

CONTEXT SENSITIVE DESIGN, FLEXIBLE STANDARDS AND PRESERVING  
RURAL ROADS AND CULTURAL LANDSCAPES

Including

THE CASE STUDY OF SAVING KUHIO HIGHWAY ON KAUAI, HAWAII



By

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## INTRODUCTION

For the forty years between 1965 and 2005 two, often conflicting, movements were playing themselves out across the United States. One was the public works program known as the federal aid highway program, the other was the historic preservation movement. One's purpose was to create a new infrastructure for a growing and vital nation; the other's purpose was to save important pieces of architecture, monuments, districts and cultures from the past.

Both movements started with the development and application of rigid standards. Frequently the two were at odds with each other until procedures were developed to decide between them. They came face to face over how to treat historic roads. The more advanced leaders in each movement determined to look at things holistically, as inter-related systems and to find value and reconciliation between their two perspectives. Today, both movements look favorably upon a promising new approach called Context Sensitive Solutions (or Context Sensitive Design).

Just over five hundred people live in the communities between Hanalei and Haena on the island of Kauai in the Hawaiian Island chain. The very same interplay that was taking place elsewhere between roadwork and historic preservation was taking place on Kauai from the early seventies to the present, which makes for an excellent case study.

This paper opens with a discussion explaining the evolution of the use of flexible design in the highway program and by tracing the growth in appreciation for cultural landscapes and the roads that run through them by the historic preservation movement. The paper then presents the Save Kuhio Highway Case Study relating the story of how these issues played out over the thirty-year period, who were the key players and what were the key events. Of particular interest is the most recent wave of activity, including four significant activities and the events that led up to them between 1995 and 2005. These included:

- Replication of the Pratt truss on the historic one lane Hanalei Bridge (2003)
- The nomination and acceptance of the entire ten-mile Kuhio Highway to the National Register of Historic Places (2003/4)
- The completion and acceptance of an Historic Roadway Corridor Plan for Kuhio Highway Route 560 using a context sensitive design approach (2005)
- The passage of Hawaii State legislation requiring the State DOT to develop and use flexible design standards

The case study tells the important stories of the committed and persistent efforts of a group of residents on the north shore of Kauai, who banded together during two different periods to preserve their ten mile rural road and its nine one-lane bridges. For three decades, they sought out, learned and used the tools of historic preservation, local government planning, bureaucratic accountability, and dispute resolution.

There are many important themes and threads in the Saving Kuhio Highway story.

- The rise of active citizenry in decision-making that affects them contrasted with the reaction of a government bureaucracy often resistant to such intervention.
- The availability and creative use of tools from the professional fields of historic preservation and local planning, given weight through federal legislation.
- The power and role of relationships in a community setting, whereby outcomes that seem to occur by luck and chance are anything but that; rather they are the direct result of persistence, networking and moral persuasion.

A longer case study and chronology is under preparation so that the full stories and lessons learned can be available to future generations of persons living in Hanalei and elsewhere. The abbreviated case study in this paper has been prepared for presentation at the Preserving the Historic Road Conference in Boston, April 27-29, 2006.

The Saving Kuhio Highway case study has a particular emphasis on lessons learned that will be of value to those interested in Context Sensitive Design. CSD is a movement that came to life nearly two decades after the struggle to save Kuhio Highway was well underway. It is interesting to contemplate whether things could have been different had CSD been in place earlier, as well as to speculate as to how this and similar struggles contributed to a receptivity for an alternate design process among some highway professionals.

Either way, it will be important to track how things might change in the future. The community and the Hawaii State DOT have now finished a Historic Corridor Plan for Kuhio Highway, incorporating and addressing major issues from the CSD dialogue. The Historic Corridor Plan will guide maintenance practices and allow Hawaii DOT to make important design choices consistent with community preferences, be they for maintenance, for rehabilitation and reconstruction, or in the event of a natural disaster that destroys one or more of the bridges, for replacement.

## PART ONE: PLANNING, BUILDING AND MAINTAINING ROADS IN THE CONTEXT OF HISTORIC PRESERVATION

Community Sensitive Design (CSD) is an emerging and promising concept for successful project planning, design and maintenance; one that involves community stakeholders directly with engineering professionals in creating alternatives that will be acceptable to everyone. CSD recognizes that a transportation facility has enormous impact (good and bad) according to the manner in which it integrates with rather than slices through a community and its landscape. (1)

Many good examples exist where transportation officials worked with community. But for purposes of this paper, the official interest in CSD process will be dated to the 1998 “Thinking Beyond the Pavement” conference in Maryland and its follow-up conference in Reston, Virginia in 1999, “Flexibility in Highway Design.” Since then, official guidance has been forthcoming, most notably from the Transportation Research Board (NCHRP Report 480, 2002; Transportation Research Record No. 1890, 2004) and from the American Association of State Highway and Transportation Officials (AASHTO) in their Guide for Achieving Flexibility in Highway Design (2004). The Federal Highway Administration (FHWA) policy directions paper, Vital Few Strategies (2002), calls for the integration of CSS into project planning, development and implementation in all fifty states by September 2007.

There was not always such high level commitment to integrate community and setting when developing roadway alternatives and making final choices. Over and over, communities have protested roadway alignments, design features and methods, sometimes successfully, sometimes not. But institutions, like people, can tire of constant battles, power struggles and unhappy results and begin to ask themselves whether there is a better way. Furthermore, most professionals want to feel they are doing something good, they seek validation and a sense of pride in their work. The promise of CSD is one of “win-win” solutions.

The federal aid highway program and the historic preservation movement in this country share many things. Their strength and much initiative come from landmark pieces of federal policy legislation reinforced and refined through regulations, guidelines and the sharing of experiences at national conferences over several decades. Both have committed professionals who practice their work over a lifetime. Both programs are initiated and carried out primarily at the state and local levels. Both programs were heavily influenced by a confluence of movements in the sixties that can be loosely termed environmentalism, but which also involved a grassroots insistence on participation in policies and programs that involve people, nature, and the neighborhoods and settings where they live. The paper examines both programs before proceeding to present the case study.

### Federal Aid Highway Program

Our discussion starts with the Federal Aid Highway Program, initiated in 1956. The first three decades of the program were focused on the planning and building of the interstate system, a 160,000 mile network of multi-lane controlled access freeways criss-crossing the country and connecting all the States and major cities. Some of the early roads, like the sister program of urban renewal, obliterated poor and minority communities as readily as pristine countryside. At

times it felt unstoppable until major revolts in San Francisco, Boston, Philadelphia, New York City and elsewhere did just that (2).

A growing environmental movement led to passage of the National Environmental Protection Act in 1970, one of the nation's most far-reaching pieces of legislation. All projects using federal aid were now required to prepare an Environmental Impact Statement (EIS) and to follow mandatory requirements for consultation with other agencies, interested stakeholders and with the public-at-large (Altshuler, 2003).

By the late eighties, and with the interstate program nearly complete, Congress debated whether to end federal participation in roads. Instead, what evolved became known as the Interstate Transportation and Efficiency Act (ISTEA) legislation passed in 1991. The philosophy embedded in ISTEA was to continue the formula of federal collection of funds through user fees, redistributed back to the states according to formulas in road classification categories (Interstate, Primary, Secondary, Bridge, Safety, etc) but with the states given some flexibility to move funds between categories (Deen, 2003).

The American Association of State and Highway Officials (AASHTO) is the organization that conducts research and sets design standards for each category. The design standards are commonly referred to as the Green Book, named for the color of its cover. A new Enhancement category was created in 1991, catching the attention of preservationist, bicyclists and others. These new ISTEA provisions were an acknowledgement that roadwork provides benefits to more than just motorists.

The 1995 National Highway System Designation Act was the first legislation to actively promote flexibility in highway design, thirty years after the Federal Aid Highway Program began. This act also created the Scenic Byways Program. By 1998, the time of the six-year authorization, the new bill, called TEA 21, gave still greater prominence and funding to both the enhancement program and to design flexibility, an indicator of the growing number of success stories for both highway design and historic preservation (AASHTO, 2004). These themes were continued in the 2005 six year reauthorization bill known as SAFETEA-LU.

### Context Sensitive Design

The Federal Highway Administration, sensitive to Congressional interest, became a leader by issuing several groundbreaking publications that encouraged flexible and creative approaches to project development. These included: "Community Impact Assessment" (1996), "Flexibility in Highway Design" (1997), and "Community Impact Mitigation Case Studies" (1998). (AASHTO, 2004).

