

Photographs of Bridge Adornments by Jack Boucher/HABS 199 \*U.S. GOVERNMENT PRINTING OFFICE: 1994-0-381-506

### ROCK CREEK'S BRIDGES

The monumental bridges arching over Rock Creek contribute greatly to the parkway's appearance. Partially concealed by the surrounding vegetation, they evoke the aqueducts and ruins found in romantic landscape paintings. In addition to framing vistas and providing striking contrasts to the parkway's natural features, they serve as convenient platforms for viewing the verdant parkway landscape. They also perform the utilitarian function of bridging the chasm of Rock Creek, which serves as a natural boundary between Washington and Georgetown.

The need to establish convenient routes of commerce and communication between Georgetown and Washington ensured that Rock Creek was bridged early and often. The location of most bridges has remained fairly constant over the years, but their forms have changed dramatically in response to improved technology and shifting architectural fashions.

The mouth of Rock Creek was originally much wider than it is today. Boats once brought their cargo as far upstream as M Street. There were no bridges across Rock Creek during the colonial era, so horses and wagons forded the stream where it narrowed near present day P Street. The first bridge over Rock Creek was a wood-frame drawbridge built at M Street in 1788. This was followed by a triple-arched stone bridge constructed at K Street in 1792. Neither structure lasted for long. A number of elaborate iron truss bridges were built across the valley in the nineteenth century to carry wagon traffic, pedestrians, and street cars. These were replaced by concrete and masonry spans between 1897-1941.

The new bridges were designed to withstand the stresses created by modern traffic demands. Arched masonry bridges were also considered more attractive than iron bridges and more harmonious with the parkway landscape. The arched bridge pattern is broken only by the M Street Bridge and by the freeway access ramps near Virginia Avenue and K Street.





Aqueduct Bridge at Pennsylvania Avenue, ca. 1862 (National Museum of American History)

## K Street Bridge (1)

After the original K Street Bridge was taken down in 1795, there was no crossing at this site until 1869, when a wood bridge was constructed. This was replaced by a steel girder span in 1907. The current structure was built between 1939-41 and modified in 1947 to accommodate the Whitehurst Freeway. The nearby freeway ramps were built in the 1960s to connect the Whitehurst Freeway with the proposed Inner Loop Freeway, which was never completed.

### Pennsylvania Avenue Bridge (2)

The original Pennsylvania Avenue Bridge was designed in 1858 by Gen. Montgomery Meigs, who built the aqueduct bridge at Cabin John, Maryland, The Pennsylvania Avenue Bridge also carried the city's water supply, contained in two large cast-iron pipes that served as arches supporting the bridge structure. This was one of the first large cast-iron bridges in the country. It proved inadequate for twentieth century traffic, however, and was rebuilt in 1916.

The current bridge is a single span concrete arch structure with granite facing. This bridge incorporates the aqueduct pipes, which are visible through openings on the underside of the arches. They still carry part of Washington's water supply.

Shoreham Hill Bridge, 1993 (Boucher/HABS)

A wood covered bridge replaced the old ford at this site in 1855. This was replaced in 1871 by an iron truss bridge, which was rebuilt in 1893 to carry streetcar traffic between Washington and Georgetown. In 1935-6 the steel span was replaced with a stone-clad reinforced concrete structure more in keeping with other parkway bridges and the surrounding landscape. The opening of the lower-level P Street Bridge completed the final link in Rock Creek and Potomac Parkway

## M Street Bridge (3)

The first M Street Bridge collapsed one night during a heavy storm, drowning the occupants of a coach and four horses. According to legend, the splintering of wood and screams of horses and passengers can still be heard at the M Street crossing on stormy nights.

The M Street Bridge was rebuilt in 1800. The bridge served as the major link between Georgetown and Washington during the nineteenth century and was improved several times.

Controversy erupted when the old iron truss bridge had to be replaced again in 1928. Parkway designers wanted an arched masonry bridge to harmonize with other parkway spans, but Congress only provided enough money for a steel girder bridge. Parkway advocates insisted the bridge be redesigned, while Georgetown citizens and District engineers demanded immediate replacement. The current, concrete-covered steel girder bridge is a compromise solution that breaks the arched bridge pattern, but is ornamented to resemble the other parkway

# P Street Bridge (4)

### Dumbarton Bridge

Dumbarton Bridge, at Q Street, is one of the parkway's most endearing structures. It was designed by the noted architect Glenn Brown and completed in 1915. Its curving form compensates for the difference in alignment between the Washington and Georgetown segments of Q Street.

