TRANSPORTATION CORRIDORS AND FACILITIES
(1968, R1990, R2001*, R2008, R2009, R2022)

Policy Statement
The American Society of Landscape Architects believes:

- Transportation corridors and facilities are major components of the nation's landscape and public realm that connect, shape, and transform our communities
- The alignment, scale, and character of our thoroughfares play an integral role in determining urban form, development patterns, interconnectedness, and a sense of place
- Multi-modal transportation systems should be safe, efficient, beautiful, ecologically sensitive, convenient, address climate change, support public health, and serve all people and modes of transportation

ASLA supports:

- Design, construction, and management of transportation corridors and facilities that enhance public health and safety and promote interconnected transportation options for transit riders, pedestrians, and bicyclists and other micromobility[1] users
- Identification and application of research, planning, and design principles to improve federal, state, regional, and local transportation facilities
- Integrating comprehensive transportation planning with natural systems analysis, land use planning, and stakeholder engagement to create safe, livable communities that serve everyone and maintain environmental health
- Transportation solutions that are low-emission, safe, equitable, resilient, ecological, and beautiful
- Proactive remediation of poor design practices that have resulted in fractured communities and environmental damage

Justification
Landscape architects play an essential role in the development of transportation projects and policies that serve the public health, safety, and welfare. The design approach landscape architects bring to transportation planning is critical to shaping how places are experienced, protected, and preserved. As planners, designers, and project leaders, landscape architects have multifaceted knowledge, vision, and experience ensuring the success of transportation projects.

Within the realm of transportation, landscape architects:

- Protect people and the environment through ecologically sensitive designs that address regional characteristics, climate change, resilience, and biodiversity.

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* Replaces Highways and Scenic Roads Policy and Parkways Policy.

1 https://highways.dot.gov/public-roads/spring-2021/02

- Engage engineers and transportation planners on the design of highways and roadways to:
    - Improve roadway alignment
    - Reduce damage to ecosystems
    - Protect wildlife
    - Identify opportunities for visual enhancements
    - Serve non-vehicular users
- Design and promote safe transportation alternatives such as walking and bike facilities, recreational trails, and safe routes to school projects
- Design wayfinding that creates and enhances gateways, welcomes visitors, and creates a sense of place
- Integrate landscape elements into transportation systems
- Lead community and stakeholder engagement throughout the design process
- Support economic health through the movement of people and goods

Issues

Well-designed transportation systems are critical to environmental and community health, safety, and welfare. Transportation enables the movement of goods and people to support economic health and provides access to education, employment, and recreational opportunities. America's transportation systems have created inequities for many underserved communities, particularly communities of color.[2] Well-designed transportation systems ensure:

- Health, safety, and wellbeing for inhabitants and users of the built and natural environment
- Place-based approaches that engage all stakeholders
- Ecological and environmental protection
- Sustainable practices that support the future of our economy

Health, Safety, and Welfare

Car dependence across the United States is a product of transportation design policies and practices that resulted in unsafe, unhealthy communities and limited access for those without a car. According to the American Public Health Association, prolonged exposure to traffic related air pollution is linked to cardiovascular, respiratory disease, and asthma. A 2016 report found that walkable, transit-oriented communities increased physical fitness and mental health.[3] Residents of such communities were also more likely to meet or exceed daily physical activity recommendations.

Streets that prioritize speed and throughput of motor vehicles put pedestrians, bicyclists, and transit riders in dangerous environments. Poorly designed transportation networks with unsafe or missing sidewalks and crosswalks, wide high-speed roads, and lack of shelter or seating at stops make use by non-motorists uncomfortable, difficult, and

[2] https://www.npr.org/2021/04/07/984784455/a-brief-history-of-how-racism-shaped-interstate-highways

[3] https://www.vtpi.org/tran_health.pdf

hazardous. Between 2010 and 2019, pedestrian fatalities in the US increased by 46%.[4] The Safe Routes to School, Vision Zero, and Complete Streets programs coupled with local, regional, and state policies and programs address design challenges by funding safety and accessibility improvements to support walking and biking. These programs and policies balance multiple modes of transportation to support community wellbeing.

