

# DORSET-MANCHESTER PATH SCOPING STUDY

March 18, 2024



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# INTRODUCTION



Manchester Rail Trail

For over 25 years, the Town of Dorset, Vermont, has documented a need for better pedestrian and bike connectivity between the Village of Dorset and the Town of Manchester. This study provides publicly supported pathway designs along the Vermont Route 30 corridor that connect the Village of Dorset to the northern terminus of the newly completed Marble Rail Trail, an off-street pathway that continues to the Town of Manchester.

This scoping study builds upon many past projects, including:

- The Dorset Town Plan (2020)
- The Dorset Village Center Pedestrian Plan (2018)
- The Manchester-Dorset Recreation Trail Feasibility Study (2000)

This plan is funded in part by the Federal Highway Administration and the Town of Dorset through the Vermont Agency of Transportation (VTrans) Municipal Assistance Section (MAS).

## Study Area

The Town of Dorset aims to create a pedestrian and cycling connection suitable for people of all ages and abilities between Dorset and Manchester.

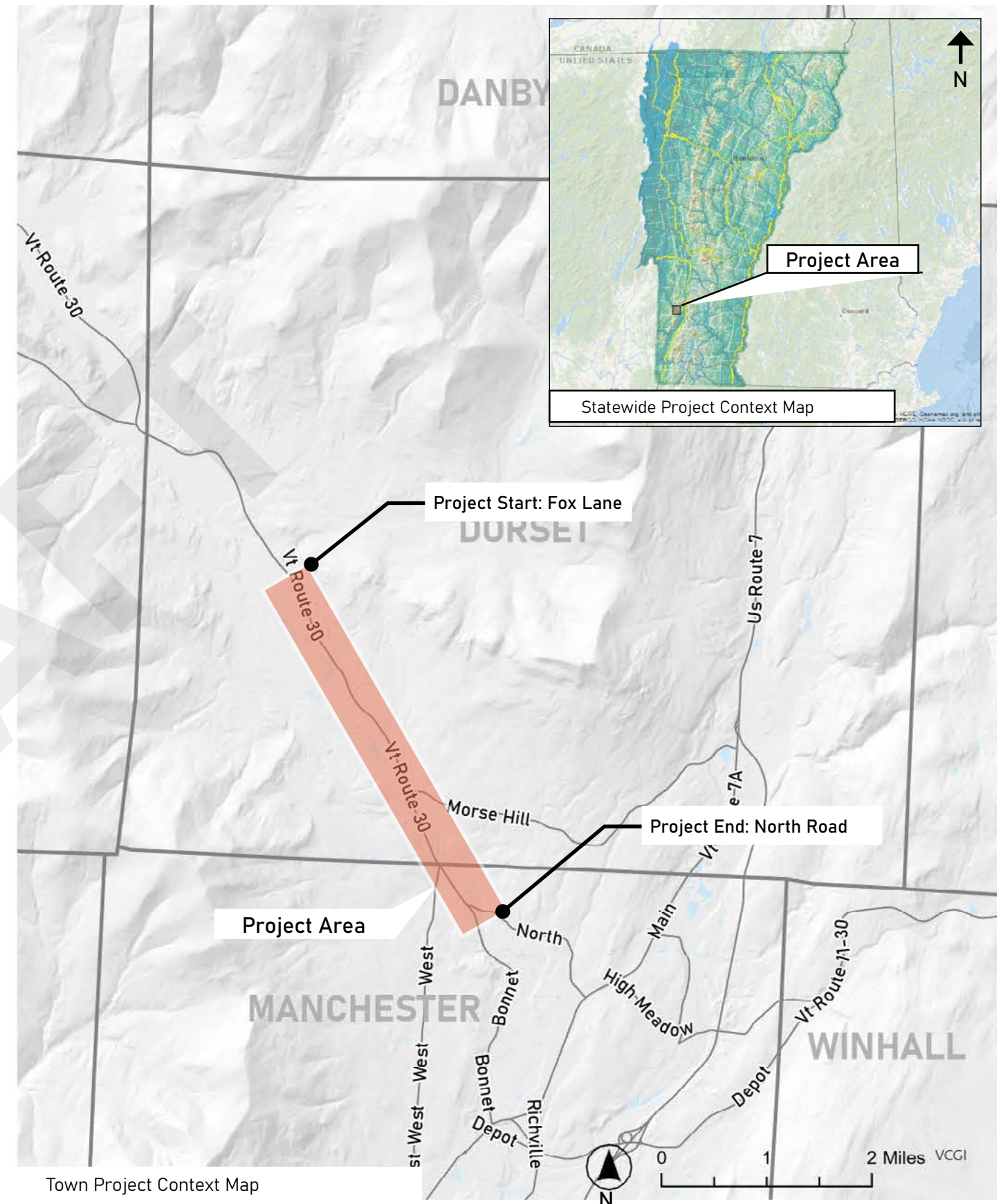
The study is focused on VT 30 between Fox Lane and North Road and along North Road between VT 30 and the trailhead of the Marble Rail Trail. This corridor is relatively flat and has the highest potential for being suitable for cyclists of all ages and abilities. While the ultimate goal is to build a complete pathway into the Village

of Dorset, the scope of this study terminates at Fox Lane to avoid complications with planned utility projects in the Village of Dorset that may conflict in the timing of this project. The connection north of Fox Lane will be revisited at a future date in a manner consistent with the 2018 Dorset Village Center Pedestrian Plan.

The study area includes potential spot improvements along a secondary route—Kelleher Road between North Road and Morse Hill Road. Kelleher Road is a gravel road that offers a safe, quiet path between the Rail Trail and South Dorset, but is much steeper and less likely to be attractive to casual cyclists without electric assist bikes. However, it is an important route to the Dorset School and can be significantly improved with relatively minor trail investments along an existing cap in the road intended to prevent cut-through motor vehicle traffic.

### Study Content

The study process includes onsite and desktop analysis of relevant land use, right of way, and environmental and cultural resources. Direct and targeted public outreach efforts conducted as part of this effort are included in this document. The process sought to understand and to address concerns of residents and businesses who may be impacted by the proposed pathway construction along the VT 30 and North Road, as well as the many residents and visitors who may benefit from a safer walking and cycling connection between Dorset and Manchester.



## Preferred Design Alternative

The Preferred Design Alternative at the right is the blend of several design alternatives as well as an additional corridor study and is based on design complexity, cost, and public preference. Section types are described in detail beginning on [Page 29](#).

This Alternative incorporates the standard separated shared-use path design section type along the east side of the road for a total of 1.5 miles with a small section of 0.1 miles utilizing the barrier or curbed section type. The shared-use path begins between Maple Hill Lane and Fox Lane and continues until past JK Adams nearly to Lucca Lane.

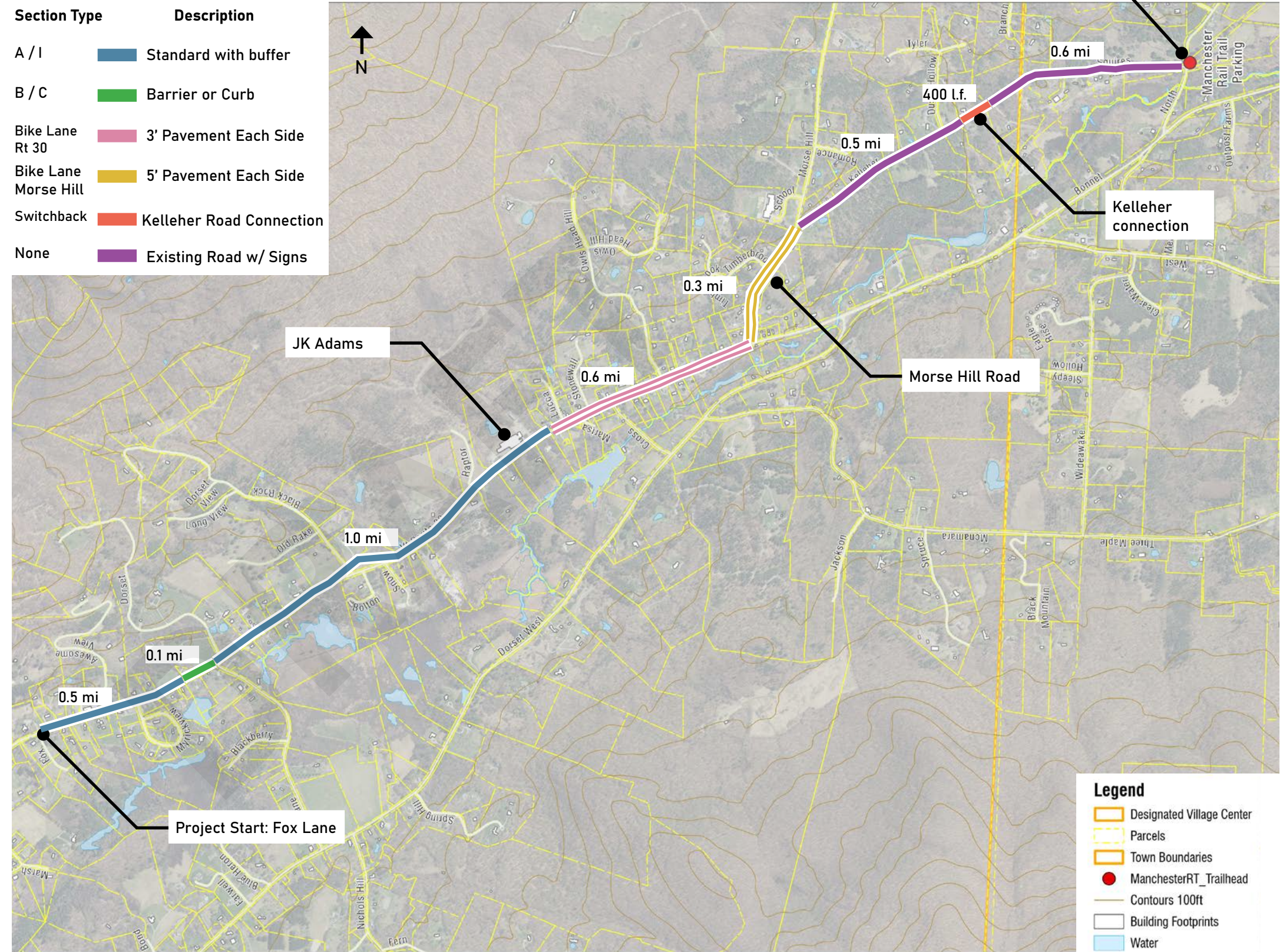
At this point, there become more constraints on either side of the road, so the design section changes to bike lanes on both sides of the road. Due to the existing roadway width and section, it is anticipated that an addition 3' of pavement are required along each side of the road.

The bike lanes then continue along Morse Hill Road to Kelleher Road and require an additional 5' of pavement along each side of the road.

Kelleher Road and Squire Road are both low-use dirt roads, so no improvements are proposed outside of "share the road" and directional signage.

There is a break in Kelleher Road that is proposed to have a switchback trail connection.

Section Type	Description
A / I	Standard with buffer
B / C	Barrier or Curb
Bike Lane Rt 30	3' Pavement Each Side
Bike Lane Morse Hill	5' Pavement Each Side
Switchback	Kelleher Road Connection
None	Existing Road w/ Signs



# EXISTING CONDITIONS

This chapter examines the scoping study corridor in detail, and documents the public engagement process to provide insights into public perception and the desire for walking and cycling improvements along the VT 30 study area.



# Land Use

The study corridor comprises VT 30 between Fox Lane and North Road, North Road between VT 30 and the Historic Marble Rail Trail trailhead, and 126 abutting parcels. The following section examines the corridor's surrounding land use in three segments.

An additional segment that includes Morse Hill Road, Kelleher Road, and Squires Hill Road was added after the Public Alternatives Meeting.

Due to multiple factors, including the Village zoning overlay, National Historic boundaries, and an upcoming water infrastructure project, the project begins outside of the Village area.

## Segment 1: Dorset Village to Dorset Quarry

The Village of Dorset hosts a multitude of commercial and civic land uses near the intersection of VT 30 and Church Street, including a library, a post office, a general store, and the Dorset Inn, as well as private residences and a few home businesses. To the south, near VT 30's intersection with Dorset Hollow Road, is the Barrows House Inn & Restaurant, several small businesses, and a cemetery.

While the Town is interested in ultimately creating a continuous bike and pedestrian connection into the Village of Dorset, this study's scope is officially begins at Fox Lane.

The majority of parcels south of Fox Lane are primarily residential. Two notable commercial locations may be generators of significant travel demand and are likely to be popular destinations to reach by walking or cycling, include:

- The H. N. Williams Store is a major general store on the east side of VT 30. The adjacent parking lot and grass field are the location of a farmer's market every Sunday from 10am to 2pm.
- The historic Dorset Marble Quarry, the first marble quarry built in the United States, is a popular destination for local and out-of-town visitors. While privately owned, it is open to the public during the daytime throughout the summer for a small parking fee.

## Segment 1: Dorset Village to Dorset Quarry



## Segment 2: Dorset Quarry to Morse Hill Road

The offices and operations facility of the Haskins Gas Utility Company sit across from the quarry. The Dorset RV Park is located directly to the south of the Utility Company. Both generate heavy-vehicle traffic. Access challenges that should be considered during the design of a future bike lane or shared-use path.

On the other side of the street is Raptor Lane, which is the access road to the Owl's Head hiking trail and a network of mountain bike trails open to the public. Dorset's future town hall and offices will be located on Raptor Lane and will likely be a popular destination for users of the bike and pedestrian path.

Another notable institutional/commercial location is the Visiting Nurse Association & Hospice Facility near Morse Hill Road.

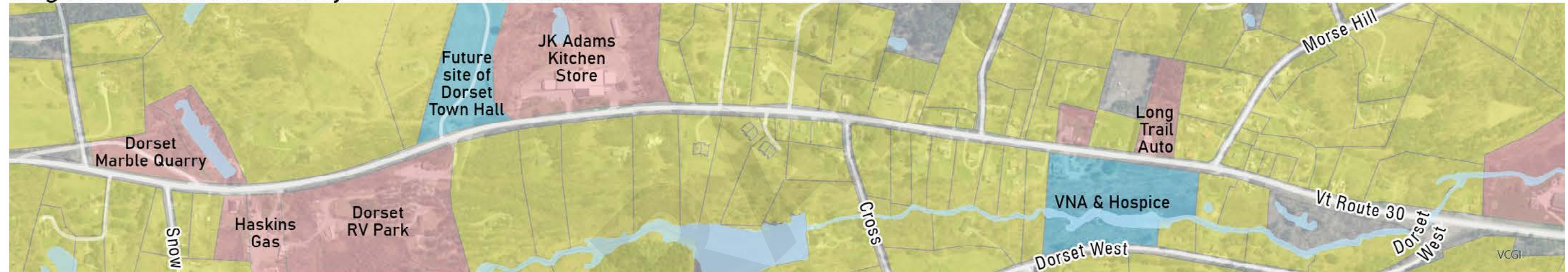
On Morse Hill Road is the Dorset School (not pictured), an elementary school that generates significant weekday travel demand by both students and staff. A bike path on VT 30 could provide a safe way for students and staff to bike closer to the school, but the 150-foot elevation gain between VT 30 and the school over 0.6 miles may be an impediment for many potential cyclists.

## Segment 3: Morse Hill Road to North Road

Land use is primarily residential south of Morse Hill Road, with Haskins General Store as the only significant retail destination.

Along North Road, just before the Marble Rail Trail trailhead, is a parcel of conserved land owned and managed by the Red Tail Trust, a non-profit organization.

### Segment 2: Dorset Quarry to Morse Hill Road

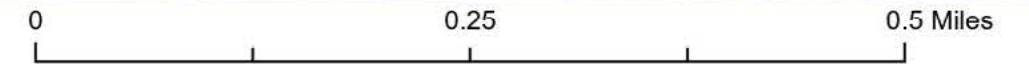


### Segment 3: Morse Hill Road to North Road



#### Legend

- Commercial
- Institutional / Civic
- Residential





# The Existing Roadway

## Roadway Characteristics

### Street Activity

VT 30 serves regional travel through Dorset, but the Town itself generates significant travel needs. Dorset has consistent business activity between destinations in the Village Center, such as the Dorset Theatre, the Dorset Union Store, the Dorset Inn, the post office, and the Barrows House Inn & Restaurant. These destinations can be accessed by car or on-foot and these destinations are close enough to each other that some people park once and walk to nearby destinations.

Further to the south of the corridor, there is less pedestrian activity as destinations are more spread out, but many businesses and institutions are within a comfortable cycling distance to each other and to residents. Even under existing conditions with no dedicated space on the highway for cycling, some people can be observed cycling along VT 30 to major destinations, such as the H. N. Williams General Store and Farmers Market, the Dorset Marble Quarry, and various employers throughout the corridor.

The northern terminus of the Historic Marble Rail Trail is a consistent generator of street activity. Some pedestrians explore the streets beyond the trailhead and some cyclists continue cycling on Squires Road, North Road, and VT 30. The VT 30 corridor sees some use by long-distance touring cyclists as it is a part of the Western New England Greenway which links New York City to Montreal along a selection of relatively quiet roads.

### Right-of-Way

The VT 30 right-of-way (ROW) was determined to be at about four-rods (66 feet wide) in the project area, generally aligned with the road centerline (based on VCGI data). Some sections are wider due to previous ROW acquisition by VTrans for previous projects. North Road, Morse Hill Road, Kelleher Road, and Squires Road have a ROW of three-rods (49.5 feet wide).

### Roadway Section

The overall paved surface is in fair condition in Dorset Village and the Dorset Quarry, and poor to very poor between the Quarry and North Road.

On VT 30, the typical section includes 11-foot travel lanes, three-foot paved shoulders, and 19 feet of additional space on each side. Some sections have wider shoulders, suitable for use for bicycles. Other areas have stone walls, structures, trees, and topographical challenges within the ROW in the study area that must be considered in this study.

North Road has ten-foot-wide travel lanes and no shoulder. Here, cyclists must ride in mixed traffic and pedestrians must walk in the roadway.

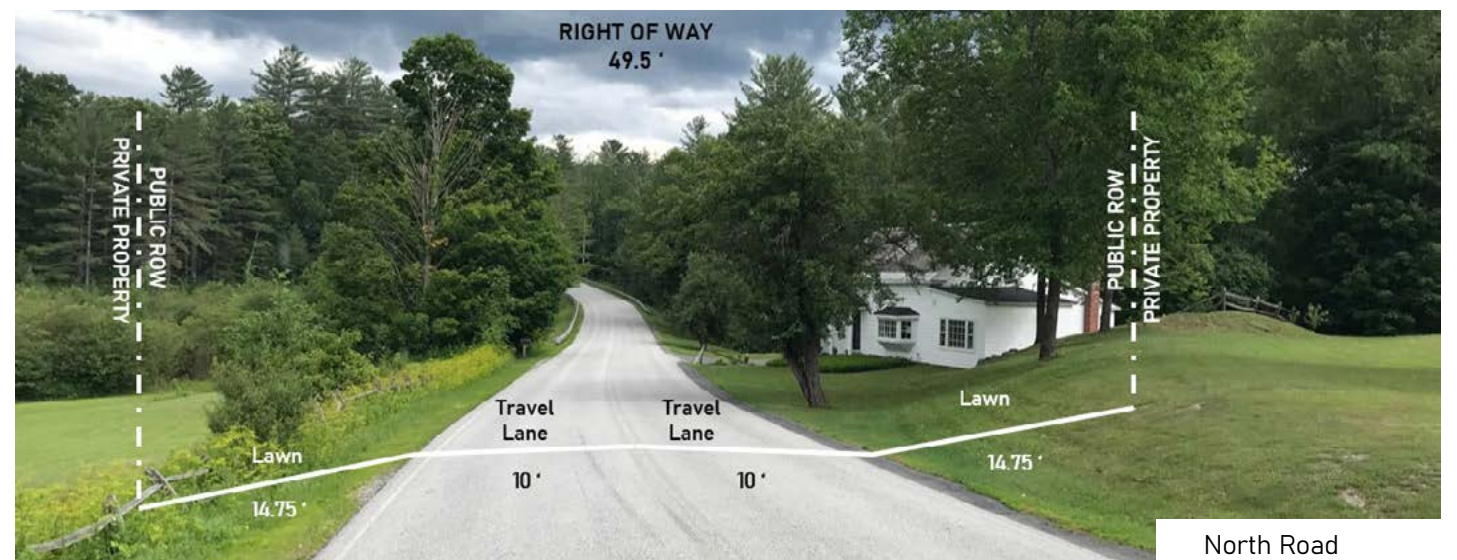
Kelleher and Squires Roads are gravel.



Route 30 at H.N Williams



Route 30 at West Road



North Road

### Sight Lines

VT 30 between Dorset Village and North Road is located in a valley between two mountain ranges. The road's grade is generally gentle. Sight lines are mostly limited by slight curves in the roadway and roadside obstructions like utility poles, parked cars, and trees.

North Road has steeper grades, a curve and visual obstructions that limit sight lines. Streets with limited sight lines can be safe as long as cars travel at appropriately slow speeds such that all road users have sufficient time to react to potential conflicts before any risk of collision.

### Intersections & Access Management

The relevant segment of North Road includes two significant intersections—VT 30 and Squires Road. Within the study area, VT 30 includes eleven significant intersections:

- Awesome View Lane
- Lane Road
- Dorset Orchard
- Black Rock Lane
- Raptor Lane
- Cross Road
- Morse Hill Road
- Dorset West Road
- West Road
- Cross Road
- North Road

These intersections are all stop-sign controlled. In the past, some intersections in the study corridor occurred at an obtuse angles such that drivers had to rotate their heads more than 90 degrees for a clear view of cross traffic. Cross

Road and Black Road Lane were two examples of challenging intersections. In the past decade, these have been modified to intersect VT 30 at right angles for improved safety.

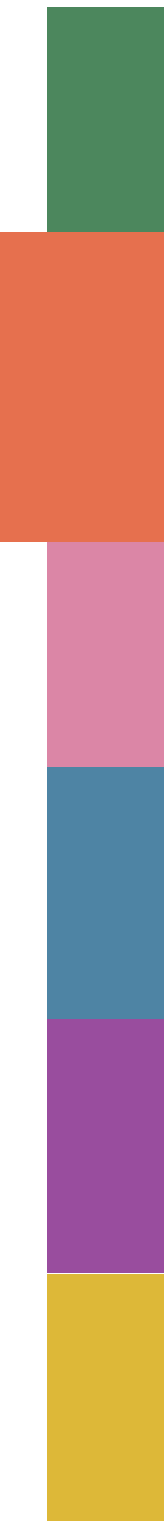
Most driveways abutting VT 30 have obvious entry and exit points. The Hasgas General Store is an exception due to the placement of its fuel pumps adjacent to the roadway. This establishment has a continuous driveway entrance without a clear vehicular entry and exit point.

Kelleher Road intersects Morse Hill Road at an oblique angle.

### Additional Constraints

The intersection of VT 30 and Dorset West Road crosses the West Branch of the Battenkill with a culvert under the roads, guardrail, and steep slopes on both sides of the road.

Similar topographical constraints also exist on North Road where it crosses the West Branch of the Battenkill, where any widening may require significant grading changes.



# Traffic Data

## Safety and Crash Data

There are eighteen recorded crashes in the study area between 2012 and 2018. Of reported data, six of the eighteen crashes resulted in personal injuries, two involved motorcycles, three were during wet or snowy conditions.

Just outside of the study area, in the Village of Dorset, there is a denser cluster of recorded crashes.

Designs that impact visibility or transportation movements along the VT 30 corridor should seek to improve all road user visibility and offer additional protection to vulnerable users while improving overall predictability for drivers navigating the area. The selection of an effective design that encourages predictable, safe travel is particularly important in the case of this pathway design, as it may increase the number of vulnerable road users along the route.

Segment 1: Dorset Village to Dorset Quarry



Segment 2: Dorset Quarry to Morse Hill Road

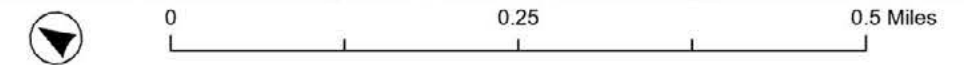


Segment 3: Morse Hill Road to North Road



Crashes (2012-2018)  
by severity

- Unknown
- Injury
- Property Damage Only



## Vehicle Traffic Volumes

Based on the 2022 Annual Average Daily Traffic by Route report by VTrans, the average annual daily traffic (AADT) on VT 30 from the Manchester Town line to Church Street was 5,428 in 2022.

## Speed Study and Traffic Counts

Currently, the speed limit on VT 30 outside of the Village Limits is 40 miles per hour (mph) throughout. This speed limit transitions to 30 mph in the Village Center.

