The Gulf Freeway: Van London’s Legacy

by Tom Watson McKinney

If someone asked you who you thought was the most influential person in Houston’s history, who would you pick? Who would you single out as the person whose legacy touches more people in a single day than anyone else’s? I am sure that the answers to that question would be very diverse and interesting, but anyone who answered that question would probably not have picked William James Van London. While you may not recognize his name, you would recognize his work if it was pointed out to you. In fact, many of you probably spend more time with his legacy than you realize. William James Van London designed and oversaw the construction of Houston’s core freeway network, and, despite the size and scope of his work, he is generally unknown in a city that is famous (or infamous depending on the length of your commute) for its freeways.

Van London, or “Mr. Van,” as his friends called him, was Canadian by birth and moved to the United States at the age of two.\(^1\) His background in engineering came from his service in the U.S. Army during World War I, and from his academic training at the University of Utah. He joined the Texas Highway Department in 1922, and remained with the department until he retired in 1955. He was described by one reporter as “red-faced, partly bald and he talks in a straightforward, yet cautious manner,” and as being “completely absorbed in his work,” evidenced by his inability to finish a cigar while working.\(^2\) He had a keen interest in highway design, and it was this fascination of his that caught the attention of Dewitt C. Greer, the head of the Texas Highway Department.

Dewitt C. Greer is the greatest facilitator of highway construction in the history of the State of Texas. As State Highway Engineer from 1940 - 1967, Greer oversaw the construction of the principal highways in Texas after World War II, a project that included some 70,000 miles of roads. This massive project has been characterized as, “the greatest program of highway construction the world ever witnessed.”\(^3\) Despite the enormous responsibilities Greer faced during his career, one reporter described him as someone who “hardly looks like a man spending a million dollars a day.”\(^4\) His youthful appearance coupled with his conservative manners and dress concealed the fact that Greer was a highly talented and fiscally responsible engineer. His desire to keep costs down gave him a reputation of being tight with money.\(^5\)

World War II raised several concerns for Greer and the Texas Highway Department. Army maneuvers in the state often revealed the deficiency of Texas roads. Few met military standards, and the military build-up for the war damaged roads and bridges throughout the state.\(^6\) Suffering from a severe lack of manpower and materials shortage, the Texas Highway Department spent the war focused on planning initiatives in hopes of a postwar renaissance. Beginning in 1944, the Texas Highway Department conducted a survey to study transportation problems in Houston, Dallas, Fort Worth, and San Antonio.\(^7\) The survey concluded that the urban environment of these cities would not allow the sufficient widening of streets to relieve the mounting traffic congestion caused by increased suburban development and automobile ownership. As one engineer pointed out, “a 200-foot street, as required for an expressway, ruins practically the whole block.”\(^8\) The survey also discovered that the deterioration of road structures throughout the state was increasing rapidly because of neglect, but Greer could do little to prevent this from happening during the war.\(^9\) The federal government encouraged this policy of neglect by drastically cutting all aid for non-military highway projects. This virtually halted highway construction in the United States during the war.\(^10\)

This policy did not remain in place for long, and the closing days of the war witnessed the formulation of a plan for domestic highway improvements. Evidence of this can be seen in the passage of the Federal-Aid Highway Act of 1944, which forever changed the way that roads are planned and constructed in the United States. The act dramatically increased the amount of federal money budgeted for highway construction, an amount that continually increased during the postwar era. More importantly, it marked the first time that the federal government provided funds for the construction of urban roads; previous highway appropriations had been focused on rural roads. This also meant that Greer’s highway strategy for Texas was going to pay off as it gave the state an edge in competition for needed federal funds.\(^11\)

Greer, while being a master of logistics, also had an eye for talent. As an engineer, he realized that the construction of urban highways would not only require someone who could
design a coherent system of roads that could serve an urban area, but also someone who could handle whatever political or engineering challenges that the urban environment might present. He created a series of special posts called “Engineer-Managers” to oversee the construction of urban highways in Texas. In the four major cities of the state — Houston, Dallas, Fort Worth, and San Antonio — the Engineer-Managers had the sole responsibility for planning and overseeing the construction of urban expressways.

