

Report from the Nantucket Historical Commission September 2019

Milestone Road Safety and Accessibility Improvements May 2018 Construction Plan Massachusetts Department of Transportation Highway Division

Under Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), all projects in a Historic District that receive State or Federal Funding are required to be reviewed by the local historic authority.

The purpose of this report is to recommend adjustments to the Milestone Road Safety and Accessibility Plan, for the consideration of MassDOT and the Town and County of Nantucket, in order to preserve the scenic quality and cultural assets of Nantucket Island.

Sections:

- I. Curbing: Change HMA to slanted granite curb
 - II. Roadway Modifications and Signs: Balancing Safety Benefit with Visual Impact
 - III. Q: How safe is Milestone Road? A: Relatively safe.
 - IV. Future changes to Milestone Road: road widening vs. rumble strips
 - V. Appendix A: road sign inventory
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I. Curbing: Change HMA to slanted granite curb

A total of 11 intersection sites will experience some form of modification, ranging from minor adjustments to complete redesign. 16 new bus turn-outs were constructed in spring 2019. Each of these areas require new curb. Hot mixed asphalt berm is specified for curbing. We request slanted granite be used instead. Key reasons are:

- Higher quality, more enduring, attractive material
- More historically appropriate material
- Has been the standard for other projects, such as Milestone Rotary, at Milestone Crossing intersection, and various other intersections on Milestone Road and around Nantucket.

Both photos below were taken on Milestone Road



New Milestone Rd HMA curbing



Example of existing slanted granite curbing

Importantly, plans appear to call for the removal of existing slanted granite curbing at Milestone Crossing and other places, and to replace it with HMA Berm.

We recommend slanted granite curb in place of HMA Berm throughout, and certainly recommend against removing existing granite curbing to replace it with asphalt.

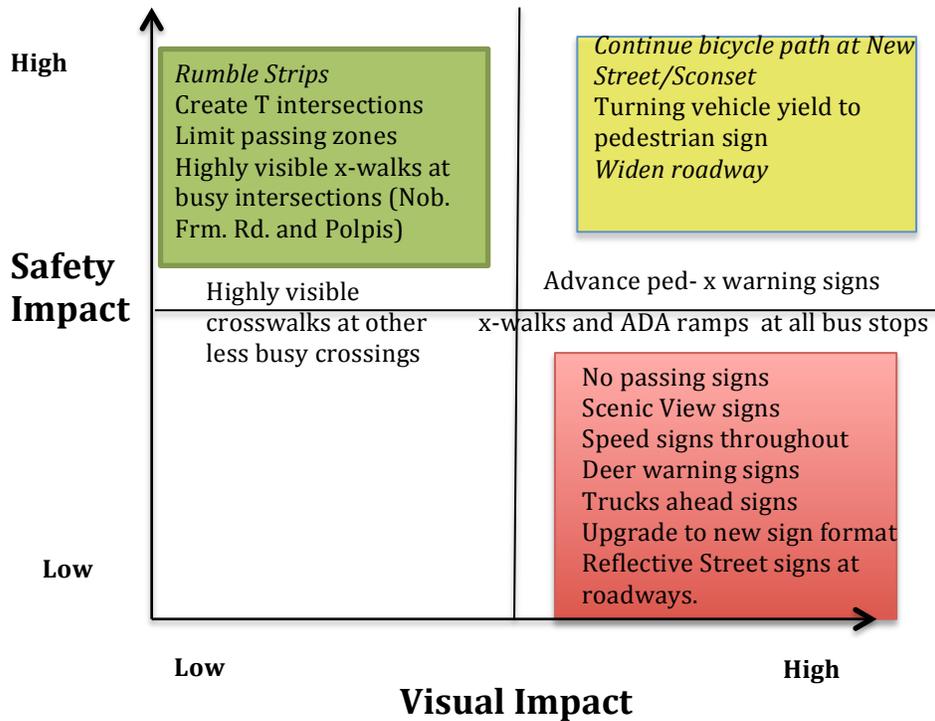
II. Roadway Modifications and Signs: Balancing Safety Benefit with Visual Impact

Nantucket has a long custom of limiting and modifying road signs to preserve our scenic and historic integrity. This plan is a dramatic departure from our standard: the plan specifies approximately 80 new road signs. Drivers will see a road sign every 10 - 15 seconds of driving. Many signs will be 3' - 4' across, and many of the new signs will be florescent yellow-green. **Signs increase road safety, but not all signs do so equally.** The key question is, does the proposed sign have a benefit that outweighs its negative impact on our scenic and historic environment? That question has guided our analysis.