The VTrans traffic count location offers insight into the patterns of motor vehicle speeds on this corridor. Speed data is available at the Lane Road location from August 22-27, 2018. These findings are summarized in the table at right. As is the case on many rural highways, there is a mismatch between the posted speed limit and actual speeds drivers go through the Village.

The current 2009 MUTCD states that the speed limit should be within +/- 5mph of the 85th percentile speed. Rather than reactively raising speed limits to match actual behavior, road designs should be adjusted to encourage increased compliance, which may be part of the roadway redesign project.

Traffic volumes and speeds on this road exceed what is likely to feel comfortable and safe for cyclists riding in the road without a dedicated space. In the existing condition, cyclists are likely to encounter multiple cars passing them every minute at a speed that would be deadly in the event of a collision.

Table -1 - Traffic Count Results	
Traffic Count 1	
Location	VT 30 at Lane Road
Dates	August 22-27, 2018
Direction	North and southbound combined
85th Percentile Speed	48 mph
Adjusted Annual Daily Traffic (AADT)	5,385

## Active Transportation

### Pedestrian Facilities

Historic marble sidewalks exist along VT 30 in parts of Dorset Village, but do not exist within the project boundaries. Paved Shoulders serve as informal walkways throughout VT 30, but the width of the shoulder is inadequate in some places for safe and comfortable use by pedestrians. There is no shoulder on North Road.

### Pedestrian Crossings

There are currently no marked pedestrian crossings along the study corridor. The design of future bike and pedestrian facilities should consider the need for a safe, designated crossing at key locations, particularly if the pathway crosses over from one side of the road to the other.

### Bicycle Facilities

There are no formally recognized bicycle facilities on the relevant segments of VT 30 and North Road. Some cyclists use the paved shoulder on VT 30 as a de facto bike lane when not blocked by parked cars, but must resort to riding in the travel lane when it is not available or too narrow.

### Public Transit

There is currently no public transit available along the study corridor, although an existing service operated by Marble Valley Regional Transit District (branded as "The Bus") connects Manchester with Rutland via VT 7A. While the transit route is unlikely to be broadly useful to Dorset residents, cycling improvements along VT 30 linking to the Rail Trail may improve cycling access to the bus at the Manchester Town Office stop.



Route 30 Northbound (south of Owls Head Hill Lane)

# Utilities

Based on site visit and GIS data, the following utilities and features are present in the project area:

## Stormwater Infrastructure

Stormwater infrastructure is identified in red on the map at right. Outside of the Village Center, drainage off the road surface is primarily achieved through overland flow. Without sidewalks and curbs, stormwater flows off the road onto adjacent properties, into nearby bodies of water, and into the ground.

About 23 culverts funnel stormwater across the ROW towards the direction of lower elevation where necessary.

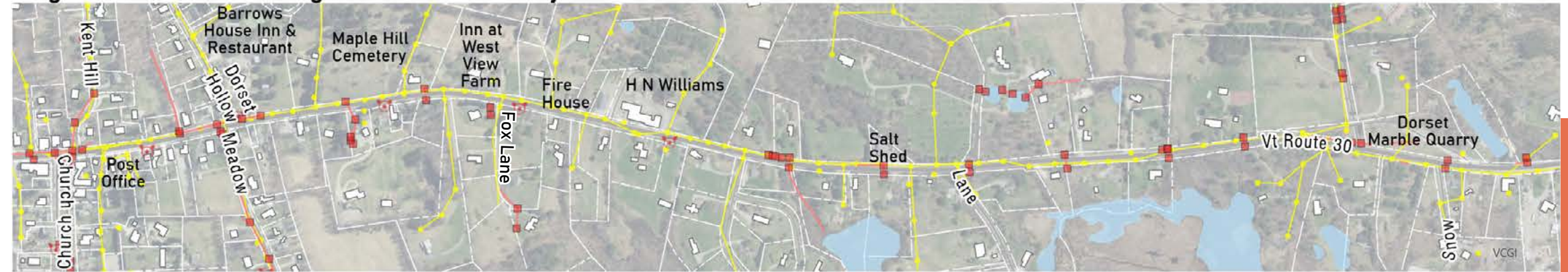
These culverts and inlets add complexity to the construction of a shared-use path. They may have to be modified or replaced if the final design changes the road's drainage profile.

## Overhead Utilities

Overhead utilities are present throughout the VT 30 corridor on both sides. There are slightly more utility poles and lines on the east side of the highway.

Anywhere utility poles are located within the VT 30 or North Road ROW, their relocation and/or avoidance would have to be accounted for in the construction of any pathway projects.

Segment 1: Dorset Village to Dorset Quarry






Segment 2: Dorset Quarry to Morse Hill Road

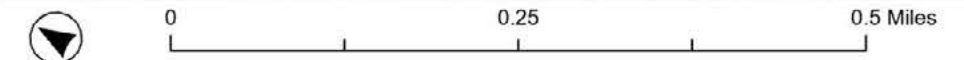


Segment 3: Morse Hill Road to North Road



### Legend

-  Hydrants
-  Inlets
-  Storm Lines
-  Overhead Power Line
-  Power Pole



# Environmental Resources

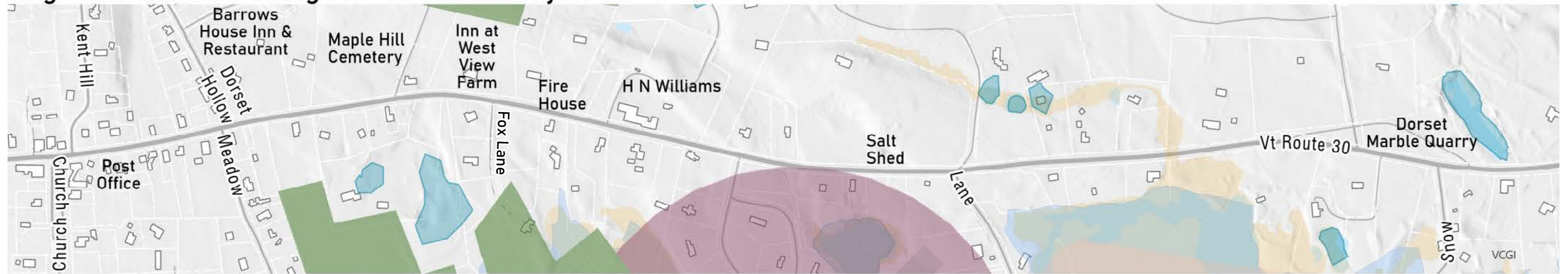
The Vermont Agency of Natural Resources Atlas for the project area was reviewed as shown in the following table, illustrating relevant hazardous wastes and natural resources in the area. The table summarizes the natural resource findings along VT 30 between Fox Lane and North Road, as well as North Road between VT 30 and the Marble Rail Trail trailhead parking area and Morse Hill Road

to Kelleher Road and Squires Road.

Table -2 - Natural Resource Survey	
Potential Resources	Presence/Absence in Study Area
Wetlands	A review of the Vermont Significant Wetlands Inventory (VSWI) reveals that there is a Class 2 wetland that crosses VT 30 near Dorset West Road. This may present additional regulatory complexities for any design that requires road widening. There is also a 425 foot segment of North Road between VT 30 and the Marble Rail Trail trailhead that crosses a Class 2 wetland.
Lakes/Ponds/Streams/Rivers	<p>The west branch of the Batten Kill River, an Outstanding Resource Water, meanders along the valley where VT 30 is located. The river flows in the southeast direction, crossing VT 30 at its intersection with Dorset West Road, and then crossing North Road between VT 30 and the Rail Trail trailhead. It flows towards Manchester Center and drains into the Hudson River in New York State.</p> <p>A River Corridor Designation identifies those areas of land adjacent to a river that are required to accommodate the river's natural movement over time. The Batten Kill River Corridor Designation encompasses the properties at the western edge of VT 30 north of Dorset West Road, as well as properties on the east side of VT 30 south of that point. The Batten Kill River Designation crosses VT 30 and North Road ROWs and any roadway construction activities will require coordination with the Department of Environmental Conservation.</p>
Floodplains	FEMA-designated Zone AE flood hazard areas are not present in the study corridor and would not be impacted by the construction of a bike and pedestrian path in the project area,
Flood Hazard Area	Zone A flood hazard areas exist along the project area, generally corresponding with the location of River Corridors. The study corridor crosses flood hazard areas at two locations.
Endangered Species	<p>Across the highway from the location of the salt shed, there is a rare, threatened, or endangered plant species identified in the vicinity. The affected radius marginally affects the project corridor, approximately reaching the centerline of the road. The construction of a path along the west side of VT 30 in the project area may have to consider potential impacts to this species.</p> <p>There is a rare, threatened, or endangered plant species identified near the intersection of Dorset West and VT 30. The impacted zone crosses VT 30 and may be impacted by pathway construction.</p>

Endangered Species (ctd)	The project area is within the range of the state and federally endangered norther long-eared bat and Indiana bat. Additionally, by the time this project goes to pre-construction, the tri-colored bat may be listed as federally endangered (a tree-dwelling bat species). During NEPA, the town/consultant should consult with the US Fish and Wildlife Service through their Information for Planning and Consultation (IPaC) program to make an effect determination for any federally listed species. This effect determination will specify whether time of year restrictions are required for tree cutting for this project.
Flora/Fauna	See "Endangered Species."
Stormwater	Stormwater along the VT 30 corridor in the project area drains to the West Branch of the Batten Kill River, primarily though overland flow directly to the river, or to nearby ponds and wetlands then to the river. Along some portions of the road, stormwater runs off the road surface to both sides, and then is conveyed to the side with the lower elevation through culverts and pipes. Depending on the design, adding a shared-use path or expanding the paved shoulders along VT 30 and North Road may change the stormwater conditions along the road.
Forest Land	Because the potential sidewalk alignments are along the VT 30 and North Road corridor, within the ROW, forested land would not be impacted by the construction in the project area.
Hazardous Sites	<p>There are five hazardous sites in the project area:</p> <ol style="list-style-type: none"> <li>1) L &amp; E Distributors, VT 30 and West Road, 05255</li> <li>2) South Dorset General Store, 69 VT 30, Dorset, VT 05251</li> <li>3) Robbins Property, 928 VT 30, 05251</li> <li>4) J. K. Adams Kitchen Supply Store, 1430 VT-30, Dorset, VT 05251</li> <li>5) Rogers Corp, 2738 VT 30, 05251</li> </ol> <p>All five sites were originally flagged for contamination from heating oil gasoline or non-petroleum chemical spills. All five sites have met the Site Management Activities Complete (SMAC) policy or No Further Action Planned status and are not a concern for this pathway project.</p>

### Segment 1: Dorset Village to Dorset Quarry



### Segment 2: Dorset Quarry to Morse Hill Road



### Segment 3: Morse Hill Road to North Road



#### Legend

**Flood Hazard Areas**  
(Only FEMA-digitized data)  
A (1-percent annual chance floodplains without elevations)

**Rare, Threatened, Endangered Species**  
Rare

**VSWI Wetlands**  
Class 1 Wetland  
Class 2 Wetland  
Advisory Wetland



0 0.25 0.5 Miles

## Cultural Resource Review

### HRI

Hartgen Archaeological Associates, Inc performed a Historic Resources Identification (HRI) assessment for the proposed project area. The project area has no current National Register Listed (NRL) properties. Hartgen surveyed a total of 176 structures in the project area. Of those 176, 29 were deemed to be National Register Eligible (NRE) due to their age and condition. The remaining properties were deemed ineligible either due to age or condition. Of those 29 NRE properties, 11 were found by Hartgen to be contributing to a potential South Dorset Historical District. This potential Historical District consists of 14 total buildings.

After completing their assessment, Hartgen concluded:

**“[n]o direct impacts on any of these structures or the proposed district are anticipated. While it is not anticipated that the proposed project will impact any mature plantings associated with NR-eligible or Vermont State Register Listed properties, care should be exercised in this regard.”**

### ARA

Hartgen also performed an Archaeological Resource Assessment (ARA) using the Vermont Online Resource Center (ORC), which is maintained by the Vermont Division for Historic Preservation (VDHP). In addition to utilizing previous research done in the project area provided by the ORC, Hartgen also considered the ecology of the project area, stating:

**“Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the [project area] that are more likely to contain archaeological**

**resources.”**

After their ARA, Hartgen stated:

**“The ... Archaeological Sensitivity Areas (ASAs) defined for the project are considered to have archaeological potential. It appears that avoidance of those areas is unlikely, aside from placing the project on one side of the road or the other. The east side of the alignment has approximately 1.6 miles (2.6 km) of ASAs while the west side of the alignment has approximately 1.05 miles (1.7 km) of ASAs..”**

**See appendix for complete archaeological and historical information.**



Structure #35, built 1910 (left) and #39 built 1850 (right). Both of these structures Hartgen considered to contribute to a potential South Dorset Historical District.

### Segment 1: Dorset Village to Dorset Quarry



### Segment 2: Dorset Quarry to Morse Hill Road



### Segment 3: Morse Hill Road to North Road



Area of a potential South Dorset Historical District.





## Addendum Section Existing Conditions

### Speed and Traffic

The speed limit on Morse Hill Road is 35 mph and is 25 mph on Kelleher Road and Squires Road. Morse Hill Road receives an AADT of 0-1100 vehicles per day.

### ROW

The Right of Way for Morse Hill Road, Kelleher Road, and Squires Road appears to be 3 rod or 49.5'.

### Intersections

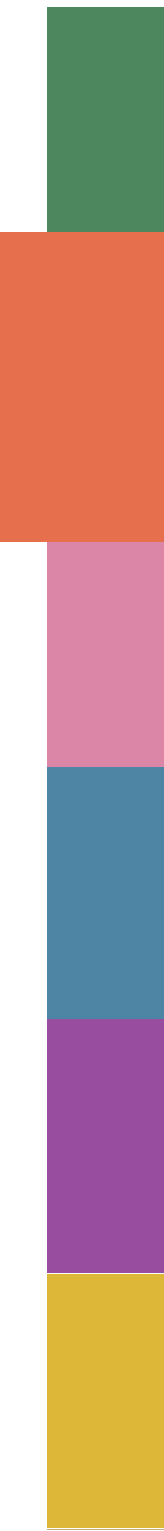
There are multiple driveways along Morse Hill Road and an intersection with Timberbrook on the north side of the road. While outside of the project area, the Dorset School is just to east of Kelleher Road along Morse Hill Road. Both Kelleher and Squires Roads contain multiple driveways and several smaller local roads.

### Environmental

There are few mapped environmental constraints in the corridor, though most notably there is a stream and associated Class 2 wetland through the Kelleher Road connection.

### Utilities

There is stormdrain along the north side of Morse Hill Road with associated inlets. There are overhead power lines along all three roads, although those along Morse Hill Road are the only ones that could have potential impacts.



# Public Input

This scoping study included two public engagement phases: the Local Concerns Phase and the Alternatives Phase.

For the Local Concerns Phase, one public meeting was held on September 21, 2022, and also included two online surveys—one specifically for neighboring property owners, residents, and businesses, and the other open to the general public. Both surveys were open to the public for submissions between September 9 and October 19, 2022.

The consulting team provided the language and design of outreach material while the Town of Dorset hosted the project website. Town of Dorset and Bennington County Regional Commission staff circulated opportunities for input.

Notice of the Local Concerns meeting and the Neighbor's Survey were mailed to ~200 addresses adjacent to the study corridor. Physical posters were placed throughout the study area, and an online promotional material was posted on the Town of Dorset's website.

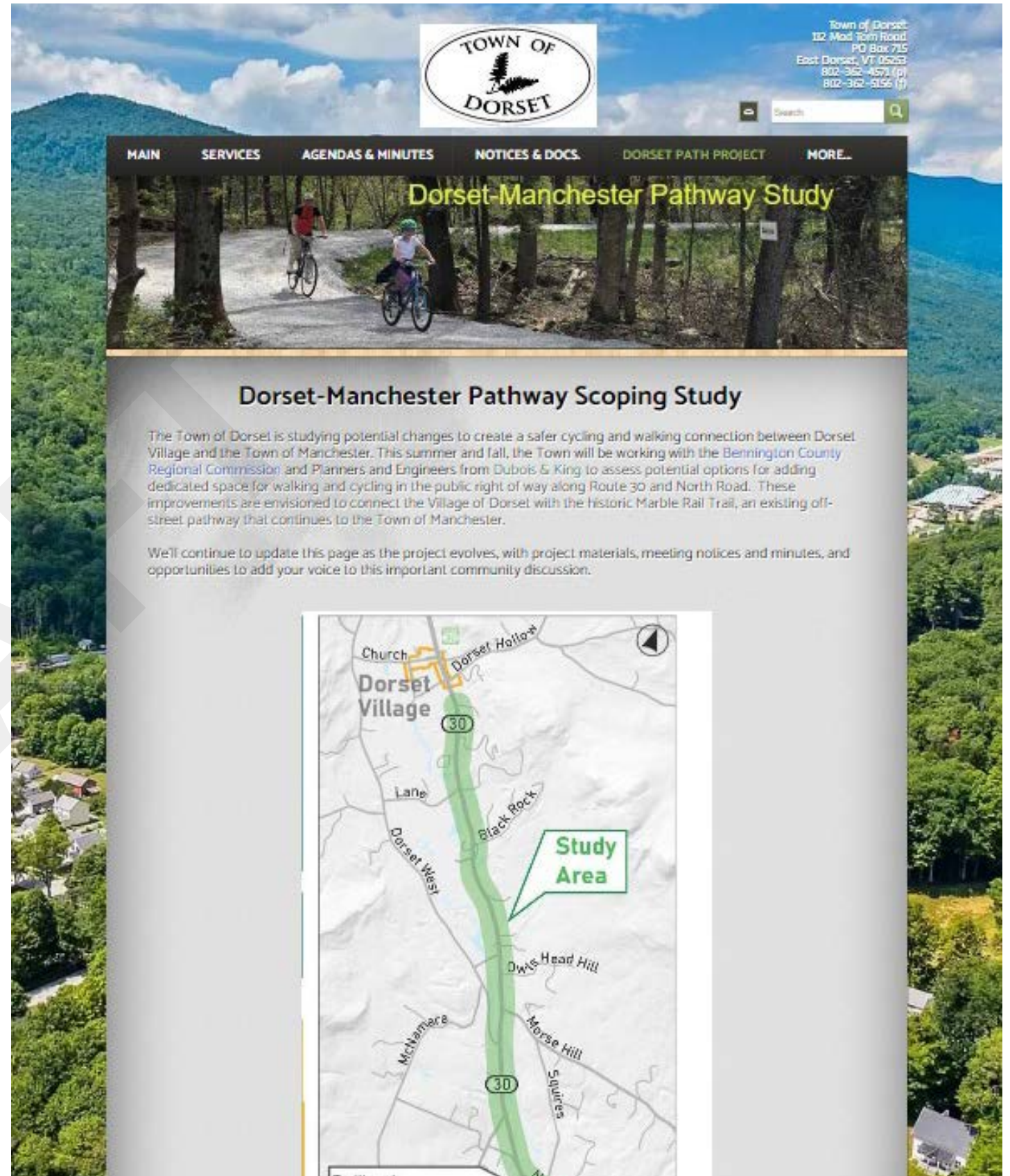
Notes from this meeting are included in this document's appendix.

## Community Meeting 1 : September 21st, 2022

This hybrid meeting, held from 6pm to 7pm, offered both in-person and remote video attendance. Attendees included 33 members of the public, five Town of Dorset staff, Bennington County Regional Commission staff, and consulting team members.

Attendees generally expressed support for the project overall and took the opportunity to ask clarifying questions on process and scope. Two attendees commented with their opinions that this project is "a fantastic idea" as it has potential to provide safe access to local mountain bike and hiking trails from a bigger parking lot—like the park in Manchester—without overwhelming the limited parking available at Raptor Lane.

Not all attendees felt positive about the project. One resident expressed concerns that the project will have negative impacts on residents while only benefiting cyclists five months a year. One resident mentioned that if the trail cuts through his private property, he will not support it. The consulting team assured him that the scope of the study is limited to public Right-of-Way along VT 30 and North Road and is not expected to directly impact private property.



Screenshot from Town of Dorset Website

## Public Survey Summary

The first community meeting was paired with two online surveys. These surveys are summarized below. Responses are included in the appendices.

One of the surveys was targeted specifically for those on properties directly adjacent to the project corridor. The other survey was open to the general public.

### Survey 1: Dorset-Manchester Path Neighbor's Survey

One of the surveys was targeted specifically for those on properties directly adjacent to the project corridor. Postcards, shown at right, with brief description of the project and a link to the survey were mailed to about 200 households and businesses. The survey gathered 46 responses.

Below are some key findings:

- When asked if they supported changes to the roadway along VT 30 to create safe, dedicated space for bicycling and walking, 62% of respondents were in favor and 53% were strongly in favor. 29% were opposed.
- The vast majority of respondents who provided their addresses were located on the east side of VT 30. Only six were on the west side.

In the open-ended question, key issues to emerge were:

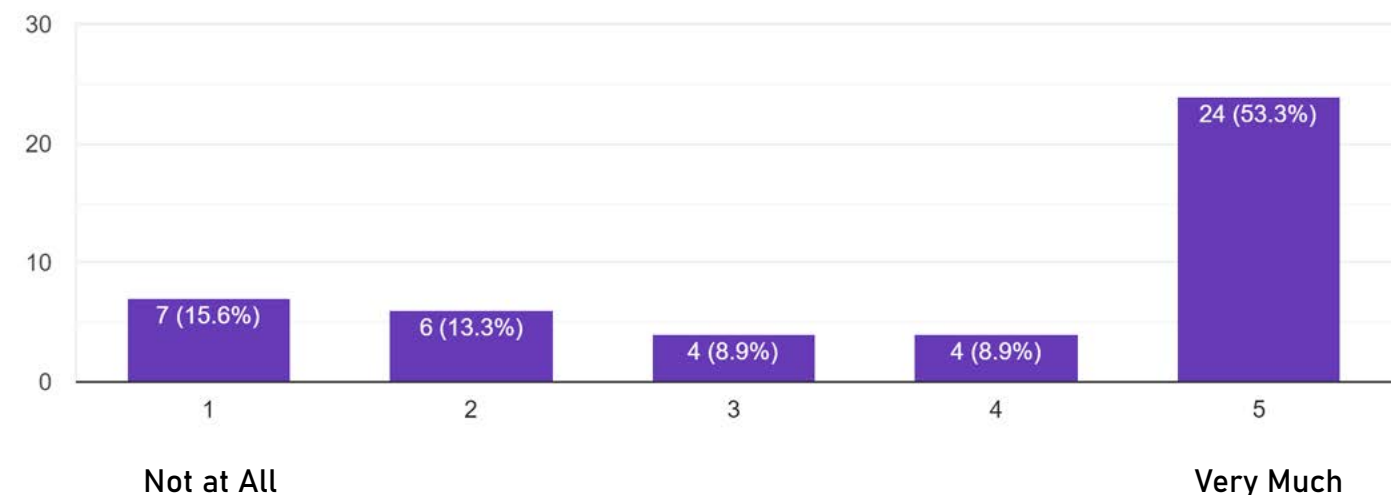
- Concern with potential impacts on private property. Some respondents were concerned about the potential for impacts on their enjoyment of their private property from increased pedestrian and bicycle traffic within close proximity of their front yards, and the potential need for tree removals. One commenter was concerned about the potential use of eminent domain (it should be noted that this project is not anticipated to require eminent domain as the scope is limited to the existing public right-of-way).
- Safety was mentioned in at least 12 comments. Most respondents seem to agree that the project will improve safety for all modes but some other respondents voiced their opposition to the project on the grounds that the route is too dangerous for driving already and the belief that additional changes may make it worse.
- Several respondents, including a few supporters, were concerned about traffic impacts during construction.
- Some respondents voiced concerns about excessive traffic speeds and hopes that changes proposed through this project may encourage safer speeds.
- Residents along Lucca Lane were specifically concerned that widening the existing pavement or adding a shared-use path beside the road may affect their steep, gravel driveway, and that steeper grades may result in gravel being pushed into the roadway. Nonetheless, some of these residents were in support of the project.



Above: Postcard sent to homes and businesses adjacent to the project corridor

Are you in favor of changes to the roadway along Route 30 to create safe, dedicated space for bicycling and walking?

45 responses



### Survey 1: Dorset-Manchester Path Phase 1 Community Survey

In addition to the neighbor's survey, this project offered an additional general survey open to the public. The survey gathered 98 responses.

87% of respondents lived within the Town of Dorset while 6% lived in Manchester. The vast majority of respondents own property, live, work, or regularly visit destinations along the study area and most respondents reported traveling along the study corridor almost every day. Survey respondents skewed older in age, but were generally balanced in gender.