Greer's solution to the problem of urban expressway construction is something that was unique to Texas, and it is made more impressive by the fact that road construction on such a coherently systematic scale had never before been attempted. To further this program in Houston, Greer appointed Van London, who had come to Houston in 1938, as the city's engineer-manager on June 1, 1945. His first task was the Gulf Freeway, something that he later confessed he had started working on in 1941.

Van London's unique position made him the local spokesman for the Texas Highway Department, and reporters consulted with him often. He was, after all, the person who was designing the freeway system, and was therefore shaping the city and the future. Since the Gulf Freeway was the first freeway constructed in the Houston area, Van London often explained his designs and the engineering behind it. Although Van London had sweeping powers granted to him from the highway department, he still had to work within the framework of local politics, since state law left the actual securing of the right-of-way up to the City of Houston. The law had been written in this way because of the fear that the state might force a highway through a city. To ensure the population was willing to support the construction of the highway, the law gave the responsibility for the right-of-way to city and county entities. This law was changed in 1951 to give the highway department condemnation rights.

Van London was very lucky that the local political establishment was more than enthusiastic about the idea of a freeway network. Perhaps the biggest supporter of the freeway system was Mayor Oscar Holcombe. He secured the right-of-way of the Galveston-Houston Electric Railway Company in 1939, thus providing the Texas Highway Department with a path through the city for the Gulf Freeway and enhancing the reputation and popularity of the mayor. “I said then that we would some day build one of the finest highways in the country on this right of way,” Mayor Holcombe recalled. The planning commission, which Holcombe had resurrected in 1937, followed the mayor’s lead by requiring real estate developers to recognize the right-of-way requirements for this major thoroughfare in the plating of new subdivisions.

Holcombe did more than present the right-of-way for Houston’s early freeways to the Texas Highway Department; he also played a central role in the transformation of Houston into the modern autocentric city we live in today. This is apparent in his aggressive annexation policy, which increased the city limits by hundreds of square miles and made the city responsible for hundreds of miles of new roads. As mentioned above, he also re-created the Office of City Planning in 1937, and by 1943 this office was responsible for the city’s major thoroughfare plans. Holcombe’s planning department included a Division of Traffic and Transportation, showing Holcombe’s awareness of the need for adequate traffic management. Under Holcombe’s leadership, the City of Houston introduced traffic control measures, gaining the distinction of becoming the first city in the United States to use sequential traffic lights and parking meters.

While Van London had the authority and design skills and Holcombe provided the necessary political support, the early freeway system could have never been constructed had it not been for a supportive population. The Bayou City emerged from World War II as a booming center of manufacturing and refining. The city’s economic base benefited greatly from the war, as the city provided a variety of goods and equipment to fuel the war effort. The Port of Houston also underwent
expansion during this time, and new industries constructed plants along the ship channel. The pull factor of employment in these plants also contributed to the growth of the city as rural residents left the countryside to seek their fortunes in the Bayou City. This virtual tidal wave of migration into the Houston region created a massive amount of construction in and around the city. This is reflected by the fact that three-quarters of Houston was constructed after 1945.

Houstonians embraced low-density suburban development, which increased the population's reliance on automotive transportation as its sole means of locomotion. As a result, the city and the region suffered from acute traffic congestion, as the area's existing traffic facilities were inadequate for such large numbers of vehicles. In order to envision the amount of street congestion which must have occurred during this era, it is important to remember that the Gulf Freeway, Houston's first freeway, was not in use until 1948. Until that time, Houston drivers were confined to major four-lane thoroughfares and neighborhood streets. The resulting traffic congestion created popular and sustained support for freeway projects that lasted from the 1940s through the late 1960s.

The people of Houston and the Gulf Coast region saw this combination of factors as a progressive step in the proper direction. Their love of the automobile and their faith in their elected officials to relieve congestion on their city's streets led them to view freeway construction as a shining symbol of modernity and as proof that urban problems could be solved through the proper application of engineering and planning. Houstonians never saw the automobile as the problem, but rather a lack of highways on which to drive them.