Widespread discussion about Context Sensitive Solutions began at an important invitation-only 1998 conference in Maryland called "Thinking Beyond the Pavement." Nearly 325 key players in the highway movement from around the country gathered to "develop a vision of excellence in highway design for the 21<sup>st</sup> century." Out of this conference an advisory committee was formed to define future directions. One of the chief products was to define CSD as "an approach that considers the total context within which a transportation improvement project will exist." The

process leading to CSD was to be a “collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources while maintaining safety and mobility.” ( CSS Web page) (3).

Beyond the Pavement participants identified three barriers to more widespread use of CSD. First was a rigid segmentation of responsibilities. Second, was a failure to consider the full range of design alternatives. Third was a lack of clear communication between stakeholders and the transportation agency. As we shall see in the Save Kuhio Highway case study, all three were in play there.

Pilot efforts on CSD were started in five states: Connecticut, Kentucky, Maryland, Minnesota and Utah. Each conducted internal policy review and training. The consultant firm of CH2MHill was hired to identify approaches for adopting CSD, barriers to adoption and ways to overcome those barriers. The material that resulted from their work used a matrix of steps in the design process crossed with CSS issues.

Information and guidance started flowing as more projects used the CSD approach. A second conference in 1999 in Reston, Virginia titled “Flexibility in Highway Design” presented a number of case studies. A scanning tour was taken in 2002 to study the use of CSD in Europe. The National Cooperative Highway Research Project issued its Report 480 in 2002. Meant as a guide for State DOTs to help them incorporate CSD into their work, it included several applications of CSD Best Practices. Meanwhile, AASHTO had four committees working jointly to develop a Guide for Achieving Flexibility in Highway Design, which was issued in May 2004.

Besides a discomfort level among design engineers to open their work to new ideas and processes, most state transportation agencies were genuinely concerned about the liability implications of using flexible standards and design alternatives. After all, they live in a world of law suits, from the legitimate to the frivolous, which are both expensive and time consuming. This worry was addressed head-on by Richard O. Jones in his 2004 Thomas B. Deen Distinguished Lecture delivered at the annual TRB Conference.

Answering his own question, “CSD: Will the vision overcome liability concerns?” Jones came down in the affirmative. Jones believes this to be so “because CSD/CSS clearly reflects the fundamental social concerns and public policy objectives outlined in a range of national and state legislation on environmental and cultural resource protection.” He continues by stating that,

Safety, while it is a primary consideration in design, is not to be a paramount consideration; that safety should be balanced with mobility, protection and enhancement of the natural environment, and preservation of community values.

...CSD, responsive as it is to public opinion and public policy will cause such a favorable shift to take place and in so doing will overcome liability concerns.

(Jones, 2004)

The CSS Resource Web Page (4) lists several steps that have been identified which would minimize tort claims and support good decisions. These include:

- Consider multiple alternatives
- Evaluate and document design decisions
- Maintain control over design decision-making
- Demonstrate a commitment to mitigate safety concerns
- Monitor design exceptions for improvement

Today in 2006, CSD seems to have a promising future. FHWA's 2002 policy document, Vital Few Strategies, calls for integration of CSS into project planning, development and implementation in all fifty states by September 2007.

### Historic Preservation and Cultural Landscape Preservation

We now turn to take a look at the legislative setting for historic preservation that affect roadwork. The landmark legislation in historic preservation was the 1966 National Historic Preservation Act, passed some ten years after the federal aid highway legislation. NHPA provided major policy direction to favor preservation, rehabilitation, restoration, and reconstruction, of sites, monuments and districts. While age over fifty is one criteria, eligibility for placement on the National Register of Historic Places requires that a property be associated with significant events; persons; embody distinctive characteristics of a type, period, or method of construction; or be likely to produce important historical information. By highlighting significance, demolition becomes more difficult (although not impossible), and any impact triggers a consultation process, managed by the federal agency involved, known as Section 106 (5).

Following passage of the 1966 NHPA and issuance of the Secretary of Interior's Standards for Rehabilitation, preservationists developed a program of criteria, guidelines, and standards for evaluating, nominating and treating properties placed on the National Register. This activity was carried out at the local level through the efforts of non-profits and new state historic preservation offices with an unusually high degree of energy and commitment. Several properties and districts in our Hanalei case study were placed on the Register throughout the seventies, eighties and nineties.

Despite 25 years of local, state and federal involvement in the work of inventory, survey, documentation and nomination of historic places, during the 1990's the historic preservation movement and others lamented that treasured landscapes were being lost at an alarming rate (Hiss, 1990; McMahon, 1993; Alanen, 1991; Birnbaum, 1993). As Linda Mack puts it, "the cultural landscape, which encompasses man and nature, becomes the most complete way to understand the past" (Mack, 1991). The Secretary of Interior's Guidelines for the Treatment of Historic Landscapes was issued in 1994.

The National Park Service, along with several leading academicians and landscape architects sought to provide a definition of the types of landscapes worth noting and preserving. Prior to the 1980's most landscape preservation involved garden restoration projects and they were often associated with historic houses. Preservation activity grew to include landscape projects and their context. The first examples at Williamsburg, Virginia and Sturbridge Village in Massachusetts were technically reconstructions (Keller & Keller, 2003). (6)

Later landscape preservation came about through the efforts of the National Park Service to save battlefields, especially Revolutionary and Civil War Battle Sites, given new prominence through their respective Bicentennial and Centennial observations. In the 1980's an association formed to preserve the Olmsted Parks. The landscape preservation movement matured, due in part to efforts of the National Trust for Historic Preservation's Rural Project sponsoring workshops, conferences and providing a forum and scholarship for like-minded preservationists to exchange technologies. Photography, especially aerial photography, and computer-assisted methods were developed to map historic landscapes. Still, by 1999, there were less than 100 designated rural historic districts. (Stipe, 2003)

The American Society of Landscape Architects classifies historic landscapes into three groups. The first are natural formations such as cliffs, canyons, waterfalls, and other features that are unmarked by human intervention. Examples can be found throughout national and state park systems. Next are the designed landscapes which exhibit a high degree of interaction between natural and man-made features. The third type are called cultural landscapes, and these result from vernacular use, when a significant component of man-made structures interact with their natural setting and this inter-relationship is essential (Murtagh, 1997).

Murtagh describes Hanalei Valley as an example of a cultural landscape.

In this lush green landscape, human habitation has left its mark from the earliest period of Polynesian settlement to the ethnic farmers of today. The spectacular mountains, beaches and fertile valley floor of Hanalei are dotted with simple buildings that recall various stages of its history: sugar cane and coffee plantations, cattle ranches, missions and the villages of fisherman and farmers of Chinese, Japanese, Portuguese, Filipino, Korean and Spanish ancestry...

In Hanalei, an enormous amount of open land, much of it worked by man, contrasts with a small number of built resources, but the history of human occupation had a major impact, despite the absence of "important" architecture. Here, the balance and tension between man and nature over time have contributed to the valley's identity, making it primarily a historic rather than a conservation landscape. (Murtagh, 2003: 126-7)

A specific movement for saving historic roads started in the mid-nineties. Early projects targeted for cultural and landscape preservation included Rock Creek and Potomac Parkways in Washington DC and Connecticut's Merritt Parkway (Birnbaum, 1993). The National Trust started a Rural Heritage Program with the National Endowment for the Arts, and the FHWA partially funded the Historic Transportation Corridors Conference in Los Angeles in 1998.

The National Scenic Byways Program, created under the U.S. Secretary of Transportation, includes a process for nominating roads with outstanding scenic, historic, recreational, cultural, archeological and/or natural qualities. Since the All-American Roads and Scenic Byways were first designated in 1996, there have been 126 roads so designated (Marriott, 2004).

Marriott explains the types of historic roads that exist:



- Aesthetic: Designed for scenic enjoyment, leisure, recreation or commemoration
- Engineered: Designed for efficient movement, ease of access, to produce links, such as between farm and market. Examples include transcontinental highways, turnpikes and toll roads.
- Cultural: Traditional routes, often evolved from early trails or passages, and exhibiting multiple historic periods.

The philosophy which CSD, historic preservation of cultural landscapes, and sensitive roadway design have in common is best summarized by Hiss as he describes preserving the Connecticut River Valley, “To incorporate the public value of a place into land use decisions, you have to re-establish peoples own sense of connectedness.” The best and most enduring preservation comes from fostering a sense of love and respect for the land. This involves education, awareness and responsibility. Love and respect for the land is our starting point for the Kuhio Highway Case Study which follows.

## PART TWO: SAVING KUHIO HIGHWAY, A CASE STUDY

This is the case study of a rural community on the north shore of the island of Kauai in the State of Hawaii and how it fought to keep its main road unchanged. The road's official name is Kuhio Highway Route 560, but it is generally known as Hanalei Road. It is a ten mile stretch from Hanalei to Haena/Ke'e Beach. It runs along the coastline through a series of valleys whose scenery is described as among the most spectacular, breathtaking and inspirational landscape environments anywhere.