Place-based Approaches to Design

Transportation accounts for the largest public spaces in many communities and shapes the look and feel through entrances, corridors, transit routes, and neighborhoods. The following key federal programs support place-based approaches to transportation design:

Rails to Trails

Rails to Trails began in the mid-1960s to convert unused rail corridors into public trails and now boasts over 21,000 miles of trails that provide a place for people to bike, walk, run, and skate each year. The Trails Program has helped make urban and rural area connections; maintain trail infrastructure; restore natural areas; provide access for people with disabilities; enhance access to natural, scenic, and historical areas; increase local economic activity; and provide enjoyable recreational activities for all kinds of trail users. Well-known projects include the High Line in New York City and the Alaskan Way viaduct in Seattle.

Transportation Alternatives

Transportation Alternatives (TA) projects, funded through a ten percent (10%) set aside from federal funds, are designed to foster more livable communities, preserve and protect environmental and cultural resources, and promote alternative modes of transportation. TA project designs allow existing facilities, such as historic roads and parkways and transit and rail facilities, to meet current needs while respecting their character-defining elements. They may also include special land use procedures such as scenic easements for corridors along roadways in order to preserve visual quality and character. TA projects consider the visual impacts of transportation corridors and facilities, which are oftentimes improved by framing views and screening eyesores, developing appropriate signage and managing vegetation.

Ecological and Environmental Protection

Transportation systems significantly impact the environment, biodiversity, and climate change. In 2022, transportation systems contributed up to 30% of greenhouse gas (GHG) emissions, and 40% of oil in America is consumed by passenger cars. The designs of these systems led to air and water pollution, increased noise, degradation of habitat through loss and fragmentation, and introduced and contributed to the spread of invasive species. However, there is growing support for new, more sustainable transportation system designs that reduce demand for gas and encourage low-emission modes of transportation such as mass transit, biking, or walking, which in turn improves air quality

[4] https://smartgrowthamerica.org/wp-content/uploads/2021/04/Dangerous-By-Design-2021-update.pdf

and protects natural resources.[5] These designs are interconnected to create redundancy and flexibility to help communities in the face of disaster.

Non-motorized Transportation

Nearly half of all trips Americans take are within a 20-minute bicycle ride, and more than 20 percent of all trips are within a 20-minute walk.[6] Shifting short trips from driving to walking and bicycling can cost-effectively reduce pollution and traffic congestion, while also increasing physical activity levels and enhancing mobility for people with disabilities. The Nonmotorized Pilot Project established by Congress in SAFETEA-LU demonstrated that such a mode shift occurs when active transportation facilities are connected and promoted.[7]

Water Quality

Water quality degradation occurs as a result of roadway runoff into waterways. For example, de-icers, CO2 emissions, litter, tire treads, and oil and chemicals wash from roadway surfaces into adjacent waters and lands, directly impacting water quality. As new roads are built and existing roads are widened, pervious surfaces are paved, which concentrates pollutants and impacts stormwater quality. Designs to mitigate impacts to waterways include the use of vegetative swales, bio and retention areas, and rain gardens.

Invasive Species

Invasive species, from dandelions to kudzu, have been introduced through roadway corridors as a result of poorly designed or constructed revegetation processes. Numerous studies have documented how roadway corridors affect the distribution and dispersal of invasive species. Native non-invasive plants are used to provide a sense of place and to reduce potential for invasive species establishment along linear landscapes and edges created by transportation corridors. Additionally, appropriate vegetation can reduce air, light, water and noise pollution, control soil erosion, and provide shade to mitigate the effects of the urban heat island. The impacts of impervious surfaces on stormwater quality and quantity are minimized by providing facilities such as vegetated swales that filter pollution and help recharge groundwater.

Wildlife Corridors & Habitats

Properly designed transportation systems also protect wildlife corridors, avoid habitat loss and fragmentation, reduce disruption to animal movement, and reduce road-related mortality. Mortality and habitat fragmentation are considered the greatest threat to maintaining wildlife populations.[8] Where habitat impacts cannot be avoided, innovative techniques such as wildlife over- and underpasses and greenways reduce impacts to wildlife and reconnect habitat.

