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ATTN: Docket No. DOT-OST-2025-0963

Re: Department of Transportation Strategic Plan for Fiscal Years 2026-2030

The American Society of Civil Engineers (ASCE) is grateful for the opportunity to provide comments to the Department of Transportation (DOT) as the agency seeks input on its Strategic Plan for Fiscal Years (FY) 2026-2030. The perspective offered in this document is in response to the request for information (RFI) issued by DOT on August 8, 2025.

Founded in 1852, ASCE is the nation's oldest engineering society. ASCE represents more than 160,000 members of the civil engineering profession in 177 countries. Whether they practice in private firms, government offices, or universities, ASCE's members are committed to advancing the science and profession of civil engineering and protecting public health, safety, and welfare. As the professionals who plan, design, construct, and maintain critical aspects of our nation's transportation infrastructure, from roads and bridges to rail lines and transit systems, ASCE welcomes the opportunity to offer perspective on DOT's Strategic Plan.

Over the past several years, transportation infrastructure has received renewed federal attention through initiatives such as DOT's Advanced Research Projects Agency – Infrastructure (ARPA-I) and legislation such as the Infrastructure Investment and Jobs Act (IIJA). DOT's Strategic Plan will play an instrumental role not only in guiding recent investments and programs but also in advancing forward-thinking policies and innovations to realize the benefits of these efforts.

For this comment, ASCE would like to discuss pertinent **findings from the 2025 *Report Card for America's Infrastructure*** and address the **questions DOT included in its RFI**.

ASCE's *Report Card for America's Infrastructure*

Like the Strategic Plan itself, ASCE's *Report Card for America's Infrastructure* is updated every four years. Since 1998, the Report Card has issued grades for the nation's major infrastructure categories using an A to F school report card format. ASCE released the most recent Report Card, which reflected an overall C grade and evaluated 18 categories of infrastructure, on March 25, 2025.

The cumulative C grade is an improvement from the 2021 Report Card grade of C-. Nearly half of the 18 infrastructure categories assessed in the Report Card saw grade increases. For the first time since 1998, no category received a D-, although nine categories remained in the D range. The bridges grade held steady at a C, while the rail grade dropped to a B-. Roads improved to a D+ and transit improved to a D. Aviation remained at a D+. With a B, ports received the highest grade on the Report Card.

While significant advancements have been made across infrastructure sectors, the nation still faces a substantial investment gap. The Report Card projects an investment gap of $3.7 trillion between 2024 and 2033, up from the $2.59 trillion gap identified in the 2021 Report Card. Failing to close this gap brings serious economic consequences. ASCE's *Bridging the Gap* report finds that, if IIJA spending becomes the new baseline for infrastructure investment, American families will save $700 more per year from 2024-2043. The report estimates that each American household loses about $2,000 per year due to inadequate infrastructure. However, if we snap back to pre-IIJA funding levels after 2026, each American household will lose, on average, $2,700 per year due to infrastructure deficiencies.

The Report Card outlines three overarching solutions to raise the infrastructure grades – and improve quality of life for Americans. ASCE urges a comprehensive agenda that sustains investment levels, prioritizes resilience, and advances forward-thinking policies and innovations. Infrastructure investments must be consistently and wisely allocated, starting with maintaining existing funding levels and then working with government partners and the private sector to close the remaining investment gap. The implementation of best practices for resilience when planning across a project's intended life cycle is critical for protecting public safety and efficiently using tax-payer dollars. Lastly, the adoption of forward-thinking policies and innovations that incorporate the public and private sectors can help address needs and realize the benefits of infrastructure investments.

The generally positive trends displayed in the Report Card reflect investments from federal, state, and local government agencies as well as the private sector. However, while recent

investments have made a difference, the full effects of increased funding will take years to realize. To guide these investments, government leaders and infrastructure partners must develop policies and practices that address common issues in project development and delivery across infrastructure sectors, locations, and environmental conditions.

The update to DOT's Strategic Plan comes at a crucial time. Innovation and policy decisions made in the next five years can have ramifications that extend decades into the future. As DOT undertakes this timely update, ASCE is glad to serve as a technical resource.

ASCE's responses to DOT's questions

In the RFI, DOT presented four questions for respondents to consider. ASCE's responses to these questions are below:

1. *What strategies or priorities should the DOT adopt to improve the nation's transportation systems?*
    - Develop a project funding priority strategy that gives preference to projects that will reduce deaths, injuries, and property damage.
        - ASCE supports the implementation of policies and practices that integrate the safety of all system users in the planning, design, construction, operations, connectivity, and maintenance of transportation networks.
        - Safety is a significant issue on our nation's roadways. The National Highway Traffic Safety Administration (NHTSA) estimates 39,345 people died in motor vehicle traffic crashes in 2024[1]. Pedestrian injuries and fatalities are also high. Preliminary data indicates 7,318 people were struck and killed while walking in 2023[2]. This figure is 14.1% higher than the number of pedestrian deaths reported in 2019.
        - Focus on Vision Zero strategies to reduce roadway deaths, improve accessible design for people with disabilities, and expand mobility access in rural communities.
    - Address the engineering and construction workforce shortage by implementing strategies and policies that recognize both short-term and long-term recruitment and retention challenges, as well as prioritize STEM opportunities in K-12 education. Develop a national program to train

[1] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813710
[2] https://www.ghsa.org/resource-hub/pedestrian-traffic-fatalities-state-2023-preliminary-data-january-december

engineers and contractors in new materials, technologies, and sustainability practices.

