

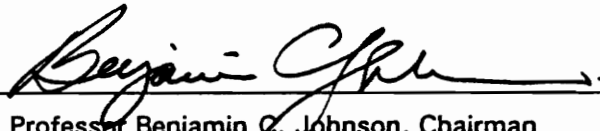
**Visual Management Model for Scenic Byways: Setting Priorities for Change**

by

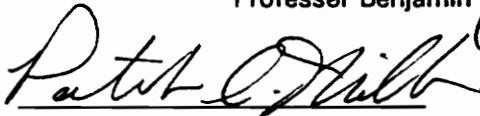
**Lynn Morgan Crafts**

Thesis submitted to the Faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of  
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in  
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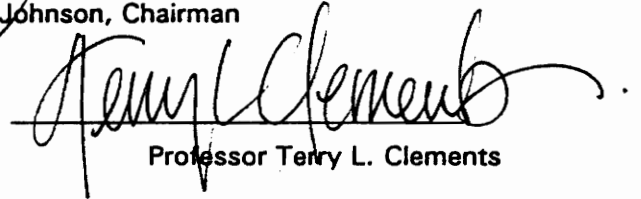
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**VISUAL MANAGEMENT MODEL FOR SCENIC BYWAYS:  
SETTING PRIORITIES FOR CHANGE**

by

Lynn Morgan Crafts

Committee Chairman: Benjamin C. Johnson

Landscape Architecture

Interest in scenic byways and their management is rising. The unique characteristics of scenic byways make these linear landscapes most vulnerable to the threats of development and change of the primary asset, the visual landscape. Identifying and coordinating the various people and areas of concern in the management and protection of resources within the scenic corridor requires a simple pro-active management tool that accommodates change. The intent of this project is to develop a management tool that can be used by communities to coordinate the protection of visual resources along scenic corridors.

By reviewing established federal visual assessment methods, along with more recent business approaches that accommodate change and involve stakeholders, a visual management model was developed. This pro-active model establishes priorities for development and change. Strengths, differences and short-comings of the approaches were identified. Criteria from both approaches were combined to introduce a new visual management model.

Key aspects of the new visual management model are: preservation of the existing quality of life in the area, involvement and service for all stakeholders, flexibility, and limited expense. The model developed is flexible enough to allow for change in management while maintaining the integrity of the visual landscape.

## ACKNOWLEDGEMENTS

This thesis is dedicated to my children, Cami and Jesse, who put up with me and encouraged me throughout this process. And to Dr. Will Shepherd, my original chairman and mentor, who died before the completion of this work.

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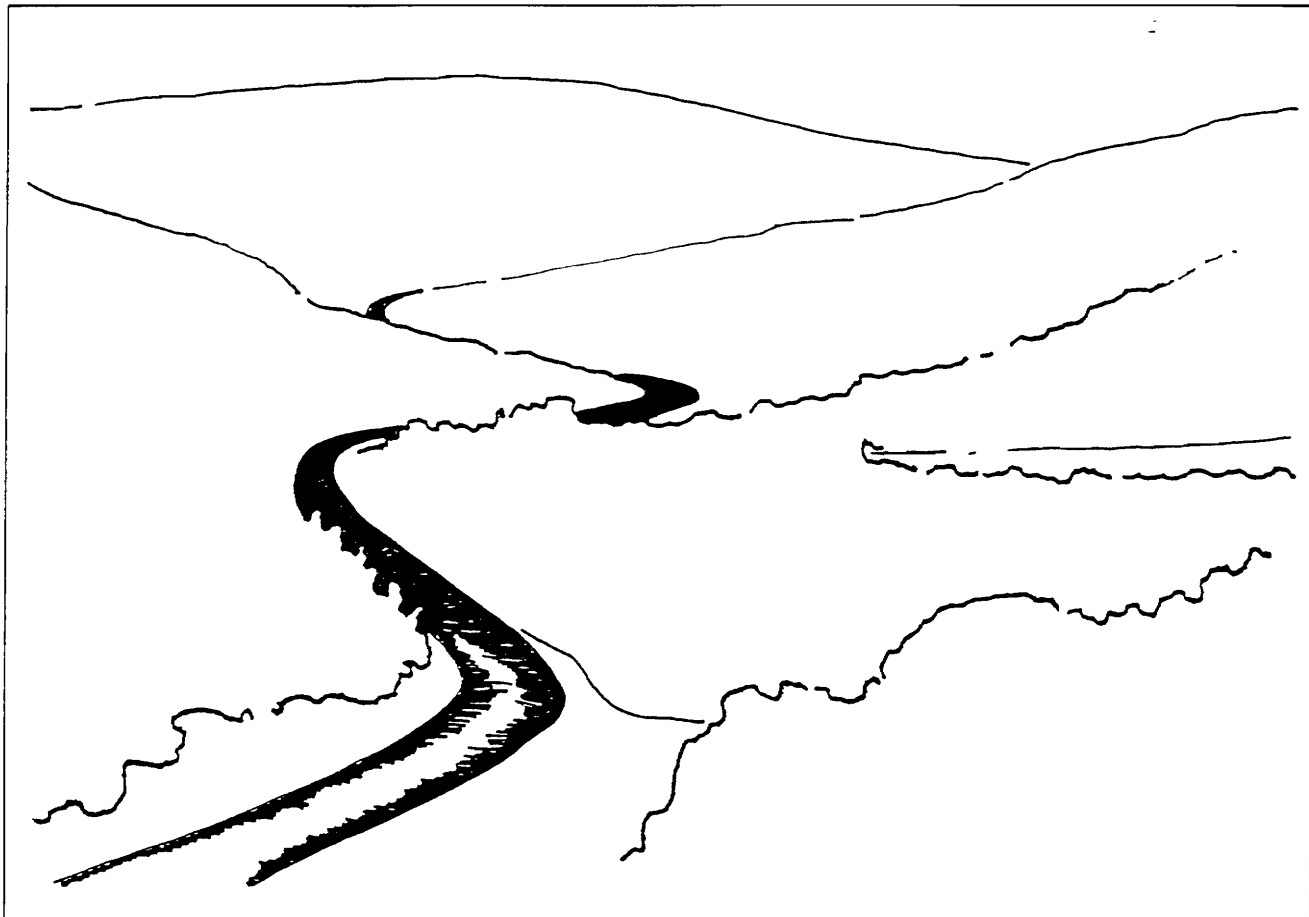
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"We have become masters of topography. We can rearrange the landscape to suit our fancy, and we can build whatever we please. But having learned to move mountains, we should not forget that mountains still have the power to move us." (Swain, 1994)

## INTRODUCTION

The power of the landscape to move us is subtle but strong for many Americans today. Americans are looking for ways to understand and experience the landscape. Driving for pleasure has become the second most popular form of outdoor recreation in the United States (The Report of the President's Commission, 1987). When driving for pleasure the experience of the landscape is primarily visual. Much has been done in the last 30 years to assess the quality of the visual landscape. More recently an increase in attention to linear landscapes has created new challenges for the design of a visually sequential landscape.

Setting priorities for the management of any landscape is complex. Here the focus is on setting priorities for the management of the visual resources for scenic byways, a type of linear landscape<sup>1</sup>, for the preservation of a pleasurable driving experience. Therefore most any tool developed for any one linear landscape can be applicable to the others.

Linear landscapes are landscapes that are longer than they are wide. Generally they have a central 'spine' that functions as an organizational framework for all other activities, interests and orientations. Examples of linear landscapes are trails, riverways, greenways, abandoned railroad beds and scenic roads. Scenic roads, as defined by the federal government, include the road and its right-of-way, scenic and recreational areas beyond the right-of-way, complementary facilities, and are considered distinctive because of identifying characteristics, seen characteristics that are unique to a particular place (U.S.D.O.T., 1988). Scenic byways are a type of scenic road<sup>2</sup>.

In this paper the focus is on scenic byways due to the growing interest, availability of information and support from the new Intermodal Surface Transportation Efficiency Act (ISTEA) legislation for the designation, management and implementation of scenic byway corridors. Although scenic byways are commonly lumped in with all scenic roads, they do have some unique aspects that separate them from other scenic roads. Scenic byways are

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<sup>1</sup> See Glossary.

<sup>2</sup> See Glossary.

existing roads, generally identified through community support<sup>3</sup> which have low driving speeds, and are culturally and scenically significant to an area.

Incorporation of local concerns, cultural data and community values are critical to the management process. The involvement of stakeholders to identify these concerns will be a great step in involving the community, creating a vested environment and establishing a strong stewardship for the scenic byway corridor. Part of the collection of information for the management process is understanding the cultural processes at work that have created the landscape that is seen. These processes help to represent the human/ cultural processes and values of the area. Once these processes are understood than any change in the corridor can be managed to keep them in alignment with that culture, even if the culture changes. The involvement of the local stakeholders increases the understanding of the cultural influences that determine the landscape patterns and regional sensitivity. An example of cultural influences would be the agricultural practices and the landscape patterns.

A clear understanding of the visual experience will determine what opportunities there are for accentuating the image of the byway. What that image should be will be based on the visual studies, the various geophysical, ecological and human/cultural processes, and the corridor objectives, as well as other processes present there. Each of these processes will be reviewed and studied. The studies will include: process analysis, landscape and community history, how the processes effect what is seen on the landscape and how the processes are anticipated to change the landscape in the future. A through understanding from the studies will allow for a responsive and reasonable vision for the management of the scenic byways. The vision is manifested in management for the entire byway corridor. Objectives working together to create a vision will create a dynamic and controlled byway corridor that can accommodate change and still be an asset to the region.

More work needs to be done to develop creative planning tools to analyze and manage the

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<sup>3</sup> Except when designation has come from a federal agency, then there must be community support for any management along the designated corridor in order for successful management to occur.

continuity and establish clear objectives along scenic corridors. Such tools include scenic and conservation easements, and trusts, and view preservation ordinances (Scenic America, 1990).

As the general public becomes more aware of the scenic beauty and concern of their environment, maintenance and enhancement of that beauty becomes the obligation of all public land managers. Scenic byways, as a unique linear space present a great challenge for land managers. The management guidelines must facilitate an interpretive program, help determine the driving experience sequence, priorities for development and present the culturally significant patterns of the scenic corridor.

Any planning process has hurdles to overcome and address. The unique aspects of scenic byways creates an opening for a new scenic byway management model. Special consideration needs to be given to a model that can accommodate change and meet the increasing pressures along scenic byways. The establishment of a model that set priorities for the management of resources that effect the visual landscape. This paper will review several existing federal agency Visual Management practices and existing Business Management approaches. These two areas of study were selected because of the accessible information on each, the established track-records and appropriateness of each for scenic byway management. Each was reviewed and similarities, weaknesses, shortcomings and strengths were assessed.

The purpose here is to see what principles or characteristics of federal visual assessment programs can be used to develop a management model for setting priorities along scenic byways. Federal agency visual management practices were reviewed because:

- each has the same mandate: to protect and manage the resources of the nation, to protect the health, safety and well-being of the American people, and to inform and involve the public in management of their lands,
- of the large amount of land area they manage throughout the United States, and
- because of the clear documentation on each program.

The three representative agencies are the United States Forest Service (USFS), the Soil Conservation Service (SCS) and the Bureau of Land Management (BLM).

Three federal visual assessment programs were reviewed because. The availability of documentation on these systems was also a factor in choosing these systems.

Business Management approaches reviewed were selected because of their commodity perspective (since the visual resources of a byway can be considered a commodity), the availability of written information on the specific types and the evolution of management from a static pre-determined course to an interactive-ever-changing one that supports the communities needs. The representative models reviewed are Total Quality Management (TQM), Sustainable Performance Management, Strategic Planning and Reengineering the Corporation.

From those reviews criteria were established for the development of the model. A hybrid model for the management of scenic byways which brings together the best of both approaches. The model development is a five phase process which blends the visual management studies and business management processes for localities follow for the management of scenic byways. Discussion of the success of the model in terms of meeting its criteria follows its development.

This thesis concludes with an applicability discussion on the model for use by federal agencies and laymen for scenic byway management, suggested procedures for applying the model and further research on the model.

## VISUAL ASSESSMENT AS APPLIED TO SCENIC BYWAYS

The linear experience traverses an array of landscapes, and thus creates an opportunity for the traveler to experience the dynamics of the landscape first-hand. Traveling a scenic byway is one of the principle means by which one experiences a linear landscape. More and more people are experiencing linear landscapes. These landscapes are vulnerable to uncontrolled development due to the complex issues associated with the length and extensive perimeters on such landscapes (Ryan, 1994). The difficulty in measuring progress and controlling all the variables associated with linear landscapes assessment and management must address all of the complex issues; including: multi-jurisdictional politics, differing topography and micro-climates, private and public property issues and a host of others.

Currently available visual management practices, though seemingly an appropriate facilitator for management, fall short. Two missing pieces of current visual assessment approaches are: 1) the poor application of visual management to changing linear landscapes and 2) the poor involvement of all pertinent parties. Though recently the federal government has pushed to include more public involvement in the decision making process.

From almost the beginning of humans have had an understanding and acceptance of the changing landscape. When humans' reliance on the earth and their actions were influenced by the landscapes, they had an intimate understanding of the landscape in which they were involved. This intimacy is reflected in the creation story, "Let there be lights in the vault of heaven to separate day from night, and let them serve as signs both for festivals and for seasons and years." (Genesis 1:14, The New English Bible, 1970)

Overtime, individuals in Western society slowly become separated from the landscape. The subtle changes and interconnectedness they once felt are gone, leaving little experience on which to build an understanding or caring for the landscape. It is the belief here that there is a great demand for humans to have a strong connection with the landscape. The belief in this need has been presented at various times in history and its importance continues to this day. The increasing importance is evidenced in the growth of movements to protect

wilderness as discussed by Roderick Nash; reflections of the media and school curriculums resulting in an increase by the general public to environmental awareness in general; the widespread popular interest in seasonal leisure (fall color, winter play, spring gardens, summer beach and spring desert); and the increase in scenic byway travel.

But many of those times recognized the need to have a place for respite, to overcome the "crippling effects" (Roberts, p.6) of industrialization. Places are needed to create places where one can experience harmony with the land. Today as the automobile has help to separate us from the land and its natural rhythm, and as peoples lives become full of activities, more and more are looking for ways to reconnect with the land. Even today brief connections with the land are critical to maintaining individuals' sense of balance. Taking the "side roads" and scenic byways has become one way to reconnect with the land. These roads are more connected with the land in their layout and the views they present, than the super highways which bisect the land. People are drawn to scenic roads for these reasons. Too much interest and development control along these roads can create the very thing that those traveling the road are trying to avoid: noise, traffic and a distancing from the land.

The experience of the landscape ranges from the experience of movement across a landform, the visual experience to appreciating the more ephemeral aspects of the landscape, including the light patterns created by clouds and vegetation, the sounds of birds, and temperature changes, and the landscapes' form and perceived changes. Landscape changes appear in a variety of forms from a variety of causes, both manmade and natural, creating dynamic experiences and dramatic effects within the landscape. Illustrations of dynamic changes within the landscape are: a leaf dropping in the road, the refreshing sound of a babbling brook, the feel of the wind running through ones hair, the surprise of a clearing within a forest, the tilling of the land, and the destruction caused by the cutting of a slope, development or other natural disasters.

In current planning and design procedures, it is the belief here that the dynamic aspects of the landscape and humans interaction with the land are poorly addressed. Often land management is limiting and static freezing land uses and controls (Porter, et al, 1988), and completely ignore the changes throughout the area or region. Historically management

practices along the Blue Ridge Parkway and uncontrolled development along VA Route 15 are examples of this. The inclusion of management objectives which allow for a changing visual landscape along such roads has been poor.

When priorities are established for visual objectives community objectives must be included. Traditionally, when the federal government has been involved with management of their lands and adjacent lands, they have come with the attitude that their objectives are the best objectives for all concerned and for the betterment of the whole. The truth of this is difficult to determine when all those affected are not involved in the process. Recently the government has to involve more of the "public" in establishing management objectives for public lands. The determination of which public members and how that public is to be involved is addressed varies by agency and locality. Many federally mandated programs require "public involvement", however, the means by which the public is involved and the thoroughness and results of that involvement are not always dependable or adequate.

"Visual or scenic resource values are rarely the major determining values in environmental decision making, but are becoming increasingly significant" (ed. Smardon, et al,1986 p.27.) The increase in visual and scenic values is critical to successful scenic byway management. For with scenic byway management, visual resource assessment and application can maintain the character that is being protected and the quality of life along the corridor.

Roads are the connection to family, community, goods and services. The presence, or absence, has determined the growth, life, communication capacities, and sometimes, health of a community or family. Roads come in all forms for vehicles, pedestrians or cyclists; including walking trails (human and animal), wagon trails (many which have become roads and highways of today), railroads.

