
EXECUTIVE SUMMARY
TRANSPORTATION PLANNING REPORT
Improvements to State Route 3/US 51/Elvis Presley Boulevard
From State Route 175/East Shelby Drive to Interstate 55, Memphis, Shelby County, TN
July 2009

SR 3/Elvis Presley Boulevard (Elvis Presley Blvd.) serves as an important link between Memphis and Hernando, Mississippi, and provides access to Graceland, an important tourist destination. Elvis Presley Blvd. is also the spine of the Whitehaven community, serving as the area's primary commercial corridor, although the commercial viability of the corridor and the overall appearance of the area have declined since the 1970s. The City of Memphis has initiated a number of revitalization and planning efforts in the corridor aimed at recruiting and retaining businesses and creating a more attractive "gateway" to the Whitehaven community, Graceland, and the City of Memphis itself. The City of Memphis and Shelby County recently received approximately \$250,000 in grants for landscaping, signage, urban art and fencing at the intersection of Elvis Presley Blvd. with East Brooks Road, the location of the Chamber's Tourist Information Center and the gateway into the proposed project area.

In July of 2008, the Tennessee Governor, Memphis and Shelby County Mayors, and other city officials met in Memphis to discuss funding avenues for improving the Elvis Presley Blvd. corridor. One outcome of this meeting was the preparation and submittal of a Transportation Enhancement Grant application submitted to TDOT for the priority project segment, which is located in vicinity of Graceland between Winchester and Craft Roads. The other outcome was the initiation of this Transportation Planning Report (TPR) to study improvements to the corridor. A kickoff meeting with stakeholders was held on December 1, 2008. The project is anticipated to be amended into the Memphis Urban Area Metropolitan Planning Organization's Transportation Improvement Program (TIP) in August of 2009.

Study Area and Purpose and Need

The study area is Elvis Presley Blvd. from Shelby Drive to just north of East Brooks Road at the I-55 interchange in the City of Memphis, with a total project length of 2.91 miles. Through coordination with local officials and stakeholders, the preliminary need for the study has been identified:

- Support Memphis' tourism goals;
- Support planned economic development and enhance opportunities for redevelopment;
- Address safety issues and roadway deficiencies along Elvis Presley Blvd.; and
- Enhance multimodal travel in the Whitehaven area.

Options Analyzed

The TPR presents two options for improvements to each of three segments of Elvis Presley Blvd., the first from Shelby Drive to Craft Road (1.60 miles long), the second from Craft Road to Winchester Road (the priority segment, which contains Graceland; 0.69 mile long), and the third from Winchester Road to I-55 (0.62 mile long). Alternate 1 for all three segments is almost wholly within the existing right-of-way, while Alternate 2 for all three segments involves the need for additional right-of-way.

Improvements include: new or upgraded sidewalks and crosswalks, landscaping, new lighting standards, new curb and gutter, a buffer strip that can accommodate landscaping between the curb and sidewalk, and new pavement. Some of the alternates also provide for landscaped medians, bike lanes, and special pavement treatment for center turn lanes. Laneage provided under the alternates is either five (four through lanes and a center turn lane) or seven (six through lanes and a

center turn lane). One area designated for special treatment is the pull-off at the entrance to Graceland.

The proposed improvements are intended to create a safer and more hospitable environment for pedestrian and vehicular traffic, including tourists, bicyclists, local residents and those using public transportation in the area. The improved sidewalks, pedestrian crossings, and other improvements are intended to make it easier and safer for both tourists and local residents to traverse the area. Several of the alternates include a 14-foot outside lane that can be shared by vehicular traffic and bicycles. The two alternates within each of the three segments are briefly described below.

Segment 1, Alternate 1: The improvement proposes two 10-foot inside travel lanes, two 14-foot outside travel lanes to accommodate a shared vehicle/bicycle lane, a 12-foot center turn lane with special pavement treatment, 2-foot curb and gutter on each side, 5-foot sidewalks on each side, and a 3-foot buffer between curb and sidewalk to accommodate landscaping and lighting.

Segment 1, Alternate 2: The improvement proposes 11-foot inside travel lanes, two 14-foot outside travel lanes to accommodate a shared vehicle/bicycle lane, a 12-foot center turn lane with special pavement treatment, 2-foot curb and gutter on each side, 5-foot sidewalks on each side, and a 4.5-foot buffer between curb and sidewalk.

Segment 2, Alternate 1: The improvement proposes six 11-foot travel lanes, a 12-foot center turn lane with raised median, 2-foot curb and gutter on each side, 8-foot sidewalks on both sides, a 4.5-foot buffer between curb and sidewalk, and a 5-foot landscaping zone adjacent to the roadway curb, 20 feet of pavement and an additional 7.5-foot sidewalk at the Graceland Observation pull-out.

Segment 2, Alternate 2: The improvement proposes four 11-foot inside travel lanes, two 14-foot outside travel lanes to accommodate a shared lane, a 12 to 16-foot median with center turn lanes as needed, 2-foot curb and gutter on each side, 10-foot sidewalks on both sides, a 4.5-foot buffer between curb and sidewalk, and a 5-foot landscaping zone adjacent to the roadway curb, 20 feet of pavement and an additional 7.5-foot sidewalk at the Graceland Observation pull-out.

Segment 3, Alternate 1: The improvement proposes six 11-foot travel lanes, a 12-foot center turn lane with special pavement treatment, 2-foot curb and gutter on both sides, 5-foot sidewalks on both sides, and a 4-foot buffer between curb and sidewalk.

Segment 3, Alternate 2: The improvement proposes four 11-foot inside travel lanes, two 14-foot outside travel lanes to accommodate a shared vehicle/bicycle lane, a 12-foot center turn lane with special pavement treatment, 2-foot curb and gutter on each side, 5-foot sidewalks on each side and a 4.5-foot buffer between curb and sidewalk.

Costs

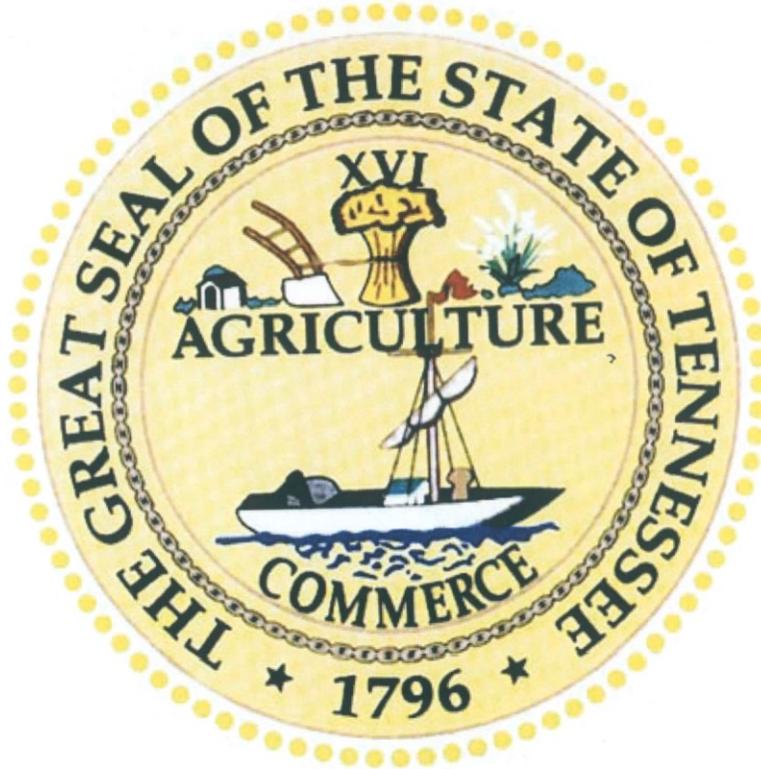
Cost estimates based on the preliminary concepts are provided in the table below. In order to account for variation in bid prices, both high and average totals are listed, resulting in a range of costs for each alternate. Inflation costs were applied to the total estimated construction and preliminary engineering costs at a rate of six percent over five years (as per TDOT TPR cost estimating guidance). Below is a summary of the cost ranges*:

Segment 1, Alternate 1	\$19,123,000 – \$27,454,000
Segment 1, Alternate 2	\$20,789,000 – \$29,382,000
Segment 2, Alternate 1	\$15,649,000 – \$23,738,000
Segment 2, Alternate 2	\$16,152,000 – \$24,350,000
Segment 3, Alternate 1	\$13,140,000 – \$19,767,000
Segment 3, Alternate 2	\$13,170,000 – \$19,798,000

*It is important to note that landscaping and streetscaping are typically not eligible for state or federal funding (with the exception of enhancement funds), so alternative funding sources would need to be identified.

TRANSPORTATION PLANNING REPORT

*State Route 3/US 51/Elvis Presley Boulevard
FROM STATE ROUTE 175/EAST SHELBY DRIVE TO INTERSTATE 55
CITY OF MEMPHIS, SHELBY COUNTY, TENNESSEE*



PREPARED BY
GRESHAM SMITH AND PARTNERS
For the
CITY OF MEMPHIS
In cooperation with
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING		7/23/09
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION		7-23-09
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION		7/24/09

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.

