American Planning Association

Creating Great Communities for All

April 2019

Surface Transportation Policy Guide

For Delegate Assembly Adoption

INTRODUCTION

The United States is arguably experiencing the biggest change in public policy in decades, including transportation, as conventional forms of governance, accountability, budgeting and funding authority face new challenges in the form of demographic changes, political conflict, rapid advances in technology, and an expanding role of the private sector in developing, testing, and deploying new models of transportation mobility.

In addition, the United Nations' Intergovernmental Panel on Climate Change released a comprehensive Special Report in the fall of 2018 about the state of scientific, technical, and socio-economic knowledge on climate change. The report identified the impacts and future risks, and options for reducing the rate at which climate change is taking place.

The report's findings indicate several threats from sea-level rise, including more frequent and intense storms that will lead to significant environmental changes by 2040, which is within the horizon of most regional transportation plans under development today.

For several years, Congress has debated a different role for the federal government relative to funding transportation infrastructure. With the Interstate Highway System largely complete, some have called for devolution of federal transportation funding to the states and many other reforms that would remove the federal government from funding local or regional transportation, changing decades of stability and predictability in the role all levels of government play in delivering transportation solutions. Combined with increased private-sector autonomy, rapid advances in technology and the evolving nature of public-private partnerships, the next federal surface transportation authorization has the potential for dramatic changes in funding policy not seen since the Intermodal Surface Transportation Efficiency Act of 1991.

The U.S. has broadly held to the transportation investment choices, funding streams, policies, design practices and modal priorities since they emerged in the post-World War II 1950s. The emphasis on interstate highway development and associated public policies that support and reinforce convenience and efficiency of higher speed travel using private automobiles and trucks created both positive and negative effects for communities and regions. However, with urban areas continuing to gain population amid global environmental threats, disruptive technology and other factors, new approaches are needed for transportation development and operations to sustain economic, community and household well-being.

In that context, states, regions and local agencies may need to develop a much wider set of responses to the challenges of the current federal policy environment. This guide attempts to frame those policy responses for consideration by members of the American Planning Association.

OVERVIEW OF THIS POLICY GUIDE

This Policy Guide builds on the previous Surface Transportation Policy Guide adopted by APA in 2010, prior to the last two federal transportation laws (MAP-21 and the FAST Act) and the emergence of new technologies that are proving disruptive to traditional transportation system planning, design, and funding. In 2016, recognizing the changing nature and increasing importance of freight to our national and regional economy, APA adopted a Freight Policy Guide in 2016 to augment the Surface Transportation Policy Guide. With the election of President Trump, who proposed the "Legislative Outline for Rebuilding Infrastructure in America," APA adopted a set of Infrastructure Policy Principles in 2017. Those were followed by a set of Autonomous Vehicle Policy Principles in early 2018. With those broad policy platforms in place, it is recommended that an update of the Surface Transportation Policy Guide focus on several timely topics that are likely to be a focus of policy debate at the federal, state, and regional levels.

TOPIC AREAS

The following topics were selected by the lead authors and approved by APA. Each topic area includes a brief setup of the issue(s), followed by a series of policy statements, some elaboration where warranted, and selected supporting references that helped to inform the position statements.

A. Data for Equitable and Effective Decision Making

B. Future of Public Transportation

C. Safety and Vision Zero

D. Rural, Suburban, and Exurban Transportation

E. Project Development and Funding Decisions

F. Energy and Transportation in the United States

G. Transportation Revenue amid a Changing Landscape

POLICY GUIDE DEVELOPMENT TEAM

This policy guide was drafted by APA members representing various APA divisions and chapters with an interest and expertise in transportation policy. The draft guide was initiated by the APA Legislative and Policy Committee in late 2017, with a solicitation for volunteers distributed to the leadership of multiple APA divisions. The intent was to provide a diverse geographic and professional focus for development of the guide. The members of the policy guide development team include:

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A. DATA FOR EQUITABLE AND EFFECTIVE DECISION MAKING

BACKGROUND

Rapid advances in technology are making big data more available for understanding travel characteristics and conditions, as well as supporting infrastructure for Smart Cities. Limited government philosophies and budget proposals threaten to undercut data collection efforts needed by planners and public officials to set priorities and make decisions. Data is the backbone of transportation planning and infrastructure decision making, and our performance-based, outcome-driven planning process demands that we efficiently access and apply valid data to advance plans and projects. To that point, there are questions about data standards related to emerging technologies and the extent to which private companies will share data to aid in equitable and more effective decisions. Further, there are questions about whether to collect and report data related to greenhouse gas emissions as an indicator of climate impacts.

POLICY STATEMENT A-1

The American Planning Association and its Chapters and Divisions support the creation of data partnerships at the local, regional, state, and national levels to identify data user needs and explore emerging data and its availability. Partnerships should delineate data purchasing, aggregation, quality assurance, storage, sharing, and user training policies. They should also ensure that all jurisdictions and agencies have access to resultant data regardless of their size, budget, and populations served. Partnerships should support the incorporation of various data sources, including real-time live-streamed data as appropriate, into agency decision-making as part of an outcome-based, performance-driven planning process.

Elaborate:

- Data needs and sources may be diverse and can include transportation usage patterns collected by Bluetooth, sensor, Advanced Wireless Services, user submittal through mobile applications, and other means.
- Planners should consider emerging data's availability and quality to research whether what data are appropriate and stable for long-range planning purposes or are more compatible with shorter time horizons.
- Data collection and licensing can be expensive, and dedicated funding and cost-sharing should be considered in data partnerships.

Support:

1. "The quality of data-driven decisions is directly related to the quality of the original data. Therefore, some relatively new forms of data, such as data from social media, need to be evaluated for systematic sources of error. For example, recent studies have shown that people give false answers, especially in social networks, when they are unsure if their privacy is preserved. The decisions that are then made from this social media data must be evaluated in context. Research is recommended on the limitations of new data forms, on data quality, and the subsequent downstream decisions and strategies that come from that data."

   Source: Big Data Senior Steering Group, National Science and Technology Council. 2016. *The Federal Big Data Research and Development Strategic Plan*. Available at https://bigdatawg.nist.gov/pdf/bigdatardstrategicplan.pdf.

The federal Geospatial Act: https://www.fgdc.gov/gda/geospatial-data-act-of-2018.pdf.

2. The Federal Highway Administration's (FHWA) Every Day Counts initiative for 2019-2020 (EDC-5) encourages the adoption of Unmanned Aerials Systems for collecting high-quality and low-cost data efficiently. EDC-5 also advocates Use of Crowdsourcing to Advance Operations to add reliable, real-time data that enables faster issue detection, increases accuracy of traveler information, and responds proactively and effectively to improve operations.

   Source: Federal Highway Administration. 2018. EDC-5 Innovations (2019-2020). Available at https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5.

POLICY STATEMENT A-2

The American Planning Association and its Chapters and Divisions encourage the development and implementation of common data standards, protocols, and ethics, including transportation infrastructure data configurations and privacy measures that maximize data collection opportunities, while also ensuring community equity, access to opportunity, dignity, and privacy.

Support:

1. "Data sharing within and across public and private sectors is a critical aspect of the Nation's collective Big Data future, issues of privacy and security are paramount in all sharing platforms. These issues must be addressed to ensure controlled and proper dissemination of data in order to engender trust among the various stakeholders and in the data. Defining data privacy and security measures will be critical elements in the advancement of Big Data sharing as well. Trust in the privacy and security measures for sensitive datasets must be integral elements of the design of any data-sharing technology, and is part of a much larger series of concerns around Big Data ethics and societal implications . . . The conclusions that can be drawn from Big Data are not limited to those gleaned by the data's original collector, but can be based on reuse and repurposing of datasets, and use of the data in combination with other datasets and for different end purposes. Thus, ensuring trust in the original datasets and derived products is essential. . . Ethical concerns about Big Data leading to discriminatory practices and outcomes have also sparked renewed discussion on how to best enforce, for example, long-standing civil rights protections, particularly in housing, employment, and credit. To address these concerns, some 'rules of the road' are needed for data governance."