The overhanging pedestrian walkways and tall, deep arches give the bridge a massive appearance recalling Roman aqueducts, on which the general design of the bridge is based. The brackets supporting the walkways terminate in rows of sculpted Indian heads, which are purportedly based on the lifemask of a Sioux chief named Kicking Bear. The seven-foot tall bronze American bisons on each abutment are the work of sculptor A. Phimister Proctor. Proctor also designed the sculptures at the parkway's terminus behind the Lincoln Memorial and the bronze tigers on the Sixteenth Street Bridge.



Dumbarton Bridge, 1993 (Boucher/HABS)



1913 Rock Creek and Potomac Parkway created by act of

### 1920s

Parkway land acquired and construction begun P Street completes

Construction of bridge at One-way rush hour traffic policy instituted to to eliminate wide bend relieve congestion

New Massachusetts Avenue Bridge and Old Culvert, 1941 (DCL)

The Waterside Drive Overpass was constructed in 1932 to

provide a means for southbound traffic from Massachusetts

Avenue to enter the parkway. The structure housed restrooms

for parkway users. These were closed when increasing traffic

made access hazardous. The small tower on the west bridge

The Charles C. Glover Bridge at Massachusetts Avenue was the

constructed in 1939-41 to replace an unsightly earthen causeway

that had long carried the avenue across Rock Creek valley. The

parkway. An unusual feature of this bridge is the large curved

planters built into the bridge abutments. It was officially named

the Charles C. Glover Bridge in 1949 to honor this influential

last major bridge built across Rock Creek valley. It was

single, soaring arch provides a dramatic view along the

abutment was designed for park police use.

Waterside Drive Overpass (6)

Charles C. Glover Bridge (7)

supporter of Washington parks.

south of P Street.

Rock Creek rechanneled Highway officials try to convert parkway into high-volume expressway creating "P Street

The William Howard Taft Bridge, built 1897-1907, is probably the most notable span on the parkway. The elegant arched structure carrying Connecticut Avenue over Rock Creek valley was Washington's first monumental masonry bridge. Its high cost and elaborate ornamentation earned it the nickname "The Million Dollar Bridge." In 1931 it was officially named after former president William Howard Taft, who had lived nearby.

Taft Bridge is renowned as one of the largest unreinforced concrete bridges in the world. Designed by engineer George Morison and architect William Casey, the bridge's main arches and abutments are made of concrete poured inside precast panels without the usual iron reinforcing bars. The four concrete lions on the bridge abutments are the work of sculptor R. Hinton Perry. Taft Bridge is considered a landmark in the structural and ornamental use of concrete.

The District of Columbia Department of Public Works undertook a major rehabilitation project to restore Taft Bridge during 1993-95



(Boucher/HABS)

### William Howard Taft Bridge (8)



The current bridge at Calvert Street replaced a dramatic iron truss bridge built in 1891 to carry streetcars on the Rock Cree Railway line. When the parkway was built, it was determined that the existing bridge was unable to accommodate the rise in automobile traffic. The utilitarian steel structure was also considered detrimental to the parkway setting.

The current triple-arched bridge is made of reinforced concrete faced with Indiana limestone. Architect Paul Cret and engineer Ralph Modieski designed the new span to harmonize with nearby Taft Bridge. Its bold, simplified form reflects Cret's interest in combining modernist and neoclassical aesthetics. The sculptural panels adorning the bridge abutments were designed by Leon Hermant. Modeled in the bold, simple style of the era, they represent changing forms of transportation: sailing ship, steam engine, airplane, and automobile.

When the new bridge was under construction, the old structure was rolled 100' downstream and reconnected to the streetcar line to avoid cutting off trolley service to Washington's populous northwest suburbs. This feat was accomplished with teams of horses in slightly over nine hours. The bridge was completed in 1935 and rededicated as the Duke Ellington Bridge following the death of the Washington native and famous band leader in 1974.



