

Regulatory Burdens and the Supply of Infrastructure Projects, Curtis Arndt, American Action Forum, February 23, 2017.

<https://www.americanactionforum.org/print/?url=https://www.americanactionforum.org/research/infrastructure-regulatory-burdens/?print>

- “In total, setting the review process deadline at the average completion time would result in 68 additional projects valued at more than \$76.2 billion. By requiring even more expedition and setting a 2-year deadline, 119 infrastructure projects estimated to cost 123.5 billion would be available for investment. These numbers represent the regulatory cost of the NEPA review process. The \$76.2 to \$123.5 billion in projects could attract \$250 billion in private funds with the proper public-private partnership setup.”

Assessing the Costs Attributed to Project Delays During Project Pre-Construction Stages, Curtis Beaty, David Ellis, Brianne Glover, and Bill Stockton, Texas Department of Transportation and Federal Highway Administration, March 2016. <https://static.tti.tamu.edu/tti.tamu.edu/documents/0-6806-FY15-WR3.pdf>

- “Three projects of varying size were used as examples:
 - The small project illustrates delay to a \$10.6 million, reconstruction of four-lane roadway project in a rural setting. The project’s 6-month delay produced an additional cost of \$570,000, or a cost of \$87,000 for every month of delay.
 - The medium project illustrates delay to a \$28.5 million, widening of a semi-rural highway project. The project’s 2-month delay produced an additional cost of \$870,000, or a cost of over \$420,000 for every month of delay.
 - The large project illustrates delay to an \$85.2 million freeway reconstruction in a large metro area. The project’s 3-month delay produced an additional cost of \$4 million, or a cost of \$1.3 million for every month of delay.”

Two Years, Not Ten Years: Redesigning Infrastructure Approvals, Philip Howard, Common Good, 2015. <https://static1.squarespace.com/static/5db4d0eacb29b173254203d2/t/5fd39d3ac4a2b267e284960c/1607703867904/2YearsNot10Years.pdf>

- “Approximate costs of delay in rebuilding/upgrading transmission and distribution infrastructure:
 - Electricity losses: \$25 billion x six years = \$150 billion
 - Disruption losses: 50 percent of \$150 billion x six years = \$450 billion
 - Increase in rebuilding costs from six-year delay: \$173.6 billion x 30 percent = \$52 billion
 - Total costs of six-year delay in rebuilding transmission and distribution networks: \$819 billion”

ASCE’s 2017 Report Card for America’s Infrastructure. <https://www.infrastructurereportcard.org/> This infrastructure report card was part of a series of economic reports broadly titled “Failure to Act...” In 2011, they issued **“Failure to Act: The Economic Impact of Current Investment Trends in Electricity Infrastructure.”**

https://www.asce.org/uploadedFiles/Issues_and_Advocacy/Our_Initiatives/Infrastructure/Content_Pieces/failure-to-act-electricity-report.pdf

- “Failure to close the investment gap and adequately invest in our nation’s electricity infrastructure can occur for many reasons, including disagreements over construction plans for generation facilities or additional transmission lines, or the failure to allow for the electricity rate levels needed to support more efficient energy use, technology adoption, or investment. Whatever the reason, the result of a growing investment gap will be some combination of aging

equipment and capacity bottlenecks that leads to the same general outcome: a greater incidence of electricity interruptions.”

Cost of Project Delays, An Estimate of Foregone Benefits and Other Costs Related to Schedule Delays of Inland Waterway Projects, prepared for the National Waterways Foundation by HDR: Decision Economics, June 2012. <http://www.nationalwaterwaysfoundation.org/study/HDRstudy.pdf>

- “The analysis we conducted indicates that a construction project, when delayed, costs society about 37 cents on the original dollar invested every year that it is delayed during the initial years. In other words, more than three years of delay is equivalent to doubling the cost of the project. The disturbing reality is that construction projects on an average are delayed by more than 20 years. If the current funding levels are the only source of funding the projects, the major projects around the country would take as long as 2045 to be completed. This represents a societal cost of around \$34 billion.”

The variables we find that references often miss regarding the challenges of delays due to permitting or other factors:

- ***Seasonality.*** Many construction projects are often weather-dependent. A week in October may be only a week in some parts of the country, whereas if that week occurs in other parts of the country (North Dakota, Wyoming, etc.), you may be waiting until spring. This is especially true where ground freezes or concerning in-stream projects (which are typically done during low-flowing periods for reasons of ease and safety).
- ***Equipment scarcity.*** A week or more may mean you miss a critical window with the equipment supplier and have to wait until the next vacancy.
- ***Potential re-negotiation.*** Contracts generally have milestones and time-sensitive price collars. Depending on the scope of the delay, these may need to be re-negotiated and cost additional time/money.