# STEMMONS FREEWAY AND THE JOHN F. KENNEDY ASSASSINATION







Dallas Public Library<sup>1</sup>

CHAPTER

5

# Stemmons Freeway and the John F. Kennedy Assassination

# NOV 22, 1963

he presidential limousine was about 800 feet from the Stemmons Freeway entrance ramp when the fatal bullet struck at 12:30 PM on November 22, 1963. Moments later, with President Kennedy's body slumped down into the back seat, the limousine made the right turn onto Stemmons for the two-mile freeway drive, originally planned to end at the Dallas Trade Mart alongside the freeway. But of course, the limousine now had a new destination, Parkland Memorial Hospital. The limousine made its originally planned exit at Market Center Boulevard, but then sped past a perplexed crowd gathered at the Trade Mart on its way to the hospital where Kennedy was officially declared dead around 1 PM.

While the two-mile drive on Stemmons Freeway was a journey of despair and horror for the limousine occupants, it had no influence on the actual assassination or the immediate aftermath, making it the least-scrutinized event of the tragic day. But, indirectly, Stemmons Freeway did have a big impact on the controversy which raged for decades. How so?

The most authoritative and poignant evidence of the assassination is the Zapruder film, which captured the sequence of events along Elm Street including the graphic fatal headshot to President Kennedy. But for 15 frames at a critical moment in the film, Kennedy is hidden behind a guide sign along Elm Street. During this critical moment the President is first struck by a bullet, the nonfatal bullet which entered his back and continued to also strike Governor John Connally. With only the back side of the guide sign visible

and no photographic evidence of the initial bullet strike, it was much more difficult for investigators to reconstruct events and reach an undisputed conclusion. Alternate explanations, particularly the idea of a gunman on the "grassy knoll", were empowered to persist for decades.

So what's the Stemmons Freeway connection? The guide sign which hid Kennedy at the critical moment was a guide sign to Stemmons Freeway, advising motorists with the text "Stemmons Freeway Keep Right". The removal of the Stemmons Freeway guide sign and a companion sign for R.L. Thornton Freeway is the only significant change which has occurred at the assassination scene since November 22, 1963; except for a repositioning of lampposts, the site remains exactly as it was.

While the findings of the official assassination investigation generated controversy and discussion which continued for decades, the disappearance of the freeway guide signs is a mystery which was never investigated. When and why were the signs removed? Even the historical expert at the Sixth Floor Museum at Dealey Plaza had no records of the timing or circumstances of the sign removal. It seemed to be one last question of the Kennedy assassination which would remain unanswered.

History will not be changed if the mystery of the sign disappearance is solved, but it is a curiosity with a free-way connection which deserved one last look. A review of available photographic evidence has allowed the date of the sign removal to be pinpointed much more precisely than before. But still nothing is known about the reason and circumstances of the sign removal, and photographs uncovered new information about the R.L. Thornton sign which adds even more questions. It appears that the mystery of the Dealey Plaza freeway signs will endure forever.

(facing page) The Stemmons Freeway guide sign was a prominent feature of Dealey Plaza, positioned alongside Elm Street at the spot of the assassination. The sign mysteriously disappeared from Dealey Plaza shortly after the assassination, and virtually nothing was known about the circumstances and exact timing of the sign removal. In this photo taken during the weekend after the Friday assassination, mourners and onlookers gather around the Stemmons Freeway sign at the assassination site. Flowers and informal memorials were placed along the grassy slopes on both sides of Elm Street.

# THE PRESIDENTIAL LIMOUSINE ON STEMMONS FREEWAY

President Kennedy's agenda for his visit to Dallas on November 22, 1963, included two major events: the downtown parade, ending at Dealey Plaza on the west side of downtown, and a luncheon speech at the Dallas Trade Mart. Stemmons Freeway connected the two events and was the route of the presidential motorcade. No reporters or official photographers were posted along the freeway—after all, a quick freeway drive was not a newsworthy event.

There are only three known and available photographs of the presidential limousine on Stemmons Freeway. Two other photos show the presidential limousine just before it entered the freeway and just after it turned from the frontage road. All five photos were captured by spectators along the route.

Stemmons Freeway was originally constructed without a median barrier and in November 1963 work on the median barrier was about to begin. It appears that the center median was wide open on the day of the assassination, providing ample space to position a vehicle for temporary parking and allowing unrestricted movement of pedestrians. Two of the Stemmons Freeway photographs were taken from the median, and the third, taken from the roadside, shows pedestrians in the median. A photograph published in the *Dallas Morning News* on December 4, 1963, shows work

just underway on the median barrier at the freeway curve near Oak Lawn Avenue.<sup>2</sup>

Spectators who gathered along the Stemmons Freeway motorcade route hoping to get a glimpse of the President and first lady were unaware of the events which had just transpired. Surely some were puzzled when the limousine sped by unexpectedly quickly with Secret Service agent Clint Hill perched over the back seat of the vehicle and no sign of the president or other back seat occupants.

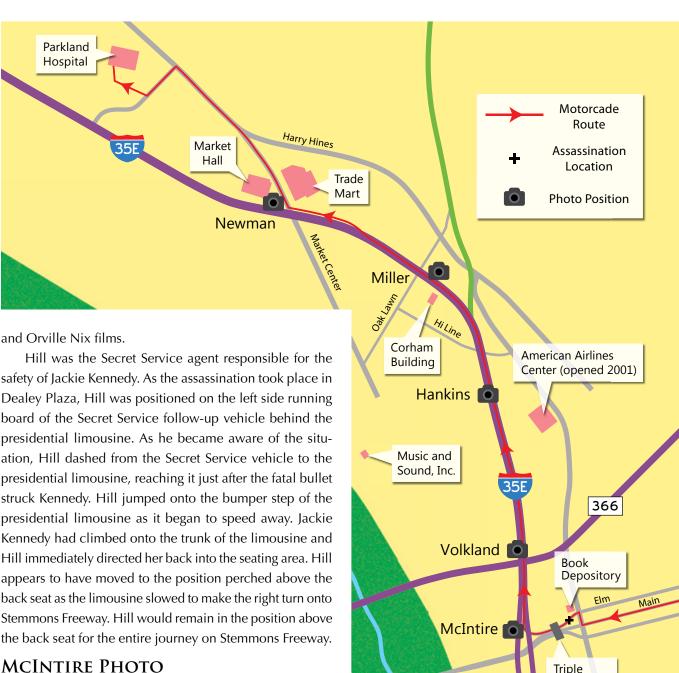
In all three freeway photos the back seat occupants are fully hidden or minimally visible, slumped down very low below the top edge of the car doors. A back seat occupant, Governor Connally's wife Nellie, is clearly visible only in the final photo taken on Market Center Boulevard just after the limousine turned off the freeway.

Secret Service agent Clint Hill is the most distinctive feature in the three freeway photos and the Market Center Boulevard photo. Hill was positioned immediately behind the back seat, towering over the occupants in a semi-upright position. Hill stood with his left leg on the floorboard of the vehicle and his right leg stretched over the trunk to the right edge of the limousine. Hill's effort to reach the presidential limousine is one of the key events in the moments after the fatal bullet struck and is well-documented in the Zapruder



Zapruder film @1967 (renewed 1995) The Sixth Floor Museum at Dealey Plaza

In the moments after the fatal bullet struck President Kennedy, Secret Service agent Clint Hill dashed from the follow-up vehicle to the presidential limousine. In frame 371 of the Zapruder film, shown at left, Hill is jumping onto the bumper of the limousine as Jackie Kennedy, wearing pink, is climbing onto the trunk. Once on the bumper, Hill directed Jackie Kennedy back to the seating area of the vehicle. As the limousine entered Stemmons Freeway, Hill took a position standing above the back seat where he remained for the entire journey on Stemmons. His towering presence is the most notable feature of the three Stemmons Freeway photos.