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[5] https://smartgrowthamerica.org/wp-content/uploads/2016/08/cs-gasprices.pdf

[6] http://nhts.ornl.gov/

[7] https://www.railstotrails.org/policy/trailstransform/caats/

[8] https://www.fhwa.dot.gov/clas/ctip/wildlife_crossing_structures/ch_2.aspx

Equity & Economy

Effects of disproportionate transportation funding, inequitable transportation planning, and disregard of stakeholder engagement are seen throughout the country. Over the decades, the neighborhoods impacted by these decisions have often remained populated with people of color, immigrants, and lower income households that have continued to face higher rates of air pollution, increased traffic crashes, increased fatalities, and numerous adverse health effects. “Traffic deaths impact every community in the United States… older adults, people of color, and people walking in low-income communities bear a higher share of this harm.”[9]

Community and stakeholder engagement is one of the primary keys to the successful implementation and future of transportation programs. Equitably designed, complete streets serve people of all ages, abilities and income levels by enabling them to get where they need to go with any transit mode. The implications of complete streets are far-reaching. When streets are safe and easily navigable, people rely less on vehicles as their only mode of transportation.

Transportation is vital for the economy, the livelihoods of individuals, and the livability of communities. Individuals with access to transportation resources are far more likely to have higher education, access to meaningful employment, higher lifetime earnings, greater access to healthcare and recreational opportunities improving their overall physical wellbeing.[10] People of any income who lack reliable transportation may miss work, arrive late, or miss school. However, for low-income families, the results could be devastating.[11]

Resources:

- ASLA Sustainable Transportation Guide
- ASLA, Landscape Architects Design Multimodal Transportation Networks for All
- Fixing America's Surface Transportation Act or the FAST Act - FHWA
- Congestion Mitigation and Air Quality Improvement Program - FAST Act Fact Sheets - FHWA | Federal Highway Administration
- U.S. Department of Transportation, Federal Highway Administration, America's Byways

Health & Safety

- CDC Transportation and Health Tool, 2015,
- APHA Transportation and Health
- Transform Transportation, US PIRG, 2021
- Complete Streets | US Department of Transportation
- Smart Growth America, National Complete Streets Coalition
- Smart Growth AMerica, Dangerous by Design 2021
- Safe Routes to School Programs | US Department of Transportation

[9] National Complete Streets Coalition, Dangerous by Design, 2019

[10] https://www.urban.org/features/unequal-commute

[11] https://www.urban.org/urban-wire/transportation-options-are-expanding-can-they-reach-urban-poor

- Safe Routes, www.saferoutesinfo.org
- Safe Routes Partnership
- Vision Zero Network
- United States fatal pedestrian crash hot spot locations and characteristics | Journal of Transport and Land Use

Environment

- U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, http://nhts.ornl.gov
- U.S. Department of Transportation, Federal Highway Administration,Wildlife Crossing Structure Handbook Design and Evaluation in North America, Chapter 2 - wildlife populations and road corridor intersections
- United States Department of Agriculture, Forest Service, Highways and Habitat: Managing Habitat Connectivity and Landscape Permeability for Wildlife https://www.fs.fed.us/pnw/sciencef/scifi79.pdf
- Fast Facts on Transportation Greenhouse Gas Emissions | US EPA

Economy & Equity

- The Unequal Commute | Urban Institute
- Transportation options are expanding, but can they reach the urban poor? | Urban Institute
- Public Transit Equity Analysis at Metropolitan and Local Scales: A Focus on Nine Large Cities in the US
- Who relies on public transit in the US | Pew Research Center
- Inclusive Transit – Transit Center
- 6 Principles for a Transit System That Makes Your City More Fair and Just – Streetsblog USA
- Complete streets promoting health equity in communities: Supporting transportation for all users | The Nation's Health

Inter-Related ASLA Policies

Air Quality
Billboards and Signage
Climate Change and Resilience
Community & Stakeholder Engagement
Environmental Justice
Environmental Sustainability
Housing
Human Health and Welfare
Invasive Species
Livable Communities
Open Space
Outdoor Lighting
Rural Landscapes
Universal Design
Urban Growth and Development
Vegetation and the Built Environment
Visual Character and Scenic Resources
Water Quality and Conservation

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