Local residents concern about the road was most active in two periods. The first period, roughly 1975-1989 came in response to a high profile threat, the proposed replacement of Hanalei Bridge. The response to that threat brought the community together in an unprecedented series of activities to preserve their culture, lifestyle and its symbols. Between 1984 and 1995 there was a lull in activity regarding the road and bridges, as the community turned itself to address other threats surrounding the Hanalei River and Bay.

The road was never far from anyone's mind, after all, they drove across it daily. Watching the deterioration of the Hanalei Bridge due to neglect and a 1992 hurricane, the community reactivated itself from 1995 on to today. This time their intent was to create an enforceable long-term management plan. The first period of activism and the "hiatus" period are briefly described in the History section below. The second period of activism resumed between 1999-2005 and was focused on preparing a long-term management strategy to preserve the road in its current configuration. The Plan was prepared using a context sensitive design approach.

The story in the case study pivots on a series of people who were in a position to make a difference and, having been inspired by the resource, were willing to act and by so doing, did make a difference. The case study concludes with observations and lessons learned.

### Appreciating the Context – Living in an Awesome Natural Setting

The Hanalei area is celebrated for its combination of stunning natural beauty and slow-paced rural lifestyle. Farming, horses grazing at roadside, ocean recreation, fishing on the banks, sweeping views of the mountain range and coastline alike, the graceful curve of the bay, bordering houses are all elements of the experience which transmits a sense of identity. The scale is inviting, with the man-made elements humbly nestled into the dramatic cliffs, mountains and beaches. Preservation of this amazing resource requires addressing the detail of individual elements as well as the combined effect and context.

The Kuhio Highway is Route 56. The sub-section of interest here is Route 560 which starts after Princeville. Once a ranch, Princeville is now a major resort destination, located on a plateau overlooking both the Pacific Ocean, Hanalei Bay and the coastline. During the first half mile of zig-zag switchback descent, it is quickly evident you are entering a special place. The taro fields and mountains are laid out before your eyes. At the bottom is the winding Hanalei River, usually a gentle ribbon, but prone to flooding at this stretch of road along the river, especially at the low-lying bamboo patch. When the road was built, a Pratt truss bridge was erected in 1912 to replace the short cable ferry crossing. The Hanalei Bridge is one lane and you quickly notice things are

CULTURAL LANDSCAPE



Several hundred acres of taro fields (lo'i) on the fertile plain are irrigated by the Hanalei and other rivers.

The Waioli Mission district, including a church mission house, meeting house, cemetery and other features in a park setting.



The ancient rock walls and agriculture terraces and heeiau (ancient Hawaiian temple) at Limahuli.

different here – either someone is waiting for you to cross first, or they have started and you must wait. Either way does not seem to matter. Albert Wilcox is often quoted as saying “If you didn’t come to Hanalei to go slow, why did you come at all?”(7).

From Hanalei Bridge, you travel along the Hanalei River through six land divisions (ahupua’a), whose features are still apparent: complex irrigation systems (‘auwai), taro fields (lo’i), and grazing pastures. In parts, it seems as if time has stood still. Two miles after the bridge, you reach Hanalei Town, an active commercial and residential area with plenty of shops and restaurants. Beautiful crescent-shaped Hanalei Bay rests a few streets behind the shops.

After leaving the town of Hanalei, the road becomes increasingly narrow and rural. You pass through grazing lands on the mountain (mauka) side, peeping through trees to the shoreline on the ocean (makai) side and past several seemingly deserted white sand beaches.

After passing through Waipa and Wainiha, you reach the end of the road. There is a surprising confluence of interesting settings. Limahuli Garden is an in-tact set of ancient rock walls and agriculture heeiau running deep into the valley. Two large caves with standing water sit at the edge of the road. Next is Haena State Park, which is the entrance to the trails along the Na Pali Cliffs. Finally, there is Ke’e Beach, the perfect setting for a swim or to take in a sunset.

There is no alternate route. Any road off of Kuhio Highway is dead end. Given this, the road has done a remarkable job of handling increased traffic volumes. The one-lane bridges deserve special mention. Each is posted with both a YIELD sign, the weight limit and speed limit. There is a STOP bar ten or more feet back from the bridge. Driving etiquette (and safety) calls for stopping at the stop bar and not proceeding until any cars in progress from the opposite direction have completed their crossing. When cars are in a pack, etiquette calls for allowing 4-5 to cross and the rest to wait until 4-5 from the opposite direction have crossed. Once having crossed, a wave, smile or other sign heightens the sense of a shared and friendly experience.

The one-lane bridges are critical to the road experience, for they maintain the sense of scale, speed and size of vehicles allowed. For similar reasons, the narrow (4’) shoulders, with grass rather than asphalt paving, are critical to maintaining slower speeds and courtesy on the road. The cutting back of vegetation to ensure view planes, the use of natural materials for guardrail protection along steep slopes, and care not to create an overabundance of signs are all important details to preserving a calm, consistent, and safe experience.

### The Use of Historic Preservation Tools

The tools of historic preservation have always been used effectively in Hanalei where residents have a long history of involvement. They were assisted in using many of the tools made available in the National Historic Preservation Program (1966) by Barnes Riznik, Director of Waioli Mission House Museum and Grove Farm Museum. The Waioli Mission House District in Hanalei was nominated to and placed on the National Register of Historic Places in 1973. Staff from the Historic Architecture and Engineering Record (HAER) visited to make drawings. The President’s Advisory Committee on Historic Preservation and staff from the National Trust

## ONE LANE BRIDGES



Hanalei Bridge (1912) is a Warren truss bridge strengthened by a Pratt truss in 1967 and replicated in 2003. It was been the central rallying point for preservation.



Waikoko “Falling In” Bridge was partially collapsed in a 1946 tidal wave. It was left in place and filled in to road level, leaving an interesting appearance.



Entering a one-lane bridge requires following the driving etiquette to stop and yield before proceeding. It also sends a message that there is something special ahead, go slow.



Crossing Limahuli stream going into Haena State Park there is a short, concrete span with no parapets on the side, another place to take precaution.



Wainiha Bridge #3 is due for replacement along with Bridges #1 and #2. If CSD is followed, it will be replaced in kind in the same alignment.



Manoa ford – built in a low-lying section of Manoa Stream and designed for water to cross at road level. Rarely built today, crossing nevertheless adds to the special experience.

visited in 1979 and again in 1986. Their reports lent weight to the historic national significance of the landscape and many of its sub features

In all, ten properties were placed on the National Register: Hanalei Bridge, Hanalei Pier, Haraguchi Rice Mill, Lihue Hongwanji, Waioli Mission District, Mahamoku, A.S. Wilcox House, Baldwin Beach Cottage and the old Hanalei School. The Hanalei River was named an American Heritage River, one of only fourteen (8). As for the road, Hanalei Bridge and two reinforced concrete bridges in Waioli and Waipa determined as “eligible” for the Register in 1978. Most recently, the HRC raised funds and hired historian Dawn Duensing to write the nomination for the entire Kuhio Highway Route 560 and it was accepted onto the National Register in 2004.

### History of the Community’s Efforts Against Inappropriate Development and Change

Around the turn of the twentieth century, “belt roads” were built on the populated islands of Hawaii to help circumnavigate the shorelines. As is true of most roads of the time, these generally followed the indigenous footpaths, which later became horse paths, then were widened to accommodate the automobile. Bridges were built over streams that used to be forded in low water, or in the case of Hanalei River, by barge. Because the island centers are made up of steep mountains, the habitable lands are on the floors of valleys formed by the rivers coming down from the mountains. The Hawaiians practiced a system of land management that used as its base a land division known as ahupua’a, which provided the population within the ahupua’a subsistence access to mountain hunting, agriculture lands, water rights and fish gathering. Kauai’s Belt Highway, Kuhio Highway, was built in 1910 under the supervision of County Engineer J. H. Moragne.

If you stay any amount of time at all in the area, you learn that the Hanalei Bridge has been “saved” many times, from age, from nature and from the engineers at State DOT. In 1921 a flood cut a new channel in Wainiha, necessitating a new bridge. In 1946, a tidal wave damaged Waikoko Bridge, undermining the eastern abutment and causing it to sink at a 30 degree angle. It was left in place and filled to grade level. In 1957 a tidal wave and hurricane later in the same year destroyed the three bridges in Wainiha. And in 1967, the Lumahai Bridge collapsed.