Traveling scenic byways during different times of day, seasons, weather conditions and activities helps to create an interesting and dynamic experience. Since the automobile's inception America has been fascinated with the touring. exemplified "in the early 1890's the first parkways were built, designed to preserve the beauty of their surroundings and to provide scenic driving for travelers." (U.S. D. O. T., F.W.A., 1988, p.xi) Scenic byways

primarily traverse rural communities creating new connections and/or conflicts for the residents and the traveler. Making a management plan which includes cultural, visual and economic concerns for a changing community is critical to preserve the natural and cultural resources of the area.

Assessment of the landscape has taken many forms over time. Much of the landscape change, protection and development is based on European influences. These landscape influences are represented in policies that date back as far as the late 1700's. At various times throughout history public policies for the protection of certain landscapes has been present. In the 1800's the emphasis was on the preservation of the natural landscape. Artists and writers were influential in swaying the American public to support protection of wilderness areas.

In the post World War II era increased attention to the visual degradation of the increased industry and development. In the 1960's, the real push for attention to the concerns of visual quality in the American landscape. This attention focused on non-urban landscapes close to populated areas where development pressures showed drastic changes in the landscape. These changes included, but was not limited to, highway development projects, sub-divisions, increased timber harvesting, increased recreational demands and new reservoirs. These large scale changes came with large environmental changes creating national policies for the reduction of negative impacts on the landscape and protection of the environment.

Setting limits on the management and study of areas became critical to meet the demands of changes and to protect the resources of the areas. The limits for these areas of study have been traditionally based on political boundaries: county lines and property ownership for example. As the awareness of the complexity of management has increased, including environmental issues, the boundaries have taken on more natural designations. The Lake Tahoe Plan is an example of this. The limits of the lake drainage basin are the limits of study and development controls. Other examples of more natural boundary designations include: distances from established built areas, ie. the wilderness designations. Others use

the viewsheds<sup>4</sup> of particular roads, rivers or points, ie. the Three Rivers area in Pennsylvania, as their boundaries.

The protection of the visual environment started to look at landscape aesthetics and the development of visual resources assessment began. Visual assessment of the landscape began then as an expert<sup>5</sup> driven, developed and implemented practice often developed in landscapes of strong character with dynamic changes and similar vegetation.

Often called landscape assessment, visual assessment<sup>6</sup> has been researched and categorized in several distinctive focuses, "professional, behavioral and humanistic" (ed. Smardon, et al, 1986, p.27). The first is the professional or expert driven model focus which concentrates primarily on the elements of the scene. Second is the behavioral focus which looks at the perceptions, actions and preferences of people in the landscape. The last is the humanistic focus, which concentrates on the human's experience and interpretation of the landscape. Although each of these approaches is pertinent and relevant they do not keep the user or public (stakeholders<sup>7</sup>) involved throughout the design, planning and management process. Many of them collect data, but have a very difficult time applying their findings to actual landscape management. The expert systems are the ones that have had the most applications to landscape management.

The professional model includes visual assessments that are implemented by experts in the fields concerned about visual issues and, like landscape architecture, and are based on formal design principles, beliefs and relationships, like balance and symmetry. The professional model proposes more specific management practices than the other approaches. Some of the professional research has been quantitative looking at the attributes of the landscape and some of it has been qualitative using visual analysis of

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<sup>4</sup> Viewsheds are defined by Smardon, et al, 1986 (p.322) as "All surface areas visible from an observer's viewpoint" or series of viewpoints, as along a road.

<sup>5</sup> See Glossary.

<sup>6</sup> Visual Assessment - the evaluation of the visual landscape, see Glossary.

<sup>7</sup> See Glossary.

aspects that are more descriptive and graphic.

The behavioral paradigm determined how people acted or reacted to scenic considerations, these observations would then be used to guide people through the environment in the future.

The humanistic paradigm is not predictive. It primarily observes how people act or react in or to particular places in the environment. Innate responses to and the benefits of scenic places are recorded.

Federal agencies primarily use expert driven visual assessment approaches for the management and protection of the resources for which they are responsible. For the most part they look at particular landscape scenes<sup>8</sup>. Some results of visual assessment are: ugly scenes are screened from the visitor, the number of elements in scenes are recorded and used to justify retaining or adding additional elements, preferences or quality of the scene are recorded and rated, significant landscapes are identified for preservation, and proposed development or changes are evaluated and mitigated. These important tools and results of visual assessment are difficult to apply to the complex management of scenic byways which cross different landscape types and political boundaries.

Many issues of concern for scenic byway management are also addressed in federal visual assessment and visual resource management (VRM). VRM is defined as "the management of the "seen" aspects of both the land and the activities which occur upon it- the administration of the land's scenic or esthetics attributes" (Stone, 1978, p.3.) Assessments are made quantitatively and qualitatively with a focus on variety, uniqueness and other outstanding qualities identified in relation to the management or physical context of the assessment. The assessments are then used in the design, management and maintenance of land. Scenic considerations have been used to:

- to place roads on the land- its elevation, location and relative view distance and position (design),
- direct views (design and management),

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<sup>8</sup> Scenes here refers to selected views, usually photographed from a particular spot, which are considered visually significant or appealing.

- manipulate the traveling sequence (design),
- introduce the element of time to the experience (design and management),
- harvest and manage timber (management and maintenance),
- preserve designated areas (management and maintenance) and
- control access of the public to designated areas, either visually or physically (design and management- to a lesser degree maintenance) (Arthur, et al, 1977.)

As visual resources values developed, both public and private researchers, used verbal and diagrammatic descriptions of physical, artistic or psychological attributes of scenic or visual quality. Some of the most well known researchers are: R.B. Litton on visual descriptions through graphic techniques (Litton, 1968), E.H. Zube on evaluating cultural and visual elements (Zube,1970), and K.H. Craik on landscape adjective checklists (Craik, 1972).

The primary goal of the Visual Resource Management (VRM) is to develop a quantifiable way to include visual concerns in establishing and guiding management practices in the landscape. VRM involves:

- inventorying existing visual resources, good and bad,
- determining the resource context,
- determining the client/user,
- analyzing the resources to establish priorities and standards,
- developing criteria which influences and determines land management practices and,
- establishing criteria for the evaluation of the success of the program.

Many different VRM techniques have been developed and used in public and private agencies. The VRM techniques fall into three basic categories: wildlands, countryside (where there is human intervention) and urban areas. Increased interest in scenic quality instigated the formation of local, state and federal VRM projects.

Federal visual management systems were developed in the mid 60's and 70's, as the pressure to include visual resource values in land and resource management practices increased. VRM Programs were generated to meet three specific needs:

- to include visual concerns in regional planning,
- to determine potential visual impacts on the landscape and
- to evaluate visual changes resulting from the proposed impacts.

Examples of these issues include: wilderness designation, strip mining, timber harvesting practices, highway funding and construction, and park maintenance. Some of these

concerns arose about the VRM process as the techniques used by the government agencies were "developed quite rapidly with little time for in house research to meet multiple resource management needs" (ed. Smardon, et al, 1986 p.144). There is less application of VRM systems to issues concerning the planning and maintenance of corridors (ed. Smardon, et al, 1986).

As visual resources continue to become a more significant part of resources management, how they are used in decision making will also become more critical. There have been an increasing pressures to include visual resource values as quantified attributes in their land management practices. Up to this point much of the application of visual resource systems has been applied as 'red flag', 'keep away', or 'do not disturb' philosophy it hard to accommodate or direct the inevitable change caused by development and economic demands that will happen along the scenic corridor.

## METHODOLOGY

The methodology, or process, chosen for this research involves reviews of existing models or approaches to management and the development of a new model for visual management of scenic byways. The process has four primary steps. First is a look at the current state of visual management and how that can or could be applied to scenic byways.

Two parts make up the second step of the research process. First is a review of three federal visual assessment programs and their application to management. The federal programs were selected for several reasons. Primarily federal programs were selected because they most often have several municipalities or jurisdictions to contend with in each management process, as scenic byways often have, and because they use visual concerns for establishing management objectives. There is also availability of written materials on each program and each have established track-records. The visual assessment methods chosen were: the United States Forest Service (USFS) Visual Management System, the Bureau of Land Management (BLM) Visual Resource Management System, and the Soil Conservation Service (SCS) Land Management System (LMS).

The second part of the second step is a review of four business management approaches. A look at business approaches as viable models is legitimate. Business approaches have similar goals to landscape management, especially with the increase in process orientation and the acceptance and inclusion of change. Both of these issues are being brought to the forefront in landscape management as a more sensitive design focus is demanded for accommodating change.

Step three of this research process is to review the visual and business approaches. This step will use the similarities, differences and short-comings of each to identify linkages between them and establish criteria for the development of the model.

The fourth step is the development of a model that meets all the criteria listed in the previous step. A diagram of this model will go along with a description of how the model will work.

## MANAGEMENT APPROACHES

Through out our most recent history, management for special areas has been practiced throughout the world. An example of management for special areas is the designation of National Parks in the United States beginning in the late 1800's to preserve natural resources. The management for special areas is known by several names. The following are only a selection: comprehensive plans, performance standards, designated districts (historic and rural as examples), general management plans, and master plans.

Here the focus of review and study will be on visual concerns and the applicability of applying these concerns to a new model that will manage linear landscapes. The similarities, differences and short-comings are identified for both the federal programs and the business management approaches. These were the result of reviews of each approach, which are presented in the Appendix for closer scrutiny. The reviews include the basic premises, characteristics and methods of each program and approach.

### FEDERAL VISUAL RESOURCE MANAGEMENT PROGRAMS

Following is a discussion of the similarities, differences and short-comings of the three federal visual resource management (VRM) programs reviewed for this work. VRM programs selected were:

- the United States Forest Service (USFS) Visual Management System,
- the Bureau of Land Management (BLM) Visual Resource Management System (VRM), and
- the Soil Conservation Service (SCS) Land Management System (LMS).

These programs were selected because of the availability of written material on them, the established track-records of each and the involvement of visual concerns with management. More detailed descriptions of each method are in the Appendix.

### SIMILARITIES, DIFFERENCES AND SHORT-COMINGS

Much of the federal agency visual resource management has been done in landscapes of

strong character, dynamic changes and similar vegetation. It has been developed by various people, most predominantly in forested areas of the west. Applying the visual resource management methods the Appalachian region is difficult because of its landscape subtleties. Landscape subtleties are created by temperature, atmosphere, climate and physiological differences. In the Appalachian region the humid atmosphere and ancient landforms make clear distinctions of visibility and inventory more difficult.

There are several similarities that exist between each of the federal visual assessment methods. Each is considered an interdisciplinary approach. For determining the management aims for a particular area. Differences, however, are due to the historical development of each process, the overall goals of each agency and the land type on which each agency most commonly focuses.

Each process has an inventory stage that looks at specific elements of the landscape, including : landform, water, and vegetation. In the inventory stage the USFS and the BLM refer to artistic descriptions of the landform and scene, including line, form, color and texture. Scenes are used in each agencies' system to identify significant and common elements. The elements are assigned to according to in house matrixes then rated and mapped.

The USFS focuses on natural elements in its inventory stage. There is some weighing in the matrix of and no mapping of the cultural and man-made elements on the inventory portion of the USFS process. The USFS also includes in the inventory section, rock form, another unique feature of its inventory.

A review of the public's sensitivity to land changes based on land use and visibility studies is conducted by each agency. The USFS and the BLM have a very quantitative and prescribed process for evaluating the public's use, volume, visibility, involvement in the landscape. The BLM also considers user attitudes in the evaluation of the public's sensitivity to the landscape. The SCS separates user use and visibility and combines them later in an overall matrix. Both the USFS and the BLM evaluate distance zones (foreground - FG, middleground - MG, and background - BG) in the sensitivity part of the process. It should be noted that because of the large areas of study, the BLM combines FG

and MG, and adds a Seldom Seen (SS) designation to its study.

The USFS and BLM both assign management classes or objectives based on the analysis of the extensive inventory. The BLM follows the management classification with a contrast rating to determine how much difference there is between the proposed change and the existing landscape character. The SCS simply identifies areas for further study by a landscape architect.

Similarities between the USFS and the BLM programs are far greater than between them and the SCS. The SCS's mandate provides review services to private individuals or groups for non-federal land management. The USFS and BLM have a mandate that requires them to manage federal lands for the health and well-being of the general public. Because they own the land, most management is large scale planning and often involves permit review. However, their management has limited the continuous involvement of the public.

Public participation has become the buzz word for this last several decades. The names used have varied including: "community involvement", "public participation", and to "local representation." Each agency is required by federal mandate to include the public in its decision making process for plans that direct and govern development within their boundaries. Although they do not always have ownership of all their designated lands they must cooperatively manage those lands including working with the local residents. This is especially important when Environmental Impact Statements (EIS) are required. Historically, the public involvement has been more limited in the USFS and BLM programs. Following are brief descriptions of the extent of each agency's public involvement.

The USFS Visual Management System (VMS), which establishes Visual Quality Objectives (VQO), sets up a forum to determine what needs to be done within their long term management process. In these sessions, the public is invited to come and express their ideas about the future of the area, sometimes relative to a particular issue. Most often that is the only time the public is involved until an environmental assessment is presented. Neither of these types of involvement directly address the visual quality of the area, nor do they permit the public continued involvement in the decision making process.

The BLM Visual Management System (VMS) also involves the public at two stages, the environmental assessment stage and the sensitivity stage. In the sensitivity stage the BLM identifies the user attitude toward the area. Photos of the area are presented to familiarize public groups with the area and to determine what their attitudes are towards any proposed changes. In this case the public is only involved if there are specific changes anticipated. The public's responses to the changes are then rated High, Medium and Low depending on the amount of concern expressed. The public's voice is just one small part of the entire visual management process.

SCS Landscape Management System involves the public in a very different way. Primarily a section of the public has asked for assistance, therefore they are involved in the entire Landscape Management System process. To what degree the public is involved depends upon the particular project and those that requested the project. The final decisions and design, however, do not involve the public at all, as the areas of concern are turned over to a landscape architect for further review.

TABLE I- COMPARISON: FEDERAL VISUAL MANAGEMENT

ATTRIBUTES	USFS <sup>9</sup>	BLM	SCS
<b>PREMISES:</b>			
interdisciplinary approach			
detailed inventory			
based on research from specific locations	vegetated mountains of west	sparsely vegetated grasslands & semiarid mid-southwest	variety of landscapes from many geographical locations
public participation	response to change,	response to changes,	instigators, continual
private- public partnership			
visual mitigation			
<b>CHARACTERISTICS</b>	Visual Resource Management	Visual Resource Management	Land Management Objectives
manage own land			
objectives for management & mitigation	Visual Quality Objectives (VQO)	Management classes	Priorities for future study
resource inventory	variety class	scenic quality	visual resource quality
man-made elements & combinations			
sensitivity level			
rating of data collected			
visibility	# of times by # of people & location seen from	# of times by # of people & location seen from	& duration, expectation & viewer position
landscape use			
distance zones	FG, MG, BG	FG/MG, BG + SS	
contrast rating			
final management decision	forest ranger	district manager	landscape architect & sponsor

NOTE: The shaded areas show commonalities between each of the federal visual assessment methods. The descriptions are to clarify differences in language. If there are no descriptions than they are similar.

Most management plans have been completed by a single entity with minimal public input. Although the governmental entities do not have ownership of all of the designated lands, they must manage those lands in cooperation with the local residents. General management plans come in a variety of formats and serve a variety of needs. They are

<sup>9</sup> USFS- United States Forest Service, BLM- Bureau of Land Management, SCS- Soil Conservation Service

used by the USFS, the BLM and other federal agencies.

The purpose of these plans is to protect the quality of life and resources in a given area. When areas have management plans or comprehensive plans in place, there is an opportunity to address all the interests of the public and the special requirements of the resources. These benefits include: elevated visitor numbers, increased attractiveness to industry, reduction in emigration, preservation of historically and culturally significant points of interest, and preservation of natural amenities.

General management plans have become very popular within the planning industry for those who want to protect the quality of life for residents, users/visitors, and travelers who pass through. The overall belief is that within the industry is that general management plans, which are to cover all of the areas that may be affected by any planning, development and growth in the area.

More and more linear landscapes are being recognized and the need for cooperative management becomes critical. Linear landscapes often span several different political boundaries, private property boundaries and often cross natural boundaries as well. Thus management plans that are visionary and action oriented are critical for the protection of the public's quality of life.

Following the deforestation of the areas for study, the federal programs for visual assessment begin. When they are completed specific management objectives control any changes in the area. Some of the areas will be allowed to be changes, others are identified for protection or enhancement. Following the identification the management process can begin. In the past most of the work has been to protect visually significant areas from a new impact (responsive management). Even when an area has been selected for preservation, for instance by using the USFS VQO system, nothing is generally done until there is a need to respond to change. The designations do help them to locate timber harvesting areas, wildlife management areas, and the placement of facilities. However, the management of the views has traditionally not been incorporated into the overall management of a forest. With the designation of scenic byways within USFS lands more and more attention is being placed on the preservation of views for travelers.