   Source: Big Data Senior Steering Group, National Science and Technology Council. 2016. *The Federal Big Data Research and Development Strategic Plan*. Available at https://bigdatawg.nist.gov/pdf/bigdatardstrategicplan.pdf.

2. "The primary purpose of this part of the Geographic Information Framework Data Content Standard is to support the exchange of transportation data. This part seeks to establish a common baseline for the semantic content of transportation databases for public agencies and private enterprises. It also seeks to decrease the costs and simplify the exchange of transportation data among local, Tribal, State, and Federal users and producers. That, in turn, discourages duplicative data collection. Benefits of adopting this part of the standard also include the long-term improvement of the geospatial transportation data within the community, improved integration of safety, emergency response, and enforcement data, and streamlines maintenance procedures."

   Source: Federal Geographic Data Committee. 2008. *Geographic Information Framework Content Standard, Part 7: Transportation Base.* Available at

https://www.fgdc.gov/standards/projects/framework-data-standard/GI_FrameworkDataStandard_Part7_Transportation_Base.pdf.

POLICY STATEMENT A-3

The American Planning Association and its Chapters and Divisions support establishing strong data partnerships with organizations, including between agencies that collect, analyze, and share air, water, energy and weather data to assess climate change impacts and agencies that develop strategies for roadways and other transportation infrastructure. This sharing of data will lead to better information and decision making among individuals, communities and industry regarding planning, design, construction, operation, and maintenance of transportation infrastructure within short-term and long-term horizons.

Support:

1. The League of American Bicyclists produces an annual benchmarking report, Bicycling & Walking in the United States, with data and advocacy on biking and walking.

   Source: https://bikeleague.org/benchmarking-report

2. The Transportation Research Board (TRB) is a program of the National Academy of Sciences, Engineering and Medicine, a non-profit organization that provides independent, objective, and interdisciplinary research, publications, and online resources by convening experts that help to develop solutions to problems and issues facing transportation professionals.

   Source: www.trb.org/Main/Home.aspx

3. AASHTO is a nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia, and Puerto Rico and that represents all transportation modes. Its primary goal is to foster the development, operation, and maintenance of an integrated national transportation system by educating the public and key decision makers and serving as a liaison between state departments of transportation and the federal government. Source: https://www.transportation.org/

4. WalkScore, BikeScore, and TransitScore: https://www.walkscore.com.

5. Array of Things urban sensing installation in Chicago: http://arrayofthings.github.io.

6. "The National Oceanic and Atmospheric Administration, the U.S. Department of Transportation (USDOT), the U.S. Geological Survey, and other relevant agencies should work together to institute a process for better communication among transportation professionals, climate scientists, and other relevant scientific disciplines, and establish a clearinghouse for transportation-relevant climate change information."

   Source: National Research Council of the National Academies (2015). *Potential Impacts of Climate Change on U.S. Transportation*. Available at http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf.

POLICY STATEMENT A-4

The American Planning Association and its Chapters and Divisions support establishing partnerships with and empowering community residents and community-based organizations to collect, visualize, and interpret data that supports transportation planning. Partnerships must recognize that "digital divide"

equity issues exist and strive to promote accessibility, usability, and data literacy among community residents and community-based organizations.

Elaborate:

- Not everyone has access to the types of technology that are needed to produce the data discussed in this policy, as low-income families may not have smart phones and credit cards and the elderly may not have a social media presence or smartphones. Typically underrepresented groups might be further excluded in data-driven efforts without appropriate strategies to address access.

- Provision of wifi, information, and/or interactive exhibits at public libraries and community-based public spaces can help address this divide and provide more equitable planning processes.

Support:

1. "A data-driven world requires a citizenry that is data literate. This includes the ability to read, correctly interpret, and communicate information from data, as well as create data and knowledge derived from other data."

   Source: Big Data Senior Steering Group, National Science and Technology Council. 2016. *The Federal Big Data Research and Development Strategic Plan.* Available at https://bigdatawg.nist.gov/pdf/bigdatardstrategicplan.pdf

2. Fixmystreet allows citizens to map local issues from potholes to confusing signage and bring it to the attention of local authorities.

   Source: Smarter Smart Cities https://www.technologyreview.com/s/610249/a-smarter-smart-city.

3. StreetMix street design/visualization: https://streetmix.net.

4. CounterPoint traffic counting mobile application: http://counterpointapp.org.
5. Smart Citizen Kit: The Smart Citizen project uses low-cost sensors and a web platform to enable citizens to capture, share, and make sense of environmental data about their city.
   Source: Smarter Smart Cities https://www.technologyreview.com/s/610249/a-smarter-smart-city.

6. Hester, J.L. 2017. "Citizen science in the age of the cloud." Citylab. April 6. Available at https://www.citylab.com/life/2017/04/citizen-science-documentary-pbs/522012.

   The FHWA Every Day Counts initiative for 2019-2020 (EDC-5) encourages Virtual Public Involvement to enhance project delivery and address issues early in the planning process. Examples cited by FHWA include crowdsourced maps, interactive forums, visualizations, online meetings, and working with bloggers.

Source: FHWA. 2018. EDC-5 Innovations (2019–2020). Available at https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/virtual_public_involvement.cfm

B. Future of Public Transportation

Background

Autonomous vehicles and other emerging technologies are disrupting traditional public transit services and challenging providers to rethink the role of public transit services as part of an overall mobility management approach. Some are using new technologies as a way to cast doubt on public transit capital projects and undermine their public support. What is the role of commuter and intercity rail, such as Amtrak and high-speed rail? What policy considerations should planners and others consider for concepts
like Bus Rapid Transit or flexible services that meet the demand for travel at a
cost that is affordable and equitable? It is incumbent upon planners to provide a policy framework for the role different forms of public transportation can play in our cities, regions, and states.

Policy Statement B-1

The American Planning Association and its Chapters and Divisions recognize that public transportation developed in close coordination with comprehensive land use plans creates economic value and opportunity by moving large volumes of people in limited transport space. Autonomous vehicles, new service models, and emerging technologies in all modes (bus, rail, auto, pedestrian, bike, scooter, and ferry) offer new tools that can provide more options to meet this goal. Planners should advocate for the best mix of modes and technology for a given planning situation or project, focusing on the community's goals, context, and resources. To capture this value, public transportation agencies should reframe their mission as one of mobility management rather than strictly transit service provision.

Support: As described in this report, Transportation Network Companies (TNCs) and microtransit services (bikes and scooters) can benefit urban transportation, how policy makers can respond to traffic and transit impacts, and the implications of current experience for planning and implementation of shared autonomous vehicles in major American cities. However, proliferation of TNCs may actually increase congestion and be harmful to the urban environment without considering well thought-out policies.

http://www.schallerconsult.com/rideservices/automobility.pdf

Public Policy

- Trip fees, curb management, congestion pricing, bus lanes, and traffic signal timing can help cities manage current congestion generated by increasing TNC trip volumes combined with other demands on limited street space.
- Low (or Zero) Emission Zones can provide priority for alternative fuel vehicles, such as electric vehicles, scooters and bike share, within core urban districts to help ease congestion, support first- and last-mile connections, and improve air quality.
- If additional steps are needed to reduce traffic congestion, policy makers should look toward a more far-reaching goal: less traffic. Key steps involve limiting low-occupancy vehicles, increasing passenger occupancy of TNCs and taxis, changing commercial vehicle operations, and ensuring frequent and reliable bus and rail service.

Connected and Autonomous Vehicles (AVs)

- Without public policy intervention, the likelihood is that the autonomous future mirrors today's reality: more automobility, more traffic, less transit, worse public health, and less equity and environmental sustainability.

- Policy makers should steer AV development away from this future starting today with steps to manage TNCs and personal autos and emphasize frequent, reliable, and comfortable high-capacity transit service. Autonomous shuttles and other types of vehicles can help reduce operating costs for public transit to connect major transit networks and traveler destinations.

