

CALIFORNIA ROADSIDES

A NEW PERSPECTIVE



JANUARY 1997

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION



JONES & STOKES ASSOCIATES, INC.
SACRAMENTO, CALIFORNIA

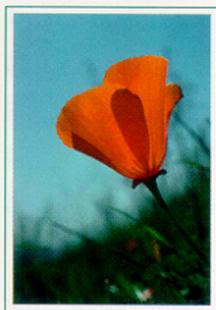




TABLE OF CONTENTS

INTRODUCTION	1
HISTORY	3
Integrated Vegetation Management Program	3
Roadside Vegetation Management Committee	4
Public Advisory Liaisons Committee	4
ROADSIDE VEGETATION MANAGEMENT PROGRAM STUDY	5
Goals and Objectives	5
Vegetation Management Challenges	6
Environmental Diversity	6
Variations in the Right-of-Way	7
Statewide Vegetation Management Challenges	8
ALTERNATIVES ANALYSIS	
Selection of Alternatives	9
Study Methodology	10
RECOMMENDATIONS	13
Process for Quality Roadside Design and Management	13
Revisions to Caltrans Manuals	14
Corridor Master Plan	15
Demonstration Projects	17
Alternative Vegetation Species	18
CONCLUSION	19

INTRODUCTION



Vegetation management

involves more than

weed control.

The California Department of Transportation (Caltrans) manages approximately 15,000 miles of highway and more than 230,000 acres of right-of-way throughout California. A major portion of the management and maintenance effort is devoted to activities associated with vegetation control. The need for vegetation control is driven primarily by safety issues, such as minimizing fire concerns and promoting visibility of traffic, highway structures, and wildlife. Other reasons for vegetation management include controlling noxious weeds and pests, promoting good drainage to minimize storm-water runoff and erosion, and protecting pavement and roadway devices.

Vegetation management is more than weed control; it involves promoting and maintaining desired vegetation, such as highway plantings and existing or colonized native species within the right-of-way. Thus, activities associated with vegetation control require the investment of the majority of Caltrans' roadside maintenance budget and staff.

Roadside environments are generally harsh sites for plant life as a result of extensive soil disturbance during roadway construction, continuing soil

compaction by vehicles, and exposure to fire. The resultant landscape is often greatly altered from that of the natural environment and is less conducive of supporting native habitat or other desired vegetation without site preparation to restore more natural conditions. Instead, rapidly growing annual grasses and other invasive exotic plants typically colonize these sites or are planted by Caltrans to prevent erosion. These introduced grasses require extensive vegetation control. Historical and current control methods have relied upon herbicides and mowing. Mowing raises safety concerns, such as exposure of workers to traffic, and may not be effective, while chemical control has been widely used because it is efficient and economical.

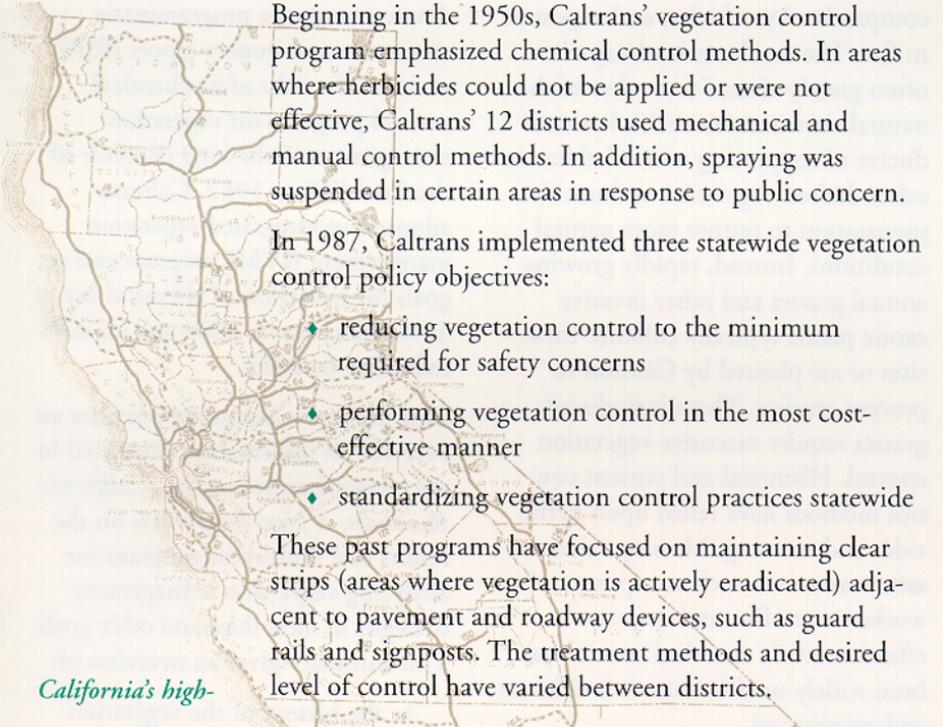
However, Caltrans' vegetation management approach is changing as other values are being considered and new products and alternatives emerge. Herbicide use may not be the sole or best answer in light of social values such as environmental quality and public concerns, or in the context of better roadside design and alternative treatments. In 1989, Caltrans began

