Municipal Options to Address Nuisance Flooding of Coastal Highways in Rhode Island

Olivia Thompson
Rhode Island Sea Grant Legal Program, Roger Williams University School of Law

Read Porter
Senior Staff Attorney, Marine Affairs Institute, Roger Williams University School of Law

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Sea level rise and more powerful storm surges and erosion have increased flooding in low-lying coastal areas of Rhode Island. These impacts affect coastal highways, requiring municipalities to make difficult choices about whether and how to maintain or abandon their infrastructure. This fact sheet helps cities and towns understand their legal duties, options, and potential liabilities when considering the future of threatened coastal infrastructure. By using the information in this fact sheet, municipalities can make informed decisions about the consequences of their infrastructure investments. After providing background on nuisance flooding associated with sea level rise, this fact sheet describes Rhode Island law governing responsibility for maintaining public roads. It then describes law and policy considerations related to the two primary options for addressing highway flooding in the state: elevation and abandonment. Considering the legal issues associated with each of these strategies can help municipalities decide the appropriate course of action in the context of a particular location.

1 Threats to Coastal Highways

Coastal highways1 and associated infrastructure in Rhode Island are under increasing threats due to sea level rise and erosion. Over three percent (65.6 miles) of Rhode Island’s highways are subject to nuisance flooding2 today, most of which are smaller, municipal roads.3 Storm surge and coastal erosion also pose threats to this infrastructure, and both nuisance and storm-driven flooding will become worse over time due to sea level rise.4 A recent study by the Rhode Island Statewide

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1 This fact sheet uses “highway” and “road” interchangeably to encompass all types of roads, highways, and driftways intended for travel by the public, inclusive of associated infrastructure, such as sidewalks. State law is not entirely consistent in its use of these and other terms.

2 Nuisance flooding is the term used in this fact sheet to refer to flooding that occurs at high tide, also known as “sunny-day,” minor, or tidal flooding. No reference to the legal doctrine of nuisance is implied.

3 Jennifer M. Jacobs et al., *Recent and Future Outlooks for Nuisance Flooding Impacts on Roads on the U.S. East Coast*, 2672 TRANSP. RES. RECORD, no. 2, 2018, at 1-10.

4 Id. at 1; William V. Sweet et al., *National Oceanic and Atmospheric Administration, NOS CO-OPS 086, Patterns of Projections of High Tide Flooding Along the U.S. Coastline Using a Common Impact Threshold*, 2-3, (2018) (“More-severe (deeper, more widespread and typically storm-driven) ‘moderate’ and ‘major’ flooding has become and will continue to become more probable. . . . As sea levels continue to rise, not only will the
Planning Program notes: “Assuming sea level rise and storm surge occur as predicted, the analysis shows that . . . 175 miles of road centerline will potentially be exposed to sea level rise, and 573 miles to storm surge. Statewide, 70% of these miles will be in the form of local roads.” Rhode Island municipalities thus face substantial long-term vulnerabilities due to these at-risk assets.

Highway flooding is a substantial burden for municipalities. Flooding is the most frequent and expensive natural disaster in New England, and the cumulative cost of nuisance flooding may be as great or greater than costs associated with extreme events. Costs of flooding may be direct, such as debris cleanup or road repairs—one study estimates annual costs of keeping roads in service to increase by $785 million by 2050. Flooding also causes indirect costs, including:

- reductions in property value, already estimated at $403 million in New England;
- disruptions in economic activity, such as lost business and tourism income; and
- challenges for public safety, including evacuation routes and provision of emergency services.

The costs of current and anticipated flooding and value of affected highways require local governments and utility carriers to plan proactively and strategically for the future of their infrastructure.

2 Municipal Duties and Liabilities for Highway Maintenance

Municipalities are required to maintain public highways under their jurisdiction and may be liable if poor maintenance results in injuries. This section explains how this duty and liability apply to highways in the state.
Municipalities are required to maintain only certain types of highways within their boundaries. Rhode Island law recognizes three types of roadways: state highways, municipal roads, and private roads.