Watergate Steps, 1993 (Boucher/HABS)

Watergate Steps (10)

While technically beyond the parkway boundaries, the Watergate Steps were designed to link the parkway with the Mall and Arlington Memorial Bridge. The steps were initially conceived as a grand ceremonial gateway to Washington, but traffic concerns resulted in the construction of a roadway cutting the design in two. Audiences sat on the steps to hear the National Symphony Orchestra play summer concerts from a floating band shell anchored nearby. Increasing traffic at National Airport ended the practice in the mid 1960s.



Waterfront Section of Rock Creek and Potomac Parkway, 1993 (Boucher/HABS)

# HIGHWAYS IN HARMONY

# **Rock Creek** and Potomac Parkway Washington, D.C.



Rock Creek and Potomac Parkway near P Street, ca. 1937 (DCL)

U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

William Howard Taft and Duke Ellington Bridges, 1992

Old Calvert Street Bridge, ca. 1891 (DCL)

- Theodore Roosevelt Bridge and freeway ramps constructed over south end of parkway
- John F. Kennedy Center Zoo tunnel completed for the Performing Arts completed

parkway

Construction of subway William Howard Ta to northwest suburbs Bridge renovated eases commuter pressure to upgrade

### PARK AND PARKWAY

Driving through the attractive, tree-lined valley of Rock Creek. motorists may not realize they are in a carefully planned landscape that has changed dramatically over the past century. Many people do not even know that Rock Creek Park and Rock Creek and Potomac Parkway are two separate parks, created at different times and for different purposes.

Rock Creek Park surrounds Rock Creek from the National Zoo north into Maryland. It is nearly a mile wide in places and totals approximately 1.750 acres. The park was created in 1890 to preserve an extensive area of woods and farmland as a suburban nature reserve. It contains numerous picnic grounds, trails, and recreational areas. The roads in Rock Creek Park provide access to the park's scenery and recreational resources. They were designed for slow speeds and light traffic.



Rock Creek and Potomac Parkway in 1933 (District of Columbia Public Library/DCL)

Rock Creek and Potomac Parkway extends from the southern border of the National Zoo to West Potomac Park and the Lincoln Memorial. The parkway is 2.5 miles long and only a few hundred yards wide. It was constructed in the 1920s-30s to restore the polluted lower Rock Creek valley and to provide an attractive drive between Washington's monumental core and Rock Creek Park. The winding four-lane road dominates the parkway landscape, but the parkway also includes a multi-use trail and several quiet park areas.

Rock Creek and Potomac Parkway was originally conceived as a pleasure route for recreational drivers, but it soon became a major commuter artery for traffic from Washington's northwest suburbs. The parkway drive was always intended to carry more traffic than the park roads, yet it was carefully designed to surround motorists in a secluded forest setting and provide delightful views of the reclaimed valley's naturalistic landscape.



Waterfront Section of Parkway ca. 1915 (Commission of Fine Arts/CFA)

# FROM EYESORE TO SCENIC RESOURCE

The idea of turning lower Rock Creek valley into an attractive driveway dates to 1867, when the U.S. Army Corps of Engineers suggested building avenues along the creek to provide access to a spacious suburban park. When Rock Creek Park was finally created, however, most of the valley south of the zoo remained in private hands. An informal bridle path led from P Street to the zoo, but the only way to reach the park from downtown Washington was through busy and poorly maintained city streets.

By the end of the nineteenth century, lower Rock Creek valley had become an evesore and public health hazard. The area between the zoo and Q Street remained attractively wooded, but below P Street the valley served as a sewer and public dumping ground. Towering banks of ashes, construction debris, and rubbish choked the valley. Cheap wood houses and tenements crowded the banks between M and P streets. Coal heaps, gas tanks, and small factories lined the Potomac waterfront between the creek mouth and Potomac Park.



Rock Creek, Looking North from M Street Bridge, ca. 1900 (DCL)

Beginning in the 1880s, a group of Georgetown citizens promoted the idea of enclosing Rock Creek in a tunnel and filling in the valley between Washington and Georgetown so that a formal boulevard could be built over the old creek bed. At the same time, the Washington Board of Trade and other park supporters advocated restoring the valley to create a picturesque parkway containing a bridle path and winding carriage drive. The 1901 Senate Park Commission examined both schemes and recommended the restored valley plan "on the grounds of economy, safety, and beauty."

