A repeat photographic study of the Natchez Trace Parkway: has the design intent of the Trace changed

Elizabeth Towers Ogletree

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A REPEAT PHOTOGRAPHIC STUDY OF THE NATCHEZ TRACE PARKWAY: HAS THE DESIGN INTENT OF THE TRACE CHANGED?

By

Elizabeth Towers Ogletree

A Thesis
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Master of Landscape Architecture
in Landscape Architecture
in the Department of Landscape Architecture

Mississippi State, Mississippi

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A REPEAT PHOTOGRAPHIC STUDY OF THE NATCHEZ TRACE PARKWAY: HAS THE DESIGN INTENT OF THE TRACE CHANGED?

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Pages in Study: 190

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This thesis explores the Natchez Trace Parkway using the method of repeat photography to determine whether or not the design intent of the Trace has changed since its beginning. Based upon fifteen matched pairs of photographs, which are evaluated based on a content analysis matrix, the original design intent, recent design guidelines, and planned land use maps, the degree of change that has occurred along the Trace is measured. Time has wrought inevitable change along the Trace. The changes that have occurred indicate a further effort to preserve the original design intent of the Trace rather than a shifting of the design intent. No change in design intent is evident in the matched pairs of photographs.
DEDICATION

This thesis is dedicated to my parents, Diane and Bob Ogletree, who have always provided me with the support and encouragement necessary to achieve my goals. I would also like to dedicate this thesis to my two brothers, Bob and Fletcher, who often provided much-needed comic relief during the stressful times of my academic career. Finally, this thesis is dedicated to my grandmother, Mary Dean Towers Harris, who, throughout my life, has always been my greatest advocate.
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I would also like to thank Dr. Christina Smith, the Cultural Resource Specialist of the Natchez Trace, for guiding me through the archives and allowing me to spend entire days searching through the many historic photographs of the Trace. I would like to thank Greg Smith, the current landscape architect of the Natchez Trace, for answering any questions I had about the Parkway.

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CHAPTER I
INTRODUCTION

The method of repeat photography has been used in various settings, particularly in the landscape, in order to document changes that have occurred with the passing of time. This thesis employs the method of repeat photography to track changes that have taken place along the Natchez Trace Parkway and to determine if the design intent of the Trace has changed. The thesis will also explore how the land management system may have changed (see Appendix B for land use and maintenance plans of the Trace). If changes have occurred in the design intent, repeat photography will help determine what has driven these particular changes along the Trace. The efficacy of repeat photography as a tool for landscape architects will also be examined, and the extent to which the Natchez Trace has changed since its inception will be measured using a content analysis matrix to evaluate the matched pairs of photographs.

The changes to be measured along the Trace will be physical changes because physical changes can be measured through repeat photography. The Parkway is comprised of many features that will be presented in photographs and then evaluated. Some Parkway features that will be evaluated for change include: vegetation, scenic views, the roadway, bridges, parking areas/pull offs, interpretive structures, comfort
stations, historic buildings along the Trace, Native American sites, and gravesites. The Natchez Trace has specific design guidelines for each of these features.

**Background**

*Repeat Photography*

Repeat photography describes a method whereby a photographer returns to the site where a previous photograph was made and takes a new photograph from the exact location as the original image. The two photographs together are often referred to as matched pairs. The matched pairs of photographs from the Natchez Trace will be presented in the Results and Discussion chapter of this thesis. Repeat photography has been used by landscape historians and geologists as a means to track changes as well as continuity in the landscape. In the Rephotographic Survey Project on the 1970s, photographs from the early geological surveys of the late 19th century were retaken. Timothy O’Sullivan’s photographs from these early geological surveys have served as benchmarks for examining changes in the landscape. Essentially, “Any previous photograph, when it is repeated, becomes part of a record of change with the passage of time” (Rogers 1984, p. xx). In this thesis, historic photographs are compared with new photographs to determine what the “record of change” reveals about the design intent of the Natchez Trace Parkway.

A similar thesis study involving repeat photography was conducted by a graduate student, Jean Frey, at Louisiana State University in 1995. In her study, twelve matched pairs of photographs were used to examine changes that had occurred in downtown Baton
Rouge, Louisiana. Although the emphasis of Frey’s study was on measuring the efficacy of repeat photography as a tool for the landscape historian, she nonetheless explored extensively the method of repeat photography. More details concerning repeat photography and Frey’s study will be presented in the Literature Review of this thesis.

**Design Guidelines of the Parkway**

As previously mentioned, there is a specific set of design criteria for each element of the Trace that will be evaluated in this thesis. It is essential to first understand these criteria in order to evaluate the content of photographs and determine whether or not the design intent of the Trace has changed. In addition to design guidelines, rehabilitation guidelines have also been established in the event that an element is damaged or destroyed. “Rehabilitation of historic structures will be in compliance with the Secretary of Interior’s *Standards for the Treatment of Historic Properties*” (Smith 2005, p. 15).

**The Parkway**

In regards to the actual Parkway, the National Park Service has established certain criteria applicable to parkways. Parkways: “are designated for noncommercial, recreational use; seek to avoid unsightly buildings and other roadside developments that mar the ordinary highway; are built with a much wider right-of-way to provide an insulating strip of park land between the Parkway motor road and the abutting private property; eliminate frontage and access rights and preserve natural scenic values” (Smith 2005, p. 11). Additionally, national parkways: “preferably take a new alignment, bypassing built-up communities and avoid traffic congestion; seek to make accessible the best scenery in the country they traverse; hence the shortest or most direct route is not
necessarily a primary consideration” (Smith 2005, p. 11). Finally, national parkways:
“eliminate major grade crossings (crossing intersections with the Parkway motor road itself)” and “have entrance and exit points spaced at distant intervals to reduce interruptions to the main traffic flow” (Smith 2005, p. 11). In addition to the eight aforementioned design criteria for parkways, as established by the National Park Service (NPS), the Natchez Trace added a guideline specific to the road alignment of the Trace: A parkway should be “a curvilinear road alignment with minimum grades,” as shown in Figure 1.1 (Smith 2005, p. 11). Although some of the design guidelines of the Natchez Trace are created by its designers, many of the guidelines have already been set forth by Congress for national parkways.

Figure 1.1  Curvilinear portion of the Trace near Nashville, TN
Bridges

A bridge, as defined by the Trace’s design guidelines (2005), is “any structure exceeding a 20’ clear span measured along the centerline of the roadway, which carries traffic over a watercourse or opening” (Smith 2005, p. 29). There are two primary types of bridges along the Trace: “arch bridges (Figure 1.2) that cross over the motor road, which are highly visible to travelers; and subtle low bridges that are used for the Parkway to cross over other roads or underpasses. In both cases, the goal is to minimize hard edges” (Smith 2005, p. 29). This is achieved through a variety of methods (see Appendix A for bridge comparisons along the Trace).

Figure 1.2 Arch bridge over the Trace near Kosciusko, MS
Visitor Use Sites

A number of facilities are provided along the Parkway for visitors including comfort stations (restrooms), historic structures, and educational structures such as interpretive kiosks. The visitor facilities are meant to provide the visitor a facility for “safety, comfort, and information” (Smith 2005, p. 35). The purpose of comfort stations is to offer restrooms and drinking fountains for the visitor. In terms of design criteria for these structures, “The architectural design of many facilities within the Parkway reflects the Service’s Mission 66 era of design. Since that era, building design has been reflective of the vernacular landscape, respective of the physiographic or cultural setting in which the structure occurs” (Smith 2005, p. 35-36). The exterior of these buildings is generally comprised of brick or indigenous materials.

Site Amenities

Site amenities are the various elements that comprise the visitor use sites. All of the sites have trash cans, of which there are two types. In the parking areas, the trash cans are painted NPS brown and are pitch-units. In the picnic and campground areas, the trash cans are metal and are anchored to a concrete slab. In both cases, the trash containers are intended to be inconspicuous and are emptied on a regular basis (Smith 2005). As is evident in the matched pair of photographs taken at Buzzard Roost Springs, the trash cans described above were not always a feature of the visitor use facilities. Other site amenities include picnic tables and drinking fountains, all of which have a uniform design throughout the Parkway. Interpretive structures also have a uniform design (Smith 2005).
Historic Sites

The Trace has many historic buildings and sites along the Parkway, many of which are on the National Register. As such, specific guidelines are prescribed for the rehabilitation of any of these sites. Any changes made to these sites have to meet the Secretary of Interior’s Standards and comply with an approved Historic Structures Report (Smith 2005). Additionally, “pursuant to the National Historic Preservation Act of 1966, the Parkway is required to ‘take into account the effects of its actions on properties listed or eligible for listing in the National Register’” (Smith 2005, p. 39). Pictured below is the Gordon House (Figure 1.3), one of the many historic buildings along the Trace.

Figure 1.3  The Gordon House
Grave Markers

Grave markers, of which there are numerous along the Trace, also have stringent codes for care and rehabilitation. The Parkway Cultural Resource Management Specialist coordinates the cleaning, repair, consolidation and resetting of grave markers. Along the Parkway there are private family cemeteries as well as abandoned ones and Civil War-era cemeteries (Smith 2005). In order to avoid damage to the graves, the use of power mowers around upright or flat markers is discouraged. Instead, weed-eaters and herbicides are used to prevent cracking or chipping of the grave marker. Additionally, on NPS maintained cemeteries and burial areas, “artificial flowers and other materials are removed in a reasonable time frame” (Smith 2005, p.52). The image below (Figure 1.4) is one example of a grave marked with artificial flowers.

Figure 1.4 Confederate Gravesite in Tupelo, MS


Scenic Management

The management and preservation of viewsheds along the Parkway is “one of the management objectives established by the public for preserving the Parkway to benefit future generations. The designation of the Parkway as a National Scenic Byway and an All-American Road lends even more credence to the importance and significance of maintaining its scenic viewshed unencumbered by visual clutter” (Smith 2005, p. 55). Some of the popular overlooks on the Parkway (Figure 1.5) are featured in the Results and Discussion chapter of this thesis. The urban areas along the Trace carry with them the greatest threats to the viewsheds. Billboards, utility lines, and incompatible commercial uses in the distance can all potentially compromise the scenic quality enjoyed by motorists along the Trace (Smith 2005). Undesirable views are dealt with by screening the area with native vegetation. Since too much vegetation along the Parkway may become problematic, efforts are made to work with state and local authorities to manage development in such a way that it does not compromise the visual character of the Trace (Smith 2005).

For Parkway management to maintain the scenic viewshed, they must have current information on the visual and landscape resource conditions (Smith 2005). This is achieved through a viewshed analysis, which is “a study of what can be seen from any given point along the Parkway. All that is visible is called the viewshed” (Smith 2005, p. 56). The three layers comprising a viewshed are the foreground, middle ground, and background. Another important study of viewsheds along the Parkway is the scenic quality analysis, which measures the quality of the view. This, along with the viewshed analysis, provides a definition of what views are most important to protect (Smith 2005).
In addition to the above-mentioned guidelines for viewshed protection, there is also legislation in place in Mississippi and Tennessee that protects the area surrounding the Parkway’s right-of-way. These laws include provisions pertaining to advertisement structures within 1,000 feet of the boundary of the Parkway. The only signs allowed within this area are “1) signs or other devices advertising the sale, lease, or development of that property; 2) signs advertising the lawful use of the property where it is located. Sign size is not regulated under this act” (Mississippi Code 1972). Also related to signs are the following rules: “Signs for brand-name products or services sold on the property must be on or attached to the buildings where the products are sold. Signs will not be more than 150 feet from the building” (Smith 2005, p. 57). The final rule maintains, “the erection of structures more than 35 feet in height within 1,000 feet of the Parkway
boundary is prohibited. In particular, this law helps protect the Parkway viewshed from cellular communication towers. Exceptions to the law are structures designed for agricultural use.” Concerning buildings in Mississippi, “churches and any building or structure on property that is used by a public school district and used for educational purposes are exempt if constructed before July 1, 2002” (Mississippi Code 1972).

The Land Trust for Tennessee is a not-for-profit organization that, among other things, helps preserve the scenic quality of the Trace. The mission of the Land Trust is “to preserve the unique character of Tennessee’s natural and historic landscapes and sites for future generations” (www.landtrusttn.org, accessed 2/23/09). This is done primarily through helping willing parties create a conservation easement on their property.

**Land Management**

The Parkway also has a land management plan that pertains to deed-reserved accesses, scenic easement tracts, agricultural lease fields, and open fields. “The design intent of Parkway lands is specified on the Land Use and Maintenance Plans” (see Appendix B) (Smith 2005, p. 59). Some of the plans address private driveways along the Trace. When gates are built for these drives, they must be on the owner’s property rather than Parkway property. When owners request to pave a driveway visible from the Parkway, staff encourage mixing in brown gravel to reduce the visibility. In both cases, adjustments are made to Parkway mowing procedures to encourage the growth of native vegetation around the driveway to screen it (Smith 2005).

On scenic easement tracts, the harvesting of timber is permitted only when views from the Parkway will not be adversely affected. For instance, sometimes clear-cutting is
allowed when there is a plan to replace timber with seedlings and the tract is not visible from the roadway (Smith 2005). There are strict provisions concerning timber near the Parkway. Some of the rules are as follows: There is to be “no harvesting of timber with a DBH (diameter at breast height) of less than nine inches; an uncut strip of timber of at least fifty feet must be left along the Parkway boundary; no access will be granted for transporting harvested timber across Parkway property; no felling of trees is allowed on Parkway property” (Smith 2005, p. 60).

There is an agricultural leasing system in place for the Parkway in which farmers lease land to grow crops along the road. This is beneficial to the Parkway because it helps maintain the Parkway’s goal of having a southern landscape along the road. It is also beneficial to the Parkway because it maintains open vistas along the road and reduces the Parkway’s maintenance for that particular tract (Smith 2005). Some open fields that are not suitable for agriculture are kept as open fields and mowed one time per year. Trees and shrubs are generally not allowed to grow here. If there is a case in which pine farming causes an unnaturally straight line on an open field, vegetation is allowed to grow here to soften the line (Smith 2005).

**Vegetation Management**

“The intent of the NPS is to provide a parkway that is scenic and presents to the visitor a native landscape that is interesting, diverse, and well-maintained. In keeping with this philosophy, the Parkway will strive to maintain late successional (climax), mid-successional, and early-successional vegetation” (Smith 2005, p. 63). In older sections of the Trace, the trees are quite close to the road, causing a canopy to arch over the road.
Although this feature may be attractive to motorists, it can potentially cause problems. When trees are close to the road, their roots may cause structural problems. Also, storms may leave limbs and other debris on the road. In newer sections of the Parkway, there is a thirty-foot setback from the tree line. This allows sunlight to filter onto the road, encouraging the growth of grasses and wildflowers (Smith 2005).

Specific policies exist concerning the removal of trees. Dead or diseased trees that may fall on the road should be removed. Less desirable species should be removed to encourage growth of native specimens. Trees should be thinned “to create a picturesque stand that is maintained by string trimming. Specimen trees may be planted as memorials, with Parkway approval” (Smith 2005, p. 63). Trees that are too close to the road and may cause safety issues are to be removed. Stumps in the mow line are supposed to be removed as well (Smith 2005). In terms of pruning, the main objectives are to prune plant material that obstructs views of signs or sight lines around curves (Smith 2005).

Prescribed burning is also used as a way of controlling vegetation. The burning is meant to mimic fires as they might occur in nature, such as from lightening. Burning is used “to create scenic variety by opening forest understories and encouraging growth of selected forest and grassland communities” (Smith 2005, p. 64). Burning may also be used to open up an area as it may have been in prehistoric times. Prescribed burning is also used to “maintain protective vegetation and control destructive vegetation at archeological sites. This is particularly effective at resources such as mounds where steep slopes, fragility of resources, or topographical features prohibit the use of mowing equipment” (Smith 2005, p. 64).
Although burning is one means of controlling vegetation, mechanical mowing is the most common of the Parkway’s maintenance methods. “The roadway shoulder will be consistently trimmed grass, the width varying according to the season, drainage conditions, density, and proximity of other vegetation. The manicured maintenance continues from the road to the woods line, a meandering edge along which understory growth is strictly controlled (see Appendix B)” (Smith 2005, p.65). Mown grass (Figure 1.6) is also the norm at historic locations. Another place where mowing is especially important and serves multiple purposes is on American Indian mounds. The grass on the mound helps prevent erosion on the steep sides of the mound (Smith 2005).

Figure 1.6  Mown grass on top of American Indian mound at the Pharr site
Guidelines also exist concerning string trimming, pesticides, wildflower management, and native vegetation management. String trimmers are to be used where mowers might damage an area. Herbicides are used to eradicate exotic species and used where it would be difficult to maneuver equipment. Wildflowers sometimes grow near the road when they are adjacent to a field that contains them. To protect these flowers, mowing is sometimes delayed until they are well established. When changes are made along the Parkway that result in soil of vegetative disturbance, such as a construction project, the landscape architect develops a new plan in which “only species indigenous to the ecoregion in which the project occurs will be used” (Smith 2005, p. 66).

The aforementioned guidelines comprise the Design Guidelines: Natchez Trace Parkway, a manual published in 2005. The Literature Review contains greater detail on the initial design intent of the Natchez Trace. Essentially, the Trace was constructed to serve as a scenic parkway to commemorate the rich history of the area. As stated in the 1941 Letter of the Secretary of the Interior, “The primary purpose of the construction of a Natchez Trace Parkway is the memorialization of the historical importance of the old Natchez Trace through a parkway that is both useful and attractive” (Secretary of the Interior 1941). The Results and Discussion chapter also highlights any changes of design intent that have occurred throughout the history of the Natchez Trace.

**Research Objectives**

The objectives of the study are to use repeat photography to measure the extent to which the design intent of the Natchez Trace Parkway has changed over time. The thesis
will examine how the Trace has changed and what factors have caused these changes. The premise of this study maintains that time has wrought changes along the Trace, and repeat photography, by explicitly revealing these changes, may also offer some indication as to the causes of the changes. This study aims to give planners and designers another tool by which change may be assessed over time.

**Site Context**

![Map of the United States highlighting the southeastern portion where the Natchez Trace Parkway is located](image)

Figure 1.7  Geographic Location of the Natchez Trace Parkway

NOTE:  States containing the Trace are shown in blue.

Geographically, the Natchez Trace Parkway is located in the southeastern portion of the United States (Figure 1.7). The Trace begins in Natchez, Mississippi and traverses
Mississippi, Alabama, and Tennessee to its Northern Terminus in Nashville, Tennessee. The total length of the Natchez Trace is 444 miles, and the Parkway totals 52,000 acres, with an average width of less than one-quarter mile. The major portion of the Trace runs through Mississippi, while Alabama contains the shortest distance of the Parkway.

