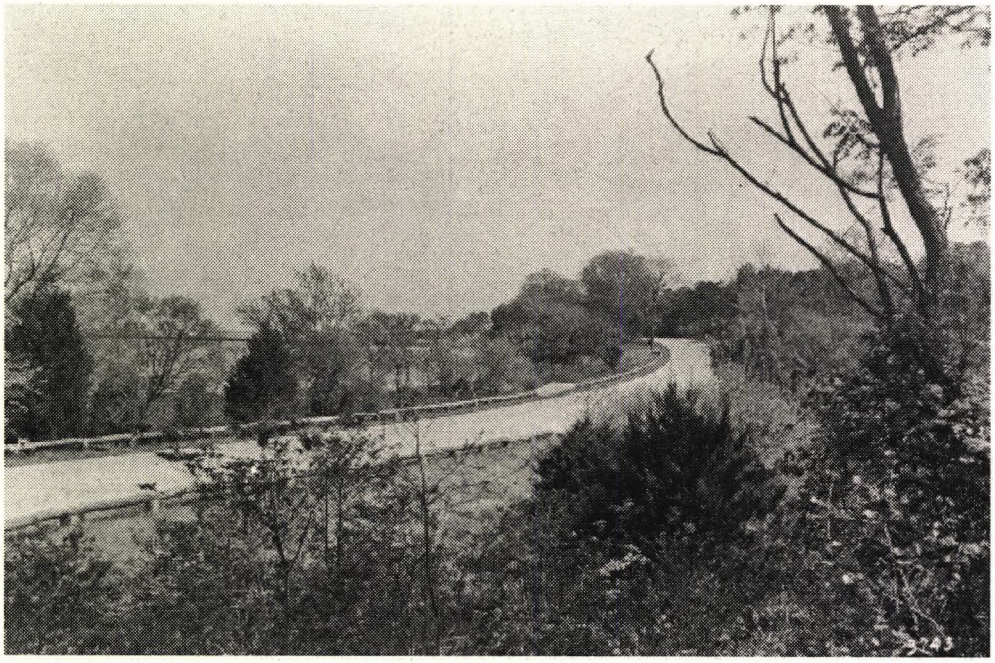
COLONIAL PARKWAY CONTEXT:
History of the American Parkway Movement, National Park Service Design, and Historic Preservation Contexts



Submitted to
National Park Service
Philadelphia Support Office

Submitted by
LANDSCAPES
Landscape Architecture•Planning•Historic Preservation

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I. History of the American Parkway Movement

Introduction

The movement to develop rural cemeteries and large parks in the 1830s to 1860s extended to the development of "parkways" in the following decades. This type of road, a wider corridor than a city street, provided space for tree planting and lawns as well as walks for pedestrians and pavement surfaces for horses and carriages, and later for bicycles and cars. The parkways of the nineteenth century were developed as linkages connecting public parks and as a means of organizing urban growth. The early parkways principally linked parks within cities.

In the early twentieth century the parkway concept expanded. As it evolved over the decades, a parkway came to be generally defined as a relatively narrow corridor of land for linking destinations or proceeding along a scenic route. By the 1920s and 1930s parkways were principally devoted to passenger vehicles although equestrian, bicycle or pedestrian trails were also accommodated in some instances. As controlled access routes, abutting owners were generally not afforded direct access to parkways. Within these general characteristics, however, variations existed in each parkway design.

In the following sections of this chapter, the evolution of the parkway is addressed using examples of nineteenth and twentieth century parkways. In each case several questions are answered. Who were the designers? When was the parkway designed and constructed? What was the basic design concept of the parkway, that is, was it a route through city or countryside, which destinations did it link, did it provide recreation or scenic enjoyment? What modes of movement were accommodated? What was the character of the parkway? What was its length, width of right-of-way, horizontal alignment and curvature, vegetation and scenic qualities? By setting out a series of examples this chapter describes the origins and development of American parkways as a type of landscape as a means of placing Colonial Parkway within this context.

A. Origin of the Parkway Idea and Nineteenth Century Parkways

The origins of the modern parkway are found in late nineteenth-century and early twentieth-century landscape architecture and in park and city planning. Within a few years of their creation, large urban parks (such as Central Park in New York and Prospect Park in Brooklyn) had proven popular both with the public for recreation and with city planners for the successful alleviation of the crowded and often sordid conditions of rapidly growing, industrializing nineteenth century cities. This success led to the creation of cities where parks, instead of being centrally located, were pushed to the outskirts of urban growth, locating them over a much larger geographical area. To connect these separated acreages of parkland, streets, boulevards, or carriageways with the characteristics of parkland were an obvious way to link them. These streets, dubbed "parkways," comprise the earliest references to the type. The early parkways, wider than average streets and usually tree-lined, were similar to, and difficult to distinguish from, boulevards. The most significant difference, perhaps, was simply the name, which provided a sense of the utility of the parkway as linking park to park, and its intent to provide the "psychological carryover of the restful influence of one large park area to its echo in another, with little or no interruption on the way."[1]

The early parkways were intraurban, functioning within a single municipal area. In addition to linking parks, they also often linked residential areas (often large, park-like suburbs) to parks. In form, they were broader than average streets, usually to accommodate multiple roadways. Following the lessons of Central Park, which

separated the circulation systems of its various modes of traffic, the early parkways also provided separate pathways for carriages, pedestrians, and horseback riders, though these paths generally paralleled each other within the linear corridor of the roadway. Some early parkways radiated out from parks in geometric form along the straight lines established by a pre-existing urban grid. Others, planned later as parts of park systems incorporated in comprehensive city plans, were laid out to wind more sinuously through the city. These sinuous forms were often a reflection of the parkways' locations along natural features such as river corridors or geological features unsuitable for development as residential communities.

1. Early Parkways, Olmsted & Vaux

Perhaps the earliest reference to "parkways" occurred in 1868, when Olmsted and Vaux proposed a series of parkway routes connecting Prospect Park to other areas in Brooklyn. The roads were described as " routes of approach to and extension from the Park, through the suburbs" in their 1868 report to the Board of Commissioners of Prospect Park.[2] The parkways were to be "non-commercial through roads, designed for 'pleasure-riding and driving. . . [with] ample public walks, with room for seats, and with borders of turf in which trees may grow of the most stately character.'"[3]

Eastern Parkway and Ocean Parkway were designed at two hundred feet wide with three road surfaces, six tree rows and two walks, and an additional thirty-foot setback to the line of residences facing the parkway. The parkways' relatively level, rectilinear forms with regular trees rows and turf panels as the planting design are shown in Figure 1. This form conformed effectively to the city grid, but was a sharp contrast to the design of Prospect Park, which had varied topography, sinuous drives and paths, and informally arranged plantings. Still, as long, straight green ribbons, the parkways extended the park and the benefits of wide, planted routes into the surrounding city.

Noting that "It is clear that the house lots facing the proposed Parkway would be desirable," Olmsted and Vaux sought to extend the advantages of spaciousness and scenery to the parkway neighborhoods by creating a second group of streets, with a forty-foot drive flanked by two thirty- foot lawn and trees panels to each side and setbacks for the residences.[4] In this way they were planning for the enrichment of entire neighborhoods and the shaping of urban development patterns using the parkway idea. Olmsted and Vaux also stressed that the parkways would realize increased real estate values and accompanying tax assessments on the lands along the parkways, in the same way that urban parks increased land values.[5] Other parkways, by other designers, soon followed in the city. In 1888, New York purchased 4,000 acres of land in the Bronx for a system of parks connected by the Moshulu, Pelham, Bronx and Croton Parkways. Like the Eastern and Ocean Parkways, these wide corridors "were essentially tree-line boulevards."[6]

2. Chicago Parkways and the Buffalo Parks and Parkways, Olmsted & Vaux

The concept of a drive for carriages linking parks to parks and other parts of the city reappeared shortly thereafter in Olmsted and Vaux's 1869 design for Riverside, Illinois which called for a "park way to Chicago." This parkway was partially constructed, though a commuter train link was fully developed. This was followed, in their 1871 plan for the Chicago South Park by the proposed construction of the Southgrove, Southopen, and Pavilion Parkways leading from the city to the Upper Division (later known as Washington Park).[7]

In Buffalo, Olmsted and Vaux created their first park and parkway system. "In Buffalo, Olmsted and Calvert Vaux had designed four parkways providing connection to the principal park, Delaware Park. Humboldt Parkway connected the Parade with the eastern end of the park and three short parkways, Chapin, Bidwell and Lincoln, provided connection to streets leading to the Front and the center of the city."[8] The Buffalo parkways, shown in Figure 2, included about twenty miles of spacious corridors with two or three drive

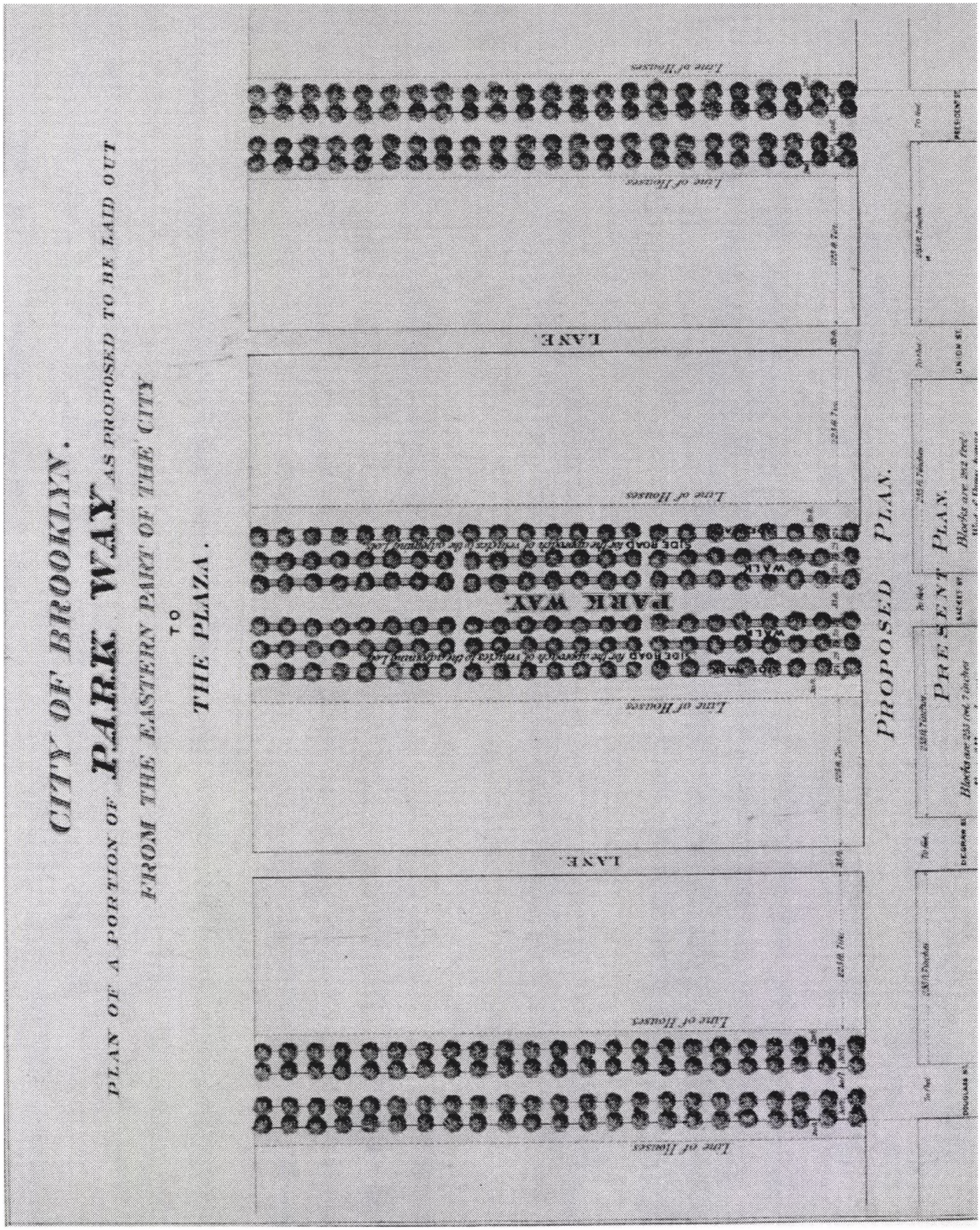

Figure 1. Plan of Eastern Parkway, designed by Frederick Law Olmsted and Calvert Vaux, City of Brooklyn, New York, 1868. National Park Service, Frederick Law Olmsted National Historic Site.

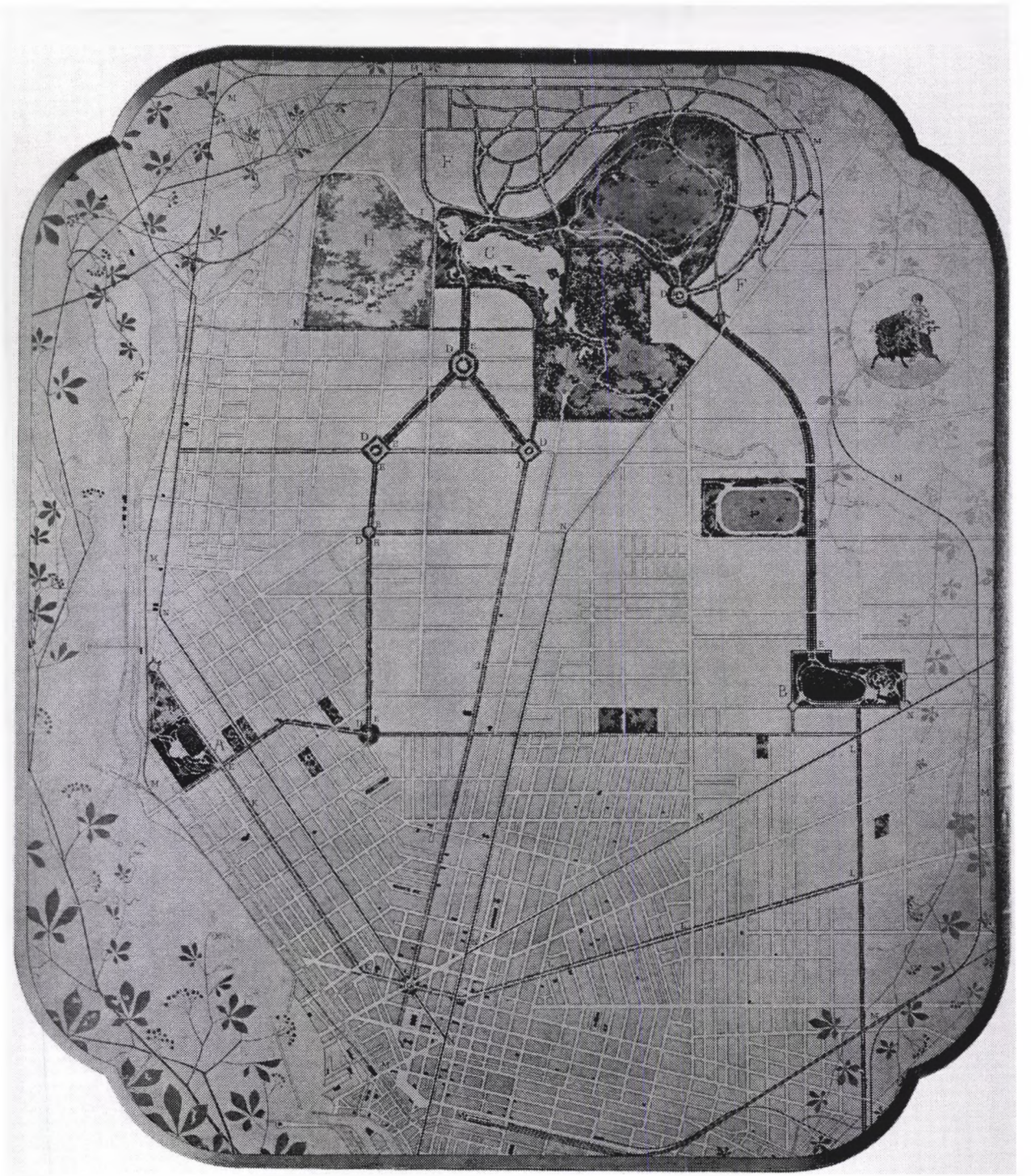

Figure 2. Plan of the Buffalo Park System, showing parkways linking parks. National Park Service, Frederick Law Olmsted National Historic Site.

surfaces, walks, and four to six rows of trees. The parkways varied from 150 to 200 feet in width and were constructed by the late 1870s. This system also used a series of intersections to form smaller green spaces, circles and squares, that later held fountains, prominent statues and were surrounded by notable architecture.[9] Interestingly, in the more developed portions of Buffalo where wide parkway corridors were no longer available, connections along Delaware Avenue and Porter Avenue, tree-lined streets, were necessary.

By the late 1880s, the parkway idea was a well-established aspect of park design and city planning in much of the country.

3. Boston Park and Parkway System, Olmsted, Olmsted & Eliot

As the parkway idea was propagated in various urban areas, it also began to evolve. The parkways of the Boston Park System, also designed by the Olmsted firm, illustrate some of the changes which occurred as parkway design developed over time. The design of the Boston Park System began in 1877 with the reclamation of marshland--"the Fens"--in the Back Bay to create parkland. The success of this project led to its extension along the slow-flowing, polluted "Muddy River" in Boston and Brookline. Utilizing the stream corridor as a natural right-of-way, Olmsted designed an adjacent carriageway within the well-planted, linear park. As work progressed, it was realized that the strips of parkland together would create a "Continuous Promenade from the Common to Jamaica Pond." By 1887 the proposed promenade had been renamed "The Parkway," with individual sections named "Charlesgate, Fenway, and Riverway."[10] By 1896, there were nineteen parks and parkways in the system,[11] including new sections of parkway, "the Jamaicaway" and "the Arborway," which linked the Fens, the Muddy River, and Jamaica Pond to the Arnold Arboretum and thence to Franklin Park. The Arborway was a parkway segment of three drives and tree-lined medians with walks and a tree verge along the edges and residences set back on both sides. This segment of the system used the wide corridor model seen in Buffalo, while much of the Boston/Brookline system was comprised of streets at the margins of broader park lands.

The Boston parkways represented an important development in parkways in that their locations were no longer dictated by an urban grid. Instead, the parkways were laid out along curving rivers and marshes. This changed their form from linear to curvilinear as they matched the features of the terrain, avoiding expensive developed land and seeking routes which moved with reasonable directness from their origin to their destination "... and which had scenic features ... along the way."[12] These parkways were no longer carriageways lined by trees and grass representing parkland, but rather parkland with a roadway connecting other parks. As a result, the width of the park strip now varied, widening to encompass such features as small lakes, rock outcroppings, and like true parkland, recreational opportunities. In describing the Boston park system, Nolen and Hubbard wrote (with the benefit of hindsight)

> As the so-called parkway becomes wider and portions of it have more recreational utility of their own and more visual segregation from traffic, the use of the land becomes more and more typically that of a park, and it is plainly in the interests of economical land acquisition, good design, and administration not to throw away opportunities of typical park recreation because they happen to be available in connection with a project which is primarily a parkway.... [I]n the Boston Metropolitan System ... areas ... officially parkways have in varying degrees the functions of local parks.[13]

Given the parkways' park uses of horseback riding, walking, and as "local rest and play areas," the minimum parkway right-of-way was thought to be 200 feet, though it narrowed to as little as 150 feet in some areas. It widened in some areas to as wide as 1500 feet.[14] The driveway was situated anywhere within the park strip.

Figure 3 shows the variety of cross sections along various parkways in the Boston park system. In general, by 1937, when the parkways were fully mature and being used for automobile traffic, the right of way held a main two-way driveway forty feet wide (forty-four feet wide at curves), flanked by a walking path, bridle path and or access roads.[15] The main driveway was generally, but not always, two ten-foot lanes of two-way traffic; it was separated from bridle and walking paths by varying-width strips of turf and trees, a minimum of five to ten feet wide. There is some indication that the main driveway widened somewhat over the years of construction and maintenance; an early (1892) cross section of the Fenway shows the drive at thirty-eight feet wide, including a curb and gutter four feet wide on one side of the road and a simple gutter four feet wide on the other side of the road.[16] Similarly, curves on the parkways were originally planned at a minimum of 200 feet; by 1937 they had been flattened for the increased speeds of automobiles to between 700 and 800 feet.[17] Other distinctive aspects of the Boston parkways were bridges which separated the railroad grades from carriage traffic.[18] Olmsted had utilized bridges to separate pedestrian from vehicular traffic in Central Park, where vehicles moving east-west across the park passed under bridges which carried the park traffic overhead. Notable aspects of the parkways' design included "unostentatious" buildings, plantings of indigenous species, and rows of trees.[19]

However, the Boston system had a number of features which separated them from the later, "modern" parkways. First, commercial traffic was allowed along the parkways, and second, private property owners abutting the right-of-way of the parkways generally had the rights of light, air, and most importantly, access along the parkway.[20] These parkways, placed along the margins of a linear, river corridor park, provided for pleasing views over the parklands. This is an important aspect which links the Boston Parkways with later parkways. In recent years, a century since the parkways' construction, surveys have revealed that the majority of parkway travellers in Boston choose a parkway route because of those same scenic qualities.[21]

4. Minneapolis Parkways, H. W. S. Cleveland

Other cities further west also developed similar systems of parks and parkways, designed by landscape architects other than Olmsted and Vaux. In 1883 in Minneapolis, for example, H. W. S. Cleveland made a plan for a "System of Parks and Parkways." The system he proposed was comprised of "more than twenty miles of parkways, completely encircling the central portions of the city."[22] As in the Boston Park system, the parkways followed natural features: they were laid out along the banks of the Mississippi River and encircled the shores of a chain of lakes at the edge of the platted, but not yet developed, city. In Cleveland's mind, the recreational possibilities of this great extent of parkways obviated the need for a large country park, heretofore a common component of the park systems proposed by other designers for other cities: "With such extended pleasure drives, so easily accessible, and connecting with so many pretty parks of thirty or forty acres . . . it becomes questionable whether the necessity exists for driving parks of such dimensions as have elsewhere been thought necessary."[23]

To implement the plan, strips of land, generally 200 feet wide, along the shores of the lakes and the Mississippi were originally purchased for the parkways (First Annual Report of the Minneapolis Park Commissioners, 8). There is evidence, however, that this distance later widened to 300 to 400 feet in some locations. Parkway right-of-ways generally contained a driveway (a plan for Minnehaha Parkway shows the drive at thirty feet wide) flanked by walking and/or bicycle paths. Drives were separated from the walking paths by variable-width strips of trees, shrubs and turf. In general, the scenic aspects of the lakes and river along these routes were enhanced by plantings. In some places, vegetation was cut "to keep open meadow interior views" while in other places, border plantations of trees and shrubs were planted to "shut out objectionable structures . . . placed . . . along the boundaries."[24]

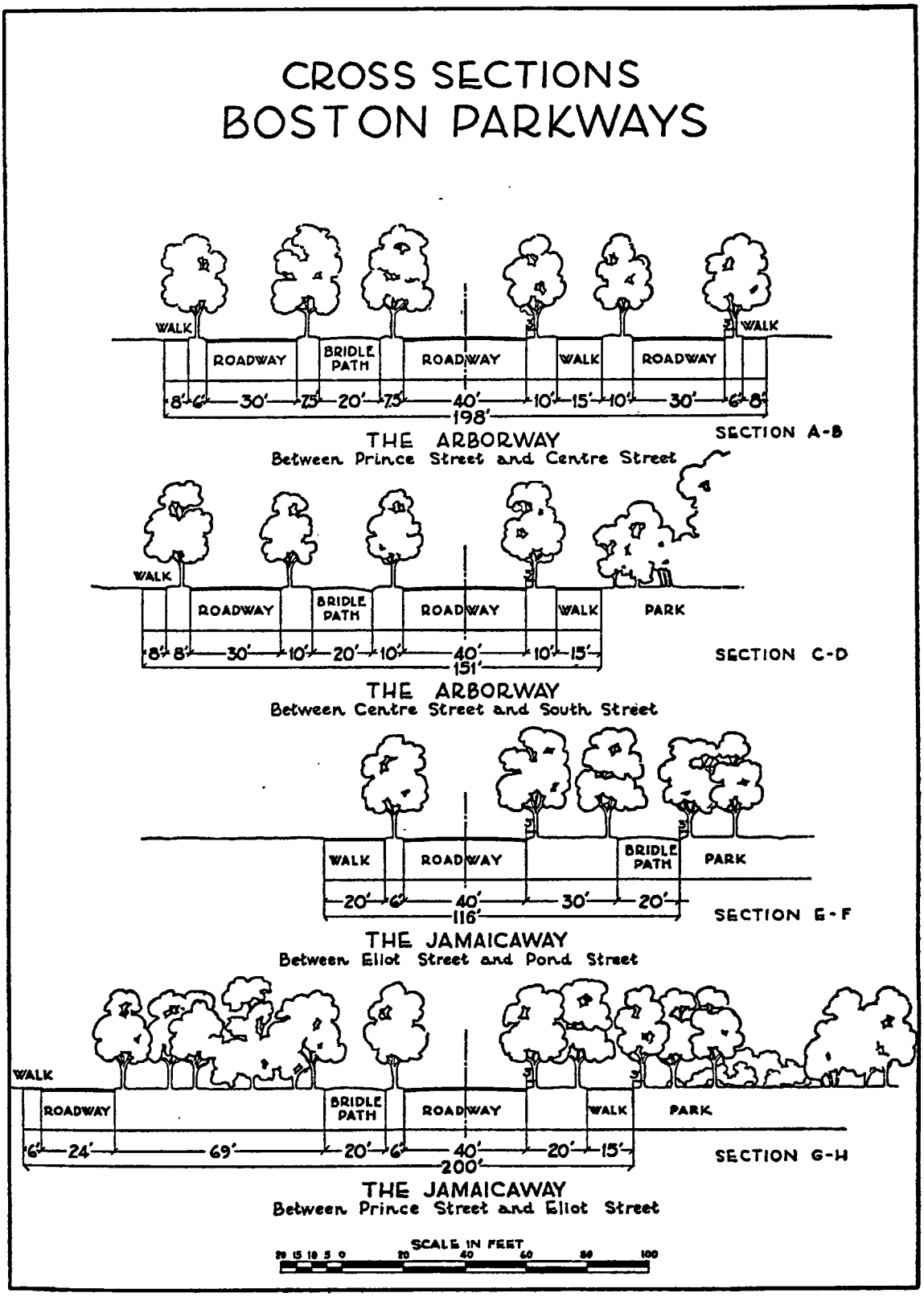

Figure 3. Typical cross sections of the Boston Parkways, circa 1937. From Nolen and Hubbard, *Parkways and Land Values.*

Implementation and refinement of the Minneapolis parkway system continued up to about 1944, though much of the system was in place by the late 1910s. The city grew up around the park system, with residential properties lining the parkways. In some areas, secondary service roads were added within the parkway right-of-way to keep increasing residential traffic off the pleasure drives. However, abutting property owners generally retained their right of access to the parkways, although commercial traffic was restricted. Pleasure driving, walking or bicycling along the system of Minneapolis parkways were popular activities, making the parkways a recreational destination as well as a means of moving through the city. These scenic routes, with views over the lakes and the Mississippi, expanded the Boston concept of drives along parks, by providing wider, variable rights-of-way and a wealth of scenic opportunities.

5. Kansas City Parkways, George Kessler

Another example of an early parkway system is the Kansas City park and parkway system, generally attributed to landscape architect George Kessler. By 1893, Kansas City boasted 324 acres of parks and almost ten (9.85) miles of boulevards and parkways, as seen in Figure 4. The system's intent was "to comprise local play centers and pleasure grounds, some larger properties within the city and at least one great outer park, all interconnected by boulevards and parkways with the different residential sections and the downtown district."[25] The parkway system combined both rectilinear, formal boulevards oriented to the city's grid and curvilinear parkways, defined by "natural rather than artificial or arbitrary boundaries."[26] In other words, as in Minneapolis, the parkways followed natural features of topography and river beds; notable among these were a bluff above the Missouri River. However, the boulevards were also considered an "integral" part of the parkway system, the two different types of roads being "inseparably coordinated in design, construction, and physical relationships."[27]

Some typical cross sections of the Kansas City parkways are shown in Figure 5. In general, the Kansas City boulevards were 100 to 110 feet wide and contained a roadway forty to fifty feet wide. In contrast, the parkway right-of-ways varied from 100 feet in more developed areas to between 500 and 1,000 feet in areas with more compelling natural features or recreational opportunities. The parkway driveways varied from thirty-five feet to fifty-six feet wide, a maximum width beyond that of driveways in either the Boston or Minneapolis parkways. In some areas, the strip of park contained double driveways, each thirty-five feet wide, containing one-way traffic only. Walks six feet wide were located adjacent to the parkways, separated by a ten-foot planting strip.[28] Intersections with cross streets generally occurred at grade and abutting owners had right of access to the parkway. The corridors were further characterized by their use of native plant materials deployed in a naturalistic, informal manner.[29] As in Minneapolis, the variable width and curvilinearity of the some portions of the Kansas City system stressed scenic enjoyment and recreational use of the corridors themselves as well as the parklands to which they were connected.

6. Other Nineteenth-century Parkway Systems

The preceding examples are just a few of the many parkway systems constructed in conjunction with urban parks in the late 1800s and early 1900s. Even if they were not always as extensive as the examples listed here, cities with similar systems included Louisville, Denver, and Seattle, among others. Lake Washington Boulevard in Seattle, for example, was a nine-mile route through the Washington Arboretum, along residential and commercial streets, with narrow rights-of-way, through small parks leading to and along the scenic shores of Lake Washington The Seattle system of boulevards and parkways provide another example of variations on the parkway theme with scenic qualities as an important component. Jurisdictions other than cities also developed parkways; for example, Essex County, New Jersey was famous for its system of parks and parkways, designed by John Charles Olmsted.

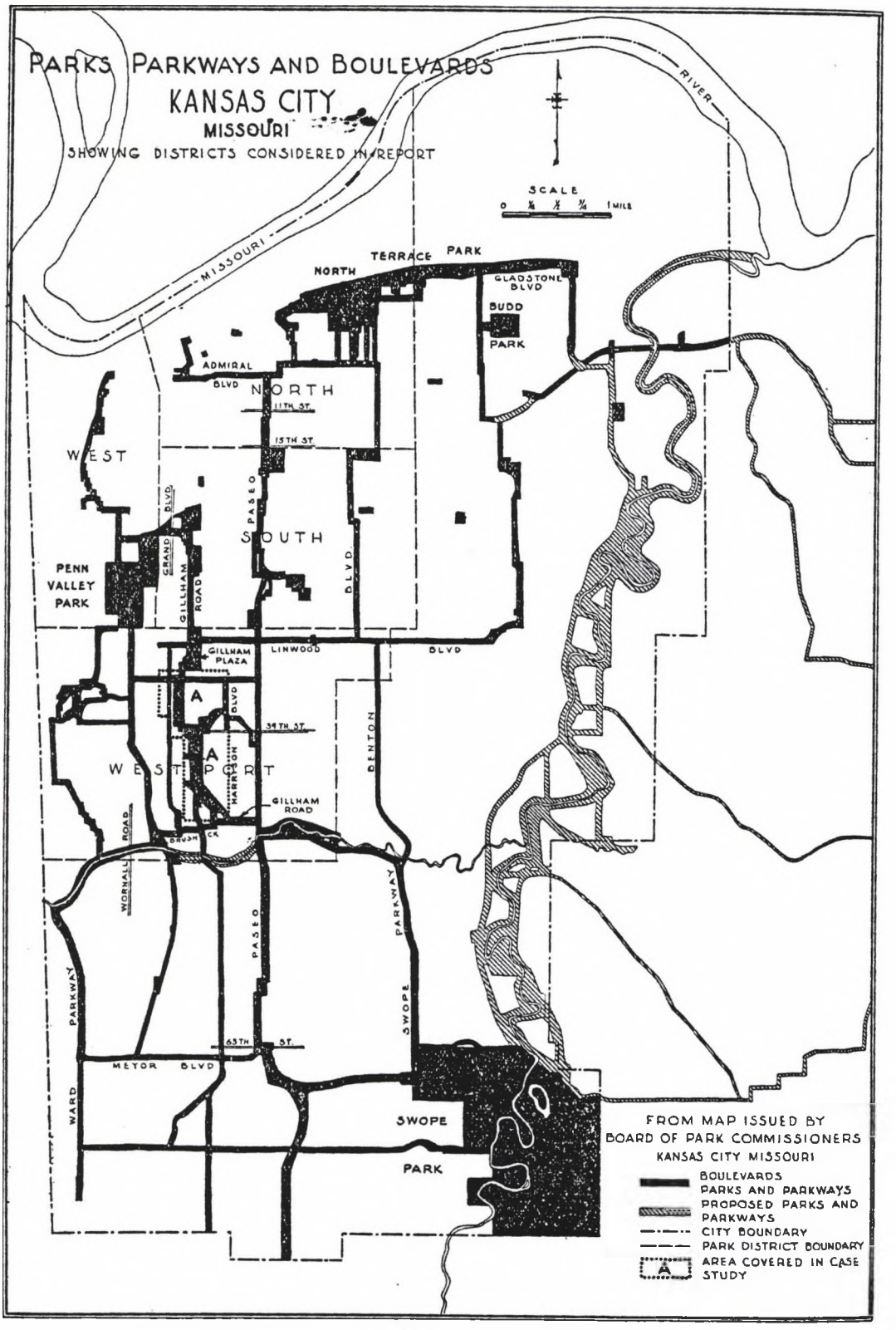

Figure 4. Plan of Kansas City Parkway System, showing curvilinear parkways and rectilinear boulevards. From Nolen and Hubbard, *Parkways and Land Values*.

