portion of a street, such as transit and non-motorized facilities, will be critical for many projects.

MDOT will recognize the long-term nature of transportation investment and anticipate not only current transportation demand, but also likely future uses as well, in considering and developing complete streets. Depending on the context and potential use, provisions may be needed to ensure safe and convenient access for all users.

Complete streets and their viability can be impacted by planning and permitting as well as infrastructure. MDOT will work with local governments as needed to encourage thoughtful planning and permitting that supports the goals and the vision of this complete streets policy.

Implementation

By December 31, 2013, MDOT will develop or revise procedures and guidelines needed to implement this policy. As part of that effort, MDOT shall establish a clear procedure for reviewing and approving exceptions to the policy, the conditions under which an exception may be granted, and who may approve such exceptions.

Facilities will be designed and constructed in accordance with current applicable laws and regulations, approved engineering standards and accepted best practices while preserving continued eligibility for federal-aid.

MDOT will report back to the STC annually after the adoption of this policy to: 1) give a progress report on implementation, including any information/examples to gauge MDOT's performance; and 2) to report any exceptions granted and the reasons for those exceptions. This reporting will include the

required Context Sensitive Solutions (CSS) annual review as required by the STC policy adopted May 26, 2005.

This policy will apply to all projects undertaken by MDOT, large and small, considerate of the level of the proposed project work. As part of MDOT's responsibility to FHWA to administer the local federal-aid program in Michigan, MDOT shall work with local road agencies that are undertaking road or bridge projects with federal funds, and encourage them to observe the provisions of this policy in order to help address the need for a network of complete streets throughout Michigan.

In addition, the STC encourages MDOT to continue its education support programs for staff and partner with others to provide training and information for all legal users and law enforcement regarding shared responsibilities.

This policy on complete streets is intended to supplement Commission Policy Number 10138 on Context Sensitive Solutions (CSS).

Local & Regional Input Questionnaire

Community Considerations

1. Are there any scheduled public events in the community that will generate increased traffic (e.g. vehicular, bicycles and/or pedestrians), or may be difficult to stage if the bridge is closed during construction? Examples include bike races, festivals, parades, cultural events, farmers market, concerts, etc. that could be impacted? If yes, please provide date, location and event organizers' contact info.
2. Is there a "slow season" or period of time from May through October where traffic is less?
3. Please describe the location of emergency responders (fire, police, ambulance) and emergency response routes.
4. Are there businesses (including agricultural operations) that would be adversely impacted either by a detour or due to work zone proximity?
5. Are there important public buildings (town hall, community center, senior center, library) or community facilities (recreational fields, town green, etc.) close to the project?
6. What other municipal operations could be adversely affected by a road/bridge closure or detour?
7. Are there any town highways that might be adversely impacted by traffic bypassing the construction on another local road?
8. Is there a local business association, chamber of commerce or other downtown group that we should be working with?

Schools

1. Where are the schools in your community and what are their schedules?
2. Is this project on the specific routes that students use to walk to and from school?
3. Are there recreational fields associated with the schools (other than at the school)?

Pedestrians and Bicyclists

1. What is the current level of bicycle and pedestrian use on the bridge?
2. Are the current lane and shoulder widths adequate for pedestrian and bicycle use?
3. Does the community feel there is a need for a sidewalk on the bridge?
4. Is pedestrian and bicycle traffic heavy enough that it should be accommodated during construction?

Local & Regional Input Questionnaire

5. Does the Town have plans to construct either pedestrian or bicycle facilities leading up to the bridge? Please provide a planning document demonstrating this (scoping study, master plan, corridor study, town plan).
6. In the vicinity of the bridge, is there a land use pattern, existing generators of pedestrian and/or bicycle traffic, or zoning that will support development that is likely to lead to significant levels of walking and bicycling?

Communications

1. Please identify any local communication channels that are available for us to use in communicating with the local population. Include weekly or daily newspapers, blogs, radio, public access TV, Front Porch Forum, etc. Also include any unconventional means such as local low-power FM.

Design Considerations

1. Are there any concerns with the alignment of the existing bridge? For example, if the bridge is located on a curve, has this created any problems that we should be aware of?
2. Are there any concerns with the width of the existing bridge?
3. Are there any special aesthetic considerations we should be aware of?
4. Does the location have a history of flooding? If yes, please explain.
5. Are there any known Hazardous Material Sites near the project site?
6. Are there any known historic, archeological and/or other environmental resource issues near the project site?
7. Are there any other comments that are important for us to consider?

Land Use & Zoning (to be filled out by the municipality or RPC).

1. Please provide a copy of your existing and future land use map or zoning map, if applicable.
2. Is there any existing, pending or planned development proposal that would impact future transportation patterns near the bridge? If so please explain.
3. Is there any planned expansion of public transit service in the project area? If not known please contact your Regional Public Transit Provider.

New Project Summary RPC Input Questionnaire

This project, Cambridge STP PS24(6), is a roadway paving project in Cambridge, Vermont on VT108 from approximately, the gate at Smugglers Notch to the roundabout at the VT15/VT108 intersection.

1. Are there any town highway projects, or municipal operations planned that might be impacted by this project or coordination needed?
2. Is there a local business association, chamber of commerce, regional development corporation, or downtown group that we should be in contact with?
3. Is this project on specific routes that school buses or students use to walk to and from school?
4. Are there any bicycle and/or pedestrian specific concerns within the project limits?
5. Are there any transit specific concerns within the project limits?
6. Are there any existing, pending, or planned development proposals that would impact future transportation patterns? Please provide a map, if appropriate.
7. Are there any scoping studies or Master Plans developed through programs such as Better Connection or Municipal Planning Grant that we should be aware of?
8. Are there any intersection counts within the project limits that could be useful in determining design features such as turning lanes?

COMPLETE STREETS - PLANNING PHASE CHECKLIST

PLANNING PHASE DESCRIPTION: A project in the planning phase is conceptual in nature and contains limited detail. The primary function of the planning phase is the identification and analysis of site and project characteristics and constraints.

PLANNING PHASE GOAL: To determine if complete street principles are appropriate for the corresponding project.

PLANNING PHASE REQUIRED INFORMATION:

1. DETERMINE ROADWAY FUNCTIONAL CLASSIFICATION

- COMPLETED
 NOT APPLICABLE

NOTES:

2. OBTAIN CURRENT TRAFFIC VOLUMES

- COMPLETED
 NOT APPLICABLE

NOTES:

3. DETERMINE PROJECTED TRAFFIC VOLUMES

- COMPLETED
 NOT APPLICABLE

NOTES:

4. IDENTIFY CURRENT PEDESTRIAN / BICYCLIST USE

- COMPLETED
 NOT APPLICABLE

NOTES:

5. DETERMINE PROJECTED PEDESTRIAN / BICYCLIST USE

- COMPLETED
 NOT APPLICABLE

NOTES:

6. IDENTIFY EXISTING TRANSIT SERVICE FEATURES

- COMPLETED
 NOT APPLICABLE

NOTES:

7. DETERMINE PROJECTED TRANSIT SERVICE FEATURES

- COMPLETED
- NOT APPLICABLE

NOTES:

8. OBTAIN EXISTING CRASH DATA

- COMPLETED
- NOT APPLICABLE

NOTES:

9. IDENTIFY EXISTING NATURAL RESOURCE CONSTRAINTS

- COMPLETED
- NOT APPLICABLE

NOTES:

10. IDENTIFY EXISTING HISTORIC RESOURCE CONSTRAINTS

- COMPLETED
- NOT APPLICABLE

NOTES:

11. IDENTIFY MAINTENANCE REQUIREMENTS

- COMPLETED
- NOT APPLICABLE

NOTES:

12. OBTAIN THE TOWN / REGIONAL PLAN

- COMPLETED
- NOT APPLICABLE

NOTES:

13. OBTAIN EXISTING LAND USE TYPE & DENSITY

- COMPLETED
- NOT APPLICABLE

NOTES:

14. IDENTIFY FUTURE LAND USE TYPE & DENSITY

- COMPLETED
- NOT APPLICABLE

NOTES:

COMPLETE STREETS - DESIGN PHASE CHECKLIST

DESIGN PHASE DESCRIPTION: A project in the design phase is under development. Proposed project components, characteristics, and cost estimates are being defined.

DESIGN PHASE GOAL: To review data collected in the planning phase in an effort to make a final determination regarding the applicability of Complete Streets. Applicable practices should be identified and designed during this phase.

DESIGN PHASE COMPLETE STREETS ANALYSIS:

1. REVIEW ALL DATA COLLECTED DURING THE PLANNING PHASE - IDENTIFY CHANGES

- COMPLETED
 NOT APPLICABLE

NOTES:

2. WILL ADDITIONAL RIGHTS OR EASEMENTS BE PURCHASED AS PART OF PROJECT

- COMPLETED
 NOT APPLICABLE

NOTES:

3. PERFORM CONSTRUCTABILITY REVIEW

- COMPLETED
 NOT APPLICABLE

NOTES:

4. IDENTIFY POTENTIAL COMPLETE STREETS PRACTICES

- COMPLETED
 NOT APPLICABLE

NOTES:

5. DEVELOP TEMPORARY TRAFFIC CONTROL PLAN

- COMPLETED
 NOT APPLICABLE

NOTES:

6. ENSURE TRAFFIC CONTROL PLAN MAINTAINS SAFE ACCESS FOR ALL USERS

- COMPLETED
 NOT APPLICABLE

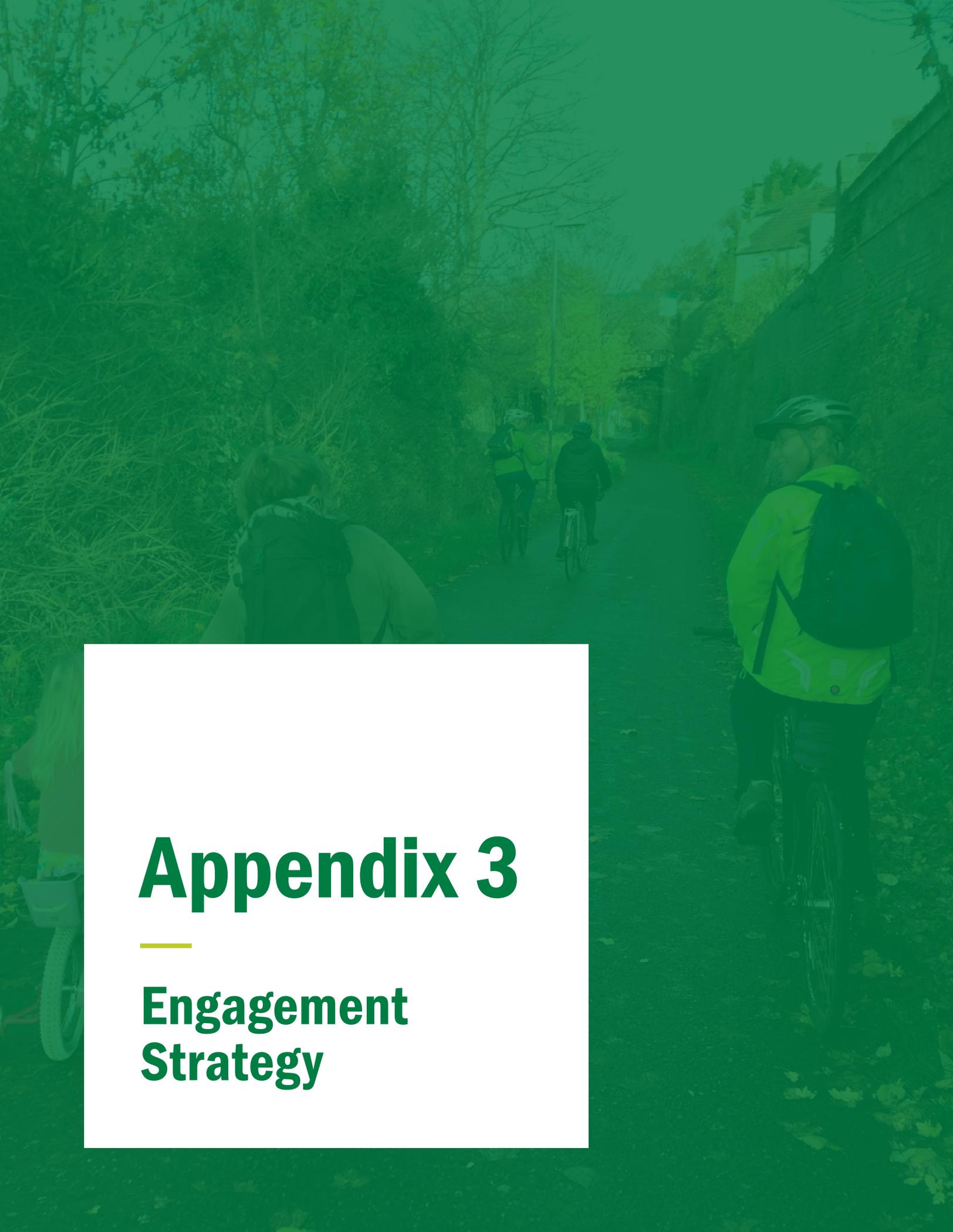
NOTES:

7. ENSURE TRAFFIC CONTROL PLAN ADEQUATELY WARNS ALL DETOURS AND CLOSURES

- COMPLETED
- NOT APPLICABLE

NOTES:

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Appendix 3

Engagement Strategy



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(518) 874-4211
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MEMORANDUM

To: Jon Kaplan (VTrans), Sommer Bucossi (VTrans), Katharine Otto (VTrans)

From: Laura Byer (Alta), Jeff Olson (Alta), Erica Wygonik (RSG)

Date: April 22, 2020

Re: Memo #3: Engagement Strategy

Introduction

The Vermont Agency of Transportation (VTrans) is developing a Bicycle and Pedestrian Strategic Plan (BPSP) to better integrate bicycle and pedestrian needs and priorities into all VTrans activities. These activities may include infrastructure projects as well as program and policy development. In support of the BPSP, stakeholder outreach and engagement will be a central effort. This Engagement Strategy outlines the framework for a range of engagement activities.

The Engagement Strategy identifies stakeholders and their respective role, presents the goals for engagement, and described the engagement strategies to be used throughout this effort. The Engagement Strategy is a living document and will be adapted throughout the process to ensure the needs and priorities of the State of Vermont are reflected. The target audience for the Engagement Strategy will be divided into the Core Management Group, Stakeholders, Stakeholder Focus Groups, and the public*.

Alta Planning + Design will facilitate the coordination and adaptation of the Engagement Strategy, in collaboration with the VTrans Project Manager, and Resource Systems Group, Inc. (RSG).

Engagement Groups

The engagement process will happen concurrently to the planning and analysis efforts and plan preparation.