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1.0 INTENT OF THE TRANSPORTATION PLANNING REPORT

The subject of this Transportation Planning Report (TPR) is the proposed improvements to State Route (SR) 3/United States Highway 51 (US 51)/Elvis Presley Boulevard from SR 175/Shelby Drive (Shelby Drive) to north of East Brooks Road at the Interstate 55 (I-55) interchange in the City of Memphis, Shelby County, Tennessee.¹ This roadway is referred to hereafter in this report as Elvis Presley Blvd. The total length of the project is approximately 2.91 miles. Figure 1 depicts the project in its regional context and Figure 2 shows the project area, which is divided into three study segments.

The section of Elvis Presley Blvd. that is under study in this TPR is the spine of Memphis' Whitehaven neighborhood and is the location of Graceland, home of Elvis Presley for over 20 years and an important tourist destination. Over the last several years the City has been looking at ways to improve Elvis Presley Blvd. to promote and support economic development in the city and to revitalize the Whitehaven Community.

In July of 2008, officials, including Tennessee State Governor Phil Bredesen, City of Memphis Mayor Dr. Willie Herenton, Shelby County Mayor A.C. Wharton Jr., TDOT Commissioner Gerald Nicely and TN Economic and Community Development Commissioner Matt Kisber, met to discuss funding avenues to improve the Elvis Presley Blvd. corridor. The outcome of the meeting was that the City should prepare a TPR and an application for Transportation Enhancement (TE) funds. Work commenced on this TPR in October of 2008. In November of 2008, the City submitted the TE application to the Tennessee Department of Transportation (TDOT) for consideration for funding in fiscal year (FY) 2009. The MPO has slated the project to be amended into the Memphis Urban Area Metropolitan Planning Organization's (MPO) Transportation Improvement Program (TIP) in August of 2009.

This TPR is intended to identify:

- The project history;
- The context (setting) of the study area;
- The preliminary project need and purpose (goals);
- Stakeholder issues identified early in project planning;
- Options developed to satisfy the project need;
- Costs of options;
- Potential environmental issues; and
- Whether the project adheres to TDOT's guiding principles.

The completed TPR will give the City the data that it needs to take the project to the next step, which may be a National Environmental Policy Act (NEPA) document if federal funding assistance for this project is identified. It will also provide a planning level cost estimate that the City can use for budgeting purposes. Lastly, through the use of screening for environmental issues, avoidance of sensitive resources or community impacts can be addressed and considered early in the planning process.

¹While TDOT's *Guidelines for the Development of a Transportation Planning Report* has been followed in the development of this TPR, this report is an enhancement of a typical TPR. For example, it contains graphic elements that are not generally included in a TPR, such as artistically-rendered concepts and streetscaping features not typically found in a TDOT project.

Figure 1. Project within Its Regional Context

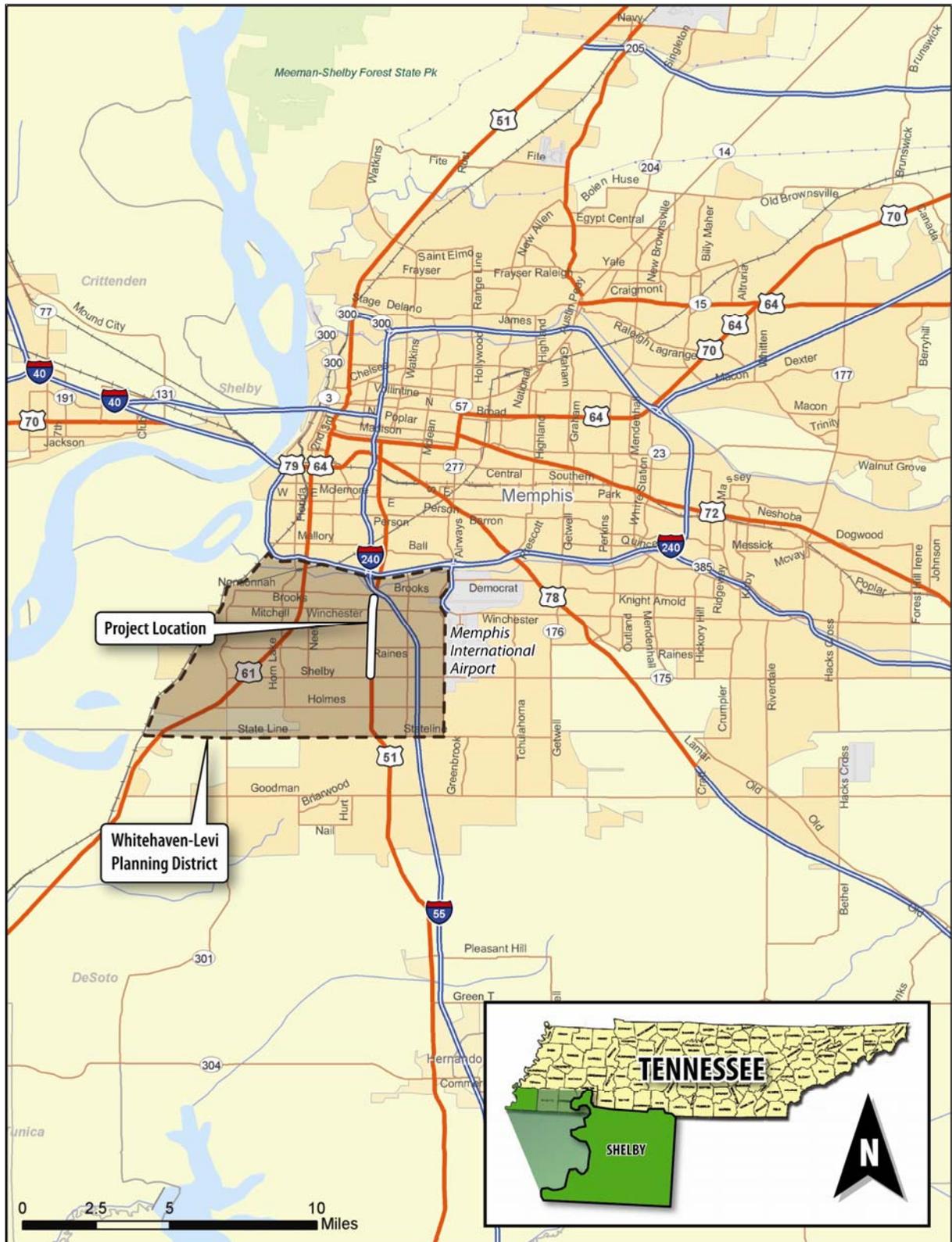
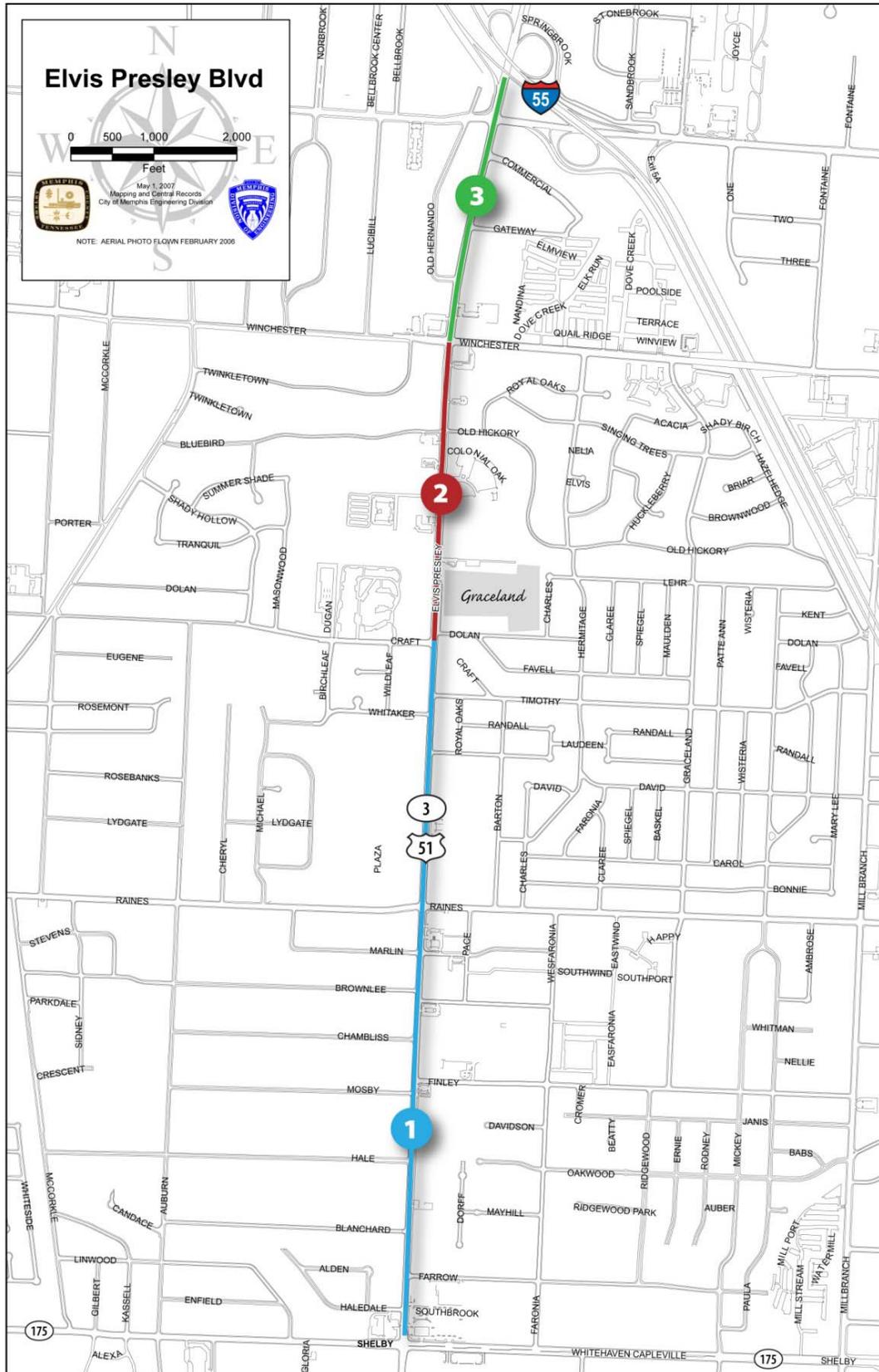


