



A GRAND AVENUE REVIVAL

Massachusetts Avenue

LANDSCAPE HISTORY AND DESIGN GUIDE

BY DEBORAH SHAPLEY FOR RESTORE MASS AVE

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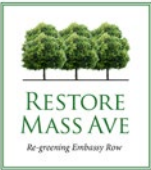
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National Trust for
Historic Preservation



WHY “MASS AVE” MATTERS

The two miles of Massachusetts Avenue in Washington, DC, that extend west from Dupont Circle to Wisconsin Avenue “may be the last intact grand avenue in the nation,” says Jan Cigliano, historian and co-editor of *The Grand American Avenue: 1850–1920*, published by the American Architectural Foundation in 1994.¹

What are “grand avenues?” Why do they matter to the future of cities today? As for this part of the street known as Mass Ave, why bother saving it?

The residential grand avenue was a key feature of many American cities in the late 19th and early 20th centuries. Along them, to quote *Grand American Avenue*, “local luminaries of business and culture built linear promenades of elegant residences... spaces of authority, architecture for display, and broad streets intended to impress.”²

Unfortunately, most of the 12 exemplary grand avenues the book documented were gone by the 1950s. Mansions had been razed for commercial structures as downtown lots had become more valuable and their original owners had left. Park-like landscapes that had linked public views had been built upon or paved. Elegant rows of trees had been lost. Cigliano says, “Of the remaining grand avenues, the Embassy Row stretch of Mass Ave is the most prominent and internationally famous.”

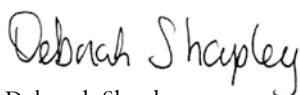
Restore Mass Ave, our nonprofit organization, was founded in 2006 to

restore the double rows of trees that defined the landscape historically, as shown by the cover photo, taken in 1913 along the 2000 block (where a hotel entrance and garage are today). We have added more than 320 trees so far, though bare spots remain.

But restoring a street’s sense of *place* requires more than trees. Mass Ave’s design is the legacy of key urban thoroughfares in Europe and of the 1791 plan for an ideal capital of a new nation. The legacy was enhanced in the 19th century when the avenue was lined with trees and lawns to create an “open-air salon of the street.” Mass Ave’s marriage of architecture and street was an idealized response to the problems of city life at that time.

Today, few people know about this legacy. So we created this book to show the principles of Mass Ave’s design, because they can help address problems city planners face today. We also included a six-step landscape guide to help Mass Ave stakeholders revive the street completely. The six steps can help others “green” their streets as well.

America’s original grand avenues expressed the aspirations of civic leaders of their eras. We hope that this project, by recalling those ideals, will contribute in a small way to the creation of more “cities of trees.”



Deborah Shapley
FOUNDER & PRESIDENT
RESTORE MASS AVE

THE GRAND AVENUE LEGACY

L'Enfant's grand design

Major Pierre Charles L'Enfant planned the major thoroughfares of the new nation's capital to be grand avenues. His 1791 plan laid out the streets as a grid, so the city would be more orderly than Philadelphia or Boston, which had expanded chaotically from ports. Slicing across the grid, L'Enfant drew wide, straight avenues radiating from and linking the higher points of ground. His vision was of a *rational* capital of large views, where people could venture into public space and experience not just any city, but a great one.³

For the avenues, L'Enfant was influenced by the radiating allées of the palace of Versailles, designed by André Le Nôtre. A key example was Berlin's

Unter den Linden, a very wide, straight boulevard lined with double rows of linden and nut trees. L'Enfant planned Mass Ave to be the premier residential avenue, while Pennsylvania Avenue would be the main government thoroughfare, connecting the Capitol and the White House. Mass Ave would start at the waterfront of the Eastern Branch (now the Anacostia River); it would be the longest transverse avenue, running 4.5 miles to the western edge along Boundary Street (now Florida Avenue) and 160-foot-wide. Near what is now Dupont Circle, he intended Mass Ave to intersect two other avenues (Connecticut and New Hampshire avenues). But as late as 1860, this part of town had yet to be laid out on the ground. At the end of the Civil War, the area's fields and swamps drained to a creek that was an open sewer.⁴

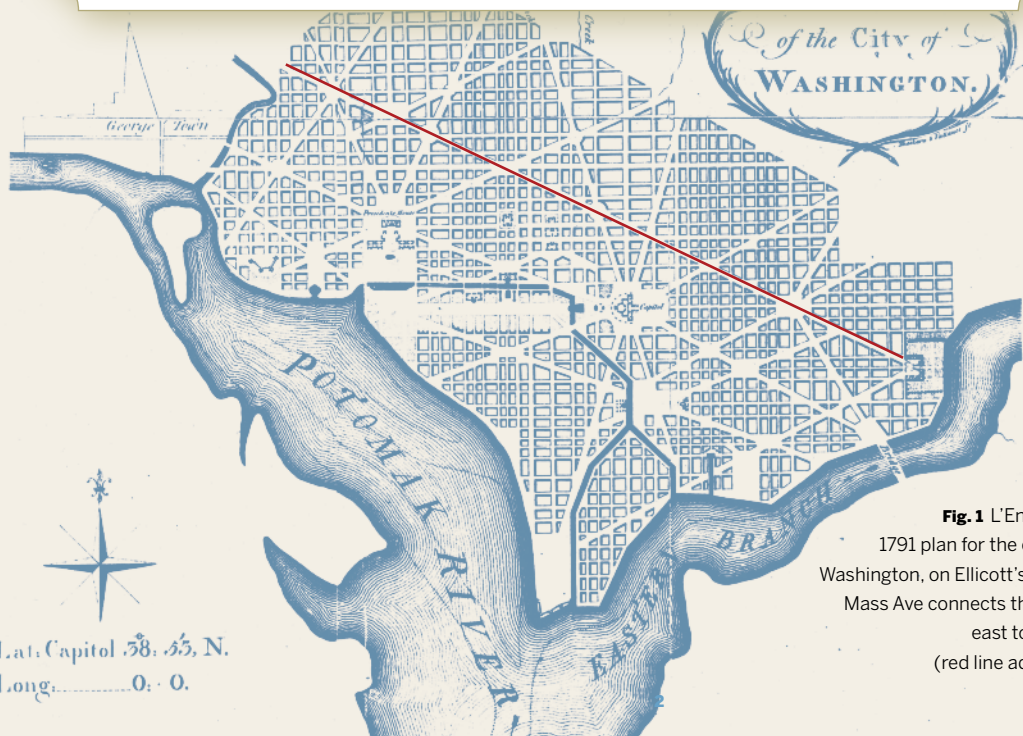


Fig. 1 L'Enfant's 1791 plan for the city of Washington, on Ellicott's map. Mass Ave connects the city east to west (red line added).

Lat: Capitol 38. 33. N.
Long: 0: 0.

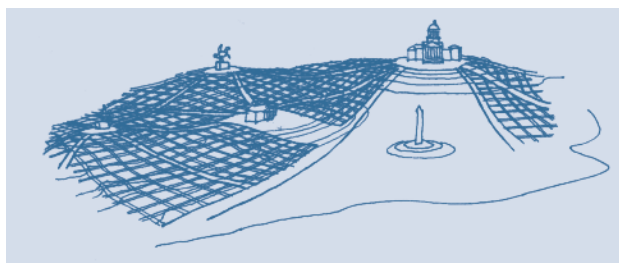
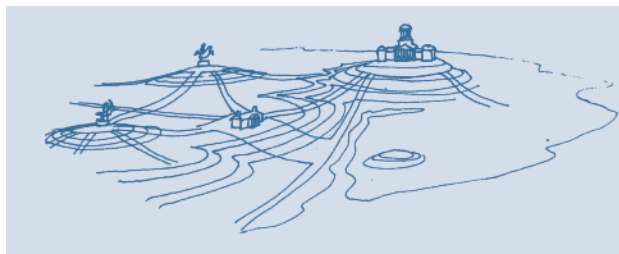
Fig. 2 Schematic diagrams of how L'Enfant laid out grand avenues to connect high points of ground, forming "pauses."

