

# Long-Term Management of Private Roads



WPI

# Who We Are

Kevin Ouellette

Robotics Engineering

Allison Paquin

Biomedical and Mechanical Engineering

Andrew Mahn

Management Information Systems

**Sponsor**

Kara Buzanoski

*Department of Public Works*







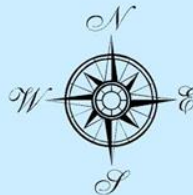
# The Problem



# 64%

of roads on Nantucket are privately owned

# Road Ownership



**Public Road**  
**Private Road**



# Eel Point Rd



# Rugged Road

# Other Concerns



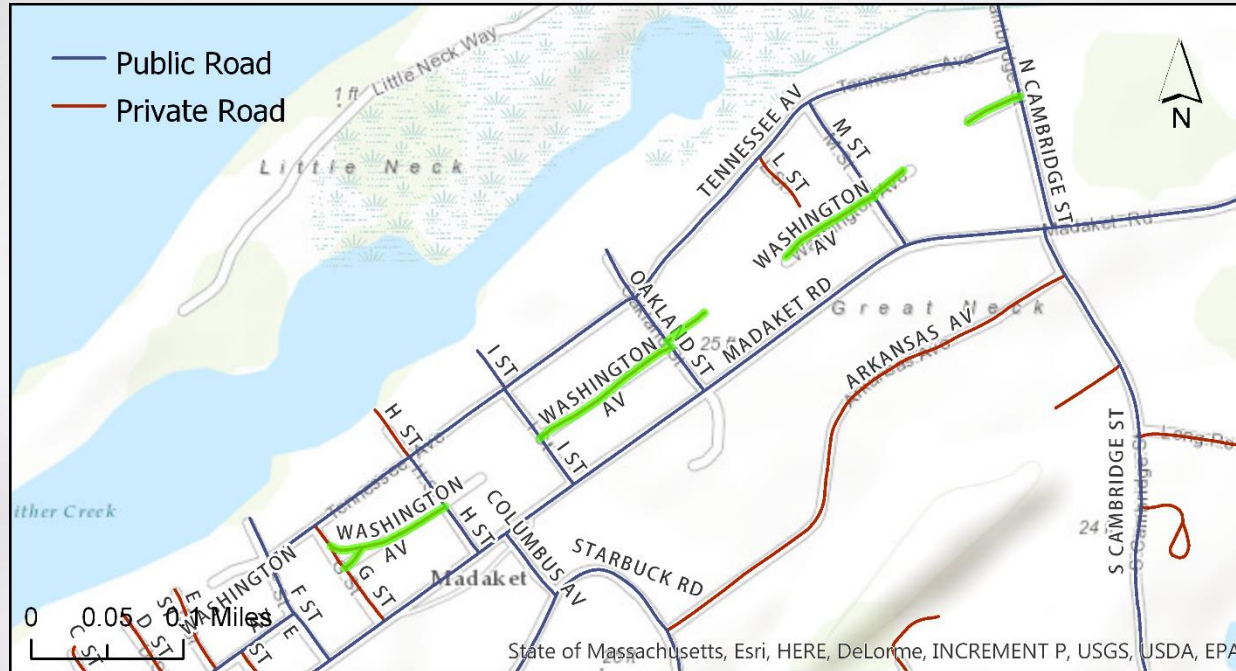
Addresses & Signs



Easements



# Other Concerns



# Discontinuous Roads



A coastal landscape with a wooden fence, tall grass, and a dirt path leading to the ocean under a clear blue sky.

# Goals and Objectives



## **Goal: Evaluate management strategies for private roads on Nantucket.**

To do this, we:

1. Evaluated current management plans;
2. Evaluated current practices;
3. Determined best practices in comparable towns.
4. Created a checklist of criteria;
5. Applied the criteria to select roads.