**Research Implications**

The implications of the current study are potentially far-reaching in the field of landscape architecture. Parkway designers and landscape architects may employ repeat photography as a tool to track changes over time in a given area. After looking at the changes that have taken place, it may be easier to make appropriate design decisions and land management decisions for the future. On a broad scale one may use the methodology of the current thesis to research other sites. Repeat photography may be used on any given site to track changes. On a more specific level, the methodology used in this thesis may help inform future design and land management decisions on the Natchez Trace Parkway.

**Organization of Thesis**

Following this introduction, the paper is organized into a Literature Review, Methods section, Results and Discussion, and Conclusion. The Literature Review surveys literature as it relates to the history of the Natchez Trace Parkway, including past and present design intents of the Parkway. General parkway design, along with the method of repeat photography, is also examined. The Methods chapter discusses in detail the method of repeat photography that will be employed in this particular study. The
results will then be presented and discussed in the Results and Discussion chapter. The Conclusion will highlight implications of the results and offer suggestions for future land management strategies along the Natchez Trace.
CHAPTER II
LITERATURE REVIEW

Introduction

This literature review examines the history of The Natchez Trace and how the Trace has evolved from ancient animal trails to the parkway that it is today. Also included in this literature review is a survey of parkway design in general, with emphasis on the Blue Ridge Parkway. The method of repeat photography is examined, and the use of photography in studies of the landscape is explored. Additionally, methods for assessing photographs are discussed.

History of The Natchez Trace

The Natchez Trace Parkway is a 444-mile stretch of road that extends from Natchez, Mississippi to Pasquo, Tennessee. The average width of the Parkway is less than one quarter of a mile, and totals about 52,000 acres. For one who is familiar with the history of the Trace, driving along the Parkway may evoke images of the Native Americans who once traversed the old roadway. The history of the Trace dates back 9,000 years ago to the time of Paleo Indian hunters. The years 1790 to 1820 were the most famous period of time for the Trace when it served as one of the main paths through the southwest area of a relatively new country (Bachleda 2005). The Old Trace also
served as a United States postal route by 1800, used by men on horseback riding at high speeds. In 1936, Congress authorized a survey of the old Natchez Trace for possible construction of the Natchez Trace Parkway. In 2005, the last part of the Parkway, near Jackson, Mississippi, was completed, creating a smooth route from Natchez, Mississippi to Pasquo, Tennessee (Bachleda 2005).

**From Ancient Animal Trails to Parkway**

The Trace began as trails worn by animals during ancient times as they made their way toward the salt spring in an area that is currently Nashville. This passage had many names such as Chickasaw Trail, Path to the Choctaw Nation, and Mail Road (Bachleda 2005). Between 1540 and 1541 Hernando de Soto claimed this territory for Spain. After the Spanish relinquished their claims of this area in 1798, the port of Natchez was freed and more open to trade on the Mississippi River. The increased number of boatmen on their way home did a great deal to make the route more well known (Bachleda 2005).

As more settlers came to the area, the U.S. Government needed a more efficient means to communicate with the Mississippi Territory (Bachleda 2005). Thus a postal route between Nashville and Natchez was established. In 1801 came the Treaty of Fort Adams with the Choctaw Indians that opened the Old Natchez District to settlement and allowed the United States to open the Natchez Trace through their land (Bachleda 2005). In the same year, the Chickasaw agreed, in the Treaty of Chickasaw Bluffs, that the United States could open a road, the Natchez Trace, through their land (Bachleda 2005). Once the Indian treaties allowed the establishment of a road, the project began under the command of General James Wilkinson in 1801 (Bachleda 2005). Although Congress
appropriated $6,000 to improve the road, no maintenance money was provided, and conditions on the road quickly deteriorated to their previous state, which was quite disappointing to the road’s numerous travelers (Bachleda 2005).

The bad conditions of the road resulted in many complaints from travelers. In 1811, the Governor of Tennessee voiced the travelers’ opinions in an address to the state legislature, in which he said: “The road leading from West Tennessee to Natchez, which was regularly stipulated for by the general government, and designed for the use and convenience of travelers, is in very bad order; it requires much work to put it in repair, and to keep it up for the convenience of those who travel it to and from market;…” (Phelps 2006, p. 7). Although there was an urgent demand for repair work along the Trace, events occurring related to the War of 1812 prevented this from happening. Just as a special congressional committee recommended a direct appropriation “for the improvement of the roads in question, under the direction and at the expense of the national government,” news of the signing of a treaty ending the War of 1812 became known. Andrew Jackson’s victory at New Orleans reached Washington, and “the only serious proposal that the Federal Government provide funds for maintenance and repair of the Trace” ended (Phelps 2006, p. 8).

In the early 1800s the government encouraged the building of inns (stands) along the Trace. In 1804 the first inn was built, and the number slowly increased to over 20 inns by 1820. According to Phelps (2006), the inns generally were operated by half-breed Indians or white men with Indian wives (Phelps 2006). Although the inns were generally described as “crude affairs,” they nonetheless “facilitated travel and eased
somewhat the discomforts of a passage through the wilderness. That so many were built is a further indication of the volume of traffic on this frontier road” (Phelps 2006, p. 8).

The 1800s saw a great deal of hardship experienced by travelers along the Trace. The postal workers in particular endured many treacherous conditions. When the mail had not arrived after a period of time, it was assumed that the postal worker had become lost. The Post Office Department houses numerous old records that illustrate the challenges faced by many of the post riders (Phelps 2006). Additionally, members of the clergy and others traversed this dangerous terrain, leaving written records of their travels: “Those early clergymen were devoted and dedicated men who, like the postmen, made their appointed rounds despite weather or other natural obstacles. They were for the most part an articulate lot and left profuse diaries and journals of their experiences and work. It is from these writings that much detailed knowledge of conditions of travel on the Natchez Trace has been learned” (Phelps 2006, p. 13).

The aforementioned information serves to portray the dangerous conditions that existed along the early Trace. Many changes were made to the Trace to increase both the speed and the quality of travel along the road. “The modern concept that a road follows a fixed route does not apply to the Natchez Trace. During the short time that the road was a major line of communication its location shifted to meet the rapidly changing needs of the old southwestern frontier…. ” (Phelps 2006, p. 14). Phelps continues to describe the Trace: “The location of the Indian trail, which also was the Boatman’s Trail, was determined not so much by the necessity for speed as for a route as free as possible of all physical obstacles under all weather conditions. The relocations of 1801 and 1806 were designed to increase the speed of travel, mainly by shortening the route, removing brush
and trees, and providing man-made improvements to facilitate the passage across swamps and streams” (Phelps 2006, p. 14). It was only through a great deal of hard work that these poor conditions along the Trace were overcome to make the Trace the beautiful parkway that it is today. Part of this process was initiated by the Mississippi Daughters of the American Revolution.

In 1909 the Mississippi Daughters of the American Revolution (DAR), in an effort to commemorate the Natchez Trace, built a stone monument on the bluff in Natchez that overlooks the Mississippi River. Inscribed on the stone is a brief description of the Natchez Trace, and a note indicating that Natchez is the southern terminus of the Trace. The DAR placed similar monuments over the next 25 years that showed the location of where the old road passed through in each county, but one, in Mississippi, Alabama, and Tennessee (Phelps 2006).

The DAR’s dedication of these monuments was accompanied by a great deal of attention from the press. Speeches were given about the Trace, and people came forward with their own histories of the Trace. Articles concerning the Trace were published in historic journals. In short, the Mississippi Daughters of the American Revolution sparked an interest in the Natchez Trace (Phelps 2006). “Then came the New Deal and a search for projects which might at the same time provide mass employment for the jobless and be useful to localities, states, or to the nation. An itinerant journalist, who had for sometime been writing on historical subjects for weekly newspapers in Mississippi, interested himself in the Trace. He suggested to Congressman Jeff Busby of Mississippi that, as a compliment to the Daughters of the American Revolution, he sponsor legislation to pave the Trace” (Phelps 2006, p. 17). After looking into the matter, Busby
“procured the passage of a measure authorizing a survey ‘to locate the Natchez Trace as near as practical in its original route and to determine the cost of construction of an appropriate National Parkway’’” (Phelps 2006, p. 18).

System On May 18, 1938 the survey was made, and “Congress created the Natchez Trace Parkway as a unit of the National Park. The relative ease with which this legislation was secured is due in part to the fact that from its beginnings the movement to create the area had the unified support of the congressional delegations of three States” (Phelps 2006, p. 18). Phelps (2006) describes the Parkway, not as a highway, “but a long, narrow park commemorating the Natchez Trace. This it does by preserving selected portions of the old road, adjoining structures, and landmarks with enough explanation to enable visitors to understand and appreciate an important aspect of frontier history” (Phelps 2006, p. 18).

The uniqueness of the Natchez Trace Parkway lies in the fact that, unlike other parkways, the Trace commemorates an original transportation route with a rich, and sometimes bloody, history that took place on the original trail (Fordney 2003). It has been said that robbers and murderers along the Trace would disembowel their victims and place stones in the victims’ bodies so that the corpse would sink to the bottom of swamps where they were dumped. When the parkway was near completion, the cost of its construction had reached nearly half a billion dollars (Fordney 2003).

The contents of the Parkway are as varied as the land through which the Parkway crosses. The Tennessee portion of the Trace cuts through 101 miles of farmland and low hills across the highland rim just south of Nashville (Fordney 2003). The section of northwestern Alabama through which it cuts is characterized by creeks and a rare
overview at Freedom Hills. Shiloh Military Park, which contains Bloody Pond, is also in the Alabama portion of the Trace (Bachleda 2005). In Mississippi the Trace runs through roughly 300 miles of flatlands and swamps (Fordney 2003). “Those swamps host dark stands of bald cypress, a striking contrast to the oak-hickory community at the northern end. The parkway interprets a variety of cultures and economic activities, from the earthen mounds of prehistoric Indian civilizations to plantations of the Old South, to expansive cotton fields and the remains of old mines. There are waterfalls and unknown Confederate graves and old sites of Indian villages” (Fordney 2003, p. 28).

During the construction of the Parkway, there was much debate between landscape architects and engineers. The latter wanted a straight path while the landscape architects wanted sweeping curves. In the end, the opinion of the landscape architects prevailed because the NPS had the last word in the Parkway’s design (Fordney 2003). The final result is “a parkway with great attention to detail in its landscape design, from the use of small gutters of native stone to visually pleasing grasses to help control erosion…. To protect the views from the parkway, old roads were obliterated and telephone and power lines were buried where possible. Native stands of trees were left alone, sometimes over the objections of public demands that wood be cleared along the parkway. But most important for preserving views were scenic easements and an agricultural leasing program, both of which helped to maintain a pastoral setting in the lands around the parkway—sometimes over local objections to the restrictions on structures and earthmoving. Adjacent commercial and residential clutter remains one of the parkway’s major challenges today” (Fordney 2003, p. 84).
The Changing Design Intent of the Parkway

After reviewing the history of the Trace, it becomes apparent that there was no formal design intent in place in the original Trace. It started as a path worn by animals to reach water and was later used by Native Americans and postal workers. When decisions were made concerning changing the route of the Trace, they were made in an effort to find the least dangerous route of the trail. As mentioned previously, “The location of the Indian trail, which also was the Boatman’s Trail, was determined not so much by the necessity for speed as for a route as free as possible of all physical obstacles under all weather conditions” (Phelps 2006, p. 14).

When the Mississippi Daughters of the American Revolution began their work on the Trace in 1905, their purpose was to commemorate the Old Natchez Trace. When the survey work began on the Trace in 1934, this elongated park of 52,289 acres became part of a movement (Smith 2005). “The Natchez Trace Parkway, in addition to Skyline Drive through Shenandoah National Park and the Blue Ridge Parkway, was a product of the parkway movement of the 1930s, when automobiles were becoming the primary form of transportation in the United States. The construction of the national parkways not only helped relieve unemployment during the Great Depression but also affirmed that American society’s dependence on automobiles had resulted in a need for scenic roadways uninterrupted by cross traffic of modern intrusions” (Smith 2005, p. 3).

In the 1941 letter of the Secretary of the Interior, which is a report of the survey of the Natchez Trace, transmitting in response to Senate Resolution 222, preliminary design intents are stated. This letter not only sheds light on the historic landscape of the area, but it also notes the purposes for which the proposed Parkway would be constructed. The
letter describes the 100-mile stretch of the Trace from Natchez to Jackson as “the most beautiful and impressive section of the Trace.” The landscape is described: “This country is extremely flat. It is near the upper end of the true delta country. It is far enough South so that the vegetation gives one the feeling of being in the Old South probably more than does any other section of the route” (Secretary of the Interior 1941, p. 145).

Although there is scenic value to much of the landscape surrounding the Trace, the historical aspects of the Trace appeared to be of higher importance to the purpose of the Parkway. The Secretary of the Interior describes this situation: “The scenic values along the route might be classed as normal landscapes, as there is no outstanding scenery. It is the normal type of rolling wooded country which, in the southern quarter of the project, flattens out in a more open type, and develops a more definite atmosphere of the Old South. The historic purpose is the one that determines the value of the project rather than its natural scenic value” (Secretary of the Interior 1941, p. 144-145).

The following statement of one of the purposes of the Parkway demonstrates that some cultural aspects of the Parkway, somewhat related to the design of the Trace, have remained constant:

The proposed parkway would introduce the traveling public to an area where scenery, architecture, and historical associations combine to portray graphically the story of the Old South. The scenic beauty of the area (from Natchez to Jackson) is unsurpassed by that of any section of the Trace. The massive live oaks, covered with Spanish moss, lend an atmosphere of age and dignity to the region which makes a lasting impression on all who visit the region. The proposed parkway would make it possible to prolong the life and preserve the beauty of these
magnificent trees, which have made the region famous. In the vicinity of
the Trace are to be found some of the best remaining examples of those
antebellum southern mansions which typify the finest features of the
aristocratic culture and social organization of the pre-Civil War South.
Many of these homes date from the period of the early nineteenth century,
and are impressive reminders of the fine history and traditions of that
section (Secretary of the Interior 1941, p. 145).

The letter of the Secretary of the Interior, in regards to the proposed development
of the Natchez Trace Parkway, states the following:

The primary purpose of the construction of the Natchez Trace Parkway is the memorialization of the historical importance of the old
Natchez Trace through a parkway that is both useful and attractive. Such
a memorial falls into two distinct but closely related parts. For historical
and sentimental reasons, the marking, preservation, and development of
sections of the old Trace are of great importance. For economic reasons,
the road can best be memorialized in a parkway which, while closely
associated with the Trace, is not entirely dependent on it. The Natchez
Trace Parkway, although planned as a complete unit in itself, must also be
considered as a unit in a possible future Nation-wide system of parkways.
It would serve as an arterial route between the Northern and Northeastern
States and the Southwest States and Mexico (Secretary of the Interior
1941, p. 150).

Once the Parkway was paved and under the direction of the National Parks
System, a more clear design intent was stated. The purpose of the Natchez Trace
Parkway, as stated by Congress, is “To provide a recreational parkway from Nashville,
Tennessee, to Natchez, Mississippi, following the Old Natchez Trace. This roadway,
generally following the historic Trace for 450 miles, will ensure a continuously unfolding
inspirational interpretation of an important transportation route and its related regional resources which opened the way to expansion of the United States into the Old Southwest. At the same time, it will link the many outdoor recreation and historic sites developed for the enjoyment of the parkway visitor” (Crutchfield 1985, p. 7).

In the 2005 edition of Design Guidelines for the Trace, a further definition is given by Congress pertaining to parkway design: “Parkways, which are authorized by a special act of Congress (39 Stat. 535), are elongated parks that feature roads designed for pleasure traveling, that provide a motoring experience through a rural or natural setting, and that embrace scenic, recreational, or historic features of national significance. A national parkway has sufficient merit and character to make it a national attraction and not merely a means of travel from one place to another. It has limited access from adjoining properties, and no commercial traffic is allowed” (Smith 2005, p. 11). Additionally, the National Park Service has created certain design guidelines that differentiate national parkways from public roads. Some of the guidelines are as follows: A parkway should not allow commercial vehicles. The parkway should have a wide right-of-way to separate it from nearby private property. Scenic views should be preserved, and the parkway should be aligned so that it takes advantage of the most scenic views. In short, the parkway design should be such that it strives to take advantage of the natural beauty of an area rather than being designed to have the shortest route from one point to another. Other guidelines have been added that dictate a need for a curvilinear road alignment as well as minimal visual contrast with designed features such as bridges (Smith 2005).
The current landscape architect of the Trace, Greg Smith (2005), acknowledges that although the design of the Parkway has remained fairly constant over time, it does have to shift at times to adapt to changing standards of the National Park Service and other outside factors. For instance, Federal road standards have changed the striping policy for roads, thus bringing about inevitable changes along the Parkway (Smith 2005). To give an example, in 1968, Federal road standards for the striping of roads were different than they are today. Concerning this, Smith writes, “The parkway will continue to incorporate necessary improvements to the Parkway while striving to maintain the aesthetic characteristics of the Parkway” (Smith 2005, p.12).

**General Parkway Design**

A look at general parkway design is essential in understanding the driving forces behind the design of roads, and, more specifically, parkways. The Blue Ridge Parkway (BRP), a well-known parkway, offers lessons for 21st-century road building (Myers 2002). The Blue Ridge Parkway, often considered the most ambitious parkway ever undertaken, is a 469-mile road for which construction began in 1935 (O’Connell 2002). The chief landscape architect of the Blue Ridge Parkway, Stanley Abbott, notes, “The parkway has but one reason for existence, which is to please by revealing the charm and interest of the native American countryside… The idea is to fit the parkway into the mountains as if nature has put it there” (O’Connell 2002, p. 70). The parkway, much like the Natchez Trace, was part of Franklin Delano Roosevelt’s New Deal programs. The BRP was built to connect Shenandoah National Park in Virginia and Great Smoky
Mountains National Park in North Carolina. Construction of the BRP also created jobs for the local workforce and unemployed landscape architects (O’Connell 2002).