Figure 2. Project Area



2.0 PROJECT BACKGROUND

Historical Development: US 51, commonly referred to today as Elvis Presley Blvd., was constructed as part of the US Highway system in the late 1940s and early 1950s. US 51 was built on the path of an early road originally constructed by the State of Mississippi. The original 22-mile plank road was constructed between the City of Memphis and the community of Nesbit, Mississippi and was later called Hernando Road.

Just north of the state line was Whitehaven, essentially a farm community. From the 19th century up to the second quarter of the 20th century, a 500-acre farm named “Graceland” was on the east side of Hernando Road (now Elvis Presley Blvd. in the project area). It was not until after the Great Depression (around 1937) that more significant development occurred, again primarily in the southern part of the study area. It was at this time that the Moore family constructed an architect-designed house on the Graceland farm facing the then-rural road in front of it.

In 1950, Whitehaven reported a population of 5,000 in 10 subdivisions along US 51. By the time Elvis Presley bought the house on the former “Graceland” farm in 1957, the house sat on a 13.8-acre lot, but the surrounding community was still largely rural.

Another period of rapid development occurred in the 1960s and continued into the early 1970s. The growth spurt in the early 1970s was different from the previous single-family residential subdivision development. It was characterized by a significant percentage of multi-family dwellings (townhouses and apartments). In 1971, the Memphis City Council renamed US 51 in the project area as “Elvis Presley Blvd.” Six years later, Elvis died and was buried at Forest Hill Cemetery nearby. Within months, however, he was reburied at Graceland due to security issues.

Five years after his death, the house was opened to the public as a tourist destination, which today attracts over 600,000 people annually from around the world. The mansion stands on the east side of Elvis Presley Blvd. and the Graceland Visitor Center is on the west side. Tourists can only access the mansion with a ticketed admission that includes a bus ride across Elvis Presley Blvd. from the Visitor Center to the doors of the mansion.

Despite the success of Graceland, the viability of the commercial development along Elvis Presley Blvd., which serves as the primary commercial corridor for the Whitehaven Community, as well as the overall appearance of the area, has declined since the 1970s. A number of planning efforts have been initiated to address these issues.

According to the Memphis and Shelby County Division of Planning and Development, revitalization of the Whitehaven Community began in 1996 when the Division began partnering with some local shopping centers to attract tenants to vacant properties throughout the corridor. In 2000, a Memphis Regional Chamber of Commerce effort developed the *Whitehaven Market Analysis and Strategy*, which included implementation methods to retain and recruit businesses in the area. Also in 2000, the planning department studied commercial corridors in the Whitehaven-Levi Planning District in the *Whitehaven Commercial Corridor Study*.

This study led to the development of the 2003 *Whitehaven-Levi Planning District Study*, the first comprehensive plan for the Whitehaven area. Among other things, the study

recommended that the city create a “gateway” to the Whitehaven Community at the intersection of Elvis Presley Blvd. and East Brooks Road. The study divided up the project corridor into various districts, such as Graceland, a Bioscience Corridor (made up of bioscience-related businesses located between the project area and the airport on East Brooks Road), the Methodist South Hospital and shopping centers at the project corridor’s intersection with Shelby Drive. The plan also recommended a greenway be developed along Nonconnah Creek in accordance with the *Park Services Master Plan*.

In 2004, the Memphis Convention and Visitor’s Bureau opened a new Memphis Visitor’s Center at the southwest corner of the Elvis Presley Blvd. and East Brooks Road intersection. The city demolished an abandoned gas station on the northeast corner of the intersection in 2006. A new gas station and convenience store was later constructed on the site.

Current Activities: Today, Elvis Presley Blvd. is designated as an Urban Principal Arterial, and it still serves as an important link between Memphis and Hernando, Mississippi. The corridor provides access to Graceland, a major Memphis tourist attraction; serves local residents as the primary commercial corridor within the Whitehaven Community; and acts as an alternative route to nearby I-55 for regional truck traffic serving the area around the Memphis International Airport.

Improvements to or reconfigurations of the existing Elvis Presley Blvd. corridor appear in existing transportation planning documents. According to city staff interviewed during the data collection process, the *1997 Major Road Plan* for the City of Memphis includes a long range plan to widen Elvis Presley Blvd. from SR 175/East Shelby Drive to Winchester Road in the project area to seven lanes within 108 feet of right-of-way and 88 feet of pavement. The current long range plan for Memphis, the *Memphis Urban Area 2030 Long Range Transportation Plan*, no longer discusses that entire plan, but identifies a need to improve several sections of the corridor. According to city staff, however, the 1997 plan with the seven-lane section remains the current vision for the project corridor.

A significant regional effort being discussed in the area is the Aerotropolis planning effort around the Memphis International Airport. The Aerotropolis planning study area is approximately one mile west of the airport. The overall concept of the Aerotropolis plan is to improve the environment in the area surrounding the airport. Redevelopment would focus not only on additional commercial and industrial uses, but also hotels, and entertainment and recreational uses, such as shopping centers. Aerotropolis planning includes a conglomeration of independent plans developed and funded by various sources. Efforts by the Airport Area Development Corporation (a group of businesses located on East Brooks Road within the Bioscience Corridor) to improve the appearance of East Brooks Road eastward to the airport, are underway.

An important redevelopment effort along Elvis Presley Blvd., which is currently in the early planning stages, is Elvis Presley Enterprise (EPE), Inc.’s master plan for Graceland and its 120-acre campus. This campus has greatly expanded from its former size through EPE’s acquisition of properties adjacent to Graceland. Today, EPE owns much of the property that fronts on Elvis Presley Blvd. between Craft Road and Winchester Road (Segment 2 of the project presented in this TPR). In addition to a new visitor’s center, the company intends to construct one or more hotels, entertainment and retail space, and other tourism-

related facilities. The development is anticipated to require a capital investment in excess of \$250 million.

Enhancement to the intersection of East Brooks Road with Elvis Presley Blvd has recently been funded through two grants. The improvements, which include landscaping, signage, urban art and fencing, will be funded with over \$250,000 in transportation enhancement and roadscape grants. The project will be administered by both the City of Memphis and Shelby County, which applied for two separate grants for projects that are similar in scope. The project scope will be split into two parts, which will be funded by the grants and a 20 percent local match (funded by both the City of Memphis and Shelby County). The purpose of the project is both to provide a gateway and entrance corridor to Memphis for tourists visiting Graceland, and also to improve the western access to the Whitehaven Bioscience Corridor (East Brooks Avenue). The Memphis and Shelby County Division of Planning and Development is currently awaiting allocation of the funds so that the project can begin. This project will need to be integrated into the concepts for Elvis Presley Blvd. that are developed during the project design phase.

As previously discussed, in July of 2008, a group of officials, including the Tennessee Governor and the Memphis and Shelby County Mayors, met in Memphis to discuss funding avenues for improving the Elvis Presley Blvd. corridor. The outcome of this meeting was the preparation and submittal of a TE Grant application to TDOT for the priority project segment. The priority segment is the portion of the roadway in the vicinity of Graceland and between Winchester and Craft roads. The application included a request for \$975,312 of federal construction funds to support the development of an improvement project in the priority segment.² The second outcome involves the preparation of this TPR.

The MPO's TIP will need to be updated to reflect the currently proposed Elvis Presley Blvd. streetscape improvements project and to add funds for the next study phase for the project, the completion of the NEPA process if the project receives federal funding assistance. The MPO currently anticipates the proposed project will be amended to the TIP on August 27, 2009.