POLICY STATEMENT B-2

The American Planning Association and its Chapters and Divisions support continued investment in public transportation because of its value of expanding economic equity by offering an alternative to the expense of purchasing and maintaining a car. Public policy should recognize the role for Mobility as a Service (MaaS) and Transportation Network Companies (TNCs) to support this goal as part of the overall system, instead of simply accommodating the most profitable trips.

Support: This policy is supported by TransForm's research on "Focusing On Equity as Shared Mobility Evolves" (http://www.transformca.org/transform-blog-post/focusing-equity-shared-mobility-evolves) Specifically: "Done right, MaaS has the potential to disrupt inequity and help us move away from the one-car-per-adult paradigm that is the basis of our transportation problems. But we need to make sure it fills the gaps in the transportation network, not widen the chasm between rich and poor, as well as those with access to technology and those who do not. It should be shared, sustainable, and accessible. It should integrate with and complement public transit, promote the most sustainable and affordable modes, improve safety for cyclists and pedestrians, and ensure universal access and choice."

POLICY STATEMENT B-3

The American Planning Association and its Chapters and Divisions believe that for public transportation to be effective as technologies, land-use patterns, and demographics change, it should be both scalable and adaptable to meet the needs of different land-use contexts.

Elaborate:

- Grids of urban transit networks should fit the movement needs of the residents of dense urban areas, especially those of low and moderate income.
- Connected, high-capacity regional systems should link together high-intensity areas, including central cities, high-density residential, and mixed use districts in suburban areas.
- In larger states or multistate regions with multiple large cities, provide seamless high speed rail connections between central city transit hubs that serve high-capacity transit systems within individual urban regions.
- Smaller cities, including those that are hubs for surrounding rural development, should study the viability of various public transit networks, including paratransit/demand-response, park-and-ride, and potential funding streams to support them, to determine the most effective way to serve residents who cannot rely on the automobile.
- Encourage innovation, funding, and support to provide transit service to lower-density areas, such as suburban business and residential areas. Services could include traditional bus lines, microtransit vehicles that circulate in each neighborhood, "shared" automobile services, as well as bike and scooter rentals coupled with good walking and biking connections.
- Recognize transit's role in fostering economic and community development through TOD and Joint Development, working with state and local governments, the private sector and non-profit organizations.
- For all transit investments, work within the given economic environment and consider funding relative to the best opportunity for return on investment (whether in terms of financial return or other identified policy goals). This means working with existing systems or what makes the

most sense given demand, capacity, and financial capability at the local, state, and federal levels. Concurrently, identify opportunities for private partners to expand the network.

Support:

This policy is supported by the *Transit Sustainability Practice Compendium* (an initiative supported by the U.S. Environmental Protection Agency and the American Public Transportation Association. August 2009. Available at https://www.apta.com/resources/hottopics/sustainability/Documents/Transit-Sustainability-Practice-Compendium.pdf. Specifically, Section 2.1 of this document, which presents seven guidelines devoted to promoting transit-oriented development including Guideline 1, which recommends transit systems to "Optimize public investment in transit lines through the coordination of land use policy with transit system planning and locate stations and transit nodes where they are best supported by existing or planned residential and/or commercial development."

C. SAFETY FOR ALL TRAVELERS

BACKGROUND

Despite declines[1] over the last several decades, automobile crashes still account for about 33,000 deaths per year, yet crashes involving vulnerable road users (people who walk, bicycle or ride motorcycles) are trending in an upward direction. Crashes are increasingly tied to distracted driving. Smart Growth America continues to publish "Dangerous by Design," which highlights the regions in the United States that lead the country in fatalities and serious injuries involving those vulnerable road users, and how roadway design and other policy considerations focus on the mobility and safety of people in cars or trucks at the expense of access, mobility, and safety for people using other means of transportation.

Many state and local governments are considering strategies such as a Vision Zero Toward Zero Deaths, or other multifaceted approaches to reducing or eliminating fatalities and serious injuries. In a changing world of new technologies and more people living in major metropolitan centers, what policy considerations must planners and officials address to improve safety, especially for pedestrians, bicyclists, and other vulnerable road users?

POLICY STATEMENT C-1

The American Planning Association and its Chapters and Divisions support planning efforts and cross-sector partnerships, with participation from diverse and representative public officials, staff, public health officials, policy makers, community leaders, education professionals, and law enforcement focused on significantly reducing transportation-related deaths and injuries, especially for the most vulnerable users (walkers, bicyclists, motorcycle users, the elderly, and youth).

Elaborate:

Support coordination between decision makers, policy makers, staff, and others to:

- Incorporate safety considerations into all planning efforts
    - Education—Incorporate a discussion of safety into public outreach related to transportation projects, ensuring that all communities understand the initiatives, options, and trade-offs.
- Improve consistency in data gathering, timely data sharing, and visualization to learn about impacts across the board, including physical and mental health needs, near-miss areas, etc.
- Create a consistent language around safety—e.g., crash versus accident—and provide outreach to media on best practices (i.e., *Reporting on Road Safety: A Guide for Journalists*).
- Adopt a shared vision for safety and crash reductions with long-term goals and interim targets consistent with an outcome-based, performance-driven planning process.
- Build political support and funding for improvements.

Support:

1. OECD/ITF. 2008. Pp. 16-17 executive summary discusses need for coordination.

2. Pulitzer Center and the World Health Organization. 2016. *Reporting on Road Safety: A Guide for Journalists*. Available at https://pulitzercenter.org/blog/reporting-road-safety-guide-journalists-available-online.

3. Schmitt, A. 2018. “How coverage of pedestrian fatalities dehumanizes victims and absolves drivers.” *Streetsblog*. March 28. Available at https://usa.streetsblog.org/2018/03/28/how-coverage-of-pedestrian-fatalities-dehumanizes-victims-and-absolves-drivers/comment-page-1.

4. Schmitt, A. 2018. “Conclusive evidence: how the media fails bicyclists.” *Streetsblog*. September 28. Available at https://usa.streetsblog.org/2018/09/28/conclusive-evidence-how-media-fails-bicyclists.

5. Bunn, F., Collier, T., Frost, C., Ker, K., Roberts, I., & Wentz, R. (2003). Traffic calming for the prevention of road traffic injuries: systematic review and metaanalysis. Injury Prevention, 9(3), 200-204.

6. Guide to Community Preventive Services. Physical Activity: Interventions to Increase Active Travel to School. https://www.thecommunityguide.org/findings/physical-activity-interventionsincrease-active-travel-school

7. Guide to Community Preventive Services. Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design. ttps://www.thecommunityguide.org/findings/physicalactivity- built-environment-approaches.

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OECD/ITF. 2008. “Toward Zero: Ambitious Road Safety Targets and the Safe System Approach.”

Toward Zero Deaths Steering Committee. June 2014. “Toward Zero Deaths: A National Strategy on Highway Safety.”

Vision Zero Network. November 2016. “Elevating equity in Vision Zero communications: A white paper framing the challenges & opportunities.”

Smart Growth America and National Complete Streets Coalition, January 2017. “Dangerous By Design 2016.”

Vision Zero Network, February 2017. “Moving from Vision to Action: Fundamental Principles, Policies & Practices to Advance Vision Zero in the U.S.”

Presentation to the Iowa Local Road Safety Workshops. October 2017. “The Safe System: An Evidence-Based Approach to Roadway Safety.”

WRI Ross Center & Global Road Safety Facility. January 2018. “Sustainable & Safe: A Vision and Guidance for Zero Road Deaths.”

RAND Corporation. April 2018. “The Road To Zero: A Vision For Achieving Zero Roadway Deaths by 2050.”

POLICY STATEMENT C-2

The American Planning Association and its Chapters and Divisions support placing a priority on planning and designing our roadways for the safety of all users.