How management for views along roads is done has also been a subject of great controversy. As Denis Wood (1988) stated much of the along roads has been through a screening effect to protect the traveler from the mass devastation behind a buffer area of usually a hundred feet or so. This blatant disregard for the integrity of the forest and the intelligence of the traveler has continued to be a bone of contention for environmentalist. Often management practices freeze the landscape in time and space, not fully accepting the inevitable changes ahead. As exemplified by the original management charge of the Blue Ridge Parkway, where the rural landscape of the post depression era was to be maintained.

There have been increasing pressures to include visual resource values as quantified attributes with land management practices. The opinion here is that up to this point much of the application has been determined as a 'red flag' and 'keep away', or the amount of change that can occur making the management practices hard to accommodate and direct the inevitable future change. This work also has to do with the bridging of the qualitative and quantitative research thus creating specific management practices that will enhance the sequential experience along our scenic byways and linear landscapes. "Visual or scenic resource values are rarely the major determining values in environmental decision making, but are becoming increasingly significant" (ed. Smardon, et al, 1986, p.27). If this is true than how the visual resources are used is critical to the quality of future planning.

It seems that the use of visual assessment is at the root of the ownership of the landscape by the visitor. A service to the larger good, however, is accomplished through general management plans over the desires of an individual developer. When the people who live within or traverse a specific landscape, they become users of the landscape. These users take ownership, meaning connecting with the landscape, of it, which can draw them back and give them the incentive to care for and defend that inherent qualities of the area. The Jeffersonian dream, to have each family living and supporting themselves on their own land, is passed, having been abandoned at the beginning of the 20th century.

As more and more citizens and professionals become aware of the immense complexities of managing linear landscapes, a method or framework which will address those complexities needs to be offered as an alternative to the traditional management practices.

Traditional visual management practices look at a few specific criteria and generally freeze the landscape in time and space. With the advent of the "continual change" concept in the business arena, the question of applicability to other domains must be explored. This concept may be applicable then to visual resources management, especially along scenic byways with the complex issues and where increased use threatens the established scenic value of the area. Many of the practices and concepts from the new business management arena have already been used in the traditional design fields up to this time. Many of the differences are simply a matter of different language used to describe and enact the management actions.

## **ALTERNATIVE BUSINESS MANAGEMENT APPROACHES**

Over the past two hundred years the nature of business has been carrying on as usual (Hammer and Champy, 1993). The 'traditional' way of doing business was to divide all products, and their production down into a series of tasks. Each person was responsible for a particular task and the combination of the tasks would produce a product<sup>10</sup>.

In the past decade there has been a real concern for the effectiveness of the 'traditional' way of doing business. The concern is in part due to an increase in international competition and a reduction in quality of products being produced.

It is often said that there will not be change unless there is a force that demands the change. Today there are increasingly more and more indicators of crisis that are requiring companies to change the way they are doing business. The increase in competition has also demanded that businesses take a new look at themselves and re-think how they are doing business.

Several new approaches have come to the forefront of business management in the last ten years or so. These businesses have dramatically changed how business is viewed. They all have several similarities that help them facilitate change to new directions, involve many

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<sup>10</sup> See Glossary.

people, and continuously assess and evaluate what is happening. Generally, these new approaches work at the process level, versus the task level, to determine what needs to be done.

The questions asked at the beginning, or start-up, of any approach are critical for laying the groundwork for improvement. Topics of discussion are not necessarily about how to improve what we are doing now, but what are we to be doing and how will that benefit the corporation.

Landscape architecture has some similarities with the new business approaches. Physical design of the landscape requires understanding of the processes at work in the area, areas of great concern, of the questions about the "concept" of a project, involvement of those effected by the project and a way to view the project (does it meet its goals).

Presented here are several approaches that are being used in various businesses to meet their current crisis situations. First is the Total Quality Management (TQM). Probably the most well known process, it looks at a continuous assessment of the of projects and education of the team to improve the quality of the management of the business, which result in an elevated product quality. Aspects of this approach can be used in visual management through involving experts when needed, involving all stakeholders, and focusing on process, instead of product.

Next is a discussion of Sustainable Performance Management Model (Kinlaw, 1993). The premise here is that the Total Quality Management (TQM) approach is acceptable to a point. TQM does not go far enough towards a protection of environmental resources. Care to include and educate those involved in the preservation of resources is paramount to this model. This focus is also important in any design based on visual management and planning.

Strategic Management is another management approach that has received allot of recognition recently. The general premise for strategic management is taken from its original use of strategy in military campaigns where the resources, individuals and actions

were laid out in advanced and followed. When applied to business management strategy is " the pattern or plan that integrates an organization's major goals, policies, and action sequences into a cohesive whole" (Quinn, 1992, p.5).

The strategies vary and change according to the responses of the market, individuals, information and technology. Change according to influences, whether outside or inside, can be incorporated into visual management, if a process is established to accommodate that change. It is critical for visual management to have the ability to accommodate change without going back to the initial steps of the process.

Finally, a discussion of a recent proposal for business management, reengineering the corporation (Hammer and Champy, 1993). Reengineering the corporation basically returns to the basic questions of whether or not the business is doing what it should in today's world. This return to basic questions leaves the preconceived ideas and actions behind and looks for new ways to improve the business. The results have been phenomenal for many of the businesses which have initiated the reengineering approach. Four basic concepts are the basis for reengineering. Of the three the attention to process is the one that is critical to the understanding of visual assessment and land management. The incorporation and understanding of all the processes at work in the landscape must be included in any priority setting model for management of the visual landscape.

#### SIMILARITIES, DIFFERENCES AND SHORT-COMINGS

Each of the previously mentioned business management approaches has similar premises and characteristics. The following chart lays out the difficult distinctions of each approach. Although many of the premises and characteristics overlap, the similarities of each are presented.

The most similarities are between the first three approaches (Total Quality Management (TQM), Sustainable Performance Management (SPM), and Strategic Planning(SP)). The Reengineering (RE) premises imply the same premises as the other three, but returns to more basic question of intent before moving forward. This return to basic questions is very applicable any community oriented management effort, such as scenic byway management.

Other significant differences is the focus or lack of focus on environmental issues. The natural order of tasks and elimination of "experts" to do certain tasks are other differences. The establishment of base lines is another difference that is a major part of Sustainable Performance Management.

Specific similarities include a focus on new goals, objectives and philosophies; pro-actives stances; vision statements; team building and cooperation; accountability/ checks and controls; education/ training; and new technology and processes.

Over all the similarities are great and the differences few. Some of the key short-comings, as these business approaches relate to scenic byways management, are: all require the instigation of the leaders in a corporation, the vested interest in such a conversion is based on financial returns and most business organizations have some fiscal support to implement any new approaches.

TABLE II - COMPARISON: BUSINESS MANAGEMENT APPROACHES

ATTRIBUTES	TQM <sup>11</sup>	SPM	SP	RE
<b>PREMISES:</b>				
flexible/ adaptive				
initial questions				
create win-win conditions		pro-active		
create intrinsic motivation				
manage long term vision & quality		zero error		
total customer satisfaction				
promote cooperation		team development		
environmentally responsible				
<b>CHARACTERISTICS</b>	<b>14 POINTS</b>	<b>8 MILESTONES</b>	<b>COMMON</b>	<b>9 TYPICAL</b>
consistency of purpose		[process oriented] <sup>12</sup>		
adopt new philosophy		new policy		
quality @ beginning				
establish trust				
continuous improvement			implementation of sequence/patterns	
establish base lines		[information oriented]		checks & controls
training				
leadership				single-point contact
eliminate fear				
de-compartmentalize		reallocation		combine jobs
natural order to tasks				
develop technology			secure resources	multiple versions
eliminate number goals & quotas				
establish new goals	[new goals]	[measurable results]		lower reconciliation
eliminate barriers		[limiting process]		
coalitions exist		[community building]		worker decisions
encourage education				jobs done as needed
take action		systems revised		hybridized operations

NOTE: The shaded areas show commonalities between each of the federal visual assessment methods. The descriptions are to clarify differences in language. If there are no descriptions than they are similar.

<sup>11</sup>TQM - Total Quality Management, SPM - Sustainable Performance Management, SP - Strategic Planning, RE - ReEngineering

<sup>12</sup> Statements within [brackets] are principles on which the approach are based.

## LINKAGES AND CRITERIA

This section, Linkages and Criteria, is the bridge between the review of the visual assessment programs and the business approaches. The linkages are the summary of those reviews. The criteria establish what needs to be addressed in the model development.

Linking the selected components of visual management with those of business management creates a dynamic visually-oriented management model. This model can be applied to scenic byways or other, linear landscapes, because it incorporates the immense complexities for their management.

The key components that the visual assessment and business management approaches have in common are:

- Established management objectives
- Involve 'outsiders', those from outside the organization
- Expert driven

Both processes look to the future for *establishing management objectives*. The agencies often consider changes to the landscape as a way to meet certain goals and to acquire a specific "look" or scene. When this goal is reached they are finished. Reviews take place only every few years, based on availability of funds and predetermined timelines. The business models, however, look at improved performance, feed-back loops, continual assessment and self correction, a more dynamic and flexible approach.

Although both processes can *involve 'outsiders'*, people from outside the organization, to guide the management, how they are involved differs. In the federal VRM processes, as previously stated, public involvement in the process is mandated, but it is often ineffective in actually determining management objectives (Woods, 1988). Other experts from outside the agency employed only occasionally. Business management models are more effectual as they involve all stakeholders, within and without the organization, from designer to consumer to supplier, to establish criteria and determine a course of action. The proposed model will involve stakeholders in all aspects of the process.

Another commonality of visual and business management processes is the requirement for each approach to be *'expert' driven*. In the case of the federal systems, the agency is the initiator, except with the SCS, and the implementor of the process. Within the business realm, it is the senior management, or owners, who initiate and implement any new program or organizational process. Both of these scenarios can be considered "top down" management. However, while the business model proceeds in a top down way in the initiation phase, eventually the role of management changes. In business it must change so that all are equal participants in order for the changes to be effective. By senior management become a server to the other participants, everyone feels as though they have an say and a stake in what is happening. The new visual management model will rely on the non-experts, the public, as the initiators, process facilitators and experts. If the public does not play a very central role in the new model will be ineffective.

There are certain characteristics that are applicable to scenic byway management and are

not common to either the visual resource management (VRM) or business management (BM) approaches. Combining several of these differing characteristics insures that the results are better than the original applications alone.

VRM and BM characteristics are listed to show which are stronger together:

- physically based (VRM)
- evaluation (VRM)
- final result (VRM)
- commodity based (BM)
- re-assessment (BM)
- continuous improvement

Whether it is a physical product or a service, a *commodity based* organization is a business. The VRM process must meet a specific goal or result for its more *physically based* process. Thinking about the result of management in terms of a commodity will go far towards better understanding the proposed model. Necessary efforts can then be taken to efforts to protect and enhance the commodity. In the case of the scenic byways, the visual resources are what is being promoted. Any service provided for visitors to the byway is another commodity. The quality of life in the area can also be considered a commodity, that needs to be protected and enhanced.

How a product is produced and *evaluation* of the effectiveness of completion are the two main questions involved in the reviewed processes are:

How are the goals or objectives to be accomplished? and

How to assess the effectiveness of what was accomplished?

The establishment of criteria for decision making is critical for evaluation. Within the those agencies that use VRM, criteria is specified to be applied to various steps in the process. In business management that criteria is determined by each business individually, through a *re-assessment* procedure. Within the proposed model decision making criteria will be established by process participants. The re-assessment aspect is critical to the proposed model. It is a built-in safeguard for self correction in an atmosphere that supports and recognizes change. It may, however, be applicable to apply the federal ranking systems in certain situations.

Although the BM methods do produce a result in terms of a product, or commodity, their process is not results oriented, but has a *continuous improvement* component. With the VRM the *final result* of the process is specific. To be able to evaluate the success of a project having a specific result to evaluate is good. However, over the long-term, having to continuously look at what has come before and how effective the progress is important.

The interdependence between other resources and quality of the visual resources is strong. For instance, if the forest is not healthy, say from a disease infestation, the experience of driving the road will be greatly diminished. Also a road with an unsafe curve may need to be realigned creating a domino effect on other resources. Some impacts which could reduce the quality of the driving experience be; the cutting back trees that shade that portion of the road or the covering over a stream that could be seen and heard. Thus, any changes along the road way can effect resources in the area.

A divergence from the traditional visual assessment management is the fact that movement through the model is not linear, in the sense that it does not proceed in one direction. The proposed model moves backwards and forwards. Such a dynamic is required to insure that the process is never-ending. This keeps the process current and dynamic, never falling behind the issues and events that effect it.

The visual assessment approaches focus on the 'seen' landscape, the most significant aspect of any scenic byway. The business management approaches focus on how an organization works, the people of the landscape, the ones that have influenced or are being influenced by the landscape. Sensitive management preserves the integrity and enjoyability of the driving experience and brings the characteristics of the landscape and people together. The approaches, visual assessment and business management, are brought together in the development of a new visual management model.

The new model must meet certain criteria to assure that it accommodates and allows for change and that it sustained itself overtime. The following criteria were taken from the review the selected visual assessment and business management approaches. The criteria for development of a new visually oriented management model are that it must be:

- Simple: understandable, easily applied and easily shared with others
- Established goals: baselines, address local issues, and is measurable
- Involves all stakeholders: team building
- Experts as resource only
- Allows for change
- Flexible
- Continuously assessed and evaluated
- Self correcting with improved performance / results
- Ecologically and visually based
- Limited land area
- Easily communicated
- Continuous education and communication
- Action oriented
- Establish on-going process tasks groups: education, communication, action and update

Both in terms of establishment or changing to a new management model and in terms of sustaining the model over time, the model must first be *simple*. The simplicity may be defined by three parameters: (1) it must be easily understood, (2) it must be easily applied, and (3) it must be easily conveyed to new participants and the general public.

Involvement of those individuals who are effected by the process or who can effect the process is critical. These individuals, stakeholders, are important to scenic byway management efforts. With their large numbers and variety of interests, having a model that can be presented simply is critical. If the model is simple, participation in the future may be a better.

Several benefits result from a model which can be readily applied. One benefit is that it can be applied quickly to more aspects of the project. Another one is that it can be applied with more consistency over a longer period of time, thus accommodating changes further into the future.

It is common for the participants to change on a project that drags on for a long period of time. This is especially true for projects that have no paid staff, such as many scenic byway projects. As the period of time lengthens change in participants, whether paid staff or local citizenry. A framework that can easily be conveyed will be easier to maintain than

one that requires more complicated procedures and training.

*Establishment of goals* is critical to the success of any management process. Goals are developed at the same time as the vision statement for the project. The stronger and more precise the goals are, the more effective the management will be. Part of establishing goals is to answer *key questions* about the about the project, the area and the available resources. A suggested list of key questions is given in the Appendix.

Changes landscapes managed under VRM approach are evaluated only as they relate to the management objectives. In the new model changes are to be evaluated as to their effectiveness for meeting evaluation criteria for specific sections or the entire experience. Any change requires a review of the established criteria, as it relates to the overall vision and other resources. Scenic byway resources can include; geophysical, ecological and human/cultural.

Changes in close proximity of the road will require precise and specific actions to simplify implementation. Each change will need to be evaluated as to their effect upon the specific section of the road, the resources there and then as to their effect on the entire driving experience. Any change creates a juncture that requires a review of the existing criteria as it relates to the overall vision as well. Some change may be the limbing up of vegetation, removal of vegetation, installation of fencing, the addition of a business or drive, etc. "Close proximity" may mean anything within view of the road, or anything within the designated foreground area of the road. Use of the visual studies will help in understanding the relevance of the proximity. The visual studies can determine what is exciting now, what experiences need to be preserved and what effect changes could have in the future.

Any model proposed for scenic byway management must be easily initiated and implemented by the people involved. Active involvement by those effected by the process and who effect the process, the *stakeholders* and the public<sup>13</sup>, is important. It allows them to become the experts on the area and consequently to have a vested interest in the outcome of the project as a result of their involvement. One way to enhance the stakeholders investment in the project is by involving them in the development of criteria for establishing priorities based on local and regional issues and concerns. Continual encouragement for involving stakeholders is an ongoing part of the process. This encouragement creates greater participation, revolving participation and a forum for team building. How many stakeholders will be determined and reassessed throughout the process. Active involvement of all stakeholders is critical to insure the heart and spirit of the landscape.

Outside *experts are used as a resource* for technical support, education and to provide any additional services that may be needed. Political involvement is minimal. For a new framework to be effective in what it does and how it is supported it must involve all those parties that are interested in it, effected by it or involved in it to be heard. This can be done through representatives, open forums, or other 'public' participation methods. This involvement of all the people is critical to insure the heart and spirit of the place and the acceptance and effectiveness for any framework proposed for scenic byway management.

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<sup>13</sup>See glossary for the differences in the definitions of stakeholders and public.