Core Management Group (CMG)

The Core Management Group (CMG) will serve as an internal steering committee. It will be led by the VTrans Project Manager and include additional VTrans representatives. The CMG is made up of the eight (8) VTrans employees listed in Table 1. CMG will review and provide feedback on major deliverables as well as meet four (4) times in-person or via webinar/conference call throughout the project timeline. One member of the Alta team will attend each CMG meeting in-person, while other members of the Alta team will be available by conference call. CMG meeting materials will be shared with the VTrans Project Manager ahead of each meeting, providing at least ten (10) business days for the CMG to review. The four (4) meeting descriptions and approximate timelines can be found in Table 2. The CMG may be included in additional discussions outside the four (4) scheduled meetings as necessary to provide insight and perspective throughout development of the BPSP. The Alta team will be responsible for taking meeting notes. The VTrans Project Manager will be responsible for scheduling the CMG meetings, distributing meeting agendas, and consolidating additional feedback from CMG members.

* Public input may be a supplemental item not included in the current project scope.

Table 1: Core Management Group (CMG) Members

Name	Division	Bureau	Group
Jon Kaplan (BPSP VTrans Project Manager)	Highway Division	Municipal Assistance Bureau	Bicycle and Pedestrian Program
Sommer Bucossi (BPSP VTrans Project Manager)	Highway Division	Asset Management Bureau	Corridor Management
Katharine Otto (BPSP VTrans Project Manager – Joined in December 2019)	Policy, Planning, and Intermodal Development Division	Policy, Planning and Research Bureau	Policy and Planning
Amy Bell	Policy, Planning, and Intermodal Development Division	Policy, Planning and Research Bureau	Policy and Planning
Jesse Devlin	Highway Division	Project Delivery Bureau	Highway Safety and Design
Rob Faley	Highway Division	Maintenance Bureau	Southwest Region Districts 1 and 3
Ross Gouin	Highway Division	Municipal Assistance Bureau	Bicycle and Pedestrian Program
Kevin Marshia	Highway Division	Asset Management and Performance Bureau	Budget and Programming
Bruce Nyquist (September 2019 – January 2020)	Highway Division	Operations and Safety Bureau	Office of Highway Safety
Evelyn McFarlane (Joined in January 2020)	Highway Division	Operations and Safety Bureau	Office of Highway Safety

Table 2: Core Management Group (CMG) Meetings

#	Meeting Description	Timeline
1	<p>The Alta team will present:</p> <ul style="list-style-type: none"> • Final Memo #1: Document Review • Final Memo #2: Best Practice Comparison • Draft Memo #3: Engagement Strategy <p>In addition, the Alta team will lead the group in a vision and goal development exercise, which will serve as the foundation for draft Memo #4: Vision and Goals</p>	Early-December 2019

2	<p>The Alta team will present:</p> <ul style="list-style-type: none"> • Draft Memo #4: Vision and Goals • Final Memo #5: Progress To-date Report • Final Memo #6: Comprehensive Evaluation <p>In addition, the Alta team will lead the group in a strategy development exercise, which will serve as the foundation for draft Memo #7: Draft Strategies</p>	Early-June 2020
3	<p>The Alta team will present:</p> <ul style="list-style-type: none"> • Draft Memo #7: Draft Strategies 	Early-August 2020
4	<p>The Alta team will present</p> <ul style="list-style-type: none"> • Draft #2 of the BPSP 	Mid-October 2020

Stakeholder Group

The Stakeholder Group will include individuals who have the expertise and interest in coordination of pedestrian and bicycle needs in future projects, programs, and policies. The Stakeholder Group is comprised of individuals from other state agencies, Regional Planning Commissions (RPCs), local municipalities, advocacy groups, non-profits, and businesses. The nine (9) individuals in the Stakeholder Group are listed in Table 3. They will review and provide feedback on major deliverables as well as meet three (3) times via webinar or conference calls throughout the project timeline. The three (3) meeting descriptions and approximate timelines can be found in Table 4. The Alta team will be responsible for taking meeting notes. The VTrans Project Manager will be responsible for scheduling the Stakeholder Group Meetings, distributing meeting agendas, and consolidating additional feedback from the Stakeholder Group members.

Table 3: Stakeholder Group Members

Name	Organization
Laura Asermily	Citizen - Bicycle Needs
Lou Bresee	Citizen - Pedestrian Needs
Bethany Remmers	Regional Planning Commission (RPC)
Chip Sawyer	Municipal Representative
Richard Amore	Agency of Commerce and Community Development (ACCD)
Karen Yacos	Local Motion
Mike Charron	Vermont Center for Independent Living (VCIL)
Kelly Stoddard Poor	Association of American Retired Persons (AARP) Vermont
Jared Ulmer	Vermont Department of Health

Table 4: Stakeholder Group Meetings

#	Meeting Description	Timeline
1	<p>The Alta team, Stakeholder Group, and VTrans Project Managers will discuss:</p> <ul style="list-style-type: none"> • Background Information and Project Scope • Draft Memo #3: Engagement Strategy • Organization of the Stakeholder Focus Group meetings <p>In addition, the Alta team will lead the group in a vision and goal development exercise, which will serve as the foundation for draft Memo #4: Vision and Goals</p>	Mid-February 2020
2	<p>The Alta team will present:</p> <ul style="list-style-type: none"> • Draft Memo #7: Draft Strategies 	Early-August 2020
3	<p>The Alta team will present</p> <ul style="list-style-type: none"> • Draft #2 of the BPSP 	Early-November 2020

Stakeholder Focus Groups

Many members of the Stakeholder Group, along with other identified individuals, as appropriate, will be grouped (with potential for a stakeholder to be engaged in more than one group) into seven (7) Stakeholder Focus Groups to provide insight into specific topics. The current timeline indicates the focus groups will be held over three (3) or four (4) days over two (2) weeks in mid- to late-March. Each focus group meeting would be no more than two (2) hours in duration. The intention is for the focus groups to be held at VTrans, although another suitable central location for all meetings would also be acceptable.

The goal of each conversation is to identify how VTrans advances a particular topic throughout the state or engages on a particular topic with stakeholders. Success stories and opportunities for new ideas will be developed. Some participants may join more than one conversation. Each group will be focused around a particular theme, identified as a key aspect in pedestrian and bicyclist planning and success. Seven focus groups have been identified around these themes:

- **Focus Group #1: Education** – Discuss the constraints and effectiveness of existing educational messaging and curriculum focused on improving safety conditions for walking and bicycling, including educational programs targeted at people driving private motor vehicles. Encourage the involvement of the Office of Highway Safety, Local Motion, and Safe Routes to School program managers to assess the content of their existing programming, as well as the effectiveness of the delivery method. Review the safety analysis conducted in Phase II of the On-Road Bicycle Plan and make recommendations for focus areas and media strategies for future educational messaging.
- **Focus Group #2: Encouragement** – Evaluate existing programming dedicated to promoting walking and bicycling among Vermont residents. Work to identify existing and new potential partners (internal and external to VTrans) to further encouragement programming efforts, including groups providing economic perspectives on outdoor recreation. Document the effectiveness of existing strategies to promote walking and bicycling through the lens of health/exercise, climate change/conservation, and economic impacts/cost savings.

- **Focus Group #3: Enforcement** – Evaluate existing State laws and ordinances and compare to national best practices included in Memo #2: Best Practices Comparison. Work with law enforcement partners to assess the effectiveness of existing walking- and bicycle-related enforcement materials, including curriculum specific to drivers’ interactions with pedestrians and bicyclists.
- **Focus Group #4: Engineering** – Evaluate existing engineering guidance related to walking and bicycling infrastructure and identify potential gaps. Review the effectiveness of the bicycle use categories developed during Phase I and the roadway comfort for bicycling analysis developed during Phase II of the On-Road Bicycle Plan, as well as intersection and crossing treatment policies for helping build out a complete pedestrian and bicycle network. Review existing policies related to implementation (including detours during construction), maintenance, and operations) as well as efforts for demonstration and pilot projects.
- **Focus Group #5: Transit Connectivity** – Evaluate policy-level needs of transit providers for providing high-quality first-last mile connectivity for walking and bicycling to transit stops and stations, as well as compare those needs with national best practices.
- **Focus Group #6: Emerging Technology** – Evaluate policy-level needs for addressing emerging issues related to electric vehicles, semi- and fully-autonomous vehicle interactions with pedestrians and bicyclists, and micromobility (i.e. e-bikes, scooters, bikeshare, etc.), noting gaps in guidance and available research.
- **Focus Group #7: Prioritization** – Evaluate historic and future dedicated funding streams for bicycling and pedestrian projects and programs. Review existing grant program selection criteria and make recommendations on how to better align the program with VTrans’ strategic goals, Complete Street initiatives, and VPSP2 prioritization process. Assess the effectiveness of project bundling and make program recommendations based on national best practices.

VTrans will identify the participants, with input from Alta and RSG. A group size of 6 to 8 participants per group is intended. VTrans will invite the participants, copying Alta and RSG staff on the invitations. A summary of pedestrian and bicycling planning will be presented to focus group attendees, and then a guided discussion of prompt questions will be held. RSG, with input from the VTrans Project Manager and Alta staff, will develop focus group agendas and prompt questions. The Alta team will be responsible for meeting notes and consolidating input from the stakeholder focus groups.

Table 4: Stakeholder Focus Group Members

Focus Group	Name	Organization or Reason of Interest
Education	Sid Bradley (could not attend)	DMV - Motor Vehicle Enforcement and Safety
	Alice Charkes	Brattleboro Driver Education
	Shyla Foss	Public Health Nutritionist
	Allen Fortin	Chittenden County Sheriff's Department
	Rick Gauthier (could not attend)	Criminal Justice Training Council (which runs the Vermont Police Academy)

	Kevin Geno	Rutland County Sheriff's Department
	Mary Catherine Graziano	Local Motion
	Bill Jenkins	Law Enforcement Liaison - Vermont State Highway Safety Office
	Evelyn McFarlane	VTrans - Operations and Safety Bureau
	Patrick McManamon	DMV - Motor Vehicle Enforcement and Safety
	Amy Tatko (could not attend)	VTrans - Public Outreach
	Tara Thomas (could not attend)	Vermont State Police
	Kathleen White	Brattleboro Coalition for Active Transportation
	Paul White	Vermont State Highway Safety Office
Encouragement	Mark Anders	Bennington County Regional Commission (BCRC)
	Nic Anderson	Champlain College
	Abby Bleything	UVM - Transportation and Parking
	Dan Currier	VTrans - Public Transit
	Bethany Fleishman (could not attend)	Vital Communities
	Jen Roberts (could not attend)	Onion River Outdoors
	Jessica Savage (could not attend)	ANR - Department of Forests, Parks and Recreation
	Kelly Stoddard-Poor	AARP Vermont
	Sandy Thibault	Chittenden Area Transportation Management Association (CATMA)
	Jared Ulmer (could not attend)	Vermont Department of Health
	Jonathon Weber	Local Motion

Enforcement	Jake Elovirta	DMV - Enforcement
	Mike Fitzgerald (could not attend)	Brattleboro Police Department
	Allen Fortin	Chittenden County Sheriff's Department
	Rick Gauthier (could not attend)	Criminal Justice Training Council (which runs the Vermont Police Academy)
	Kevin Geno	Rutland County Sheriff's Department
	Bill Jenkins	State Highway Safety Office
	Mandy White	VTrans - Highway Research
	Paul White	Vermont State Highway Safety Office
Engineering	Mike Charron (could not attend)	Vermont Center for Independent Living
	Ian Degutis	VTrans - Traffic Operations/ Mobility
	Jesse Devlin (could not attend)	VTrans - Highway Safety and Design
	Rob Faley (could not attend)	VTrans - Districts 1 and 3
	Greg Goyette	Stantec
	Peter Johnke	Vermont Center for Independent Living
	Kevin Marshia	VTrans - Asset Management
	Susan Molzon	City of Burlington - Department of Public Works
	Taylor Sisson	VTrans - Highway Safety and Design
	Jonathon Weber	Local Motion
Allegra Williams (could not attend)	Local Motion	
Transit Connectivity	Ilona Blanchard	City of South Burlington
	Dan Currier	VTrans - Public Transit
	Chris Damiani	Green Mountain Transit

	Marshall Distel	Chittenden County Regional Planning Commission (CCRPC)
	Kim Furtado	Chittenden Area Transportation Management Association (CATMA)
	Peter Johnke	Vermont Center for Independent Living
	Ross MacDonald (could not attend)	VTrans - Public Transit
	Sandy Thibault (could not attend)	Chittenden Area Transportation Management Association (CATMA)
Emerging Technology	Dave Cohen	VBike
	Bryan Davis	Chittenden County Regional Planning Commission (CCRPC)
	Katie Martin	Chittenden Area Transportation Management Association (CATMA)
	Tom McCarran	VEIC
	Evelyn McFarlane	VTrans - Operations and Safety Bureau
	Greg Rowangould	UVM Transportation Research Center
	Joe Segale	VTrans - Policy and Planning
	Sandy Thibault (could not attend)	Chittenden Area Transportation Management Association (CATMA)
Prioritization and Selection	Amy Bell	VTrans - Policy and Planning
	Matt Boulanger	Town of Williston
	Mollie Burke	Vermont General Assembly
	Gary Halloway	ACCD - Department of Housing and Community Development (DHCD)
	Matthew Langham	VTrans - Policy and Planning
	Kevin Marshia	VTrans - Asset Management
	Sue Scribner	VTrans - Municipal Assistance Bureau
	Rita Seto	Two Rivers - Ottauquechee Regional Commission (TRORC)

General Public*

While the BPSP is primarily intended to guide and encourage inclusion of pedestrian and bicycle needs into all VTrans activities, the CMG has expressed interest in informing and engaging with the public during this process. It is recommended that VTrans develop a presentation that is publicly available online describing the project and the recommended strategies. Any input gathered online or via email from the public can be listed in an appendix to the final BPSP. It is unlikely that public input will play a large role in BPSP recommended strategies, as it is more of an internal, organization document for VTrans.

Goals for Engagement

The goals for engagement differ slightly between the three engagement groups, as the responsibilities and knowledge of each group varies relative to the overarching goals of the BPSP. The overall goals for the Engagement Strategy for the BPSP are to:

- Understand participants' expectations for integration of pedestrian and bicycle needs in all VTrans activities.
- Engage participants early on to understand what they want to see in the plan, then identify proposed strategies which meet these expectations while reconciling differences between those engaged as well as keeping strategies feasible and realistic.
- Offer multiple platforms and opportunities to provide input, including online, conference calls, and in-person opportunities.
- Convey complex, technical information using plain language and graphics.
- Comply with VTrans guidelines on engagement activities.

Strategies

In-Person Meetings: The CMG and Stakeholder Focus Group** meetings, for example, will be held in person. This will enable members to collaborate with others in the room and provide direct feedback to the project team.

