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Note

A Taking Timebomb: Loss of Access Takings as a Barrier to Managed Retreat from Sea Level Rise

Isaac Foote*

In 2020, the looming challenge of climate migration broke into the American public consciousness with the confluence of record-breaking forest fires across the Western United States and over thirty named tropical storms during the Atlantic hurricane season.¹ Over the course of the year, the National Center for Environmental Information identified twenty-two billion-dollar weather events in the United States; This was the most billion-dollar events on record, and was three times greater than the 1980–2019 average.² However, the increasing intensity and frequency of natural disasters is only one of the consequences of unchecked climate change.³

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3. See U.S. GLOB. CHANGE RSCH. PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME I, 3–17 (Donald J.
Climate change—as well as its associated rapid global warming—is connected to a host of secondary and tertiary effects that threaten people, property, and infrastructure across the United States. While there has been significant discussion and investment in fighting the causes of climate change, even the most optimistic climate models predict disastrous consequences. As a result, this Note will focus its attention on adaptations that we will be forced to make in response to, and in preparation for, the effects of climate change.

Specifically, this Note will explore the issue of sea level rise (SLR). SLR is already increasing the severity of hurricanes,
threatening coastal property, and damaging infrastructure. In the face of this threat, we can “harden” sections of our coast against rising waters, but we must also learn when to walk away from coastal infrastructure that is now more expensive to maintain than the utility it provides. The process of making these decisions is what scholars refer to as a “managed retreat” from climate change: The conscious recognition that we must physically move away from places made inhospitable by the changing climate.

American identity, however, was not built on this understanding. Encoded into our history are the ideas of expansion and taming nature. The application of loss of access

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8. Cf. Laurel Wamsley, Is the Risk of Sea Level Rise Affecting Florida Home Prices? A New Study Says Yes, NPR (Oct. 15, 2020) (“[U]ntil 2012, sales volume of homes in census tracts that were less exposed to sea level rise and homes in tracts more exposed to it were trending similarly . . . . [B]ut from 2013 on, the volume of homes sold in Florida’s coastal areas with more sea level rise exposure has fallen as sales in the state’s lower-risk coastal tracts have risen.”).

9. See VOLUME II, supra note 6, at 482 (identifying bridges, roadways, railways, airports, ports, tunnels, and public transit as impacted by SLR and coastal flooding).

10. See id. at 494 (describing “three case studies of resilience measures for highway facilities”).

11. This requirement is described by the “sunk costs fallacy.” FRANCESCO PARISI, THE LANGUAGE OF LAW AND ECONOMICS: A DICTIONARY 290 (2013). Sunk costs are “non-recoverable costs incurred in the past” and “[A]ccording to economic theory, sunk costs are irrelevant for future choices.” Id. The sunk cost fallacy is factoring those previously incurred costs into present decisions, and thus making a less optimal choice in the present simply “because of an aversion to loss.” Id.

12. See Miyuki Hino et al., Managed Retreat as a Response to Natural Hazard Risk, 7 NATURE CLIMATE CHANGE 364, 364–66 (“‘Retreat’ is used to capture the philosophy of moving away from the coast rather than fortifying in place. ‘Managed retreat,’ on the other hand, derives from coastal engineering and has been defined as ‘the application of coastal zone management and mitigation tools designed to move existing and planned development out of the path of eroding coastlines and coastal hazards.’”).


takings to infrastructure threatened by SLR is the embodiment of this ethos. Loss of access takings is a judicially created doctrine that awards inverse condemnation damages under the Fifth Amendment of the U.S. Constitution (or similar state constitutional provisions) to individuals whose property is cut off from public road systems by changes to roads abutting their property. The doctrine was developed as a judicial check on discretionary decisions made by government planners but has already been applied to situations of managed retreat from SLR.\textsuperscript{15}

This Note will be the first comprehensive review of the loss of access takings doctrine in the context of SLR and managed retreat. It will argue that applying loss of access takings liability to managed retreat decisions (1) is inconsistent with the purposes of the Fifth Amendment, (2) is inverse to the historical use of loss of access takings, and (3) risks skewing local government investment decisions in favor of protecting the most valuable property and not for the benefit of communities as a whole.\textsuperscript{16} Finally, this Note will propose ways that judges can modify loss of access takings liability in cases of managed retreat from SLR to better meet the needs of a world restructured by climate change.

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\textsuperscript{15} Jordan v. St. Johns Cty., 63 So. 3d 835 (Fla. Dist. Ct. App. 2011) (holding that local governments have a duty to maintain roads that access private property, even in the context of SLR).

I. BACKGROUND

A. DISRUPTING THE COASTAL STATUS QUO: SEA LEVEL RISE AND MANAGED RETREAT

To the human eye, sea level rise can be difficult to spot. After all, it would be nearly impossible for a single person to notice an annual average global increase of less than one inch. However, the “symptoms” of SLR are already impacting coastal communities; sunny day flooding, beach erosion, and inadequacy of flood protection infrastructure decrease day-to-day coastal quality of life at best and leave homes destroyed at worst. This section will first describe the drivers of SLR and its implications for coastal communities in the United States. From there, this section will unpack the concept of “managed retreat” from SLR and how infrastructure disinvestment can facilitate the process.

1. The Expanding Threat of Sea Level Rise

Using tidal gauge measurements, we know that global sea levels have risen significantly since the beginning of the twentieth century. The introduction of satellite technology in the early 1990s not only confirmed the tidal gauge readings, but indicated SLR was accelerating: Between 1993 and 2018, mean sea level rose in 23 of the 25 years, and by 2018, mean sea level sat 8.1 centimeters above the 1993 average. Projections

17. See Alan Buis, Can’t “See” Sea Level Rise? You’re Looking in the Wrong Place, NASA: ASK NASA CLIMATE (May 13, 2020), https://climate.nasa.gov/blog/2974/cant-see-sea-level-rise-youre-looking-in-the-wrong-place (“The case of Ocean Isle Beach illustrates a key paradox about sea level rise: since it occurs relatively slowly, it can be easy to think it’s not happening. But as oceanographer and climate scientist Josh Willis of NASA’s Jet Propulsion Laboratory in Pasadena, California, told me, if you’re not seeing it, you’re just not looking in the right place.”).

18. Id.


estimate that by 2100, mean sea level will sit between 0.2 and 2.0 meters above current levels.\textsuperscript{21}

The physical causes for SLR are directly tied to increasing global temperatures. Primarily, higher global temperatures melt ice stored in glaciers and fill ocean basins with additional water mass.\textsuperscript{22} Secondarily, higher global temperatures increase the surface temperature of ocean waters and slightly expand the water.\textsuperscript{23} This results in decreasing oceanic density and, as a result, higher waters along the coasts.\textsuperscript{24} Roughly two-thirds of the increase in mean sea level between 1993 and 2018 was the result of increased oceanic mass and the remaining one-third resulted from decreased oceanic density.\textsuperscript{25} Both causes of SLR will be magnified by future global temperature growth and may reach some of the worst-case scenarios if global temperatures climb high enough to destabilize the Greenland and Antarctic ice sheets.\textsuperscript{26}

While “mean sea level” provides a single-number representation of the state of SLR globally, ocean currents and local geography can magnify the challenge for some communities.\textsuperscript{27} Internationally, small island nations already view SLR as an existential threat.\textsuperscript{28} Within the United States, there will be marked regional variation: Some sub-regions (like the Florida Keys) are already being impacted by SLR,\textsuperscript{30} while

\begin{itemize}
\item \textsuperscript{21} William V. Sweet et al., Nat’l Oceanic & Atmospheric Admin., Global and Regional Sea Level Rise Scenarios for the United States 11–12 (2017) (providing an intermediate range between 0.5 and 1.2 meters).
\item \textsuperscript{22} Id. at 43–44.
\item \textsuperscript{23} Id.
\item \textsuperscript{24} Id.
\item \textsuperscript{25} Id.
\item \textsuperscript{26} See State of the Climate in 2018, supra note 20, at 150–56 (describing changes in the Greenland Ice Sheet).
\item \textsuperscript{27} See Sweet et al., supra note 21, at 9–10 (describing the concept of “relative sea levels”).
\item \textsuperscript{28} See Pacific Small Islands and ‘Big Ocean Nations’ at UN Assembly Make the Case for Climate Action, Shift to Clean Energy, UN News (Sept. 25, 2020), https://news.un.org/en/story/2020/09/1073852 (describing statements by the leaders of Micronesia, Tuvalu, Kiribati, Papua New Guinea, and Tonga in which they call for aggressive international action against climate change to combat SLR and protect fisheries).
\item \textsuperscript{29} See Sweet et al., supra note 21, at 24–27.
\end{itemize}
other larger areas (like the Northeastern Coast and Western Gulf) are at an elevated risk of SLR-related injuries due to a combination of ocean currents, subsidence, and natural elevation.31