Below are some key findings:

- The vast majority of respondents drive along the study corridor on a daily basis, but even in its current condition, about half of all respondents walk, bike, or use another non-motorized mode to travel along the corridor at least a few times a month.
- 29 percent of respondents walk, bike, or use another non-motorized mode along the corridor regularly (at least a few times a week).
- Regardless of their opinion on the need for safe, dedicated space for walking or biking, respondents generally feel unsafe walking or biking along VT 30 in its current condition even though they generally feel safe driving along VT 30.
- 80% of respondents believe that public funds should be used to build a safe and dedicated space for walking and biking.

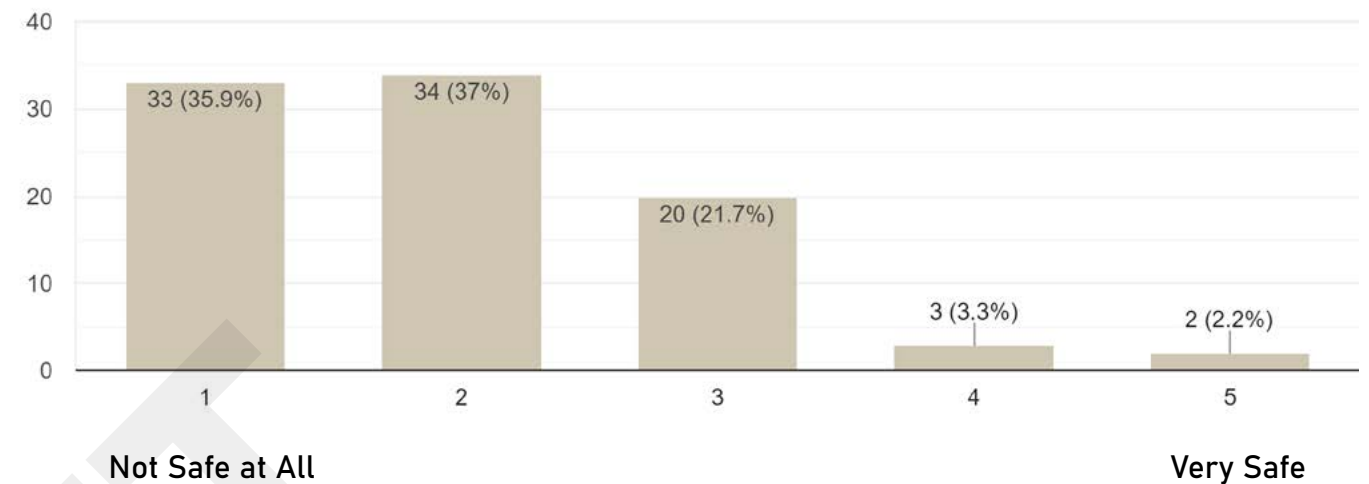
When asked what factors make them feel unsafe while traveling along VT 30, the shoulders being too narrow was a near-universal complaint. Traffic speed and volume were also common concerns. Some respondents recounted their experience with heavy trucks crossing the fog line and intruding into the road shoulder where they were walking, running, or pushing a stroller. Even those who primarily drive along VT 30 cite the complexity of having pedestrians and cyclists share space in close proximity with highway-speed traffic as a major source of risk.

In the open-ended question, key issues to emerge were:

- Widespread support for safety improvements along VT 30.
- Excitement about the potential for the path to connect with hiking and mountain biking trails off of Raptor Lane.
- Interest for ensuring that the pathway is designed for all non-motorized modes, not just cycling. One person expressed interest in ensuring the pathway works for cross country skiing as well.
- Some preference for having the path avoid VT 30 altogether and to travel through some private lands with easements.

### 5. How safe do you feel when walking or biking along Route 30 ?

92 responses



Wordcloud generated from open-ended question responses in community survey.

# Class 1 Analysis

Like many roads through Towns and Villages in Vermont, Route 30 is a State-owned road.

This arrangement can create competing goals between the town and VTrans. The town has a goal of a walkable, bikable Route 30 corridor, while VTrans has a goal of maintaining efficient vehicular travel through the corridor and their broader system. While VTrans supports bicycle and pedestrian travel, it is not a priority along Route 30 in this location.

In an effort to resolve these conflicting goals, the State operates a program of “Class 1” designation, which allows a municipality to take responsibility for maintenance of small portions of the roadway, and relieve VTrans of many ongoing maintenance costs, but in return, the town has significantly more control and oversight of any proposed changes to the roadway.

The designs proposed in this document could benefit from a Class 1 conversion to minimize elements such as shoulder width and subsequent construction width requirements, as VTrans often does not defer to a town’s desire for change if it interferes with their system wide standards of operating and maintaining state highways.

Maintenance activities including plowing, restriping, patching potholes, repairing signs, and cleaning culverts or other stormwater infrastructure become the responsibility of the Town. The maintenance responsibilities of the Town versus the State in both the State Highway and Class 1 Town Highway scenarios can be found in the [Class 1 Town Highways : Costs and Issues for Vermont Communities Considering Reclassification of State Highways White Paper](#). (2016) It should be noted that the Town will

receive a greater amount of State aid based on the length of Class 1 Town Highway that they adopt.

With these maintenance responsibilities come opportunities for more creative solutions within the right-of-way. Traffic calming measures, such as curb extensions, bulbouts, and raised medians can be installed. Shoulder width can be minimized. It’s also much easier for the Town to add streetscaping features like street trees, lighting, and wayfinding signs.

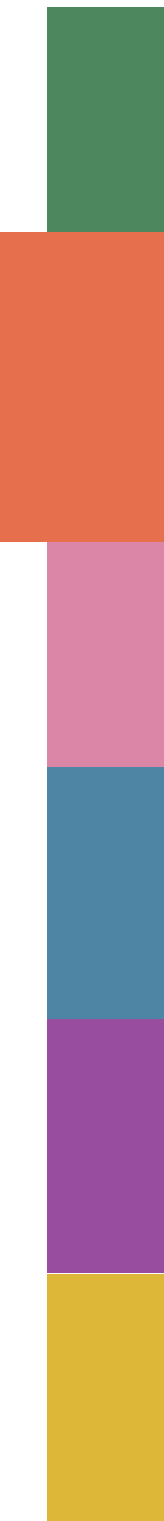
These elements are not entirely precluded if VTrans maintains control and maintenance responsibility for the roadway, but have historically been much more difficult to attain.

Class 1 conversion should take place between logical locations to start and stop plow service. For this study, three Class 1 scenarios were considered. Each scenario is a different length of road that Dorset could takeover as Class 1. The amount of State Highway Aid that Dorset would receive depends of the length of the Class 1 conversion. The maintenance costs also depend on the length, as well as the existing stormwater and lighting infrastructure within the Class 1 corridor.

A preliminary analysis of the costs associated with Class 1 conversion for all three scenarios is included in the appendix. These worksheets represent an approximation and average of annual costs. Year to year costs may have greater variability. Since costs have increased significantly from the 2016 White Paper, this study has increased costs by 37% based on ENR index value comparisons between 2016 and 2025.

The initial analysis indicates that total annual net costs to the town could range from \$637 to \$5,252. A full breakdown of these costs is available in the appendix. This variation is

based on length of roadway and maintenance costs associated with infrastructure found within the road’s right of way. A dialog with VTrans is needed to determine what conversion area would be acceptable to the State.



# DESIGN CHALLENGES



The following pages outline several design challenges that impact the cost, viability, and functionality of adding bicycle and pedestrian improvements to the VT 30 corridor. This includes analysis on topographical complexity, physical constraints, utilities, and driveways on both sides of the road.

## Topographical Complexity

The study area is located within a valley in a mountainous area. Although this stretch of VT 30 is relatively flat, this is due to extensive geotechnical engineering and earthworks. The side slopes create a challenge for a bike/ped path design:

- Widening a space for the new path will require a significant cut and fill, blasting, and retaining walls.
- The side slopes take up ROW width and the modified slopes will have to fit within the existing ROW or new easements will be needed.
- Creating a path may create significant grading impacts to some driveways.

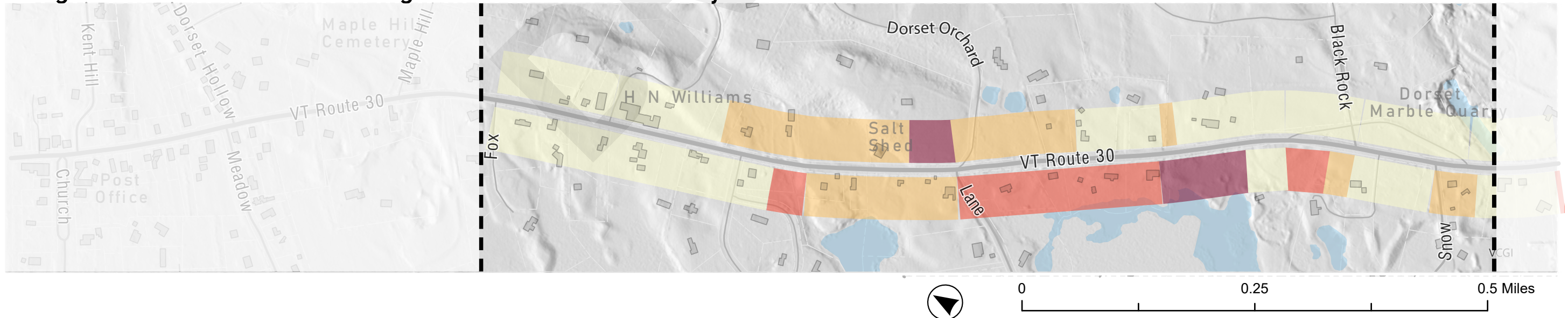
## Topography - Segment 1

The east side of the road is generally flat, with the exception of the area just south of the salt shed.

The west side has many steep slopes along this segment, particularly from Myrick View Lane to Bolton Lane.

Category	Pavement and ROW edge elev +/-	Description
1	0-2	Minimal grading changes required. Minor to moderate drainage modifications may be necessary.
2	2-4	Moderate cut-and-fill required. Moderate to major drainage modifications may be necessary.
3	4-7	Major cut-and-fill or retaining walls required. Limited blasting may be required.
4	7+	Extreme topographical challenge. May require extensive cut-and-fill, ROW acquisition, large retaining walls, blasting, or boardwalk structures

## Segment 1: Dorset Village to Dorset Quarry



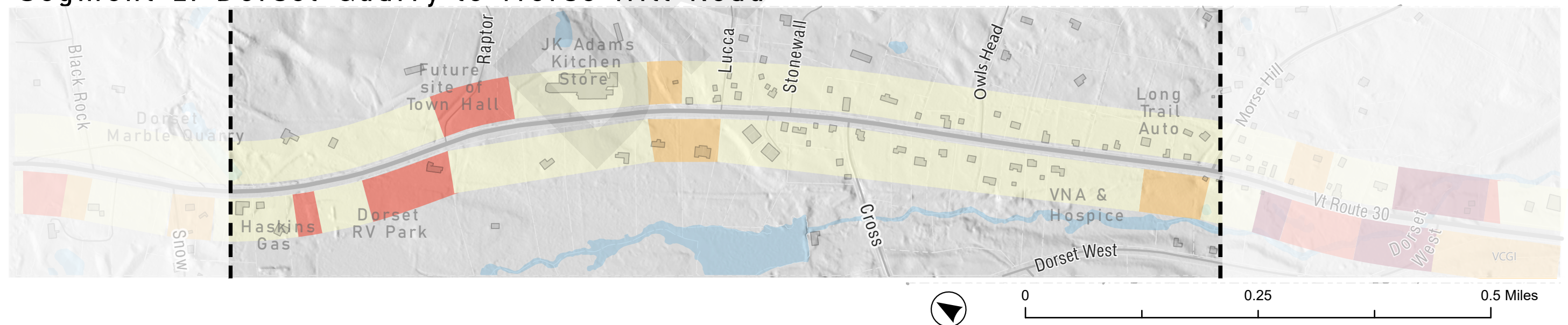
## Topography - Segment 2

Segment 2 is relatively flat, with the exception of Raptor Lane on the east side (future site of town hall) and the Dorset RV park, on the west side.

Raptor lane is town-owned, so there may be more flexibility to build pathway outside of VT 30 ROW to reduce complications with slopes.

Category	Pavement and ROW edge elev +/-	Description
1	0-2	Minimal grading changes required. Minor to moderate drainage modifications may be necessary.
2	2-4	Moderate cut-and-fill required. Moderate to major drainage modifications may be necessary.
3	4-7	Major cut-and-fill or retaining walls required. Limited blasting may be required.
4	7+	Extreme topographical challenge. May require extensive cut-and-fill, ROW acquisition, large retaining walls, blasting, or boardwalk structures

## Segment 2: Dorset Quarry to Morse Hill Road





### Topography - Segment 3

The east side is steep at three major locations:

1. The stream crossing near the intersection with Dorset West Road, where the highway is built on an earthen causeway.
2. Across from Hasgas
3. On North Road, stream crossing

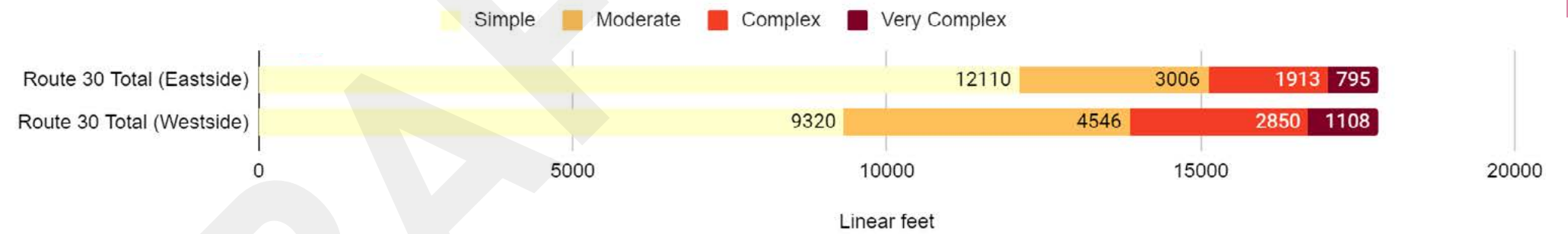
The west side is steep at two major locations:

1. Dorset West Road, stream crossing
2. North Road, stream crossing

Overall, east side has fewer steep slopes than the west side.

Category	Pavement and ROW edge elev +/-	Description
1	0-2	Minimal grading changes required. Minor to moderate drainage modifications may be necessary.
2	2-4	Moderate cut-and-fill required. Moderate to major drainage modifications may be necessary.
3	4-7	Major cut-and-fill or retaining walls required. Limited blasting may be required.
4	7+	Extreme topographical challenge. May require extensive cut-and-fill, ROW acquisition, large retaining walls, blasting, or boardwalk structures

### Comparison of Topographic Complexity by side



### Segment 3: Morse Hill Road to North Road



## Physical Constraints

While there is a 4-rod ROW width through much of the corridor, some physical constraints limit where the pathway may be placed. Some of these constraints may be encroachments within the ROW while some may be grandfathered in through historical deeds. The designs proposed in this study attempt to avoid these existing constraints.

Documented constraints include:

- existing structures
- fences
- stone walls (some of which may be historically significant)
- large trees
- areas where the ROW edge is less than 33' (2 rods) from the existing centerline \*based on VTrans ROW data

Constraints documented here do not include the following:

- steep slopes (covered separately in the pages above)
- utilities (covered in separate analysis)

centered on ROW in area south of Dorset Orchard Rd- as a result, there is limited space within ROW on east side there.

- several large trees

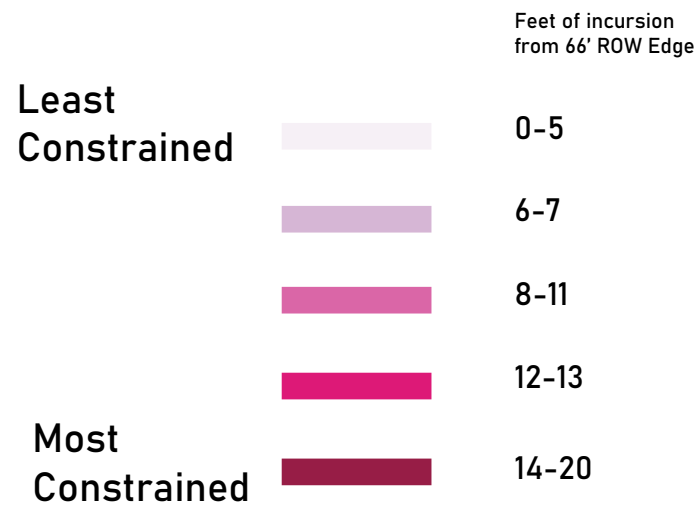
On West side:

- several houses and garages are close to the road edge

### Physical Constraints - Segment 1

On East side:

- HN Williams building is close to the road.
- existing centerline appears to not be



Limited space in front of H N Williams

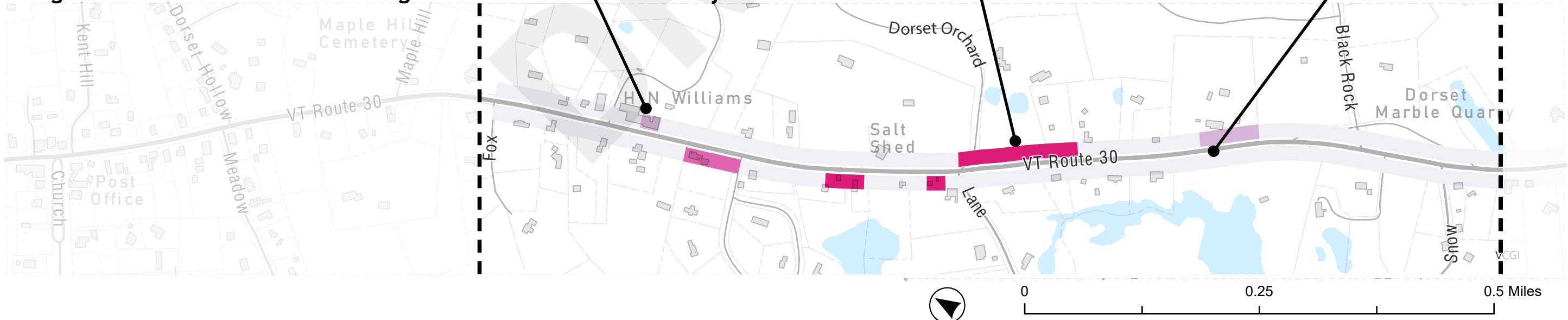


Significant tree and limited ROW on east side of VT 30



West side of VT 30 generally unobstructed here

## Segment 1: Dorset Village to Dorset Quarry



## Physical Constraints - Segment 2

- some large trees
- houses and garages

On East side:

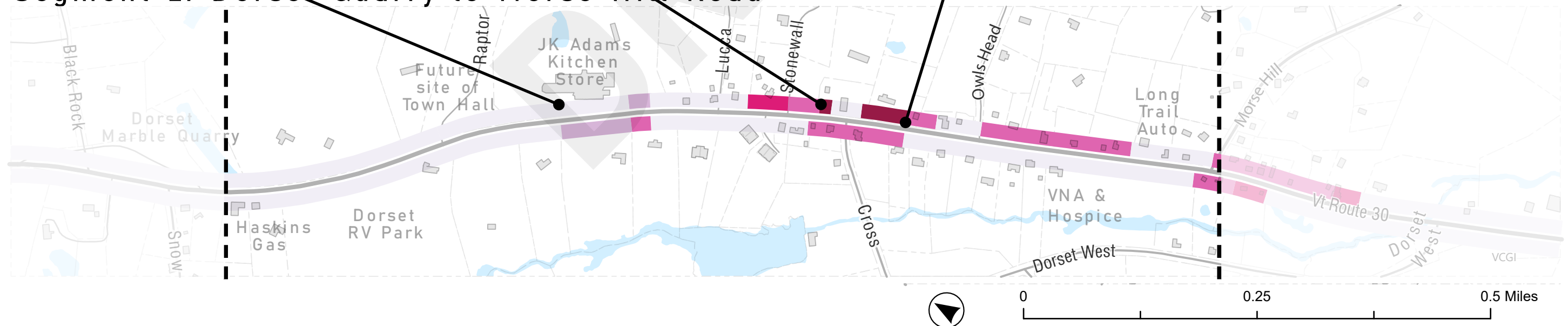
- many stone walls
- J K Adams has stone walls and large trees within 4-rod ROW

On West side:

- some stone walls, although fewer than east side



## Segment 2: Dorset Quarry to Morse Hill Road



### Physical Constraints - Segment 3

On East side:

- large trees
- houses, some of which have front entrances facing VT-30
- garage structures

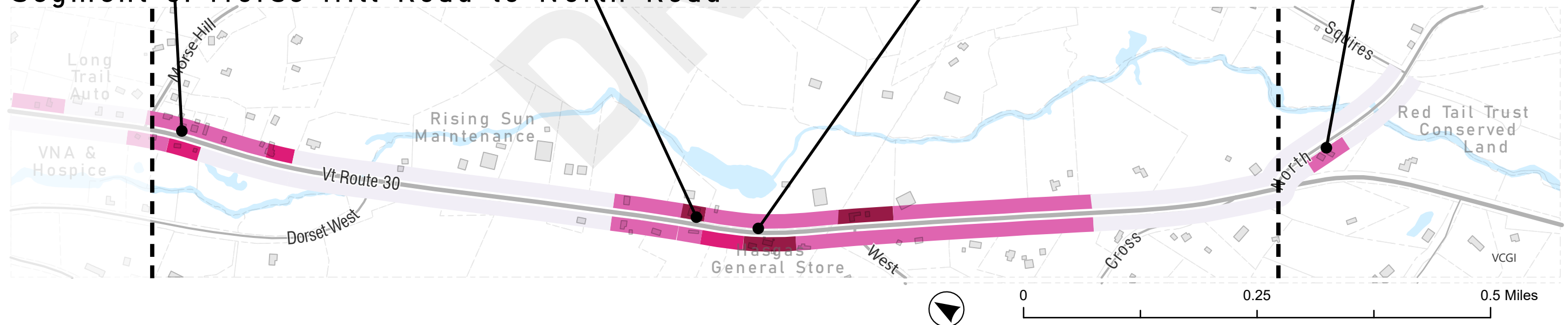
On West side:

- some stone walls

- garage structures
- Hasgas gas pumps- cars on the east side of the pump are very close to road edge.

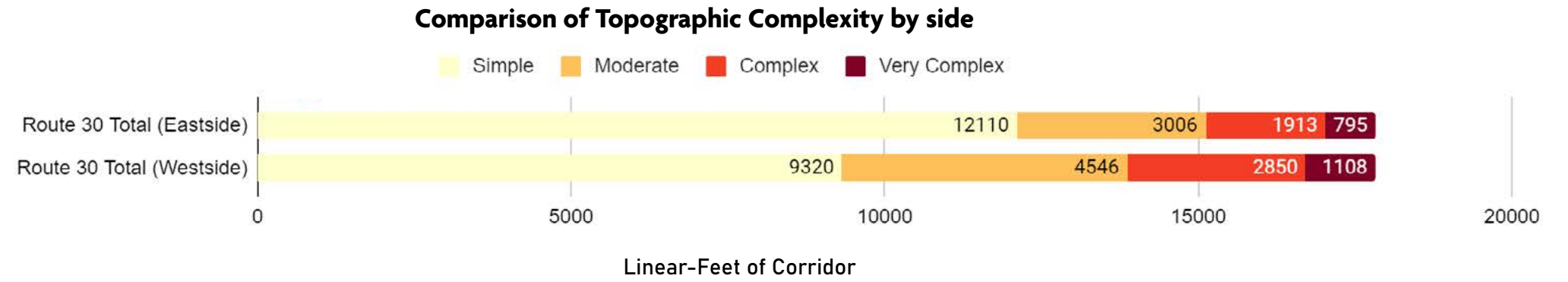


### Segment 3: Morse Hill Road to North Road



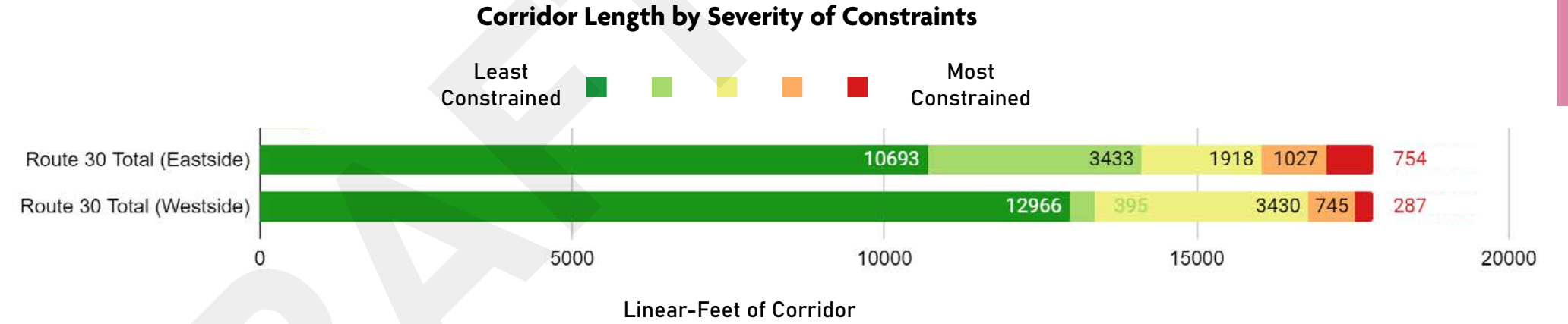
## Which side has less topographic complexity?