- State highways are public roads classified as arterials or major collectors, with some limitations in urban areas. These highways serve “longer-distance travel, connecting city and town centers and major traffic generators.”
- Municipal roads are public roads that are not state roads. These roads are “under city or town jurisdiction” and serve “local travel.”
- Private roads are those “used for vehicular travel only by the owner and by those others having express or implied permission from the owner.”

Rhode Island municipalities have a duty to maintain “[a]ll highways, causeways, and bridges” within their boundaries, including sidewalks and vegetation. This liability unambiguously applies to all municipal roads and requires that they be kept “safe and convenient for travelers with their teams, carts, and carriages.”

A municipality’s duty to maintain also extends to state highways unless “the state assumed the responsibility and duty” to maintain the highway through such means as an express agreement or policy. However, municipalities are not under a duty to maintain private roads or liable for injuries that occur on these roads, even if they have repaired or maintained those roads in the past. Municipal duties and liability thus are limited to all municipal roads and some state highways.

The municipal duty to maintain highways extends to flood damage. Municipalities must keep highways “in repair and amended” so that they are “safe and convenient for travelers[].” In City of Providence v. Clapp, the United States Supreme Court held that the duty to maintain “extend[s] to all kinds of defects,” including defects “caused by flood or tempest.” Therefore, when a municipal...
highway becomes unsafe or defective from flooding, the municipality has a duty to repair the highway.\(^{25}\)

Municipalities can be liable for damages caused by a failure to maintain a highway. Municipalities are “liable to all persons who may in any way suffer injury to their persons or property” as a result of maintenance failures.\(^{26}\) However, the municipality is only liable if it had prior notice of the defect and failed to cure it within a reasonable time.\(^{27}\) Notice of a defect is a fact-specific determination; the courts have found a municipal surveyor’s knowledge of a defect or presence of the defect for “a sufficient length of time” sufficient, but declined to find notice based on knowledge by only a single town councilor or a patrolling police officer.\(^{28}\) Once a municipality has notice, the municipality may then be liable if the defect is not guarded to prevent injury before the defect is repaired.\(^{29}\) These cases suggest a municipality could be liable if a municipality knows or should know that a highway regularly floods or is likely to flood during a predicted storm event and if it fails to act to protect the public, such as by putting out caution signs, temporarily closing the highway, or posting detour routes.\(^{30}\)

The courts have applied the “public duty doctrine” to limit municipal negligence liability in cases involving highway maintenance. The public duty doctrine provides that neither a municipality nor its agents is liable for “discretionary governmental actions that by their nature are not ordinarily performed by private persons.”\(^{31}\) Rhode Island courts have repeatedly found that the public duty doctrine applies to decisions related to maintenance of highways and associated infrastructure, including those decisions made by municipalities.\(^{32}\) However, few cases directly address maintenance by municipalities, rather than state activities or design decisions by municipalities, such as placement of traffic control devices. In addition, the state Supreme Court has held in at least one case that maintenance activities—trimming vegetation—is an activity engaged in by private parties, such that

\(^{25}\) R.I. GEN. LAWS § 24-5-1(a)

\(^{26}\) R.I. GEN. LAWS § 24-5-13(a).

\(^{27}\) R.I. GEN. LAWS § 45-15-8 (assigning liability if a municipality “had reasonable notice of the defect, or might have had notice of the defect by the exercise of proper care and diligence on its part”).

\(^{28}\) Seamons v. Fitts, 42 A. 863, 864 (R.I. 1899); White v. Cardarelli, 128 A.2d 891, 892 (R.I. 1957) (holding that defect in sidewalk for at least a year before the injury occurred was long enough for the municipality to have reasonable notice); but see Whitford v. Palmer, 100 A. 312, 313 (R.I. 1917) (“notice to a member of the town council of a town of a defect in a highway is not actual and express notice of the defect to the town”); Yankee v. LeBlanc, 819 A.2d 1277 (R.I. 2003) (police speed enforcement insufficient to show notice of an unsafe condition).