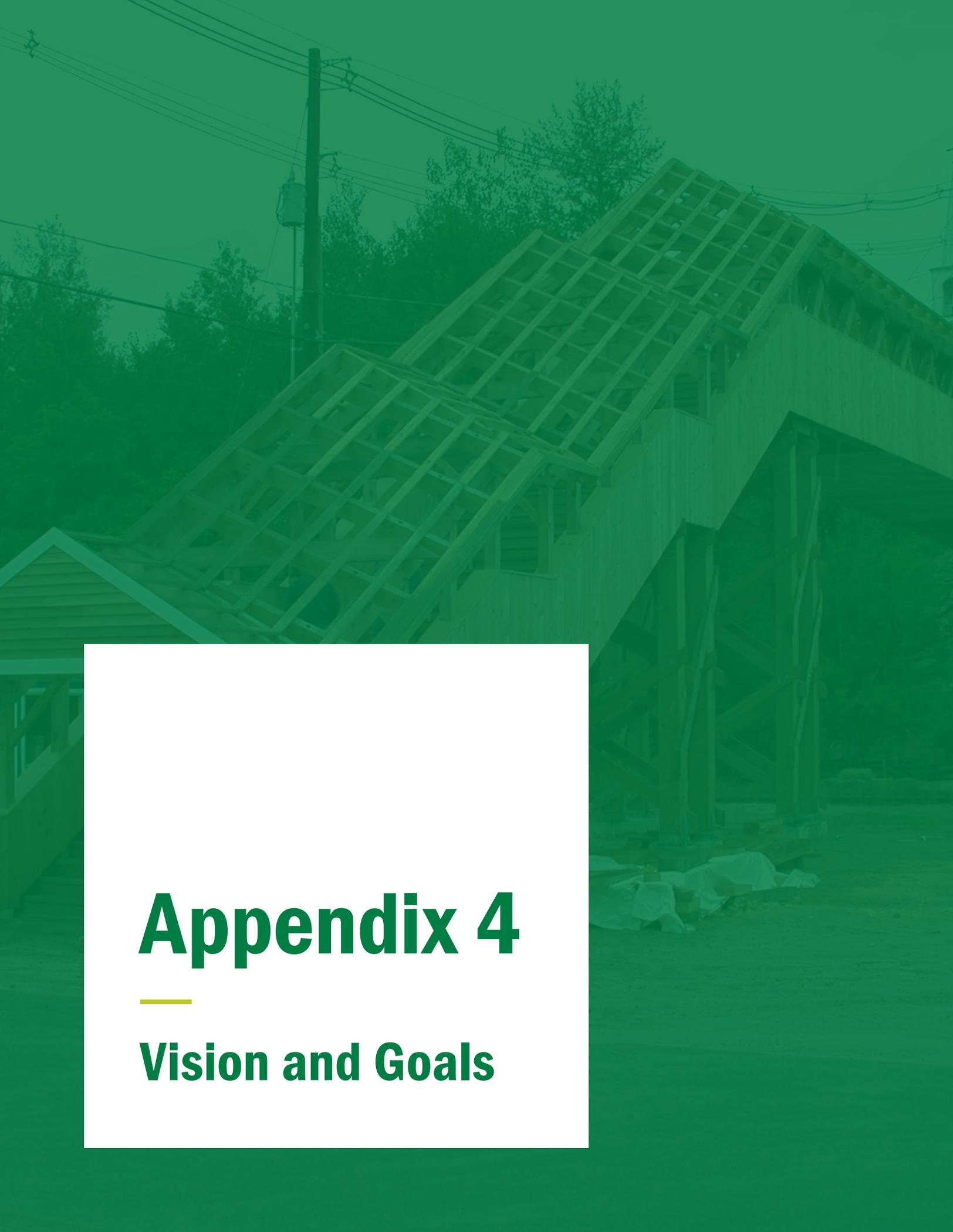
Webinars / Conference Calls: The webinars and conference call meetings provide the same feedback opportunities as the in-person meetings but offer more scheduling flexibility, especially for a group as large as the BPSP Stakeholder Group. There may be an opportunity to hold the CMG meetings in a webinar / conference call format.

Project Webpage: A project webpage will be created to share status updates and deliverables with the Core Management Group, Stakeholder Group, Stakeholder Focus Groups, and the public* (as necessary). The webpage will be updated as draft deliverables are shared ahead of scheduled meetings and after they are finalized. The site will be hosted by VTrans using Sharepoint.

Internal Survey (Optional): After completion of the RPC meeting and Stakeholder Focus Group meetings, VTrans has the opportunity to distribute an internal survey to a selected group (e.g., local municipality, RPCs, or VTrans staff) if desired. The survey will be used to fill in gaps or to gain a broader understanding of the pervasiveness of opinions expressed at the completed focus group meetings. If completed, the results will be summarized in Memo #6: Comprehensive Evaluation.

* Public input may be a supplemental item not included in the current project scope.

** Stakeholder Focus Group meetings were held via webinar due to COVID-19 restrictions and precautions.

The background of the page is a photograph of a building under construction, showing the wooden frame and roof trusses. The entire image is overlaid with a semi-transparent green filter. In the foreground, there is a white rectangular box containing the text.

Appendix 4



Vision and Goals

To: Jon Kaplan (VTrans), Sommer Bucossi (VTrans), Katharine Otto (VTrans)

From: Laura Byer (Alta), Jeff Olson (Alta), Erica Wygonik (RSG)

Date: July 28, 2020

Re: Memo #4: Vision and Goals

Introduction

The Vermont Agency of Transportation (VTrans) is developing a Bicycle and Pedestrian Strategic Plan (BPSP) to better integrate the needs and priorities of those walking and bicycling into all VTrans activities. These activities may include infrastructure and maintenance projects as well as program and policy development. The vision and goals will help guide future strategies and performance measures to be included in the draft and final BPSP.

This document also includes visions and goals identified during the development of Memo #1: Document Review as well as performance measures used by the other state agencies interviewed as part of Memo #2: Best Practices Comparison.

BPSP Vision

The following vision was developed for the BPSP:

The needs of people walking and bicycling of all ages and abilities will be considered in all VTrans activities.

VTrans will continue to work collaboratively with both internal staff and external partners to improve safety, connectivity, and access to promote walking and bicycling. Safety, health, economic, environmental, and quality of life benefits resulting from an increase in walking and bicycling will be achieved through education and training workshops, innovative planning and design practices, the consideration of community needs, and effective communication. Expectations for equitable transportation networks that are maintainable and consistent will be clearly defined for VTrans staff.

BPSP Goals

The following goals were developed for the BPSP:

1. **Safety and Network Improvement:** Invest in readily maintainable infrastructure to ensure safety, mobility, accessibility, and comfort for those walking and bicycling within available resources. Prioritize network improvements which emphasize safety as well as stimulate outdoor recreation, environmental benefits, tourism, economic growth, productivity, and competitiveness for Vermont businesses.
2. **Education and Innovation:** Educate VTrans staff and external partners about the needs of those walking and bicycling and promote innovative practices that improve the safety and performance of existing and future walking and bicycling networks.

3. **Inclusion and Integration:** Develop and foster a culture where the needs of those walking and bicycling are considered in all VTrans activities.
4. **Communication and Collaboration:** Identify the needs and resources of those walking and bicycling through frequent and effective communication and collaboration regarding VTrans activities.
5. **Effectiveness, Accountability, and Community Needs:** Improve VTrans' effectiveness in implementation of strategies for those walking and bicycling through clear employee responsibilities, greater accountability, and consideration for the desires of local communities.

Relevant Document Review Visions

- **2040 Vermont Long-Range Transportation Plan, VTrans, 2018:** A safe, reliable and multimodal transportation system that grows the economy, is affordable to use and operate, and serves vulnerable populations.
- **Agency Strategic Plan, VTrans, 2015:** A safe, reliable and multimodal transportation system that promotes Vermont's quality of life and economic wellbeing.
- **Vermont Public Transit Policy Plan, VTrans, 2012:** Public transit meets the basic mobility needs of all Vermonters including transit-dependent persons, provides access to employment and other modes, mitigates congestion, preserves air quality and promotes efficient energy use, and advances the State's economic development objectives – all in a safe, reliable, cost-effective, and environmentally responsible manner.
- **Vermont Pedestrian and Bicycle Policy Plan, VTrans, 2008:** The State of Vermont has safe, well used, convenient and accessible conditions for bicyclists and pedestrians of all ages and abilities. Bicycle, pedestrian and roadway networks provide mobility throughout the State and links with other transportation modes, while complementing Vermont's natural environment, community character, and overall quality of life.

Relevant Document Review Goals

- **Revamping VTrans' Project Selection & Prioritization Processes, VTrans, 2019:**
 - Develop a fair, consistent, reliable and standardized project selection and prioritization framework.
 - Ensure alignment with statewide vision, goals, and objectives and national performance goals.
 - Communicate "transportation" value and provide "best value" to our taxpayers.
 - Move toward holistic corridor management & planning.
- **2040 Vermont Long-Range Transportation Plan, VTrans, 2018:**
 - Improve safety and security across all transportation modes
 - Preserve and improve the condition and performance of multimodal transportation system
 - Provide mobility options and accessibility for all users of the transportation system
 - Leverage transportation investments to increase Vermont's economic vitality.
 - Practice environmental stewardship.
 - Support livable, healthy communities.
- **Vermont Strategic Highway Safety Plan 2017-2021, Vermont Highway Safety Alliance, 2017:**
 - Reduce major pedestrian crashes by 10% between 2017-2021
 - Reduce major bicycle crashes by 10% between 2017-2021

- **Agency Strategic Plan, VTrans, 2015:**
 - Provide a safe and resilient transportation system that supports the Vermont economy.
 - Preserve, maintain and operate the transportation system in a cost effective and environmentally responsible manner.
 - Provide Vermonters energy efficient, travel options.
 - Cultivate and continually pursue innovation, excellence and quality customer service.
 - Develop a workforce to meet the strategic needs of the Agency.
- **Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy, VTrans, 2013:**
 - Strengthen and expand the VTrans corridor management planning program.
 - Revise VTrans guidance and procedures for identifying, defining, and prioritizing transportation projects to incorporate and measure consistency with state land use, economic development, environmental, and community development goals.
 - Consolidate and update VTrans design standards to support multimodal objectives.
 - Improve VTrans review and participation under Act 250 and the Section 1111 access permitting process to encourage development in state designated community centers and improve consistency with regional and local plans and state planning law.
 - Document the smart growth benefits and costs of VTrans policies, programs, and investments.
- **Vermont Public Transit Policy Plan, VTrans, 2012*:**
 - *An updated Public Transit Policy Plan is now available and can be viewed at the following link: <https://vtrans.vermont.gov/planning/PTPP>
 - Provision for basic mobility for transit-dependent persons, as defined in the public transit policy plan of January 15, 2000, including meeting the performance standards for urban, suburban, and rural areas. The density of a service area's population is an important factor in determining whether the service offered is fixed route, demand-response, or volunteer drivers.
 - Access to employment, including creation of demand-response service.
 - Congestion mitigation to preserve air quality and sustainability of the highway network.
 - Advancement of economic development objectives, including services for workers and visitors that support the travel and tourism industry. Applicants for "new starts" in this service sector shall demonstrate a high level of locally derived income for operating costs from fare-box recovery, contract income, or other income.
- **Vermont Pedestrian and Bicycle Policy Plan, VTrans, 2008:**
 - **Cultural Environment:** Enhance the human scale and livability of Vermont's communities by improving opportunities for pedestrian and bicycle mobility and access in and between towns, downtowns, villages and rural landscapes.
 - **Economic Vitality:** Enhance the economic vitality of Vermont by increasing economic development opportunities (e.g., create small businesses catering to pedestrian and bicycle needs, making commercial districts more attractive and accessible), providing greater transportation efficiency and choice, improving tourism activities, reducing health costs, and limiting the overall demand on the transportation infrastructure that would result from better pedestrian and bicycle transportation options.

- **Health:** Improve the health of Vermonters and reduce health care costs by making it easier, safer and more convenient for citizens to be more physically active by walking and bicycling on a regular basis.
- **Natural Environment:** Improve air quality, reduce greenhouse gas emissions which contribute to climate change, increase energy conservation and reduce vehicle miles traveled per capita by increasing the number of trips made by pedestrians and bicyclists.
- **Safety:** Improve the safety of pedestrian and bicycle travel throughout the entire roadway network, and the accessibility of accessible pedestrian facilities, shared use path, and rail-trail network in Vermont through education and physical improvements.
- **Transportation Choice:** Enhance pedestrian and bicycle transportation options in Vermont so that citizens, regardless of location, socioeconomic status, or health can choose a seamless, convenient and comfortable mode that meets their needs. Promote a transportation network, including roadways, shared use paths, rail trails, rails with trails, and accessible pedestrian facilities that allow pedestrians and bicyclists to reach their destinations throughout the State or to connect to other modes of travel.
- **Vermont Pedestrian and Bicycle Facility Planning and Design Manual, VTrans, 2002:**
 - **Pedestrian Goals:**
 - Encourage more walking.
 - Reduce the number of pedestrian-motor vehicle crashes and injuries.
 - Better address walking as a mode of transportation for all residents and visitors.
 - Contribute to the U.S. Department of Transportation goal by helping to double the percentage of walking in the U.S.
 - Contribute to national health objectives by providing opportunities for walking as a matter of lifestyle through the creation of pedestrian-friendly facilities, compact growth centers and active community environments.
 - **Bicycle Goals:**
 - Encourage more bicycling.
 - Reduce the number of bicycle-motor vehicle crashes and injuries.
 - Better accommodate those who are dependent upon bicycling as their primary mode of transportation.
 - Contribute to the U.S. Department of Transportation goal by helping to double the percentage of total trips made by bicycle in the U.S.
 - Contribute to national health objectives of providing opportunities for bicycling as a matter of lifestyle through the creation of bicycle-friendly facilities, compact growth centers and active community environments.

Best Practice Comparison Performance Measures

The following performance measures related to pedestrian and bicycle infrastructure implementation were identified during the Best Practices Comparison (Memo #2).

Colorado

- Non-Motorized Counts: Pedestrian and bicycle counts have proved to be successful in the past with regards to measuring the success of pedestrian and bicycle facilities or to help inform

recommendations. Recently, non-motorized counts showed a need for, and resulted in, a change in a maintenance plan to better accommodate roadway users (specifically bicyclists in this example). This method is generally seen as successful by CDOT.

- **Data Needs:** pedestrian and bicycle counts
- Strava Data: CDOT has successfully used Strava data to help inform future work. For example, if Strava shows a high number of bicycle users along a particular roadway, CDOT can prioritize incorporating bicycle facilities during future on that same roadway. They are using this method to incorporate bicycle recommendations into their statewide plan. This method is generally seen as successful by CDOT.
 - **Data Needs:** Strava data
- Before/After Use Data: CDOT is also working on collecting data to compare the number of non-motorized users before and after pedestrian and bicycle facilities are implemented. CDOT is still in the early phases of this data collection.
 - **Data Needs:** pedestrian and bicycle counts both before and after facility construction
- BMI Levels: CDOT used to compare resident BMI levels with frequency of pedestrian and bicycle facilities. They often saw that higher BMI levels were associated with fewer pedestrian and bicycle facilities, but were unable to identify a definitive correlation. Therefore, this method is generally not seen as successful.
 - **Data Needs:** height and weight of Vermont residents by location, pedestrian and bicycle facility locations

Massachusetts (Performance Measures and Equity Checks)

- Rate of fatalities and serious injuries among people walking
 - **Equity Check:** Are certain populations at a higher risk for fatalities and serious injuries while walking?
 - **Data Needs:** population, number of pedestrian fatalities, number of pedestrian serious injuries, demographic information on the population, pedestrian fatalities, and pedestrian serious injuries as it relates to equity (race, age, income, etc.)
- Percentage of residents who have the option to use pedestrian facilities to travel for all short trips from their home
 - **Equity Check:** Do certain populations have less access to pedestrian facilities near their homes?
 - **Data Needs:** population data of residential areas, pedestrian facility data (sidewalks, crosswalks, etc.), demographic information on the population in walking for short trips as it relates to equity (race, age, income, etc.)
- Percentage of Massachusetts residents' short trips that are made by walking
 - **Equity Check:** Do certain populations make a smaller percentage of their short trips by walking?
 - **Data Needs:** total number of short trips (any travel mode) taken by residents, number of short trips done by walking, demographic information on the population walking for short trips as it relates to equity (race, age, income, etc.)
- Percentage of short trips taken in Massachusetts that could have been made by walking
 - **Equity Check:** Can certain populations make a smaller percentage of their short trips by walking?