2. A “Managed Retreat” from Rising Seas

In the face of SLR, communities have three options for adaptation: “protect (build infrastructure to protect development), accommodate (build with the water, such as elevating houses), or retreat (move people away from the shore).”32 In some places—such as large, coastal population centers—protecting infrastructure makes both economic and practical sense.33 In others, where hardening options are readily and cheaply available, accommodating can maximize the value of coastal property with minimal disruption.34 But for many coastal areas, the costs of the former two options will be prohibitive and/or the level of difficulty in implementation will be extremely high.35 The managed retreat framework provides a response to SLR that allows for the efficient use of scarce protection resources. Without a managed retreat from SLR, uncoordinated property owners run the risk of either overinvesting in unsustainable property or underinvesting in property that can still be serviced by sufficient infrastructure. 36

31. SWEET ET AL., supra note 21, at vi–vii (“Along regions of the Northeast Atlantic . . . and the western Gulf . . . [regional sea level] is projected to be greater than the global average for almost all future [global mean sea level] rise scenarios . . . ”).
35. See Gary Yohe et al., The Economic Damage Inducted by Sea Level Rise in the United States, in THE IMPACT OF CLIMATE CHANGE ON THE UNITED STATES ECONOMY 178, 197, 203–06 (1999) (studying thirty coastal communities and finding that one-third would likely need to be abandoned due to SLR).
36. See Kousky, supra note 32 at 9–10. The author identified four reasons the “market is unlikely to lead to optimal levels or types of retreat in all locations.” Id. at 9. First, unilateral investment in protection may harm adjacent property and public goods like beach access. Id. at 9–10. Second, protection may prevent the migration of coastal ecosystems inland, thus ‘squeezing’ them out of existence between the ocean and human occupied land. Id. at 10. Third, coastal development is heavily subsidized, so protection investments are not fully borne by landowners. Id. Fourth, without third-party
This section will unpack the managed retreat framework with, first, a discussion of projected human movement away from the coasts and, second, how managed retreat and infrastructure disinvestment will interact with this migration.

Regardless of regional variation, SLR will impact all coasts of the United States and, with 40% of Americans living in coastal counties, the impact will be systemic. Whether initiated by the residents of affected land or by third parties (such as government entities or insurance companies), SLR will quickly make some communities unsustainable in the face of rising seas. Today, 1.7 million Americans live below their regional higher-high water line, and models predict that by 2100, 13.1 million Americans will be displaced due to the physical inundation of their land with a 1.8-meter rise in mean sea level. It is difficult to predict how the combination of SLR-induced physical displacement and decreased quality of life (through secondary effects of SLR like increased severity of weather and frequency of coastal flooding) will impact wider patterns of migration. Nevertheless, migration models estimate an additional twenty-five million Americans will move to inland counties due to “indirect effects” of SLR. The inland city of Austin, Texas, for example, is already projecting over “800 thousand incoming migrants due to SLR.”

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37. VOLUME II, supra note 6, at 323–26.
38. See Hino et al., supra note 12, at 365 (describing a conceptual model for resident versus non-resident initiated managed retreat); see e.g., Flavelle, supra note 13 (describing the federal government buyouts of communities, like Isle de Jean Charles, Louisiana, that are threatened by SLR); FED. EMERGENCY MGMT. AGENCY, HAZARD MITIGATION ASSISTANCE MITIGATION ACTION PORTFOLIO 26 (2020) (describing $500 million in federal funding for “mitigation projects” by local, state, and tribal governments that may include relocation of communities).
41. See id. at 3 (explaining that most existing studies of SLR have simply declined to include indirect effects of SLR in their projections).
42. Id. at 11.
43. Id. at 12.
Whatever the mechanisms that push people inland, one of the key drivers of their relocation will be the availability of infrastructure to provide services for their coastal property.44 “Asset relocation”—the movement of infrastructure to more protected ground while maintaining services to coastal areas—can be understood as a modified version of hardening coastal infrastructure.45 “Infrastructure disinvestment,” by contrast, “refers to a process of consciously allowing an infrastructure asset to ‘fall below previously accepted standards of condition or performance,’ typically to be able to reduce long-term investment in the asset and prioritize resources elsewhere.”46 Both are part of the managed retreat framework, but due to the fundamental shift in approach encompassed by infrastructure disinvestment, this Note will focus on the latter in its analysis.47

Functionally, infrastructure disinvestment may be accomplished “passive[ly]” or “intentionally.”48 Passive disinvestment occurs through a single or series of policy choices that downgrade infrastructure maintenance until the unsustainable infrastructure degrades to the point of unusability.49 This is typical for infrastructure disinvestment in the United States, as it is driven by budget and state capacity limitations rather than a studied analysis of the sustainability of infrastructure in the face of a changing environment.50 This is

44. See Kim S. Alexander et al., Managed Retreat of Coastal Communities: Understanding Responses to Projected Sea Level Rise, 55 J. ENV'T PLAN. & MGMT. 409, 410–12 (2012) (“Coastal urban planning departments are acutely aware that they are responsible for the replacement of urban infrastructure and are now also required to factor climate change projections and SLR-related risks into planning decisions.”).

45. See Managed Retreat Toolkit, Asset Relocation and Realignment, GEO. CLIMATE CTR., https://www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/asset-relocation-and-realignment.html (last visited Dec. 5, 2020) (“Relocating or realigning roads, or high-risk segments of roads, to less vulnerable locations may offer a longer-term solution than design modifications or protective measures.”).


49. Id.

50. Id. at 11 (describing fiscal constraints, like continued reliance on gas taxes despite reductions in gas purchased, on road maintenance budgets).
unfortunate because passive disinvestment can lead to a reduction in safety and an increase in liability over the short term and limit economic and social impact mitigation over the long term. At first blush, passive and intentional strategies may look quite similar as both reduce investment with the goal of retiring the infrastructure. However, the two strategies employ significantly different methods of accomplishing the end goal. First, in intentional disinvestment, there is an explicit movement of infrastructure to a lower level of maintenance and, consequently, some notice to the public of this shift. In the case of roads, this both alerts landholders to the shift in the status of the road impacting their property, and alerts drivers they are entering a less safe area of roadway. Second, in the case of intentional disinvestment in response to SLR, there is an acknowledgement that the process will end in abandonment of the infrastructure. This protects landholders as there are specific legal requirements that accompany abandonment and federal programs that may assist in providing compensation for affected landholders. Further, by acknowledging this end point, government entities can modify their future plans with

51. Infrastructure Disinvestment, supra note 46; see also Jones et al., supra note 16, at 82–85 (summarizing the negligence standard for duty to repair and maintain roads in Florida, Georgia, South Carolina, and North Carolina).

52. Infrastructure Disinvestment, supra note 46.

53. See Hino et al., supra note 12, at 365 (defining the goals of managed retreat).


55. See Infrastructure Disinvestment, supra note 46 (describing the importance of community engagement in making and executing infrastructure disinvestment decisions).

56. See, e.g., MINN. STAT. ANN. § 160.095 (West) (providing the designation and signage requirements for a “minimum maintenance road” in Minnesota).

57. Infrastructure Disinvestment, supra note 46.

58. Jones et al., supra note 16, at 102 (summarizing the abandonment authority and standard of review for different government entities in four southeastern states).