Elaborate:

Design for intuitive, safe use, rather than the fastest speeds, and recognize that the responsibility for safety is shared between stakeholders that use, design, and maintain the system. This may be done through adoption of a Safe System Approach or similar strategy that acknowledges and plans for human fallibility. Whether using initiatives like Complete Streets, Context-Sensitive Solution or Vision Zero, the American Planning Association recognizes that safety is a shared responsibility, with the context of an area or roadway providing the framework for planning, design and operational activities that make safety a primary consideration.

Support:

1. OECD/ITF. 2008. The basic strategy of a Safe System approach is to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury. A Safe System approach has the following characteristics:

    - It recognizes that prevention efforts notwithstanding, road users will remain fallible and crashes will occur.
    - It stresses that those involved in the design of the road transport system need to accept and share responsibility for the safety of the system, and those that use the system need to accept responsibility for complying with the rules and constraints of the system.
    - It aligns safety management decisions with broader transport and planning decisions that meet wider economic, human and environmental goals.
    - It shapes interventions to meet the long term goal, rather than relying on "traditional" interventions to set the limits of any long term targets.
2. WRI (2018): The Safe System approach has been shown to be more effective in reducing traffic deaths and serious injuries than more traditional approaches.

    - Johansson, R. 2009. "Vision Zero: Implementing Policy for Traffic Safety." *Safety Science* 47 (6): 826–31.
    - Mooren, L., R. Grzebieta, S. Job, and A. Williamson. 2011. Safe System: Comparisons of This Approach in Australia. Sydney: TARS (Transport and Road Safety) Research, University of New South Wales and NSW Centre for Road Safety, Roads and Traffic Authority of NSW. Available at http://acrs.org.au/wp-content/uploads/Mooren-et-al-Safe-System-%E2%80%93-Comparisons-of-this-Approach-in-Australia.pdf.
    - Weijermars, W.A.M., and F.C.M. Wegman. 2011. "Ten Years of Sustainable Safety in the Netherlands: An Assessment." Paper presented at the annual meeting of the Transportation Research Board, Washington, D.C., January 23–27.
    - Munnich, Lee W., Jr., F. Douma, X. Qin, J.D. Thorpe, and K. Wang. 2012. *Evaluating the Effectiveness of State Toward Zero Deaths Programs.* Technical Report. Minneapolis: Center for Excellence in Rural Safety, University of Minnesota.

POLICY STATEMENT C-3

The American Planning Association and its Chapters and Divisions support prioritizing equity in planning and implementation of safe transportation systems, including engagement and enforcement.

Elaborate:

Consider equity related to facilities in high-income and low-income communities, racial disparities in injuries and fatalities, access to emergency care, access to employment, and enforcement.

Support:

1. Imbalance between high-income and low-income communities:

Eight-nine percent of high-income neighborhoods have sidewalks, as opposed to 49 percent of low-income neighborhoods (Bridging the Gap. 2012. P. 2. "Income Disparities in Street Features that Encourage Walking." Available at https://www.cityofeastlansing.com/DocumentCenter/View/1583/Income-Disparities-in-Street-Features-That-Encourage-Walking-PDF.

Macaig, Mike. 2014. "Pedestrians Dying at Disproportionate Rates in America's Poorer Neighborhoods." *Governing*. August. Available at http://www.governing.com/topics/public-justice-safety/gov-pedestrian-deaths-analysis.html.

2. Racial disparities in injuries and fatalities:

Non-white individuals are overrepresented in pedestrian deaths in 42 out of 49 states and the District of Columbia. Source: "Dangerous By Design," p. 25. Available at https://smartgrowthamerica.org/resources/dangerous-by-design-2016.

3. Equity in enforcement:

Vision Zero Network. November 2016. "Elevating equity in Vision Zero communications: A white paper framing the challenges & opportunities." P. 14.
"Enforcement is just one of many tools employed to encourage safe behavior, but it should be a secondary tool relative to the other traditional 'E's' of traffic safety, particularly engineering and education. The goal of enforcement (as in the other areas), such as high-visibility enforcement to reduce driver speeding and of pedestrian crosswalks to promote driver yielding, is to influence behavior; where possible, and it should be combined with educational efforts. This should be communicated clearly. Still, any emphasis on traffic enforcement will need to be carefully considered, implemented, and messaged. That consideration should be grounded in acknowledgement that evidence of biases in U.S. law enforcement, such as higher enforcement of pedestrian violations using confusing statutory provisions, has contributed to a decay in trust between police and community members, particularly in communities of color. This has led to an unfortunate, but understandable, skepticism about policing that presents challenges to the Vision Zero model. This skepticism and its historical roots should be acknowledged in Vision Zero communications. In fact, given the high-profile attention on this issue across the nation, it would be wise for local Vision Zero leaders to preemptively acknowledge and discuss this challenge with local stakeholders. Even if the community has not been at the center of a public controversy about this issue, these conversations are vital because they acknowledge the reality of the larger context in which every Vision Zero effort in the U.S. exists."

Source: Sanders. T., Rabinowitz, K., & Conarck, B. 2017. "Walking While Black." *ProPublica*. November 16. Available at https://features.propublica.org/walking-while-black/jacksonville-pedestrian-violations-racial-profiling.

POLICY STATEMENT C-4

The American Planning Association and its Chapters and Divisions support a comprehensive approach to transportation safety, including prioritization and implementation of solutions that reflect the context of a roadway, transportation corridor, community, or neighborhood.

Elaborate:

a. A community's or corridor's planning context should drive roadway design considerations, such as target speed, lane width, lateral separation, clear zone tree dimensions, and other factors.
b. Low-tech and high-tech on-the-ground pilot projects, tactical urbanism, connected vehicle and autonomous vehicle technology all recognize the importance of evaluation and phased implementation strategies to address safety.
c. Short-term and long-term interventions should reflect the opportunity to provide lower-cost solutions in the near term while recognizing the importance of capital programming and budgeting for larger-scale plans and projects.
d. Low-cost ("low-hanging fruit") and high-cost solutions should be evaluated in terms of expected safety benefit or return on investment to achieve defined safety targets.

Support:

https://www.fhwa.dot.gov/planning/css/
http://tacticalurbanismguide.com/about/
https://visionzeronetwork.org/about/vision-zero-network/
https://www.transportation.gov/mission/health/complete-streets

D. Rural, Suburban, and Exurban Transportation

Background

Larger economic forces are leaving many people outside of urban centers behind, yet much of our policy and funding focus in transportation relates more directly to an urban and metropolitan context. APA has begun to explore the "suburbanization of poverty," which will pose significant transportation challenges for aligning people with job opportunities. Rural, suburban, and exurban residents, including residents of tribal nations, face long travel distances, limited private-sector interest in investment, lower wage employment, limited access to transit and first-mile/last-mile connections, and other factors that harm their economic well-being, such as inadequate accessibility to community services, poor road infrastructure conditions and design, and lack of accommodation of alternative and atypical modes of travel (e.g. farm machinery and Amish buggies). In addition, rural/suburban/exurban communities can face insufficient staffing levels, inadequate funding, and the need for technical tools and solutions that fit non-urban areas. Lastly, in areas where suburban/exurban/rural communities and tribal nations border larger urban areas, the non-urban communities can face development pressures as growth expands from the urban areas. This pressure can cause issues within communities where some residents want to take advantage of development opportunities but others want to preserve their way of life and existing community character.

Planners and policy makers need guidance on how to develop and advance transportation strategies that support economic and quality of life opportunities for all communities, including those outside of urban centers or metro regions. Specific areas of focus should include: inter-connected multi-modal options within and between communities, context sensitive solutions, traffic safety, infrastructure maintenance, and technology accommodations.

Support:

- Meyer, Michael, ed. 2016. *Transportation Planning Handbook, Chapter 20,* 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660
- Florida, Richard. 2018. "The 3 Rural Americas." *CityLab.* June. Available at https://www.citylab.com/equity/2018/06/the-three-rural-americas/561791

Policy Statement D-1

The American Planning Association and its Chapters and Divisions support expanding economic opportunity by strengthening multimodal transportation connections between rural/suburban/exurban communities and urban/metropolitan areas and central cities.