The Milestone Road project was developed based on the conclusions of the Road Safety Audit (RSA), prepared for the MassDOT by the Toole Design Group in 2017. The report, a prerequisite for state funding to upgrade this state road, analyzed the crashes that occurred from 2010 - 2016. It recommends specific changes by location, and rates these changes from high to low in terms of safety benefit.

The Historical Commission has rated the RSA's proposed changes from high to low in terms of visual and historic impact, with high being the most visually disruptive to the scenic quality of the road, and low being the least. The 2x2 table below summarizes most of the recommended changes to the motorway. Items in *italics* were recommended but are not being executed.

Recommendations in the red zone should be avoided, because they are rated "low" for safety and "high" for disruptive visual impact. Recommendations in the green zone should be prioritized, and recommendations in the yellow zone should be considered with care.



Note that most signs are rated by the RSA as “low” benefit for safety. But they are highly disruptive to our historic and scenic goals. Two of these signs – a 16 sq. ft. Scenic View and Scenic View Ahead sign – were erected in spring 2019, triggering broad-based complaints. Under pressure, the Town appealed to the DOT for permission to remove them.

It’s easy to find a reason to erect a sign. But all signs are visually disruptive to the scenic road. The question is, where is the disruption justified. Nantucket’s Transportation Planner advocates an approach of preferring more signs, and then taking signs down if they are found to be unnecessary. Rather than consume these resources (human, monetary, and environmental), we prefer to look ahead and anticipate which signs offer high safety benefits. Otherwise, a request for removal should be made in advance of erecting the sign.

Our specific sign by sign recommendations are in Appendix A. **We recommend removing or limiting the following categories of signs:**

Speed Limit signs posted throughout

Posting the speed limit consistently along the roadway has a “low” safety benefit, according to the RSA. Currently, the speed limit is posted at the beginning of the road and when the limit changes (limits are 25, 35, and 45). The proposal is to post the speed limit every quarter mile and, in conservation land, every 4-tenths of a mile, resulting in 17 signs.

Drivers would see a speed limit sign approximately every 20 seconds, in a context of an island where the maximum speed limit anywhere is 45 mph. We believe the number of speed postings is excessive for the context.

No Passing Signs

Passing zones will be reduced, especially near intersections. The plan recommends 24 new, large, no passing signs, flanking the road, marking the beginning of each no-passing zone. Signs are a 4'x3' yellow pennant reading NO PASSING and opposite it, also facing oncoming traffic, a white rectangle reading DO NOT PASS. **All of these signs have a "low" safety value in the RSA**, but the negative impact on the scenic quality of the road is VERY HIGH. **We recommend they be stricken from the plan.** Milestone road is marked with a double yellow or single dashed yellow center line and reflectors. The double yellow line is sufficient warning to drivers.

Deer Warning Signs

There are 13 deer warning signs being proposed. While the RSA found 9 crashes involving deer (14%) the value of deer warning signs is considered "low". Unfortunately, deer don't cross at the signs, and motorists must drive at a speed and with a level of attention that they can stop abruptly for any unexpected event, including deer. We recommend removing **most** of the deer warning signs.

We recommend reviewing the following category of signs:

Pedestrian/Bike Crossing

There are 11 new high-visibility crosswalks being added across Milestone Road and these will be marked by a total of 44 pedestrian warning signs, 42 of them fluorescent yellow green. An advanced warning sign with "ahead" is posted 80' before the crosswalk, and at the crosswalks, the same sign with an arrow. Some crosswalks also have a 3' square white sign reading "yield here to pedestrians".

Advance warning signs and crosswalks have a "medium" safety value in the RSA. Pedestrians and cyclists are vulnerable and visible crossings are important wherever pedestrians regularly cross. The florescent color, while increasing the intrusiveness of the sign, also increases visibility in fog.

We expect that many of the new bus-cut outs and cross walks will be rarely used. We recommend signs be erected where the RSA rates the safety value of the crosswalk as "high": Polpis Bike Path, Nobadeer Farm Road, and Tom Nevers Road; and removed where the rating is "medium", which is all other crossings.

