



DESIGN STANDARDS FOR THE BIG SUR HIGHWAY
 BIG SUR CITIZENS ADVISORY COMMITTEE
 TRANSPORTATION SUB COMMITTEE
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FEBRUARY 1980, REVISED AUGUST 1980

HIGHWAY 1

CALIFORNIA'S FIRST OFFICIAL SCENIC HIGHWAY.
 ROUTE ONE IN MONTEREY COUNTY FROM THE
 CARMEL RIVER SOUTH TO THE COUNTY BORDER
 THIS ROADWAY AND ITS SCENIC CORRIDOR HAS BEEN PRE-
 SERVED FOR THE PEOPLE OF THE NATION BY ACTION OF THE
 COUNTY OF MONTEREY AND THE STATE OF CALIFORNIA

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INTRODUCTION

The general consensus, apparent at least since Town Hall meetings in 1976 in Big Sur, is that increasing traffic levels and current maintenance and repair activities are not consistent with the scenic values of Highway One.

There has been no clear vision of Highway One shared by all participants. It's a little like a jigsaw puzzle where everyone has been coloring in his pieces to suit himself. The objective of this summary and the following clarification is to look at all the pieces and see the whole puzzle as a masterpiece.

Taken altogether, this summary and clarification and the report referred to in the preface describe Highway One as a unified whole from Carmel River bridge in the north to the Highway #46 exit in Cambria at the south end. It is a truly scenic highway, one where the immediate foreground - the road and its appurtenant right of way - and the scenic landscape are harmoniously joined. It affords users of the highway, whether driving, cycling or on foot near the roadside, an environment in which the natural scenic landscape is the preeminent subject.

The highway described is a slow to moderate speed road of consistent lane width and variable, but narrow, paved shoulder width. There are regularly spaced paved pullouts for slow moving vehicles, approximately one per mile, without parking. There are vista pullouts, most of them partially screened by planted earth berms. They have paved exit/entry aprons.

The vista pullouts provide a safe place for enjoying a view, with perhaps a low wall for sitting or picnicking, in relative quiet and solitude. There are bus stop pullouts for the special convenience of hikers, campers, through trip sightseers, employees and residents of Big Sur. In some locations all three uses can be combined, each use retaining its own design standards.

As pictured in these pages, the paved shoulder always meets native vegetation, except on bridges. Even where there are viaducts, these are far enough from the edge of a narrow paved shoulder to permit a margin of vegetation. The vegetation is mowed for fire safety and drainage channels are kept up by removal of debris.

The scenic highway described here has no passing lanes. By its two-lane alignment, except in the Hearst Castle area, it affirms the primacy of the scenic travel experience. The traveler is in the closest safe proximity to the scenery and natural environment. The flow of traffic is more safely facilitated in this scenic context by the slow moving traffic pullouts mentioned above.

All that is of visual significance within the scenic corridor, from engineering design to finish materials is envisioned to be readily identified with the Big Sur area, to bring greater harmony to the scenic travel experience and to enhance the continuity of the scenic highway and the landscape.

A traffic management plan is in operation. It aims to maximize use of the highway at traffic Level C, giving equal value to safety, scenic travel experience and efficiency.

The traffic management program uses electronic road counters to monitor traffic conditions. When traffic Level C has been reached vehicles will be diverted. Residents and employees will automatically be allowed to proceed. Parks and businesses can authorize as many entries as they have parking spaces for. Only visitors with confirmed reservations will be allowed to continue to Big Sur. Access for heavy-slow vehicle will be curtailed. Public buses will be allowed to proceed. Travelers will be advised of road conditions. When the traffic level improves more vehicles can proceed.

The recommendations in the following paper look to the good offices of many agencies and individuals. It is not just CalTrans work to restore the scenic highway. We all have pieces to contribute. The masterpiece will emerge as the puzzle pieces begin to interlock.

PROTECTION AND MAINTENANCE OF THE SCENIC HIGHWAY

Heretofore CalTrans has not had management guidelines that specifically address scenic highways. It has responded to special requests, emergencies and traffic pressures as they arose. The cumulative impact on the scenic quality of Highway One has been enormous. New guidelines must be sought which support the basic concept of the scenic highway, and which will authentically preserve the highway as a unified whole for purposes of viewing and education for the driving public.

Developing new guidelines for Highway One requires professional research. The Big Sur highway needs management guidelines which go beyond safety and serviceability to address environmental, social and cultural values.

Developing new guidelines requires not only advocates and practitioners trained in the natural sciences, but those who can recognize and evaluate scenic qualities and the kind of intrusions that are tolerable or intolerable. Highway One and its scenic corridor and the other public roads of the Big Sur coast have a literary and photographic history. These world re-known, historic aspects need evaluation in the highway management planning process.

THE-DESIGN TEAM FOR DEVELOPING MANAGEMENT GUIDELINES FOR THE BIG SUR HIGHWAY SHOULD INCLUDE LANDSCAPE ARCHITECTS SPECIALIZING IN THE AREA OF HISTORIC LANDSCAPE ANALYSIS AND PRESERVATION AS WELL AS SPECIALISTS IN GEOLOGY, BOTANY, BIOLOGY AND ECOLOGY TO PRESERVE THE HIGHWAY'S ENVIRONMENTAL INTEGRITY AS A WHOLE.

This professional assistance should come from CalTrans, the County or State parks, the U.S. Forest Service or members of the Alliance for Historic Landscape Preservation or of the Association for Preservation Technology.

THE COUNTY SHOULD REVIEW, WITH THE ASSISTANCE OF A BIG SUR HIGHWAY ADVISORY BOARD, ALL CALTRANS WORK THAT WILL HAVE VISUAL IMPACT, INCLUDING BUT NOT LIMITED TO MEW WORK, ROUTINE MAINTENANCE, OR UPGRADING EXISTING FEATURES. E.G. SIGNS, ROAD MARKING, CLEARING, CUTTING, FILLING, ETC.

IN-ROAD IMPROVEMENTS

The Big Sur highway is not just another pretty place road. It is unique and demanding. It is also an almost impossibly difficult road to maintain. The geology, the fires, the rains, the limited access, the remoteness. And everyone in the world wants to come and see because it is so spectacular.

For all the above reasons, its difficulties and its attractions, Highway One needs the best engineering design, construction technology and quality control possible. It is not getting it.