² As of July 2009, awards under this program had not been announced.

3.0 EXISTING CONDITIONS

3.1 Community Characteristics

As previously stated, the study area for the proposed improvements on Elvis Presley Blvd. lies within the Whitehaven area of the City of Memphis in Shelby County, Tennessee. The Whitehaven Community, originally within the State of Mississippi, is today in Tennessee. Whitehaven is part of the City of Memphis' Whitehaven-Levi Planning District. The district is bounded by Nonconnah Creek to the north, the Mississippi state line to the south, Memphis International Airport to the east, and the Illinois Central Railroad to the west. (Refer to Figure 1.)

Development in Whitehaven began in the 1840s. In 1856, the Memphis-Granada line of the Illinois Central Railroad was constructed through the area, and the decision to place a station at Whitehaven prompted the development of the town. During the Civil War, the community played a role as a haven for confederate smugglers and spies after the City of Memphis fell under Union Control in 1862. Lots in the town were platted in 1908 and streets constructed in 1912. Additional development occurred when the land for what is now the Memphis International Airport was purchased in 1926 and with the opening of US 51 through the area in the late 1940s and early 1950s. Despite earlier refusal by the Mayor of the City of Memphis to extend city service south of East Brooks Road, prompting the formation of the Whitehaven Utility District, the area was eventually annexed by the City of Memphis in the 1950s. While the original intent of the Whitehaven founders was to create an upscale community, later residential development in the 1960s and 1970s was characterized by a large percentage of modest town homes and apartments.

Today, Elvis Presley Blvd. is an important link in the City of Memphis' surface transportation network, carrying an average of 31,000 vehicles per day (TDOT 2007 Traffic Count). It is the primary commercial thoroughfare serving local traffic associated with the Whitehaven Community and an important north-south US Route and State Route serving as a vital link between Memphis and Hernando, Mississippi. The road carries a mix of traffic, including local traffic, tourist traffic and regional traffic.

Population and Growth

In 2007, the City of Memphis had a population of 674,028 people. For comparison purposes, the population for both Shelby County and the State of Tennessee are shown in Table 1. Between 1990 and 2007, Memphis experienced a 10.4 percent increase in population, as compared to 10.1 percent for Shelby County and 26.2 percent in Tennessee as a whole.

Elvis Presley Blvd. is included in the Whitehaven-Levi Planning District study area shown on Figure 1.³ According to the *Whitehaven-Levi Planning Study*, and as indicated by the census data, the population in the Whitehaven Community has been declining. As shown in Table 1, between 1990 and 2000 (the most recent year for which population data is available for the study area) the population of the district declined by 2.7 percent.

³ For purposes of this study, the Whitehaven-Levi Planning District is the area included in the following census blocks: 104.10, 220.10, 220.21, 220.22, 221.11, 221.12, 221.20, 221.30, 222.10, 222.20, 223.10, 223.21, 223.22, 223.30, 224.10, 224.21 and 224.22.

Table 1. Population Growth

LOCATION	POPULATION			PERCENT CHANGE 1990-2007
	1990	2000	2007	
Tennessee	4,877,185	5,689,283	6,156,719	26.2%
Shelby County	826,330	897,472	910,100	10.1%
City of Memphis	610,337	650,100	674,028	10.4%
Whitehaven-Levi	97,889	95,178	Not Available	(-2.7% 1990-2000)

Source: US Census 1990 and 2000 and US Census Population Estimates

Major Employers and Traffic Generators

According to the Memphis Regional Chamber of Commerce, the City of Memphis' core industries include distribution centers and the production and distribution of orthopedic medical devices. Memphis is the third largest rail center in the United States, has the fourth largest inland port, and is a hub for Northwest Airlines. The largest employer in the City of Memphis is the Federal Express (Fed-Ex) World Headquarters and World Hub. Fed-Ex is located adjacent to the Whitehaven area at the Memphis International Airport, the busiest cargo airport in the world (handling 2.5 million metric tons of cargo a year). According to the Memphis Regional Chamber of Commerce, the airport has an economic impact of \$20.7 billion dollars annually and is the source of one in every four jobs in the Memphis area. The airport is also the home to a major United Parcel Service (UPS) hub. The city serves more major metropolitan markets overnight by truck than any other city in the United States. According to the Memphis Regional Chamber of Commerce, more than 300 truck companies operate within a mile of the airport. The airport and the distribution centers and trucking businesses that surround it are generators of traffic in the project area.

In addition to shipping and distribution, a large amount of industrial development is also concentrated near the airport. A number of these industrial businesses are located to the northeast of the project corridor along East Brooks Road between I-55 and Airways Blvd., an area referred to as the Bioscience Corridor. Traffic accessing these businesses uses Elvis Presley Blvd. as an alternative route to I-55.

Tourism is also a major industry in Memphis. Over eight million people visit the City of Memphis each year, and tourist expenditures add over \$2.3 billion to the economy. As discussed above, the study corridor is home to one of Memphis' most important tourist attractions and a major traffic generator, Graceland. Graceland attracts over 600,000 visitors a year from around the world, most of which arrive by car. EPE, Inc. hopes to double the number of visitors with planned improvements at the complex, which would generate additional traffic in the study area.

Other employers in the Whitehaven area include commercial development along the corridor, and within Whitehaven Plaza and Southland Mall; several elementary and middle schools; and a branch of the Southwest Tennessee Community College. Whitehaven High School and Whitehaven Elementary School, both located on the west side of Elvis Presley Blvd. just south of Shelby Drive, lie just outside the study area, but are both employers and generators of large amounts of pedestrian and vehicular traffic. School buses serving Maceo Walker Middle School, American Way Middle School,

Lanier Middle School, Robert R. Church Elementary and Westhaven Elementary make stops along Elvis Presley Blvd. between 6:30 and 8:30 a.m. and 2:30 and 4:00 p.m.

Methodist South Hospital, located one block to the east of Elvis Presley Blvd. just south of Raines Road, is another major employer in the project area, as well as a significant generator of traffic. Elvis Presley Blvd. is a major emergency services route used by ambulances accessing the hospital, as well as engines from three nearby fire departments.

Multimodal Facilities

One of the goals of the MPO is to enhance bicycle and pedestrian travel in the region. Several plans exist in the vicinity of the project area for bicycle and pedestrian facilities, but few, other than limited sidewalks along the project corridor, are currently in place. City and County planned pedestrian and bicycle facilities are further discussed in Chapter 5 and are shown on Map A-2 in Appendix A.



The bus route along the project corridor is one of the best utilized routes in the City of Memphis.

The Memphis Area Transportation Authority's (MATA) existing bus route, 43 Elvis Presley-Boeingshire-Holmes-Southland Mall-Airways/Holmes, serves the corridor, and is the second most utilized route in the City (see Map A-3 in Appendix A). A new express bus service serving the area began operation in August 2008 but according to MATA, it has been less successful. The route begins at the Southland Mall near the south project terminus at Shelby Drive and provides express service to downtown Memphis.

MATA also has plans to build a new South Intermodal Terminal to the northeast of the project site at the corner of East Brooks Road and Airways Blvd. The \$15 million dollar facility will be shared by Greyhound and MATA buses. Following completion of the project, slated for bid and construction in 2009, MATA is considering making changes to bus routes and schedules to better serve businesses and attractions around the airport. This could include increasing the frequency of trips on circulator routes accessing Graceland, which may help to better serve tourist traffic to Graceland. Early plans are also being developed for potential light rail service in the city; these plans are discussed in more detail in Chapter 5.

Potential Future Coordination

Several resources in the general project area may invoke the need for coordination.

Two stream crossings involving bridges and box culverts are located at the project corridor's intersection with East Brooks Drive in Segment 3 of the project, and just south of Winchester Road in Segment 2. Potential impacts to the floodplain area that closely

approaches the northern project terminus at the intersection of East Brooks Road and Elvis Presley Blvd. should be addressed. Planners have witnessed water backing up onto the road during major rain events in Segment 3 of the project area.

Close coordination regarding utilities in the area must occur. Memphis Light, Gas and Water has been involved in initial project planning, and coordination with this organization must continue, as well as coordination with the City of Memphis Fire Services and MATA.

Coordination is also needed with EPE in regard to their extensive redevelopment plans in the project area.

3.2 Land Use

Existing Land Use

The land immediately adjacent to Elvis Presley Blvd. is highly developed with a mix of commercial and residential uses. Existing land uses in the project corridor are illustrated on Map A-1 in Appendix A.