\(^{29}\) Perry v. Sheldon, 75 A. 690, 694 (R.I. 1910).


\(^{32}\) See, e.g. Haley, 611 A.2d 845 (placement of sawhorses in roadway); Bierman, 590 A.2d 402 (broken traffic control devices); Knudsen v. Hall, 490 A.2d 976, 978-79 (R.I. 1985) (inadequate intersection markings and overgrown vegetation); DeFusco v. Todesca Forte, Inc., 683 A.2d 363 (R.I. 1996) (exit ramp opened to traffic during construction); Polaski v. O’Reilly, 559 A.2d 646 (R.I. 1989) (placement of stop sign by municipality); Yankee, 819 A.2d at 1279 (“The LeBlancs have conceded that the public duty doctrine applies to the maintenance and design of roadways . . . ”).
the public duty doctrine does not apply.\textsuperscript{33} Therefore, maintenance failures by a municipality may or may not be shielded by the public duty doctrine, depending on the facts of particular cases.

Even if a claim is shielded by the public duty doctrine, a plaintiff may be able to prevail by showing that the municipality owed them a special duty or engaged in egregious conduct. The special duty exception generally does not apply because most cases involve government duties to the “general highway-traveling public,” rather than to individuals. However, this exception has been applied where a government owes a duty to a “specific identifiable individual,” such as a neighboring homeowner.\textsuperscript{34} The egregious conduct exception applies where a municipality “has knowledge that it has created a circumstance that forces an individual into a position of peril and subsequently chooses not to remedy the situation[.].”\textsuperscript{35} Rhode Island courts have held that a municipality’s action rose to the level of egregious conduct where a municipality should have known a highway traffic signal was malfunctioning, but such holdings depend fundamentally on facts of specific cases.\textsuperscript{36} Therefore, a municipality could potentially be liable under the egregious conduct exception for failure to address flooding on a coastal highway that results in injury.

Municipalities can benefit from considering their liability for existing flood-prone coastal highways. Rhode Island law makes municipalities responsible for maintaining all public highways within their borders, unless the state has accepted maintenance responsibility. Municipalities are likely to be liable for injuries caused by their failure to address highway defects on these highways, including dangers caused by flooding. These potential liabilities add to the other costs of coastal highway flooding and may support decisions to elevate, realign, or abandon these highways.

3 Highway Elevation

Highway elevation and armoring may reduce or eliminate nuisance flooding of coastal highways and reduce vulnerability to storm events. For example, elevating a low-lying highway to or above the 100-year flood mark will avoid nuisance flooding in the near term. This option keeps the highway open for public and emergency use but has downsides including cost, permitting, and potential impacts on surrounding properties. This section addresses municipal authority to alter highway grades, permitting requirements for elevation projects, and potential liabilities associated with those projects.

Rhode Island municipalities have broad discretion to determine the grade of coastal highways. Town councils are authorized to set and change highway grades within their municipal limits.\textsuperscript{37} While

\textsuperscript{33} O’Gara v. Ferrante, 690 A.2d 1354, 1356 (R.I. 1997); but see DeFusco, 683 A.2d at 365 (“the construction and maintenance of public highways are typically not performed by private individuals”).

\textsuperscript{34} Misurelli v. State, 590 A.2d 877 (R.I. 1991) (finding special duty after collapse of wall during sidewalk construction); see also Knudsen, 490 A.2d at 977-78 (establishing special duty doctrine).

\textsuperscript{35} Bierman, 590 A.2d at 404 (quoting Verity v. Danti, 585 A.2d 65, 67 (R.I. 1991)).

\textsuperscript{36} Bierman, 590 A.2d at 403-404; but see DeFusco, 683 A.2d at 365 (declining to find egregious conduct where traffic control lights were never functional).