MCINTIRE PHOTO
Commerce Street Approaching Stemmons

Photographer Mel McIntire was employed by Squire Haskins Photography, a firm which specialized in aerial photography and whose collection (now at the University of Texas at Arlington) provides most of the historical aerial photos in this book. McIntire and a colleague were driving inbound on Stemmons Freeway returning from a photo shoot. Listening to the radio, McIntire realized the motorcade would be passing by so he parked his car alongside the freeway and took a position at the freeway entrance ramp on Commerce Street. McIntire was not acting in a planned photographer role for

his employer and photography was not his main objective. But he did take his camera and captured two photos of the motorcade as it passed by and a third photo of the scene after the motorcade passed. The first photo, shown here, has three motorcycle police in the foreground turning onto the freeway ramp. The presidential limousine is visible in the background and we can see that Secret Service agent Hill has not yet moved to the position standing above the back

**Underpass** 



Mel McIntire

The McIntire photo, taken at the Commerce Street on-ramp to Stemmons Freeway, shows three lead motorcycle police turning onto the freeway with the presidential limousine approaching in the background.

seat. There is a small street sign on the corner with the text "Stemmons Fwy". In the background is the Texas School Book Depository with the "Hertz Rent A Car" advertisement sign on its roof. The rooftop clock shows the time of the assassination, 12:30. McIntire did not photograph the presidential limousine as it passed right in front of him. His second photo captured the Secret Service follow-up vehicle as it turned onto the freeway ramp.<sup>3</sup>

Three months later in February 1964 McIntire became a staff photographer for the *Dallas Times Herald* where he remained until the closure of the newspaper in 1991. McIntire kept this photo is his personal collection for twenty years after the assassination and it was first published in the *Dallas Times Herald* twentieth anniversary remembrance in 1983.

# VOLKLAND PHOTO

## Stemmons at Woodall Rodgers Freeway

Al Volkland took the first photo of the motorcade on Stemmons Freeway while he stood on the freeway center median near present-day Woodall Rodgers Freeway, looking southeast toward downtown. Volkland (1915-2007) was listed as a professional photographer in the 1963 Dallas telephone directory and was reported in his obituary to have owned Accident Photo Service in Dallas, so he surely had photography skills and professional-grade equipment. The next three photos of the limousine were taken by amateurs with inexpensive cameras. Volkland contacted the *Dallas Times Herald* on the day of the assassination, and distribution rights were obtained by the Associated Press which distributed the photo the following morning. The photo ran in the *Dallas Times Herald* the day after the assassination,



Al Volkand, Dallas Times Herald Collection ©1989 The Sixth Floor Museum at Dealey Plaza The Volkland photo, taken from the median of Stemmons Freeway at present-day Woodall Rodgers Freeway.

November 23, with the caption "President's car speeds down freeway toward hospital."<sup>4</sup>

This photo is typically cropped to provide a closer view of the presidential limousine, as it was for the original publication in the *Dallas Times Herald*, but the full view (shown here) provides a good perspective of the overall scene and the freeway. The presidential limousine is in the foreground, somewhat blurred. The Texas School Book Depository, from which the assassin's bullets were fired, is directly above the limousine's hood. Secret Service agent Clint Hill is perched over the back seat with his arms straddling both sides of the vehicle. Silhouettes of the front seat driver and passenger, both Secret Service agents, are visible. However, little or nothing is discernible of the back seat occupants—the slain President Kennedy, Jackie Kennedy, Nellie Connally and seriously injured John Connally. The roadside shoulder is filled with parked vehicles, presumably spectators. Immedi-

ately behind the presidential limousine is the Secret Service follow-up vehicle with an agent holding an AR-15 rifle.

# HANKINS PHOTO Stemmons at the Hi Line Drive exit

James Troy Hankins (1923-1984) was an employee at Music and Sound Inc. at 118 Cole Street just west of Stemmons Freeway. Hankins walked to Stemmons Freeway and took a position on the median strip at the Hi Line Drive exit. Using a Polaroid camera, Hankins photographed the presidential limousine just as it passed the overhead sign for the exit. Instant photography produced image quality well below the quality of conventional film. Still, the detail of the limousine is reasonably good. Agent Clint Hill remains perched above the back seat, his sunglasses removed. The back seat occupants remain low and out of view. Numerous spectators are visible along the roadside.<sup>5</sup>



National Archives at College Park

The Hankins photo, taken from the median of Stemmons Freeway at the Hi Line Drive exit.

Of the Stemmons Freeway photos, this photograph has the most involved story of its custody, discovery and publication. On December 3, 1963, the FBI received a report that Hankins, while working on a project at Dyess Air Force Base in Abilene (Tex.) in April 1962, had allegedly made comments about a plot originating in Dallas to assassinate President Kennedy. Hankins was interviewed by the FBI in March 1964, denying all allegations. Hankins was removed as a person of interest and no further investigation was conducted. During this period Hankins disclosed to the FBI that he had taken the photograph of the presidential limousine on Stemmons Freeway. The FBI made a copy negative and prints of the photo, keeping the photos in Hankins' FBI file. The acquisition of the copy negative was fortuitous for the ultimate preservation of the photo since Polaroid instant photos tend to degrade and fade relatively quickly. The

photo remained in the FBI file, unpublished, until it was accessed by author Richard Trask via a Freedom of Information Act request in 1985. The photo was first published in Trask's 1994 book *Pictures of the Pain*. When a request for a scan of the image was submitted to the FBI in 2009, the FBI reported that the file had been transferred to the National Archives where the image could be obtained via standard procedures.

# MILLER PHOTO Stemmons just east of Oak Lawn Avenue

Seventeen-year-old Hillcrest High School student David Miller photographed the presidential limousine just east of Oak Lawn Avenue as it neared its exit from Stemmons Freeway. This photo was licensed to numerous newspapers and the Associated Press, and, like the Volkland photo, was



Associated Press<sup>7</sup>

The Miller photo, taken at the east end of the Oak Lawn Avenue overpass.

widely distributed one day after the assassination. The arrows were added to the photo prior to initial distribution, most likely by the Associated Press, and remain on the image that is available today.

The Dallas Morning News published this photo on Sunday, November 24, 1963, with a caption rich in dramatic language and also containing three inaccuracies. "Horror and Fear in the Presidential Death Car - As President Kennedy's left foot, white arrow, hangs limply over the side of the speeding death car, Mrs. Kennedy and Mrs. Connally crouch against the seats in horror and fear. Gov. Connally, black arrow, lies in pain as the auto hurtles at 70 miles per hour toward the Oak Lawn Avenue exit on Stemmons Freeway, en route to Parkland Hospital." The white arrow points to agent Clint Hill's foot, not Kennedy's foot, and the black arrow points to a generally indiscernible person which was later reported to be Nellie Connally. And third, the limousine had passed the Oak Lawn exit and was proceeding to the present-day exit for Market Center Boulevard, which was then signed as Industrial Boulevard.

The original AP press release also contained the foot inaccuracy and stated that Nellie Connally was ducking bullets, even though the limousine was nearly two miles from the assassination scene. AP corrected the foot inaccuracy

in the caption in 1984, but the present-day caption on the AP web site still refers to Nellie Connally ducking bullets.

Agent Clint Hill remains in his upright position behind the back seat. This is the only Stemmons Freeway photo in which back seat occupants are visible, but little is discernible as Nellie Connally and Jackie Kennedy are attending to their husbands who were slumped down low out of view.

In the background is the building of the Corham Artificial Flower Company, also called the Corham Art Flower Company, at 1645 Stemmons. The building still exists, but it now has a different outer facade. The last newspaper advertisement in the *Dallas Morning News* listing the address of 1645 Stemmons for Corham appeared in March 1969. References to Corham flowers appeared in advertisements for other stores in the mid-1970s.

