



Build First, Ask Questions Later

How Weakening Environmental Review Will Hurt Our Communities and Natural Habitats

By Kevin DeGood

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Both as a candidate and as president, Donald Trump has pledged to improve America's crumbling infrastructure. Unfortunately, his initial promise to spend \$1 trillion to rebuild local communities and spur economic development has morphed into a cynical plan to funnel tax breaks to wealthy Wall Street equity investors through public-private partnerships while also rolling back foundational environmental laws.¹

At issue is the National Environmental Policy Act, or NEPA.² Following years of growing public concern and political activism over the damage caused by economic development, including infrastructure projects, Congress enacted NEPA in 1969. The goal of the statute is to foster greater transparency and informed decision-making by requiring the federal government to study the human and ecological impacts of investments and policy changes before they are implemented.³

Specifically, when state or local governments build projects using federal funds, they must undergo an environmental review. This review is intended to discover any significant individual or cumulative environmental impacts associated with a project.⁴ These impacts could include anything from reduced biological diversity and habitat fragmentation to the destruction of historic buildings and social, economic, or cultural effects on low-income individuals or communities of color.⁵ In this way, NEPA defines the term "environment" broadly to include human and natural environments.

At its core, NEPA is a statute that provides for community empowerment. At multiple stages during the review process, the public has the right to provide comment on the proposed project. The state or local government project sponsor must address these comments and, where possible, adopt changes to the design or operation of the facility to mitigate negative environmental impacts. In effect, NEPA provides the mechanism by which the theoretical notion of public engagement in governmental decision-making becomes a substantive reality.

For all these reasons, NEPA is an invaluable tool for protecting natural habitats and communities from the damage that comes from building first and asking questions later. Unfortunately, rolling back NEPA procedural protections has become somewhat of an obsession for conservatives. In recent days, two prominent advisers to President Trump have floated the possibility of subjecting all environmental review and permitting decisions to binding arbitration.⁶ If implemented, this requirement would likely curtail many existing pathways for citizens to seek legal remedies when project sponsors fail to consider important potential impacts. Moreover, it would also likely impose unreasonable and artificial deadlines on federal agencies to make approval decisions. The reason that large-scale projects often require years of study before the federal government signs off is that mega-projects come with mega-complexities. The added costs that may accumulate because of a lengthy review are often far less than the cost of repairing the damage caused by a poorly conceived project. The Kissimmee River Restoration project detailed in this issue brief offers a classic example of this very point.

Moreover, many of the claims about the NEPA review being burdensome are misleading. For starters, the vast majority of projects do not require the sponsor to conduct any analysis. Under current federal law, many projects are eligible for a categorical exclusion. This means that such projects are considered so minimally impactful by their very nature that they do not require further study. A review of Department of Agriculture-funded projects for fiscal years 2005 and 2006 found that 80 percent of projects—or more than 5,100—qualified for a categorical exclusion.⁷ Similarly, a review of highway projects by the Congressional Research Service for FY 1998 through FY 2007 found that 76 percent qualified for categorical exclusions.⁸ In FY 2009 alone, more than 55,000 miles of roadway projects using federal funds received a categorical exclusion, compared with just 4,800 miles of roadway projects needing an assessment or full impact statement.⁹

For projects that may have harmful impacts, sponsors must complete an environmental assessment. In many instances, the environmental assessment leads to a finding of no significant impact. For these projects, the NEPA process is complete. If the initial assessment determines that the project will produce significant impacts, the sponsor must conduct a full analysis, leading to an environmental impact statement. According to the same studies, only 2 percent of agricultural projects¹⁰ and 4 percent of highway projects¹¹ required a full environmental impact statement. Furthermore, research by the Government Accountability Office shows that the average length of a full environmental review is 4.6 years—not the 10 years cited by opponents.¹²

Finally, it is important to understand that NEPA is a procedural statute that deals comprehensively with all environmental review and permitting requirements under federal law. Even if Congress repealed NEPA tomorrow, project sponsors would still have to comply with laws and regulations governing endangered species, water quality,

air quality, historic preservation, and wetland protection, among others. The biggest difference is that these reviews would become balkanized. Rather than having a lead federal agency coordinate the review process, project sponsors would have to apply separately, with each agency asserting jurisdiction.¹³ In effect, NEPA is the umbrella that covers and gives structure to these disparate laws and permit requirements.

