Research

Regulatory Burdens and the Supply of Infrastructure Projects

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Summary

- Between energy and transit projects, there are currently 148 projects in the National Environmental Policy Act (NEPA) review process with estimated costs of $229.4 billion.
- These projects could be financed by the $250 billion in private capital interested in infrastructure projects.
- The average time to complete the NEPA review process was 3.7 years for energy projects in 2016 and 6.6 years for transit projects in 2011.
- Some have proposed to give the NEPA review process a deadline to accelerate the process and free up additional projects for investment.
    - Using the average processing time as a deadline, there could be 24 additional energy projects costing around $48.2 billion ready for investment; there would also be 44 additional transit projects costing around $28 billion ready for investment.
    - Using a 2-year deadline, there would be 32 additional energy projects costing around $67.1 billion ready for investment; there would also be 87 additional transit projects costing around $56.4 billion ready for investment.

Introduction

President Trump's infrastructure proposal relies heavily on investments from the private sector to finance $1 trillion in infrastructure projects. A study from the Bipartisan Policy

Center concludes that public-private partnerships can attract $250 billion in private capital over five years. Given the large sum of private capital waiting to be invested, the following questions arise: why isn't the private sector currently investing in infrastructure and how can that change?

Two potential risks that could deter the private sector from investing in infrastructure are sovereign risk and political risk. Sovereign risk is the risk that the government won't repay the debt and political risk is that each election cycle will affect the project interest. A third explanation to this phenomenon is the associated regulatory burden. President Trump recently commented on the need to expedite necessary environmental reviews and approvals for projects, for example. This paper examines how expediting the National Environmental Policy Act review process (NEPA) might allow for additional private sector involvement. (AAF research examines where additional private sector investment will likely end up.)

National Environmental Policy Act (NEPA)

NEPA requires federal agencies to assess the environmental effects of proposed actions prior to making decisions on projects that are not categorical exclusions. If the project clearly does not affect the environment, the review process doesn't require further assessment. The federal agencies comply with NEPA by preparing an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). The EA is a brief document that provides evidence and analysis to determine whether an EIS is necessary. If the EA determines that an EIS is not necessary, the agencies issue a Finding of No Significant Impact (FONSI). An EIS is a full disclosure document that details the range of reasonable alternatives, analyzes the potential impacts, and demonstrates compliance with applicable environmental laws and executive orders. A notice of intent (NOI) begins the EIS process and a record of decision (ROD) completes it.

The NEPA review process does not contain any deadlines for completion, and the redundancy between agencies results in drawn-out completion times. There have been efforts to improve completion times. The FAST act, passed in 2015, includes provisions to streamline the process and the RAPID Act, introduced but not passed by Rep. Tom Marino in 2015, sets a two-year deadline for the EIS process.

To consider the potential impacts of an accelerated EIS process, the following sections examine historical EIS completion times, outstanding projects EIS time, and the estimated cost of the outstanding projects.

Historical Completion Times

Figure 1 shows the number of decisions and the median years needed for projects to complete the EIS process between 2008 and 2011 using the most recent data from the Federal Highway Agency.[1]

Figure 1: Transit EIS Completion Times

Year	Number of Decisions	Median Years
2011	23	6.6
2010	31	5.9
2009	33	7.0
2008	34	5.0

This shows the extensive process of getting through the environmental review process with half of the 23 projects in 2011 taking longer than 6.6 years. Between 2008 and 2011, the time to complete the EIS process ranged from 5 to 7 years, which is well over the two years proposed in the RAPID Act.

Figure 2: Energy EIS Completion Times

Year	Number of Decisions	Median Years
2016	16	3.7
2015	7	4.7
2014	8	3.3
Total	31	3.4

Using data from the U.S. Department of Energy, Figure 2 shows the median EIS completion times of energy projects between 2014 and 2016.[2] The 2016 median time to complete the EIS process was 3.7 years and the shortest time to complete in 2016 was 2.3 years. Even the projects completed the fastest would not satisfy the deadline proposed in the RAPID Act.

Figures 2 and 3 show the rate at which infrastructure projects complete the NEPA process which is a cause for concern. The longer it takes projects to complete the review process, the more the projects will end up costing. Accordingly, the more an approval's time to

completion increases, the higher the political risk that the project will lose government interest.

Outstanding Projects

Figure 3 and 4 note the number of outstanding projects, the median and maximum time waiting for a decision, and the estimated cost of projects using data from the U.S. Department of Energy (energy projects) and the Federal Highway Administration (transit projects).[3] The estimated cost of these projects roughly calculates the private sector capital that can be contributed if public-private partnerships were formed.