East side has less moderate to complex topography.



## Which side has fewer constraints?

The West side has fewer physical constraints.

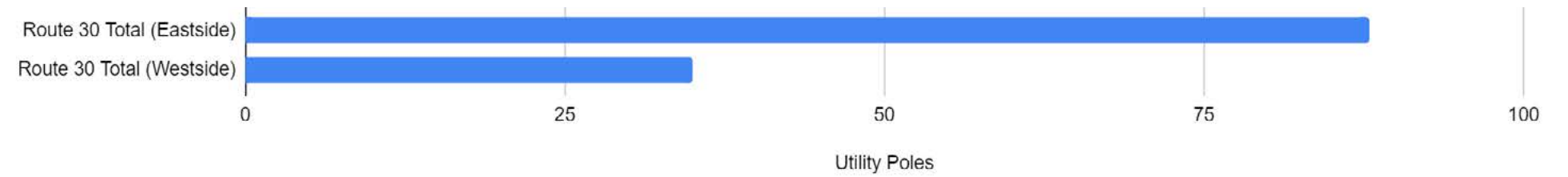


## Which side has more utility impacts?

East side currently has more utilities, likely placed there due to easier topography, as well as more stormwater infrastructure.

The stormwater analysis excludes culverts perpendicular to the road as they would have to be widened or modified on whichever side the path is added. The analysis includes pipes and swales parallel to the road.

### Potentially impacted utility poles



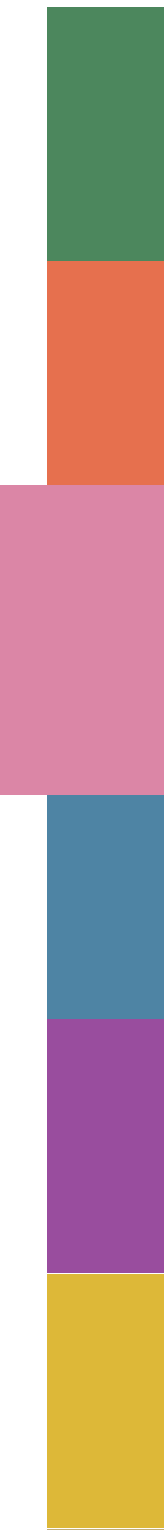
### Linear-feet of potentially impacted Stormwater Infrastructure



LF Stormwater Infrastructure

\*Excludes culverts perpendicular to the road which are likely to be impacted no matter which side the bike lane or shared-use path is placed.

DRAFT

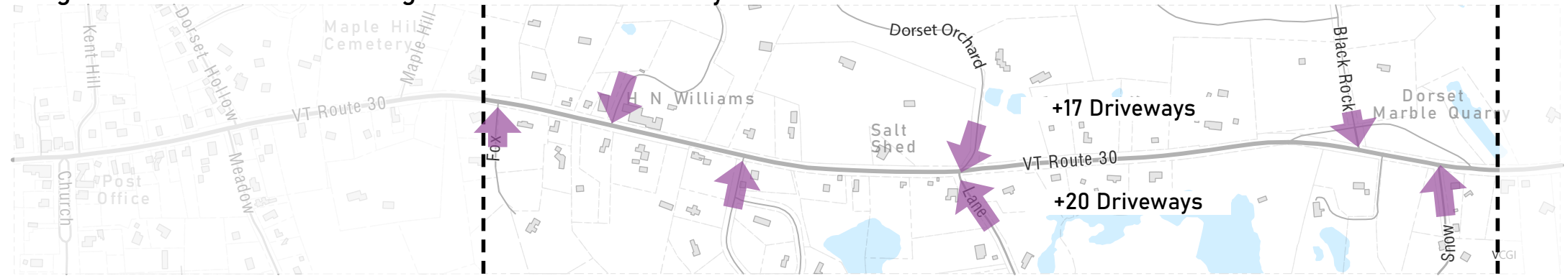


## Which side crosses fewer intersections and driveways?

Side of Vt-30	Intersections	Driveways
East	10	54
West	8	58

There are similar crossings for each side of the road.

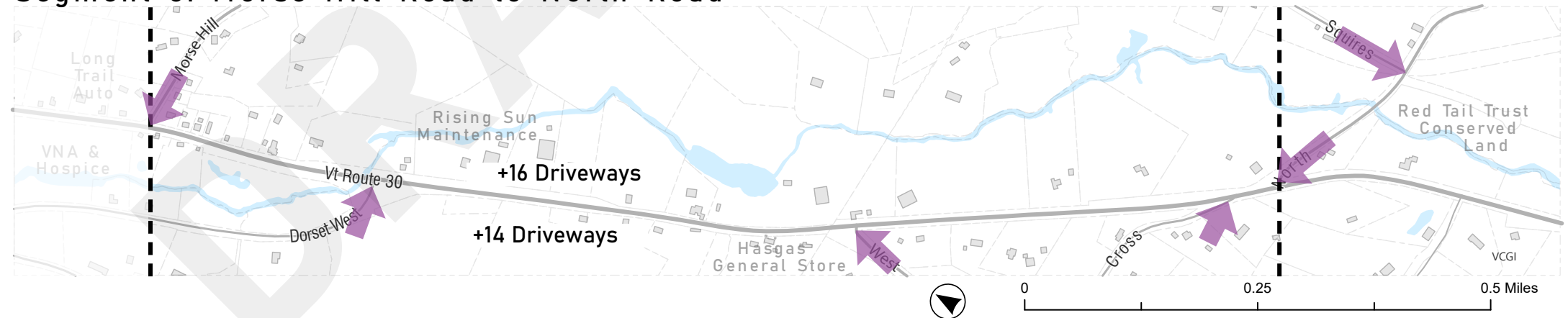
### Segment 1: Dorset Village to Dorset Quarry



### Segment 2: Dorset Quarry to Morse Hill Road



### Segment 3: Morse Hill Road to North Road





# DESIGN CONCEPTS





# Design Concepts

Three design concepts have been developed and presented to the public for input and feedback. Each of these designs is presented in the following pages through a combination of plan and section diagrams.

This chapter seeks to outline key constraints and opportunities of each design concept, and prepare the Town, VTrans, BCRC, and other partners to move a selected design concept towards design and construction funding.

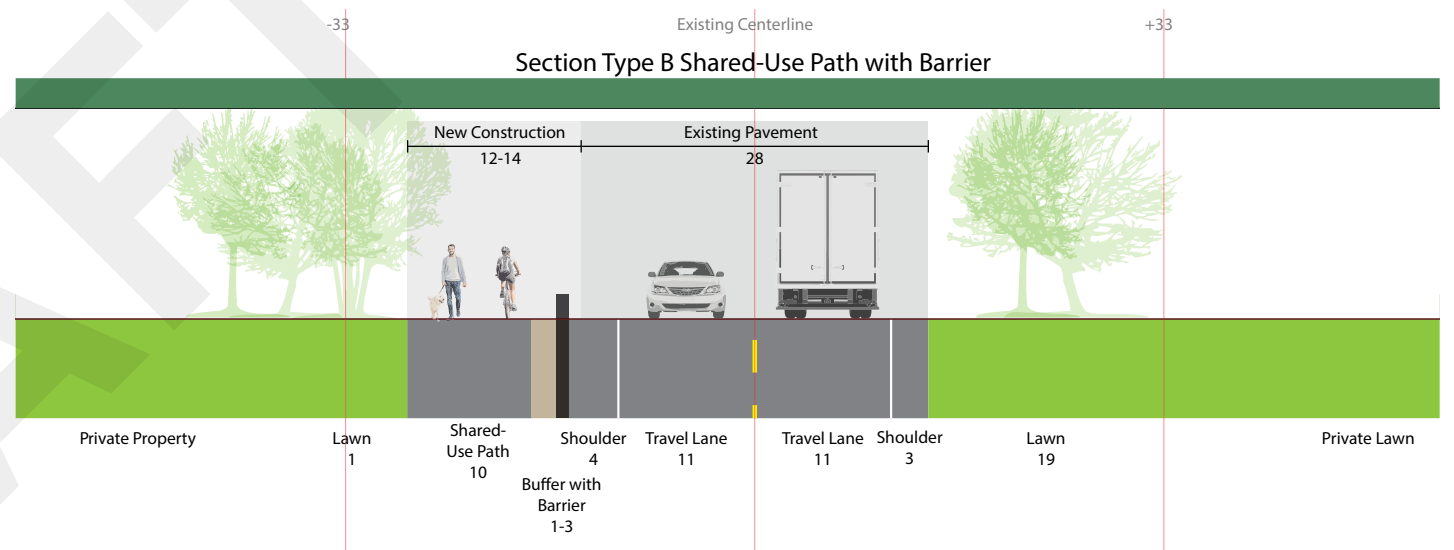
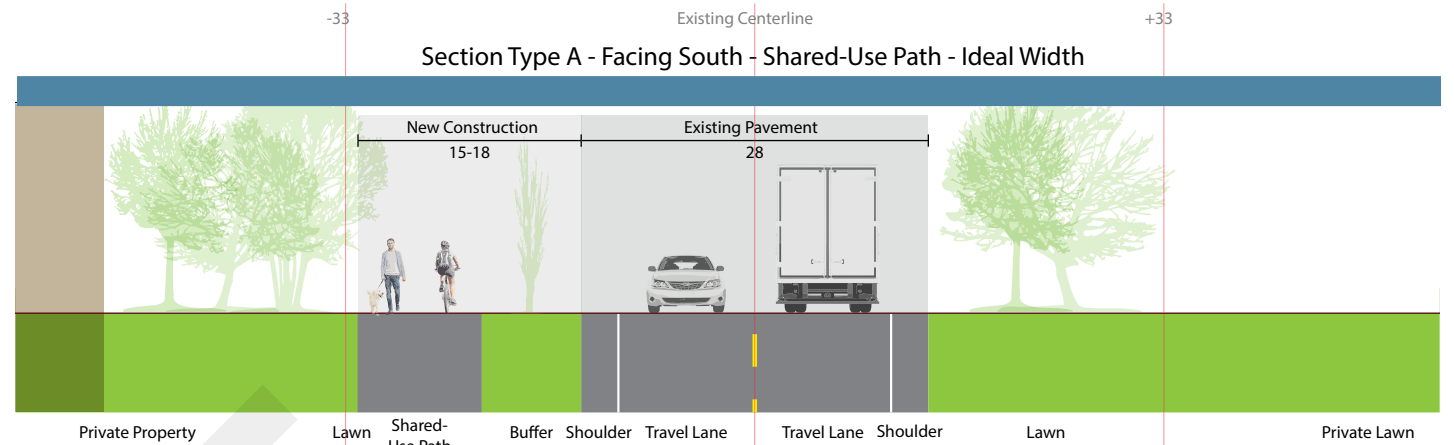
The design concepts were developed in order to minimize road crossings of VT 30 and explore how a contiguous active transportation corridor could be built as either a shared-use pathway or on-street bike lanes. Three design concepts are presented in this chapter:

- West Side Shared-Use Path
- East Side Shared-Use Path
- On-Street Bike Lanes

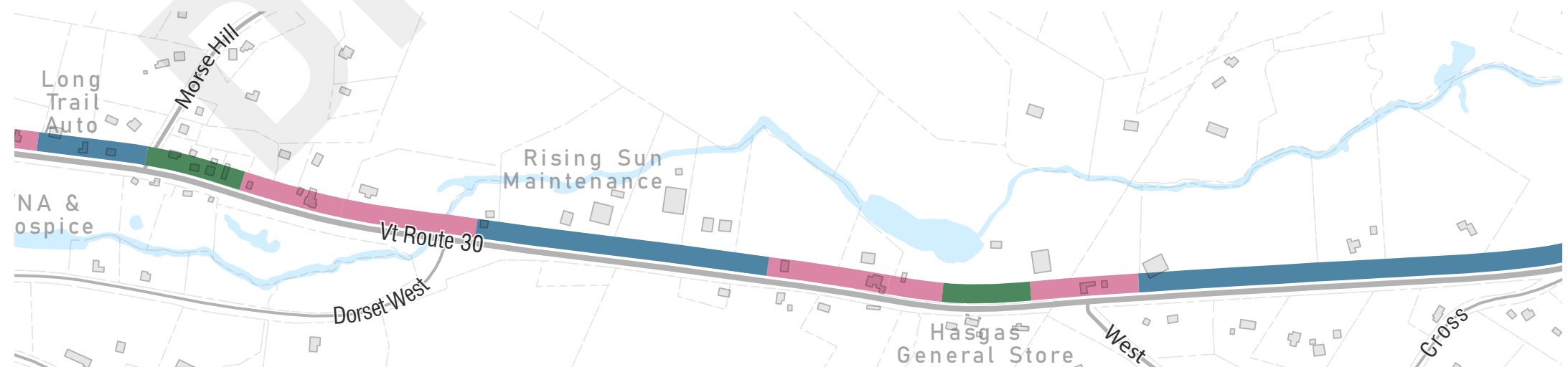
## Concept Presentation

This chapter presents each design concept through a series of unique cross sections. These cross sections are then applied to key maps to highlight how the VT 30 corridor would be affected by the construction of an active transportation facility to link Dorset with the Manchester Pathway trailhead on North Road.

These key maps provide additional detailed call-outs highlighting how each design concept would address constraints along the corridor.



Section Type	Description
A / I	Standard with buffer
B / C	Barrier or Curb
D / E	Barrier or curb with shift
F / G	Non-compliant with VTrans Standards
North Rd	Separate discussion



## Shared-Use Path Design Principles

Two of the three alternatives explored in this scoping study are shared-use paths. This type of facility is a bi-directional paved pathway physically separated from the roadway. Shared-use paths offer a high-quality experience for users of all ages and abilities when compared to on-street bike lanes.

Since shared-use paths are designed to accommodate pedestrians, cyclists, and other non-motorized users, it must be sufficiently wide to accommodate simultaneous use by two or more people in either direction. The absolute minimum width for shared-use paths is eight feet of pavement with sufficient horizontal clearance from obstacles on each side. Ten feet is preferred. In high-traffic areas, 12 feet is ideal. In the case of the design alternatives for the Dorset-Manchester shared-use path, ten feet is the desired width throughout the corridor.

A ten-foot pathway with generous separation space from traffic is obviously ideal, but the VT 30 corridor presents many spatial and technical constraints, such as existing privately owned buildings in close proximity to the roadway, significant trees that may be desirable to preserve, and challenging topography that may be cost-prohibitive to build on. Trade offs are sometimes necessary and the design hierarchy outlined below summarizes the design options available in constrained areas of the corridor.

These design principles are applied to the cross section types explained on the next pages.

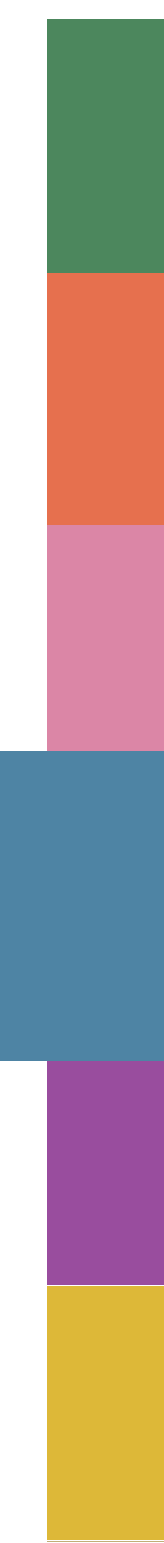
### Shared-use Path Design Principles

1. Maintain a ten-foot path and separation from motor traffic where possible
2. Reduce separation from traffic and add curb or barrier for comfort and safety
3. Reduce shoulder width
4. Shift centerline and reduce lane width
5. Shift road centerline and add pavement on both sides

Least  
Constrained  
Areas



Most  
Constrained  
Areas



# Shared Use Path Cross Sections

## Ideal width - Pathway with Wide Buffer

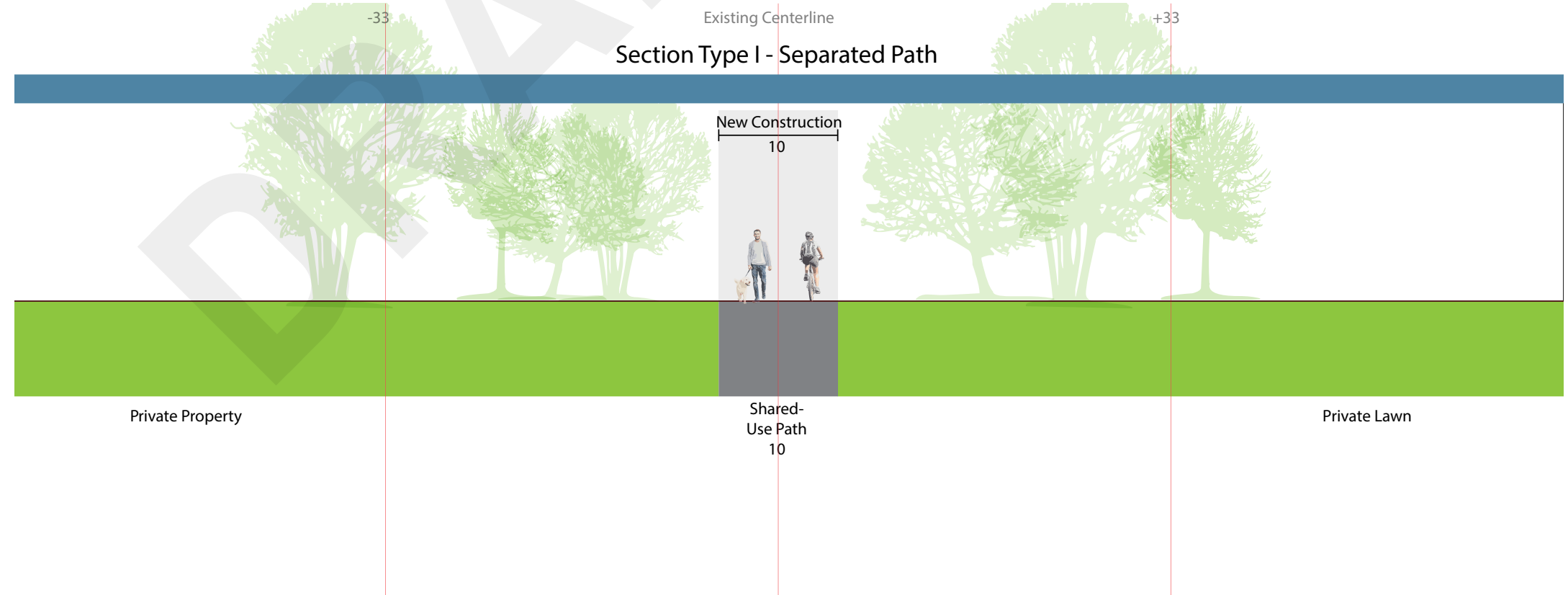
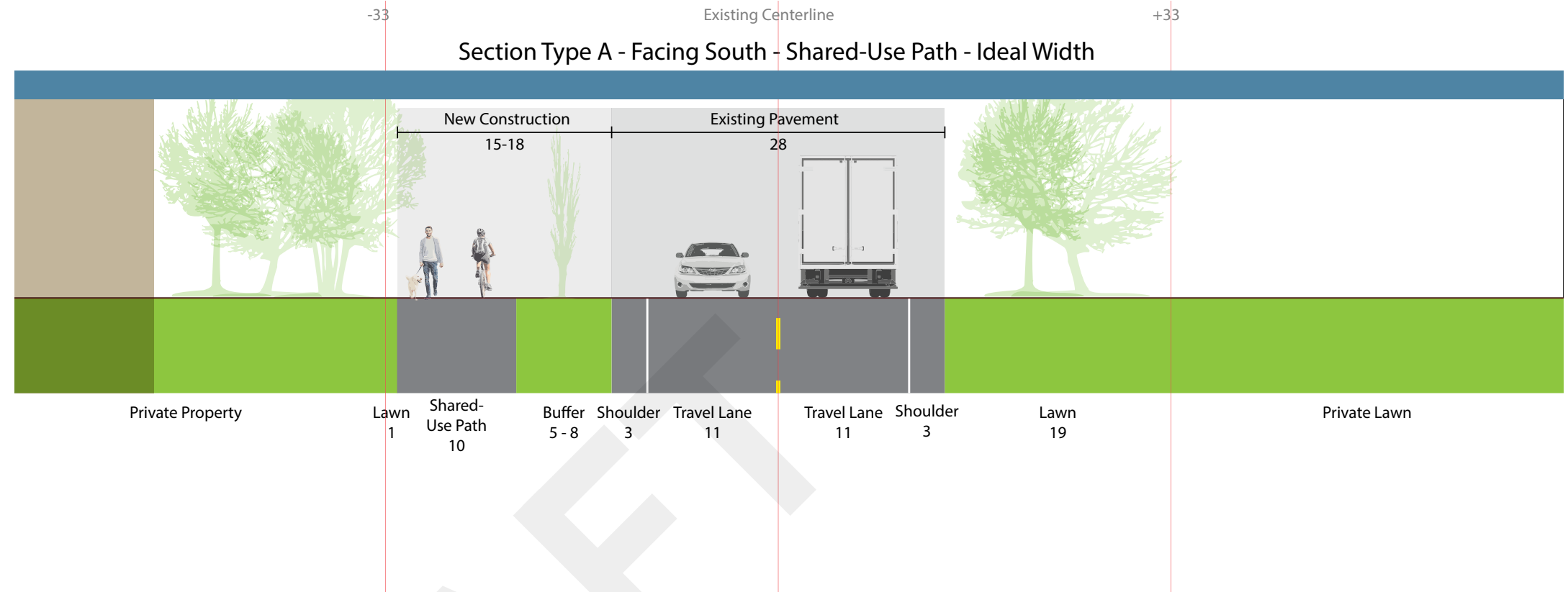
To maximize comfort and safety for pathway users, the paved path should be located towards the outer limits of the public right-of-way. At a typical width of four rods (66 feet), this allows for a five-to-eight foot separation from the edge of pavement.

The diagrams at right are typical sections and do not include elevation; however, the pathway can be situated slightly higher, lower, or in-line with the roadway as long as there are sufficient provisions for stormwater drainage, such as swales or culverts.

The unpaved buffer between the roadway and the path may be enhanced with species of trees with a maximum diameter of four inches to minimize impacts on sightlines<sup>1</sup>

Section Type A and Section Type I are both well-separated from traffic. Section Type I describes when the pathway is located outside of the VT 30 right-of-way, either on an old road corridor or with an easement on private property.

VTrans design standards for “minor arterial” highways like VT 30 include a four foot minimum width for shoulders where design speeds are between 40 and 50 mph. Section Type A is designed to add a separate shared-use path while leaving the road and shoulders as-is. In some cases, the existing roadway does not meet current VTrans shoulder width standards.