Opponents of NEPA, therefore, are opponents of protections for human and ecological environments as well as of efficient administrative procedures. Talk of binding arbitration or other radical steps to limit project review would take us back to a time when the interests of local communities and critical habitats mattered little. The Kissimmee River Restoration and the Rochester Inner Loop East projects demonstrate the damage that can occur in the absence of review and the high costs of restoring neighborhoods and habitats that could have been avoided with more thoughtful planning.

Kissimmee River revitalization

Florida is defined by water extremes, frequently cycling between periods of intense rain and extended drought. This presents federal, state, and local authorities with complex hydrological challenges that are made even more difficult by the need to balance population and economic growth against environmental protection. Unfortunately, South Florida presents several stark examples of what happens when federal infrastructure funds flow to projects that have not been subject to environmental review.

Following decades of steady growth, the population of South Florida has surpassed 6 million people, principally within Palm Beach, Broward, and Miami-Dade counties along the Atlantic Coast.¹⁴ And while these communities are defined by tourism and stunning ocean views, their fate is intimately tied to fresh water supplies located more than 200 miles away in the Orlando region and a series of water infrastructure projects carried out during the past half-century.

Lake Kissimmee sits approximately 70 miles south of Orlando, Florida. The lake is part of the larger Kissimmee Basin, which encompasses more than two dozen smaller lakes as well as marshes and tributary streams.¹⁵ Water from Lake Kissimmee drains into the Kissimmee River, which conveys the water down to Lake Okeechobee—a massive, shallow body of water that covers 730 square miles.¹⁶ From Lake Okeechobee, the water flows south, providing irrigation for agricultural production, supporting Everglades habitat, and recharging the Biscayne Aquifer.



South Florida watershed
 PHOTO COURTESY OF THE U.S. ARMY CORPS OF ENGINEERS

The Biscayne Aquifer is approximately 4,000 square miles of highly permeable limestone and less permeable sandstone that sits directly under the heavily developed coastal region.¹⁷ Coastal cities draw their drinking water almost exclusively from the aquifer.¹⁸ One way to think about this hydrological chain is that downstream urban centers, as well as farmers and natural habitats, all rely on both the quantity and quality of upstream water.

While the relationship between this extensive watershed and the success of the South Florida economy is deeply interdependent, development has come at a steep price. Population growth in the early 20th century bumped up against the reality of recurrent flooding. Storms and hurricanes frequently caused the Kissimmee River and Lake Okeechobee to flood, leading to fatalities, crop losses, and damage to property.¹⁹

In response to hurricanes and flooding that hit South Florida in 1928, the state of Florida, working with the U.S. Army Corps of Engineers, or USACE, began building a major dike around the southern end of Lake Okeechobee, as well as a series of canals, to drain much of the surrounding land.²⁰ Brutal flooding in 1947 pushed Congress to take additional action. In 1948, Congress authorized the Central and Southern Florida Project, or C&SF Project, which included a series of major water infrastructure projects intended to further reduce the threat of flooding in the region and to complete the reclamation of an immense section of land south of Lake Okeechobee for sugar cane production within the Everglades Agricultural Area.²¹

Throughout the 1950s and 1960s, Congress expanded the scope of the C&SF Project by authorizing additional facilities to impound and control water extending west and north of Lake Okeechobee along the Caloosahatchee and Kissimmee rivers, respectively.²² Due in part to the relatively flat topography of the region, the Kissimmee River historically had a flood plain that extended between 1 mile and 3 miles from the river's edge.²³

Records show that water overflowed the banks of the river as much as 50 percent of the time.²⁴ This made development within the river basin particularly challenging.

