



Provincetown Bikeability Assessment

The Massachusetts Bicycle Coalition (MassBike) led a bikeability assessment in Provincetown, Massachusetts on June 3, 2015. MassBike is a nonprofit advocacy organization whose mission is to promote a bicycle-friendly environment and encourage bicycling for fun, fitness and transportation. The purpose of the bikeability assessment is to build local knowledge and capacity to improve bicyclist safety, to provide guidance for potential specific projects, policies, and programs, and to identify opportunities for further study.

This bikeability assessment report summarizes the observations made in the selected study area MassBike, in partnership with the East Coast Greenway Alliance (ECGA) collaborated on the recommendations. The observations vary from specific infrastructure deficits, such as a lack of on-road bicycle facilities, to general comments on traffic speeds or land use patterns (e.g., land ownership). Likewise, the recommendations range from specific fixes (e.g., striped bike lanes) to suggestions for further study (e.g., evaluate the feasibility of intersection redesign using Complete Streets policy as a guide). The guiding principle of Complete Streets design is that streets should be designed to be used safely by everyone using every mode of transit. The report may also include suggestions for policy changes or programs to enhance bicycling safety and participation.

The assessment is not meant to be a complete inventory of infrastructure deficiencies, nor is it meant to provide specific designs for improvement. MassBike leads the assessments as a means to build local capacity and create a forum to bring various stakeholders to the table with the goal of improving the built environment for biking. MassBike staff members are not licensed design or engineering professionals. This report may be used as a resource for municipal staff, traffic engineers, and design professionals who municipalities may engage to design and implement policies, programs, and infrastructure improvements.

MassBike developed a methodology for conducting bikeability assessments for the MassDOT program. The steps include the following:

- Scoping call to determine preliminary study area
- Site visit to finalize study area
- Data collection using bikeability assessment tool
- Bikeability assessment with full team
- Mini-charrette and debriefing
- Analysis and report

The study area included the following corridors:

- Commercial Street
- Route 6



- Route 6A
- Old Colony Trail

The streets were selected based on the high rates of bicyclists using the segments and to create a bikeable network for connectivity with Provincetown. None of the roads or intersections in the study area offer on-road bicycle facilities.