Mary Myers, in her article, *The Line of Grace: Principles of Road Aesthetics in the Design of the Blue Ridge Parkway* (2004), explains the design process of the Blue Ridge Parkway. Like the Natchez Trace, the Blue Ridge Parkway is part of the United States National Park Service (NPS). Thus “the NPS was responsible for the design and construction of the parkway. The BRP assisted with location, detailing, and construction of the motor road” (Myers 2004). BRP civil engineers and NPS landscape architects worked together on the issues of road design and location. The landscape architects spent a great deal of time on field reconnaissance work. From this work, the landscape architects created Planned Land Use Maps (PLUMS), which designate land use for particular areas such as woodland, pasture, original woods line, beginning and end of views. The PLUMS were also used to detail specific design intentions for certain sections. The maps are used today when a question arises about maintenance, “such as mowing patterns and vista clearing or tree planting” (Myers 2004, p. 127).

As chief designer and landscape architect of the Blue Ridge Parkway, Stanley Abbott has had tremendous influence on the profession of landscape architecture. Abbott was the protégé of Gilmore Clarke, who recommended Abbott for the position as chief designer of the Blue Ridge Parkway (O’Connell 2002). At the age of 25, in December of 1933, Abbott was appointed the resident landscape architect of the BRP and commenced work on the parkway in 1934. Prior to doing so, Abbott had worked extensively with Clarke on New York’s Westchester County Parkway. Abbott adapted many principles of design from the Westchester County Parkway that he had learned from Clarke, such as an
emphasis on “curvilinear alignments, arched stone bridges, massed plantings, and grassy shoulders” (O’Connell 2002, p. 70). In 1937 Abbott became the acting superintendant of the Blue Ridge Parkway. Along with his NPS colleagues, Abbott “led the overall design process” (Myers 2002, p. 71).

One of Stanley Abbott’s goals in designing the Blue Ridge Parkway was to have a diversity of scenery along the Parkway because he felt that visitors would spend a lot of time on the Parkway. The Parkway was also intended to have recreational functions (Myers 2002). Abbott recognized that the main source of variety and interest of the road would be its route. The location of the road was important because it determined what landscapes the motorist would see and what scenes the motorist would bypass (Myers 2002). Despite recommendations that Abbott made following extensive reconnaissance work, he had to settle for a ridgetop location in Virginia and North Carolina (Myers 2002). “Alignment, the vertical and horizontal structure of the road, was the second critical factor affecting variety and interest. If alignment is smooth and in sympathy with the topography, the motorist can shift attention from the road to the adjacent landscape. The road must be safe, with good sight lines, limited access, and adequate visual cues to prepare the driver for changes” (Myers 2002, p. 71). The above safety information is of paramount importance along any parkway.

The use of the spiral curve became popular along the Blue Ridge Parkway. “Parkways were the first motor roads to have superior in-phase alignment. Spiral curves (also called transition or easement curves) were used to achieve positive alignment and a smooth driving experience. Spirals were appropriated from railroads and transferred to parkway design for the benefits they conferred to safety and consistent speed. Spiral
curves ease the transition from straight tangent sections of road to standard curves” (Myers 2002, p. 71). Roads built without spiral curves were dangerous to drive and had a jagged appearance (Myers 2002). Concerning spiral curves on the BRP, Myers writes, “The most important aspect of the BRP design is the motor road and its relationship with the landscape. The central structuring feature of the BRP motor road is the spiral curve. Reverse spirals are linked artistically to engage the motorist in a positive kinesthetic experience and aim her/him at specific landscape scenes” (Myers 2004, p. 128). The spiral curve (called an easement curve) shown in Figure 2.1 depicts a spiral curve connecting a circular curve to a tangent (Oglesby and Hewes 1963).

![Diagram of Spiral Curve](image)

Figure 2.1  Spiral Curve
Abbott achieved his goal of variety on the BRP not only through the curvature of the road, but also through a changing landscape, which was achieved through a variety of means (Myers 2004). “Plants native to the immediate locale were used to facilitate the merging of the road with its larger context and to help eradicate any distinction between the right-of-way and adjacencies. Thus, if mountain laurel or pink rhododendron occurred on undisturbed adjacent land, they were repeated and feathered out on the slopes disturbed by the motor road” (Myers 2004, p. 132). Vistas were also opened up, and views were framed in an effort to blend the BRP with adjacent land. Mowing and clearing were means to lengthen a view (Myers 2004).

Mary Myers also explores road aesthetics in the design of the Blue Ridge Parkway and how the aesthetics of the Parkway may have been influenced by the ideas of William Hogarth and Edmund Burke. Although there was no direct link found to their theories and the design of the BRP, some of the designers’ educations may have included their theories (Myers 2004). Two theorists, William Hogarth and Edmund Burke, first wrote about the picturesque theory. Hogarth’s *The Analysis of Beauty* (1753) and Burke’s *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and the Beautiful* (1757) theorized that certain physical forms and emotional responses are fundamental to beauty: the serpentine “Line of Grace,” motion, variety, and positive emotion. Myers’ study “used empirical methods to examine motorists’ perception of the key aesthetic attributes associated with Hogarth’s and Burke’s treatises” (Myers 2006, p. 38). Myers’ study explored the Blue Ridge Parkway in conjunction with the English Picturesque style and the serpentine line of grace. Both of those design elements combine to give motorists a pleasurable driving experience along the Blue Ridge Parkway. The
study measured public response to the Blue Ridge Parkway and found the response to be positive. “Respondents indicated a preference for reverse curvature in the motor road structure (Hogarth’s serpentine *Line of Grace*) and for plant color and texture. There was strong support for Burke’s notion that positive emotion is associated with superior aesthetic experience” (Myers 2006, p. 38).

Stanley Abbott (1953) wrote about the importance of parkways in people’s lives. The author postulates that parks and parkways touch each of us at some point in our lives. Many people experience these places, ranging from infants to the elderly. Landscape architects collaborate with many other professions in designing parks and parkways. Landscape architects must have great insight into human needs in order to create effective designs. The popular imagination must also be enlisted in creating these designs so that the people can imagine the design and can then have a desire for it. The landscape architect must have sympathy for engineering, architecture, history, archaeology, and sociology (Abbott 1953).

In a more historic article, Nichols (1940) makes note of several important factors of highway design that are very much applicable on today’s parkways. Nichols addresses highway design by noting that the design of highways in America must take full advantage of the natural scenic beauty in the country. The aesthetic factors involved in the landscape design should correlate with the construction factors in the engineering. Two increasing demands on a highway are recreational uses and convenience of tourist travel. Tourists must be able to stop and enjoy the scenery at overlooks. Tourist safety is also an important consideration. Although the horticultural function along highways is important, it must be subordinated to the highway engineering, alignment, and landscape
design. Landscape design is especially important on parkways in meeting the needs of pleasure traffic (Nichols 1940). The designers of the Natchez Trace appear to have into account all of these considerations during the design of the Parkway.

Many highways and parkways are constructed in areas where drivers will be able to experience scenic beauty, as noted by Clarke (1932) in his article concerning the Mount Vernon Memorial Highway. The route chosen for the highway was along the Potomac River because of the scenic beauty inherent in the area. The designers and engineers for the project sought to achieve the best possible results from the artistic as well as practical standpoint. They wanted travelers on the road to experience the “greatest possible enjoyment” while driving (Clarke 1932, p. 181).

The Method of Repeat Photography

Concerning Photography

Before discussing the method of repeat photography, an understanding of the importance of the photograph itself is essential. Much has been written on the subject of photography. One particularly relevant book is Susan Sontag’s On Photography (1977). The author discusses how the inventory of photographic images began in 1839 and how photographs have changed our idea of what is worthy of observation. Unlike a written account of a person or event that might be an interpretation, a photograph is not an interpretation of reality, but a piece of it (Sontag 1977). Understanding the photograph as a piece of reality is important in this study because the new photograph, much like the historic one, is a piece of reality, which will be compared with an older piece of reality.
Another point Sontag makes is that a photograph furnishes evidence:

Something we hear about, but doubt, seems proven when we’re shown a photograph of it…. A photograph passes for incontrovertible proof that a given thing happened. The picture may distort; but there is always a presumption that something exists, or did exist, which is like what’s in the picture. Whatever the limitations (through amateurism) or pretensions (through artistry) of the individual photographer, a photograph—any photograph—seems to have a more innocent, and therefore more accurate, relation to visible reality than do other mimetic objects (Sontag 1977, p. 5-6).

Sontag also points out that photographs are valued because they give information. In a sense, they create an inventory by telling one what there is. “The photograph is a thin slice of space as well as time” (Sontag 1977, p. 22). The idea of a photograph as inventory is important to this thesis because when using content analysis to compare the photographs, special attention will be paid to the inventory, or composition, of each photograph.

In Alan Trachtenberg’s book, Reading American Photographs (1989), the author describes the uniqueness and singularity of each photograph.

Each photograph represents a nonrepeatable event. Unlike a painting or drawing, which conflates the duration of its making with the inner subjective time of the maker’s memory and mental processes, the making of the photographic image occurs at once. The determinable, datable character of the photograph and its machine-like exactness of whatever detail falls within the lens’s focus give the camera image a privilege among images in regard to the past. Each photograph bears a distinct and unique message (Trachtenberg 1989, p. 5-6).
The historic photographs of the Trace capture a single moment in time and capture a view of the landscape that cannot be replicated. The new photograph represents only an attempt to replicate the view seen in the historic photograph. The minute discrepancies in the two photographs may give clues to how the landscape has changed and what has driven those changes.

*Repeat Photography*

In terms of literature related to the concept of repeat photography, the sources were plentiful. Rogers offers a definition of the method: “Repeat photography is the practice of finding the site of a previous photograph, reoccupying the original camera position, a making a new photograph of the same scene” (Rogers et al., 1984, p. xix). Repeat photography is a means of evaluating changes in the landscape in several different fields: geography, geology, and botany. “Any previous photograph, when it is repeated, becomes part of a record of change with the passage of time” (Rogers et al., 1984, p. xx). The combined old and new images are generally referred to as a matched pair of photographs.

Besides the subjective value of repeat photography in promoting enhanced perceptions of landscapes, matched photographs obviously have an objective purpose. A pair of matched photographs links a moment in the past with the intervening unseen events, and the new photograph establishes a point on a photographic network for future observation of the land. Hence, photographs of landscapes have been referred to as benchmarks. Whenever such photographs are repeated, they become elements of a continuous record, and they provide a quantitative basis for understanding and predicting the natural forces that give a particular
landscape its character. The dominant themes of repeat photography, therefore, are quantifying the rate, nature, and direction of change in the observed features; evaluating the underlying causes of the perceived changes; and establishing new photographic records for future viewers to study and ponder. The great value of matched photographs for pursuing these themes is that they express an abundance of information for a particular place and time (Rogers et al., 1984, p. xxi).

A graduate student at Louisiana State University, Jean Frey, conducted a study in 1995 that explored repeat photography as a tool for the landscape historian to study downtown Baton Rouge and how it has changed. Frey used a series of twenty-four photographs taken in Baton Rouge. Twelve photographs depicted various scenes in the city from the early part of the twentieth century. The other twelve photographs were taken recently with the sole intention of comparing them to the older photographs. In order to make a fair comparison between the old and the new photographs, Frey took careful steps to ensure that the new photograph was taken in the exact location as the old photograph. Using an inventory matrix, Frey compared the old and new photographs. The inventory matrix used five elements to determine the extent of change: land use, streetscape, architectural elements, views, and vegetation (Frey 1995). Though Frey’s study did study change in downtown Baton Rouge, the study’s emphasis was on evaluating the efficacy of repeat photography as a tool. “The study concluded that repeat photography is a valid research tool for landscape historians. It places the historic landscape in a context which is understood – the present” (Frey 1995, p. ix).

Paul Berger’s Book, Radical Rational Space Time (1983), offers interesting insight into the method of repeat photography. The book was intended to accompany a
photography exhibition at the University of Washington. In the book, the Rephotographic Survey Project (RSP) was explored. Participants in the project undertook the enormous challenge of rephotographing sites from the great Surveys of the West that were taken in the last century. In order to do this, photographers assumed the exact position of the previous photographers to effectively rephotograph a site. “These photographs, separated by a century, transform (and radically complicate) our notions of time, just as other photographic “doubles” transform our understanding of how space and time interact to form the world we inhabit” (Berger 1983).

Berger describes the process of repeat photography: “Although we can’t repeat the past, or even agree on its history, we can repeat how a lens described a discrete space by simply returning there” (Berger 1983, p. 21). Concerning matched photographs, Berger writes: “The rephotograph, by itself, would tell us very little. It’s the two taken together, and the triangulation we make between them, that both constitute the measure of its photographic meaning and inform its 20th century aesthetic. This triangulation is a demonstration of something that is fundamental to all photographs, but difficult to ever show explicitly: that the meaning of the photograph does not reside in its physical structure, but rather in the dynamic and negotiating interaction between ourselves, our culture, and the image in question” (Berger 1983, p. 26-27).

In the book, *Stopping Time: A Rephotographic Survey of Lake Tahoe*, the author offers fifty-one pairs of photographs that document the changing landscape of the Tahoe basin. Lake Tahoe’s pristine waters and beautiful surrounding land have been threatened by recent growth and motor traffic in the lake. The problems of Lake Tahoe, including balancing economic activity and growth with a fragile ecosystem, represent the
challenges faced by many changing American landscapes. In this study, to demonstrate a comparison of change in the landscape, historic photographs are rephotographed from as close to the original position as possible (Goin 1992). The process of selecting which historic photographs to rephotograph appears to have been a complex process. Many of the photographs from which to choose were either physically damaged, too light, or too dark. A lot of the photographs in the archives were taken by amateurs or commercial photographers. In some cases, photographs were selected, rephotographed, and not used because the information they contained was duplicated in other images (Goin 1992). The researchers attempted to use photographs that captured the changes that have taken place around Lake Tahoe. One challenge of the survey is mentioned: “Our perception of how that landscape changed is, to some degree, based simply upon the availability of historic photographs. Because photographers recorded the landscape selectively, the resource base for the survey is limited” (Goin 1992, p. 4).

Concerning the method of repeat photography, Goin writes: “Precise rephotography requires that the photographer use the exact same tripod position, camera format, lens and film type, and angle of view as well as the time of day, year, and weather conditions. However, the degree of the landscape change at Lake Tahoe necessitated a flexible interpretation of the conventional rules governing precise rephotography” (Goin 1992, p. 5).

Although the rules of rephotography were somewhat altered in the rephotographic survey of Lake Tahoe, the surveyors appear to have obtained the information they set out to learn. The comparison of photographs is explained: “The comparison between two landscape photographs, made on the same hour and day and from the same vantage point
exactly seventy or eighty years apart, provides a measure of the passage of time. Yet the landscape does not reflect the steady progress of the clock. Rather, time is measured by visual change in the landscape. Consequently, time passes at different rates, depending upon how many years separate the historical and contemporary views and the degree of change reflected at each site within the landscape.” For example, very little change may be evident in a wilderness photograph, whereas a great deal of change may be apparent in a more developed area (Goin 1992, p. 8).

In another rephotographic study, one photographer, Jane Reese Williams, set out to rephotograph sites in Ancient Egypt that were originally photographed by Francis Frith, a documentary photographer. Frith was the first trained photographer who photographed the Egyptian monuments in a systematic manner (Friends of Photography 1979). Years later, in 1979, Jane Williams began photographing, as closely as possible, the same sites Frith photographed in Israel and Egypt. The photographs taken by Williams show dramatic changes that have taken place in both countries as a result of tourism and increasing urban populations. The new prints shed light on issues such as urban infringement on archeological sites and subtle destruction that results from people pollution (Friends of Photography 1979). When the two photographs are considered together, they “illustrate the value of replication” by creating “a considerably richer understanding than either image by itself. Comparisons of contemporary and historical photographs such as these can bring about greater understanding of the nature and quality of change in the world today. Clearly there are other historical photographs which could be replicated to add to that knowledge” (Friends of Photography 1979, p. 6).
The Use of Photography in Studies of the Landscape

Davis (1989) discusses the importance of the photograph to geologists and landscape historians because the photograph serves as “a pseudo-scientific device to illustrate, analyze, and interpret the human-made landscape” (Davis 1989, p. 1). Davis explains how the camera has become one of the main tools for cultural analysis. Davis points out that photography, in the form of film, TV, postcards, and magazine pictures, has changed the way we interpret the world. For instance, most people see and understand the landscape through some type of photographic image (Davis 1989). Technical constraints of the photographic process may change the way landscapes are portrayed and interpreted. For example, photographers from the early 19th century changed their compositions because photographic emulsions from that time were unable to replicate dramatic, romantic skies seen in contemporary painting of the landscape (Davis 1989).

In 1867 Clarence King, a young geologist, and Timothy O’Sullivan, a photographer, set out to complete a government survey of the mountainous and desert region of the Southwest (Trachtenberg 1989). The results of this survey, combined with four other projects, represented the contents of the first United States Geological Survey. The purpose of this “40th Parallel Survey” was stated clearly to the researchers. They were “to direct a geological and topographical exploration of the territory between the Rocky Mountains and the Sierra Nevada Mountains, including the route or routes of the Pacific railroad” (121). The object of their endeavors, as stated in the authorizing letter, “is to examine and describe the geological structure, geographical condition and natural resources” of the specified area (121). The photographers played an important role in
these projects, and the photographs taken were used in many different ways. Some of them were published with official reports while others were bound into small book for congressmen and government officials. The photographs made an important public impact because “their continuing power in registering the meaning of the survey enterprises suggest in retrospect that they played an integral role in redefining the geological survey as a modern activity” (124).

Content Analysis

The question may arise as to how one compares the historic and contemporary photographs. There needs to be a set of criteria for the two photographs that will facilitate the process of discovering the changes that have taken place from the time the old photograph was taken to the time the new photograph was taken. Content analysis has proven to be a useful tool in comparing images and will be the tool used in the current study to analyze the matched pairs of photographs.

In one particular study, postcards from before and after WWII were analyzed to determine whether or not the image of the city of Phoenix had evolved over time (Larsen 2006). The researchers looked at historic postcards in order to glean information concerning how the landscape of Phoenix was portrayed prior to WWII. Before WWII postcards of Phoenix portrayed the city much like any typical, small midwestern city, in an attempt to attract investment. The open desert was meant to be portrayed as a blank slate for new development. After WWII, however, the images of Phoenix on postcards shifted dramatically. Developers and decision-makers in Phoenix decided that showing the city as a desert oasis might help attract tourists and new residents. Neither the typical
midwestern city nor the desert oasis portrayed accurately the authentic desert landscape of Phoenix (Larsen 2006).

In the Phoenix study, 357 Phoenix, Arizona postcards, dating from 1901 to 1976 were evaluated using content analysis. Content analysis allowed the researchers to quantify the existence of various elements over a period of time (Larsen 2006). The researchers hypothesized that postcards prior to WWII would show the landscapes of Phoenix and portray it as a typical city in the Midwest. Additionally, they hypothesized that the post-WWII postcards would portray Phoenix as a tropical oasis (Larsen 2006).