A newly paved and inappropriately widened segment of highway, completed less than six months ago, has nine sizeable patches in it and weeds coming through the shoulder pavement. A new bridge, inappropriately wide, in a sensitive situation, has no effectual drainage.

Left turn lanes in two instances (a post office, a vista pullout) increase hazards to motorists and introduce confusion where there should be rural near wilderness simplicity and consideration. There are too many light reflectors in the centerline markings of one, too many arrows in the other. In both instances the situations chosen are hazardous.

There are far too many in-road improvements. Too many of these strike a discordant note in the tranquil scenic landscape.

The pressure of traffic increases and the pressure of Federal Highway standards inappropriate to the geography of Big Sur, are forcing unwise choices. The choices are being made by people and agencies remote from the actual conditions and insensitive to the realities of the situation and its world re-known spectacular beauty. Accumulated knowledge and experience and understanding are not being brought to bear. The construction supervision and follow through are not adequate.

BECAUSE OF ITS STATUS AS A SCENIC HIGHWAY OF INTERNATIONAL INTEREST AND MERIT, THE BIG SUR HIGHWAY SHOULD HAVE CUSTOMIZED DESIGN ENGINEERING, QUALITY- CONTROLLED CONSTRUCTION AND MAINTENANCE. DESIGN SHOULD BE RESPONSIVE TO SITE SPECIFIC EXPERIENCE, AND THE NEAR WILDERNESS SCENIC DRIVE EXPERIENCE AS A WHOLE. IN-ROAD STRUCTURES SUCH AS LEFT TURN LANES AND CENTERLINE MARKINGS SHOULD BE COMPATIBLE WITH THE RURAL QUALITIES OF HIGHWAY ONE.

ROAD WIDTH

CALTRANS, UNDER FEDERAL DIRECTIVES FOR HIGHWAY FUNDING, WIDENS THE ROAD WHEN IT CAN, SEGMENT BY SEGMENT. HOWEVER, SOME SEGMENTS CANNOT BE WIDENED WITHOUT REMOVING MOUNTAINS. THE DIFFERENCE IN CHARACTER BETWEEN THE ORIGINAL LANE WIDTH, APPROXIMATELY NINE FEET, AND THE STANDARD LANE WIDTH NATIONALLY, APPROXIMATELY TWELVE FEET, IS QUITE NOTICEABLE TO THE MOTORIST. THE TWELVE FOOT SUPER-HIGHWAY WIDTH LANES ARE INCOMPATIBLE WITH OVERALL CHARACTER OF THE RUGGED, MOUNTAINOUS BIG SUR COASTLINE, AND THE ALIGNMENT OF HIGHWAY ONE. WE RACE ALONG ON A WIDE LANE SEGMENT ONLY TO BE CAUGHT UP AT A SNAIL'S PACE IN A NARROW, WINDING SEGMENT.

We tend to drive faster on wider roads regardless of the kind of area we are driving through, whether commercial, residential or scenic. While speed is a positive factor in most driving, it does not enhance the scenic experience of driving the Big Sur coast. We should remember that this is primarily a scenic highway and that its scenic qualities are best served by improvements which preserve the scenic experience and which enhance continuity. Widening the highway in segments does more than any other single development to fragment the scenic highway and rural, near wilderness scenic drive.

LANE WIDTH SHOULD BE STANDARDIZED FOR THE ENTIRE LENGTH OF THE BIG SUR SCENIC HIGHWAY BETWEEN 10' AND 11'.

This width is virtually indistinguishable from the segments which cannot be widened, reestablishing and ensuring the continuity of the scenic drive. If necessary, alternate funding for the Big Sur highway should be sought.

Shoulders too wide

Wide paved shoulders are more hazardous on Highway One than most other highways, because of the lack of designated stopping areas and because of Big Sur's highly scenic qualities. People wanting to take pictures, for example, tend to pull over anywhere that is convenient. Peoples' ideas of convenience vary but most people would not park on a two-foot paved shoulder, while many people do park on a four-foot paved shoulder. Wide shoulders encourage pedestrians too to make hazardous use of the highway.

Wide shoulders encourage high speed even more than wide lanes. In consequence there is less awareness of scenic quality, less awareness of roadside hazards and less time to respond to pedestrians, cyclists and cars parked alongside or entering the highway.

Drunk and sleepy drivers inadvertently use the paved shoulder when they wander out of their lane. Vegetation at the roadside would work better than paved shoulders to slow them down and reduce the menace of swerving cars.

The width of the paved shoulder is of more consequence on Highway One because the immediate foreground sets the tone of the scenic highway. If the paved shoulder is more than two to three feet, the flowers, ice plant, shrubs and trees are so removed from the motorist he might as well be on a superhighway. In the typical fogs of early to mid-summer the roadside vegetation is sometimes all there is to see of Big Sur's scenic landscape. If the vegetation is farther away than a few feet, the scenic landscape might as well not exist.

Shoulders too narrow

Sports cyclists make much use of the paved shoulder, where there is any. There are some segments where there is no paved shoulder, in spite of there being room for it. A one-foot shoulder, even if sloped into a drainage channel - provided it is maintained - is safer than none, for sports cyclists.

PAVED SHOULDERS SHOULD BE A MINIMUM OF 1' AND A MAXIMUM OF 2 ½' FOR THE ENTIRE LENGTH OF THE BIG SUR SCENIC HIGHWAY. ANY PAVEMENT IN EXCESS OF 2 ½' SHOULD BE REMOVED.

THE PAVED SHOULDER SHOULD HAVE A CLEAN EDGE AND MEET NATIVE VEGETATION. ANY FILL MATERIAL NEXT TO THE HIGHWAY SHOULD BE OF A COLOR SIMILAR TO NATIVE SOIL.

OVERALL ROAD WIDTH SHOULD NOT EXCEED 28'.

CALTRANS' RIGHT OF WAY

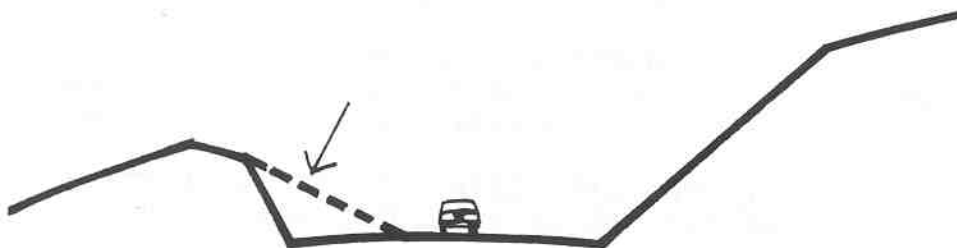
The right of way means different things to different people. Too often, landowners - government, commercial, residential - consider it their private parking lot, waste place for rubble disposal, or overflow parking area. These appropriations are not appropriate to a scenic highway. If they increase pedestrian use of the highway, they increase hazard and reduce highway capacity as well.