Beginning in 1962, the USACE started the process of draining the wetlands and channelizing the Kissimmee River. The USACE turned what had once been a 103-mile-long meandering river into a 56-mile-long, 300-foot-wide, 30-foot-deep drainage canal called C-38.²⁵ As part of this process, the USACE added six water control structures to the channel—essentially small dams with large release gates—to enhance flood control.²⁶ According to the South Florida Water Management District, or SFWMD, the results were nothing short of devastating to the river and its riparian habitat. The river had been wiped out and replaced by “a series of five relatively stagnant pools.”²⁷ The USACE, in a typically understated fashion, described the results as follows:

*Alteration of the physical form and natural hydrologic characteristics had negative impacts on the fishery, waterfowl, wading birds and other natural resources. Wetlands were eliminated or degraded, and water quality declined.*²⁸

Lost in this bureaucratic speak is the extent of the damage. For instance, the project caused wading bird and other waterfowl populations to decline 92 percent.²⁹ Prior to channelization, the river produced approximately 81,000 pounds of fish that thrive on freshwater with a high dissolved oxygen content, including largemouth bass, black crappie, bluegill, catfishes, and redear sunfish.³⁰ The stagnant water created by the USACE had a very low oxygen content, leading to the near elimination of these species.

The ecological damage caused by the channelization was so profound that Congress authorized the restoration of the Kissimmee River in 1992—just 21 years after the completion of the project.³¹ Stated simply, this was a stunning reversal. A central reason that this disastrous project ever moved forward is that the federal government was not required to engage in any environmental review. The USACE began work on the channelization well before the enactment of the National Environmental Policy Act and other key environmental statutes, including the Clean Water Act and the Endangered Species Act, among others.



Channelization of the Kissimmee River
PHOTO COURTESY OF FLORIDA ATLANTIC UNIVERSITY CORPS OF ENGINEERS



As part of the environmental review for the river restoration, the USACE noted that, “While the Kissimmee River [channelization] project had been requested and supported by the State of Florida, there was some opposition to the project even before construction began. Concerns centered on fear of environmental damage that the project, primarily channelization, might cause.”³² Yet in the absence of formal procedural protections such as NEPA, scientists and citizens had few avenues to express their concern or push for a redesign of the project to mitigate environmental damage.

Restored Kissimmee River
PHOTOS COURTESY OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Opponents of environmental review often complain that study causes delay and delay causes construction costs to rise. While often true, this line of reasoning fails to account for the immense cost of remediation. Restoring the Kissimmee River will cost taxpayers handsomely. When adjusted to 2015 dollars, the initial channelization project had a total cost of \$194 million.³³ The restoration will cost at least \$1 billion—a roughly fivefold increase.³⁴

The Kissimmee River restoration contains another important lesson: namely, that engineers can design infrastructure projects in an almost unlimited number of ways. In 1962, the USACE was given a very specific mission: Reduce flooding. Through the narrow lens of flood control, the Kissimmee River channelization project was an unalloyed success. Killing the Kissimmee River dramatically reduced flooding within the basin.

By comparison, the USACE was given a very different challenge with the restoration project: Return as much of the Kissimmee River and adjacent flood plain to as natural a state as possible while maintaining an equivalent level of flood protection.³⁵ In order to achieve this objective, the USACE will remove three of the water control structures and modify two others.³⁶ Additionally, the USACE will backfill 22 miles of channel, allowing the river to once again take a natural, meandering path to Lake Okeechobee.³⁷ The project will restore 20,000 acres of wetland.³⁸

The USACE could have prevented this cycle of destruction and renewal if only it had been tasked with taking environmental considerations into account in the first place.

The physics that inform the calculations made by hydrological engineers have not changed since 1962. The needs of the flora and fauna that thrive in rivers and riparian habitats have not changed since 1962. In fact, the only thing that has changed is that the USACE now has a different problem to solve.

Attempts to paint environmental protection as a binary choice between development and protection are simply wrong. The flexibility inherent in the infrastructure design process combined with the ability to engage in meaningful mitigation efforts mean that growth and smart planning are not mutually exclusive. However, it is not simply enough to charge a federal agency with the dual mandate of investment and protection. For national environmental goals to have substantive meaning, there must be both review requirements as embodied by NEPA as well as numerous avenues for legal remedy when federal agencies fail to follow the law.

