Failure to Act: Economic Impacts of Status Quo Investment Across Infrastructure Systems (2021)

Client

American Society of Civil Engineers (ASCE)

Facts

Period 2021

Project Country United States

For the American Society of Civil Engineers (ASCE), EBP developed the Failure to Act analyses to first compare projected needs for infrastructure investment against the anticipated funding in a trends-extended framework for the coming 20 years (2020-2039) in surface transportation (highways, bridges, rail, transit); water and wastewater; electricity; airports; seaports and inland waterways.

Projections include costs of building new infrastructure where necessary, such as transmission lines or water treatment plants, and for maintaining or rebuilding existing infrastructure that needs repair or replacement. To develop projections of needs and investment, EBP relied on federal data sources, including but not limited to the EPA, FHWA, FAA, the Department of Energy, the Congressional Budget Office, and topical studies and scholarship.

Secondly, EBP measured the national economic consequences of the gaps between projected needs and expected funding with the INFORUM group (Interindustry Forecasting at the University of Maryland) to determine the potential 20 year economic impacts from failing to act. Impacts were estimated for each type of infrastructure separately, as well as in a final summery of the consequences of failing to act for all major segments of the U.S. infrastructure types.

The categories of infrastructure systems addressed in the preceding Failure to Act analyses were reviewed in isolation. However, EBP has found that the overall impact of deficient infrastructure associated with status quo investment levels cannot be estimated by simply adding the impacts found in each report because the degradation of surface transportation, water delivery and wastewater treatment, electricity, inland waterways and seaports each affect business productivity differently. Shifts to other production methods or modes of infrastructure may be possible given a decline in one system, which could mitigate the economic impacts of failing to invest in that system. For instance, rail, inland waterways, and trucks are used to transport goods to retail shelves; deteriorating conditions in one sector tends to make the other sectors more price competitive. However, a general decline in infrastructure conditions across multiple sectors would preclude such strategies.

The most important finding that is common to all analyses in this series is that infrastructure deterioration is progressive, and the economic effects will dramatically escalate over time from a business as usual approach. The good news is that much of the economic declines from worsening infrastructure, particularly those forecast from 2030—2039, can be prevented with thoughtful investment programs that address documented deficiencies.

However, under a trends-extended scenario of both projected infrastructure needs and investments, deficient infrastructure is expected to cost about 4% of the U.S. economy by 2039, as illustrated in Figure 1, including 4.6% of the nation's economic output, 4.2% of disposable household income and 3.5% of GDP, as well as 1.7% of the projected U.S. job base.

The 2020-2021 studies are updates to previous Failure to Act Infrastructure studies that EBP developed for ASCE in 2012 and 2016.

Contact Persons

Steven Landau
steven.landau@ebp-us.com