CALTRANS SHOULD NOT CLEAR OR PERMIT CLEARING OF THE HIGHWAY R.O.W. FOR ANY USES OTHER THAN ITS OWN USES.

NO PARKING SHOULD BE ALLOWED OR POSSIBLE WITHIN 10' OF THE EDGE OF TRAFFIC LANES.

CALTRANS SHOULD NOT STOCKPILE OR DISPOSE OF FILL MATERIAL, AS SUCH, IN THE R.O.W. OF THE SCENIC HIGHWAY OR ITS CRITICAL VIEWSHED. UNAVOIDABLE DISPOSAL OF FILL AND LONG TERM STOCKPILING SHOULD BE MADE APPROPRIATE

TO THE SCENIC HIGHWAY BY USING THIS MATERIAL TO RESTORE NATURAL CONTOURS TO CUT BANKS OR OTHERWISE RESTORE NATURAL LANDFORMS, AND PLANTING TO NATIVE COVER.



RESTORE NATURAL LANDFORMS

Vegetation

Relatively minor alterations add up, over the years. The road was completed in 1937. By now it should be almost completely revegetated. Instead more than forty percent of its total length is bare. This is due to roadside grading. Perhaps as much as twenty-five percent of the highway's total length is bare banks, due to many factors. There really is very little native landscape in the immediate vicinity of the highway. This makes the remaining native vegetation very precious; and there should be more of it.

What is a scenic highway without a scenic foreground?

Soil disturbance creates conditions more favorable to weeds than to reestablishment of native vegetation. What appears to be simply routine maintenance becomes the steady destruction of the native landscape and the steady invasion of pernicious weeds in their stead.

NATIVE ROADSIDE VEGETATION SHOULD BE PRESERVED AND ALLOWED TO INTEGRATE WITH STRUCTURES E.G. GUARDRAILS.

THE EDGE OF PAVEMENT SHOULD MEET NATIVE VEGETATION FOR THE ENTIRE LENGTH OF THE SCENIC HIGHWAY - EXCEPT AT VISTA PULLOUT ENTRY/EXIT APRONS.

EXCESSIVE MAINTENANCE, AND SOIL DISTURBANCE AND REMOVAL OF NATIVE VEGETATION SHOULD BE CURTAILED.

ALL EXISTING BARE SLOPES AND NEW CONSTRUCTION SHOULD BE INCLUDED IN A COMPREHENSIVE WORK THAT WILL REESTABLISH NATIVE VEGETATION COVER. WHERE NECESSARY, CONTOURING, SLURRIES, HEMP MATTING, PEGGING AND STONE DRY-WALLING (MASKED WITH PLANTING), ETC. SHOULD BE UTILIZED.

PLANTING OF NATIVE COVER BY VOLUNTEER GROUPS E.G. THE CALIFORNIA NATIVE PLANT SOCIETY, PENINSULA BEAUTIFUL, SHOULD BE SOUGHT AND ENCOURAGED.

EXPERIMENTS IN PERNICIOUS WEED ERADICATION E.G. PAMPAS GRASS, KUKUYU GRASS SHOULD BE SOUGHT AND ENCOURAGED.

Drainage

Winter rains are probably the most serious threat to the functioning welfare of the highway. Increase in catchment size, due to roadside grading, means the culverts are carrying more water than they were originally designed for. The increased volume is very damaging to the terrain below the culverts.

Winter rains fill the canyons, clog the culverts and the road bursts its dam. The road is closed, immense amounts of time and money are spent, immense amounts of bulldozing done, revenue is lost. When done it looks like the far side of the moon.

The bridged canyons are less threatened. Even if denuded by fire, bridged canyons will not be so subject to collapse as filled ones.

The passage of time in Big Sur is largely measured by its fires and slides. How many canyons in another forty years will look as bad as Rat Creek Canyon? How many will look as pristine and healthy as Torre Canyon with its handsome bridge? In the long run bridges are less costly and far less damaging to the landscape.

The more stable the landforms and the more effort directed to achieving stability, the less maintenance and the fewer emergencies there will be as time goes on.

NEW ENGINEERING STUDIES SHOULD BE UNDERTAKEN ON SLIDE PREVENTION AND DRAINAGE IMPROVEMENT FOR THE BIG SUR HIGHWAY. THE BUILDING OF BRIDGES IN SOME OF THE FILLED CANYONS SHOULD BE CONSIDERED.

CULVERTS SHOULD CARRY WATER TO BOTTOM OF SLOPES; OR TO DENSE ROCKS NOT READILY ERODED.

THE STEEPNESS OF TERRAIN AND THE PERMEABILITY OF SOILS SHOULD BE CONSTRAINTS ON THE SIZE OF ROADSIDE BARE AREAS.

ENGINEERING FOCUS SHOULD BE EXPANDED TO CAREFULLY CONSIDER HABITAT AND LANDSCAPE PROTECTION.

Earth Berms -safety and screening

Long-term preservation of the scenic values of Highway One is highly desirable. There are many things we do not want to see, such as long or large areas of bare roadside. And yet the travelling public must have places, necessarily bare, to pull off the road for sightseeing. The answer is partial screening of the large or long bare areas using the planted earth berm.

Earth berms are used extensively along the Big Sur highway. But the locations and sometimes the heights, are generally inappropriate. They are used on the west side of the-highway to outline the edge of unpaved pullouts so cars can't go over the edge. The disadvantages of earth berms in such situations are that they are always bare earth berms because sightseers climb them to look over the edge, and that the remaining travelling public are subjected to frequent views of these bare earth berms, with or without vehicles, instead of landscape, sea, and sky.

There are upwards of four hundred such bare areas along the west side of Highway One in the ninety-five miles between Carmel and Cambria. Whether sightseers stop a- zero or twenty such bleak areas, they are still obliged to view upwards of four hundred more. This in the primary viewshed of one of the world's great highways. This is not very scenic.