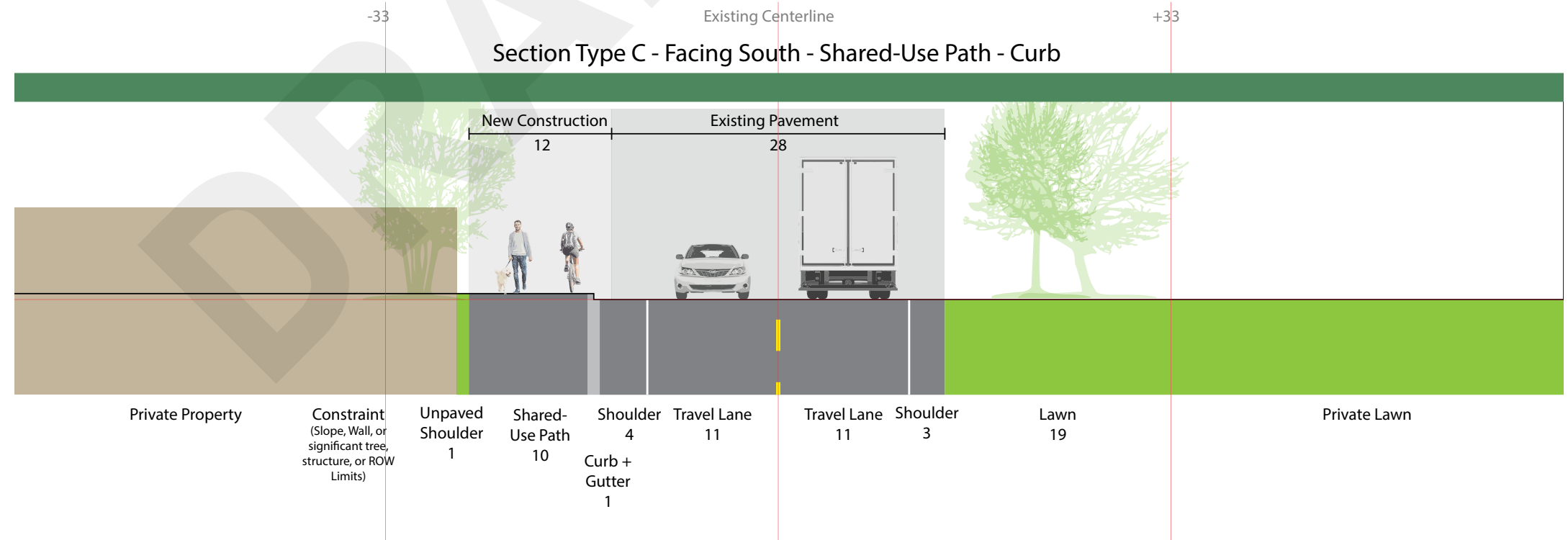
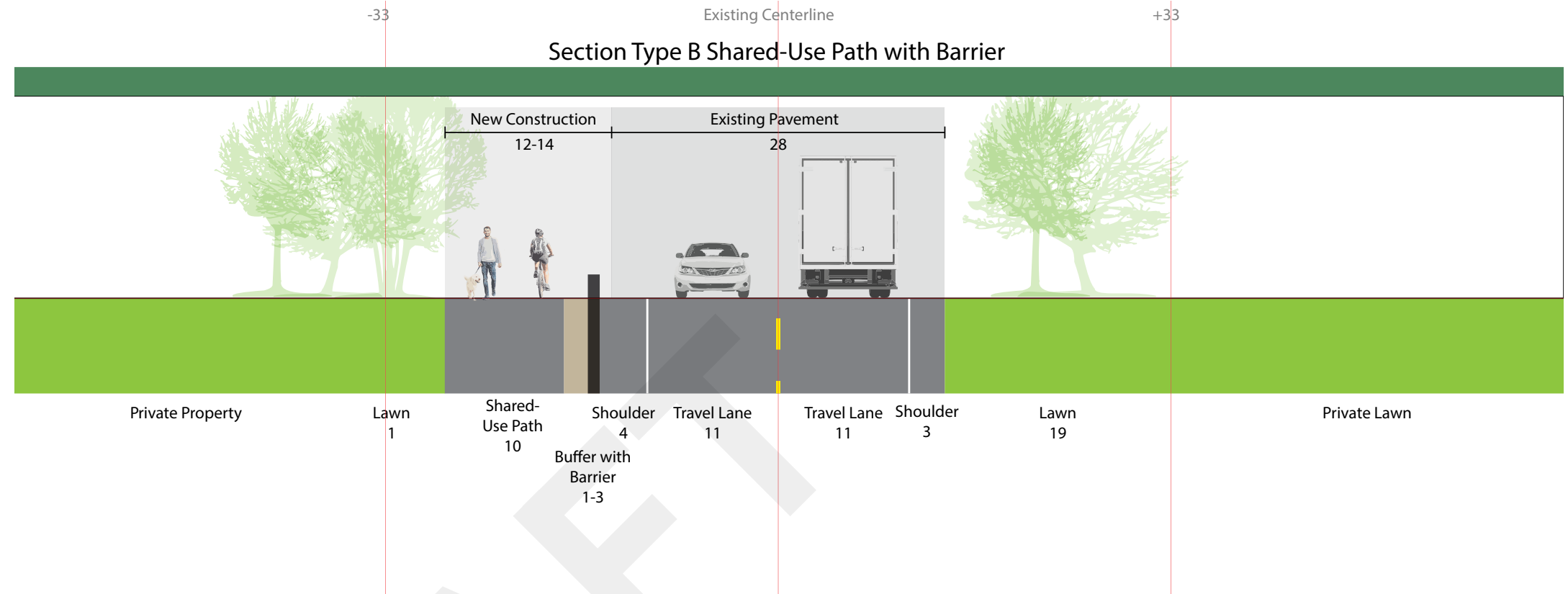


<sup>1</sup> Trees that will grow to a diameter below four inches are not considered “fixed objects” by the AASHTO Green Book and can be placed within the “clear zone”. The clear zone is the space beside the roadway to be kept free of obstacles in case an errant vehicle steers off the road.

## Sections B/C - Minor Constraints

In locations where there are minor constraints that could be avoided with a slightly narrower section, a barrier or curb can be used to maintain physical separation from traffic. This reduces the separation distance from the shared use path to the edge of the shoulder from 5-8' to 1-3'.

Similar to Section Type A on the previous page, the diagrams at right are typical sections and do not include elevation; however, the pathway can be situated slightly higher, lower, or in-line with the roadway as long as there are sufficient provisions for stormwater drainage, such as swales or culverts.

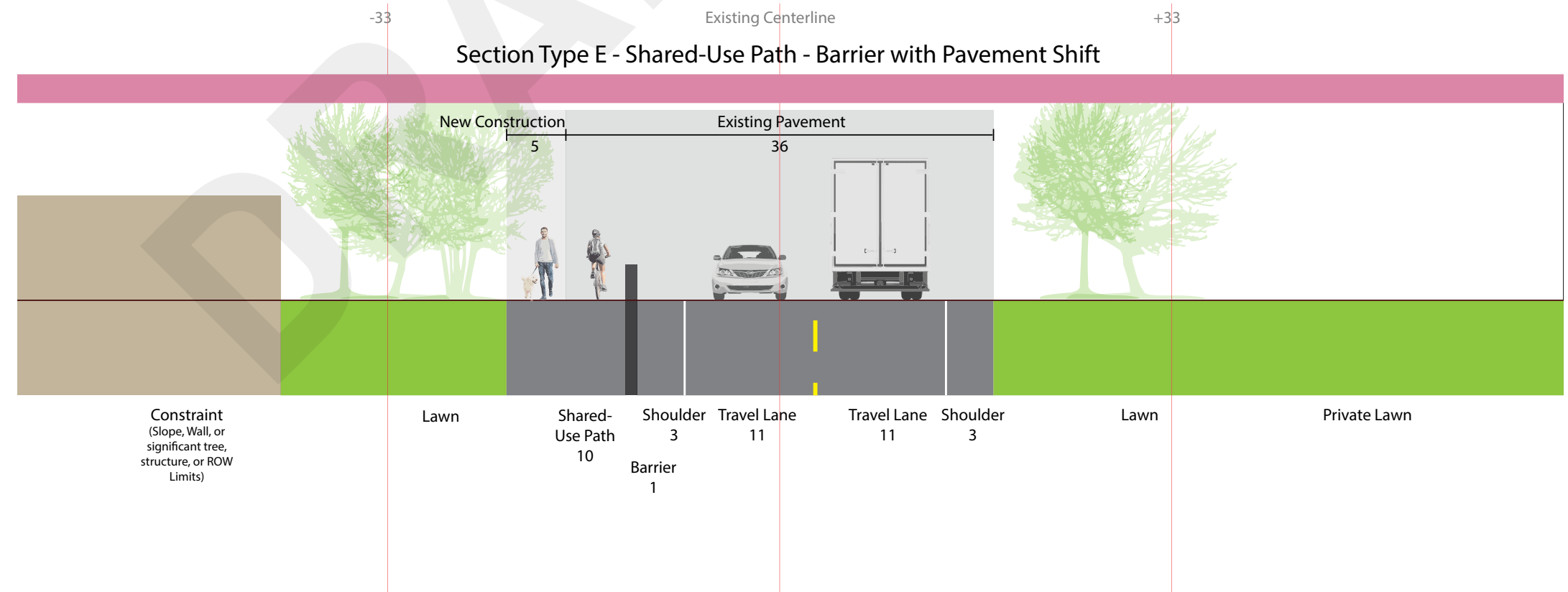
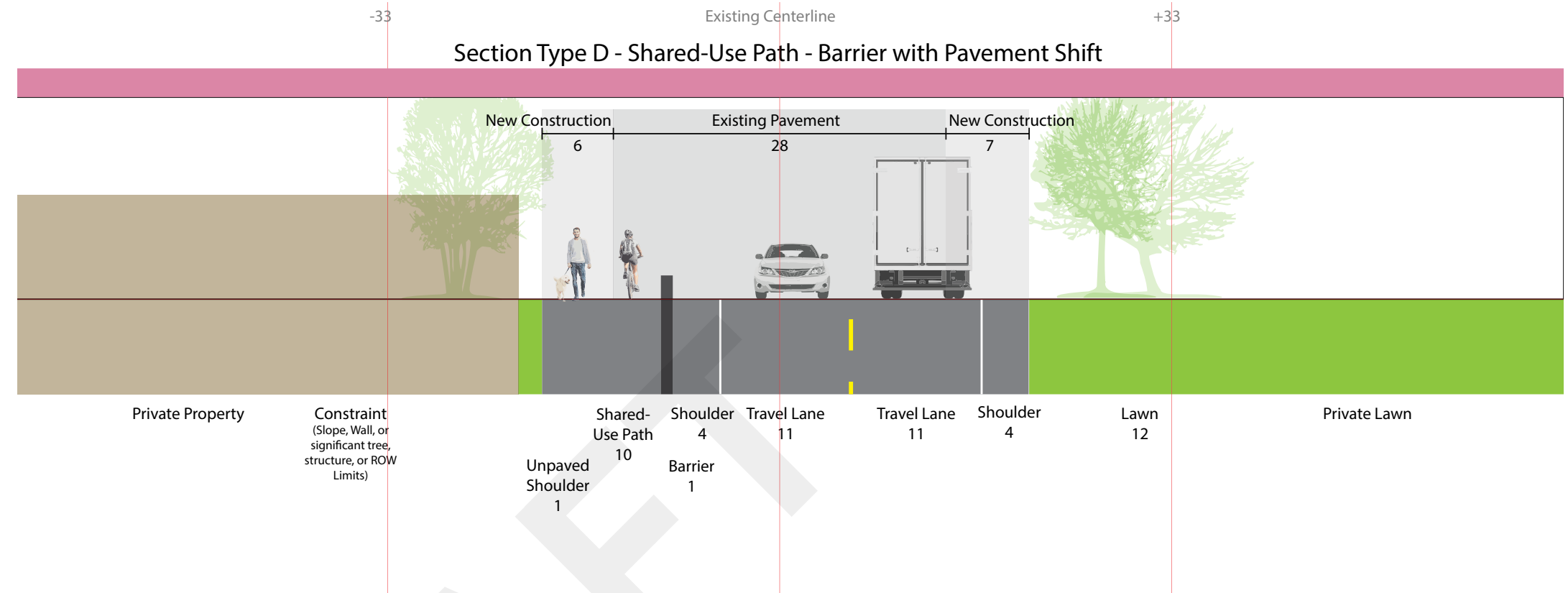


## Sections D/E Major Constraints

Major constraints are those that are very close to the existing roadway and cannot be moved, such as houses or stone walls. Pavement shift means that the section remains within the existing ROW, however the centerline of the road would be shifted in one direction.

Section Type D describes an instance where the existing pavement is 28' and a centerline shift balances the new construction on either side of the roadway.

Section Type E describes an instance where the existing pavement is 36' (indicating a wide shoulder) and a centerline shift will continue to maintain a minimum shoulder of 3-4' on one side and requires new construction on the opposite side only.



## Sections F/G - VTrans Standard Flexibility Required

Current VTrans standards stipulates that state highways like VT 30, classified as “minor arterials” with a design speed of 40 to 50 mph, should have 11-foot lanes with at least four-foot shoulders on each side, which means roads maintained by VTrans should have a minimum road profile of 30 feet.

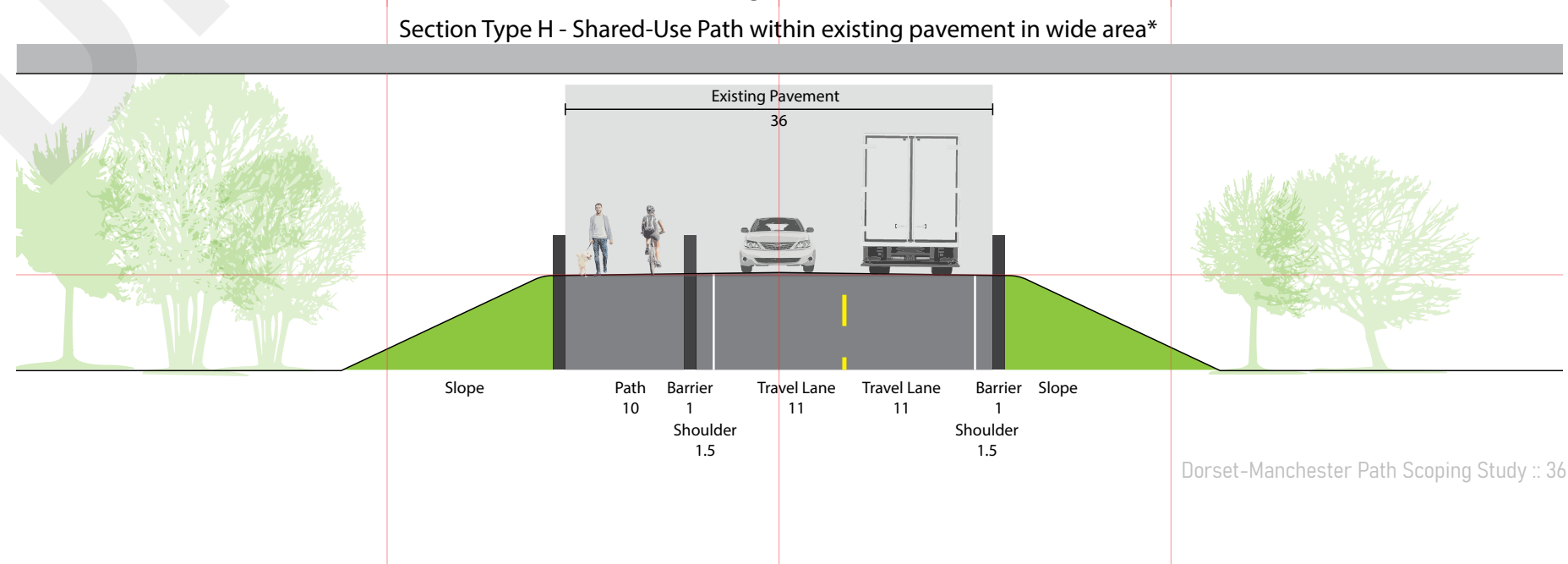
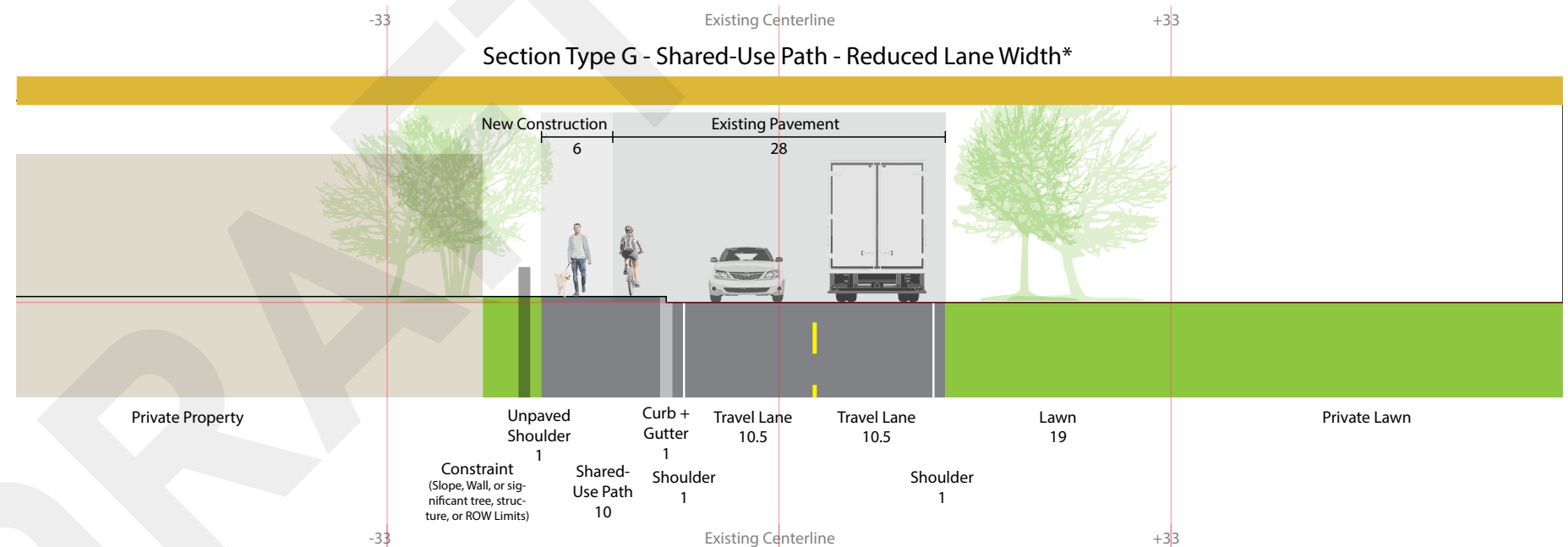
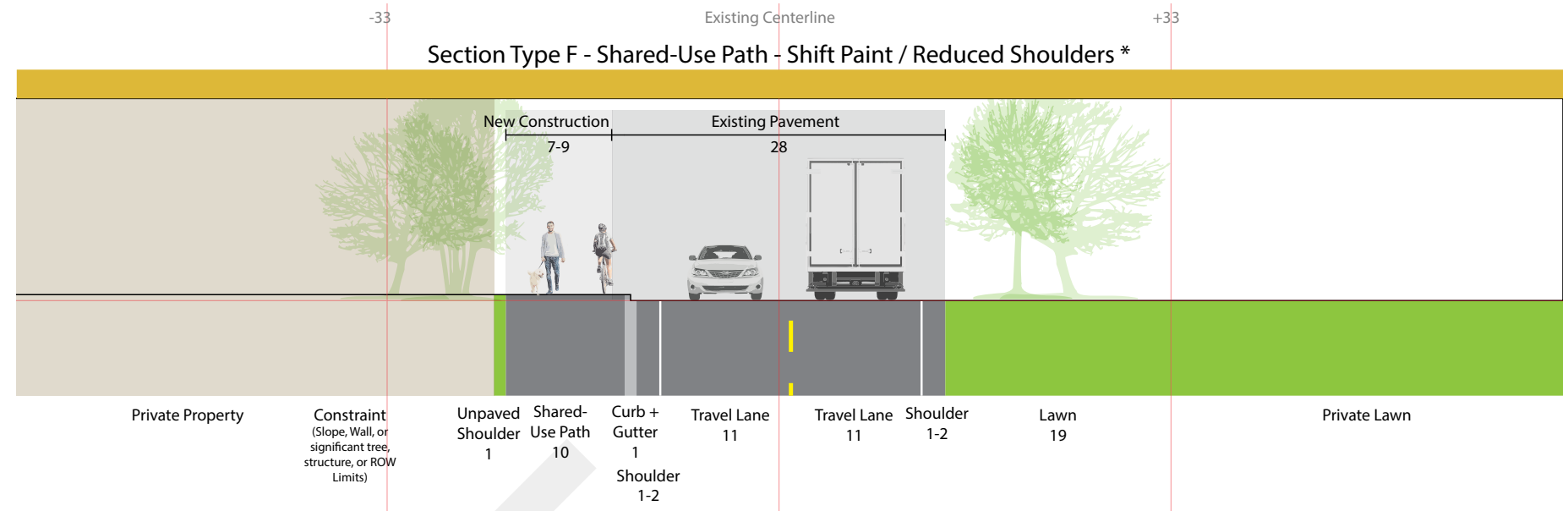
However, much of the current highway does not meet these shoulder width standards, and strict compliance with these standards during any roadway reconstruction drives up construction costs and complexity, particularly in constrained areas with severe topological challenges. In these areas, road widening for the addition of a shared-use path may require land acquisition, the construction of significant retaining walls, rock blasting, and slope stabilization.

Flexibility with lane width and clear-zone standards may result in significant cost savings, particularly if reduced shoulder and lane width allows the project to avoid major geotechnical work.

The alternatives included in this project assume full compliance with VTrans clear-zone standards, but section type D and E may be substituted with types F, G, or H if VTrans permits flexibility with lane- and shoulder-width standards or if the Town pursues a Class I highway conversion.

Class I highways require the Town to take over snow removal and other maintenance responsibilities.

If VTrans does not allow flexibility with shoulder width standards, the Town should consider reducing design speed and corresponding speed limit of the corridor to 35 mph as three-foot shoulders are permissible instead of four-feet at 40 mph.

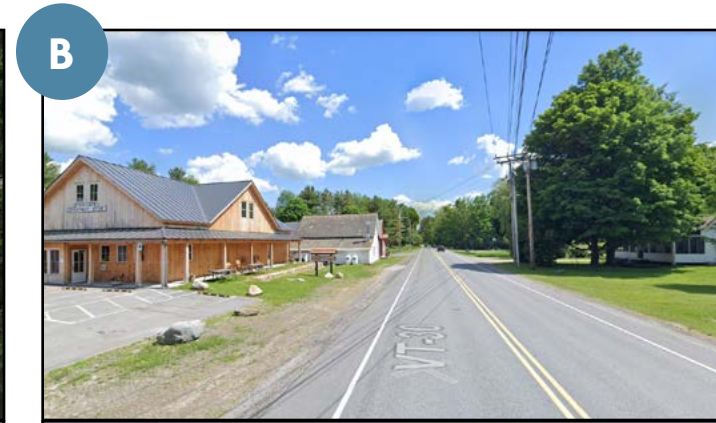


# Eastside Pathway Segment 1

Recommended section types, design recommendations, and challenges or constraints.



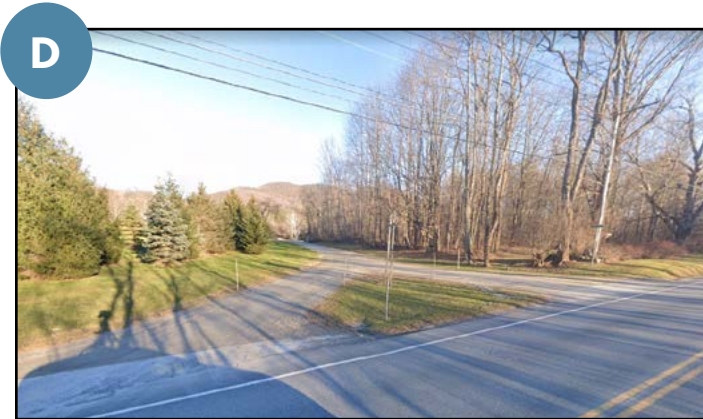
**A** Move the fence approximately 3 feet and restore the yard.



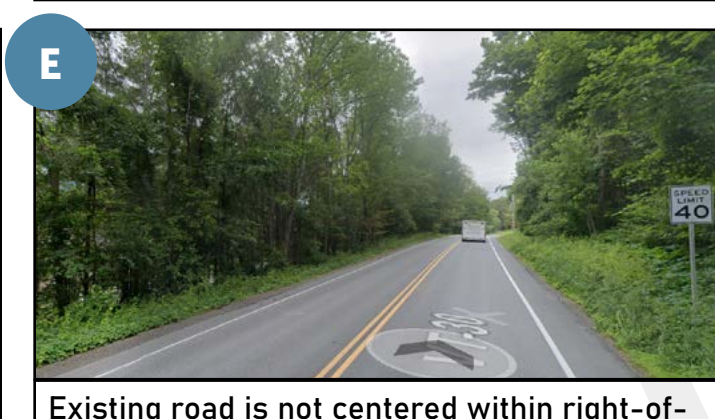
**B** Use a curb instead of barriers to reduce visual impact in front of H. N. Williams.



**C** Shift pavement and centerline 5ft to avoid steep slope and trees OR, with property owner support, acquire easement, remove 11 trees, and re-grade slope.