Miller was a photography enthusiast and a staff photographer for the Hillcrest High School yearbook, enabling him to leave school to photograph the president for potential use in the school's publication. Miller first photographed the presidential motorcade on Lemmon Avenue as it proceeded from Love Field toward downtown, then he moved to his position on Stemmons Freeway. This was one of several Stemmons Freeway photos taken by Miller, but only this photo was released to the press and is available today. Other



Associated Press<sup>8</sup>

The Newman photo, taken just after the limousine turned right from the Stemmons Freeway frontage road onto Market Center Boulevard.

photos were reportedly sold to news organizations, but apparently none were suitable for publication and originals have been retained by the Miller family.<sup>9</sup>

# NEWMAN PHOTO Market Center Boulevard at Stemmons

The presidential limousine exited the freeway main lanes at the exit ramp for present-day Market Center Boulevard, which was then signed as Industrial Boulevard, and continued on the frontage road to Market Center Boulevard where it turned right. The Dallas Trade Mart, the originally planned destination for the motorcade, is on the northeast corner of Stemmons Freeway and Market Center Boulevard. Of course, the presidential limousine was now racing to Parkland Hospital and drove past the Trade Mart at high speed. This photograph by Justin Newman shows the presidential limousine just after it turned onto Market Center Boulevard. Newman used an inexpensive camera and tracked the

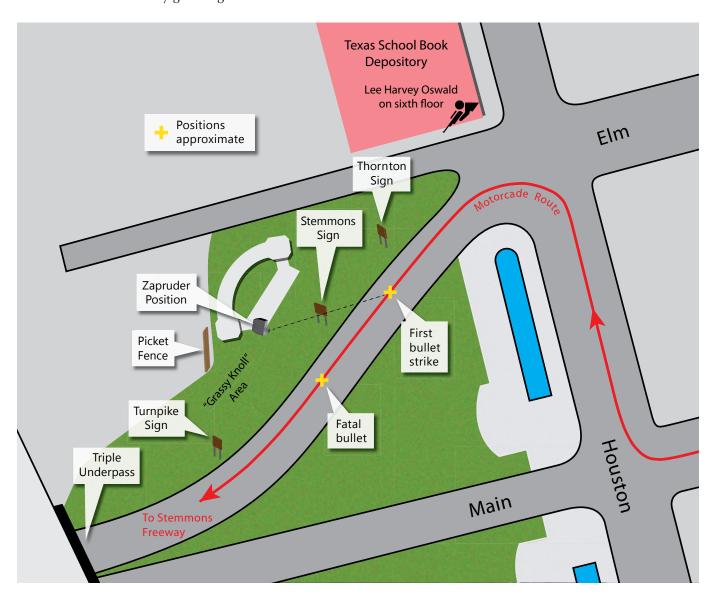
presidential limousine, keeping the limousine reasonably well-focused but blurring the background, which shows a line of spectators along the street and the Trade Mart further back. After capturing the photo Newman sent his film to a drug store for developing and prints, but a print of this image was not made because of the blurring of the photo. A year later Newman became curious about the missing photo and had a print made from the negative, receiving it on November 20, 1964. The Associated Press obtained rights to the photo and distributed it immediately, and it appeared in the *Dallas Morning News* on November 21, 1964. The Associated Press obtained rights

Agent Clint Hill remains perched above the back seat, as he was for the entire journey on Stemmons Freeway. Nellie Connally is clearly visible in the back seat, but no other back seat occupants can be seen.

# THE DEALEY PLAZA FREEWAY SIGNS

The Stemmons Freeway guide sign was the only distinctive feature of Dealey Plaza at the actual location where the assassin's bullets struck. It was a key factor in the Zapruder assassination film, blocking the view of the president at the moment when he and Governor Connally were first struck. The removal of the Stemmons Freeway guide sign and its companion sign for Thornton Freeway is the only significant change to the assassination site at Dealey Plaza since November 22, 1963. But in spite of the significance, virtually nothing was known about the timing and circumstances of the removal of the freeway guide signs.

Dealey Plaza was heavily photographed by visitors in the months after the assassination. However, reliably dated photos from the period of interest showing the freeway signs are rare. Photographs which show the front side of the signs are especially rare since most photographers captured a view of Dealey Plaza from near the Triple Underpass looking northeast toward the Texas School Book Depository, showing the back side of the signs. The following photos of Elm Street and the freeway signs take us back to Dealey Plaza as it was on the day of the assassination.

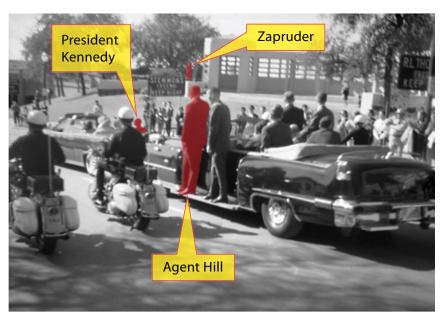




Phil Willis slide ©1964 The Sixth Floor Museum at Dealey Plaza

This photo taken by Phil Willis, known as the "Willis 5" photo, shows the motorcade about 1.2 seconds before President Kennedy was struck in the back with Oswald's second bullet. (Oswald's first bullet did not strike anything of consequence.) The moment of this photo corresponds to frame 202 of the Zapruder film, in which most of the presidential limousine is blocked from view by the Stemmons Freeway sign but Kennedy is still visible from the chest upward.

The positions of President Kennedy, Abraham Zapruder and Secret Service agent Clint Hill are identified in the annotated image. The presidential limousine is in front at the far left with the Secret Service followup limousine in the near foreground. Agent Clint Hill, standing in the front position on the left-side running board of the follow-up vehicle, dashed to the presidential limousine



as the assassination unfolded and is prominently featured in the photographs of the limousine on Stemmons Freeway. This view shows numerous items of interest at the assassination scene, including the "Stemmons Freeway Keep Right" sign in the background and about half of the R.L. Thornton Freeway sign on the right. While most of the image is well-focused, the Stemmons Freeway sign is noticeably blurred.



Dallas Public Library<sup>12</sup>

This photo looks across Elm Street on the weekend after the Friday assassination, showing the crowd gathered at the assassination scene with the Stemmons Freeway sign at the center of the activity.<sup>11</sup>



This view looks across Elm Street.

Peter Lemkin



Peter Lemkin

This photo, taken shortly after the assassination, provides the best view of the Stemmons Freeway sign.



Dolph Briscoe Center for American History, the University of Texas at Austin<sup>13</sup>

This photo looks west along Elm Street at the assassination scene, showing the freeway guide signs along the roadside. The presidential motorcade took the same route as the vehicles in the photo, making the left turn from Houston Street onto Elm. This photo appears to have been taken during the week after the assassination. Barricades are visible in the foreground and temporary "No Parking" signs are positioned along both sides of Elm. The flowers and informal memorials had been moved from the grassy slope and were neatly arranged on and alongside the concrete pergola structure.



Malcolm Barker Photograph © 2008 The Sixth Floor Museum at Dealey Plaza

The FBI reenacted the assassination on Sunday, May 24, 1964, as part of its investigation. This photo was taken by an observer and is the last known, firmly dated photo to show the Stemmons Freeway sign in position. The Cadillac limousine used by the FBI for the simulation was the Secret Service follow-up vehicle in the presidential motorcade on the day of the assassination. The president's limousine was a lower-riding Lincoln, and FBI agents in the Cadillac portraying President Kennedy and Governor Connally adjusted their seating positions to match the Lincoln as closely as possible. The inset photo shows a white chalk mark on the back of the FBI agent portraying Kennedy. This mark was the entry



point of the first bullet to strike Kennedy and served as an aiming point for the agents on the sixth floor of the Texas School Book Depository who tracked the limousine with a camera-equipped rifle and took photographs for analysis. The reenactment limousine made repeated passes along the motorcade route between 6 AM and 1 PM.<sup>14</sup>

This photograph also provides the best evidence for the background color of the Stemmons and Thornton Freeway signs. While color film normally sustains dye shift as it ages, the image provided by the Sixth Floor Museum had negligible color cast, increasing the likelihood of accurate color. The sign background is black or dark brown and the letters are a slightly discolored white.



Dallas Public Library<sup>18</sup>

The replacement sign This photo taken on September 2, 1967, shows the overhead sign which replaced the Stemmons and Thornton roadside signs along Elm Street. Installed sometime between April and November 1965, the sign is just west of Houston Street, east of the assassination scene and the original "Stemmons Freeway Keep Right" sign.