If these same earth berms were moved to the edge of the highway pavement they would soon be covered with "scenic" vegetation (native or weedy). They would help to screen the large or long bare areas without obscuring views. They would protect sightseers from the traffic, and protect traffic from the hazards of random entry of vehicles back onto the highway. (Instead of edging pullouts with earth berms we recommend low stone walls, low stone boulders so cars can't go off the edge, and for other reasons - see [pullouts](#).)

Planted earth berms at roadside stopping/parking areas would carry out a principle contained in the Big Sur Master Plan of 1962, based on the original scenic highway legislation, "Scenic Highway... features, the location and design of which will receive special analysis for the purpose of enhancing the motorist's scenic driving experience."

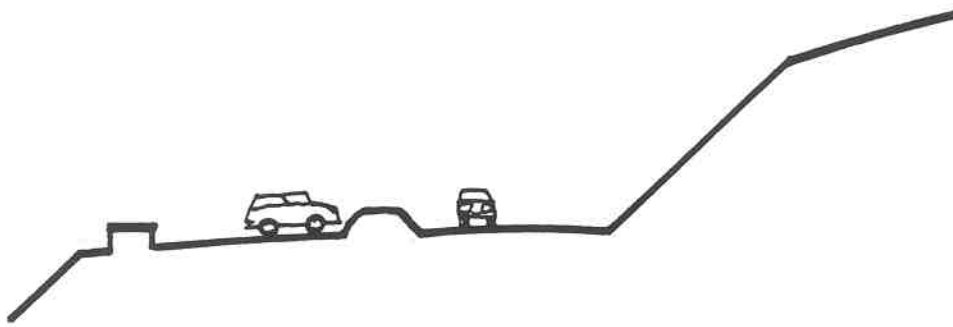
Planted earth berms would serve to “enhance the motorist's scenic experience” by partially screening roadside bare areas from passing motorists and vice versa, enhance the stopping motorist's scenic experience by partially screening traffic and the highway.

Perhaps most importantly, they would provide a measure of safety, a safety net, where now there is none. One of the recommendations adopted by the Big Sur Citizens Advisory Committee in 1980 follows:

PARKING WITHIN 10' OF THE EDGE OF HIGHWAY LANES SHOULD BE PROHIBITED.

WHERE THERE IS ROADSIDE PARKING, PLANTED EARTH BERMS SHOULD BE ESTABLISHED WITHIN THE AREA 10' FROM THE EDGE OF PAVEMENT.

EARTH BERMS SHOULD BE REMOVED FROM THE EDGE OF BARE AREAS ON THE WEST SIDE OF HIGHWAY ONE. INSTEAD THEY SHOULD BE EMPLOYED TO PARTIALLY SCREEN - MAX 2' HIGH' - SAID BARE AREAS FROM THE PASSING MOTORIST, AND PREVENT CONTINUOUS ENCROACHMENT ONTO THE HIGHWAY.



EARTH BERMS TO PROTECT AND DIRECT

In areas where the highway is at the edge of a bluff or a cliff a safety net device is often used - the guardrail. Guardrails are also employed in situations where a safety net is not necessary, for example to outline the edge of the highway. In these situations, far less hazardous now than in the days before centerline reflecting markers, the earth berm would serve equally well. It has the added advantages, when covered by native plant material, of being scenically worthwhile in itself, in harmony with the scenic landscape as a whole, as well as doing what the guardrail does, outlining the edge of the highway.

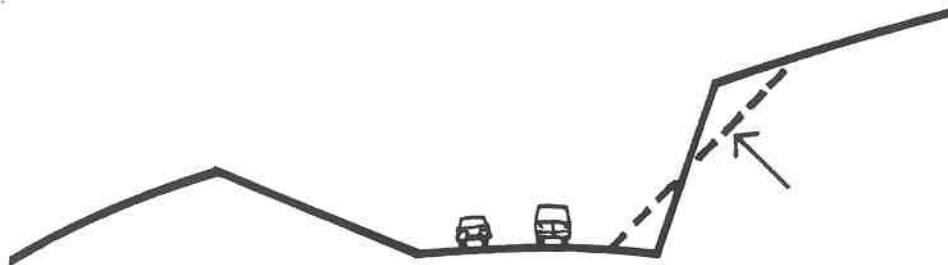
EARTH BERMS SHOULD BE EMPLOYED INSTEAD OF GUARDRAILS WHERE SAFETY PERMITS. GUARDRAILS SHOULD BE REMOVED WHERE SAFETY PERMITS.

Landforms

The landscape was permanently altered by the building of the highway. The headlands and ridges will never look as they did before. Yet nature, through the agencies of wind and storms and plant growth, works to reestablish equilibrium. The essential thing is to repair the ravages of the original road building and radically reduce the maintenance of and damages to unstable slopes by improving water percolation, reducing run-off, and reestablishing native cover. This process would be assisted by laying back the slopes and planting them to native cover.

HIGHWAY MANAGEMENT SHOULD INCLUDE SLIDE AND EROSION PREVENTION, AND SLOPE STABILIZATION.

NO FURTHER LEVELLING OR QUARRYING OF SHOULDERS OR SLOPES SHOULD BE UNDERTAKEN UNLESS THE SLOPE IS BEING STABILIZED. NATURAL LANDFORMS SHOULD BE RESTORED TO ROADCUTS.



STABILIZE CUTS TO A NATURAL ANGLE OF REPOSE

Highway Structures

There are a great variety of structures at the roadside: curbs, guardrails, viaducts, bridges, mile markers, hazard markers. Each of these occurs in large numbers, far more than on other, comparable length two-lane roads, because of Big Sur's topography, geography. Over the years there have been many replacements and additions to the original structures, each in a style appropriate to its era, and each according to latest technology. The scenic unity of the highway has become quite fragmented.

Style and taste apart, there is a general consensus that structures should not inhibit views, and that nature should dominate design of structures on Highway One. Technologic improvements can be made aesthetically appropriate to the Big Sur coast. The unifying principle in the design of structures should be, not a stylistic principle, but a 'visible materials' principle. Whether used structurally or ornamentally, stone and wood and planted earth are the geographically appropriate visible materials.

VISIBLE PORTIONS OF STRUCTURES IN THE CRITICAL VIEWSHED SHOULD UTILIZE ENDEMIC MATERIALS AND SHOULD NOT INHIBIT THE MOTORISTS VIEWS OF THE COAST.

EXISTING STRUCTURES WHICH DO NOT MEET THE ABOVE CRITERIA SHOULD BE PHASED OUT, REMOVED, REPLACED WHEN THEIR LIFESPAN IS OVER.