59. See, e.g., FED. EMERGENCY MGMT. AGENCY, supra note 38, at 29–30 (describing the federal-state-tribal collaborative relocation of Newtok Village, Alaska in the face of “[p]rogressive shoreline erosion along the Ninglick River”).
the recognition that, at some point, the affected infrastructure will be overtaken by the sea.\textsuperscript{60}

Today, there are 60,000 miles of roads and bridges in coastal floodplains in the United States.\textsuperscript{61} Even the most conservative SLR projections indicate this infrastructure will become increasingly expensive to maintain in the face of rising waters.\textsuperscript{62} Planners in Key West, Florida found:

\begin{quote}
[T]o keep . . . three miles of road dry year-round in 2025 would require raising it by 1.3 feet, at a cost of $75 million, or $25 million per mile. Keeping the road dry in 2045 would mean elevating it 2.2 feet, at a cost of $128 million. To protect against expected flooding levels in 2060, the cost would jump to $181 million.\textsuperscript{63}
\end{quote}

This led the mayor of Monroe County (where the section of road was located) to simply conclude “we can’t protect every single house,” even with the understanding that “we’ll probably face some lawsuits” from residents.\textsuperscript{64} SLR places policy makers in a fiscal bind: They can continue the patchwork effort of hardening some roads and passively disinvesting from others with no systemic plan for SLR, or they can begin the process of intentional disinvestment and risk liability with respect to impacted landholders today.\textsuperscript{65}

B. LOSS OF ACCESS TAKINGS AND LEGAL CHALLENGES TO MANAGED RETREAT

If a government entity embarks on a program of passive or intentional disinvestment for a section of road, landholders have multiple legal theories under which they may challenge the decision. If the entity decides to use a strategy of passive disinvestment, then landholders may bring a loss of access

\begin{footnotesize}
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\item \textsuperscript{60} See NAT’L ACADEMY OF SCI., ENG’G & MED., supra note 14, at 6 (describing the need to assess “wider transportation impacts” from infrastructure disinvestment).
\item \textsuperscript{61} VOLUME II, supra note 6, at 323–26.
\item \textsuperscript{62} Id. at 324.
\item \textsuperscript{63} Flavelle & Mazzei, supra note 30.
\item \textsuperscript{64} Id.
\item \textsuperscript{65} E.g., PAUL WILDES ET AL., MARINE EXTENSION & GA. SEA GRANT, LEGAL ISSUES WHEN MANAGING PUBLIC ROADS AFFECTED BY SEA LEVEL RISE: GEORGIA (2019) (explaining the processes and legal risks of abandoning a road due to SLR in Georgia).
\end{itemize}
\end{footnotesize}
takings claim\textsuperscript{66} or tort action.\textsuperscript{67} If an entity decides to employ intentional disinvestment culminating in abandonment, then landholders may, again, bring a loss of access takings claim\textsuperscript{68} or they may challenge the administrative process behind the decision.\textsuperscript{69} Due to the variable and statutory nature of tort and administrative theories, this Note will set them aside. Instead, this Note will address the history and applicability of loss of access takings claims due to SLR-motivated disinvestment.

\textsuperscript{66} See Jones et al., supra note 16, at 111–12 (describing how the loss of access doctrine was expanded to include a duty to maintain roadways).

\textsuperscript{67} Id. at 69, 81–82. The exact level of duty to maintain roads varies among states, counties, and cities, and is usually set by statute. See id. at 85. Examples of statutory maintenance requirements include a duty to: keep roads in “reasonably safe condition,” “improve, manage, and maintain” the road system, maintain the road system in “a safe and serviceable condition,” and “keep roads in proper repair and open for travel and free from unnecessary obstructions.” Id. For a complete breakdown of state, county, and municipal duties within four southeastern states, see id. It is also important to note that these claims may be prevented by various forms of sovereign immunity granted to government entities and that damages will likely not be the full value of the plaintiffs’ property, as would be the case under a takings claim. See id. at 92–101.

\textsuperscript{68} See Byrne, supra note 16, at 103 (“[G]overnment’s failure to maintain public access can effectuate a taking of the marooned property.”).

\textsuperscript{69} Similar to the duty analysis, the exact abandonment authority of government entities is usually set by statute and varies based on state and level of entity. See Jones et al., supra note 16, at 102. Examples of abandonment authority at the county level include: “[a] county may vacate, abandon, discontinue, or close a road but may not act to harm the public welfare,” “[a] county may abandon a road if the county board of commissioners determines that the road no longer serves a substantial public purpose or abandoning the road is in the best public interest,” and “[a] county governing body may discontinue a public road found to be useless and if it is in the best interest of all parties.” Id. For a complete breakdown of state, county, and municipal duties within four southeastern states, see id.
1. What Defines a Loss of Access Taking?

The theory of loss of access takings is simultaneously long-standing, widely adopted, and poorly defined. Under the Fifth Amendment of the United States Constitution, a plaintiff may bring a claim for inverse condemnation if they hold a “constitutionally protected interest” and that interest was taken for “public use.” Generally, takings claims are defined as either regulatory takings, which “deprive the owner of all beneficial use of his property,” or physical takings, where some form of...
property is actually appropriated by the government.75 Judges at the state level have extended similar provisions of state constitutions76 to create the loss of access taking: If a landowner’s access to the public street network is not just “inconvenienced” but “substantially” limited, then they may bring a claim requesting “just compensation” for their impacted land.77 While the definition of “substantially” is inconsistent between jurisdictions,78 a complete termination of one’s access to their property constitutes a “perfect example of denial of access without a trespassory act,” or, in other words, a loss of access taking.79 To eliminate ambiguities in this framework, this Note

75. Mas, supra note 72, at 370; see also Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 (1992) (“When the owner of real property has been called upon to sacrifice all economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking.”). But see Brennan, supra note 71, at 129 (defining “substantial interferences with landowners’ relationship to their property” as a category of taking distinct from the physical and regulatory categories and containing loss of access takings).

76. More than half of the state constitutions contain a takings clause that is materially different from the federal one, in that it prohibits property from being both “taken” and “damaged” or “injured” for public use without just compensation. Maureen E. Brady, The Damagings Clauses, 104 VA. L. REV. 341 (2018). It is unclear, however, the extent to which this difference has impacted loss of access takings liability in different states. In Bacich v. Bd. of Control of California (which will be referenced again below) the California Supreme Court stated that “the addition to the eminent domain clause in constitutions in most states, including California, of ‘or damaged’ to the word ‘taken’ indicates an intent to extend that policy to embrace additional situations.” 144 P.2d 818, 823 (Cal. 1943). However, in Florida (where Jordan clearly indicates loss of access takings exist), the Florida Constitution only states that “[n]o private property shall be taken except for a public purpose and with full compensation therefor paid to each owner or secured by deposit in the registry of the court and available to the owner.” FLA. CONST. art. VI, § 1. A full exploration of the impact of state constitution variation will require additional scholarship beyond the scope of this Note.

77. Stoebuck, supra note 72, at 735; see also Adamson v. People, 332 U.S. 46 (1947) (applying federal takings protections to state governments as well). But see Brown, supra note 72, at 286 (demonstrating loss of access takings have been incorporated into non-judicial records through means such as the annotations to Section 15 of the Colorado Bill of Rights).

78. See Mas, supra note 72, at 381–85 (noting standards of “substantial” include “unreasonably deficient” and “unsuitable for the property’s highest and best use”); HEIDI WESTERFIELD ET AL., CTR. FOR TRANSP. RES., A MODEL FOR ESTIMATING THE VALUE OF PROPERTY ACCESS RIGHTS 7 (1995) (“It is obvious . . . that the definition of reasonable access is a purely subjective one. Inconsistencies in the analysis of reasonable access litigation indicate that no uniformity exists, and the individual judge may determine what he/she believes to be ‘reasonable.’”).

79. Stoebuck, supra note 72, at 738.
will assume any instance of infrastructure disinvestment will ultimately culminate in a complete termination of public road access to affected property.

Despite the strong duty that the loss of access doctrine creates in the absolute case, courts have consistently limited the implementation of loss of access claims. First, they refuse to grant compensation for circuity of access or diversion of traffic.\(^\text{80}\) Second, they only grant causes of action to landowners whose property immediately abuts the affected street.\(^\text{81}\) Third, with the introduction of freeways in the post-WWII era, courts refused to grant recovery when landholders’ access to highways were replaced by frontage roads.\(^\text{82}\) Finally, there is no duty for a government to purchase a road easement and build a road to an individual’s property, so by implication, the duty only begins once the road is built.\(^\text{83}\)

2. Are Loss of Access Takings Physical or Regulatory Takings?

At first glance, the loss of access takings doctrine does not fit neatly into either the physical or regulatory takings category;\(^\text{84}\) there is no restriction of the use of the property in question, as would be normally seen in a regulatory taking, and there is no legislatively-recognized form of property actually trespassed upon by the government, so there is no clear physical taking.\(^\text{85}\) Courts have filled this gap with two alternative theories defining the relationship between property and a road.

\(^{80}\) Mas, supra note 72, at 380; Mark S. Dennison, _Landowner’s Right to Compensation for Loss of Access Caused by Highway Improvement_, 46 AM. JUR. PROOF FACTS 493 § 17 (3rd ed. 1998).

\(^{81}\) Dennison, supra note 80, § 15.

\(^{82}\) Id. § 21.