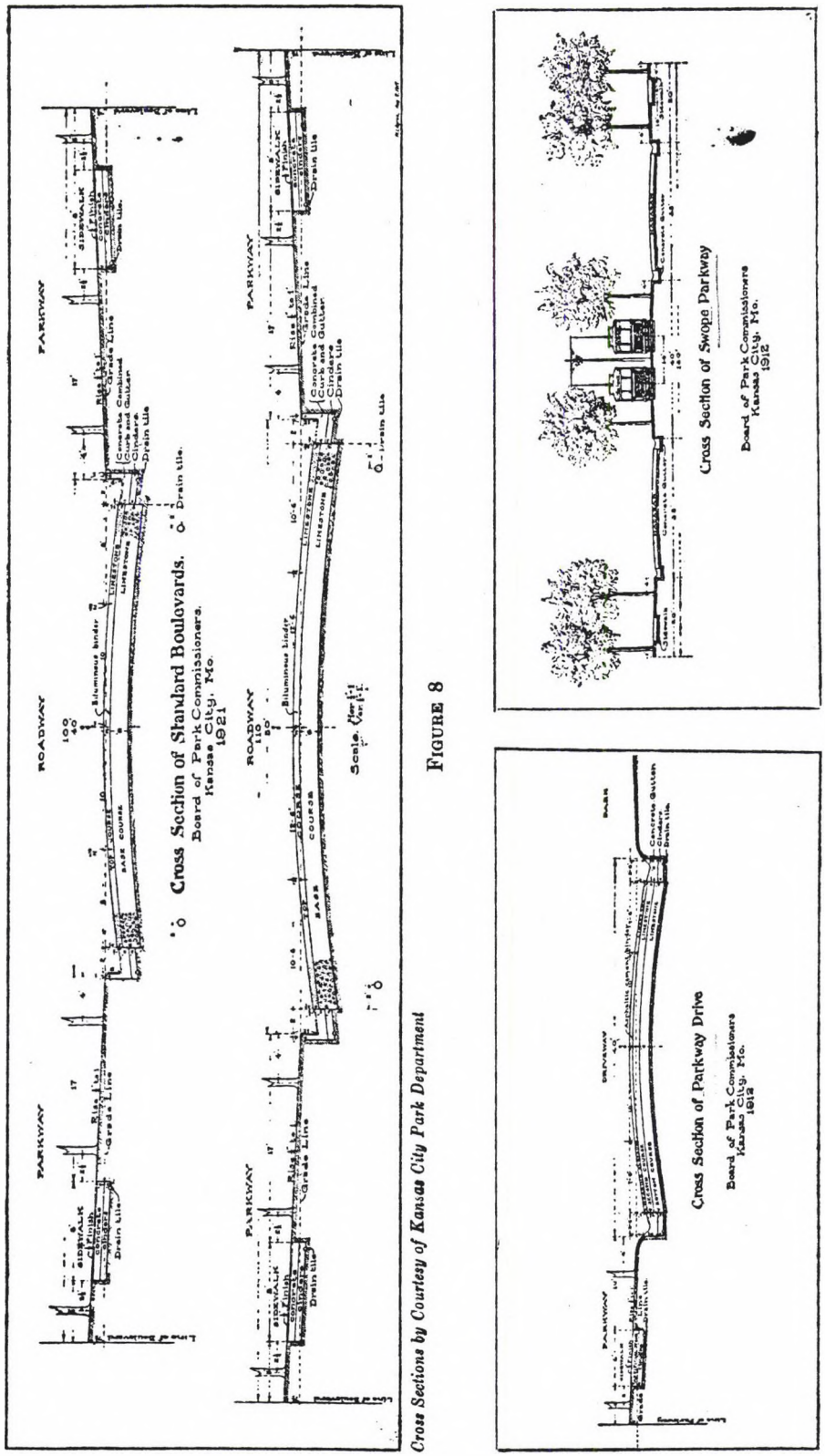

Figure 5. Typical Cross Sections of the Kansas City Parkway System. From Nolen and Hubbard, *Parkways and Land Values*.

Despite the numerous parkways throughout the country, there was still a certain level of confusion over what exactly a parkway was. Landscape architect Charles Eliot, while working for the Metropolitan Park Commission in Boston in the 1890s wrote that "parkways or boulevards . . . are generally merely improved highways," a definition which ignored the park-like nature of parkways.[30] By 1913, John Charles Olmsted tried to differentiate roadway types for the profession in a *Landscape Architecture Magazine* article entitled "Classes of Parkways," excerpted from an Essex County, New Jersey parks report. Although throughout the article he uses the terms parkway and boulevard almost interchangeably, with respect to carriage traffic, Olmsted noted that there were two types of parkways: "Formal Parkways or Boulevards, and Informal Parkways."[31] This classification was broadly based on form and location: formal boulevards were narrower, rectilinear, and "more appropriate amidst distinctly citified conditions," (i.e., the urban grid). In contrast, the informal or landscape parkway was curvilinear, gracefully adjusted to topography and property boundaries, and "decidedly more pleasing and appropriate amidst suburban or rural surroundings, where it is often feasible to preserve beautiful groves, brooks, ponds, or other picturesque landscape features."[32] He also noted that informal parkways "frequently serve[d] more or less completely as local parks."[33] John Charles Olmsted particularly advocated the use of informal parkways because, laid out to fit the topography with minimum cut and fill, they were more cost effective to grade than straight alignments and also did less damage to the adjacent landscape. Furthermore, "in proportion to cost" they created "a valuable element of beauty" and afforded "more pleasure" than formal boulevards. "[34] He also urged acquiring a wide right-of-way to maintain the pleasing scene. In this article, Olmsted clearly advocated the informal parkway as the preferred form for future development.

With an eye to the future, perhaps, Olmsted's article also addressed automobile traffic on parkways and seems to be one of the earliest written references to accommodating this mode of transportation. The article primarily suggests simply separating automobiles as another lane in the ever-widening traffic corridor. Such a traffic corridor is shown in Figure 6, which requires a width of 400 feet simply to accommodate traffic lanes with separation, without regard to scenic features. However, Olmsted also notes that "through automobile traffic" is likely to become a significant mode of transportation, and suggests that the automobile drive could be located next to a railroad depressed into the grade. By putting the two higher-speed, longer-distance modes together, at-grade crossings of pleasure and commuter traffic would be eliminated.[35]

Finally, Olmsted recommended controlling the area around the parkway. This was primarily advocated on aesthetic grounds. He noted that the "[l]awns between the fence lines and buildings must be considered as hardly less essential than grass strips in the parkway itself. If they can not be secured by means of restrictions, they should be secured by taking the land, thus making them legally part of the parkway, as is the case in the city of Washington."[36] The desire, indicated in this statement, to control the activity of abutting properties, would be extended beyond aesthetics as parkways were further developed.

B. The Bronx River Parkway: The First "Modern" Parkway

Although it is widely recognized as the first "modern" parkway, the Bronx River Parkway's beginnings were not unlike those of the parkways along the Muddy River in Boston. The Bronx River Parkway originated as an effort to conserve the boundaries of the polluted Bronx River in Westchester County, New York. In 1906, a commission studying the pollution problem recommended a solution similar to that proposed for the Muddy River in Boston: the river and its water could be preserved by creating a park lining both its sides. In 1907, after receiving approval from New York City, the Bronx River Parkway Commission, an independent agency, was authorized to survey, acquire, design and construct a linear park along the River. As a part of the legislation, it was agreed that the city would pay for seventy-five percent of the park's cost, while the county would pay for the remaining twenty-five percent. The fact that the city paid for the bulk of the construction

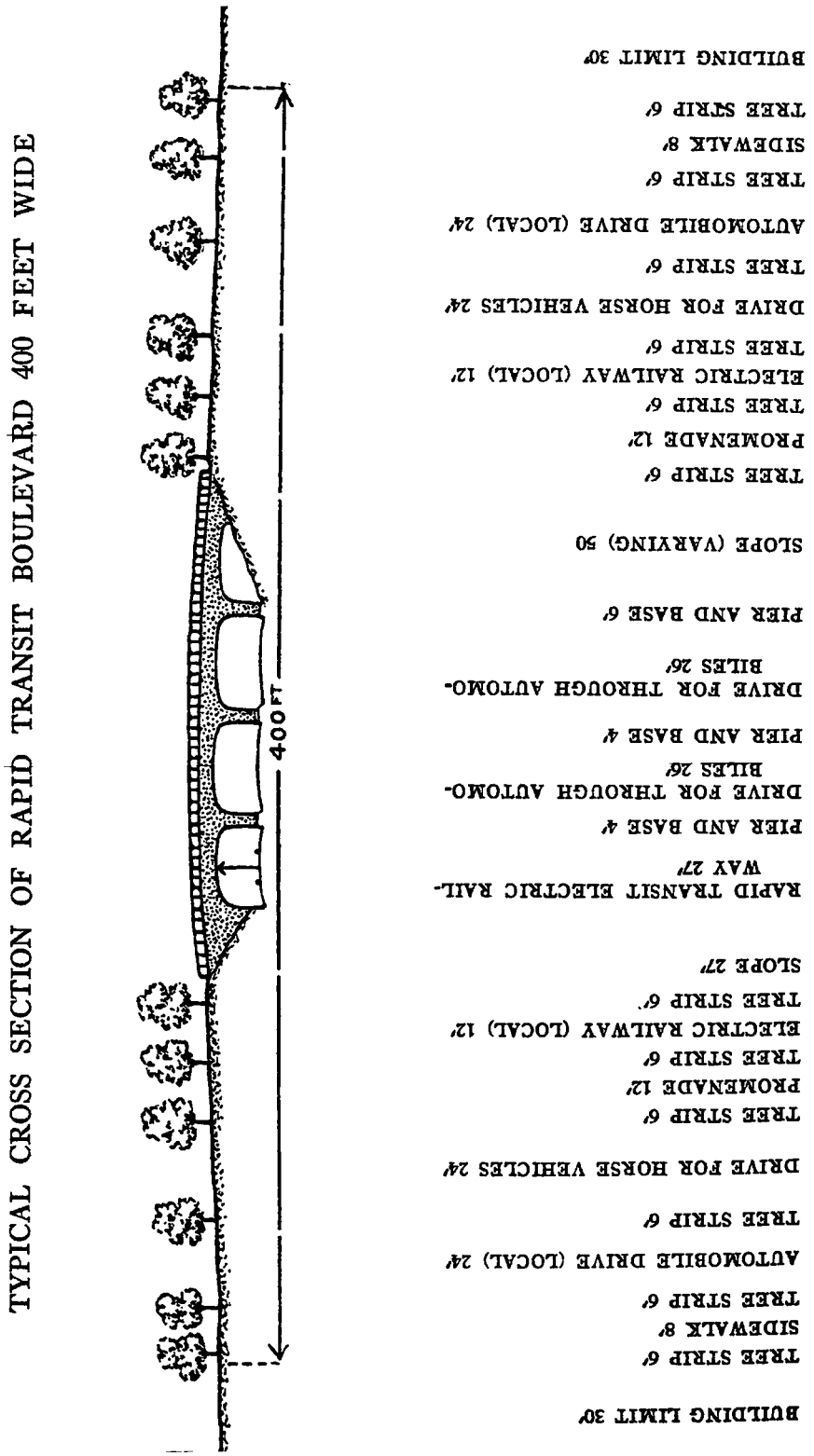

Figure 6. Idealized parkway/boulevard cross-section by John Charles Olmsted. From Olmsted, "Classes of Parkways."

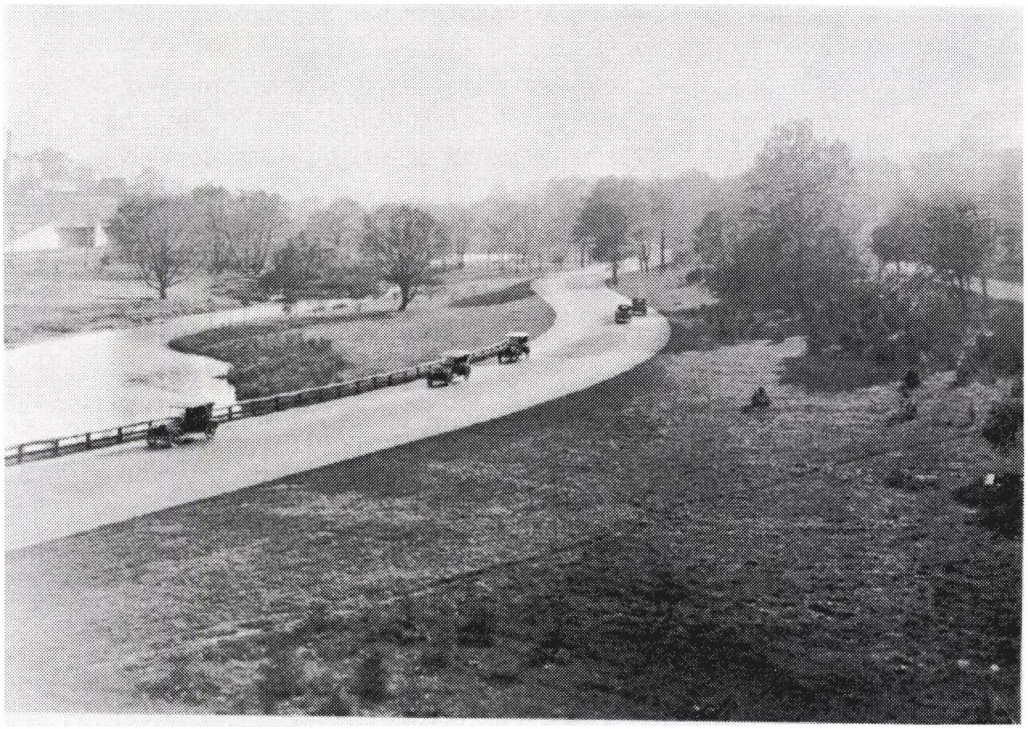

Figure 7. View of the Bronx River Parkway, above Bronx Park, 1922. From Newton, *Design on the Land.*

indicated the benefits it would receive: the parkway would connect New York City to Kensico Dam and it would be an attractive entrance to the city from the north.[37] Given that two of the three parkway commissioners were real estate men, it is likely that they also realized the development potential of the new parkway--subdivisions bordering the parkway would have a direct connection to the city.[38]

Although the property for the park along the river was acquired by 1909, construction was delayed until 1916. Some grading was completed, but then World War I intervened, halting further construction until 1919. By this time, however, the burgeoning American automobile industry was swiftly establishing the automobile as the most convenient and pleasurable means of transportation. Therefore, although its designers noted that the route was "not designed as an important arterial way" but as a "pleasant recreational drive," the Bronx River Parkway, in contrast to its predecessors, was designed not for carriages but for cars travelling at speeds of twenty-five to thirty-five miles per hour.[39]

In other words, the sixteen-mile parkway combined features of "traditional," nineteenth-century parks and parkways with some striking design innovations for improving the flow of faster-moving automobile traffic. As in traditional park design of the time, the designers were careful to preserve existing landscape features, eliminate disturbed lands, garbage dumps and other unsightly features, control flooding, and provide plantings. The forty-foot wide, four-lane drive was also a common feature in previous parkway design. In contrast to traditional park and roadway design, however, was the fact that because the wide right-of-way was owned and regulated by the Park Commission, abutting owners had no right of direct access to the drive within it. The width of parkland, combined with the location of the drive in the river valley, below the grade of existing streets, forced intersecting streets to pass over the parkway on bridges. Access to the driveway was thus restricted to a few chosen points, where ramps leading from the bridges joined the parkway. By eliminating at-grade crossings, and limiting the number of access points along the route, parkway traffic could now flow unimpeded. The limited access roadway had been born!

The use of grade-crossing elimination structures to separate conflicting traffic motions had been pioneered in the design of Central Park and the design of railroad crossings. However, the repeated use of these structures in the Bronx River Parkway, to both limit access and to separate fast and slow-moving traffic--represented an evolution of design and use. Yet the bridges themselves take the form of a technological innovation. Instead, constructed of reinforced concrete, they were faced with local stone to ensure they would blend into the tableau of parkland presented to the motorist. In a similar fashion, other features required for automobile traffic--guard rails, light standards, signs, and gasoline service centers--were carefully designed to create a unified and aesthetically pleasing park design.[40]

The combination of roadway design, park design, and bridge design necessitated the collaboration of engineers, landscape architects, and architects. The principals of the project were Jay Downer (chief engineer), Herman W. Merkel (consulting landscape architect), and Gilmore Clarke (landscape architect).[41] In addition to planting, alignment, and slope design, the landscape architects also planned the walks paralleling the parkway. A.G. Hayden did the structural design for the bridges, and Clarke and other architects did their architectural design.[42] The aesthetic success of this collaboration was immediately evident in the parkway's smooth curves, careful plantings, and pleasing bridges. Figure 7 shows some of these features on the parkway in 1922.

The parkway proved to be a social and economic success as well. New Yorkers took immediate advantage of the recreational possibilities of driving the parkway and accessing the green, open spaces of Westchester County. Land values around the parkway also rose, and land development flourished when people realized it was possible to commute from the suburbs to the city more quickly, in more beautiful surroundings, than ever before.

C. Early Parkways in the Image of the Bronx River Parkway: Westchester County Parkways, Long Island Parkways, Mount Vernon Memorial Highway

The Bronx River Parkway was completed in 1923, and within a few years new parkways sprouted up in its wake. These included the Westchester County Parkway System, the Long Island Parkways, and the Mount Vernon Memorial Highway. Designed in the mid- to late-1920s, these parkways generally adopted the major innovations of the Bronx River Parkway--the idea of limited access and the use of numerous grade-crossing structures--and implemented them in new places. Because they followed so closely on the development of the Bronx River Parkway, and attempted to mimic its success, they exhibited only minor refinements in the design concepts presented in the original.

As a class, these "early parkways," designed prior to 1930, shared common goals and features. Broadly speaking, they retained a close tie to their origins in nineteenth century park design. For example, all these parkways were planned and implemented by park and planning commissions. Because they were under the jurisdiction of park commissions, recreation remained as a, if not the, prime consideration in their design. This included ensuring that the driving of the parkway was, in itself, a pleasant recreational activity and locating the parkway to link urban areas with parks and parks with other parks. In many cases, large new parks were constructed concurrently with the parkways. These concerns were consistent with the nineteenth-century conception of the parkway. However, these modern parkways functioned on the much larger scale. The compression of time and space allowed by the automobile allowed parkways to link parks within an entire region rather than simply within city limits and to link the city to the suburbs.

In a similar vein, the parkways continued to function as planning tools, much as nineteenth century parks had. Just as the grandest urban residences had been developed along Olmsted's Eastern Parkway in Brooklyn, and

Figure 8. Grade-crossing structure along the Saw Mill River Parkway. From Newton, *Design on the Land.*

just as the lake-side parkways in Minneapolis planned in the 1880s dictated where residential neighborhoods would be built in the 1910s, the construction of parkways in Westchester County and Long Island in the 1920s dictated the locations of subdivisions in the 1930s and 1940s.

On the level of physical design, the early modern parkways also shared common features. Like the Bronx River Parkway, they all predominantly contained a single roadway about forty feet wide providing four travel lanes with two in each direction. Horizontal alignment of the roadway was based on circular curves and straight tangents, with or without spiral transitions between them. Vertical gradients had a maximum steepness of eight percent. All the parkways featured reinforced concrete bridges faced with stone, and buildings and other roadside features which were designed to blend with the bridges and park surroundings. Plantings, usually of indigenous species, were utilized to create a park-like ambience and frame views.

1. Westchester County Parkways

As soon as the Bronx River Parkway was completed, the Bronx River Parkway Commission was abolished. Almost immediately thereafter, it was replaced by the Westchester County Park Commission, which was established in 1923 to create a park and parkway system across the entire county. Many of the same designers who had worked on the Bronx River Parkway were charged with the new commission; these included engineer Jay Downer, landscape architect Gilmore Clarke, and engineer A.G. Hayden.[43]

Ten years later, in 1933, a total of 17,000 acres of parks and parkways had been constructed. This acreage included 160 miles of parkway, including the Bronx River Parkway Extension (now the southern portion of the Taconic Parkway), Saw Mill River Parkway (Figure 8), Hutchinson River Parkway, Cross County Parkway, Pelham-Portchester Parkway, and Briarcliff-Peekskill Parkway. As shown in Figure 9, the north-south parkways formed the ribs of a fan across the county, which were then connected by parkways running east-

west. Sprinkled liberally across the county were a number of large parks, including Sprain Lake Park, Tibbetts Brook Park, Kensico Dam, and Saxon Woods Park. These large reservations included golf courses and swimming areas. A large amusement park, Rye Playland, was also constructed as part of the system. Another recreational aspect of the system were the bridle paths and walking paths which meandered along the parkway margins and into the larger park preserves.

Although its design and its sheer quantity of parkland indicated the recreational intent of the park and parkway system, planners felt that the "recreation value" of the system was "less tangible" than its goal to secure Westchester's "suburban personality and direct the county's growth along lines consistent with its logical function in the greater metropolitan region."[44] In other words, Westchester County had become a commuting suburb of New York City, and the parkway system was viewed as the most pleasant and efficient means of transporting commuters without compromising the desirable, leafy ambience of the area. Gilmore Clarke summarized the intent succinctly, describing the parkways as the "Solution for the Through Traffic Problem" or the means to separate slow, local traffic from faster-moving commuters and recreational drivers. The parkways accomplished this by laying down a new route in a new location--"a bypass highway" in the words of engineer Jay Downer--in a form that was aesthetically pleasing.[45]

However, meeting the demands of increased and faster-moving traffic required some alterations in the standards used for the design of the Bronx River Parkway. Typically, the minimum right-of-way of the Westchester County Parkways was 250 feet, to allow a "buffer" between the roadway and private property and to provide opportunities for screen plantings. The Bronx River Parkway driveway's forty foot width was typically widened to a concrete-surfaced drive forty-four feet wide. Three-inch curbs were used instead of a gutter and shoulder to direct drainage and to "prevent motorists from driving and parking on marginal lands."[46] These characteristics are shown in cross section in Figure 10.

With a higher design speed of thirty-five to forty m.p.h., curves were flattened to radii of greater than 750 to 800 feet.[47] Curves up to 2,000 to 6,000 feet were super-elevated for a speed of thirty miles per hour. Vertical gradients were generally lower than six percent, with some reaching eight percent for short distances. All grade crossings were eliminated. Access points were spaced at considerable distances apart and cloverleafs were constructed at major intersections. Native stone was used for facing bridges because "Exposed concrete . . . is not satisfactory where native stone outcrops abound, since it has an artificial appearance out of keeping with the surroundings." [48] Artificiality was also avoided in the grading, with "the harsh evidences of machine construction . . . ameliorated, giving the roadway an appearance of belonging to the landscape picture."[49] Plantings also enhanced the scene: "a restrained concentration of flowering materials. . .[were] introduced to heighten the interest and beauties of the drive."[50] Billboards were banned within the right-of-way.[51] Service stations within these scenic corridors were architecturally designed to the extent that gas pumps were hidden in mock well houses.[52] The Westchester County Parkways, as a group, demonstrated an enlarged parkway concept, one that focused on automobile traffic, longer distances, controlled access and scenic enjoyment linking cities to suburbs and shaping land development.

2. Long Island Parkways

The Long Island State Park Commission was founded in 1924, shortly after the establishment of the Westchester County Park Commission, and the development of the Long Island Parkways in many ways paralleled the development of those in Westchester County.[53] Once again, a park commission was in charge, and as a result, the system of roadways had a strong focus of providing recreational opportunities to the public. In fact, the stated goals of the system were:

Figure 9. Plan of the Westchester County Parkway Sytem. From Nolen and Hubbard, *Parkways and Land Values.*

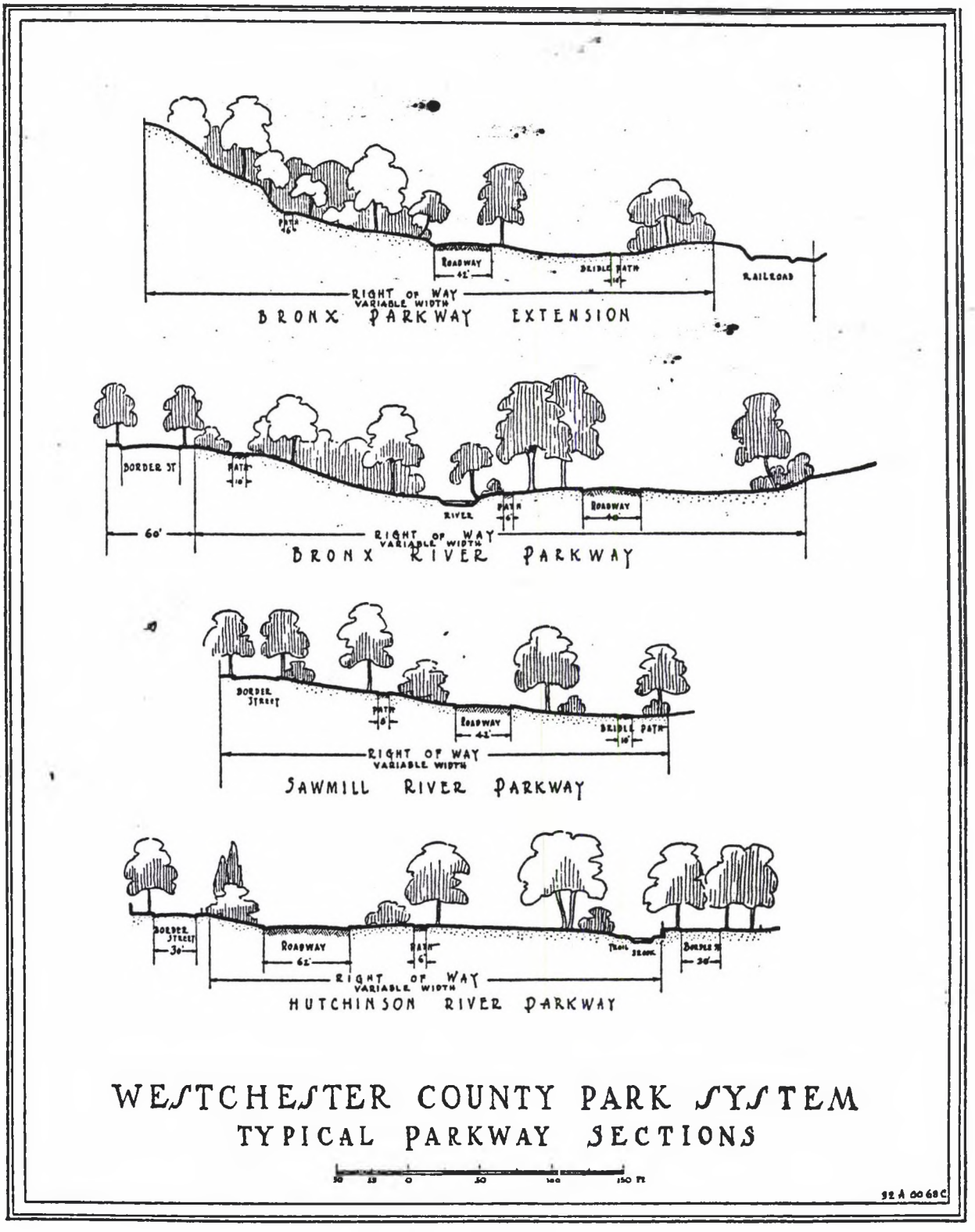

Figure 10. Typical cross-sections of the Westchester County Parkway System. From Nolen and Hubbard, *Parkways and Land Values.*

> First, the establishment of a parkway system to furnish access to the individual parks from congested centers of population and to provide for travel between New York City and Long Island on attractive routes without interference from commercial traffic; and second, the acquisition of as much land as possible on Long Island, particularly along the shore, in order to provide the maximum of park property for future public use.[54]

Between 1924 and 1936 the Long Island State Park Commission acquired 20,580 acres of land in fifteen parks and eighty-five miles of parkway.[55] The parks ranged in size from the 118-acre Fire Island State Park to the 6,000 acre Jones Beach State Park. As shown in Figure 11, the parkway system ran north-south and east-west across the island. Northern and Southern Parkways, which opened in 1929, extended from east to west across the northern and southern halves of Long Island. Wantagh Parkway, which also opened in 1929, dropped south from the Southern Parkway to access the beaches on the Atlantic side. Meadowbrook Parkway, which opened by 1936, paralleled the Wantagh. Ocean Parkway, also opened by 1936, connected to Wantagh and Meadowbrook Parkways and as it ran along the Atlantic shore, connected to Jones Beach, Gilgo, and Captree State Parks. The Grand Central and Interborough Parkways swung north and south respectively off the eastern end of the Northern Parkway to access New York City from two directions. The entire system was constructed under the eye of Robert Moses, then Long Island State Park Commissioner. The design professionals for these parkways included landscape architect Clarence C. Combs, who designed the Northern and Southern State Parkways and Arthur E. Howland, chief engineer for the Commission.[56]

The design of the parkways was similar to that of the Westchester Parkways. The average right-of-way was "300 feet, depending on topography, cost, and other factors."[57] The single roadway within the right-of-way had a minimum width of four lanes (two in each direction) or about forty feet. The roadway's concrete surface was treated with "coloring matter" to eliminate the glare of the sun on a light concrete surface.[58] Engineering went beyond the use of wide, long radius curves and short tangents in the alignments. To cross Long Island's South Bay to access Jones Beach, the Wantagh and Meadowbrook Parkways respectively required 2,000,000 cubic yards of hydraulic fill dredged from the bay and six bridges on 1,726 concrete piles to create the land mass and crossings for the roadway.[59]

Like the Westchester Parkways, access was limited and grade-crossings were eliminated by the use of bridges. By 1936, the eighty-five miles of parkway contained 132 stone-faced bridges, "designed not only for strength but for appearance.[60] The structural engineer, architect and landscape architect all participated in the design of these structures. The same was true for the lights, light poles, walks, trails, and plantings which were as "integral a part of the parkway construction as . . . the bridges and concrete roadways."[61] The Long Island parkway system extended the parkway concept across a significant land mass, providing access to both the Long Island Sound area to the north and the Atlantic Ocean frontages to the south, while crisscrossing the island in a network of scenic access routes. As in Westchester County, intensive development of Long Island followed the construction of the parkway system, again spurred by the ease of movement from New York City to the more open, green spaces of Long Island.

3. Mount Vernon Memorial Highway

Although it was called a highway, the Mount Vernon Memorial Highway, was considered by its designers to be a parkway "in the full meaning of that term."[62] Designed in consultation with Jay Downer, Gilmore Clark, and Henry Nye, who had worked together on the Bronx River Parkway, the Mount Vernon Memorial Highway was clearly a child of the Westchester County Parkway System. However, as a federal parkway ultimately designed and constructed by the Bureau of Public Roads, the origins of the Mount Vernon Parkway were also different from the Westchester County and Long Island Parkways, which were designed under park commissions.

