

AN OVERVIEW OF THE ISSUES AND CURRENT POLICY

Public Interest

This study is undertaken due to the increasing public interest in the landscape and aesthetic treatment of roads and freeways in Nevada, particularly in urban areas. Evidence indicates that interest centers on an increasing concern for the ecological environment, tourism and business promotion, improvement of existing landscape practices, preservation of scenic resources and open space, and visual relief from urban development.

Transportation projects also have important direct and indirect impacts on natural ecosystems, and connect adjacent or distant ecosystems through travel corridors and rights-of-way management practices. Highways affect ecosystems by altering and replacing existing biological communities, by creating barriers between different habitats, by introducing new species and activities, by providing new access for socio-economic development and construction, by altering drainage patterns, and by changing the basic geochemistry of a region (air, water quality, etc.)

Issues are numerous and complex. The following summarization is offered to familiarize you with some of the influencing factors, and inform you regarding the current policies, procedures, roles, and responsibilities of primary agencies dealing with these issues.

State Policy

NDOT landscape policies currently involve landscaping for enhancement projects, betterment projects, erosion control (not defined as a landscape project under federal guidelines), replacement due to construction, landscaping for safety and rest areas, buildings and facilities, and reclamation. Unless identified under one or more of the above categories, landscape considerations, which are primarily considered to be aesthetic improvements, are not an integral part of the NDOT planning and/or engineering process. Programs allocating a fixed amount, or percentage, to landscape urban freeways are no longer in effect. Increased transportation need, caused by the rapid growth currently experienced in Nevada, have created other demands for transportation dollars.

NDOT has at least eight effective categories under which landscaping is currently accomplished:

1. Non-decorative erosion control and screening (not recognized by FHWA as landscaping).
2. Renovation or replacement of landscaping due to damage from construction.

3. Buildings and facilities improvement.
4. Safety and rest area improvement.
5. “Enhancement” projects as established through the Federal Tea-21 program and prioritized by the STTAC Committee. Under the TEA-21 program, landscaping must compete with a number of other “enhancement activities” such as bicycle and pedestrian facilities, scenic easement and scenic and historic sites, scenic or historic highway programs, scenic beautification, historic preservation, provision of wildlife under-crossings for threatened and endangered species, rehabilitation and operation of historic transportation buildings, structures, or facilities, preservation of abandoned railway corridors (rails to trails), control and removal of outdoor advertising, archaeological planning and research, and mitigation of water pollution due to highway runoff.
6. “Betterments Projects” which are general improvements to existing areas and/or facilities achieved through discretionary improvement funding at the District level.
7. Issuance of revocable permits which permit other jurisdictions and/or private parties to install landscape improvements within NDOT right-of-way. The permittee generally assumes development and maintenance costs and responsibilities.
8. Reclamation and/or mitigation of environmental impacts.

Maintenance - Landscape maintenance of road and highways is currently accomplished through: (1) NDOT District maintenance personnel, (2) the state prison work program, and through (3) outside contractors.

Leveraging of state and federal funds can play a major role in bridging the financial gap between transportation needs and additional funding. Private sponsors, local sources, and in-kind right-of way donations from private, local, and regional sources may encourage new transportation improvements otherwise left un-funded.

The Physical Environment - Nevada’s physical environment presents at least eleven different natural climatic zones where plant communities vary widely and requirements for planting and plant-establishment differs. Variations within those zones occur variously and repeatedly. Planting on constructed roadbeds and/or within urban environments present complex challenges because of soils conditions, water availability, and maintenance costs.

Funding - Funding for the State transportation system is derived from a variety of revenue sources including federal, state, and local option resources. Revenues are collected through fuel taxes, vehicle privilege taxes, licenses, registrations, and motor carrier fees. Proceeds from State license or registration fees, other vehicle operational

charges, and excise tax on gasoline and other fuels, are used for construction, maintenance, and repair of State highways. Use of State derived revenues are not necessarily subject to federal mandates or requirements, except where a federal “action” is mandated, or where there exists a combined, or cooperative, state and federal efforts.

Transportation need is projected to exceed revenue by nearly \$1.2 billion over the next decade. Nevada will be able to generate almost \$4.2 billion from state and federal sources over the next 10 years. The state will need approximately \$6.3 billion to build roads, repair, and replace worn-out roads and infrastructure within the state highway system to the year 2010. Landscape is not a consideration in the projections.

Federal Policy

The Code of Federal Regulations sets forth federal policy and guidelines for landscaping projects and other highway planting programs within the right of way of all federally funded highways and on adjoining scenic lands. Federal implementation directives include a 1995 Executive Memorandum, which provides guidelines or establishing “environmentally and economically sensitive” landscape activities and practices on federal lands and on federally assisted projects.

Other programs include an evolving “ecosystem management” approach to highway system development.

Principles and actions that support the ecosystem management approach are incorporated into FHWA regulations, policies, and practices through compliance with NEPA, the Clean Water Act, the Endangered Species Act, and other environmental programs. A 1993 Interagency Ecosystem Management Task force consolidated case studies, identified barriers and other areas such as budget, institutions, public participation, science and information, and legal authority where federal agencies “could and should” affect implementation of the ecosystem approach to transportation development. Now, the “ecosystem approach” to transportation development is gaining acceptance as a primary planning and management methodology.