Elaborate:

- People in rural/suburban/exurban communities need access to jobs and services in urban areas. Additionally, people in urban areas need access to jobs and services in rural/suburban/exurban communities (i.e. reverse commutes).

  Meyer, Michael, ed. 2016. *Transportation Planning Handbook, Chapter 20,* 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660

- Multimodal is necessary to accommodate non-drivers and to reduce the carbon footprint—bike, transit, shuttles, park and ride, etc.

  Personal conversation. Lands' End, a distributor of clothing in rural Wisconsin, studied the carbon footprint of its supply chain. What they found that what was greater than the shipping of clothing, was the 3,000 employees driving from many locations to the headquarters in rural Wisconsin. The company has implemented park and ride policies for its employees. See https://www.landsend.com/sustainability/?cm_re=glb-_-global-_-ft-sustainability-_-20160316-_-txt

POLICY STATEMENT D-2
The American Planning Association and its Chapters and Divisions support the development of local transportation networks within rural, suburban and exurban communities that are context sensitive, interconnected, and multimodal.

Elaborate:

- Context sensitivity: Communities are unique; different types of communities need different types of transportation networks. What works for one type (i.e., urban) does not necessarily work for another (i.e., rural).

  FHWA. Context Sensitive Solutions and Design. Available at https://www.fhwa.dot.gov/planning/css

- Interconnectedness: A well-connected local network promotes mobility and access and reduces congestion and crashes; a well-connected local network reduces local trips on state/interstate routes.

  Meyer, Michael, ed. 2016. *Transportation Planning Handbook, Chapters 9 and 18,* 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660

- Multimodal: All communities need multimodal systems, not just urban areas; there are non-drivers in all communities.

  FHWA. 2016. *Small Town and Rural Multimodal Networks*. December. Available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf

POLICY STATEMENT D-3
The American Planning Association and its Chapters and Divisions support integrating active transportation facilities into the local transportation network in rural, suburban, and exurban communities.

Elaborate:

Active transportation (e.g. biking and walking) is used by people of all ages and abilities—kids for school, adults for jobs and shopping, health and recreation opportunities for all, etc. Active transportation is often ignored in rural areas due to lack of funding, but it helps address safety, health, and economic issues. In many small towns and rural areas, people frequently walk or bike; however, infrastructure to support active transportation is often limited or absent.

A lack of available health care in many rural areas makes active transportation an even more important facet of the development of rural and exurban transportation networks. Rural Americans—who make up at least 15 to 20 percent of the U.S. population—face inequities that result in worse health care than that of urban and suburban residents.

Support:

FHWA. 2016. Small Town and Rural Multimodal Networks. December. Available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf

https://news.aamc.org/patient-care/article/health-disparities-affect-millions-rural-us-commun.

POLICY STATEMENT D-4

The American Planning Association and its Chapters and Divisions support actions that address the traffic safety issue imbalances between urban and rural areas.

Elaborate:

- As of 2016, there were more fatalities per Vehicle Miles Traveled in rural areas than in urban areas.
    - Most rural fatalities (70 percent) occurred on higher-speed roads (55 mph+), which was the opposite of urban fatal crashes.
    - Almost two-thirds (62 percent) of rural pickup truck occupants killed were unrestrained—the highest percentage of any passenger vehicle occupants killed among both rural and urban areas.
    - In 2016, the fatality rate was 2.5 times higher in rural areas than in urban areas.

- Context-based applications of Complete Streets principles for roadway design would help transition high speed thoroughfares into safer facilities as they approach and traverse rural communities, small towns and farm-to-market roadway corridors.

Support:

FHWA. 2016. "Traffic Safety Facts: Rural/Urban Comparison of Traffic Fatalities." April. Available at https://crashstats.nhtsa.dot.gov/Api/Public/Publication/812521

Meyer, Michael, ed. 2016. *Transportation Planning Handbook, Chapter 9,* 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660.

POLICY STATEMENT D-5

The American Planning Association and its Chapters and Divisions advocate a "fix it first" approach to transportation infrastructure that focuses on keeping facilities in a state of good repair and meeting current standards while considering the long-term costs for transportation network expansion.

Elaborate:

- New roadways built into rural and exurban areas often have a dramatic effect on the community character, environmental quality, and economic sustainability of rural communities and small towns by inducing sprawl development and shifting local businesses toward national corporations.
- Many rural, suburban, and exurban communities cannot afford to maintain the transportation infrastructure they currently have.
- Annexation/expansion into new areas can burden the receiving community with additional roadways and other additional infrastructure to maintain over time. Therefore, interagency coordination between local, regional, and state agencies should be in place.
- Recognize that land use and transportation are connected and can have positive or negative effects on each other based on where land uses are located and how they are connected to the network. Therefore, focusing on enhancing existing transportation infrastructure to support and complement adjacent land uses (existing and proposed) is a better use of limited transportation funding resources than building new roadways.
- Locate amenities and services closer to the population for better access. For example, schools and community colleges should be co-located to eliminate the barrier of transportation for students who can take advantage of postsecondary offerings.

Support:

- Kahn, Matthew, D. Levinson, 2011. *Fix It First, Expand It Second, Reward It Third: A New Strategy for America's Highways*. Brookings Institution, The Hamilton Project Discussion Paper 2011-03. Available at http://www.hamiltonproject.org/assets/legacy/files/downloads_and_links/Final_KAHNDiscussPaper_Feb2011.pdf

- Meyer, Michael, ed. 2016. *Transportation Planning Handbook, Chapter 3,* 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660.

- Moore, Terry, P. Thorsnes, B Appleyard, 2007. *The Transportation/Land Use Connection*. APA PAS Report 546/547. Available at https://www.planning.org/publications/report/9026872/

POLICY STATEMENT D-6

The American Planning Association and its Chapters and Divisions support integrating technology into the transportation networks of rural/suburban/exurban communities to improve livability and sustainability.

Elaborate:

- Technology advancements in transportation should not just be for urban areas—rural, exurban, and suburban communities should also use intelligent transportation systems, adaptive signals, active arterial management, or other technology options currently in use in urban areas today or that are feasible in the near term.

- Pilot autonomous shuttles in areas that are unconnected as a priority. Rural and exurban areas provide good opportunities to test and evaluate connected and autonomous vehicle technology for broader deployment.
- Public-private partnerships and grants offer opportunity for revenue.
- Consider the positive impacts technology adoption may have on the community, such as: quieter pavements, less stress, improved municipal services, better accessibility for seniors, fewer maintenance costs, different new jobs, and better health outcomes.
- Rural, exurban, and suburban communities should also assess and strike a balance between short-term and/or recurring revenue options for sustainability to also address ongoing maintenance needs.

Support:

- Rural Intelligent Transportation System (ITS) Toolkit, National Center for Rural Road Safety. Available at https://ruralsafetycenter.org/resources/rural-its-toolkit/

- Cox, David, 2018. Smart road technology could turn highways into crash-sensing 'touchpads'. Available at https://www.nbcnews.com/mach/science/can-smart-roads-save-lives-new-test-may-provide-answer-ncna885816

- Solar Paved Highway, The Ray, https://theray.org/tech/solar-paved-highway/

- China could beat the US in getting solar power from highways by Leanna Garfield. Business Insider, June 18, 2018. https://www.businessinsider.com/solar-power-roads-china-compared-to-us-2018-6

- Meyer, Michael, ed. 2016. Transportation Planning Handbook, Chapter 5, 4th ed. Institute of Transportation Engineers. Available at https://onlinelibrary.wiley.com/doi/book/10.1002/9781119174660

E. Project Development and Funding Decisions

Background

Project funding priorities have changed over the years since urban areas, rural communities, and their physical connections became more important to the national (and international) economies. This stems from simply building roadways without consideration for environmental benefits to the emerging grassroots development of the 1960s to today in which FAST Act requirements regarding preliminary planning work for projects moving toward project development facilitate streamlining alternatives analysis and project delivery.