\textsuperscript{37} R.I. GEN. LAWS ANN. § 24-3-23. Prior to the town council approving the grade change, landowners abutting the highway must receive notice five “days before the passing of” the town council’s order. The notice must include “the
federal highways must be above the 50-year flood elevation, 38 Rhode Island has not established any minimum elevation requirements. As a result, municipal grade determinations are limited, if at all, only by standards established by local governments—a strategy adopted by few U.S. local governments to date. 39 Due to their broad discretion, municipalities can benefit from considering both current and expected future flood elevations during the design life of the infrastructure when selecting road grades.

Municipalities must obtain one or more permits before implementing most coastal highway elevation or armoring projects. Permits may be required because of a project’s location or its impacts on wetlands and submerged lands—a possibility because highway elevation requires roadbed widening to maintain side slopes. 40

- Assent from the Rhode Island Coastal Resources Management Council (CRMC) “is required for any construction or alteration in the coastal region or tidal waters of Rhode Island,” including for highway elevation projects within 200 feet of the shore or any coastal feature. 41
- A permit from the Rhode Island Department of Environmental Management (RIDEM) is required for any action that alters freshwaters, including freshwater wetlands, and will include conditions to protect these areas. 42
- The U.S. Army Corps of Engineers issues permits for activities that involve dredging or filling of navigable waters or wetlands. 43 The Corps has issued a statewide general permit for “linear transportation projects” in Rhode Island, which authorizes impacts on less than 5000 square feet of non-tidal wetlands. 44 Projects qualifying for the general permit can proceed without notification to the Corps, but others—including any projects affecting tidal wetlands—must obtain individual permits before work can begin. 45

Each of these permits is likely to contain mandatory conditions, such as limitations on the use of hard armoring, that affect specific highway elevation project design and feasibility.

Elevation projects may result in municipal liability if they cause injury to or a taking of private property. 46 Elevation and associated widening may require acquisition of private property.

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38 23 C.F.R. § 650.115.
39 See City of Miami Beach Ordinance No. 2016-4027 (2016) (requiring all new coastal highways to comply with a “freeboard requirement”).
40 CONNECTICUT DEPARTMENT OF TRANSPORTATION, HIGHWAY DESIGN MANUAL (2013).
41 See Application Forms and Fees, COASTAL RESOURCES MGMT. COUNCIL, http://www.crmc.ri.gov/applicationforms.html (last visited 4/2/19); 650 R.I. CODE R. 20-00-1.1.5.
42 R.I. GEN. LAWS ANN. § 2-1-21; R.I. GEN. LAWS ANN. § 2-1-20(9) (defining jurisdiction).
45 Id.
Municipalities are authorized to acquire property for highway purposes through the use of eminent domain, which requires compensation.\textsuperscript{47} Liability may also arise if the project causes a loss of access to neighboring properties or causes them to flood. Elevation can affect access to private property—particularly where a grade change is substantial. Abutting landowners have a “natural easement” of access to highways,\textsuperscript{48} and municipalities are required to compensate them for any injuries suffered as a result of a grade change.\textsuperscript{49} An elevated highway can cause flooding when water becomes trapped on the landward side of the road after a storm event.\textsuperscript{50} In such cases, “the embankment can begin to act like a dam holding the flood waters[.]”\textsuperscript{51} Temporary flooding may be a taking and require payment of compensation to affected landowners.\textsuperscript{52} The possible liability a municipality may face as a result of an elevation project varies as a function of the project design, including how high the highway is elevated compared to the existing grade and whether and how it affects abutting landowners.

Highway elevation projects have merit in some circumstances to retain emergency access to coastal properties, protect property values and tax base, and enable residents to enjoy coastal resources. However, these projects may have substantial costs—both for construction and to address potential liabilities, particularly where municipalities seek to elevate low-lying roads above the expected tidal levels throughout the project’s expected design life. In some cases, unaffected taxpayers may not believe that these costs are equitably shared by coastal and non-coastal residents. In addition, projects may face permitting challenges that affect their feasibility and design. Municipalities can benefit by being aware of these issues before deciding to elevate coastal highways.