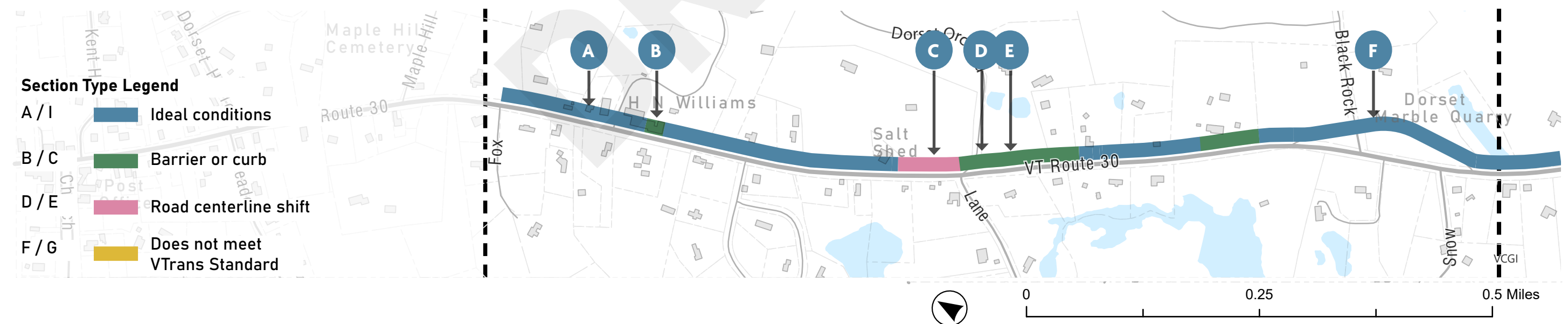
**D** Simplify the Dorset-Orchard intersection.



**E** Existing road is not centered within right-of-way due to slopes on the west side. Build path to right-of-way edge without barrier, but no grass buffer.



**F** With private property owner support, use old Kelly Rd alignment for separated path with easement OR path along VT 30.



## Eastside Pathway Segment 2

Recommended section types, design recommendations, and challenges or constraints.



Use the Town-owned parcel and locate the path outside of VT 30 right-of-way for increased separation from traffic.



With property owner support, acquire easement behind stone wall for a pathway through picnic area, OR move the stone wall, modify drainage swale, and locate the pathway beside roadway.



Shift pavement and centerline 7 ft to avoid stone walls and houses on the east side and minimize impacts to the west side.



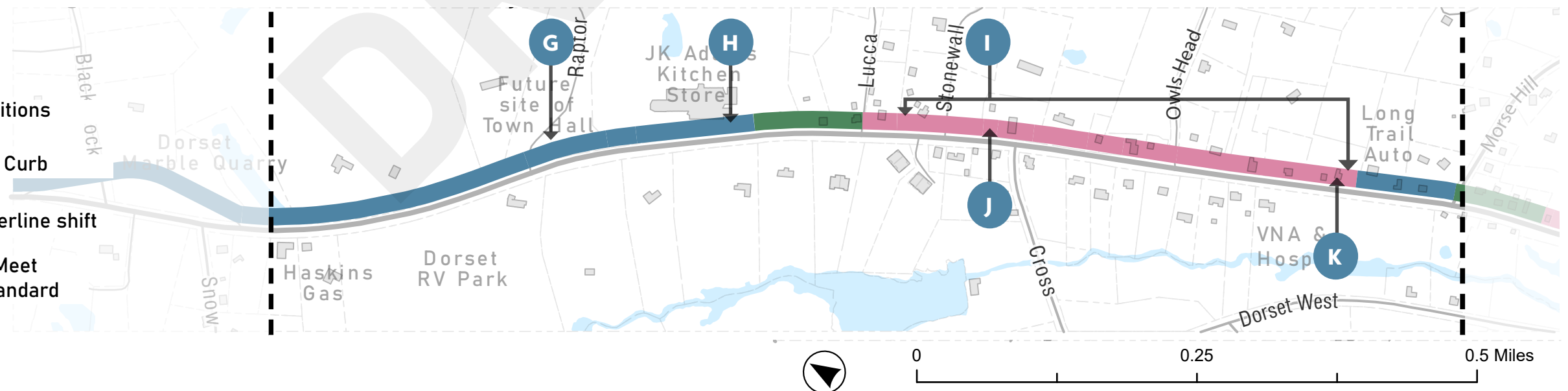
Shift road to avoid ~70 ft of stone wall at 1148 VT 30 (Misai & Misai), currently located within 2 ft of pavement edge.



Relocate fences at 860 and 862 VT 30.

### Section Type Legend

- A / I  Ideal conditions
- B / C  Barrier or Curb
- D / E  Road centerline shift
- F / G  Does not Meet VTrans Standard





## Eastside Pathway Segment 3

Recommended section types, design recommendations, and challenges or constraints.



Existing pavement widens from here to the south. Shift lines on existing pavement to allocate extra space for a pathway on the east side. Widen as necessary. Trees will be impacted, particularly outside of 612 VT 30.



Avoid changes to the causeway or stream crossing.



Shift centerline to reduce slope impacts and minimize regrading of the driveway.



Shift centerline by 5 ft to avoid a private garage structure.



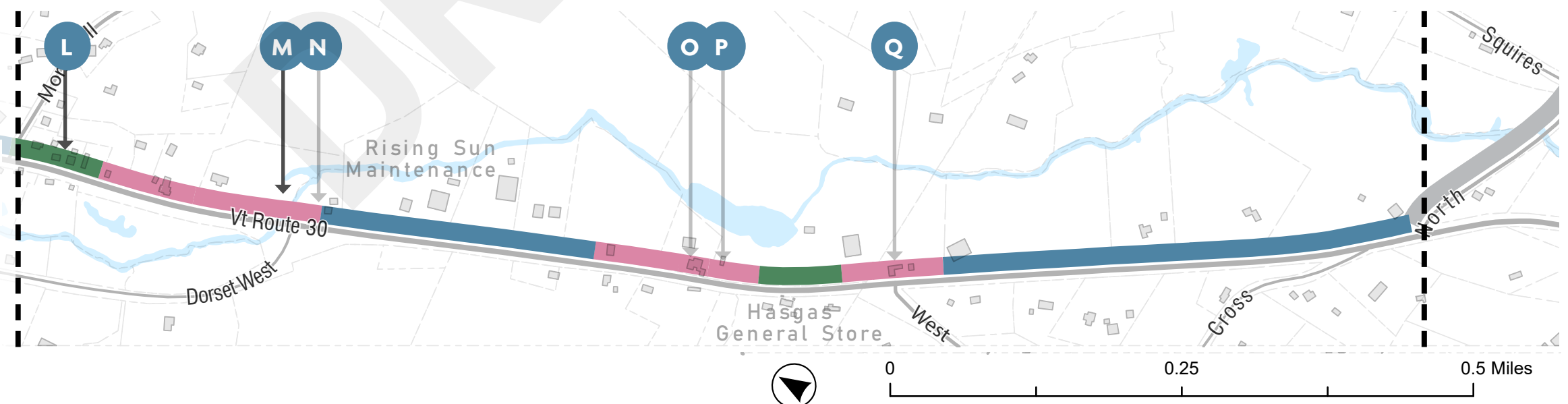
Shift centerline by 3 ft to reduce slope impacts on the east side and avoid a stone wall on the west side. Re-grading of the driveway and retaining wall may be needed.



Shift centerline to avoid a private house.

### Section Type Legend

- A / I  Ideal conditions
- B / C  Barrier or Curb
- D / E  Road centerline shift
- F / G  Does not Meet VTrans Standard
- North Rd  Separate discussion



# Westside Pathway Segment 1

Recommended section types, design recommendations, and challenges or constraints.



Move fence 3 feet and restore the yard.



Shift centerline east by 3 ft to avoid private property impacts.



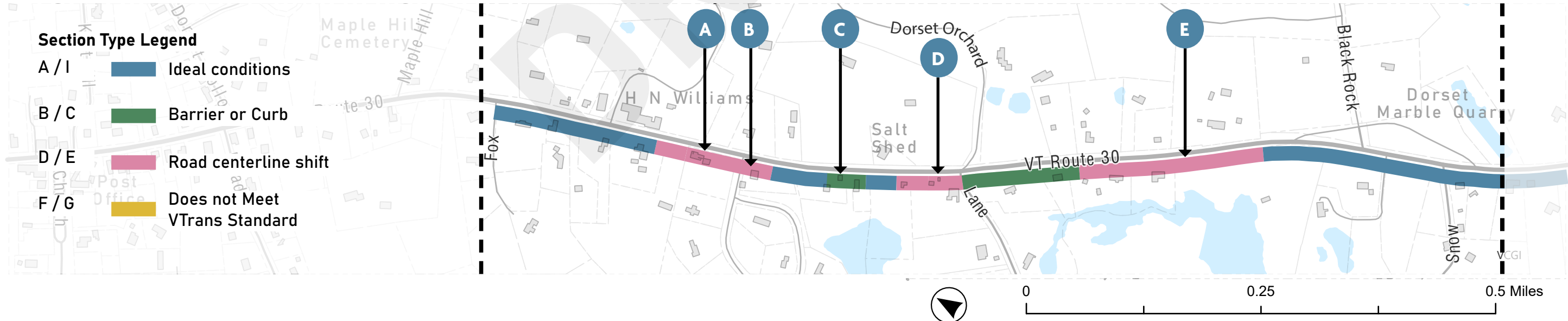
Retaining wall or remove select trees and re-grade slopes.



Pathway will be within 11 feet of a garage structure



Significant fill necessary due to slope on west side. A retaining wall may be necessary.



## Westside Pathway Segment 2

Recommended section types, design recommendations, and challenges or constraints.



Shift centerline 6 ft to avoid impacts to the stone wall on west side.



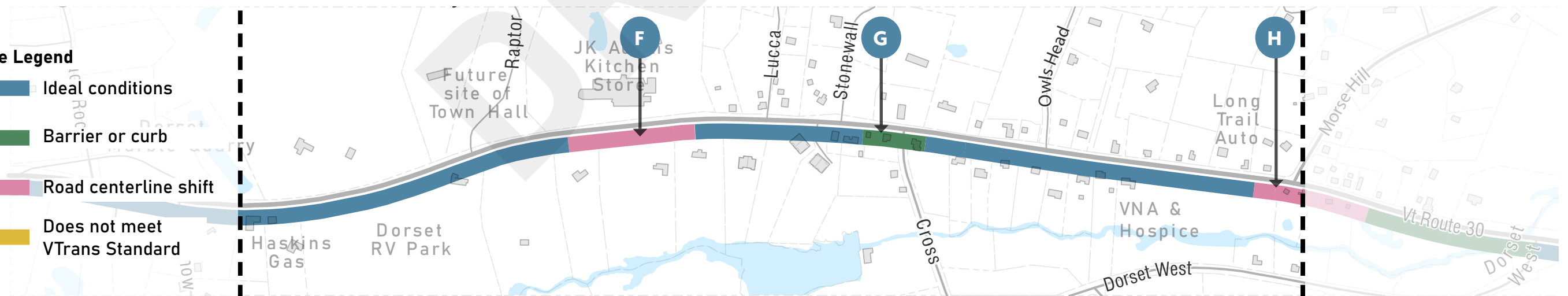
Use a curb instead of a barrier to reduce the visual impact in front of houses.



Shift centerline by 11 ft to avoid impacts to a private driveway.

### Section Type Legend

- A / I  Ideal conditions
- B / C  Barrier or curb
- D / E  Road centerline shift
- F / G  Does not meet VTrans Standard



## Westside Pathway Segment 3 (part a)

Recommended section types, design recommendations, and challenges or constraints.



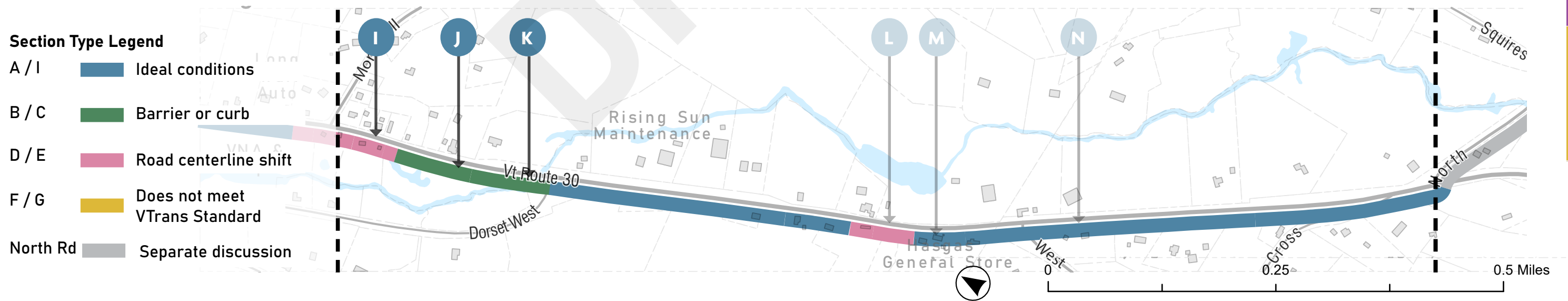
Shift centerline by 4 feet due to proximity to houses and a fence on west side.



Existing pavement widens from here to the south. Shift lines on existing pavement to re-allocate extra space for pathway on the west side. Widen as necessary.



Existing pavement is over a wetland and major culvert. Widening is likely to require significant slope modification.



## Westside Pathway Segment 3 (part b)

Recommended section types, design recommendations, and challenges or constraints.

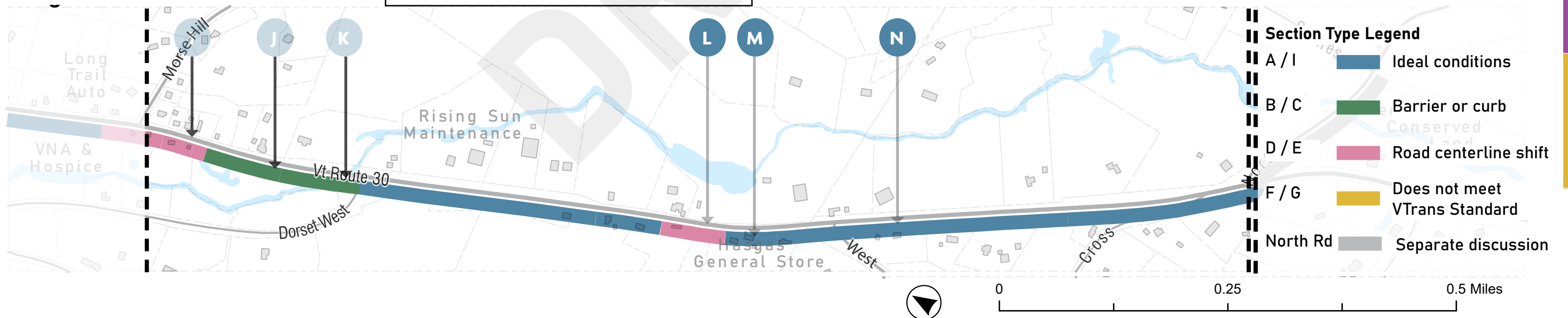


**L** Shift centerline by 5 ft to reduce slope impacts and avoid the stone wall on the west side. Significant re-grading of the driveway to 44 VT 30 may be necessary. Add retaining wall.

**M** With Hasgas's property owner's support, acquire easement behind the general store and route the shared-use path behind the commercial area to minimize impact on motor traffic circulation.  
OR, if the property owner is not supportive, shift centerline by 12 ft, add retaining wall on east side; and create a shared-use path with barriers on both sides with designated vehicle access entry and exit points.



**N** Build trail to ROW limits. Some trees will be impacted, unless the property owner agrees to an easement that allows a path to go behind the trees.



## Bike Lane Design Principles

The third alternative explored in this scoping study is on-street bike lanes. This would be on both sides of the road.

Bike lanes offer a higher-quality experience for cyclists as opposed to that of a shared use path since it does not have the same width and buffer as a shared-use path.

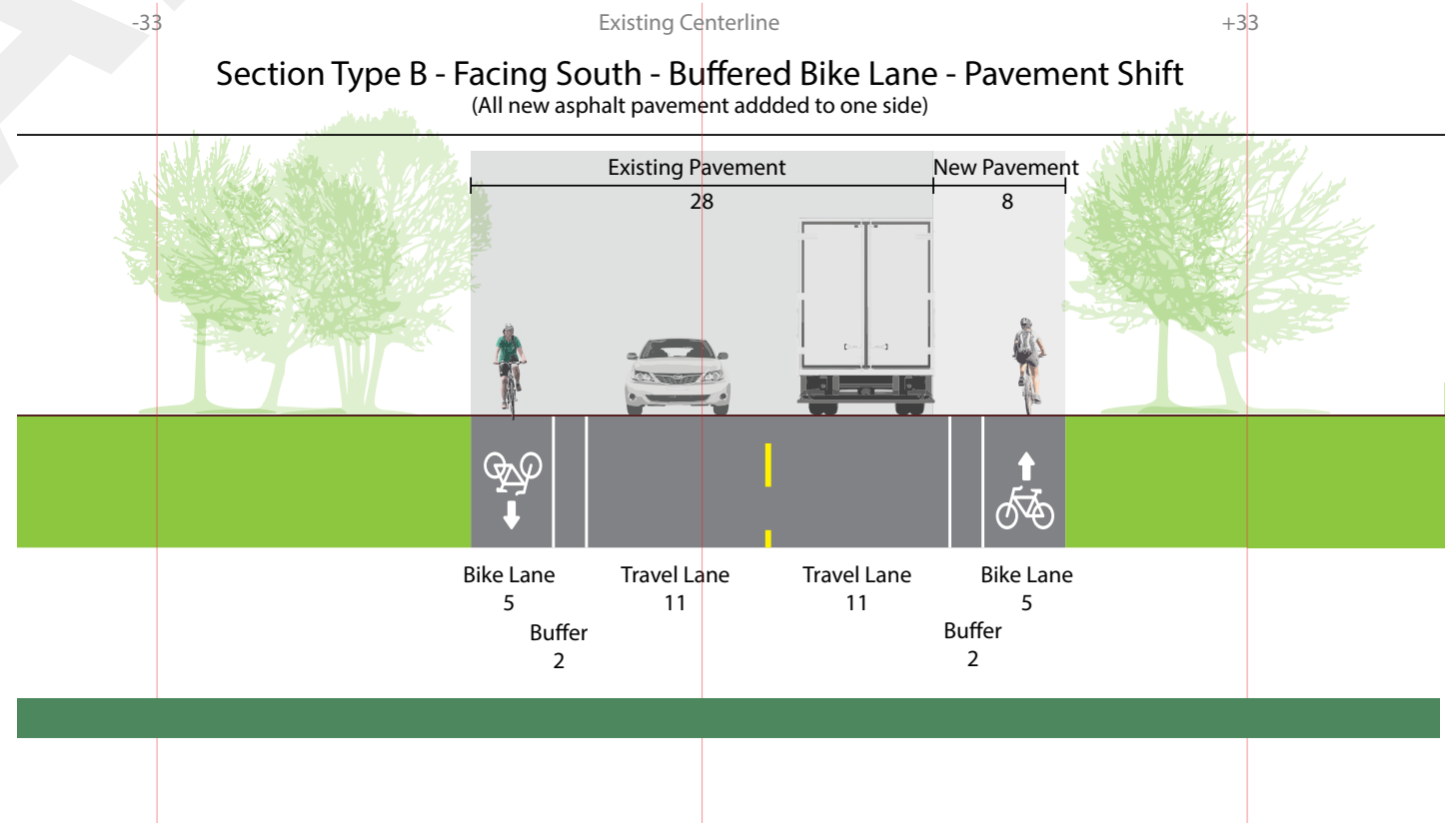
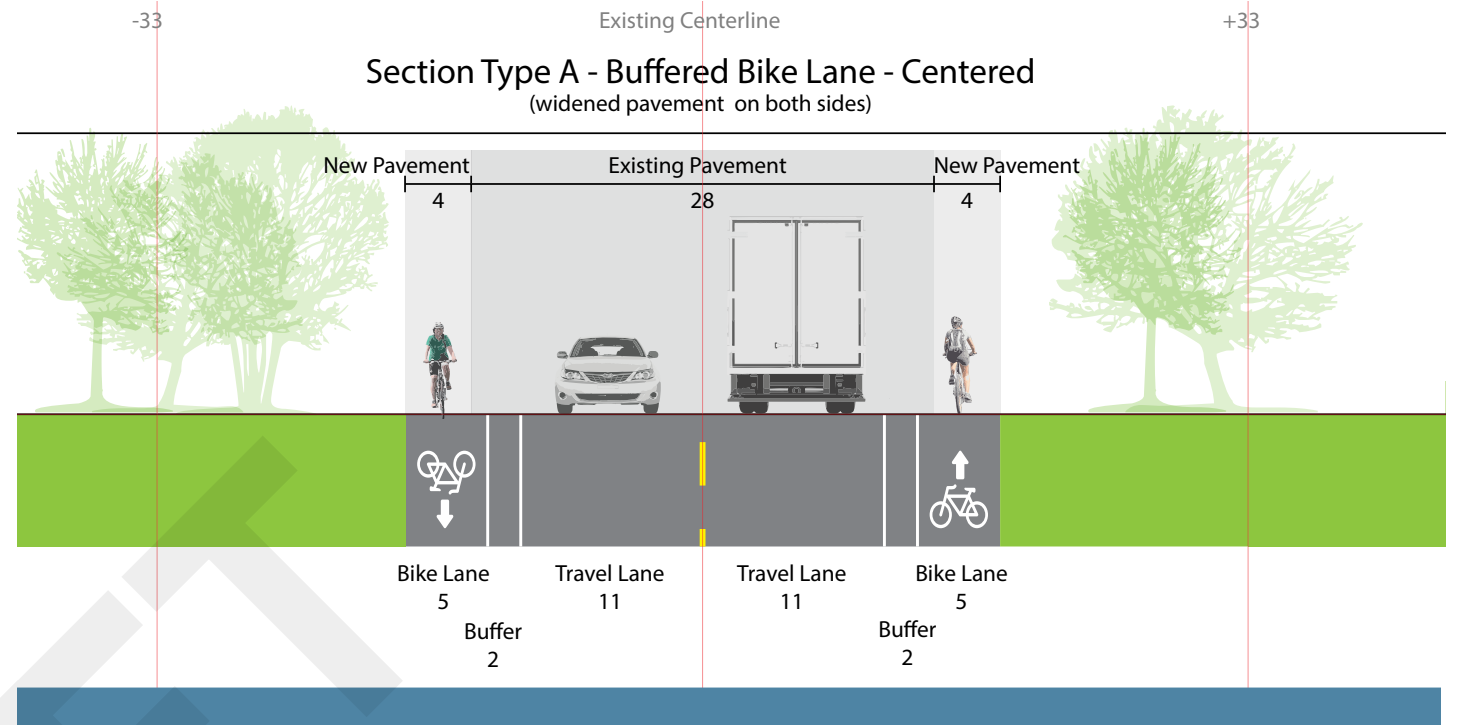
Design principles are contained in the graphic below.