The researchers used content analysis to analyze difference among the postcards. Content analysis is a method for quantifying visual imagery that Neuendorf (2002) describes as “the systematic, objective, quantitative analysis of message characteristics” (Larsen 2006). “Content analysis finds patterns in information through a process of coding and categorizing specific textual, visual, or vocal elements. It is most frequently used for text analysis. Content analysis of visual images has primarily focused on measuring information in advertisings” (Larsen 2006). The study used several criteria for analyzing postcards such as: land use type, water, vegetation species present, dominant vegetation and groundcover, architectural style, transportation, cultural elements, and others (Larsen 2006). Although the factors used to analyze photographs from the Trace will differ somewhat, the same basic logic will be in place in both studies.

Although the Phoenix study did not use repeat photography as a method, it did compare photographs that were somewhat similar in subject matter. For instance, in a postcard of downtown Phoenix from before WWII, the image of Phoenix looks simple. After WWII, however, a similar postcard of downtown is filled with palm trees and non-
native vegetation (Larsen 2006). Factors such as different vegetation can be significant indicators of shifting image of the city of Phoenix. An examination of the matched pairs of photographs from the Natchez Trace will require not only a critical eye but also a formal matrix in order to assess key difference between the two photographs.

**Conclusions**

Through a careful examination of the many historical accounts of the Trace, one may see the dramatic changes in use of the Parkway. Throughout its entire history, the Trace has served as a means of transportation of various entities. From its beginnings, the Trace has shifted from a basic trail animals used to an Indian trail to an often dangerous route used by early settlers. The Natchez Trace’s current use as a parkway of the National Park Service has allowed it to continue to serve as a transportation route. The Trace also serves to commemorate its rich history. The many stops along the Parkway allow travelers the opportunity to learn the history of the Trace and possibly gain a greater respect and understanding of its history. Just as the study of Phoenix postcards (Larsen 2006) revealed a change in the image of the city through content analysis, the content analysis used in the current study may reveal the many changes that have taken place along the Natchez Trace over time.
CHAPTER III

METHODS

Introduction

The method of data collection for this thesis study is repeat photography, a method that has been used for many years to track changes in a given subject. Repeat photography was chosen as the method for data collection because of its ability to track changes in an explicit, objective manner by revealing subject matter in the form of a photograph. A photograph can be retaken from the same position, years later, yielding the same subject matter, but with varying degrees of change. For this reason, repeat photography was deemed an appropriate method for this study.

This study seeks to examine the changes that have occurred along the Trace and determine whether or not the design intent has changed. In order to do this, several methods are employed. First, the use of repeat photography is employed as a means by which the researcher can record visually the present state of certain areas along the Trace. Additionally, a content analysis method is used whereby a matrix will assist in determining precisely what changes have occurred over time on the Natchez Trace. The matrix also helps reveal patterns of change that have taken place in all of the matched pairs. Photographs are then analyzed based on the planned land use map (PLUM) that corresponds to their site. In order to analyze images based on their corresponding
PLUM, it was first necessary to identify the design intent present in the PLUM. Sometimes the PLUM includes prescribed maintenance for an area such as mowing or thinning of trees to preserve certain scenic views. It was then determined whether or not the photographs depicted a scene that demonstrates adherence to the corresponding PLUM. Images are also considered based on pertinent past design intents and present design guidelines of the Natchez Trace Parkway and how well they appear to adhere to the guidelines and design intents of the Trace.

In the context of this thesis, design intents refer to the early design intents concerning the Trace as stated in the 1935 survey of the Natchez Trace that was published in the 1941 Letter of the Secretary of the Interior. Some of the design intents stated are as follows: “The primary purpose of the construction of a Natchez Trace Parkway is the memorialization of the historical importance of the old Natchez Trace through a parkway that is both useful and attractive” (Secretary of the Interior 1941, p. 150). The Parkway “will also serve as the principal access to the historic sites and recreational areas to be developed along the route of the Trace” (Secretary of the Interior 1941, p. 151). Concerning the preservation of historic buildings along the Trace, “Existing buildings or physical features of historical importance should be preserved or stabilized. Where remains do not lend themselves to more elaborate treatment, they should, at least, be marked” (Secretary of the Interior 1941, p. 152). About the Natchez Trace, it was noted, “Ultimately, it will serve to introduce the rest of the country to the picturesque region through which it passes, and to the history of a pioneer route which played a vital part in the development of the early American Southwest” (Secretary of the Interior 1941, p. 146).
Design Guidelines, for the purpose of this thesis, refer to the guidelines set forth in the 2005 manual, *Design Guidelines: Natchez Trace Parkway*. Many of these design guidelines were explored in detail in the Introduction of this thesis. The guidelines offer specific design criteria and rehabilitation guidelines for each of the Parkway’s features. Some of the features explored in this thesis for which there are specific guidelines include: vegetation, scenic views, the roadway, bridges, parking areas/pull offs, interpretive structures, comfort stations, historic buildings, Native American sites, and gravesites.

This Methods chapter contains detailed information on repeat photography procedures, including the collection of historic photographs. The use of content analysis and PLUMs are also discussed. Definitions pertaining to several features listed in the matrix are presented. Finally, the evaluation of each matched pair of photographs is presented in a matrix.

**Repeat Photography Procedures**

The process of repeat photography requires a great deal of preliminary work before the first successful rephotograph can be taken. In this thesis the researcher carefully evaluated the entire length of the Natchez Trace to evaluate its most historically or visually significant sites. Because the Parkway extends for 444 miles, it was necessary to divide the Parkway into manageable sections. The northern half of the Parkway (from Tupelo to Nashville) was chosen for its variety of topography and was photographed one weekend. The southern half (extending from Tupelo to Natchez) was explored and photographed another weekend. Other parts that needed to be photographed again were
done so at other times. Before traveling these areas and rephotographing sites, it was first necessary to locate historic photographs of the Trace. Some of these were found in books concerning the Trace, while others were found in old newspaper clippings in the Vicksburg Old Courthouse Museum. The majority of the photographs, however, were located in the archives in Tupelo, Mississippi. Tupelo is home to the headquarters of the Parkway and contains a wealth of information for visitors to the Trace as well as for researchers who seek more detailed information of the history of the Trace.

Because many of the archives of the Trace are housed in the only visitor center along the Trace, located in Tupelo, it was the starting point for the rephotographic process. In order to rephotograph sites, the original photographs of those sites must first be identified. The study area focuses on significant sites along the Parkway, thus covering the entire Trace. After selecting close to one hundred historic photographs, the photographs were then further scrutinized to determine which ones might be easily replicated. Photographs that portrayed a rural scene of a scene in the woods with no location markers were not considered for replication. The images that contained specific information regarding their exact or approximate location were much easier to replicate. For example, some of the cards on which the photographs were mounted contained detailed information such as the milepost number and the direction in which the camera was pointed when the picture was made (see Figure 3.1).

After spending several full days in the archives and searching through hundreds of historic photographs, the researcher scanned the ones that contained design features of the Parkway to be examined in this thesis. Images were also chosen based on their capacity to be rephotographed. Many of the historic photographs lacked extremely
specific information about their location, therefore they were not chosen. Other photographs were of such poor quality that the information contained in them was barely readable, thus they could not have been easily been compared with other, newer photographs. After rephotographing some sites and creating a matched pair, some of these matched pairs were still not used either because they duplicated information contained in other photographs, or they portrayed sites that did little to demonstrate the design intent of the Parkway (see Appendix D).

![Figure 3.1 Example of Photograph from the Archives](image)

In terms of the actual photographing process, repeat photography requires that a number of precise measures be taken. First, the camera must be carefully situated in a position as close as possible to the position of the camera when the historic photograph
was taken. The new photograph should also be cropped much like the historic one. After repeating this process, the comparison between the old and new photograph will hopefully yield insightful information into the changes of the Natchez Trace. At the very least, the matched pairs of photographs will function much like the photographs in the Lake Tahoe rephotographic survey (Goin 1993): “Quite simply, the historical photographs are rephotographed from nearly the same position in order to provide a comparison of landscape change” (Goin 1993, p. 2). It is through this comparison of landscape change that information may be gleaned about whether or not the design intent of the Trace has shifted.

All of the new photographs were taken with a Nikon D300 digital single lens reflex camera. The digital feature allowed immediate review of the photographs to determine how closely they matched the originals. The lens used on the camera was 18mm to 200mm in length. The focal length varied from one photograph to the next. When the new photograph resembled the historic one as closely as possible, the session ended. At the end of each trip along the Trace, the photographs were transferred from the camera’s memory card to a computer and compared with the historic ones that had been scanned and saved to the computer. Using Photoshop, the new photograph was then cropped to match the corresponding historic photograph. The approximate location where each matched pair of images was taken is shown in Figure 3.2.
Figure 3.2  Map of the Trace showing the location of each matched pair

The Use of Content Analysis in the Current Study

As previously discussed in the Literature Review, content analysis is a tool used to quantify and compare visual imagery. As such, it was the tool chosen to analyze the matched pairs of photographs presented in the Results and Discussion chapter of this thesis. In a 2006 study of postcards from Phoenix, Arizona, content analysis was used as
a way to quantify the existence of certain elements present in the postcards. The purpose of the content analysis matrix used in the Phoenix study was to track changes in the way the city of Phoenix was depicted on postcards before and after WWII. “Content analysis finds patterns in information through a process of coding and categorizing specific textual, visual, or vocal elements. It is most frequently used for text analysis. Content analysis of visual images has primarily focused on measuring information in advertisings” (Larsen 2006). Although content analysis has mainly been used to measure information in advertising, it is also a useful analytical tool for many other applications, such as this thesis.

The content analysis matrix (Table 3.1) that follows on the next page represents certain features of the Parkway that were chosen to rephotograph. Beneath the feature are elements that comprise that feature that may or may not have changed since the historic photographs were taken. For example, when examining the roadway, two elements of it that may have changed over time are alignment and painted lines on the road. For each of the twelve pairs of photographs, there are two columns. One column indicates that change has occurred, while the other column indicates that no change has occurred. When neither box is checked it means that the feature listed was not relevant in a particular matched pair.
Table 3.1 Sample Content Analysis Matrix

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<th>Pair # 1</th>
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<td>Vegetation</td>
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<td>density</td>
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<td>Scenic Views</td>
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<td>middle ground</td>
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<td>background</td>
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<td>Roadway</td>
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<td>drainage ditches</td>
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<td>Bridges</td>
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Pkwy. Features:

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| site amenities         | No Change | No Change | No Change | No Change | No Change | No Change |
| surrounding vegetation | No Change | No Change | No Change | No Change | No Change | No Change |

| Interpretive Structure | No Change | No Change | No Change | No Change | No Change | No Change |
| materials              | No Change | No Change | No Change | No Change | No Change | No Change |
| placement              | No Change | No Change | No Change | No Change | No Change | No Change |

| Comfort Stations       | No Change | No Change | No Change | No Change | No Change | No Change |
| exterior               | No Change | No Change | No Change | No Change | No Change | No Change |
| surrounding landscape  | No Change | No Change | No Change | No Change | No Change | No Change |

| Historic Buildings     | No Change | No Change | No Change | No Change | No Change | No Change |
| building facade        | No Change | No Change | No Change | No Change | No Change | No Change |
| number of buildings    | No Change | No Change | No Change | No Change | No Change | No Change |
| surrounding landscape  | No Change | No Change | No Change | No Change | No Change | No Change |

| Native American Sites  | No Change | No Change | No Change | No Change | No Change | No Change |
| mowing                 | No Change | No Change | No Change | No Change | No Change | No Change |
| vegetation on mound    | No Change | No Change | No Change | No Change | No Change | No Change |
| surrounding vegetation | No Change | No Change | No Change | No Change | No Change | No Change |
Table 3.1  (continued)

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Pky. Features:

| Gravesites     |         |         |         |         |         |         |
|                |         |         |         |         |         |         |
| maintenance    |         |         |         |         |         |         |
| use of flowers |         |         |         |         |         |         |

Portions of this model are adapted from the content inventory matrix used by Frey (1995) in the rephotographic study of downtown Baton Rouge (see Appendix C). One portion of the matrix used in this study that was adopted from Frey’s matrix is the binary aspect of it. For example, for each feature listed, both models have a column that indicates change and a column that indicates no change has taken place since the original photograph. Additionally, Frey examined design features including: Land Use, Streetscape, Architectural Elements, Views, and Vegetation. The matrix in this study examines similar features such as: Roadway, Historic Sites, Scenic Views, and Vegetation. The design elements evaluated in the matrix in this thesis were also derived from the 2005 Design Guidelines of the Natchez Trace.

In most of the photographs it was not difficult to evaluate whether or not its contents had changed over time. Others, however, were not as straightforward. Therefore, change has been defined as any alteration of the physical appearance of the
Parkway features or their comprising elements under investigation. Given the definition of change in a photograph, evaluating whether or not there had been changes since the historic photograph was not terribly challenging. It simply involved taking a close look at the photograph.

Under the Scenic Views heading in the matrix are three characteristics of a scenic view that will be evaluated for change: foreground, middle ground, and background. The definitions of these terms were taken from *Design Guidelines: Natchez Trace Parkway* (2005). The foreground, which is 0 to one-half mile from the observer, contains details such as plant types that the observer can immediately perceive (Smith 2005). In the middle ground (one-half to three miles from observer), “different stands of trees (i.e. coniferous and deciduous) can be identified at this distance, and changes to forms are most noticed” (Smith 2005, p. 56). In the background, considered three miles and beyond from the observer, “ridge lines and horizon lines define the limit” (Smith 2005, p. 56).

In addition to the definitions given above, *The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (Birnbaum 1996) also offers helpful definitions for some of the terms listed in the matrix as well as for other pertinent terms in this study. Some of the character-defining features of the landscape are topography, vegetation, circulation, water features, and structures, site furnishings, and objects (Birnbaum 1996).

Topography is comprised of “the shape of the ground plane and its height or depth…. Topography may occur naturally or as a result of human manipulation. For example, topographic features may contribute to the creation of outdoor spaces, serve a
functional purpose, or provide visual interest” (NPS 1996, p. 15). In most cases on the Trace, the topography is naturally occurring, and measures have been taken to respect the topography of the area. The northern portion of the Trace, especially near Nashville, contains a greater variety of topography than the southern portion. Visual interest is created in Tennessee as the Parkway gently curves through the terrain, creating a sense of mystery as to what lies beyond the next curve.

The Department of the Interior describes vegetation as “individual plants, as in the case of a specimen tree, or groups of plants such as a hedge, allee, agricultural field, planting bed, or a naturally-occurring plant community of habitat.” As the description continues, its applicability to the Trace becomes apparent: “Vegetation includes evergreen or deciduous trees, shrubs, and ground covers, and both woody and herbaceous plants. Vegetation may derive its significance from historical associations, horticultural or genetic value, or aesthetic or functional qualities. It is a primary dynamic component of the cultural landscape’s character; therefore, the treatment of cultural landscapes must recognize the continual process of germination, growth, seasonal change, aging, decay, and death of plants” (NPS 1996, p. 15). It is precisely the way in which the Trace deals with the ever-changing vegetation that will help determine if they have adhered to the design guidelines and whether or not the design intent has changed.

Circulation is another key feature of a landscape. “Circulation features may include roads, parkways, drives, trails, walks, paths, parking areas, and canals. Such features may occur individually or be linked to form networks or systems. The character of circulation features is defined by factors such as alignments, width, surface, and edge treatment, grade, materials, and infrastructure” (NPS 1996, p. 15). The Trace, from the
time of the 1935 survey was made, has had stringent guidelines concerning the treatment of the edges of the Parkway. An examination of the upcoming photographs, which reveal how the Trace addresses the edges of the road, along with a comparison of past and present design intents, may help reveal whether or not the design intent of the Trace has changed.

Water features are another character-defining feature of the landscape and “may be aesthetic as well as functional components of the landscape. They may be linked to the natural hydrologic system or may be fed artificially; their associated water supply, drainage, and mechanical systems are important components. Water features include fountains, pools, cascades, irrigation systems, ponds, lakes, streams, and aqueducts” (NPS 1996, p. 15). The Trace has numerous water features along its roadway.

Site furnishings, such as signs, trash receptacles, monuments, and memorials, are other character-defining features of the landscape. They are usually “small-scale elements in the landscape that may be functional, decorative, or both…. Site furnishings and objects occur as singular items, in groups of similar or identical features, or as part of a system (e.g. signage). They may be designed or built for a specific site,… or created as vernacular pieces associated with a particular region or cultural group” (NPS 1996, p. 16). Signage and trash receptacles will be the site furnishings evaluated and discussed in this study.

In the evaluation process of the matched pairs, the binary matrix is first used to determine obvious changes in the pairs. The changes are then discussed following each pair. Several pairs are then discussed in greater detail. The features to be evaluated in the matched pairs (when applicable) are the following: vegetation, scenic views,
roadway, bridges, parking area/pull-off, interpretive structure, comfort station, historic buildings, Native American sites, and gravesites. Their comprising elements are also evaluated. A list of the matched pairs is shown in Table 3.2. Table 3.3 shows the content analysis for matched pairs one through six. The matrix for matched pairs seven through twelve is shown in Table 3.4, and Table 3.5 depicts the content analysis for pairs thirteen through fifteen.

Three of the most significant features of the Trace are vegetation, scenic views, and the roadway itself. The vegetation element is examined to determine how the Natchez Trace has dealt with the inevitable increase in vegetative density that occurs with the passing of time. Although the growth of vegetation is somewhat out of the Park Service’s control, they can control the maintenance of this vegetation. For example, grass of the shoulder of the road will inevitably grow. The manner in which the Park Service deals with this growth indicated their adherence, or lack thereof, to the design guidelines and design intents of the Natchez Trace.

Scenic views are also an important aspect of the Parkway to examine. They, too, are examined to determine how well the Trace has maintained the viewshed with elements such as increased vegetation and urban development threatening to alter the desirable views. Additionally, the roadway is examined because it is the most significant feature of the Trace. Studying the alignment, painted lines, signage, mowing, and drainage ditches of the roadway may reveal if the design intent has changed or remained relatively unchanged over the years.
Planned Land Use Maps (PLUMs)

The historic photographs are not only compared with new photographs, but they are also compared with their corresponding planned land use map. There is a PLUM for each area of the Natchez Trace, some of which are shown in Appendix B. The use of these maps in this thesis is important because “the design intent of Parkway lands is specified on the Land Use and Maintenance Plans. These plan drawings are available for all lands within the Parkway boundaries” (Smith 2005, p. 59). Additionally, “all design changes affecting Parkway lands should be reflected on these drawings and maintenance of Parkway lands should adhere to these plans” (Smith 2005, p. 59).