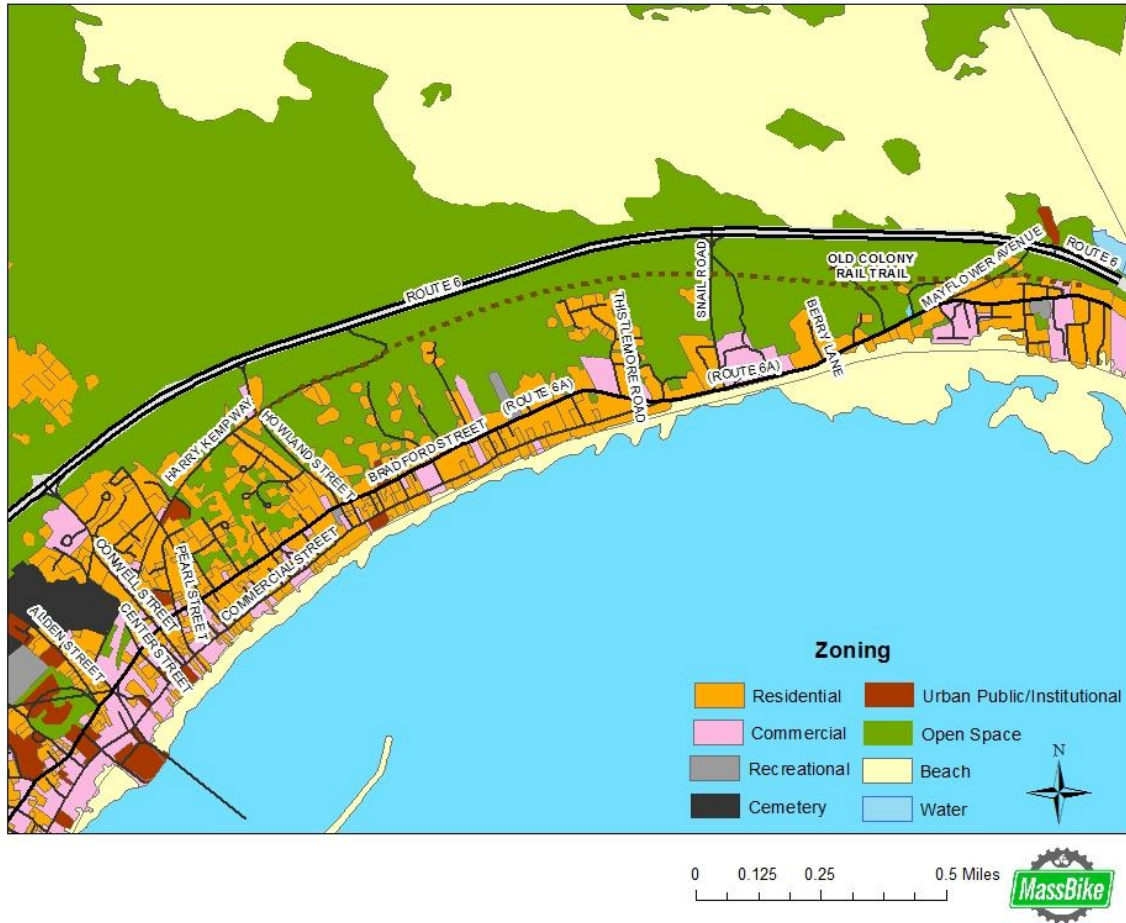
Commercial Street

Provincetown has a robust bicycling culture. Commercial Street is the central artery of the commercial district. The road is quite narrow and motorists are permitted to go one way westbound. The speed limit is 15 miles per hour. Cyclists are permitted to travel in both directions on Commercial Street. There are signs notifying road users that cyclists can travel both eastbound and westbound at the intersections. Pedestrians were observed crossing at multiple points, due to the many amenities along Commercial Street.

The street has been considered to become a shared street and prohibiting motorized vehicles except at specific times. However, due to the presence of a post office, this option is not feasible. Deliveries are made at specific times - early in the morning, but trucks were observed making deliveries in the middle of the day. However, the street is closed to through traffic during major events in the summers.

Short-term Recommendations:

- Consider implementing sharrows onto Commercial Street. By doing so, it will indicate to road users that bicyclists are permitted to travel in both directions on the street.
- Consider implementing additional bike parking such as bike corrals or artistic bike racks at key points of interest.



Route 6

Route 6 is a four-lane high speed roadway with 11'-12' travel lanes and a posted speed limit of 50 miles per hour. There are two travel lanes in an eastbound and westbound direction. From the Truro line into Provincetown, Route 6 is four lanes. Until Provincetown, Route 6 contains two travel lanes. The roadway is adjacent to sand dunes. As a result, there is an ample amount of sand encroaching on the road. Additionally, there is no shoulder, signage or other indicators that bicyclists would be riding there. Provincetown owns the segment of roadway assessed. Previously the roadway was owned by the Massachusetts Department of Transportation. Because the roadway is owned by the Town, there are more opportunities for creating a thoroughfare based on Complete Streets design principles.



Dune & Shoulder, Route 6 West

Obstacles for 6 West as a bikeable corridor:

1. Dunes would need to be cut into to make additional space for buffered bike lanes or a separated bike facility. Theoretically, the town could implement a barrier between the rail trail and the rare species found in the wetlands abutting the site. However, this may be a longer term project due to the environmental review period.
2. The speed limit is too high for bicyclists to bike on the roadway. A speed study is recommended.
3. Dedicating both travel lanes to motor vehicle traffic provides little opportunity for bike facilities or even a shoulder.

Short-term Recommendations:

- The ECGA and MassBike recommend reducing route 6 from a four lane roadway to a two lane road.
- Implement sharrows
- Implement “cyclists may use full lane” signs
- Conduct a speed study and reduce speed limit along corridor, to at least 35 MPH.