After the Civil War, city leaders were determined to make Washington a capital worthy of the unified and expanding nation. An enormous public works program began in the 1870s installed public buildings, water and sewer mains, gas lighting, and paved streets. Streets and avenues were extended from the early downtown in accordance with L'Enfant's grand design.

Congress, which in effect ran the city, made Washington a self-governing territory in 1871 with a governor and a Board of Public Works. Alexander R. ("Boss") Shepherd, a booster and businessman who was part of President Ulysses S. Grant's inner circle, was the Board's vice president and moving force. Shepherd's brief, energetic reign modernized the city's infrastructure and endowed its streets with some 60,000 trees.

The ouster of Shepherd and his cronies in 1874 due to corruption scandals did not, however, endanger the capital's tree program. Congress decided the city would be governed by three presidentially appointed commissioners. One of these, the Engineer Commissioner, would be a very influential post, since the Army Corps of Engineers was put in charge of utilities, streets and parks.⁵

Starting in 1871, a Parking Commission of three professional horticulturalists chose tree species for the city's streets and parks and advised the city nursery. The Engineers and



Parking Commission's yearly reports and maps show how Washington's streets, avenues and parks came to rival those of Paris and Berlin. The three first Parking Commissioners served until the end of their lives—two into the 20th century.⁶

"Parking" the 160-foot-wide avenues with rows of same-type shade trees was suggested by Washington's mayors in 1865 and 1869. One idea favored tree rows down the center with roadways on each side. Also considered were groves of trees in the middle of busy intersections. After the Engineers visited Paris, which was considered the most modern city of the day, they decided that Washington's important avenues should have a paved central roadway with park-like strips of green along each side.⁷

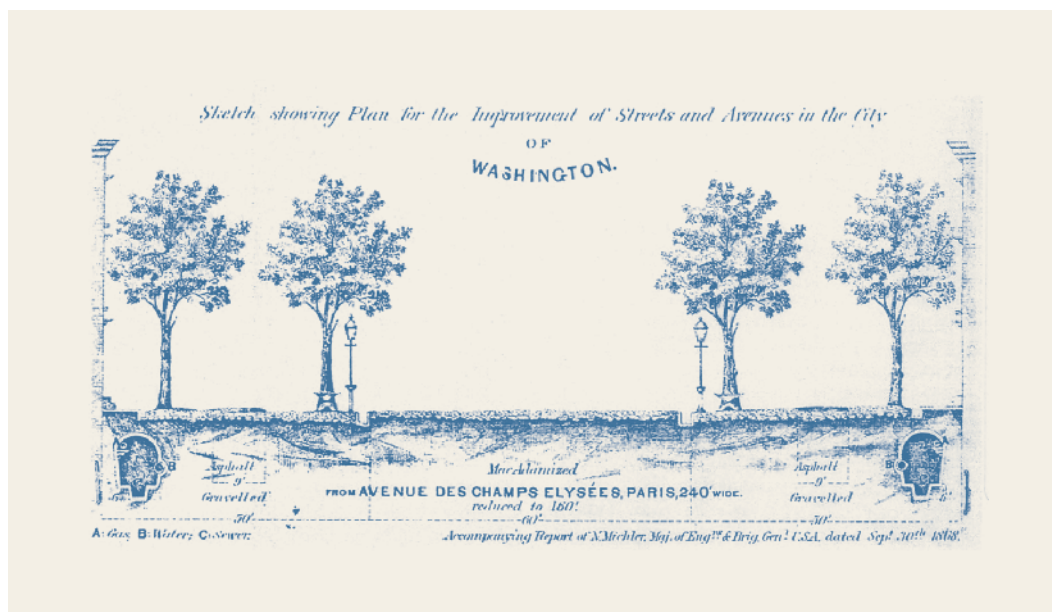


Fig. 3 In 1868 General Montgomery C. Meigs and Major Nathaniel Michler used an engraving of the Champs Elysées to show how 160-foot-wide Mass Ave could be “parked” with double rows of trees. Burying utility lines in the “parking” would allow repairs without costly pavement removal. For jurisdiction in the “parking,” see Fig. 33.

Post-Civil War city leaders generally favored parks over paved, plaza-type public space. They landscaped the high elevation “pauses” in L’Enfant’s design as “pleasure grounds” for the public: grassy, shaded parks, sometimes with fountains and even zoos. The long sightlines, about half a mile each, were strengthened by rows of same-type trees, and on many avenues, double rows formed allées on each side. Following the optical principles in European city design, a statue was placed at the precise visual focus where the axes of L’Enfant’s avenues intersected. As in European grand avenues, statues were chosen to aid navigation across town, and symbolically to edify people or remind them of state authority. In Washington, most of these focal statues were of Union military heroes.⁸

Though some individuals were very influential, no one person dictated the design of Washington’s streets after the Civil War. The engineers, the parking commissioners, the mayor and many congressmen shared a consensus: miles and miles of major trees could relieve congestion, lower

Washington’s summer heat and improve health, while making the capital as imposing as Europe’s—and could raise property values.

By the late 19th century, Washington had several impressive residential avenues: Mass Ave near downtown, H and K Streets near Lafayette Square, and Pennsylvania Avenue east from the Capitol. Retired Senator John Henderson and his wife Mary sought to make 16th Street *the* address for foreign legations and Washington’s elite. But from the 1880s on, most new, lavish homes were built near Dupont Circle, where the new British legation attracted high-ranking guests. The new residents were mining magnates such as Curtis Hillyer or prominent politicians such as James G. Blaine.⁹

Urged by land speculators (many of whom were congressmen), Congress in 1886 passed the Mahone Bill authorizing the extension of Mass Ave 1.8 miles west from Boundary Street to Tenallytown Road (now Wisconsin Ave). The bill adopted the engineer’s plan to cut a straight swath through the hillside and build a new bridge across Rock Creek.¹⁰ Construction

began immediately, as plats were drawn and land heirs began counting their future wealth. Washingtonians took Sunday carriage rides to watch the road's construction; it was mostly graded by 1891.¹¹

The end of the 19th century saw the spread of a new design philosophy called the City Beautiful Movement in many fast-growing US cities. Its powerful mix of Neoclassical and Beaux Arts architecture with naturalistic landscape was exhibited with much fanfare in a temporary "White City" at the 1893 Chicago World's Fair. Daniel Burnham was the movement's premier architect; Frederick Law Olmsted, Sr., was its pre-eminent landscaper. Charles Mulford Robinson was its prolific promoter.¹²

To drastically advance L'Enfant's vision for the nation's capital, a commission was formed, principally of Burnham, F. L. Olmsted, Jr., and architect Charles McKim. In 1902,

the McMillan commission, as it was known, produced one of the most comprehensive city planning reports in American history. It laid out a grand redesign for the Capitol grounds, the Mall and monuments, a relocated rail hub (which became Union Station) and a park-and-boulevard system. As these plans were realized, Washington's public spaces began to embody the City Beautiful ideal.¹³



Fig. 4 The commissioners published maps of trees planted each year. This section from the 1880 map shows double rows planted along Mass Ave crossing Dupont Circle to Boundary Street. The arrow connects the tree on this map with the one in the 1884 engraving.