### Design Principles - Bike Lanes

Least  
Constrained



Most  
Constrained

1. Maintain 5-ft path and 2-ft buffer where possible
2. Shift centerline and add pavement on one side where necessary
3. Reduce motor vehicle travel lane width to 10 ft where required.
4. Remove buffer space if necessary, but restore 11-ft travel lanes

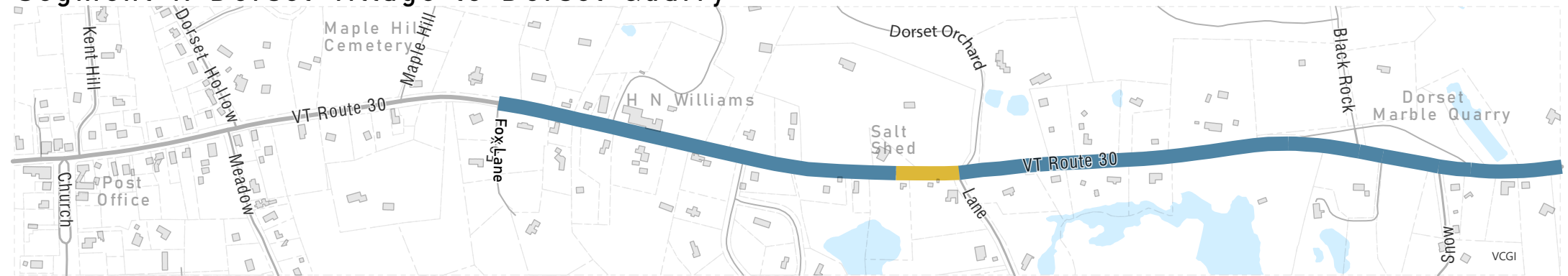


## Alternative 3- Bike Lanes

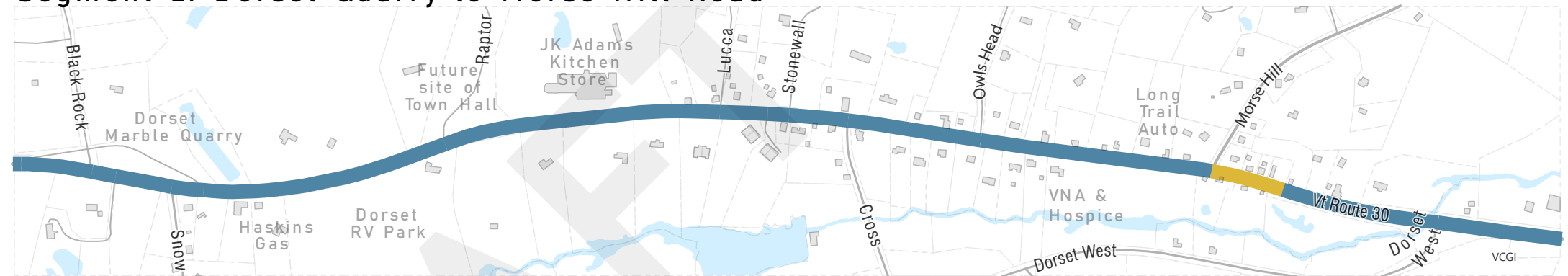
Where possible, buffered bike lanes are preferred. There may be some locations where roadside constraints restrict the additional pavement needed for a buffer.

Section Type	Description
A	 Buffered Bike Lane
B	 Non-Buffered Bike Lane

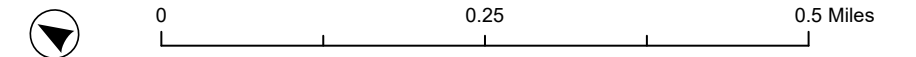
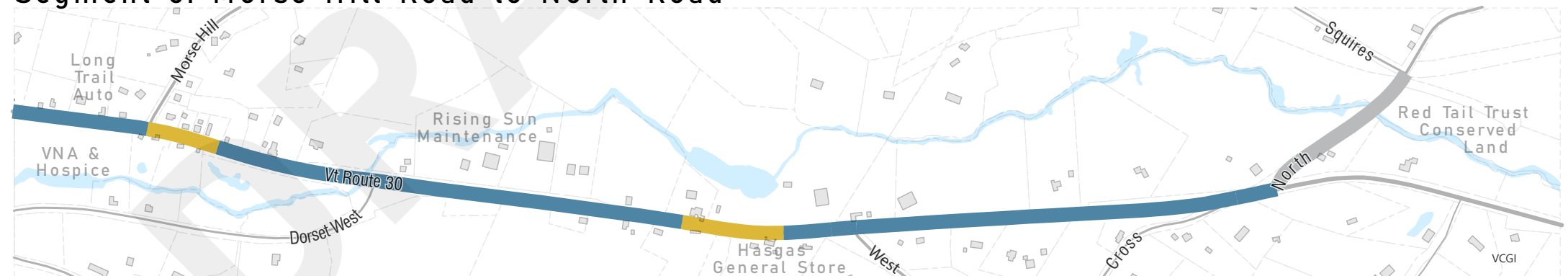
### Segment 1: Dorset Village to Dorset Quarry



### Segment 2: Dorset Quarry to Morse Hill Road



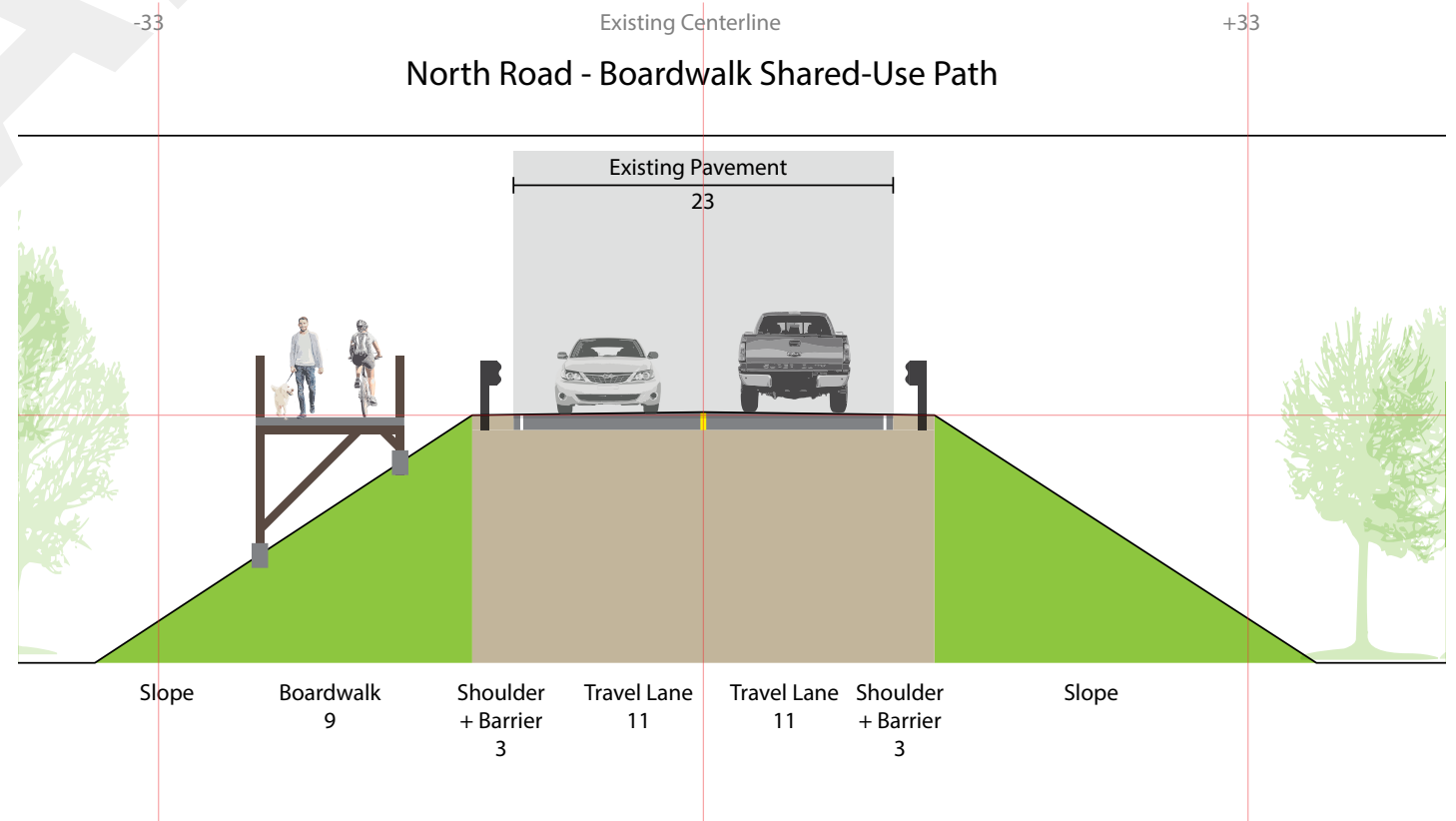
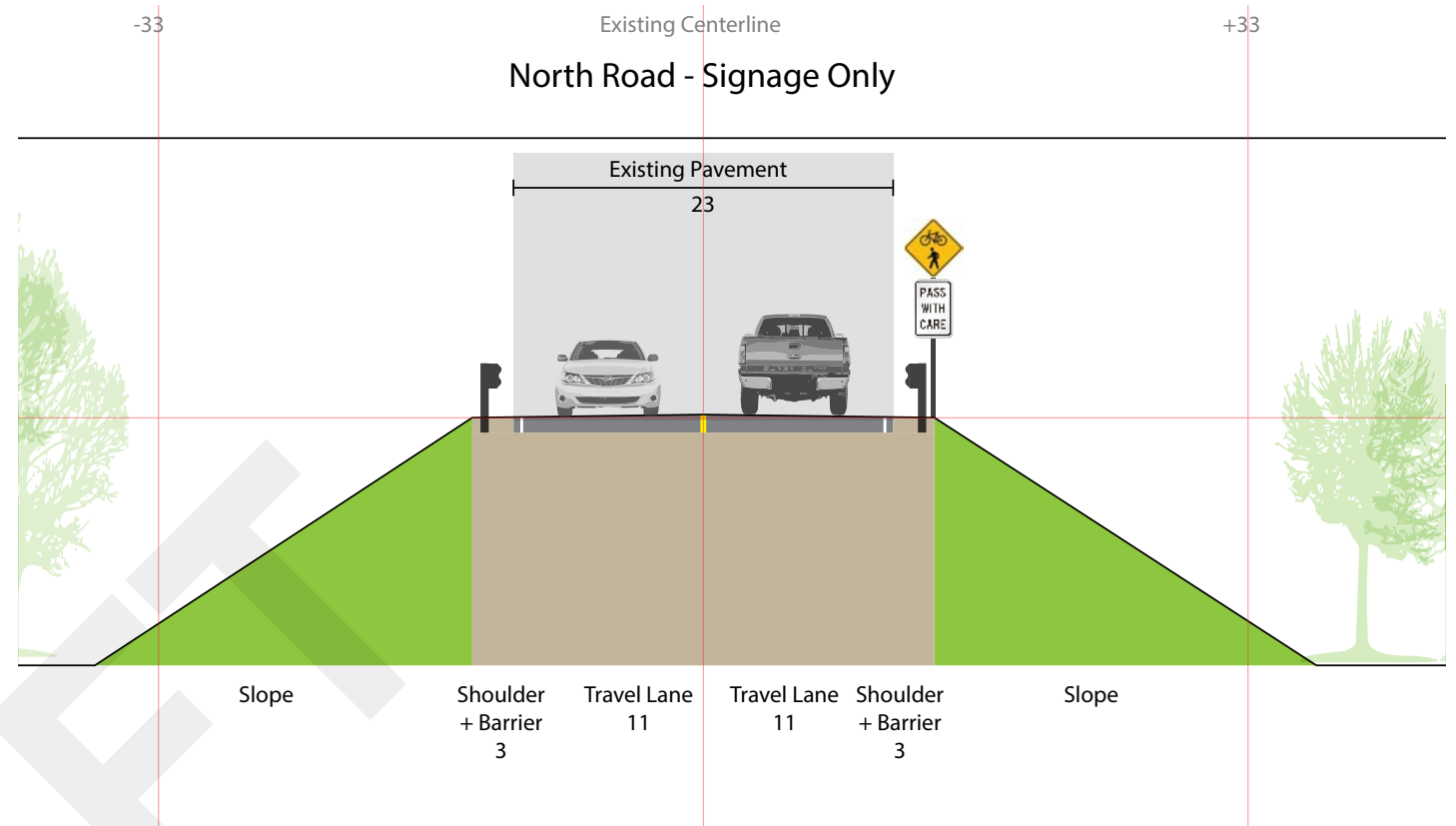
### Segment 3: Morse Hill Road to North Road



## North Road Cross Sections

There are limited options for improvements along North Road due to the existing causeway. There are three options, two of which are shown in the sections to the right.

1. Signage only: no additional bike or pedestrian lanes; signage indicates to motorists to share the road.
2. Shared-use boardwalk: this would be built separately from the road over the adjacent wetland and waterway.
3. Widened shoulders: where feasible, and in conjunction with options 1 and 2, widen the roadway shoulders.





## North Road Options

North Road is built on an earthen causeway over a stream/wetland with no paved shoulder. Widening the road would be expensive and require permitting. The traffic speeds and traffic volume is lower on North Road than VT 30, so a separated bike/ped space is less critical. However, the eastbound grade is steep, which slows cyclists, exposing them to cars and impatient drivers.

North Road is located between Dorset and Manchester and, without improvements, may suppress ridership throughout the corridor. Options for this corridor include:

### Option 1

Create a shared-use path on the north side for the first 500 ft (from VT 30), then a 9-ft boardwalk for 380 ft, and a shared-use path for 166 ft.

### Option 2

Widen shoulders on both sides for the first 500 ft to minimize exposure of cyclists and pedestrians to vehicles. Beyond this point, add "pass with care" advisory signs and sharrows until the trailhead.



**A** If a boardwalk is chosen, add a separate Section Type A pathway on West Side. If a boardwalk is not chosen, widen shoulders on both sides where feasible.



**B** Add 9-ft wide boardwalk; or leave as-is and add advisory signage only.



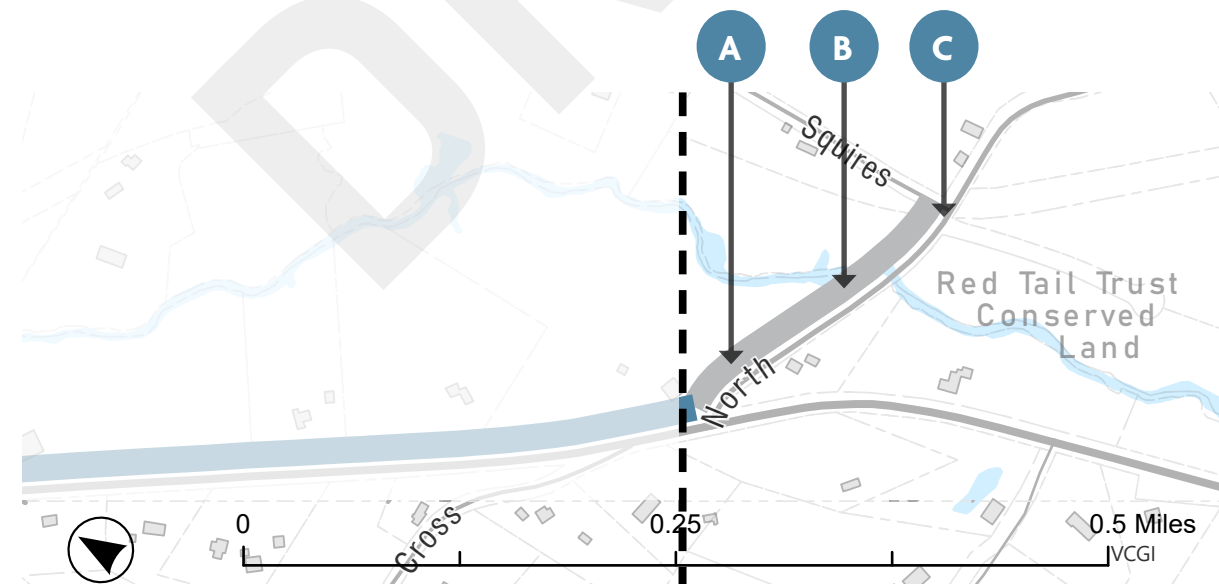
**C** Connection with existing Manchester Rail Trail (aka Marble Rail Trail).



Shared-use board walk example 1.



Shared-use boardwalk example 2.



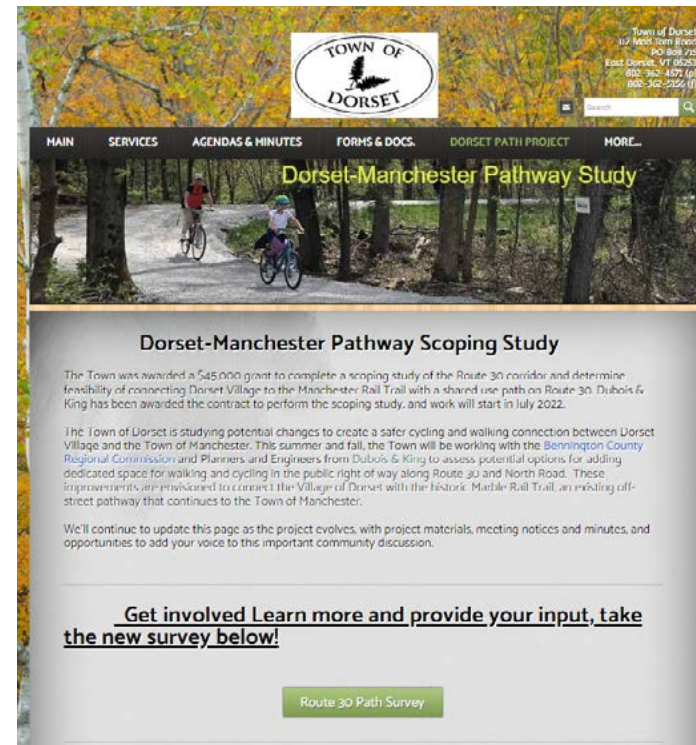
## Community Meeting 2 : February 22, 2023

This meeting was held in two parts; the first part at 5:30 was in-person for adjacent landowners and neighbors to weigh in on the alternatives with their specific concerns. Approximately 10 neighbors attended.

The second portion was hybrid, held at 6:30pm to 7pm, and offered both in-person and remote video attendance. Attendees included approximately 20-30 members of the public, Town of Dorset staff, Bennington County Regional Commission staff, and consulting team members.

Attendees generally expressed support for the project overall and took the opportunity to ask clarifying questions on process and scope. There were some concerns regarding cost and impacts some sentiment that cyclists would continue to utilize the road in lieu of a shared use path. Another concern expressed was for plowing if there are barriers between the path and the road. When asked which side of the road attendees would prefer to see a path located on, the general support was for the east side, due to the existing amenities such as H N Williams and the Quarry, but questioned if it could alternate with crossings.

The presentation emphasized that the path would be primarily within the existing Right of Way, and only on private property in limited locations with agreements with the property owner.



The Town of Dorset is evaluating a potential future bike and walking path between Dorset Village and the Manchester Rail Trail trailhead. This project may use the public right-of-way on Route 30 in front of your property and your feedback is crucial for this design process.



If you live, work, or own property along the project corridor, please join us on February 22, 2023 at 5:30 pm to see the preliminary pathway and bike lane design options and discuss how they may look and function near your property.\*

Learn more at <https://tinyurl.com/DorsetPath> and get involved:

**JOIN THE NEIGHBOR'S MEETING!**  
**Thursday February 22, 2023 5:30pm**  
 In Person: Dorset Town Office  
 or Online Via Zoom: [tinyurl.com/DorsetPathNeighborsMeeting](https://tinyurl.com/DorsetPathNeighborsMeeting)

\* An additional presentation to the general public is scheduled for 6:30pm, directly after the neighbor's meeting. You're welcome to stay for that, but the content will be nearly identical.



## CHIME IN ON DESIGN CONCEPTS FOR A BIKE AND WALKING PATH ALONG ROUTE 30



The design concepts to be presented include shared-use path, similar to the example here. Photo by Tahoe Regional Planning Agency

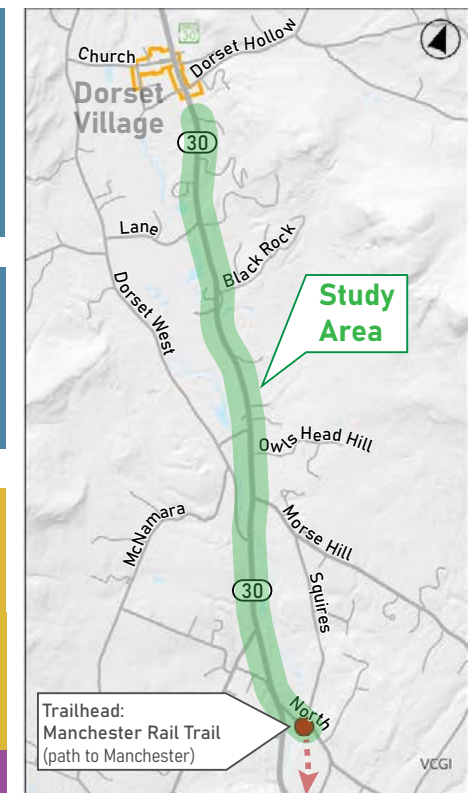
The Town of Dorset is evaluating potential changes to Route 30 and North Road between Dorset Village and the Manchester Rail Trail trailhead to **improve safety** and make it more **comfortable** for walking and bicycling.

Please join us on February 22, 2023 at 6:30 pm to see and discuss pathway and bike lane **design options** that have been developed for the corridor.

Stay up to date on the project website and take the **Alternatives Survey**, available after February 22



<https://tinyurl.com/DorsetPath>



**JOIN THE COMMUNITY DESIGN MEETING!**

**Wednesday February 22nd, 2023 6:30pm**



In Person: Dorset Town Office  
 or Online Via Zoom:  
<https://tinyurl.com/DorsetPathDesignMeeting>



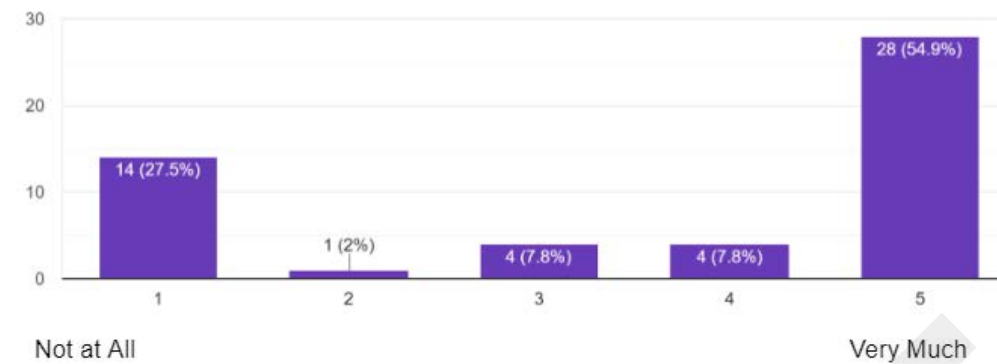
## Public Survey 2 Summary

The second community meeting was paired with an online survey. This survey asked for preferences on alternative options and phasing. There were 51 respondents. Responses are included in the appendices.

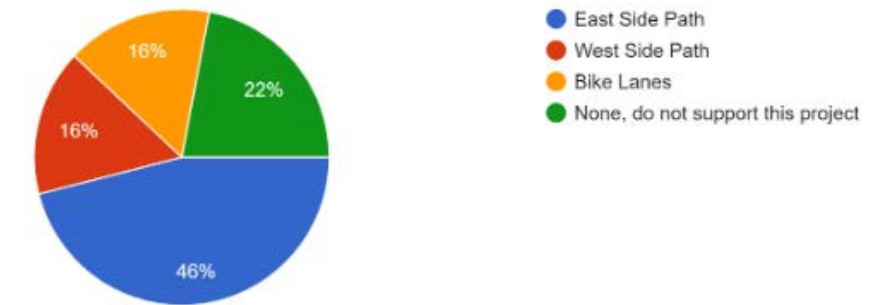
Below are some key findings:

- 46% of respondents preferred an East Side Path
- 22% of respondents did not support the project in any form
- When asked about phasing, an equal amount of respondents preferred prioritizing Maple Hill Lane to Dorset Marble Quarry and had no preference
- There is both strong enthusiasm for a project and strong opposition for a project
- When asked if crossing should occur, rather than have the path located on entirely one side, half of respondents replied with locations where crossing could occur. Some of these include HN Williams, JK Adams, and the Quarry.