\(^{83}\) See generally From Plan to Pavement: How a Road is Built, MICH. DEPT. TRANSP., https://www.michigan.gov/mdot/0,4616,7-151-9615-129011---,00.html (last visited Jan. 28, 2022) (“A road project begins with evaluating the transportation system, taking into account statewide priorities, including the department’s mission and vision, and its strategic plans for the state’s transportation system.”).

\(^{84}\) See Holt, supra note 74, at 313 (“The law is somewhat fanatical about putting things into categories . . . . [L]oss-of-access claims do not fit neatly into either category because the claims do not involve the government physically taking or invading property, nor do the claims involve any regulation in the classic sense of the word.”).

\(^{85}\) Id.
that abuts it. The first approach treats the continued access to roads as a basic property right or a "noneconomic interest in land." The second approach recognizes a legally-protected easement between the land and access to the road. This easement generally covers both the ability to access the public road from the property (i.e. maintain a driveway) and the right for that street to connect to the public network of streets. While treating these as rights that the government can appropriate would seem to invoke a physical-takings approach, most courts treat the issue as a regulatory taking. This reflects the economic reality of many loss of access takings cases: Property without access to the public road system has its economic potential severely (if not entirely) limited.

Whatever the theory a state legal system uses to allow recovery for a loss of access takings claim, the origins of the claim are ambiguous at best. As early as 1943, the Supreme Court of California stated:


87. See Stoebuck, supra note 72, at 734 (referring to these as “jurally enforced rights and privileges”); see, e.g., Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1078 n.8 (1992) (“Though our prior takings cases evince an abiding concern for the productive use of, and economic investment in, land, there are plainly a number of noneconomic interests in land whose impairment will invite exceedingly close scrutiny under the Takings Clause.”).

88. See, e.g., City of Waco v. Texland Corp., 446 S.W.2d 1, 2 (Tex. 1969) (“[A]n abutting property owner possesses an easement of access which is a property right; that this easement is not limited to a right of access to the system of public roads; and that diminishment in the value of property resulting from a loss of access constitutes damage.”).

89. Stoebuck, supra note 72, at 734.

90. Holt, supra note 74, at 314.

91. Some scholars argue for the use of a third category of takings: “[C]ases where the government (or a third party acting pursuant to explicit governmental authority) uses its own property in ways that interfere with the ability of other owners to use and enjoy their properties.” Carlos A. Ball, The Curious Intersection of Nuisance and Takings Law, 86 B.U. L. REV. 819, 820 (2006). Holt argues that this can be applied to temporary loss of access takings but does not address permanent loss of access cases. Holt, supra note 74, at 314–19.

92. Evidence of successful loss of access takings claims date back to at least 1842, where the Kentucky Court of Appeals recognized “[e]very owner of ground on any street in Lexington, has a right, as inviolable as it is indisputable, to the common and unobstructed use of the contiguous highway, so far as it may be necessary for affording him certain incidental easements and services, and a
It has long been recognized in this state and elsewhere that an owner of property abutting upon a public street has a property right in the nature of an easement in the street which is appurtenant to his abutting property. The precise origin of that property right is somewhat obscure but it may be said generally to have arisen by court decisions declaring that such right existed and recognizing it.

In his foundational 1969 article on loss of access takings, William B. Stoebuck recognized this line of reasoning as a "truism, for no form of property exists in legal contemplation except it be recognized by a court." Upon further exploration, Stoebuck himself was unable to find any definitive answer on how loss of access takings made their way into the law, summarizing:

Various answers have been speculated upon, such as that the state intended roads to serve abutting land, that abutters provided the roads through payment of assessments or even contribution of labor and materials, and that early compensation cases usually involved street railways that were outside the original road purpose. Such speculation, while fun, is not too profitable, for the reasons offered are probably only rationalizations for a more intuitive, more visceral judicial motivation. It simply would be unfair.

This fundamental issue of fairness remains the underlying justification for loss of access takings today. Loss of access takings serve to protect individual landholders from discretionary decisions by government planners. If a planner decides to move or remove some section of road for the public convenient outlet to other streets.” Transylvania Univ. v. Lexington, 3 B. Mon. 25 (Ky. 1842). Many early loss of access takings cases were associated with changes of street grade, which were common in the eighteenth century to allow for the installation of sewers and other sub-surface infrastructure. See McCombs v. Town Couns. Akron, 1849 WL 105 (Ohio 1849); see also Stoebuck, supra note 72, at 757–60; see generally Sideprojects, The Raising of Chicago: Manually Lifting The Windy City in the 19th Century, YouTube (Nov. 17, 2020), https://www.youtube.com/watch?v=QWQa2jCNzIc.


94. Id. Despite this assertion that the legal rationale for loss of access takings is essentially a tautology, the Stoebuck article is cited as evidence of loss of access takings liability by, at minimum, the highest courts of Connecticut. Luf v. Southbury, 449 A.2d 1001, 1005 (Conn. 1982); Fla. Dep’t Transp. v. Stubbs, 285 So. 2d 1, 2 (Fla. 1973); Goldstein v. Baltimore, 327 A.2d 770, 774 (Md. 1974); City of Waco v. Texland Corp., 446 S.W.2d 1, 2 n.1 (Tex. 1969); Wernberg v. Alaska, 516 P.2d 1191, 1200 n.46 (Alaska 1973); Keiffer v. King Cnty., 89 Wash. 2d 369 (Wash. 1977).

95. See, e.g., Mas, supra note 72, at 763 (“The just compensation guarantee rests on principles of equity and fairness.”).

96. See, e.g., Mas, supra note 72, at 373 (“The just compensation guarantee rests on principles of equity and fairness.”).
benefit and this discretionary decision burdens one landowner, then the loss of access takings doctrine remedies this harm.\textsuperscript{97} This trend of fairness is consistent with judicial interpretations of the Fifth Amendment: In \textit{Armstrong v. United States} the Supreme Court established the Armstrong Principle, namely that “[t]he Fifth Amendment’s guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.”\textsuperscript{98} This principle continues to influence takings decisions to date and is routinely cited by the United States Supreme Court, state Supreme Courts, and constitutional scholars.\textsuperscript{99} The relationship between loss of access takings and the Armstrong Principle will be explored at greater length in the Analysis Section of this Note.

3. Do Loss of Access Takings Imply an Affirmative Constitutional Obligation on Government?

The loss of access takings doctrine implies that once a road is constructed, the government has an absolute duty to continue the existence of the road or risk an inverse condemnation claim.\textsuperscript{100} This is unexpected, as “[t]he Constitution is typically thought to create only negative rights—rights that constrain the government from acting in certain proscribed ways.”\textsuperscript{101} For example, the First Amendment \textit{limits} the Government’s ability

\textsuperscript{97} See Brown, \textit{supra} note 72, at 285–86

\textsuperscript{98} 364 U.S. 40, 49 (1960); Stephen Durden, \textit{Unprincipled Principles: The Takings Clause Exemplar}, 3 A.L.A. CIV. RTS. & CIV. LIBERTIES L. REV. 25, 41–46 (2013) (describing how this phrase developed into the “Armstrong Principle” which still informs takings decisions today). Again, the United States Supreme Court has not recognized loss of access takings and loss of access takings are a creature of state constitutional law. However, most state constitutions share at least similar language to the U.S. Constitution on issues of eminent domain; The Armstrong principle holds “a remarkable degree of assent across the spectrum of opinion.” William Michael Treanor, \textit{The Armstrong Principle, the Narratives of Takings, and Compensation Statutes}, 38 Wm. & Mary L. Rev. 1151, 1153 (1997).


\textsuperscript{100} See, e.g., Jordan v. St. Johns Cty., 63 So. 3d 835, 838 (Fla. Dist. Ct. App. 2011) (“We hold that the County has a duty to reasonably maintain Old A1A as long as it is a public road dedicated to the public use.”).

to interfere with speech, the Second Amendment limits the Government’s ability to interfere with gun ownership, and the Third Amendment limits the Government’s ability to quarter soldiers in a person’s home. In the context of the Fifth Amendment, this is contrary to the traditional legal analysis for both physical takings (which center an actual trespass onto the property of the landowner) and regulatory takings (which center limitations on the use of the property in question). This contradiction is highlighted by two recent cases that address affirmative duties of government entities and the Fifth Amendment, as discussed below.