- **Data Needs:** total number of short trips (any travel mode) taken by residents, number of short trips done by walking, pedestrian facility data (sidewalks, crosswalks, etc.), demographic information on the population walking for short trips as it relates to equity (race, age, income, etc.)
- Rate of fatalities and serious injuries among people biking
 - **Equity Check:** Are certain populations at a higher risk for fatalities and serious injuries while biking?
 - **Data Needs:** population, number of bicycle fatalities, number of bicycle serious injuries, demographic information on the population, bicycle fatalities, and bicycle serious injuries as it relates to equity (race, age, income, etc.)
- Percentage of residents who have the option to use the high-comfort bike network to reach destinations within 6 miles of their home—indicates how well high-comfort bikeways provide the foundation for safe travel by bicycle.
 - **Equity Check:** Are certain populations less able to reach destinations within 6 miles of their home?
 - **Data Needs:** population data of residential areas, bicycle facility data (dedicated on-road facilities, off-road accommodations, etc.), demographic information on the population biking for trips under 6 miles as it relates to equity (race, age, income, etc.)
- Percentage of Massachusetts residents' trips under 6 miles that are made by bike
 - **Equity Check:** Do certain populations make a smaller percentage of their trips under 6 miles by bike?
 - **Data Needs:** total number of trips (any travel mode) taken by residents that are less than 6 miles, number of trips under 6 miles completed by bicycle, demographic information on the population biking for trips under 6 miles as it relates to equity (race, age, income, etc.)
- Percentage of trips under 6 miles taken in Massachusetts that could be made using the high-comfort biking network—indicates how well high-comfort bikeways serve existing trips under 6 miles, which would be bikeable if facilities existed.
 - **Equity Check:** Can certain populations make a smaller percentage of their trips under 6 miles using the high-comfort biking network?
 - **Data Needs:** total number of trips (any travel mode) taken by residents that are less than 6 miles, number of trips under 6 miles completed by bicycle, bicycle facility data (dedicated on-road facilities, off-road accommodations, etc.), demographic information on the population biking for trips under 6 miles as it relates to equity (race, age, income, etc.)

Michigan

- MDOT indicated that there are no pedestrian- or bicycle-specific performance measures at this time.

Minnesota

- Percentage of State-Owned Sidewalk Miles Substantially Compliant with ADA Standards
 - **Data Needs:** total mileage of sidewalks on state-owned roads, mileage of sidewalks on state-owned roads that comply with ADA standards
- Percent of State Highway Curb Ramps That are Compliant with ADA Requirements

- **Data Needs:** total number of curb ramps on state highways, total number of curb ramps on state highways that comply with ADA standards
- Percent of Eligible State Highway Intersections with Accessible Pedestrian Signals Installed
 - **Data Needs:** total number of eligible state highway intersections, total number of eligible state highway intersections with accessible pedestrian signals installed
- Total Number of Fatalities on Minnesota Roadways Resulting From Crashes Involving a Motor Vehicle Each Year (includes pedestrians and bicycles)
 - **Data Needs:** total number of fatalities due to crashes by type of travel mode (walking or bicycling)
- Total Number of Serious Injuries on Minnesota Roadways Resulting From Crashes Involving a Motor Vehicle Each Year (includes pedestrians and bicycles)
 - **Data Needs:** total number of serious injuries due to crashes by type of travel mode (walking or bicycling)
- State Road & Highway Maintenance (Reported Annually in Omnibus)
 - **Data Needs:** data on the maintenance of transportation facilities of interest (sidewalks, shoulders, etc.)
- MnDOT Survey Questions:
 - Annual Percent of MnDOT Omnibus Survey Respondents Perceiving Safe Environments for Bicycling/Walking
 - Annual Percentage of Respondents That Agree with the Following Statements: MnDOT can be Relied Upon to Deliver Minnesota's Transportation System
 - Annual Percent of Respondents That Agree with the Following Statements: MnDOT Considers Customer Concerns When Developing Transportation Plans
 - Annual Percent of Respondents That Agree with the Following Statements: MnDOT Acts in a Fiscally Responsible Manner
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Building Roads and Bridges
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Maintaining Roads and Bridges
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Communicating Accurate Info to MN Citizens About Their Transportation Plans and Projects
 - Annual Percent of Survey Respondents Indicating They are Confident in MnDOT: Providing Alternative Transportation Options for the Future
 - **Data Needs:** a survey asking respondents the above questions



Appendix 5

Progress To-Date Report



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MEMORANDUM

To: Jon Kaplan (VTrans), Sommer Bucossi (VTrans), Katharine Otto (VTrans)

From: Laura Byer (Alta), Jeff Olson (Alta), Erica Wygonik (RSG)

Date: April 10, 2020

Re: Memo #5: Progress To-Date Report

Introduction

The Vermont Agency of Transportation (VTrans) is developing a Bicycle and Pedestrian Strategic Plan (BPSP) to better integrate bicycle and pedestrian needs and priorities into all VTrans activities. These activities may include infrastructure and maintenance projects as well as program and policy development. The Progress To-Date Report examines the strategies established in the VTrans Pedestrian and Bicycle Policy Plan (2008), related performance monitoring efforts, and Standard Operating Procedures. The Alta team coordinated with VTrans Project Managers to assess the effectiveness of these efforts and the staying power of the identified performance measures.

Progress To-Date Summary

The consultant team conducted an interview with Jon Kaplan, VTrans' Bicycle and Pedestrian Program Manager, to help assess the actions and performance measures included in the 2008 Pedestrian and Bicycle Policy Plan. The tables below summarize the progress to-date on the identified actions (Table 1) and performance measures (Table 2). These summaries will also help identify the strategies and performance measures for the BPSP (to be developed in Memo #7: Draft Strategies). The Appendix to this document (starting on page 8) contains the vision, policy statement, goals, objectives, actions, and performance measures developed for the 2008 Pedestrian and Bicycle Policy Plan.

As discussed during conversations with VTrans Project Managers, only actions assigned to VTrans ("VT" actions) and the VTrans Bicycle and Pedestrian Program ("BP" actions) were reviewed and analyzed in this memo. As the BPSP is an internal document for VTrans, the agency does not feel it is appropriate to assign future strategies to organizations or individuals not associated with VTrans (e.g., Local Motion, RPCs, etc.). If desired, non-VTrans organizations can help further the purpose of the BPSP in a variety of ways and are encouraged to collaborate with VTrans on additional future strategies.

Additionally, while helpful for the 2008 effort, the strategies included in the BPSP likely will not be following the same timeframe format (Current versus Strategic versus Long-Term). Strategies will likely be prioritized, but the final BPSP format will likely look different than the plan produced in 2008.

Table 1: 2008 Pedestrian and Bicycle Policy Plan Progress To-Date Summary: *Actions*

ACTION ID	2008 ACTION	ACTION PROGRESS TO-DATE SUMMARY
CVT.1	Incorporate appropriate bicycle and pedestrian facilities into VTrans projects, programs and actions.	This is the main goal of the BPSP. Future strategies should be more specific about how this will be accomplished.
CVT.2	Fully implement current provisions of the VTrans Project Development Process that incorporate consideration of bicycle and pedestrian needs.	The BPSP should include a strategy which highlights implementation of VTrans's project selection and prioritization process update (VPSP2). Additionally, a strategy should be developed which considers the need for bicycle and pedestrian needs early on in the project development process.
CVT.3	Continue to incorporate maintenance of State-owned pedestrian and bicycle facilities into routine maintenance activities.	Maintenance needs to be addressed in the BPSP, but a future strategy would likely look different than this previous action.
CVT.4	Continue to share project plans for upcoming transportation projects with the RPCs/MPO.	This has been done in the past, specifically with paving projects. This should continue into the future to help with communication and standardization. Additionally, to ensure this happens, a strategy should recommend a formal process to share upcoming project plans with RPCs/MPO.
CVT.5	Continue coordination efforts with other State and federal agencies and other groups.	VTrans coordinates regularly with certain organizations, specifically ACCD, VDH, AARP-VT, and VNRC. This action is relevant to the BPSP but should identify strategies for collaboration with specific State agencies. Including Federal agencies may not be relevant.
CVT.6	Maintain the VTrans design manuals, design details, standard drawings to include the most recent non-motorized transportation facility design treatments.	Future strategies should emphasize and promote the use of nationally recognized best practices and manuals (FHWA, AASHTO, etc.), while still enabling Vermont to utilize State-specific best practices. These resources should be available in one location (e.g., online, in-house file share system, etc.) to be easily accessible by all VTrans employees.

CVT.7	Update the Americans with Disabilities Act (ADA) Transition Plan completed in May 1995.	The ADA Transition Plan has been updated in the past, and will be updated in 2020. It is not necessary to include this as a strategy in the BPSP.
CVT.8	Analyze the locations of police-reported pedestrian and bicycle crashes.	Safety needs to be measured, but it should be measured in a way that helps VTrans focus efforts and improve the safety of the State network for pedestrians and bicyclists. This may result in a strategy that measures safety in additional ways (e.g., hospital data) as well as bicycle and pedestrian crash data.
CVT.9	Consider staffing needs of the VBPP necessary to accomplish the current and strategic actions contained in this Policy Plan.	Improved integration of bicycle and pedestrian needs across all VTrans staff will lessen the burden on the Bicycle and Pedestrian Program employees. If done properly, this strategy may not be necessary to include in the BPSP.
CVT.10	Include bicycle, pedestrian and transit considerations, as appropriate, in the scope of VTrans traffic impact study reviews.	It is important to include specific language about how to develop transportation systems that provide good connections between pedestrian and bicycle accommodations and transit facilities. May not need to include a strategy specifically related to traffic impact study reviews.
CVT.11	Educate motorists, pedestrians, and bicyclists regarding their shared responsibility to obey traffic laws and engage in safe operating behavior.	This is done on an ongoing basis, but the impact of these education efforts has been hard to measure. Future strategies should encourage a broad approach to education to reach a variety of people and keep educational messages front and center.
CBP.1	Maintain the current involvement with VTrans projects beyond the scoping phase.	Similar to the response to CVT.2, it may not be necessary for VBPP staff to be included beyond the scoping phase if all VTrans employees are responsible for the integration of pedestrian and bicycle needs, where appropriate.
CBP.2	Continue to support the Safe Routes to School programs throughout Vermont.	The future of Safe Routes to School programs is unknown and tied to limited available funding. Future strategies should continue to create safe connections to schools throughout Vermont and educate students about road safety.

CBP.3	Offer non-motorized transportation training for VTrans staff, RPC, MPO, consultants and other individuals.	Strategies for incorporating trainings for VTrans staff, RPC, MPO, and other individuals should be included in the BPSP. Some of these strategies may reference training sessions to help implement the strategies included within the BPSP.
CBP.4	Continue to build relationships with transportation and non-transportation partners to promote walking and bicycling.	The BPSP should identify specific strategies and partners for promotion of walking and bicycling.
CBP.5	Sustain current programs to encourage walking and bicycling as a means of transportation. (RPCs/MPO, Advocacy Groups)	Similar to the response for CBP.4, specific programs should be identified. Strategies should be consolidated where appropriate. It may make sense to combine the ideas from CBP.4 and CBP.5 into one future strategy.
CBP.6	Continue to conduct research of innovative pedestrian and bicycle treatments. (UVM University Transportation Center)	VTrans is likely to conduct research without having it called out specifically in the BPSP. Future strategies should focus more on implementation and integration.
CBP.7	Continue to use short-term advisory committees to assist with specific issues or projects. (Advocacy Groups)	Short-term advisory committees are frequently organized to assist with specific projects (e.g., the CMG and stakeholder groups). It may not be necessary to include this as a strategy in the BPSP unless there is a specific need identified through the remainder of this planning effort.
SVT.1	Monitor progress on non-motorized transportation policies as measured by established performance measures. (RPCs/MPO)	VTrans has not consistently tracked or monitored progress on non-motorized transportation policies. The value of this strategy should be assessed before inclusion in the BPSP.
SBP.1	Facilitate the implementation of this Policy Plan by others	This wording is vague. A future strategy should identify how the strategies and performance measures included in the BPSP will be implemented and who will be responsible.

<p>SBP.2</p>	<p>Assist the RPCs/MPO in incorporating language relating to bicycle and pedestrian needs for use in model development ordinances prepared by the RPCs and MPO and used by their local municipalities. (RPCs/MPO)</p>	<p>No work has been done to date to assist RPCs/MPO with incorporation of pedestrian and bicycle needs into model development ordinances. If included, a future BPSP strategy regarding this topic should be more specific and clearer. A future strategy may be able to build off the Complete Streets Law. The legislation will be reviewed before making recommendations. It also may be possible to include this in an action item centered around providing training to municipalities and other organizations.</p>
<p>SBP.3</p>	<p>Incorporate more bicycle and pedestrian questions into the Vermont Behavioral Risk Factor Surveillance System Survey. (Dept. of Health)</p>	<p>It is unknown if this action was progressed. Including a similar action in the BPSP is a low priority at this time. It may be worthwhile to examine current questions to assess whether additional questions are needed with regards to encouragement. Increased regular collaboration with the Department of Health may help progress this action item.</p>
<p>SBP.4</p>	<p>Conduct a research study to determine the overall economic and environmental benefits of bicycling and walking on the State's economy. (VBPP, UVM, Other State Agencies)</p>	<p>The study referenced in this action was completed in 2012. The BPSP should include a strategy, and related performance measure, to identify ways to accommodate pedestrian and bicycle needs that also support economic growth and activities.</p>
<p>LVT.1</p>	<p>Program funding to implement accessibility improvements in priority locations based on the ADA Transition Plan.</p>	<p>Using funds from ARRA, VTrans was able to implement one accessibility project to address a number of curb ramps located on the state road network. Future strategies likely do not need to specify a need for prioritizing these types of improvements as ADA accommodations are routinely included in all VTrans activities, but this could be identified as an ongoing effort.</p>

LVT.2	Evaluate education curriculum, materials and tests for drivers' licenses for their effectiveness in providing bicycle and pedestrian education. (DMV and Dept. of Education)	VTrans had previously attempted to carry out this task in collaboration with Local Motion, but this attempt ran into various challenges. The BPSP should include a strategy regarding education curriculum, materials, and tests for driver's licenses, while mitigating challenges experienced in the past. Related performance measures should be put in place to measure the effectiveness of these items. This effort will include collaboration with the DMV.
LVT.3	Coordinate with organizations that have existing surveys to obtain statistically accurate bicycle and pedestrian travel survey data. (VTrans)	VTrans obtains this type of publicly available data to help with planning efforts (e.g., Household Travel Survey). It may be helpful to reference a diverse array of travel datasets that may be available from organizations as they pertain to the performance measures identified in the BPSP. Activity tracking applications could provide key information to how people travel.
LVT.4	Establish a long-term pedestrian and bicycle facility inventory and counting program. (VTrans, RPC/MPO)	UVM TRC reviewed VTrans data and helped with an inventory, but more work needs to be done to get a robust inventory. Additional inventory and counting efforts are conducted by the RPCs' Transportation Planning Initiative (TPI). A BPSP strategy should identify how to establish a long-term inventory and counting program in collaboration with other ongoing efforts (e.g., RPCs' TPI).
LBP.1	Expand the State non-school oriented pedestrian and bicycle safety education programs. (RPCs/MPO, Advocacy Groups)	These types of educational programs have been conducted sporadically. Future strategies should identify how and where VTrans should focus efforts to create a sustainable and consistent educational program. Any strategies developed should also identify potential teaming partners for implementation.
LBP.2	Determine the value and viability of using a Bicycle Level of Service (BLOS), Bicyclist Compatibility Index (BCI) or other appropriate measurement to gauge roadway bicycle suitability in Vermont. (VTrans, RPC, and MPO)	This was completed by developing the On-Road Bicycle Plan Phase I (2016) . A future strategy may recommend updating this measurement every few years to reflect changes to the state network and best practices.