# 23

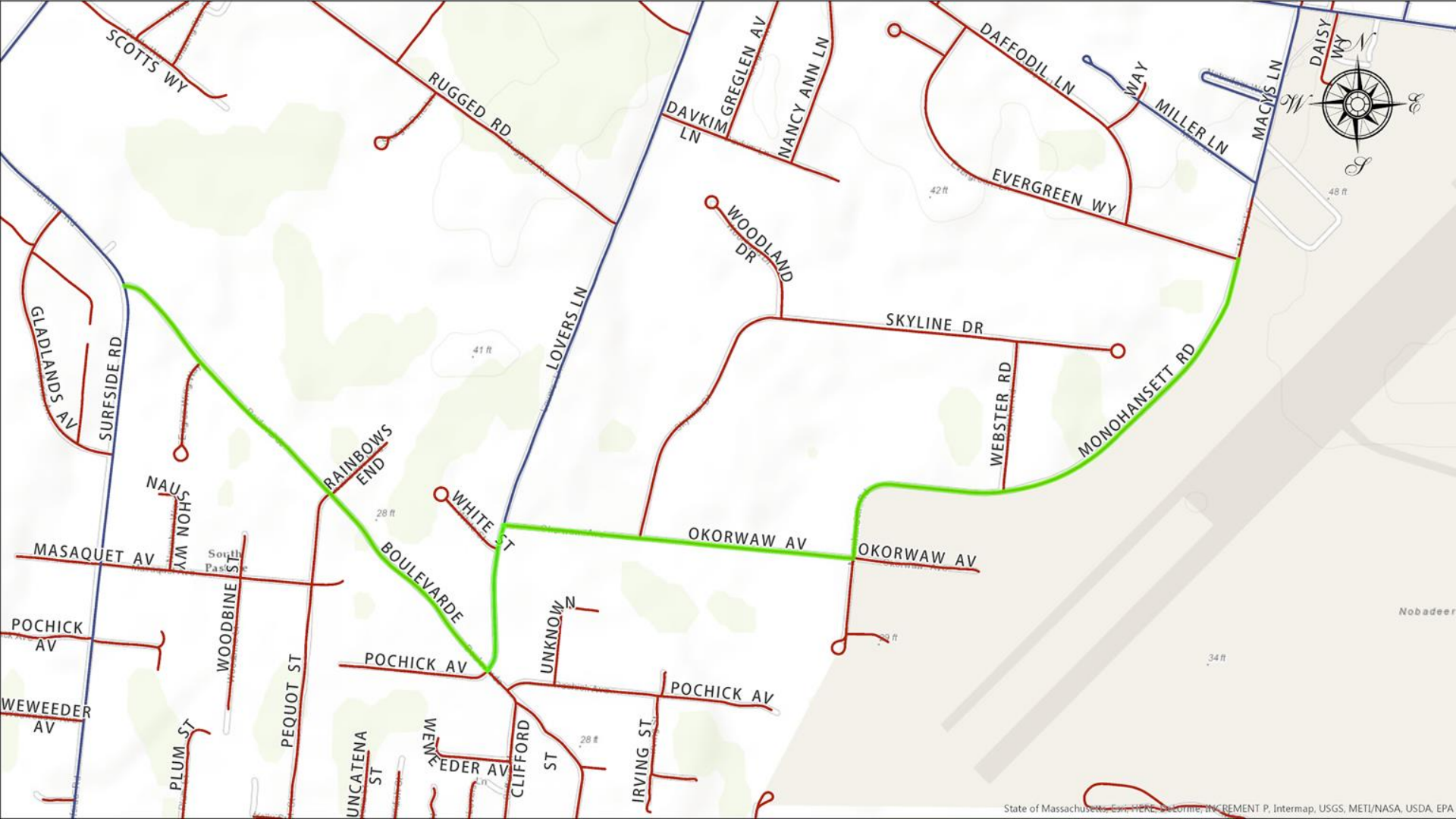
## INTERVIEWS

11	Town Officials
5	HOA Presidents
4	DPW Directors
3	Other

A photograph of a flooded road. The road is covered in water, reflecting the sky and the surrounding environment. A wooden fence runs along the left side of the road. In the background, there are trees and a few parked cars. The text "Current Plans" is overlaid in the center of the image.

