



# Sea Level Rise Scenarios Affecting Roads

Town of Middletown

Map Created: 8/4/2016

## Map Legend

### NOTES:

The Sea Level Rise (SLR) Inundation modified bathtub model does not take into consideration future erosion or storm surge.

Includes Hillshade from USGS 2011 LiDAR

- Current Mean Higher High Water
- 1Ft Sea Level Rise
- 3Ft Sea Level Rise
- 5Ft Sea Level Rise
- 7Ft Sea Level Rise
- City and Town Boundaries
- Potentially Affected Roads
- Roads

0 0.25 0.5 1 Miles

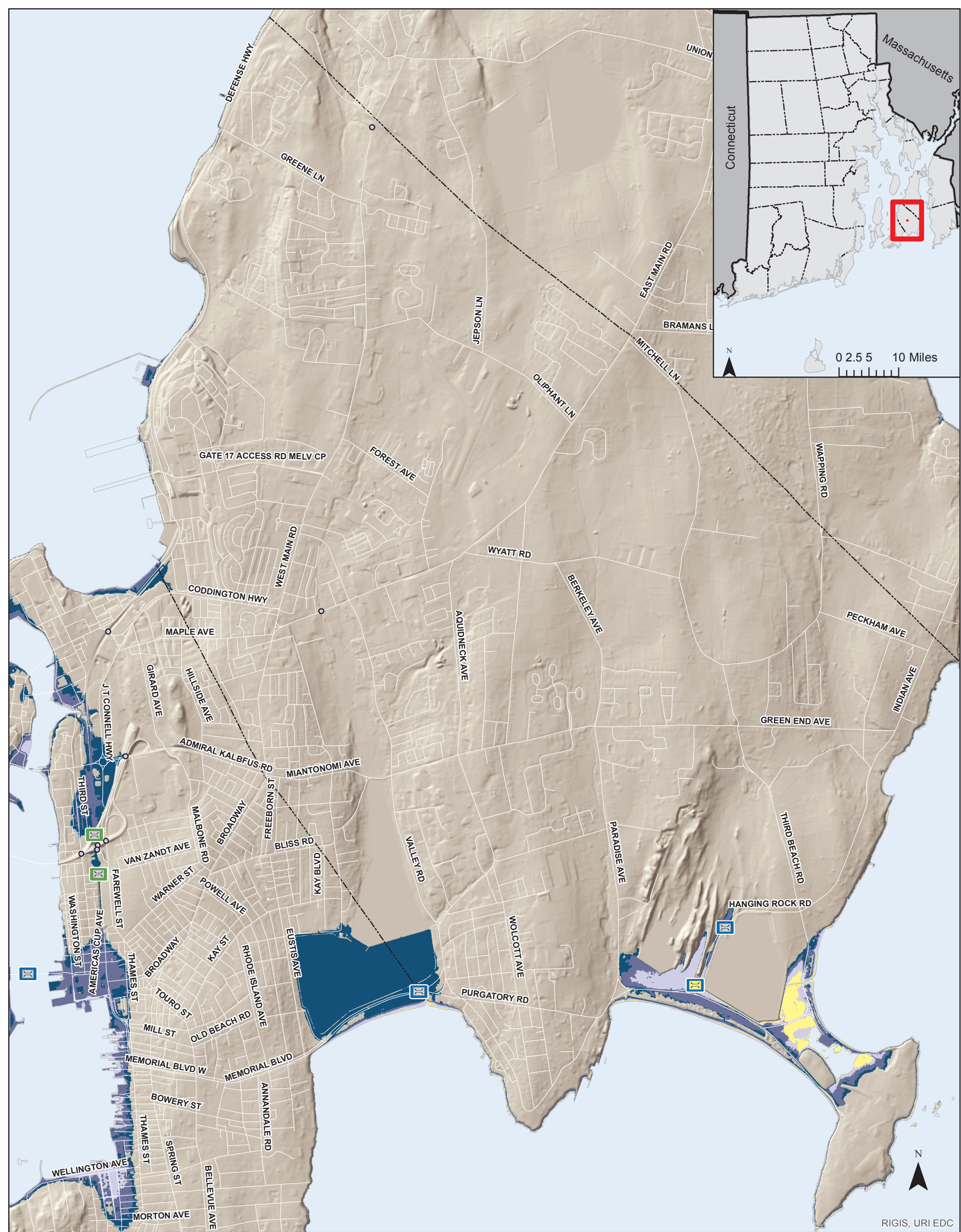


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Relative Road Vulnerability to Sea Level Rise