The PLUMS are used to further determine whether or not the Parkway features appear to be in line with their design purpose and their prescribed maintenance. They show information about the designated area such as the location of the Parkway, utilities, certain trees, water bodies, adjacent landowners, and structures in the area. Additional elements found on these drawings include: “designated vegetation types for each land area (i.e. turf or forest), delineation of agricultural lease tracts, and scenic easement boundaries on adjacent lands” (Smith 2005, p.59). Most importantly, there are special notes on the map concerning maintenance for the area such as mowing and thinning of trees. Some of the maps were approved in the early 1980s while others were approved in 1970 and were signed by the Parkway’s landscape architect, chief of maintenance, chief of interpretation, and the Parkway’s superintendent. Other maps were approved as early as 1959 and include approval by the Parkway’s landscape architect, engineer, historian, and superintendent. The PLUMs are divided into sections such as 1A, 1B, 2A, 2B and so
on. Each section contains about 20 to 40 separate maps. The PLUMs range in scale from 1” = 200’ to 1” = 400,’ thus covering almost one mile in each map.

In addition to the binary matrix and PLUMs, the matched pairs of photographs will also be evaluated in terms of the original design intents of the Trace as well as the more recent design guidelines (2005). Often these guidelines have remained constant over the years, but there have been some changes, which some of the photographs may reveal.
Table 3.2 Key to Matched Pairs

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<tr>
<th>Matched Pair #</th>
<th>Description</th>
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<td>1</td>
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<td>Loess Bluff</td>
</tr>
<tr>
<td>3</td>
<td>Rocky Springs</td>
</tr>
<tr>
<td>4</td>
<td>Highway 27 Overpass</td>
</tr>
<tr>
<td>5</td>
<td>Mississippi Crafts Center Interpretive Structure</td>
</tr>
<tr>
<td>6</td>
<td>River Bend Comfort Station</td>
</tr>
<tr>
<td>7</td>
<td>Black Belt Overlook</td>
</tr>
<tr>
<td>8</td>
<td>Old Town Overlook</td>
</tr>
<tr>
<td>9</td>
<td>Confederate Gravesites</td>
</tr>
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<td>10</td>
<td>Pharr Mound “C”</td>
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<td>Tishomingo Portion of Trace</td>
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<td>12</td>
<td>Freedom Hills Overlook</td>
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<td>13</td>
<td>Buzzard Roost Spring</td>
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<td>14</td>
<td>Parkway View 398.6</td>
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Table 3.3  Content Analysis Matrix for Matched Pairs One through Six

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Pkwy. Features:

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<td>X</td>
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</tr>
<tr>
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</tr>
</tbody>
</table>

Scenic Views

| foreground       |          |          |          |          |          |          |
| middle ground    |          |          |          |          |          |          |
| background       |          |          |          |          |          |          |

Roadway

| alignment        |          | X        | X        |          |          |          |
| painted lines    |          |          |          | X        |          |          |
| signage          |          |          |          | X        |          |          |
| mowing           |          |          |          | X        |          |          |
| drainage ditches |          |          |          |          |          |          |

Bridges

| structure        |          |          |          |          | X        |          |
| surrounding      |          |          |          |          |          | X        |
| landscape        |          |          |          |          |          |          |
Table 3.3 (continued)

<table>
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Pkwy. Features:

**Gravesites**

- maintenance
- use of flowers
## Table 3.4  Content Analysis Matrix for Matched Pairs Seven through Twelve

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Pkwy. Features:

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</table>

Interpretive Structure:

| materials |         |         |         |         |         |         |
| placement  |         |         |         |         |         |         |

Comfort Stations:

| exterior |         |         |         |         |         |         |
| surrounding landscape |         |         |         |         |         |         |

Historic Buildings:

| building facade |         |         |         |         |         |         |
| number of buildings |         |         |         |         |         |         |
| surrounding landscape |         |         |         |         |         |         |

Native American Sites:

| mowing |         |         |         |         |         | X       |
| vegetation on mound |         |         |         |         |         | X       |
| surrounding vegetation |         |         |         |         |         | X       |
Table 3.4 (continued)

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Table 3.5  Content Analysis Matrix for Matched Pairs Thirteen through Fifteen

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Conclusions

For the purposes of this thesis study, repeat photography offers an accurate method of recording visual information. Because of inevitable changes that have occurred not only on the land, but also with the vegetation, it is sometimes impossible to take a new photograph from the exact same vantage point of the historic one. Therefore, some modifications are necessary to capture the subject matter. As shown in the repeat photographic studies of Lake Tahoe and Egypt, photographs taken from a position as close as possible to the original camera’s position nonetheless convey the changes that have taken place in the subject matter photographed. Although an exact match in vantage points is desirable, it is not always possible. The aforementioned studies provide examples of situations in which a closely matched pair of photographs effectively convey changes that have occurred in the time lapse between the two images.

In addition to the binary matrix, other forms of analysis are necessary to obtain a more detailed, thorough evaluation of the matched pairs and their relationship to the design intent of the Natchez Trace Parkway. In order to achieve this level of analysis, the photographs are compared not only with the PLUM for their area, but also with past and present design guidelines and design intents of the Parkway.
CHAPTER IV
RESULTS AND DISCUSSION

Introduction

This chapter presents the results and analysis of the photographs taken along the Natchez Trace Parkway between January and March of 2009. For each new photograph that was taken, there is a corresponding historic photograph with which it will be analyzed. The two photographs together comprise a matched pair. Analysis of the results of the matched photographic pairs will also be presented. The section that follows presents how the photographs were analyzed, while The Matched Pairs of Photographs section presents the actual photographic results and a discussion of each matched pair. The final section will explore the implications of the research data.

Strategy for Data Analysis

As stated in the Methods chapter of this thesis, all new photographs for this study were taken between January and March of 2009. The data (photographs) for this study were analyzed using a carefully thought out matrix that allows the researcher to use content analysis as a way of tracking changes along the Natchez Trace. Because the matrix serves only as a starting point for analyzing the content of the images, the photographs were also analyzed with their corresponding planned land use maps as well
as past design intents and recent design guidelines. The matrix contains ten features of the Parkway taken from the 2005 Design Guidelines. There is at least one photograph for each of the features listed on the matrix. By using the matrix, it was determined what, if any, changes had taken place from the historic photograph to the new photograph. The changes, if any, which took place, were then analyzed to determine if the changes indicate a shift in the design intent of the Trace.

The main objective in analyzing the matched pairs of photographs in the study is to show patterns of change that have taken place in the years that separate the historic photograph and the new photographs. These changes generally involve a change in vegetative cover, which is a natural change that inevitably occurs with the passing of time. The manner in which the National Park Service (NPS) deals with these changes reflects a great deal about how closely the Trace adheres to its original design intent as well as its more recent design guidelines. Other changes involve overall improvements to the Parkway. These too will be evaluated and discussed to determine if they demonstrate further efforts to achieve original design goals or if the changes show a shift in the design intent of the Parkway.

The Matched Pairs of Photographs

The photographs that follow (Figures 4.1a through 4.15a) consist of fifteen matched pairs of images. The image on the top of the page is the historic photograph, and the image on the bottom is a new photograph (taken in 2009). Following each matched pair is a short history or description of the photographed area. Information about each photograph, such as the date it was taken, is also listed when the date is
known. After the history of the area is introduced, there is a discussion of what the content analysis matrix revealed about the changes, or lack thereof, in the matched pair. The matched pairs are then discussed in conjunction with their PLUMs. Drawn on each land use map is a set of red arrows that indicate the vantage point from which the new photograph was taken. The design intent as well as the guidelines of the Trace, as they relate to each matched pair, is also examined to determine whether or not the photographs represent an adherence to the design guidelines and design intents. In some cases there is reference to the original design intents of the Trace as stated in the 1941 Letter of the Secretary of the Interior. In other cases, images are analyzed to determine the degree to which their contents reflect an adherence, or lack thereof, to the 2005 Design Guidelines. The photographs are also discussed to determine if there appears to be any shift in design intent evident in the matched pairs.
Figure 4.1a  Matched Pair #1: Emerald Mound
Emerald Mound

Emerald Mound (Figure 4.1a), located just outside of Natchez, Mississippi, is the second-largest Mississippian structure in the United States. The mound covers about eight acres of land. The only Mississippian mound larger than this one is Monk’s Mound in Cahokia, Illinois. From about 1250 to 1600, ancestors of the Natchez Indians built the ceremonial Emerald Mound, which is so named for the Emerald Plantation which once surrounded the mound. “For reasons unknown, after the time that the Mississippian Indians who built it shifted their ceremonial center to Grand Village. A subject of archeological investigations beginning in 1838, the mound was built by depositing earth along the sides of the natural hill” (Bachleda 2005, 75-76).

The historic photograph (the top image), taken in September of 1979, looks almost identical to the 2009 image. As the matrix indicates, there has been no change in the vegetation on the mound. The only difference in the surrounding vegetation is a slight decrease in density of the trees behind the mound. The mound appears to be mowed and as well manicured as it was in 1979.

In the 1941 Letter of the Secretary of the Interior, there is mention of the importance of Native American sites along the Natchez Trace: “An exceedingly important part of the Natchez Trace history occurred earlier than the era of American expansion. In order to present this picture adequately in the interpretive program eventually to be developed, it is necessary, by archeological and ethnological study, to determine the early Indian history of the region through which the Trace crossed” (Secretary of the Interior 1941, p. 139). This mound was excavated, and it has clearly been made into an interpretive area easily accessible to motorists driving along the Trace.
By making this an interpretive area, the Trace has adhered to the original design intent of the area set forth in the 1941 Letter of the Secretary of the Interior.

In terms of recent design guidelines, the Emerald Mound area is also in adherence. In the 2005 Design Guidelines, vegetative management plans for Emerald Mound are made clear: “Grass cover is particularly important on the American Indian mounds along the Parkway to prevent erosion on the mounds’ steep side slopes” (Smith 2005, p. 65). Grass cover has remained on top of this mound. The PLUM for this area (Figure 4.1b) offers no information in terms of the prescribed maintenance. It simply shows the boundary of the area that is listed on the National Register. It also shows the walkway and the stairs on top of the mound, neither of which has changed. Based on the PLUM for this area, as well as a review of past and recent design criteria for this area, no shift in design intent is apparent in the Emerald Mound matched pair.
Figure 4.1b PLUM for Emerald Mound
Figure 4.2a  Matched Pair #2: Loess Bluff
**Loess Bluff**

Loess Bluff (Figure 4.2a) is a geological feature along the Parkway that represents deposits of silt (loess) that began over one million years ago during the Pleistocene epoch. During the Ice Age, deposits of silt were blown here from the north (Bachleda 2005). Generally, silt deposits are found in areas where glaciers once existed. Glaciers melted in the summer, leaving silt around the edges. The winter winds blew this silt in dust storms, and the silt settled in deposits such as Loess Bluff on the Trace. These deposits are often found in river valleys, such as the Mississippi River valley here (Bachleda 2005).

The historic photograph of Loess Bluff was featured in the October 10, 1971 *Vicksburg Sunday Post*, which the researcher located in the Vicksburg Old Courthouse Museum. The new photograph was taken January 12, 2009 in the late afternoon. As the matrix reveals for this pair, there has been erosion since the historic photograph was made. Erosion, which is quite common with this soil type, has caused the bluff to become shorter. Unlike most of the photographs that follow in this series, there appears to be a decrease in the vegetative density in the new photograph. However, this could be due to the fact that the new photograph was taken in January, when there is not much green vegetation. In the forty or more years that separate these photographs, there have been some natural changes that have taken place that are beyond the control of the Trace. The features that the Trace can control, such as the signage seen here and the mowed grass, have remained the same, indicating that the design intent, land use, and maintenance of this particular area have remained unchanged.
The PLUM for Loess Bluff (Figure 4.2b) shows little more than the existence of an 18” poplar and the surrounding area, the understory of which should be thinned. Neither the poplar nor the surrounding trees specified in the PLUM are visible in the matched pairs of photographs. It is therefore indeterminable whether or not the current land use has changed from the time the PLUM was drawn.

Loess Bluff is one of the many Parkway features accessible by a pull-off. This particular pull-off continues to meet the design guidelines set forth in 2005. Pull-offs are intended to provide the visitors a means by which they can experience the “many historical and natural areas along the Parkway…. Pull-offs are located at sites that represent prehistoric or historic resources and support interpretive themes. Pull-offs have visually dominant or distant views” (Smith 2005, p. 21). This pull-off at Loess Bluff clearly follows the aforementioned design guidelines. No change in design intent is evident in the matched pair of Loess Bluff.
Figure 4.2b  PLUM for Loess Bluff
Figure 4.3a  Matched Pair #3: Rocky Springs
**Rocky Springs**

Settlers first came to the Rocky Springs area in the 1790s, lured by the fresh-water springs and rich soil. The Rocky Springs Church (Figure 4.3a), which is still used by worshipers today, was built by settlers in 1837 (Bachleda 2005). By 1860 Rocky Springs was a prosperous rural community of more than 2,000 people. But between 1860 and 1920 the area was devastated by the Civil War, yellow fever, the boll weevil, and land erosion. Today only the church and cemetery, two rusting safes, and abandoned cisterns mark the site (Bachleda 2005).

In 1930 the population of Rocky Springs, located in Claiborne County, Mississippi, was 75. At one time Rocky Springs was a post office on the Natchez-Nashville route. The three corps of General Grant’s army camped here in 1863 before taking their separate marching routes to Jackson and Vicksburg (Secretary of the Interior 1941). The 1941 Letter of the Secretary of the Interior notes that there exist few remains of the original settlement, the most impressive of which is the old brick church. The letter also notes the landscape of the area: “The whole area to Grindstone ford is rolling; the wooded hillsides are covered with pines, locust, cedar, and live oaks. Many of the trees are draped with Spanish moss, typical of this region. The Rocky Springs area is centrally located between several centers of population in this region. It is accessible to Natchez, Jackson, Vicksburg, and several smaller towns” (Secretary of the Interior 1941).

There has clearly been a change in the density of the vegetation in the area, as the matrix indicates. This change is inevitable with the passing of time, but how the Parkway staff deals with increased vegetation is indicative of how closely NPS adheres to the design intent of the Trace. For example, there do appear to be more trees in the new
photograph, but they still allow enough openness so that visitors may see the church. The trees with Spanish moss hanging from them also help add to the historic character of the area. As the matrix shows, road alignment has changed significantly. The main road shown in the historic photograph no longer exists. There is a new main road that seems to run parallel to the road shown in the old picture. However, this new road is situated further outside of the picture seen here. There is also a great deal of vegetation separating it from the church. It appears that the primary way for visitors to access this church is by pulling off of the Trace at a pull-off and walking the short trail to the church, which is in keeping with the treatment of historic areas stated in the proposed development of the Parkway: “Historic sites on or in the vicinity of the Trace, and of justifiable national importance, should be made accessible by the Trace itself, the new Parkway, or loop roads developed through State or local means with the planning assistance of the National Park Service” (Secretary of the Interior 1941, p. 152). The Rocky Springs area continues to be accessible by motorists on the Natchez Trace.

Another physical change that has occurred within the matched pairs is an addition to the church itself, as the matrix indicates. A steeple has been added to the structure but does not take away from the historic character of the place. In this matched pair, the changes that have taken place have occurred in an effort to further adhere to the design intent of the Trace. For instance, the change of road alignment possibly helps brings visitors to the church more directly than did the previous road. Additionally, the vegetation that has been allowed to continue growing in the area adds to the historic character of the place. The vegetation has been maintained enough so that this historic
site is still visible to visitors of the area who wish to stroll through the once small, but vibrant settlement of Rocky Springs.

The PLUM for Rocky Springs (Figure 4.3b), approved in 1966, shows very little about the prescribed maintenance for the area. It indicates that the Rocky Springs historic sites are accessible by footpath only.
Figure 4.3b   PLUM for Rocky Springs

ACCESS TO HISTORIC SITES FROM PARKING AREA BY FOOT TRAIL ONLY

SITE OF THE RED HOUSE

PARKING AREA - 6 CARS FOR TRAIL USE

8 UNITS

PICNIC AREA

5 UNITS

RESIDENCE AREA

COMFORT STATION

PICNIC SHELTER

MAINTENANCE AREA

PARKWAY MOTOR ROAD

PORT GIBSON

SCALE 1:400

SECTION 3-5

90
Figure 4.4a  Matched Pair #4: Highway 27 Overpass
**Highway 27 Overpass**

The Highway 27 overpass (Figure 4.4a), an arch bridge, represents one of the dominant bridge types seen along the Natchez Trace. The goal of bridges on the Parkway is to “visually minimize hard edges. This is accomplished in part by splaying and sloping downward the termini of the bridges, chamfering the interior edges of the railing and creating several setback depths, piercing the railing to ‘lighten’ the structure, and incorporating coloration to harmonize the concrete with the surrounding landscape” (Smith 2005, p. 29). The bridge continues to follow these guidelines. As the matrix indicates, the structure of the bridge has not changed since the historic photograph was taken. The surrounding landscape, however, has changed.

As the matrix reveals for this pair, the vegetation has changed in terms of the density of the trees. The PLUM for Hwy. 27 (Figure 4.4b), which was approved in 1961, reads: “selective thin slopes – both sides of motor road.” Although there has been a significant increase in vegetation on the slopes, they are nonetheless thinned, thus following the prescribed maintenance plan set forth on the PLUM.

In regards to the roadway, the alignment has not changed, but there have been changes involving painted lines, signage, and mowing. The change of painted lines can be explained by the following: “Originally the Parkway featured only a centerline, but in the late 1960s-70s, public-generated safety concerns led to 10 miles of experimental guideline striping from Highway 35 south, near Kosciusko. It was so well received that in the early 1970s white edge striping was instituted parkway wide” (Smith 2005, p. 22). The aforementioned change does not indicate a change of design intent. Instead, it indicates that measures have been taken to further the design intent of the Parkway. The
change in signage includes the addition of a brown sign indicating the direction of the cities of Vicksburg and Utica. This, too, indicates a furthering of the design intent of the Trace. The new sign makes the Trace more easily navigable to motorists. The mowing also shows an improvement of the Trace as the grounds surrounding the road are generally kept mowed. As stated in the 2005 Design Guidelines, “The roadway shoulder will be consistently trimmed grass, the width varying according to the season, drainage conditions, density, and proximity of other vegetation. The manicured maintenance continues from the road to the woods line, a meandering edge along which the understory growth is strictly controlled (see Appendix B)” (Smith 2005, p. 65).