# Current Plans





# Potential Takings

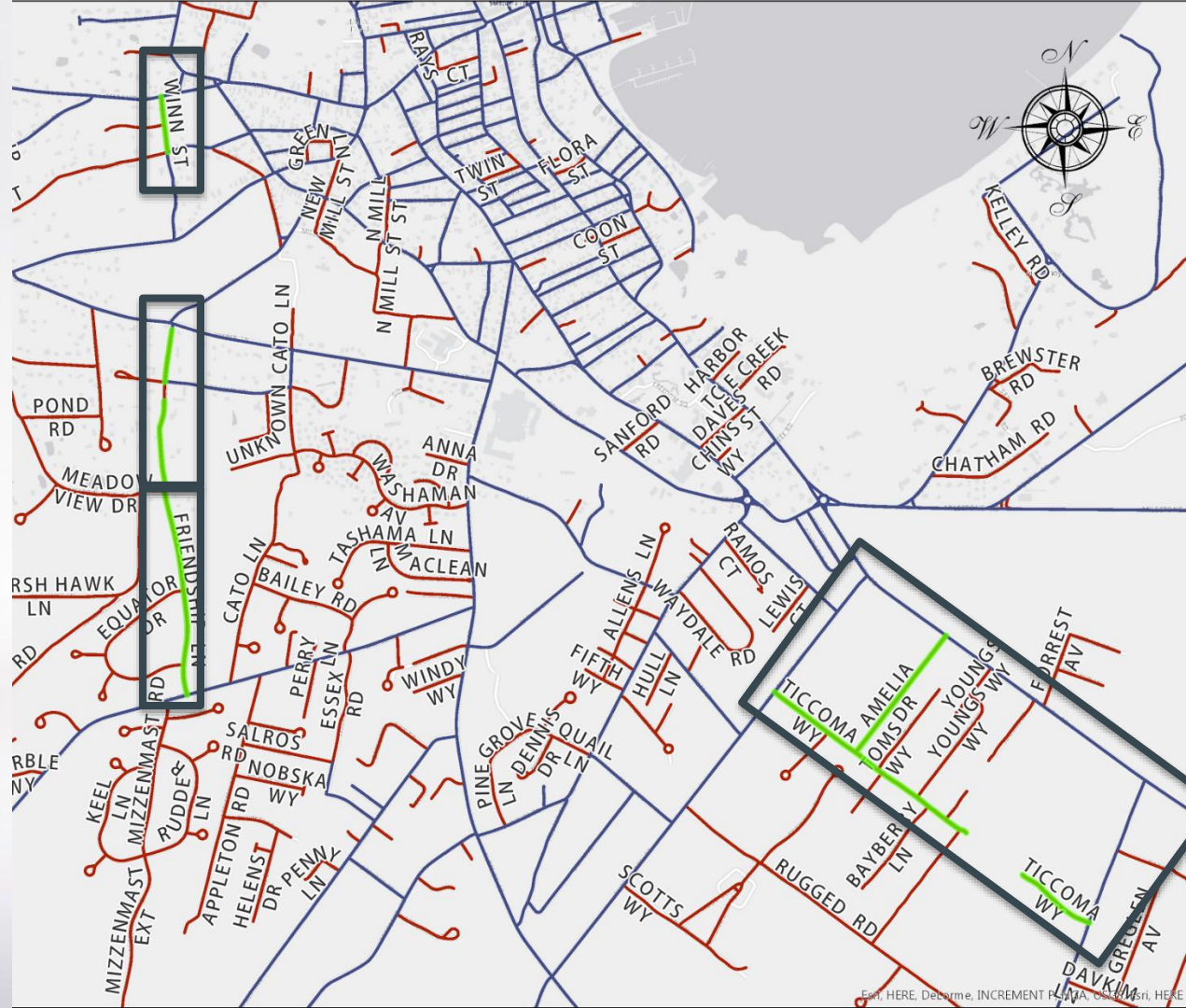
Friendship Lane

Somerset Road

Winn Street

Amelia Drive

Ticcoma Way  
(to Lover's Lane)