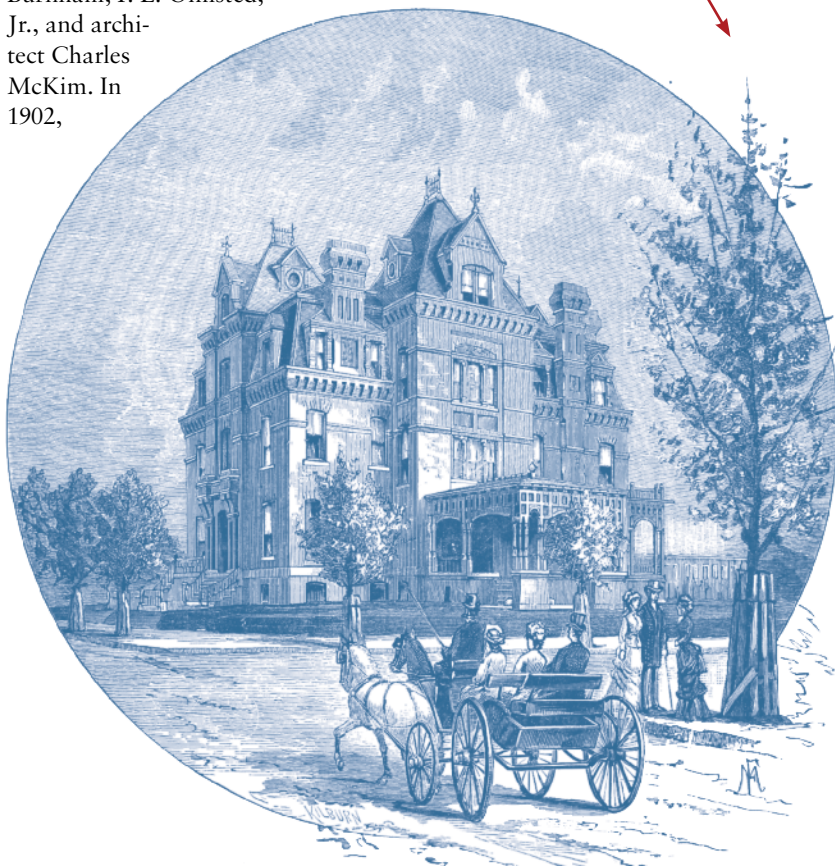
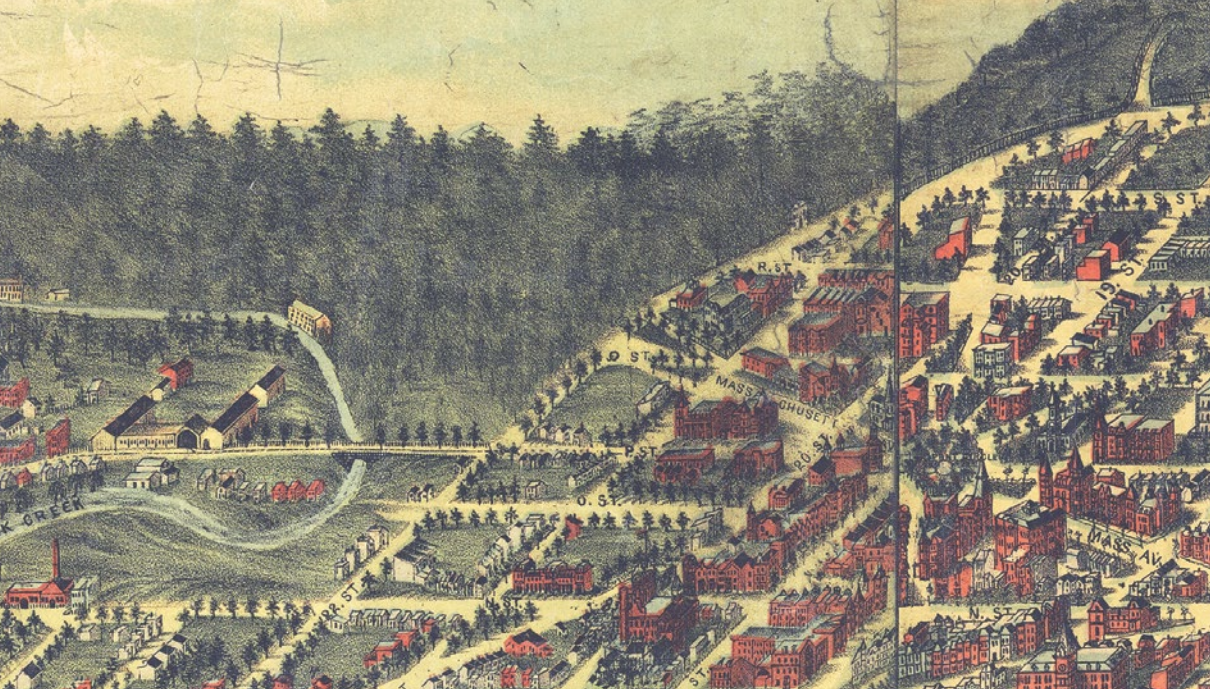


Fig. 5 Illustration from *Picturesque Washington* in 1884 shows fashionable people chatting at the muddy intersection of Mass Ave and 20th Street, by the home of James G. Blaine at 2000 Mass Ave.



Classical design cuts through the woods

Three maps tell the story of Mass Ave's 1.8 mile western extension built after 1887. Dupont Circle is on the lower right.

Fig. 6 (above) The 1884 Sachse map shows the forested hill of the Kalorama estate west from Boundary Street, the edge of L'Enfant's original plan.

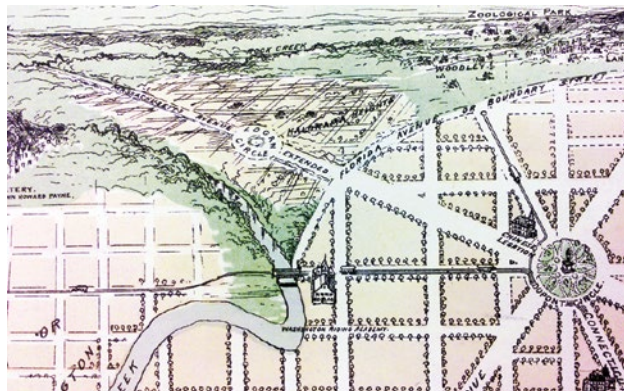


Fig. 7 (above right) The 1892 DuBois map shows that L'Enfant's width for Mass Ave was maintained in the extension. The new "pause" is a perfect circle, labeled Logan (now Sheridan). The avenue exits the circle 19 degrees short of a straight line on a new axis to Tenallytown Road (now Wisconsin Avenue).

Fig. 8 (right) The 1896 Peters map shows the axis continuing across a new bridge, with a perfect arc around the Naval Observatory, built in 1893. The hill of the Kalorama estate is given the ritzy name Washington Heights. Plats show that few buildings were built in this area until after 1904, when a court settled disputes among heirs.





Double tree rows march westward

By 1900, the western extension of Mass Ave was ready to be planted. City leaders chose to plant double rows of American linden, to realize their ambition to make the linden rows of Mass Ave longer than Berlin's. Following classical principles for important streets, all the trees for the entire length were of one species.

The double rows on both sides—for four rows in all—enhanced formality. As the trees grew to maturity, the street would have natural pillars, holding up branched vaults of leaf canopy overhead. This geometry had two goals. The first was to echo classical architecture, such as Greek and Roman temples bordered by columns in double rows. Second, the allées along each side were to be sheltered promenades, like those in Europe, which buffered travelers from the bustling main roadway.