LBP.3	Implement the results of LBP.2 as appropriate.	This was completed by developing the On-Road Bicycle Plan Phase II (2018). Additional implementation would only need to be completed if future best practices warranted updating the existing measurement.
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Table 2: 2008 Pedestrian and Bicycle Policy Plan Progress To-Date Summary: Performance Measures

CATEGORY	2008 PERFORMANCE MEASURE	PERFORMANCE MEASURE PROGRESS TO-DATE SUMMARY
Usage	Number of minutes per day the average Vermont resident spends doing pedestrian and bicycle activity.	This data has not been tracked and it is not reasonable to track this information in the future.
	Change in percent of all workers who commute to work by walking or bicycling.	This data has not been regularly tracked by VTrans, but it is collected at the national level and publicly available (e.g., Household Travel Survey). If deemed appropriate and it ties directly to a BPSP strategy, this is a statistic that could be reasonably tracked.
	Number of pedestrians and bicyclists observed in different parts of Vermont.	This data has not been tracked and it is not reasonable to track this information in the future.
Safety	Police-reported pedestrian and bicycle crashes per number of minutes spent walking and bicycling.	The intent of this measure was to identify a crash rate, but the number of minutes spent walking and bicycling has not been tracked and is not reasonable to track in the future. If appropriate, number of crashes from police-report data can be included in a performance measure. This may be an opportunity to advance Vision Zero efforts in Vermont.
Facilities*	Miles of sidewalk on State-owned roadways.	This information has been difficult to keep track of in the past. The value of this metric is questionable as VTrans does not maintain sidewalks on State-owned roadways.

*There may be a need for more discussion about what facilities should be measured to further VTrans' goals. One challenge with this topic is that, outside of the grant programs, municipalities are largely in control of expanding facility networks. VTrans focus should largely remain on the State road network and its shoulders and bike lanes. May be beneficial to keep track of how many projects are funded through grants (and the dollar value).

	Miles of shared-use paths.	This information has been difficult to keep track of in the past. This metric should be included in future performance measures if the information will help inform where and how to focus future VTrans efforts. There may be opportunities to partner with other organizations and utilize new technologies to inventory and keep track of the miles of shared-use paths in the state.
	Total number of VTrans funded bicycle and pedestrian projects and new facilities.	This data is readily available. It may be beneficial for a future performance measure to also track the number of projects funded in downtowns or village centers. It may also be useful to track projects by mileage, asset type, and the amount of funds invested. Additionally, tracking the scoping process may help result in more realistic/feasible scoping for future projects.
Training and Assistance	Total number of VTrans staff and consultants (including regional planning commissions) and local officials who participate in scheduled training sessions on pedestrian and bicycle accommodation and design.	This information has not been tracked in the past. If it is appropriately tied to a strategy, this metric can be tracked in the future.
Education and Encouragement	Increase in walking and bicycling to and from school for schools participating in Safe Routes to Schools programs.	The future of Safe Routes to School programs is unknown and tied to limited available funding. Additionally, this is a metric not easily tracked by VTrans.
	Number of schools and students participating in pedestrian or bicycle safety education programs or events. (e.g., Safe Routes to School, Bike Smart, etc.).	The future of Safe Routes to School programs is unknown and tied to limited available funding. Additionally, this is a metric not easily tracked by VTrans.
Economic Benefits	[No ongoing performance measure]	The study referenced by action SBP.4 was completed in 2012. Future performance measures related to strategies for economic growth should be developed.

Appendix: 2008 Pedestrian and Bicycle Policy Plan Content

2008 Pedestrian and Bicycle Policy Plan Vision

The following vision was identified for the 2008 Pedestrian and Bicycle Policy Plan:

The State of Vermont has safe, well used, convenient and accessible conditions for bicyclists and pedestrians of all ages and abilities. Bicycle, pedestrian and roadway networks provide mobility throughout the State and links with other transportation modes, while complementing Vermont's natural environment, community character, and overall quality of life.

2008 Pedestrian and Bicycle Policy Plan Policy Statement

The following policy statement was identified for the 2008 Pedestrian and Bicycle Policy Plan:

At each stage of planning, design, construction, implementation, operations and maintenance activities, VTrans-funded projects and programs shall reasonably include pedestrians and bicyclists. New projects, reconstruction projects and other transportation facility improvements will maintain or where feasible improve existing access and conditions for pedestrians and bicyclists to meet applicable Vermont standards. Education and encouragement programs will incorporate pedestrian and bicycle issues, as appropriate.

2008 Pedestrian and Bicycle Policy Plan Goals

The following goals were identified for the 2008 Pedestrian and Bicycle Policy Plan:

1. **Cultural Environment:** Enhance the human scale and livability of Vermont's communities by improving opportunities for pedestrian and bicycle mobility and access in and between towns, downtowns, villages and rural landscapes.
2. **Economic Vitality:** Enhance the economic vitality of Vermont by increasing economic development opportunities (e.g., create small businesses catering to pedestrian and bicycle needs, making commercial districts more attractive and accessible), providing greater transportation efficiency and choice, improving tourism activities, reducing health costs, and limiting the overall demand on the transportation infrastructure that would result from better pedestrian and bicycle transportation options.
3. **Health:** Improve the health of Vermonters and reduce health care costs by making it easier, safer and more convenient for citizens to be more physically active by walking and bicycling on a regular basis.
4. **Natural Environment:** Improve air quality, reduce greenhouse gas emissions which contribute to climate change, increase energy conservation and reduce vehicle miles traveled per capita by increasing the number of trips made by pedestrians and bicyclists.
5. **Safety:** Improve the safety of pedestrian and bicycle travel throughout the entire roadway network, and the accessibility of accessible pedestrian facilities, shared use path, and rail-trail network in Vermont through education and physical improvements.
6. **Transportation Choice:** Enhance pedestrian and bicycle transportation options in Vermont so that citizens, regardless of location, socioeconomic status, or health can choose a seamless, convenient and comfortable mode that meets their needs. Promote a transportation network, including roadways, shared use paths, rail trails, rails with trails, and accessible pedestrian facilities that allow pedestrians and bicyclists to reach their destinations throughout the State or to connect to other modes of travel.

2008 Pedestrian and Bicycle Policy Plan Objectives

The following objectives were identified for the 2008 Pedestrian and Bicycle Policy Plan:

1. As appropriate and feasible, incorporate pedestrian and bicycle transportation needs in VTrans-funded projects and programs.
2. Build and maintain the ability and expertise within all VTrans Divisions to address pedestrian and bicycle needs and issues.
3. Provide pedestrian and bicycle planning, technical, educational, and financial assistance to local governments, regional planning organizations, and other State agencies.
4. Fund planning, design, construction and maintenance of pedestrian and bicycle projects and programs at an adequate level.
5. Maintain on- and off-road pedestrian and bicycle facilities in good operating condition for their expected use.
6. Educate motorists, pedestrians, and bicyclists regarding their shared responsibility to obey the law and engage in safe operating behavior.
7. Encourage more Vermonters to walk and bicycle through programs and promotions.
8. Work with citizens, municipalities, regional planning organizations, and other State agencies to develop, plan, and implement pedestrian and bicycle plans, projects, and programs.
9. Develop and apply measures to track progress toward implementing this Plan.
10. Assess the economic benefits (e.g., small business and community development, transportation efficiency and choice, tourism, and health) and the environmental and cultural benefits (e.g., clean air, clean water, energy efficiency and enhanced community character) of walking and bicycling in Vermont.
11. Promote land use and development principles throughout Vermont that make pedestrian and bicycle travel more convenient.
12. Provide a seamless transportation network for pedestrians and bicyclists by improving linkages between walking, bicycling and other modes of transportation.

2008 Pedestrian and Bicycle Policy Plan Actions

A number of actions were identified to meet the vision, policy statement, goals, and objectives identified in the 2008 Pedestrian and Bicycle Policy Plan. These actions were broken down by current, strategic, and long-term actions:

- **Current Actions:** Actions to start immediately (2008).
- **Strategic Actions:** Strategic Actions are new activities, practices or programs that should be initiated within the next five years (2008 – 2013).
- **Long-Term Actions:** Long-term actions are anticipated to be implemented more than five years into the future (2013 – Present).

Additionally, the actions are categorized by responsible parties: VTrans (as a whole), VTrans Bicycle and Pedestrian Program (VBPP), Regional Planning Commissions (RPC) or Metropolitan Planning Organizations (MPO), and other agencies, individuals or organizations.

Current VTrans Actions

- **CVT.1.** Incorporate appropriate bicycle and pedestrian facilities into VTrans projects, programs and actions.
- **CVT.2.** Fully implement current provisions of the VTrans Project Development Process that incorporate consideration of bicycle and pedestrian needs.
- **CVT.3.** Continue to incorporate maintenance of State-owned pedestrian and bicycle facilities into routine maintenance activities.
- **CVT.4.** Continue to share project plans for upcoming transportation projects with the RPCs/MPO.
- **CVT.5.** Continue coordination efforts with other State and federal agencies and other groups.
- **CVT.6.** Maintain the VTrans design manuals, design details, standard drawings to include the most recent non-motorized transportation facility design treatments.
- **CVT.7.** Update the Americans with Disabilities Act (ADA) Transition Plan completed in May 1995.
- **CVT.8.** Analyze the locations of police-reported pedestrian and bicycle crashes.
- **CVT.9.** Consider staffing needs of the VBPP necessary to accomplish the current and strategic actions contained in this Policy Plan.
- **CVT.10.** Include bicycle, pedestrian and transit considerations, as appropriate, in the scope of VTrans traffic impact study reviews.
- **CVT.11.** Educate motorists, pedestrians, and bicyclists regarding their shared responsibility to obey traffic laws and engage in safe operating behavior.

Current VBPP Actions

- **CBP.1.** Maintain the current involvement with VTrans projects beyond the scoping phase.
- **CBP.2.** Continue to support the Safe Routes to School programs throughout Vermont.
- **CBP.3.** Offer non-motorized transportation training for VTrans staff, RPC, MPO, consultants and other individuals.
- **CBP.4.** Continue to build relationships with transportation and non-transportation partners to promote walking and bicycling.
- **CBP.5.** Sustain current programs to encourage walking and bicycling as a means of transportation. (RPCs/MPO, Advocacy Groups)
- **CBP.6.** Continue to conduct research of innovative pedestrian and bicycle treatments. (UVM University Transportation Center)
- **CBP.7.** Continue to use short-term advisory committees to assist with specific issues or projects. (Advocacy Groups)

Current RPC/MPO Actions

- **CRP.1.** Continue to promote walking and bicycling as a viable means of transportation.
- **CRP.2.** Promote the incorporation of pedestrian and bicycle considerations into municipal plans.
- **CRP.3.** Undertake, expand and/or implement regional bicycle and pedestrian plans.
- **CRP.4.** Coordinate facility planning and development with adjacent communities and regions.
- **CRP.5.** Continue to aid municipalities, tourism, and economic development partners in designing and undertaking GIS mapping that can be used as bicycle/walking promotional materials.
- **CRP.6.** Promote appropriate land uses to make walking and bicycling viable mode choices. (Municipalities)

Current Actions for Others

- **CO.1.** Expand current relationships with non-transportation partners to promote walking and bicycling. (Advocacy Groups)
- **CO.2.** Continue to increase awareness of pedestrian and bicycle planning and design issues at the local level through outreach to municipalities. (Advocacy Groups)
- **CO.3.** Encourage and actively assist local communities to build and maintain local bicycle and pedestrian facilities and amenities in accordance with the Vermont Design Manual. (Advocacy Groups)
- **CO.4.** Maintain in good condition and expand as possible bicycle accommodation and ADA accessibility on and to transit facilities. (Transit Agencies, RPCs/MPO, municipalities, VT Ride Share)
- **CO.5.** Enforce traffic laws and ticket violations that affect pedestrians and bicyclists. (Law Enforcement Agencies)
- **CO.6.** Include pedestrian and bicycle facilities in municipal maintenance activities. (Municipalities)

Strategic VTrans Actions

- **SVT.1.** Monitor progress on non-motorized transportation policies as measured by established performance measures. (RPCs/MPO)

Strategic VBPP Actions

- **SBP.1.** Facilitate the implementation of this Policy Plan by others
- **SBP.2.** Assist the RPCs/MPO in incorporating language relating to bicycle and pedestrian needs for use in model development ordinances prepared by the RPCs and MPO and used by their local municipalities. (RPCs/MPO)
- **SBP.3.** Incorporate more bicycle and pedestrian questions into the Vermont Behavioral Risk Factor Surveillance System Survey. (Dept. of Health)
- **SBP.4.** Conduct a research study to determine the overall economic and environmental benefits of bicycling and walking on the State's economy. (VBPP, UVM, Other State Agencies)

Strategic RPC/MPO Actions

- **SRP.1.** Designate RPC/MPO pedestrian and bicycle coordinators.
- **SRP.2.** Encourage the use of existing and the formation of new municipal and regional citizen committees to provide input on bicycle and pedestrian activities on the local and regional level. (Municipalities, Advocacy Groups)
- **SRP.3.** Assist Towns to integrate multi-modal transportation guidelines into local land use regulations and local and regional land use and transportation plans. (Municipalities)

Strategic Actions for Others

- **SO.1.** Increase the coverage of pedestrian and bicycle transportation issues in colleges and universities courses in Vermont. (Advocacy Groups, UVM University Transportation Center, VBPP)
- **SO.2.** Initiate outreach to colleges and universities to increase bicycling and walking and address bicycle and pedestrian safety on campuses. (Advocacy Groups, Campus Area Transportation Management Association)