Van London's plans for Houston were quite visionary considering that he had very few examples of modern urban highways from which to draw inspiration, and most of them were not designed to carry high volumes of traffic. He was able to design and construct a freeway that became the prototype for almost every freeway constructed since the Gulf Freeway's first section opened to the public in 1948. Indeed, the vast majority of roadways we travel over today are related in design terms to the Gulf Freeway, especially those that made up Houston's core freeway network.

The Gulf Freeway, while being the first highway constructed after World War II, is a composite of, and reaction to, previous highway designs. When William James Van London began working on the freeway's design in the early 1940s, the Houston region offered him little in terms of design precedents; he thus had to look outside the region...
for examples of the kind of transportation facility that would serve the needs of Houston, Galveston and Galveston and Harris Counties. He was also subject to additional pressure since the roadway was the first constructed by the Texas Highway Department in an urban area. The Bureau of Public Roads added an additional level of scrutiny of Van London's design, as the freeway was constructed with federal funds under the auspices of Federal-Aid Highway Act of 1944. Van London had to design a road that would meet the needs of the region's population while also justifying its use as a state and national model. His design had to be both practical and worthy of the propaganda that inevitably would surround it. In short, his design had to be pretty close to perfect because of the intense scrutiny that it would receive from every level of government and the population it was intended to serve.

Van London designed a roadway that segregated vehicular traffic from all other modes of transportation, an innovation that dates back to Victorian carriageways. By using numerous overpasses in his plans for the Gulf Freeway, Van London recognized that by segregating road from rail and cross traffic, he would alleviate the traffic jams caused by railroads and increase the safety and speed of the roadway. There were no overpasses in the city until the Gulf Freeway was built, and this caused massive traffic jams when train traffic was heavy. His inclusion of overpasses also gave the freeway its nickname – “Van London’s Rollercoaster” – an allusion to the rollercoaster-type feel motorists experienced as they drove over the road. In a 1950 interview, one reporter commented on the reception Van London’s design received when it was first presented:

A few years ago, when he was planning the Gulf Freeway, some city official engineers and others were skeptical.
“Too elaborate—not needed. ’Looks like some-thing out of Buck Rogers. What are you going to do with that roller-coaster, Van—compete with Playland Park?’”

Despite the initial criticism of his design, the Texas Highway Department adopted Van London’s vision. The original urban section of the freeway contained seven overpasses, the majority of which spanned railroad tracks. This design feature gave Houston the closest thing to rolling hills the area has in its topography, but also led to the development of the soaring concrete traffic interchanges that would become a hallmark of Houston’s built landscape. While overpasses were used before the Gulf Freeway, Van London’s widespread use of them was novel. Van London had little choice in using overpasses liberally in his design, as a depressed highway was out of the question in flood-prone Houston. One reported observed, “one of the primary purposes behind freeway-type construction— to speed traffic flow from the congested downtown areas at peak periods of the day. Superhighway projects are the highway department’s answer to today’s king-sized traffic jams in cities where population has far outdistanced road construction.”

Houston’s downtown focus, combined with its terrible street congestion, made it ideally suited for a freeway system. The Gulf Freeway did not turn out to be one of the safest roads in the state as its engineers had promised. The public questioned the safety of the roadway in 1953, as 15 people lost their lives on the route over a six-month period. The Houston Chronicle, once a strong supporter of the roadway, charged that this state of affairs “stands as a bitter indict-ment of poor planning, poorer driving, and insufficient traffic law enforcement by city, county and state officials.” The paper found that the freeway’s safety was compromised by “Numerous small roads [that] criss-cross the superhighway—which for that very reason is not a ‘Freeway’ at all. At the time most of the construction was done, the roads carried little traffic. The growth of Houston and surrounding cities changed that. Traffic is heavy on several of those ‘small’ intersecting roads.” Furthermore the report found that the increased traffic loads on the “small” roads created congestion at the point they intersected the freeway. This reality created virtual “death traps” at the intersections.