Segment 1 of the project corridor, which extends from Shelby Drive north to Craft Road, is primarily characterized by highway commercial development, including strip shopping centers, gas and auto service stations, banks and fast food restaurants. Southland Mall, located just south of the southern project terminus, is an important commercial anchor for the community. Professional offices are also scattered along the roadway. There are four churches along Segment 1 of the project, three located west of Elvis Presley Blvd. between Blanchard and Chambliss roads and one located east of Elvis Presley Blvd. just north of Timothy Drive. One of the churches, located at Elvis Presley Blvd. and Chambliss Road is also a school. Methodist South Hospital is located just east of the project corridor, north of Wesley Drive. There are also three doctor's offices located along Segment 1 of the project corridor. Residential uses in Segment 1 of the project corridor are limited to a single, small apartment complex on the east side of Elvis Presley Blvd., just north of Laudeen Drive.

Land use along Segment 2 of the project corridor, from Craft Road to Winchester Road, is dominated by the Graceland Mansion, Heartbreak Hotel, and associated attractions, souvenir stores and shops. North of Graceland and the Heartbreak Hotel, land uses include car lots, gas stations and fast food restaurants. There is one church in Segment 2 of the project corridor, located immediately north of Graceland on the east side of Elvis Presley Blvd. A large apartment complex and two single-family homes are located along the east side of Elvis Presley Blvd. between Graceland and Old Hickory Road. North of Bluebird Road, the west side of the corridor is occupied by an empty field and vacant lot.

Land use along Segment 3, from Winchester Road to I-55, returns to the pattern of highway commercial type development found in Segment 1 with auto service and car lots, strip retail, banks and fast food restaurants. Several businesses along this segment are vacant. The Chamber of Commerce operates a welcome center, located at the intersection of Elvis Presley Blvd. and East Brooks Road, near the northern project terminus.

The land adjacent to the Elvis Presley Blvd. corridor within the study area is primarily residential, with a mix of single-family subdivisions from the early development of the Whitehaven Community, and townhomes and apartments developed during the 1960s and 1970s. As mentioned earlier, land use along East Brooks Road, near the northern terminus of the project corridor, is primarily industrial and associated with the Bioscience Corridor.

Throughout the project corridor, the number of vacancies in the shopping areas, the number of discount retailers, and the deterioration of the appearance of some properties in the area due to neglect, have contributed to a perception of the corridor being in decline. In many cases, residents of the Whitehaven Community leave the area to shop. However, the area is still essentially acting as Whitehaven's "downtown" and, along with the improvements planned as part of the subject project, it is the center of several redevelopment efforts in the Whitehaven Community. One effort includes recent renovations at the Southhaven Mall to add landscape enhancements and updated architectural features. A goal of the *Whitehaven-Levi Planning District Study* is to attract both regional and local shoppers back to the area. The goals of the planning study are discussed in the Future Land Use section below.

Future Land Use

The *Whitehaven-Levi Planning District Study* includes the "Elvis Presley Revitalization Plan" (not to be confused with the plans under development by EPE, Inc.). Among other things, the plan calls for redevelopment of the shopping areas along the Elvis Presley Blvd. Goals of the effort include communicating a Whitehaven neighborhood identity, including creating a series of "districts" in the community, such as a "gateway" to the Whitehaven Community at the intersection of East Brooks Road and Elvis Presley Blvd. and a hospitality district near Graceland. Other goals are to enhance the visual environment of the area, and provide visual landmarks throughout the community. Revitalization efforts focus on the premise of creating an environment of convenience, comfort, cleanliness, safety, visual order and clarity. Future land use planned for the project corridor remains fairly similar to existing land use in the area. Future planned developments are shown on Map A-2 in Appendix A.

Segment 1, which is currently a primarily commercial area, is likely to remain so with planned land uses including Highway and Local Commercial, Multiple Family Dwelling and Single Family Residential. General Office uses are proposed throughout Segment 1 and are clustered around the Methodist South Hospital to accommodate medical offices. The Southland Mall Shopping Center, located just to the south of Segment 1, is targeted for redevelopment as a Planned Commercial area.

Segment 2 of the project, which extends from Craft Road to Winchester Road and encompasses the Graceland complex, is designated for Highway and Local Commercial uses immediately adjacent to Elvis Presley Blvd. with residential land uses proposed for the areas behind the buildings that front on Elvis Presley Blvd. Future land use along this segment of the roadway will likely be heavily influenced by the master planning efforts of EPE, Inc. for the Graceland complex.

Future land use along Segment 3 from Winchester Road to I-55 is also proposed to remain in Commercial land use designations, with residential and industrial areas behind the buildings that front on Elvis Presley Blvd., as is the case today.

Future land use and redevelopment throughout the project corridor are also likely to be impacted by the Memphis Regional Chamber of Commerce's Aerotropolis planning efforts for the area surrounding the Memphis International Airport. The purpose of the Aerotropolis plan is to improve the environment in the area surrounding the airport, which functions as a major engine of local economic development, with development activity focusing on creating new commercial, industrial and entertainment centers. Though the Aerotropolis planning effort has yet to be formalized, the Airport Area Development Corporation, a group of businesses located along East Brooks Road near the northern terminus of the project corridor, is already working to develop and fund improvements along East Brooks Road from Elvis Presley Blvd. to the airport. This effort and future Aerotropolis-related redevelopment projects that extend to a broader area around the airport may result in land use changes along the Elvis Presley Blvd. corridor.

Other plans for the area include a future US Army Corps of Engineers flood control project for the floodplain area along Nonconnah Creek, to the north of the project corridor. City plans also call for the creation of a 600-foot wide green belt and multi-use greenway trail along the creek. Nonconnah Creek greenway plans, as well as other bicycle facilities planned for the area, are shown on Map A-2 and further discussed in Chapter 5.

3.3 Crash History

The statewide average crash rate for a roadway of the same functional classification as Elvis Presley Blvd. is 2.65, while the actual rate for the corridor is 2.98. The actual rate is derived from a formula that takes into account factors such as total number of crashes, length of roadway and the time period over which the crashes occurred. An actual crash rate three times greater than the statewide average for a similar roadway indicates a safety deficiency. Though the actual rate for this segment of roadway is not high enough to indicate a safety deficiency, stakeholders and local officials have indicated that they and members of the public believe safety on the corridor is an issue. This is primarily due to the mixing of local and tourist traffic accessing area businesses and the Graceland complex, with regional through traffic, including semi tractor-trailer trucks.

An examination of detailed crash data lends some credibility to public perceptions of a need for safety improvement. From 2004 to 2006, the most recent years for which data had been compiled at the start of this study, 1,050 crashes occurred along the total length of the project corridor, 17 of which were considered severe. Of the total, 530 crashes occurred along Segment 1 of the corridor, from the intersection at Craft Road to the intersection of Shelby Drive; 274 occurred along Segment 2 of the corridor, from the intersection at Winchester Road to the intersection at Craft Road, and 246 occurred along Segment 3 of the corridor, from the intersection at Winchester Road to the intersection at East Brooks Road. Two of the crashes resulted in fatalities, 15 crashes resulted in individuals sustaining incapacitating injuries, and 140 crashes resulted in other injuries. Twenty-eight of the crashes were head-on, 372 were rear-end crashes and 420 were angle crashes. The high number of rear-end and angle crashes can be attributed, in part, to the large number of curb cuts in the study area, which result in vehicles constantly slowing to turn in and out of parking lots and driveways.

Of the total number of recorded crashes occurring during the three study years, 882 occurred at intersections with Elvis Presley Blvd:

- 138 at SR 175/East Shelby Drive;
- 35 at Craft Road near Graceland;
- 1 at Graceland Entrance

- 141 at Winchester Road; and
- 143 at East Brooks Road.

Conflicts between pedestrians and vehicular traffic are of particular concern within the project corridor. Over the latest three year period, 15 crashes involving pedestrians occurred. Nine of the crashes occurred in Segment 1; four near the Graceland complex in Segment 2, and two in Segment 3.

3.4 Geometrics

Elvis Presley Blvd. is classified as an Urban Principal Arterial. The project corridor is approximately 2.81 miles long, extending from its intersection with Shelby Drive at log mile 1.81 to the I-55 ramp at log mile 4.20. Data from TDOT's Tennessee Roadway Information Management System (TRIMS) database was used as the basis for the geometric analysis. A field review was conducted to verify TRIMS data that was easily verifiable in the field. This field review was supplemented by a review of TDOT plans for this roadway (dated 1948) and subsequent plans for City of Memphis roadway upgrades, as well as consulting GIS. The review of the plans has revealed that some areas along the roadway have right-of-way that differs from that included in the TRIMS database.

A summary of geometric data is provided in Table 2. There are currently no provisions for bicycles along the corridor, which features generally flat terrain. Traffic signals, from south to north, are found at Shelby, Finley, Marlin, Raines, Craft, entrance to Graceland, main parking area for Graceland, Winchester, Gateway Drive, and Brooks. Left turn lanes are provided at all of these intersections except at the Graceland entrance. The project segments feature numerous intersecting streets and a number of driveways. The majority of the project has curb and gutter.

In Segment 1 of the project (Shelby Drive to Craft Road), the right-of-way ranges from 80 to 90 feet. Lanes includes four through lanes and a center turn lane from Shelby Drive to Raines Road. North of Raines Road to Whitaker, there are five lanes travel (three southbound and two northbound) and a center turn lane. At Whitaker, the section reduces to four lanes and a center turn lane north to Craft Road.