Along Mass Ave, the center point of each tree appears to have been 50 feet from the next in the line. Trees in the street row were paired with



trees in the second row 20 feet across the sidewalk.

The 500 new trees were likely planted in the fall of 1904, when *The Washington Post* announced they would be “set out in double rows after the manner of those already of big growth in the older part of the avenue,” giving Washington “probably the longest street in the world adorned with this graceful tree.”¹⁴

Fig. 9 (above left) Evenly spaced rows of new trees by the US Naval Observatory, photographed in 1911. Even crossing railroad tracks do not deter the allée design.

Fig. 10 (inset) *The Washington Post*, Sept. 4, 1904.

Fig. 11 (above right) A second row linden planted by the Lesotho Embassy (2511 Mass) in 1904. 2007 photo.

SEE LANDSCAPE GUIDE:
STEPS 1 & 2 on pages 22 and 23.



Fig. 12 In 1967 the National Park Service proposed that Sheridan Circle have “extensive paved walks, planting and many more benches.” But the Commission of Fine Arts rejected the plan, noting “the circle functions primarily as a visual element . . . providing a simple setting of green landscape.”¹⁸

The *rus in urbe* effect is shown in this 1970 photo, when the American lindens were 40 to 50 feet tall. For all its natural effects, the circle is a perfect dome and the statue of General Philip Sheridan is positioned at the precise visual focus along the axis of the avenue.

The designed forest

The engineers' plan of 1886 for extending Mass Ave designed a new "pause," a perfect circle, as the visual focus from up and down the avenue. The statue of General Philip Sheridan on his horse Rienzi by Gutzon Borghlum was dedicated by President Theodore Roosevelt in 1908.¹⁵

The circle was landscaped as a lawn-covered park. American lindens were spaced evenly around the perimeter. Across the street at curbside, a second ring of ginkgo trees was planted. Facing the ginkgos across the sidewalk was planted a third ring of tulip poplars, forming curved allées. How do we know? By looking around! A few of these elderly giants still stand—witnesses to history.

For more than a century, trees had been planted in the circles and squares and odd-shaped lots along L'Enfant's avenues. In the late 19th century, Washington was known as a "city in a forest." But the City Beautiful planners used trees to suggest classical architecture. The rings of trees around the dome of Sheridan Circle echo the Jefferson Memorial, an exemplary City Beautiful structure.

The Roman notion that country, or *rus* in Latin, was separate from the city, *urbe*, now changed. Wrote City Beautiful advocate Charles Mulford Robinson in his best-selling *Improvement of Towns and Cities* in 1901:

"*Rus in urbe* is no more an island. It becomes a river flowing through all the streets and by ways and forming in squares and parks little ponds and lakes of country."¹⁶

On the odd-shaped edges of Sheridan Circle were grown little woods, or *bosques*, of conifers, understory and big deciduous trees. As for the forested slopes of Rock Creek valley, the 1902 McMillan report recommended it remain as wilderness with only a narrow road by the stream.

Farther west, where the Naval Observatory had opened in 1893, Mass Ave made a perfect arc around the observatory hill and was lined with rows of American lindens. But the forest backdrop was kept when a large, privately owned wilderness parcel was exempted by Congress from the city street grid in 1910.¹⁷

Planners of the day sited tree rows and parks in the belief that these they could relieve the crowding, disease, and social problems of fast-growing cities.^{17A}

Along Mass Ave, building lots were more valuable due to the sloping, wooded terrain. Owners and their guests, as they came and went from the "little palaces" or gazed from high, main floor windows, could imagine they were in a vast country estate.

Fig. 13 (below) This early photo shows the double rows of lindens marching west from Sheridan Circle; some of these lived more than 100 years.



Fig. 14 (above) The classic geometry of a perfect circle and three rings of trees is shown in this photo of Sheridan Circle with the date "1915?"

“OPEN-AIR SALON OF THE STREET”

Voices for landscape: the 1900s and 1970s

Fig. 15 Covers of two volumes by the US Commission of Fine Arts (1973, 1975) documenting Mass Ave’s architecture. See text on pages 18–19.



The landscape and architecture installed on Mass Ave from about 1900 on quickly transformed the bare roadway into an ideal City Beautiful grand avenue. Robinson wrote extensively about “great avenues.” For example, in *Modern Civic Art, or, the City Made Beautiful* in 1903, he wrote:

“These are the radials that bear the heavy traffic to and from the centre and the broad streets set aside for the grandest residences....”

“[T]he great avenues will often have turf...and rows of trees....”

“[W]ith carefully tended nature... The whole conception of the street changes.... The way is no longer a mere means of communication.... The new idea is to make an open-air salon of the street.”¹⁹

In the early 1970’s preservationists argued for preserving the “coherence and unity” of Mass Ave’s landscape and buildings. As argued by the brief nominating it for federal historic status in 1974:

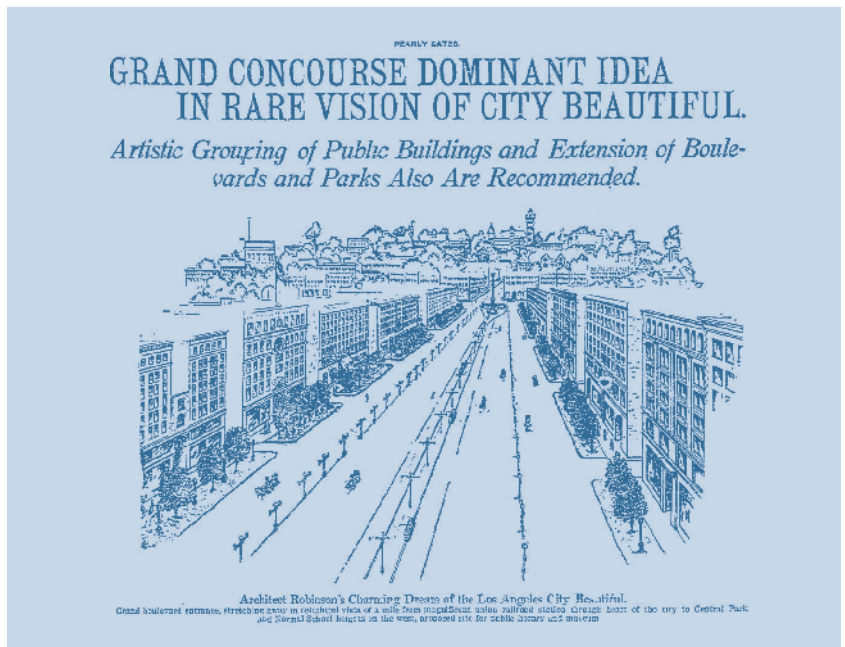
“In this linear district of unique Beaux Arts residential architecture the kinetic essence of Pierre L’Enfant’s Baroque plan for the city of Washington is admirably realized....”

“The rhythm and proportions of this broad, tree-lined avenue dynamically interact with the scale and visual excitement of the architecture which abuts it....”

“The grand radiating avenues of Le Nôtre are recalled. Rock Creek Park, whose presence is felt... creates an appropriate aura of *rus in urbe*....”