# Abutter Education

# Homeowners / Residents Associations

**50%**

of associations interviewed  
allocate money to road  
maintenance

**11 of 20**

have dues less than or  
equal to \$100





Arkansas Avenue



Eat Fire Springs Road

# Recommendation

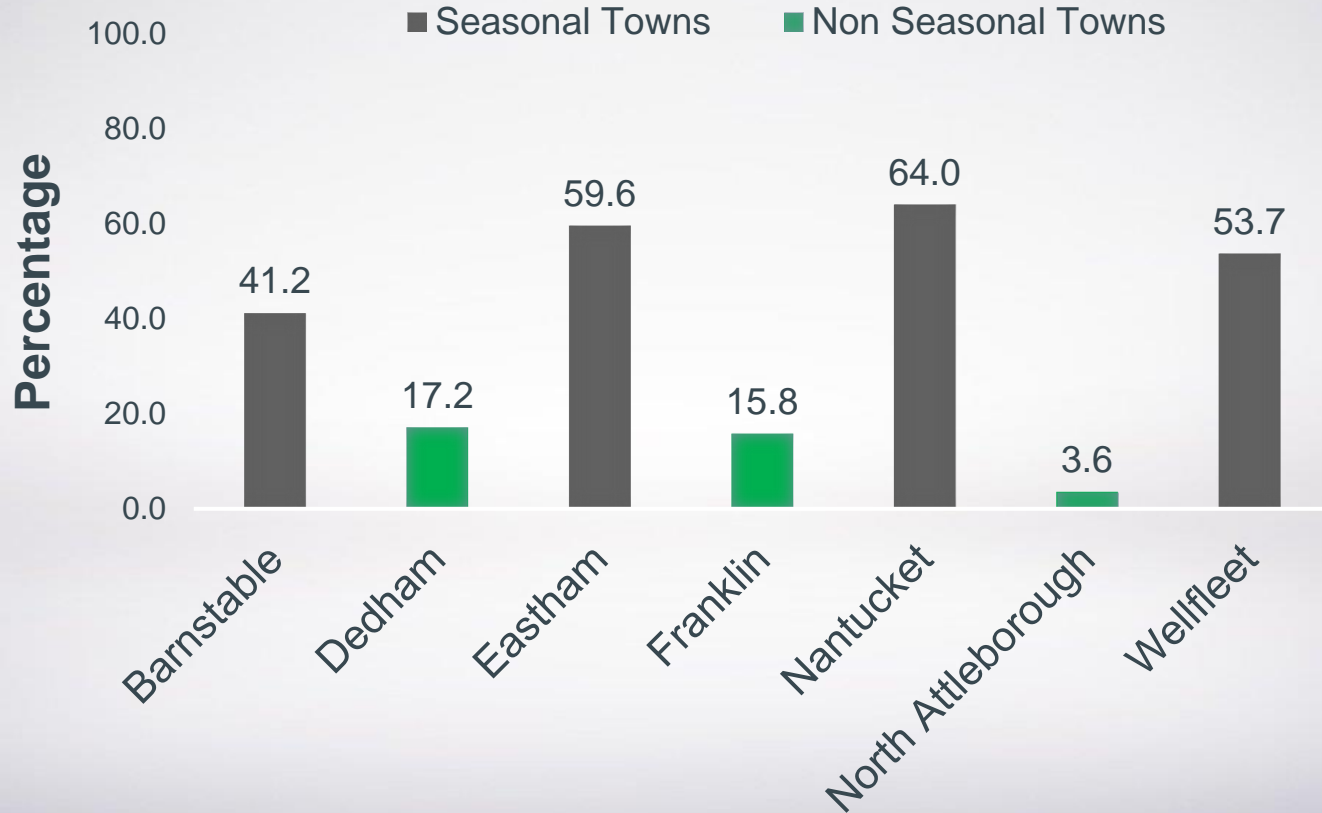
Distribute private road maintenance information.