In 1968, the County turned over the road to the State, which proceeded to build a Warren truss bridge around the original Pratt truss, to increase its load bearing capacity (one purpose was to be able to access the necessary road equipment to build a new full standard bridge at Lumahai). It was only a few years after statehood in 1959, and the DOT was eager to conform to national standards. At one time, DOT developed a plan for a two lane bridge in a new alignment touching off at Princeville, efficiently bypassing the zig-zag switchbacks and descending in a straight line down towards the taro fields. But by the time they released their plan and a draft EIS in 1974, the preferred alternative was a two lane bridge along the existing alignment. Still, that plan met with immediate and strenuous opposition.

Out of this threat and with the encouragement of DOT Director E. Alvey Wright, the citizens formed the North Shore Belt Road Citizen Advisory Committee (NSBRCAC) which has been the coordinating point of community involvement for over thirty years (9). Throughout this time NSBRCAC members educated themselves, networked until they found national experts who

validated their preservation philosophy, and were persistent voices for their values and belief system. They learned and practiced the tools of historic preservation, of local planning and ultimately conquered the terminology of road and bridge engineering, which they combined with holding a collective community memory of promises and alternatives. They attended every public meeting, and they participated in mediation and conflict resolution efforts (10). In essence, they advocated for what has since become known as “context sensitive solutions and design.”

The journey to save the bridge took more than a decade, from 1974-1986. Contentious public meetings that followed the release of each EIS document. In 1984 the author was appointed Deputy Director of State Highways. I was young and outside the traditional DOT mold, trained as a city planner, moved to Hawaii from New England where historic preservation was taken for granted (comparatively speaking). I was alarmed at the number of DOT efforts that were contentious and stalemated, a situation that everyone else seemed to think was inevitable. I ultimately coaxed DOT into a mediation run by the Neighborhood Justice Center (11).

Three agreements came out of the mediation: 1) A technical look would be made of actual accidents by location; 2) An historic bridge expert, Abba Lichtenstein, would assess the condition of the bridge; and 3) Maintenance and repair plans would use historic preservation approaches wherever possible. With these agreements in place, the DOT proceeded to repair the Hanalei bridge, under the design and supervision of Lichtenstein.

While the effort might have concentrated on the bridge, it was really the entire road and its setting that concerned us. All the one lane bridges, culvert and ford were the context. While mostly unstated, had the bridges been widened and strengthened to accept vehicle weights higher than that of a twelve passenger van, the setting would be unsustainably compromised.

#### Interim Period, 1987-95

Comforted by the repairs to the bridge, the community turned its attention to other critical battles brought on by a changing economy and population base. Between 1987 and 1995, the community was in “mortal combat,” according to Carol. The most contentious battles centered on the Hanalei Pier and Bay, the threat of a hydro-electric plant being built along the Hanalei River and elsewhere on Kauai, the potential demolition of Hanalei Pier and commercial boat rules. Mina Morita surfaced as a thoughtful voice and eventual leader. Carol Wilcox was living in Honolulu, getting a certificate in historic preservation at UH during which time she wrote and published what has become the definitive work on plantation ditches and water distribution.

Barbara Robeson was working with Beryl Blaich on the Hanalei Project, a multi-faceted effort with an emphasis on historic recording and education (12). The “Cultural Resource Management Plan” (1988) surveyed and recorded all pre-1940 structures and archeological resources in Hanalei, covering 2200 acres (32 square miles), 396 taro lo’i, 81 historic structures and three irrigation systems. The Hanalei Project also produced a “Design Guideline Handbook” (1988), two community newsletters, and later two history tabloids. This important cultural landscape and planning work would become a critical precursor to the CSD plan.



For ten years little additional maintenance was done to the bridge or the road and it showed. Chicken wire covered the bridge to catch falling pieces of rust. This is where the base story of our case study begins.

### Renewal of Activism About the Road

In 1995 the community started meeting again. Barbara and Carol continued as a team. Barbara, a highly respected community leader, planner and activist is the clear on-site local leader. Her meticulous archiving of records, coupled with a no-nonsense “just the facts, Ma’m, just the facts” approach meant she was deferred to on details by all parties, a role she played willingly while expressing characteristic modesty wondering why everyone didn’t do their homework. Carol, living in Honolulu, was well situated close to the seat of government power and finance. While Barbara could call on Steve Kyono regularly, Carol could call on legislators and the appointed Directors and Deputies at DOT. When necessary, they could ask for assistance from Mary Moragne Cooke, the granddaughter of the roads original builder. Mary was a member of the National Trust, which gave her presence and contacts. She also had broad local political contacts and influence which she exercised with her notable wide grin and bottomless charm(13).

As a team, Carol and Barbara with the help of Mary and others stayed in touch with the national scene in historic preservation and engineering and that is how most of the excellent subconsultants were identified and brought on board. They also kept connections with groups on Maui and Hawaii Island who were interested in similar issues of preserving historic and scenic roads.

NSBRCAC was reformulated with new members and changed its name to Hanalei Roads Committee (HRC). After years of active involvement in land use and other conflicts, the community had fully come of age in speaking its own mind. They were appalled at the cost of consultant studies, they readily challenged official statements with their own researched knowledge. They held DOT officials accountable for their actions, large and small and for incorporating key community values. They had built a solid wall of historic property protections, and more tools were becoming available to them from a national interest in historic and scenic roads.

The community activist wanted things to be seen as a whole, not just in parts. It was not enough to just save Hanalei Bridge. The ten-mile length of road contains ten bridges (nine are one lane). Parts of the road are subject to periodic flooding, even to the impact of tsunamis. The roadsides and cliffs are prone to erosion. Whenever a road section needed repair, they wanted it done in a style that replicated what was already there in order to preserve continuity (i.e. context-sensitive). Similar realization of the importance of the whole had come within the national preservation movement as well: that element and its context are intertwined. The road from Hanalei to Haena exhibited both significance and integrity, but they were fragile. The community did not want to keep fighting battles one by one each year. They sought a context for decision-making, a setting where basic principles were understood and agreed upon by all parties.

For its part, the DOT was also weary of fighting with communities around the islands regarding the appropriate scale, alignment and nature of its projects. But they were still reluctant and



feared being negligent in their duties and responsibilities if they did not strictly adhere to the highest AASHTO standards.

### The Process of Preparing a Historic Roadway Corridor Plan that was Context Sensitive

With both sides interested in a long-term set of policies that would eliminate regular skirmishing, Carol Wilcox approached the then highway chief, Perry Manthos. Manthos wanted a 25-year comprehensive plan. Even with such agreement, the journey towards creation of a HCP was slow in getting started. Carol and Barbara drafted the original scope of work and presented it to the DOT but not much seemed to be happening. This was due in part to a high degree of turnover at the upper levels of DOT (14).

Finally after several years of waiting, in 2000, the DOT hired Belt Collins, with Mason Architects, to prepare the 25-year comprehensive plan. The consultants initiated two years of survey and inventory work, but the deliverables were reading like engineering, not preservation plans. After the frustration of the long wait, the community leaders were rightfully upset, impatient and considered their options. At a public meeting, they let DOT and its consultants know they wanted and felt they had been promised a preservation plan. One participant said he did not know whether to laugh or scream, it was so far off the mark.

DOT got the message, a credit to Steve Kyono's heightened sensitivity. The consultant team was reconfigured, adding Abba Lichtenstein, who was known and trusted by both sides. Also added was Dan Marriott of the National Trust Rural Heritage Program who was known to Mary Cooke, herself a member of the National Trust and Moragne's grand-daughter. Both of the national experts were accepted by both sides, putting the planning work back on track.

The newly configured team also included Barbara Shidler, who had worked on the Hana Road's one-lane bridges, part of Maui's belt highway; and Dawn Duensing who has also worked on Hana Road, and who wrote the scenic and cultural context and prepared the forms for Kuhio Highway to be placed on the State and National Registers of Historic Places. While hired by Belt Collins, Duensing's role was a minor controversy. She had also been hired by the HRC to write the nomination, a nomination DOT opposed. The final addition to the consultant team was Bill Tam, a natural resource lawyer with the Honolulu law firm Alston, Floyd & Hunt (15).

The course was not always a smooth one. It was interrupted by two things that tested everyone's mettle and had the potential to threaten the integrity of the coordinated process. One was the effort of the Kauai District DOT Maintenance group to install new steel W-shaped guardrails at the lookout over Lumahai Beach and various locations along the road. The community was totally against the style, feeling that reinforced wood was better. Kyono agreed to paint the steel brown, but did not relent on the style, saying they had already been ordered and paid for and would not be changed until the next replacement cycle. The HRC position was that an SMA permit had to be issued by the County under Chapter 343. They were disappointed when the Kauai Planning Director "caved" to his state peers and issued the permit without a hearing.