		Middletown	Linear Feet of Road Inundated At:										
Muni Rank	State Rank	Road Name	1 Foot of SLR	3 Feet of SLR	5 Feet of SLR	7 Feet of SLR	Total Linear Feet	Hazard Score	Evacuation Route	Intermodal Facility	Functional Classification	System Score	Vulnerability Score
1	58	THIRD BEACH RD	13	2,722	1,694	99	4,528	4.91	No	No	Local	0.60	5.51
2	70	PURGATORY RD				608	608	1.50	Yes	Yes	Principal Art.	3.93	5.43
3	91	HANGING ROCK RD	7	417	2,814	1,324	4,562	4.07	No	No	Major Coll.	1.06	5.14
4	103	SACHUEST POINT RD			3,402	740	4,142	4.37	No	No	Local	0.60	4.97
5	112	AQUIDNECK AVE				100	100	1.50	Yes	No	Principal Art.	3.40	4.90
6	756	ANDERSEN AVE		3		3	7	1.50	No	No	Local	0.60	2.10
7	757	DEFENSE HWY				44	44	1.50	No	No	Local	0.60	2.10
8	758	WAVE AVE				551	551	1.50	No	No	Local	0.60	2.10
		TOTAL LINEAR FEET	20	3,142	7,910	3,469	14,542						



# Sea Level Rise Scenarios Affecting Bridges

Town of Middletown

Map Created: 8/4/2016

## Map Legend

### NOTES:

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Includes Hillshade from USGS 2011 LiDAR

- |  |                                |                          |
|--|--------------------------------|--------------------------|
| Freeboard Potentially Affected by SLR    | Current Mean Higher High Water | City and Town Boundaries |
| Freeboard Unlikely to be Affected by SLR | 1Ft Sea Level Rise             | Roads                    |
| Not Exposed to SLR                       | 3Ft Sea Level Rise             |                          |
| Bridge Accessible                        | 5Ft Sea Level Rise             |                          |
| Possible Bridge Access Problem           | 7Ft Sea Level Rise             |                          |

