



Opposite and above – State transportation agencies across the country are stewards of the nation’s front yard. Here, workers assure that new plantings of native grasses and wildflowers along a sound barrier get a good start.

# Transportation: Cultivating Wildflowers and Native Vegetation on America’s Roadsides

## Did you know?

Transportation agencies are helping to nurture and restore America’s roadsides, working to cultivate natural wildflowers, control noxious invasive weeds, prevent erosion, and provide wildlife habitat on over 10 million acres of roadside rights-of-way.

Our nation’s highways provide access to the wonders of nature, and offer opportunities for travelers to enjoy natural beauty within their rights-of-way. As stewards of America’s roadsides—the nation’s front yard—transportation experts are providing significant resources to maintain some 10 million acres of land, creating and maintaining attractive landscaping and scenic vistas while protecting and restoring the natural environment.

Caring for the nation’s roadside rights-of-way requires a balanced approach that:

- ▶ assures water quality;
- ▶ improves erosion control;
- ▶ increases wildlife habitat,
- ▶ reduces mowing and spraying;
- ▶ enhances natural beauty;
- ▶ controls noxious weeds; and
- ▶ protects natural heritage.

Transportation agencies across the country are achieving these goals as they work to implement vegetation management programs. The results: beautiful wildflowers along many roadways, preservation of natural plant



species that cut down on the use of chemicals and irrigation, control of harmful invasive species, and nurturing of native plants and animals.<sup>58</sup>

### What's Growing on America's Roadsides?

Under the program provisions of Operation Wildflower and the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA), native wildflowers are being planted in America's rights-of-way to add natural character to the highway environment. These programs are the framework of all state department of transportation wildflower programs.

The law requires that native wildflower seeds or seedlings be planted as part of landscaping projects undertaken on the federal-aid highway system. At least one-quarter of one percent of the funds spent on a landscaping project must be used to plant native wildflowers and grasses on that project.

Wildflowers also are being grown and protected on highway roadsides under other program initiatives instituted by states. The reduced mowing policies of Michigan, Wisconsin, and Minnesota allow the natural establishment of wildflowers and protection of natural remnants. Native wildflowers and grasses are being included in plantings undertaken as part of erosion control and vegetation management methods. They are also being planted under states' continuing efforts like Adopt-a-Highway, Roadsides-for-Wildlife, and Transportation Enhancement projects.<sup>59</sup>

Above – A close-up of a surprising Missouri native—a Prickly Pear Cactus on Highway 54.

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## History of Vegetation Management

- 1965:** The Highway Beautification Act—under Ladybird Johnson's influence—encouraged the removal of billboards, screening of junkyards, and landscaping of roadsides.
- 1969:** The National Environmental Policy Act (NEPA) established the notion of avoidance and minimization of disturbance. This law encouraged environmentally sensitive solutions.
- 1987:** The Surface Transportation and Uniform Relocation Assistance Act (STURAA) is the act that includes the requirement to plant native wildflowers with of one percent of a highway project's landscape budget when federal funds are used. By 1987, some states were already planting more than that minimum. By 1994, only 38 states had program level support for native wildflowers.
- 1991:** The Intermodal Surface Transportation Efficiency Act (ISTEA) provided funding for enhancements. One of the ten categories of enhancements was landscaping. All ISTEA projects were subject to the STURAA requirement of native wildflower use.
- 1994:** The Executive Memorandum on environmentally and economically beneficial landscaping was signed by President Clinton. The memo recommended the use of regional native plants, less fertilizers, less pesticides, less irrigation on federal grounds, lands, and federally funded landscape projects ...as in highway construction projects.
- 1999:** An Executive Order on invasive plants was signed by President Clinton. It ordered increased communication and cooperation of all agencies through a National Invasive Species Council. All agencies focused on prevention and control of invasive plant species, and followed up with restoration of native plants as directed.<sup>60</sup>

### California Wildflowers in Landscape Design: Nurturing Nature

The California Department of Transportation's wildflower program has evolved into a holistic approach to native vegetation in the state. Dubbed California Wildflowers in Landscape Design (CaliforniaWILD), the program recognizes the complex interaction of all plant forms that occur together in nature and the stages of natural landscapes that change over time. Caltrans has found that protection, preservation, and enhancement of naturally occurring and self-sustaining native roadside vegetation is cost effective, environmentally sound, functional, and aesthetically pleasing.<sup>61</sup>



Photo courtesy of Caltrans

A significant aspect is the Botanical Management Area program, which identifies, studies, and manages state highway right-of-way locations that are environmentally significant, natural remnants of California's botanical diversity. Sites are chosen for their biological integrity, species diversity, need for resource protection, and suitability for scientific evaluation, among other criteria. To date, management plans have been developed for 20 sites statewide.