“In these years [1890-1930] a remarkable degree of architectural quality, coherence and unity was achieved, creating a street facade unique in the city and perhaps the nation.”²⁰

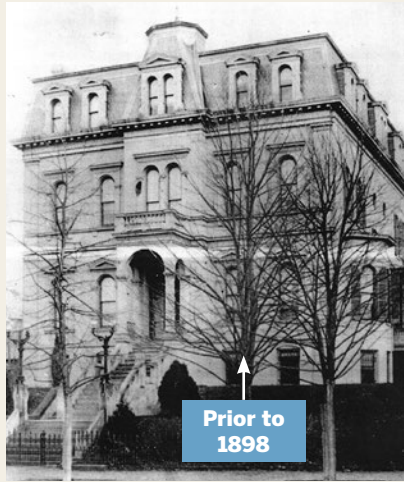
Fig. 16 Robinson’s great avenue plan for Los Angeles (1907).



Principle: Embrace the public space

"The Beaux Arts 'salon' whether indoors or as a public garden ...unlike the Victorian...[attempted]...to produce a totality, a marriage between structure and adjacent public space."

—Commission of Fine Arts, *Massachusetts Avenue* (1975)²³



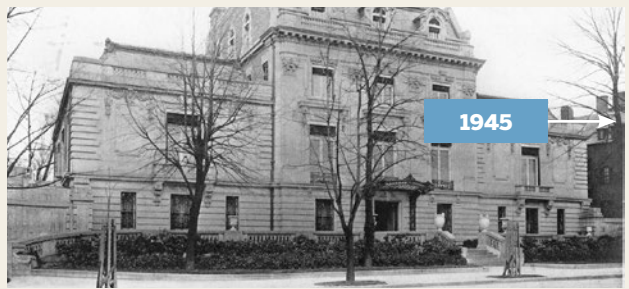
2121 Mass and the avenue ...

Fig. 17 (above) As built by Hillyer;

Fig. 18 (top right) After Townsend enlargement;

Fig 19 (bottom right) The winding drive in 1970.

Arrows point to the same second-row linden tree, likely planted in 1880, per Fig. 4.



Beaux Arts marriage of architecture and public space

In the late 19th century, Victorian mansions sprang up on fashionable streets, including on Mass Ave downtown. Generally, except for corner turrets, Victorian architecture did not acknowledge the street.

But by about 1900, new owners along the western part of Mass Ave favored showier Beaux Arts and neo-classical designs, whose goal was to be admired by friends and the public on the busy thoroughfare.

An example is the boxy Victorian house Curtis Hillyer built on the elevated corner of Mass and Florida

Avenues at 2121 Mass (now the Cosmos Club).²¹

In 1900, the new owners, railroad magnate Richard Townsend and his wife Mary, asked their architect to revamp Hillyer's place to resemble Le Petit Trianon at Versailles. The architect kept the entrance floor above grade but added a driveway to wind up from the street, behind the second-row lindens, to the main door and then wind back down to the street in a flowing series of views.²²

The result is more than a house or even a mansion, but a unity of architecture and landscape that embraces and enhances the avenue's impressive public space.

Principle: Respect the lines of the street

- ☞ Building shapes and facades should respect the overall lines of the street.
- ☞ Beaux Arts avenues, as in Paris, observe strict rules for horizontal building lines (rustication, cornice, window height) and vertical elements (entrances and windows).
- ☞ The biggest landscape features should strengthen the lines of the street. Evenly spaced, similar trees can reinforce horizontal and vertical street lines.

Long, inspiring views were key to the Beaux Arts school's marriage of street, architecture, and landscape.

The “palaces” built on Mass Ave between about 1900 and 1920 conformed to Beaux Arts designs and rules. Yet they were democratic. Though individually they are showy, they also harmonize with each other and the larger idea of the street. As explained in *Grand American Avenue*, the owners shared a vision of “a continuous park-like environment of houses, not separated by fences, but knit together in a picturesque sequence of lawns and trees and sidewalks and paving.”²⁶

Architects took advantage of triangular lots, especially when visible from

afar along the thoroughfare. Robinson wrote in 1903: “Because these streets are diagonal in reference to the street systems they cross... [a triangular] site may offer noble architectural opportunity.”

Harmony and unity prevailed. The mansion entrances and key features were spaced to create rhythmically connected views.

Landscape can enhance the traveler's sense of being in one elegant, connected space. Or landscape can destroy this experience. Early photos show that public land or “parking” in front of the buildings was left as lawn edged by low evergreens to frame the architectural highlights.



Fig. 20 This famous image of 2315, 2311, and 2305 Mass Ave shows how landscape enhances the lines of the street. The low hedge and lawn enhance the horizontal lines; the row of tall trees strengthens the vertical lines. The impressive ‘prow’ on the triangular lot of 2315 Mass is meant to be admired from far up the avenue.



Fig. 21 (above) Low massed evergreens and vertical tall trees direct the eye to 1606 23rd Street's dramatic entrance, even though it is off of Mass Ave.



Fig. 22 (left) A smooth lawn and framing shrubs focus attention on the doorway of 2221 Mass. A tall evergreen moves the eye to the entrance of the building next door.

Principle: Support secondary views

- ☞ Small trees and shrubs—indeed all parts of the scene—should enhance secondary views, while not blocking or distracting from the main street.
- ☞ On this grand avenue the key secondary views are the spectacular mansion entrances; landscape should reveal them to travelers in an orderly, pleasing way.

The social role of landscape

Owners built these mansions mainly to receive important guests and give balls and dinners in winter, when Congress was in session. For example, a hostess' afternoon "at home" could mean receiving 100 guests who arrived at the main door in carriages and motorcars. The approach and entrance were designed to signal the ornate grandeur within. The goal of the entrance and landscape was visibility and impressiveness from the public thoroughfare.

Foreign nobility had always been part of the society of the capital. This was more true after 1898, when the Spanish-American War established the United States as a global power. More nations opened legations in the capital; their ambassadors—real aristocrats—gave important parties, reciprocating the hospitality of the local elite.²⁷

One of the owners' purposes was to present their daughters to society in home-thrown balls for 200 to 300



Fig. 23 (above) President and Mrs. Wilson.

Fig. 24 (right) Harris Charles Fahrenstock (father of Gibson Fahrenstock, owner of 2311 Mass) drives a fashionable "coach."

guests. In due course, the daughters' weddings would be held in these rooms and suitably magnificent.

A desirable groom was often a titled nobleman (whose own palaces may have needed funds, or not). Levi Leiter, who built the first—maybe the largest—of these "palaces" (1500 New Hampshire Ave) married off all three of his daughters to British noblemen; the eldest married Lord Curzon, Viceroy of India.²⁸

The main entrances were exclusively for family members and their guests. A guest would alight, helped by a footman; inside a butler would send word upstairs; the guest, if allowed further, would ascend the grand staircase to be "presented," or received, in the grand rooms of the piano nobile or main floor.

The coachman would then take the carriage or auto to the stable or garage. Servants came and went only offstage through side or rear entrances.



Fig. 25 Stairs from the foyer up to the main floor "presentation" rooms at 2349 Mass Ave.



Fig. 26 West of Rock Creek, new establishments were landscaped as country seats. Great Britain's palatial embassy (3100 Mass), built in 1927, has approaches fit for royalty.



World War I and the 1920s: service and diplomacy

The grand avenue establishments were for more than parties. Owners loaned them for state functions and humanitarian work, making Mass Ave one of the most important public streets in Washington in World War I and thereafter. Examples:^{29 30}

From 1908: President Theodore Roosevelt's lively daughter Alice, who was married to Speaker of the House Nicholas Longworth, entertained important figures for decades at 2009 Mass.

1918: 1801 Mass was loaned to the American Red Cross. At 2020 Mass, volunteers made garments for refugees.

1919: The King and Queen of Belgium stayed at 2020 Mass, receiving important guests.