Rochester Inner Loop East

The city of Rochester, New York, is located along the shores of Lake Ontario. Like many prosperous cities in the first few decades of the 20th century, Rochester experienced a rapid increase in vehicle ownership and local roadway congestion.³⁹ In response, the New York State Department of Transportation, or NYSDOT, working closely with city officials, began planning a series of projects to increase roadway capacity and improve traffic flow. A central element of these plans was a beltway that would circle the city that became known as the Inner Loop.⁴⁰

At the time, state engineers expected that the region's economy and population would continue to grow for decades to come, requiring an expansive facility able to accommodate steadily rising travel demand.⁴¹ Construction of the Inner Loop involved the condemnation of significant amounts of property around the city's core. In fact, the widest section of the Inner Loop corridor spans 355 feet and 12 travel lanes, including frontage roads and access ramps.⁴² In order to maximize the speed and efficiency of vehicle movement, engineers also decided to make a large portion of the Inner Loop a grade-separated facility, meaning that the roadway is dug into the ground to avoid the need for intersections. This design allows the uninterrupted flow of vehicles.

The Inner Loop expressway opened to traffic in 1965.⁴³ Unfortunately, the expectations of NYSDOT engineers and planners did not come to pass for a combination of reasons, including the sprawl-inducing effects of subsequent interstate highways and the loss of jobs and population due to structural changes in the economy.

While NYSDOT was pushing forward with the Inner Loop, the federal government began funding the construction of the Interstate Highway System. In the Rochester area, this included the construction of Interstate 490, Interstate 390, and Interstate 590 to the south, west, and east of downtown. Over time, the mobility provided by these facilities pulled housing and jobs out of the city. This reduced the level of demand for the Inner Loop—especially the east portion, marked as State Route 940T, that runs northeast from the interchange with I-490 to Main Street.

Equally as consequential, Rochester's population began to decline from a peak of 330,000⁴⁴ in the 1950s to approximately 209,000 today.⁴⁵ For many years, the economic health of the Rochester region was tied to several Fortune 500 companies, including Eastman Kodak Co., Xerox Corp., and Bausch & Lomb Inc., as well as the University of Rochester and the Rochester Institute of Technology.⁴⁶ At its peak, Kodak employed approximately 60,000 people within the region before layoffs pushed the number down to just a few thousand.⁴⁷ In January 2012, Kodak filed for bankruptcy.⁴⁸ Since that time, local leaders have pushed to diversify the economy by leveraging the technical expertise of the labor force in fields tied to optics and photonics, among others.⁴⁹ Yet even with these proactive steps, overall population growth has not returned to the city.

For years, travel demand along the eastern portion of the Inner Loop has been so low that even during rush hour the expressway is sometimes completely empty. In fact, total daily traffic on the eastern portion often falls below 7,000 vehicles—substantially less than what the facility was designed to carry.⁵⁰ This means that the city and its residents are left to deal with all the negative consequences of the size and design of the expressway while it delivers few of the intended mobility benefits. Additionally, maintaining this underused facility has drained resources that could have been spent on other projects over the years.

Beginning in 1990, city officials adopted a plan to reconstruct the eastern portion of the Inner Loop as an at-grade boulevard.⁵¹ In 2013, the city successfully applied for funding from the U.S. Department of Transportation's Transportation Investment Generating Economic Recovery grant program to undertake the conversion.⁵² When completed, the boulevard will have several key elements designed to reconnect the downtown to the surrounding area and facilitate more pedestrian access, including wide sidewalks, generous tree canopy, a two-way cycle track, and reconnected city streets.⁵³



Wide cross-section of the Inner Loop East
PHOTO COURTESY OF THE CITY OF ROCHESTER



The Inner Loop East during rush hour 2014
PHOTO COURTESY OF THE CITY OF ROCHESTER