In considering this recommendation, we inquired with the Executive Director of Strong Wings Adventure School, which operates a bike camp based on Nobadeer Farm Road and has an interest in both safety and the scenic and natural quality of the road. Chris Getoor does not want to see signs at all crossings. He said: "The level of signage is over the top...I think the traffic crossing Milestone in those locations [Tetawkimmo, Tawpoot, Milestone Crossing, etc] would be extremely limited."

Pedestrians must always watch for cars and cross with caution. The high-visibility cross walk is traffic calming and signal enough for drivers to be aware that pedestrians are crossing with caution at these less trafficked areas. We recommend the intrusive, florescent signs be removed from the less used side roads, unless NRTA data or other traffic study or special situation shows large groups and/or frequent use by pedestrians.

Street Signs

The Town of Nantucket is supplying **49 new street signs**. Details such as size, design, and reflectivity is unclear. We recommend these town signs be reviewed by the Sign Advisory Board.

Other Signs

See Appendix A for recommendations about other specific types of signs. We support the inclusion of high safety value signs. These include side-road warning signs and turning traffic yield to pedestrian signs. Most existing signs are by default being replaced with MUTCD standard versions of these same signs. Now is a good time to consider if these signs are still effective or necessary. In some cases, we recommend removal.

III. Q: How safe is Milestone Road? A: Relatively safe.

It makes sense to consider the relative safety of the road when considering how far to go in adding features that compromise its scenic integrity. The RSA tells us that **93.8% of crashes involved an intersection**. Nearly a third of these involved rear-ending. Focusing on making intersections safer by modifying “Y” intersections, removing passing zones near intersections, and posting side-road warning signs and signs that tell turning drivers to yield to pedestrians are factors most likely to improve the safety of the road.

The RSA does not tell us whether or not Milestone Road is relatively safe. It is important for town officials and the public to understand that **Milestone Road appears to have a low to average crash rate** for a road of its type, compared to the rest of the Commonwealth. Crashes per million miles travelled for rural collectors and rural arterials in Massachusetts are between 1 and 1.6. The crash rate for Milestone Road can be conservatively calculated as 0.23.¹ Crash rates for intersections appear to be low to low average, with Nobadeer Farm Road approaching the average and the others below average. A key question in this analysis is the volume of traffic on the road, which can be monitored with the addition of traffic counters.

IV. Future changes to Milestone Road: road widening vs. rumble strips

Mike Burns, transportation director, is developing a request for funding to widen Milestone Road by a total of 3’ (from a 21’ wide road to a 24’ wide road). The existing 10.5’ travel lane and 0 shoulder would change to an 11’ travel lane and 1’ shoulder. The work would also address “crumbling edges” from truck traffic on the road. The road was resurfaced in 2010 as part of a \$3.9 million project. We observed it to be in good condition.

The Historical Commission finds that the narrowness of the road contributes to its character as a scenic, historic road. On aesthetic grounds, we advise against widening it.

Any consideration of widening the road should include a speed study. Wider roads contribute to speeding. The federal Department of Transportation reports that moving to a

¹ The RSA reports peak traffic is 15,000 to 18,000 trips per day. We assumed 9,300 trips per day on average, for our calculation. One would need to assume only 2000 trips per day all year round to yield an average crash rate, given the number of actual crashes.

10' travel lane from an 11' travel lane slows traffic by 4.7 mph.² On Nantucket, Boulevard is a recently widened road which residents say has increased speeding.

Recognizing that lane departures are a cause of crashes (14% of crashes), **we urge the Town and the DOT to revisit adding rumble strips rather than road-widening.** The RSA recommended rumble strips as a low cost, high safety value modification. They have a low visual impact. Rumble strips can create noise concerns when homes are near the roadway, especially at curves where drivers frequently cross the center line or edge. However, these conditions are less of a concern on Milestone Road, because of the straight road and lack of nearby homes. Rumble strips create as much noise as a window unit air conditioner, and of course only make noise when they are run over. They can be discontinued in sensitive areas, such as where homes are close to the road.

Conclusion

There are many aspects of the DOT design that will improve safety and accessibility without detracting from the scenic, rural quality of Milestone Road. However, we believe many aspects of the current plan will materially degrade the scenic and rural character of Milestone Road and should be modified.

While the project team disqualified some recommended changes as too intrusive for Nantucket (for example, flashing lights at the Polpis Bike Path, and high-visibility cross walks at the Sconset Rotary) the approved plan misses opportunities to request historically appropriate materials, has far too many intrusive, low safety value signs, and takes a maximalist approach to building out bus stops at locations where they may or may not be used. When we interviewed Mr. Burns about the surprising number of bus-cut outs, we learned they were built “incase we need them”.