In Jordan v. St. Johns County, approximately thirty landholders brought an inverse condemnation claim against St. Johns County, Florida for failure to maintain the “Old A1A”—a road across “low-lying, narrow spit of sand between the Summer Haven River and the Atlantic Ocean” in northeastern Florida. On summary judgment, the Florida Court of Appeals found the residents’ argument “that the County has so failed in its duty to reasonably maintain and repair Old A1A that it has effectively abandoned it, thereby depriving them of access to their property without compensation” was a “cognizable claim.” This holding was despite the fact that (1) the County had already paid an average of $244,305 annually to maintain the road between 2000 and 2005, which included a $2.8 million dredging project funded by the state, (2) the County projected the road needed a one-time $13 million investment to continue its useful life, (3) the County projected recurring investments of “$5.7-$8.5 million every three to five years thereafter” to continue maintenance of the road, and (4) the annual budget of St. John County, which maintains 1,026 miles of roads for 200,000 residents, was only $9.6 million at the time. With this ruling and a finding that there were still

102. U.S. CONST. amends. I–III.
103. Mas, supra note 72, at 370.
104. Id.
105. Ruppert, supra note 16, at 10915–16 (citing Jordan v. St. Johns County, No. 05-694, slip op. at 5 (Fla. Cir. Ct. May 21, 2009)).
106. Jordan, 63 So. 3d at 839.
107. Ruppert, supra note 16, at 10916–19 (citing Jordan v. St. Johns County, No. 05-694, slip op. at 5 (Fla. Cir. Ct. May 21, 2009)) (noting the district court found in favor of the County on summary judgement). But see Jordan, 63 So. 3d at 835 (the Florida Court of Appeals did not mention the County’s previous financial commitments nor their financial projections for maintaining the road in the opinion).
disputed facts in the record, the Florida Court of Appeals denied the County’s motion for summary judgement.\textsuperscript{108} However, before a trial could be held on remand, the County and landholders settled out of court.\textsuperscript{109}

In \textit{St. Bernard Parish Gov’ t v. United States}, St. Bernard Parish, Louisiana and a collection of landowners brought an inverse condemnation claim against the United States Government for failure to maintain a levee.\textsuperscript{110} During Hurricane Katrina, one of the levee walls of the Mississippi River-Gulf Outlet (MRGO) channel collapsed and flooded St. Bernard Parish outside of New Orleans’ Lower Ninth Ward.\textsuperscript{111} The MRGO channel was constructed in the 1950s by the United States Army Corps of Engineers and the plaintiffs alleged that “over the course of the next several decades, the construction, operation, and improper maintenance of the MRGO channel caused various adverse impacts that increased storm surge along the channel.”\textsuperscript{112} In 2015, the U.S. Court of Federal Claims, where takings claims against the federal government are filed, found that flooding caused by the collapse of the levee was a temporary taking.\textsuperscript{113} The United States Court of Appeals for the Federal Circuit, however, overruled the lower court’s decision and found that the Army Corps was immune from liability because takings claims are only available for “affirmative acts by the government.”\textsuperscript{114} The court rejected the confluence of tort

\textsuperscript{108} \textit{Jordan}, 63 So. 3d at 835.
\textsuperscript{109} \textit{Ruppert}, supra note 16, at 10915.
\textsuperscript{110} 121 Fed. Cl. 687, 690–91 (Fed. Cl. 2015).
\textsuperscript{112} \textit{St. Bernard Par. Gov’t v. United States}, 887 F.3d 1354, 1357–58 (Fed. Cir. 2018), \textit{cert. denied}, 139 S. Ct. 796, 202 (2019) (describing plaintiffs’ arguments as alleging “[t]he construction, operation, and failure to maintain MRGO increased salinity in the water by providing a direct route for salt water to flow into the area from the Gulf of Mexico. The saltwater changed the character of the marshes and destroyed wetlands in the area that previously acted as a natural buffer against flooding. Moreover, the ‘failure of the Army Corps to maintain the banks’ caused erosion along the banks, which allowed more water to pass through the channel at higher velocities. MRGO also created the potential for a funnel effect, which increased flooding during storms by compressing storm surge into the channel and causing it to rise faster and higher”).
\textsuperscript{113} \textit{St. Bernard Par. Gov’t}, 121 Fed. Cl. at 746.
\textsuperscript{114} \textit{St. Bernard Par. Gov’t}, 887 F.3d at 1360; \textit{accord} Ark. Game & Fish Comm’n v. United States, 568 U.S. 23, 38–39 (2012) (assigning takings liability
and takings law implied by the Florida Court of Appeals in Jordan, stating “[t]he government’s liability for a taking does not turn, as it would in tort, on its level of care.”

II. ANALYSIS

Despite the inconsistent application and legally enigmatic justification for loss of access takings liability, this Note will not argue against their general application. Loss of access to the public road system can cause significant harm to landowners to the point that some scholars actually recommend *broadening* the definition of what “substantial” loss of access includes. However, in the narrow context of the managed retreat from climate change, this Note proposes that the loss of access takings doctrine is the wrong tool to address a no-win situation. The following analysis will first describe why the legal justification for loss of access takings is incompatible with managed retreat from SLR, then will propose alternative rationales that judges for the affirmative government action of flooding private property, despite the fact that the action was made necessary by heavy rain).

115. *St. Bernard Par. Gov’t*, 887 F.3d at 1360–61 (quoting *Moden v. United States*, 404 F.3d 1335, 1345 (Fed. Cir. 2005)). This distinction between tort and taking has been of substantial interest to courts and scholars in the aftermath of the United States Supreme Court case *Arkansas Game & Fish Commission v. United States*, which found a temporary flooding could constitute a taking, 568 U.S. 23 (2012); see Sandra B. Zellmer, *Takings, Torts, and Background Principles*, 52 WAKE FOREST L. REV. 193, 193–94 (2017) (discussing how, post-*Arkansas Game & Fish Commission*, landowners impacted by flooding “have been emboldened to pursue inverse condemnation actions,” while at the same time, this could produce a “chilling effect” as officials may be “less likely to restrict improvident floodplain and coastal development” over a fear of taking claims).

116. *Accord Mas*, supra note 72, at 396 (“A flagrant deficiency of judicial justifications for use of the substantial impairment standard in loss of access cases supports the proposition that adhering to the bright-line market-value-based assessment of damages used in total and partial physical takings cases would more justly and uniformly compensate landowners and prevent the cost of public projects from falling on the shoulders of an unlucky few.”); *Holt*, supra note 74, at 335–36 (“Under the current law, the expenses [of temporary loss of access] will be allocated to the property owners who are immediately affected by the project. Since the losses are a cost associated with the project, however, the losses should be paid by the public, and the business owner compensated for those losses.”); *Midden*, supra note 73, at 350 (“Although Minnesota’s Constitution intends to justly compensate those whose land is taken by the state, here, the Minnesota Supreme Court is not allowing full compensation in refusing to admit evidence of loss of access to determine diminution in market value of the properties.”).
can utilize in analyzing loss of access takings cases resulting from managed retreat from SLR.

A. BAD LAW: THE LEGAL CASE AGAINST LOSS OF ACCESS TAKINGS LIABILITY FOR SLR INDUCED MANAGED RETREAT

The dual cases of Jordan and St. Bernard Parish demonstrate the challenging decisions that courts will be increasingly forced to engage with as climate change threatens the world we previously assumed we could control.\textsuperscript{117} Climate change will disrupt the legal system in a myriad of ways as historical paradigms are broken down and new ways of thinking are required.\textsuperscript{118} The inapplicability of loss of access takings to managed retreat will be one adaptation the legal system should embrace.

1. Loss of Access Takings for SLR-Induced Managed Retreat
Are Inconsistent with the Armstrong Principle.

Distilling takings law into a single, coherent theory can feel like a hopeless task: The sheer variety of permutations of ways in which government can infringe on property makes any one theory often maddeningly incomplete.\textsuperscript{119} However, scholars and the United States Supreme Court agree that the Armstrong Principle provides a unifying theme across all Fifth Amendment

\textsuperscript{117} See Rupert, supra note 16, at 10930–32 (discussing the holdings in Jordan and St. Bernard Parish).

\textsuperscript{118} See generally J.B. Ruhl, General Design Principles for Resilience and Adaptive Capacity in Legal Systems – With Applications to Climate Change Adaptation, 89 N.C. L. Rev. 1373, 1374–75 (2011) ("Climate change soon will begin to disrupt the settled expectations of humans . . . . Demands on the legal system will be intense and long term, but is the law up to the task?").