Today, federal and state funding policy can vary across regions, favoring certain states (and regions) while making others less competitive. Local governments and economic development professionals often seek funding for projects that support local economies, yet MPOs and state policy decisions can limit available funding, which would advance urban economies and technology-driven economic progress. Further, state and local governments could improve coordination, including with private sector funding partners, and thorough evaluation of funding decisions to ensure the best possible projects and economic benefits.

APA supports the following contemporary policy positions, including greater local focus and consideration, asset recycling, and leveraging alternative funding sources like Public-Private Partnerships. Through these policies, APA encourages greater transparency and broad local, regional, and state cooperation to better support environmental and economic outcomes through expedited project delivery.

POLICY STATEMENT E-1

The American Planning Association and its Chapters and Divisions support the prioritization of transportation projects based on necessity to the local community, region, state and/or federal government that reflects considerations of sustainability, environmental and community impacts, equitable economic opportunity, and value (including for job creation and land value), as well as cost to the public sector and private industry.

Elaborate:

1. "Many transportation agencies are now being called upon by their stakeholders to plan, build, and operate transportation systems that—in addition to achieving the important goals of mobility and safety—support a variety of environmental, economic, and social objectives. These include protecting natural resources, improving public health, strengthening energy security, expanding the economy, and providing mobility to disadvantaged people."

2. "In the transportation industry, projects and systems serve many different and sometimes competing roles, in order to achieve varying objectives, including safety, mobility, environmental protection, livability, and asset management. A sustainable approach seeks to meet all of these needs while working to achieve economic targets for cost-effectiveness throughout a highway's life cycle."

3. "The development of a performance evaluation method for sustainable transportation is necessary, with a focus on multimodal mobility rather than on automobility. It is crucial that current transportation projects not preclude the provision of multimodal mobility options in the future."

Support:

Source: U.S. Environmental Protection Agency. 2011. *Guide to Sustainable Transportation Performance Measures.* Available at https://www.epa.gov/sites/production/files/2014-01/documents/sustainable_transpo_performance.pdf.

Source: U.S. Department of Transportation. 2018. *Sustainable Highway Initiatives*. Available at https://www.sustainablehighways.dot.gov/FHWA_Sustainability_Activities_June2014.aspx.

Source: The National Academies of Sciences, Engineering, and Medicine. 2018. *Method for Evaluation of Sustainable Transportation: Toward a Comprehensive Approach*. Available at https://trrjournalonline.trb.org/doi/pdf/10.3141/2242-01.

Source: Using the Envision rating system: https://www.asce.org/envision.

POLICY STATEMENT E-2

The American Planning Association and its Chapters and Divisions support the use and adaptation of existing transportation infrastructure to create a more resilient, sustainable, and equitable transportation network that accommodates the needs of all users during the project development

process whenever possible. Therefore, projects (local or regional) should prioritize the use and adaptation of existing infrastructure and consider not only benefit-cost analysis but also the most effective use of local, state, and federal transportation infrastructure budgets and value created to address inequity and safety.

Elaborate:

1. "Legislation and regulations require the inclusion of bicycle and pedestrian policies and projects in transportation plans and project development, and federal policy is increasingly committed to develop and invest in bicycle and walking infrastructure. Environmental practitioners use these tools to address bicycle and pedestrian accommodation as required by U.S. Department of Transportation (USDOT) and TxDOT policy."

2. "Using current information and data, WSDOT identified more than $1.6 billion in unfunded bicycle and pedestrian improvements statewide. In addition to identifying infrastructure needs, this Plan sets a statewide goal of decreasing collisions by five percent per year for the next 20 years, while doubling the amount of biking and walking."

Support:

Source: Texas Department of Transportation. 2018. Bicycle and Pedestrian Accommodation Toolkit. Available at https://www.txdot.gov/inside-txdot/division/environmental/compliance-toolkits/bicycle-pedestrian.html.

Source: Washington State Department of Transportation. 2008. *Washington State Bicycle Facilities and Pedestrian Walkways Plan.* Available at https://www.wsdot.wa.gov/NR/rdonlyres/F061CF6D-7B96-4E61-BF20-50EAF2716997/0/BikePedPlan.pdf.

POLICY STATEMENT E-3

The American Planning Association and its Chapters and Divisions support public-private partnership (P3) approaches to augment traditional methods of financing and building transportation projects. Transportation projects should, whenever feasible, include private as well as state and local public investment to enhance federal, state, and local resources when the public interest is protected, to decrease relative public infrastructure costs and provide the real cost of transportation to consumers for each mode.

Elaborate:

1. "The Build America Bureau encourages the consideration of P3s in the development and delivery of transportation improvements. Early involvement of the private sector can bring innovation, efficiency, and capital to address complex transportation problems facing State and local governments. The Bureau provides information and expertise in the use of different P3 approaches, and provides TIFIA and RRIF loans, Private Activity Bonds (PABs), and INFRA Grants to facilitate P3 projects."

2. "A strategic P3 approach can potentially mitigate the overruns and schedule delays that plague traditional infrastructure project delivery by clearly delineating governance, allocating shared risk, integrating resources, applying best practices, and establishing a life cycle-long perspective of costs and accountability. In our experience, institutions face eight recurring challenges with their capital

project portfolios, often unrelated to financing. P3s can potentially address each of these pain points to varying degrees depending on the project."

3. "The analysis showed that P3 infrastructure projects in the United States demonstrate significantly greater likelihood of meeting respective schedule and cost requirements as compared to conventional DBB approaches."

4. P3s can be an effective method of financing and delivery to supplement limited public funds, but they do not replace the need for public funding of transportation projects and should only be used when the public interest is protected.

Support:

Source: U.S. Department of Transportation. 2018. *Public-Private Partnerships*. Available at https://www.transportation.gov/buildamerica/programs-services/p3.

Source: Della Rocca, Michael. "The rising advantage of public-private partnerships." Available at https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/the-rising-advantage-of-public-private-partnerships.

Source: Syracuse University. 2017. "Public-Private Partnerships: Benefits and Opportunities for Improvement within the United States." Available at http://eng-cs.syr.edu/wp-content/uploads/2017/04/P3Report.pdf.

Source: https://www.asce.org/issues-and-advocacy/public-policy/policy-statement-526---public-private-partnerships.

POLICY STATEMENT E-4

The American Planning Association and its Chapters and Divisions support the adoption of a structured, objective, and transparent project development process to efficiently and effectively guide project management and decision-making efforts.

Elaborate:

1. The process should include regular communication among stakeholders and disciplines, minimize negative impacts to the environment and to people, and anticipate and mitigate potential cost and schedule overruns.

2. The process should be integrated into the agency's policies and manuals.

3. Documentation of the reasoning behind project-related decisions should be included in the process.

4. Environmental streamlining should be employed where risk is minimal but a full evaluation of environmental impacts should be conducted on projects with a higher risk potential so as not to compromise the integrity of environmental resources and systems.

Support:

American Association of State Highway and Transportation Officials. 2003. "Expediting the Transportation Planning and Project Development Process to Meet Fast Paced Customer Requirements." Available at http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(21)_FR.pdf.

FHWA. "NEPA and Project Development." Available at https://www.environment.fhwa.dot.gov/nepa/nepa_projDev.aspx.

Ohio Department of Transportation. 2018. "The Project Development Process Manual." Available at http://www.dot.state.oh.us/Divisions/Planning/Environment/manuals_guidance/Documents/Project%20Development%20Process%20(PDP)/PDP%20Manual/PDP_Manual%20July%202018.pdf.

F. Energy and Transportation in the United States

Background

Six years have elapsed since the adoption of the Energy Policy Guide by the APA Board of Directors on October 1, 2012. The transportation sector of the United States is changing at a rapid pace, yet the reliance on automobiles for most all trips remains a primary driver of petroleum use. Many of the reasons Americans rely on their cars for virtually all trips are related to issues that planners can influence. Expansion and integration of transit and other mobility services, such as Transportation Network Companies and micro-mobility first mile/last mile options, will continue to be a core element of creating sustainable communities.