THE SCENIC CORRIDOR BEYOND THE R.O.W.

Signs

ALL SIGNS SHOULD BE EVALUATED FOR APPROPRIATENESS TO THE SCENIC HIGHWAY. DESIGN SOLUTIONS SHOULD BE UTILIZED TO MINIMIZE THE NEED FOR SIGNS. SIGNS PLACED IN SILHOUETTE ON THE WEST SIDE OF THE HIGHWAY MUST BE RELOCATED.

'Coastal access' signs included.

Utilities

UTILITY LINES SHOULD BE RELOCATED OUT OF THE CRITICAL VIEWSHED/SCENIC CORRIDOR.

Funds available for this under Schedule U from the Public Utilities Commission should be applied for by the County Board of Supervisors.

Lighting

LIGHT STANDARDS SHOULD BE NO HIGHER THAN 15' AND LAMPS SHOULD BE SHIELDED FROM DIRECT VIEW. EXISTING LIGHTING WHICH DOES NOT MEET THESE STANDARDS SHOULD BE REPLACED.

At present this relates to lighting at beaches and park entrances between Carmel and Cambria.

Development

Buildings and parking lots, even the best intentioned of them presume upon the scenic landscape that is Big Sur's true claim to significance. At most they should be only briefly glimpsed. A number of successful Big Sur establishments, with only limited or no highway visibility - except an entry sign - offer both historic and recent precedent for this. Indeed they are in the best tradition of Big Sur scenic preservation, e.g. Highlands Inn, Tickle Pink Motor Lodge, all the Big Sur River valley campgrounds, the Grange, Big Sur Lodge, Ventana, etc.

THE COUNTY SHOULD FRAME ORDINANCES WHICH WOULD, OVER TIME, VIRTUALLY ELIMINATE ROADSIDE RESIDENTIAL, RECREATIONAL, AND COMMERCIAL STRUCTURES, AND PARKING WITHIN 10 I OF THE HIGHWAY OR IN THE CRITICAL VIEWSHED.

ALL PARKING SHOULD BE SCREENED AND SHELTERED FROM HAZARD BY PLANTING/PLANTED EARTH BERMS.

COAST CLEAN-UP AND VISITOR BEHAVIOR

The ideal visitor is well informed as to opportunities for recreation, doesn't trespass or leave trash behind, and has a high regard for the natural and scenic values of Big Sur. The average visitor, however, needs encouragement along these lines and a clean-up and repair crew in the case of mishaps.

There is very little help for the visitor or the landscape so far. There are no rangers at the large bare areas termed pullouts and CalTrans assumes no responsibility for clean-up or hand maintenance of any kind. No one wants to claim maintenance for this bedraggled area at the roadside where the travelling public are bound to stop for a few minutes to 'enjoy the beauty' of the scenic highway and Big Sur.

Clearly, somebody must undertake to caretake this area, remove debris, replace missing pieces, hand maintain and otherwise restore it to its intended use and pristine condition. This caretaker should be a living presence to help preserve the coast's natural and scenic resources and secondarily serve as a source of information and assistance.

STATE PARKS, THE COUNTY AND THE FOREST SERVICE SHOULD EACH ASSUME HAND MAINTENANCE RESPONSIBILITY FOR PULLOUT AREAS WHICH SERVE THEIR PROPERTIES. CALTRANS SHOULD ASSUME RESPONSIBILITY FOR PULLOUTS ADJACENT TO PRIVATE PROPERTY.

THE ABOVE AGENCIES SHOULD BEGIN TO EXPERIMENT WITH WAYS TO BEST CARETAKE THESE FARFLUNG PULLOUTS AND THE TRAILS LEADING FROM THEM.

They should consider individually or severally contracting for these services. They should consider contracting in exchange for a concession to provide goods or services - in a manner compatible with resource preservation.

SCENIC TRAVEL ON THE BIG SUR HIGHWAY

The Big Sur highway is one of the great scenic highways of the nation. It passes through ninety-five miles of grand landscape; smooth and massive mountains standing out to the edge of the continent, weighty yet graceful in their velvety textures and soft colorings. From the highway it displays a succession of scenes of great variety and intricacy. Climbing, descending, swinging broadly round a bay, crawling carefully in and out of the narrow canyons, exposed to the elements at cliff's edge; travelling the Big Sur highway provides a rich experience.

Because of the beauty of the scenery and the highway's alignment, this stretch of Highway One, from Carmel River south to the County border, was designated the State's first official Scenic Highway. The act states, "This roadway and its scenic corridor has been reserved for the people of the nation by action of the County of Monterey and the State of California".

Because there are virtually no through exits between Carmel and Cambria, the scenic highway should be considered as a unified whole between these two communities. The highway doesn't stop at the County line anymore than a day stops at two o'clock in the afternoon.

BOTH MONTEREY AND SAN LUIS OBISPO COUNTIES AND THE STATE OF CALIFORNIA SHOULD DECLARE HIGHWAY ONE BETWEEN CARMEL AND CAMBRIA A UNIFIED WHOLE FOR HIGHWAY PLANNING PURPOSES, AND GIVE IT A NAME, AND DIRECT EFFORTS TOWARDS ITS PRESERVATION AND ENHANCEMENT AS A SCENIC DRIVE.

TRAFFIC LEVEL

The biggest obstacle to enjoyment of the scenic corridor is traffic. Beyond a certain level of traffic a larger percentage of attention is focused on traffic and safety. This level is called Level C.

Traffic level is a measure of comfort. Highway One is a two-lane highway throughout, except for the Hearst Castle area, but its traffic level varies considerably from segment - even though the number of vehicles is the same. Traffic level is relative to road widths, improvements, and topography. Some portions - with wide shoulders and straight level terrain - are virtually always Level A or Level B. Others - as Rio Road, Hurricane Point, Grimes Creek, Salmon Creek area - are seldom Level A or B, nor can they be without moving mountains.

A and B in one segment do not make for A and B in another segment. Indeed differences between segments can increase discomfort: the faster segments raising expectations and making the slow segments more frustrating. (These misleading differences may explain how some motorists get so far along before they realize they wish they hadn't ever started.)