\textsuperscript{119} See John E. Fee, The Takings Clause as a Comparative Right, 76 S. Cal. L. Rev. 1003, 1006 (2003) ("If there is a consensus today about regulatory takings law, it is that it is highly muddled."); Raymond R. Coletta, Reciprocity of Advantage and Regulatory Takings: Toward a New Theory of Takings Jurisprudence, 40 Am. U. L. Rev. 297, 299–300 (1990) ("[Takings jurisprudence] has been a jurisdictional chameleon of ad hoc decisions that has bred considerable confusion . . ."); Holt, supra note 74, at 311 ([Takings] classes are confusing and confused, and there is precious little doctrinal clarity."); Andrea L. Peterson, The Takings Clause: In Search of Underlying Principles, Part I—A Critique of Current Takings Clause Doctrine, 77 Cal. L. Rev. 1299, 1303–04 (1989) ("[T]he Court’s takings doctrine is in far worse shape than has generally been recognized—indeed . . . it is difficult to imagine a body of case law in greater doctrinal and conceptual disarray.").
As a result, for loss of access takings claim to be justifiable in a given situation, the situation must meet the requirements established in *Armstrong*: namely, (1) the property was taken for public use, (2) the property was originally taken without just compensation, (3) the property owner alone bears a public burden, and (4) “in all fairness and justice” that burden is one that “should be borne by the public as a whole.”

Under both judicial constructions of loss of access takings claims (as a government appropriation of a property right or of an appropriation of an easement) loss of access takings resulting from managed retreat from SLR meet the first element of the *Armstrong* Principle. While it is possible to debate whether granting such significant property rights should be a legislative rather than judicial decision, given the longstanding and intuitive nature of loss of access takings in the general case, this Note will not challenge this aspect of the loss of access theory.

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120. Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency, 535 U.S. 302, 332 (2002) (citing *Armstrong* v. United States, 364 U.S. 40, 49 (1960)) (articulating for the first time the “Armstrong principle” that there is an “interest in protecting property owners from bearing public burdens which, in all fairness and justness, should be borne by the public as a whole”); Durden, supra note 98, at 42 (quoting Carlos A. Ball & Laurie Reynolds, *Exactions and Burden Distribution in Takings Law*, 47 WM. & MARY L. REV. 1513, 1534 nn.103–04 (2006)) (“[T]he Armstrong principle, has been endorsed in almost every important takings opinion of the last thirty years, both by Justices who contended that the regulations before the Court amounted to takings, as well as by those who disagreed.”).


122. Ruppert, supra note 16, at 10920 (“The need to spend at least $13 million on beach nourishment before even beginning to recreate a road that serves a small handful of homes so that the road is ‘maintained’ in existence cannot be compared to the cost to, say, fill potholes or sweep sand off the road or to mill and resurface an existing road as part of periodic ‘maintenance.’ The appellate court confused these definitions and used the word in a way that led the appellate court to invade the local government’s legislative duty and authority to make the challenging decisions that balance important interests such as property rights, fiscal responsibility, and public rights.”).

123. It should be noted that in *Andrus v. Allard* a unanimous Court found that “[t]he denial of one traditional property right does not always amount to a taking. At least where an owner possesses a full ‘bundle’ of property rights, the destruction of one ‘strand’ of the bundle is not a taking, because the aggregate must be viewed in its entirety.” 444 U.S. 51, 65–66 (1979). This finding may have a broader implication for loss of access takings, as even without public road access, landowners still possess the remaining bundle of rights associated with land ownership. While one can imagine landowners losing complete legal access to their property through the abandonment of a road, the property may retain some value as access can be maintained through other means of access.
This Note will also assume that the second element of the Armstrong Principle is met. While SLR may eventually threaten affected property owners and the determination of “just compensation” questioned for such threatened property, this discussion is beyond the scope of this Note and will require a broader reevaluation of property valuation than required.\(^{124}\)

Elements three and four of the Armstrong Principle apply far less readily to SLR induced loss of access takings claims. For a road to qualify for intentional disinvestment, instead of some form of protection or accommodation, the value of the road to the broader community must be, by definition, limited.\(^{125}\) After all, part of the managed retreat framework is the prioritization of scarce resources to protect essential infrastructure while letting ancillary aspects deteriorate with limited investment.\(^{126}\) As a result, a loss of access claim by a landowner cut off from the road system due to the abandonment of a road will center on the interests of that landowner as opposed to the broader community.

In Jordan, for example, the County repeatedly emphasized that investing in the Old A1A would be at the expense of needed maintenance in other areas of the public road system.\(^{127}\) This opportunity cost argument contrasts with the justification for loss of access takings in contexts outside of SLR.\(^{128}\) In his exploration of the interaction between property rights and SLR, Peter Byrne argues that, “this judicially-created doctrine [of loss like boat (for coastal property) or through the acquisition of an access easement from a private or public party. See also John W. Sheridan, The Legal Landscape of America’s Landlocked Property, 37 UCLA J. ENV'T L. & POL'Y 229, 236–52 (2019) (considering legal solutions to the western checkerboard problem).\(^{124}\) See United States v. Miller, 317 U.S. 369, 373 (1943) (defining just compensation as “the full and perfect equivalent in money of the property taken”); Byrne, supra note 16, at 118 (explaining some of the challenges with determining just compensation in the context of SLR).\(^{125}\) See Managed Retreat Toolkit: Infrastructure, GEO. CLIMATE CTR., https://www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/infrastructure.html (last visited Jan. 30, 2020) (describing considerations government entities must make in applying managed retreat to infrastructure).\(^{126}\) See supra Section I.B.3 (describing the costs incurred by St. Johns County and the state of Florida to maintain The Old A1A).\(^{127}\) See id. (discussing how protecting the landowner from bearing a public burden is a paramount concern in loss of access takings); see PARISI, supra note 11, at 208 (defining “opportunity cost” as “the value of the second best (unchosen) alternative”).
of access takings] may have made sense in light of an owner’s normal reliance on public access for his or her land and concerns about government discrimination, but such rationale is greatly diminished in the shadow of sea-level rise.” 129 The County in Jordan was not making a discretionary or discriminatory judgement; instead, its hand was being forced by nature. 130

In Jordan, the Florida Court of Appeals performed a mechanical application of the loss of access takings doctrine and found that if the traditional elements for a loss of access taking were met, then this would create a right to compensation. 131 This is unsurprising given that loss of access takings are well established in Florida law; 132 however, the decision entirely ignored the needs of the community in favor of the needs of a select group of coastal property owners. 133 Going forward, “[j]udge-made doctrines to protect property owners under normal conditions should not be extended to provide inflexible protections under changed environmental conditions.” 134

2. Loss of Access Takings for SLR Induced Managed Retreat

Challenge the Distinctions Between Tort and Takings Law

While neither Jordan nor St. Bernard Parish analyze intentional disinvestment and only Jordan applies to loss of access takings, their contrary conclusions are instructive of the legal uncertainty around applying takings liability to a world impacted by climate change. 135 With challenges like worsening severe weather and SLR, maintaining the status quo may be perceived as an affirmative or non-affirmative act. Either way,

129. Byrne, supra note 16, at 104.
130. See Ruppert, supra note 16, at 10918–20 (describing required actions the County would have needed to take to maintain the road in Jordan).
132. See Palm Beach Cty. v. Tessler, 538 So. 2d 846, 849 (Fla. 1989) (stating the elements of the loss of access takings in Florida, describing cases supporting the loss of access doctrine, and, somewhat ironically, citing directly to Stoebuck).
133. Id. at 849–50.
134. Byrne, supra note 16, at 104.
135. See Jones et al., supra note 16, at 112–14 (“[T]his trend of transforming negligence claims into takings claims is likely to ‘produce a chilling effect, making officials less likely to restrict improvident floodplain and coastal development for fear of takings claims.’” (quoting Sandra B. Zellmer, Takings, Torts, and Background Principles, 52 WAKE FOREST L. REV. 193, 194 (2017))); see also Serkin, supra note 101, at 389–98 (discussing potential takings liability skewing government decision making related to hardening coastal infrastructure).
“[s]ea-level rise illuminates ‘some of the absurdities of much of the regulatory takings doctrine,’ as an ideal of unchangeable property rights clashes with very real and drastic coastal transformation.”136 This section will unpack the challenge of applying the “affirmative act” framework, as defined by both the *Jordan* and *St. Bernard Parish* courts, to infrastructure disinvestment in response to SLR.