*Allowing for change* is hard for any group or process. The old "if it works do not fix it" kicks in. However, landscapes are never stagnant and any process or framework that hopes to be effective in the management of linear landscapes must allow change to occur. This is not to say that any change may be good, or should necessarily be allowed. Rather, any change should be directed in such a way as to meet the general criteria for change set up in the application of the model. Change is the part of the process that becomes most apparent in the long run. Planning for change must consider time as the most critical factor. As the length of time increases, its influence becomes greater. Practices in maintenance and management change over time due to new technologies or social change. The stakeholders active in the project will change in larger numbers over time, as well. Finally, the ability of the land to sustain a particular 'look' or state of health is greatly reduced. Accommodating these changes ensures a greater opportunity for a successful project where there may not be any. It also allows for the successful involvement and acceptance of many more factions and individuals. This allowance for change is also what keeps the framework or process fresh and dynamic, a key attribute for its long term success.

The assurance that a framework be *flexible* is critical to its success, especially when applied to large areas with a diverse people. Flexibility includes other criteria, like simplicity, but also allows for accommodation to extenuating circumstances. The flexible reassessing aspect of a model will also allow for continued updating and realigning of goals and objectives.

An *ecological and visually based* model is imperative to protect the natural resources of the scenic byway corridor. Scenic byways generally traverse unique areas. This uniqueness is what draws attention to them. Much of the uniqueness and diversity of the land is reflected in the visual displays of the landforms and natural elements. The beauty is in part based on their health. As continued focus on the ecological and visual aspects will help to insure the long term protection and integrity of the byway.

Determination of the *limits of the area* of the targeted area to be managed along a scenic byway must be made at the beginning of the process. In addition to those areas seen from the road the targeted area, the model includes areas that effect the road or are effected by the road. Establishing clear limits for study and management is a key component in the model.

The effectiveness of any model is based on the ability of the participants, stakeholders, to respectful vision for the land, themselves and others. This effectiveness is accomplished through *communication, education and understanding*. Max DePree and S. Bethel list a variety of qualities that make successful leaders. It is essential that these qualities are present in the participation for the model to be effective. A respectful vision is the most important aspect of leadership. A respectfully vision is through caring, communication, flexibility, wisdom and commitment. How these qualities are developed and conveyed as the management evolves is difficult and real test of the success for the model.

The success or failure of any management process relies heavily on the ability for the process to be *action oriented*. This criteria means that specific tasks need to be accomplished at all phases and those visible tasks can be assessed as to their success or completion.

Certain process tasks constant throughout the model. The four (4) process tasks were identified as: education, communication, action and updating. Each of these process tasks will have a group made up of representative stakeholders who are responsible for certain tasks throughout any project. The education of all the stakeholders needs to go on continually to insure that there are always people who understand and thus can drive the model. Ongoing education includes environmental issues and any other issues that might effect the success of the management of the scenic byway. It is critical for stakeholders to see what has been accomplished, and how their efforts have been worthwhile. If stakeholders feel appreciated and valuable to the process, it is much more likely that the project goals are met.

*Communication* is another example of an ongoing element in the model. Good communication helps to guarantee stakeholders' investment throughout the model. Continued communication on activities and issues helps when issues arise, create a feeling of trust among all those involved. Part of the communication aspect of the model is a continuous updating of stakeholders and determining when they need to be involved and in what way.

*Action* is another task that is a continuous throughout all phases of the model. The following phases may actually begin before a previous phase is completed. None of the phases are ever truly finished; the model allows for updates and new information to be used within the system. The use of "action" denotes not only the physical design and construction, but also suggests the maintenance of trust between all stakeholders, determination of when outside experts are needed, site plan review and the financing of projects.

*Continuous upkeep* and evaluation are also necessary constants in the model. The upkeep is necessary to preserve the integrity of the scenic byway. Some of the tasks for the upkeep portion are: maintenance of the management process, evaluation of individual projects and their effectiveness, collection and management of data, review of data and information and determination of the process needs, including the implementation of a visual study, for example.

A clear understanding of the interconnectedness of each model criteria that effect the visual landscape will insure that the health, safety and welfare of all the stakeholders are preserved. Often the health and safety of stakeholders are protected through building permits, and other regulatory measures. Development regulations apply to all designated areas, including scenic byway areas. The regulations, however, need to be more stringent where the visual landscape is the primary asset of the area, as with scenic byways.

Within a scenic byway scenario the welfare of the landscape and the community are being preserved. The enjoyment of the scenery, facilities and experience are a major attributes of the scenic byway experience. This experience also enhances to the general welfare and well-being of a community. The preservation and enhancement of their quality of life. Changes can have the potential or reduce that quality. Growth pressures, decay of resources and political or social changes can each have a very strong impact on the quality of the scenic byway experience. Which changes will most effected by the management model will vary depending on the resources, the application of the criteria and the strength of the management plan.

The proposed visual management model allows for continuous change, evaluation and reassessment. The model involves all stakeholders and is ultimately related to the area which it will manage. The success of such a model at the implementation level will be determined in large part by its simplicity and consistency of efforts toward continuing education.

## MODEL DEVELOPMENT

Four (4) basic purposes make up the intent of this management model process. These purposes encompass all of the criteria previously presented and to apply them to a management model for a specific scenic byway corridor. The first goal is to preserve the quality of life throughout the scenic byway corridor area over the long term. The second purpose is to involve all stakeholders. The third purpose is to be flexible and to accommodate change over time. The fourth purpose is for the model to be implemented with little expense. Each criteria can be grouped under one or more of these purposes.

The first is to preserve the "quality of life" for a given area. When considering the issues related to the quality of life study of the variety of processes that influence the visual character must be done. Not only the physical and visual/scenic character of the area should be considered, but also the social, symbolic, economic, ecological, political and circulation processes. Examining the visual process involves the experiential aspects of driving, such as sequential movement, distance zones, and viewshed limits. The "crippling effects" (Roberts, p.6) of industrialization and uncontrolled growth make it imperative that the preservation of the quality of life be sustained over time. Preservation of this quality also involves revealing the beauty of the area to visitors and local communities. For the beauty, the visual/scenic aspects, of the road and its corridor are exactly what visitors are coming to experience.

Secondly, the model is designed to serve and involve all stakeholders. The stakeholders are those people who travel in and interact with the landscape. Examples of stakeholders for scenic byway management are: those effected by or effect the management of the scenic byway and the processes related to it. Examples of those who should participate are: resource protectors, community leaders, consumers, service providers and landowners. Communication, a key to the success of the model, with the stakeholders can come in a variety of ways such as information, education, leadership and generation of trust and understanding between stakeholders.

Third, the model is to be simple and flexible. It seeks to establish a specific course of action while allowing for change. Simplicity is critical in order to smooth transitions as involved stakeholders come and go. Sub-processes allow for the entire model to be flexible, which means changing according to the needs of the area and the stakeholders. Flexibility insures a the model is dynamic allowing for change, both in the model and its implementation.

Finally, the model can be implemented with minimal expense, based on the resources of the project and the community. Involvement of stakeholders can easily reduce the costs of hiring outside consultants to implement the process. Other ways to reduce expenditures is pooling resources, applying for grants and developing incentive programs.

This model has two segments, similar to those used in the Strategic Planning approach; Strategy Formulation and Strategy Implementation. The first segment is the Process Setup, which involves Phases I, II and III. The second segment is the Continuous Process, which involves Phases IV through VII and beyond.

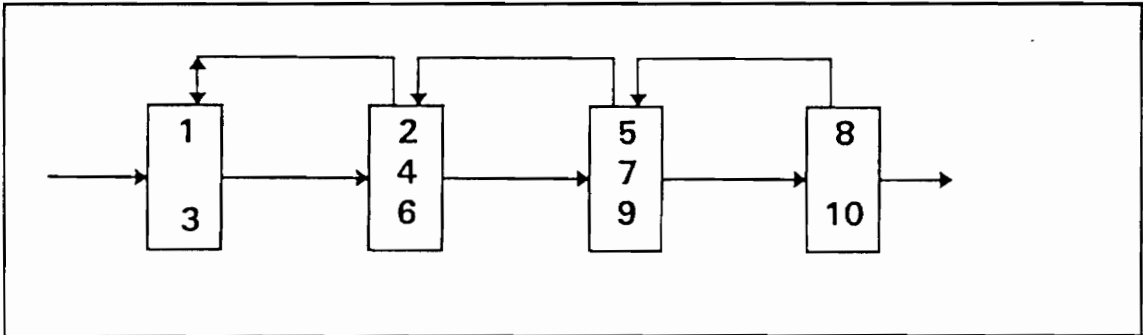


Figure 1 - The potential revisiting of a component while moving through the process.

The sixth and seventh phases are repeatable and continue an infinite number of times based on the needs of the project. Each phase may be repeated, leading to a repeat in all following phases. See Figure 1, the numbers represent different components of the process.

The number of stakeholders involved in each phase differs depending on the amount of need for input and the interest at any given phase. See Figure 2.

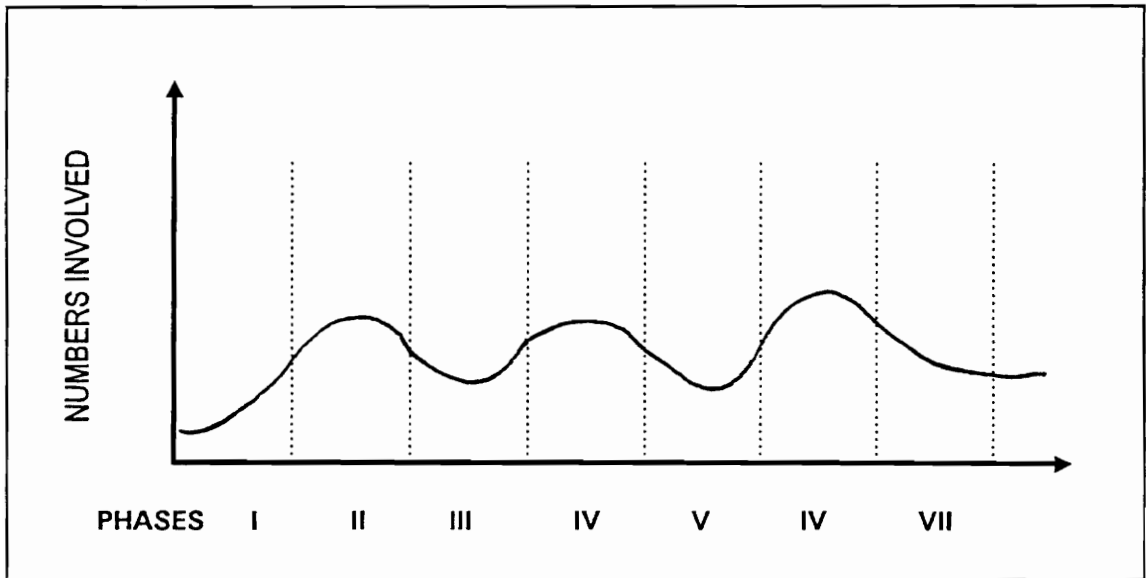


Figure 2 - The demonstration of numbers of stakeholders involved in any particular phase.

The decision to begin a development of a management plan of this kind comes about after several things happen. First the individuals interested in controlling the management of a scenic byway corridor come together. Interested parties are identified, like landowners,

commercial and retail owners, and environmental groups. They identify issues of concern, like safety, protecting resources, and opportunities for building a new bridge. At the same time possible impacts along the scenic byway are identified. Some impacts might be: increased traffic, visual quality degradation and increased development. A synthesis of these issues and impacts will help to determine whether or not there is a need or potential for a successful implementation of a management process such as proposed here.

Here is a major decision point. Three questions must be asked and answered before continuing the process. The questions are:

- Is the project worth while to continue?
- Do we have enough information to continue?
- Can we get the support and information needed to continue?

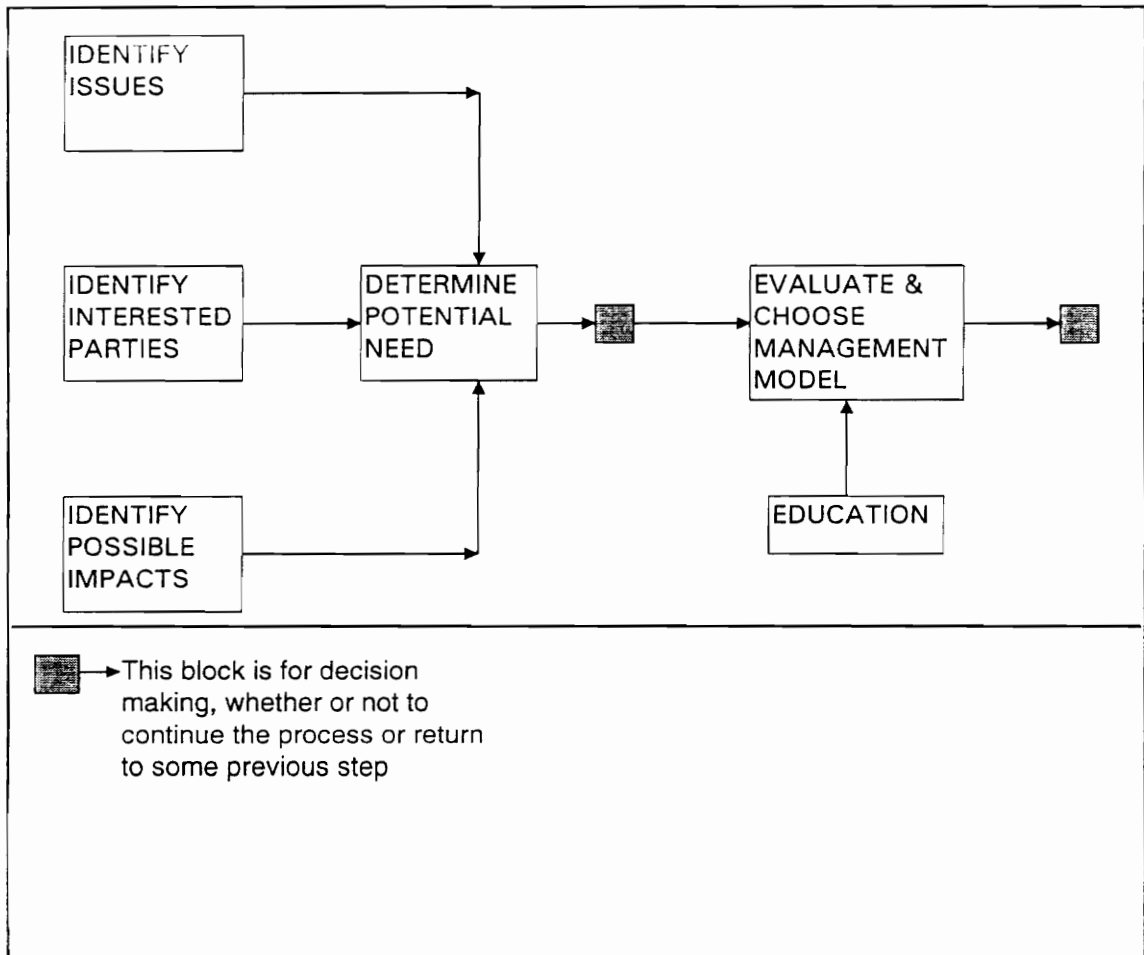


Figure 3 - What happens before the visual management model is selected.

If the answer to these questions is yes than a decision has been made to continue the

process. Any negative answer will not necessarily terminate the process, but will mean going backwards to gather more information before going forwards. Selection of a management model depends on the interested parties being educated about the models available and will meet their needs. After collecting information about the various models. A decision about which model to use occurs. Here is where the proposed visual management model is chosen and then begins.

Those recognizing the need for management have their concerns acknowledged. In this process it begins with Phase I, the Identification Phase. This phase usually begins with a few interested people who see a need for the protection and management of impending change along a scenic byway.<sup>14</sup> As more and more stakeholders and relevant systems are identified the number of people involved will increase, see Figure 2.

There are four (4) parts to this phase. The first is the identification of need for the project and the development of a statement of intent, a preliminary vision statement. This statement is distinct from the vision statement which is developed later in the model. The first one is important in developing the initial involvement of the public, as it will be reflected throughout the process setup stage. The one developed in Phase IV will be the permanent one to be used in guiding the project well into the future.

Each of the other three parts of Phase I can be accomplished simultaneously. The key one, however, is drawing up an exhaustive list which identifies the stakeholders of the project area. Identifying all the relevant systems at work in the area is the second part, especially those that effect the visual experience of the road is another part of the first phase. a sample of systems that may be considered follows: visual, environmental, social, political, economic, circulatory, and symbolic. The third part is the initiation of community education. This involves increasing public awareness about the issues connected with the byway project and the application of the model itself.

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<sup>14</sup> Designation of the road as a scenic byway is not critical to the process. However, if the road is designated, there are several added opportunities for financial support for development of the management plan and facilities and improvements along the road (especially provided for in the ISTEA legislation).