- Implement wayfinding signage to direct bicyclists to use connector streets to Route 6A. The signs would be in distance and time.
- Consider temporary pilot programs to reconfigure the roadway to Complete Streets standard

Long-term Recommendations:

- Consider turning one bidirectional segment into a shared use path to maintain consistent roadway configuration and ensure that bicyclists and pedestrians will have dedicated space on the roadway.
- The outer two 12 foot travel lanes should be converted into a 5 foot bicycle lane with a 3 foot wide painted buffer and vertical delineator such as flexible bollards. The inner travel lanes should be reduced to 10 feet so as to control traffic speeds. The additional 2 feet gained from the inner travel lane and remaining 4 feet remaining from the bicycle lane should be combined into creating a 6-foot shoulder.

Route 6A

Route 6A is a curvy east/west corridor that runs parallel to Route 6. There is a double center line and smooth pavement quality. There are some crosswalks along the segment, but do not have pedestrian awareness signage. Additionally, there are some crosswalks with green paint. There are many driveways due to the fact that the streetscape along Route 6A is mostly residential. There is a mixture of public and private feeder streets connecting Route 6A with Route 6.

During the assessment, cyclists were observed using Route 6A. Although currently there are no accommodations for bicyclists, Route 6A appears to be a more bikeable route than Route 6. By incorporating "Cyclists May Use Full Lane" signage, sharrows and wayfinding signage, Route 6A has the potential to be a more desirable east/west connector for bicyclists. There are many workers who live in Truro and bicycle commute to Provincetown. By making Route 6A more bikeable, it can become the primary, and recommended route for them to use instead of Route 6.

The ECGA and MassBike recommend adding shared lane markings (sharrows) and "cyclists may use full lane" signs along Route 6A, from Truro/Provincetown line to downtown Provincetown where it becomes Commercial Street.



Bicyclist on Route 6A

Short-term Recommendations:

- Implement signage around curves alerting motorists to be alert to cyclists.
- Implement wayfinding / directional signage to encourage riders to be on 6A rather than 6.
- Implement sharrows. There is no shoulder on the roadway, sharrows are the best option.

Old Colony Trail

The Old Colony Trail is an unpaved trail that runs parallel to both Routes 6A and 6. The area is being evaluated as a part of the Cape Cod Canal Trail which will be part of the East Coast Greenway. The entrance to the Old Colony Nature Pathway abuts a privately-owned road, Mayflower Road. The road is not maintained by the Town and has a hand-painted posted speed limit sign of 5 MPH. The trail is in wetlands and a conservation area. While there are many opportunities for increasing connectivity and implementing a shared use path, there are challenges pertaining to land ownership, conservation and environmental variances/review periods.



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Assessment participants walking on Old Colony Trail



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Chained off portion of Old Colony Trail



Evergreens growing in sand along Old Colony Trail

The Old Colony Rail Trail project should be developed in a phased approach. The ECGA and MassBike recommend splitting the project into two phases:



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Phase 1: Snail Road to Howland Street (approximately 0.96 miles)

A recent site visit revealed that this section has experienced major impact due to motor vehicle use, including surface compaction, right-of-way widening and thinning of plant-life along the edges. Application of a stone-dust layer on this section will allow others such as bicyclists, wheelchairs and other non-motorized users to take advantage of this unique resource and create a safe off-road connection to downtown Provincetown. It is recommended that Fortuna Rd, which currently intersects the trail at-grade, be upgraded as an official ADA-compliant access point. The current resident located to the west of Fortuna Rd can use as a vehicular access point - therefore allowing the section from Snail Rd to Fortuna Rd off-limits to motorized vehicles due to the placement of a concrete barrier. Phase 2 would be from Snail Road to Mayflower Ave (approximately 0.57 miles).



Flexible in-street pedestrian crossing along Old Colony Trail



Additional Options for building a Bikeable Network:

Snail Road

Snail Road could be used as a connector road for bicyclists. There is some additional roadway that could be reallocated to a bike lane. A temporary solution could be to implement sharrows, share the road signage and wayfinding to connect bicyclists to from Route 6 to 6A and into Downtown Provincetown.