- Modernize infrastructure and bolster resilience by prioritizing upgrades to aging bridges, highways, ports, and rail systems using resilient and sustainable materials and technologies.
    - Upgrades such as elevating roads and bridges and retrofitting them with improved stormwater drainage can prevent prolonged closures that disrupt national freight mobility. At ports, elevated infrastructure, storm surge protection, and electrified cargo-handling equipment can enhance climate resilience and sustainability. Waterproofing measures and modern ventilation systems can also improve rail infrastructure, including tunnels.
    - Regarding materials, fiber-reinforced polymer and ultra-high-performance concrete can result in longer service lives, reduced maintenance needs, and resistance to freeze–thaw cycles. Alternative materials, such as recycled aggregates and industrial by-products, are readily available, while high-performance engineered materials can offer durability and reduce environmental impacts.
- Create new traffic demand forecasting from data that accounts for natural disasters and other disruptions.
- Dedicate resources to preserving a state of good repair across existing infrastructure.
- Reduce construction impacts by using strategies such as lane rental charges and nighttime construction.
- Increase funding to improve the condition and operations of the transportation system and enhance safety for all users. Implement multijurisdictional mileage and time-based user fees.
- Accelerate the electrification of vehicles, trucks, and transit fleets, expand electric vehicle (EV) charging infrastructure, and incentivize low-carbon fuels. Regarding alternative energy support structures, increase partnerships with the private sector to respond to demand. Leverage private sector expertise and capital for EV infrastructure, smart corridors, and advanced transit systems.
- Adopt safer land use as a sixth element of DOT's Safe System Approach, which is arranged around the five objectives of Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care.

    - Land use determines the scale and pattern of travel demand, proximity to high-speed roads, and the viability of multimodal alternatives. Safer land use leads to fewer vehicle trips, shorter travel distances, and more people walking, biking, and using transit, resulting in fewer and less severe crashes and less need for costly infrastructure investment, which rarely completely solves congestion issues and requires ongoing maintenance and preservation funding.
    - Additionally, DOT should incentivize state and local partners to integrate transportation safety into comprehensive planning and support data collection and analysis tools that link land use patterns to safety outcomes.
- Advance public transit and active mobility by expanding safe, affordable, and low-emission public transit systems and integrating active modes into transportation planning.
- Leverage digital tools, data analytics, and autonomous vehicle support systems to optimize traffic flow, freight logistics, and the predictive maintenance of infrastructure. Consider alternative uses of right-of-way to incorporate these technological advancements.
    - Tools such as predictive analytics and Internet of Things-enabled sensors can optimize container movements at ports, reducing truck turn times and improving overall supply chain efficiency. Sensors can also be used to detect wear on rail systems and deliver collision warnings.
    - Incorporate self-sustaining components, such as solar-powered lighting and signage, into the transportation network.
- Strengthen freight and supply chain systems by improving intermodal connectivity, inland freight corridors, and ports to enhance U.S. competitiveness.

2. *How should DOT measure progress towards the priorities suggested in Question 1?*
    - Suggested metrics include:
        - Crash exposure by land use type, such as fatalities per capita in rural versus urban mixed-use zones. Another safety metric to consider is fatalities and serious injuries per 100 million vehicle miles traveled (VMT).
        - Percentage reduction in transportation system disruptions due to extreme weather or cyber-attacks and recovery time after extreme events to gauge resilience.

    - Greenhouse gas emissions reductions from the transportation sector. Relatedly, percentage changes in EV and alternative fuel adoption and percentage of projects using recycled or alternative materials.
    - Condition assessments and deterioration models to rate asset health. Monitor backlog of critical repairs and rehabilitation needs.
    - Proximity metrics, such as percentage of population within half a mile of essential services (schools, grocery stores) using low-speed or multimodal infrastructure.
    - VMT reduction by proximity to centers and corridors, which would involve tracking trip lengths and frequency in compact versus dispersed growth areas. Other metrics to consider are average travel time reduction in urban corridors, freight transit time reliability, and reduction in traffic congestion and incident response time.
        - Sensors integrated into roadways can serve as tools to collect data (traffic, pavement conditions, climate, etc.) that can feed into traffic management systems to assist with connectivity, safety response, and resource allocation.
    - Number of pilot projects related to smart mobility or automation deployed and scaled nationally.
    - Land use alignment scores that integrate safety-focused land use policies in the plans of metropolitan planning organizations, states, and local agencies. Aligning discretionary grant scoring with land use context, with consideration of factors such as mixed-use growth patterns, can also contribute to safer land use.
- ASCE recommends DOT regularly publish metrics relative to goals through dashboards, public reports, and interactive maps.
    - Federal data on the condition, capacity, operations, and safety of the transportation system is necessary for infrastructure owners, civil engineers, and safety professionals to understand current needs and plan future improvements. Data—publicly available, routine, and reliable—should be standard across all infrastructure sectors to target investments and allow decision-makers to wisely allocate limited funding to needs. Through enhanced data, both the efficiency and effectiveness of assets can be better achieved.
    - Specifically, ASCE recommends the Federal Highway Administration (FHWA) issue an updated version of the Status of the Nation's Highways, Bridges, and Transit Conditions and Performance Report,