In the foreground filming is in progress for *Countdown in Dallas*, the first film to feature the assassination as its subject. The dealings surrounding the film remained murky until 2008 when Dallas County District Attorney Craig Watkins released 15 boxes of assassination-related material held in the DA's office safe which had previously not been open to the public.<sup>15</sup>

The film's producer was Robert Larsen, a Colorado-based producer of commercials and industrial films who had a thin resume of completed projects. Larsen first proposed the film in a letter to Dallas officials in early 1967, describing a film which would adhere to the findings of the official Warren Commission Report and would depict the city of Dallas in a positive light, helping undo the damage to Dallas' image caused by the assassination. The City of Dallas and Parkland Hospital took no interest in the low-budget project, refusing to let Larsen use their property in the filming.

However, one Dallas official took a strong interest in seeing the film produced: Dallas County District Attorney Henry Wade (1914-2001), the legendary Dallas county prosecutor

who served from 1950 until 1986. As part of an agreement drafted by Larsen and Wade in April 1967, Wade and two partners would form a business entity which would have the exclusive right to access confidential assassination files held by the District Attorney's office. Larsen would receive access to the files by making a \$20,000 payment to Wade's firm. Wade was slated to appear in the film, playing himself, as were Marina Oswald-Porter, wife of Lee Harvey Oswald, and Jesse Curry, police chief at the time of the assassination.<sup>16</sup>

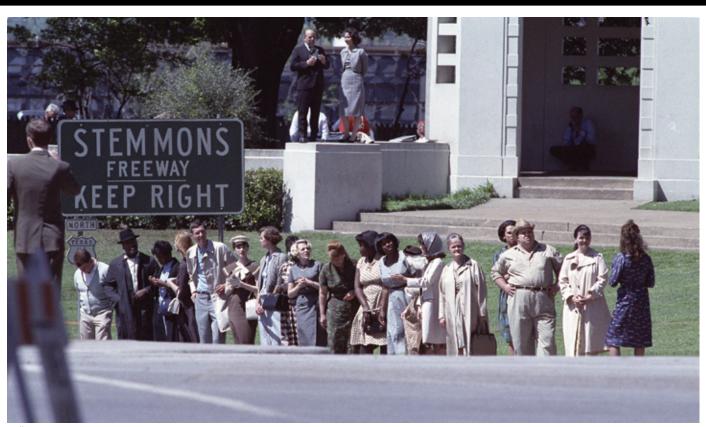
The film had shaky financial backing and became mired in controversy over the involvement of Wade. In mid-

September 1967 the *Los Angeles Times* reported on the planned film deal, including the \$20,000 payment to Wade. In a September 15, 1967, article in the *Dallas Morning News*, Wade and Larsen both denied that any contracts had been signed and Wade stated that his involvement in the project was done. The project collapsed by the end of September and *Countdown in Dallas* was never completed.<sup>17</sup>



Dallas Public Library<sup>19</sup>
Wade in 1963

Associated Press<sup>22</sup>



Dallas Morning News

Filming JFK, 1991 Replicas of the Stemmons and Thornton Freeway signs were installed along Elm Street for the filming of Oliver Stone's 1991 film JFK. In the April 15, 1991, photo above, extras line the edge of Elm Street in Dealey Plaza near the Stemmons Freeway sign for the recreation of the assassination. In the background, actors portraying Abraham Zapruder and his receptionist Marilyn Sitzman stand on the retaining wall of the pergola structure from which Zapruder made his famous film. Filming at Dealey Plaza took place between April 15 and April 30, 1991, with the Triple Underpass and several nearby streets closed between 7 AM and 7 PM for the production. The film's art director Derek R. Hill was responsible for recreating the year 1963 at the filming locations in Dallas, including Dealey Plaza and the freeway signs. Hill, a native of Irving and 1971 graduate of Irving High School, went on to become a successful production designer for film and television in Los Angeles.<sup>20</sup>

There's an old saying, often applied to Hollywood filmmaking, to "Never let the facts get in the way of a good story." Oliver Stone apparently is a strong believer in that philosophy since he took license to rewrite history with respect to the events surrounding the assassination for the storyline of *JFK*. One online report cites 79 clear errors with the historical record. Stone received criticism, often intense, from politicians, commentators and scholars for his distortion of the facts, but also received praise and approval from some reviewers. And as another saying states, "Any publicity is good publicity." The 189-minute film released on December 20, 1991, went on to become a big success at the box office, reportedly costing \$40 million to produce and grossing \$70 million in the United States and \$205 million worldwide. The film received eight Academy Award nominations and won in two categories, best cinematography and best film editing.<sup>21</sup>



Director Oliver Stone checks a camera angle during the filming of *JFK* with the replica Thornton Freeway sign in the background. Although the viewing and lighting angles do not allow a firm determination of the replica sign color, they appear to be dark green, which most likely was incorrect. See discussion on page 175.

# THE ZAPRUDER FILM AND THE STEMMONS FREEWAY SIGN

Abraham Zapruder arrived at the parade route about a halfhour early to scout a good location for filming. He chose the location on the retaining wall of the pergola structure at Dealey Plaza—a position which provided an elevated view of the motorcade route on Elm Street. But the view was not perfect. The Stemmons Freeway guide sign was in the line of sight and the sign is visible in the film for nearly six seconds during the assassination sequence. President Kennedy is completely hidden by the sign for 0.8 seconds, including the critical moment when he was first struck by the non-fatal bullet which continued to also strike Governor John Connally. The lack of photographic evidence of the first bullet strike contributed to controversy over the official finding that a single shooter, Lee Harvey Oswald, performed the assassination and a single bullet struck both Kennedy and Connally. Many alternative explanations and conspiracy theories propose a shooter near the picket fence just above the grassy knoll area (see map 159).

These film frames show the full uncropped originals of the Zapruder film, including the holes for the camera drive mechanism—the so-called "sprocket holes"—on the left side. Only the area to the right of the sprocket holes is visible when viewed with a film projector. Zapruder's camera had a specified speed of 18 frames/second and was found to have an actual frame rate of 18.3 frames/second.

The backside of the Stemmons Freeway sign is visible in the Zapruder film as the main sequence showing the presidential limousine begins at frame 133. The sign remains in the viewing area of the film for 5.3 seconds until it moves into the sprocket hole area at frame 230. The Stemmons sign continues to be visible in the sprocket hole area through frame 237, an additional 0.4 seconds. The first bullet to strike Kennedy is believed to have hit between frames 223 and 224, just before he emerges from behind the sign at frame 225. The fatal bullet to his head occurs at frame 313, 4.8 seconds after emerging from behind the Stemmons sign.



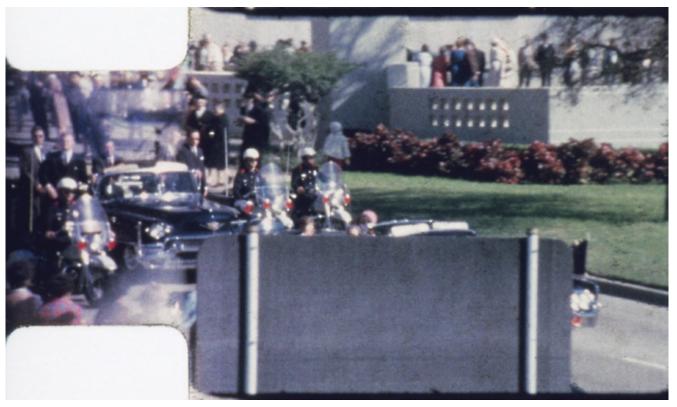
All Zapruder frames ©1967 (renewed 1995) The Sixth Floor Museum at Dealey Plaza

**FRAME 133** 

As the film sequence with the presidential limousine begins at frame 133, the Stemmons Freeway sign is in the lower right corner of the frame and is merely an annoyance.