In Segment 2, from Craft Road to Winchester Road, the right-of-way ranges from 99 to 121 feet. The widest right-of-way (121 feet) is adjacent to the Graceland property. Beginning at Craft Road, and for a short distance northward, the roadway has five lanes (three southbound and two northbound) and a center turn lane. Through the Graceland property, the roadway is five lanes with a raised grass median. North of Graceland and northward to the end of the segment at Winchester, the median disappears and is replaced by a turn lane in this six-lane roadway section (three southbound and three



A grass median is in the Segment 2 area adjacent to Graceland, which is on the right of this photograph.

Table 2. Existing Roadway Geometrics

Roadways	Log Miles	Length of Segment in Miles	ROW in Feet	Total Lanes	Average Lane Width in Feet	Average Shoulder Width in Feet	Median Type	Average Median Width in Feet	Average Sidewalk Width in Feet
Segment 1—Shelby to Craft									
Shelby to Raines	1.790 – 2.810	1.02	80-90	4	12	3	2-Way Left Turn Lane	12	6
Intersection with Raines	2.810 – 2.890	.08	80	5	11.4	1.5 (1 and 2)	2-Way Left Turn Lane	11	N/A
North of Intersection at Raines to Lauden	2.890 – 3.020	.26	86	5	11.4	1 (0 and 2)	2-Way Left Turn Lane	11	6 (part west side only)
Lauden to Craft	3.150 – 3.410	.26	86	4	12	2.5 (2 and 3)	2-Way Left Turn Lane	11	6
Segment 2—Craft to Winchester									
Craft to South Graceland Property Line	3.410 – 3.470	.06	99-111	5	11.3	1.5 (1 and 2)	2-Way Left Turn Lane	11	6
South Graceland Property Line to North Property Line	3.470 – 3.560	.09	121	5	11.3	3 (0 and 6)	Raised Grass Median	11	6
North Graceland Property Line to Winchester	3.560 – 4.100	.54	100-107	6	11.3	3 (0 to 6)	2-Way Left Turn Lane & Raised Grass Median	11	6 (part east side only)
Segment 3—Winchester to North of East Brooks Road/I-55									
Winchester to North of East Brooks Road/I-55	4.100 – 4.620	.52	100	6	12	0	2-Way Left Turn Lane	12	6

Source: TDOT TRIMS Database, December 9, 2008 field review by project planners, and review of GIS, 1948 TDOT roadway plans and City plans of subsequent upgrades.

northbound; with a third northbound lane developed at the exit from Graceland). Two creek branches are culverted in this section, just south of Graceland and just south of Winchester Road.

Segment 3 of the project corridor is between the intersection at Winchester Road and the ramp to I-55 (just north of East Brooks Road). The right-of-way in this section is 100 feet. The section of this corridor extending from Winchester Road to East Brooks Road is six lanes with a center turn lane. For the southbound lanes north of East Brooks Road, there are two through lanes; and one additional lane serves traffic merging from I-55. The lane turns into a right turn lane onto East Brooks Road (westbound). There is also a left turn lane for southbound traffic turning onto East Brooks Road.

3.5 Traffic and Level of Service Analysis

A traffic analysis was undertaken to assist in determining the typical section for the proposed streetscape improvement project and to determine the future level of service on the improved roadway.

A Level of Service (LOS) analysis was used to gauge the projected operational performance of the improved roadway. The LOS is a qualitative measure that describes traffic conditions related to speed and travel time, freedom to maneuver and traffic interruptions. There are six levels, ranging from “A” to “F” with “F” being the worst. Each level represents a range of operating conditions. Figure 3 illustrates the traffic flow conditions and approximate driver comfort level at each LOS.

The complete traffic analysis conducted for this project is in Appendix B. The traffic used for the analysis was provided from the MPO model in March of 2009. Historically, there has been minimal, if any, growth along the corridor. The model projections assume that growth, such as that proposed by the Graceland redevelopment, will occur along the corridor. The MPO data is tied to the project study sections (shown in Figure 4) as follows:

- 1a: Shelby Drive to Raines Road,
- 1b: Raines Road to Craft Road
- 2: Craft Road to Winchester Road; and
- 3: Winchester Road to Brooks Road.

Future traffic for each segment of the project was developed by determining the growth rate using the MPO model projections and interpolating a traffic volume for the Opening Year (2012) and Horizon Year (2032). Table 3 summarizes the projected Annual Average Daily Traffic (AADT) for the Elvis Presley Blvd. project corridor.

Figure 3. Definition of Level of Service

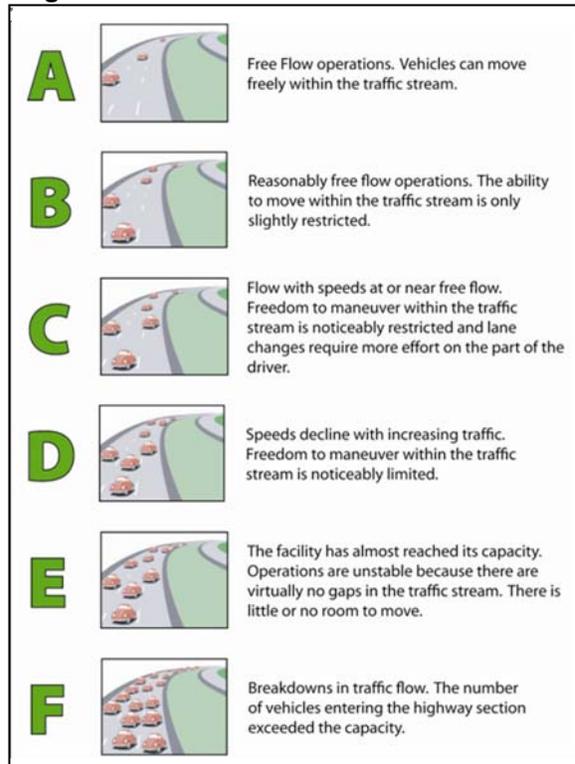


Figure 4. Traffic Study Segments



Table 3 – Projected AADT

Segment	2012	2032
1a	24,600	38,600
1b	27,900	43,800
2	36,000	51,800
3	41,000	53,400

Due to the varying typical section throughout the corridor, each segment was evaluated as a two-lane and a three-lane segment. The LOS analysis indicates that Segment 1 will function adequately under the two-lane or three-lane scenario in 2032 as shown in Table 4. Segments 2 and 3 will approach capacity if only two lanes are available to handle the projected 2032 traffic, exhibiting an LOS E. Segments 2 and 3 will handle the traffic at a level of service D or better with three lanes in each direction.

Table 4 – Level of Service Analysis

Segment	Year	2-Lane	3-Lane
1a	2012	C	B
1a	2032	D	C
1b	2012	C	B
1b	2032	D	C
2	2012	D	C
2	2032	E	D
3	2012	D	C
3	2032	E	D

4.0 STAKEHOLDER MEETING

The City of Memphis held a stakeholder meeting for the project on December 1, 2008.⁴ Attending the meeting were representatives from the City of Memphis; Shelby County; Memphis Light, Gas and Water; MATA; EPE, Inc.; the City Council; the State Legislature; TDOT and the engineering consultant for the City of Memphis. A summary of the meeting, including the sign-in sheet, is included in Appendix C.

The meeting provided a valuable venue for identifying issues, gathering information and recognizing opportunities for collaboration.⁵ The meeting included a welcome by Wain Gaskins of the City of Memphis, an explanation of the TPR process, and a discussion of the history of the project. A discussion of the project purpose and need, project concepts, issues and constraints, and a plan for the path forward followed. Meeting participants were invited to comment on the project purpose and need, to identify issues and constraints, and to offer suggestions for the project.

The discussion about the project purpose and need began with a discussion of other planning efforts in the project area, such as the *Whitehaven-Levi Planning District Study*, the two approved grants for streetscape enhancements at the intersection of Elvis Presley Blvd. and East Brooks Road, and the larger Aerotropolis planning effort.

Many of the goals discussed for the project corridor were shared by the other planning efforts, such as improving the entire Whitehaven neighborhood (Elvis Presley Blvd. was identified as the “spine” of the neighborhood). Other goals included strengthening area neighborhoods, creating an attractive gateway area for tourists, spurring commercial reinvestment, improving the aesthetics and pedestrian safety of the area, reducing visual clutter from overhead utilities and improving wayfinding at the I-55 interchange.

The next portion of the discussion focused on the stakeholder’s thoughts on project concepts, issues and constraints. An important concept identified was to make the corridor a “Great Place” and to create a sense of place within the community. Desired amenities were discussed, such as adding benches, trash receptacles and lighting (including an Elvis theme) that are functional and attractive. A goal was to make the area both inviting and safe for all.