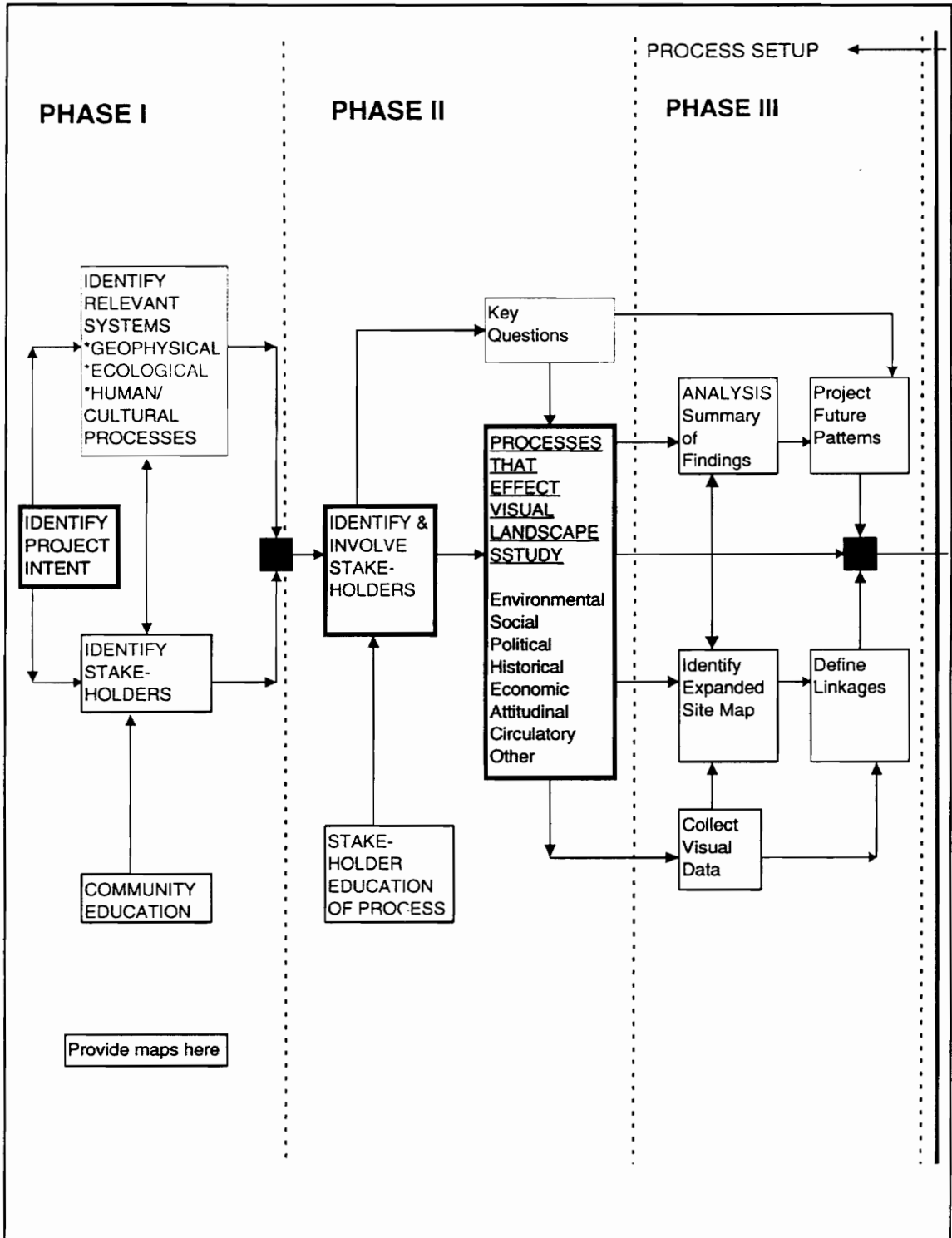


Figure 4 - PROCESS SETUP SEGMENT, Phase I, II, III

The part of Phase I that connects the model to the land is also the beginning of the visual aspects of management. Identification of the length of road and its right-of-way (ROW) determines the general parameters of the site to be managed. This determination may be stipulated a federal, state or local designation. However, it may be necessary to expand or reduce the road under consideration based on newly identified concerns or problems.

Phase II is the Instigation Phase. This phase has four parts: identification and involvement of stakeholders, stakeholder education, key questions and processes study. In Phase II, the numbers of involved stakeholders and issues increases dramatically. An expert may be brought in at this time to facilitate the model or provide specific information. More detailed education of the stakeholders about the model is a key ongoing activity of Phase II. They are educated about their responsibilities and the future phases of the project. Education helps the stakeholders become invested in the project.

Collection of information with regards to the processes at work within the scenic byway area is the primary charge of this phase. Maps of all study areas and their effect on the visual landscape of the scenic byway will be produced. To accomplish this, as many stakeholders as possible need to be involved in the study. Bringing the stakeholders together to answer key questions<sup>16</sup> is critical to having a thorough understanding of the area. These questions address issues that are critical an understanding of the area, the processes at work there and the application of a management plan. Each study of the processes at work along the byway corridor should include a brief history of how the process effected the area, what the process's influence will look like in the future given the same course of action and maps of where the process influences the land.

Phase III, the Analysis Phase, could begin during the Instigation Phase. This phase is made up of five parts: analysis and summary of findings, identification extended site map, Collect Visual Data (includes a map), Projection of future patterns, and defining linkages. Generally, this phase may need to be done by an outside expert. Connecting the visual studies and the process studies to the land is the primary goal of Phase III. Phase III involves a smaller number of stakeholders.

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<sup>16</sup> A list of twenty Key Questions is given in the appendix.

The analysis is a summary of findings from Phase II will be completed in this phase. From the analysis conclusions and directions of current patterns and future patterns will be defined. Once the future patterns are defined they can be reviewed and evaluated to determine if they are the patterns desired by the stakeholders. Any changes in the future patterns can begin to effect the overall visions of the byway.

The collection of visual data will involve some standard visual analysis, usually done by an expert. The visual analysis includes: viewshed limits based on moving along the road, visibility studies by season, determination of distance zones, and sequence studies. Combining of process maps will produce an expanded aggregate site map which reflects the linkages between various processes, a key to understanding what influences there are and can be.

A final expanded visual map will be the result of the combination of the process studies analysis and the visual studies. This is the initial part of Phase IV, the Vision Phase. Other parts of Phase IV are the vision statement, determining priorities, and barometers for inclusion and effectiveness. Central to Phase IV is the development of a vision statement. Involvement of as many stakeholders as possible is critical at this point. The vision statement will set the course of action for the management plan. How the large number of stakeholders will be involved will vary from locality to locality. It is critical to make sure that all have a say. It is critical to insure stronger vested interests in the plan.

Priorities will be set during the Vision Phase. Barometers will be developed which will measure the effectiveness of the tasks and process. Determination of when to involve which outside experts, resources and stakeholders will also be completed during Phase IV.

Phase V, Action Plan Phase, begins the continual process stage of the model. This phase has four part : an action plan, selection of a core group, education of new participants, and establishment of task processes. As Phase VI comes to a close Phase V is ready to develop an Action Plan. The Action Plan, the Initial Concept Plan, puts the vision statement into a physical form and determines priority locations and specific projects.

Selection of a core group to continually monitor future projects is important to the

maintaining the integrity of the scenic byway corridor. Selection will be determined by stakeholders active in the process. Establishment of a core group to management the task tracts of the task phase. This core group will have representatives for the various stakeholders. Their responsibilities are to oversee the task tracks and projects to insure compliance with the vision and priorities. They will probably need to be educated to the management process, as they may not be the same people involved at the beginning.

The core group will establish four task groups which will serve on an on-going basis. Once the task groups are assigned, specific projects can be initiated. These task groups are: update, action, communication and education. The responsibilities of each task group will be established during the Vision Phase, Phase IV.

At this point Phase VI, the Task Phase begins. Each task group begins doing its responsibilities. The Update Group will be responsible for: managing and updating data, maintaining the management process itself, collecting additional information related to issues that concern the byway corridor, and continual review of the integrity of the byway corridor.

The Action group is responsible for overseeing and implementing the actual physical changes within the byway corridor. They will carry on the site review processes, in conjunction with existing review processes, to insure compliance with stated priorities and vision. The financing for the entire project, as well as specific projects, will also come under their jurisdiction. Finally, they will help determine need and arrange for outside expert resources.

Communication is a key element in any organization. The Communication group's primary responsibility will be to keep all stakeholders informed about the management plan actions. They will pass on information about pressing issues and concerns related to the byway corridor. Maintenance of trust among the stakeholders and between the stakeholders and the core group is also a significant responsibility of this task group.

Working closely with the Communication group is the Education group. Their responsibilities are to provide on-going education for all stakeholders about the process and

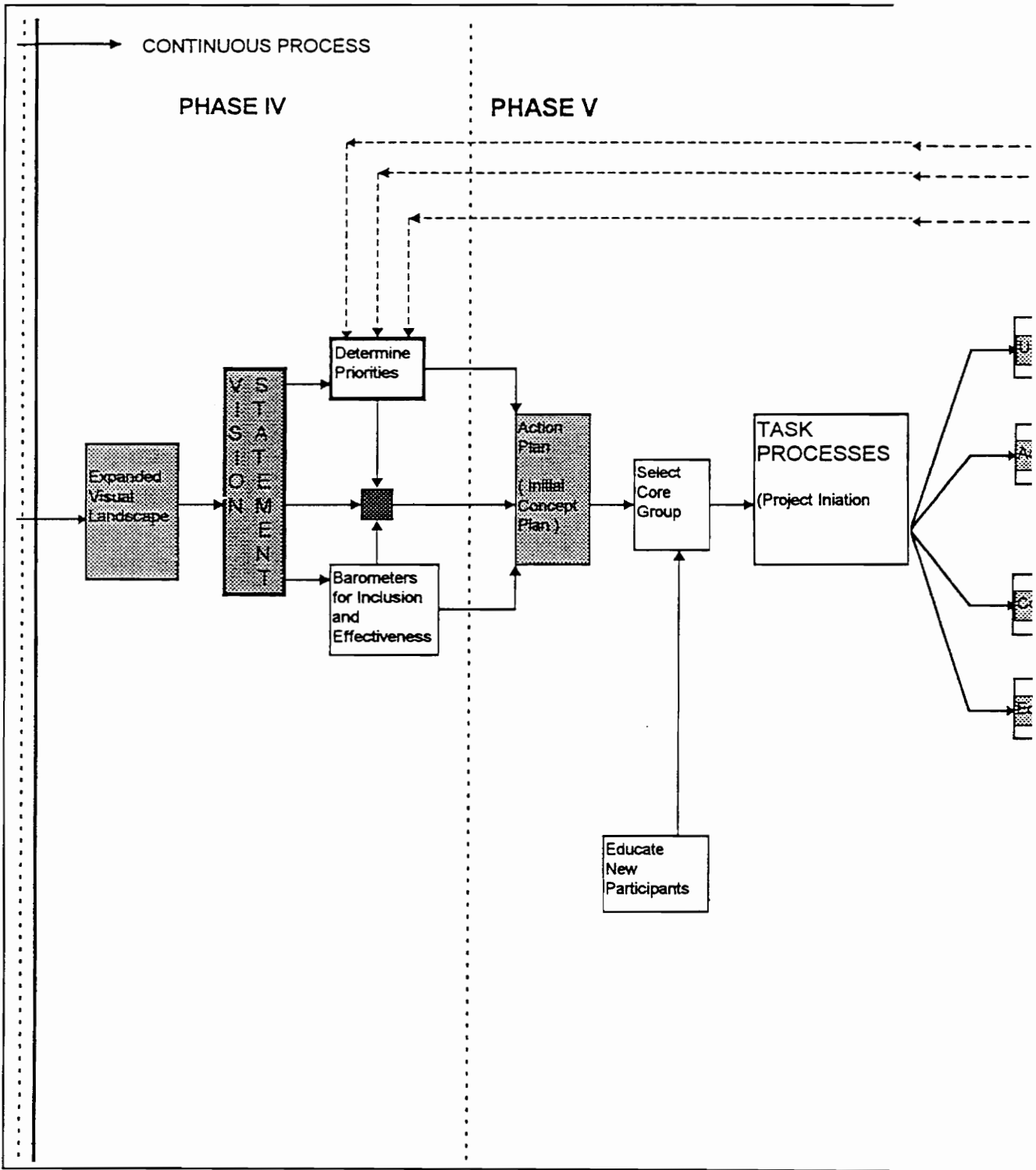


Figure 5 - CONTINUOUS PROCESS SEGMENT, Phase IV, V, VI, and VII.

what is happening with the management plan. They will also provide information with regards to environmental or other issues that effect the byway corridor, for example new information on environmental or legislative issues or technology.

As each of these groups is established, the first steps can be taken to implement a specific project in the Task Phase, Phase VI. In the Task Phase several projects may be going on at the same time. Specific tasks of Phase VI could include: assigning of specific tasks to project teams, informing the stakeholder about what is going on, beginning an Environmental Impact Statement- if one is required, and implementing a design, like hiring design and construction contractors.

Once the project is completed or a pre-determined period of time has past, Phase VII begins. Although not considered the final phase, Phase VII is called the Continuous Change Phase. This phase begins the process of evaluation and the input of additional information on each project. Here, new issues are presented along with the evaluation and both are reviewed against the priorities and effectiveness barometers. If, any disparages are found between what was established and what is a return to the Analysis Phase, Phase III, or the Vision Phase, Phase IV, is required and the process begins again.

## RESULTS

"Because history is unfinished business, the boundaries of its divisions continually move, and will continue to move for as long as men make history." (Kubler, p.35-35)

This model, like time and history, is never completed. It is a composite of several visual assessment and management models. The criteria used to develop this model were also used to evaluate the model.

Looking at the number of components in the model and all their interconnections, it seems at first to be very complex. However, if, when examining the model, one keeps in mind the model goals which are based on the idea of "any move forward requires a look back" than

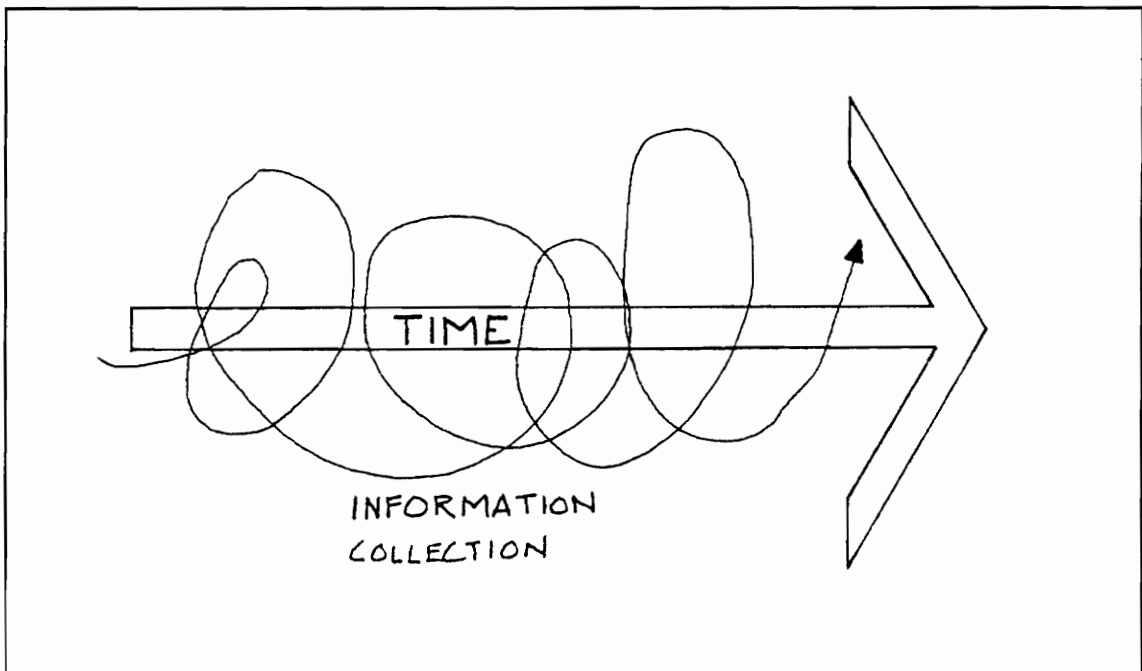


FIGURE 6 - For every move forward there is a look or return to that already passed.

the model is simple. How far back the look must go will vary from time to time and event to event.

The constant re-examination of previous phases creates a self-assessing and self-correcting environment within the model. An environment of this kind is better equipped to recognize

and support change. Built into this model is the flexibility necessary for accommodating shifting priorities and issues. Although there is a continual backward look to previous phases, there is no need to "re-invent" the process itself or to begin from scratch.

Another big advantage of this model is the involvement of all stakeholder. It encourages involvement and allows for that involvement to happen for either short or long periods of time. As the development of trust and the exchange of information continues, many more stakeholders will be drawn into participate. Reliance on the model to protect the integrity of the area will hopefully be engineered by the effectiveness of the model and the trust generated among the stakeholders. One of the significant aspects of the model is that the local stakeholders are the experts about the land and the people. Outside experts are used as a resource for specific information and are used for short periods of time during specific phases of the process, such as visual studies.