The other area of tension was the community's nomination of the road to the National Register. Hana Road, also owned by the DOT had been accepted in 2003. The Honolulu headquarters of

## VARIETY OF SCENERY



Driving along the road, there are numerous opportunities for long vistas of the scenery ahead.



This aerial view looks down upon the crescent shaped Hanalei Bay and onward towards the steep Na Pali mountains.



The town of Hanalei hosts numerous shops and eateries and is a popular stopping point to people-watch. The town area needs traffic calming features to protect the frequent crossings of the street.



This view looks down towards the wildlife preserve from Princeville.



Cave at the Haena end of the road.

DOT strenuously opposed the Kuhio Highway nomination, but it was recommended for inclusion by both the County and the State SHPO. Final acceptance was granted in February 2004. With this designation, everyone knew the pendulum had swung in favor of a preservation plan.

Other things did bring the DOT and the community closer together. The Pratt truss of the Hanalei Bridge was totally replicated member by member in 2003. The dedication ceremony brought the community, DOT, consultants and elected officials together in celebration. Carol Wilcox spoke at the ceremony of the long history towards preservation and the large number of persons deserving credit. The replication received numerous professional awards (16).

In addition, the State DOT, upon the recommendation of Herb Lee, the consultant team specialist in community involvement, formed a fifteen-member Community Advisory Committee, with the objective of writing an acceptable Corridor Management Plan. The members included Steve Kyono (Kauai District Engineer), Ladye Martin (County DPW); community members Mary Cooke, Mamo Cummings, Rodney Haraguchi, Michael Loo, Ed Matsukawa, Barbara Robeson, Robin Simpson, Glen Takanouchi, Carol Wilcox and Naomi Yokotake. By all accounts, the Committee was successful. It met four times during 2004, facilitated by Herb Lee. The workshop format suited the hands-on style of participants. At the first meeting in March, the special advisors gave their reports: Shidler on the history of Kuhio Highway; Lichtenstein on the results of his latest bridge assessment; Marriott on historic road programs nationwide. The Committee then worked on its vision for Kuhio Highway preservation, its challenges and issues.

One of the concerns was that there be an emergency plan in case one of the bridges fell down in a storm, that it be pre-agreed how it would be replaced in kind. By writing a maintenance and landscaping plan, the fabric, scale and aesthetic value of the road could be kept in tact. The community was interested in better pedestrian safety, and in looking at acceptable guardrail alternatives to the ubiquitous steel W. The community also wanted the road to be designated as a “shared roadway” for pedestrians, bicyclists and auto traffic.

At the second meeting in May 2004 the Community Advisory Committee members continued their discussion of design guidelines. Other safety issues were raised and discussed by the community, such as adequate load bearing for fire and police equipment and better means of educating drivers on etiquette at the one-lane bridges. Liability issues were addressed by Bill Tam who attended the third CAC meeting. The approach taken by Tam was, “this is possible, there is a way,” and this too became a turning point. Up until then, liability had been a major sticking point impeding progress agreeing on details in the plan. Tam’s common sense approach was reassuring. All sides seemed comfortable continuing with preparation of a Preliminary Plan, which was then finalized at the fourth and final meeting. The plan was then ready for a public meeting.

Community members of the CAC, and members of the general public were complimentary of the “complete turnaround.” With that blessing, the Draft Plan was turned into a Final Plan and accepted by Steve Kyono, Kauai DOT District Engineer. The turnaround was most likely heavily influenced by a growing understanding of CSD. Joe Vierra, Koyama’s superior at Belt Collins, joined Barbara, Dawn Duensing at the 2004 Preserving Historic Roads Conference in Portland,

Oregon and Steve Kyono attended a mainland CSS conference. HRC regularly shared printed material with DOT and the community in a Roads Newsletter (with printing and postage paid from their own pockets).

The consultants involved, including those with a national perspective on CSD, feel that the end product is a good document. It is practical and flexible. As Lichtenstein states, “this document will help open the dialogue to solutions.” As the first of its kind in Hawaii, it sets the pace and a very good one at that.

### Content of the Historic Roadway Corridor Plan

The CAC started with a review of the Community Mission Statement: “HRC advocates preservation of the pace and scale of the Hanalei heritage, protection of rural, environmental and scenic values, and continued safety and convenience for present and future generations.” Several characteristics and treatments were deemed worthy of preservation:

- Keep the one lane bridges, crossings and culverts
- Keep the two lane road, maximum 8’ lanes, 4’ shoulder
- Maintain existing culvert widths for traffic calming purposes
- Guardrails should replicate the existing, metal backed timber guardrails.
- Replicate culverts, rock walls when they need repair
- Develop rural sign standards
- Maintain and expand view planes and the five lookouts
- Educate drivers on bridge courtesy
- Add no curbing and remove the existing curbing in Hanalei town. Grass shoulders.
- No buses greater than 12 passenger capacity
- Vegetation control using BMP
- No realignments.

The plan, while brief, addressed each of these, primarily the way the community felt would fit the context. Also included were suggestions from Dan Marriott regarding ways to create continuity in the driving experience, having a community group adopt the highway for proper maintenance, and designing entrance signage.

### The Passage of State Legislation Mandating Flexible Design Standards

For several years, interest in historic roads had been growing around the state. In May 1999, Historic Hawaii Foundation under David Scott, held a statewide historic preservation conference in Kona, Hawaii with heritage corridor development and scenic highways under discussion. The Hawaii Heritage Roads Alliance emerged with representatives from Hana, Maui; Hamakua and Kona, Hawaii; West Kauai and Hanalei. Historic Hawaii Foundation 200 conference had a special workshop on road preservation with Dan Marriott as a guest speaker. Marriott took a side trip to Hanalei and provided the community with advice on its national significance.

Maui was moving forward, blazing the trail. In 2000, the Road to Hana was honored as a Millenium Legacy Trail. In 2001 Hana Road was nominated to the National Register. In 2002,

the Alliance for the Heritage of East Maui launched a Heritage Area Feasibility Study for East Maui, with Wilson Okamoto as the consultant. But the State DOT was out of step. A State House resolution encouraging the DOT to identify, protect and enhance Hawaii's scenic roads was vetoed by the Governor upon the advice of Dot Director Hiyashida who argued it was not needed. In 2000, scenic highway legislation passed the House, but was killed in the Senate, again upon the recommendation of the new DOT Director Minaii.

2005 was to be the year that made the difference on the legislative side. Senator Russell Kokuban introduced legislation to institutionalize flexible design standards and this championed by Representative Mina Morita in the House. The act that passed was watershed policy legislation addressing flexible highway design and mandating that the SDOT develop guidelines. It called on the State Department of Transportation to:

- Create a process for weighing community traditions, values and practices, environmental, aesthetic and social impacts with safety, financial, political, social and economic policy.
- Highway design choice that...”provides a consistent driving experience and includes reasonable notice to highway users”
- Require documentation of the process and reasoning leading to flexible design decision, including...circumstances, choices available, considerations reviewed and an explanation of the decision
- Incorporate qualitative and safety studies

These and other wording in the bill came directly from the memos prepared by Bill Tam and Dan Marriott. Rep. Mina Morita whose district had previously encompassed both Hana Highway in Maui and Kuhio Highway in Kauai found strong support from neighbor island representatives. The bill moved on to conference committee. There, the DOT, which has previously testified that the bill was unnecessary because “they already had the authority and were already doing it,” hardened their position to being opposed to the measure on the basis of liability.

Hawaii's State Capital Building is designed with offices and meeting rooms on the perimeter and four open air corridors surrounding and overlooking a large courtyard. It is the habit of legislators, citizens, and lobbyists alike to hang over “the railing” to debate issues and such. There is plenty of wait time involved with the legislative process and lots of time for socializing and politics. During one break in a conference session, a critical group gathered at the rail, Carol Wilcox; Mina Morita; Bruce Matsui, a DOT Deputy; Bob Toyofuku, lobbyist for the Trial Lawyers Association; and most critically since the subject was liability, Mark Bennet, State Attorney General, waiting nearby on another matter. The tort liability implications of the bill were being discussed in light of the Taylor-Rice case (17). Toyofuku, who had spent some childhood time fishing in Hanalei, was sensitive to the rural and special nature of the community, felt that Taylor-Rice was not a precedent. Mark Bennett, suggested that the solution might be to hold that no one could bring action against the state for using historic guidelines prepared pursuant to a plan. This idea became the key to agreement.