Overall, the boulevard is intended to achieve four key goals: first, to right-size the roadway to reflect the reduced level of travel demand; second, to avoid the expense of repairing aging retaining walls and several structurally deficient bridges that spanned the Inner Loop East; third, to eliminate the immense physical barrier created by the Inner Loop that separates the city center from surrounding commercial districts and residential neighborhoods; and fourth, to return nine acres of land currently used as part of the loop to productive use as a combination of green space and mixed-use development with housing and retail businesses.⁵⁴

The total cost of converting the loop to a boulevard is \$23.6 million.⁵⁵ A comprehensive analysis determined that the projected benefit-to-cost ratio is more than 2-to-1.⁵⁶ The largest savings come from avoiding major repair costs associated with the aging bridges and retaining walls of the Inner Loop East. Overall, the conversion will save the city and state an estimated \$25.9 million.⁵⁷ Additionally, new development on the nine acres of reclaimed land is projected to generate \$7.3 million in value.⁵⁸ Finally, the value of adjacent parcels to the new boulevard is expected to rise by more than \$15 million.⁵⁹

The Inner Loop East conversion project, like the Kissimmee River channelization, occurred long before the adoption of the National Environmental Policy Act and other environmental statutes. And while the Kissimmee River highlights the damage to natural habitats, the Inner Loop demonstrates the damage done to the social and economic fabric of a local community at the neighborhood level. The once fluid connection that existed between downtown Rochester and east side neighborhoods, including East End, Upper East End, and Manhattan Square, was eliminated by what the Wadsworth Square Neighborhood Association called a “moat like” structure.⁶⁰ Local leaders have worked for 27 years to remediate the damage done by the Inner Loop. And with the initial conversion nearing completion, the city is looking to study an extension under the name Inner Loop North.⁶¹



Initial construction of the Inner Loop
PHOTO COURTESY OF THE CITY OF ROCHESTER

Once again, the issue comes down to the need for meaningful public participation and broad design objectives. When NYSDOT engineers began planning the Inner Loop, their singular focus was on efficiently moving large numbers of vehicles. Each design element, from the number of lanes to the grade-separated, access-controlled alignment, was intended to maximize the speed and carrying capacity of the expressway. The resulting impacts on Rochester’s downtown core and the surrounding neighborhoods were simply not considered.

This stems from two factors. First, highway engineers operate from a regional perspective. After all, highways are not isolated facilities but rather connected structures that form an integrated system. Changing the design in one location has cascading effects throughout the regional network. Second, the unit of analysis for highway engineers is the automobile.⁶² Design choices are judged by their impact on vehicle speed, capacity, and safety—

not the ease of pedestrian crossings, the number of disruptions to the surrounding street grid, or the amount of derelict and unusable land that surrounds the facility.⁶³ In essence, the measure of a structure stops at the structure's edge, with its value determined by what happens between the lines.

By comparison, people—and neighborhoods more broadly—experience highway facilities in a nuanced way. A highway is not simply a line on a map associated with a daily vehicle count. Instead, a highway is a physical object that affects property values, zoning, economic development, safety, and access to opportunity, among other outcomes. The environmental review process is how community members can connect with planners to try to expand the design objectives to include considerations beyond what happens to vehicles.

The environmental review process cannot overcome all impacts—building major facilities means change for nature and communities. Nor would NEPA review have allowed state engineers in the 1950s to peer into a crystal ball to foresee large-scale population loss and declining travel demand. With that said, it seems fair to assume that the same thoughtful planning and community engagement that produced the boulevard design concept could have fashioned a more integrated, sustainable, and successful Inner Loop.

Conclusion

The environmental review process is a powerful and effective tool for community empowerment that helps shape the project development process in ways that benefit society and nature. Undermining the National Environmental Policy Act and related laws through arbitration or other reforms that fundamentally weaken review will take us back in time. History demonstrates that gutting NEPA will allow project sponsors to build major facilities in the absence of a full consideration of the long-term impacts on people and ecological environments. Rather than weakening NEPA, Congress should provide additional funding for full-time technical staff at the state and federal levels to ensure timely completion of environmental review.

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