The Federal Circuit in *St. Bernard Parish* defined an affirmative act as one that corresponds to an “authorized activity.”137 In doing so, the court was attempting to make a clear distinction between tort and takings liability.138 Namely, for unauthorized activities plaintiffs could turn to tort law and for authorized activities plaintiffs could use the Fifth Amendment.139 This reasoning appears to directly reject the decision in *Jordan*, where the Florida Court of Appeals connected the County’s tortious failure to maintain the Old A1A to the plaintiffs’ loss of access claims.140 As a result, the *St. Bernard Parish* decision represents an improvement over the *Jordan* approach, namely, it reconnects the loss of access takings doctrine to the discretionary decisions it is meant to protect landowners against.141 Further, it allows exogenous forces, like SLR, to play a role in the narrative while the *Jordan* court created an absolute duty to maintain the Old A1A in the face of seemingly insurmountable costs.142

While the *St. Bernard Parish* decision solves some of the deficiencies of *Jordan*, it does not fully address the challenges of applying loss of access takings to SLR. Thomas Ruppert argues

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137. St. Bernard Par. Gov’t v. U.S., 887 F.3d 1354, 1360–61 (Fed. Cir. 2018) (“In both physical takings and regulatory takings, government liability has uniformly been based on affirmative acts by the government or its agent.”).
138. Id.
139. See Ruppert, supra note 16, at 10931–32.
140. Id.
141. Id.
142. Id at 10931 (“The appellate court in St. Bernard Parish emphasized that ‘the [takings] causation analysis requires the plaintiff to establish what damage would have occurred without government action.’ Thus, in that case, rather than ask, as the lower court did, whether MRGO had made flooding worse, the legal standard applied should have been a ‘comparison [of] the flood damage that actually occurred to the flood damage that would have occurred if there had been no government action at all.’ Stated alternatively, ‘Causation requires a showing of what would have occurred if the government had not acted.’”).
that St. Bernard Parish will allow local governments to begin the process of long-term managed retreat planning. In making this claim, however, Ruppert assumes that courts will not view intentional disinvestment as an affirmative act. This position is unsupported by St. Bernard Parish as at no point did the Army Corps of Engineers explicitly move the levee to a lower standard of maintenance. Instead, the plaintiffs’ claims failed because they “could not show that the flooding would not have occurred in the absence of . . . the MRGO . . . [and thus, they] could not establish a taking.” If planners utilize a strategy of intentional disinvestment, plaintiffs may flip this reasoning on its head and argue that without the decision to disinvest from a roadway, some minimal level of maintenance could have kept it operational. After all, even though St. Bernard Parish modifies the maintenance demands on government entities, it is not a loss of access case so it does not address the independent rights created by a road abutting a landowner’s property.

B. BAD ECONOMICS: HOW LOSS OF ACCESS TAKINGS MAY CREATE MISALIGNED GOVERNMENT INCENTIVES

The cost of infrastructure required to respond to SLR is astronomical:

143. Id. at 10932 (“Local governments should consider efforts to evaluate the long-term prognosis of increased infrastructure maintenance costs versus future revenue streams; based on such analysis, local governments should begin to pass policies and disseminate information that helps to appropriately shape the long-term expectations of property owners about which infrastructure in which areas will likely be able to be maintained.”).

144. See supra Section I.A.2 (discussing the negative aspects of passive disinvestment).

145. Ruppert argues that in Czech v. City of Blaine (a case cited by the Florida Court of Appeals to justify takings liability for inaction) the denial of a permit is a sufficiently affirmative act to invoke takings liability; this would imply that a long-term managed retreat plan would also be an affirmative act. Ruppert, supra note 16, at 10922 (citing Czech v. City of Blaine, 253 N.W.2d 272, 275 (Minn. 1977)).

146. Determining Climate Responsibility, supra note 111, at 10009.

147. Of course, none of this would remove tort liability for statutory duties to maintain, but Jones et al. found that duties to maintain in four Southeastern states alternatively did not provide damages comparable to the just compensation required by loss of access claims or were protected by sovereign immunity. Jones et al., supra note 16, at 82–98; see also Kirkpatrick v. Town of Nags Head, 713 S.E.2d 151 (N.C. Ct. App. 2011) (declining to compensate a landowner’s tort claim alleging the town’s failure to repair a road repeatedly damaged by storms violated their duty to maintain).
In Boston… an estimated $2.4 billion will be needed over the next several decades to protect the city from flooding… In Charleston, South Carolina, the mayor… estimated $2 billion in needed drainage projects… In Norfolk, Virginia, the Army Corps of Engineers has recommended a $1.4 billion series of seawalls… (and) In Harris County, home to Houston, planners say $30 billion is needed to provide protection against a 100-year flood.148

Prioritizing these massive investments is already a significant challenge for policymakers and the challenges will only grow as the challenge of SLR magnifies.149

Unfortunately, scholars are already identifying a divergence between how high-income and low-income areas are treated by government entities responding to SLR.150 In a North Carolina study, researchers found “[s]horeline armoring is more common in areas that have low racial diversity and higher home values, household incomes, and population densities. Adaptation measures based around property acquisitions, such as home buyout programs, correlate with high racial diversity and low home values, household incomes, and population densities.”151 This trend can destroy communities and displace families already struggling economically while increasing actual investment in groups already the most financially secure.152

The current construction of loss of access takings will only magnify this problem. If policymakers are forced to pay the full value of property affected by an infrastructure disinvestment


149. Id. (“By 2040, building sea walls for storm surge protection for U.S. coastal cities with more than 25,000 residents will require at least $42 billion. Expand that to include communities under 25,000 people and the cost skyrockets to $400 billion.”).

150. See Michael Allen, Protection for the Rich, Retreat for the Poor, HAKAI MAG. (Oct. 14, 2020), https://www.hakaimagazine.com/news/protection-for-the-rich-retreat-for-the-poor/; Jones et al., supra note 16, at 121 (“Many transportation decisions, unfortunately, have had a history of disproportionately benefiting white and high-income people over low-income people of color.”); see also A.R. Siders, Social Justice Implications of US Managed Retreat Buyout Programs, 152 CLIMATIC CHANGE 239, 239 (“[Buyout] decisions often involve political motivations and rely on cost-benefit logic that may promote disproportionate retreat in low-income or minority communities, continuing historic patterns of social inequity.”).

151. Allen, supra note 150 (citing A.R. Siders & Jesse M. Keenan, Variables Shaping Coastal Adaptation Decisions to Armor, Nourish, and Retreat in North Carolina, 183 OCEAN & COASTAL MGMT. 105023 (2020)).

152. Allen, supra note 150.
decision, then their decisions on what roads to protect will be motivated by reducing liability instead of community or efficiency goals. An extremely simplified hypothetical demonstrates this risk: In a seaside county there are two streets threatened by SLR and the local government has only $3 million to address the situation. On Bay Street, there are two $1 million mansions and on Gulf Street there are five $200,000 homes. The cost to protect Bay Street is $2 million and the cost to protect Gulf Street is only $1.25 million. Assuming that without intervention both streets will be destroyed, the county can calculate the total cost of repairing either street. If the county only repairs Bay Street, then the cost will be $3 million ($2 million for the repairs and $1 million for the Gulf Street loss of access claims). If the county only repairs Gulf Street, then the cost will be, $3.25 million dollars ($1.25 million for repairs and $2 million for the Bay Street loss of access claims). A rational government planner will choose to repair Bay Street, because even though the repairs are far more expensive and protect fewer people, it will limit the county’s liability and maintain its budget.

This problem is magnified by the governmental bodies that will be held liable for loss of access claims. Local governments are responsible for the maintenance of the large majority of roads in the United States.153 “Local decision-makers are facing hard questions about whether to build new infrastructure, adapt existing infrastructure to new standards, continue maintaining existing infrastructure as is, or abandon infrastructure altogether.”154 They are dealing with limited budgets and addressing SLR affected roads risks depleting “the resources necessary to keep the remainder of the road network in safe and navigable condition.”155 It is well-established law that the role of governments is not to act as the absolute insurer of property values, however, the broad application of loss of access takings risks making them local guarantors of coastal property.156

155. Id. at 114.
C. JUDICIAL SOLUTIONS TO LOSS OF ACCESS PROBLEMS

The dual realities of rising seas and finite government resources will almost inevitably create future conflicts between government planners and landowners over whether to harden or abandon roads. Yet, for the vast majority of jurisdictions, courts have yet to make a determination on the applicability of traditional loss of access takings to situations of managed retreat from SLR. Unfortunately, this means many jurisdictions will continue to operate in uncertainty until more cases are litigated and decisions published on the issue. Fortunately, however, this also means future judges are not bound to a mechanical application of loss of access takings liability in cases of managed retreat from SLR.