Figure 3: Energy and Transit Projects Waiting for Decision

Number of Projects	**Energy**[4]	**Transit**[5]
Total Outstanding Projects	44	104
Projects with Estimated Costs	32	90
Time Outstanding (Years)	**Energy**	**Transit**
Median	4.5	5.2
Maximum	11.7	22.4
Estimated Cost (billion)[6]	**Energy**	**Transit**
Total Cost	$157.2	$72.2
Average Cost	$4.9	$0.8

Figure 3 shows the difference between Energy and Transit projects as well as implications of expediting the review process. To begin, Transit projects endure a longer review process than energy projects. Transit projects' review process averages 0.7 years longer and the longest waiting transit project, 22.4 years without a decision, is almost double the longest waiting energy project, 11.7 years. In addition, the average estimated cost per transit project is much lower than energy projects, $0.8 billion compared to $4.9 billion. These two details might be related. The more a project is projected to cost, the greater the impact it will have—this generates more attention to the project which can help it progress through the process faster. An alternative explanation is that energy project assessments simply take less time to complete possibly because of fewer alternatives to consider.

Furthermore, if every project listed in Figure 3 completes the review process, there are

roughly 44 potential energy projects with estimated costs of more than $157.2 billion that private capital can finance. Similarly, there are 104 potential transit projects totaling over $72.2 billion in estimated costs. The total of the two infrastructure groups is 148 potential projects and $229.4 billion of potential investment. This $229.4 billion comes close to the $250 billion of interested private funds cited earlier. With the additional 12 energy projects and 14 transit projects without available estimated costs, it is safe to assume the actual total cost would well surpass the $250 billion threshold.

However, this assumes that every project clears the NEPA process. This is an unfair assumption since many of the projects are in the early stages of the review process. Considering this, Figure 4 looks at projects that have been outstanding for longer than the median time in 2011 (6.6 years) for transit projects and 2016 (3.7 years) for energy projects. It is reasonable to expect that these projects can be completed in this time. Figure 4 also evaluates projects that exceed the two-year deadline proposed by the RAPID Act.

Deadline Impact

Figure 4: Longer Wait times Energy and Transit Projects

Wait Greater than Average	**Energy (3.7 Years)**	**Transit (6.6 Years)**
Outstanding Projects	24	44
Estimated Costs (billion)	$ 48.2[7]	$ 28.0[8]
Wait Greater than 2 Years	**Energy**	**Transit**
Outstanding Projects	32	87
Estimated Costs (billion)	$ 67.1[9]	$ 56.4[10]

Figure 4 shows that creating a deadline to complete the review process in line with the average for the previous available period will substantially increase the projects available for investment. For energy projects, setting a deadline of 3.7 years would clear 24 projects. Of the 24 projects, 18 have cost estimates available that total $48.2 billion. A deadline of 2-years, as introduced by the RAPID Act, would clear 32 energy projects. For the 23 projects with available cost estimates, the total estimated costs would be $67.1 billion.

Looking at transit projects, a deadline would greatly increase the number of projects available for investment. A deadline of 6.6-years clears 44 projects with a total estimated cost of $28 billion for the 39 projects with available costs. A deadline of 2-years would clear

87 additional projects for investment. The estimated costs of the 75 transit projects with available costs would total $56.4 billion.

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.

Conclusion

The National Environmental Policy Act benefits the U.S. by minimizing the environmental effect of projects. There is room to improve the NEPA review process to reduce the time it takes projects to be approved. Doing so could free up billions of dollars in projects that can potentially attract $250 billion in interested private capital. Expediting while still maintaining the core purpose of NEPA should be the goal of any proposal to improve the regulatory process for infrastructure projects.

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[1] Federal Highway Administration, "Estimated Time Required to Complete the NEPA Process," https://www.environment.fhwa.dot.gov/strmlng/nepatime.asp

[2] U.S. Department of Energy, "Record of Decision (ROD)", https://energy.gov/nepa/record-decision-rod

[3] U.S. Department of Energy, https://energy.gov/nepa/nepa-documents/document-status-schedules;

Federal Highway Administration, https://www.environment.fhwa.dot.gov/projdev/active_eis.asp

[4] Outstanding energy projects as of January 17, 2017

[5] Outstanding transit projects as of February 17, 2015

[6] Cost estimates for projects range from preliminary numbers to more substantive figures depending on the development stage of the project. Projects with missing costs were omitted from this subsection.

[7] Only 18 of the 24 energy projects have estimated costs available

[8] Only 39 of the 44 transit project have estimated costs available

[9] Only 23 of the 32 energy projects have estimated costs available

[10] Only 75 of the 87 transit project have estimated costs available