Highway One in Big Sur was engineered and created for use as a scenic drive. The Big Sur Citizens Advisory Committee at the outset of its work to help create the Big Sur Local Coastal Plan, in 1976 adopted a basic goal that "Use of Highway One should not be increased or encouraged to the detriment of its quality as a scenic highway." Further, in 1980 it adopted a set of recommendations among which was the following:

LEVEL C SHOULD BE ADOPTED AS THE PLANNING CAPACITY FOR REASONS OF SAFETY AS WELL AS "PLEASURABLE SCENIC AND RECREATIONAL TRAVEL EXPERIENCE."

Only levels A, B and C are compatible with scenic appreciation of Highway One in Big Sur.

SPEED

Highway One was engineered for Level C averaging forty miles per hour travel. The CAC adopted as a basic planning goal "Highway One should remain a slow speed Scenic Highway, and improvements should be for safety only."

No one today would maintain that the highway should be posted '40 mph'. Actually the highway is not posted, except in Big Sur valley and in specific places on curves. However it bears considering just what speeds are appropriate to the scenic highway, because widening has *de facto* increased speeds considerably.

Following is a list of objectionable features of higher, fifty-five to sixty-five mph, travel:

- Higher speed means a diminution of the scenic travel experience (It is relevant to recall that at Town Hall meetings in Big Sur at the outset of planning-for Big Sur's LCP, the community's response to a question on the desirability of road improvements was generally unfavorable; they connote speed-oriented travel which was felt to be inappropriate to the character of Big Sur.)
- The roadside bare areas are where people stop to enjoy the beauty and quiet of rural near wilderness Big Sur. Higher speed travel makes this stop more hazardous and less tranquil.
- Exiting from and re-entering the highway are more hazardous (There are as many as 10 roadside bare areas per mile in some segments).
- It requires a longer apron of pavement to exit or enter the highway safely. It inhibits the use of bare roadside areas as pullouts, particularly for large or heavy vehicles e.g. camper/RVs.
- Fewer areas are suitable for passing because the sightlines must be longer (When Federal centerline markings are complete for the Big Sur highway there will be far fewer places marked for passing - in part because of high speed travel.)
- High speed travel explains why we are obliged to have guardrails at both ends of all our bridges.
- Roadside bare areas and paved pullouts need to be larger, longer; thus defacing more of the scenic and natural resources. Cyclists and pedestrians are more at hazard.
- Passing buses and RVs fairly knock you over by their turbulence and hurt your ears with the thump it makes.
- Undoubtedly higher speeds are harder on the roadbed, perhaps one reason why Highway One is under constant repair.
- Note that the County has recommended, for traffic and safety reasons, that off-road stopping places should be provided, and each should have an entrance and exit, thereby limiting maneuvering to two points instead of a continuous frontage. Higher speeds make it difficult to accomplish this.
- If the speed limit is raised nationwide to sixty-five miles per hour we can expect all of the above to be more serious yet.

** Perhaps more attention should be called to large vehicles *vis a vis* the state of the roadbed and high speed travel. There may be a need to correlate load limits with speed limits.

In spite of all the above, there will be some who will prefer the “Mille Miglia” racing aspect of higher speed travel.

It is our contention that getting the slow driver to pull off the highway is a better way to facilitate the trip, to town for locals and along the scenic highway for the visitor, than fast travel. Fast travel is only possible in some segments. It is the bottlenecks that make the drive so slow. If there are provisions in those areas for slow vehicles and slow vehicles are instructed to use them, Highway One will be all the pleasure it should be.

HIGHWAY ONE SHOULD BE POSTED 45 - 50 MPH

PULLOUTS

There are upwards of four hundred roadside bare areas. Some are just large enough to park one car, most are large enough for five to fifteen cars, some are large enough for five to fifteen buses. These last are really too large. The legitimate expectations of pristine natural scenery and escape from urban patterns are best met by small pullouts.

These upwards of four hundred roadside areas were not all created for sightseers. Many were the outcome of quarrying fill material for repairs. Many were created to improve sightlines. This explains why there are so many roadside bare areas without views or indeed any attractive feature at all.

Three types of pullouts are necessary and desirable for Highway One. Each meets a different need. Each has different criteria for location and design. At present there is nothing quite like them, nothing that meets the demands of traffic, safety, resource protection and the aesthetics of scenic highway travel.

ALL EXISTING ROADSIDE BARE AREAS AND PULLOUTS SHOULD BE RE-EVALUATED. THOSE WHICH CANNOT MEET THE CRITERIA FOR PULLOUTS, OUTLINED IN THE FOLLOWING PAGES, SHOULD BE DECOMMISSIONED FOR PUBLIC USE, BY RESTORING TO NATURAL LANDFORM OR BY USE OF EARTH BERMS.

SIGNS FOR ALL PULLOUT TYPES SHOULD BE KEPT TO A BARE MINIMUM.

ENTRY/EXIT DETAILING FOR EACH TYPE SHOULD BE CONSISTENT FOR THE ENTIRE LENGTH OF THE SCENIC HIGHWAY FROM CARMEL TO CAMBRIA.

ALL VISIBLE STRUCTURES - FROM SIGNS TO LANDSCAPING SHOULD UTILIZE ENDEMIC MATERIALS.

Slow Moving Vehicle Pullouts

SLOW MOVING VEHICLE PULLOUTS SHOULD BE DEVELOPED. THEY SHOULD BE THE WIDTH OF A TRAVEL LANE AND PAVED. NO STOPPING SHOULD BE PERMITTED, THEY SHOULD BE REGULARLY SPACED AT 1 MILE INTERVALS FOR THE ENTIRE LENGTH OF THE SCENIC HIGHWAY, CARMEL TO CAMBRIA, ON EACH SIDE OF THE HIGHWAY, STAGGERED. THEY SHOULD NOT EXCEED 250' IN LENGTH.

To discourage stopping they should not be situated at view locations. To minimize visual pollution they should not be tipped up to view i.e. not banked or on a rising incline, nor be of more than minimal length.

The advantage of regular spacing is that it will promote use because it can be anticipated. The advantage of one mile spacing is that it avoids tensions build-up.

Vista Pullouts

VISTA PULLOUTS, APPROPRIATE TO THE SPECIAL SCENIC TRAVEL AND ENVIRONMENTAL FACTORS OF BIG SUR, SHOULD BE DEVELOPED. A LIMIT SHOULD BE SET ON THEIR SIZE.

ONLY THOSE LOCATIONS WHICH ARE DESIRABLE-WHICH OFFER A PARTICULAR AMENITY E.G. VIEWS, TRAILS, WILDLIFE OBSERVATION SHOULD BE DEVELOPED AS VISTA PULLOUTS.