With the new language, the bill passed the both House and Senate and was on its way to the Governor's desk. The language read:

“Any other law to the contrary notwithstanding, the following parties shall be immune from liability for personal injury, death or property damage in any accident arising out of the decision to elect or apply flexibility in highway design pursuant to this section and consistent with the practices used by FHWA and AASHTO:

- 1) the state
- 2) the DOT
- 3) the counties
- 4) any public utility ...that places its facilities in the highway right of way
- 5) any officer, employee or agent of an entity listed”

The DOT Director was charged with establishing flexible design guidelines before June 30, 2006, and further to establish a process for five highways: 1) Hana Highway, east Maui; 2) Hanalei in North Kauai; 3) Hamakua-Honokaa, island of Hawaii; 4) Upper Kona Road; 5) Ka Iwi coast highway, east Oahu.

Through staff error, the final language on liability was not what had been agreed upon. That and DOT’s opposition testimony gave supporters concern about a possible veto. Mary Cooke was called in and she elicited a commitment from Governor Lingle to sign the bill into law. This was done with the understanding that technical corrections would be taken up at the 2006 session.

Representative Mina Morita, who had a year earlier thought it was impossible to pass such legislation, after being at loggerheads with the previous DOT Director and state administration, was thrilled. She worked hard to keep the momentum moving forward by working with Bill Tam to write the amendments so that they could not be interpreted to extend the types of discretionary acts to which it applied. As of March 2006, the amended language was moving toward passage.

### Next Steps

According to the experts, and the community agrees, the three Wainiha Bridges need to be replaced. This becomes the first test of the Historic Corridor Plan, to ensure that the CSD context and process are followed. Barbara Robeson lives in the last house before Bridges #2 and #3. She and others have been meeting with DOT, Herb Lee and the design consultant, M&E, to make sure this occurs. According to Barbara, the new bridges “should look and sound the same as they do now.”

Progress towards writing the guidelines by June 2006 has not moved as quickly as was hoped. After SB 1876 passed, DOT formed an internal Task Force, and put Ross Hironaka of the design branch in charge. DOT staff felt they needed more widespread understanding of Context Sensitive Design. In August 2005, FHWA (through LTAP) sponsored a two-day training session attended by a couple dozen state and county highway officials. The training was given by CH2Mhill.

But Hironaka explains, “CSD is about more than staff training, someone needs to manage expectations. There is no magic, and it’s not a free for all. There are limits. And they must have the support of top administration.” Hironaka has concerns that everyone does not have the same

expectations; that some think the Task Force will write all new design standards for Hawaii (it will not). After attending both the 2005 AASHTO Conference on CSD in Minneapolis and the 2006 TRB sessions on CSD, Ross feels the objective should be to “figure out how to work within the AASHTO flexible guidelines, albeit at the low end.”

Hironaka’s boss at the DOT is Brennon Morioka who feels the objective of CSD is to “find a compromise everyone can buy into.” Himself an engineer, Brennon recognizes that it’s a matter of getting the department’s engineers to buy in. He feels there will be no problem getting support from those living in the five targeted rural areas. He reports that the long delayed creation of a Scenic Byways Program for Hawaii is back on track, with a consultant hired to identify a single corridor for each island.

These steps may be late in coming, but the structure is in place for Hawaii to achieve a level of protection for historic highways that they need and deserve. For the moment, the fragrance of possibility is in the air. Kauai is a remarkably resilient place. The island has suffered at the hands of mother nature over and over. As this paper is being written, Kauai was receiving record rainfall, attended by flooding, erosion, a dam break, washed out roads and loss of life. Speaking two weeks before the flooding started, Representative Morita tells me, “You cannot control mother nature, but some fixtures exacerbate things. This brings you face to face with the question of what you can and are willing to do. You have to look at the roads, courteous driving, and land use decisions as a system... You have to develop and perpetuate the sense of place in every act.”

### Observations and Lessons Learned from the Case Study

The case study interviews provided the opportunity for interviewees to step back and reflect on the process, their own role and that of others. Some of the lessons learned are from the expressions of these “fighters of the cause.” Others are derived from the collective stories and outcomes. While Hawaii does not yet have a formal CSD program, this is the first instance where CDS-style approach was used, so in this way it is a useful reference.

### Lessons Learned About Context Sensitive Design – Place

- 1) CSD will be appropriate anywhere that there is love and respect for the land (Aina is the Hawaiian word). Capturing the emotion and feeling towards a place is a big concept. Every person actively involved in the Hanalei Case did so after having been moved, even overwhelmed, by the place and developing a personal sense of responsibility towards protecting it. As Carol Wilcox says, “the venue is worth it.”
- 2) The Hanalei Project in the mid eighties was all about place and landscape. It documented the enormous range and quantity of historical features that they were living amongst.
- 3) Historic designations repeatedly validated that these features had not only local, but national significance, for example, the Hanalei River. Its designation as an American Heritage River, one of only fourteen was not just for the water, but for the entire landscaping surrounding it.

The adjacent US Fish & Wildlife Refuge is managed in part by preserving the taro fields in active cultivation.

- 4) The venue makes its own case. Because of that, there is no substitute for a site visit. The mountains are so high that you cannot draw in the sight without looking up and down and sideways. No words, no camera can capture the layers of sights, sounds and taste that bombard the senses not only on the first visit but in every subsequent visit as well.
- 5) Everyone must trust each other and learn how to compromise for the sake of the environment. CSD is about seeking creative solutions that both respect local heritage and provide a safe facility. Peter Apo's words are especially inspiring on this point. Peter was once the legislator representing this area and he has since gone on to champion the cause of keeping Hawaiian values and culture central to the visitor/tourist experience. He currently serves as the President of Historic Hawaii Foundation.

Apo says "there must be sacred places with a long range sense of predictability and protection. We need growth with dignity. These sacred places must be protected as part of our values and quality of life. We are so small, we cannot afford mistakes." Sacred places is half of what is needed, according to Apo, the other half is to create an "inclusive process for consultation and protection, coupled with the development of skill sets in people who run meetings, skills to shape agreement." If you have special place approach, everything can be decided within that context.

#### Lesson Learned about Context Sensitive Design – Community

- 6) The starting point for CSD is for the community to become interested and engaged. While it is true that CSD is new and evolving, by definition every CSD situation has its own set of circumstances and players, which is the essence of the term context. The starting point is an interested community wanting to become involved. It is community driven. As Barbara Shidler put it, "the bureaucracy won't do it on their own. It takes people pushing."

The HRC was certainly a unique and talented group of individuals, who gave generously of their time (and sometimes their money as well) and who grew with each encounter. Carol Wilcox, who was with it from the start to present became an author, certified historic preservationist, and expert on plantation ditches along the way, adding to her many other talents. Barbara Robeson has the community's respect as a hardworking, highly professional community leader and volunteer and had a trained eye for cataloging information and retrieving it at just the right moment. Beryl Blaich moved to Honolulu for a period and received a masters in city planning. These are people with a deep respect and appreciation for history, and the skills to do something about it. They were also good friends. Their committed idealism and the idyllic setting were a powerful combination that created the opportunity to have extraordinary influence which would have been further enhanced if a CSD policy were in place.

- 7) There was broad support for the community position favoring preservation. Periodic surveys confirmed that preservation was among the highest community values. Again, due to the



specialness of the venue, this went beyond NIMBYism. This commitment reflected the responsibility of one generation for another.

Elected officials from the Congressional delegation, to Governors and State representatives, to local officials were broadly supportive of the preservation efforts, and when called upon did their part with funding and other assistance. As new situations presented themselves, everyone evolved together.

- 8) The community needs to give respect and trust and expect it in return. Communication, not confrontation. In the words of Carol Wilcox, the two roads committees “always treated government officials with respect. When we disagreed, we did so by giving them information [supporting their position] and did so privately.” The group always tried to listen so they understood the officials reasons or concerns so that in turn they could be addressed. It is a mark of these particular individuals to exert pressure without offending. Barnes Riznik describes Carol’s “quiet tenacity...that draws you in.” The Roads Committee never proceeded by suing, which would have created an adversarial relationship and set them back.
- 9) Community needs to learn and use the tools of good planning and preservation, creating an overall program for protection and always, educating people on what you are doing and why. According to Barbara Robeson, they “didn’t want to be reacting the rest of our lives. So we turned to planning.” Crisis management was to be avoided.
- 10) The community needs to create connections. When I started this work, Carol Wilcox said to me, “It’s all about relationships.” This proved true over and over. People to people relationships became organizational partnerships. There becomes strength in numbers and an exchange of good ideas.

The HRC has a remarkable network. The local connections were used to put preservation wording into the County General Plan and Development Plans. The connections to counties on other islands helped when they went to the Legislature for funding or policy. The connections at the national level identified much needed expertise, credentials, moral support and new ideas to support their cause.