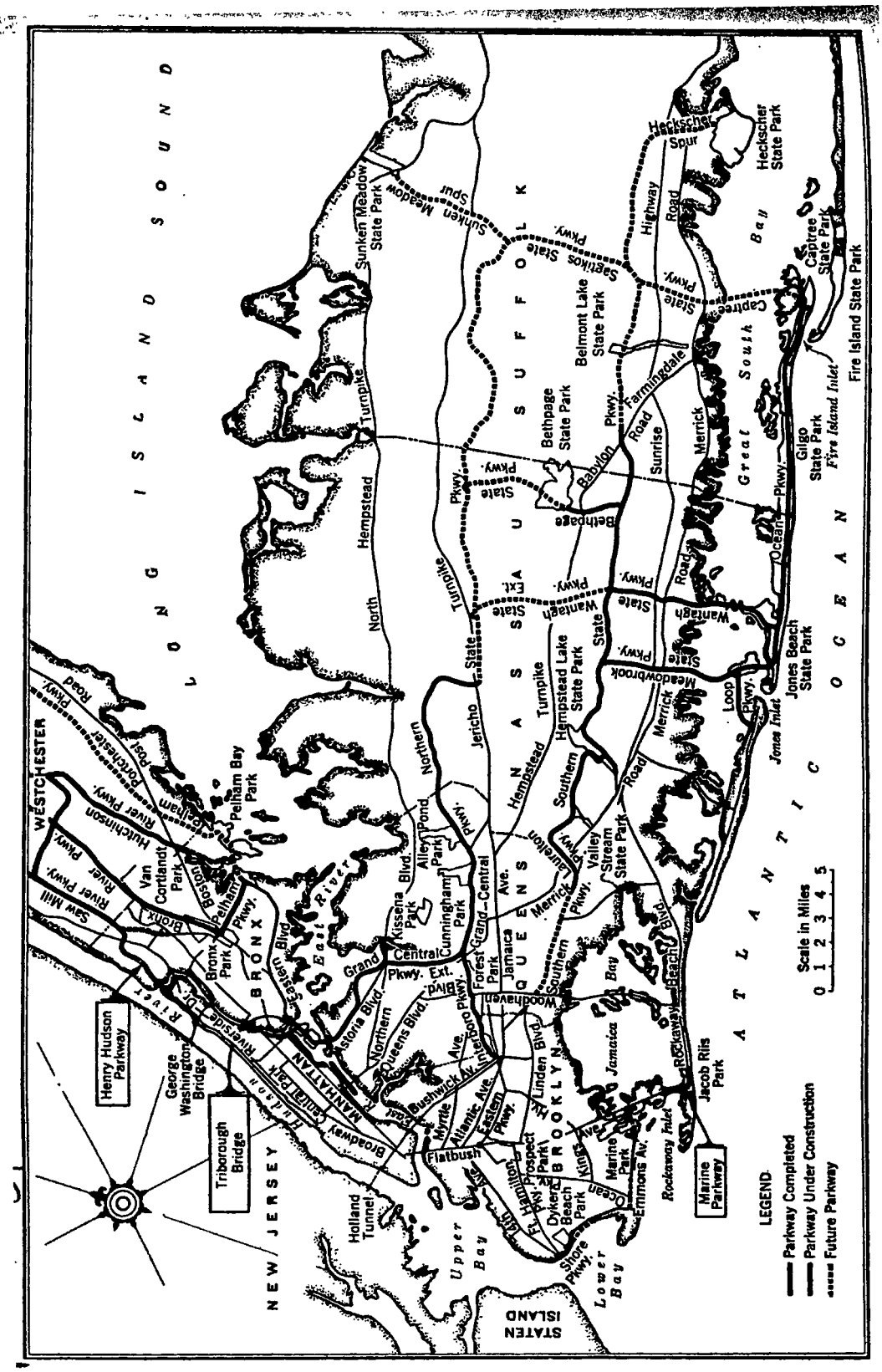

Figure 11. Map of Long Island Parkways. From Shapiro, "Long Island State Parks and Parkways."

A road from the nation's capital to the home of the first president had first been envisioned in 1888, when the "Mount Vernon Avenue Association" dreamed of constructing "a roadway of noble proportions from Washington to Mount Vernon."[63] The idea of a road commemorating the president and his home was not an unusual idea for the time. The concept received further support in 1901, when the Fine Arts Commission was established to "enhance the beauty" of Washington, and Frederick Law Olmsted Jr. approved a highway route between the capital and Mount Vernon.[64] However, solicitations for funds from both the Commonwealth of Virginia and the federal government went essentially unheeded until shortly before the bicentennial of Washington's birth. Finally, in 1928, Congress authorized the Bureau of Public Roads to construct a highway from the Arlington Memorial Bridge to Mount Vernon, to be completed by February 1932.

Although Downer, Clarke, and Nye consulted on the design, landscape architect Wilbur Simonson (who had worked for the Westchester County Park Commission from 1925 to 1929) and engineer R. E. Toms of the Bureau of Public Roads (BPR) developed the actual design and supervised the construction of the 15.2-mile parkway. The goal of the project was to somehow take "a narrow, crooked highway passing through Alexandria, and lined with garbage- and refuse-dumps, telephone and telegraph poles (in places with two sides), shacks serving as gasoline filling stations, and 'hot-dog' dispensaries in a variety of ugliness" and somehow "form a uniformly simple and dignified setting."[65] A parkway for automobiles, with its smooth alignment, unified architectural elements, and well conceived planting fit this program better than a simple highway. In fact, the Mount Vernon Memorial Highway presented a new opportunity in parkway design: how to best show off the historic sights and scenes present in the parkway corridor. Unlike the Bronx River Parkway, which ran through a pleasant, though hardly distinguished river corridor, the proposed route of the Mount Vernon had been traversed by significant figures in American history. Running along the Potomac River, the route passed Mount Vernon; Fort Hunt; the home of Tobias Lear (Washington's Secretary); the city of Alexandria with its colonial architecture; and Arlington, home of Robert E. Lee. Designed to "afford splendid views of these historic sites as well as of the Potomac River and of the Capitol, Washington Monument, and Lincoln Memorial," the Mount Vernon Memorial Highway became the first parkway with a scenic and historic emphasis.[66] Promoted as being "Within 150 miles of over 5,000,000 people," it was clearly meant to be both a recreational feature and tourist attraction.[67]

The broad right-of-ways, and curving alignments of the modern parkway vocabulary were well-suited to showing off the scenic and historic features of the route. The Mount Vernon Memorial Highway's average right-of-way was 200 feet, though it widened to as much as 1,000 in some locations. The driveway was a single strip of concrete pavement, "designed to fit the topography and provide a smooth alignment and easy gradients, the tangential sections easing into the sections of maximum curvature by means of easement [spiral] curves, so that there [were] no abrupt breaks in line."[68] The expert use of spiral curves in the Mount Vernon Memorial Parkway was noted by its designers, who felt this was a part of the parkway's innovative design.[69] At grade crossings with major intersecting roads--there were four--were eliminated by native stone-faced, reinforced concrete bridges, and four bridges which were "massive stone structures . . . on wooden piles," constructed to span stream crossings.[70] As in the Long Island Parkways, hydraulic fill, dredged from the Potomac, was used to narrow the stream channels to create bridges of a reasonable span. Where grade crossings were not eliminated, the drive split into two roadways with a center island at least twenty feet wide.[71] Small structures, light poles, guard rails and culverts were all designed to be "in good taste" and "as unobtrusive as possible."[72]

One major innovation in the design was the creation of small parking areas along the parkway. Recognizing that the broad views over the Potomac would entice motorists to stop their cars to enjoy the views, "turnouts" were provided at "the most important views."[73] Major efforts also went into "planting compositions" to enhance the scenic qualities of the route. Unlike the Westchester County Parkways, which needed to be enclosed and separated from the suburban communities planned around them, the scenic nature of the Mount

Vernon Memorial Highway required the design to embrace its surroundings. Therefore, the plantings were designed "to create interesting compositions, to enframe river views, and to center the travelers' interest on points of particular value in the offscape."[74] Plantings were generally native materials, though some, chosen for "special effects" were not.

In addition to the recreational intent of the parkway itself, recreational opportunities to be developed adjacent to the right of way included several parks, a golf course, and a proposed "biological station" for plant and animal study in a marshland. Although the latter facility seems somewhat odd, designers hoped the parkway could aid in retaining this "first-class exhibit of river borderlands, which ordinarily are destroyed in the vicinity of human habitation."[75] Interestingly, this idea appears to foreshadow some of the nature conservation goals articulated in the plans for parkways developed a few years later by the National Park Service. The implications of the idea were not lost on the designers who described the Mount Vernon Memorial Highway as:

> the forerunner of other parkway projects destined to traverse the length and breadth of the entire country. These parkways will by-pass all centers of population and aid in protecting belts of countryside so that travel by motor will be a delight.[76]

Despite this professed intent to preserve "natural features" and "belts of countryside," little explicit mention was made, at the time, of the parkway's preservation of historic features. Yet this intent was demonstrated by the design of the parkway's alignment to encompass views of the historic buildings along the route and use of the colonial architectural style of Mount Vernon in the design of the terminal restaurant and restroom building. There was also a "commemorative" goal or pilgrimage aspect in the creation of this parkway. The Mount Vernon Terminus was meant to be "a climax" of the trip, and this entrance to Washington's home was designed to "place the visitor in the right frame of mind before entering the sacred shrine."[77]

The Mount Vernon Memorial Highway, like the Bronx River Parkway, proved incredibly popular with the motoring public almost immediately after it was completed. Partly as a result of its success, proposals for its expansion into a larger parkway on both sides of the Potomac, the George Washington Memorial Parkway were made as early as 1930. These plans took many more years to fully realize, but by the 1960s, the George Washington Memorial Parkway, which incorporated the Mount Vernon Memorial Parkway, reached a total of 38.3 miles extending along the Potomac River.[78] And, even as they were realized, the original design standards were altered to accommodate increasing traffic from residential communities growing up around Washington, D.C.[79]

The Mount Vernon Memorial Highway was well-publicized, and it had a great influence on the design of subsequent parkways, particularly those in the Washington, D.C. area. These included the Rock Creek and Potomac Parkway, another federal project, completed in 1935. Even more important was its influence on the National Park Service parkways, as the Bureau of Public Roads incorporated their experiences designing this higher-speed recreational parkway into their collaboration on park road systems with the NPS.

D. The Parkway and the Rise of the Automobile: Transportation and Recreation

Even as the parkways were being developed, consumer demand for and use of the automobile steadily increased. In 1910, there were fewer than 500,000 registered automobiles in the United States; by 1920, this number had risen to more than eight million, and only continued to increase in the following decades.[80] By the 1930s, the car was no longer the plaything of the rich, but a necessity for the middle class, used for both daily transportation and for recreation.

The earliest parkways--those designed in the nineteenth century--had originally served these two functions. Initially, their recreation role was to connecting urban areas to "country parks," though later, as they widened to encompass lakes and natural features, they also became parks in themselves. At the same time, they also had a transportation role, since many linked suburbs to urban areas, and served as commuting routes, first for carriages and later for automobiles. As the parkway concept developed, these two roles continued to vie with each other. For example, in the design of the Westchester County Parkways it was said that "The problem of the Park Commission was to work out... two interlocked and overlapping systems: one a scheme of parkways, and outdoor recreation for the region; the other, a scheme of pleasant automobile transportation to and through the county, both for the county itself and for large populations going and coming across its borders."[81]

As parkways grew in length, scope and number, their uses increased around the week and calendar. Parkways were used increasingly during the week for commuting. Although their routes to cities were often more circuitous than the older highways, the parkways were often quicker since traffic was unimpeded by intersections, slow-moving trucks, or left-turning vehicles. The parkways' recreation uses also expanded. The afternoon carriage ride in the park, however, was extended to a day trip drive out of the city--still local recreation, but further afield. During the weekend, in particular, people were using parkways to pursue recreational opportunities. For example, in a single summer month in 1936, more than 350,000 people travelled along the Long Island Parkways to visit Jones Beach State Park.[82]

The increasing affordability of the automobile also meant that it was a viable option for longer distance travel, including tourism. "Auto-touring" as it was initially known, first became popular in the 1910s, as a pursuit for the well-off who sought to see the United States, particularly the West, via a means of travel which was both intimate and independent of railroad timetables. The newly created National Parks, previously only accessible by train, were a particularly desirable destination. Auto-touring --and the accompanying practice of camping on the side of the road--grew in popularity, so that by 1921, it was estimated that 20,000 individuals undertook a cross-country driving trip each year, despite rough and poorly signed roads.[83] By the mid 1920s, organized campgrounds to accommodate automobile tourists also became common, not only in national parks, but in cities and towns. In 1922 600 motor camps were recorded by the National Automobile Chamber of Commerce; by 1925, this number had risen to 5,300.[84]

E. Further Development of the Parkway: "Classic Parkways" 1930s to World War II

As automobile travel for recreation, tourism, and commerce steadily increased, the rising numbers and speeds of the cars on the parkways began to illuminate some deficiencies in early parkway design. For example, the forty-foot width of the Bronx River Parkway was determined to be too narrow, since it was found that drivers would not drive within three feet of a curb.[85] It also had no shoulders for disabled cars, meaning a breakdown could back up traffic for miles. Clearances at bridge abutments were also found to be too narrow. Short radius curves (such as the 750 feet used on the Bronx River Parkway) were too sharp for fast moving cars to navigate successfully. Perhaps the greatest problem, though, was the interaction between vehicles headed in opposite directions along the same highway. Guardrails installed up the middle of the parkways helped to eliminate some accidents, but the adjacency of the lanes was still especially problematic at night, when headlights of oncoming traffic blinded drivers heading in the opposite direction.

If parkways were to continue to successfully serve the public, parkway design would have to adapt to solve these problems. Designers rose to meet the challenge. In the years between about 1930 and 1944, parkway design underwent some subtle and not-so subtle alterations to accommodate the numbers of and habits of new drivers, while at the same time preserving the scenic and recreational qualities for which the parkways were

known. Some of the problems were addressed by technical refinement and innovation. For example, to accommodate higher speeds, alignments began to use even longer and wider curves connected by shorter tangents. To keep cars in their lanes as they rounded the curves, the use of spiral curves to transition between tangents and curves became a standard procedure, as did the super-elevation of the curves. To aid in holding increased speeds, vertical gradients were reduced and the roadways flattened. To reduce the problems of oncoming traffic and headlight glare, the single, four-lane roadway was divided into two, two-lane roadways heading in opposite directions on independent alignments within the right-of-way. They were separated by medians, also of variable width. This type of design had been recommended by Merkel for the length of the Bronx River Parkway, but had been implemented in only two short sections[86] when the Bronx River Parkway Commissioners deemed the separated roadways too expensive. Subsequent park commissions had apparently agreed, since the design was not adopted elsewhere. However, with faster moving automobiles, separating opposing traffic became a safety imperative, and the technique became standard practice in parkway corridors.

Other changes also began to occur. Between 1930 and 1944, parkways began to lengthen, linking cities to recreational areas further and further away. Whereas the Westchester Parkways had been designed in short lengths such as five, ten, and twenty miles, after 1930, individual parkway routes began to be designed for thirty-eight, ninety and even five hundred miles on the Merritt, Taconic, and Blue Ridge Parkways, respectively. These longer projects took more time to build, and were constructed in sections and cost more. To finance these projects, some parkways became toll roads, with the motorist's fees repaying the government loan which financed construction. Other parkways, particularly those undertaken by the federal government, were financed under the "make work" programs of the government, utilizing CCC labor or funds from the NIRA and WPA.

In part because of the amount of federal funding which went into the parkways prior to World War II, more miles of parkway were planned between 1930 and World War II than in the years preceding or after. Combined with the refinements in design, the sheer number of miles of parkways on the drawing boards made the 1930s the heyday years of parkway design. And some of the parkways designed and constructed during those years would illustrate the epitome of the parkway concept. For example, the Blue Ridge Parkway became known as "The Road Built for Pleasure,"[87] and the Taconic Parkway was described as a work of art "on a par with the highest creations in other fields." [88]

In some ways, it is useful to consider the parkways planned between 1930 and 1944 under two groups.[89] These two groups are urban/regional parkways and National Park Service parkways.[90] While they shared common parkway design features such as limited access, architecturally designed bridges and structures, planted margins, and curvilinear alignments, the two types of parkways differ in enough important ways that they may be considered separately. For example, the two types generally differed in jurisdiction; overall purpose; roadway cross-section and right-of-way size; and level and types of traffic. The following text considers the urban/regional parkways in some detail with two examples more fully described. NPS parkways are more briefly described, since the second section of this parkway context report describes them in greater detail.

F. Classic Parkways of the 1930s: Urban/ Regional Parkways

The urban/regional parkways were built in and around urban areas. In contrast to their earlier counterparts, these parkways of the 1930s were designed not only to provide recreational opportunities, but also to plan for urban growth and manage traffic. Managing traffic, not only within the city, but in the region surrounding it, was viewed as an important way to maintain a high quality of life for citizens, and parkways were seen as a key management and development tool. In the logical extension of the Westchester Parkway ideas, the urban/

regional parkways were committed to "revitalizing traffic flow, bringing a stamp of order and of beauty to congested environments."[91] As a result, the urban/regional parkways began to focus less on the value of recreating in a pleasant corridor and more on the value parkways provided in simply moving increasing numbers of people through that corridor. On the urban/regional parkways, "limited access" no longer meant limited to pleasure vehicles, but rather, limited to passenger vehicles and restricted from use by commercial vehicles.

That urban/regional parkways were focusing less on recreation and more on transportation is seen in the fact that in the 1930s, state governments began authorizing *highway commissions* to build parkways, rather than park commissions to build them. Although this would not fully change across the nation until after World War II, it was a good indicator of the shifting perspective on parkways. And in some cases, as highway commissions took over, the collaboration of landscape architect, architect, and engineer which had distinguished earlier parkway design, began to shift toward an engineer-based design process, with other professionals coming in after the alignment was completed, to add aesthetic improvements. However, this change would occur only slowly.

1. Merritt Parkway

The thirty-eight-mile Merritt Parkway is a good example of the urban/regional parkway and some of the design changes which began to occur in parkway planning after about 1930. Although legislation authorizing the construction of this limited access parkway had occurred as early as 1927, it was not until 1935 that sufficient funds were able to be borrowed for its construction.[92] Design and construction proceeded under the direction of the Connecticut State Highway Commission, with W. Thayer Chase as consulting landscape architect for the right-of-way, George Dunkelberger as architect and Leslie Sumner as structural engineer for the grade-crossing structures.

The Merritt Parkway was truly a regional parkway in that it was designed to connect with the Hutchinson River Parkway of the Westchester County Parkway System, extending the commuting route from New York City into new residential communities in Connecticut through Fairfield and New Haven counties. The design featured an average 300 foot right-of-way, 100 feet wider than the Westchester County Parkways. It also utilized the newer, divided roadway, with two twenty-six foot concrete traffic lanes separated by a landscaped median up to twenty-two feet wide.[93] The roadways, bordered on each side by a low, rounded concrete curb, were placed off center in the right-of-way, to allow for future expansion.[94] An interesting innovation was the use of reflectors on the curbs to aid in nighttime driving as there were no parkway lights. Tradition has it that children called the Merritt Parkway the "twinkle road" because of the reflections caused when light from the headlights hit the curb.[95] The median narrowed to a double curb width where the parkway passed under the grade-crossing bridges; presumably this was done to limit the span required for the bridges.

The design speed of the parkway was fifty to sixty miles per hour, much higher than the Westchester County Parkways. The transportation intent of the Merritt was also seen in the fact that the right-of-way was regular without widenings for recreational areas. The completed parkway also included no walking or riding paths. Although bridle paths had been included in early designs, they were eliminated when it was ruled that the State had no authority to construct them.[96]

With a maximum grade of eight percent, the Merritt was not appreciably flatter than the Westchester County parkways. It also utilized relatively tight curves with a minimum radius of 800 feet. Oddly enough, the design did not use the by then common practice of spirals to transition between the curves and the tangents. Because eighty-four percent of the road was constructed on straight-line tangents, this gave the road a "kinked"

appearance, and was "a step back from continuous curvature of the New York and Virginia parkways," according to one critic. This appearance can be seen in Figure 12.[97]

The parkway's landscape design was characterized as "lavish and sensitive" in the 1950s when it reached maturity.[98] W. Thayer Chase noted that a major aspect of the landscape work included softening the finished cut and fill slopes as proposed by the highway engineers to harmonize with the surrounding terrain.[99] This was clearly more difficult in areas where significant blasting of rock had been required to construct the parkway. In general, Chase noted that he tried to create a "park-like" environment.[100] A major goal of the planting was to create a sense of visual unity across the entire right-of-way, despite the median, which visually divided the parkway. Chase accomplished this by carrying bands of plants from one side of the right of way to the other, including the median.[101] Plantings were predominantly native plant materials, with about twenty percent--both sods and specimens--salvaged from the roadside.[102] The planting design took its cues from the remaining plants in the area, where native cedars, dogwoods or mountain laurels were present, more were added.[103] Vistas were composed along the parkway based on pre-existing views or those created by clearing for the parkway. In some areas, shrubs were planted along the median to eliminate headline glare, though these were soon gone, killed by road salts and lack of maintenance.[104]

The structures on the Merritt, as in previous parkways, were carefully designed. However, instead of creating a series of stone-faced concrete bridges of similar, uniform design, each of the 68 bridges along the parkway was unique. Many of them were constructed with a simple concrete finish, though each was carefully detailed in a variety of styles, including Moderne and Art Nouveau styles. Sculptors were used to provide bas-relief detailing on several of the bridges. Plantings around the bridges were carefully composed to allow the detailing on abutments to be seen by motorists.[105]

Although portions were open as early as 1938, it was not until 1940 that the Merritt Parkway was open from the state line in Greenwich to the Connecticut River. Prior to completion, a toll was authorized on the southern end of the parkway to reimburse the costs for parkway construction within the State of Connecticut.[106] The Merritt Parkway was the first route through southern Connecticut that allowed for ease of movement between the coastal towns. The only route available before its construction was the Boston Post Road, which passed through the center of every town and city. While the scenic and aesthetic qualities of this parkway were important in its design, its principal objective was the movement of traffic. It did not connect parks together, nor did it provide direct access from one urban center to another. Instead it traversed a growing region, beginning from the Hutchinson Parkway in New York, to provide access to an entire area of the State of Connecticut.

2. New York City Parkways

Between 1934 and 1940, Robert Moses, who by then had become New York City's sole Park Commissioner, oversaw the construction of over seventy miles of urban parkways in New York City. In the construction of these parkways, Moses brought the ideas he had so successfully utilized in a suburban/urban environment into the city. In 1934, for example, Moses created the Henry Hudson Parkway Authority to build a parkway up the eastern side of Manhattan, connecting the city to the Westchester County Parkways. The idea was brilliant; instead of crawling through slow, city streets, a limited access parkway could quickly and efficiently transfer commuters to their residences in Connecticut. However, how could a by-pass parkway be built in urban New York where no lands for a new right-of-way existed? Moses, along with landscape architect Gilmore Clarke and engineer Emil H. Praeger, created the right-of-way by extending the shoreline of Manhattan with landfill. Thus, the Henry Hudson Parkway could be tied into Riverside Drive, a component of Olmsted & Vaux's Riverside Park, creating a through traffic route up the eastern side of the island. The project, completed in 1936, included major park improvements as well, such as doubling the area of Riverside

Figure 12. View of the Merritt Parkway, showing slightly "kinked" appearance caused by straight tangents connecting to curves without spiral transtions. From Tunnard and Pushkarev, *Man-made America.*

Park with a promenade by undergrounding a rail line along the shore. Other recreational features included a boat basin, playground, and walkways. The parkway had divided roadways, separated by narrow, variable-width medians planted with trees and shrubs.

The parkway's major engineering feat, however, was not the landfill, but the bridging of the Harlem River. The resulting Henry Hudson Bridge was 142 feet tall and had a span of 840 feet; at the time it was the longest steel span bridge in the world.[107] With the addition of such world-class structures into the equation, a new level of parkway design had been reached. Furthermore, as parkway proponents proclaimed at the time, the bridge and parkway linking to other parkways made it possible to drive from the Battery on the tip of Manhattan to New Haven without ever stopping for a red light. [108]

The other New York parkways were conceived on the same monumental scale as the Henry Hudson. In 1934, the Marine Parkway Authority was established, and in 1937, the Marine Parkway opened, connecting Jacob Riis Park to Brooklyn. Like the Henry Hudson, the Marine Parkway required a large bridge. Again, parkway construction went hand in hand with park improvements: at the same time as Marine Parkway was constructed, Jacob Riis Park underwent a major expansion, becoming, in the words of one observer, "another Jones Beach."[109]

The Marine and Henry Hudson were followed by an extension of Long Island's Grand Central Parkway into New York, concurrent with improvements to Flushing Meadows Park, site of the 1939 Worlds' Fair. The final parkway constructed in New York was the Belt Parkway, between 1936, which comprised 35 miles of parkway traversing 3,550 acres of parkland in 26 parks.[110]

As evidenced by the major park construction and rehabilitation efforts completed in conjunction with the roadway construction, the New York City Parkways retained a strong recreational component, much stronger, for example, than that of the Merritt Parkway. Yet the New York City Parkways also had a strong focus on regional transportation. By constructing parkways--a combination of parks and roads--and by utilizing previously unthought-of lands--marginal lands at the city's edge, nonexistent lands along waterfronts, and right-of-ways through existing parks--Moses was able to construct a veritable arterial highway system which improved traffic around the city and connected to other, regional traffic systems. The New York City parkway system demonstrated the reshaping of an urban area through the development of transportation corridors on found lands.

3. Other Urban and Regional Parkways

In addition to the two case studies presented above, other urban and regional parkways were constructed during the 1930s. These included the Taconic Parkway between Albany and New York City, which was an extension of the Westchester County Parkway System. In Washington, D.C., there were the Potomac and Rock Creek Parkway in Washington, DC, both of which followed the lead of other parkway models which preceded them with emphasis on scenic conservation and traffic movement.

G. Classic Parkways of the 1930s: NPS Scenic Parkways

In contrast, to the urban/regional parkways, the NPS Parkways turned toward an almost exclusively recreational, scenic and tourism focus, with much less emphasis on regional traffic patterns and the shaping of urban and suburban growth. In large part, this was due to these parkways' NPS heritage of public lands preservation and traditions of building scenic roads in the large western national parks. These concerns were married with the experiences of the BPR on the Mount Vernon Memorial Highway, to produce a class of

parkways, with their own distinctive characteristics. Though there are only three completed NPS parkways, their characteristics are distinctive enough to warrant separate consideration. In addition, the standards of parkway design created by NPS and BPR designers were widely disseminated in articles, pamphlets, and speeches and so were of great influence in the design of other parkways and highways across the country, though few of those roads ever fully lived up to those standards. The distinctive characteristics of the NPS parkways, cited briefly here and described in greater detail in the second part of this context report, primarily hung on two facts: First, that design and construction was governed by a strict procedure of collaboration between engineers, architects, and landscape architects and second, that the roads were designed primarily for tourists. These conditions ensured that the parkway designs were both structurally complete and aesthetically pleasing.

As a result, NPS parkways also had generally larger right-of-ways than urban/regional parkways, to allow for maximum preservation of scenery. Design speeds were slower on NPS parkways as a result of and to enhance the recreational nature of travel. For similar reasons, there was an emphasis not seen in other parkways on the creation of views and vistas within and beyond the parkway corridor. A corollary of this tenet was the idea that parkway engineering should be subordinate to the surrounding scenery when experienced by a visitor. NPS parkways also showed a strong attention to coordinated signage, in part because of NPS traditions in interpretation. Finally, due to their generally large size and to the vagaries of federal funding, the NPS parkways all took extended time periods to construct. Though all were quite extensively planned in the 1930s, they were not completed until well after World War II. Despite the long construction times, however, their designs remained true to 1930s standards and were not overly influenced by changes and technological advances in highway design which occurred in the years between design and completion.

H. Post-World War II Parkways

In comparison to the many miles of parkways designed in the 1930s, relatively fewer parkways were designed following World War II. This was a result of the fact that a new breed of highway--sometimes called the "complete highway"--was beginning to take its place. The complete highway was characterized by "safety, utility, economy, and beauty--all parts in harmony,"[111] and had similarities to parkways. These highways utilized, in fact, the design features--limited access, a brand-new alignment not based on the routing earlier roadways, grade crossing separations, divided roadways--pioneered in parkway design. However, there was a crucial difference: the "complete highway" was designed for speedy and efficient transportation. This was demonstrated by some of its new names--freeway, thruway, and expressway. Spurred on by the increasing importance of the car for business and social interaction and the truck in shipping goods, the new highways were designed to connect cities, people, and commerce by direct and expeditious routes. Realizing that time was "a potent factor in moving commodities," highway designers also built freeways and thruways for speed, to attract "business traffic--passenger cars used for business as well as trucks."[112]

These new goals required some alterations in the design standards promulgated by parkways, which had emphasized pleasure and recreational driving, on curving, scenic routes. For example, because highways needed no recreational activities along the route, the right-of-way did not require widening to encompass lakes or views; rather, it moved as a uniform swath through or around cities or through countryside. Freeway alignments also used even longer and flatter curves, which drivers could navigate at higher speeds. Tangents were eliminated entirely, since their straight monotony caused drivers to lose attention to the road. Instead, continuously curving alignments, with one curve blending into another, were adopted because of their ability to maintain driver interest. Vertical alignments were also flattened as much as possible to allow trucks to maintain their velocity when climbing hills. Medians and shoulders were wider to allow for future expansion for increasing the flow of people and goods. And although roadside planting was still considered as important,

plantings on highways emphasized utility (preventing erosion, decreasing maintenance) and safety (preventing accidents) rather than scenic concerns such as framing views or providing visual separation form the surrounding area.

These changes in highway design naturally affected parkway design. The parkways of this era acquired higher speeds, flatter curves, and flatter grades. In some ways, parkways of the post-World War II era were nearly indistinguishable from their contemporary freeway brethren. And it appears that the distinction between the two was not of great concern to designers of the 1950s, who were usually designing both parkways and highways. For example, articles of the time (see Miller and Snow) do not make great distinctions between routes named parkway or highway--both were considered "complete highways," significant improvements over previous road types. In addition, the methodology used to design the roads were essentially the same. For example, new technological innovations, such as the use of stereoscopic aerial photographs to preview topography and choose alignments, were used to design both types of roads.

The great distinction between parkways and the new highways seems to have been primarily the parkways' exclusion of all traffic except for passenger vehicles. As a result, parkways could still claim a linkage to recreational purposes. The only other distinction was the parkway's somewhat greater emphasis on the scenic beauty aspect of the complete highway's principles of "safety, utility, economy, and beauty," manifested in the scenic quality of the corridor and attention to the design of bridges, plantings and other features. The following two examples serve to illustrate some of the changes which occurred after World War II in parkway design.

1. Baltimore-Washington Parkway

Though local groups and individuals had lobbied for a scenic road between Baltimore and Washington as early as the 1920s, the twenty-nine miles of the Baltimore-Washington Parkway did not open until October, 1954. Although the parkway was designed and constructed by the NPS and the BPR and was meant as an attractive entrance to the nation's capital, it was not a typical NPS scenic parkway. Designers of the parkway noted that other NPS parkways were "totally different in type from the proposed Baltimore Parkway,"[113] in part because its major goal was to "attract as much of the passenger vehicle traffic from the pre-existing Baltimore Boulevard as possible, leaving this already congested highway to bus and freight traffic."[114] In other words, though scenic and recreational, the Baltimore-Washington parkway was meant to move people, and move them quickly, as its eventual design speed was 75 miles per hour.

Although work--clearing, grubbing, grading, drainage--on the parkway was begun using National Industrial Recovery Act Funds in 1942, the design was not finalized until 1950, when Congress passed a bill for its completion.[115] Jay Downer and Gilmore Clarke were early consultants and landscape architect Thomas C. Jeffers from the National Capital Parks and Planning Commission worked on the early plan. Working on the final design and construction were BPR engineers H. J. Spelman, F. E. Winter, and E. L. Tarwater and NPS landscape architects Harry Thompson, B. L. Breeze, and Dominic Annese as well as architect W. M. Hausmann, who did bridge design.[116]

The Baltimore-Washington parkway was characterized by the fact it was a new alignment and did not trace any existing roads. The right-of-way was wide, a minimum of 400 feet and a maximum of 1200 feet. In contrast to early parkways, it applied a "continuous curvature" alignment, in which no tangents were used. This allowed a higher design speed. There was a maximum curvature of two degrees thirty minutes and all curves above fifteen degrees were super-elevated. The vertical alignment was also flatter than early parkways, with a maximum grade of three percent, with an exception of one point where the grade approached four percent.[117] Flatter grades meant additional cutting and filling would be required within the

right-of-way. Side slopes on the roadside were kept flat, and had a low slope of 1:4 up to ten feet from the roadbed. After that, the maximum slope was 1:2.[118]

The two divided roadways were separated by a variable median, a minimum of fifteen feet wide, though it widened in some areas to as much as 400 feet. With such separation between the two roadways, they were designed as completely separate profiles within the right-of-way. The roadways were wide--thirty-six feet each, though only two of the three twelve-foot traffic lanes were paved. The third, interior lane was left graded for future expansion. Outside of the pavement was a ten-foot wide, graded shoulder.[119]

There were no at-grade intersections; all intersections were handled with ramps and grade-crossing structures. Of the nine interchanges on the route, four accessed Federal reservations; four suburban communities, and one a "rural area." Thus, the parkway served commuting and recreational purposes. In addition to the nine grade-crossing bridges, there were also two railroad crossings, three river crossings, and five local road crossings. Structures which passed over the parkway and were in full view to the motorist were faced with stone. Those underneath the parkway (and less visible) were faced with concrete. The attention to detail was extended to small scale features as well, since even culvert headwalls were faced with stone.[120]

2. The Garden State Parkway

The Garden State Parkway significantly extended the standards established for parkways in the 1930s. Longer, flatter and faster than any other urban/recreational parkway, and one of the last parkways designed, it represented a culmination of sorts in parkway design. Although legislation establishing the parkway occurred in 1945, it was not until 1952 that the New Jersey Highway Authority took control of its financing and construction. The road, was designed by Gilmore Clarke and Michael Rapuano, who had established a consulting firm together. Oliver Deakin, landscape architect for the New Jersey Highway Authority, also made significant contributions to its design.