development of a programmatic environmental impact report (EIR) to assess the risks of its chemical control program for vegetation management. Following issuance of the final EIR in 1992, Caltrans adopted an integrated vegetation management (IVM) program and set goals for reduction of chemical use: a 50% reduction by 2000 and an 80% reduction by 2012.

This Executive Summary provides an overview of information presented in the comprehensive report, *California Roadside: A New Perspective*, on the results of a multi-year program for analyzing vegetation management strategies to meet these and other goals. This summary gives an overview of:

- ◆ the history of the vegetation management study program
- ◆ the goals and objectives of the program
- ◆ the vegetation management challenges that Caltrans faces
- ◆ the study methods
- ◆ the results and recommendations of the study

HISTORY



Beginning in the 1950s, Caltrans' vegetation control program emphasized chemical control methods. In areas where herbicides could not be applied or were not effective, Caltrans' 12 districts used mechanical and manual control methods. In addition, spraying was suspended in certain areas in response to public concern.

In 1987, Caltrans implemented three statewide vegetation control policy objectives:

- ◆ reducing vegetation control to the minimum required for safety concerns
- ◆ performing vegetation control in the most cost-effective manner
- ◆ standardizing vegetation control practices statewide

These past programs have focused on maintaining clear strips (areas where vegetation is actively eradicated) adjacent to pavement and roadway devices, such as guard rails and signposts. The treatment methods and desired level of control have varied between districts.

California's highway system in the early 1930s included less than 7,500 miles.

INTEGRATED VEGETATION MANAGEMENT PROGRAM

Following the final EIR in 1992, the IVM program was adopted. The purpose of the program was to look at many vegetation management strategies, or alternatives, and to evaluate which of those strategies most effectively would meet Caltrans' needs. All methods of vegetation control are considered to be available for use by the districts. Long-term vegetation objectives will be determined by the districts on a road-segment-specific basis, and the appropriate control method will be selected in accordance with those objectives.

The IVM program has been initiated, but new approaches to roadside vegetation control are needed to allow widespread change and to most effectively meet the goals and mitigation measures identified in the EIR. These approaches can range from simple alterations in current vegetation management programs to rethinking the way in which a highway is designed and constructed. Districts have begun experimenting with new methods of control to reduce chemical use. Reductions in herbicide use have been limited to date, in part, because of highway design procedures and standards that limit use of alternative approaches, and because more information is needed on the suitability of alternative approaches.

ROADSIDE VEGETATION MANAGEMENT COMMITTEE

Caltrans' Director established the Roadside Vegetation Management Committee (RVMC) in 1992 to provide guidance to the districts, to seek new approaches to roadside maintenance practices affecting vegetation, and to explore alternative designs to reduce the need for vegetation management. In turn,

the RVMC, comprised of expert Caltrans staff from many programs and offices and with the assistance of Jones & Stokes Associates, evaluated alternative technologies, reviewed current approaches to vegetation management, recommended alternative approaches consistent with Caltrans policy, and recommended demonstration projects and policy changes that have the greatest potential for meeting the study goals, as described in the following section.

PUBLIC ADVISORY LIAISONS COMMITTEE

The Public Advisory Liaisons (PALs) Committee was established to provide information and feedback to the RVMC. Membership includes representatives from state and local resource agencies, law enforcement and fire protection officials, non-chemical control advocates, representatives of the pesticide and farming industries, biodiversity advocates, and many others. The result has been a successful forum for discussion of widely diverse perspectives on how to best resolve the issues Caltrans faces in its vegetation management program.