- **SO.3.** Evaluate the need to reallocate highway safety fund expenditures, as administered through the Governor’s Highway Safety Program, to a level proportionate to the percentage of highway fatalities in Vermont that involve pedestrians and bicyclists. (Department of Public Safety)
- **SO.4.** Encourage bicycling and walking commuting by providing bicycle and pedestrian information, facilities and amenities at businesses, retail areas, and other destinations across the State. (State, Regional and Municipal Governments or Groups and Private Employers)
- **SO.5.** Build and maintain well-planned accessible pedestrian facilities fully integrated into commercial, urban, and village centers and support pedestrian linkages within village and downtown centers. (Municipalities, Public and Private Employers)
- **SO.6.** Encourage the integration of bicycle and pedestrian issues into new or existing municipal citizen committees to promote bicycle and pedestrian activities on the local level. (Municipalities with assistance from Advocacy Groups)
- **SO.7.** Incorporate bicycle and pedestrian access into school siting policies. (Department of Education, School Districts VBPP, RPCs, MUN)
- **SO.8.** Consider upgrading municipal roads as possible to readily accommodate bicycles. (Municipalities)
- **SO.9.** Conduct a research study to evaluate the best strategies and funding mechanisms for adequately maintaining the shared use trails in Vermont of regional significance. (Advocacy Groups/ANR)

Long-Term VTrans Actions

- **LVT.1.** Program funding to implement accessibility improvements in priority locations based on the ADA Transition Plan.
- **LVT.2.** Evaluate education curriculum, materials and tests for drivers’ licenses for their effectiveness in providing bicycle and pedestrian education. (DMV and Dept. of Education)
- **LVT.3.** Coordinate with organizations that have existing surveys to obtain statistically accurate bicycle and pedestrian travel survey data. (VTrans)
- **LVT.4.** Establish a long-term pedestrian and bicycle facility inventory and counting program. (VTrans, RPC/MPO)

Long-Term VBPP Actions

- **LBP.1.** Expand the State non-school oriented pedestrian and bicycle safety education programs. (RPCs/MPO, Advocacy Groups)
- **LBP.2.** Determine the value and viability of using a Bicycle Level of Service (BLOS), Bicyclist Compatibility Index (BCI) or other appropriate measurement to gauge roadway bicycle suitability in Vermont. (VTrans, RPC, and MPO)
- **LBP.3.** Implement the results of LBP.2 as appropriate.

Long-Term RPC/MPO Actions

- [None]

Long-Term Actions for Others

- **LO.1.** Explore other methods of collecting unreported bicycle and pedestrian crashes using hospital discharge records. (Department of Health, VTrans)

2008 Pedestrian and Bicycle Policy Plan Performance Measures

- **Usage:**
 - Number of minutes per day the average Vermont resident spends doing pedestrian and bicycle activity.
 - Change in percent of all workers who commute to work by walking or bicycling.
 - Number of pedestrians and bicyclists observed in different parts of Vermont.
- **Safety:**
 - Police-reported pedestrian and bicycle crashes per number of minutes spent walking and bicycling.
- **Facilities:**
 - Miles of sidewalk on State-owned roadways.
 - Miles of shared-use paths.
 - Total number of VTrans funded bicycle and pedestrian projects and new facilities.
- **Training and Assistance:**
 - Total number of VTrans staff and consultants (including regional planning commissions) and local officials who participate in scheduled training sessions on pedestrian and bicycle accommodation and design.
- **Education and Encouragement:**
 - Increase in walking and bicycling to and from school for schools participating in Safe Routes to Schools programs.
 - Number of schools and students participating in pedestrian or bicycle safety education programs or events. (e.g., Safe Routes to School, Bike Smart, etc.).
- **Economic Benefits:**
 - [No ongoing performance measure]

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Appendix 6

Comprehensive Evaluation



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MEMORANDUM

To: Jon Kaplan (VTrans), Sommer Bucossi (VTrans), Katharine Otto (VTrans)
From: Laura Byer (Alta), Jeff Olson (Alta), Erica Wygonik (RSG), Corey Mack (RSG)
Date: June 8, 2020

Re: Memo #6: Comprehensive Evaluation

Introduction

The Vermont Agency of Transportation (VTrans) is developing a Bicycle and Pedestrian Strategic Plan (BPSP) to better integrate the needs and priorities of those walking and bicycling into all VTrans activities. These activities may include infrastructure and maintenance projects as well as program and policy development. The consultant team coordinated with VTrans project managers to hold seven (7) themed Stakeholder Focus Group Meetings and one (1) meeting with Regional Planning Commission staff. The seven (7) Stakeholder Focus Group Meeting themes were: Education, Encouragement, Enforcement, Engineering, Transit Connectivity, Emerging Technology, and Prioritization and Selection. The Comprehensive Evaluation provides a summary of the feedback gathered during these meetings as well as a comparison to the content developed in Memo #5: Progress To-Date Report.

Meeting Summaries

The Project Team conducted a total of eight (8) group interviews, including one meeting with RPC members from around the state, and seven (7) focus groups representing internal VTrans departments and external collaborative partners in a variety of theme areas. All meetings were held online due to COVID-19 restrictions. The meetings were 90 minutes long and included a brief presentation (15-20 minutes) to inform each group of the BPSP and meeting purposes, followed by a group discussion guided by prompt questions to gather feedback from meeting attendees. These prompt questions were identified to help facilitate discussion, but not provide a rigid structure to the meeting.

The following section describes the meetings and theme areas, summarizes the identified strengths, weaknesses, and overlap with the Progress To-Date Report, and suggests potential opportunities for the BPSP to address.

RPC / TPI Meeting

This meeting was initially intended to take place during a scheduled Transportation Planning Initiative (TPI) meeting with representatives from the State's Regional Planning Commissions (RPCs). In light of COVID-19 restrictions, the Project Team opted to move forward with this outreach using an online format and invited these representatives to attend. This meeting intended to:

- Identify opportunities for future partnerships and collaborations between VTrans and the RPCs.
- Discuss emerging technologies.

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- Evaluate how well VTrans policies to support walking and bicycling are integrated at the regional level.
- Review the bicycle and pedestrian grant program.
- Identify constraints faced by RPCs related to implementation (i.e. maintenance, costs, etc.).

The following prompt questions were used during the discussion portion of the meeting:

- What existing collaboration efforts exist between RPCs and VTrans relating to bicycle and pedestrian activities? Do RPCs have any ideas for increased collaboration with VTrans for these activities?
- How have RPCs been preparing for emerging technologies (e.g., scooters, e-bikes, autonomous vehicles, etc.)? In what ways do RPCs envision VTrans supporting these efforts?
- What is the success of VTrans bicycle and pedestrian policies being implemented at the regional level? Can the RPCs identify any strategies for improvement in the future?
- Do bicycle and pedestrian infrastructure and planning grant programs meet current needs (e.g. Bicycle and Pedestrian Grants, Transportation Alternatives Program, Better Connections Program)? If not, in what areas could these reasonably be improved?
- What constraints do RPCs face related to the implementation of bicycle and pedestrian infrastructure, policies, and programs?

Table 1: RPC / TPI Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • VTrans Bicycle and Pedestrian Program Manager • VTrans commitment to needs of people walking and bicycling • Statewide standards and leadership • Implementation of wider shoulders for bicycling • Existing grant programs 	<ul style="list-style-type: none"> • Long lead times for project implementation • Lack of State laws surrounding new technologies • Lack of appropriate infrastructure to encourage bicycling • Lack of public knowledge of VTrans’ efforts and limitations • Lack of mechanism to fund projects which require multiple implementation phases or those with large budgets (i.e., budgets over the \$300k limit for existing grant projects) • Project funding requests exceeds funding available • Strict requirements and permits can limit implementation 	<ul style="list-style-type: none"> • CVT.2: Leverage strategies identified in VPSP2 • CBP.3: A need for trainings for internal VTrans staff as well as external partners

BPSP Opportunities based on the RPC / TPI Meeting:

- Conduct workshops and provide technical assistance for municipal staff, local officials, and advocate groups

- Develop guidelines for infrastructure continuity and standardization to develop a standard design and implementation process for walking and bicycling infrastructure across the state; guidelines should allow for some flexibility to incorporate community character in the design, where appropriate, and to streamline implementation, where feasible
- Leverage strategies identified in VPSP2 to address projects with large budgets and timelines
- Develop a system which considers the needs of people walking and bicycling in large-scale projects which span multiple jurisdictions and regions
- Develop strategies to improve coordination and collaboration with RPC / TPI members
- Inform the general public of VTrans' efforts and limitations when it comes to pedestrian and bicycle needs and infrastructure

Education Stakeholder Focus Group Meeting

The Education Stakeholder Focus Group included individuals from a wide variety of organizations that participate in education-related activities, such as: driver education, public health, law enforcement, advocacy groups, Vermont State Highway, and VTrans Operations and Safety. This meeting intended to:

- Discuss the constraints and effectiveness of existing educational messaging and curriculum, with focus on improving safety for people walking and bicycling, including educational programs targeted at people driving private motor vehicles.
- Assess the content of existing programming and the effectiveness of the delivery method.
- Provide guidance to VTrans on how bicycle and pedestrian considerations can inform all VTrans activities.
- Make recommendations for focus areas and media strategies for future educational messaging.

The following prompt questions were used during the discussion portion of the meeting:

- What existing walking and bicycling educational content from VTrans or others does your organization use? What works, and what could be improved?
- How do you evaluate the effectiveness of the educational materials?
- How does your organization seek to educate on issues related to safety while walking and bicycling?
- Is the educational content directed towards people walking, bicycling, and / or driving?
- What VTrans activities can help improve educational opportunities with your organization?

Table 2: Education Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • Campaigns to “humanize” people walking and bicycling • Student PSAs and video contests centered around distracted driving • Education campaigns at events (e.g., farmer’s markets, Champlain Valley Fair, etc.) 	<ul style="list-style-type: none"> • State statutes are difficult for the public to understand • Education is generally difficult to measure, especially over a short period of time • Lack of education after someone obtains their driver’s license 	<ul style="list-style-type: none"> • LVT.2: Driver education materials and driver’s test questions should include important bicycle- and pedestrian-related information • CVT.11: Education has been hard to measure • CVT.11: Future strategies should encourage a broad approach to education to reach a variety of people • CBP.2: Important to educate students (especially high schoolers) about road safety

BPSP Opportunities based on the Education Stakeholder Focus Group Meeting:

- Develop standard, easy-to-understand publications regarding statutes related to people walking and bicycling to educate all road users
- Identify a long-term measurement of education efforts
- Track behavior change over a long period of time to measure effectiveness of education
- Educate drivers on new and updated rules surrounding people walking and bicycling
- Leverage new technology platforms (e.g., YouTube ads, podcasts, etc.) to distribute safety messaging regarding people walking and bicycling
- Engage with and educate college-aged populations to promote safety for people walking and bicycling

Encouragement Stakeholder Focus Group Meeting

The Encouragement Stakeholder Focus Group included individuals from a wide variety of organizations that participate in encouragement-related activities. Organizations that participated include: Bennington County Regional Planning Commission (BCRPC), Champlain College, University of Vermont Transportation and Parking, AARP Vermont, Chittenden Area Transportation Management Association (CATMA), Local Motion, and VTTrans Public Transit. Other groups invited but unable to attend the meeting, and given the option to provide input via email, include: Vital Communities, Onion River Outdoors, Agency of Natural Resources (ANR), and Vermont Department of Health. This meeting intended to:

- Evaluate existing programming dedicated to promoting walking and bicycling among Vermont residents.
- Work on identifying existing and new potential partners (internal and external to VTTrans) to further encouragement programming efforts, including groups providing economic perspectives on outdoor recreation.

- Document the effectiveness of existing strategies to promote walking and bicycling through the lens of health/exercise, climate change/conservation, and economic impacts/cost savings.
- Identify opportunities for VTrans to directly or indirectly encourage people to walk or bike in all VTrans activities.

The following prompt questions were used during the discussion portion of the meeting:

- What existing efforts does your organization undertake to encourage walking and bicycling? What works, and what could be improved?
- How have VTrans activities impacted opportunities for encouraging bicycle and pedestrian travel?
- How do you monitor the effectiveness of your organization’s efforts?
- What is VTrans’ role in encouraging walking and bicycling?
- How can VTrans activities support your efforts to encourage bicycle and pedestrian travel?

Table 3: Encouragement Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • Adequate bike parking options, where provided, encourages Link / transit use • Bike Smart program for elementary and middle school students • Department of Health is a key resource and partner for the encouragement of walking and bicycling • Various workshops which: <ul style="list-style-type: none"> ◦ Teach students how to drive safely around bicycles ◦ Show people it is feasible to bike/walk to destinations • Week long bike/walk to work/school challenges • Biennial employee and transportation survey conducted by CATMA 	<ul style="list-style-type: none"> • Lack of appropriate infrastructure • Lack of quality bike parking options at schools • Lack of programming and education for high school students • No follow up on implementation of Complete Streets legislation • Unsure how to monitor effectiveness of encouragement efforts • Financial limitations for Complete Streets initiative desired by municipalities 	<ul style="list-style-type: none"> • LVT.2: Driver education materials and driver’s test questions should include important bicycle- and pedestrian-related information • CBP.4: Partner with diverse groups to promote walking and bicycling

BPSP Opportunities based on the Encouragement Stakeholder Focus Group Meeting:

- Implement appropriate infrastructure to encourage bicycling
- Identify improvements to education surrounding people walking and bicycling, ultimately encouraging walking or bicycling or using proper behavior when driving in the vicinity of people walking or bicycling
- Engage with and encourage school-age children, and their parents, to bike and walk

- Develop a program to implement high-quality bike parking options
- Identify specific benchmarks, initiatives, and incentives to improve walkability and bikeability
- Develop new and increased collaborations with groups outside VTrans
- Update the bicycling/walking economic impact report (the last Economic Impact Report was developed in 2012)
- Promotion of bike tourism (e.g., bike routes, bike to brewery tours, etc.)
- Identify surveys conducted regionally and statewide (e.g., CATMA survey) and determine which, if any, can be used to measure bicycling and walking in Vermont

Enforcement Stakeholder Focus Group Meeting

This Stakeholder Focus Group engaged with various law enforcement entities as well as the Department of Motor Vehicles, the Vermont State Highway Safety Office, and VTrans Highway Research. This meeting intended to:

- Evaluate existing State laws and ordinances and review enforcement practices.
- Assess the effectiveness of existing bicycle- and walking-related enforcement materials, including curriculum specific to drivers' interactions with people walking and bicycling.
- Identify VTrans activities that can assist with improved enforcement opportunities with regard to travel by those walking or bicycling.

The following prompt questions were used during the discussion portion of the meeting:

- What enforcement efforts are undertaken with regard to bicycle and pedestrian travel? What works, and what could be improved?
- What type of negative behavior is most frequently observed: motorists not yielding, bicyclists not stopping at stop signs, jaywalking, etc.? What is most frequently cited?
- What are the biggest issues facing enforcement efforts?
- How are enforcement strategies employed? Directed at people driving / people bicycling / people walking / e-devices (electric scooters, bikes, other)?
- How can VTrans activities support bicycle and pedestrian related compliance and enforcement efforts?