Completed in 1955, the Garden State Parkway (Figure 13) was 165 miles long, making it a regional parkway. The parkway connected the beaches and forests of southern New Jersey with the state's urban population centers in the north, a fact which linked it to the recreational heritage of earlier parkways. Within its wide right-of-way there were also parking overlooks and picnic areas, though the audience of the parkway was not the Sunday afternoon driver, but rather the vacationer spending a week on the Jersey shore. A toll road, it was limited to passenger vehicles only, in contrast to the neighboring New Jersey turnpike, famous as a congested commercial highway.

It is interesting to compare the parkway's design standards to earlier urban/recreational parkways. Whereas the early parkways' right-of-ways were a standard 200 feet, the Garden State Parkway's was much wider, averaging 300 to 600 feet in suburban and rural areas and widening to 800 in scenic areas. To accommodate a seventy mile per hour design speed, the alignment of the Garden State Parkway utilized long curves with long, flat radii of up to 15,000 feet, with the smallest (in urban areas) being 2,800 feet. Any curve under 6,000 feet was super-elevated. This was in strong contrast to the Westchester county parkways, whose minimum radius was 800 feet. The preferred maximum gradient was three percent, though it climbed to four and one half percent in hilly areas, compared to the maximum eight percent grades on the Merritt Parkway.

The divided roadway on the Garden State Parkway had a central median as wide as 400 feet which narrowed to ten feet under bridges. In comparison, the Merritt's median was twenty-two feet, narrowing to nothing under the bridges. Curbs, common in the Westchester, Long Island, and New York City Parkways, were absent on the Garden State. They were replaced by a concrete "singing strip" flush with the asphalt. The strip's texture

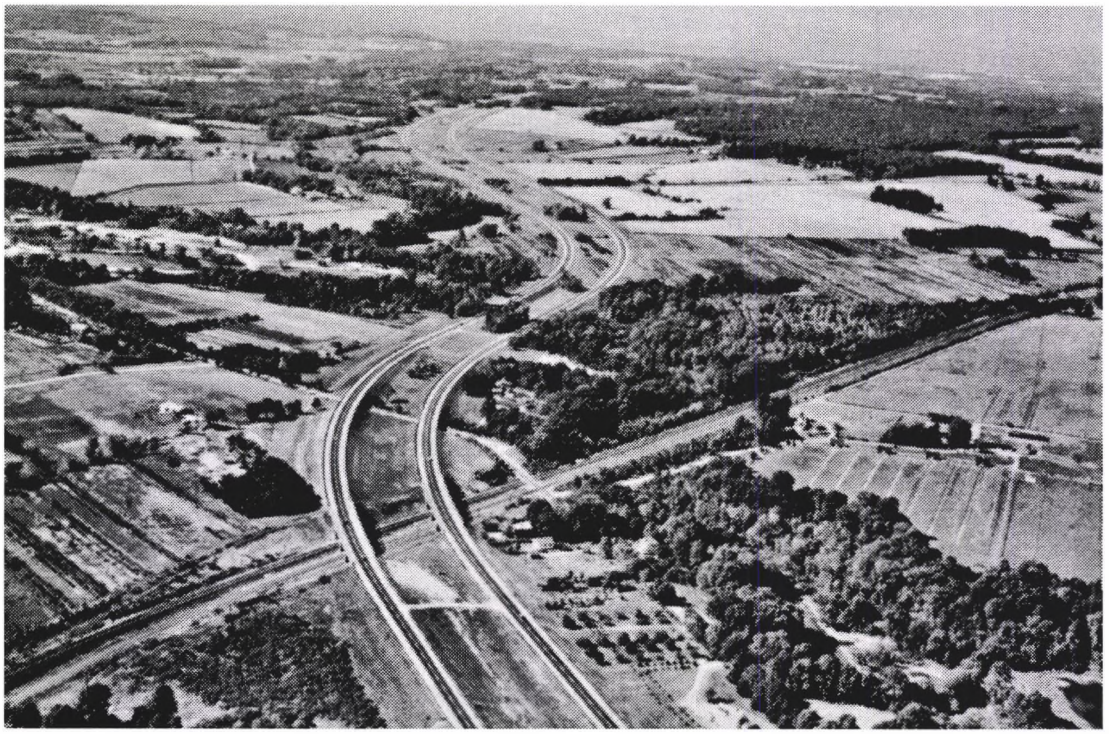

Figure 13. The Garden State parkway, neaer Red Bank, 1955. From Newton, *Design on the Land.*

and bright white color against the roadway's black asphalt warned automobiles away from the roadway's edge, yet allowed injured vehicles onto the shoulder and plows to easily move snow off the roadway.

Another innovation was the parkway's "streamlined section," a feature which would be adopted by highway designers around the country. As shown in Figure 14, the streamlined section meant that the cut and fill slopes along the parkway were flattened significantly from other parkways. This allowed the complete elimination of guard rails and allowed break downs to safely leave the roadway anywhere along the parkway. The amount of rounding down the sideslopes was determined by multiplying the cut or fill height by 1.5. Without curbs, shallow swales were provided outside the roadways; these were shallow to allow mowing and maintenance vehicles to travel easily within the cleared areas of the right-of-way. Planting was similarly geared to reduce maintenance, and the designers recommended that future parkways follow a similar program of conservation of existing vegetation, less dependence on shrubs, and a greater utilization of groundcovers and vines. The planting design for the median included vines growing on a double sided guardrail to reduce headlight glare.

3. Other Post-World War II Parkways

Other post World War II parkways included the Palisades Parkway in New York and New Jersey. Though not constructed as a modern parkway until much later, the Palisades Parkway was conceived as part of a regional park system, conceived near the turn of the century. In the Washington, D.C. area, the Suitland Parkway serves as another prime example of a post-World War II parkway.

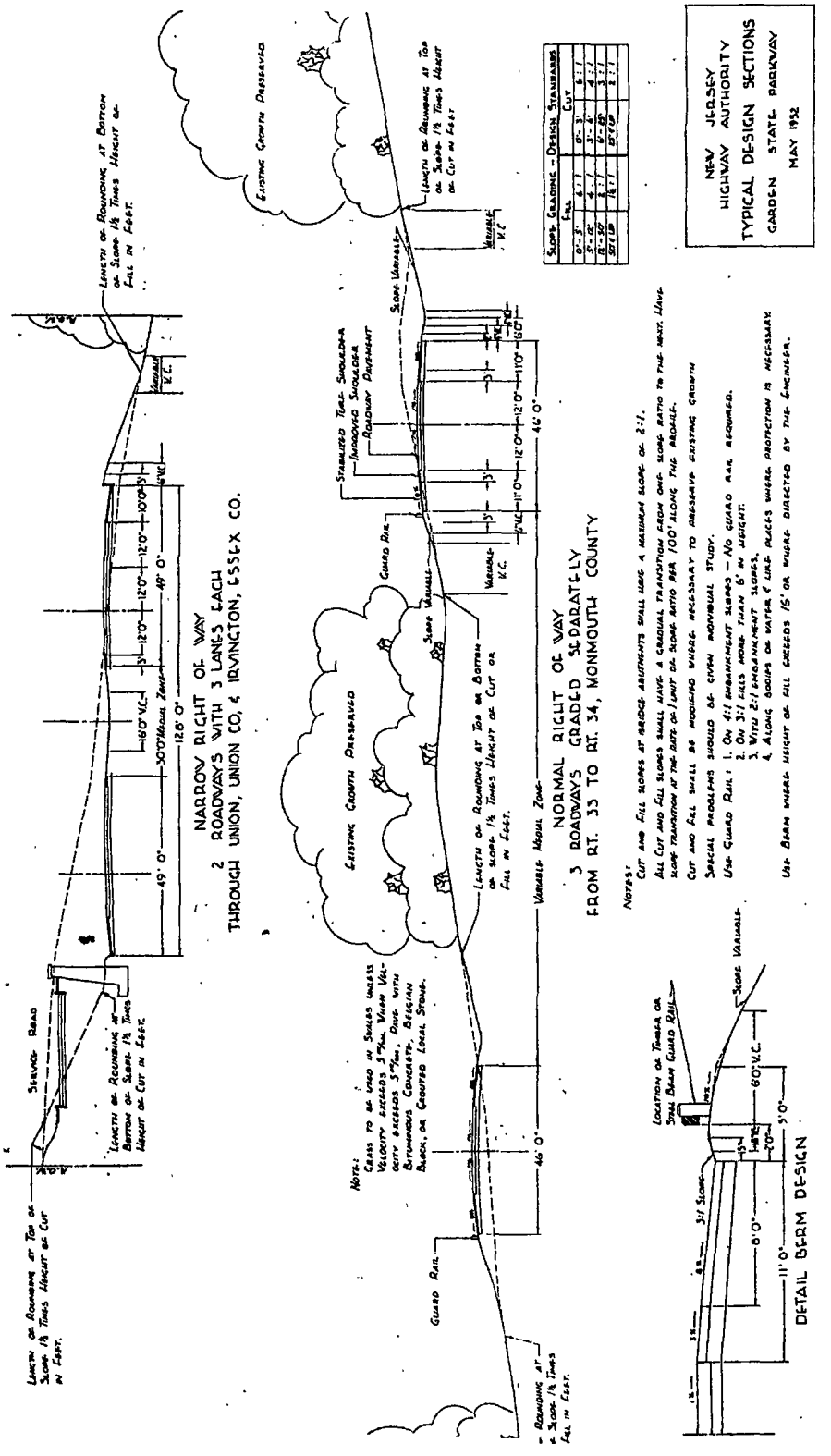

Figure 14. Garden State Parkway Cross Section. From the 1954 ASLA Public Roads Committee Report, *Landscape Architecture Magazine*, Volume 45.

I. Conclusion

In a sense, the Bronx River Parkway and the Garden State Parkway, dating to 1923 and 1955 respectively, function as bookends for the modern parkway era. Although parkways had existed prior to 1923 and continued to be built after 1955, the era defined by these two roadways represent the high points of parkway design. During these years, the parkway evolved and changed significantly. These changes are well represented in a comparison of Figures 8 and 14, which show the flattening, widening, and straightening of the parkway cross-section over the years, as the parkway evolved from a Sunday afternoon pleasure drive to a high-speed transportation route.

The parkway is perhaps most interesting as pivotal figure in the annals of roadway design. At its best, it was a middle ground between the values of beauty and scenery and the values of the future of speed and efficiency.

I. ENDNOTES

[1]. Norman Newton, *Design on the Land*, 597.
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[3] Ethan Carr, "The Parkway in New York City," 121.
[4] Beveridge & Hoffman, *The Papers of Frederick Law Olmsted, Supplementary Series, Volume I: Writings on Public Parks, Parkways, and Park Systems*, 139.
[5] Carr, "The Parkway in New York City," 121.
[6] Carr, "The Parkway in New York City," 122.
[7] Beveridge & Hoffman, *The Papers of Frederick Law Olmsted, Supplementary Series, Volume I: Writings on Public Parks, Parkways, and Park Systems*, 526.
[8] Beveridge & Hoffman, *The Papers of Frederick Law Olmsted, Supplementary Series, Volume I: Writings on Public Parks, Parkways, and Park Systems*, 526.
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[18] Nolen and Hubbard, *Parkways and Land Values*, 25.
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[23] Cleveland, quoted in Wirth, *History of the Minneapolis Park System*, 32.
[24] *Eighth Annual Report of the Minneapolis Park Commissioners*, 55.
[25] Nolen and Hubbard, *Parkways and Land Values*, 47.
[26] Nolen and Hubbard, *Parkways and Land Values*, 51.
[27] Nolen and Hubbard, *Parkways and Land Values*, 47.
[28] Nolen and Hubbard, *Parkways and Land Values*, 47-51.
[29] Nolen and Hubbard, *Parkways and Land Values*, 52.
[30] Newton, *Design on the Land*, 597.
[31] John C. Olmsted, "Classes of Parkways," 37.
[32] Olmsted, "Classes of Parkways," 38.
[33] Olmsted, "Classes of Parkways," 42.
[34] Olmsted, "Classes of Parkways," 42.
[35] Olmsted, "Classes of Parkways," 47.
[36] Olmsted, "Classes of Parkways," 48.
[37] Domenico Annese, "The Impact of Parkways on Development in Westchester County, New York City and the Metropolitan New York Region," 118.
[38] Annese, "The Impact of Parkways on Development in Westchester County, New York City and the Metropolitan New York Region," 118.
[39] Gilmore Clarke, "The Parkway Idea," 39.
[40] Clarke, "The Parkway Idea," 38-39.
[41] Clarke, "The Parkway Idea," 38, 40 and Carr, "The Parkway in New York City," 122.
[42] Clarke, "The Parkway Idea," 38 and Clarke, "Collaboration in Bridge Design," 730-734 (photo captions).

[43] Stanley Abbott, "Ten Years of the Westchester County Park System," 304 and Gilmore Clarke, "Is There a Solution for the Through Traffic Problem?," 369.
[44] Jay Downer, "Principles of Westchester's Parkway System, 87. Abbott, "Ten Years of the Westchester County Park System," 305.
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[46] Downer, "Principles of Westchester's Parkway System," 86.
[47] Downer, "Principles of Westchester's Parkway System," 86. Clarke, "Is There a Solution to the Through Traffic Problem" 373.
[48] Clarke, "Is There a Solution to the Through Traffic Problem?" 373.
[49] Abbot, "Ten Years of the Westchester County Park System," 311.
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[51] Nolen and Hubbard, "Parkways and Land Values," 81)
[52] Clarke, "Is There a Solution for the Through Traffic Problem," 375.
[53] Carr, "The Parkway in New York City," 122.
[54] Sidney Shapiro, "Long Island State Parks and Parkways," 747.
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[57] Shapiro, "Long Island State Parks and Parkways," 749.
[58] Shapiro, "Long Island State Parks and Parkways," 749.
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[60] Shapiro, "Long Island State Parks and Parkways," 749.
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[63] Bacil C. Warren, "From Carriageway to Parkway: Evolution of the George Washington Memorial Parkway," 130.
[64] Warren, "From Carriageway to Parkway: Evolution of the George Washington Memorial Parkway, 131.
[65] Clarke, "The Mount Vernon Memorial Highway," 84.
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[67] National Capital Park and Planning Commission, "George Washington Memorial Parkway," Brochure.
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[71] Clarke, "The Mount Vernon Memorial Highway," 85.
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[73] Clarke, "The Mount Vernon Memorial Highway," 86.
[74] Clarke, "The Mount Vernon Memorial Highway," 87.
[75] Clarke, "The Mount Vernon Memorial Highway," 86.
[76] Clarke, "The Mount Vernon Memorial Highway," 87.
[77] Clarke, "The Mount Vernon Memorial Highway," 87.
[78] Krakow, Jere L., *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 55.
[79] According to Krakow's multiple resource study on the parkways in the Washington, D.C. area, "references to the design concepts used for the George Washington Memorial Parkway are difficult to locate. Scattered references exist, but no organized body of material is available." Krakow goes on to state: "The most succinct statement on design comes from Charles W. Eliot II, who characterized the parkway as similar to Mount Vernon Memorial Highway: it contained 'grade separations, few entrances, border roads for service of abutting property, and a right-of-way never less and often much more than two hundred feet.'" Krakow, Jere L., *Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 75. We did not pursue further information on the design standards based on Krakow's report. It should be noted that these parkways are now under NPS control, and in recent years, much has been done to improve their use and historic appearance. However, since this is an overview of the development of the American parkway, and not an explication of subsequent management practices, we did not explore this avenue of design and maintenance further.
[80] Warren James Belasco, *Americans on the Road: From Autocamp to Motel, 1910 -1945*, 7.
[81] Nolen and Hubbard, *Parkways and Land Values*, 77.
[82] Carr, "The Parkway in New York City," 122.

[83] Belasco, *Americans on the Road*, 72.
[84] Michael Berger, *The Devil Wagon in God's Country: The Automobile and Social Change in Rural America, 1893-1929*, 122.
[85] Clarke, "Is there a Solution for the Through Traffic Problem?," 370.
[86] Clarke, "The Parkway Idea," 38-39.
[87] Edward Abbuehl, "The Road Built for Pleasure."
[88] Lewis Mumford, quoted in Charles Glover, "The Challenge of the New Highway Program," 56).
[89] A distinction is made here between planned and constructed, since many parkways planned in the 1930s were not actually completed until after WW II. However, although their construction was completed in the 1950s, they retain many of the design characteristics from their design period, rather than adopting the principles of post-war design.
[90]Although some researchers utilize the term "federal parkways," here it is preferred to distinguish those parkways designed by the NPS and the BPR in the tradition of national park properties serving national visitors from those designed by the NPS and BPR in conjunction with urban planning efforts, i.e., those around the Washington, D.C. area and within the National Capital Parks. These latter parkways, although designed by federal agencies, served a very different purpose than parkways designed to preserve and interpret natural and historic resources.
[91] Clarke, "Is There a Solution for the Through Traffic Problem,"
[92] Albert Hill, "Connecticut's Two Parkways," 132-133.
[93] Hill, "Connecticut's Two Parkways," 134; *Merritt Parkway Master Plan*, 2-16.
[94] Christopher Tunnard and Boris Pushkarev, *Man-Made America: Chaos or Control*, 165)
[95] During her ten-year residence in Connecticut, Patricia O'Donnell reports hearing this name for the road from long-term Connecticut residents who grew up in the area.
[96] *Merritt Parkway Master Plan*, 2-13.
[97] Tunnard and Pushkarev, *Man-Made America, Chaos or Control*, 165.
[98] Tunnard and Pushkarev, *Man-Made America, Chaos or Control*, 165.
[99] *Merritt Parkway Master Plan*, 2-14.
[100] *Merritt Parkway Master Plan*, 2-17.
[101] *Merritt Parkway Master Plan*, 2-18.
[102] *Merritt Parkway Master Plan*, 2-17
[103] Thayer Chase, conversation with Patricia O'Donnell, 1994.
[104] *Merritt Parkway Master Plan*, 2-19.
[105] *Merritt Parkway Master Plan*, 2-18.
[106] Hill, "Connecticut's Two Parkways," 135
[107] Downer, "Henry Hudson Parkway and Its Traffic," 183.
[108] Stanley Abbott, "Parkways--Past, Present, and Future," 68.
[109] Carr, "New York City Parkways," 125.
[110] Carr, "New York City Parkways," 126.
[111] Wilbur Simonson, "Evolution of Modern Highway Design in the United States," 11.
[112] Richard White, "The Functional Uses of Plants on the Complete Highway," 183.
[113] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 128.
[114] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 119.
[115]. Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 124.
[116] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 140.
[117] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 133-40.
[118] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 130-40.
[119. 120] Krakow, *Historic Resource Study for the Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway*, National Park Service, January 1990, 133-40.

II: Design in the National Park Service and NPS Parkways

A. National Park Service Park Design, 1916-1942

Prior to the establishment of the National Park Service (NPS) in 1916, development in national parks had proceeded in a relatively haphazard manner. With the purposes of these early, large, natural reserves not fully established, logging, mining, and hydroelectric companies competed for land use rights within the parks. Hotel operators, railroad companies, and entrepreneurs sited and constructed hotels, observation platforms, and photography studios in a manner most suited to financially maintain these enterprises. In Yellowstone National Park, the Northern Pacific Railroad sited the Old Faithful Inn a few hundred yards from that park's famous geyser.[1] As parks became more popular and tourism increased, they began to suffer from a lack of infrastructure. In Sequoia National Park, early tourists could camp where they liked, even under the great trees; in Yellowstone, streams were threatened by pollution from outhouses in the valley.[2]

The establishment of the National Park Service in 1916, under Director Stephen Mather, however, ushered in a new era of park development, based on the mandate of the new agency to "conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[3] Recent historians have made much of the "duality" or contradiction inherent in the idea of preserving the parks' resources yet allowing for their use. However, to Frederick Law Olmsted, Jr., the landscape architect who drafted this legislation, "there was no inherent contradiction in preserving a place through its thoughtful development as a park. Without such development--without well-designed roads, marked trails, sanitary facilities and permanent campgrounds--the damage caused by tourists compounded brutally, especially in a fragile environment."[4] Thus, between 1916 and World War II, the NPS set out to develop the national parks in a manner fulfilling their dual mandate to provide visitor service and access, yet at the same time preserve the beauty and natural resources of the parks. In this work, over approximately thirty years, the agency established a distinctive method and style of landscape architecture--or park design--which even today defines the way visitors perceive and expect to perceive national parks.

The most basic design principle of the NPS was that all construction and development should harmonize with the surroundings. By 1938, in the foreword to the handbook *Park and Recreation Structures*, this idea was distilled to the following statement: "In any area in which the preservation of the beauty of the landscape is threatened, whether it be by construction of a road or erection of a shelter, construction deserves to be most thoughtfully considered. A basic objective of such areas for human uses for which they are established is, it seems to me, to hold these modifications to a minimum and to design them that, besides being attractive to look upon, they appear to belong to and be a part of their settings."[5] This statement of intent defined the two key aspects of NPS landscape architecture: that park development should be limited, preserving natural scenery, and that the appearance of this development should be in keeping with the natural landscape. These two ideas and their implementation in the parks were, quite simply, an extension of late-nineteenth-century urban park design concepts into the new and much vaster public landscapes of the West.

Indeed, the importance of limiting the extent of park development had been realized early on by Mark Daniels, the first landscape architect working in the parks in 1914 to 1915. He noted that as hundreds of campers streamed into a park, their "community ceases to be a camp; it becomes a village. . . .it has municipal problems . . . [and] will demand some sort of a civic plan."[6] Daniels recognized that planning ideas from urban areas could be utilized to good effect in the parks, and developed a series of "park villages" for Glacier, Mount Rainier, Crater Lake, and Yosemite National Parks. Although few of his plans were implemented, the ideas

behind them would be implemented in later plans. These ideas included a comprehensive plan for the development of roads and trails and "consistent architectural expression, careful site planning, and strong visual relationships with surrounding natural features" in the design of park villages.[7]

By 1931, following more than a decade of construction of roads, park entrances, campgrounds, and visitor centers, the ideas proposed by Daniels had evolved, under the guidance of such landscape architects as Daniel Hull and Thomas Vint, into the concept of the park "master plan." The master plan was a comprehensive planning document. It carefully considered the park and its potential uses and proposed an overall scheme of development to be implemented over a period of years or even decades. In text and drawings, the master plan laid out the overall development for the park, siting roads, fire roads, trails, sewers, utility lines, maintenance areas, and developed areas to service visitor needs. Most important, by setting out an overall plan, development could be limited and piecemeal decisions could be avoided; the experience of the visitor could be orchestrated and impacts on the natural landscape could be controlled. Such "[u]nified planning for an entire park assured that the needs of visitors would be met in the most efficient and therefore the least damaging way."[8]

If the master plan answered the question of what and how much to build within a park, there was also a question of how it should be built and what it should look like. Over the years. an NPS style of design for park buildings and structures evolved. Variously called "naturalistic" or "rustic," this style, which emphasized the use of materials native to the park--such as rough-hewn wood, logs, and stone--had its roots in varied sources. On one hand, "rustic" structures of wood and stone, echoing construction techniques used in mountain resorts such as the Adirondacks, had been established as appropriate architectural forms for urban park landscapes in the mid-nineteenth century.[9] In the late 1850s and 1860s Central Park and Prospect Park contained rough-hewn benches, small shelters constructed of logs with bark roofs, and boulder waterfalls and bridges; by the 1880s, Boston's Franklin Park contained a large overlook of fieldstone. At the same time, an increasing architectural interest in American materials, forms, and craftsmanship was evolving in the Arts and Crafts Movement of the late nineteenth and early twentieth century. Expressed in such architectural styles as Richardsonian Romanesque, the Stick and Shingle Style, and Mission Style, among others, these ideas also influenced park architectural design.

In addition, precedents were also set by buildings constructed in the parks by early concessionaires. Such buildings also helped set the tone for the emerging style of park development. These included the Old Faithful Inn in Yellowstone National Park, which recalled Adirondack mountain resort architecture with its huge peeled logs and stone fireplaces; stone and timber hotel and chalets of Glacier National Park, patterned on Swiss Alpine resort architecture; and the El Tovar hotel in Grand Canyon National Park, an eclectic mix of ideas, with interiors inspired by local Hopi crafts and construction materials from Oregon.[10] Though gleaned from exotic sources, these buildings set precedents for future NPS development in terms of their large scale which competed with, but did not dominate, the natural surroundings; their fine, hand craftsmanship; their use of natural building materials; and their creation of a memorable image for each park.

By the end of the 1930s, Chief Landscape Architect Thomas Vint had distilled "NPS rustic" park design into seven principles, published in a "Construction Report." The principles outlined how "man-made structures" could "interfere as little as possible with the landscape appearance of the area." Though Vint wrote these guidelines for the design of architecture, they could have been easily extrapolated into the design of just about any park feature, from roads to benches. The seven points were as follows:

- Native materials were to be used "as much as possible" and when possible, appropriate "types . . such as the adobe or pueblo flat roof type in the Southwest and the log or heavy timber or 'rustic' type in the heavily wooded areas" could also be used.

• Construction was to be "in harmony with the natural landscape and secondary to the landscape rather than primary, as in a city or town."
•Buildings in one park or one area were to be "in harmony" with each other--through the use of similar materials, similar roof slopes, etc.
•Buildings were to emphasize horizontal lines more prevalent in landscapes, rather than vertical lines, which were more suited to urban environments.
•Stone, log, and timber work was to be "in scale, providing a well-balanced design."
•Sometimes stone and log work needed to be "overscale," so that natural features--trees, rock outcroppings--did not "dwarf" structures.
•Rigid, straight lines were to be avoided, to "create the feeling that the work was executed by pioneer craftsmen.[11]

The coalescing NPS rustic style was eventually distilled in 1938 into a veritable "pattern book" of park features, called *Park and Recreation Structures*. This text was utilized by designers throughout national and state parks. The book gave examples of rustic design for a full range of park features, from drinking fountains, park signs and campfire circles to retaining walls, parking areas, and visitor centers. The full range of park features showed the way a park's design could be unified by a consistency of material and form and attention to detail. Similarly, guidelines for topography and grading for site development and road construction were also established.[12] Not surprisingly, these guidelines emphasized minimizing the appearance of human activity. In a parallel vein, guidelines for plantings emphasized the use of native plant materials in planting design. Other guidelines for planting design included recommendations for clearing, thinning and planting vegetation to create and frame viewsheds.

The heyday of NPS landscape architecture design lasted from 1916 to World War II. Following the war, funding and staffing decreased and fewer new projects were authorized. At the same time, visitorship in the years following the war increased. The effects on NPS design were great. Increased visitorship shifted the focus of park design from landscape preservation and resource protection to provision of visitor services. During the 1950s and early 1960s, the Mission 66 initiative resulted in the construction of park facilities and infrastructure throughout the National park system. For example, more than 200 visitor centers were built. Decreased funding and work force that had been available during the New Deal, meant that the detail and craftsmanship which had characterized earlier construction was more difficult to achieve. For example, bridges on the Blue Ridge Parkway were, prior to the War, consistently faced with stone; following the War, those not visible to the public were left as concrete.[13] Principles of Modern architecture, with its dictum of "form follows function" also began to effect park design. The steel, glass, and concrete structures made the traditional stone and log buildings of the National Parks seem artificial and nostalgic. As a result, much of the new design of the 1950s and 60s--the Mission 66 years--reflected the cleaner, more streamlined lines of Modernism. The rustic style in park design continued through these years in design of park roads and plantings.[14] Proponents of the naturalistic remained even as the application of modernism increased. Even though individual projects from the 1950s to the present have created attention-grabbing structures and features, the desire to integrate construction into the parks as supporting elements of the experience of the place continues in National Park Service Design.

B. National Park Service Park Road Design, 1916-1942

1. The Development of Park Road Design: Going-to-the-Sun-Road

The design of roads in the National Park Service can serve as a more detailed example of how landscape architecture developed in the NPS and how this design served to both protect resources and provide visitor

access. Prior to the establishment of the NPS, visitors primarily accessed the parks via the railroad and experienced them in carriages and on horseback. As a result, relatively limited and informal roads and trails had sufficed. By 1915, however, "the total number of visitors to parks and monuments had risen to 335, 000 --a tenfold increase from 1906" and park roads were having trouble safely accommodating both motor and horse-drawn vehicles.[15] By 1920, total visitorship had reached one million and all restrictions on automobile travel had been dropped.[16] To accommodate the rising numbers of visitors, development was required. But the development had to be sensitive and preserve the landscape tourists came to see. This was particularly true of roads, which had the potential to "gridiron" the parks, and NPS Director Stephen Mather vowed the NPS would "construct only such roads as contribute solely toward accessibility of the major scenic areas by motor without disturbing the solitude and quiet of other sections."[17]

Of course, this was more easily said than done. Intensive lobbying of Congress for funding for park roads did not immediately yield results. And, when the NPS finally received 7.5 million dollars for a major road building campaign, Mather was unsure the NPS design staff, divided into "landscape engineering" and "civil engineering" divisions, were up to the task of constructing roads which would not irretrievably mar the parks' landscape scenery.[18] However, a working methodology for this goal was found during the construction of a park road across the mountains of Glacier National Park, the Going-to-the-Sun Road.

The need for the "Transmountain Highway" (as the Going-to-the-Sun Road was originally called) had been recognized as early as 1910. This automobile road would not only link the east and west sides of Glacier National Park, but would also be a scenic route allowing interpark travel from Yellowstone National Park to the parks in the Pacific Northwest. However, work on the road did not begin until about 1918, when engineer George Goodwin, then superintendent of Glacier National Park began surveying a route through the mountains crossing Logan Pass at 6,646 feet. Goodwin's 1918 route made long loops and switchbacks through Logan Valley, had a maximum grade of eight percent and a minimum radius of fifty feet. The road was laid out based on economic and practical concerns, and an idea that "spectacular effects" of engineering could be as scenic as the natural landscape.[19] Although construction began in 1922, due to minimal funding, it proceeded slowly. When, in 1924 Congress appropriated new moneys for road construction, Mather came out to view the road himself, accompanied by landscape engineer Thomas Vint, assistant to NPS landscape architect Daniel Hull. Vint, dismayed by Goodwin's proposed route, which he said, would have carved fifteen switchbacks up the road's most scenic vista, proposed a new route, carved straight into Garden Wall, a huge cliff flanking the valley. Although more costly, Vint's proposed new route would preserve the scenery of the scenic valley to a much greater degree.

To decide between Vint and Goodwin's proposals, Mather called in Bureau of Public Roads (BPR) engineer William Austin to discuss the new route. BPR engineer Frank Kittredge was called out to Glacier National Park from San Francisco to fully assess the options. Kittredge, after surveying the routes, recommended a route up Garden Wall that essentially reproduced the Vint's original suggestion, with a greater level of detail. The proposal was for a road twenty-two feet wide on an alignment that followed the contours of Garden Wall, at an even six percent grade. Where Goodwin had proposed fifteen switchbacks, there was now one. The road's minimum curvatures were 100 feet on open curves and 200 feet on blind curves, and curves were separated by tangents a minimum of forty feet long. Kittredge noted his alignment would "permit safe grades and curvatures;" would be "capable of future improvement," and would "exhibit the grandeur of the park to the maximum." [20] His proposal was met with approval by Mather and Vint, and in April 1925, the two agencies sat down to determine how the construction of the road would proceed. Pleased with their success, by the fall of 1925, NPS and BPR staff were collaborating on other park road projects, and in January 1926 the two agencies had formalized the partnership via a "memorandum of agreement."[21]

Work on the fifty-mile "Transmountain Highway," was managed by engineers W.G. Peters and A.V. Emery in addition to Kittredge. The project established precedents for all future park road projects:

> The overall planning work of determining the location and character of park roads rested with the park superintendents who consulted with the landscape engineers, Hull and Vint. The interbureau arrangement then allowed the Park Service to tap the expertise and organization of the Bureau of Public Roads for surveys, contract specifications and construction supervision--without giving up control over deciding where, when, and how park roads would be built. The landscape engineers retained the right to review and alter location surveys and contract specifications to assure that construction met their standards for landscape preservation as well as the Bureau of Public Roads standards for sound and economical engineering.[22]

Simply stated, while the BPR had control over the engineering, the NPS had full supervisory control over the project, especially when it came to aesthetic design. The partnership led to some unique features in the design and construction of the trans-mountain road. For example, preservation of vegetation along the roadside was of special concern to the NPS landscape engineers, who wanted the construction to leave as little scarring as possible. Therefore, BPR engineers utilized special blasting techniques, using smaller charges, to protect adjacent trees.[23] Following construction, the landscape engineers refined views and vistas and replanted in the areas damaged for construction. The design and construction of the road's structures--bridges, culverts, and stone guard rails--were also carefully considered. For example, the 40,000 linear feet of crenelated stone guard rail was constructed from stone salvaged from blasting--and its masonry was carefully crafted to avoid any geometry or regularity in the masonry joints. The procedures for designing this guardrail led to " the standardization of construction details for the national parks system."[24] Bridges and culverts were also carefully designed and faced with native stone to harmonize with the surrounding environment.