Snail Road

Short-Term Recommendations:

- Implement Sharrows
- Implement Wayfinding signage
- Implement Share the Road signage
- Implement a crosswalk at the intersection of Snail Road and the Old Colony Trail
- Implement neon pedestrian crosswalk signage in conjunction with the crosswalk



Long-Term Recommendation:

Narrow travel lanes and implement bike lanes on both sides of Snail Road

Harry Kemp Way

Harry Kemp Way is a calm, two-way street with good pavement quality. The roadway is a good connector with Snail Road and could provide an alternate route for bicyclists from Route 6 or 6A into Downtown Provincetown.



Harry Kemp Way

Short-term Recommendations:

- Implement wayfinding signage to Downtown Provincetown in time and distance.
- Stripe a fog line along segment
- Implement sharrows



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Long-term Recommendation:

Stripe bike lanes where segment is wide enough to accommodate them. The road will be a mixture of sharrows and bike lane. With proper signage and engineering, the transitions will be smooth and clear for all road users.






Appendix A

Attendees

Rik Ahlberg	rikahlberg@mac.com	Provincetown Bike Committee
Will Erlandson	willerlandson@gmail.com	Provincetown Bike Committee
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Austin Brandt	abrandt@provincetown-ma.gov	Conservation Commission
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Max Cliggott-Perlt	maxcp@marlboro.edu	Provincetown Bike Committee
Barbara Jacobson	barbara@massbike.org	MassBike



Appendix B¹

Infrastructure Type	Description	Picture
Bike Box	A bike box provides an advanced stop bar for vehicles, allowing bicyclists to stop at a traffic signal ahead of vehicle traffic to increase visibility, reduce bikes stopping in the crosswalks, and allow for left turns. Note that bike boxes are considered experimental by the Federal Highway Administration (FHWA); installation requires a request for experiment.	
Bike Corral	A bike corral is a bike rack placed within the parking lane of a roadway. A single corral can replace one vehicle parking space with 10 to 12 bicycle parking spaces.	
Bike Lane	A bike lane is an exclusive travel lane for bikes, typically located along the right side of the travel lanes on a two-way street; however, bike lanes may be located on either side of a one-way street.	

¹ This table came Toole Design



<p>Bike Parking Rack</p>	<p>Individual bike racks may be placed along sidewalks to provide incremental bicycle parking throughout a larger area. Bike racks should be designed to support each bike in two locations above the center of gravity (e.g. inverted U rack, post and ring).</p>	
<p>Bike Wayfinding Signage</p>	<p>Wayfinding signage provides guidance for cyclists on recommended routes to key destinations.</p>	
<p>Buffered Bike Lane</p>	<p>Buffered bike lanes provide a higher quality bike facility where right-of-way allows. On roads with higher speeds, a buffer between the travel lane and the bike lane allows for increased comfort for cyclists. On roads with on-street parking, a buffer should be placed between the parking lane and the bike lane, reducing dooring crashes.</p>	
<p>Curb Extensions</p>	<p>Curb extensions shift the curb and accessible ramp at a crosswalk to the edge of the bicycle lane or travel lane in order to reduce vehicle speeds and increase visibility for pedestrians. Care should be taken when designing curb extensions to ensure that they do not extend beyond parking lanes, reducing the width for safe bicycle travel.</p>	



<p>Reverse Angle Parking</p>	<p>Reverse Angle Parking is an alternate form of parking where cars back into angled parking spots. It has been praised among traffic engineers as a traffic calming mechanism that increases the safety of a street for motorists, bicyclists, and pedestrians.</p>	
<p>Shared Lane Markings (“Sharrows”)</p>	<p>Shared Lane Markings designate positioning for cyclists within lanes shared by vehicles and bicyclists and alert drivers to the presence of cyclists. Shared lane markings should be considered in constrained corridors where installation of bicycle lanes is not feasible or as temporary until future improvements can provide full bicycle facilities.</p>	
<p>Zebra Crosswalk</p>	<p>A Zebra Crosswalk uses diagonal white lines to delineate a crosswalk zone. With angled lines the crosswalk becomes more visible to motorists and the paint lasts longer since cars are not directly driving over entire line segments.</p>	