Table 4: Enforcement Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • Drug and alcohol data for people walking and bicycling involved in crashes is now being collected • Working directly with the source of specific traffic issues has seen success (e.g., college cycling team) • Positive reinforcement for students from school resource officers • Use of targeted enforcement actions coordinated with media campaign (example: publicizing crosswalk enforcement, then writing warnings during enforcement actions to encourage compliance and educate the public) 	<ul style="list-style-type: none"> • Unsure how to enforce proper use of crosswalks • Children often learn incorrect or bad behavior from their parents • Lack of time to stop and educate or ticket offenders (e.g., when witnessing bad behavior on the way to another call) • Law enforcement has many competing interests that require their attention (e.g., opioid crisis) • Limited resources • Laws cannot keep up with the fast-paced changes of technology • Crash reports often do not have enough meaningful information on crashes involving persons walking or bicycling; this information is typically only included in the more detailed narrative of the crash 	<ul style="list-style-type: none"> • CVT.8: Police reported crash data on people walking and bicycling is to be considered when measuring safety • CVT.11: Important to educate the public on traffic laws, especially pertaining to the safety of people walking and bicycling, using broad education approaches to reach a variety of people

BPSP Opportunities based on the Enforcement Stakeholder Focus Group Meeting:

- Educate the public on new and existing laws related to the safety of people walking and bicycling using easy-to-understand language
- Consider a “Stop, Look & Wave” program to humanize people walking and bicycling; this type of program has seen success in other states
- Increased collaboration between VTrans and law enforcement to develop safety messages to be distributed throughout the state
- Collaborate with the VTrans Office of Highway Safety to develop crash reports which include important information on crashes involving persons walking or bicycling which will help identify the needs of these vulnerable users and inform future infrastructure and policy decisions

Engineering Stakeholder Focus Group Meeting

The Engineering Stakeholder Focus Group Meeting was comprised of individuals from the Vermont Center for Independent Living, Stantec, City of Burlington, Local Motion, and multiple VTrans sections (Traffic Operations/Mobility, Highway Safety and Design, Asset Management, and Districts 1 and 3). This meeting intended to:

- Evaluate existing engineering guidance related to walking and bicycling infrastructure.
- Review intersection and crossing treatment policies.
- Review existing policies related to implementation (including detours during construction), maintenance, and operations, as well as efforts for demonstration and pilot projects.

The following prompt questions were used during the discussion portion of the meeting:

- What engineering tools are employed to ensure bicycle and pedestrian travel is incorporated in planning and design? What works, and what could be improved?
- How are planning and engineering practices changing (or should they change) to evolving bicycle and pedestrian technologies, such as electric bicycles, scooters, and micromobility?
- How are bicycle and pedestrian considerations incorporated into construction phases? Are their needs different during construction, and how? What works, and what could be improved?
- What areas of innovation should the Agency pursue?
- How is the existing VTrans design guidance used by municipalities? What other sources are used frequently? Where is the design guidance limited and what should be changed / updated / expanded upon?

Table 5: Engineering Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • VTrans BP Section is knowledgeable and seen as a resource within and outside VTrans • VTrans BP Section looks to national best practice standards, such as NACTO • VTrans project managers are generally willing to incorporate bike-ped features 	<ul style="list-style-type: none"> • Reliance on individuals within VTrans BP section for knowledge on the needs and facilities for people walking and bicycling • Limited opportunity to consult VTrans BP section in earlier stages of project development • Common resources used in designing to capacity do not include data on people walking and bicycling (AADT counts) • No formal process to implement a pop-up / demonstration project on state highway ROW (guidance under development) • National guidance and standards not always applicable / appropriate for Vermont (limited ROW, topography, climate) • Features of those walking or bicycling may be excised if not feasible with limited explanation to stakeholders 	<ul style="list-style-type: none"> • CVT.4: “Share Project Plans” is a consistent goal; need formalized and standardized process to share project plan; leverage relationship with RPCs to further this goal • CVT.6: Provide easy and consistent access to state design manuals, and importantly, national resources (e.g., NACTO and AASHTO) • CBP.1: Maintain involvement, achieved through online shared review, but still relying on VTrans BP section • CBP.6: Innovative treatments are allowed under MUTCD experimental approval processes

BPSP Opportunities based on the Engineering Stakeholder Focus Group Meeting:

- Training for engineering designers, resident engineers, and project managers about best practices regarding the needs of people walking or bicycling; presents an opportunity for PDHs and cross-organizational (local / regional / state) networking
- Develop a process to reach out to Towns / RPCs at initiation of all projects (for example, New Project Summaries) to discuss the needs and demands of people walking and bicycling
- Incorporate counting features to identify those walking and bicycling into future signal, permanent traffic counter, and other traffic monitoring installations
- Evaluate the use of the Complete Streets Checklist in the project planning and design stages; consider strengthening or expanding the Checklist to embed it more officially in the stages of the project development process
- Develop and promote educational materials around the use of the Complete Streets Checklist for internal VTrans staff and external consultants / municipalities
- Consider adding features for those walking and bicycling to fact sheets and Vermont Project Information Network listings

- Consider a mobile application system, such as “see-click-fix,” for state highway maintenance

Transit Connectivity Stakeholder Focus Group Meeting

Individuals representing the City of South Burlington, Green Mountain Transit, Chittenden County Regional Planning Commission (CCRPC), Chittenden Area Transportation Management Association (CATMA), Vermont Center for Independent Living, and VTrans Public Transit met to discuss transit connectivity needs. This meeting intended to:

- Evaluate the intersection of Agency and transit provider services for identifying and implementing service improvements for those walking and bicycling.
- Discuss barriers to providing high-quality first-last mile connectivity for people walking and bicycling to transit stops and stations.
- Identify Agency policies that impact transit service and discuss national best practices to compliment bicycle, pedestrian, and transit use.

The following prompt questions were used during the discussion portion of the meeting:

- As related to people walking and bicycling, what are the greatest barriers to increased transit ridership? What changes could be made at the state or local level to provide a higher quality rider experience? How does first-last mile connectivity impact ridership?
- What is the best way to address the challenge posed by multijurisdictional oversight: state highways, multiple Towns, transit providers?
- How can VTrans support and encourage transit agencies to evaluate stop locations for pedestrian connectivity? Is there a mechanism to site stops near safe crossing locations (sight distance, lighting, infrastructure, etc.)?
- How are transit services evolving to changing bicycle and pedestrian technologies, such as electric bicycles, scooters, micromobility, and microtransit?
- How can VTrans bicycle and pedestrian activities support transit connectivity, or access to transit services?

Table 6: Transit Connectivity Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • Transit services generally recognize the interoperation of transit / walk / bike; for example, all GMT buses include bicycle racks • Bus bicycle rack usage is counted on the farebox, but not always included in ridership statistics • Transit service and site amenities are included considerations in state (and some local) permitting 	<ul style="list-style-type: none"> • Rural, corridor service is challenging to serve walk / bike populations other than riders living near stops • Infrastructure to support walking and bicycling between village centers and park & rides (located outside of centers) can be inadequate • Bike capacity on buses is limited; often limited secure bike parking at stops; some e-bikes are heavy / hard to secure on bus racks • Siting of transit stops can be challenging, working with state, local and transit agencies, no one is in charge; may require crossing infrastructure 	<ul style="list-style-type: none"> • CVT.10: Very broad goals to include transit in traffic impact studies; this has been completed

BPSP Opportunities based on the Transit Connectivity Stakeholder Focus Group Meeting:

- Coordination of walk / bike / transit information in a mobile application platform, with access to transit token app, and increased wayfinding
- Identify priority transit improvements at state designated High Crash Locations
- Opportunity for improvement to data collection (number of bikes on route) and sharing to inform planning, design, prioritization
- Participate in the development of a transit stop siting and amenity guideline to facilitate multimodal travel
- Evaluate accessibility of transit stops for people walking to/from the stop
- Opportunity for education on e-devices on transit (e.g., e-bikes, e-scooters, remove battery or leave battery in, etc.)
- Revise grant selection criteria to include additional points for last-mile transit connectivity, amenities in high-use transit corridors, or other transit benefits
- Include transit connectivity category in New Project Summaries

Emerging Technology Stakeholder Focus Group Meeting

The Emerging Technology Stakeholder Focus Group was comprised of representatives from VBike, Chittenden County Regional Planning Commission (CCRPC), Chittenden Area Transportation Management Association (CATMA), Vermont Energy Investment Corporation (VEIC), University of Vermont (UVM) Transportation Research Center, as well as VTrans Policy and Planning and the Operations and Safety Bureau. This meeting intended to:

- Evaluate policy-level needs for addressing emerging issues related to electric vehicles, semi- and fully-autonomous vehicles, micromobility (i.e. e-bikes, scooters, bikeshare, etc.), microtransit, and their interactions with people walking and bicycling.
- Identify gaps in policy, guidance, and available research, particularly related to people bicycling and walking.

The following prompt questions were used during the discussion portion of the meeting:

- What are the potential issues related to electric vehicles, semi- and fully- autonomous vehicles, micromobility, microtransit, and their interactions with pedestrians and bicyclists?
- What are the limitations of current design standards? What changes to design standards, policies and laws are needed to address these issues?
- What policy changes would promote adoption and investment in emerging technologies, while balancing safe and efficient travel by all modes?
- What areas of innovation should the Agency investigate?
- How can VTrans activities support emerging technology policies?

Table 7: Emerging Technology Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • E-bikes have the potential to expand bicycling opportunities as transportation • Many organizations are excited to capture e-device usage (e.g., CATMA, VEIC, utility companies, retailers, etc.) • Electric utilities offer rebates for e-devices to increase adoption rates 	<ul style="list-style-type: none"> • Uncertainty in which emerging technologies will have staying power • Emerging technologies (EVs in particular) may be seen as a solution to emissions, but does not address concerns around land use and sprawl • Insufficient data to recognize hazards of emerging technologies • Concern AVs may result in increased VMT, more traffic, more conflict for people walking and bicycling • E-bikes increase the speed / weight differential between people walking and bicycling • There is a wide variety of e-devices and operating characteristics with little regulation (e.g., enclosed electric bicycles, trikes, one-wheelers, etc.) • Lack of quality data or data collection programs for e-device adoption 	<ul style="list-style-type: none"> • LVT.3: Surveys conducted with CATMA, others; would be beneficial to include e-devices in future surveys

BPSP Opportunities based on the Emerging Technology Stakeholder Focus Group Meeting:

- Coordinate more secure bicycle parking (e.g., bike lockers) and e-bike charging opportunities at Park & Ride locations
- Seek to define e-device users as “vulnerable users” in Vermont State Statutes with e-device classification (speed, weight, etc.) regarding use on varying on- and off-road infrastructure
- Consider a crash reporting mechanism for e-devices
- Monitor reports of safety hazards associated with emerging technologies (bicycle / ped crashes associated with quiet EVs; higher speed bicycle crashes on shared paths; etc.) and consider methods to capture data to quantify and address the emerging issues

- Coordinate updates to Department of Health & VTrans educational materials to include emerging technologies, micromobility options (i.e. e-bikes, scooters, bikeshare, etc.), e-devices, innovative and modern equipment, and a broader representation of people
- Consider count programs to capture the adoption and use of e-devices

Prioritization and Selection Stakeholder Focus Group Meeting

Representatives from the Vermont General Assembly, Agency of Commerce and Community Development (ACCD), Department of Housing and Community Development (DHCD), Town of Williston, Two Rivers - Ottauquechee Regional Commission (TRORC), as well as multiple VTrans sections (Policy and Planning, Asset Management, and Municipal Assistance) met to discuss the prioritization and selection processes and needs. This meeting intended to:

- Discuss existing grant program selection criteria, with perspective towards past and future dedicated funding streams for projects and programs to support walking and bicycling.
- Make recommendations on how to better align the program with VTrans' strategic goals, Complete Street initiatives, and the VTrans Project Selection and Prioritization Process (VPSP2).
- Assess the effectiveness of project bundling and make program recommendations based on national best practices.

The following prompt questions were used during the discussion portion of the meeting:

- How have current funding streams impacted walking and bicycling as transportation? How well are bicycle and pedestrian needs represented in Agency prioritization and selection processes?
- Do existing grant program selection criteria and weighting adequately prioritize and distribute funding? How might they be improved?
- How should the Agency incorporate indirect benefits to walking and bicycling, such as improved health and activity, reduced emissions and climate goals, socioeconomic equity, economic development, or other benefits?
- How can VTrans activities support consistent, impartial, and demographically and geographically equitable funding prioritization for bicycle and pedestrian needs?
- How can the Bicycle and Pedestrian Strategic Plan be better aligned with VTrans' strategic goals, Complete Streets initiatives, and Project Prioritization/VPSP2?