As both the matrix and the PLUM indicate, the Trace continues to adhere to its design principles, and there appears to be no shift in the design intent of the Trace evident in the Highway 27 Overpass matched pair.
Figure 4.4b  PLUM for Highway 27 Overpass
Figure 4.5  Matched Pair #5: Mississippi Crafts Center Interpretive Structure
Mississippi Crafts Center Interpretive Structure

The building seen in the background of the preceding images is the Mississippi Crafts Center. The center is housed in a dogtrot cabin, which is “a style of Southern domestic architecture having two primary living spaces connected by a covered porch” (Bachleda 2005, p. 87). Established in 1973, the Craftsmen’s Guild of Mississippi is a nonprofit organization that focuses of the preservation of traditional, folk, and contemporary crafts of Mississippi. Since 1975, the center has been located on the Natchez Trace Parkway (Bachleda 2005).

At first glance, the two photographs (Figure 4.5) of the interpretive bulletin board may appear identical, but a closer look reveals otherwise. Although the structure itself remains virtually unchanged since the October 1979 image, a major change has taken place. Behind the bulletin board one may notice that the house is in a different position. This difference between the two images is the result of the bulletin board’s relocation since the October 1979 image.

The matrix reveals no change in the materials of the structure. The only change evident in the bulletin board is the absence of three brochures in the 2009 image. The display of the left side of the board about the origins of the Trace has remained the same. It appears that a couple of the images used on the right side of the shelter have changed. The purpose of interpretive bulletin boards is “to provide visitors with access to information about orientation, safety, special events, and local interest at major points of visitation along the Parkway” (Smith 2005, p. 47). The bulletin board pictured accomplishes those goals by presenting pertinent information about the Natchez Trace on both sides of the board.
The design guidelines for bulletin boards are the following: “Bulletin boards are wood frame construction with wood-shingled, gabled-roofs. They are painted NPS brown with a display on one or both sides. The boards are composed of UV-protected Plexiglass in a hinged metal frame. A removable insert board fits inside this fixture. The bulletin board structures are sited to that the message area is protected from damaging sunlight” (Smith 2005, p. 47). The bulletin board image from 2009 continues to adhere to these design guidelines.

The PLUM for this particular area, approved in 1969, was unreadable, and was therefore not included. Based upon PLUMs for other interpretive structures, this PLUM most likely merely indicated an approximate location of the structure, which has clearly changed since 1979. The location of the bulletin board has only changed by about twenty feet. The board has been moved about twenty feet further from the shelter, across a one-way road in the parking area. Instead of sitting directly in front of the building, the structure is now at the end of a long parking area. Perhaps this change was made to open up the entry to the building more and provide motorists an opportunity to read the information soon after leaving their vehicles. Regardless of the precise reason for the slight change in location of the structure, no design principles have been violated, and this matched pair shows no deviation from the original design intent of the Trace, which is to commemorate the Old Trace and to allow visitors the opportunity to learn the history of certain areas along the Trace.
Figure 4.6a  Matched Pair #6: River Bend Comfort Station
River Bend Comfort Station

The focus of the scenic area at River Bend is the Pearl River, which marks a previous boundary between Louisiana and Mississippi. The Pearl River, named by Pierre Le Moyne, a French explorer, was so named because of the native pearls he found here (Bachleda 2005). The analysis of this area will focus on the comfort station pictured in the preceding photographs.

As the matrix reveals for this pair, there has been a change in the vegetation of the area as well as the site amenities and the comfort station itself. The historic photograph, taken in July of 1959, reveals a strikingly different structure than the one in the new photograph (Figure 4.6a), which was taken in March of 2009. The purpose of a comfort station is to “provide rest rooms and water fountains for the visitor” (Smith 2005, p. 35). As mentioned in the Introduction of this thesis, the design criteria for visitor use facilities, such as comfort stations, is the following: “The architectural design of many facilities within the Parkway reflect the Service’s Mission 66 era of design. Since that era, building design has been reflective of the vernacular landscape, respective of the physiographic or cultural setting in which the structure occurs. Most building designs use brick or indigenous building materials for exterior walls” (Smith 2005, p. 35-36).

The new comfort station follows those design guidelines by using brick and wood and a brown-shingled roof. The new comfort station is in nearly the same location as the old one, but has been improved. The PLUM for this area (Figure 4.6b), approved in 1982, confirms there has been little or no change in the location of the building. Instead of a tall pine tree in front of the structure, there is now a lamppost, an added safety feature that allows visitors to see more easily in the evening. The site amenities that have
changed include a water fountain and a new trash can. As stated above, comfort stations are meant to have water fountains. However, there is not a drinking fountain visible in the 1959 image. In the background of the historic image one might be able to make out a simple trash can. In the new image there is an NPS brown pitch in unit that is more easily accessible to motorists who can pitch in trash from their vehicles.

Changes in vegetation are inevitable with the passing of time. The vegetation does not block the comfort station. In both images, it appears that the grass needs to be mowed, but one could argue that July and March are both months in which the grass grows quickly, and it may be difficult to keep it perfectly manicured at all times. The improvements that have taken place in terms of the comfort station itself as well as the site amenities of the River Bend area indicate a further effort to promote the design intent of the Trace rather than a change in the design intent. The changes that have occurred show an effort to make this area safer, more comfortable, and more enjoyable for the motorist.
Figure 4.6b  PLUM for River Bend Comfort Station
Figure 4.7a  Matched Pair #7: Black Belt Overlook
**Black Belt Overlook**

The overview at Black Belt (Figure 4.7a) is important to the history of the Trace because it highlights the “Black Belt,” which is a stretch of land spanning eastward from Alabama. The soil of the aforementioned region is characterized by rich, fertile earth that is especially conducive to growing cotton. Although the area used to be at the bottom of the sea, millions of years of lime deposits created the fertile soil that the region enjoys today. The area has transformed from a grassland prairie to a cotton-dominated region, to excellent pastures for livestock (Bachleda 2005).

As the matrix reveals for this pair, there have been changes in the vegetative cover as well as in the foreground, middle ground, and background of the scenic view. As previously mentioned, a change in vegetation is natural and inevitable with the passing of time, but how the Parkway deals with this change shows how closely they adhere to their design intent. In the foreground of the historic photograph, taken in August of 1968, the grass appears slightly high in some parts, whereas in the new picture, the grass is mowed really short in all visible areas, indicating that the Trace may be adhering to their design/maintenance principles more closely now than in the 1960s. In the middle ground and background the dense vegetation has caused the viewshed to change somewhat from its state in the historic photograph. However, the view into the distance is not obstructed to the point that the background is no longer visible. Although the viewshed has changed slightly since the 1960s, there are no unsightly views in the distance, thus the Trace has successfully managed this viewshed, and no change in the design intent of the Trace is evident.
The PLUM for the Black Belt Overlook (Figure 4.7b), approved in 1959, further states what the 2005 Design Guidelines for the Trace prescribe for scenic vistas. Written on this PLUM is the following: “Cut tall cedars blocking view from overlook. Keep thinned to preserve vista.” The trees are not as thin as they were in the 1968 photograph, but the tall cedars appear to have been removed so they do not obstruct the view into the distance. As the 2005 Design Guidelines state, “it is paramount that the Parkway properly manages and protects its scenic quality” (Smith 2005, p. 55). The Black Belt Overlook matched pair reveals that the Trace has succeeded in preserving the vista at Black Belt Overlook. There are no unsightly views in the distance, and the foreground is well maintained. One can still see the pastoral scene in the distance. The Trace has once again adhered closely to the design intent, and there appears to be no shifting of design intent apparent in the matched pair of photographs for the Black Belt Overlook.
Figure 4.7b  PLUM for Black Belt Overlook
Figure 4.8a  Matched Pair #8: Old Town Overlook
The Old Town Overlook (Figure 4.8a), located in Tupelo, Mississippi, was once the middle of the Chickasaw territory. The term “Old Town” refers to the nearby “Old Town Creek.” “Old Town” is a pioneer-designated name for the area because the pioneers found the Chickasaw language too difficult. First known as the River of the Chickasaw, Old Town Creek is a tributary of the Tombigbee River (Bachleda 2005).

The historic photograph, taken in June of 1964 reveals an image, which at first glance appears not altogether dissimilar from the one taken in 2009. The matrix, however, indicates that there has been a change in the vegetative density, specifically of the trees. Additionally, there have been changes in the foreground, middle ground, and background. The foreground actually appears to have fewer trees than the original photograph, making it easier to access the view in the distance. In the middle ground a large tree now exists by a new split-rail fence. The split-rail fence is characteristic of the fence type that appears along various other portions of the Trace. The background appears to have less vegetation than it did in 1964. This could be due in part to the fact that the 2009 image was taken during the winter.

The PLUM for this matched pair (Figure 4.8b) shows that the foreground, the area just beyond the parking area for the overlook, should be mowed. This area appears to be mowed in both photographs. The view also continues to be open, and there are no unsightly views in the distance. Thus this pair reveals neither a shift in the design intent of the Trace nor a departure from the land use and maintenance plan.
Figure 4.8b PLUM for Old Town Overlook
Figure 4.9a  Matched Pair #9: Confederate Gravesites
Confederate Gravesites

A short walk off of the Trace near Tupelo brings one to thirteen graves of unknown soldiers (Figure 4.9a). The tombstones are on the edge of the Old Trace in an area that was once a “prominent final resting place along a busy route” (Bachleda 2005, p. 109). The cause of these soldiers’ death is unknown, “but their graves speak—mutely yet eloquently—about a chapter in Trace history buried here in the Mississippi soil” (Bachleda 2005, p. 109).

The matrix indicates that there has been a change in the vegetation in terms of density of trees and shrubs. There has also been a change in the maintenance around the graves and a change in the use of flowers. The historic photograph, taken in 1964, shows the gravesites surrounded by dense vegetation and tall grass. The 2009 image reveals a less dense vegetative cover. Also, there is no grass in the 2009 image. Instead, the area is covered in leaves. Although some of the differences between the two images may be explained by the fact that the 2009 image was taken in the winter, the Trace nonetheless seems to be taking better care of the area currently than in the past.

Although the PLUM for the gravesites (Figure 4.9b), approved in 1981, shows no prescribed method of maintenance, there are such provisions in the 2005 Design Guidelines, as mentioned in the Introduction of this thesis. To reiterate some of those points, “Vegetation around the markers is cleared using herbicides, weed-eaters and other means such that chipping or cracking is avoided. On NPS maintained cemeteries and burial areas, artificial flowers and other materials are removed in a reasonable time frame” (Smith 2005, p. 51-52). The 1964 image shows very little maintenance around the headstones, whereas it is more properly maintained in the current image. The 2009
image also shows the use of artificial flowers that are not present in the historic photograph. Although there appears to be no shift in the design intent between the time the two photographs were taken, there has been a slight change in the maintenance of this area. The fact that these gravesites are maintained more stringently now indicates a closer adherence to the design principles of the Trace.
Figure 4.9b PLUM for Confederate Gravesites
Figure 4.10a Matched Pair #10: Pharr Mound “C”
Pharr Mound “C”

Pictured on the previous page is Pharr Mound “C” (Figure 4.10a), one of eight mounds that were excavated on the site in northern Mississippi. The mounds, which date from the Woodland time, cover over ninety acres near the Trace (Crutchfield 1985). There are a total of eight mounds in this particular group. The mounds are located on a relatively flat field where the Park Service allows hay to be harvested. The mounds comprise “one of the largest Middle Woodland ceremonial sites in the southeastern United States” (Bachleda 2005, p. 110). After excavating four of the mounds in 1966, the Park Service found internal features such as fire pits and clay platforms. Human remains were also found in and around the mounds as well as ceremonial artifacts (Bachleda 2005).

The matrix indicates that there has been a change in the density of shrubs. The historic photograph was taken on September 26, 1979. The caption on the photograph reads: “record of growth on mound before being cleared.” Clearly, the mounds are now kept carefully mowed, one key difference in maintenance that the matrix shows. This difference does not reflect a change in design intent. It shows instead measures being taken to further the original design intent of the Trace. In the 1935 survey of the Old Natchez Trace, the importance of the Indian mounds is made clear: “An exceedingly important part of the Natchez Trace history occurred earlier than the era of American expansion. In order to present this picture adequately in the interpretive program eventually to be developed, it is necessary, by archeological and ethnological study, to determine the early Indian history of the region through which the Trace crossed” (Secretary of the Interior 1941, p. 139). It was clearly in the early plans of the Trace to
create interpretive sites at areas of significance, such as the Pharr Mounds. In adhering to this early goal, the Park Service did excavate some of these mounds and created an interpretive center at the site. Concerning the relationship of the mounds to the Trace, it was noted, “Many of the imposing sites near the Trace would be desirable additions to the parkway, so that the highly interesting remains might be exhibited in situ to the interested visitor” (Secretary of the Interior 1941, p. 139).

Pictured on the next page is the Planned Land Use Map (Fire 4.10b: Sheet 13) for Pharr Mounds, which shows information such as adjacent property owners and mowing patterns for the area. Perhaps more insightful than the first PLUM for this area is the Sheet 14 PLUM (Figure 4.10c), pictured on page 118. Sheet 14 reveals the following about the grassy area on which the mounds sit: “Open area to be leased as permanent hayfield. No row cropping to be permitted. Area sprigged with Coastal Bermuda in 1979” (Sheet 14). As mentioned in the 2005 Design Guidelines, leasing the hayfield to farmers serves a dual purpose for the Trace. First, it allows the Trace to continue to promote the image of a rural farming area for the motorists to view as they drive along the roadway. Second, it allows the Trace to cut the cost of maintenance because the farmers are now maintaining the area instead of the NPS.

The PLUM, approved in 1982, also shows the interpretive station near the mounds where visitors are able to read about the mounds while viewing them in the distance. This feature shows careful adherence to the original design intent of the Trace. The fact that the area is covered in grass rather than row crops shows that the Trace is concerned with allowing visitors the opportunity to fully explore and enjoy the site by walking out to the mounds. Were the surrounding area covered with row crops, visitors
would not be able to access the mounds as they can today. As seen in the matched pair of the Confederate Gravesite, maintenance of the area in the photographs seems to have improved since the historic photograph was taken. Although there have been changes since the 1979 photograph of Pharr Mound “C,” these changes reveal an attempt by the Trace to further adhere to the original design intent of the Trace by making this Native American site an area to be appreciated and accessed by visitors.
Figure 4.10b – Planned Land Use Map for Pharr Mounds (Sheet 13)
Figure 4.10c  PLUM for Pharr Mound “C” (Sheet 14)
Figure 4.11a  Matched Pair #11: Tishomingo Portion of Trace
**Tishomingo Portion of Trace**

The Tishomingo portion of the Trace (Figure 4.11a) represents a construction method whereby blasting techniques are used through an area of shallow limestone. In a region of transverse ridges, this method is “sometimes more practical than a gentle circuitous route to cross a short distance. Evidence of this construction method along the Parkway can be seen between milepost 304 and the northern terminus” (HAER 1999).

The matrix indicates that there has been a change in the density of the trees and shrubs in the photographs. The historic photograph, taken in May of 1978, reveals fewer trees but more grass and flowers along the road than does the 2009 image. One possible explanation for increased roadside grass in the historic photograph is that roadside wildflowers are encouraged to grow in the spring months. Concerning wildflowers, the *2005 Design Guidelines* state: “The many native wildflowers found growing along the Parkway reflect what is growing in adjacent meadows and fields…. The present maintenance policy of delaying the mowing of native wildflower areas until after they set seed has resulted in a noticeable spread of these species along the motor road” (Smith 2005, p. 65). In terms of the actual roadway, the matrix shows that there has been no change in either the alignment of the road, the striping of the road, or of the drainage ditches along the road.

The PLUM for this area (Figure 4.11b), approved in 1982, simply calls for the trees near the roadway to be thinned. There is a note on the map that reads: “Keep woods edge thinned to expose rock.” Although there is slightly more rock visible in the 1978 image than there is in the 2009 image, the rock nonetheless continues to be
exposed. Thus, NPS has continued to adhere to the land use and maintenance plans set forth on the aforementioned PLUM.

In addition to adhering to the prescribed maintenance plan for the area, the Trace shows no deviation from the design intent. The exposed rock along this portion of the Trace is a sight to be enjoyed by motorists. Additionally, the wildflowers are also a source of pleasure for drivers: “These large expanses of wildflowers are very much enjoyed by Parkway visitors who often comment on and photograph the colorful scenes which add so much beauty to the roadside landscape” (Smith 2005, p. 66). By exposing the natural beauty of the area and continuing to promote the growth of native vegetation of the area, the Trace is not only adhering to the original design intent, but the Trace is also further promoting the design intent by recognizing the beauty of the wildflowers and encouraging their growth. Clearly these measures are taken to continue making the Parkway both “useful and attractive,” two objectives stated in the original design intent (Secretary of Interior 1941, p. 150).
Figure 4.11b PLUM for Tishomingo Portion of Trace
Figure 4.12a  Matched Pair #12: Freedom Hills Overlook
**Freedom Hills Overlook**

Freedom Hills Overlook (Figure 4.12a) is located on the northern portion of the Natchez Trace in Alabama. At 800 feet above sea level, this is Alabama’s highest point on the Trace. “Since elevation grade along the Trace is generally subtle and most settings look into fields and forests, this vantage point’s higher altitude provides a rare sense of overview” (Bachleda 2005, p. 113).

As the matrix indicates, the density of the trees has changed in the middle ground of the image since the 1981 photograph was taken. One major difference this has caused is the inability to see the Parkway through the trees. Although this represents a significant change, the background view (the view in the distance) remains the same. One still has an unobstructed view to the hills in the distance. As mentioned in the Introduction of this thesis, “The protection of the Parkway’s viewshed is one of the management objectives established by the public for preserving the Parkway to benefit future generations…. For the Natchez Trace Parkway, legislation established scenic beauty as a major reason for determining the Parkway route” (Smith 2005, p. 55). Clearly, the viewsheds are an important aspect of the Trace. The PLUM for this overlook (Figure 4.12b), approved in 1982, has a note that reads, “Keep cut slope; Selective cut to preserve vista.” Although the vegetation has inevitably changed with the passage of time, the vista continues to be preserved, thus following the guidelines set forth on the PLUM and in the *2005 Design Guidelines*. Thus, no change in design intent is evident in the preceding matched pair.
Figure 4.12b PLUM for Freedom Hills Overlook
Figure 4.13a  Matched Pair #13: Buzzard Roost Spring
Buzzard Roost Spring

The 1941 Letter of the Secretary of the Interior offers a description of Buzzard Roost Spring (Figure 4.13a): “It was at this spring, which was one of the famous landmarks of northwestern Alabama, that Levi Colbert, a prominent Chickasaw chief, made his home. The spring is still quite large and serves the community as a source of water” (Secretary of the Interior 1941, p. 133).