1921 and after: Three former US presidents resided near Mass Ave: William Howard Taft (1921–30), Woodrow Wilson (1921–24), and Herbert Hoover (1921–29, 1933–44).

1922: Count László Széchenyi, Hungary's ambassador to the US, bought 2929 Mass for himself and his wife Gladys, née Vanderbilt, to use for official and social entertainment.

1927: President and Mrs. Calvin Coolidge lived at 15 Dupont Circle while the White House was being refurbished. During three days that Charles A. Lindbergh was their guest there, the house was besieged by crowds.

Fig. 27 Alice Roosevelt at age 17 in 1902.



LINDENS STRETCH SEVEN MILES ON FAMOUS AVENUE IN CAPITAL

Beauty of Washington Display Surpasses That of the Famous Avenue of Lindens in Berlin. European Tree of Name Less Impressive in Appearance and Lacks the Fragrance Which Is Found in Those on Massachusetts Avenue in Blossoming Time—Some Homes of the Famous Which Are to Be Observed as Visitor Passes Under the Lindens of Washington—Future Poets to Sing Their Praises.



June rides under scented linden rows

The *Washington Star* captured the open-air salon atmosphere of the street in August 1923.³¹

“Have you ever driven the length of Massachusetts Avenue on a night in early June when the lindens were in bloom, and wondered what that faint, sweet, delicate, haunting, intriguing fragrance might be?”

Some embassy and institutional transfers:

1923 • Chile (2305 Mass)
 1923 • Riggs Bank (1913 Mass)
 1928 • Egypt (2301 Mass)
 1929 • Czech Republic (2349 Mass)
 1932 • Sulgrave Club (1801 Mass)
 1934 • Brazil (3000 Mass)
 1940 • Iranian legation (2315 Mass)
 1949 • Chinese Comm. Corp (2311 Mass)
 1949 • American Red Cross (15 Dupont Circle)
 1950 • Cosmos Club (2121 Mass)

The writer described the new Union Station by the Capitol and the houses of congressmen, socialites and the embassies she passed traveling westward. But mostly she eulogized Mass Ave’s miles of American lindens. She even reported “a distinct feeling of disappointment” when she first saw Berlin’s famed *Unter den Linden*. Mass Ave’s trees were better. “No thoroughfare of the old world can boast of lindens in such number or such perfection.”

Embassy Row is born

Many other American grand avenues were eroded in the 1930s. But in the capital, a generation of high-ranking foreign visitors had been drawn to Mass Ave’s European-style palaces and tree allées. As the Great Depression changed the original owners’ lifestyles, many sold their establishments to foreign governments. Others sold them to private associations. Generally, the new occupants used these venues for similar purposes.³²

Fig. 28 “The small bell-shaped blossoms growing in the clusters are...often...not discernible until one approaches close to the tree. Glancing up, one discovers...a light green canopy from which hang suspended small creamy blossoms in clusters,” continued the *Washington Star* article written in 1923.

LOSS AND RENEWAL

The government's expansion with the New Deal and World War II caused many fine downtown buildings to be replaced with blocks of offices and apartments and related infrastructure. With the growth of the suburbs and commuting, thoroughfares were widened, grassy strips were paved and thousands of mature trees lost. K Street's double rows of elms, which once

arched magnificently over the roadway, were cut down. Urban "renewal" razed once-shaded neighborhoods near the waterfronts. In the 1970s, the city's elm canopy was thinned by Dutch Elm Disease.³³ Neglect, including poor city stewardship, also took a big toll on the city's trees.

Though many individual old trees survived on Mass Ave downtown, gone were the miles of continuous

linden rows which the *Washington Star* had lauded in 1923.

As "progress" on Mass Ave crept toward Dupont Circle, the Commission of Fine Arts (CFA) decided that the street's architecture was of national importance. CFA staff began documenting the buildings lost and those still standing. In 1973, the agency published *Massachusetts Avenue Architecture: Volume 1* documenting plans, photos and records for 21 buildings from 17th Street to 34th Street.³⁴ That year the city designated the street as an historic district.

In May 1974, the National Park Service nominated this stretch for protection as a federal historic district. This status was approved by the Secretary of the Interior in October of that year.³⁵

The nominating brief and CFA texts also argue that the street landscape connecting the Beaux Arts mansions on the western part of Mass Ave is crucial to the "sense of place" that makes it "unique in the nation."



Fig. 29

A report on the razing of trees to widen K Street, *The Washington Daily News*, April 25 1938.

Fig. 30

Dying elm tree.



A further argument for the avenue's importance was *Massachusetts Avenue Architecture: Volume 2*, which the CFA published in 1975, documenting more of the avenue's buildings and early landscape.³⁶

The problem was—and remains—that these federal and local preservation rules apply to buildings and other structures but not landscape. The DC Historic Preservation Review Board, for example, reviews building alterations and other construction, including paving and retaining walls, but it has no jurisdiction over the associated landscape.³⁷

So Mass Ave building owners were constrained by historic designation and the mansions individually were saved. But owners were—are—mostly free to cut down trees, widen or make new driveways and turn the green “parking” into car parks.

Shocking loss, roots of recovery

How far Washington had come from being a “city of trees” would

be documented. By the 1990s, urban forest policy was being revolutionized by mapping and imaging tools. An American Forests study in 1999 showed that Washington had lost 60 percent of its major tree canopy between 1973 and 1997.³⁸ Scientists also measured the rising “heat island” effect over Washington and associated damage to public health.

The American Forests study of Washington sparked these developments:

☞ Philanthropist Betty Brown Casey endowed a nonprofit organization, Casey Trees, “to restore, enhance and protect the tree canopy of the nation’s capital.” Since starting in 2002, it has planted more than 17,300 trees and added immeasurably to the capital’s expertise in urban forestry.³⁹

☞ The city passed a law that restrains cutting trees on public or private land.⁴⁰

The DC tree law bars cutting “special” trees of 55-inch circumference or greater. Someone seeking to remove such a tree

Fig. 31 The shocking loss of tree canopy over Washington was measured by an American Forests study released in August 1999. At far left, the canopied area in 1973 is green. Below, the green canopied area has shrunk dramatically by 1997.

Regional Analysis



Landsat MSS 1973 80 Meter Pixel Resolution

Key: % Tree Cover



Landsat TM 1993 30 Meter Pixel Resolution

must plant replacement trees of the same total girth. For example, removal of a 55-foot tree would require planting seven young trees of 2.5-foot diameter or caliper. The law is administered by the Urban Forestry Administration (UFA), which also is responsible for the city's street trees.⁴¹

☞ In 2005, Mayor Anthony Williams signed the Conference of Mayors' Climate Protection Agreement, adding Washington to 140 other cities that signed the accord. Mayor Williams recognized that Washington could abate rising carbon dioxide in its air by adding many more acres of trees.

☞ In 2007, the city settled two crucial negotiations with the US EPA to receive permits under federal air and water laws; both

include forest expansion as one step towards compliance. One is the State Implementation Plan for 8-hour ozone, key to lowering regional asthma rates. The other concerns the MS4 sewer-water system to reduce sewage-laden water spilling into Rock Creek and the Potomac and Anacostia rivers in storms.

Today there are signs that Washington's tree loss has stabilized. But the area canopied by trees could shrink again due to land development and population growth. In 2012, estimates of city land covered by trees were 37.2 to 35.1 percent.⁴²

The bottom line is that Washington must expand its net area of tree canopy continuously to abate the region's "heat island" in the 21st century.

Fig. 32 Rush hour on Mass Ave near 18th Street. Visible are some of the denser commercial buildings, which replaced earlier mansions and townhouses.