4 Abandonment and Relocation

Municipalities unable or unwilling to invest in elevating an oft-flooded coastal highway may wish to end public responsibility for maintenance by converting it to a private road. The legal process of abandonment relieves the municipality of its duty to maintain the highway and effectively shifts the duty to maintain to the abutting property owners.\textsuperscript{53} Once abandoned, the highway is owned by abutters, who may maintain it. While this approach ends ongoing public maintenance responsibility, it may give rise to challenges, such as loss of public access, as well as liabilities due to effects on abutting landowners. Municipalities may benefit from considering these liabilities prior to initiating abandonment.

\textsuperscript{47} R.I. GEN. LAWS § 24-1-1; O’Neill v. City of East Providence, 480 A.2d 1375 (R.I. 1984).
\textsuperscript{48} Honig v. Director of Pub. Works for State of R.I., 258 A.2d 73, 77 (R.I. 1969) (“the right of access to and from a public highway or street is a natural easement and one of the incidents of the ownership or occupancy of land abutting thereon”).
\textsuperscript{49} R.I. GEN. LAWS § 24-3-30.
\textsuperscript{51} Id.
\textsuperscript{52} Ark. Game & Fish Com’n v. U.S., 568 U.S. 23 (2012).
\textsuperscript{53} R.I. GEN. LAWS ANN. § 24-6-1; see also DiCenzo v. Ruscetta, 510 A.2d 417 (R.I. 1986). (Municipality was not liable to a motorcyclist injured on an abandoned highway turned private road because the private way was owned by abutting landowners and a municipality does not have a duty to maintain the abandoned highway.)
Abandonment requires a legislative act by a municipality and cannot occur as a function of the passage of time alone. A municipality abandons a highway (or a portion of it) through a declaration by order or decree, after a public process, that it has “ceased to be useful to the public.” This declaration is a legislative action that cannot be reviewed or challenged in court as long as the procedural requirements are observed. Upon abandonment, title to the land where the highway sits “reverts to its owners and the town shall be no longer liable to repair the highway[.]” The effect of abandonment therefore depends on whether the municipality or the abutters holds title to the land under the highway. In many cases, abandonment effectively converts a highway into a private road, such that the public no longer has the right to use the road or legal obligations to maintain it.

Regardless of the effects on title to the underlying land, abandonment has fiscal consequences for municipalities. Abutters are statutorily entitled “to receive compensation from the town for the damages, if any, sustained by them” as a result of abandonment. While equivalent to the use of eminent domain, damages in abandonment actions “often are nominal.” However, actions will be considered a “confiscatory taking” of the “private property rights of easement of access” if they “leave the property owner without reasonable access to his property.” Whether through abandonment or another highway design action, cases involving “substantial impairment” of access have required substantial damage payments. For example, the Rhode Island Supreme Court upheld $104,000 in damages resulting from elimination of a street-level railroad crossing that resulted in the loss of access to a cheese-making facility by tractor trailer. Damages from abandonment or other changes in highway design that may affect access—potentially including elevation—thus may be important considerations for municipalities.

Abandonment of coastal highways could result in substantial liability under hypothetical scenarios. First, abandonment to transfer maintenance responsibility from public to private owners could substantially affect the value of property by increasing the costs of ownership. Abandonment that does not include reciprocal easements for abutters to pass along the prior highway could restrict