Tying the management model to a specific landscape and basing the process on the unique cultural and regional qualities and issues preserves the local flavor. Using visual studies to define the extent of the site and to identify the scenic resources of the wider area, makes possible more sensitive management that can enhance the experience of the scenic byway.

Overall, this management model meets the criteria established from the visual assessment and business approaches previously presented. This management model uses maps as a resource for the start up segment to determine the physical extent of what is important. The maps also help to explain and present the ideas and issues to the stakeholder.

This model becomes extremely sensitive to any change within the scenic byway corridor. Development is controlled within these process will then reflect that sensitivity as well. Outside forces that have the power to change the inherent character of the scenic byway corridor will in turn be guided by the more sensitive criteria established by the process.

Much of the sensitivity of the process is a result of the involvement of all the stakeholders. This is a divergence from traditional visual assessment and management processes. Within several new business management models presented here, however, the involvement of stakeholder is critical. When stakeholders concerns are being addressed, they will much

more readily have a vested interest in the success of the outcome. If they are vested, they will give greater support for the overall intent of the project and the management of the scenic byway corridor. Involvement of the individual stakeholder also helps to custom fit the process and plan to the area in which the byway exists. The concerns, qualities and issues of the specific region are identified for the area by those that are effected by the plan the most. This gives the finished product, the scenic byway, a unique look. It creates an experience unique to that area or region.

There are several limitations of this model, they are as follows: the unreliability of stakeholder involvement, possible lack of consistent leadership, limited resources, restrictions from local mandates, and the difficulty in legally defending management decisions. The involvement of all the stakeholders is one of them. When stakeholders are to be involved is stipulated throughout the model. But the exact tools to be used to involve them are not presented. There are a lot of available tools which can involve the stakeholder. These are especially necessary in Phase II.

Another related limitation is the potential for inconsistency in the leadership, and therefore, a faltering in the process. Often those who spearhead a process of this complexity become overwhelmed by the long term needs draining on their energies. It is the intent of this process to promote the opportunity for changing leadership to occur at the different phases. With the continual education of all stakeholders, the availability of others to take on different tasks should be great.

Financial constraints may always limit the size of a project and the amount of expert resources. But, limited finances do not necessarily limit the overall process. Fore appreciating the potential of the stakeholders and their assets will go a long way towards getting thing done.

The existing legislation that effects the management of a scenic byway may well be a limiting factor for this model. Stringent laws and inflexible officials may create road blocks which prevent the successes of the model. When problems develop and legal actions are taken this model may not hold up against the private property rights of the landowner. However, the more involvement the community has the greater opportunity for the model

priorities and barometers to be effective in controlling change.

This model can be used to manage any linear landscape, or other community landscape. Its flexibility allows it to adopt to the unique characteristics of a unique area. That community can then develop its own priorities and barometers to meet its particular needs. Bringing stakeholders together allows them to become invested in their community and the management of future change.

## SUMMARY AND CONCLUSION

The application of the business models for scenic byway visual assessment and management is very useful. It allows for a flexible process that insures the quality and integrity of the area to be preserved while allowing for change. Some of the strongest principles of the business management models are: the expression of intent, the involvement of the stakeholder, the constant reevaluation and the establishment of barometers for success. There are, of course, some limitations to the application of business management processes. The primary limitation is the fact that within the business hierarchy, generally, the upper level management implements the process. In the case of this process, the stakeholders become the implementors. Cultivation of stakeholders who become truly committed to the process may be most crucial to the success of the project. Also, understanding the scenic byway as a commodity, the concept borrowed from the business management approaches, is crucial to success of the visual management model.

Applying a model such as this to a scenic byway may be difficult if there are established processes already in place. Getting people to change from what they know to something unfamiliar requires effective education and a commitment from stakeholders. If the management processes in place are established by federal or state agencies, convincing the agencies that this alternative procedure may be successful can be also problematic.

Proposed processes like this one are also difficult to implement due to existing mandates which require explicit justification that may need to hold up in a court of law. These difficulties and limitations offer direction for further research. Research must be done to put an actual scenic byway management project through this process to see its effectiveness. Work on establishing trust and involvement of stakeholder is another area for continued research.

The results of this thesis can be useful for Landscape Architects for determining their acquisition and application of certain skills. Landscape Architects need to be able to :

- identify cultural and environmental processes at work through the visual evaluation of the landscape,

- be well versed in the issues related to visual issues, and
- recognize their role and effectiveness in design and planning processes.

Other applications for landscape architects that became clear in this work are:

- an understanding that they need to learn to be leaders for relevant issues,
- they must be involved with and educated in community design and development issues, not just experts on resources,
- they need to be skilled at running public workshops, including public presentations,
- they must be sensitive to and able to identify community issues and values, and
- they must be able to present and develop continuous evaluation methods to assure adaptability for change.

## APPENDIX

### FEDERAL VISUAL MANAGEMENT STUDIES

Over the last twenty years there have developed many visual assessment systems / approaches for the management of visual resources (Visual Resource Management - VRM). They have come from both the private and public sectors. Federal visual assessment programs have traditionally focused on rural landscapes and been used in various ways to manage landscape changes. Federal programs were developed by and for the Bureau of Land Management (BLM), United States Forest Service (USFS), National Park Service (NPS), Soil Conservation Service (SCS), Army Corps of Engineers and Housing and Urban Development, to list a few. VRM is mandated for all federally managed lands. It is used to develop management plans and for any Environmental Impact Statement (EIS) required.

Scenic byways are generally on the interface between the countryside and developed areas. They are designated often to protect the existing resources of the area and often have many impending developmental pressures. The focus, therefore, here is upon three federally developed and practiced approaches, as they relate to management of change. Each program is well established and were developed "to deal with three classes of problems: (1) visual inventory and analysis systems for large landscape areas needing landscape planning, (2) systems for scoping of potential visual impact or determining thresholds, and (3) systems for detailed evaluation of visual impact." (Smardon, et al, 1986, p.144) Each system involves, in different ways, an inventory, assessment and mapping to determine management practices, based on management objectives, visual quality maintenance levels and a priority evaluation.

Discussion will begin with the United States Forest Service (USFS) approach. It includes acknowledgement of the 100+ federally designated scenic byways within or adjacent to USFS areas<sup>16</sup>. The second approach to be discussed will be the Soil Conservation Service (SCS) approach which is geared toward working with and making recommendations to private landowners in a public-private partnership. Finally, the Bureau of Land Management (BLM) system. Their designated 'backroads', the equivalent to scenic byways, and their involvement of permitting are also a consideration within the BLM management system.

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<sup>16</sup> The author is aware that the US Forest Service is in the process of revamping their VQO system. At this time, however it is still being tested and is not available for public consumption.

## UNITED STATES FOREST SERVICE (USFS)

The United States Forest Service (USFS) is an entity within the United States Department of Agriculture. Its visual management system is an expert system which determines Visual Quality Objectives (VQO)<sup>17</sup> used by the ranger to help determine management practices within any given forest. The VQO system has been in place since the mid 1970's. It was developed in and best suited for natural areas of heavy vegetated mountain landscapes of the Pacific Northwest and Rocky Mountains<sup>18</sup>. The visual management system establishes criteria for identifying scenic quality and selection of appropriate action while recognizing the variations in landscapes - both visually and in resources. This system provides guidelines for the management of public lands using visual criteria in conjunction with other management objectives, like fire, wildlife, air quality and soils (Department of Agriculture Handbook 462) giving each equal levels of importance reinforcing one another. These visual objectives determine the degree of allowable modification or change for each area within the given forest.

The Visual Management System is based on about 15 premises which steer the entire visual management system. These can be divided into three basic groups. Those that have to do with the:

visitor- expectations, concerns, number and duration

landscape- character, diversity, features, view position, angle and distance, and

management- identification of what is to be maintained or altered, the absorption rate<sup>19</sup> and how visible are activities in the landscape.

The visual assessment system is made up of three steps: a land base resource identification, an inventory element and the product element where Visual Quality Objectives (VQO) for management are defined. The land based resource element identifies and characterizes the visual resources. The second step is made up of three sections: identifies character types and determines variety classes and sensitivity levels. Finally, a three way matrix is set up to connect the visual quality and land use assign sensitivity levels to each area. These ratings are then mapped on Visual Quality Objective (VQO) maps determining management practices in the field.

In the first step, the land base inventory the *visual resources* are identified and mapped. The physical attributes of landform, water and vegetation are what are studied. Wildlife and recreation objectives are also clarified to be used later in the establishment of the VQO.

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<sup>17</sup> Visual Quality Objectives (VQO) are defined in the detailed description of the system, see glossary.

<sup>18</sup> The USFS has revised their visual assessment system and it is currently being tested in several forests throughout the US. It is the intent that the revised system be more applicable to other landscape types and include other criteria for decision making. However, it is not available at this time for review to the general public.

<sup>19</sup> Absorption rate: the rate, or ease, changes in the landscape are no longer distinct from the surrounding texture and landscape character.

In the second step, inventory, there are basically three sections for evaluating the resources of the area. The first is the establishment and classification of character type or *variety classes*. This is a rating of the visual resources identified in the first step description of the site by landform, rock form, vegetation, and water form. Each of these is then rated as to its uniqueness, as follows:

**VARIETY CLASS** (landform, rock form, vegetation, water forms: lakes & streams)

- |          |             |  |
|----------|-------------|--|
| <b>A</b> | Distinctive | unusual or outstanding                 |
| <b>B</b> | Common      | variety as common to area              |
| <b>C</b> | Minimal     | little change, not in above categories |

The second section combines the ratings of sensitivity and distance concerns. This section takes into account the visitor and his location, route, and use in the area. Once the visitor's vantage points are determined, the visitor's possible levels of concern for the scenic quality of the area are rated. *Sensitivity levels* fall into three categories as follows:

**SENSITIVITY LEVELS**

- |          |         |   |
|----------|---------|---|
| <b>1</b> | Highest | all "seen & use" areas, national importance, primary ecological, the most stringent |
| <b>2</b> | Average | all seen & use areas not in 1, community importance, secondary ecological           |
| <b>3</b> | Lowest  | secondary travel interest, not major concern for scenic interest                    |

The sensitivity levels also reflect the distance of landscapes viewed by the visitor. There are three general *distance zones* defined by the USFS:

**DISTANCE ZONES**

- |           |              |   |
|-----------|--------------|---|
| <b>FG</b> | Foreground   | distance which details can be seen, .25 to .5 miles       |
| <b>MG</b> | Middleground | individual textures not discernable, from fg to 3-5 miles |
| <b>BG</b> | Background   | texture groups and patterns, from mg to infinity          |

The first two steps are combined in a matrix that determines the relative visual quality objectives (VQO) to be mapped. *Visual quality objectives (VQO)* establish the course of action allowed on a specific land area. There are five VQO which range from no alteration (the most pristine) to a maximum level of modification (least pristine). The objectives are assigned to areas and mapped within the forest. What follows is description of each Visual Quality Objective (VQO).

#### VISUAL QUALITY OBJECTIVES:

<b>P</b>	<b>Preservation</b>	allows for ecological change only and minimal visual impact from recreational facilities
<b>R</b>	<b>Retention</b>	ensures that man's activities are not visually evident to casual visitor, meeting this objective is to be completed immediately after modification
<b>PR</b>	<b>Partial Retention</b>	man's activities are visually subordinate to characteristic landscape; meeting this objective is to be completed within one year of modification
<b>M</b>	<b>Modification</b>	man's activities evident but done to maintain character & appear as natural, meeting this objective is to be completed within one year of modification or as regionally stipulated
<b>MM</b>	<b>Maximum Modification</b>	man's activities dominate (harvest, traversing, transporting or replenishing), meeting this objective is to be completed within five years

For any of these quality objectives, which are long term goals, there is often a short term goal necessary to restore the undesirable landscape to the desired level of visual quality.

The two short term rehabilitation alternatives are:

#### SHORT TERM ALTERNATIVES

<b>reh</b>	<b>Rehabilitation</b>	return existing landscape to desired visual quality
<b>e</b>	<b>Enhancement</b>	increase positive visual quality

Once the Visual Quality Objectives are mapped, approval must go through the Forest Land and Resources Planning approval process after which it may be adopted and then implemented. These visual quality objectives are used to control facility development, resource harvesting and forest management.

Generally, the Visual Quality Objectives (VQO) along scenic byways within the National Forest are either Retention (R) or Partial Retention (PR). These areas adjacent to designated scenic roads are considered the Highest Sensitivity Level (1). In some cases Preservation (P) will be designated, especially for wilderness areas within a scenic byway corridor and modifications are limited to ecological and recreational facilities that have very low visual impact. . Modification (M) objectives may be designated for areas farther from the road. Those which are not considered background views are the Minimal Variety Class (3).

Retention (R) areas limit modifications to those that meet the performance standards which reflect the predominate landscape characteristics and changes must be visibly evident subordinate. Two examples of changes that can occur under this designation include: clearings and plantings that repeat the existing patterns in the landscape and changes in vegetation cover that reflect natural areas.

Though more expanded in the acceptable modifications, Partial Retention (PR) performance standards limit modifications to those that "remain visually subordinate to the characteristic landscape" (Department of Agriculture, 1974). Specially designed clearings, partial cuts, trail and road alterations, and facility improvements and developments are acceptable performances under this designation

This system is good at easily identifying poor management practices and putting poor

management practices 'out of site'. The USFS visual assessment program determines the goals for detailed maintenance and management practices to enhance the visual experience of scenic byways, especially the sequential experience. Another advantage of the USFS program is that it has clear goals and objectives to more precisely implement changes on their own lands.

A concern with the visual assessment system is the difficult task of maintaining the continuity of the pleasurable driving experience along scenic byways through public and private lands within USFS areas. Management and analysis must include private lands within USFS areas, as well as USFS lands.

## SOIL CONSERVATION SERVICE (SCS)

The Soil Conservation Service (SCS), an entity of the United States Department of Agriculture, focuses on general and diverse identification of land use areas and landscapes. The belief is that the SCS Landscape Management System (LMS) is applicable to the large variety of landscapes and land uses. Direct application of this process to scenic byways or linear corridors is not a part of the SCS system for the process is currently used to maintain landscape quality for soil conservation and watershed development. Another unique aspect of the SCS system is that it simply identifies areas to be studied further by a landscape architect. The SCS system is less quantitative than either the BLM or USFS assessment systems.

Unlike the other systems, USFS and BLM, the history of the SCS Landscape Management System (LMS) has been shorter and had fewer influences. It was first developed in the mid 1970's and formally published in the late 1970's. Both large and small scale application of the SCS process are common. Requests come from: individuals to SCS for advice on specific sites, communities wanting to conserve the agricultural of the area, or from resource agencies needing to protect their water and soil resources. The LMS process effectively engages private land owners, helps them to understand visual resources and cooperative to suggested courses of action, and is more responsive to the land and the public.

As to the other two systems the LMS system has three basic components; the land, the people and the management. Each component is defined and rated on a matrix and then mapped. The first component is an inventory of the land, focusing on the Visual Resource Quality. At this step, each visual resource element (landform, vegetation, water, man-made structures and combinations) is rated. The evaluation and rating of the other elements in combination is a unique aspect of the SCS system. It acknowledges that some man-made and natural elements actually visually enhance one another. Ratings are defined and vary in magnitude; three (3) the best, or "distinctive"; two (2) "average"; one (1) "minimal." These ratings are based on comparisons to color photos taken throughout the United States which illustrate the ranges considered for each rating.

Peoples relationship to the land area, the second component of the LMS system, is actually composed of two parts, the rating of landscape use and visibility. These ratings record

peoples' sensitivity to changes in the landscape. Landscape use rates the types of use, such as direct, indirect or combinations and the relative importance of the use from most important, important, minimal importance.

Visibility, a person's ability to see parts of the land and resources to be seen and understood<sup>20</sup>, is then analyzed based upon the following factors contained in each view: 1) number, frequency and duration of views, 2) expectation of the viewer and 3) viewer location and position. These factors are then compose the visibility rating; high, average or low.

The Visual Resource Quality, Visibility and Landscape use ratings are finally entered into a three way matrix which identifies priority areas for more detailed landscape architectural analysis and design.

Although the processes of the USFS and the SCS have similar components, the criteria and conclusions are very different. The USFS process seems applicable for scenic byways in terms of analysis, because it considers distances from the road. However, the SCS process can better apply to scenic byways in identifying areas to be designed by a professional landscape architect through determination of public need, site specific use and culturally influenced landscapes.

## BUREAU OF LAND MANAGEMENT (BLM)

The Bureau of Land Management (BLM) Visual Resource Management (VRM) system, under the Department of the Interior had its beginning about the same time as the USFS system, in the mid 1960's. However, its history and focus are different. Designers of the VRM system developed the visual resource management system primarily applied to the regional assessment studies for special areas or uses. The system is used to evaluate the impacts of specific use permit requests by demonstrating where to focus mitigation measures within BLM lands. An expert based system, the VRM relies on three underlying premises. These premises describe perceptions about visual quality and assume that the perceptions are the same for every landscape, despite terrain or individual user perceptions. They are as follows (U.S.D.I., BLM, 1980, P.13):

- Landscape character is primarily determined by the four basic visual elements, *form, line, color texture*. Although all four elements are present in every landscape, they exert varying degrees of influence.
- The stronger the influence exerted by these elements, the more "interesting" the landscape is considered to be and therefore to be protected.
- The more visual variety in a landscape, the more aesthetically pleasing the landscape. Variety without harmony, however, is unattractive. Especially when alterations or cultural modifications are made without care.