RESTORATION GUIDE

Though unique in many ways, Mass Ave embodies the problems of many city streets: bare pavement, struggling city street trees, private property owners who don't know—or care—about trees within reach of their hoses. The motto for restoring Washington's street landscapes should be: Many stakeholders, one landscape.

The following six steps show how Restore Mass Ave tries to address these problems along Embassy Row. We hope this guide will help stakeholders here and elsewhere “green” city streets.

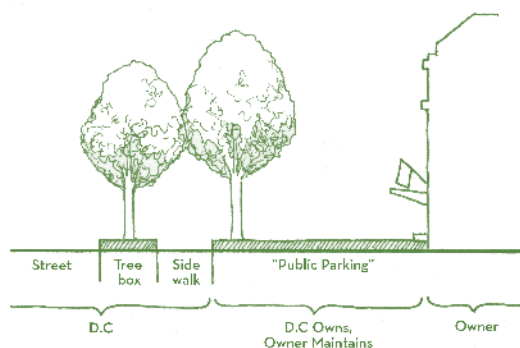


Fig. 33 “Public parking” is public space under the care and maintenance of the adjacent property owner. Property owners are encouraged to landscape and improve this area in compliance with the city’s public space regulations concerning the height and design of fences, hedges, and retaining walls. Trees in the “parking” are the responsibility of the adjacent property owner.⁴³



Fig. 34 The “parking” is the land between the dotted lines (Embassy of Norway, 34th St and Mass Ave). Photo from 2006.

STEP 1: FULL ROW OF HEALTHY STREET TREES

Rows of street trees along the curb define a street, especially if they are similar. In 1901, Charles Mulford Robinson wrote: “Increased stateliness, impressiveness, and charm are usually secured if the permanent, and therefore larger, trees on any given thoroughfare be of one variety.”⁴³

Fig. 35

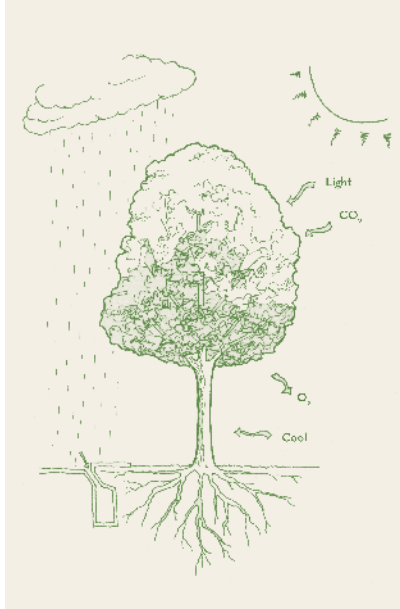
How trees help:

Rainfall. One-third is absorbed by leaf crown and one-third by trunk and roots, so just one-third flows to pavement and drain.

Global warming. Leaves absorb carbon dioxide.

Air quality. Tree leaves emit oxygen that freshens ground-level air.

Health. Cooler air near trees lowers ground-level ozone (smog).



Today arborists recommend against planting the same species for miles, a lesson learned from the Dutch Elm Disease disaster. For a few blocks one tree type may be planted, or a mix of types with similar profiles. On Mass Ave today there are silver lindens, willow oak and some London plane trees, as well as some young, disease-resistant American elms.

Growing these trees to maturity is important to public health. Bare pavement intensifies ground-level heat. The hot air and sunlight act on vehicle emissions to make ground-level ozone (smog). Federal and city policy has long aimed at lowering smog (see page 20). So rows of shade trees do real work, besides adding beauty.

Washington’s 144,000 street trees are under the purview of the Urban Forestry Administration (UFA) in the Department of Transportation (DDOT). Though private parties cannot prune or cut down street trees, the UFA welcomes TLC of them by neighbors. Such care is needed!⁴⁴

- ☞ **Watch** that the city and its contractors plant trees that are healthy and planted well. If you suspect a problem, report it to the Mayor’s service line (phone 311 or <http://311>) giving the nearest address.
- ☞ **Water** all sidewalk trees 25 gallons per week from May to September, except after heavy rains.
- ☞ **Remove weeds and grass** from around the tree. Do not plant shrubs that rob nutrients from the tree’s roots, such as nandina or lariope.
- ☞ **No heavy loads, trash or bikes** should be set next to trees. Protect them with low fences that follow city public space regulations.



Fig. 36 After weeding the box around a city tree, we spread a thin layer of mulch.

STEP 2: SECOND ROW GIVES MORE THAN TWICE THE BENEFIT

Tree allées have been lovely features of European roads for centuries. In Washington, the ribbons of public land between sidewalks and buildings, called the “parking,” offer additional space for a second row of major trees.

Along the western two miles of Mass Ave, the 40-foot-wide strip of “parking” proved excellent for growing long-lived second-row trees.

Early photos show that sidewalk trees and second row trees planted in the 19th and early 20th centuries grew symmetrical allées. But then, sidewalk trees had more rooting space than today, when their roots are crowded by underground utilities. Today, large-type species such as elm, linden, or oak will grow faster when planted in open ground of the “parking” than in sidewalk tree boxes. Being bigger, the second row can more than double the benefits of the street tree row.

Those hoping to “green” other DC streets should consider the “parking” for a second row of trees. City policy has long favored park-like landscaping



Fig. 37 Restore Mass Ave rebuilds both rows of trees. To the right of the sidewalk is a line of willow oaks we planted in the “parking” in front of 2540 Mass. To the left of the sidewalk are willow oaks planted by the city. Both lines were planted in 2007; the photo was taken in 2012.

on this land, as shown by the name!⁴⁵

SEE HISTORY: DOUBLE ROWS MARCH WESTWARD on page 7.

🌀 **Measure** the distance **A** between the line of curbside trees and the center of the sidewalk **B**. Then from the center of the sidewalk measure the same distance towards the buildings. This is point **C**, which establishes the line for the second row.

🌀 **Consider** spacing, height and seasonal color when choosing second row trees. A professional arborist should advise on species and sites.

🌀 **Contact “Miss Utility”** at www.missutility.net to mark underground lines which can limit planting space.

🌀 **Persuade** the nearest property owner to care for trees in the “parking,” both to follow city rules and for the good of the trees.

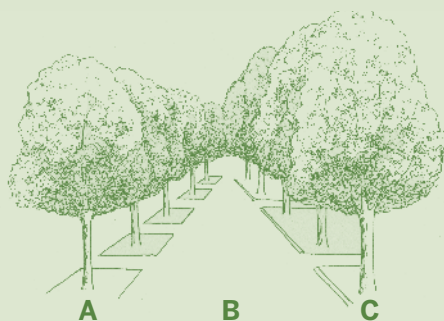


Fig. 38 **A** is line of the street trees. **B** is the sidewalk center. **C** is the line of the second row.

STEP 3: CONNECT LONG VIEWS

A grand avenue should offer very long views, framed by arches of mature trees. Originally ribbons of lawn with few interruptions flanked the tree rows, helping to connect views of the Beaux Arts mansions on the part of Mass Ave now known as Embassy Row.

Other streets have their own rhythms and lines, such as Washington's blocks of brick row houses with same-height stoops, bay projections and windows. Well-planned landscape can strengthen a street's most pleasing lines. Poor landscaping destroys a street's unity.⁴⁶

SEE HISTORY: RESPECT THE LINES OF THE STREET on page 12.

Fig. 39 Clues to Mass Ave's historic beauty can be seen in this photo taken in 1913 of the 2000 block of Mass Ave in 1913 (front cover).

Why is this scene so inviting?