Renamed "Going-to-the-Sun Road" when it opened in 1933, the road was the only automotive road in the park. In part this was due to the increased cost of the Vint/Kittredge route, which had siphoned funds from other park roads proposed for development.[25] It was also due to a realization that the road's extraordinary quality obviated the need for other roads in the park. Accessing many points of interest, views, and trailheads and providing a spectacular park experience in itself, additional development in the park was no longer necessary. By employing the highest standards of construction and aesthetics, development had been concentrated to one small corridor, preserving the rest of the park and its resources. In other words, the " policy of limiting the amount of road built in a park--but assuring that what was built would provide an unsurpassed experience--made Going-to-the-Sun Road a successful prototype for national park road development."[26]

The techniques, standards, and working relationship between the NPS and BPR established on Going-to-the-Sun Road would be duplicated in rapid succession in other national parks in the west. These included the Generals Highway in Sequoia National Park, opened in 1926; the Zion-Mt. Carmel Highway in Zion Canyon National Park, opened in 1930; Wawona Road in Yosemite, opened in 1933; and the ten-mile Trail Ridge Road in Rocky Mountain National Park, completed in 1933.[27] As the relationship between the two agencies developed, general principles of design were established for park roads. These principles, which were used as ideal guidelines to be adapted to site-specific conditions included the following:

- Existing topography, more than predetermined standards of alignment, curvature and grade, influenced the alignment of the road.
- A graceful appearance for the road was sought and achieved by coordinating horizontal and vertical alignment.

•To enhance the experience of being in a natural environment, vegetation was allowed to come to the edge of the road where possible. New plantings utilized indigenous species.
•Design speeds were generally low, due to tight curvatures in required in mountainous area and to promote for more leisurely, lower speed recreational travel.
•Locational controls were points of scenic and other interest, a fact which sometimes made the road longer than would be required by ordinary highway engineering standards.
•Cut and fill sideslopes were rounded and flattened to blend the road into the surrounding landscape.
•Existing vegetation was protected and borrow pits were located out of sight.
•Maintenance plans for the roadway were developed with instructions for selective cutting and thinning of vegetation to maintain views.[28]

2. Skyline Drive

When the NPS began building in national parks in the east, the traditions and techniques learned in western parks were transferred to Skyline Drive in Shenandoah National Park, which has appropriately been called "a western park road in the east."[29] A "skyline drive along the mountaintop" had been envisioned as part of Shenandoah National Park from the time the Southern Appalachian National Park Commission had first recommended developing the northern part of the "Blue Ridge of Virginia" as the first national park in the east.[30] The road was considered "the greatest single feature of the park," and it was believed that an automobile experience would make the park accessible to a large section of the population. Over 105 miles long, Skyline Drive eventually was conceived as a one-day excursion drive from the Washington, D.C. area, and it was thought that the drive would be an easy reach for visitors from eastern population centers.

Skyline Drive was built under the same interagency agreement between the BPR and the NPS which had been established during the construction of the Going-to-the-Sun Road. Two of the principle designers of the road were more than familiar with the NPS/BPR procedures of the agreement, since they had worked on the Generals Highway in Sequoia National Park in the late 1920s: these were engineer William Austin and landscape architect Charles Peterson.[31]

The length of the road, and the rough terrain through which it wound, influenced its design and construction. It was hoped that by locating the road along the ridge tops, for instance, that heavy cuts and fills would be more limited than if the road repeatedly traversed up and down slopes. The road navigated between the mountain passes (gaps), which provided shifting views of distant crests. The perching of the road on the ridge tops also encouraged the siting of sixty-seven overlooks (one an average of every two miles) along its length to allow motorists to enjoy the vast panoramas. The terrain also limited the size of the road, and efforts were made to keep it relatively narrow to save time and excavation costs. The right-of-way for the road was 100 feet, and the width of the roadway itself was about thirty feet. The road's minimum radius was less than 200 feet.[32] The surface of the road was paved with asphalt using an aggregate of stone collected from blasting to create a surface whose colors harmonized with the surrounding environment.

Though conceived as a whole, Skyline Drive was designed in three separate sections, due to timing and funding. The Middle, North, and South Sections were designed and completed in that order. As a result, each of the sections had a slightly different character. The Middle Section, for example, completed in 1934, was designed and constructed in some haste. This section was laid out with circular curves and tangents; spiral curve transitions came only later, in the second section of the road. Similarly, overlooks in the first section were smaller and less well developed in comparison with those designed later. On the North section, more time was allowed for studying the design and location of the road, and more care was taken to achieve a smooth, flowing line. The roadway width was expanded to thirty-four feet. The South section, the last

completed, in 1939, after the opening of the park, was on the steepest part of the alignment. More cuts and fills were required on this section, and as a result, the road width was reduced to thirty feet and overlooks were difficult to locate without scarring the landscape.[33] All sections were bid and constructed in short "runs" of ten to twelve miles, a technique which would also be utilized in NPS parkway construction projects.

Little additional work was done on the landscape beyond the construction of the road and grading to blend the cuts and fills. Planting, for instance, was "preservationist" as "the only planting was to restore vegetation to the graded slopes" with "strictly indigenous materials." The design intent for the road was to bring the vegetation down to the edge of the road, preserving the feeling of being in on a road winding through unspoiled nature.[34] After construction, however, some CCC labor was utilized clear trees to open vistas. The rest of the roadside design, such as culverts and stone guard rails, were neatly designed, but never obtrusive.[35] In general, these features were designed using traditional "NPS Rustic" aesthetics.

The design of Skyline Drive is interesting in that, located in the same region as the Blue Ridge Parkway, it provides a direct comparison between the design of NPS park roads and the NPS parkways, which would come somewhat later. Although built by the same agencies and similar in many ways, NPS roads and parkways were clearly different. To begin with, they had different purposes. Skyline Drive, for example, was a feature within a park; a parkway was, practically speaking, a park in itself. Stated a different way, a park road was a means of experiencing and seeing a scenic park (i.e., conservation land) while a parkway, as we shall see, eventually became a means to conserve a landscape as well as experiencing it. These different aspects would lead to differences in physical character: for example, a park road right-of-way could be much narrower than a parkway right-of-way. Similarly, while Skyline Drive was often criticized for its monotony derived from its lack of spatial sequence, such critiques were never leveled at Blue Ridge Parkway because it was designed not simply as an access road but as a complete spatial experience.

C. National Park Service Scenic Parkways

As noted in the previous paragraph, NPS park roads and NPS parkways were different landscape types, designed with different purposes. However, parkway and park road design clearly had similar requirements. And although the NPS and BPR had not collaboratively designed a parkway, *per se*, prior to Colonial Parkway, their experience in road design put them in a good position to do so. The interbureau agency formed in 1926 had not only produced major engineering works in the country's most scenic preserves, but had also developed a corps of individuals with valuable experience in adapting road design principles to various environments. Each agency brought a special set of skills and knowledge into the collaboration. The NPS had, by this time, a well-established aesthetic for exhibiting and interpreting natural scenery and features. At the same time, the BPR had learned more about parkway design by the late 1920s, when design and construction on the Mount Vernon Memorial Highway was underway, and so had some ideas about the parkway design process. The BPR had also hired talent--such as Wilbur Simonson--away from park commissions engaged in parkway design. It would not be long before the parkway--the ultimate recreational roadway--would be combined with the national park--the ultimate recreational facility.

The east coast national parks were an opportune location for the two landscape design typologies to meet. Road building techniques in western parks were already established, and had been successful enough that changes were not necessary. In contrast, in the late 1920s and early 1930s, eastern national parks were a new and untested idea. In theory, the idea--of establishing large, natural preserves, in close proximity to eastern population centers so that more US citizens could access the national park system--was a good one. However, it had two major strikes against it. The first was the potential difficulty of land-taking procedures in the well-settled east, and the second was that the reserves proposed for the east were perhaps not as

magnificent, or as immediately awe-inspiring as those in the west. One way to overcome these concerns would be to develop somewhat smaller parks, but with a large and active public constituency for the new eastern parks. Parkways, designed as recreational linkages and with their limited access and ability to facilitate traffic, were a logical means to develop this constituency, especially given that the urban public was familiar with and, based on travel numbers, had embraced the parkway idea. And, it was likely not lost on NPS administrators that NPS techniques pioneered in national parks for exhibiting and interpreting scenery and features would further the art of parkway design, creating a type of parkway that transcended previous designs in being truly and magnificently scenic. With the reason (increasing public access to and awareness of national parks in the east), the method (the parkway), the system (the NPS/BPR interagency agreement and method of collaboration), and the labor and funding (CCC camps and WPA monies) all felicitously occurring at the same place and same time, the success of the parkway in the national park system was virtually guaranteed.

D. National Park Service Parkways and Automobile Tourism

The timing of the creation of NPS parkways also coincided with the rise of American automobile tourism. What began as an "anti-institutional sport" with autocampers "breaking out of familiar summer patterns, escaping crowds, going anywhere without having to make detailed arrangements or join a group," soon became an American institution, the driving vacation.[36] As auto touring became more popular and the technology of roads and automobiles improved the comfort of travel, tourists ranged further and further afield. The daily mileage of the automobile tourist rose progressively over the years, from about 125 miles a day in 1916 to 170 in 1920; to 200 in 1925; 240 in 1928; 300 in 1931; and 400 in 1936.[37] Even during the depression, automobile tourism continued: In 1933 Americans spent $1,102 million on gas, oil and other vacation car operating expenses, compared to $1,040 million in 1929. By 1935, when the economy improved, the expenditures increased to $1,331 million."[38] And, as automobile tourism became more common, the goals for travel changed: "Many new tourists on two-week vacations simply had no time to wander. Earlier autocampers had more time and more money, and had already visited many of the main attractions by train. For the less affluent traveler... getting to Niagara Falls, the Wisconsin Lakes, Yellowstone Park... was more important than taking in less well-known sights along the way."[39]

By the 1930s, then, the National Park Service was dealing with the automobile as the preferred mode of access to national parks. Autocamps were constructed in the parks to provide organized camping areas for cars and trailers. The construction of new park roads were another response, their construction coordinated with recreational facilities as part of each park's master plan.[40] Skyline Drive in the east was a perfect example of design in response to automobile recreation: developed to be within a day's drive of the major metropolitan area of Washington, D.C., the road was constructed with facilities designed for the motorist, including gas stations, lunch rooms, and camp stores run by concessionaires, as well as picnic grounds and rest rooms, all in close, convenient proximity to the roadway.[41]

The NPS scenic parkways were a further development of the NPS response to increasing automobile recreation. This development included the use of engineering standards developed outside the NPS by urban highway engineers. The parkway was also a transformation of what began as the idea of a park-to-park highway, or the extended concept of park experience as encompassing the journey to as well as the destination of the National Park. Eventually, as at the Blue Ridge Parkway, the parkway would become the destination and the park experience itself, as a linear, peripatetic experience created at the scale of the automobile rather than the individual.

The success of the NPS parkways, however, was fairly short-lived. Only three truly scenic parkways--the Colonial Parkway, Blue Ridge Parkway, and Natchez Trace Parkway--were actually implemented. The following section describes these three NPS scenic parkways in greater detail, showing how the NPS parkways developed and evolved.

E. National Park Service Parkways: Case Studies

1. Colonial Parkway

The idea of a roadway connecting the three historic sites of Jamestown, Williamsburg, and Yorktown had originated in 1909, long before the idea of Colonial Parkway. This idea of a memorial roadway was a part of early historic preservation efforts in Virginia which occurred in the late 1800s and early 1900s. The road was to follow "the most convenient and feasible route" and be constructed of "such materials as may be found most suitable and best fitted."[42] However, these early preservation efforts failed, and a route connecting the three historic sites was not implemented until the creation of Colonial National Historical Park.

Colonial National Historical Park was conceived to preserve and commemorate "the entire colonial period of American history" by embracing Jamestown, Williamsburg and Yorktown. Colonial Parkway, which provided the physical linkages between the three periods of history represented by the three locations was an integral part of the plan for the park from the beginning. Initially, there was some desire that the parkway route follow the historic roadways between the three sites, but this was eventually determined to be unfeasible, in part because the exact locations of the historic route were conjectural.[43] Instead, the parkway was created as a new alignment within a specially purchased right-of-way, much as parkways linking cities were constructed to bypass, not duplicate, existing routes.

Work on the parkway commenced in 1930 with surveying and designing; construction began in 1931, and the first section of completed roadway opened in 1934. Colonial Parkway was the first parkway designed under the NPS and BPR interagency agreement, though the agencies' designers had worked together previously on other park roads. Key among the designers were landscape architects Charles Peterson and Edward Zimmerman, engineer-in-charge Oliver Taylor, and architect William Hausmann, all from the NPS and engineers H.J. Spelman and William. H. Smith from the BPR. Interestingly, none of these designers had trained under the designers of the Westchester County or Long Island Parkway systems. Rather, they based their design on the NPS experiences designing park roads in the west, coupled with the common knowledge of parkway design available at the time. Directly applicable, however, were the experiences of the BPR on the Mount Vernon Memorial Highway, as techniques such as dredging and hydraulic filling pioneered on that parkway were duplicated on Colonial Parkway.

Although construction began in the 1930s, the parkway's full twenty-three miles were not completed until 1958, due to interruptions in funding caused by World War II. Despite the long period of construction, the design concepts of the 1930s were consistently applied to the entire length of the parkway. Situated in a largely rural area, where land acquisition costs were cheaper, at about 500 feet the parkway's right-of-way was larger than most urban parkways. It did, however, widen and narrow in some areas, such as within the Williamsburg city limits where it was restricted to 200 feet. Within the right-of-way was a three-lane, 30-foot-wide concrete driveway. The use of three lanes was somewhat unusual compared to other parkways; it was felt that making the road wider than twenty-two feet, a standard two-lane width, would help facilitate traffic flow.[44] The maximum grade was approximately five percent and the minimum radius was just over 1,000 feet. These curves and gradients were slightly flatter than those of the Westchester County Parkways. They were significantly flatter than those of other park roads, such as Skyline Drive, mostly because of the

flatter terrain of the Virginia Tidewater, but also because of the different driving experience the parkway was expected to be--a free-flowing, leisurely drive. The parkway's resulting appearance is seen in Figure 14. Cut and fill side slopes varied from a maximum of 1:2 to 1:6, with most around 1:4. Tidal marshes were crossed by a combination of hydraulic fill with low-railed, reinforced concrete bridges over the creek mouths. Major intersections were widely, but not entirely, eliminated by the use of reinforced concrete grade-crossing bridges.

The design of the bridge and culvert structures along Colonial Parkway was an important part of the parkway design. The structures were all constructed of reinforced concrete, utilizing the best engineering practices of the time. In order to evoke the Colonial atmosphere, it was decided to face the culverts and grade-crossing bridges with Colonial-style brick, utilizing ornamental brickwork patterns of the Colonial era. One such bridge is seen in Figure 15. This choice of a material specific to the area's culture and region was a logical one, and paralleled the use of local stone along other parkways. The use of brick was likely also influenced by the restoration of structures occurring concurrently at Colonial Williamsburg. However, the resulting appearance of the culverts and the grade crossing bridges, with their ornamental, Colonial brick work and, on at least one bridge, granite keystones imported from England, were a far cry from the "NPS Rustic" culverts and bridges utilized on Skyline Drive. Bridges crossing tidal marsh areas also did not match "NPS Rustic" guidelines. Although Charles Peterson had proposed these also be brick structures, this construction was deemed too expensive for bridges which needed to be built on pilings. Therefore, the tidal marsh bridges were simply designed, with streamlined reinforced concrete railings more utilitarian than ornamental or scene-setting. The only features which aesthetically hearkened back to traditional NPS design were the peeled log guard rails and the parking overlooks, both typical NPS roadway design features.

In plantings, however, Colonial Parkway more closely matched the design of other park roads and parkways. In particular, Colonial Parkway relied heavily on the use of native plant materials in the design of plantings along the roadside. Flowering trees, notably dogwood and redbud, added seasonal interest, much as they did along the Westchester parkways. However, according to Charles Peterson, a major goal of the initial planting in upland forest was to plant so that "eventually forest trees would come right down to the Parkway shoulders and eventually complete a canopy overhead."[45] This intent was consistent with traditional NPS landscape design for scenic park roads, such as Skyline Drive, in the NPS,[46] but differed somewhat from other parkways, which, produced by a tradition of urban park design, often utilized trees and turf along the roadside to provide an appearance of domesticated nature. Interestingly, Peterson's design intent of forest along the parkway edge was not fully realized at Colonial Parkway, in part due to alterations in planting strategy during the 1950s construction era. Parkway maintenance plans drawn up after 1958 also helped reinforced a more domesticated parkway appearance by designating areas for mowing. This more highly maintained parkway landscape may have been the result of the design aesthetic of then Superintendent Stanley Abbott, whose early training in parkway design had occurred in the Westchester County Park System.

Like other parkways, Colonial Parkway emphasized recreational driving. The recreational aspect of the parkway was enhanced by the use of parking overlooks in a more comprehensive manner than other urban parkways. The use of parking overlooks again followed already-established the traditions of NPS park road building, in which scenic pull-offs were regularly provided. However, for Colonial Parkway, the sites for parkway pull-offs were reviewed by park historians and rangers and seven were constructed not simply based on their scenic qualities and convenience to the roadway, but also for their interpretive potential.[47] By the 1950s, perhaps influenced by the design of the Blue Ridge Parkway, this interpretive mission had expanded significantly, perhaps influenced by the intensive interpretation and signage designed for the Blue Ridge Parkway. Interpretive signs, designed by Stanley Abbott and Robert Steenhagen, were added to a total of nineteen overlooks along the parkway--so that a signed overlook occurred about once a mile, significantly

Figure 14. Colonial Parkway, circa 1936. Colonial National Historical Park.

Figure 15. Colonial Parkway, Capitol Landing Bridge, circa 1936. Colonial National Historical Park.

more often than on other parkways of comparable length outside the NPS. Recreational opportunities along the parkway also expanded in the 1950s with the addition of a large picnic area at Ringfield.

Thus, although Colonial Parkway was in many respects similar to other parkways, the collaboration of the NPS and BPR in its design began to articulate a new breed of parkway that was larger, more scenic, more site-specific. At a basic level, at 500 feet the right-of-way of Colonial parkway was more than twice the width of other urban parkways. The wide width allowed it to maintain a distinct separation from the surrounding matrix of land uses. This made it easier to maintain the corridor's intrinsic qualities--including, in the case of Colonial Parkway, cultural resources--making it a better land conservation tool for an agency primarily interested in conserving and providing access to public lands. In retrospect, given the number of cultural resources which remain within the parkway corridor in contrast to the developed lands beyond its boundaries, this has been a particularly successful aspect of Colonial parkway's planning.

On a more conceptual level, however, Colonial Parkway began to expand the "reasons" for constructing a parkway. If, for example, the Mount Vernon Memorial Highway had placed an emphasis on parkway scenery en route to an historic destination, then Colonial Parkway pushed that emphasis to a new level, by designing the parkway route to encompass key scenic passages along the York and James River as it linked not one but three historic sites. In this respect, the design of Colonial Parkway followed not traditions of parkway design, but traditions of NPS park road design in which "each park really needed little more than one great road that made some portion of the park's main scenic attractions accessible to all."[48] In other words, Colonial Parkway was a means to extend the experience of visiting historic sites to include the travel time between the sites, so that the travel experience would be as exciting and meaningful as the ultimate destination. One way the experience of travel was heightened was by extending the idea of the park into the parkway. Instead of simply unifying the parkway design with aesthetically pleasing bridge and structure designs, it would be unified by utilizing an overall park theme--Colonial history. In other words, the grade-crossing structures' facades of brick and Colonial Revival form gave them an added role in the landscape--they were no longer just beautiful bridges with a functional purpose, but now they were also purveyors of meaning and history.

This was perhaps less a difference from the goal of urban parkways than a significant expansion or new application of the urban parkway idea. Whereas urban parkways connected cities to parks and beaches via local scenic corridors, Colonial Parkway connected three of the nation's most important historic sites, whose meaning could not help but elevate the importance of the road between them. A similar elevation of importance occurred for the Blue Ridge, though this was based more on the vastness of the parkway's surrounding natural landscape than on its history.

2. Blue Ridge Parkway

In many ways, the Blue Ridge Parkway represents a pinnacle of sorts for NPS parkway design. This is not only because of its great length (almost 500 miles) and the engineering required to construct the parkway through the steep terrain of the Blue Ridge mountains, but because, it was in fact a new form of National Park in which the road itself was the visitor destination.

The Blue Ridge Parkway was originally conceived as a "Scenic Highway" linking two parks acclaimed for their scenic qualities and natural resources, Shenandoah and Great Smoky Mountains National Parks. The idea had its origins in a variety of places, including an envisioned, but never constructed, "Eastern National Park-to-Park Highway," which proposed connecting such national parks as Colonial National Monument and the Great Smoky Mountains National Park.[49] The enormous popularity of the Skyline Drive also helped to promote the idea of the road between the parks. Although the Virginia State Highway Department had itself considered extending Skyline Drive, a road funded with federal monies was viewed even more favorably.[50]

With the image of CCC crews working on Skyline Drive fresh in their minds, politicians in North Carolina, Virginia and Tennessee also favored the idea because new construction projects would bring jobs to a region stricken by Depression unemployment. It was also thought that the road would increase tourism in the area; North Carolina in particular was interested in the economic boost tourism could provide to the area around Asheville. In 1933, a roadway connecting the parks was authorized as part of the construction, repair and improvement of public highways and parkways public works projects proposed in the National Industrial Recovery Act. When it was determined that the project would be fully funded by the federal government, Secretary of the Interior Harold Ickes requested that the roadway be designated a parkway under the jurisdiction of the National Park Service.[51]

Although the road was authorized in 1933, the routing of the parkway--through North Carolina as opposed to Tennessee--was not decided upon until 1934. Construction began in 1935 and continued over the next three decades, with the majority of the parkway was completed by 1969. Design and construction were again accomplished under the Interagency Agreement between the NPS and the BPR. Generally given credit for the design of the parkway is Stanley Abbott, a landscape architect who eventually became Superintendent of the Blue Ridge Parkway. Abbott was recommended for the job by Gilmore Clarke and Jay Downer, for whom Abbott had worked on the Westchester County Parkways. Although Clarke and Downer had meant to consult on the design, then Secretary of the Interior Harold Ickes told them their consulting fee was too expensive. The two quit in a huff,[52] leaving Abbott in the position of project lead. The other parkway designers included landscape architects Ed Abbuehl and Hendrick Van Gelder (another former Westchester County Parks Commission employee) from the NPS. William Austin was resident engineer on the project for the BPR. Land acquisitions, no small feat for a road 500 miles long, were overseen by Sam Weems. Supervising the work from an administrative standpoint were Thomas Vint and H.J. Spellman, the latter of whom had worked on Colonial Parkway.

The Blue Ridge Parkway bore similarities with other parkways of the time with its a smooth, sinuous alignment, design speed of forty-five mph,[53] and emphasis on enjoyable driving. Efforts were also made to enhance its recreational aspect by varying the scenery in traversing forests and stream valleys as well as hugging the mountain spine as Skyline Drive did.[54] In the design, "there was no compromise in meeting the requirements of safety and ease of driving and the most up-to-date engineering practices were utilized.[55] "Viaducts, tunnels, and retaining walls have been used to avoid the sharp curves and steep grades that characterized the old-time mountain road."[56] At the same time, major efforts were made to hide this engineering, with "the earthwork and the modern structures pretty well relegated to the background by careful landscaping and the benediction of time."[57] Bridges and culverts were faced with native stone salvaged from the blasting and excavation of the road, and generally followed tenets of the "NPS Rustic" design aesthetic. In addition, forms drawn from local architecture were also utilized to better fit the structures to the surrounding landscape. The design of the bridges was also influenced by bridge designs on the Westchester County Parkways and design studies reveal that a bridge at the Olmsted-designed Biltmore estate in North Carolina was used as a model for some of the grade-crossing structures.[58] As at Colonial Parkway, however, simple, streamlined concrete structures were designed when masonry was deemed to expensive; this was true of larger structures such as viaducts and generally became more common along the parkway after World War II.[59] As on other parkways, planting design focused on eliminating construction scarring, utilizing native materials (rhododendron, huckleberry, mountain laurel, balsam and spruce), and creating views and vistas by planting or clearing.[60]

Yet many Blue Ridge Parkway design standards differed somewhat from those utilized on other parkways, mostly because of the "three dimensional"--i.e., mountainous--quality of the Blue Ridge Parkway. Horizontal curves were somewhat tighter, with a minimum outside radius of 200 feet and spiral transitions applied on all curves over one degree thirty minutes. Vertical grades were somewhat steeper, with a

maximum of eight percent, not to exceed a quarter of a mile.[61] The pavement width was narrow--only twenty feet of asphalt surface with five-foot shoulders. The tighter curves, steeper grades, and narrow pavement limited cutting and filling were required in order to limit the impact of grading and clearing on the surrounding landscape. These alignment standards were, in fact, similar to those used on Going-to-the-Sun Road and Skyline Drive, demonstrating that the Blue Ridge Parkway owed its designed features as much to traditional NPS park road design as it did to traditional parkway design.

Another commonality the Blue Ridge Parkway had with other parkways was its origins as a linkage between recreational areas, in this case two national parks. However, the Blue Ridge Parkway clearly transcended in scale and scope the typical urban recreational parkway, and represented, in fact, a new application of the urban parkway idea to a rural setting.[62] Designers of the time realized that the transposition of the urban idea into a rural setting created a new type of road, noting that "[t]he Blue Ridge Parkway bears no strong likeness to any of the earlier parkways."[63] The features which truly set it apart from the others were its emphasis on tourism and its newly realized purpose as a planning tool for conserving scenery and land.

The Blue Ridge Parkway's emphasis transformed the parkway from a road linking recreational areas to "a road expressly for the tourist." The Blue Ridge Parkway was envisioned as a "self-sufficient motordom" in which "many visitors will spend days or weeks along its route."[64] The Blue Ridge Parkway, designed expressly for automobile touring, in this way was an outgrowth of the rise of recreational motoring which had begun in the 1910s. There were more recreational opportunities along the parkway than ever had been linked along one corridor before. There were eighteen planned park reservations ranging from 250 to 6,000 acres in size ,with campgrounds, trails, and beaches.[65] There were twelve free picnic areas.[66] Sixty-seven "roadside exhibits or parking overlooks were constructed, the equivalent of more than one every ten miles along the route.[67] Food and fuel concessions were planned on or close to the Parkway every twenty-five or thirty miles.[68] The lengthy experience a motorist could have on the Blue Ridge Parkway contrasted with that of previous parkways, which, at twenty or thirty miles long, promised at most a day trip to a park or beach. By comparison, the Blue Ridge Parkway was a complete two-week vacation destination in and of itself, with or without its bookend national parks. Crossing through magnificent terrain and scenery, the Blue Ridge Parkway was not just a road--it was in fact a national park, in a form appropriate for a society increasingly dependent and interested in the autonomy and convenience of automobile transportation and for an emerging middle class with the time and money to spend on longer vacations. In the Blue Ridge Parkway, NPS road design had truly evolved--from the design of roads in parks to the design of roads *as* parks.

The Blue Ridge Parkway was also comparable to a national park in its emphasis on conservation and preservation of scenery and natural features. Although other parkways preserved the natural features within their corridors, their design was also driven by avoiding other traffic routes and promoting smooth traffic flow in congested areas. In contrast, the Blue Ridge Parkway's routing was, more than anything else, determined by scenery and visitor experience, and a desire to "conserve typical Blue Ridge scenery."[69] After ten years of working on the Blue Ridge Parkway, Stanley Abbot wrote "A first purpose of a parkway, like a park, is to preserve its roadside in unspoiled condition with extraordinary respect for natural beauty, with judicious restraint of man-made development."[70] Although Abbott may have felt this was true of all parkways, the Blue Ridge Parkway probably expressed this ideal more so than any other parkway.

The conservation of scenery and land by the Blue Ridge Parkway was the result of a number of factors. Most important was the fact that the parkway utilized a right of way larger than any other parkway before or since. Clarke and Downer, prior to getting thrown off the job, initially recommended that the parkway's right-of-way be 250 feet, with an extra 400-500 feet of scenic easement on either side, similar to standards used in Westchester County.[71] This standard was soon changed, however, in part because the mountain property owners felt that wide scenic easements were financially burdensome and in part because in the steep terrain

cuts and fills for the roadway often extended more than 100 feet past the road's centerline. Therefore, a new right-of-way formula was determined. It required the fee-simple purchase of a right-of-way averaging 100 acres to a mile, which produced a variable-width right-of-way about 850 feet wide. Although about equal to the width of the earlier fee simple plus easement, the new formula gave full control over a greater swath of land, making it easier to control the parkway's visual boundaries, which the designers felt extended to the horizon.[72] It was the wide width of the right-of-way of the parkway that Stanley Abbott felt "guarantee[d] its worth in the field of conservation."[73] However, perhaps the most innovative way found to preserve the Blue Ridge landscape was the land-leasing program. In this program, portions of the right-of-way were leased back to the local farmers to maintain the land in traditional uses such as pasture for sheep or cattle and fields of cultivated crops. This program not only generated good will with local farmers, encouraged good agricultural practices, and reduced maintenance costs, but also most importantly preserved the "pastoral and open sweep of view" and "'homespun' quality" of the landscape. Combined, the broad right-of-way and the land leasing program made the parkway a "versatile concept" and "a way to exhibit and to preserve the varied geographic features of a native American landscape."[74] In other words, the Blue Ridge Parkway designers, and Stanley Abbott in particular, felt that while early parkways had pioneered the idea of a "complete highway" the Blue Ridge Parkway had pioneered a new, economical land conservation tool, a way to purchase relatively small strips of land yet visually conserve wide tracts of countryside. [75]

In addition to preserving the physical landscape of the Blue Ridge, the parkway also sought to preserve the cultural landscape of the Appalachian mountains, including the homes and farming patterns of the Appalachian mountain people. This was something of an evolution in NPS design standards: During the construction of the Skyline Drive and Shenandoah National Park, the NPS policy had been to obliterate all native structures,[76] a decision in line with the NPS mission in national parks in the west. But along the Blue Ridge Parkway, the designers instead "found positive values in this forgotten countryside. . . found interest in the picturesque mountain cabins with hand-split shakes and stone chimneys; in mountain farming which employed the ox, sled, and cradle; in the miles of split-rail fences; and in the people themselves."[77] This interest in the cultural, as well as the natural, landscape was derived, perhaps, out of new ideas about the NPS mission as new historical parks were being created in the east. The preservation of cultural features along the Colonial Parkway was, in fact, one precedent for such preservation. However, it is also clear that the designers realized that their very own actions in purchasing land and building a road were destroying a landscape and a way of life:

> Change . . . takes place . . . after the new parkway produces an audience. Hand-split shake roofs are replaced by tin, more utilitarian than practical. Barns . . . get a coat of red paint; and board fences, the whitewash. In many respects these signs of a new prosperity add to the color, but they imply to the parkway an obligation to save by other means the interest of the pioneer mountain architecture. It is hope that this may be accomplished in two ways. First, the design of new parkway structures echoes the simple, distinctive lines of the old buildings, employing native materials; and secondly, there has been restored a series of old buildings inherited with the right of way. . .the grist and sawmill and the wheelwright and blacksmith shop. . .[78]

Abbott further described his goals of preservation along the parkway as extending to the area's crafts and trades so that it would become and "elongated showcase of folk culture."[79] Demonstrations of molasses making and gristmilling were designed for the restored sites, and souvenirs sold by concessionaires were to be local crafts--"no souvenirs of a world's fair variety"[80] The preservation of the ways of mountain life also provided opportunities for interpretation, and a vocabulary of wayfinding and interpretive signs was developed for the parkway. Signs were designed in an "experimental" manner, according to one historian.

For example, the entrance signs for the parkway were designed in 1939, and then redesigned at least twice: once in 1948 for "symmetry," and again in 1949 for "better viewing from the roadway."[81]

Construction on the parkway was essentially finished by 1969, almost a decade after the last urban recreational parkways were built and the parkway idea had been replaced by the interstate highway. Even the parkway's designers realized that the parkway's 1930s design standards, maintained over the course of its 30-year construction period, made it somewhat obsolete in a society increasingly obsessed by speed. Landscape architect Edward Abbuehl, who had worked on the Blue Ridge since its beginnings described the parkway in 1961 as "an anachronism: gently rising, falling, and curving through beautifully conserved countryside, it encourages the motorist to take it easy, to drive with an eye to the view."[82] Anachronism or not, its ambitious scale and lofty goals had established a new level of parkway design, one never equalled before or since.