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54 Horgan v. Town Council of Jamestown, 80 A. 271, 274 (R.I. 1911) (“The way having been dedicated to the public, the public right in said way is not lost by nonuser or by adverse possession, however long continued.”)
55 Reagan v. City of Newport, 43 A.3d 33, 40 (R.I. 2012) (“Compliance with the procedures comprised in the Abandonment Statute is the exclusive method available for abandoning a public highway.”).
56 Glocester is the sole exception to the prohibition on abandonment by lack of maintenance. R.I. GEN. LAWS § 24-6-5. O’Reilly v. Town of Glocester, 621 A.2d 697, 704-707 (R.I. 1993) (discussing enactment of § 24-6-5 as response to court decision).
57 Gardner v. Cumberland Town Council, 826 A.2d 972, 976-77 (R.I. 2003); see also R.I. GEN. LAWS ANN. § 24-6-2 (establishing process).
59 Id. at 950.
61 Aust v. Marcello, 310 A.2d 758, 760 (R.I. 1973) (“The general rule in this state is that where, in an exercise of police power, the right of access to land abutting upon a highway is impaired or diminished, such act is not a confiscatory taking requiring compensation unless the impairment or diminution is so substantial as to leave the property owner without reasonable access to his property.”).
access and result in a taking of the easement of access. In addition, abandonment could trigger land use restrictions associated with access, such as prohibitions on issuance of building permits on lots without frontage on a public highway.63 Liabilities associated with abandonment in such cases could be a substantial impediment to the use of abandonment to shift highway maintenance responsibilities from municipalities to abutting property owners.

Municipalities may be able to abandon flood-prone highways without substantial liability by relocating the highway or a segment to a less threatened location. Municipalities are authorized to “mark out, relay, widen, straighten, or change the location of the whole of or any part of any municipal road, whether laid out by the state or otherwise.”64 They may also exercise the power of eminent domain to acquire private property for highway construction, which requires payment of just compensation.65 Towns and cities can offset some of these costs by assessing the owners of “any estates [that] will be specially benefited” by a project to “lay out, enlarge, straighten, improve, or alter” a highway for up to ¾ “of the damage occasioned by taking any real estate” for that project, but not more than the benefit to the estate.66 Relocation projects in coastal areas are also likely to be subject to permitting in a similar manner as elevation projects, which may affect project feasibility and cost. While relocation of a highway is likely to involve substantial costs, it will not result in damages if access is maintained: “the property owner has the right to reasonable access to the public streets but no property right in having his travel to his destination or the public's travel to his property be along the most direct route possible.”67 As a result, municipalities may be able to minimize the liability cost of coastal highway projects by retaining some means of highway access to coastal properties.

Abandonment of affected highways or segments may be appropriate in some cases, such as where elevation or protection are infeasible for cost, impracticability, or other reasons. This strategy may result in a loss of access from private properties to the public highway system, which could result in substantial damage claims in some instances. To address this limitation, municipalities may be able to relocate affected highways or segments to locations that are not subject to nuisance flooding. Relocation is likely to entail substantial costs for construction and may involve permitting challenges, but it can avoid damages for abandonment by preserving access to properties. Evaluating alternative routes for coastal highways may therefore be a cost-effective option for communities evaluating the future of access to flood-prone areas.

63 See, e.g., WARWICK, R.I., CODE OF ORDINANCES § 304.6 (“Public street access. No structure shall be erected on or moved onto a lot which does not have frontage on a public street equal to or greater than the required minimum frontage . . .”).
64 R.I. GEN. LAWS § 24-3-1.
65 R.I. GEN. LAWS ANN. § 24-3-1. “Whenever the city council of any city or the town council of any town shall determine that the public interest and convenience makes necessary or advantageous the acquisition of land or other real property … for the establishing, laying out … or relocating … any public highway, street, parkway, or driftway … it may proceed to acquire the same by the exercise of eminent domain[.]”
66 R.I. GEN. LAWS § 24-3-3 (towns); id. § 24-3-4 (cities).
5 Conclusion

Municipalities face difficult choices when faced with nuisance flooding of coastal highways. They must maintain roads and are liable for injuries caused by maintenance failures. Municipalities have two legal strategies to minimize this liability: highway elevation and abandonment (with or without relocation of the vulnerable segment). The needs of the municipality and the public affect which of these options are feasible in a given location. Municipalities can select options that are appropriate to local context while addressing the long-term needs of residents by considering factors such as the vulnerability and use of the highway, availability of alternate access and emergency routes, permitting challenges, and available short- and long-term funding. Proactive planning for coastal highways will help Rhode Island municipalities adapt to sea level rise and safeguard local residents and the local economy, while minimizing long-term municipal costs and liability.