It is imperative for Nantucket that our historic assets and cultural landscape be considered when creating designs for transportation infrastructure. Until this report, there was no detailed preservation review of the project design specifications. A review should have been completed by preservation staff, collaborating with the transportation planner and DOT, beginning in 2018. A public hearing does not present design details, and is not a substitute for review by trained staff.

A section 106 review was initiated by the MHC, but was not completed because of the overloading of the HDC and the non-existence of a Historical Commission at the time. Regardless, PLUS should not be waiting for the section 106 review to consider preservation concerns. If there is no one on staff to do the work of a review, **then a question should be raised regarding adequate staffing for managing Nantucket’s historic assets.**

Nantucket must constantly balance preservation needs with transportation and development needs. We hope our Planning Director, our NP&EDC, our Select Board, and our Town Manager will consider staffing to support preservation initiatives. Nantucket Island is a National Landmark and deserves no less.

² Source: https://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_lanewidth.cfm

Exhibit A: Inventory of signs (each marker = 40')

Sign Type	Marker	Direction	Exist?	reference	Keep/Remove
Warning: Side road	14	EB	y		Keep
Warning: Bike/Ped Xing Ahead	16	EB		Monomoy	remove - low speed zone
Speed Limit 35	16	EB	y		Keep
Deer	17	EB			remove - low value sign
Bike/Ped Xing Here	17	EB		Monomoy	remove - low speed zone
Bike Ped xing here	18	WB		Monomoy	remove - low speed zone
Speed Limit 25	19	WB	y		Keep
Speed 25 Ahead	21	WB	y		keep - entering congested area
Warning: Side road	22	EB	y		Keep
Bike/Ped crossing ahead	22	WB		Polpis Rd	remove - crosswalk does not exist.
Warning: Side Road ahead	30	WB	y		Keep
Yield to Pedestrian here	34	EB		p. bike path	Keep
Bike/Ped crossing here	35	EB		p. bike path	Remove - have a Yield to Ped sign
Bike/Ped crossing here	35	WB		p. bike path	Remove - have a Yield to Ped sign
Yield to Pedestrian Here	35	WB		p. bike path	Keep
Speed 45	37	EB	y		Keep
Bike/Ped crossing ahead	38	WB		p. bike path	keep
No Passing	40	EB			Remove
Do Not Pass (faces EB)	40	WB			Remove
Speed 35	41	WB	y		Keep
Speed ahead 35	45	WB			remove - per best practices, reduction is not more than 10MPH, sign not necessary
Equestrian Crossing	53	EB	y		The equestrians have confirmed to keep
Do not pass	54	EB			Remove
No Passing (faces EB)	54	WB			Remove
Bike/Pedestrian crossing ahead	56	EB		Tawpoot Rd	Remove - low volume
Bike/Pedestrian crossing here	59	EB		Tawpoot Rd	Remove - low volume
Bike Ped crossing here	59	EB		Tawpoot Rd	Remove - low volume
Bike/Pedestrian crossing here	59	WB		Tawpoot Rd	Remove - low volume
Speed 45	62	EB			Remove - speed established
Bike/Ped crossing ahead	62	WB		Milestone crossing	Remove - low volume
Deer	64	WB			remove - low value sign