VISTA PULLOUTS SHOULD HAVE PAVED ENTRY/EXIT APRONS AND OTHERWISE BE UNPAVED.

EACH TRAFFIC DIRECTION SHOULD HAVE ITS OWN VISTA PULLOUTS DESIGN ENGINEERED. THERE SHOULD BE NO LEFT TURN LANES FOR PULLOUTS.

1 CAR PULLOUTS SHOULD BE SITED ONLY IN VERY SLOW SEGMENTS.

ALL VISTA PULLOUTS, EXCEPT THOSE FOR ONLY 1 CAR, SHOULD BE SAFELY SEPARATED FROM THE TRAVEL LANES, EXCEPT AT ENTRY/EXIT POINTS BY USING PLANTED EARTH BERMS OR BOULDERS OR GUARDRAILS WITH PLANTING.

VISTA PULLOUTS SHOULD BE DESIGNED TO PROTECT THE SURROUNDING LANDSCAPE. THEY SHOULD UTILIZE PARAPET WALLS OR PARTIALLY BURIED BOULDERS (WOOD LOGS IN FORESTED AREAS) FOR THIS PURPOSE AND ALSO TO PROVIDE PLACES FOR SIGHTSEERS TO SIT (THE LEAST SATISFACTORY EDGE ON THE WEST SIDE OF THE HIGHWAY IS THE EASILY TRAMPLED EARTH BERM).

VISTA PULLOUTS LOCATED ADJACENT TO PRIVATE PROPERTY SHOULD BE DESIGN ENGINEERED TO PREVENT TRESPASS, E.G. CANTILEVERED.

PARK, FOREST SERVICE AND OTHER PUBLIC BENEFIT AGENCIES AND INSTITUTIONS SHOULD CONSIDER PROVIDING VISTA PULLOUTS, PERHAPS ACQUIRING LAND SPECIFICALLY FOR THIS USE.

CalTrans does not set a high priority on visitor recreation whereas Park, Forest Service and some other institutions do, and therefore should provide these pullouts as vest-pocket parks.

Bus Stop Pullouts

Bus stops need not be paved but they may require other structures: signs, benches, shelters. For this reason they should not be located in silhouette against the sky or ocean.

BUS STOP PULLOUTS SHOULD BE SITED IN ASSOCIATION WITH A PARTIALLY SCREENING LANDFORM OR VEGETATION.

NUMBER OF BUS STOP PULLOUTS SHOULD BE LIMITED. THOSE LOCATIONS WHICH COMBINE USES AND ENCOURAGE BUS USE BY MEETING THE NEEDS OF THE GREATEST VARIETY - RECREATIONAL, COMMERCIAL, RESIDENTIAL - AND LARGEST NUMBER OF POTENTIAL USERS ARE THE BEST.

PARK DEPARTMENTS AND THE FOREST SERVICE SHOULD EXTEND THEIR TRAIL NETWORKS TO WITHIN SAFE ACCESS TO BUS STOP PULLOUTS AT COMMERCIAL CLUSTERS.

Combination Pullouts

At some locations all three or two out of three types of pullouts can be advantageously combined. For example: Public transit buses could share use of a slow moving vehicle pullout - assuming all the conditions favorable to each was present or provided. Similarly, a vista pullout might be situated outboard of either a bus or slow moving vehicle pullouts as long as it was grade separated by a planted earth berm, boulders, or planted guardrail.

IN LOCATIONS FAVORABLE TO MORE THAN ONE TYPE OF PULLOUT, USES CAN BE COMBINED PROVIDED DESIGN CRITERIA FOR EACH TYPE OF PULLOUT CAN BE MET.

AT TRAILHEADS WHERE TERRAIN IS CONFINING, BUS STOP PULLOUTS SHOULD TAKE PRECEDENT OVER VISTA PULLOUTS.

Visitor Facilities

REGULAR COMMERCIAL ESTABLISHMENTS SHOULD PROVIDE TRASH RECEPTACLES, PUBLIC TOILETS AND TELEPHONES AS PART OF THE COST OF DOING BUSINESS

ALL PARKS AND THE FOREST SERVICE SHOULD UTILIZE ENDEMIC MATERIALS IN THE VISIBLE PORTIONS OF TRASH, TELEPHONE AND PUBLIC TOILET STRUCTURES.

HIGHWAY CARRYING CAPACITY

For capacity planning purposes, the Big Sur highway extends from Rio Road in Carmel to Route 446 in Cambria. Between Carmel and Cambria there are virtually no through roads exist.

The present level of automobile traffic on Highway One is unacceptably high. It is in fact frequently at maximum capacity where the probability of flow breakdown is fifty percent, safety is low and there is poor access for emergency vehicles.

There are a number of solutions to this problem which may in some combination work to relieve the situation. They can be put into several categories:

- Changes in the Highway
- Reduction of Demand at Peak Periods
- More Efficient Transportation
- Regulation at Peak Periods

CHANGES IN THE HIGHWAY

Acceptable changes to Highway One which may help to improve highway capacity are slow moving vehicle pullouts, specially design engineered vista pullouts and left turn lanes, and bridges to replace fill in some canyons.

Unacceptable changes are highway widening, standard design left turn lanes and passing lanes.

<p>SEE SLOW MOVING VEHICLE PULLOUTS SEE VISTA PULLOUTS SEE DRAINAGE (FOR BRIDGES)</p>

REDUCTION OF DEMAND AT PEAK PERIODS

The principal means of reducing demand is information and education in forms which don't themselves create more demand. Commercial and recreational interests should inform their users of the untypical nature of travel in Big Sur and encourage off season use.

Nearby hotels and motels might encourage the same and advise clients to use public transportation.

Maps might carry clearer information on the type of highway found in Big Sur.

Conventions of travel agents might be better informed, for their clients' welfare of the possibility of limited access to Big Sur.

The County might take the opportunity in its lodgings tax material of making this more widely known to hotel and motel owners.

Also to prevent increase of demand, fewer inducements in the form of private vehicle access should be available. There should be places of special interest that can only be reached on foot or by bicycle or public bus.

THERE SHOULD BE RELATIVELY FEW IMPROVEMENTS FOR PRIVATE VEHICLES OR LARGE VEHICLES SUCH AS CAMPER/RVIS EXCEPT FOR SAFETY. OPPORTUNITIES FOR PRIVATE VEHICLES TO PULL OVER, AS AT ROADSIDE BARE AREAS OR VISTA PULLOUTS SHOULD BE VASTLY REDUCED.