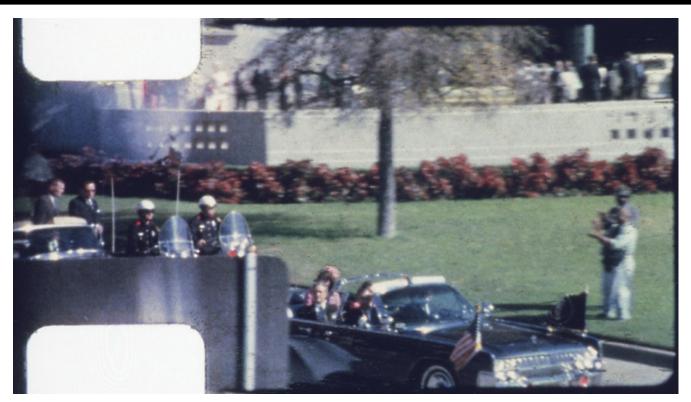


FRAME 180 As the limousine proceeds west along Elm Street toward Stemmons Freeway, the sign becomes progressively more prominent in the view. Here at frame 180, the limousine is disappearing behind the sign. President Kennedy is clearly visible in the back right seat of the limousine and Governor Connally, partially obscured by a roof support, is seated in front of Kennedy.

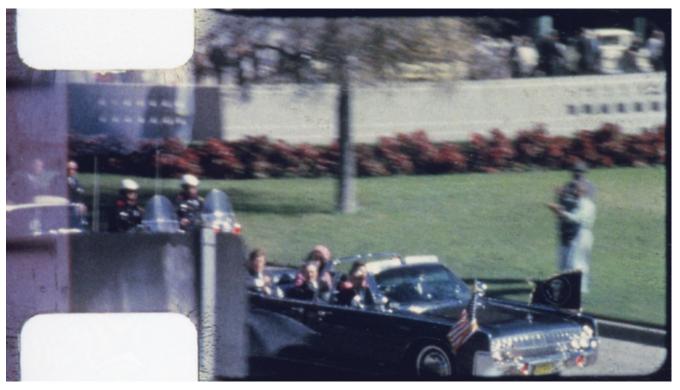


FRAME 206

The limousine is nearly completely hidden by the Stemmons Freeway sign. President Kennedy's head remains visible just below the rightmost motorcycle policeman. Kennedy is completely hidden by the sign at frame 210.



FRAME 223 Governor Connally emerges from behind the Stemmons sign at frame 222 and is shown here one frame later. President Kennedy remains nearly completely hidden. The Zapruder film provides strong evidence that the first bullet strike occurred between frames 223 and 224, an instant after this frame, while Kennedy was hidden.



FRAME 225 President Kennedy emerges from behind the Stemmons sign. His right hand is just beginning a rapid upward motion toward his neck in response to his injury. The bullet entered Kennedy just below the right side of his neck and exited near the base of his throat, continuing to strike and pass through Connally.







# FRAME 223

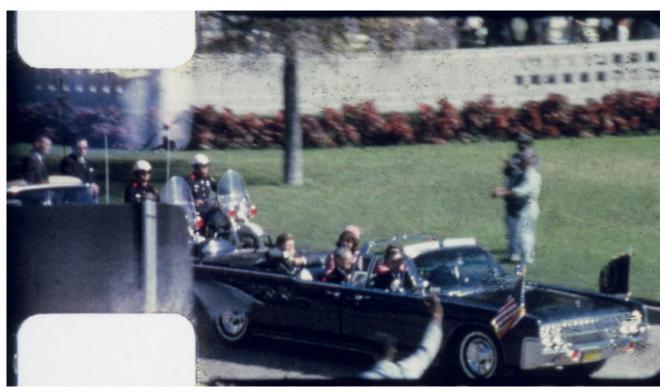
Evidence strongly indicates that the first bullet struck between frames 223 and 224. Governor Connally appears to be unaffected by any external event in frame 223, the second frame in which he is visible after emerging from behind the Stemmons Freeway sign.

# FRAME 224

Connally's facial expression noticeably changes. The most compelling evidence to indicate that the bullet struck an instant before this frame is the upward flip of the right lapel of his jacket, the so-called "lapel-flip" which was likely caused by the bullet strike.<sup>23</sup>

# FRAME 225

As President Kennedy emerges in frame 225, Connally appears to be reacting to an external event. Connally's shoulders have flinched upward and more distress is visible is his face. The frame-to-frame change is more clearly visible when the sequence is viewed as animation



FRAME 230 Frames 226 through 229 show both Kennedy and Connally reacting to their injuries. At frame 230 Kennedy has fully raised his arms in response to the bullet strike. Governor Connally has rotated toward his left. The Stemmons Freeway sign has shifted left to the sprocket hole area of the film and continues to drift to the left until it is completely gone at frame 238. President Kennedy continues to respond to his injury until the fatal bullet strikes 4.5 seconds later at frame 313.

# THE MYSTERY OF THE SIGN DISAPPEARANCE

What happened to the Dealey Plaza freeway guide signs? When and why were they removed?

The Stemmons Freeway sign is the artifact of greatest interest since it was located closest to the spot of the assassination and was influential in the Zapruder film and subsequent investigation. The Thornton Freeway sign, identical in design to the Stemmons Freeway sign and positioned near the assassination scene, is also of interest. The turnpike sign is of lesser interest since it was further from the assassination site, had no influence on events and was not removed in the years after the assassination.

The investigation to solve the mystery started at the Sixth Floor Museum at Dealey Plaza. The historical expert at the museum reported there was no known documenta-

tion of the sign removal, and nothing was known about the circumstances and exact date. The only information the museum could provide was a photograph stamped January 1967 which showed the replacement sign near Houston Street in position, providing a reasonable assumption that the roadside freeway guide signs had been removed by the end of 1966.<sup>24</sup>

#### Who Owned the Signs?

The next step was to try to determine who owned the signs—TxDOT or the City of Dallas. Ever since the assassination the City of Dallas had maintained that the signs were TxDOT signs, and TxDOT has maintained that the signs were City of Dallas signs. In 2009, nothing had changed.



Dallas Public Library<sup>25</sup>

This undated photo provides the best view of the three Dealey Plaza freeway guide signs. It is taken from an unidentified printed publication and the line screen of printing press dots lowers the quality of this reproduction. The apparel of the pedestrians on the sidewalk is consistent with spring or summer weather and the short shadow of the lamppost in the foreground indicates a high altitude of the sun, consistent with late spring or summer. This photo could potentially be the last known photo showing the Stemmons Freeway sign in position. However, the lack of a date for this photo makes the FBI reenactment photo (page 163) of May 24, 1964, the last verifiable photo of the Stemmons sign.

This photo is also a key piece of evidence in the investigation to determine the owner of the the signs. The Thornton and Stemmons signs have identical designs and fonts, strongly suggesting that the signs have the same owner. The "Fort Worth Turnpike Keep Right" sign in the background, which was installed by the Texas Turnpike Authority, has a different design with wider letters and spacing. TxDOT typically used a different font style, shown on page 172.