Policy Statement F-1

The American Planning Association and its Chapters and Divisions support development of a sustainable energy and transportation agenda. Following the Fourth National Climate Assessment report, APA recognizes that it is imperative to advance important climate-related actions as a core focus of federal transportation policy.

Elaborate:

Climate change creates new risks and exacerbates existing vulnerabilities in communities across the United States, presenting growing challenges to human health and safety, quality of life, and the rate of economic growth.

Without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.

Climate change affects the natural, built, and social systems we rely on individually and through their connections to one another. These interconnected systems are increasingly vulnerable to cascading impacts that are often difficult to predict, threatening essential services within and beyond the Nation's borders.

Communities, governments, and businesses are working to reduce risks from and costs associated with climate change by taking action to lower greenhouse gas emissions and implement adaptation strategies. While mitigation and adaptation efforts have expanded substantially in the last four years, they do not yet approach the scale considered necessary to avoid substantial damages to the economy, environment, and human health over the coming decades.

Support:
The Fourth National Climate Assessment released in November 2018 outlined the expected outcomes resulting from a continuation of the current energy and emissions policies based on the science of climate change and variability and its impacts across the United States throughout the century. See https://nca2018.globalchange.gov.

POLICY STATEMENT F-2
The American Planning Association and its Chapters and Divisions support making cleaner vehicles the standard for transportation technology in the United States.

Elaborate:
The technology for automobiles and other vehicles to be substantially cleaner already exists and is rapidly advancing. Electric engine vehicle technology is the preferable automobile industry direction, which APA should strongly support. Considering the natural gas conversions under way with power generation, electric vehicles will have the best emissions profile for driving in the future.

POLICY STATEMENT F-3
The American Planning Association and its Chapters and Divisions support the development and deployment of technology and infrastructure enabling the broader operation of electric vehicles (EVs).

Elaborate:
This includes charging stations, development and codes to require the installation of EV charging infrastructure for both residential and commercial buildings, and expansion of federal and state EV incentive programs.

Support:
http://www.ncsl.org/research/energy/state-electric-vehicle-incentives-state-chart.aspx

POLICY STATEMENT F-4
The American Planning Association and its Chapters and Divisions oppose reductions of Corporate Average Fuel Economy (CAFE) standards.

Elaborate:
Proposed roll backs to existing CAFE undermines sustainable business models for transportation improvement.

Many automobile manufacturers are moving quickly to build cleaner gasoline and diesel vehicles.

Support:
https://abcnews.go.com/Business/green-make-green-carmakers-suvs-vastly-outsell-electric/story?id=59215445.

https://www.greenbiz.com/article/curbing-cafe-and-zero-emissions-standards-wouldnt-mean-end-plug-ins.

POLICY STATEMENT F-5
The American Planning Association and its Chapters and Divisions support domestic energy independence built around cleaner and sustainable sources.

Elaborate:
The impact on future generations and climate change are incredibly damaging based on the Fourth National Climate Assessment. The United States has an oversized share of global energy consumption and pollution. The role of APA and planners has historically been directly influential in promoting strategies that created the current communities and economy. For the first time in 100 years, domestic energy production that can fuel the transport sector is a possibility.

Support:
The United States has an oversized share of world energy consumption. As of July 1, 2017, the current population estimate of the United States is 325,719,178. Based on the latest United Nations estimates, the U.S. population is equivalent to 4.28 percent of the total world population. In 2015, world total energy consumption was about 535.7 quadrillion British thermal units (Btu). The U.S. consumption was about 97.5 quadrillion Btu, equal to 18 percent of world total primary energy consumption. See https://www.eia.gov/tools/faqs/faq.php?id=87&t=1

Guiding communities and the economy toward less petroleum use requires furthering trends already under way in the United States. As a potential outcome in our lives, the trajectory toward a balanced and sustainable model of transport in the United States is an achievable goal for planners. Changes that would have been considered unachievable are now possible. Moving the United States toward the European transport system as a model are possible in the near future. See https://www.citylab.com/transportation/2014/02/9-reasons-us-ended-so-much-more-car-dependent-europe/8226.

The source of fuel to generate electricity in the United States is a critical planning issue to the country and world. In 2017, the use of natural gas as a fuel source in the United States to create electricity surpassed coal. See https://www.eia.gov/tools/faqs/faq.php?id=427&t=3.

A report by the National Energy Technology Laboratory in 2010 found that when reviewing the cost and performance for fossil fuel energy plants, natural gas emits 50 to 60 percent less carbon dioxide (CO_2) when combusted in a new, efficient natural gas power plant compared with emissions from a typical new coal plant. In a side-by-side comparison the U.S. Department of Energy Argonne National Laboratory found in 2012 that considering only tailpipe emissions, natural gas also emits 15 to 20 percent less gases than gasoline when burned in a typical vehicle. See https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/environmental-impacts-of-natural-gas#references.

The U.S. Energy Information Administration (EIA) has reported that the United States now produces nearly all of the natural gas that it uses. U.S. natural gas production in 2016 was the second-highest level recorded, down slightly from 2015, which has the highest-recorded production level. Production increases since 2005 have mainly been the result of horizontal drilling and hydraulic fracturing techniques, notably in shale, sandstone, carbonate, and other tight geologic formations. Seehttps://www.eia.gov/energyexplained/index.php?page=natural_gas_where.

While the pace of change to move U.S. energy reliance to more sustainable sources is slow, the directions for renewable and cleaner energy sources has become more apparent and hopeful since 2012. Fuel economy and choices for consumers among production vehicles now offers many more options that even a decade ago. See https://www.fueleconomy.gov/feg/Find.do?action=sbs&id=33504&id=33503&id=33324.

Renewable energy surged in the past five years. Eighteen percent of all electricity in the United States was produced by renewable sources in 2017, including solar, wind, and hydroelectric dams up from 15 percent in 2016. The shift is driven by new solar and wind projects. Meanwhile, greenhouse gas emissions from power generation and consumer spending on power declined.

Renewable energy is collected from resources which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services. See https://en.wikipedia.org/wiki/Renewable_energy_in_the_United_States.

The EIA reported reported in the January 2018 Short-Term Energy Outlook forecasts that natural gas will remain the primary source of U.S. electricity generation for at least the next two years. The share of total electricity supplied by natural gas-fired power plants is expected to average 33 percent in 2018 and 34 percent in 2019, up from 32 percent in 2017. EIA expects the share of generation from coal, which had been the predominant electricity generation fuel for decades, to average 30 percent in 2018 and 28 percent in 2019, compared with 30 percent in 2017. See https://www.eia.gov/todayinenergy/detail.php?id=34612.

In 2017, net imports of petroleum averaged 3.7 millions of barrels per day, the equivalent of 19 percent of total U.S. petroleum consumption, which was the lowest percentage since 1967. Fossil fuels (petroleum, natural gas, and coal) account for most of the nation's energy production. See https://www.eia.gov/energyexplained/index.php?page=oil_imports.

- Natural gas: 33 percent
- Petroleum (crude oil and natural gas plant liquids): 28 percent
- Coal: 17 percent
- Renewable energy: 12 percent
- Nuclear electric power: 10 percent

See https://www.eia.gov/energyexplained/index.php?page=electricity_in_the_united_states

Energy uses in the United States encompass five sectors:

- Industrial sector (32 percent of all energy consumption) includes facilities and equipment used for manufacturing, agriculture, mining, and construction.
- Transportation sector (29 percent of all energy consumption) includes vehicles that transport people or goods, such as cars, trucks, buses, motorcycles, trains, aircraft, boats, barges, and ships.
- Residential sector (21 percent of all energy consumption) consists of homes and apartments.
- Commercial sector (19 percent of all energy consumption) includes offices, malls, stores, schools, hospitals, hotels, warehouses, restaurants, and places of worship and public assembly.
- Electric power sector consumes energy to generate most of the electricity consumed by the other four sectors.