This Section presents three paths forward for judges to choose from that integrate the historic goals and justifications of the loss of access takings doctrine into the economic and scientific realities of the managed retreat framework. First, judges may choose to defer to local government processes for abandonment decisions, on the basis that it is inherently a policy rather than a legal judgement. Second, judges may choose to distinguish between discretionary and non-discretionary abandonment decisions to allow for international disinvestment. Third, judges may redefine what “substantial access” means in the face of SLR and update the doctrine to a world changed by climate change.

1. Option One: Deferring to Government Processes

Traditional loss of access takings, consistent with physical and regulatory takings, serve to protect landowners from interference by government overreach. Loss of access takings for managed retreat from SLR, however, create an affirmative duty on government to expend resources to continue the existence of a road. This shift risks making courts responsible

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157. E.g., Brennan, supra note 71, at 131 (arguing that in 2008 loss of access litigation could prevent managed retreat from SLR, several years before the Jordan case).

158. The author has been unable to identify another loss of access takings connected to SLR beyond Jordan.

159. See supra Section I.A.2 (describing uncertainty around liability for SLR-related threats to roads in the Florida Keys).

160. Supra Section I.B.2 (describing different forms of takings).

161. Id.
for the resource allocations of local governments, which is contrary both to principles of separation of powers and the traditional position of courts on government allocations decisions. Courts generally grant “deference to governments to make policy decisions concerning the allocation of government resources” and attempt not to overrule “the allocation of local governmental resources among various authorized programmatic objectives.”

As a result, this option proposes judges treat claims related to loss of access due to managed retreat from SLR as allocations decisions rather than takings claims. This (1) is more consistent with the actual action taken by government in a managed retreat situation, (2) maintains traditional distinctions between the roles of courts and other branches of government, and (3) ensures that any judicial review looks at the process of a managed retreat decision instead of the result of that managed retreat decision. As mentioned above, most states have formalized abandonment procedures for roads. By reviewing these statutorily defined procedures, a court can ensure the interests of affected landowners are represented. However, instead of a review centered on the interests of the individual landowner, the review can holistically consider the interests of the community in which the road resides.

2. Option Two: Refocusing on Discretion of Planners

Much of this Note has emphasized the difference between passive and intentional disinvestment within the managed

162. Brennan, supra note 71, at 132.
163. JOHN MARTINEZ, Discretion and Purpose in Providing Services; Scope Note, in 3 LOCAL GOVERNMENT LAW §18:1 (Thomson Reuters 2021); see also Harold H. Bruff, Judicial Review in Local Government Law: A Reappraisal, 60 MINN. L. REV. 669, 702 (1972) (“If the power involved is of a kind traditionally subject to greater judicial deference, such as is true of much economic regulation and the regulation of matters involving technical expertise, the courts should exercise greater restraint. And where local governments exercise novel powers for which they may need some initial latitude, the courts can cooperate.”).
164. See WILDES ET AL., supra note 65 (explaining road abandonment procedures in Georgia).
165. Id. at 13 (“When deciding whether abandonment is proper, courts and public boards consider a variety of factors, including the financial burden of the maintaining the road, the public’s dependence on the road, and what caused a decrease in the public’s use of the road.”); Jones, et al., supra note 16, at 135 (“[A]n adaptive duty to maintain that applies across all jurisdictions, affirms a holistic approach to road maintenance . . . .”).
In fact, one can argue that passive disinvestment is only roughly, if at all, consistent with the goals of a managed retreat from SLR; after all, the line between passive disinvestment in threatened infrastructure and systemic underinvestment in essential roads is murky at best. As a result, government planners should be encouraged to utilize intentional disinvestment strategies in the face of passive alternatives. Whether this means periodic vulnerability assessments for potentially SLR affected roads, designating some infrastructure as in “environmentally challenging locations,” or simply educating landowners about the threat of SLR to roads they rely on, proactive policy makers can ensure several positive policy outcomes before a final abandonment decision is needed. Some of these positive impacts include (1) allowing market forces to act on landowners prior to final abandonment of roads, (2) maximizing the infrastructure that can be effectively protected, and (3) informing zoning and approval decisions for new construction.

166. See supra Section I.A.2 (describing the role of passive and intentional disinvestment in the managed retreat framework).
167. Id.
168. Jones et al., supra note 16, at 121–23 (“Vulnerability assessments can be used to characterize the projected impacts of climate change or sea-level rise on a government in regard to the vulnerability of infrastructure or capital assets such as roads. For example, the assessment can show where roads and stormwater features serving roads need retrofits by identifying road segments expected to have future flood risks due to elevation or geographic location.”).
169. Ruppert, supra note 16, at 10928 (noting that in the Jordan case, while St. Johns County’s attempt to place exactly such a classification on the Old A1A was not deferred to by the court of appeals in their determination, this still provides a means in which the threat of SLR can be formalized).
170. Id. at 10927 (“[Governments should] ensure that property owners and potential property purchasers are clearly aware of the physical risks of purchasing or building in low-lying or hazardous, dynamic areas such as along beaches.”).
171. See generally Patrick Walsh et al., Adaptation, Sea Level Rise, and Property Prices in the Chesapeake Bay Watershed, 95 LAND ECON. 19, 19–21 (finding that investment in SLR protection creates a “significant” increase in property price, providing “suggestive evidence that the property market appears to be incorporating both the threat of future SLR and mitigation approaches”).
172. See Infrastructure Disinvestment, supra note 46.
173. See Ruppert, supra note 16, at 10916 (noting that St. Johns County originally maintained an ordinance banning construction on the Old A1A but allowed exceptions over time culminating in the roughly 30 landowners that sued the County in Jordan).
Given the broad benefits of intentional disinvestment compared to passive disinvestment, this option proposes judges create a safe harbor for local governments from loss of access takings liability if the loss of access is (1) the result of a managed retreat strategy and (2) is necessary to implementing that strategy. This will encourage government officials to create a managed retreat plan and make careful, evidence-based determinations over what infrastructure can and cannot be saved. Of course, the definition of necessity will require specification over time, but this is entirely consistent with the common law origins of the loss of access takings doctrine. It is within the scope of the courts to use their judicial discretion to advocate for positive policy outcomes when interpreting a judicially created doctrine.

3. Option Three: Redefining Access for a Changing World

Throughout this Note, we have assumed that access must be maintained through a road. This reflects the “primacy of the automobile in American life” but is not necessarily consistent with the regulatory takings and loss of access standards. To be a regulatory taking, the regulation must “eliminate all economically beneficial use” of a given property. Does losing vehicle access to property render it economically worthless? The Jordan case itself demonstrates that this is not true: Several of the property owners could still reach their homes, even after the abandonment of the road, through a footpath referred to as the “pig trail.” While loss of access to the public road system almost certainly limited the value of the land in question, some value remained. A similar analysis may be done for what constitutes “substantial” loss of access to one’s property. For many traditional loss of access takings decisions, substantial


176. Ruppert, supra note 16, at 10916. In fact, Florida law expands upon the common law “way of necessity easement” to allow such easements even without the traditional requirement that landlocked property and the property that now cuts it off from public roads originate from a single estate. Id. at 10916 n.17.
and legally-impossible can be interchangeably used. If this narrow reading is used, loss of access takings claims may be rejected if there is some other legal means of accessing the property.

This option proposes judges incorporate both of these concerns into a new interpretation of loss of access claims: A loss of access takings claim may only be granted for the full value of the property if (1) the plaintiff is able to demonstrate that, without the public road, it is practically impossible to obtain legal entry to the property or (2) without a road the property has no economic use. These requirements may seem extreme in the face of our traditional reliance on cars, but these concentrated burdens may pale in comparison to the millions of dollars required to maintain a road to serve those burdened. As with option two, this option will require refinement of how its terms are interpreted by courts, but again, loss of access takings are a judicially created doctrine that has the flexibility to grow and change with new circumstances. Adopting this option would signal that it is not the burden of local governments to support landowners threatened by SLR to an unlimited degree and will shift at least some of the mitigating burden to the landowners themselves.

III. CONCLUSION

Climate change will force the legal system to change assumptions made for generations. Luckily, as a judicially created doctrine, the interpretation of loss of access takings claims can change with climate. Modifying judicial interpretation of the loss of access takings doctrine in response to SLR will allow local governments to adopt managed retreat and infrastructure disinvestment strategies. This will ease the impact of SLR on such communities and allow planners to make decisions that maximize social impact rather than minimize potential takings liability.

177. Stoebuck, supra note 72, at 736.
178. Supra Section I.B.3 (describing the costs associated with the Jordan case).
179. See Ruhl, supra note 118, at 1373 (“As climate change begins to disrupt the settled expectations of humans, demands on the legal system will be intense and long term.”).