TxDOT records were easily accessible and the investigation began with a review of official TxDOT drawings for construction contracts, including drawings for installation of signage on the nearby section of Stemmons Freeway. No drawings were found for the Stemmons Freeway or Thornton Freeway signs, consistent with TxDOT's position that the signs were owned by the City of Dallas. A drawing was found for the "Fort Worth Turnpike Keep Right" sign near the triple underpass. The drawing was owned by the Texas Turnpike Authority, not TxDOT, indicating that TxDOT had no role in the design and placement of the sign. Turnpike authority ownership of the sign also explained why it was not removed from Dealey Plaza when the Stemmons and Thornton signs disappeared. The turnpike sign appeared to be unrelated to the Stemmons and Thornton signs, a finding consistent with the different font style of the turnpike sign.<sup>26</sup>

Another piece of compelling evidence pointing to the City of Dallas as the sign custodian is a May 10, 1959, article in the Dallas Times Herald. The article reported on the opening of the first section of Thornton Freeway going south from downtown into Oak Cliff, "A link of the freeway from the triple underpass to Marsalis will be opened at noon Monday. Traffic entering the freeway from the downtown area will turn from Commerce into the entrance ramp for the Dallas-Fort Worth Turnpike, near the Triple Underpass." Elm Street, along which the Dealey Plaza freeway signs were positioned, merges into Commerce Street at the triple underpass. The article explained how motorists could enter the freeway from Dealey Plaza and stated, "The city traffic control department will post signs on Commerce Monday morning pointing the way to 'Oak Cliff Via R.L. Thornton Freeway." This report could account for the erection of the Thornton Freeway sign, but more importantly verifies that the City of Dallas did install freeway guide signs in the vicinity of Dealey Plaza.27

The most compelling evidence which points to the City of Dallas as the owner of the signs is the font design of the text. Looking at the three signs, "Thornton Freeway Keep Right", "Stemmons Freeway Keep Right" and "Fort Worth Turnpike Keep Right", the Thornton and Stemmons signs have identical styles and fonts with narrow uppercase letters, suggesting they have a common owner but not the Texas Turnpike Authority, which used the wider uppercase font on the Turnpike sign. TxDOT, however, normally did not use all upper-case fonts for its signs. The 1964 photograph of a

newly installed guide sign on Stemmons Freeway near SH 183 Carpenter Freeway shows a typical TxDOT style with lowercase letters for the main text and wide uppercase letters for the "Next Left" text. (See photo page 172.)

The final piece of evidence pointing to the City of Dallas is the replacement sign for the Stemmons and Thornton Freeway signs, an overhead sign on Elm Street just west of Houston Street. The design of the sign using pipe-type supports is not consistent with TxDOT practices of the period.<sup>28</sup>

In February 2011 the City of Dallas traffic department was contacted and presented with the findings of the investigation. For the representative who assisted, a senior program manager for traffic operations, this was not the first time someone had inquired about the Dealey Plaza signs. The answer to inquiries was always the same: the City of Dallas keeps traffic sign records for only three years, so nothing is available for the signs. However, another potential source of information was the replacement overhead sign. (See photos pages 164 and 176.) The structure of the sign was still original and in service in 2011. Perhaps a drawing was available which could potentially have useful information. The program manager agreed to research the subject.

Soon afterwards the City of Dallas returned with its response: there were no records for any signs in Dealey Plaza, neither the original signs nor the in-service overhead sign. But there was one large news item in the response. The City of Dallas agreed that it was the owner of all three signs— "Stemmons Freeway Keep Right", "Thornton Freeway Keep Right" and the present-day overhead sign. While it was a big step forward to settle the question of ownership, the investigation had reached a dead end trying to solve the mystery through the owner of the signs.<sup>29</sup>

#### The Sun Shines Light on the Truth

The investigation continued using photographs, press reports and police records. News film of the assassination scene on the first anniversary showed that the Stemmons sign was gone and the Thornton sign remained in position. Since the last firmly dated photos showing the Stemmons sign in position were taken during the FBI reenactment on May 24, the date of the removal of the Stemmons sign could be narrowed to be between May 24 and November 22, 1964.<sup>30</sup>

The best source of photos of Dealey Plaza for the period of interest is the Squire Haskins collection of aerial photos at the University of Texas at Arlington. Review of the collection

### RESULTS OF THE INVESTIGATION

Sign	Stemmons Freeway Keep Right	Thornton Freeway Keep Right	Fort Worth Turnpike Keep Right	Replacement overhead sign
Sign Owner	City of Dallas	City of Dallas	Texas Turnpike Authority	City of Dallas
Government, press and police records	Nothing available and nothing found	Nothing available and nothing found	Drawing and specification, Dec 1956	Nothing available at the City of Dallas
Date Installed	Visible in a photo taken Jan 20, 1960*	Visible in a photo taken Jan 20, 1960*	Between Feb and Oct 1957	From photographs: Between April 27 and November 23, 1965
Date modified or replaced	n/a	From photographs and analysis: Between May 24, 1964 and June 24, 1964 <sup>†</sup>	n/a	n/a
Date removed	From photographs and analysis: Between May 24, 1964 and June 24, 1964 <sup>†</sup>	From photographs: Between April 27 and November 23, 1965	Not investigated. The sign location continues to be used for signage in 2013.	Structure in service in 2013, original 1965 signs have been replaced

n/a=not applicable \*Stemmons Freeway south of Dealey Plaza, which becomes R.L. Thornton Freeway half a mile to the south, opened on May 11, 1959. Stemmons Freeway north of Dealey Plaza opened on August 3, 1959. †The June 24 date in this date range is based on photo analysis—see the main text for more details.

and aerial photography log book revealed two photographic negatives which were candidates for narrowing the sign removal date range. Both images showed the Stemmons sign gone but the Thornton sign still in position. The first, designated as negative #1, was in an envelope labeled A7149 dated January 15, 1965, and the second, designated as negative #2, was in an envelope labeled A7018 dated October 3, 1964.31

When these images were subject to scrutiny, analysis of the length and angles of the sun's shadows clearly showed that neither photo could have been taken on the date on its envelope. The clear and crisp shadows on negative #1 dated it to be within a few days of summer solstice. But which year, 1964 or 1965? Further review of the negative revealed that it was a copy negative (i.e. a photograph of a print), and the print had a 1964 copyright included in its corner. This established a reasonable certainty the image was taken on or near summer solstice 1964. The shadows in negative #2 were not as crisp as negative #1 but also showed an altitude and azimuth of the sun which was very close to summer solstice. Shadow positions and lengths, particularly of the "Fort Worth Turnpike Keep Right" sign, were very similar in both photos, and consistencies in the positions of parked cars made it highly likely the images were taken within 15-30 minutes of each other on the same day around 5 PM. The aerial photography logbook included a flight on June 24, 1964, which had a path around downtown which covered the location of both photos. All the evidence was pointing to June 24 as the date for both



Dallas Public Library<sup>32</sup>

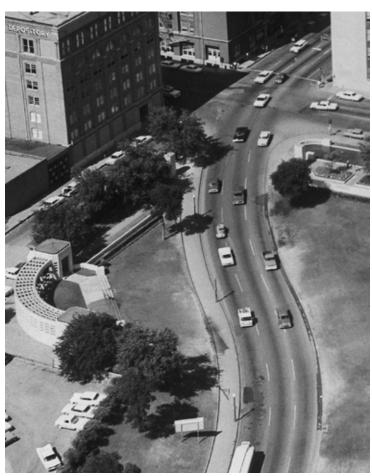
This 1964 photo shows a newly installed guide sign along Stemmons Freeway designed and installed by TxDOT, typical for TxDOT signs of the era. The font style, with lowercase letters and widely spaced uppercase letters, is entirely different from the Dealey Plaza Stemmons and Thornton signs, providing a key piece of evidence that TxDOT was not the owner of the Stemmons and Thornton signs in Dealey Plaza.

Evidence strongly indicates that these two images were taken within a span of 15-30 minutes on June 24, 1964, showing the Stemmons sign removed. Both images were in envelopes with different dates, but the dates on the envelopes were not consistent with the angles and the lengths of the shadows.

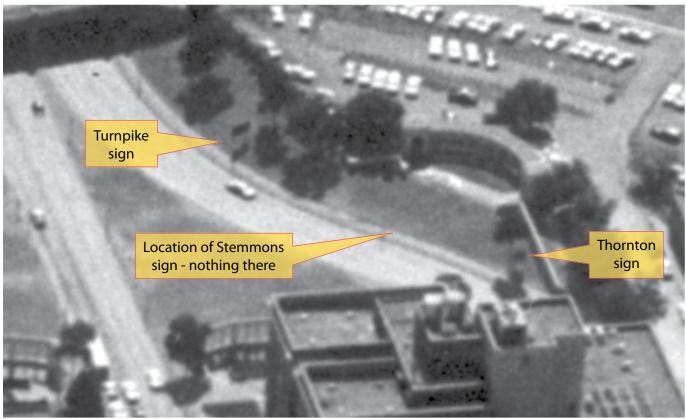
The photo at right looking northeast is identified in the main text as negative #1 in an envelope incorrectly dated January 15, 1965. The Stemmons sign is clearly gone with the "Fort Worth Turnpike Keep Right" sign visible in the lower part of the photo. The Thornton sign is partially obscured by the tree and shadows but is visible in a high-resolution scan. The shadows of the lampposts show the sun approximately due west at a high altitude of about 50°. (The original has been cropped; additional shadows along Main Street lampposts provide a definitive determination of the sun's azimuth.) This altitude and due west azimuth can only occur on or very close to summer solstice.