0 0.25 0.5 1 Miles

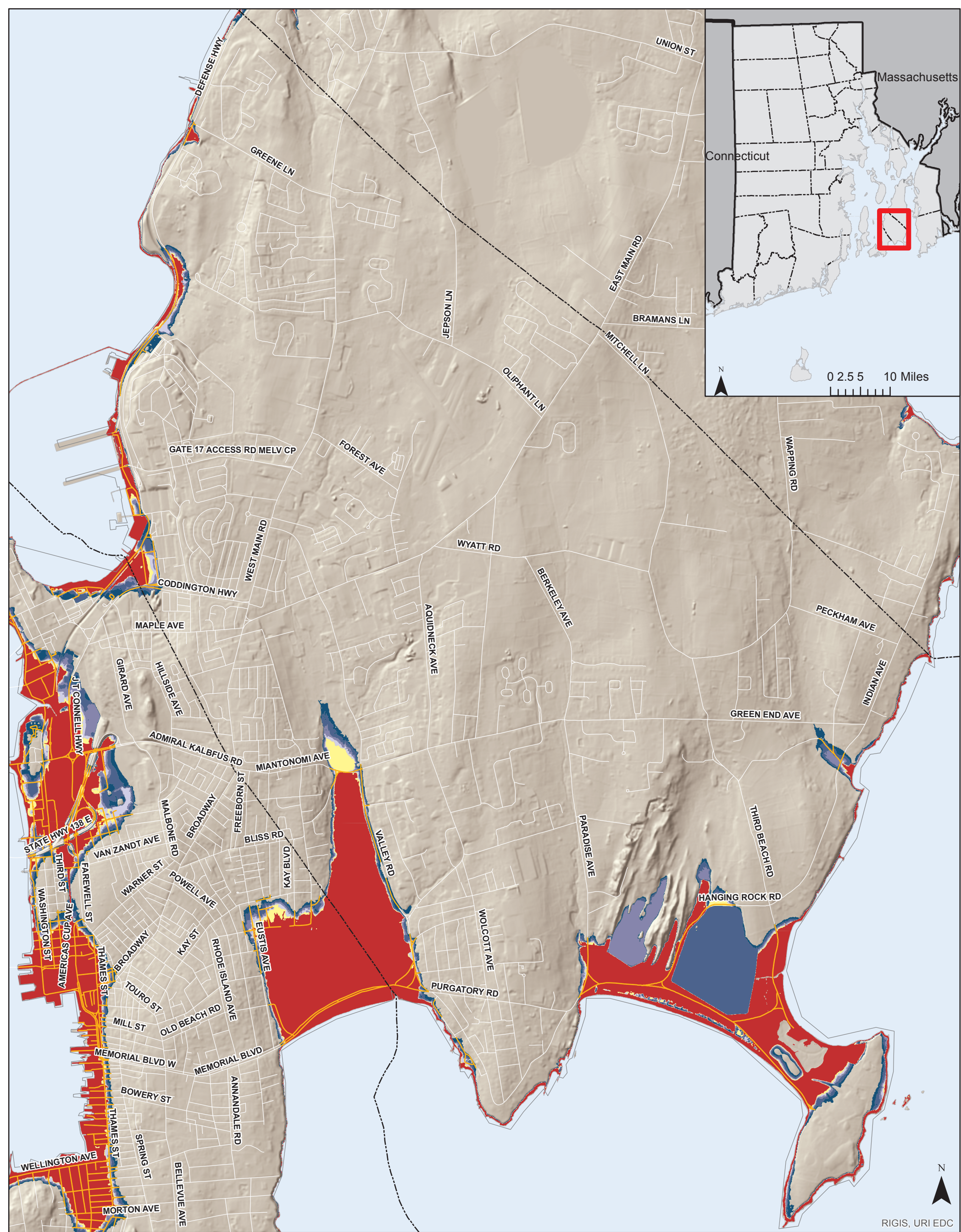


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Bridges Possibly Affected by Sea Level Rise in the Town of Middletown

Mun. Rank	State Rank	Bridge Name	Facility Carried	Feature Intersected	Inches of Freeboard Relative to 7ftSLR	Terrain Crossed	Landing Access	Haz. Score	Intermodal Facility	Evacuation Route	AADT	Sys. Score	Vuln. Score
1	5	Easton Beach	RI 138 MEMORIAL BD	EASTON POND CHANNEL	18	Water	Problem	3.30	Yes	Yes	18,000	5.00	8.30
2	54	Hanging Rock Road 1	HANGING ROCK ROAD	MAIDFORD R	-72	Water	Problem	4.50	No	No	1,500	1.50	6.00
3	62	Hanging Rock Road 2	HANGING ROCK ROAD	NO NAME BROOK	8	Water	Problem	4.10	No	No	1,500	1.50	5.60



# 100 Year Storm Surge Event Plus Sea Level Rise Scenarios Affecting Roads

Town of Middletown











Map Created: 8/4/2016

## Map Legend

### NOTES:

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Includes Hillshade from USGS 2011 LiDAR

- |   |  |   |                            |
|---|--|---|----------------------------|
|  | Current Ponds & Mean Higher High Water |  | City and Town Boundaries   |
|  | 100-Year Storm Event                   |  | Potentially Affected Roads |
|  | 100-Year Plus 1 ft. of SLR             |  | Roads                      |
|  | 100-Year Plus 2 ft. of SLR             |   |                            |
|  | 100-Year Plus 3 ft. of SLR             |   |                            |
|  | 100-Year Plus 5 ft. of SLR             |   |                            |
|  | 100-Year Plus 7 ft. of SLR             |   |                            |