3. Natchez Trace Parkway

At the end of the eighteenth century, the Natchez Trace was a primitive route between the two frontier outposts of Natchez, first a French and then a Spanish settlement in the lower Mississippi River Valley, and Nashville, an outlying western settlement of the American republic. The route between the two settlements had been formed along former trails of the Natchez, Choctaw, Chickasaw, and Cherokee Indians and soon became favored by frontiersmen travelling from New Orleans back east. By 1800, a post road was established along the route, and shortly thereafter, under direction and funding by Congress the U.S. army began making improvements to the roadway. Prior to the development of the steamboat in 1811, which opened up the Mississippi River as a freight route, the Natchez Trace was a heavily travelled commerce route for southern agricultural goods such as cotton. The route's popularity was in part due to its efficiency--it traversed the length of what is now Mississippi without crossing a major stream. After the advent of the steamboat, however, the Trace lost its importance, and portions were abandoned or became parts of local roadways as the country was settled.[83] Yet the route retained its significance as "the first national road, the first of internal improvements resulting from support with the material resources of the central government and with direct appropriations by Congress."[84]

A movement to reconstruct the Trace began in Mississippi in 1905 to 1908 under the Daughters of the American Revolution, and eventually became known as "Pave the Trace!" Efforts continued into the 1930s through the combined efforts of that organization, the Natchez Trace Association, Mississippi garden clubs, and state highway departments.[85] The original intent of the roadway's preservation appears to have been two-fold.[86] The first was to commemorate the history and significance of the Trace as a historic route and for its association with the development of the South.[87] The second was to "[carry] national traffic from northeast to southwest Mississippi since the principal state highways run north and south, and east and west."[88] In 1934, under lobbying by the groups and southern Congressmen, Congress authorized a research survey to locate, "as near as practicable" the original route of the Natchez Trace from Nashville, Tennessee to Natchez, Mississippi and to study the feasibility of constructing a parkway along this route.[89] This process contrasted with that used for the Blue Ridge and Colonial Parkways, both of which had been authorized prior to locating a conceptual alignment.

The research and survey process to locate the vanished road was arduous. Researchers of the time noted that "considerable uncertainty existed as to its [the Trace's] exact location in a number of places," which was likely a gross understatement. Historical maps from a variety of sources (Bureau of Indian Affairs, Post Office, Land Office, and others) in a variety scales and units (leagues, toises, and rods) had to be coordinated and proofed against existing conditions of day.[90] Eventually a route was flagged which was thought to "for the most part" represent the location of the Trace as it existed in 1806 and after.[91]

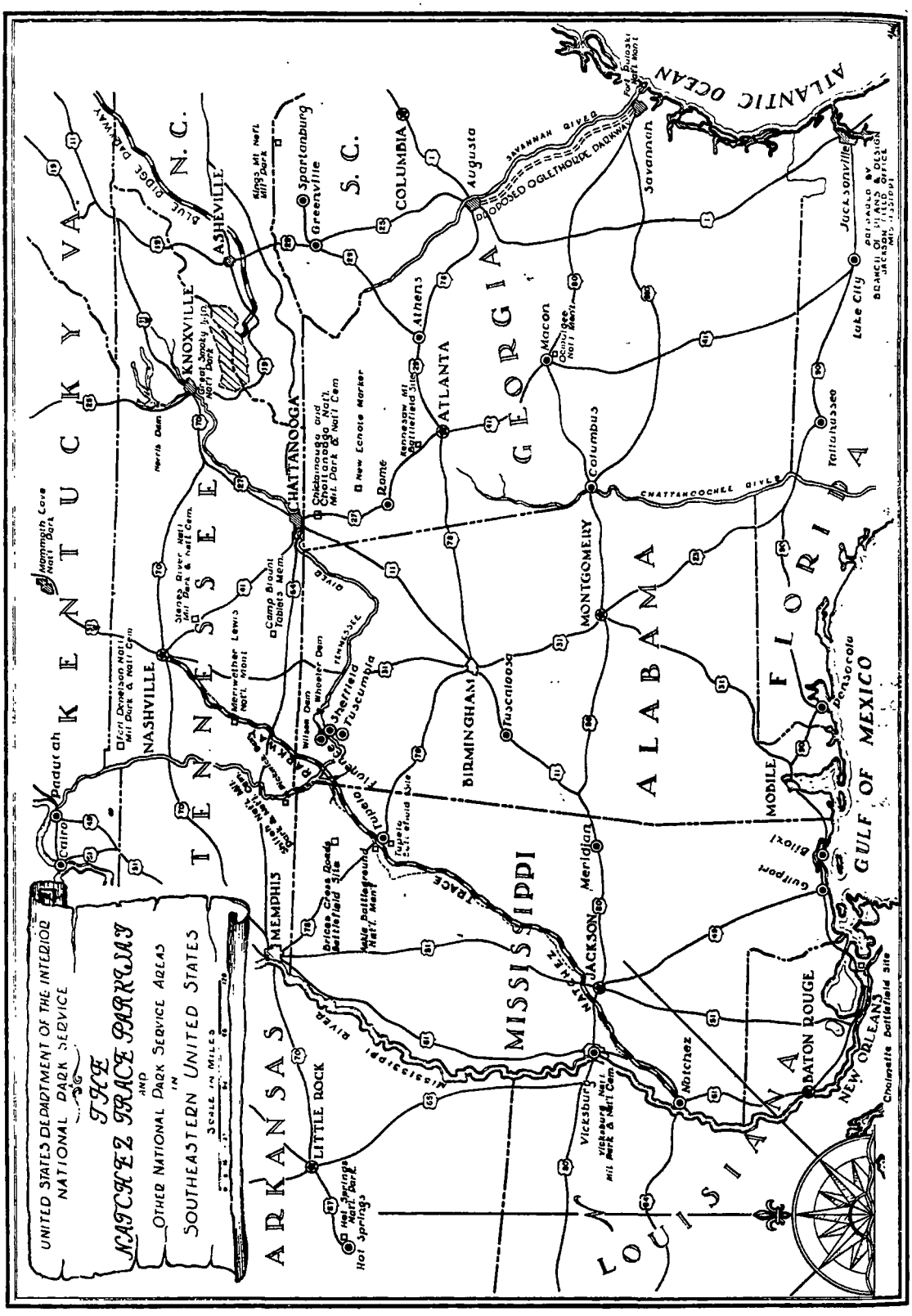

Figure 16. Development Plan of the Natchez Trace Parkway. From Gardner, "The Natchez Trace--An Historical Parkway."

Following the survey, in 1938, Congress authorized the construction of the Natchez Trace Parkway. As for the Blue Ridge Parkway, the bill made clear that the parkway would be federally administered and maintained by the NPS.[92] Interestingly, the bill explicitly stated the recreational intent of the parkway. In addition to authorizing the purchase of right-of-way, the bill also authorized the acquisition of lands for recreation by both the NPS and the Forest Service. At the same time, however, summaries of NPS parkway work were calling the Natchez Trace project "an historic type of parkway."[93] No specific definition or characteristics defining a "historic parkway" have been located during this research effort. In general, however, a historic parkway seems to have been defined as one which had numerous historic resources located along its route. Prior to its construction, the acting superintendent of the parkway project, Malcolm Gardner described the Natchez Trace in the following manner:

> A parkway is an elongated park containing a road, and a parkway as a part of a comprehensive recreation and conservation program would make available to the traveler certain areas along its route of a scenic, scientific, and historical importance On the Natchez Trace Parkway historical features will be emphasized.[94]

Among these features were to be: a 10-mile stretch of the original Trace with deep wheel ruts; the archeological remains of Indian inhabitation of the area, including the large Selsertown Mound constructed by the Natchez; and the buildings of an early eighteenth century plantation, the Mound Plantation. Eventually, resources identified and interpreted along the Natchez Trace Parkway included Indian mounds, inns used by travelers, lost towns, missions, and cemeteries. Highlights included the John Gordon House and its associated ferry crossing and the Merriwether Lewis Monument.

The historical aspect of the Natchez Trace parkway, however, did not preclude its construction to modern roadway engineering standards. Although the parkway was "a memorialization of the old" route, "technical standards required for modern traffic" did not "allow it to follow closely all the crooks and turns and some of the narrow ridges of the old road."[95] Instead, it was built to modern standards as a "scenic route for automobile traffic." As a result, on the Natchez Trace parkway

> All curves have very long radii and are spiraled. Vertical curves are long and adequate . . . In many cases they have unequal legs, to conform better to the ground. The grade tangents are long and pleasing. Grade crossings with railroads and state and county highways are eliminated wherever possible by separation structures.[96]

The road, whose general location is shown in Figure 16, was graded to a width of thirty-four feet. Roadside slopes were relatively flat, since deep cuts and fills were avoided where possible.[97] This was a simpler proposition for the Natchez Trace Parkway in the Mississippi River Valley than for the Blue Ridge Parkway in the Appalachian Mountains. The design of associated features was simple as well. Bridges, generally small ones, were modest and made of concrete; Smaller, less visible structures such as single pipe culverts also utilized simple, concrete structures. Only a few culverts were faced with native stone.

Taking its cue from the Blue Ridge Parkway, the Natchez Trace Parkway sought to achieve a similarly wide right-of-way. The fee simple purchased portion of the right-of-way was to average 100 acres per mile of road plus a scenic easement averaging fifty acres per mile. It was hoped the right-of-way would varied from 400 to 1,200 feet in fee simple plus up to 2,000 feet of scenic easement.[98] With such large widths, it was hoped to control as much of the visible envelope of the parkway as possible: "These widths were established through careful study of the terrain, to permit some measure of control of adjacent land in sight of the highway after necessary grading had been completed, as well as to set aside ample areas for future use and development of the trace itself for all time to come."[99] However, in the more than four decades it took to

purchase the land and complete the parkway, the eventual width was significantly narrower, averaging 200 to 80 feet across.[100] Only about 5,000 acres were established as scenic easement.[101] As on the Blue Ridge Parkway, some leasing of parkway lands back to farmers also occurred, providing "vicarious maintenance" along the parkway.[102] The local landscape also provided interpretive opportunities in the "presentation of the southern scene and an introduction to an agricultural economy."[103]

The Natchez Trace Parkway has taken longer to fully construct than either the Blue Ridge or Colonial Parkways. Planned to be 445 miles long, acquisitions of land, particularly in Tennessee and Alabama, proceeded slowly. After the advent of World War II, funding for the parkway dropped precipitously, from an average of about 1.5 million dollars per year in the late 1930s to approximately $80,000 in 1943.[104] By 1954, only ninety-eight miles of the full parkway length had been completed.[105] As a result, the balance of the parkway was completed between 1947-1966,[106] though even today the parkway still lacks 20 miles of motor road, slated for completion sometime after 2003.[107]

F. National Park Service Parkway Characteristics

In essence, an NPS parkway was a complete package of easily flowing traffic, scenery, culture, education, and recreation. As described in the case studies above, the NPS parkways had distinct characteristics which separated them from other parkways of the time. These are summarized below:

•As mentioned above, the NPS Parkways had a strong scenic component. This was born out of experience preserving scenery in the western parks and also from the BPR's experience on the Mount Vernon, where BPR designers worked to incorporate the historic features of the "offscape" into the parkway. Long vistas and viewsheds, well outside the right-of-way, were a continuing concern of NPS designers, more so than in urban/ regional parkways. This was likely due to the fact that NPS parkways were larger and were constructed in open rural areas.

•All three of the NPS parkways had a strong historic or cultural component, which elevated their meaning beyond recreation and beyond scenic preservation. In addition, signage and overlooks provided access to and interpretation of the historic features. Interestingly, both Colonial Parkway and Natchez Trace Parkway were inspired by historic roadway corridors which had been the focus of earlier preservation efforts in the late nineteenth and early twentieth centuries, as had the Mount Vernon Memorial Parkway before them. Both Colonial Parkway and Natchez Trace protected and interpreted the historic battlefields, Native American sites, archeological sites, road traces, and house sites along their routes, usually through scenic overlooks with interpretive signs. Although not specifically a historic route, the Blue Ridge Parkway preserved the contemporary Appalachian culture of the region, which, because of the area's isolation, reflected many nineteenth century folk ways. The Blue Ridge Parkway's cultural preservation efforts included retaining original structures along the route. This was in contrast to previous precedent set at Shenandoah National Park, where existing structures had been raised in efforts to create a natural park in the image of western parks. The Blue Ridge Parkway also retained land uses--specific agricultural crops--along the parkway by leasing park lands to farmers. Folk traditions, such as grist milling and molasses making, were demonstrated at pull-out areas along the route. The historic and cultural component of each parkway was also utilized it its design--Colonial Parkway's bridges were of Colonial-style brick, and the Blue Ridge utilized local architectural forms in the design of concession buildings and visitor centers. The NPS parkways took the idea of aesthetically-pleasing architectural features one step further in making them specific to the site and region.

•NPS parkways, particularly the Blue Ridge and Natchez Trace, were used by their designers as a land conservation tool. With fee-simple right-of-ways at 100 acres per mile, which was calculated to average 850'

in width, the NPS parkways had the widest right-of-ways of any parkways.[108] Beyond this, a scenic easement on the roadside added an additional fifty acres per mile of scenic protection, or about 400 feet in width. Stanley Abbott viewed the creation of these wide swaths of parkway to be "a way to exhibit and *preserve* the varied geographic features of a native American landscape" and suggested that it be adapted to protect other areas of "American countryside."[109] He noted that parkways were an efficient means of land conservation because, despite their thin width, there was "a zone around each of them where you sense its influence. . . . it is this zone which is critical."[110]

•NPS parkways were designed with extensive associated recreation opportunities. These opportunities ranged from simple parking overlooks for viewing vistas from a vehicle to picnic areas to camping areas permitting recreational activities of longer duration. Notable were tie-ins to regional and national recreation areas, such as the linkages to the Appalachian Trail envisioned as part of the Blue Ridge Parkway.[111] And of course, the length of Blue Ridge and Natchez Trace Parkways made these roads extended recreational experiences in themselves. Their great length ensured that their experience could not be dwarfed by the compression of space and time which occurred as automobiles and society became faster-paced. Whereas a 10-mile, Sunday afternoon drive along a Westchester Parkway eventually became mundane as air and car travel allowed much greater weekend trips, the length and breadth of the Blue Ridge Parkway ensured its ability to compare with such more extensive travel experiences.

•Interpretation was a key feature of all NPS parkways by the 1950s. All parkways had distinctive signage which described historic and cultural features and educated the motorist.

• The design standards on NPS parkways did not over-evolve. The design standards used were well-grounded in NPS aesthetics and paid attention to detail and beauty. Perhaps most important, the standards were based on lower--forty to fifty miles per hour design speeds--than later freeways--which permitted the alignments to use round, aesthetically pleasing curves. These features were common in all parkways constructed in the 1920s and 30s, but vanished in the 1950s as parkways became faster and more like highways. Although significant portions of the NPS parkways were built after World War II, they retained the features of their original 1930s designs. This is likely a result of the fact that the NPS was a park agency, and concerned with experience; while other 1950s parkways were constructed by highway agencies more concerned with economics and efficiency. In addition, the interagency agreement with the BPR and the NPS had institutionalized the collaboration of landscape architects and engineers as part of the parkway design process, ensuring that aesthetics would always be as important as engineering.

•The NPS parkways retained their site-specific differences. The three parkways are three different experiences, based on the different natural features of the terrain through which they move. Although they were designed by the same agency, the parkways are all different in appearance and experience, each with its own characteristic vegetation, bridge detailing, road surfacing, and topography.

G. Conclusion

The NPS parkway era, however, was relatively brief. The authorizations of all three parkways occurred within a relatively short window of time, between 1930 and 1938, and it is no coincidence that these large scale projects were proposed during the Depression when much of the country was out of work. The brief period of interest perhaps is also indicative perhaps, of the parkways' short-lived capturing of the public's (or politicians') imagination as a recreational opportunity, to be abandoned when other means of recreation became possible. Although a number of urban/regional parkways were also undertaken by the NPS and BPR, including the Rock Creek and Potomac, George Washington, Baltimore-Washington, and Suitland

Parkways, these, serving urban and regional commuting and recreation needs, were a very different type of parkway.

Yet the success of the NPS and BPR parkway machine should not be underrated, as its influence transcended its built works. Based on the success of their few built works, the NPS parkway experts became advocates for parkway construction. Stanley Abbott and Edward Abbuehl, designers on the Blue Ridge Parkway, wrote numerous articles praising the abilities of parkways to conserve scenery and land and manage growth, and the scenic easement became a more common means of land conservation following its use on the NPS parkways. NPS parkway standards were widely published, for municipal and regional planning and highway commissions to follow, and had a huge impact on the design of roads in general. The model of BPR engineers and NPS landscape architects working together was also widely touted as an ideal working relationship in the construction of all types of roads.[112] In addition, the NPS undertook numerous studies and parkway plans for the Appalachian Parkway, Green Mountain Parkway, the Mississippi River Parkway, and others. These unbuilt plans, along with the executed NPS parkways, were a message and an inspiration to communities and individuals that roadside development could aid in the conservation and preservation of their native landscapes.

II. ENDNOTES

[1] Ethan Carr, *Wilderness by Design: Landscape Architecture and the National Park Service*, 62-63.
[2] Carr, *Wilderness by Design*, 63, 68.
[3] National Park Service Management Policies, 1988, 1:2.
[4] Carr, *Wilderness by Design*, 5.
[5] Arno B. Cammerer in Good, *Park and Recreation Structures,* quoted in John Albright, "A Collection of Apt Phrases, Quotable Quotes, and Pithy Observations (in Chronological Order) on Park Design through the Years," np.
[6] Daniels, quoted in Carr, *Wilderness by Design*, 75.
[7] Carr, *Wilderness by Design*, 76.
[8] Carr, *Wilderness by Design*, 8.
[9] Carr, *Wilderness by Design*, 8.
[10] Carr, *Wilderness by Design*, 62; Black, *Hotel El Tovar*, quoted in Albright, "A Collection of Apt Phrases," np.[11]. Vint, 1937 Construction Report, quoted in Albright, "A Collection of Apt Phrases," np.
[12] An example of one such publication is the book "Specifications for Construction of Roads and Bridges in National Forests and National Parks, 1941," also known as FP 41.
[13] Edward Abbuehl, "A Road Built for Pleasure," 237.
[14] Albright, "A Collection of Apt Phrases," np, and his presentation given on the topic in January 1998 in the offices of EDAW.
[15] Carr, *Wilderness by Design*, 63, 72.
[16] Carr, *Wilderness by Design*, 64.
[17] 1925 *NPS Annual Report*, quoted in Carr, "Going-to-the-Sun Road National Register Nomination," 16.
[18] Carr, "Going-to-the-Sun Road National Register Nomination," 16.
[19] Carr, "Going-to-the-Sun Road National Register Nomination," 23,
[20] Carr, "Going-to-the-Sun Road National Register Nomination," 30.
[21] Carr, "Going-to-the-Sun Road National Register Nomination," 33.
[22] Carr, "Going-to-the-Sun Road National Register Nomination," 33.
[23] Carr, "Going-to-the-Sun Road National Register Nomination," 7.
[24] Carr, "Going-to-the-Sun Road National Register Nomination," 8.
[25] Carr, "Going-to-the-Sun Road National Register Nomination," 35.
[26] Carr, "Going-to-the-Sun Road National Register Nomination," 6.
[27] Carr, "Going-to-the-Sun Road National Register Nomination," 37.
[28] Sarah George Harrison, "The Skyline Drive: A Western Park Road in the East," 40.
[29] Harrison, "Skyline Drive," 38.
[30] Harrison, "Skyline Drive," 39.
[31] Harrison, "Skyline Drive," 41.
[32] Harrison, "Skyline Drive," 42-43.
[33] Harrison, "Skyline Drive," 43.
[34] Harrison, "Skyline Drive," 43.
[35] Harrison, "Skyline Drive," 44.
[36] Belasco, *Americans on the Road*, 71.
[37] Belasco, *Americans on the Road*, 89.
[38] Belasco, *Americans on the Road*, 142-43.
[39] Belasco, *Americans on the Road*, 90.
[40] Linda McClelland, National Register Nomination for Skyline Drive, Section 8, page 122.
[41] McClelland, National Register Nomination for Skyline Drive, Section 8, page 122-23.
[42] James Haskett, "The Colonial Parkway," 1.
[43] LANDSCAPES LA•Planning•HP, *Cultural Landscape Report for Colonial Parkway*, 178.
[44] LANDSCAPES LA•Planning•HP, *Cultural Landscape Report for Colonial Parkway*, 266.
[45] Charles Peterson, Correspondence with authors, 2/16/96.
[46] Harrison, "Skyline Drive," 43.
[47] LANDSCAPES LA•Planning•HP, *Cultural Landscape Report for Colonial Parkway*, 277.
[48] Carr, "Going-to-the-Sun Road National Register Nomination," 35.

[49] Harvey E. Jolley, *The Blue Ridge Parkway*, 19,31
[50] Jolley, *The Blue Ridge Parkway*, 22.
[51] Jolley, *The Blue Ridge Parkway*, 42.
[52] S. Herbert Evison, "Oral History of Stanley W. Abbott," 9-10.
[53] Abbuehl, "A Road Built for Pleasure," 237.
[54] Stanley Abbott, "Parkways--Past Present and Future," 685.
[55] Abbott, "Parkways--Past Present and Future," 685.
[56] Abbott, "Parkways--Past Present and Future," 685.
[57] Stanley Abbott, "Blue Ridge Parkway--Roanoke, Virginia," 75.
[58] Douglas Swaim, "Stanley Abbott and the Design of the Blue Ridge Parkway, 51.
[59] Abbuehl, "A Road Built for Pleasure," 237.
[60] Abbuehl, "A Road Built for Pleasure," 237.
[61] Abbuehl, A Road Built for Pleasure," 233.
[62] Evison, "Oral History of Stanley W. Abbott," 24. John W. Bright, "The Blue Ridge Parkway: A Catalyst for Environmental Design Innovation," 60.
[63] Abbott, "Parkways--Past, Present, and Future,"684.
[64] Abbott, "Parkways--Past, Present, and Future,"684.
[65] Jolley, *The Blue Ridge* Parkway, 132.
[66] Jolley, *The Blue Ridge* Parkway, 141.
[67] Jolley, *The Blue Ridge* Parkway, 139.
[68] Abbuehl, "A Road Built for Pleasure," 235.
[69] Abbott, "Parkways--Past, Present, and Future, 684.
[70] Abbott, Parkways--Past, Present, and Future," 689.
[71] Evison, "Oral History of Stanley W. Abbott," 29. Abbuehl, "A Road Built for Pleasure, 233.
[72] Swaim, "Stanley Abbott and the Design of the Blue Ridge Parkway," 44.
[73] Stanley Abbott, "Parkways--A New Philosophy," 42.
[74] Abbott, "Parkways--A New Philosophy," 43.
[75] Evison, "Oral History of Stanley W. Abbott," 24.
[76] Swaim, "Stanley Abbott and the Design of the Blue Ridge Parkway," 45.
[77] Abbuehl, "A Road Built for Pleasure," 235.
[78] Abbott, "Parkways--Past, Present, and Future," 687.
[79] Abbott, "The Blue Ridge Parkway--Roanoke, Virginia," 76.
[80] Abbott, "The Blue Ridge Parkway--Roanoke, Virginia," 77.
[81] Swaim, "Stanley Abbott and the Design of the Blue Ridge Parkway," 52-54.
[82] Abbuehl, "A Road Built for Pleasure," 233.
[83] Better Roads, "The Natchez Trace," 16.
[84] Malcolm Gardner, "The Natchez Trace--An Historical Parkway," 16.
[85] Better Roads, "The Natchez Trace," 16.
[86] As this report is being written, HABS/HAER is currently documenting the Natchez Trace, but their reports are unavailable for review at this time.
[87] Better Roads, "The Natchez Trace," 16.
[88] Dudley C. Bayliss, "Parkway Development under the National Park Service," 257.
[89] Phillip A. Grant, "Congress and the Development of the Natchez Trace Parkway," 156.
[90] Gardner, "The Natchez Trace--An Historical Parkway," 17.
[91] Gardner, "The Natchez Trace--An Historical Parkway," 17.
[92] Grant, "Congress and the Development of the Natchez Trace Parkway,"157-58.
[93] Bayliss, "Parkway Development under the National Park Service," 257. Abbott, "Parkways Past, Present and Future," 688.
[94] Gardner, "The Natchez Trace--An Historical Parkway," 17.
[95] Gardner, "The Natchez Trace--An Historical Parkway," 17.
[96] Better Roads, "The Natchez Trace," 18.
[97] Better Roads, "The Natchez Trace," 18.
[98] Better Roads, "The Natchez Trace," 17.
[99] Better Roads, "The Natchez Trace," 16.

[100] Correspondence, Sara Amy Leach at the Natchez Trace Parkway to Shaun Eyring at the Philadelphia Systems Support Office, 6/26/98.
[101] Correspondence, Sara Amy Leach at the Natchez Trace Parkway to Shaun Eyring at the Philadelphia Systems Support Office, 6/26/98.
[102] Abbott, "Parkways--Past Present and Future," 687.
[103] Better Roads, "The Natchez Trace," 18.
[104] Grant, "Congress and the Development of the Natchez Trace Parkway," 158.
[105] ASLA Public Roads Committee, "Public Roads, Controlled Access Highways, Parkways," 152.
[106] Grant, "Congress and the Development of the Natchez Trace Parkway,"160.
[107] Correspondence, Sara Amy Leach at the Natchez Trace Parkway to Shaun Eyring at the Philadelphia Systems Support Office, 6/26/98.
[108] Jolley, *The Blue Ridge Parkway*, 102.
[109] Abbott, "Parkways--A New Philosophy," 41, 42.
[110] Abbott, "Parkways--A New Philosophy," 43.
[111] Evison, "Oral History of Stanley W. Abbott," 36-37.
[112] Abbuehl, "A Road Built for Pleasure," 237.

III. Historic Preservation Context

A. Historic Preservation prior to 1926

Prior to 1926, the preservation movement lacked "unity and coherence."[1] The participants of the movement were varied. In some cases they were individuals (both men and women) or groups interested in history in general or a specific building or site. At other times they were social groups such as the Daughters of the American Revolution who took on a preservation activity as a cause. In other cases they were regional associations formed solely for the purpose of preserving buildings and sites, such as the Association for the Preservation of Virginia Antiquities (APVA) or the Society for the Preservation of New England Activities (SPNEA). The motivations of these various groups and individuals also contributed to the diversity of the movement. These included pure, romantic patriotism and the belief that recalling the nation's past glories and heroes would inspire future generations. There was also a desire to preserve American traditions of architecture and lifestyle that were believed to be disappearing in industrial society. Finally, many groups believed in the ability of preservation to aid in Americanizing the increasing numbers of immigrants flooding the country in the late 1800s and early 1900s.

The movement's one great commonality was an interest in saving old buildings which were purchased by a group or individual.[2] In many cases these buildings were ancestral homesteads of American heroes, such as Mount Vernon, home of George Washington, where preservation efforts began in 1850. In other cases, such as the Otis House saved by SPNEA, buildings were saved because of their unique architectural features.

Preservation efforts outside of historic buildings generally occurred on battlefields or other sites associated with military activities, and were often, at least initially, considered acts of commemoration rather than preservation. In part this was due to the fact that memorialization efforts began soon after the battles, particularly in the case of Civil War battlefields, and commemorating the lives and bravery of the participants assumed a natural primacy over the place of the battle itself. As time passed, however, the place of the battle became hallowed ground, and efforts focused on maintaining the battlefields as well as the markers erected to commemorate the activities which occurred there. For example, at Gettysburg, memorialization began the year after the battle, with the founding of the Gettysburg Battlefield Memorial Association. This Association hoped to preserve the battlegrounds and commemorate the heroic deeds of the confrontation in 1864. Memorial avenues were laid out and constructed in the nineteenth century to provide access to the growing proliferation of monuments, the viewing towers and the lines of battle actions. These avenues added circulation elements to the 1863 farm and area road system. In this way, the commemoration activities at this Civil War battlefield included the construction of the memorial avenues, which were lined with monuments to the various army companies and divisions.

A similar situation occurred at Saratoga Battlefield in New York, where markers commemorating battle events were placed along old farm roads. These roads eventually became a network, and guides were written to help tourists navigate around the battlefield.

B. The Rise of Preservation after 1926: Colonial Williamsburg

According to the noted preservation historian Charles Hosmer, following World War I, two events changed the face of historic preservation. The first of these was the advent of the automobile as a means of popular transportation. Prior to World War I, there were approximately 1.5 million passenger vehicles registered in the

United States. By 1925, in contrast, there were close to 20 million.[3] Over the same time period, working hours for manufacturing workers declined from almost 50 to 45 hours per week and wages doubled, from approximately $11.00 per week to $24.00 per week.[4] Sociologists of the time noted that the middle class was enjoying recreational pursuits, such as car travel, which only the rich had previously enjoyed. The automobile thus clearly increased the potential audience for burgeoning preservation efforts, as people had time and money for historical recreation and education. At the same time, however, the automobile increased the need for preservation as well, as parking lots and roads were clearing whole historic sections of towns.

If a new audience was being created for preservation efforts, then new places for them to visit were also required, which leads to the second great influence on the preservation movement of the 1920s: the involvement of one of the country's great philanthropists in a major preservation project, which occurred when dedicated preservationist William A. R. Goodwin persuaded John D. Rockefeller, Jr. to undertake the restoration of Williamsburg, Virginia in 1926. This project more than any other changed the future of preservation in the United States, as the first large scale undertaking with adequate funding. Williamsburg was a significant preservation project because of its scope and scale, in encompassing an entire community and not just a single, or a few, buildings. It projected a much larger vision of what preservation was and could be. This was true in terms of the professionalism and accuracy of the work, its importance in American culture, and its educational goals.

The Williamsburg Restoration was also important in establishing architecture and landscape architecture as key preservation professions. In part this was due to the fact that architects were already interested in historic building forms, as evidenced in the *White Pine Series* of 1915, which documented early buildings, though generally for inspiration in new construction.[5] Perry, Shaw, and Hepburn, architects for the restoration, had, for example, produced numerous Colonial Revival buildings for clients and hence were well prepared to design and construct, albeit in more authentic form, the eighteenth century buildings for the Restoration. Similarly, Restoration landscape architect Arthur Shurcliff had done research on colonial gardens prior to his work at Williamsburg, and this background served him well in the fast-paced environment at Williamsburg.[6] As a result of the design professions' knowledge and interest in physical history, a veritable army of architects and draftsmen were churning out architectural drawings long before an historic research program was fully established at Williamsburg. In contrast, historians "had merely paid lip service to the idea that buildings could be classed as documents and.... were more poorly prepared for the Williamsburg Restoration than any other professional group."[7]

However, the historians caught up quickly, and the extensive time and effort spent on historic research became a hallmark of the project and set a precedent for future preservation work. Standards and guidelines--such as a 1776 cut off date for the appearance of buildings-- were also established to increase authenticity. An advisory committee of the varied professions was formed at a very early date and met regularly to review plans and negotiate difficult decisions. In the words of Charles Hosmer, it was "the number of professionals and the time devoted to research" is what set Williamsburg apart from previous projects.[8] By 1933, at the end of the first phase of reconstruction, Williamsburg had become a model for preservation projects nationwide and had become a clearing house for preservation information.[9]

C. The Colonial Revival

Although the restoration of Colonial Williamsburg renewed interest in Colonial architecture around the United States, in truth, an architectural movement known as the Colonial Revival had been underway in the U.S. since the second half of the nineteenth century. According to architectural historian Vincent Scully, the Colonial Revival was born in the late 1870s, coincident with the rise of the Queen Anne Style. These two architectural

styles, one reminiscent of an American past, the other of an English past, were part of a "wave of nostalgia . . . a new and suddenly poignant American longing to recall its 17th and eighteenth century past. The longing became a powerful force in the early 1870's and culminated in the colonial enthusiasm aroused by the Centennial of 1876."[10]

Thus, between 1870 and 1890 there was an increasing use of architectural detailing which had been used by early Colonial builders. Interestingly, these architectural forms were initially drawn from seaside resort towns, many of which had changed little from early colonial times.[11] Charles Follen McKim, for example, restored an eighteenth century house in Newport, Rhode Island, and photographs of this house, and the Bishop Berkeley's house of 1728, both published in the *New York Sketch Book* of 1874, seems to have ignited an interest in architectural history.[12] Soon other magazines were printing similar images of colonial houses in Portsmouth, New Hampshire and Cape Cod, Nantucket, Cape Anne, Newburyport and Marblehead, Massachusetts, among others. Added to this was an interest in all things Revolutionary due to the approaching Centennial of 1876, and the Colonial Revival was in full swing. Interest extended beyond architecture to colonial furnishings such as furniture, silver, and spinning wheels. Of the Colonial Revival Scully writes:

> [the] revival seems to have had a dual nature: it was nostalgic and antiquarian, but it was also sincerely re-creative, born of a profound need and fed by new broadening of picturesque vision. In the wide halls and capacious fireplaces of colonial houses, in their low ceilings and rough materials, popular observers had somehow vaguely felt the answer to a need for space, shelter, and simple life.[13]

It should be noted that the term "Colonial" in the nineteenth century was applied rather haphazardly, and could mean any American architecture before the Victorian age. According to Scully , "from 1876 on the word generally came to mean 'Georgian' or 'Palladian,' and the phrase 'colonial detail' meant more or less eighteenth-century Palladian details."[14] As a result, differences, for example, between English and American architecture of the period were sometimes ignored.[15] Interestingly enough, the term "Colonial Revival" is of unknown origin and was apparently not in common parlance before 1924.[16]

Initially, the Colonial Revival movement engendered a certain level of imitation; articles published on Colonial architecture recommended to architects that they study existing buildings which were rapidly disappearing and sketch their authentic details.[17] Later, however, the design of buildings became less academic and derivative and more creative.