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The term visibility here is used in more general way. Traditionally visibility refers to how far a viewer can see and how clearly the features he is seeing are, based on a particular observation spot.

Generally considered by experts in the field to be more quantitative than the USFS VQO system, the BLM system rates the impacts of the proposed change. The VRM process is made up of a three steps and implemented by an interdisciplinary team of experts. It begins Step 1 with an inventory of the area and then evaluates the area based on three (3) distinct ratings. These ratings determine what is seen in the area, how often it is seen and at what distance it is seen. The second step determines management classifications for the land in question. These classifications are based on the overall objectives and intents for the entire area. Finally, the third step, consisting of two phases, determines whether or not the intended change can occur. Phase one of the last step is a contrast rating, which determines the amount of impact acceptable to the visual landscape. Phase two is the process of environmental assessment, which determines the impacts to the environment in general.

Most of the visual assessment takes place in the first step. Step 1 consists of an overall inventory and three ratings: Scenic Quality, Sensitivity Level and Distance Zones. After the inventory, the areas' Scenic Quality/evaluation rating begins. This physically based part of the process evaluates landform, vegetation, water color, adjacent scenery, scarcity and cultural modifications. This list of elements is unique in that it includes man-made structures- cultural modifications, the amount - scarcity of the elements, and adjacent scenery - how elements blend with other elements. Each attribute is evaluated against a pre-determined rating chart. The number ratings are combined and the totals determine scenic quality classifications. Each area then has its ratings totaled. Totals will fall into classes:

- Class A - a combination of the most characteristics of each element,
- Class B - some outstanding characteristics and some common landscape elements, or
- Class C - areas of mostly common landscape elements.

The second rating, Sensitivity Level, evaluates each areas' sensitivity by the public or user. Two rating components make up this step, Use Volume and User Attitude. Use Volume ratings reflects the number of users, and/or the number of times an area is seen. The ratings are calculated in a variety of ways, including counting of cars and visitor use. Ratings are determined to be Low, Medium, and High depending on the determined or estimated numbers of users. The second component, User Attitude, reflects individual preferences based on cultural considerations, values, education and specific geographical experience. A report on potential impacts is presented for public review. The public concerns about the changes are recorded and rated: Low, Medium, and High. It is only at this step that the public is involved in the VRM Process.

The third and final rating of Distance Zones is done before management classes are determined. Distance zones reflect the relative proximity of an area from a particular point to the observer. They have three category ratings; a combined foreground/middle ground, background and seldom seen. The assumption here is that areas that are closest to the observer have the greatest impact and they are considered to have a higher degree of sensitivity and must be more carefully designed.

Once these ratings are combined in a three way matrix the combined results are mapped and evaluated to determined visual management classes, the second step in the VRM. These five (5) management classes prescribe the amount of acceptable change in the

studied area.

- Class 1 - very limited management activity and change must not attract attention to itself. (similar to the USFS VQO - Preservation)
- Class 2- changes may be seen, but must not be evident. ( similar to the USFS VQO - Retention)
- Class 3 - changes must be subordinate to the overall character of the area. (similar to the USFS VQO - Partial Retention)
- Class 4 - changes that are evident must reflect the character of the area. (similar to the USFS VQO - Minimum Modification)
- Class 5 - the natural characteristic of the landscape is disturbed to such a degree that measures must be taken to elevate the class rating over time. (equals the USFS VQO - rehabilitation/ enhancement)

These ratings combined with the first two steps lay the groundwork for establishing visual management and development objectives for an area's Land Use Plan. How much of an impact a change may have is determined in the Contrast Rating and Environmental Assessment process of Step 3. The Contrast Rating determines whether or not a project meets the visual goals for an area. Contrast Rating is unique to the BLM Visual Resource Management System. The intent of the Contrast Rating is to measure the degree of change between the existing landscape conditions and the proposed changes caused by the activity. A score is developed and evaluated against an allowable level for each management class. If the rating does not meet the management requirements, the project may be halted. However, it can go forward if there are enough mitigation measures incorporated into the final design to moderate objectionable aspects of the project.

## ALTERNATIVE BUSINESS MANAGEMENT APPROACHES

### TOTAL QUALITY MANAGEMENT (TQM)

Total Quality Management (TQM) is a process and framework for business management that has been in use since the 1980's. It is a mode of management that was developed primarily by Dr. W. Edwards Deming with Japanese businessmen. Dr. Deming's theoretical basis was combined with the practical administrative system of the Japanese business practices. It has led to a system that stresses quality of services and products as a to guide business decisions. An increase in profits, competition in a tight market and staying ahead of current market trends are results of implementing Deming's theories. TQM is a management process that is "continuously pursued, and improved, by the leadership of an organization" (Gitlow & Gitlow, 1994, p.16). Successful incorporation of TQM principles demonstrate that precise implementation by an educated group can insure the longevity of a business in today's turbulent markets.

Dr. Deming proposes a 14 point process that can transform an organization. These points are based on four (4) broad premises which initiate a new way of looking at the institution's environment, whether corporate or public. These premises are as follows:

- 1) to create win-win condition / environment
- 2) to create intrinsic motivation
- 3) to manage for a long-term vision and results, not stop gaps
- 4) to manage for the promotion of cooperation, not competition

Upon adoption of the general concepts of the TQM process, or system<sup>21</sup>, TQM can be put into effect. The system involves education of organization personnel, as well as all those who effect or are effected by the system. Education involves passing on of information about changes in philosophy, goals, organization structure products, etc. Education is critical to the successful conversion to the TQM process. The new system's goals determine actions for more productive ways of doing business.

Dr. Deming proposed the following 14 point process:

1. develop a consistency of purpose
2. adopt new philosophy
3. build quality in at the beginning
4. establish long term relationships of trust
5. maintain continuous improvement
6. begin on the job training
7. initiate leadership incentives to do a better job
8. eliminate fear
9. de-compartmentalize jobs and departments

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<sup>21</sup> System is "a collection of components that interact and have a common purpose" (Gitlow & Gitlow, 1994, p.27).

10. eliminate number oriented goals, slogans, etc.
11. eliminate quotas
12. eliminate barriers that reduce workmanship
13. encourage education and self improvement
14. take action

TQM can be considered a "road map" (Gitlow & Gitlow, 1994, p.1) for any business. It seems appropriate then that TQM can be used for the implementation of scenic byway management. Especially since the process can adapt easily to those changes in personnel and objectives with adequate education. Although all of the 14 points of Dr. Deming's system can be adapted to the scenic byway management, some alterations would be necessary. The alterations would necessarily take into account unique aspects of scenic byway designation and management.

The long term management and enforcement of a scenic byway's goals and objectives is often left up to others not involved in the original designation, or who do not have a stake in the outcome of the process. Suggested adaptations of the TQM process can be more clearly presented in the following presentation of the 14 point process:

1. consistency of purpose - competitive, stay in business, provide jobs, quality of life and economic stability
2. adopt new philosophy, or initiate a new one that incorporates new goals and objectives for the scenic byway
3. build quality (of life, area and landscape) in at the beginning of the process
4. establish long term relationships of trust within the locality (not only of one good supplier, but of goods, services and political entities that can support the scenic byway )
5. continuous improvement, which will eventually reduce costs for maintenance and management
6. provide for continuous training of all stakeholders, including continuous updating for the stakeholders
7. establish leadership opportunities to do a better job
8. eliminate fear, either of failure or acceptance of new ideas &/or established ones
9. allow for integration of all activities and shared responsibilities
10. eliminate the narrow focus upon number oriented goals, slogans, etc., such as; the number of people who go through area or amount of sales for local establishments; these can be used as a barometer of effectiveness, but not quota goals to be met
11. eliminate quotas (same as 10)
12. eliminate barriers that reduce workmanship, especially service
13. encourage education and self improvement (same as 6)
14. take action - get started!

## SUSTAINABLE PERFORMANCE MANAGEMENT MODEL

Another approach of notoriety is the Sustainable Performance Management approach. In areas of agriculture and other resources development areas, such as timbering, it is an more easily accepted practice. Sustainable performance in business, according to Dennis C. Kinlaw, is that "performance that is environmentally responsible and fully sustainable in relation to the earth's resources" (Kinlaw, 1993, p.xiii).

In business management, this shift away from reacting to the market towards a pro-active stance is still a foreign idea to many businesses. Pro-active stances include: leading the market through innovative product development and protection of natural resources for the future. In the United States, where there are seemingly unlimited resources, businesses have traditionally used resources with little or no regard for the land, before, after or during the resource harvesting.

The reactive stance is one of short-term planning and depleting financial resources to reduce the legal limits of environmental controls. In more recent years, the success or failure of a business often has been determined by the stance that a business has taken. Those that are not as concerned with long term planning have often fallen by the wayside. Those which have long term goals that go beyond the minimum required by law and support the environment have had more success.

Sustainable performance in business is an expansion of the Total Quality Management (TQM) to Total Quality Environmental Management (TQEM). This is a shift away from merely simply using the environment towards cooperation with the environment is good for business. The shift helps to:

- heal the planet,
- maintain and improve organizations competitive positions,
- avoid many unnecessary costs (for clean-ups, fines, litigations, energy waste, unnecessary materials and waste disposal and handling),
- create new opportunities for products, distribution and services,
- expand markets as customer become more environmentally savvy, and
- improves their public image.

'Going beyond the minimum' is taking what may be called a life-cycle approach to management. This can be seen in the application of these principles in business for so that what is good for the environment is good for business and visa versa. "Sustainable performance is the evolution of organizations into wealth-producing systems that are fully compatible with the natural ecosystems that generate and preserve life." (Kinlaw, 1993, p.8) This shift will require all involved to learn more, apply more of what they already know in a new, way and to share with others a ecologically healthy vision of our world in the future.

Another view of what the shift will require is offered by Kevin Lynch in the following

statement. "One strategy is to find an ethical and aesthetic basis for accepting present cost to preserve future resources, even though we cannot make a numerical calculation of the present value of those future resources." (Lynch, 1972, p.102) This strategy has been called "conservation" in many realms, including business and ecology. Development of such a strategy is critical to the maintenance of our environment through the protection, regeneration and careful use of our resources. "Conservation is the maintenance in the present of resources that, it is judged, will be important even in the long-range, largely unpredictable future" (Lynch, 1972, p.103).

Installation of conservation, ethics and aesthetics into a management process based on profits is possible only if executives are open or looking for new ways of doing business. Although there are many reasons to look for different ways of doing business, why it is done is not as important as how the new strategies are implemented. There is, however, the possibility, when the process is not thought through, to have the process set up for failure from the 'get go'. Consequently the success of the process depends on the quality of the process and dedication of those implementing the process.

The Sustainable Performance Management Model is a way to shift from the traditional way of doing business. It incorporates the assumptions of "total quality, zero error, team development, and total customer satisfaction" (Kinlaw, 1993, p.157). These ideas form the principles on which Sustainable Performance Management is based. The principles that are most relevant to scenic byway management are:

Sustainable Performance Management is:

- a process of systems thinking, analysis, and integration
- an ecologically interdependent process
- results oriented
- a community building process
- limiting process (limited by costs, natural and human/cultural resources)
- an open process based on open and clear communication
- a process of continuous improvement, and
- a data-based process requiring concrete information

These eight principles are the basis for the eight (8) 'milestones'<sup>22</sup>, or steps that comprise a Sustainable Performance Management system<sup>23</sup>. The results of such a system of thinking, analysis and feedbacks is an integrated organization with improved performance. The milestones are those levels that need to be reached in order to obtain sustainable performance. The improved performance is not measured strictly on profit and loss ratios, but on accomplishments, quality improvements, and how the change has improved the environment, since it is the most important supplier and customer.

The first two (2) milestones are critical to insuring the successful buy into the others. Milestone one (1) is the *establishment of new policy* that places the environment as a top priority. Second (2) is the *establishment of baselines*, or "where we are now." Although management is the first to buy into these principles, it is imperative that all members of the

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<sup>22</sup>See Glossary.

<sup>23</sup>See Glossary.

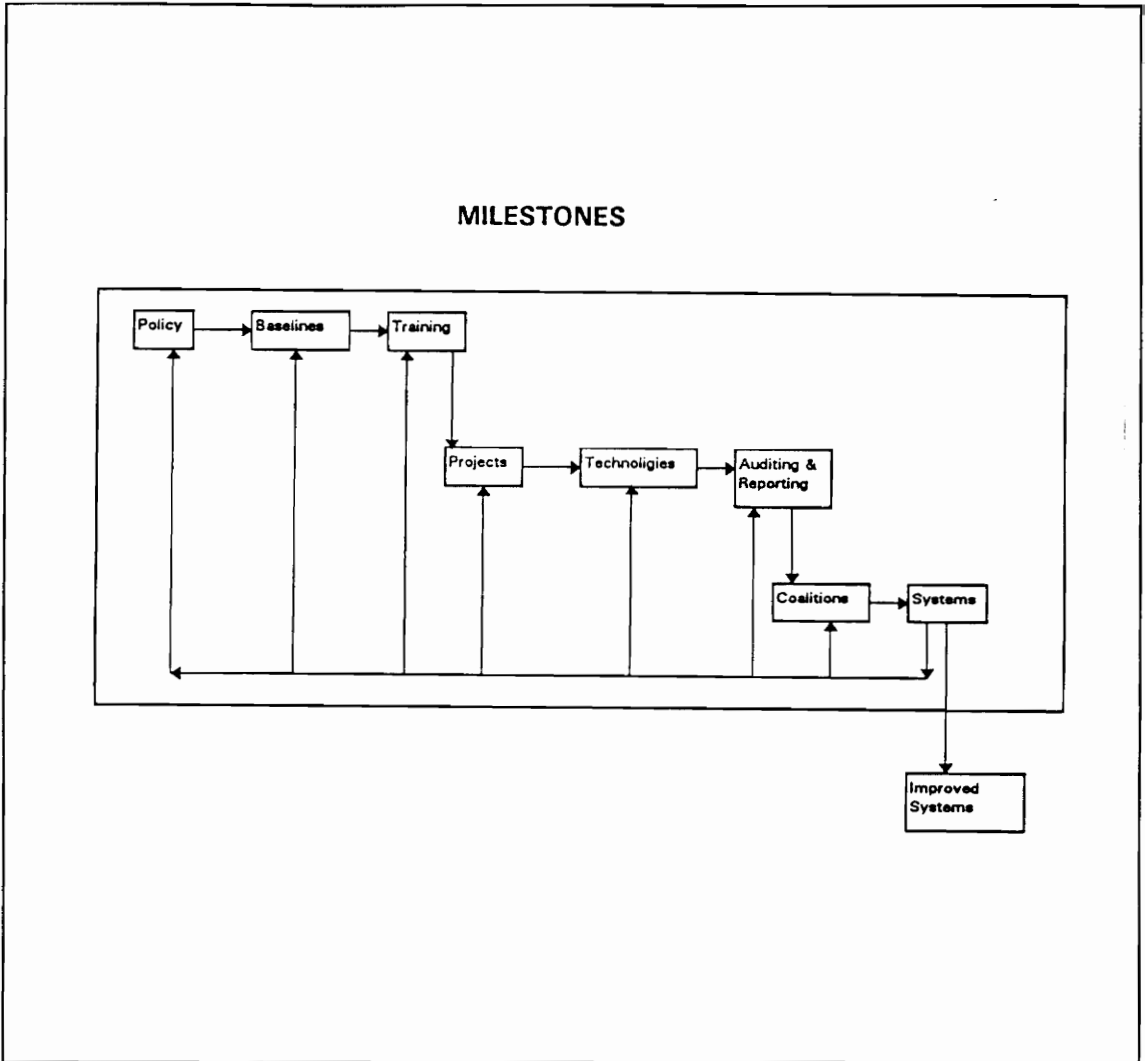


FIGURE 7 - Sustainable-Performance Management Model (simplified) (Kinlaw, 1993, p.20)

organization contribute to formulation of the first two milestones.

*Initial training* of all involved is the third (3) milestone toward improved sustainable performance. In order to train effectively, a complete understanding of what everyone needs to know and how they are going to get the essential information is the next step in the process.

*Incremental and preliminary projects* that allow for reallocation of information, resources and personnel make up the fourth (4) milestone. These projects will eventually become the standard practices for the organization. The fourth milestone involves:

- identification of opportunity or problem,

- specific improvements and strategies for reaching them,
- design for tracking information that can be used to evaluate performance,
- design how the information will be used, and
- establish of how the process will be managed.

At this step teams are developed and put to work on specific projects. Teams are a critical tool developed in the TQM methods. Success for leading edge business development relies on "team-initiated improvement" (Kinlaw, 1993, p.59).