At this pull-off along the Parkway, the road has remained the same since the September 1974 photograph was taken. However, changes have occurred in both the vegetation and the site amenities, as indicated in the matrix. For example, the island of land encircled by the roadway used to contain only one tree. It now has several. The PLUM for this area (Figure 4.13b), approved in 1969, shows no trees on the island. This has clearly changed since 1969. The vantage point from which the photographs were taken reveals another change. The height of the grass indicates a difference in mowing. The grass in the 1974 photograph appears slightly less manicured than it does in the 2009 image.

In terms of site amenities, there is one key difference. The 2009 image has a trash can that the 1974 image lacks. From the 1974 image, there have been improvements to the area, which indicate a further effort to promote and adhere to the design intent and maintenance guidelines. The grass is more manicured, and there are more opportunities for visitors to experience the site. The conveniently located trash can helps keep the site clean. There is no shift in the design intent evident here. There is however, an overall improvement to the site, which furthers the design intent of the Trace by allowing a more pleasant, convenient motoring experience.
Figure 4.13b   PLUM for Buzzard Roost Spring
Figure 4.14a  Matched Pair #14: Parkway View 398.6
**Parkway View 398.6**

The Parkway view in the previous matched pair (Figure 4.14a) demonstrates the consistency of the Parkway’s design intent. The 1941 Letter of the Secretary of the Interior states that unlike highways, parkways include “a much wider park-like insulating zone to prevent unsightly roadside developments and to preserve scenic, recreational, and historical features…. Sharp curvatures as well as monotonous straight-aways would be avoided, and the road in general fitted to the contours and scenic character of the country traversed” (Secretary of the Interior 1941, p. 151). The preceding photographs show how the road respects the topography of the area and has been fitted to the existing contours.

The historic photograph, taken in May of 1978, looks quite similar to the recent photograph. The curvilinear road alignment remains the same. The grassy mowed shoulder has also remained constant, as shown in the matrix. One possible difference is the striping of the road. After zooming in on the 1978 image, there does not appear to be striping on the outside of the road. This change in painted lines on the road may be explained by the following: “Originally the Parkway featured only a centerline, but in the late 1960s-70s, public-generated safety concerns led to 10 miles of experimental guideline striping from Highway 35 south, near Kosciusko. It was so well received that in the early 1970s white edge striping was instituted parkway wide” (Smith 2005, p. 22). Once again, the aforementioned change does not indicate a change of design intent. Instead, it indicates that measures have been taken to further the design intent of the Parkway.

The PLUM for this area (Figure 4.14b) shows relatively little in terms of prescribed maintenance. The section just before milepost 398.6 is supposed to be thinned
to maintain a sightline. For the area that appears to be milepost 398.6, there is a note written about removing five cedar trees. It is difficult to determine whether or not this has been done and whether or not that note applies to the exact location of the preceding photographs.
Figure 4.14b  PLUM for Parkway View 398.6
Figure 4.15a  Matched Pair #15: Gordon House
**Gordon House**

The Gordon House (Figure 4.15a), built in 1818, is one of two structures that remains from the Old Trace’s 1800s era (Bachleda 2005). This brick home is the remainder of a 1,500-acre plantation. This home was purchased by the State of Tennessee in 1969, and then acquired by NPS in 1977. Although it is closed now, there are plans to make it an interpretive station (Bachleda 2005).

Many of the differences between the historic photograph and the new photograph are clear at first glance. The total number of buildings has clearly changed. The vegetation has also changed significantly in terms of both density and trees, as shown in the matrix. The historic photograph was taken in November of 1959, which may account for some of the differences in maintenance between the two images. The historic building’s façade and surrounding vegetation have also changed. Around the house in 1959 was tall grass as well as a large tree. Now the grass around the house is neatly mowed, and the large tree in front of the house no longer exists. The PLUM for this area (Figure 4.15b) indicates that the grass around the Gordon House should be mowed. Clearly, the management plan is being followed for the area’s maintenance. Additionally, the *2005 Design Guidelines* call for mown grass at designated interpretive or historic locations (Smith 2005).

In terms of the exterior of the building, the porch and columns have been removed, and two small staircases have been put in their places. Because the Gordon House is one of the many historic buildings along the Trace, it has a special management plan whereby any changes made to it must meet the Secretary of Interior’s Standards as well as comply with an approved Historic Structures Report (Smith 2005).
As shown in many of the previous images in this Results chapter, the changes that have occurred in the fifty years that separate these two images have been overall improvements to the area that further the design intent of the Natchez Trace. The Gordon House has been cleaned up and restored, and plans are underway to make it an interpretive center. Additionally, by keeping the grass neatly mowed in the area, visitors are able to access and view the historic structure with greater ease and comfort. There is no change in design intent evident in the matched pair of the Gordon House.
Figure 4.15b  PLUM for Gordon House
Conclusions

After a thorough examination of the matched pairs of photographs, it is evident that changes have occurred along the Natchez Trace since its beginning as a parkway. The changes that have occurred, however, occurred in order to further achieve the goals stated in the original design intents of the Trace as stated in the 1941 Letter of the Secretary of the Interior. Analysis of the photographs reveals that very little change has taken place in terms of the design intent of the Natchez Trace Parkway.

In the Loess Bluff images, natural changes have occurred over time, but the elements of design that the Parkway can control have remained the same. The grass in front of the bluff continues to be mowed, and the signage remains highly visible to motorists who enter the pull-off to view the bluff. Similarly, in the overlooks, such as Black Belt, Old Town, and Freedom Hills, there has been an increase in vegetation in all three, but the Park Service continues to ensure the vegetation is thinned enough to preserve the scenic views.

The roadway, one of the Parkway’s primary features, has changed very little over time. None of the photographs of the Parkway show a change in the alignment of the road, though there have been some changes to the land surrounding the roadway such as signage, painted lines, and mowing. When changes have occurred in the three aforementioned factors, they have generally been changes that result in an overall improvement of the Parkway. For instance, the change in painted lines along the motor road resulted in a safer road for motorists to travel. The addition of signage also results in a more legible, safer motor road.
The Native American sites, which comprise an important part of the history of the Natchez Trace, are kept mowed and are easily accessible to motorists. In the case of Pharr Mound “C,” there has been a major change since the historic photograph. The clearing of the mound made the mound more visible to those interested in viewing it from a distance. The grass on the mound also helps keep the steep slopes of the mounds from eroding. Thus the NPS shows once again its dedication to improving the Trace and adhering to the original design intent as well as following more recent design guidelines, as stated in the 2005 Design Guidelines.

In many cases, the changes that have taken place since the historic photographs were taken consist of improvements, such as in the case of the River Bend comfort station. The new comfort station is an improvement over the old one. The improved area also contains a new drinking fountain and a more accessible trash receptacle. Additionally, at Buzzard Roost Spring, a trash receptacle has been added, which is an improvement since the time the historic photograph was taken. Another example of an improvement along the Parkway is the addition of a new sign just before the Highway 27 overpass. The new sign, which guides the motorists to Vicksburg and Utica, makes the Trace more easily navigable and therefore more pleasurable to drive.

Overall, results from this study show inevitable changes in the natural setting of the Natchez Trace. The way in which NPS has dealt with these natural changes, such as increased vegetative density, indicate that efforts are constantly being made to further the design intent of the Trace rather than change the design intent. The Trace continues to adhere to an early statement made concerning the Parkway’s primary purpose, which is
“the memorialization of the historical importance of the old Natchez Trace through a parkway that is both useful and attractive” (Secretary of the Interior 1941).
CHAPTER V
CONCLUSIONS

Introduction

Included in this chapter is a discussion of the limitations of this study, suggestions for future research, and implications of this study for design professionals and landscape architects. Through the fifteen matched pairs presented in the Results and Discussion chapter of this thesis, the researcher offers insight into the design intent of the Natchez Trace Parkway. Analysis of the photographs, along with their corresponding land use map, reveals that although many changes have taken place along the Trace, there has been very little change in the actual design intent of the Trace. Additionally, design guidelines of the Parkway continue to be closely followed, resulting in a Parkway that is both “useful and attractive” as it exposes the motoring public to the surrounding landscape and unique history associated with the Natchez Trace.

Limitations

One important limitation inherent in the method of repeat photography is the challenge of taking a new photograph in the exact location of the historic photograph. This challenge was particularly prevalent in the current study. Due to changes in landform over time, it was difficult to place the camera exactly where it was placed in the
taking of the historic photograph. This is especially true in the case of the church at Rocky Springs.

Another limitation in the study was the lack of clarity of some of the historic photographs. Because the image is not always completely clear, it was sometimes difficult to compare the old and new photographs. Also, there were many old photographs of the Trace taken in completely wooded areas. These were nearly impossible to replicate because they lacked the designation of a specific location. The caption with the photograph might have only mentioned the county in which the original photograph was taken.

The brevity of the overall time period in which the new photographs were taken accounts for another limitation in the study. Many of the historic photographs were taken during a season in which the trees and shrubs had an abundance of foliage. The new photographs, taken between January and March, represent a relatively stark period of plant growth and foliage, thus there is a sharp contrast in the appearance of vegetation in the matched pairs of photographs. In the current study, because of short days during the winter months, coupled with sparse funds, there was pressure to drive the Trace quickly in order to cover as much ground as possible in a given day. This fast pace did not allow the researcher time to reach the various destinations and photograph them at the exact time of the day when the historic photographs were made. As a result, in some cases, the new photographs contain dramatically different lighting conditions, resulting in dark shadows (see Loess Bluff and Tishomingo images). In some instances, the destination to be photographed would be reached just as the sun was beginning to set. Adjustments had
to be made while taking the photograph to block the sun from entering directly into the lens and obscuring the entire image.

Additionally, some photographs did not match exactly due to differences between the camera and lens used in the original photograph and the Nikon D300 used in the current study. None of the historic photographs listed the camera type or lens used in the creation of the old photographs. Many of the images had to be carefully cropped to resemble each other as closely as possible. Today’s digital technology provides detailed information concerning each photograph such as the exact date and time the picture was taken, the make and model of the camera used, as well as aperture and focal length. This information will make it easier to duplicate these photographs for future studies.

Another noteworthy limitation of the current study is the fact that the information to be analyzed was limited to what was contained within the frame of each photograph. There may have been some important evidence just outside the frame of the photographs that might have offered more information about the area that what could be seen in one frame.

**Suggestions for Future Research**

The limitations listed above not only provide lessons to be learned from this study, but they also provide a starting point for future research. If this study were to be redone, it would be preferable to do the study over a course of one full year. A true repeat photographic study would take a full twelve months to complete. During a twelve-month period, the photographer would be able to capture all four seasons and would be able to duplicate not only the season but also the exact time of day each photograph was taken.
Another repeat photography study of the Natchez Trace Parkway done twenty or more years from now might yield interesting results if the future photographs were put with the ones from this study to create three matched photographs, spanning nearly 100 years. This future study may reveal more about a shifting design intent of the Trace.

In a future study of the Natchez Trace Parkway, it may be helpful to replicate the 2009 photographs using the same camera and lens. This would allow the researcher the ability to replicate the image exactly. In the current study, the camera that took the original photograph was unknown, and this created some differences in the images. For example, the original images appear to have been taken with a much wider angle lens, thus including more information in the photograph. Another suggestion for future research stems from the limitation of only being able to analyze what lies in the actual frame of the photograph. In a future study, it may be helpful to take more photographs in a given location in order to analyze the area more thoroughly.

Studies on other parkways would also be appropriate to test the repeat photographic method in another setting. With more time and funding, a repeat photographic study of the Blue Ridge Parkway, compared with the results of this Natchez Trace study may reveal an interesting pattern of design consistency or change. The method could also be applied to forestry as well as urban planning. In *The Repeat Photographic Survey of Lake Tahoe* (1992), Goin demonstrates the efficacy of repeat photography as a tool for measuring change in and around the Tahoe basin. Years of development in the area have resulted in a basin that differs dramatically from the one in a previous time. That particular study showed the impact of development on a watershed. Additionally, as Frey (1995) showed in her study, significant changes to the urban
landscape may also be apparent through a repeat photography study of a downtown. A repeat photographic study of a downtown area would not only be useful to historians, but it might also help land planners make important land use decisions in an area. The two aforementioned studies demonstrate that repeat photography is not only an effective tool in tracking changes along a parkway, but it is also a useful tool in tracking changes in any area of the landscape.

Implications for Parkway Design and Landscape Architecture

On a broad scale, as mentioned in the Introduction, this thesis will hopefully show others a reliable method for tracking change through the use of repeat photography. This method can be employed by design professionals as well as people from other fields. Despite the limitations of this study, it did further reiterate the potential effectiveness of repeat photography as a tool to explore change over time. In the case of this thesis, repeat photography offered information concerning the consistency of the design intent of the Natchez Trace Parkway.

On a smaller, more specific scale, this thesis may offer planners and landscape architects of the Natchez Trace a careful analysis of the past and present conditions along the Parkway. The matched pairs of photographs may demonstrate to the designers how certain changes have improved the overall motoring experience along the Trace. Other matched pairs may show the designers specific changes that have taken place in the past fifty years along the Parkway that warrant further attention. After seeing these changes, the designers may feel the need to make some improvements, such as increased thinning of a stand of trees to further open a scenic view. Most importantly, this thesis may show
designers of the Natchez Trace a tool that they can use to monitor changes along the Trace. By keeping track of how well the NPS addresses natural changes along the Parkway, designers can determine the extent to which they are adhering to both the design guidelines and the design intents of the Parkway. Ultimately, the method of repeat photography used in this study of the Natchez Trace may give designers of the Trace a useful tool that will enable them to make well-informed design decisions concerning the future of the Natchez Trace Parkway.

Additionally, the results of this thesis may be implemented in another way by working with NPS staff to develop a process of repeat photography, aided by the use of GIS, that will allow long-term analysis of the Parkway. By locating key sites along the Trace with GPS and entering the exact location and point of view of the photograph, the added technology would significantly reduce the subjective nature of the images. The Park Service could perform this repeat photographic procedure on a yearly basis to track changes along the Parkway and monitor the growth of vegetation.

This thesis may also be used in many different academic settings. Classes that focus of the history of the South, for instance, may appreciate the unique approach this thesis takes toward studying the history surrounding the Natchez Trace. Landscape History classes might also benefit from how this thesis analyzes the history of the landscape of the Natchez Trace Parkway. Additionally, studio photography classes as well as GIS classes may be able to create projects based on this thesis.

Repeat photography is not only a useful tool in the land planning process, but it also has the potential to be an effective tool in the design process. Although many designers may not realize it, repeat photography is sometimes a part of the design
process. When precedent studies are examined, the designer may view an image of a landscape that is successful and subconsciously project that image onto his blank sheet of drafting paper or onto the dilapidated area he is designing. By looking at the image of a successful design, the landscape architect strives to create a new design that mimics the successful aspects of the image before him. On a more concrete level, repeat photography can help inform design decisions when there are previous photographs of a particular site to be designed. Perhaps the historic use of a particular area has been discontinued and forgotten. When the designers are challenged with redesigning a site, part of the inventory process involves taking new photographs of an area. Another important, but often neglected, phase of the design process is research into the history of the area. If this historic research reveals some old photographs of the area, the old photographs may be matched with the new images to offer the designer unique insight into the area. Perhaps the historic use of the area, as revealed through old photographs, is a use worth revisiting and reviving. The old photographs may also show the designer an aspect of the historic design that was unsuccessful and should be avoided. In short, using the repeat photography in the design process may have a significant impact of the resulting design.

The research findings of the current thesis may give other parkway designers and landscape architects a method to track changes in the landscape. This method is already in use by many landscape architects, as they take before and after pictures of a designed site. The current study demonstrated a more precise version of that rephotographic process. When design professionals use repeat photography to study the progression of their design projects, the process may offer insightful information so that the
professionals may make more well-informed decisions concerning their future designs. Additionally, using repeat photography to study a parkway, as this thesis did, may give planners and landscape architects information concerning how closely the actual design adheres to the original design intent of the parkway. The photographs may reveal a major deviation from the original design intent. If this is the case, a matched pair of images may be the tool to help designers and land planners devise a way to return the design to the way in which it was originally envisioned.

As mentioned in the Introduction, this thesis sought to examine the efficacy of repeat photography as a tool for the landscape architect. The findings of this thesis demonstrate repeat photography is a useful tool for landscape architects to track a multitude of changes in the landscape. An historic photograph, by furnishing evidence of what a landscape once was, becomes a benchmark for future studies of the same location. Another photograph, taken months or years later, of the exact location, is a starting point for landscape architects to analyze the changes that have occurred on a given site. The matched pair of images that results from the repeat photographic process becomes a tool whereby landscape architects are able to study changes over time and make better-informed land planning decisions for the future.
LITERATURE CITED


APPENDIX A

HISTORIC AMERICAN ENGINEERING RECORD OF THE

NATCHEZ TRACE PARKWAY
Traversing through Mississippi, Alabama and Tennessee, the 450-mile Natchez Trace Parkway commemorates one of America's earliest transportation routes. Established in 1938 as a unit of the National Park Service (NPS), the Natchez Trace Parkway represents the culmination of federal and regional collaboration to pay tribute to an historic trail known as the Old Natchez Trace. Designed for recreational purposes, the Natchez Trace Parkway closely parallels, but does not replicate, the historic Natchez Trace. The parkway was designed to connect the cities of Natchez, Jackson, Tupelo and Nashville with a scenic byway far removed from the chaos of ordinary highway travel that would make travel by automobile a pleasurable experience.

A regional Good Roads movement championed by the Natchez Trace Military Highway Association in 1910 continued an effort initiated by the Mississippi Daughters of the American Revolution (DAR) to commemorate the Old Natchez Trace by paving it for modern automobile use. The infusion of New Deal funding for the project brought with it federal Bureau of Public Roads and National Park Service planners. After completion of a survey of the historic trace in 1934, the NPS and the Bureau of Public Roads (BPR) initiated field surveys to stake out the centerline of the proposed roadway, which was a difficult task. The proposed design and the laying out of the parkway were not without controversy. Those expecting a modern highway were unhappy by the particular restrictions, including limited access and imposed speed limits, required by a recreational parkway. Creating wide buffer zones between the roadway and unappropriated land-use developments angered some adjacent landowners whose property faced condemnation.