In the early years of the 1870s, architects working within the style were generally designing small houses, cottages, and summer hotels.[18] Chief among those developing the Colonial Revival house were Boston, Philadelphia and New York architectural firms and chief among these was Peabody and Sterns. The use of the Colonial Revival in the design of homes lasted well into the 1920s in architecturally designed homes and even longer in mass-produced houses. Perhaps as a result of the residential interest in the Colonial style, a revival of interest in Colonial Gardens also occurred in the early part of the twentieth century, including designs such as the Colonial Revival garden for the Longfellow House in Cambridge, Massachusetts by Martha Brooks Hutcheson.

In the later period of the Colonial revival, in the 1880s, however, buildings of all types were produced. In particular, colleges and private schools adopted the style for its associations with the upper classes and national origins; chief examples of academic institutions utilizing the Colonial style were Harvard University in the years between 1869 and 1909 under president Charles W. Eliot.[19] Interestingly, Eliot had played a role in the preservation of Old South Meeting House, one of Boston's premier original Colonial buildings. Under Eliot's tenure, Peabody and Stearns designed Hemenway Gymnasium in the Colonial style; Charles McKim, the

Yard's Fences and Gates; and Shepley Rutan and Coolidge, Conant and Perkins Halls, among many other buildings. Other campuses adopting the Colonial Revival included Phillips Academy, Brown University, and Dartmouth, among many others. Even the Gothic campuses of Princeton and Yale eventually accrued some Colonial Revival Buildings.

Churches also adopted the Colonial Revival and the twenties the style was "second only to the Gothic as the preferred style for new American churches.[20] In general, Protestant churches were the major promulgators of the style, feeling the simple forms of Georgian architecture were preferable to the ornate Gothic in representing the nature of their faith. Prime examples include Second Church and Parish House in Boston by Cram and Ferguson; the First Congregational Church at Naugatuck, Connecticut by Charles McKim; and the Second Unitarian Church in Brookline, Massachusetts by Edwin J. Lewis.

Outside of houses, however, perhaps the most notable use of the Colonial Revival was for government and civic buildings such as town halls, courthouses, and post offices. Perhaps the first Colonial Revival post office was one in Salem, Massachusetts, designed by Peabody and Sterns in 1882-83. In many cases, the style was chosen because of its compatibility with local architecture.[21] Colonial Revival town halls, historical societies, and libraries were popular in New England in the years prior to World War I.[22] The style wasalso applied in military training facilities, such as the Army War College (Fort McNair) in Washington, D.C.[23] It was felt the clean lines and simple ornamentation were "typical of the straight forward service and life of the marines."[24] Other forts and military bases would adopt the style both before and immediately following World War I.

Like the preservation movement of the late nineteenth and early twentieth centuries, the Colonial Revival was popular in part because of its patriotic sentiment, and in this sentiment the two movements did overlap. Many early preservation projects--such as Mount Vernon, Independence Hall, Washington's Headquarters at Newburgh and many others--were Colonial buildings, and architects, historians, and preservationists were all interested in saving them for future generations. However, whereas historians and preservationists were interested in saving buildings for their symbolic or associative properties, architects of the Colonial Revival, as an architectural movement, were more interested in these buildings as they could be interpreted in new building design.

The end of the Colonial Revival is difficult to precisely calculate, in part because of the continuing appeal of the style. Architectural historian Vincent Scully does not credit the movement beyond 1890, in great part because his interest in documenting the rise of more innovative, modern styles of American architecture of Richardson, Sullivan, and Wright eclipses the more mundane and imitative aspect of the Colonial Revival. The other major study of the Colonial Revival places the end of the Colonial Revival at 1924 with publishing of Lewis Mumford's *Sticks and Stones*, which attacked modern society's use of the forms of a defunct society as absurd.[25] Mumford wrote: "If we wish to tie up with Colonial tradition we must recover more than architectural forms: we must recover the interests, the standards, the institutions that gave to the villages and buildings of early times their appropriate shapes. To do much less than this is merely to bring back a fad which might as well be Egyptian as 'colonial' for all the sincerity that it exhibits."[26]

However, if Mumford made the Colonial Revival obsolete for the intellectual elite, the style continued well into the mid-twentieth century. The Williamsburg Restoration, widely publicized and visited by tourists, also gave the movement additional momentum in the late 1920s, contributing to the rise of historic architecture and restoration architecture as a professions and to the popular appeal of the style. And although it is rarely seen today in its full-blown glory, the style persists into the present day in brickwork detailing and window framing on buildings ranging from suburban residences to gas stations.

D. Preservation in the National Park Service

In 1926, as the Williamsburg Restoration was getting underway, historic preservation in the NPS was still in its infancy. In fact, within the federal government there was no agency with an administrative mandate for handling historic properties and there were no federal policies governing acquisitions of such properties.[27] As a result, two agencies--the War Department and the NPS--had competing interest in managing historic properties, though neither department had, at that time, professionals within their ranks capable of interpreting old buildings. The War Department's interest stemmed out of their jurisdiction over Civil War and Revolutionary Battlefields. By 1926 the War Department had been granted jurisdiction over a few other sites, such as the Lincoln Birthplace in Kentucky, and in the late 1920s, the War Department also supervised a restoration of the Curtis Lee Mansion in Arlington Cemetery, the first (1870) historic site owned by the federal government.[28]

By 1926, the National Park Service was gaining interest in taking over the management of the country's historical sites. The new agency, formed in 1916, "had aggressive and capable leadership" under Director Stephen Mather and Assistant Director Horace Albright. Although the NPS had little experience managing historic sites, the agency's consolidation of the role of managing the national parks gave them a "can-do" attitude. Much of the interest in historic properties can be credited to Albright, who, is said to have had an abiding personal interest in history.[29] After visiting a number of Civil War battlefields in the 1910s, Albright became convinced that the NPS could do a better job of interpreting history than the Army, and the agency began to take a stand that all public reservations should be managed under one agency, a logical idea.[30] When Albright took over the directorship in 1928, he was poised to get historic sites under NPS control, stating "My job as I see it, will be to consolidate our gains, finish up the rounding out of the Park System, go rather heavily into the historical park field, and get such legislation as is necessary to guarantee the future of the system." [31]

Unfortunately, "going heavily into the historical park field" was not as easy as Albright thought. He received little support in his efforts to transfer sites from the War Department to the NPS, from neither his own department nor from Congress, especially since the representatives from eastern states had little knowledge of the activities of the NPS in the west .[32] Albright's tactics therefore shifted, to creating historical park sites in the East that would win support for the NPS in Congress.

The first of these sites was Wakefield, the George Washington birthplace in Westmoreland County, Virginia. The Wakefield National Memorial Association had begun in 1923 to raise funding to rebuild Washington's first home to meet the 200th anniversary of his birth in 1932. When the organization ran into problems regarding the accuracy and funding of the reconstruction, John D. Rockefeller and the Williamsburg professionals encouraged the group to donate the site to the NPS, which was legally acquired on January 23, 1930. Unfortunately, the reconstruction of the house was fraught with controversy, owing to discrepancies between historic research and existing foundations. Despite the problems, the project marked the NPS's first involvement in a major preservation effort.

The acquisition of Colonial National Monument, however, overshadowed the smaller project at Wakefield. This second historical project was initiated in 1928 when Rockefeller's Williamsburg staff contacted Albright regarding the future of the restoration. As the restoration had evolved, W.A.R. Goodwin began to see it as something larger--an historical development of the entire peninsula. This idea of a "National Historical Park that would somehow link the restoration of Williamsburg, the colonial capital, with Jamestown, the original English settlement in Virginia, and Yorktown, the scene of the last major battle of the American Revolution" was conveyed to Albright.[33] Shortly thereafter, the idea received support from both the U.S. Congress and the Virginia State Commission on Conservation Development. A large lobbying effort ensued, and in July, 1930, President Hoover signed the bill creating the Colonial National Monument. The lands for the monument

were to include the Yorktown Battlefield, a major portion of Jamestown, and lands for a parkway linking the two new sites and the Williamsburg Restoration.

As difficult as the negotiations to create the park had been, the physical reality of building the park was even more difficult. The task was enormous. It included conducting research to establish the boundaries for the park, both at the Yorktown Battlefield and at Jamestown. The Moore House, where the treaty of Yorktown had been signed, also needed to be researched and restored. Interpretive plans for the battlefield needed to be developed. A parkway needed to be designed and constructed. A major celebration for the sesquicentennial anniversary of the Yorktown treaty needed to be organized. The administration of a major historical park required skills which the agency, in managing natural parks, had heretofore not required.

Colonial National Monument thus became a major training ground for preservation professionals in the federal government. As at Williamsburg, these were initially architects, landscape architects, and engineers to address the earthworks, architecture and park facilities. Engineer Oliver Taylor was hired as the first superintendent of the park, but spent much of his time in administrative planning and organizing the sesquicentennial. Taylor was superseded by William Robinson, Jr., a civil engineer with an interest in history, following the celebration. Charles Peterson, a landscape architect, was the chief representative of the Office of Plans and Design and reported to Thomas Vint. Peterson was initially sent to Colonial National Monument to oversee the construction of the parkway, but he was soon working on proposals for the development of the Jamestown area, the restoration of the Moore House, and work on the Swan Tavern.[34] By 1931, the NPS had hired the a chief historian in the Washington office, Verne Chatelain and the first "ranger historians," B. Floyd Flickinger and Elbert Cox, in the field at Colonial. In addition to doing documentary research to support the preservation of earthworks, the restoration of historic structures, and archeological work, Flickinger and Cox were also organizing interpretive programs.

The learning curve on the project was fast. Williamsburg proved particularly influential, because of its proximity and similarity of mission, though by 1931, thoughts of a "full" restoration of the Yorktown and Jamestown were waning. The influence of Williamsburg on the project was both direct and indirect. Sometimes it was formalized, as in the restoration of the Moore House, a structure initially owned by Rockefeller. Restoration work on its exterior was completed by Perry Shaw and Hepburn and the Williamsburg staff.[35] Influence was also informal, consisting of interaction between the young historians and architects of both agencies. Charles Peterson, for example, lived in Williamsburg across from the Old Capitol and socialized with his peers at the Restoration, no doubt discussing their respective projects. The whole "Colonial" environment of Williamsburg affected Peterson, and can be seen in his designs for the parkway bridges, logically constructed in colonial brick. Similarly, when parkway designers were searching for a surfacing material for the parkway, the exposed aggregate utilized on Williamsburg sidewalks was cited as a possible material and was eventually adapted for use on the road.

As the divisions within the NPS began to develop, expertise conflicts soon arose between the various individuals and departments about prioritizing preservation and administrative tasks, which included efforts to " handle public relations, restore a house, supervise basic research, communicate with the Williamsburg organization, and get an educational program started."[36] Conflicts also rose on individual projects. Notable were disagreements about the amount of historical information required to effectively reconstruct the Swan Tavern and the Reynolds House, two buildings in the battlefield area dating to the Revolutionary period. "Flickinger and Chatelain frequently questioned the research done by the architects, and Peterson questioned the ability of the historians to understand the structural evidence that his staff had found. These debates were evidence of a healthy skepticism in the Park Service as well as an indication of a growing rivalry between two branches of the same organization."[37]

Despite the problems in organization and methodologies, the NPS foray into preservation was successful, gaining the agency recognition and congressional support in the East. This support led directly to the establishment of the first official "Historical Park" in the system, the site of Washington's winter headquarters in Morristown, New Jersey. Morristown NHP was significant in that it was not a National Monument, created by presidential decree, but the first historical park created by an act of Congress, with its own legislated mandate. The broad support required for such an action led directly to the Historic Sites Act of 1933, in which all battlefields, parks, monuments, and cemeteries administered by other agencies were transferred to the NPS. Horace Albright's goal of uniting historical and natural parks under one agency had been realized.

E. Charles Peterson and National Park Service Design

One of the key figures in the development of Colonial Parkway and Colonial National Monument (later National Historical Park) was Charles Peterson, who also played a significant role in the development of historic preservation in the National Park Service. Peterson, a 1928 graduate of the University of Minnesota, entered public service as a rodman on a survey crew of the U.S. Bureau of Public Roads (BPR). After two seasons in the West with the BPR, Peterson began his professional career as an architect and landscape architect with the National Park Service in San Francisco in January, 1929. In this position Peterson conducted field work and prepared development plans for a variety of national parks in the west, from the Black Hills in South Dakota to the Petrified Forest of Arizona.

Peterson's first job in the east was in Shenandoah National Park, on Skyline Drive, where, with engineer William Austin he staked out two thirds of the route. Although Peterson "wanted to be outdoors in the West all the rest of my life and be an architect,"[38] in September 1930 the Branch of Plans and Design sent him East to work on a new historical park in Virginia, Wakefield, the George Washington Birthplace.[39] Peterson recounts that his experience documenting historic adobe and brick walls in the Southwest (Tumacacori Mission) for the NPS as one of the reasons why he was chosen by the NPS "to go East."[40] However, Peterson was quickly taken off the work at Wakefield, replaced by another landscape architect, to concentrate on the newly created Colonial National Monument. One of his first jobs was laying out Colonial Parkway, utilizing skills learned in the west and on Skyline Drive. His architectural background proved useful in the design of the brick bridges along the parkway. Peterson also conducted research on the Park's historic buildings and provided design drawings, and played a key role in the restoration of the Moore House.

Soon Peterson was supervising park development in the east as the chief representative of the then- San Francisco-based Branch of Plans and Design, and was supervised by Thomas Vint located in Washington, D.C. Peterson's work extended to Morristown National Historical Park, where he worked with park historians on the Tempe Wick House, the Guerin House and the reconstruction of the Revolutionary hospital. Another prominent preservation project on which he worked was Hampton National Historic Site, a 1700s estate, which contained the largest house in the United States when it was completed in 1790.

Clearly, Peterson's early experiences in the east and particularly at Colonial National Monument, changed both his career, which began to focus on preservation. Peterson, who during his time at Colonial National Monument lived in Williamsburg across the street from the Old Capitol, also had the chance to observe the Williamsburg restoration, and "mix with the draftsmen of the Perry Shaw and Hepburn office,"[41] which was in charge of the Williamsburg Restoration. In this, and his work at Colonial, he "had the opportunity to work with and understand the two most thoroughly professional and complicated historical programs in the United States."[42]

Peterson also influenced the NPS, helping to establish national standards for preservation practice. His concerns were architectural and historic accuracy, as well as documenting and understanding the physical resource itself. He became a mover and shaker within the NPS, interfacing often with the chief executives of the Washington office, lobbying for specific projects:

> Charles Peterson of the Branch of Plans and Design . . . became the major decision maker in the process of planning the public works restorations and reconstructions that came out of the Washington office. The correspondence files for Morristown, the George Washington Birthplace, and Colonial are full of Peterson letters. These reports and memos show a respect for historical precedents and a willingness to work with whatever evidence might shed light on a plan for a building project. . . . He was just as eager to see the work of the National Park Service grow into a massive preservation effort. . . . [and] became more and more a believer in the preservation of the national architectural heritage. . . .He was less impressed with the historical inspiration that could be gained at the Yorktown battlefield than were the historians. . . . Peterson began to hope that the public could grow to appreciate the rich variety of architectural traditions that had helped to create a new American landscape.[43]

One of the major projects Peterson implemented was the creation of the Historic American Building Survey (HABS) in 1933. Peterson envisioned HABS as an architectural archive which might save, through drawings and photographs, buildings--and bridges, forts, barns, mills, and outbuildings-- which might otherwise be destroyed, noting "It is the responsibility of the American people that if the great number of our antique buildings must disappear through economic causes, they shall not pass into unrecorded oblivion."[44] Although originally staffed by unemployed architects and draftsmen working as part of the Civil Works Administration, the Survey later continued on to be staffed by college students. In sixty-five years it has become the largest archive of its type in the world, and has contributed to preservation scholarship as well as to the identification and documentation of significant structures.

Following the creation of HABS, in 1936, Peterson went to the Jefferson National Expansion Memorial in Saint Louis as a staff architect with the task of documenting the buildings to be torn down to construct the memorial. The experience broadened his view of historic architecture to include Victorian buildings: "Peterson could now give the same loving attention to the cast-iron fronts of Victorian commercial buildings that he had given to eighteenth-century Virginia brickwork."[45] But the job was also difficult, as he was forced "to watch a significant nineteenth-century riverport demolished while he studied the area and became increasingly aware of the unique heritage of old St. Louis."[46] Buildings he fought to preserve included the Old Customs House, the Jean Baptiste Roy House, a number of commercial buildings, and the National-Scott's Hotel, all later demolished.

However, even as buildings were destroyed, Peterson presented new ideas to the NPS to encourage preservation. One of his great hopes for the Jefferson National Expansion Memorial was to establish an architectural museum on the riverfront, to celebrate both the architectural history of the area as well as Jefferson's own enduring interest in architecture. The idea, however, was never realized. At the same time, Peterson continued to aid in the development of the new national park, helping to draft, in 1938 and 1939, a mission statement for the memorial.[47] He also participated in the restorations of the Old Courthouse, the Old St. Louis Cathedral, and the Rock House, the only three historic buildings saved in the wake of the development of the new memorial.

In St. Louis, Peterson also worked to establish a preservation movement outside the NPS, working with local historians, architects, and philanthropists. A major portion of this work was founding the William Clark Society, a group dedicated to commemorating the work and life of explorer William Clark by founding a

western museum.[48] The group raised public awareness of the history of the city, and was instrumental in saving the Campbell House, a key historic site in Saint Louis, with its furnishings fully intact. Charles Hosmer notes that of the "whole story" of the establishment of the Jefferson National Expansion Memorial that "Perhaps the most important preservation activity that came out of [it] was the cultural enrichment that Charles E. Peterson imparted to St. Louisians."[49] Peterson would do the same when he later moved to Philadelphia.

When World War II broke out, Peterson entered the U.S. Naval Reserves, becoming a Commander in the Civil Engineering Corps. He served on the Nimitz staff in World War II as Chief of the Advanced Base Engineering Division and was cited for his work in planning the Pacific Campaign from Guam to Honshu.

Following World War II, in 1946, Peterson was sent to conduct an architectural inventory of Philadelphia's historic buildings and to study the future boundaries of the proposed Independence Hall National Historical Park in Philadelphia.[50] Working with historian Roy Appleman, Peterson also worked on the future park's interpretive planning and final physical development in 1947. In contrast to the Jefferson National Expansion Memorial, the proposed Philadelphia project noted that the new park's significance existed primarily in its historic buildings.[51] Eventually Peterson became the park's Resident Architect from 1950 to 1954, and features in the park bear his imprint. He also riginated that park's Architectural Study Collection in 1951. From 1954 to 1962, Peterson was the supervising Architect of Historic Structures in the Eastern Office of Design and Construction of the National Park Service. In this faculty he directed sizable projects scattered from Boston to the Virgin Islands to St. Louis.

Peterson left the National Park Service in 1962, and began work as a private consultant in architectural restoration and historic preservation with projects in places from Hawaii to Morocco. In addition, he was an adjunct Professor of Architecture at Columbia University from 1964 to 1978, teaching in its graduate program in Restoration and Preservation, emphasizing the evolution of Building Technology. In 1966 and 1968 Peterson conducted development studies for Easter Island (Chile) and for UNESCO (Paris). Peterson has lectured extensively on architectural history and preservation for professional, academic and lay audiences.

Peterson was a leader in founding numerous volunteer societies for historic preservation, including the William Clark Society (St. Louis), the Thornton Society (Washington), the Friends of the Cabilso (New Orleans), the Friends of Iolani Palace (Honolulu), the Friends of Robert Smith and of Nicholas More (Philadelphia) and the Friends of HABS (all over). He is a founding member of the Association for Preservation Technology (APT, which was created in 1968, and served as its president in 1969. He is also a founding member of U.S. ICOMOS. Peterson has also been a member of the Society of Architectural Historians; National Historic Advisory Committee; the National Trust for Historic Preservation (charter member); National Park and Conservation Association; Center for French Colonial Studies; American Institute of Architects; Association for Studies in the Conservation of Historic Buildings; the Necomen Society; City of Philadelphia Historical Commission, among others. He has been awarded numerous honors for his work in the field. He has authored numerous books, including *Colonial St. Louis* (1949, 1993); *Rapa Nui* (1968); and *Notes on Hampton Mansion* (1970).

One of Peterson's colleagues described him as a person who "has been more responsible for stimulating public interest in architectural preservation and restoration than any other man" (Hosmer, 547). While these are strong words of praise, it is clear that Peterson was a significant figure in the establishment of the National Historical Parks as a viable type of park within the National Park Service and contributed greatly to the development of preservation as a professional pursuit both within and outside of the NPS.

III. ENDNOTES

[1] Charles B. Hosmer, *Presence of the Past*, 298.
[2] Charles B. Hosmer, *Presence of the Past*, 298.
[3] Charles B. Hosmer, *Preservation Comes of Age*, 2.
[4] Hosmer, *Preservation Comes of Age*, 2.
[5] Hosmer, *Preservation Comes of Age*, 31.
[6] Charles Birnbaum and Lisa Crowder, eds., *Pioneers of American Landscape Architecture*, 111-113.
[7] Hosmer, *Preservation Comes of Age*, 31.
[8] Hosmer, *Preservation Comes of Age*, 11.
[9] Hosmer, *Preservation Comes of Age*, 65.
[10] Vincent J. Scully, Jr., *The Shingle Style and the Stick Style*, 22.
[11] Scully, *The Shingle Style and The Stick Style*, 24.
[12] Scully, *The Shingle Style and The Stick Style*, 25-26.
[13] Scully, *The Shingle Style and The Stick Style*, 30.
[14] Scully, *The Shingle Style and The Stick Style*, 38.
[15] William B. Rhoads, *The Colonial Revival*, xxxviii.
[16] Rhoads, *The Colonial Revival*, xxxxi.
[17] Scully, *The Shingle Style and The Stick Style*, 37.
[18] Scully, *The Shingle Style and The Stick Style*, 64.
[19] Rhoads, *The Colonial Revival*, 144.
[20] Rhoads, *The Colonial Revival*, 200.
[21] Rhoads, *The Colonial Revival*, 237.
[22] Rhoads, *The Colonial Revival*, 273.
[23] Rhoads, *The Colonial Revival*, 239.
[24] Rhoads, *The Colonial Revival*, 242.
[25] Rhoads, *The Colonial Revival*, xxxxii, 545.
[26] Mumford quoted in Rhoads, *The Colonial Revival*, 545.
[27] Hosmer, *Preservation Comes of Age*, 471.
[28] Hosmer, *Preservation Comes of Age*, 472.
[29] Hosmer, *Preservation Comes of Age*, 476.
[30] Hosmer, *Preservation Comes of Age*, 476.
[31] Hosmer, *Preservation Comes of Age*, 475-76.
[32] Hosmer, *Preservation Comes of Age*, 477.
[33] Hosmer, *Preservation Comes of Age*, 494.
[34] Hosmer, *Preservation Comes of Age*, 501, 507.
[35] Hosmer, *Preservation Comes of Age*, 501.
[36] Hosmer, *Preservation Comes of Age*, 506.
[37] Hosmer, *Preservation Comes of Age*, 540.
[38] Patricia O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[39] O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[40] O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[41] Hosmer, *Preservation Comes of Age*, 500.
[42] Hosmer, *Preservation Comes of Age*, 500.
[43] Hosmer, *Preservation Comes of Age*, 547.
[44] Hosmer, *Preservation Comes of Age*, 549-50.
[45] Hosmer, *Preservation Comes of Age*, 633.
[46] Hosmer, *Preservation Comes of Age*, 634.
[47] Hosmer, *Preservation Comes of Age*, 638.
[48] Hosmer, *Preservation Comes of Age*, 215.
[49] Hosmer, *Preservation Comes of Age*, 648.
[50] Hosmer, *Preservation Comes of Age*, 775.
[51] Hosmer, *Preservation Comes of Age*, 777.

IV. Colonial Parkway in Context

A. Significance of Colonial Parkway within the American Parkway Movement

The Colonial Parkway is one of many automobile parkways that were constructed between the years 1923 and 1955 as part of what may be called the "American parkway movement." Yet the Colonial Parkway stands out among this class of roads, both because of its exemplary embodiment of the parkway typology and because of its unique characteristics, such as its singular brick bridges and historical and interpretive elements. The special qualities of the road were evident as early as the 1930s, when the parkway was hailed for its adherence to the most up-to-date highway design standards and construction technology. The singularity of Colonial Parkway is, however, perhaps even more evident today. Retaining its character-defining features, the Colonial Parkway contrasts with the present state of most of the other parkways of the movement which, degraded by increased traffic volumes, are today but shadows of their former scenic selves. The goal of this chapter is to more fully elucidate the reasons why Colonial Parkway is historically significant and one of the best remaining examples of the American parkway movement.

Perhaps most important, Colonial Parkway illustrates in a complete and exemplary manner the typical features of the parkway, making it an outstanding example of the parkway typology. Its alignment is defined by long curves with spiral transitions, and its sideslopes are graded with ogee curves to smoothly interface with the surrounding terrain. It is a limited access road, and intersections with local roads are separated by underpasses and overpasses. These grade-separation features are distinguished architecturally; made of red brick, a traditional material of the area, they evoke the area's Colonial history and provide the parkway with much of its distinction. So do the bridges crossing tidal marshes and creeks; these bridges' streamlined, horizontal concrete forms express the new age of automobile traffic and modern design that the parkways represented overall. Colonial Parkways plantings are, like most parkways, integral to its design, used to compose views and structure the driving experience. The plantings are also predominantly local, native plant materials and further evoke the landscape of Tidewater Virginia. The parkway is also typical within the realm of NPS scenic parkways. It is constructed with multiple scenic views and vistas along the James and York peninsula. It also accommodates recreational motoring, being designed with picnic areas, interpretive areas, parking pull-offs, and interpretive signs along its full length.

Colonial Parkway is significant in the American parkway movement as something of a transitional figure between urban parkways, designed by park commissions and highway commissions, and the national scenic parkways, designed by the National Park Service and the Bureau of Public Roads. Colonial Parkway was the first NPS parkway built under the NPS-BPR Interagency Agreement of 1926. It is therefore the first parkway in which NPS landscape architects collaborated with BPR engineers, combining the design techniques pioneered on more traditional park roads with highway engineering techniques developed for limited access roadways in urban areas. Its design was pioneering in that combined features of traditional parkway design, such as curvilinear alignments for smooth traffic flow, with features more commonly associated with national parks, such as parking overlooks.

Furthermore, Colonial Parkway is unique and unusual among American parkways for its construction and its use of materials. Colonial Parkway is the only known three-lane parkway. Other parkways were generally designed as two or four divided or undivided lanes, with or without a central median. Colonial Parkway, with its three, ten-foot-wide lanes, is a somewhat unusual design, the result of the designer's desire to help facilitate traffic flow. The parkway's materials, which include the Colonial-style brick and brickwork of its bridges and its exposed aggregate concrete surfacing, are also unusual. They contrast with materials used on

other parkways, which usually were native stone or concrete for bridges and smooth concrete or asphalt for road surfacing. Furthermore, the Colonial brickwork and exposed aggregate paving exhibit a high level of craftsmanship and were constructed using a combination of mechanization and handwork; for example, the exposed aggregate finish was produced by hand brooming following the use of mechanical paving machines. Together, the three lane width, the Colonial brickwork, the rough aggregate surfacing, and high level of craftsmanship combine to give Colonial Parkway its distinctive appearance and historical ambience, unique among American parkways.

Colonial Parkway is also significant in the American parkway movement for its expansion of automobile tourism to include historic sites. While the Mount Vernon Memorial Highway passed many historic sites, it was primarily designed as a transportation link connecting the Washington, D.C. area to Mount Vernon. In contrast, the Colonial Parkway was designed to link, in a chronological manner, three historic sites, providing a means of experiencing and better understanding American history within a national park. Parking area pull-offs located along the length of the parkway

Colonial Parkway has a significant association with some of the most notable designers working in the American Parkway movement. These include a minor association with landscape architect Gilmore Clarke and engineer Jay Downer, who briefly examined the parkway's design. More significant are the parkway's associations with Charles Peterson, a significance preservation architect within the National Park Service, who also participated in the design of Skyline Drive, and Stanley Abbott, the landscape architect generally credited with the design of the Blue Ridge Parkway.

B. Integrity of Colonial Parkway in Context of Other Parkways

When its existing conditions are compared to its historic conditions, it is found that Colonial Parkway exhibits a very high level of integrity. As described in the *Cultural Landscape Report for Colonial Parkway*, the resource's integrity of location, design, setting, materials, workmanship, feeling, and association are all high.[1] The parkway exists in its original location and retains its original historic associations. Its important character-defining features and original materials and workmanship are also all essentially intact. These include the parkway's three-lane, exposed aggregate surfacing; curvilinear horizontal and vertical alignment; architectural features such as the concrete tidal marsh bridges and brick underpasses; scenic views and vistas; parking overlooks; interpretive signage; and many, if not all, of its original plantings. Only the parkway's setting has changed, and this only moderately. This change has primarily been the replacement of much of the parkway's original, adjacent forest and agriculture by suburban development. However, a forest buffer has helped to mitigate this change, and so the parkway still retains a high level of its original feeling and driving experience. Another notable aspect of the change along the parkway, is that it has been implemented in a manner so as to retain the parkway's integrity. This has included constructing frontage roads parallel to the parkway, behind forest strips, to prevent new grade crossing structures. Where new grade crossing structures were absolutely required, they have been designed in a manner compatible with the existing construction.

Colonial Parkway's high level of integrity is all the more remarkable when one considers the loss of integrity of other parkway resources around the country. Only the other two scenic parkways of the NPS--the Blue Ridge and Natchez Trace Parkways--retain a high level of historic integrity. In strong contrast, most of the rest of the parkways designed between 1923 and 1955 have been significantly altered and have lost many of their character defining features. As a point of comparison, it is instructive to explore the alterations which have occurred on many of the parkways built before and concurrently with Colonial Parkway. In the following text these are described more generally first, and then specific changes to individual parkways are

provided as examples. The list of examples is not meant to be exhaustive, but rather is intended to show the level of change which has occurred on other parkways in contrast to the lack of change occurring on Colonial Parkway.

In general, alterations to parkways have occurred primarily as a result of the increased traffic speeds and volumes required to facilitate commuting. As a result, changes usually occur within the original parkway right-of-way, with the result that most parkways retain a high integrity of location. However, integrity of design, setting, materials, workmanship, feeling are usually significantly impacted by increased volumes. For example, traffic lanes are often widened and their numbers increased to allow more cars on the roadway. Such widening usually requires the excavation of the roadside, which eliminates the original sideslope grading of the parkway as well as the original, designed plantings. These changes have a huge impact on the parkway's design, setting, and feeling, with the motorist's experience of the roadway drastically changed from a vegetated corridor to a broad expanse of pavement. In many cases, widening occurs across the full width of the right-of-way, so that recreating original sideslope grading and replanting plantings, to recapture historic character on the widened road, is simply not possible. As part of widening changes, changes in alignment are also common. In general, the curvature of both the horizontal and vertical alignments are reduced or flattened. This results in a straighter roadway with less topographical variation along its centerline. Such alignment changes can create a much more monotonous driving experience, the antithesis of the parkway movement's original intent in road design. Increased speeds and vehicle numbers also require the expansion of access ramps and deceleration and acceleration lanes, which in turn often result in loss of plantings around bridge abutments. These plantings helped to integrate architecture and landscape into one cohesive design, another characteristic of the original parkways. In a similar fashion, increased traffic volume also leads to the construction of new grade-crossing structures. Such new bridges usually do not display the craftsmanship, or sensitive use of local materials, characteristic of the original parkway designs, and further reduce historic integrity.

Many--if not most--of the parkways built in this country are experiencing such changes. Parkways in the New York metropolitan area, for example, which carry vast numbers of vehicles in one of the country's most populated areas, have experienced significant integrity losses. For example, the Westchester County Parkways, some of the very first parkways, have been almost completely degraded. The Bronx River Parkway, the Hutchinson Parkway, the Saw Mill River Parkway, the Cross County Parkway, and Pelham-Portchester Parkways have all been widened, and their curving horizontal and vertical alignments have been altered. In some areas, grade-crossing structures have been lost and replaced by standard concrete highway bridges. The unique features designed for these parkways--such as guard rails, light posts, signage, and gas stations--have also been lost. Also lost have been recreational opportunities, such as walking and bridle paths, which were obliterated when the lanes of the parkways were widened to encompass the full width of the right-of-way.

