

sustainable settlement

green infrastructure

## TRANSPORT INFRASTRUCTURE



Australian Institute  
of Landscape Architects

National Policy Statement

### AN INTEGRATED APPROACH

The AILA advocates an integrated, multidisciplinary approach to the design of all transport infrastructure projects - incorporating broader environmental considerations such as impacts on ecological & social systems.

The AILA promotes integrated land use, transport planning & design strategies which aim to leverage advantages of existing topography, vegetation, hydrology, built fabric, local, social & cultural values in all transport infrastructure solutions.

### OVERVIEW

Australia's transport infrastructure, including road, air, sea and rail networks, are critical components of the nation's cities, landscapes and public realm. Road & rail networks provide a major part of the nation's transport options – supporting walking, cycling and private vehicle use, as well as public transport and freight movement. Streets and other transport corridors form a vital part of the national economy, providing a physical framework for commercial activity & employment, as well as a primary means for people to experience our cities and landscapes. They also provide the principal connections between other transport modes such as ports, ferries and airports – helping to integrate all transport modes.

Integrated planning of our national road and transport networks, incorporating natural systems analysis and land use planning, is essential for creating more sustainable communities and settlements at local and national scale.

The landscapes of our streets, roads, highways, railway corridors, airports, ports and connected open spaces provide opportunities for improved access to quality open space at local level. They also form the basis of critical green infrastructure networks through supporting better habitat, biodiversity, community resilience, health and amenity outcomes at regional and national scales.

### THE ROLE OF DESIGN

Well designed transport infrastructure can improve user amenity, convenience and safety for private and public transport options, as well as providing economic benefits in the context of a national connected network of a multi-modal system. Intelligent transport infrastructure design can also improve environmental quality, support local community functioning & give expression to cultural identity. The key to achieving such multifunctional outcomes is the appropriate engagement of multidisciplinary design & management teams from the earliest stages of, and throughout the full project development life-cycle.

By integrating transport safety, convenience and aesthetics with sensitive response to social, ecological and topographical conditions, good design strategies can provide locally distinctive solutions which offer multifunctional performance benefits and are appropriate to their particular urban, rural, and/or regional context.

## KEY PLANNING ISSUES

The following 'triple bottom line' considerations are central to achieving integrated & successful outcomes for transport infrastructure:

**Social** - Local and regional community issues - e.g. noise, visual & spatial impacts, social inclusion, incentives or barriers to movement by foot, cycle and car etc. - require careful consideration & responses when planning and designing new transport infrastructure. Integrated design based outcomes should aim to consider all such factors carefully in order to achieve an optimum balance of cost and benefit to society.

**Environmental** – Significant environmental issues come into consideration during the planning and design of new transport infrastructure. These range from impacts at broader landscape scales on energy & resource use, water, waste, pollution and biodiversity, through to site-specific impacts on local natural systems and processes.

**Economic** – The planning and design of transport infrastructure is often undertaken within constraints of cost, value for money, broader community desires and existing land uses and tenures. There are clear economic advantages to be gained by integrating key functional requirements – i.e. the delivery of safe, well engineered and cost-effective structures - in a manner which supports broader community values and urban design objectives. The development of connected, integrated green infrastructure corridors and networks as a key component of transport infrastructure design within and between urban and non-urban areas is a crucial strategy for enhancing economic, environmental and social resilience in our cities and settlements.

## KEY DESIGN PRINCIPLES

It is AILA's position that all aspects of Australia's transport infrastructure should be designed, constructed and managed to:

- enhance mobility, connectivity and reduce congestion within and between our cities and settlements.
- respect and acknowledge the existing quality of the built environment and public domain.
- respect associated landscape context and characteristics – including existing and future ecosystem services provisioning capacity.
- minimize waste and maximise resource use efficiencies – including the application of technology, innovation & renewable resources in urban redevelopment/retrofit scenarios.
- support safe, attractive, convenient and accessible mobility options for all members of the community - including pedestrians, cyclists, children & the elderly, public transport users and the disabled.
- encourage co-ordinated progressive movement solutions such as 'park and ride', light rail, trolley and mini movers.
- function as integral components of local & regional multi-modal transport networks, guided by relevant urban design and planning strategies.
- promote the potential for integrated design of 'grey' and 'green' infrastructure networks (such as national transport corridors) to deliver multi-functional performance outcomes – e.g. combining transport, access & services provisioning, energy efficiency, climate adaptation, habitat connectivity, economic opportunity, recreational potential, air & water quality benefits & artistic/cultural expression within the design solution.

## KEY DESIGN OBJECTIVES

The following key design objectives support the design principles to guide the delivery of socially & environmentally responsible transport infrastructure:

- Integrated analysis of the built, natural and community context should occur at the earliest stages of planning and development, particularly at corridor alignment stage where assessment of existing landscape/built form and consideration of associated impacts and appropriate design approaches are able to be considered.
- Planning of transport matters and of land use and development should be coordinated and undertaken as integrated operations.
- New transport corridors should be located and designed to provide net benefit for the environment and amenity of local communities, and should respect local landscape character and context.
- Any use or development of land in the vicinity of an existing or proposed transport corridor should be managed and regulated to avoid detriment to the desired levels of function and amenity for both highway users and associated communities in the short and long term.
- Design and construction budgets must provide for the appropriate project which fits sensitively into the local context, creates good connectivity and enhances the value of the public domain. This includes the establishment and maintenance of landscape, appropriate to the locality and function of the transport corridor.
- The use of indigenous vegetation species is to be encouraged wherever possible, within the context of an integrated metropolitan/regional green infrastructure strategy incorporating broader social, cultural and maintenance considerations.
- Transport corridor planning should be prepared and implemented by multi-disciplinary teams which use a broad range of professional skills to select the corridor, define the alignment and participate in the overall planning and design process. Consideration should be given to the sociological, economic, ecological, architectural, land-use planning, engineering and aesthetic impacts of the project's impact on its environs – and management plans should incorporate rigorous evaluation processes and procedures to measure performance against design objectives in these areas.

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More details on AILA National Policy Statements: [www.aila.org.au/policies](http://www.aila.org.au/policies)

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February 2011