The lower photo, identified in the main text as negative #2 and incorrectly dated October 4, 1964, shows a reverse angle looking west. The shadow of the Turnpike sign is most compelling since its incursion over the sidewalk is nearly identical in both photos. In areas of the photo which were cropped, shadows also show a due west azimuth of the sun at an altitude around 50°.

The photo log book includes an entry for a June 24, 1964, flight with a path that covered both these angles. These photos establish that the Stemmons sign was removed by June 24, 1964.



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Associated Press34

**New mystery** The image on the left shows the Thornton sign immediately after the assassination, and the image on the right shows the sign on the one-year anniversary. The first anniversary image shows that a new section was added to the top of the original sign. The backside of the main sign on the first anniversary is also much brighter, almost certainly indicating that the entire sign was replaced. An optical effect or lighting condition making the left image sign backside appear darker is unlikely because the US highway shield just beneath the main sign has a light backside.

photos. Both negatives should have been labeled A6895 for the June 24 flight, but apparently had been placed in envelopes for similar flights.

This established a reasonable confidence that the Stemmons sign was removed between May 24 and June 24, 1964. There was the possibility that press reports or police reports could identify an event which could be associated with the sign removal. A review of both the *Dallas Morning News* and the *Dallas Times Herald* for all dates between May 24 and October 3, 1964, did not uncover any reports of events at Dealey Plaza which could be associated with the sign removal. A search of police records for this period also turned up nothing. The Stemmons sign had vanished without a trace in any historical record, and the only evidence consisted of photographs which relied on analysis for dating.

#### **The Mystery Deepens**

The first anniversary photos and news film provide a definitive and conclusive date for the removal of the Stemmons Freeway sign if there are any doubts about the evidence for removal by June 24, 1964. The first anniversary photos

also deepened the mystery for the Thornton sign. Photos show the Thornton sign was modified with the addition of a new section of sign above the original sign. The available photos on the anniversary date show only the backside of the sign and the color of the backside is very light, close to white. In photos from the period immediately after the assassination, the backside is much darker. The color change strongly indicates that the original sign was entirely replaced. A high-resolution scan of negative #1 appears to show the newly added section of sign, indicating that the Thornton sign was modified on or around the same time as the Stemmons sign removal.

So this presented new questions: What was added to the top of the Thornton Freeway sign? If the entire sign was replaced, what did it say? Without photographic evidence of the front of the Thornton sign, it is impossible to make any definitive statements. But it seems likely that the modification of the Thornton sign allowed it to perform the role of the removed Stemmons Freeway sign, perhaps with the text "Stemmons Freeway" on the newly added section.

The next questions remaining to be answered are the removal date of the Thornton Freeway sign and the installation



UT-Arlington Library Special Collections<sup>36</sup>

This November 23, 1965, photo shows the overhead sign in place and the Thornton sign removed. The sign positioning at the assassination site in Dealey Plaza remains the same in 2013.

date of the replacement overhead sign near Houston Street (see photos pages 164 and 176). Photographic evidence became even more scarce after the first anniversary. A Squire Haskins photo with a very distant aerial view of Dealey Plaza in an envelope labeled A7350 dated April 27, 1965, shows the Thornton sign in position and the overhead sign not yet installed. There are no suitable shadows to allow sun angle analysis.

Negative A7578, taken on November 23, 1965, and inscribed with its number, clearly shows the overhead sign in position. In addition, the angles of shadows in the photo compute to within a few days of November 23. With this evidence, it can be stated with reasonable confidence that the Thornton sign was removed and the overhead sign was installed in the period between April 27 and November 23, 1965.

#### What Color Were the Signs?

The background color of the Stemmons and Thornton signs is yet another feature which cannot be conclusively determined from available evidence. The City of Dallas did not necessarily adhere to TxDOT highway sign standards of 1959 for

the Stemmons and Thornton signs; in fact, it appears that the sign background was not standard green and Dallas used its own standards in defining the background color. So, that leaves photographs as the only evidence to determine the sign color. While none of the color photographs provide conclusive color identification, the evidence suggests that the Thornton and Stemmons signs were most likely black with some fading, with a possible bluish or brownish cast due to the fading.

Attempting to conclusively identify a color from aged photos is fraught with potential sources of error. Color negatives and slides sustain color shifts as they age, while color prints fade over time. Scanners and monitors depict color differently depending on their calibration. And the color of the object of interest may be substantially different depending on whether it is in direct sunlight or shade.

The photo with the most favorable sunlight angle and best color accuracy is the Barker photo, a slide photo shown on page 163. The Stemmons and Thornton signs appear to be most consistent with black. Since the signs were about four years old, some fading would have occurred, likely resulting in a somewhat lighter shade of black with a possible



Author June 2011

This view shows Elm Street and Dealey Plaza in June 2011. The overhead sign structure in the foreground, installed in 1965, remains in service, although the signs are not original. In the distance a second sign with the text "Right Lane" and shields of Interstates 30 and 35E is positioned at the location where the "Fort Worth Turnpike Keep Right" sign existed in 1963.

color cast. The Barker photo suggests a slight blue cast, but no firm conclusion can be made due to the minimal cast and the variables in color identification. The 1956 engineering drawing for the "Fort Worth Turnpike Keep Right" sign specifies "blue" as its background color, and it is clearly blue when viewed in photo editing software (although not clearly visible in the size shown on page 163). Overhead signs on Stemmons Freeway in the distance are clearly green. The confirmation of the colors of the signs in the background further reinforces the color accuracy of the image.

The image taken shortly after the assassination on page 150, a print photo, and the Lemkin image on page 162, taken from a slide, both have an unfavorable sun position for conclusive color identification but both are consistent with a very dark color. The page 150 photo suggests a brownish cast, especially when compared to the two persons with black clothing beneath the sign. The grayscale image from the Briscoe Center on page 162 clearly shows the "Fort Worth Turnpike Keep Right" sign to have a lighter color than the Stemmons and Thornton signs, consistent with the dark color for the Stemmons and Thornton signs.

The replica signs installed for the film *JFK*, page 165, appear to have a dark green color, although the sign lighting not does not allow a conclusive determination. Other

photos of the replica signs not included here also indicate dark green. It appears that the set designer for the film recognized that the signs were dark but incorrectly opted for green, a reasonable choice since green was designated as the standard color for Interstate System highway signs in January 1958.\*,35

#### Speculating a Reasonable Scenario

It seems fitting that, just like the Warren Commission findings for the assassination, the evidence in the sign investigation is not absolutely conclusive. The photographic evidence points to a sequence of events which is a reasonable, but not fully verifiable, explanation for the Dealey Plaza freeway signs.

Since it played a critical role in the Zapruder film, the Stemmons sign was retained in position for the FBI reenactment on May 25, 1964. After the reenactment it was promptly removed, gone by June 24. The Thornton sign was modified at the same time as the Stemmons sign removal, and it seems probable that its modification was to perform the role of the Stemmons sign, providing motorist guidance to Stemmons Freeway.

<sup>\*</sup> The film's art director was Derek R. Hill, a native of Irving and 1971 graduate of Irving High School who went on to become a successful production designer for film and television in Los Angeles.

## CONSPIRACIES AND THE DEALEY PLAZA FREEWAY SIGNS

The Dealey Plaza freeway signs are not influential in any of the alternative explanations and conspiracy theories which have been proposed over the years, but there have been two notable claims relating to the signs.