See https://www.americangeosciences.org/critical-issues/faq/what-are-major-sources-and-users-energy-united-states

The mining of coal, the use of coal to generate electricity, and the consumption of electricity with coal as a fuel source have large political influences and varies greatly across the United States. An article in *Business Insider* in 2016 reported the states with the most production and consumption of coal generated electricity. See https://www.businessinsider.com/coal-consumption-by-state-2016-3.

EIA found in August 2018 that three gas production regions of the United States (Appalachia, Permian, Haynesville) drove U.S. natural gas production growth. These three regions collectively accounted for less than 15 percent of total U.S. natural gas production in 2007, but now account for nearly 50 percent of total U.S. production. See https://www.eia.gov/todayinenergy/detail.php?id=36934.

APA and other national organizations have an important role to advocate and guide the nation toward more sensible energy strategies. The United States has laws and regulations which seek to address the negative environmental and health outcomes of energy production. These laws include regulations for air, water and waste. See https://www.epa.gov/regulatory-information-sector/electric-power-generation-transmission-and-distribution-naics-2211.

The EIA's *Electric Power Annual 2016* reported that overall energy consumption in the United States has remained flat or declined in recent years. See https://en.wikipedia.org/wiki/Electricity_sector_of_the_United_States.

G. TRANSPORTATION REVENUE AMID A CHANGING LANDSCAPE

BACKGROUND

It is well recognized that declining gas tax revenue from more fuel efficient and electric vehicles threatens the solvency of the Transportation Trust Fund, yet there are many other ways that technology will disrupt our public means of financing transportation projects. Many local governments depend on parking and law enforcement revenues to fund transportation projects, which may be substantially lower with autonomous and connected vehicles. Traditional bond finance mechanisms from 20 years of parking revenues may place local governments at risk of default of using other sources to pay off the bond debt. This will have substantial implications on federal, state, and local means of paying for needed infrastructure. What policy mechanisms can planners and elected officials consider to prepare for this coming change and maintain revenue streams necessary to support capital and operating budgets?

POLICY STATEMENT G-1

The American Planning Association and its Chapters and Divisions support increasing the federal tax on motor fuels to address the immediate fiscal, structural, social, and environmental challenges affecting our states, regions, and communities.

Elaborate:

1. The increase in federal gas tax should at least be at a point sufficient to cover the lost purchasing power from inflation since the last federal increase.
2. Increasing the tax on motor fuels should be a temporary levy to enable a smooth transition to a more sustainable funding source.
3. This action is a necessary strategy to shore up the solvency of the Transportation Trust Fund to provide states with additional funding needed to rebuild aging infrastructure throughout the United States.
4. Raising the gas tax will also help combat the impacts of sea-level rise and climate change by providing more funding to accelerate needed long-term investments. As the tax is passed along to the driving public, it would produce a greater incentive for corporations and people to increase their use of alternatives to driving.

POLICY STATEMENT G-2

The American Planning Association and its Chapters and Divisions advocate for the development and adoption of sustainable national transportation funding source(s) to replace the gas tax.

Elaborate:

1. The gas tax is a declining revenue source because of the increased fuel efficiency of the automobile and truck fleet, and growing use of electric- and hybrid-energy powered vehicles.
2. A sustainable funding source would produce desired levels of investment over time to meet the country's long-term needs along with environmental and economic outcomes from energy conservation and development of sustainable energy alternatives.
3. An assessment on vehicle miles traveled (VMT) would provide a more equitable and fair method of generating revenue in proportion to the demand placed on the system. Various state VMT charge testing programs have already been conducted; this option should be more broadly tested, sharing outcomes to determine the best method(s) for collecting revenue that enables transportation funding to provide sustainable, inclusive economic growth for rural areas, small towns, suburbs, and metropolitan centers.

4. An alternative transportation funding source should include mechanisms to protect rural and small town residents who depend on longer distance travel to maintain their health, economic well-being, and character of their communities.

POLICY STATEMENT G-3

The American Planning Association and its Chapters and Divisions advocate for the continuation and expansion of a performance-based, outcome driven transportation planning process that uses performance measures and targets to guide transportation investment decisions.

Elaborate:

1. In addition to established measures per the FAST Act, USDOT should require states and metropolitan regions to adopt measures and targets specifically to reduce greenhouse gas emissions from the transportation sector.
2. Future discretionary (non-formula) funding should be conditioned upon respective public agencies demonstrating progress toward achieving stated targets.
3. Future formula grants should be reduced at a graduated rate over time for non-compliance to incentivize meaningful action.
4. Federal funding for technical assistance should be made available to states, regions, and communities that fail to achieve progress on stated targets

POLICY STATEMENT G-4

The American Planning Association and its Chapters and Divisions support increasing funding for traditional formula-based transportation programs based on population or transit ridership while also expanding the role of competitive, discretionary funding to help states, regions, and communities achieve desired outcomes.

Elaborate:

1. Funding levels should be expanded for competitive federal programs like BUILD that provide incentives for cooperative and coordinated multijurisdictional transportation strategies to meet both regional and local challenges.
2. Discretionary-based funding sources should reward the integration of planning, development, and implementation among modal, regulatory, funding, and construction agencies.
3. Federal programs should maintain the flexibility of formula funding allocations within urbanized areas to achieve established performance measures and targets that support broad national goals.

POLICY STATEMENT G-5

The American Planning Association and its Chapters and Divisions specifically support expanded funding authorization levels for the Transit Capital Investment Grant program (e.g., Core Capacity, New Starts and Small Starts).

Elaborate:

1. Increased funding will help legacy transit systems replace and modernize their aging facilities.
2. Increasing funding will also help legacy transit systems adapt to autonomous vehicle future scenarios (i.e., finding the balance of remaining competitive where possible and flexibly altering service where mobility is provided better through other means).
3. Increased funding will enable these highly competitive funding programs to accomplish more projects more quickly.

4. Increased funding will assist rapidly growing Sun Belt, western, and midwestern cities in providing environmentally conscious, equitable transportation choices and alternatives to single-occupancy vehicle travel.
5. Adapting our transportation system is necessary to address climate change because the transportation sector contributes the largest share of greenhouse gas emissions (nearly 30 percent).

POLICY STATEMENT G-6

The American Planning Association and its Chapters and Divisions support the continuation and expansion of the Transportation Alternatives Program to provide additional funding to states and metropolitan areas to develop infrastructure and safety improvements for vulnerable road users, including bicyclists, pedestrians, and motorcycles.

POLICY STATEMENT G-7

The American Planning Association and its Chapters and Divisions support innovative transportation finance and funding methods at the federal, state and local levels that respond to changing technology, travel habits and the regulatory environment.

1. Expand federal research, case studies and peer exchange to identify and promote tools, pilot programs, techniques and best practices, and provide incentives for states and regions to apply them.
2. Encourage states to partner with regional and local transportation agencies to test and apply innovative funding methods and share results with their peers.
3. Enable and guide local governments to use near-future demand for parking, charging spaces and curb-side access to generate revenue for safer streets, Travel Demand Management and transit service.

Support:

Congressional Budget Office. (2011). Alternative Approaches to Funding Highways.
The Congress of the United States. Available via https://www.cbo.gov/publication/22059.

APPENDICES

As referenced in the Introduction, APA has adopted several policy principles and policy guides that complement this Surface Transportation Policy Guide. The following documents have been used as a reference in the development of this policy guide, with conscious effort to not duplicate them. Rather, the intent has been to augment these policy statements with additional policies that address key emerging and critical aspects of our nation's surface transportation program.

Policy Principles for Autonomous Vehicles (2018)
https://www.planning.org/publications/document/9144669

Principles for New Federal Infrastructure Investment Policy (2017)
https://www.planning.org/policy/principles/infrastructure

Healthy Communities Policy Guide (2017)
https://www.planning.org/policy/guides/adopted/healthycommunities

Freight Policy Guide (2016)
https://www.planning.org/policy/guides/adopted/freight

Energy Policy Guide (2012)
https://www.planning.org/policy/guides/adopted/energy.htm