Every project must be put through a filter of *education and information* which develops technologies that are environmentally sensitive. This fifth (5) milestone is critical to insuring an environmentally sensitive organization. The new technologies necessary to accomplish this end can be collected from various industries or created in-house.

The sixth (6) milestone is *auditing and recording* function of the system. Ongoing recordkeeping, production of newsletters, checking the effectiveness of the systems, identifying opportunities for improvement and tracking performance over time are all a part of this milestone. This milestone is critical for determining whether or not goals are met and where there are shortcomings, before there are critical issues.

A continuous aspect of this model comes to completion in milestone seven (7), *coalition development*. Coalition development insures that there is continued understanding and trust between the employees and other involved people, like suppliers. This milestone is critical because major problems must be solved in a unified group.

The final milestone, eight (8), is reached when all the management and human resources systems are revised and working. The systems will support sustainable performance by continually reevaluated against the original baselines the established systems and making small adjustments that support the original policies.

As each milestone draws to completion the organization must to look back at each previous milestone to assure that they have moved forward without missing their basic goals. Completion of a milestone is when goals and actions are in alignment and the movement forward can be again.

Therefore, "the fundamental characteristic of sustainable performance is that it *sustains the environment* and *sustains the organization's bottom line*" (Kinlaw, 1993, p.17-18). An understanding and commitment to sustainable performance management enables businesses successfully apply both characteristics.

## STRATEGIC PLANNING

Probably the single most significant aspect of strategic planning is the diversity with which it is manifested in different organizations. The flexibility and adaptability of strategic planning are some of the characteristics that make it so appealing to organizations.

Existing managers and leaders maintain their positions and key ones become the implementors of the strategic planning process. The actual implementation of a strategic plan, however, varies from organization to organization.

Over the years there have been several strategies that have evolved, some more formal and specific while others are loosely connected. All Strategic Planning, however, establishes goals, objectives and policies which are then implemented (action). Establishment of goals and objectives is accomplished after a statement of strategy is developed and adopted. The statement describes the intent of the strategic planning process and the vision for the organization.

The strategic planning process involves two distinct parts, which begin after the strategic statement has been developed. The first is the formulation of the strategy. Strategies emerge based on the strategic statement and outside influences or conditions, like market changes and economy shifts. Developing the strategies also involves identifying all internal physical and informational resources as well as personnel skills.

The second part is the implementation of the strategy. The realization of goals is dependant on the skills of those implementing the strategy and on Combining clear and decisive objectives, maintaining of initiative, concentration on objectives, flexibility of intent, coordinated and committed leadership, surprise in timing, and security of resources (Quinn,1992) are all part of successful strategic planning.

Since the strategic plan is an organizational process, it involves all members of the corporation. Each member is responsible for particular actions. The organizational process is ever changing and evolving as it relates to outside influences and maintains its original strategic statement.

A strategic plan is an established set of actions to guide the course of an organization. It requires a collective understanding (mind) of the process, intents and results. The plan involves a declaration of the intended action, or plan of where the organization is headed. Inherent in the plan is the relationship of the organization to the competition and how that relationship effects the actions of the organization. What stance, or position, the organization takes with regards to their place in the world/ environment is critical to an organization effectively moving ahead. Implementing the planned sequence of actions develops a pattern that the organization can follow. This pattern accommodates outside influences but maintains its intended actions.

The success or failure of any strategic plan is based on those that implement it, the context in which the organization is working, the effective formulation of goals and objectives and the effectiveness of the implementation.

## REENGINEERING THE CORPORATION

Reengineering is defined as "the fundamental rethinking and radical redesign of business

processes to achieve dramatic improvements in critical contemporary measures of performance" (Hammer and Champy, 1993, p.32). The most significant aspect of the reengineering the corporation approach, as proposed by Michael Hammer and James Champy (1993), is the application of questions to be asked and answered when changing the management of a corporation. One of the first questions is whether or not the intent of the corporation or organization is valid, "Is what we are doing and why?". This is a major divergence from typical questions of "How can we do it better?" and "Where can we improve what we are currently doing?"

The premise of reengineering is that American business is in crisis and the only way that corporations will be able to continue and compete in national and international markets is to reengineer themselves. Reengineering looks at the processes of doing business. Not to see what is done to repeat or copy it, but to see what needs to be done to change and improve it. Reengineering is an ambitious goal that stands the traditional business model on its head.

Reengineering has four key premisses that set the tone for the redesign of a business, or organization. Taken from the definition they are: fundamental, radical, dramatic and process. *Fundamental* implies a going back to the basics, a look at what rules and assumptions are being followed and drop them completely to allow for innovative ideas and actions to evolve.

*Radical* here again means rule-breaking by going back to the root of the organizations' procedures and throwing out most of what is there. Going back to the fundamentals and taking a radical look at what an organization is doing is the *dramatic* aspect of reengineering. Dramatic change does not mean incremental change, but it means getting rid of the old and replacing it with new and creative actions.

Understanding what the new will be requires a clear understanding of *process* within the corporation. Process is "a collection of activities that takes one or more kinds of input and creates an output that is of value" (Hammer and Champy, 1993, p.35). This shift from focusing on the tasks that create a product to looking at the process(es) that create it is the most critical part of reengineering. It is also the most difficult to understand and implement.

A reengineered organization has four basic parts that rely on one another to successfully convert and maintain the organization. Combined the parts create the Business System Diamond. Jobs and structure definitions change, and the people who fill them will change. The people's values and beliefs, an integral part of the entire corporation, also change. Management and measurement systems are dependant on the jobs and structure, also influencing the values and beliefs. A through understanding of the values and beliefs and of the business processes at work determine the organization's changes. Each of the parts is dependent on the others to successfully reengineer an organization.

Although there is not a standardized structure in applying a reengineering approach, there are eight characteristics that typify a reengineered approach. Combinations of these are present in any successfully reengineered organizations. Taken from Hammer and Champy these are :

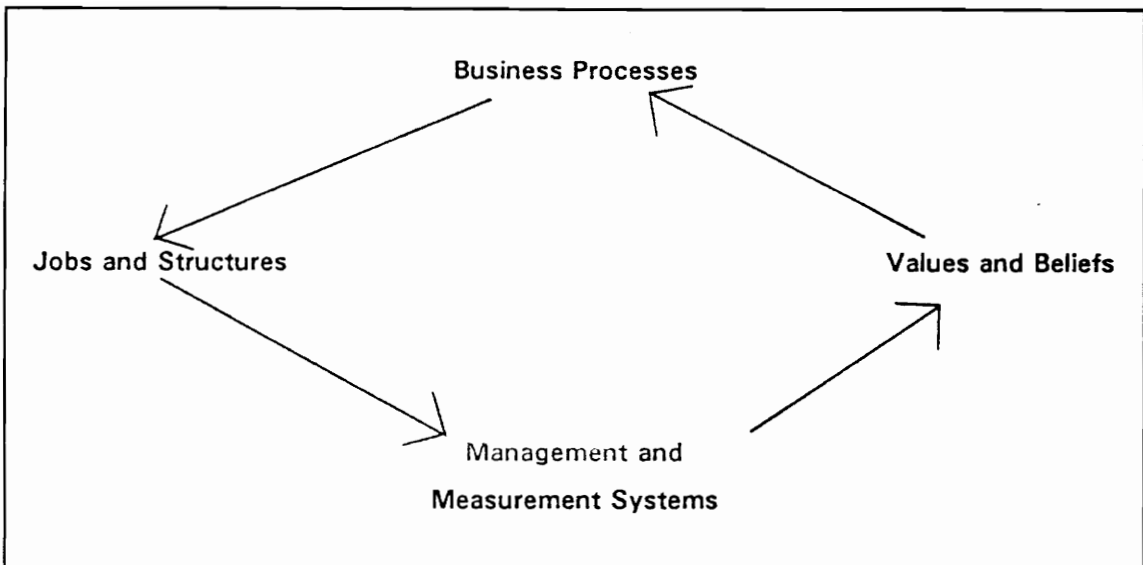


FIGURE 8 - The Business System Diamond (Hammer and Champy, 1993, p.80)

1. Several jobs are combined into one- there is no assembly line mentality and individuals are responsible for the outcome
2. Workers make decisions- those effected by the decisions are contributing to them
3. Process steps are in a natural order- some tasks may be started before others are finished
4. Processes have multiple versions- each version based on the unique market or customer requirements, determination of what version to use an evaluation step for sorting and prioritization of efforts
5. Performance happens where it makes sense- tasks are preformed by those that need the job, not by those who traditionally did the job
6. Checks and controls are reduced- workers have more direct control of product production, therefore less need to do costly checking upon completion
7. Reconciliation is minimized- through reducing the points of contact with outside inputs, thus reducing the chance for discrepancies and reconciliation
8. A case manager provides a single point of contact- one person is responsible for one project or client and has all information necessary to serve
9. Hybrid centralized/decentralized operations are prevalent- combining the advantages of centralized information and decentralized service or operations

Some of the key components of reengineering the corporation are the breaking of old rules and the establishment of a new vision. The success or failure of either of the entire conversion is based on the strength of the new vision and the skill with which the broken rules are applied. Individuals involved in the reengineered corporation need the key skills of flexibility and adaptability to make the transition from a traditional corporation to a new reengineered corporation.

## KEY QUESTIONS

### FOR IDENTIFYING THE PROCESSES THAT EFFECT THE VISUAL LANDSCAPE

1. Who are the stakeholders?
  - a. How can you be certain all are involved?
  - b. Do you need to involve all the players?
  - c. When is it most important to involve them?
  - d. How are they going to be kept abreast of what is happening and participate?
2. What financing will be needed ? How will it be accomplished?
3. What is the process that created the culture of the corridor?
4. What particular environmental processes represented in the corridor?
5. What and regulatory political processes and procedures influence what is going on now and in the future?
  - a. How does this project relate to other projects going on in the area?
6. What are 10 things that identify or define quality (or integrity) of life in this corridor?
7. How did the visible corridor get to look like this? What is its evolution?
8. What additional processes are at work within the corridor?
9. Where are these processes going to take you?
  - a. How long will it take to get there?
10. What are the resources available in the areas for help on the project?
  - a. What previous projects have similar goals and objectives?
11. Who are the experts in each corridor of concern?
  - a. When do we involve them?
12. What are the assumptions we are working from?
13. What is the vision for the corridor?
  - a. What are the goals of the project?
14. What can be done to alter or enhance the course you do not want or want to take?
15. What information is critical to preserving the characteristics (integrity) of the corridor?
16. What unique capabilities/opportunities are there in this particular environment?
17. What are the most important actions to take?
  - a. How do we determine what the highest priorities?
  - b. Are all processes addressed in the goals, objectives and priority setting?
  - c. How are they implemented?
    - i. What tools can be used to implement the actions?
18. What are the constraints we have to allow for (ie. time, money, resources, existing procedures)?
19. How do we know we have continued to do what we set out to do?
20. How do we evaluate our work?

## GLOSSARY

[The following terms are taken from business, design and visual assessment literature. They are redefined and clarified here to reflect their usage in this document.]

**Cultural Data-** that information collected on the immaterial landscape, consisting of community beliefs, esthetics perceptions, economic ambitions, community images, attitudes, technologies, history (how it got to look like it is) and values. (Lyle, 1985)

**Distance Zones-** areas seen from a particular point, or series of points, and which are comprehended as foreground, middleground or background. Often the distinctions vary due to visibility. The most common distinctions: *Foreground* (FG)- those areas closest to the viewer, *Middleground* (MG)- those areas where the texture is still evident and where complete surfaces features are visible, and *Background* (BG) - those areas at the horizon where colors are muted and textures are not evident. Two other distinctions are also used, though not with as broad an application: *Intimate foreground*- those areas where the temperature, smells and sounds are evident and *Seldom Seen* (SS) -those areas that are only seen occasionally or from a few places relative to the entire experience.

**Experts-** are those trained in certain disciplines who often do their specialty jobs with little input from those that the work effects. Examples: engineers, planners, landscape architects, architects, and professional land managers.

**Framework-** the structure that supports and organizes a process or series of interrelated processes, which allows for pieces to be interchanged while still maintaining its integrity and its functions.

**Landscape Integrity-** the unimpaired landscape condition that makes the area unique and special, those qualities that make the area whole and worth protecting, and those qualities that will be enhanced, protected and maintained over time to preserve the uniqueness of the corridor.

**Linear Landscape-** landscapes that are significantly longer than they are wide and have a central 'spine' that functions as an organizational framework for other activities. Examples: riverways, scenic roadways, greenways, trails and abandoned railroad beds.

**Player-** any individual or group which uses the results of a process but is not vested in that process, a temporary part of the scenario. An example of a scenic byway player is one who commutes along a scenic byway (bike or vehicle), views the landscape or travels "through" the corridor.

**Preferences-** ideas, scenes or landscape types that are favored by a group of people.

**Process-** "a collection of activities that takes one or more kinds of input and creates an output that is of value" (Hammer and Champy, 1993, p.35)

**Product-** anything produced by people. Including an object, information, or a service or process.

**Public-** all individuals, here it includes both the players and the stakeholders.

**Reengineering-** "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance" (Hammer and Champy, 1993, p.32)

**Scenic Byway-** here indicates a road that is designated as a scenic byway through state, federal or other organization programs like the American Automobile Association.

**Scenic Roads-** the road and its right-of-way, scenic and recreational areas beyond the right-of-way, complementary facilities, and identifying characteristics (U.S.D.O.T., 1988).

**Scenic Byway Corridor-** Generally this is defined as the areas visible from the entire length of the designated byway. Here it refers to all areas seen *and areas that affect the those that area seen.*

**Stakeholder-** any individual or group of individuals that is affected by or could possibly effect the outcomes of an organization's process, project or framework. For scenic byways this will be those of the community and from outside the community that travel and are 'in' the corridor. It includes, but is not limited to: visitors, commercial enterprises along the road, the residents of the area, the property owners adjacent to the road, the commuters that travel the road, the service industries in the area (hotels, B&Bs, restaurants, gas stations, etc.), the state highway department, the local contractors who does maintenance on and along the road, the suppliers for the area, the government officials (local, county, state and federal), and so on.

**Strategy-** " the pattern or plan that integrates an organization's major goals, policies, and action sequences into a cohesive whole." (Quinn, 1992, p.5)

**System-** "a collection of components that interact and have a common purpose" (Gitlow & Gitlow, 1994, p.27). In nature the common purpose is to maintain and continue life, in business it is the production and dispersal of a product.

**Task Group-** the specialized groups that monitor the progress of the implementation of the visual management model. They are: Update, Action, Communication, and Education.

**Visibility-** the geographic extents of all seen areas by an observer. This statement indicates the entire viewed areas that can be recorded by an observer or from specific locations or continuously from a road. They also vary from day to day and season to season according to more ephemeral conditions. The areas seen can be mapped, though clear definitions of when and how the mapping occurred are important.

**Visual Assessment** - the evaluation of the visual landscape.

**Visual Landscape-** that landscape which is viewed by the public.

**Visual Quality Objectives (VQO)** - ratings that guide the future management of the designated area. Included are : preservation, retention, partial retention, modification, maximum modification, rehabilitation and enhancement.

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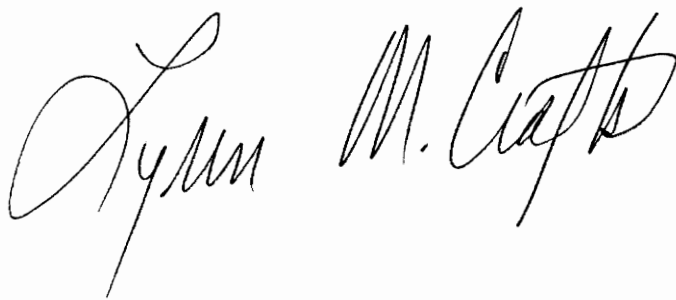
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## VITA

Lynn Morgan Crafts was born in Coronado, California. With her family she traveled within the eastern parts of North America throughout her childhood on family vacations. After graduating from George C. Marshall High School, 1972, in Falls Church, Virginia. She enrolled at Virginia Polytechnic Institute and State University in the fall. She received her Bachelor of Landscape Architecture in June of 1977. The following year was spent at a regional planning agency in Louisville, Kentucky before returning to school at Conway School of Landscape Design in Conway, Massachusetts.

The next several years were spent in various aspects of landscape construction. Four years prior to returning to school, she worked in the Parks and Recreation Division for the City of Alexandria, Virginia. In August 1991, she enrolled in the Landscape Architecture master's program at Virginia Tech in Blacksburg, Virginia. While completing her course work she worked on a variety of projects with the Community Design Assistance Center, a public service entity of Virginia Tech. She is currently employed with the County of Chesterfield, Virginia in their planning department.

A handwritten signature in black ink, reading "Lynn M. Crafts". The signature is written in a cursive, flowing style. The first name "Lynn" is written in a large, elegant script, and the last name "M. Crafts" is written in a similar but slightly more compact style.