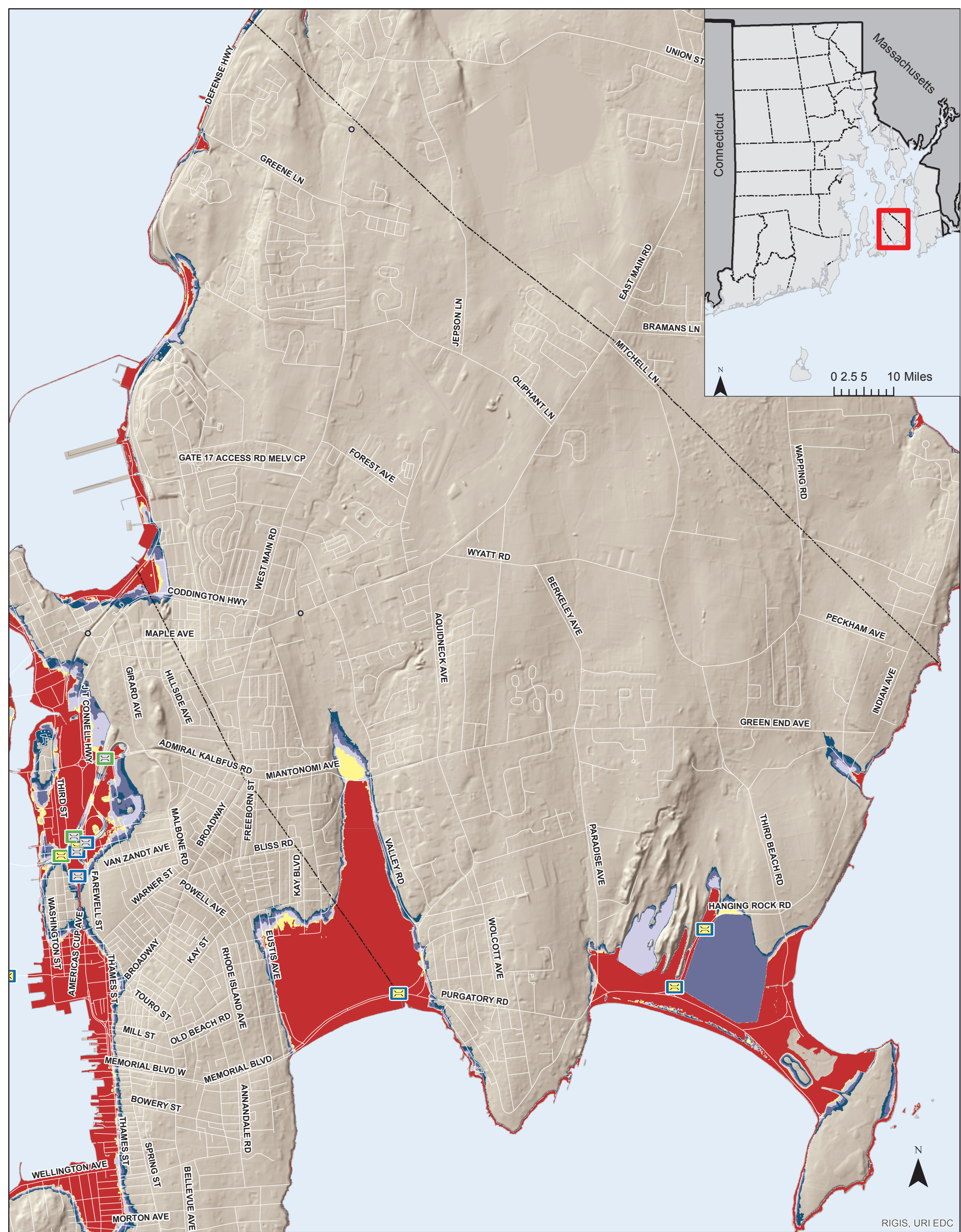
0 0.25 0.5 1 Miles



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Relative Road Vulnerability to 100-Year Storm Surge Event Plus Sea Level Rise														
Middletown			Linear Feet Inundated During 100 Year Surge Event Plus:											
Muni. Rank	State Rank	NAME	No SLR	1 Foot of SLR	3 Feet of SLR	5 Feet of SLR	7 Feet of SLR	Total Linear Feet	Haz. Score	Evac. Route	Intermodal Facility	Functional Classification	Sys. Score	Vulnerability Score
1	37	AQUIDNECK AVE	699	414	283	73	66	1,536	4.34	Yes	No	Principal Art.	3.40	7.74
2	61	PURGATORY RD	861	30	70	70	66	1,096	4.30	No	No	Minor Art.	2.98	7.29
3	186	HANGING ROCK RD	5,656	705	66	33	30	6,489	4.93	No	No	Major Coll.	1.10	6.03
4	226	PARADISE AVE	1,293	492	169	88	76	2,117	4.55	No	No	Major Coll.	1.23	5.78
5	252	DEFENSE HWY	1,412	504	2,085	1,707	951	6,659	3.78	No	Yes	Major Coll.	1.85	5.63
6	1,077	WAVE AVE	793	51				843	4.91	No	No	Local	0.60	5.51
7	1,078	SACHUEST POINT RD	5,246	78	76	33	0	5,434	4.91	No	No	Local	0.60	5.51
8	1,079	UNNAMED_46	843	56				899	4.91	No	No	Local	0.60	5.51
9	1,096	THIRD BEACH RD	4,666	37	58	51	41	4,852	4.88	No	No	Local	0.60	5.48
10	1,116	CODDINGTON HWY			149	301	104	554	2.04	No	Yes	Principal Art.	3.40	5.44
11	1,191	VALLEY RD			501	1,078	1,980	3,559	3.50	No	No	Minor Art.	1.80	5.30
12	1,236	UNNAMED_19	2,136	36	131	121		2,424	4.61	No	No	Local	0.60	5.21
13	1,281	GREEN END AVE	175	611	388	154	130	1,457	3.71	No	No	Major Coll.	1.44	5.15
14	1,369	UNNAMED_48			1,201	89	96	1,387	4.37	No	No	Local	0.60	4.97
15	1,440	UNNAMED_49	883	25	132	96		1,136	4.26	No	No	Local	0.60	4.86
16	2,004	UNNAMED_36	68	23	237			329	3.43	No	No	Local	0.60	4.03
17	2,072	UNNAMED_30	106	14	27	27	30	204	3.31	No	No	Local	0.60	3.91
18	2,074	CRESCENT RD	313	56	62	51	186	669	3.31	No	No	Local	0.60	3.91
19	2,175	UNNAMED_18	80	20	33	34	31	197	3.12	No	No	Local	0.60	3.72
20	2,210	UNNAMED_40			251	26	49	327	3.04	No	No	Local	0.60	3.64
21	2,273	HUNT ST				720	334	1,054	2.87	No	No	Local	0.60	3.47
22	2,329	INDIAN AVE			152	206	136	495	2.12	No	No	Major Coll.	1.20	3.32
23	2,337	MIANTONOMI AVE		14	93	36	28	172	1.50	No	No	Minor Art.	1.80	3.30
24	2,468	BRIARWOOD AVE	47	16	26	26	23	139	2.41	No	No	Local	0.60	3.01
25	2,552	ANDERSEN AVE	46	46	69	63	70	295	2.13	No	No	Local	0.60	2.73
26	2,567	GREENE LN					58	58	1.50	No	No	Major Coll.	1.20	2.70
27	2,648	VAUCLUSE AVE			118	294	108	520	1.95	No	No	Local	0.60	2.55