Table 8: Prioritization and Selection Stakeholder Focus Group Meeting Key Takeaways

STRENGTHS	WEAKNESSES	SIMILAR ITEMS ADDRESSED IN PROGRESS TO-DATE
<ul style="list-style-type: none"> • Great strides have been made to coordinate shoulder widening on high priority bicycle corridors with paving projects (where feasible) • Current grant funding criteria are weighted towards downtown and village centers which generally have the land use density to support higher rates of those walking and bicycling • Grant funding is usually well distributed geographically, though not formally • Grant funding criteria prioritize data-based requests • Corridor management plans offer opportunities for long range planning and implementation of infrastructure for people walking and bicycling • Local concerns questionnaires are helpful early in the planning process, before designs are developed • RPCs provide a valuable resource for towns to navigate the grant funding program 	<ul style="list-style-type: none"> • Inclusion of features to support walking and bicycling on State projects often requires Town initiative and associated staffing • VTrans BP Section is synonymous with one person, there is too much reliance on a single person rather than a formal process • Current grant funding prioritization criteria may not appropriately consider denser developments outside of the village center / downtown area • Need improved communication with Towns during project development to ensure Towns have ability to shape design • Local concerns questionnaires (to be replaced with the New Project Summaries) are presented only in early stages of projects; potential for more opportunities for feedback and review throughout design • Towns with technical staff and consultants may be able to more thoroughly develop grant application materials than those with fewer professional resources 	<ul style="list-style-type: none"> • CVT.2: VTrans project selection and prioritization process includes considerations for those walking and bicycling; need to ensure these needs are address early and throughout a project and that these needs are coordinated and harmonized with other projects • CBP.2: “safe routes to school” / presence of school age children are included as evaluation criteria

BPSP Opportunities based on the Prioritization and Selection Stakeholder Focus Group Meeting:

- Include an opportunity to discuss projects with Towns in the New Project Summaries, including bicycle plans, routes for those walking or bicycling, transit service, etc.
- Update grant funding prioritization / selection criteria to include a last-mile connection consideration
- Encourage the use of Downtown Transportation Grants for other state designated areas, like Village centers and other growth centers

- Continue to consider the needs of people walking and bicycling in corridor plans being developed for state highways to identify opportunities for harmonization in future construction projects.
- Consider highlighting successful collaboration efforts with Towns to promote the collaboration process with other Towns
- Provide guidance to Town staff on restriping / lane width reductions to allow for larger shoulders
- Explore local concerns questionnaires for use on paving projects

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Appendix 7

Draft Strategies

Objectives and Strategies		Safety and Network Improvement	Education and Innovation	Goal Application			Effectiveness, Accountability, and Community Needs	VTrans Role (Primary, Joint, Secondary)	Partner Agencies (if VTrans is not primary) (e.g., RPCs, VDH, VHS, ACD, Local Motion,	Party Responsible for Implementation	Timeframe (In-Process, Short-Term, Medium-Term, Long-Term)	Level of Effort (Low, Medium, High)	High Priority Identification
OBJECTIVE 1: Fund, promote, and implement appropriate infrastructure which will encourage people to walk or bike													
1.1	Review and update the Complete Streets Checklist* to ensure that it adequately supports consideration of walking and bicycling in the project planning and design stages			X			X	Primary		VTrans (BPC and PDB)	Short	Medium	
1.2	Annually rerun the Bicycle Level of Comfort model (developed in Phase II of the On-Road Bicycle Plan) for the Vermont state road network as relevant datasets are updated for the purpose of tracking progress towards a more	X						Primary		VTrans (BPC and Mapping)	Short	Medium	High
1.3	Regularly monitor implementation of pedestrian improvements on VTrans facilities, for example progress towards making pedestrian signals fully accessible and installation of Rectangular Rapid Flashing Beacons (RRFBs)	X						Primary		VTrans (BPC and PDB)	Short	Low	
1.4	Ensure maintenance of walking and bicycling facilities is addressed during the planning, design, and implementation phases of projects	X					X	Primary		VTrans (PDB, District and MA)	Medium	Medium	
1.5	Evaluate how existing VTrans programs and grants can become more equitable, particularly as it relates to high-need and marginalized communities	X		X			X	Primary		VTrans (BPC, MA and Planning)	Short	Medium	High
1.6	Support implementation of the recommendations and strategies within the "Strengthening Vermont's Economy by Integrating Transportation and Smart Growth Policy" Final Report (Sept 2013), particularly as relates to improving multi-modal coordination and integration	X		X			X	Primary		VTrans (BPC and PDB)	In Process	Medium	
OBJECTIVE 2: Utilize existing VTrans initiatives (e.g., NPS, LCQ, Corridor Plans, VPSP2, etc.) to further improve conditions for people walking and bicycling													
2.1	Complete New Project Summaries (NPS) for all Highway projects to ensure Project Managers are aware of potential design considerations for people walking and bicycling					X	X	Primary		VTrans (AMB)	In Process	Low	High
2.2	Continue to include an opportunity in the New Project Summaries and Local Concerns Questionnaires to discuss projects with Towns and RPCs; these discussions should include topics such as planned bicycling or walking networks, transit service, etc.			X	X		X	Primary		VTrans (AMB)	In Process	Low	High
2.3	Continue to include the needs of people walking and bicycling in corridor management plans developed for state highways	X		X			X	Primary		VTrans (Planning and AMB)	In Process	Low	High
2.4	Continue to utilize the VTrans Bicycle Corridor Priority Map to help define and prioritize Agency projects and activities; work to incorporate reference to the map in documented Agency work	X						Primary		VTrans (AMB PDB and BPC)	In Process	Low	
2.5	Continue to utilize the VTrans ADA Transition Plan to help define and prioritize Agency projects and activities, particularly as relates to pedestrian accessibility			X				Primary		VTrans (AMB, PDB and BPC)	Short	Low	
2.6	Ensure that project descriptions in VTrans data sets, especially in VPINS, include indication of what bicycling and walking improvements are included			X				Primary		VTrans (Mapping and AMB)	Medium	Medium	
2.7	Continue to utilize the Local Concerns Questionnaires in bridge/culvert projects early in the project definition process to gather information about planned walking and bicycling networks and improvements; expand their usage to other highway modes, including paving, roadway, safety and traffic signals; continue to integrate Local Concerns Questionnaires into the NPS process as it expands						X	Primary		VTrans (PDB)	In Process	Low	High
2.8	Integrate walking and bicycling consideration into future iterations of VTrans' Access Management Resources	X					X	Primary		VTrans (Permitting)	Medium	Medium	
2.9	Explore integrating VPSP2 (VTrans' Project Selection & Prioritization Process) criteria into VTrans grants that fund bicycle and pedestrian infrastructure such as the Bike/Ped program and the Transportation Alternatives program	X					X	Primary		VTrans (AMB, BPC and MA)	Medium	Medium	
OBJECTIVE 3: Empower a broad range of VTrans staff to have the technical knowledge to regularly incorporate improvements for bicycling and walking into all VTrans activities													
3.1	Conduct design workshops to educate VTrans engineers, designers, landscape architects, planners, maintenance staff, and project managers on best practices regarding the needs of people walking or bicycling		X	X				Primary		VTrans (BPC, AMB, PDB and VTT)	Short	Medium	High
3.2	Develop and promote educational materials related to the use of the Complete Streets Checklist for VTrans staff to ensure consideration of walking and bicycling during project development		X	X			X	Primary		VTrans (BPC and PDB)	Short	Low	
3.3	Incorporate walking and bicycling considerations into Standard Operating Procedures or other written guidance used by VTrans for design, planning, maintenance, safety, work zones, etc.			X			X	Primary		VTrans (BPC, PDB and OPPs)	Medium	Medium	
3.4	Create a document that outlines the most important aspects of the Bicycle and Pedestrian Program Manager's work and identify external and internal partners for collaboration, and the context for such collaboration			X			X	Primary		VTrans (BPC)	Short	Low	
3.5	Develop a curriculum of Bicycle and Pedestrian trainings that can be offered through the State of Vermont Learning Management System, including trainings developed through Strategy 3.1 as well as national trainings that are appropriate to the Vermont context			X			X	Primary		VTrans (BPC, PDB, VTCC and VLR)	Medium	Medium	
OBJECTIVE 4: Educate external partners about the needs of people walking and bicycle so they can be integrated into planning, designing and maintaining facilities													
4.1	Conduct workshops and provide technical assistance to RPCs, municipal staff and officials, consultants, and advocacy groups		X					Primary		VTrans (BPC and VLR)	Short	Medium	
4.2	Develop and promote educational materials related to the topic of Complete Streets for RPCs, municipal staff and officials, consultants, and advocacy groups to ensure consideration of walking and bicycling during project development		X	X			X	Primary		VTrans (BPC and VLR)	Medium	Medium	

						Primary	VTrans (BPC)	In Process	Low	High	
	Maintain the online portal where external partners and VTrans staff can easily access nationally recognized pedestrian and bicycle best practice guidelines and manuals (e.g., FHWA, AASHTO, NACTO etc.) as well as state-specific guidelines	X	X	X	X						
4.3	Continue to assist in the sponsorship and organization of the Vermont Walk-Bike Summit. This event is currently held bi-annually and organized by Regional Planning Commissions in collaboration with VTrans.		X		X	Joint	RPCs	VTrans (BPC and Planning) and RPCs	In Process	Medium	
4.4	OBJECTIVE 5: Use a wide variety of methods to educate the public on the safety and needs of people walking and bicycling										
5.1	Develop a plan for safety education related to vulnerable users that identifies education efforts and prioritizes their implementation	X	X			Joint	VHSA	VTrans (BPC) and VHSA	Medium	Medium	
5.2	Leverage new technology platforms (e.g., all social media platforms, YouTube ads, podcasts, etc.) to distribute safety messaging regarding vulnerable users; collaborate with the stakeholders of the Vermont Highway Safety Alliance (VHSA) to leverage earned media	X	X		X	Joint	VHSA	VTrans (BPC and Outreach) and VHSA	Short	Low	
5.3	Continue support for the Safe Routes to School Program, including collaboration with school districts to educate and engage with school-age children and their parents to promote safe practices for vulnerable users	X	X			Joint	RPCs and Local Motion	VTrans (BPC and Planning), RPCs and Local Motion	In Process	Low	
5.4	Monitor changes in use of micromobility (e.g., e-bikes, e-scooters, automated vehicles) and incorporate safety education to address known issues	X	X			Joint	VHSA	VTrans (BPC) and VHSA	Medium	Medium	
5.5	Coordinate with the Department of Health to promote walking and bicycling as a means to meet physical activity and mental health goals, improving quality of life for Vermont residents		X		X	Joint	VT Dept of Health	VTrans (BPC) and VT Dept of Health	Short	Low	
6.1	OBJECTIVE 6: Incorporate walking and bicycling considerations into the planning and design of transit facilities										
6.1	Participate in the development of a guidance document to facilitate multimodal travel; sections of the document may include: information about amenities to include around transit locations (e.g., benches, bicycle racks, etc.), transit stop siting guidance to accommodate the first/last mile for those walking and bicycling, and other factors that contribute to multimodal connectivity	X				Joint	Transit Providers	VTrans (BPC, Planning and Public Transit) and Transit Providers	Medium	Medium	
6.2	Work with VTrans Transit section to develop a transit stop checklist and evaluation process to assess connectivity for those walking and bicycling	X				Joint	Transit Providers	VTrans (BPC and Public Transit) and Transit Providers	Short	Low	
6.3	Encourage and fund the installation of bicycle racks on buses	X				Joint	Transit Providers	VTrans (Public Transit) and Transit Providers	In Process	Low	
7.1	OBJECTIVE 7: Develop new and increased collaborations with groups outside VTrans										
7.1	Continue to build on the foundation of coordination and collaboration with RPC planners through the Transportation Planning Initiative (TPI)				X	Primary		VTrans (Planning and BPC)	In Process	Low	
7.2	Collaborate with RPCs/MPO/Municipalities to identify a formal process to share and discuss upcoming local project plans along Class 1 Town highways or that span multiple jurisdictions to develop projects that reflect best practices and community desires			X	X	Joint	RPCs	VTrans (BPC, PDB and Planning) and RPCs	Medium	Medium	
7.3	Collaborate with transit agencies to include location and use information on walking and bicycling facilities (e.g., paths bike lanes, etc.) and amenities (e.g., benches, bike racks, etc.) in future mobile applications (e.g., bus tracking app) to encourage multimodal transportation options and transit connectivity		X			Primary		VTrans (Public Transit)	Medium	Medium	
7.4	Continue to collaborate with groups (e.g., ACCD, VDH, AARP) outside VTrans to ensure infrastructure for those walking and bicycling are considered in existing and future programs at the local level (e.g., Municipal Planning Grants, Downtown Transportation Fund, Community Challenge Grants, Placemaking Demonstration Grants, and VDH's Healthy Community Design efforts)	X			X	Primary	ACCD, VDH, AARP	VTrans (Planning)	Short	Low	
7.5	Continue to work with municipalities to improve bicycling and walking conditions on town highways and private roads through a variety of methods including, but not limited to, zoning, subdivision regulations, municipal planning, design and construction practices	X			X	Joint	RPCs, ACCD	VTrans (BPC and VLR) and RPCs	Medium	Medium	
7.6	Establish a regular stakeholder group coordination meeting that builds upon the coordination and collaboration between the Stakeholders of the VTrans Bicycle and Pedestrian Strategic Plan				X	Primary	RPCs, Local Motion, ACCD, VDH, AARP, others	VTrans (BPC and Planning)	Short	Low	
8.1	OBJECTIVE 8: Promote the health, economic, and environmental benefits of recreation and active transportation opportunities										
8.1	Update the 2012 Economic Impact Study of Bicycling and Walking in Vermont		X			Primary		VTrans (BPC)	Medium	High	
8.2	Collaborate with advocacy groups, businesses, and the Vermont Department of Forests, Parks and Recreation to develop programs which promote bicycle tourism (e.g., bike routes, Farm to Fork bicycle trips).	X			X	Secondary	VT Dept of Tourism and Marketing	VT Dept of Tourism and Marketing	Medium	Medium	
8.3	Continue to include walking and bicycling as contributing activities that support environmental policies and initiatives including, but not limited to, the Vermont Comprehensive Energy Plan, the forthcoming Vermont Climate Action Plan required by the Global Warming Solutions Act (Act 153, 2020), VTrans corridor plans, regional and municipal plans, state and local land use permits, Vermont Department of Health active transportation plans, and other carbon emission reductions and climate change initiatives	X				Joint	RPCs, VT Dept of Public Service, VT Agency of Natural Resources	VTrans (Planning and Environmental Policy) and RPCs	In Process	Low	
8.3	OBJECTIVE 9: Identify existing, or develop future, data sources to measure the prevalence, safety, and health of people walking and bicycling										

9.1	Identify and publicize data from surveys conducted regionally and statewide (e.g., CATMA survey) that measure the prevalence and travel behaviors of those walking and		X			X	Secondary	UVM, CATMA, Dept of Health	VTrans (BPC), UVM, CATMA, Dept of Health	Medium	Medium	
9.2	Continue to collaborate with the VTrans Office of Highway Safety to review and discuss possible modifications to the crash reporting system as micromobility evolves	X	X			X	Joint	VHSA	VTrans (Safety) and VHSA	Medium	Medium	
9.3	Continue to collaborate with external partners (e.g., RPCs) to maintain count programs that capture bicycling and walking activity across the state		X				Joint	RPCs	VTrans (BPC) and RPCs	In Process	Medium	
9.4	Coordinate with the Operations and Safety Bureau to transition the non-motorized count program to become their responsibility (i.e., conduct VTrans counts, organize and publish data, and work with RPCs)					X	Primary		VTrans (BPC and Data Management)	Medium	Medium	
9.5	Where possible, incorporate counting features to collect data on levels of those walking and bicycling into intersections, permanent traffic counters, and other traffic monitoring installations	X	X				Joint	Municipalities	VTrans (BPC and PDB) and Municipalities	Medium	Medium	
9.6	Develop a process to share transportation-related data (e.g., GIS data, count data, project data, etc.) between groups (state agencies and external organizations) to help inform planning, design, and prioritization of infrastructure which will encourage people to walk and bike					X	Primary		VTrans (BPC and Mapping)	Medium	High	
9.7	Identify bicycle and pedestrian research topics from the BPSP strategies that may benefit from additional study or can be adopted from recent literature		X			X	Primary		VTrans (BPC and Research)	Short	Medium	
OBJECTIVE 10: Inform external partners and the general public of VTrans' efforts, opportunities, and limitations related to providing infrastructure for people walking and bicycling												
10.1	Develop and distribute materials which highlight successful collaboration efforts with municipalities to promote the collaboration process with other municipalities					X	Joint	RPCs	VTrans (BPC) and RPCs	Short	Low	High
10.2	Develop materials which outline the project development process (planning, design, implementation, and maintenance) for municipalities and the general public to inform them of VTrans' efforts, opportunities, and limitations		X			X	Primary		VTrans (BPC)	Short	Medium	
10.3	Continue to inform the public of maintenance and construction activities related to infrastructure for people walking and bicycling and improve communication on completed and upcoming maintenance and construction activities		X			X	Primary	RPCs	VTrans (BPC, Outreach and Districts) and RPCs	Short	Low	