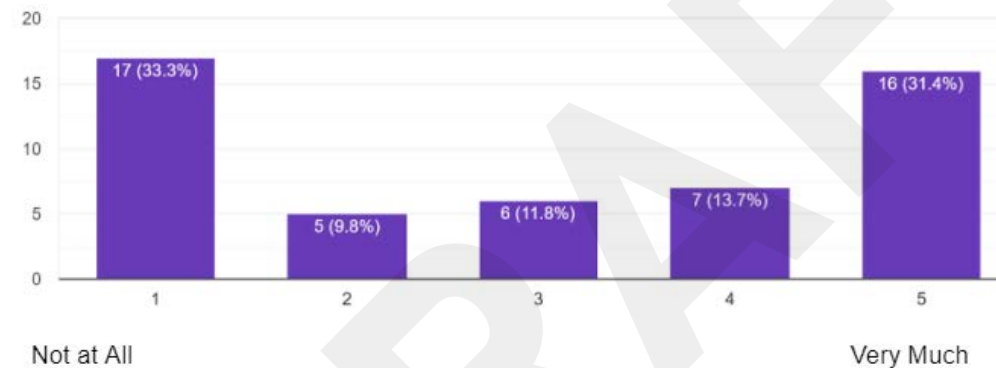
Do you support an East Side Path Alternative?  
51 responses



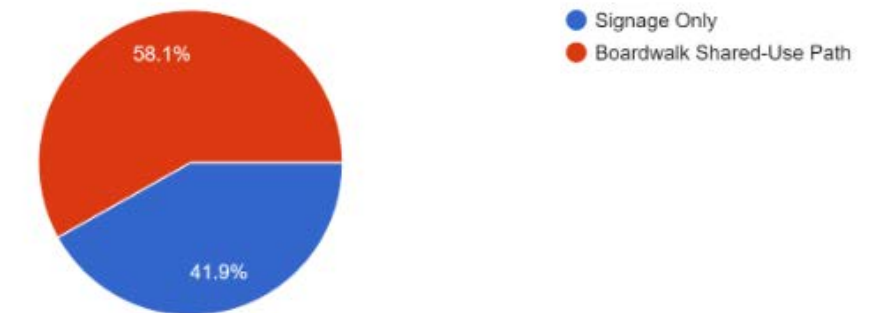
Between the three options for Rt 30, which is your preference?  
50 responses



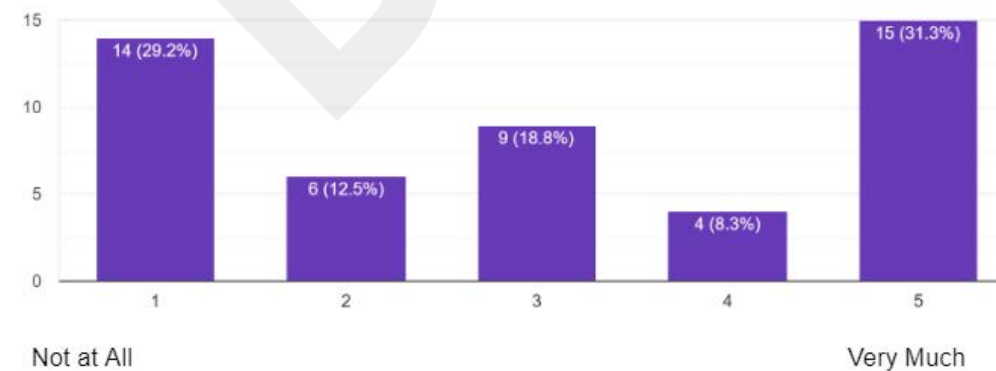
Do you support a West Side Path Alternative?  
51 responses



Which do you prefer as an alternative for North Road?  
43 responses



Do you support bike lanes along both sides of Rt 30?  
48 responses



Should the path project proceed, and proceed in phases, which segment should be prioritized?  
47 responses



# Alternative Comparison Matrix

All alternatives were analyzed as to their ability to meet three goals:

1. Improve the safety and comfort of pedestrians and cyclists in Dorset to the rail trail;
2. Identify a solution that is implementable and cost effective; and
3. Move forward consistent with public support.

This Alternatives Comparison Matrix was developed to weigh multiple elements of each goal. This is a good way to sort and analyze information, if combined with further discussion with the Town based on need and opportunity. In other words, this method is highly useful, but not “conclusive” as to the best path forward. The average of the sub-category scores is indicated in green columns as Safety Average, Effort & Impact Average, and Support Score. The final score for each alternative is a sum of these three averages.

Scores are 0 through 3:

- In the Safety columns, a higher score (up to 3) means greater pedestrian or bicycle safety.
- In the Impacts and Cost columns, a higher score means fewer impacts or lower costs. Impacts can include topographic complexity, physical constraints, or potential impacts to trees, walls, fences, utility poles, etc.
- In the Community Support column, a higher score means greater support in the Design Alternatives Survey for each option.

By a significant margin, the top ranking design concept using this methodology is the East Side Alternative.

ALTERNATIVE	Improve the safety & comfort of residents & users			Implementation Impact & Cost Effective Effort								Community Support		FINAL SCORE	
	Improved Pedestrian Safety	Improved Bicycle Safety	SAFETY AVERAGE SCORE	Topographic Complexity	Driveway Crossings		Cost Score		Utility Impact Score		Physical Constraints	EFFORT & IMPACT AVERAGE SCORE	Alternatives Survey		SUPPORT SCORE
					Number of Crossings		Conceptual Cost						% of Response		
0: No Build	0	0	0	3	None	3	\$0	3	None	3	3	3	1.5	1.5	4.5
1: East Side	3	3	3	2	64 crossings	1	\$14 million	0	75-100 potential pole impacts; 500 LF stormwater*	0	1	.8	3	3	6.8
2: West Side	3	3	3	1	66 crossings	1	\$12.8 million	0	25-50 potential pole impacts; 150 LF stormwater	2	1.5	1.1	1	1	5.1
3: Bike Lanes	1	2	1.5	1.5	130 crossings	0	\$1.5 million	2	0-100 potential pole impacts; 0-500 LF stormwater	1	2	1.3	1	1	3.8

\*Stormwater refers to culverts and swales parallel to the road.

# Preferred Design Concept

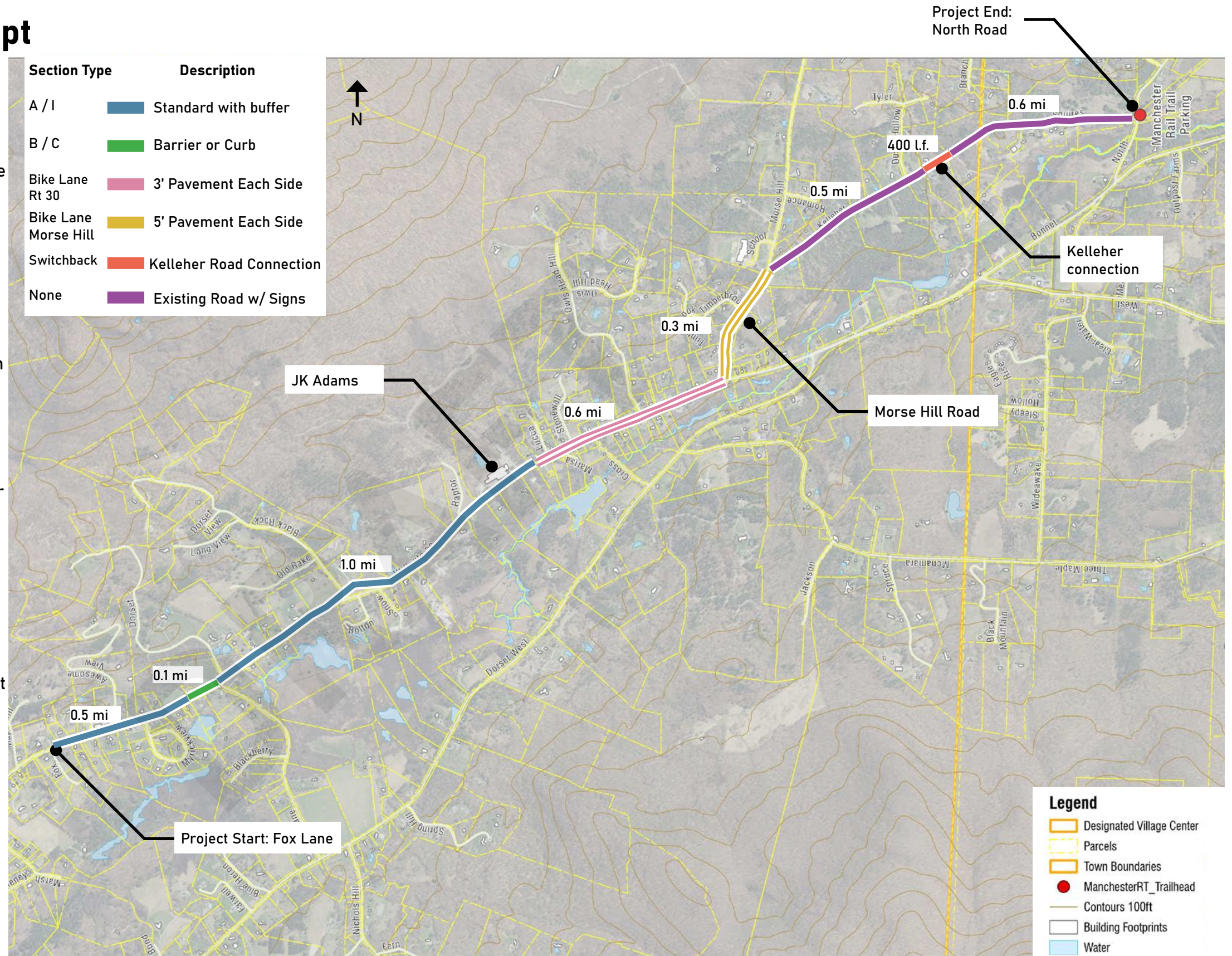
The Alternatives Comparison Matrix offers guidance toward the determination of the Preferred Design Alternative: the East Side Shared Use Path. However, these concepts were generated with the expectation that they could flexibly merge to inform the preferred design, rather than be “all or nothing” approaches to improving public safety and connectivity. Cost and design constraints were important considerations. Additional discussion with the Steering Committee was required.

While the East Side concept was preferred, both the cost of extending the path to North Road and the design complexity in Segments 2 and 3 from JK Adams to North Road were prohibitive. Therefore, the Preferred Alternative shown at right includes the East Side Path from Maple Hill Lane to Lucca Lane and bike lanes on either side of Route 30 from Lucca Lane to Morse Hill Road. A new route was then added to the study to include the following:

- Bike lanes along Morse Hill Road from Route 30 to Kelleher Road
- “Share the Road” Signage along Kelleher Road and Squires Road
- Creation of a switchback trail connection at the Kelleher Road gap.

The following Implementation Chapter offers additional detail and illustration of the blended Preferred Alternative. This chapter also includes more details regarding funding sources, consideration of potential funding sources, consideration of potential permitting requirements, and an Opinion of Probable Construction Cost.

The estimated cost for this alternative is \$8.3 million.



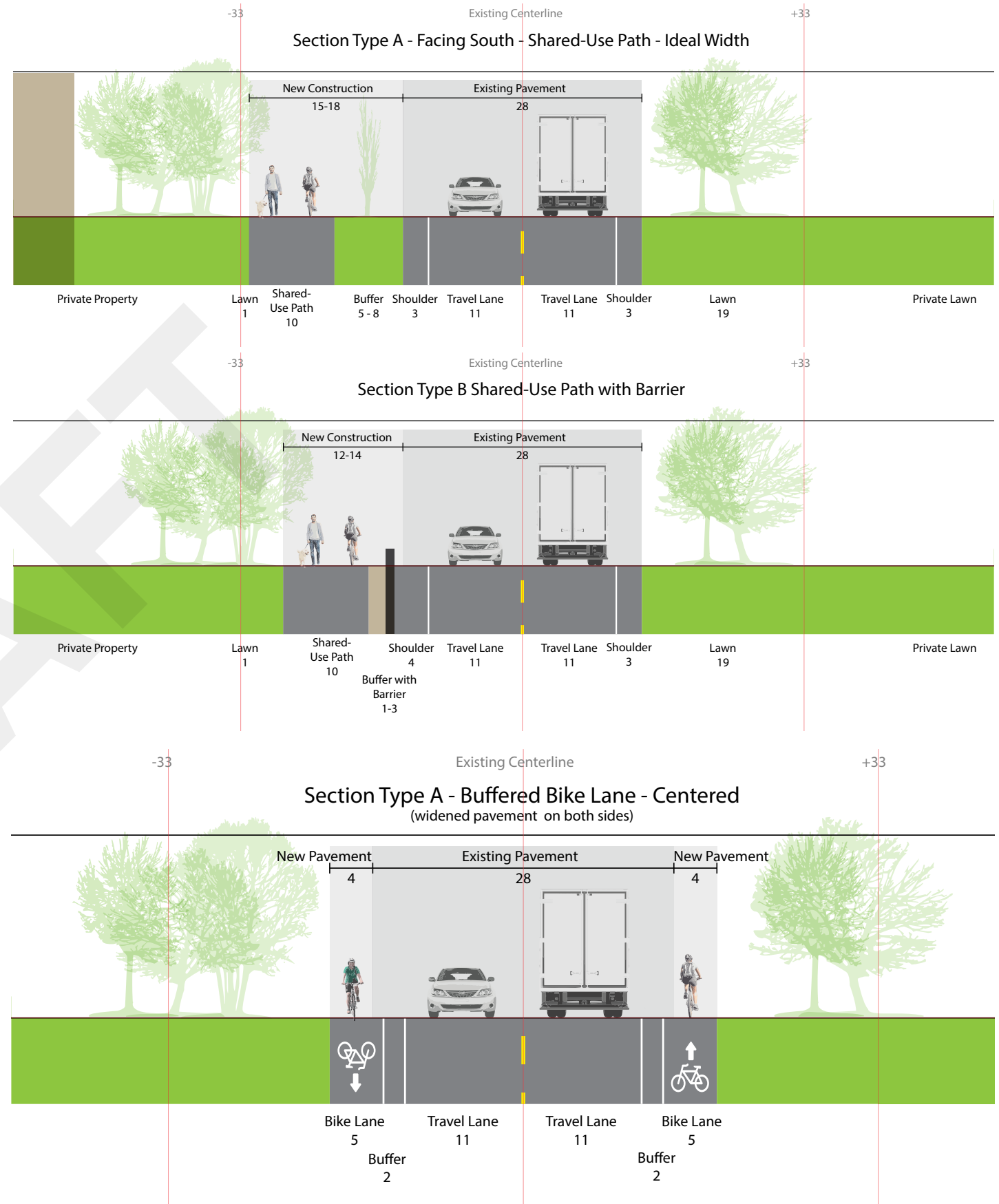


# IMPLEMENTATION



## Proposed Section Types

Multiple section types were provided along with the alternatives. The three sections to the right encompass the extents of the project.



## Beyond the Scoping Study

This scoping study is intended to act as a springboard to support the Town of Dorset in designing, permitting, and funding the safety and connectivity features discussed in the previous chapter. The Preferred Design Concept represents the result of a focused effort to identify a clear, viable and successful path forward.

This chapter outlines steps needed to take the plans, cost estimates, diagrams and illustrations contained in this report towards an investment in the safety and comfort of users in the Village.

- Step 1 - Find a Champion
- Step 2 - Selectboard Approval
- Step 3 - VTrans Coordination
- Step 4 - Landowner Engagement
- Step 5 - Consider Project Phasing
- Step 6 - Fundraising & Grant Writing
- Step 7 - Survey, Design & Permitting
- Step 8 - Construction

### Step 1 - Find a Champion

Town staff or engaged resident, every plan needs a champion. Human resources are needed to use this plan as a tool to communicate public sentiment, cost, and design intent of a future share use path and bike lanes along Route 30.

It was evident during the course of this planning work that Dorset has much support from residents who wish to see this project come to life and improve safety for cyclists and pedestrians along this corridor.

There may be additional community members who can support the “doing” that happens after the “planning,” by staying informed and talking

with neighbors and other landowners along and along the route.

Dorset can also look to the Bennington County Regional Commission for further planning guidance such as with permitting and funding, and expertise regarding next steps. The BRPC would also be aware of potential synergies with any future roadway projects that state agencies may be planning. Coordinating sidewalk installation with subsurface utility work, for example, is a good way to achieve cost efficiencies while minimizing the duration of construction disruptions.

### Step 2 - Selectboard Approval

Before a roadway improvement is constructed, such a change to a public roadway must be approved by the Dorset Selectboard. This includes the physical change as well as the cost to the Town of providing potential matching funds for such a project. For projects of this scale, it is anticipated that the matching cost



to Dorset could be approximately 20% of total project costs, if seeking grant funding. The Town could also decide to fund the project locally via a Bond vote.

### Step 3 - VTrans Coordination

At, or just after, scoping is an excellent time to begin using the [Transportation Management Plan \(TMP\) checklist](#) to determine if any additional traffic control measures or work zone easements will be required, based in part on whether the project and potential effects would be “significant,” as appears to be the case based on preliminary consideration.

A TMP is the compilation of all necessary documentation related to the management of traffic within a work zone. This may include Traffic Control Plans, a Transportation Operations Plan, and a Public Information Plan as needed. Some projects require all of these components to be considered. The implementation of the Work Zone Safety and

Mobility Policy and Guidance is required all federal-aid highway projects and is expected for all other construction and maintenance activities on Vermont highways.

### Step 4 - Landowner Engagement

Should this project, or components of this project, move forward with the support of the Selectboard, it will be important to circulate this study among affected landowners, particularly those who own property abutting the project right-of-way, and answer questions about the design intent, potential impacts, estimated timelines to construction, and right-of-way boundaries. These crucial conversations can reveal any modifications, such as easements or driveway access, that are best understood well before the construction process.

For example, a concern expressed during the “neighbors” alternatives presentation with adjacent property owners might be that on-lot items such as fences would be moved, or



trees were removed and new trees planted, that the cost of such work would be borne by these property owners. On the contrary, it will be important for the landowner engagement discussions to stress that costs related to sidewalk construction and mitigating its direct impacts will be borne by the Town and its funding partners.

**Step 5 - Considering Project Phasing**

Dorset is not obligated to undertake any of the work identified in the Preferred Design Concept, and the Town need not take an “all at once” approach to any work. Funding resources, political will, timing of synergistic projects, or public/private partnership opportunities (such as working with a landowner) may point towards a different approach.

To achieve the goals of this project, including public safety and connectivity between Dorset Village and the Manchester Rail Trail northern terminus, the Preferred Alternative could be phased as follows:

1. Create Kelleher Road trail connection
2. Install signage along Kelleher Road and Squires Road
3. Install shared use path between Fox Lane and Dorset Orchard
4. Install shared use path between Dorset Orchard and Lucca Lane
5. Install bike lanes between Lucca Lane and Morse Hill Road and crosswalks across Route 30 at each of those roads
6. Install bike lanes between Morse Hill Road and Kelleher Road and crosswalk across Morse Hill Road at Kelleher Road

Any phased sections of path must include independent utility, i.e. - must have a start and end point that makes sense and is at a specific roadway or destination.

**Step 6 - Fundraising & Grant Writing**

Funding the design and construction of a new community sidewalk is likely to center around public investment in the form of matching funds to grants. The Grant Resources Table on this page outlines some of the common funding resources for Vermont towns that are seeking to develop pedestrian facilities.

Projects of this nature and cost are sometimes funded through federal resources. Federal requirements shall therefore be followed throughout the project development and implementation process.

**Step 7 - Survey, Design & Permitting**

With Selectboard approval is in place, local landowners consulted, and grant awards in hand, Dorset can then move towards contracting an engineering firm to conduct a survey, develop construction documents. See the table on the next page for an overview of permits potentially needed for the Dorset Path Project. Long term (25 year) maintenance and repair, as well as winter maintenance should also be considered.

**Step 8 - Construction**

During construction, the Town should communicate clearly to residents, the mail and trash services, etc., that service along Route 30 in the project area may be challenging or delayed. Local emergency services personnel should be notified of the work as well.

Review VTrans Work Zone Safety and mobility checklist for additional important items to consider before and during construction.

Grant Resources					
Grant Title	What does it fund?	Maximum Grant Amount	Local Match Required	Federal Funding	Grant Contact
<u>CDBG - Planning Grants</u>	Feasibility studies, marketing plans, engineering and architectural plans, etc.	\$60,000	10 percent	x	Julia Connell julia.connell@vermont.gov 802-828-5215
<u>VTrans - Transportation Alternatives Program (TAP)</u>	Construction, planning and design of on and off roadway facilities for active transportation facilities	\$600,000	20 percent	x	Scott Robertson scott.robertson@vermont.gov 802-793-2395
<u>VTrans - Bicycle and Pedestrian Program Grants</u>	Construction, planning and design of on and off roadway facilities for active transportation facilities	No Cap	20 percent	x	Peter Pochop - peter.pochop@vermont.gov 802-477-3123
<u>VTrans - Bicycle and Pedestrian Program Grants - Small Scale</u>	Distinguished from Bike/ Ped program by smaller maximum funding amount and lack of federal requirements	\$75,000	50 percent		Peter Pochop - peter.pochop@vermont.gov 802-477-3123
<u>AARP Community Challenge Grants</u>	Infrastructure supporting livable communities and smart growth objectives	\$20,000.00+ (variable)	None required		Kelly Stoddard Poor kstoddardpoor@aarp.org 802-951-1313

## Permit Overview

The permits reviewed for the Preferred Design Concept, and their threshold requirements are as follows:

- State Highway Access (1111). This permit is required when a project is within the state highway right-of-way.
- ACT 250. There are several jurisdiction categories that trigger the need for an Act 250 permit. They are listed by the [State of Vermont Natural Resources Board here](#).
- National Environmental Policy Act (NEPA). The NEPA process needs to be followed whenever Federal funding is involved. Based on this study's review of natural resources in the project area, this project likely qualifies for a categorical exclusion.
- Construction Stormwater General. This permit is triggered when a project exceeds one (1) acre in disturbance.
- Stormwater Operational (Post Construction). As of July 2022, the threshold for this permit will be a half (0.5) acres of newly constructed impervious material.
- Stream Alteration. The Stream Alteration Rule regulates activities that take place in or along streams. A permit is required for movement, excavation, or fills involving 10 or more cubic yards annually in any perennial stream.
- The United States Army Corps of Engineers (USACOE). USACOE regulates all wetlands and fill below the Ordinary High Water (OHW).
- VT Individual Wetland Permit. The Vermont Wetlands Office regulates only Class I and Class II wetlands, and their 50 foot buffer.

Potential Permit Requirements		
Permit	Needed?	Explanation
State Highway Access (1111)	Yes	The project intersects with a State Highway ROW (Route 30).
ACT 250	Yes	The project area runs through or adjacent to three properties with existing Act 250 permits, therefore Act 250 permit amendments will likely be required.
NEPA	Yes (Cat Ex)	Based on a review of the project area, this project likely qualifies for a Categorical Exclusion.
Construction Stormwater General	Yes	The new shared use path is approximately 1.6 miles and 10' wide, totaling approximately 84,480 sf. In addition, there are 0.6 mile of 3' pavement on either side for bike lanes and 0.3 mile of 5' pavement on either side for bike lanes totaling approximately 34,800 sf. Finally there is a 400 lf section of Kelleher Road that would be developed into a switchback trail, total square footage of impervious impact to be determined. This well exceeds the minimum earth disturbance area of one acre to trigger the permit at approximately 2.74 acres.
Stormwater Operational (Post Construction)	Yes	The sidewalk would add about 2.74 acres of new impervious surface, well above the 0.5 acre threshold.
Stream Alteration	Maybe	This project is adjacent to or crosses several small streams as shown on ANR Atlas but does not propose movement, fill, or excavation.
USACOE General	No	This project will not disturb any lands below the ordinary high water line.
Individual Wetland Permit	Yes	This project traverses wetlands shown via ANR Atlas at the Kelleher Road connection.

## Opinion of Probable Construction Cost

A grand total of \$8.3 million for the combination of a shared use path, bike lanes, and switchback extension was estimated through the VTrans 2020 shared use path guidance, adjusted for inflation, as well and increased cost for more challenging section that require significant grading or retaining walls.

See appendices for complete OPCCs.



- Bedford, NH 03110 (603) 883-0463
- Randolph, VT 05060 (802) 728-3376
- S. Burlingt., VT 05403 (802) 878-7661
- Springfield, VT 05156 (802) 591-4326

Engineering • Planning • Development • Management

JOB VT Route 30 Shared Use Path West Side

SHEET NO. 1 OF 1

CALCULATED BY: CDL DATE: 5-1-2023

CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

SCALE: \_\_\_\_\_

Project Length	3.4 Miles	10' Shared Use Path and Bike Lanes	\$342 /FT	2020 Guidance
			\$462 /FT	Adj for Inflation 2023
			\$693 /FT	Challenging sections 2023
			\$110 /FT	Bike Lanes (VT 30)
			\$200 /FT	Bike Lanes (Morse Hill)

### East Side option

Ideal Conditions	1.5 Miles	7920 FT	\$462 /FT	=	\$3,656,664
Barrier or Curb	0.10 Miles	528 FT	\$693 /FT	=	\$365,666
Bike Lanes (VT 30)	0.60 Miles	3168 FT	\$110 /FT	=	\$348,480
Bike Lanes (TH's)	0.3 Miles	1584 FT	\$200 /FT	=	\$316,800
Switchback Extention		400 FT		=	\$250,000
Culvert extentions	250 FT @	\$300 per ft		=	\$75,000
Utility Pole Relocations	40 @	\$8,000 per pole		=	\$320,000

Sub Total	=	\$5,332,610
25% Contingency	=	\$1,333,153
Construction Estimate Total	=	\$6,665,763

(Local Project Management) (6%)	=	\$399,946
PE (Design) (9%)	=	\$599,919
R.O.W (Est.)	=	\$50,000
(Construction Inspection) (15%)	=	\$999,864

Total = \$8,315,546

TOTALS

1

LS

Print Date = 15-Nov-23



# APPENDICES