The commission's opinion did not end the argument, however. After several more studies and lengthy congressional debates. Rock Creek and Potomac Parkway was finally created by Congress on March 14, 1913, making it the first federally authorized parkway.



"Closed" and "Open" Valley Treatments (Sections Based on Senate Park Commission Report of 1902)

	and the second		Country of the Countr		
???-1600s	1608	1751	1788	1791	1828
Native Americans fish, camp, and quarry stone along Rock Creek	Captain John Smith exploring the Potomac River is first European to sight Rock Creek	Georgetown established	First bridge over Rock Creek constructed at M Street	Rock Creek serves as border of Pierre L'Enfant's plan for the Federal City	Chesapeake and Ohio Canal begun; completed from Rock Creek to Cumberland, Maryland in 1850

## RECLAIMING THE VALLEY

Funding problems delayed the parkway's development for many years. By the mid 1920s most of the parkway land had been purchased, but only a bridle path led from the Mall to Rock Creek Park, and little landscape reclamation work had been accomplished. Depression relief programs provided money to complete the project in the 1930s.

Tremendous amounts of earth and rubbish were removed from the valley between M and P streets. The slopes of the valley were carefully sculpted and planted to resemble natural conditions. Above P Street, the narrow, twisting roadway was designed to fit into the constricted valley with minimal disruption of the existing landscape. Between Dumbarton Bridge and Massachusetts Avenue, the two lanes of traffic were separated to follow the natural terrain and preserve a number of attractive large trees. Regularly spaced rows of trees gave the Potomac waterfront section a more open, formal appearance.

By 1932 the parkway was open from Connecticut Avenue to P Street and from K Street to West Potomac Park. The last link of the parkway to be finished was the bridge over Rock Creek at P Street. This was completed on June 4, 1936, enabling motorists to drive from the Lincoln Memorial to Maryland without leaving an attractive tree-lined setting.



The Washington Evening Star rejoiced, "Nowhere else in the world is there a drive of such length and beauty of scenery." The Washington Post called the parkway "one of the most magnificent drives in the world," and proclaimed, "More than ever. Washington will be entitled to the distinction of being 'a city of parks."

Excavations Between M and P Streets, 1933 (DCL)



U.S. Army Corps of to build avenues along **Bock Creek** 

Rock Creek Park Engineers first proposes created to preserve woodlands surrounding upper Rock Creek valley lower valley

Increasing pollution spurs proposals to

parkway on both sides of the valley.

Senate Park Commission includes improve conditions along parkway along Rock Creek in its plan for beautifying Washington

Parkway South of Massachusetts Avenue, ca. 1937 (DCL)

The long delay between the parkway's conception and

from the nineteenth-century view of parkways as elegant

carriage drives, pedestrian promenades, and bridle paths

of P Street was to be developed into a public garden with

benches, foot bridges, and picturesque overlooks. Designers

believed this area was destined to become "the most beautiful

park in the world." Stately formal avenues would parallel the

completion coincided with America's transition from horse and

buggy to automobile. The changing proposals for Rock Creek

and Potomac Parkway reflected the nationwide transformation

boulevards linking parks and civic centers to the modern idea of

parkways as pleasantly landscaped motor roads dominated by

Early plans for the parkway called for an elaborate network of

surrounded by an open, park-like setting. The wide bend south

FROM "PARK" TO "WAY"

commuter traffic.

"Million Dollar Bridge" at Connecticut Avenue completed

Surrounding development, together with the wider, straighter roads required by automobiles, resulted in the elimination of the border roads and a general simplification of the parkway landscape. The number of entrances from Georgetown and Washington was also reduced. Proposed bridges at N and S streets were eliminated. These changes helped preserve scenery and minimize disruptions from entering and turning traffic, but they made the parkway function less like a local park and more like a thoroughfare between northwest Washington and the downtown. Still, when the parkway was completed, it contained numerous picnic areas and a well-used bridle path. The bridle path was converted into a multi-use trail in the 1970s.