The Chronicle turned to Jim Douglas, the engineer who oversaw the construction of the rural portion of the freeway, for answers to this deadly situation. The article revealed that these intersections lacked signal devices of any kind with the exception of stop signs. Jim Douglas stated that under the state’s uniform traffic code, blinking lights or stoplights could not be installed at these locations because the traffic volume was not high enough to warrant their installation. When pressed for further answers, Douglas simply replied, “We can’t just put them [traffic lights] up anywhere.”

While Douglas pointed out that he did follow state guidelines for the installation of safety devices, he admitted that the Gulf Freeway did have some dangerous intersections, and specifically mentioned those at the Almeda-Genoa Road and the Webster-Friendswood exits. Furthermore, he commented that an overpass at the intersection of the Texas City Belt and Terminal Company Railroad tracks and the freeway was eliminated because of budgetary concerns. The intersection with the railroad was the most dangerous spot on the entire Gulf Freeway. This intersection represents the only at-grade cross over the entire length of the freeway. W. H. “Swede” Sandberg, president of the small railroad company, was irate at the Texas Highway Commission for opening the freeway and not constructing an overpass over his tracks west of Texas City. Sandberg felt that, “It just means more headaches for me as long as that grade crossing remains like it is.” His concerns were well founded, as the intersection was the scene of a triple fatality during a train-truck crash in October 1951. This lack of safety measures is clear evidence that budgetary concerns and the desire to open the first freeway in the United States after World War II did result in safety oversights.
One report noted, “Highway officials explained at the time they had two choices – put in the traffic interchanges with the money they had on hand and let the entire construction drag along – or finished the freeway and put the improvements in later. They decided to finish it.” By finishing the freeway in this manner, driver safety was deliberately jeopardized. This fact points to the possibility of a separate agenda – that of completing before any other highway could assume the title of the first highway completed after World War II.

Despite this, Van London’s designs for the Gulf Freeway won him great acclaim. The United States Bureau of Public Roads considered the Freeway a model for use “throughout the United States,” and further regarded it as “the outstanding highway engineering development since World War II.” The bureau conducted a survey on the road that it planned to use, “to convince other cities of the nation of the value of expressways.” His design was also held in esteem internationally, as engineers from all over the world came to study the Gulf Freeway. The Gulf Freeway was one of Texas’ most touted achievements; engineers from around the country came to study it. In November of 1948, the American City examined the roadway and found it to embody several significant engineering trends. In April 1949 a group of Texas A&M engineering students came to study the freeway and hear a lecture on it by Van London. The American Association of Roadbuilders came to Houston in January of 1952 to hold its fiftieth anniversary celebration, study the freeway and hear a lecture on it by Van London. His design was also held in esteem internationally, as engineers from all over the world came to study the Gulf Freeway. The Gulf Freeway was one of Texas’ most touted achievements; engineers from around the country came to study it. In November of 1948, the American City examined the roadway and found it to embody several significant engineering trends. In April 1949 a group of Texas A&M engineering students came to study the freeway and hear a lecture on it by Van London. The American Association of Roadbuilders came to Houston in January of 1952 to hold its fiftieth anniversary celebration, part of which included a viewing of the Gulf Freeway.

Such viewings and lectures suggest that the freeway was seen as a significant piece of highway construction.

The freeway also served as a vehicle for urban sprawl in Houston and in the towns that it ran through. Houston suffered from a shortage of housing during World War II because of governmental controls on construction and materials. Houston’s housing shortage was exacerbated by the fact that much of the war industries were located along the channel, and this gave federal housing authorities the impression that Houston had no housing shortage as housing could be found in the central city. Studies of the city during the war have found that commuting to and from work was not only exhausting, but also contributed to an “alarmingly high” rate of turnover in the ship channel area war plants. Many working and middle class Houston families began planning the construction of their own homes once the war was over, and this set the stage for a postwar housing boom across the Gulf Coast centered on Houston.

The Gulf Freeway cut through large portions of vacant land, making it easily accessible to developers and postwar homebuyers. Proof of such development is rampant in “A 15-Year Study of Land Values and Land Use Along the Gulf Freeway In the City of Houston, Texas,” a study conducted by Norris & Elder, a firm of consulting engineers, for the Texas Highway Department and the Bureau of Public Roads in 1956. This report found that much of the vacant land that lay alongside the freeway had been developed into residential subdivisions and apartment complexes since 1945. The rate of population growth in the towns along the freeways also echoes the conclusions found in the Norris & Elder report.