28	2,654	SHORE DR			330	372	773	1,474	1.95	No	No	Local	0.60	2.55
29	2,708	NEWPORT AVE		44	142	87	60	333	1.77	No	No	Local	0.60	2.37
30	2,904	ESPLANADE				397	144	541	1.50	No	No	Local	0.60	2.10
31	2,905	HOWLAND AVE				405	197	602	1.50	No	No	Local	0.60	2.10
32	2,906	PORTER ST			69	74	51	194	1.50	No	No	Local	0.60	2.10
33	2,907	UNNAMED_24				52	71	123	1.50	No	No	Local	0.60	2.10
34	2,908	UNNAMED_33					74	74	1.50	No	No	Local	0.60	2.10
35	2,909	UNNAMED_47					14	14	1.50	No	No	Local	0.60	2.10
36	3,288	CHANDLER ST				10	138	148	1.50	No	No	Local	0.60	2.10
37	3,289	JOHNNY CAKE HILL RD			81	33	27	140	1.50	No	No	Local	0.60	2.10
38	3,290	UNNAMED_37			24	16	13	54	1.50	No	No	Local	0.60	2.10
Total Linear Feet			25,323	3,273	6,998	6,807	6,143	48,544						



# 100 Year Storm Surge Event Plus Sea Level Rise Scenarios Affecting Bridges

Town of Middletown

Map Created: 8/4/2016

## Map Legend

### NOTES:

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Includes Hillshade from USGS 2011 LiDAR

- |  |                            |                          |
|--|----------------------------|--------------------------|
| Freeboard Potentially Affected by Surge    | 100-Year Storm Event       | City and Town Boundaries |
| Freeboard Unlikely to be Affected by Surge | 100-Year Plus 1 ft. of SLR | Roads                    |
| Not Exposed to Surge                       | 100-Year Plus 3 ft. of SLR |                          |
| Bridge Accessible                          | 100-Year Plus 5 ft. of SLR |                          |
| Possible Bridge Access Problem             | 100-Year Plus 7 ft. of SLR |                          |

0 0.225 0.45 0.9 Miles



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Relative Bridge Vulnerability to 100-Year Storm Surge Event Plus Sea Level Rise in the Town of Middletown

Mun. Rank	State Rank	Bridge Name	Facility Carried	Feature Intersected	Inches of Freeboard Relative to 7FtSLR	Terrain Crossed	Landing Access	Haz. Score	Intermodal Facility	Evac. Route	AADT	Sys. Score	Vuln. Score
1	4	Easton Beach	RI 138 MEMORIAL BD	EASTON POND CHANNEL	-115	Water	Problem	4.50	Yes	Yes	18,000	5.00	9.50
2	109	Hanging Rock Road 1	HANGING ROCK ROAD	MAIDFORD R	-204	Water	Problem	4.50	No	No	1,500	0.60	5.10
3	110	Hanging Rock Road 2	HANGING ROCK ROAD	NO NAME BROOK	-125	Water	Problem	4.50	No	No	1,500	0.60	5.10