The Code of Federal Regulations

Federal Policy is set forth, in part, by the Code of Federal Regulations as policy for Federal Highway Administration funding of landscape and scenic enhancements for safety rest areas, scenic overlooks, information centers, etc. Section is 25 CFR 752, part 752, is guiding in such regard and states that:

1. Highway esthetics is a most important consideration of the Federal-aid highway program.

2. The Federal Highway Administration will cooperate with State and local agencies and organizations to provide opportunities for art works displays on ROWs.
3. Roadside development is to include landscape development, safety and rest areas, and preservation of valuable adjacent scenic lands as components of the highway system.
4. Landscape development includes landscaping projects and other highway planting programs within the right of way of all federally funded highways or on adjoining scenic lands. Improvements must be in general conformity with accepted concepts and principles of highway landscaping and environmental design.
5. Landscape projects should have provisions for plant establishment periods for survival.
6. In urban areas, new and major reconstructed highway and completed interstate and expressway sections are to be landscaped as appropriate for the adjacent existing or planned environment.
7. In rural areas, new and major reconstructed highways should be landscaped as appropriate for the adjacent environment and include opportunities for natural regeneration of native growth and the management of that growth.

Note: Title 23 USSC, Para. 319 (b) (1), requires that ¼ of 1% of the funds expended on landscaping shall be used to plant native wildflowers. A project-by-project waiver from this provision is required. NDOT previously requested a waiver from this provision and was denied. Under federal guidelines, seeding for erosion control, or planting for screening purposes, does not constitute a landscape project.

A Presidential Executive Memorandum

An additional important policy directive, under which The Federal Highway Administration and other federal agencies operate, includes a presidential executive memorandum of November 2, 1995. This directive provides guidelines for establishing “environmentally and economically beneficial” landscaping activities and practices on Federal lands and on federally assisted projects with the purpose of improving current landscape practices. Among other provisions, the memorandum instructs agencies to:

“Use regionally native plants; design, use, or promote construction practices that minimize adverse effects on the natural habitat; seek to prevent pollution by reducing fertilizer and pesticide use by using integrated pest mgt. techniques, recycling green waste, and minimizing runoff (refer also to Exec. Order 12856);

implement water-efficient practices by use of mulches, efficient irrigation, do water audits, recycle or reclaim used water, select and site plants in water efficient and erosion free manner. Plant regionally native shade trees to reduce air conditioning demand, create outdoor demonstrations incorporating native plants, and other methods. Carries directive to establish interagency working group to develop recommendations for guidance, including compliance with NEPA, implement required training, and make public the results.”

The Ecosystem Approach and Transportation Development

The ecosystem approach, as a formally defined objective of the Federal government, is a fairly recent concept, which transportation agencies have implemented in a variety of projects and programs. Efforts are held to be consistent with the principles of sustainable environments and economies. A diversity of agencies is demonstrating that this approach is possible and beneficial to the safe, efficient, and environmentally sensitive transportation of people and goods.

The ecosystem approach recognizes the interrelationship between the natural environment and health, and sustainable economies. It emphasizes the integration of planning for the protection and preservation of both. The ecosystem approach is characterized as a method for sustaining or restoring natural systems and their functions and values. It is applied within ecological boundaries, and integrates ecological, economic, and social factors. The frame of reference and management objectives are not site specific, but much broader. Site specific actions are conducted within a broader ecosystem context, and evaluated over a longer time span.

The Interagency Ecosystem Management Task Force of 1993, consolidated case studies, identified barriers to implementing the ecosystem approach, and identified areas such as budget, institutions, public participation, science and information, and legal authority where the federal agencies should and could affect implementation of the ecosystem approach. *Volume I – Identifies areas where agencies can adopt common principles for ecosystem management. Volume II & III presents implementation issues and case studies.*

ISTEA (TEA-21) - encourages integration of management of natural and constructed environments by Metropolitan Planning Organizations, and local and State transportation agencies. Requires public involvement, and consideration of likely effects of transportation policy decisions on land use and development.

ISTEA (TEA-21) – Provides clear and specific authority for advance inventory of wetlands resources, participation in local and regional planning efforts for management of wetlands ecosystems, and development of mitigation banks for mitigation of unavoidable wetlands impacts.

There are principles and actions that support the ecosystem management approach to transportation planning and development incorporated into FHWA regulations, policies, and practices through compliance with NEPA, the Clean Water Act, Endangered Species Act, and other environmental programs.

Management methods include:

Reducing the Effects of Habitat Fragmentation and Barriers to Animal Movement

Loss of range necessary for feeding or territorial behaviors reduce the vitality by decreasing diversity and abundance of food sources and disrupting nesting or other reproductive activities. Barriers may also increase mortality by fragmenting range. Motorist and vehicle safety is affected. Mitigation of these impacts can involve structures, fencing, or alternative alignments to minimize interaction.

Mitigation Banking

Ecological mitigation banking can enhance management and functioning by encouraging development of larger, more sustainable mitigation sites. Often these sites provide public and ecological benefits while being easier to manage than small, isolated sites. They may combine habitat types and buffer zones, which depend on surrounding areas to sustain many ecological functions. Often this action enhances hydrology and prevents deterioration of water quality, while providing critical links or corridors to adjacent upland areas.

Advanced Ecosystem Planning and Management

Through advance data collection, coordination, and shared objectives and information, NEPA insures that those elements occur in the development of Federal activities.

Ecosystem Based Research Efforts

FHWA policy supports research on planning, design and construction, which reduce environmental impacts. Research programs are available to evaluate effects of highway construction on animals, fish and wildlife habitat use and mortality, wetlands, species diversity, plant distribution and community composition.

FHWA and State Highway Agencies support on-going research and practices for re-vegetation and vegetation management, and encourage use of native and regionally appropriate species. FHWA highlights this work in a publication called *Greener Roadsides*.