Information Sign

Driving the Coast is an ordeal if you expected to cruise along at fifty-five to sixty-five miles per hour, find gas, food and lodgings to choose from every fifteen miles and see the almost legendary, but non-existent, town of Big Sur. If you had seen signs that said 'narrow winding road next 85 miles, no passing lanes, limited services' you might have chosen not to come.

SIGNS SHOULD BE POSTED AT NORTH AND SOUTH ENDS, REPEATEDLY INDICATING THE UNTYPICAL NATURE OF TRAVEL ON HIGHWAY ONE.

Fees

Fees are not likely to reduce demand. They are more to give a false impression and create demand. They also tend to skew visitation towards the higher end of the economic spectrum. Note that in Town Hall meetings the toll road concept was unfavorably viewed as elitist.

MORE EFFICIENT TRANSPORTATION

Restricting Large Vehicles

Traffic counts show that camper/RVs and trucks varying from seven to eighteen percent of traffic, result in a fifty percent or greater loss of highway capacity.

CAMPER/RVs SHOULD BE PROHIBITED FROM USE OF HIGHWAY ONE DURING PEAK PERIODS OR WHENEVER TRAFFIC REACHES LEVEL C. THROUGH TRUCKS SHOULD BE PROHIBITED, IF ABOVE LOAD LIMIT.

Bus Service

For a few years, until the major slide of 1983 closed the highway for year a new form of bus service was available, financially successful and growing in popularity. The low keyed Coastlines buses were small and comfortable and capable of handling baggage and bicycles. They went from Monterey Airport to Cambria, connecting with other transport modes and making regular and any other desired stops along the way. The bus service currently available really only serves lunchtime visitors to Big Sur.

Many urban and international visitors relate comfortably to buses, limousines, taxis. Many would welcome the freedom from car rentals if buses such as Coastlines' were available again, helping to alleviate not only traffic but the need for parking space in multiple locations.

LOW KEY BUS SERVICE SHOULD BE MADE AVAILABLE FOR THE ENTIRE LENGTH OF THE BIG SUR HIGHWAY, AND BEYOND IF POSSIBLE, CONNECTING WITH OTHER MAJOR TRANSPORTATION.

BUS SERVICE SHOULD PROVIDE THE MISSING LINKS BETWEEN EXISTING TRAIL NETWORKS, TO MAKE POSSIBLE A COMPLETE WALKING TOUR OF THE COAST.

Greenways

Greenways., bike and footpaths in high use areas such as Point Lobos and Big Sur valley and Pacific Valley might help to reduce local traffic. These greenways would offer minors recreation and a valuable lesson in alternatives to automobile dependency.

It must be stressed that the highway shoulder is too hazardous an area for pedestrians or recreation bicyclists. Pedestrians and cyclists at the roadside use up highway capacity. There must be safety and grade separation.

As further inducement for visitors to travel without their private vehicle, these greenways should provide special lodgings e.g. the Tin House, the Lighthouse etc. and other special nature improvements.

THE CONCEPT OF GREENWAYS, OF LINKING AND ADDING IMPROVEMENTS TO OFF-ROAD NETWORKS, SHOULD BE ADOPTED IN PRACTICE BY THE PARK AGENCIES, THE FOREST SERVICE AND OTHER PUBLIC BENEFIT INSTITUTIONS, AS WELL AS BY COMMERICAL RECREATION CONCERNS.

REGULATION AT PEAK PERIODS

CALTRANS OR THE COUNTY SHOULD UNDERTAKE TO LIMIT THE NUMBER OF VEHICLES IN BIG SUR DURING PEAK PERIODS.

In town hall meetings, management of highway traffic level by a visitor biased agency was unfavorably viewed as likely to increase demand and publicity.

Limiting access at peak periods may encourage visitation at non-peak periods.

Access Control and Reservations

Parks and business between Carmel and Cambria at peak periods turn away several times more customers that they can handle.

AN ELECTRONIC ROAD COUNTER HOOKED UP TO A COMPUTER SHOULD MONITOR TRAFFIC CONDITIONS ON HIGHWAY ONE. WHEN LEVEL C HAS BEEN REACHED TRAFFIC AT CARMEL RIVER BRIDGE AND JUST NORTH OF SAN SIMEON SHOULD BE DIVERTED TO AN INFORMATION FACILITY AND PARKING AREA.

CAMPER/RVIS AND OTHER LARGE VEHICLES WOULD NOT BE FREE TO ENTER UNTIL TRAFFIC HAD SUBSIDED. BUS SERVICE SHOULD BE AVAILABLE, OPERATING THE FULL LENGTH OF THE HIGHWAY BETWEEN CARMEL AND CAMBRIA AND CONNECTING WITH OTHER PUBLIC BUS AND TRANSPORTATION SYSTEMS OUTSIDE THE AREA.

ONLY RESIDENTS, THEIR VISITORS, PURVEYORS, EMPLOYEES, FULL OCCUPANCY VEHICLES, PUBLIC BUSES AND PARTIES WITH RESERVATIONS SHOULD BE ABLE TO CONTINUE.

THOSE WITHOUT RESERVATIONS SHOULD BE INFORMED OF THE FULL RANGE OF COMMERCIAL AND PARK FACILITIES ON THE BIG SUR COAST AND PROVIDED A TELEPHONE LINE TO THEM. EACH OF THESE ESTABLISHMENTS WOULD HAVE A QUOTA BASED ON ITS ESTIMATED TURNOVER OR PARKING SPACES. THE SUM OF THESE QUOTAS SHOULD CONSTITUTE THE VEHILCE HOLDING CAPACITY FOR BIG SUR.

THE INFORMATION CENTER SHOULD BE CAPABLE OF RECEIVING A DIRECT SIGNAL WHEN A RESERVATION HAS BEEN ACCEPTED, ALLOWING THE VEHICLE IS FREE TO ENTER.

AFTERWORD

All the improvements known to CalTrans and the Federal Highway Administration cannot make a superhighway with interchanges to all points of the compass out of this ninety-five mile, two-lane winding road at the edge of the continent. All they can do is break its scenic unity into meaningless fragments and bury its natural beauty in asphalt and concrete and the unseemly trappings of cities. Will this be so?

Big Sur is fundamentally a place of respite and surcease for the re-creation of the spirit. Its past supports this and the future will confirm it. This has been so and will be so.