A good portion of the discussion involved traffic issues, such as addressing conflicts between different modes of traffic: trucks, pedestrians, emergency vehicles, and bicyclists. The group identified a need to improve street conditions, including providing crosswalks that are compliant with the Americans with Disabilities Act (ADA). Recommendations were made about the need to accommodate pedestrian traffic (e.g., pedestrian traffic from local schools, tourists) and addressing utilities. A question was asked as to whether utilities could be placed underground in this area or moved to the rear of properties or adjacent streets to improve the visual appeal of this area, which is heavily visited by tourists. This issue was discussed in detail, including the high cost of relocating utilities to underground. The importance of providing easy access to businesses and parking along the corridor was also discussed.

⁴ A field review was not held as it was the opinion of the City that everyone was very familiar with the project and time would be better served by holding a meeting.

⁵ Some issues discussed by the stakeholders at the meeting were outside the scope of the project and this TPR.

5.0 PRELIMINARY PURPOSE AND NEED

Through coordination with local officials and stakeholders, the preliminary need for the project has been clearly identified. The project needs are listed below and described in the text that follows:

1. Support Memphis' tourism goals;
2. Support planned economic development and enhance opportunities for redevelopment;
3. Address safety issues and roadway deficiencies along Elvis Presley Blvd.; and
4. Enhance multimodal travel in the Whitehaven area.

5.1 Support Memphis' Tourism Goals

The Memphis Convention and Visitor's Bureau leads the City's tourism efforts—they strive to attract tourists and to give them an enjoyable and memorable experience. Their website reports to tourists that the bureau wants “to make your visit as easy as possible.” They currently operate a visitor center at the “gateway” to the corridor, at Elvis Presley Blvd. and East Brooks Road.

Graceland, the former home of Elvis Presley, located just north of Dolan Drive on Elvis Presley Blvd., was opened to the public as a tourist attraction in 1982. It attracts over 600,000 visitors annually, with visitation at times as high as 4,000 people a day. An *Economic Impact Study* conducted by the Memphis Convention and Visitors Bureau found that tourism in Memphis and Shelby County resulted in \$122.99 million in local and state taxes and an \$11.9 billion payroll.

Graceland is a one of the City of Memphis' and Tennessee's most visited attractions, and Elvis Presley Blvd. is a gateway corridor frequented by hundreds of thousands of tourists each year. The property is in southwest Memphis, far from the beaten path for tourists and over 10 miles south of downtown. For many tourists, their experience visiting Graceland shapes a lasting impression about the City of Memphis itself.

Presently, conditions in the area around Graceland can make the trip to and from Graceland a less than appealing experience. For those exiting from southbound I-55, it is confusing trying to get to Graceland. Signage in the area is inadequate and many tourists who are visiting the area for the first time inadvertently enter the East Brooks Road merge lane off I-55 instead of the through lanes heading to Graceland. Drivers are then forced into a right turn off Elvis Presley Blvd.

If and when tourists get into the correct lane of Elvis Presley Blvd. to get to Graceland, they must drive through an economically depressed area with broken down curbs and sidewalks, wide swaths of pavement, the visual clutter of the many utility poles and wires and no visual appeal. Today, the number of vacancies in the surrounding shopping areas, the number of discount retailers, and the general deterioration of the appearance of some properties in the area have contributed to a perception of the corridor being in decline. While the median household income of residents living along the project corridor is comparable to their counterparts living in the larger City of Memphis, portions of the corridor are home to residents living in poverty, including one census tract immediately adjacent the corridor where nearly 40 percent of the population lives below the poverty level.

Once at Graceland, those who want to tour Graceland currently park across the street at the visitor center and ride a bus across Elvis Presley Blvd. to the mansion entrance. Some people, both those that are taking the tour or those that are not visiting the house, want to photograph the mansion from the street, or photograph themselves in front of the historic gates at the property's driveway. They either park in the small pull-off adjacent to the gates or in the visitor center lot across the street. Crossing the street at the light near the entrance involves walking across a wide expanse of pavement. Over three years, four people have been hit by cars in the vicinity of Graceland.

Two projects currently in the planning phases involve improvements to the Graceland visitation experience and redevelopment around the Graceland property to support and increase tourism. These two projects are described in Section 5.2 below.

5.2 Support Planned Economic Development and Enhance Opportunities for Redevelopment

EPE, Inc. recently announced plans to turn Graceland into an international tourist destination, making enhancements to the complex that they hope will double its annual visitation. The company is currently developing a master plan for its 120-acre campus, to include a new visitor's center, one or more hotels, entertainment and retail space, and other tourism related facilities. The new development is anticipated to require a capital investment in excess of \$250 million and to create hundreds of full and part-time jobs.

Improvements to Elvis Presley Blvd. are needed to create a gateway into the redeveloped area and to create a vehicle- and pedestrian-friendly and welcoming environment for visitors to Graceland and the new tourism-related development. Two grants were also recently approved to install streetscape enhancements such as trees, signage, urban art and fencing, at the intersection of Elvis Presley Blvd. and East Brooks Road.

The Graceland expansion is aligned with several of the City of Memphis' efforts to promote and support economic development in the area. As previously discussed, several existing plans are in place to help revitalize the Whitehaven Community and spur reinvestment in the area. For example, area plans call for the redevelopment of the area surrounding the Memphis International Airport into an Aerotropolis, an airport "city" surrounded by aviation-related commercial and industrial enterprises. One component of Aerotropolis Planning is an effort underway by the Airport Area Development Corporation, a group of business owners on East Brooks Road, which focuses on improving the East Brooks Road Bioscience Corridor.

The Whitehaven Community is a residential community with many homes dating from the 1940s and 1950s. The "spine" of the community, Elvis Presley Blvd., has been in decline as a commercial corridor for years, with vacancies and neglect leading to a deteriorated appearance which in turn has acted as a catalyst for crime. A goal of planning efforts in the area has been to strengthen and revitalize the neighborhood's commercial spine (i.e., Elvis Presley Blvd.).

The new development at Graceland and the other planned improvements in the area are expected to act as a catalyst for reinvestment in the area. It is hoped that the planned development will help to rejuvenate area retail, bring back non-Graceland related traffic and help to both strengthen the local shopping area and create a regional shopping area serving Memphis and northern Mississippi.

5.3 Address Safety Issues and Roadway Deficiencies Along Elvis Presley Blvd.

There are several different safety issues associated with the Elvis Presley Blvd. corridor. According to City of Memphis officials, the corridor is deteriorating due to age. In particular, the condition of the road near the I-55 interchange north of East Brooks Road has deteriorated substantially because of heavy truck traffic in the area. The area around the I-55 interchange presents “wayfinding” problems to tourists exiting from southbound I-55 to visit Graceland. Signage in the area is inadequate and many tourists who are visiting the area for the first time inadvertently enter the East Brooks Road merge lane instead of through lanes heading to Graceland. Compounding the problem, the existing roadway (designed in 1948) was not constructed to City standards because the Whitehaven Community was outside the City until the City annexed it in the 1950s.

The crash rate for Elvis Presley Blvd. is 2.98, compared to 2.65, the statewide average crash rate for a roadway of the same functional classification. While the crash rate is higher than the statewide average, it is not high enough to indicate a safety deficiency as defined by TDOT. Despite this, local officials interviewed during the data collection phase have indicated that they believe safety on the corridor is an issue. This is partially due to the mixing of local and tourist traffic accessing area businesses and the Graceland complex, with regional through traffic, including truck traffic serving airport businesses. An examination of detailed crash data lends some credibility to perceptions of a need for safety improvements. From 2004 to 2006, 1,050 crashes occurred along the total length of the project corridor, 17 of which were considered severe. Twenty eight of the crashes were head-on, 372 were rear end crashes and 420 were angle crashes. The high number of rear end and angle crashes can be attributed in part to the large numbers of curb cuts in the study area, which result in vehicles slowing to turn in and out of parking lots and driveways along the route.

Due to the presence of Graceland as a major tourist attraction, the corridor is a heavily-trafficked pedestrian area. Currently, pedestrians must travel across Elvis Presley Blvd. between Graceland on the east side of the street and tourist sites on the west side of the street. Elvis Presley Blvd. is currently a barrier between the attractions and results in an unwelcoming and uncomfortable environment for pedestrians. Of the crashes discussed above, 15 involved pedestrians, including four crashes in the project segment closest to Graceland. In addition, many sidewalks along the corridor are substandard, as they are either too narrow or deteriorated or both.



Pedestrians cross the project corridor at the entrance to Graceland.

The final component of safety along Elvis Presley Blvd. involves crime. Between January and November 2008, a number of crimes occurred along the corridor, including 16 aggravated assaults, 20 burglary incidents, eight motor vehicle thefts (along with three carjackings), 121 other thefts, and 101 shoplifting/shopping misdemeanors. Panhandling in the medians along the corridor has also been identified as a problem.

In 2001, the South Police Precinct, which serves Elvis Presley Blvd., experienced 13.7 percent of the total crime reported in the City of Memphis. Local organizations, such as the Memphis

Police Department South Precinct's "It Takes a Village" community program, and business groups such as the Airport Area Development Corporation, have been actively working to improve safety and encourage economic development in their community. Improving the physical environment of the area will encourage redevelopment and revitalization of the area.