The first claim was that the Stemmons and Thornton signs were moved to make it impossible to exactly reconstruct the assassination events, particularly in relation to a proposed shooter at the grassy knoll. This idea seems to have arisen from the July 24, 1964, testimony of eyewitness Emmett Hudson, the groundskeeper of Dealey Plaza, who stated all the Dealey Plaza freeway signs,

including the Stemmons sign, had been moved. Hudson's testimony was reported in Harold Weisberg's 1965 book Whitewash, which presented an analysis exposing alleged inadequacies of the official investigation and became very influential in creating skepticism of the Warren Commission report. However, the brief and vague testimony relating to the signs can be interpreted as being consistent with the removal of the Stemmons sign and replacement of the Thornton sign in June 1964, after the FBI reenactment on May 24. No evidence was ever presented to support the claim that the original Stemmons sign was repositioned before the Warren Commission analysis or the FBI reenactment.

Another claim which has circulated in conspiracy circles is that a bullet struck the Stemmons sign and the sign was replaced within one day, either during the day or at night, depending on the version of the story. This claim is totally implausible since a hole or ding in the sign would have been noticed by the large crowds and press corps at the site, and day-time replacement of the sign would certainly have been photographed. In addition, photographs of the sign, such as on page 150, do not appear to show a clean, new sign.

The period for the removal of the Thornton sign and installation of the replacement overhead sign is quite long, nearly seven months between April 27 and November 23, 1965, and any statement about the individual sign events during the period is speculative. It is likely that the removal and installation took place in a single operational event. But if it was not a single operational event, there could have been a period of time with no freeway guide signs along Elm Street in Dealey Plaza, or both signs could have existed simultaneously.

So that leaves one remaining question: why was the Stemmons Freeway sign removed? Answers to this question are entirely speculative, but several plausible possibilities

can be postulated. Perhaps it was designated as obsolete since it did not have the standard interstate logo with the highway number, 35E. Perhaps it was replaced because its dark background color was not consistent with the standard green background used for highway signs. Perhaps it was determined to be a safety hazard since it could distract the attention of motorists at a time when the road was curving alongside a sidewalk suddenly busy with many pedestrians. Perhaps someone with authority felt the Stemmons sign was a detriment to photography of the site and ordered it removed. Perhaps it was hit by a car. The true reason will likely never be known, and the mystery of the sign removal will endure forever.

# THE DALLAS TRADE MART

The Dallas Trade Mart was the originally planned destination for the presidential motorcade at the end of its trip on Stemmons Freeway. Spectators along the roadway outside the Trade Mart, unaware of what had happened minutes earlier, saw the motorcade turn right on Market Center Boulevard and then speed past the Trade Mart on its way to Parkland Memorial Hospital.

Inside the Trade Mart a formal luncheon with 2500

in attendance was underway, awaiting the arrival of the president who would give a speech to the crowd. A second contingent of the press was positioned at the Trade Mart to cover the event. Luncheon participants first became concerned when reporters suddenly rushed out of the building at about 12:35 PM. Soon rumors began spreading from table to table. The president had apparently been shot, but no one knew how serious it was or exactly what had happened.

Groups of people gathered around portable radios to get the latest information. Erik Jonsson, then chairman of the board of Texas Instruments who went on to become Dallas mayor from 1964 to 1971, was scheduled to preside over the luncheon ceremony. At 1 PM he addressed the crowd, saying "There has been a mishap. We believe it is not serious at this time." Moments later a prayer was said for the president. At about the same time President Kennedy was declared dead at Parkland Memorial Hospital.

Jonsson soon announced that the shooting was more serious than originally believed and he urged the crowd to remain calm. Confusion prevailed. At 1:25 a second prayer in the form of a benediction was spoken by a reverend in attendance. Confusion reached a crescendo. Did this mean the president was dead? Or was it just the official end of the luncheon? The uncertainty ended moments later with an announcement on the radio. President Kennedy was dead.<sup>37</sup>



Private Collection

This interior view of the Trade Mart shows the crowd in attendance at the luncheon where President Kennedy was scheduled to speak. This photo appears to have been taken at about 1 PM after Erik Jonsson first announced there had been a "mishap" and a prayer was offered by the speaker at the podium. Rumors and unconfirmed reports of the president's condition continued to circulate through the confused crowd until the official radio report of Kennedy's death at around 1:25 PM.



Jernigan film © 1998 The Sixth Floor Museum at Dealey Plaza



Jernigan film © 1998 The Sixth Floor Museum at Dealey Plaza

This frame from the Jack Jernigan film was taken from a moving vehicle as it drove inbound on Stemmons Freeway on the day of the assassination. The bright white building on the left is Dallas Market Hall and behind it is the beigecolored Trade Mart. Of particular interest in this photo is the freeway median. There was no median barrier and the median was offset with a low curb marked with periodic yellow stripes. The lack of a barrier allowed free movement of vehicles and pedestrians in the median, most likely enabling the Volkland and Hankins photos which were taken from the median, as well as the pedestrians positioned in the median in the Miller photo. Two yellow pylon cones are visible in the outbound lanes, closing off an interior lane. Most likely the lane closure was not due to the presidential visit but was for preliminary work on the installation of the median barrier. Within two weeks of this image, construction was underway on the barrier.

This frame, also from the Jack Jernigan film, shows the electronic sign at Dallas Market Hall across the street from the Trade Mart, displaying "Welcome President and Mrs. Kennedy". The sign is positioned on the northwest corner of Stemmons Freeway and Market Center Boulevard, alongside the path of the presidential motorcade.

#### **Citations**

DMN=Dallas Morning News; DTH=Dallas Times Herald

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- 4. Obituary, Albert Jordan Volkland, DMN, 20071204; *Pictures of the Pain*, Richard Trask, 1994, p477
- 5. Death notice, James Troy Hankins, DMN, 19840117; *Pictures of the Pain*, Richard Trask, 1994, pp244-246
- 6. FBI exhibit D150
- 7. 6311220518
- 8. 6311220245
- 9. *Pictures of the Pain*, Richard Trask, 1994, pp483-489
- 10. *Pictures of the Pain*, Richard Trask, 1994, p479; "Moments after assassination" DMN, 19641121
- 11. "Grieved turn drab building into Dallas shrine to JFK" DMN, 19631124
- 12. MA 88.17/67
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- 14. "Federal agents re-enact Kennedy assassination" DMN, 19640525
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- 17. "Wade denies any movie offer made or accepted" DMN, 19670915
- 18. PA83-41, *Dallas Time-Herald* negatives box 23 envelope "Feature length movie being filmed on assassination"
- 19. PA83-42/1963-12-3/1
- 20. "Lights, camera...delays" DMN, 19910415; "It's 1963 again" DMN, 19910416; "Movie shoot triggers our '63 memories" DMN, 19910422; "Repeating history" DMN, 19910330
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- 25. MA 88.17/5
- 26. Texas Turnpike Authority, drawing for contract no. D-FW 59, "Turnpike Signing and Pavement Marking" 12-21-1956
  27. "Oak Cliff to start use of Thornton Freeway" DTH, 19590510

- 28. Telephone interview with Linden Vurges, TxDOT Dallas District signage department, September 24, 2009.
- 29. Email response from Alex Wong, Sr. Program manager, Traffic Field Operations, City of Dallas, received March 9, 2011
- 30. Newsfilm for the first anniversary reports by local television stations in the collection of the Sixth Floor Museum at Dealey Plaza; "Hundreds make JFK pilgrimage" DTH, 19641123, includes photo showing Thornton.
- 19641123, includes photo showing Thornton sign
- 31. Envelopes A7149 and A7018 were in box 7 (downtown views) of the Squire Haskins collection of the University of Texas at Arlington Library Special Collections.
- 32. PA2007-1/102.2
- 33. AR406-6 #4816 [envelope 28, frame 15] 34. 641123174
- 35. Official web site of the Federal Highway Administration, http://www.fhwa.dot.gov/infrastructure/50sheild.cfm, "Shields and Signs", accessed 20111214
- 36. Squire Haskins Collection, box with downtown Dallas negatives, negative A7578 37. "Somber crowd files out of mart" DMN, 19631123