Newspaper coverage of the parkway's opening reflected the changing function of urban parkways in general and Rock Creek and Potomac Parkway in particular. The Washington *Post*'s report characterized the parkway in its original role as a link between Potomac Park and Rock Creek Park. The Post rejoiced that motorists would be able to "drive through two famous parks without once leaving their natural grandeur." The Evening Star, however, emphasized the parkway's new function as a commuter route declaring:

> Motorists from the Chevy Chase-Bethesda area will have the privilege of riding downtown through a veritable fairyland, a natural setting for nature's own worship, and not so much as a traffic light to impede progress. There is, perhaps, no city in the world offering so much beauty for those going to work.

# COMMUTER THOROUGHFARE

When the parkway was created, Massachusetts Avenue crossed Rock Creek valley on an earthen embankment constructed in 1900. This caused a severe bottleneck where the four-lane parkway drive shrank into a two-lane causeway that had been squeezed precariously into the culvert carrying Rock Creek under the embankment. Safety concerns and commuter complaints led to the erection of a handsome masonry-faced concrete bridge in 1941. The bridge solved the traffic problem and improved the parkway landscape by eliminating the unsightly embankment.



(Jack Boucher/HABS)

Despite this high praise, traffic engineers quickly claimed that Rock Creek and Potomac Parkway could not accommodate the city's rapidly growing commuter traffic. The one-way rushhour traffic system was established in 1937, but traffic planners soon looked for other ways to increase the parkway's capacity.

Their initial approach was to reduce congestion through minor improvements to the existing parkway drive. Between 1938-41 the intersection at K Street was replaced with a new grade separation structure that eliminated left-hand turns and provided for future traffic on the proposed Whitehurst Freeway.

# Intersection of Parkway and Whitehurst Freeway, 1992

## THE ZOO TUNNEL.

The biggest obstacle to smooth traffic flow occurred at the boundary between the parkway and the zoo. Since motorists used zoo roads to pass between the parkway and Rock Creek Park, this major link in the city's traffic system was cut off when the zoo closed at night. In addition, the road into the zoo crossed Rock Creek through a ford rather than on a bridge. This meant the link between the park and the parkway was also closed by heavy rains. Zoo officials long opposed plans to build a full-time roadway or connect the park and parkway with a tunnel under the zoo. An agreement was finally reached in 1960. The tunnel was completed in 1966.

### PARKWAY OR EXPRESSWAY?

These minor improvements did not increase the parkway's carrying capacity enough to suit District traffic officials. During the 1940s-50s they advanced various proposals for widening Rock Creek and Potomac Parkway into a major expressway and extending it through Rock Creek Park into Maryland. At the same time, they contemplated using the waterfront section of the parkway as part of an Inner Loop Freeway that would encircle downtown Washington with a ring of high-speed expressways.

Citizen protests and changing planning priorities defeated most of these proposals in the mid 1960s. Construction of the Washington subway system helped reduce pressure to expand the parkway into a high-volume expressway. The megalithic freeway ramps around K Street and the Theodore Roosevelt Memorial Bridge are the two major artifacts of this era of transportation planning.

Rock Creek and Potomac Parkway is one of America's bestpreserved examples of early motor parkway design. Unlike most contemporary urban parkways, it survived the freewaybuilding era virtually intact. Its intimate scale, narrow roadway, sharp curves, slow speeds, abrupt entrances, and minimal median strips provide a rare glimpse of the transitional stage between vesterday's meandering carriage roads and today's efficient but visually bland modern motorways. The road itself may not satisfy modern expressway standards, but the present parkway landscape is even more heavily wooded than its designers had planned, and the multi-use trail is extremely popular with runners, walkers, and bicyclists.

Balancing the needs of commuters with the desire to preserve the parkway's scenic and recreational resources remains a formidable challenge for park managers and city planners.



Zoo Tunnel, 1992 (Boucher/HABS)

Rock Creek and Potomac Parkway was documented in 1991-92 by the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER), a division of the National Park Service, U. S. Department of the Interior. The recording project was cosponsored by the NPS Roads and Bridges Program and the NPS National Capital Region. An extensive collection of measured drawings, large-format photographs, and written history is available to the public through the HABS/HAER collection at the Library of Congress.

U.S. Department of the Interior. Text by Timothy Davis Design by Todd Croteau



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This leaflet was produced by the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER), a division of the National Park Service.

P Street Bend Drawings by Robert Harvey and Robert Arzola,