A photograph of a residential street at sunset. The sun is low on the horizon to the left, casting a warm glow and reflecting off a wet patch on the asphalt road. Utility poles line the left side of the road, and houses are visible in the background under a cloudy sky. The text "Compared Towns" is overlaid in the center in a large, bold, black font.

# Compared Towns



# Percentage of Private Roads



# Snow Removal

	Eastham	Wellfleet
Surface Type	Paved	Paved
Surface Width	20 ft	10 ft
Vertical Clearance	14 ft	14 ft
Roadside Clearance	2 ft	3 ft
Street Sign Required?	Yes	Yes

A photograph of a snowy street scene, likely in a historic town. On the left, a building with a large window is visible, decorated with lights. A small, snow-covered Christmas tree stands in front of it. In the center, a blue mailbox is on the sidewalk. To the right, a large, snow-laden Christmas tree is decorated with lights, and a white park bench is in the foreground. The street is covered in snow, and the overall atmosphere is festive and wintry.

# Recommendation

Draft an adapted snow removal policy  
for private roads.



# Other Practices

Barnstable

North Attleborough



Town-funded  
maintenance



Eastham

Dedham



Taking of  
private roads



# Criteria for Taking

A faded background image of a residential street. On the left, there is a yellow fire hydrant in the foreground, followed by a tall green hedge and a line of trees. A paved road runs diagonally from the bottom left towards the top right. Two people are riding bicycles away from the viewer on the road. On the right side of the road, there are more trees and a house is partially visible in the distance.

Importance to Traffic Network

Public Safety

Homeowners Associations (HOA)

Abutters

Cost

		Somerset Rd (Friendship Lane to Vesper Road)	Millbrook Rd	Warrens Landing Rd
Importance to Traffic Network	Level of use (cars/hr)	63.7	28.6	22.3
	Road category	Connector	Connector	Access
	Road notes	- Connects Friendship to Vesper	- Alleviates traffic on Quaker - Provides quicker route between Madaket and Cisco	- Accesses Madaket Harbor, eel Point, and 40th Pole
	Number of sole access roads	0	2	7
	Leads to or contains a public facility? †	Yes - Vesper Lane and Hummock Pond Road	Yes - Madaket Road and Hummock Pond Road	Yes - 40th Pole Beach and Eel Point
Public Safety	Bike route / bike route connector	No	Yes (Madaket Path to Cisco Path)	No
	Road condition value (per 100 ft road segment)	Total - 2.25 Paved - 0.11 Unpaved - 4.83	Total - 5.56 Paved - 2.18 Unpaved - 6.73	Total - 5.36 Paved - 2.14 Unpaved 9.70
	Number of Structures	16	68	119
HOA	Presence of an HOA	None	None	Fisher's Landing Association
	Amount per member put towards maintenance	N/A	N/A	\$425 - \$595
Abutters	Abutter request?	No	No	Yes
	Reason for request	N/A	N/A	Public use is greater than private use
Cost to Town	Length (feet)	1517	6325	4950
	Average width (feet)	16.9	15.5	15.4
	Surface type	Paved - 895 ft Unpaved - 622 ft	Paved - 1834 ft Unpaved 4491 ft	Paved - 2921 ft Unpaved 2029 ft
	Cost to grind & regrade (\$)	76,000	142,000	226,000
	Cost to reconstruct (\$)	105,000	403,000	315,000



A background image of a residential street completely flooded with water. In the distance, a person is riding a bicycle through the water, and a car is visible further up the road. Houses and trees line the street, and the overall scene is hazy and overcast.

# Recommendation

Prioritize takings using the presented list of criteria.

# Summary of Recommendations

1. Draft an adapted snow removal policy for private roads.
2. Distribute private road maintenance information.
3. Prioritize takings using the presented list of criteria.