A second type of connection is to place, the land, the aina. Growth and development occur everywhere, sometimes too rapidly. This is felt acutely on an island. With growth comes change and the introduction of different values until you become less connected with your area’s past. Brian Hennessey used the simple analogy of the YIELD sign which is found at all the one lane bridges. The progression of roadway features, such as guardrails, stone walls, shoulder width, must not encourage a sense of higher speed so that people only want to go across the bridge fast. Brian says, “YIELD must not become a foreign word.” Nowhere is this more poignant than the sense of connectedness you feel when you drive(splash) across the Manoa ford. It would never be designed that way today, but the experience is priceless.

- 11) The community must be persistent and vigilant. This case study covers thirty years. Some people were involved from the start, new blood came in along the way, some moved away.

Having strong convictions helps. As Bob Schleck says, “If it’s right, it’s right.” Dan Marriott urges the community to “stick to your beliefs, you are usually right.”

Mina Morita felt that the CAC was like “the community doing the job of the professionals.” Perhaps, but with CSD there is a blurring of the lines as to whose job is whose, they become one and the same. It is the community’s job to communicate its values, to stay vigilant and to apply pressure when needed. Without this community’s aggression, there is no doubt things would have been different.

### Lessons Learned about Context Sensitive Design -- The State Department of Transportation.

12) An organization needs exceptional leaders. For sure, the DOT had a share of notable contributors, but the one singled out by everyone is Steve Kyono, Kauai District Engineer. It was Steve whom Carol or Barbara called first. They “held him accountable” and he acted accordingly. It was Kyono who was the leader, who stepped in and took personal responsibility to redirect things when they went off course. Myself, Perry Manthos, Steve Kyono all stepped in at critical moments. It is likely that there was additional sympathy from several Directors, who acted by not acting.

Kyono speaks about “having two ears and one mouth, act accordingly.” He eventually came to believe in the cause himself. Steve describes himself as having a “break-through” moment while playing golf with an FHWA buddy, Pat Pfung. They paused to look over the valley and said, “This IS special. We have to save it.” Pfung, along with another friend in Senator Inouye’s office, Aaron Leong, helped identify a strategy for getting the 100% federal funds from the landmark program that made possible the 2003 reconstruction of the Pratt truss of Hanalei Bridge.

13) The process developed by Herb Lee and followed by DOT and its consultant, Belt Collins, to develop and to shape agreements was inclusive and sensitive to place. While in the mid 80s, mediation had used used, mediation had an end point and was not ongoing. The CSD style could be repeated indefinitely, and it was satisfying to those involved, a sign of success. That agreement came quickly is probably due mostly to the maturity and previous experiences of the members.

14) Top level support is needed. Brennon Morioka, State Deputy Director, feels the department is moving in the right direction, that the administration at the top is pushing CSD. He acknowledges it is a big bureaucracy that moves slowly. Keeping high level officials focused and committed is critical for Ross Hironaka, Steve Kyono and other charged with developing an implementable CSD program. The staff fear that there is not consistency in expectations may be valid but it can be addressed through education. What is clear is that the community and the legislature will not let up their insistence to start CSD and to do it right, community by community.

15) Hawaii is the only state without an adopted scenic highway program (authorized in 1995) and is just starting to develop a CSD program. In the case of Scenic Byways and CSD, it seems these will only come about due to pushing from citizens and their elected officials. The

bureaucracy (and by extension their consultants) lack collective interest work through design exceptions or to develop totally new standards.

#### 16) Insist on Good Consultants

This project had a particularly stellar group of sub-consultants working on the HCP. They had credentials and expertise that engendered confidence to go outside the box. The word “trust” gets used over and over. Lichtenstein and Marriott are leaders in the national CSD movement.

Abba Lichtenstein is Director of Bridges & Canals for McMullan & Associates of Vienna, Virginia. He has more than 45 years of experience in the design, inspection and rating of bridges and helped develop national standards for inspection and rating through nondestructive testing techniques. Through twenty three years of managing his own firm and many years after that as a one man firm, he has made an enduring contribution to preservation and rehabilitation of historic bridge. Ohio State University established a chair in his name devoted to infrastructure and historic structures. Abba delivered the 2006 Thomas B. Deen Distinguished Lecture at the annual TRB meeting, using Hanalei Bridge as one of his proud examples.

Lichtenstein feels “CSD is a must, but it is also fraught with danger. The Secretary of Interior’s Guidelines are clear, you can recreate original conditions, but safety of the public must not be sacrificed, nor remedies be unsound or expensive.” He continues, “Safety is not negotiable, but the solution need not be painful, it can be pleasant.”

Dan Marriott is a principal in his own firm and holds a BS in Landscape Architecture and a Masters in Regional Planning from Cornell. He was Director of the Rural Heritage and Historic Roads at the National Trust for 11 years. He is author of two definitive books on road preservation and CSD. Marriott states that, “CSD has elevated awareness and given a green light to do the right thing. The weak spot is States ‘decorating’ projects with lighting, public art, wildflowers and calling it CSD. The bottom line is CONTENT, which means respecting and understanding the local character...When the project is done, it should look like the DOT was never there.”

Bill Tam’s work was frequently mentioned as a “turning point.” By taking the approach that things could be made to work, Tam felt it was his job to “ease people’s fears [about liability] so they could focus instead on good policy and planning.”

Herb Lee, the community involvement specialist, was a genuine asset to the planning team. He related to individuals in the community and they trusted him to be their advocate with DOT and the other consultants. According to Barbara Robeson, “Herb was accessible and made special visits at our request to meet and discuss issues.”

17) Staffing with training and expertise in historic preservation is needed within the DOT staff. This creates a climate in favor of preservation, continuity and less hit or miss with the design consultants. Similarly, training in facilitation and group processes would be helpful. Steve Kyono says, “Make working with the community business as usual.” Marriott says, “It is cheaper, wiser and more efficient to engage in meaningful dialogue and process early. Herb Lee says public involvement must be deliberative, “put yourself in the others seat.” Wise words.

LIST OF INTERVIEWS

<u>Name</u>	<u>Position</u>	<u>Date</u>	<u>Location</u>
Apo, Peter	Former State Representative Pres., Historic Hawaii Foundation	Feb 10, 2006	Honolulu
Blaich, Beryl	Resident, Ed Coordinator, Hanalei Project	Feb 25, 2006	Hanalei
Harano, Tets	(Ret) Chief, State Highways	Feb11, 2006	Honolulu
Hennessey, Brian	Resident, Civil Engineer Rep'd Morita on HRC and CAC	Feb 25, 2006	Hanalei, Kauai
Hironaka, Ross	SDOT, Design Branch	Feb 27, 2006	Honolulu
Koyama, Glen	Project Consultant, Belt Collins	Feb 7, 2006	Honolulu
Kyono, Steve	SDOT Kauai District Engineer	Jan 27, 2006	Lihue, Kauai
Lee, Herb	Project Consultant, Facilitator	Feb 28, 2006	Honolulu
Lichtenstein, Abba	Historic Bridge Consultant	Mar 5, 2006	E Mail
Marriott, Dan	Historic Roads Consultant	Feb 2006	E Mail
Morioka, Brennon	SDOT, Deputy Director	Feb 14, 2006	Honolulu
Morita, Mina	Resident and State Representative	Feb 23, 2006	State Capitol
Riznik, Barnes	(Ret) Waioli Museum Director	Jan 29, 2006	Lihue, Kauai
Robeson, Barbara	Resident NRBRCAC, HRC, CAC	Aug 13, 2005 Feb 25, 2006	Hanalei, Kauai Hanalei, Kauai
Schleck, Bob	Waioli Museum & Grove Farm Director	Jan 27, 2006	Lihue, Kauai
Shidler, Barbara	Historic Preservation Consultant Glen Mason Architects	Jan 12, 2006	Honolulu
Tam, William	Tort Liability consultant	Feb 16, 2006	Honolulu
Wilcox, Carol	Part time Resident NCBRCAC, HRC & CAC	Aug 13, 2005 Feb 16, 2006	Hanalei Honolulu

## NOTES ON METHODOLOGY FOR THE CASE STUDY

This case study followed the methodological guidelines for case studies set out by Robert Yin (2003) and Robert Stake (1995).

A literature search yielded several potential study questions regarding the practice of community involvement, conflict resolution, bureaucratic decision-making, and community sensitive solutions/design as a planning technique.

A detailed research protocol was prepared identifying case study questions, the theoretical framework, the unit of analysis and a data collection plan. The protocol was reviewed by William Chapman, University of Hawaii, Department of American Studies, Historic Preservation Program.

A total of 18 persons were interviewed for the case study. Those interviewed included seven community activists, four members of the State Department of Transportation and six project consultants. In addition, there were three weekend long site visits during the course of research.