Through its comprehensive vegetation management program, Caltrans is helping to grow community pride with low-maintenance, cost-efficient, drought-tolerant, environmentally beneficial landscapes. Wildlife habitat is improved and California's diminishing natural resources are preserved and protected.

### *Reaping the Benefits*

The many benefits of nurturing vegetation in California are easily overlooked, but are important nonetheless:

- ▶ Worker and traveler safety is improved because established native plants require less maintenance than non-native species. Roadside vegetation maintenance is subsequently reduced.

Above – A controlled burn to battle invasive plant species is conducted by the California Department of Fire and Forestry Protection, in cooperation with Caltrans, at the Bear Creek Botanical Management Area, on Route 20 in Colusa County.

- ▶ Roadside fire hazards are lowered since some California native plants—particularly many low-growing, cool-season native grasses—produce less fire fuel than comparable non-native species that were introduced to the state primarily as cattle forage.
- ▶ The use of herbicides can be reduced when native plants are established successfully. Native plant communities are composites of complementary vegetation types that grow together in natural order and resist weed infestation.
- ▶ Many native drought-tolerant plants provide effective erosion control—some grow deep, sturdy roots to tap water resources deep underground and thereby help anchor soil. California native plants thrive on seasonal rainfall and available ground water. They have evolved to succeed in their natural environment and do not require supplemental irrigation that is both costly and a drain on California’s limited water resources.
- ▶ The use of native vegetation in highway landscape plantings, erosion control, storm water runoff control, and other projects enhances scenic values as well. Native plantings look natural in the context of California’s diverse roadside environs.

In addition, the California program educates local travelers and tourists using signs to identify areas where the state’s native vegetation can be viewed.

### **South Carolina’s Wildflower Program**

Traveling along South Carolina’s interstates and major highways has been a colorful experience for the past 10 years, thanks to the wildflower planting efforts of the SCDOT maintenance forces. This program is a major component of the Department’s Integrated Roadside Vegetation Program.

The Wildflower Program not only brings color to the state’s interstates and primary highways, it also assists in roadside maintenance and promotes the natural establishment of wildflowers. Generally, planting takes place twice a year—in the fall for spring/summer color and in the late spring/early summer for summer/fall color. Wildflowers planted include annuals, perennials, and natives. In addition to the cultivated wildflower beds, the Maintenance Division emphasizes the management of naturally occurring wildflowers. By teaming up with Clemson University, the SCDOT has been able to incorporate research and educational opportunities into the program as well.<sup>62</sup>

### **Prairie Passage: A National Wildflower Route**

In 1993, the Federal Highway Administration responded to a proposal for a national prairie landscape effort by supporting the departments of transportation in Minnesota, Iowa, Missouri, Kansas, Oklahoma, and Texas to identify and plan a national wildflower route through these states. The DOT’s selected the name Prairie Passage, and various highways and



Interstates have been proposed as Prairie Passage routes. Through multi-agency and local community cooperation, the DOTs are seeking to integrate the natural, historical, and cultural rediscovery of prairie and wildflowers through education, protection, planting of wildflowers and grasses, and economic development. Prairie heritage sites and routes will be signed with uniform signage/logo. Maps, guidebooks, and interpretive materials are being produced to weave together the ecological, cultural, and historical stories of our North American prairie.<sup>63</sup>

Prairie Coneflower (*Ratibida pinnata*), is featured on the proposed logo and signage art. This species is common to the tallgrass prairies across North America. Prairie Coneflower is also a species that is easy to restore in gardens, natural areas, and along roadsides.

### **Missouri DOT's Adopt-a-Highway Program**

As part of its Adopt-A-Highway program, Missouri Department of Transportation encourages citizens to landscape and beautify highway roadsides, and suggests planting shrubs, trees, and flowers to complement the roadsides' neighboring land.<sup>64</sup>

The Prairie Coneflower (*Ratibida pinnata*), is featured on the proposed logo and signage art along proposed Prairie Passage routes.

The Minnesota, Iowa, Missouri, Kansas, Oklahoma, and Texas DOTs are seeking to integrate the natural, historical, and cultural rediscovery of prairie and wildflowers through education, protection, planting of wildflowers and grasses, and economic development, by establishing this national wildflower route.



Above – Wildflowers are part of the landscape at this rest area along Highway 30 in Blair, Nebraska.

Below – Travelers along Route 301 are greeted by Blackeyed Susans when stopping by the Bay Area Welcome Center on Maryland's eastern shore.

# Endnotes

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