Deer	66	EB			remove - low value sign
Bike/Ped crossing ahead	67	EB		Milestone crossing	Remove - low volume
Bike/Pedestrian crossing here	70	WB		Milestone Crossing	Remove - low volume
Bike/Ped Crossing ahead	73	WB		Milestone crossing	Remove - low volume
Speed 45	85	WB			remove - speed established
Turn for Airport	87	EB	y		Keep
Bike/Ped crossing ahead	89	EB		Nob. Fm. Rd	Keep - heavy use, dangerous intersection
Turning traffic must yield for ped	90	EB			Keep - high value sign
Bike Ped crossing here	92	EB		Nob. Fm. Rd	Keep - heavy use, dangerous intersection
Bike/Ped crossing here	92	WB		Nob. Fm. Rd	Keep - heavy use, dangerous intersection
Speed 45	94	EB			Keep - road entry pt. from NFR
Turn for Airport	95	WB	y		Keep
Bike/Ped crossing here	97	EB		Tetawkimmo	Remove - low volume
Bike/Ped crossing here	97	WB		Tetawkimmo	Remove - low volume
Bike Ped crossing ahead	100	WB		Tetawkimmo	Remove - low volume
No Passing Zone (faces WB)	102	EB			Remove
Do Not Pass	102	WB			Remove
School Bus Stop Ahead	103	WB	y		Remove - Buses now have turn outs. Buses are their own signs (flashing lights)
Deer	117	WB			remove - low value sign
Deer	119	EB			remove - low value sign
Do Not Pass	123	EB			remove
No Passing (faces EB)	123	WB			Remove
Truck Crossing Ahead	124	EB			remove - low value sign
Bike/Ped crossing ahead	126	EB		New South	Remove - low volume
Speed 45	126	WB			remove - speed established
Turning traffic must yield for ped	127	EB			keep - high value sign
Bike/Ped crossing here	129	EB		New South	Remove - low volume
Bike Ped crossing here	129	WB		New South	Remove - low volume
Speed 45	131	EB			remove - speed established
Bike/Ped crossing ahead	132	WB			Remove - low volume
Truck Crossing Ahead	132	WB			Remove - low value sign
No passing (faces WB)	134	EB			Remove
Do Not Pass	134	WB			Remove

Do Not Pass	142	EB			Remove
No Passing (faces EB)	142	WB			Remove
Bike/Ped crossing ahead	144	EB		russells way	Remove - low volume
Bike/Ped crossing here	147	EB		russells way	Remove - low volume
Bike/Ped Crossing here	147	WB		russells way	Remove - low volume
Bike/Ped crossing ahead	150	WB		russells way	Remove - low volume
No Passing (faces WB)	153	EB			Remove
Do Not Pass	153	WB			remove
Speed 45	161	EB			remove - speed established
Speed 45	167	WB			remove - speed established
Deer	170	WB			remove - low value sign
Deer	172	EB			remove - low value sign
Do Not Pass	210	EB			remove
No Passing (faces EB)	210	WB			remove
Speed 45	212	WB			remove - speed established
Bike/Ped crossing ahead	214	EB		Tom Nevers	Keep - busy intersection
Bike/Ped crossing here	217	EB		Tom Nevers	keep
Bike/Ped crossing here	217	WB		Tom Nevers	Keep
Speed 45	220	EB			remove - speed established
Scenic View	220	EB			Has been removed
Warning: Side Road	220	WB			Keep
Bike/Ped crossing ahead	221	WB		Tom Nevers	keep
Deer	222	EB			remove- low value sign
Scenic View	223	EB			Has been removed
Deer	223	WB			remove- low value sign
No Passing	232	EB			remove
Do Not Pass	232	WB			remove
Do Not Pass	262	EB			remove
No Passing (Faces EB)	262	WB			remove
Bike/Ped Crossing ahead	265	EB		Chuck Hollow	Remove - low volume
Speed 45	265	WB			remove
Bike/Ped crossing here	268	EB		Chuck Hollow	Remove - low volume
Bike/Ped crossing here	268	WB		Chuck Hollow	Remove - low volume
Speed 45	271	EB			remove - speed established
Bike/Ped crossing ahead	271	WB		Chuck Hollow	Remove - low volume
Equestrian Crossing	272	EB	y		The equestrians have confirmed to keep
No Passing	272	EB			remove
No Passing	272	WB			remove
Deer	275	EB			remove- low value sign
Deer	275	WB			Keep - beginning of wild, high speed area

Do Not pass	319	EB			remove
Speed Limit 25 Ahead	319	EB			Keep - more than 10MPH change
Equestrian Crossing	319	WB	y		The equestrians have confirmed to keep
No Passing (faces EB)	319	WB			Remove
Speed 45	324	WB	y		Keep - begin new zone
Speed 25	325	EB	y		Keep
Bike/Ped crossing ahead	327	EB		New Street	remove - low speed area
Rubbish disposal prohib.	327	WB	y		Remove - is this a problem, or enforced? New sign is larger
Deer	327	EB			remove - low speed area
Deer	328	WB			remove - have one in next section
Bike/Ped Crossing here	330	EB		New Street	Remove
Bike Pedestrian crossing here	330	WB	y	New Street	remove
Bikes may use full lane	331	EB			keep
Bike/Ped crossing ahead	333	WB		New Street	Remove
Warning: Side Road	334	WB			keep
Speed 20	340	EB	y		keep
Speed 30	340	WB	y		keep
49 NEW STREET NAME SIGNS					Sign Committee to Review