which ASCE relies on to develop the *Report Card for America's Infrastructure*. The most recent version of the Conditions and Performance Report was released in 2024 and draws primarily from data from 2018.

3. *What emerging challenges or opportunities in transportation warrant additional DOT activities, investments, research, or analysis?*
    - The transportation sector is rife with emerging possibilities for research and investment to address challenges and opportunities.
    - Pavement:
        - Continue research to preserve and improve pavement life. Expand asset management programs and funding for preventive maintenance. Maintaining a state of good repair on existing roads, many of which were designed decades ago, is essential.
        - Life-cycle cost analysis is a critical component of asset management. Life-cycle cost analysis, which helps provide awareness of total infrastructure cost, can help transportation professionals and elected officials make well-informed operations and maintenance decisions.
    - Construction:
        - Fund research into innovative technologies, materials, and construction techniques to extend and preserve the life of transportation infrastructure.
            - Recycled materials are an option for reducing waste and costs.
        - Additionally, research alternatives to natural aggregates.
        - Research the utilization of right-of-way to accommodate innovative technologies.
    - Housing trends:
        - Increased density, which can create congestion at origins and destinations of trips.
        - Land use's impact on crash severity and likelihood.
        - Best practices for coordinating transportation planning with local land use under categorical exemption processes.
    - Travel and leisure trends:
        - Work-related vehicle trips, which have shifted due to the COVID-19 pandemic.
        - Travel patterns for shopping trips, school drop-off and pick-up runs, and other non-work trips.
        - Seasonal variations in demand across all modes.

        - FHWA's National Household Travel Survey and resulting summary of trends is a useful resource for this information and should receive continued support from DOT.
- Extreme weather:
    - Rising risks to coastal, urban, and rural infrastructure from floods, wildfires, and hurricanes.
    - Invest in extreme weather modeling and infrastructure adaptation strategies.
- Cybersecurity threats:
    - Increasing vulnerabilities in connected transportation infrastructure and vehicles.
    - Analyze data privacy and cybersecurity implications of connected infrastructure.
- Workforce evolution:
    - Addressing skills gaps in EV manufacturing, mobility solutions, and infrastructure maintenance.
- Energy transition:
    - EV adoption requires grid modernization, battery recycling, and resilient supply chains for rare earth minerals.

4. *How can DOT best create value for its activities with stakeholders?*
    - Continue efforts to streamline project delivery in both time and costs. Assess current government permitting processes, identify "pain points," and inform strategies to modernize compliance across all infrastructure sectors—working in parallel rather than series—while ensuring appropriate safeguards and protections are in place.
    - Increase service across all modes by reducing travel time. Travel time reliability, which indicates whether people can accurately plan for travel times, should inform decisions about capacity and should not be used solely to justify roadway expansions.
    - Improve intermodal connections for passenger and freight movement.
    - Support research and development of innovative materials, technologies, and processes to modernize and extend the life of infrastructure, expedite repairs or replacements, and reduce costs in the future.
        - Partner with academia, industry, and local agencies to develop solutions.
        - Host innovation challenges and open data initiatives.

    - Raise awareness of opportunities and challenges at K-12 schools, community colleges, and universities to prepare the next generation of workers.
- Foster shared accountability by incentivizing and rewarding state and local actions that demonstrate system-level safety outcomes, not just project-level metrics.
    - Establish structured stakeholder councils (including state departments of transportation, local governments, Tribal authorities, industry, academia, and communities) to develop policies.
    - Invest in demonstration projects and share best practices across states and regions.
    - Use participatory approaches to ensure transportation decisions reflect local needs, particularly in marginalized areas.
- Lead the national conversation on integrating land use and safety within the Safe System Approach. Fund and disseminate technical assistance and peer exchange programs focused on safe land use planning and implementation.
    - Coordinate with housing, energy, and health agencies to create multimodal, livable, and sustainable ecosystems.

Conclusion

ASCE would like to thank DOT for updating its Strategic Plan and accepting input from stakeholders as it does so. Amid great investment needs, the transportation sector contains vast potential for innovation. ASCE looks forward to serving as a source of information and is prepared to answer any questions as DOT collects input.