Houston was not the only city to benefit from the freeway, because the other towns laying in the freeway’s wake also experienced growth. South Houston, an incorporated bedroom community, grew tremendously from the freeway. The City of Houston encircled South Houston by its 1949 annexation, which made the Bayou City the largest city in the South. Mayor George W. Christy felt that the addition of the Gulf Freeway would increase safety in his city, as the old Galveston Road cut through the middle of town – a fact that attracted unwanted speeding traffic. It was the mayor’s sincere hope that “the speeders…will take their races over on the freeway, if they must drive recklessly, and give our ears a rest here [from ambulance sirens].” South Houston, which was primarily a bedroom community, felt the effects of the freeway through physical growth rather than commercial sales as “the boys who whoosh through town don’t spend a dime,” on their way through. Hundreds of new homes, including a new subdivision, were in the process of being built when the freeway was completed, forcing the city to expand its sewer and water lines to meet the increased demand for city services. The city also had thirteen and a half of its twenty-two miles of roads freshly paved as a result of the growth. The continued suburbanization of Houston, as illustrated by South Houston, was an effect of the freeway’s easy access to the area. This access continued to make South Houston, as well as many of the smaller communities along the freeway, a desirable residential area, much like Sam Bass Warner’s streetcar suburbs – but with automobiles instead of streetcars.

While the majority of the small communities along the freeway welcomed it as an economic and growth-producing boon, a few of them eyed it with caution. Friendswood, an old Quaker Community on the border of Harris and Galveston counties, was one such place. While the Houston Post pondered the idea that Friendswood could become a suburb of Houston, the people of Friendswood desired to keep it “a quite residential neighborhood.” While already a self-described city of commuters, the residence of Friendswood generally felt the same as the head of the school district when he said, “We don’t have any honkytonks and we don’t want any.” The community of 500 did indeed become a suburb of Houston as time marched on, and there are very few today who remember the original town, or the community’s Quaker roots.

The design of the Gulf Freeway is symbolic of the larger national trend of the abandonment of the parkway ideal – a roadway that combines a celebration of the surrounding landscape with an efficient and pleasure-generating drive. The Gulf Freeway is more utilitarian than previously...
constructed parkways, as the relief of urban traffic congestion and strict adherence to a budget were Van London’s primary concerns. However, the entirety of the parkway ideal was not wholly erased from the Gulf Freeway, as Galveston was its terminus. Galveston was referred to as a “suburban playground” for Houstonians, and the roadway drastically cut travel time between the two cities.49

The secondary focus of the Gulf Freeway is on its destination, Galveston. Houstonians have long associated Galveston with an escape from the city and a diversion from the hustle and bustle of life there. In essence, the road could be ugly as long as the destination was beautiful. While primarily designed to relieve traffic congestion, the Gulf Freeway’s utilitarian design also reinforced the cultural idea that driving was no longer a source of recreation or pleasure, but more of a common mode of transportation that everyone had to use. In short, the freeway instilled two opposing ideas in the minds of the people of the Houston region. Freeways were good in the sense that they sought to relieve street-level congestion and sought to cut down on travel time, but they were bad because driving on them was an ever-increasing hassle.

Van London announced his plans for the construction of the urban portion of the freeway leading to Dallas in January of 1950. The design of the freeway was similar to that of the Gulf Freeway, including one-way service roads, and the elimination of grade crossings where possible.50 The extension of the freeway across the city before the road was finished to Galveston created the idea of perpetual freeway construction in the minds of many Houstonians. The original concept of the Gulf Freeway called for a road that extended from the heart of downtown Houston to the City of Galveston. There was no mention of a northwestern route to Dallas, and by adding other connections and modifications to the original concept and design, such as the 1967 Pierce elevated section, the idea that the Freeway would never be finished emerged in the minds of many Houstonians. Houston Post reporter Mark Morrison expressed this idea best in his 1973 statement that the freeway, “had been under construction for 27 years but highway engineers say it will be 1980 before planned work is complete.”51 Post reporter Rick Barrs commented in 1982, “because they have been asked so often for nearly four decades, [highway] department officials get a little sore when asked when the Gulf Freeway will be completed.”52