Despite some objections, enthusiastic Natchez Trace supporters celebrated the first of many groundbreaking ceremonies on 10 September 1937. Work on the parkway slowed, however, with the advent of U.S. involvement in World War II, as shortages of equipment, materials, and labor resulted in the complete halt of all construction jobs not connected with the war effort. The post-war inflationary boom, rationing during the Korean conflict, and domestic spending cuts in deference to the Cold War military build-up further slowed construction of the Natchez Trace Parkway.

A long-awaited acceleration of the pace of construction occurred with the NPS Mission 66 program, which was a monumental effort from 1956 to 1965 to refurbish park roads, buildings, and other facilities that had suffered from several years of federal funding cuts.

The Natchez Trace Parkway today represents the culmination of decades of deliberation undertaken by crucial federal funding. The parkway represents a remarkable achievement, merging a modern roadway with its surrounding rural landscapes, and making scores of natural and cultural resources related to the Old Trace accessible to the public. This is due to the care that has been taken, amidst much controversy, to ensure that modern motorists feel a sense of connectedness with the road on which they travel and the scenery through which they motor.

This reconnoitering project is part of the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering, industrial, and wartime works in the United States. The HAER program is administered by the National Park Service, U.S. Department of the Interior. The Natchez Trace Parkway Reconnoitering Project was accomplished during the summer of 1995 by HAER under the general direction of the Chief of HAER, R. Dale Chivers and the Natchez Trace Parkway’s Superintendent, Wendell A. Simpkins.

The field work, measured drawings, historical reports and photographs were prepared under the general direction of Eric Dolny, Chief of HAER, Todd Chrissick, HAER Architect, and Tim Davis, HAER Historian.

The reconnoitering team consisted of Landscape Architect Stephanie Tim Naylor, Landscape Architect Katie Dupell (CCUCD) and Architect Nicholas Zilko. Jean Fulton created the historical maps. Photographic documentation was provided by William A. Faust & Co., HAER Contract Photographers.
TOPOGRAPHY

In this era of modern road design, skirting through shallow basins and a region of highways and airports, etc., it trended more practical than a gentle circuitous route to create a short distance. Evidence of this constructive methodolgy the Parkway can be seen between milepost 304 and the northern terminus.

The Parkway can be broadly broken down into the low-lying marshes of the Deep South, second growth forests and agricultural fields of the midsection, and the hilly farm country of the northern end. Although lacking much grade in elevation over the entire route, it does pass through 5 degrees of latitude between its anchor cities, Nashville and Nashville. At many times of the year an overlap of seasons can be experienced while traveling the total distance.

The bridge at Bear Creek (MP 194.5) is a typical modern structure. Some rivers flow towards the southern end of the Parkway dallying over flat, marshy land. When they flood, accumulations of silt and siltstone on their banks and ridges create the additional element of natural water to cross.

Much of the Parkway exhibits only minor changes in elevation. This is further enhanced by modern roadway design. Such lengths provide a relaxing and thought-provoking interlude through picturesque countryside.

The characteristic old "Seymour Trace" disappears through such areas as the Bogue Chitto Swamp, which is thickly wooded in its deeper areas and disappears under heavy flood and flood traffic. Such soil at even of this bluff (MP 12.4), near the head of the Coosa River during the last Ice Age. The fine ground particles have a low shear strength when water infiltrates and cannot bear their own weight. However, when dry, the soils engineering properties improve and maintain the spectacular 50 to 70 degree grade of the real rivals with roadbeds. Such properties impose some serious limitations on road development.

The Parkways NEW Trace and OLD Trace are separated by a steep hillside. This hillside has been gradually cut through for road purposes. These differences in elevation create the additional element of natural interest to cross.

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### ROAD ALIGNMENT AND CONSTRUCTION

**BALANCED CUT AND FILL**

- **BENCHED ROAD**
  - Emphasizes the importance of maintaining the natural grade along the road.
  - Helps in reducing erosion and water runoff.

**ELEVATED ROAD ON FILL**

- **Elevated Roads**
  - Designed to provide a higher vantage point, often required in hilly or mountainous areas.
  - Helps in reducing the impact of severe weather conditions on the road.

**SLOPE PROTECTION**

- Techniques include
  - **Seeding**
  - **Mulching**
  - **Terracing**
  - **Framing**

**ROADBED**

- Key components include
  - **Base**
  - **Subbase**
  - **Substructure**

**SPECIAL FEATURES**

- **Selection of Materials**
- **Geotechnical Studies**
- **Environmental Considerations**

---

**FORWARD PROGRESS**

- The project is progressing well, with the roadbed formation almost complete.
- Regular monitoring and adjustments are being made to ensure structural integrity.

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**REFERENCES**

- Various reports and manuals on road construction and alignment.
- Experts in civil engineering and environmental science.

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**CONCLUSION**

- The road alignment is designed to minimize environmental impact.
- Safety and efficiency are the primary goals.

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**CONTACT**

- For any questions or concerns, please contact the project management team.

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**DATE**

- July 2023

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**SIGNATURES**

- Project Manager
- Consulting Engineer
- Environmental Expert

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**APPENDIX**

- Detailed plans for various sections of the road.
- Construction timelines and milestones.

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**NOTES**

- Importance of ongoing maintenance and upkeep of the road.
- Community engagement in the decision-making process.
DOUBLE ARCH BRIDGE

OVER TENNESSEE ROUTE 96

The First U.S. Pre-Cast Segmented Concrete Arch Bridge

Serving as a vital link in the ultimate completion of the Natchez Trace Parkway, the Double Arch Bridge represents the most innovative engineering project in the Parkway's construction history. Completed in May 1994, and selected for a Presidential Award for Design Excellence in 1995, this bridge became the Nation's first segmented concrete arch bridge.

Spanning 1,648 feet over State highway 96, eight miles west of Franklin, TN, the arches are off-set to allow an unobstructed view of the valley below. Open arches echo the surrounding hills, creating a modern bridge that complements rather than dominates its picturesque setting.Ark bridgepier traditionally constructed using a number of vertical support members called segmental columns. In an effort to create an airy structure that yields to the surrounding landscape, the segmental columns were omitted.

A combination of concrete prestressed and cast-in-place segments were used to construct the bridge. The prestress segments were constructed off-site at a plant under controlled conditions. Together, the superstructure (precast) segments and 122 arch segments were cast and joined to complete the structure.

Both the arch and the superstructure segments were twisted into place using a large-capacity, ground-mounted, crane. The selection of this particular type of crane substantially reduced the required amount of clearing, ground preparation and restoration. Adding to the significance of the project, the contractor erected the precast concrete arch segments without relying on traditional falsework, a labor-intensive and environmentally intrusive framework constructed to support bridge erection. Instead, the precast segments were held in place using temporary backstay (sails) and cable stays that supported the precast arch halves until cast-in-place haunch segments secured their span.

Typical roof deck segments measured 8′-6″ in length, and weighed between 36 and 57 tons. The segments were erected using a conventional balanced cantilever construction technique, allowing the work-in-progress to extend beyond a functional point. Cable stays in the top and bottom of each segment joined each unit to the next. epoxy was applied to the segment faces before the cables were tensioned in place.

A latex/concrete overlay was applied to the deck to prevent the corrosion of deck reinforcement from water seeping into the actually porous concrete. The surface of the bridge was sprayed with a white, textured coating that gives the visual appearance of a single unit or if covered the segment joints.

A parking area and overlook was constructed at the north end of the bridge to provide the bridge itself as a scenic vantage point. The overlook gracefully offers a breathtaking view of the Double Arch Bridge through tall trees, reflecting the care with which the landscape was preserved.
APPENDIX B
LAND USE AND MAINTENANCE PLANS OF THE
NATCHEZ TRACE PARKWAY

167
TYPICAL PARKWAY LAND DEVELOPMENT DETAILS

PLAN INTERPRETATION

CROSS-SECTIONS

MOWING LIMITS FOR REFORESTED AREAS

MOWING LIMITS FOR NATURAL WOODED AREAS & BAYS

LIMITS FOR LEASED AREAS

NOTE: ALL AREAS DESIGNATED TO BE COVERED INCLUDING ALL REAR AREAS, SHALL BEMAINTAINED AS SOUGHT OR THE LEASTE PRORAM OR BY THE PREP PARTS MAINTENANCE PERUSE.

SCALE: 1" = 200'

NATCHEZ TRACE PARKWAY

SECTION

SCALE AS SHOWN

SHT. 2 OF 28 SHEETS
APPENDIX C

SAMPLE INVENTORY MATRIX FORM (UNMODIFIED)
Table 4.4  Inventory Matrix, Matched Pair #4  
Third Street - 1947 and 1992

<table>
<thead>
<tr>
<th>B. R. Flower Shop-250 Third - north</th>
<th>PAIR</th>
<th>FOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947 vs. 1992</td>
<td>change</td>
<td>no change</td>
</tr>
</tbody>
</table>

**ELEMENTS**

<table>
<thead>
<tr>
<th></th>
<th>1947 vs. 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>land use</td>
<td></td>
</tr>
<tr>
<td>building use</td>
<td>X</td>
</tr>
<tr>
<td>zoning</td>
<td>X</td>
</tr>
</tbody>
</table>

**STREETSCAPE**

<table>
<thead>
<tr>
<th></th>
<th>1947 vs. 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>street width</td>
<td>X</td>
</tr>
<tr>
<td>street elevation</td>
<td>X</td>
</tr>
<tr>
<td>street surface</td>
<td>X</td>
</tr>
<tr>
<td>traffic lights</td>
<td>X</td>
</tr>
<tr>
<td>curb height</td>
<td>X</td>
</tr>
<tr>
<td>painted lines in street</td>
<td>N/A</td>
</tr>
<tr>
<td>painted curbs</td>
<td>N/A</td>
</tr>
<tr>
<td>gutters</td>
<td>N/A</td>
</tr>
<tr>
<td>sidewalks</td>
<td>X</td>
</tr>
<tr>
<td>ramps/handicap access</td>
<td>X</td>
</tr>
<tr>
<td>fire hydrants</td>
<td>N/A</td>
</tr>
<tr>
<td>utility poles</td>
<td>X</td>
</tr>
<tr>
<td>light/lamp posts</td>
<td>X</td>
</tr>
<tr>
<td>signage</td>
<td>X</td>
</tr>
<tr>
<td>flag poles</td>
<td>X</td>
</tr>
<tr>
<td>parking</td>
<td>X</td>
</tr>
<tr>
<td>mode of transportation</td>
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</tr>
</tbody>
</table>

**ARCHITECTURAL ELEMENTS**

<table>
<thead>
<tr>
<th></th>
<th>1947 vs. 1992</th>
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</thead>
<tbody>
<tr>
<td>building facades</td>
<td>X</td>
</tr>
<tr>
<td>fences</td>
<td>N/A</td>
</tr>
<tr>
<td>balconies</td>
<td>N/A</td>
</tr>
<tr>
<td>benches</td>
<td>N/A</td>
</tr>
<tr>
<td>awnings</td>
<td>N/A</td>
</tr>
<tr>
<td>roof lines</td>
<td>N/A</td>
</tr>
<tr>
<td>scale</td>
<td>X</td>
</tr>
</tbody>
</table>

**VIEWS**

<table>
<thead>
<tr>
<th></th>
<th>1947 vs. 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>skyline</td>
<td>X</td>
</tr>
<tr>
<td>foreground obstructions</td>
<td>X</td>
</tr>
<tr>
<td>background obstructions</td>
<td>X</td>
</tr>
</tbody>
</table>

**VEGETATION**

<table>
<thead>
<tr>
<th></th>
<th>1947 vs. 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>trees</td>
<td>N/A</td>
</tr>
<tr>
<td>shrubs</td>
<td>N/A</td>
</tr>
<tr>
<td>canopy</td>
<td>N/A</td>
</tr>
<tr>
<td>street trees</td>
<td>X</td>
</tr>
</tbody>
</table>
APPENDIX D

MATCHED PAIRS NOT USED
**Coles Creek**

The preceding matched pair (Figure D.1) was not chosen for several reasons. First of all, because water bodies are not one of the Parkway’s features (though they are prevalent in some areas), this pair demonstrates very little about the design intent of the Trace. Additionally, after many attempts at replicating the historic photograph, a perfectly matched pair was not obtained.
Figure D.2  Matched Pair #D.2:  Windsor Ruins
Windsor Ruins

Windsor Ruins (Figure D.2) is an example of a historic site situated slightly off of the Trace but still accessible to visitors. Situated in Claiborne County, Mississippi, Windsor Ruins is considered “one of the most interesting sites along the Trace” (Secretary of Interior 1941). The value of this antebellum mansion lies in its “representation of the social and economic conditions of the Old South” (126). After the Battle of Magnolia Church, the mansion was used temporarily by Federal troops. The mansion burned over one hundred years ago, and all that remains of it today are 24 huge columns. The ruins are described in the 1941 Letter of the Secretary of the Interior: “These massive columns, with their composite capitals, and modified classic pedestals, draped with Virginia creepers, and crowned by cedar saplings ascending from their capitals, are impressive reminders of a culture that is passed” (Secretary of Interior 1941, p. 126).

Windsor Ruins is another matched pair that was not used in the current study because of the fact that the ruins are located about ten or twenty miles off of the Trace and are therefore not maintained by the Trace. The new photograph was taken before this fact was realized. Since the ruins are not maintained by the Trace, an examination of them would reveal nothing about a possible shifting of design intent of the Natchez Trace.
Figure D.3  Matched Pair #D.3: Parkway View
Parkway View (Milepost 330)

The preceding matched pair (Figure D.3) was not chosen because, after a closer examination of the pair, it was determined that they were not an exactly matched pair.
Figure D.4a  Matched Pair #D.4: View From TN 20 Overpass

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**View From TN 20 Overpass**

The preceding matched pair (Figure D.4) shows a view of the Natchez Trace in Tennessee. The photographs were taken from a bridge, looking down onto the Trace. As the matrix indicates, the road alignment and mowing along the Parkway has remained the same since the historic photograph was taken. This pair was not used because it contains information that is present in other matched pairs. The PLUM for the TN 20 Overpass (Figure D.4b) shows very little concerning the prescribed maintenance for the area.
Figure D.4b  PLUM for View From TN 20 Overpass
Figure D.5  Matched Pair #D.5: Meriwether Lewis Museum
Although this is a closely matched pair, the photographs (Figure D.5) were not included in the study because the frame of the photograph contains very little information about the surrounding landscape or other elements that may offer insight into whether or not the design intent of the Trace has shifted.
Figure D.6 Matched Pair #D.6: Jackson Falls
**Jackson Falls**

The previous matched pair of Jackson Falls (Figure D.6) was not included in the study because it did not show any of the actual Parkway and did not demonstrate much about the design intent of the Natchez Trace Parkway.
Figure D.7  Matched Pair #D.7: Double Arch Bridge
**Highway 96 Double Arch Bridge**

Completed in 1994, the Double Arch Bridge (Figure D.7) spans 1,648 feet over Highway 96 and is the nation’s first bridge to be constructed with segments of concrete (Bachleda 2005). “The bridge’s arches are designed to support the deck without evenly spaced spandrel columns, resulting in an unencumbered appearance. In all, 196 superstructure and 122 arch segments were used to produce it at a cost of $11.3 million—considered reasonable for such a stunningly successful solution” (Bachleda 2005).

In keeping with the Trace’s design guidelines for bridges, this bridge complements, rather than disrupts, the surrounding natural landscape. “Open arches echo the surrounding hilly terrain, resulting in a modern bridge that complements rather than dominates its picturesque setting” (see Appendix A).

After careful consideration, this photograph was not chosen to be in the study because the new bridge was constructed so recently. It may be difficult to ascertain whether or not any change has taken place because of the short time period between the two photographs.
APPENDIX E

TIMELINE FOR THE NATCHEZ TRACE PARKWAY
Timeline for the Natchez Trace Parkway

Date:          Event:

1730-1731     “Natchez tribe defeat and scatter. Choctaw went to help the French at Natchez. First recorded trip over any part of the Natchez Trace” (Bachleda 2005, p. 61).

1785          The Trace was first used by boatmen who floated flatboats down the Mississippi River and returned home on foot via the Old Natchez Trace (Gildart 1996).

1801-1803     The War Department opens the Natchez Trace for the use of travelers and mail carriers (Secretary of Interior 1941).

1806, 1809    Congress appropriates funds for the improvement of the Trace (Secretary of the Interior 1941).

1830          The Trace falls into disuse (Secretary of the Interior 1941).

1909-1933     Daughters of American Revolution and other organizations mark the route of the Natchez Trace (Bachleda 2005).

May 21, 1934  “Congress authorizes a survey of Old Natchez Trace for possible construction of a Natchez Trace Parkway” (Bachleda 2005, p. 66).

June 17, 1935 Report of the Natchez Trace Parkway Survey, which includes original design intents, was submitted.

June 30, 1937 “Initial Trace construction begins with award of three grading projects in Mississippi” (Bachleda 2005, p. 66).

May 18, 1938  An Act of Congress creates the Natchez Trace Parkway as a unit of the National Park Service (Bachleda 2005).

1954          historic Confederate Gravesites photograph taken

July 1959     historic River Bend Comfort Station photograph taken

November 29, 1959 historic Gordon House photograph taken

June 1964     historic Old Town Overlook photograph taken

August 1968   historic Black Belt Overlook photograph taken
September 10, 1974  historic Buzzard Roost Spring photograph taken
May 30, 1978   historic Tishomingo Portion of Trace photograph taken
May 31, 1978   historic Parkway View 398.6 photograph taken
September 5, 1979  historic Emerald Mound photograph taken
September 26, 1979  historic Pharr Mound “C” photograph taken
October 6, 1979  historic Crafts Center Interpretive Structure photograph taken
May 13, 1981   historic Freedom Hills Overlook photograph taken
1996           “TN 96 double-arch bridge near Franklin is completed and dedicated, opening the last incomplete section of parkway at northern terminus end near Nashville” (Bachleda 2005, p. 66).
May 18, 2005  “The final segment of the Parkway around Jackson, Mississippi is scheduled to open, thereby completing the Parkway as one seamless experience from mileposts 8.1 to 444, marking 61 years of planning and construction since the Parkway’s modern genesis in 1934” (Bachleda 2005, p. 66).
August 2005   Design Guidelines of the Natchez Trace Parkway published
2009           All new photographs used in this thesis were taken.