The traveler is sheltered by mature tree canopy and dappled shade, yet in a noble public space. The connecting ribbon of open lawn helps the traveler see the facades framed by tall trees.

City leaders envisioned these sheltered yet impressive views when they "parked" Washington's avenues based on their study of Paris (Fig. 3).



- 🌀 **Remove blocking hedges** such as rows of arborvitae.
- 🌀 **Avoid center yard designs.** Small ornamental trees—crape myrtle, Japanese maple, dogwood—can block long views of architectural highlights, such as main entrances.
- 🌀 The **prow of a triangular lot** can be an exclamation point showcasing a specimen tree or a notable architectural feature.

STEP 4: SUPPORT SECONDARY VIEWS

We can create streets that are “open-air salons,” following the vision of City Beautiful designers a century ago.

But shrubs, small trees and obstacles such as fences can disrupt the unity and rhythm of the street. On Embassy Row, the entrances to the mansions are key secondary views. Small evergreen shrubs can enhance public views of entrances and other highlights. Tall columnar evergreens

by the corners of buildings can further frame these views.

In the 21st century, unified, shady streets will make cities more desirable for residents, workers and visitors. Studies have shown that property values are higher on shaded streets.⁴⁷

SEE HISTORY: SUPPORT SECONDARY VIEWS on page 13.



Fig. 40 Evergreen shrubs are massed to “marry” this building’s façade. A low hedge along the base of the facade anchors it to the land; medium evergreens flank the corners; tall conifers frame the composition. Well-proportioned plants steer the eye to featured highlights such as this embassy entrance.

Low	Medium for corners	Taller for framing	Flowering
Boxwood Morris 'dwarf,' Insularis 'nana' Cherry laurel 'Otto Luyken' English yew 'Repandens' Japanese plum yews	Arborvitae 'Emerald Green' 'Smaragd' American boxwood 'Fastigata' 'Capitata' yew	Juniper 'Blue Point' Spruce 'Cupressina' Blue spruce 'Fastigata' Arborvitae 'Degroot's Spire'	Rhododendron Azalea Camelia <i>Consult a professional for selection.</i>

STEP 5: EXPAND THE URBAN FOREST

Fig. 41 (above right)
Increasingly, the city is removing concrete “heat islands” such as this one, next to 1913 Mass, so the space may be planted with trees.

Look for areas with space for large tree species. The “heat island” effect diminishes if several trees are planted near each other, shading each other. Groups of trees may grow larger and live longer than single ones in a landscape, providing cleaner air and water and a delightful space for generations.

Thousands of acres of DC land should be reforested by 2020 to help the city comply with federal water and air laws (see page 20). The added forest will soak up atmospheric carbon dioxide, a key greenhouse gas, helping the city adapt to climate change.⁴⁸

Satellite imagery can help private citizens and city officials find land



Fig. 42 (right)
Volunteers plant six trees to create new forest in the “parking” land on the edge of the forest of Rock Creek Park.

that is available for trees. Such imagery shows “pervious” surface areas where trees can be planted as well as “impervious” areas that are not now plantable. Imagery comparisons can measure the forest acreage lost due to development.



STEP 6: PLANT TO SAVE ENERGY

When major trees are sited correctly next to buildings, owners can lower energy use while adding to the city’s urban forest. Large deciduous trees can block the sun’s direct heat in summer; conifers can block prevailing winds in winter. The Department of Energy has estimated that correctly sited trees can save 25 percent of a building’s energy cost.⁴⁹

Satellite surveys of Washington show that a great deal of the plantable land is on residential parcels. So Washington homeowners can “grow” the city’s tree canopy significantly by adding trees to their yards.



Fig. 43 (left)
Another one in! This southwest-facing wall of the Côte d’Ivoire embassy (2424 Mass) will be cooled by the swamp white oak we are shown planting in 2009.



SEE HISTORY: DESIGNED FOREST
on page 9.

Fig. 44 (left) Satellite image of the “heat island” of pavement by 1913 Mass shown in Fig. 41.

Advice on siting trees

- ☞ To maximize shade, locate on the southwestern and western sides of building;
- ☞ For shade from the morning sun, plant on the southeastern and southern sides;
- ☞ Add evergreen trees where they will shield a building from wind, so it requires less heat in winter.

Fig. 45 Off the grid: Where to plant trees for energy efficiency on DC avenues. On Washington’s cross-cutting avenues, large-type trees can lower use of air conditioning in summer and heat in winter.

REVIVING THIS AND OTHER STREETS

*M*aybe we've convinced you that the Embassy Row part of Mass Ave is a national and international treasure. It embodies the design principles of grand avenues—impressive, inviting public thoroughfares that were crucial to the civic lives of US cities more than a century ago. Today, the original landscapes and buildings have vanished along many other grand American avenues. So, in the preceding pages, we have argued that on Embassy Row enough of the original street remains to merit complete restoration.

We hope this guide persuades Embassy Row stakeholders to landscape private and adjoining public land as befits the historic character of this unique street. We hope this guide leads to synergies in which different stakeholders re-create unified long views across parcels and jurisdictions. Many plantings and improvements will be needed for the day when a renewed “open-air salon of the street” is experienced here by residents, workers, runners, bikers, tourists, and people in the 25,000 vehicles that pass daily.

Beyond our unique two miles, we hope this guide inspires others

to discover the design legacy—the best architecture and trees—along other streets. How can these be unified and enhanced? This guide's principles and steps suggest:

- ☞ Tree rows are the foremost way to define a street's character and add environmental benefits. Double tree rows can give twice the benefit of single rows. Initial care is needed for urban trees to grow to mature size.
- ☞ A street needs a visual focal point, such as a statue or eye-catching specimen tree, to become a large, enjoyable public space.
- ☞ Smaller landscape elements should support—not distract or block—key views.
- ☞ Adding trees to rear and side yards will expand DC's urban forest.

In shaping 21st century cities, we cannot match the achievements of L'Enfant, Shepherd, and the City Beautiful Movement leaders. But we can be inspired by their vision that cities can be beautiful and useful. Thus inspired, we can act to realize a new model of urban “greening,” individually and together, tree by tree and view by beautiful view.

Additional resources from Restore Mass Ave

PDFs of this book: www.restoremassave.org/grand-avenue-revival

List of figures in this book: restoremassave.org/landscapebook/endnotes.shtml

Endnotes of this book:

Credits and acknowledgements for this book:

Historic landscape—graphic guides: www.restoremassave.org/historic-landscape

DC History resources: www.restoremassave.org/dc-history-resources

Credits and acknowledgements

The author thanks the many people who helped to bring about this publication, especially the Board of Directors of Restore Mass Ave for their enthusiasm and advice. Please visit our Historic Landscape web page at www.restoremassave.org/historic-landscape for a more complete list of principal researchers, collections and reader-reviewers who contributed. The author takes full responsibility for the contents.

Figure sources

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Geographic & Map Division: 4, 6, 7, 8

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GillFishmanDesign.com



Fig. 46 Young tree ready for planting.



A GRAND AVENUE REVIVAL

Massachusetts Avenue LANDSCAPE HISTORY AND DESIGN GUIDE

BY DEBORAH SHAPLEY FOR RESTORE MASS AVE



In this book discover:

- 🌿 Why Embassy Row on Mass Ave is the most iconic Grand Avenue in the nation.
- 🌿 Why rows of trees express this street's historic character.
- 🌿 How shrubs and other landscape can help or harm street views.
- 🌿 Steps to revive the “green” legacy of Washington’s streets.



RESTORE MASS AVE is a nonprofit alliance of residents, other non profits, arborists and foreign mission personnel working to “re-green” Embassy Row in Washington, DC.

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