The idea of perpetual freeway construction reflects a lack of understanding on the part of the population, as well as aggravating urban factors outside the control of highway officials. The original intent of the freeway has changed over time. Van London’s chief problem was to relieve congestion on neighborhood streets and to connect Houston and Galveston. His design was based upon these ideas, and he allowed room for expansion of the roadway as the population grew at a steady rate. He could not have predicted the rate of Houston’s expansion, especially when one factors in the growth rate of the late 1960s and 1970s Sunbelt population migration. The construction of NASA’s Manned Spacecraft Center at Clear Lake was also something outside of Van London’s thinking. As one highway engineer said, “When Houston stops growing at such an agonizing speed and we stop needing to upgrade the road, then we’ll be through with construction.”53

Van London vastly underestimated the developing automobile dependency of Houstonians. In just two years after the Gulf Freeway’s opening, 100,000,000 vehicle miles were traveled on the roadway. The first traffic count for the road yielded 28,800 cars per day in 1948, a total that jumped to 62,500 by July of 1950.54 By 1982, the Gulf Freeway, which at one time was the most congested highway in Texas, carried 150,000 cars per day.55 The Houston Planning Commission rated its practical capacity to be 100,000.56 While highway department officials initially viewed these statistics on the growth of traffic with glee, by the 1960s officials and commuters alike viewed them with dread.
In 1963 the Houston Planning Commission launched a study of the Gulf Freeway. The commission concluded that too much had been expected from the freeway, the only major traffic corridor in the area, resulting in deficient transportation facilities and exceedingly high congestion. The report concluded that the congestion problem would get worse before a solution could be found. When Van London designed the Gulf Freeway in the early 1940s, the entire population of Harris County was roughly 600,000; by 1960 the population was 1,243,158.

Van London designed the Gulf Freeway as part of a system of freeways, and this fact cannot be overlooked when evaluating its design. His original system included a 15-mile network within the city, including a “through-city link between the Dallas and Galveston highways; a new direct connection to [the] La Porte road and a through route from downtown Houston to Humble Road.” Much of Van London’s vision was realized, and forms the core of Houston’s modern freeway system – Loop 610, the North Freeway (I-45 North), the Eastex Freeway (US 59), and the La Porte Road (SH 225). Although he did not live to see the completion of the system, this legacy of planning and construction is still very much a part of modern Houston.

Within the region, the Gulf Freeway was studied and replicated. Van London’s influence can be clearly seen in the entire Houston freeway system, as he designed most of the first wave of major thoroughfare roads. Although he retired in March of 1955, his work included almost all of Houston’s early freeway system, as he was the chief designer of the 1942 street plan. While it would be the job of A. C. Kyser, Van London’s assistant and successor, and Houston City Planner Ralph Ellifrit to construct the system, Van London left behind a tremendous legacy.

It is important that the population of Houston stood firmly behind Holcombe’s pleas, as shown by their overwhelming acceptance of the Gulf Freeway and the perceived benefits it brought to the city, such as increasing suburbanization, additional industry, and commercial establishments. To Houstonians of this time, freeways were seen as a symbol of modern prosperity, as they increased land values and contributed to Houston’s growth. While we may curse freeway gridlock, we must keep in mind that the “golden lane” must have seemed incredible.

Houston, much like other Sunbelt Cities, has paid a high price for the immediate gains associated with a city built for the automobile. The most obvious of these is dependence on the automobile to perform even the simplest of errands, as nothing is within walking distance. Everything begins with a trip down the freeway. Houston’s automobile dependency is something that is well known. Southern Living magazine warns visitors to the Bayou City that, “You’ll need a rental car when you visit Houston. It’s a big city with lots to see and do. Come prepared with a local map or directions. The maze of highways can be overwhelming if you aren’t equipped.”

Expanding the Horizons of Texas History

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