A directed set of questions was prepared for each interview to assist with an orderly flow of discussion. Interviewees were given the questions at the beginning of the interview and then asked to speak on any item for as long as they wished. When they were finished speaking, reference was made to the questions listed and they were asked to continue their dialogue. Summary notes were prepared after each interview.

If new subject areas were uncovered in either the historic document research or the interviews, new interviewees were added and some were returned to for additional questions.

This methodology is nearly identical to that of Krista Schneider's excellent case study of Paris-Lexington (Kentucky) Historic Road(2003). That case study was prepared using Mark Francis' "Case Study Method in Landscape Architecture" (1997) prepared for the Landscape Architecture Foundation. The Hanalei case study methodology, like the Paris-Lexington case study, included archival research, literature reviews, site visits and personal interviews to construct a history, to identify the role of key participants, to explain planning goals and methods, and to enlighten the role of the political process.

## NOTES AND CITATIONS

1. This paper uses the term Context Sensitive Design (CSD) interchangeably with Context Sensitive Solutions (CSS) and Flexible Design Standards. While there are some subtle differences, CSD is the more widely used term.
2. The history of the federal aid highway program has been written in many places. One particularly useful account is that of Alan Altshuler and David Luberoff in their book Mega-Projects. Their account describes impacts to and reactions in the cities and the influence of NEPA Act, contributing to what they term an informal but nevertheless significant “Do No Harm” requirement imposed on project planners.
3. See Appendix A for the “Qualities of Excellence in Transportation Design” and for the “Characteristics of the Process That Will Yield Excellence.”
4. The CSS Resource Center is a collaboration of the Project for Public Spaces, Scenic America and FHWA in partnership with AASHTO, Institute of Traffic Engineers (ITE), National Park Service, and the National Association of City Transportation Officials (NACTO).
5. There are many excellent descriptions of the historic preservation program, including those of Murtagh (1997), Stipe (2003) and Marriott (2004).
6. We will see in the case study the role of Barnes Riznik, who was key to the advancement of preservation field nationally and in Hawaii. Before coming to Hawaii at the invitation of the Wilcox family, Riznik was Director of Sturbridge Village. As a member of the National Trust he attended all major national conferences on historic preservation. He had contacts with the most influential people in preservation at this time, and he used his knowledge and contacts on behalf of the Hanalei community.
7. Barnes Riznik provides this quote in Public Historian, Vol. II, No. 3 and it was repeated to me by Bob Schleck.
8. Designation came through the strong support of Vice President Al Gore, who was a frequent visitor to the area.
9. The original members were Carol Wilcox, Pam Dohrman, Imua Forward, Susan Wilson, and Doc Johnson. They created liaisons with Historic Hawaii Foundation, Kauai Community Research Group, Kauai Historical Society, Life of the Land, North Shore Improvements Committee, National Wildlife Service, Outdoor Circle, Sierra Club, Tumble-Tranch, Waioli Hui’ia Church and Waioli Mission House Museum (Bob Schleck, Curator and Barnes Riznik, Director). Later Beryl and Gary Blaich and Barbara Robeson joined the NSBR Citizen Advisory Committee.
10. One remarkable features about the people in the Hanalei Roads Committee (HRC) is the incredible amount of resource materials they have saved. For example, Carol Wilcox kept an album of newsclips for thirty years. Barnes Riznik, upon his departure from Kauai catalogued and left all his papers at the Kauai Historic Society. Barbara Robeson’s house is

completely filled with files from every period of time. She, a librarian by training, has appropriately catalogued and listed them for easy retrieval. Historic Hawaii Foundation gave Carol Wilcox and the North Shore Belt Road CAC and award for saving the Hanalei Bridge. In 2003 the Kauai County Council presented Carol Wilcox and Barbara Robeson with Historic Preservation Honor Awards.

11. This story is told in greater detail by Barnes Riznik in “Hanalei Bridge: A Catalyst for Rural Preservation” in The Public Historian Vol. II. No. 3 (1989): 45-67.
12. Funding was received from the Wallace Alexander Gerbode Foundation and the G.N. Wilcox Foundation and other private donations.
13. Mary Moragne Cooke was the leader of a separate battle during this time, successfully fighting off Hawaiian Electric Company power lines being placed on Wainiha Ridge in Manoa, Oahu. Her time also was taken up by the creation of a family trust to donate for a museum the magnificent home and heeiea on the property where she and husband Sam live. But she could be counted on when needed to make high level calls in support of issues surrounding Kuhio Highway.
14. Director Kazu Hayashida left around this time. More importantly, the key position of Highway Chief, held by Tets Harano for over thirty years, was filled by four persons over six years and a long period of vacancy. It has been filled since 2000 by Glen Yasui, formerly a FHWA Hawaii Division official.
15. As we see elsewhere, individuals keep appearing in different roles. Bill Tam, a former Peace Corp volunteer, for two years was a legal aid attorney on Kauai and knew the community. He then worked for twelve years in the State Attorney General’s office in the unit made up of attorneys for both the Departments of Land and Natural Resources and for Transportation.
16. In 2004, the reconstruction of the Pratt truss on Hanalei Bridge won several awards. DOT won the American Public Works Association “Historic Preservation Award for Projects Under \$2 million and Honorable Mention from FHWA/FTA/APA in the category of “Transportation and the Environment.” Consultant Wilson Okamoto won a “National Recognition in Engineering Excellence” award from American Consulting Engineers Council. A year later, ACEC gave an award to Belt Collins for the Historic Roadway Corridor Plan.
17. The Taylor-Rice Case was decided in 2002. It involved a drunk driver running off the road and hitting a guardrail and utility pole. He sued and won on the basis that the guardrail was too low. The State was determined to be 20% at fault for negligence, but ended paying the entire settlement due to deep pockets. This case occurred on the island of Kauai and overshadowed much of the work during the preparation of the Historic Corridor Plan.

## APPENDIX A: CONTEXT SENSITIVE DESIGN

Source: CSS Resource Web Page

### Qualities of Excellence in Transportation Design

- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- The project is a safe facility for both the user and the community.
- The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involved efficient and effective use of the resources (time, budget, community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

### Characteristics of the Process That Will Yield Excellence

- Communication with all stakeholders is open, honest, early, and continuous.
- A multidisciplinary team is established early, with disciplines based on the needs of the specific project, and with the inclusion of the public.
- A full range of stakeholders is involved with transportation officials in the scoping phase. The purposes of the project are clearly defined, and consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances. This process should examine multiple alternatives that will result in a consensus of approach methods.
- A commitment to the process from top agency officials and local leaders is secured.
- The public involvement process, which includes informal meetings, is tailored to the project.
- The landscape, the community, and valued resources are understood before engineering design is started.
- A full range of tools for communication about project alternatives is used (e.g. visualization).



APPENDIX B: CHRONOLOGY OF HANALEI ROAD, 1987-2005

1987	State repairs Hanalei Bridge
1983-98	Community addresses commercial boating issue, hydroelectric plant, possible destruction of Hanalei Pier
1991	ISTEA Federal legislation creates Enhancement Program
1995	Federal legislation creates Scenic Byways Program
1997-8	Federal activity to create flexible design standards
1997	Hanalei River named an American Heritage River
1992-9	Hanalei Bridge deteriorates, which combined with Hurricane Iniki damage (1992) becomes a hazard
1999	State DOT issues RFP to design a replication of the Pratt truss on Hanalei Bridge
1999	Historic Hawaii Foundation holds conference. Hawaii Heritage Roads Alliance emerges bringing together several groups with similar interest in roads
Dec 1999	State issues RFQ for a consultant to prepare a 25 year Plan
2000	Historic Hawaii Foundation holds a conference session on Roads Preservation. Dan Marriott attends, later visits Kauai
2000	Hana Road (Maui) named a Millenium Legacy Trail
2001	Hana Road added to National Register of Historic Places
2001	State contracts with Belt Collins, who hold several community meetings, but their work fails to mention Heritage planning, which upsets the community
2001	Hanalei Roads Committee hires Dawn Duensing to prepare national register forms for Hanalei Road
2002	Kuhio Highway placed on State Register; DOT objects to placement on National Register
2002	DOT proceeds with new guardrails. Petition for SMA hearing to object fails. Guardrails are classified repair and maintenance
2003	Dedication ceremony for Hanalei Bridge replication brings everyone together
2003	Carol Wilcox and Barbara Robeson receive lifetime achievement awards from Historic Hawaii Foundation and honors from the Kauai County Council
2004	Committee of 15 formed. Holds four meetings
2005	Historic Roadway Corridor Plan completed, accepted and released
2005	SB 1876 legislation requiring flexible design standards passes