The New York City and Long Island Parkways have experienced similar losses. As just one example, the Henry Hudson Parkway is now almost completely unrecognizable as a parkway. In particular, it has been widened and straightened, and has lost its affiliated recreational features, which once included a boat basin. A grand rotary grade crossing structure has also been lost. Plantings which framed views and structured the drive are also lost, and the parkway is now simply a road with jersey barrier in the median and dense vegetation on either side of the roadway. Similar changes have occurred on the Marine Parkway, whose associated recreational feature, Jacob Riis Park, has also changed greatly over the years. The Long Island Parkways, including the Grand Central, Meadowbrook, and Wantaugh Parkways, have experienced significant change to accommodate increased commuter traffic from Long Island into Manhattan. Widening of lanes and increase in the number of lanes has been particularly destructive of the parkways' original

character. In some areas, the parkways are now six lanes wide. Their centerlines have been moved and their curvatures flattened. In some cases, grade crossing structures have been entirely removed and replaced with new bridges with arch spans one or more lanes wider than the originals.[2]

On the Merritt Parkway in Connecticut, the greatest losses to integrity have occurred as a result of lane widening and flattening of the horizontal alignment. Figures 17 and 18 demonstrate many of the changes which have occurred. Figure 17 shows the Merritt's original typical features circa 1939, including its relatively narrow lanes, light-colored surfacing, vegetated median, and scenic rock outcroppings. Figure 18 shows the Merritt Parkway today. The most evident changes in Figure 18 are the widened traffic lanes, including a paved shoulder, and the loss of the vegetated median and its replacement by W-rail. Also evident is the uniformly dense vegetation along the roadside, which lacks the variation in species composition and articulation of space, characteristic of the original parkway plantings. Another change along the parkway is the loss of the characteristic rock outcroppings seen in Figure 17, which may be blasted away to accommodate lane widenings. Also missing are the historic guardrails. Other integrity losses along the parkway include the deterioration of the parkway's bridges (many of which are now undergoing repair) and the widening of acceleration and deceleration lanes, as seen in Figure 19. Figure 19 also shows a newly constructed parkway bridge which appears to be a standard highway bridge. In fact, as Figure 19 shows, the character of the Merritt Parkway is now closer to that of a standard highway, than of a parkway. Although the Merritt Parkway recently underwent a master planning process and construction is now underway to mitigate the loss of historic character it has experienced over time, many of its character-defining elements have been lost and can never be replaced.

Despite increased awareness of parkways as vanishing historic resources, alterations to these historic designs are still occurring in the face of increasing population pressures. The ninety-mile Taconic Parkway, in New York State, described by Louis Mumford as a work of art "on a park with the highest creation in other fields," is a case in point. Once a scenic parkway connecting the New York Metro area to recreational resources upstate, the Taconic Parkway is increasingly becoming a daily commuter route between Albany and New York City. As a result, portions of this parkway have been significantly changed to accommodate increased traffic. For example, in Westchester and portions of Putnam Counties, many miles of the Taconic have been expanded from two lanes to three lanes in both directions. As a result of widenings, the parkway's characteristic sideslopes and character-defining rock outcroppings have been lost in these areas, replaced by flatter slopes and rock outcroppings placed further from the road margin. In other areas, widening has been effected by adding a six-foot wide, paved shoulder to the roadside. This shoulder alters the parkway's original drainage system as well as the roadway's relationship to its surroundings. Other changes in the parkway's design include the closing of scenic overlooks and the loss of scenic viewsheds due to vegetation growth. Plans are also underway to widen the upper Taconic's separated driveways by six feet each, a change which will require the removal of the parkway's original curbing details and their replacement with a new curb and drainage system. The widenings will also obliterate extant historic plantings and alter roadside rock outcroppings. These changes are illustrated in Figure 20, a comparison of the existing, historic roadway cross-section with the proposed cross-section from the parkway re-design process. The widening on the upper portion of the Taconic Parkway will likely be completed in the early twenty-first century.

Changes have also occurred on the Baltimore-Washington area parkways as well. Figure 21 shows lane widening and access changes on the George Washington Memorial Parkway. While such changes may be necessary to accommodate increased traffic, they alter the historic appearance of the parkway, as demonstrated by the awkward appearance of roadway striping in Figure 21. However, it should be noted that management of the George Washington Parkway, along with the Rock Creek and Potomac Parkways, the Baltimore-Washington Parkway, and the Suitland Parkway, has improved greatly over the years. These parkways are all under NPS jurisdiction and are being managed to retain character-defining elements while

Figure 17. View of Merrit Parkway landscape features, circa 1939. From LANDSCAPES LA•Planning•HP slide collection.

Figure 18. View of Merrit Parkway landscape features, circa 1994. LANDSCAPES LA•Planning•HP.

Figure 19. View of expanded access ramp on Merrit Parkway, 1994 . LANDSCAPES LA•Planning•HP.

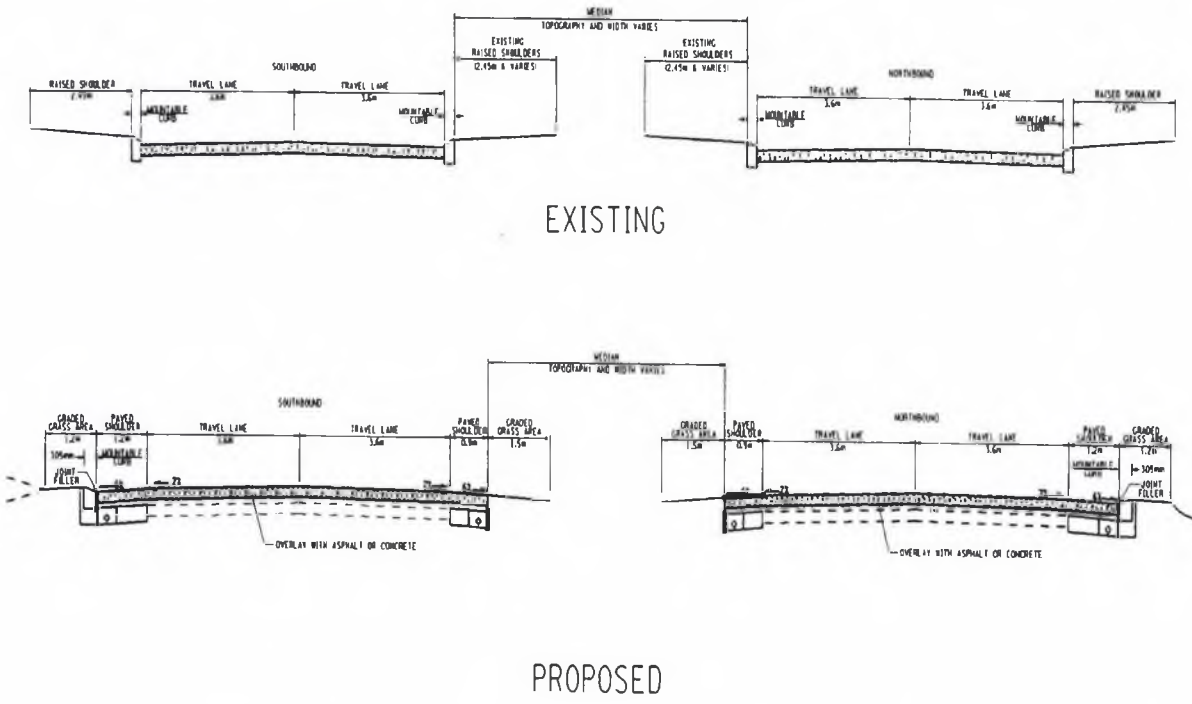

Figure 20. Cross-section showing proposed changes to Taconic Parkway which will reduce parkway integrity. New York State Department of Transportation, Region 8, Poughkeepsie, NY.

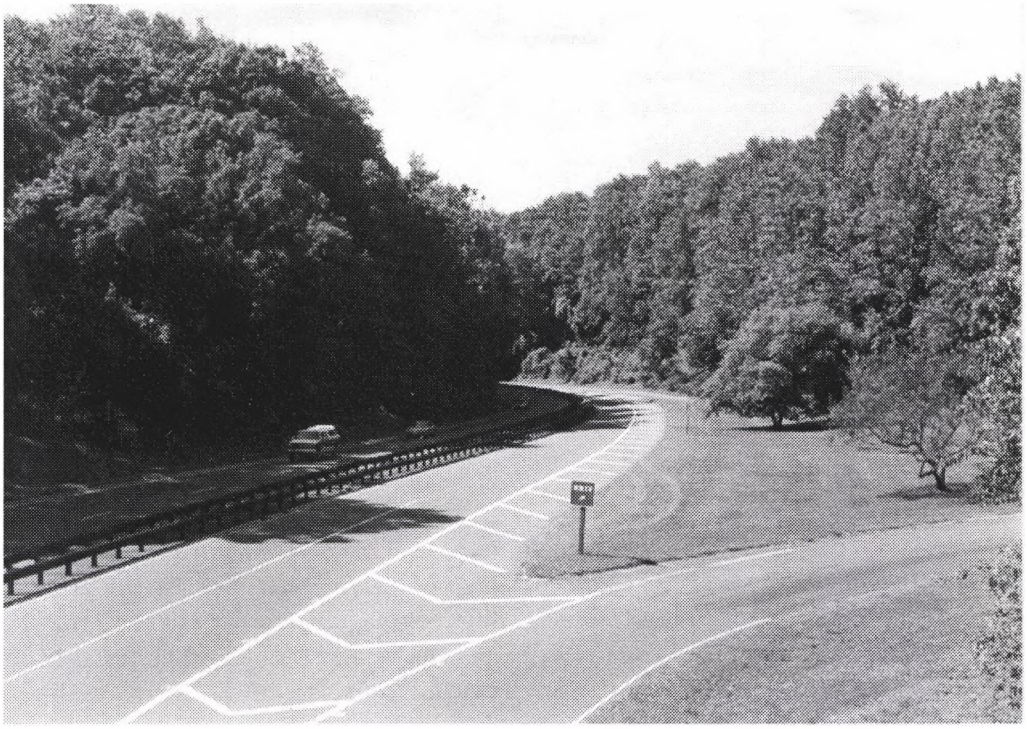

Figure 21. View of expanded access ramp on George Washington Memorial Parkway, 1997 . Carol Truppi.

facilitating commuting traffic. Similarly, the Palisades Parkway and the Taconic Parkway have been defined as state scenic byways and are currently undergoing corridor management plans. Yet in most of these cases, the parkways have already been irrevocably altered from their historic conditions and management plans will only partly retain existing and recover lost historic character.

In the light of the changes described above--changes which have occurred to virtually every parkway designed between 1923 and 1955--Colonial Parkway's high level of integrity is truly remarkable. Colonial Parkway has not undergone the widening, regrading, and realignment experienced by other parkways. Its designed vegetation has not been obliterated. Its views and vistas have not been lost. Its bridges have not been replaced by standard-issue highway bridges. Instead, all these features have been admirably retained. It should be noted that this retention of character is, in great part, due to the fact that very little commuting is undertaken on the parkway. Unlike the urban-regional parkways, which connect urban areas to residential or recreational areas and hence have daily and weekly commuting and transportation pressure, the Colonial Parkway is utilized primarily by tourists. Unlike commuters, who are great in number and desire quick access to their destination, tourists are significantly fewer on a daily basis (except at peak visitation times) and have lower expectations about speed. Therefore, it has been possible to maintain a lower speed limit on the Colonial Parkway and, as a result, widenings to accommodate increased volume and speed have been unnecessary. The lack of commuting pressure has also ensured that the road retains its scenic beauty and recreational function and utility, unlike parkways in more urban areas. As a result of these factors, and as a result of careful stewardship and management, the Colonial Parkway retains an exceptionally high level of integrity and may be classified as one of the nation's sole remaining intact parkways from the American parkway movement.

The pressure to increase traffic volumes and speeds on urban/regional parkways shows no signs of abating, and as a result, the erosion of historic character and loss of original character-defining features will continue

on other parkways across the country. Therefore, the preservation of Colonial Parkway within the National Park Service becomes even more important, as it will soon be one of the only remaining examples of an important period in American landscape architecture and road-building history.

C. Colonial Parkway and the Colonial Revival

The Colonial Parkway can also be situated within the architectural movement known as the Colonial Revival. Although the Colonial Revival began as early as 1870, and was becoming passé in elite academic architectural circles by the mid-1920s, in the late1920s and early 1930s, the style was still very popular among the general population of the United States. The Williamsburg Restoration, for example, can be thought of as both growing out of the Colonial Revival (as the result of renewed interest in original American architecture), and as an event which encouraged the continuance of the movement (as information gleaned from research at the site was transferred to both professional designers and the public).

Because the parkway was also constructed within the milieu of the Williamsburg Restoration, it too was influenced by the Colonial Revival. This influence is most obviously seen in the design of the parkway's structures, particularly culverts and grade-crossing structures, which utilized Colonial forms and materials in their design. The culverts and the first two of the major brick grade crossing structures, the Capitol Landing bridge and the C & O Railroad Bridge, were designed by Charles Peterson, who utilized traditional arches and Colonial-style brick and brickwork in their design. The details used in the design of the bridges came from the architectural features of the Colonial structures in the area, as well as from Georgian and Palladian architectural styles common in England and in the American Colonies. Later bridges implemented on the parkway followed the design tenets laid out by Peterson. That information on the historic architectural details was available to Peterson and the other parkway designers was due not only to the fact that Colonial structures existed in close proximity in Williamsburg; it was also due to common knowledge of these Colonial styles and details because of the widespread popularity and use of the Colonial Revival style in the United States.

The bridges can also be considered Colonial Revival because they utilize the traditional Colonial architectural styles in a new way. Architectural historian Vincent Scully describes the Colonial Revival style as being at once both antiquarian and creative, seeking to apply traditional standards to modern life.[3] The use of the Colonial building traditions to create very large bridges over a modern motor roadway exemplifies this aspect of the Colonial Revival by applying old typologies to a new problem. Peterson also notes that English architectural details were also utilized in the designers' thinking about the bridges,[4] demonstrating the same lack of distinction between English and American architectural styles that existed in other manifestations of the Colonial Revival in the construction of residences and public buildings.

The grade-crossing bridges of the Colonial Parkway, constructed of brick-clad concrete, are unique among parkway bridges, which are generally concrete or concrete clad with stone native to the parkway's location. No other parkway system in the country is known to have solely utilized brick bridges. Again, the use of brick rather than stone on the bridges is likely due to the fact that brick was a traditional and available material on the James York peninsula, plus the influence of both the Williamsburg Restoration and the Colonial Revival. The parkway bridges may also be somewhat notable as a collection of Colonial Revival bridges themselves. The only other collection of such brick arch bridges this research effort has located are the three extant Colonial Revival Bridges crossing the Charles River in Cambridge, Massachusetts--the Weeks Bridge, the Eliot Bridge, and the Kennedy Street Bridge--which were constructed in the late 1920s and 1930s as part of the Harvard University, which also utilized the Colonial Revival style during this era in its development.

D. Colonial Parkway in the Context of Historic Preservation

Previous portions of this research effort have focused on establishing Colonial Parkway within the context of other NPS parkways. This research has shown that Colonial Parkway, like the Blue Ridge and Natchez Trace Parkways, had scenic, recreational, and conservation values which transcended those of other parkways of the modern area. Unlike either of those parkways, however, Colonial Parkway was a part of a larger entity, Colonial National Historical Park, one of the country's first preservation projects. Therefore, it seems logical to examine Colonial Parkway within the broader scope of this movement.

Colonial Parkway clearly has strong connections to the NPS preservation effort, as a key component of a large historical park. The parkway provided a linkage between three nationally significant historic sites, one of them a battlefield, and its right-of-way also contained historic resources such as fortifications from the Civil and Revolutionary Wars and foundations and structures from eighteenth century plantations. The idea of linking historic sites with a scenic or pleasurable drive also had a link to previous historic preservation efforts. Other sites had utilized roads to link important historic sites, the most famous example being the tour road traversing the battlefield at Gettysburg. A similar road commemorating the military efforts at Yorktown had been proposed on the James-York peninsula in the late 1900s, but was never implemented. Therefore, like the idea of preserving the Yorktown Battlefield, the idea of a roadway along the corridor between the historic sites had pre-existed the whole of Colonial National Monument.

Despite these linkages to earlier preservation ideas, it appears the designers of Colonial Parkway did not consciously set out to design a road which itself could be seen as a preservation tool. Rather, the road was viewed as a modern road, built to contemporary standards, along a new alignment. Although historians in the NPS lobbied after 1931 to construct portions of the road along original road traces, this was in fact never implemented. In addition, the location of historic sites along the route seems also not to have overly influenced the alignment. In the words of Charles Peterson, who laid out the parkway, "Bellfield and Ringfield were minute details. And it didn't affect the [design] they just happened to be on the riverfront. They acquired the sites by accident, not by any plan."[5] In other words, the historic sites along the route were happy accidents, but did not determine the route of the parkway.

However, the contemporary preservation work going on at the Williamsburg restoration did influence the parkway in the design of the parkway bridges. Charles Peterson, one of the parkway's main designers, lived across the street from the Old Capitol in Williamsburg and was known to have socialized and talked to the Williamsburg Restoration architects and draftsmen extensively.[6] His contact with these individuals as well with the Colonial architectural resources of the area, clearly influenced the design of the parkway and its structures. Peterson himself describes the choice of brick for the parkway bridges as a logical one because it was "characteristic of the locality."[7] Brick was indeed the major indigenous material in the region, and as such its use on Colonial Parkway paralleled the use of native stone on other parkways in the country. However, the design of the bridges distinctly utilized traditional Colonial brickwork. This was in keeping with the restoration work going on at Williamsburg and Yorktown and with the architectural resources being researched at both places. The "authenticity" of the bridges' appearance (though it only extended one brick deep) extended to the use of a granite keystone imported from England, much as Colonial builders would have acquired such architectural ornamentation.[8]

The Colonial Parkway also influenced the use of roadways in other preservation projects, even if only in an indirect way. As noted in the earlier portion of this work, the other NPS parkways placed emphasis on conserving or preserving scenic and historic resources within their corridors. This type of influence was primarily accomplished by utilizing staff from one parkway on another, as in the transference of Abbott from the Blue Ridge to Colonial Parkway. Malcolm Gardner, a historian at Colonial NHP in his early Park Service

years, eventually went on to become Superintendent at the Natchez Trace. Other influences included a plan for a "boulevard" or parkway in the original plans for Morristown National Historical Park to connect its three disparate units.[9] The idea of a parkway as contributing to access to and interpretation of historic and cultural resources was established in Colonial Parkway and applied to other properties. Therefore, although the parkway was not conceived as a preservation project, it was influenced by contemporary ideas about historic preservation.

The design of the Parkway also influenced, directly and indirectly, future preservation projects in the NPS and the future theory and practice of historic preservation. It is important to remember that the Colonial Parkway was one of the National Park Service's first design projects in a historic park. The project was unique at the time in that it involved adding a significant new feature and new use to a historic setting. Most previous preservation projects, the Williamsburg Restoration included, had focused on restoring specific buildings and, in effect, recreating a specific historic scene. Such early preservation projects had also emphasized historic individuals and high-style architecture. Accommodating new functions, such as the automobile, was not required because the project focused on transporting a visitor back in time. Colonial National Monument was different, in that its historic significance encompassed not a single individual or single set of buildings, but a whole historic era and a series of resources spread over twenty-odd miles of the James-York peninsula. As a result a whole new approach to preservation was required, one which could integrate the old with the new. The concept of Colonial Parkway--adding an automobile route to allow visitors to efficiently experience a vast park--was a key component of that new approach. It integrated history with modern requirements by designing a modern road which fit harmoniously into the context of the historic setting. While the curvilinear roadway alignment was clearly distinguishable as new construction, the parkway's use of traditional, Colonial bridge detailing made it compatible with the historic resources it linked. The parkway, in other words, pioneered the idea of sensitive design of new features in a historic setting. It is, in fact, perhaps the earliest manifestation of a preservation principle now taken for granted by the historic preservation community: the principle that new construction on historic properties be compatible with old construction, yet clearly distinguishable as new. In other words, the design of Colonial Parkway is significant within the historic preservation as a project which not only influenced subsequent projects in other historic sites, but also influenced the overall tenets of historic preservation practice.

In fact, because the Colonial Parkway and other restoration work at Colonial National Monument were the first major preservation projects in the NPS their influence on the preservation movement cannot be underestimated. These projects served as a training ground for a whole generation of preservation architects, landscape architects, and planners. The men and women who worked on these projects went on to work on numerous other preservation projects across the country, within and outside of the National Park Service. Although perhaps not explicitly documented in memoirs and oral histories of NPS employees, the experiences men such as Charles Peterson gained at Colonial National Monument clearly had an effect on the way they would approach their future work. And because they were, in a sense, pioneering the profession, these experiences had an impact on the development of historic preservation.

It is perhaps most important, as well, to realize that the preservation aspect of the parkway grew over time. This was manifested by the recognition of the interest and importance of the sites along the parkway and their incorporation into a comprehensive overlook and interpretive signage program for the parkway in the 1950s. These signs were designed by Stanley Abbott, who had instituted such interpretive signage along the Blue Ridge Parkway. The fact that Abbott implemented the signs lends credence to the idea that the efforts of conserving cultural features along the Blue Ridge occurred prior to a recognition of the cultural preservation potential of the Colonial Parkway. This seems likely for the picnic areas of the parkway as well, since they appeared in the design during Abbott's tenure as superintendent. Therefore, it is possible to conclude that while the parkway did not initially have a strong preservation and recreation components, experiences

gleaned from work on other NPS parkways strengthened these features in the final design. This preservation aspect of the parkway has only grown stronger over time, as areas around the parkway have become developed, and the resources within it grow more valuable. Thus, while the original intent may not have fully encompassed a preservation ethic, the design of the road has, over time, proven to do so.

IV. ENDNOTES

[1] LANDSCAPES LA•Planning•HP, *Cultural Landscape Report for Colonial Parkway*, Chapter V.
[2] Heidi Hohmann, Telephone Conversation with Russell Robbins, New York State Department of Transportation Region 8 Planner, July 14, 1998.
[3] Vincent Scully, *The Shingle Style and the Stick Style*, 39.
[4] O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[5] O'Donnell, Interview with Charles Peterson, 2/12/98.
[6] Hosmer, *Preservation Comes of Age*, 500.
[7] O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[8] O'Donnell, Telephone Interview with Charles Peterson, 2/12/98.
[9] Hosmer, *Preservation Comes of Age*, 523.

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SUMMARY TABLE OF PARKWAY CASE STUDIES FROM CHAPTERS I & II

I. URBAN/REGIONAL PARKWAY DEVELOPMENT

Name of parkway	Location	Agency & Designers	Dates	Design Features	Length &Associated Recreational Areas
EARLY PARKWAYS: 1920s-1930					
Bronx River Parkway	Westchester County, NY: New York City to Kensico Dam	Bronx River Parkway Commission Jay Downer (e), Herman W. Merkel (la), Gilmore Clarke (la), A.G. Hayden (la)	Authorizat'n: 1907 Construct'n: 1916-1923.	Design speed: 25-35 mph ROW: "wide" (number NA) Roadway: 40' wide, 4 lanes Max. grade: (NA) Curvature: (NA) Median: only in one section Bridge materials: concrete/native stone Other features: gutter and shoulder	16 miles
Westchester County Parkway System: Saw Mill River Parkway, Hutchinson River Parkway, Cross Country Parkway, Pelham-Portchester Parkway, Briarcliff-Peekskill Parkway, Brownx River Parkway Extension	Westchester County, NY: covered the whole county, north to south and east to west. Connected NYC to suburbs, recreation areas	Westchester County Parks Commission Jay Downer (e), Gilmore Clarke (la), A.G. Hayden (e) also Stanley Abbott (la, publicity), Wilbur Simonson (la, 1925-1929)	Authorizat'n: 1923 Construct'n: 1923-1933	Design Speed: 35-40 mph ROW: ±250' Roadway: 42-44' wide, 4 lanes (Hutchinson 62' wide) Max. grade: 6% Curvature: >750-800' Median: none or limited Bridge materials: concrete/native stone Other features: 3" curb	160 miles total 17,000 acres of parks and parkways Associated recreation areas: foot and bridle paths, Sprain Lake Park, Tibbetts Brook Park, Kensico Dam, Saxon Woods Park, Rye Playland
Long Island Parkways: Northern Parkway, Southern Parkway, Wantagh Parkway, Meadowbrook Parkway, Ocean Parkway, Grand Central Parkway, Interborough Parkway	Long Island, NY: Connected NYC to suburbs of LI and beaches/parks. routes ran north to south and east to west	Long Island State Park Commission Robert Moses, Clarence Combs (la), Arthur E. Howland (e)	Authorizat'n: 1924 Construct'n: 1924-1936	Design speed: (NA) likely ±35 mph ROW: average 300' Roadway: 40' wide, 4 lanes, concrete Max. grade: (NA) Curvature: (NA) Median: none or limited Bridge materials: concrete/stone Other features: 132 bridges; concrete treated to eliminate glare; use of hydraulic dredging to cross tidal areas.	85 miles Associated recreation areas: Fire Island State Park, Jones Beach State Park, Gilgo and Captree State Parks

Name of parkway	Location	Agency & Designers	Dates	Design Features	Length &Associated Recreational Areas
EARLY PARKWAYS: 1920s-1930, cont'd					
Mount Vernon Memorial Highway	Virginia: Connected Arlington Memorial Bridge to Mount Vernon	Bureau of Public Roads Wilbur Simonson (la), R.E. Toms (e) also Gilmore Clarke (la), Jay Downer (e), Henry Nye in consultation	Authorizat'n: 1928 Construct'n: 1928-1932	Design speed: (NA) likely ±35 mph ROW: avg 200', max 1,000' Roadway: (NA) Max. grade: (NA) Curvature: (NA), used spiral transitions Median: none/limited Bridge materials: concrete/stone Other features: use of spiral curves to transition between tangents and curves; use of hydraulic fill; creation of parking areas	15.2 miles Associated recreation areas: Mount Vernon Terminus; parking areas on roadside
1930s URBAN/REGIONAL PARKWAYS					
Merritt Parkway	Westchester County, NY & Fairfield & New Haven Counties, CT connected Hutchinson River Parkway to New Have	CT State Highway Commission: W. Thayer Chase (la), George Dunkelberger (a), Leslie Sumner (se)	Authorizat'n: 1927 Construct'n: 1935-1940	Design speed: 50-60 mph ROW: avg. 300', no widenings Roadway: four lanes in two 26' roadways Max. grade: 8% Curvature: >800', no spiral transitions Median: to 22', narrowed to double curb (bridges) Bridge materials: cast concrete, metal Other features: 68 bridges in Moderne, Art Deco styles; curbs w/ reflectors	38 miles; toll road Associated recreation areas: none
New York City Parkways: Henry Hudson Parkway, Marine Parkway, Grand Central Parkway Extenstion, Belt Parkway	New York City, NY HH: Manhattan to Westchester County Parkways, NY	Individual Parkway Authorities Robert Moses, Gilmore Clarke (la), Emil H. Praeger (e)	Authorizat'n: 1934 Construct'n: 1934-1940	Design speed: (NA) likely ±50 mph ROW: (NA) Roadway: (NA) Max. grade: (NA) Curvature: (NA) Median: (NA) Bridge materials: concrete/stone Other features: monumental & innovative construction including landfill, Henry Hudson bridge	more than 70 miles Associated recreation areas: Riverside Park (Henry Hudson); Jacob Riis Park (Marine) Flushing Meadows Park (Grand Central); 26 smaller parks (Belt Parkway)

Name of parkway	Location	Agency & Designers	Dates	Design Features	Length & Associated Recreational Areas
POST-WORLD WAR II PARKWAYS					
Baltimore-Washington Parkway	Maryland and Washington, D.C. Connected Baltimore and Washington; accessed suburbs	National Park Service & Bureau of Public Roads Gilmore Clarke (la), Jay Downer (e), Thomas C. Jeffers (la) H. Thompson (la), B. L. Breeze (la), D. Annese (la).	Authorizat'n: circa 1942 Construct'n: 1942-early 1950s	Design speed: 75 mph ROW: 400-1200' Roadway: 36' each way: 12' lanes-- 2 paved, 1 unpaved, graded shoulder Max. grade: 3% Curvature: continuous, max. 2° 30' curve Median: minimum 15', maximum 400' Bridge materials: concrete/stone Other features: no tangents; 19 bridges total	29 miles Associated Recreational Areas: none known
The Garden State Parkway	New Jersey connected metro area to beaches & forests of southern NJ	New Jersey Highway Authority Clarke & Rapuano, consulting la/eng Oliver Deakin (la)	Authorizat'n: 1945 Construct'n: 1952-1955	Design speed: 70 mph ROW: 300-800' Roadway: graded 46-9'; 2-3 12' lanes paved Max. grade: 4.5% Curvature:>2,800'; <15,000' Median: min 10' (bridges); max 400' Bridge materials: concrete/stone Other features: streamlined section, vines growing on 2-sided guardrail reduced headlight glare, curb replaced by "singing strip"	165 miles toll road Associated Recreational Areas: Jersey Shore, parking overlooks, picnic areas

II. NPS PARKWAY DEVELOPMENT

Name of park road or parkway	Location	Agency & Designers	Dates	Design Features	Length &Associated Recreational Areas
PARK ROADS					
Going-to-the-Sun-Road	Glacier National Park linked east & west sides of Glacier National Park & linked Yellowstone National Park with Pacific NW parks	National Park Service & Bureau of Public Roads T. Vint (la) Frank Kittredge (e), W.G. Peters (e), A.V. Emery (e)	Authorizat'n: circa 1918 Construct'n: 1922-1933	Design speed: (NA) slow ROW: NA Roadway: 22', two lanes Max. grade: 6% Curvature: minimum 100-200' Median: none Bridge materials: concrete/stone from site Other features: one switchback, preservation of vegetation, no regularity in native stone guard rail construction, existing topo influenced alignment of road,	50 miles Associated Recreational Areas: camping etc. in Glacier National Park, Yellowstone National Park
Skyline Drive	Virginia through Shenandoah National Park	NPS & BPR William Austin (e), HJ Spellman (e), Charles Peterson (la), Harvey Benson (la)	Authorizat'n: 1925 (park) Construct'n: 1930-39	Design speed: (NA) slow ROW: 100' Roadway: varied--22' to 30' Max. grade:NA Curvature: minimum <200' Median: none Bridge materials: concrete/stone from site Other features: 67 overlooks, along ridgeway	>105 miles Associated Recreational Areas: camping etc facilities in Shenandoah NP; 67 overlooks; picnic areas, foot trails
NPS SCENIC PARKWAYS					
Colonial Parkway	Virginia connected Jamestown, Williamsburg and Yorktown, part of Colonial National Historic Park	NPS & BPR Charles Peterson (la), Edward Zimmerman (la), William Hausmann (a), H.J. Spelman (e), William H. Smith (e), Stanley Abbott (la), Robert Steenhagen (la)	Authorizat'n: 1930 Construct'n: 1930-1958	Design speed: 35-60 mph ROW: avg 500' Roadway: 30'; 3 10' lanes, exp. aggr. concrete Max. grade: 5% Curvature: > 1,000' Median: none Bridge materials: concrete/Colonial brick Other features: parking overlooks, interpretive signage	23 miles Associated Recreational Areas: Ringfield picnic area; NPS visitor centers and historic resources; parking overlooks; Williamsburg Restoration

Name of park road or parkway	Location	Agency & Designers	Dates	Design Features	Length &Associated Recreational Areas
NPS SCENIC PARKWAYS, cont'd					
Blue Ridge Parkway	North Carolina, Virginia, Tennessee connected Shenandoah & Great Smoky Mtns National Parks; road was a destination in and of itself	NPS & BPR Stanley Abbott (la), Ed Abbuehl (la), Hendrick Van Gelder (la) , William Austin (e)	Authorizat'n: 1933 Construct'n: 1934-1969	Design speed: 45 mph ROW: avg. 850' Roadway: 20', asphalt Max. grade:8% Curvature: min 200' Median: none Bridge materials: concrete/stone from site Other features: use of scenic easements, agricultural leasing	>500 miles Associated Recreational Areas: 18 park reservations, 12 picnic areas, 67 overlooks, plus assorted historic/cultural features such as Mabry's Mill.
Natchez Trace Parkway	Mississippi, Tennessee, Alabama, along route of historic road from Natchez Mississippi to Nashville, Tennessee	NPS & BPR	Authorizat'n: 1938 Construct'n: 1938-2003, greatest part constructed from 1947-66	Design speed:NA ROW: 200-800' ROW Roadway: 2 lanes Max. grade: Curvature: Median: none Bridge materials: concrete Other features: spiral curves, 400-1200 ft ROW, up to 2000 ft of scenic easement	445 mi planned; still ±20 miles of roadway to go