As discussed by Jane Jacobs in her classic, *The Death and Life of Great American Cities*, crime in an area is reduced by having "eyes on the street." As the area is revitalized and made more accessible to pedestrians, it becomes a safer place for all. A safer Elvis Presley Blvd. would be more attractive to both tourists and local residents.

5.4 Enhance Multimodal Travel in the Whitehaven Area

One of the goals of the Memphis MPO is to enhance bicycle and pedestrian travel in the region. The *Memphis MPO Regional Bicycle and Pedestrian Plan* includes plans for the Nonconnah Creek Greenway, which will provide an east-west connection along the creek. This proposed project lies just to the north of the Elvis Presley Blvd. corridor and in the future will provide a multi-use path for bikes and pedestrians.

In the center of the project corridor, a portion of Raines Road from east of I-55 to the project corridor has been funded to become a signed, shared road. Elvis Presley Blvd. south of Raines Road to the southern project terminus at Shelby Drive and south to the Mississippi state line is also planned as a signed, shared road that features a wide outer lane that will accommodate both vehicular traffic and bicycles. Improvements at East Brooks Road, at the northern terminus of the project corridor, are proposed to include designated bike lanes from Airways Blvd. to areas west of the project corridor (see Map A-2). Improvements in the project corridor, such as planned bike lanes for the length of the corridor, will allow for connections to existing and planned facilities in the Graceland area, and will help ensure a safe environment for bicyclists visiting the attractions in the project area.

The improvements along the corridor will also provide improved connections to public transportation routes. The existing bus route, 43 Elvis Presley-Boeingshire-Holmes-Southland Mall-Airways/Holmes route, serves the corridor, and is the second most utilized route in the MATA system (see Map A-3 in Appendix A). MATA has plans to build a new South Intermodal Terminal to the northeast of the project site on the corner of East Brooks Road and Airways Blvd. The \$15 million dollar facility will be shared by Greyhound and MATA buses. Following completion of the project, MATA is considering making changes to bus routes and schedules to better serve businesses and attractions around the airport. This could include increasing the frequency of trips on circulator routes accessing Graceland, which will help to better serve tourist traffic. The new improvements to pedestrian and bicycle facilities in the area will improve access to bus stops for both tourists and Whitehaven residents using the services.

6.0 OPTIONS

The proposed project is intended primarily to improve the aesthetic and travel environment for travelers that use Elvis Presley Blvd. Studies have been done as part of project planning to ensure that the improvements meet the identified project needs and at the same time, will accommodate existing and projected traffic with an acceptable level of service.

The improvements are slated to occur along the existing alignment of Elvis Presley Blvd. Thus, the study corridor is centered on the existing roadway. The total project length of 2.91 miles has been divided into three study segments. These segments have differing land use and existing roadway sections. The individual segments may also be phased for construction, as funds become available. The three segments, shown in Figure 5, are: 1) Shelby Drive to Craft Road (approximately 1.60 miles in length); 2) Craft Road to Winchester Road (approximately 0.69 mile in length) and 3) Winchester Road to I-55 (approximately 0.62 mile in length). Views of the streetscapes in each section are shown in Figures 6, 7 and 8.

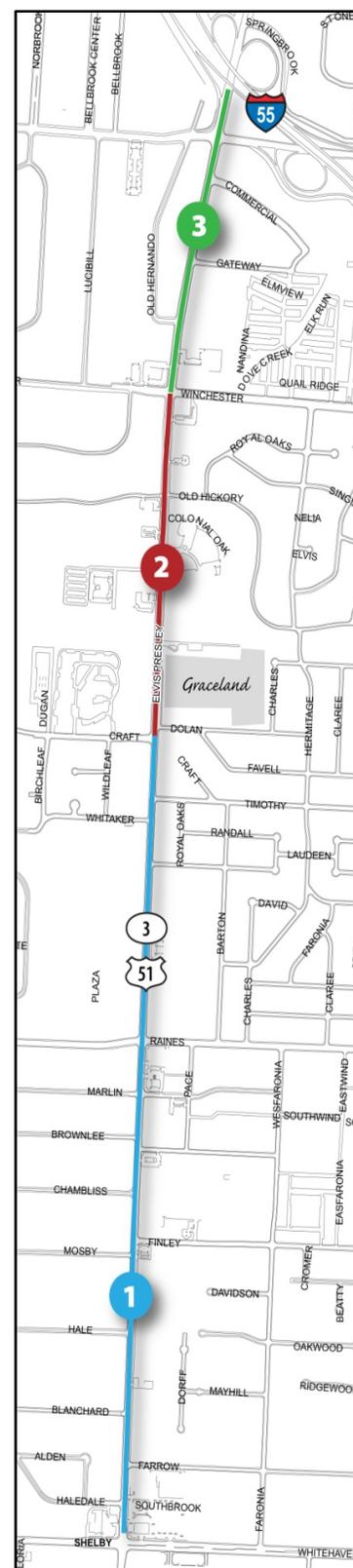
The City of Memphis ranks the improvements as a priority project, with Segment 2 (the location of Graceland and the anticipated Graceland redevelopment project) being ranked as the highest priority. A variety of funding sources are being investigated.

Early meetings with the City and stakeholders revealed that right-of-way acquisition should be avoided or kept to a minimum. A traffic analysis completed for this project indicated the number of lanes needed in each project segment and confirmed that the proposed laneage would provide an acceptable level of service in the future.⁶ GS&P then conducted in-depth research to identify the existing right-of-way along the three study segments of Elvis Presley Blvd.

The next step involved fitting the desired laneage and streetscape improvements into the existing right-of-way. Designers developed an alternate that would accomplish this for each project segment. Narrow existing right-of-way in some project segments resulted in the development of a second alternate in each study segment. This second alternate involves expanded right-of-way and includes a higher level of streetscaping.

The two alternates developed for each study segment are described below and are depicted in graphics that accompany the discussion. Alternate 1 for all segments is primarily within the existing right-of-way, while Alternate 2 for all segments involves the need for additional right-of-way. It is important to note that these sections are “typical,” and variances from the typical are likely to occur as the project moves forward in the planning and design stages.

Figure 5. Project Segments



⁶ Alternates with the best LOS have seven recommended lanes. The single option with five lanes, however, does provide an acceptable LOS, just not as good as the seven-lane alternates.



Figure 7. Streetscape Views in Segment 2



Figure 8. Streetscape Views in Segment 3



6.1 Features of Concept Alternates

All of the options for the three project segments involve streetscape improvements. Within each segment are two conceptual options (alternates). The text below first describes features that are common to all segments and alternates. Next, the text describes and depicts two conceptual alternates for each of the three project segments. The concepts for the two alternates are depicted in Appendix D.

All Options

All options and segments provide for upgraded or new sidewalks and areas for landscaping (in the median and/or in strips between the curb and sidewalk). All of the concepts also provide upgraded lighting standards. The City has an aesthetically appealing standard that is used at various locations throughout Memphis, and which may be appropriate for the Elvis Presley Blvd. streetscape improvements (Figure 9).

Other features will be considered and addressed in the future project design phase, such as:

- Bus shelters;
- Wayfinding at I-55; and
- Amenities such as benches and trash receptacles.

Discussions have been on-going regarding a desire for moving utilities along Elvis Presley Blvd. either underground or back behind the street frontage. Planners have acknowledged the expense of this, but also they acknowledge that this may be an important element of a streetscape improvement project and a task that should be accomplished as part of the project and consecutive with its construction.

The grant-funded gateway at East Brooks Road and Elvis Presley Blvd. will need to be either closely coordinated with this Elvis Presley Blvd. project or will need to be incorporated into this project in the design phase.

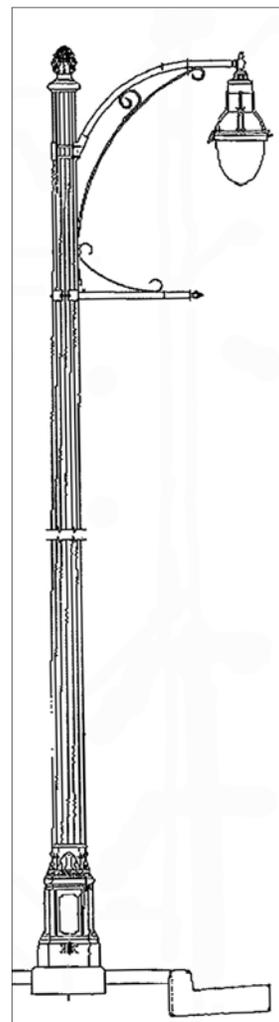
Landscaping Concept

Segment 1 features a 3-foot buffer strip under Alternate 1 and a wider buffer strip (4.5-foot) under Alternate 2.

Segment 2 features a 4.5-foot buffer strip and an 8-foot median under Alternate 1. Alternate 2 also features the 4-5 foot buffer strip, but has a wider median (12-foot).

Segment 3 has a 4-foot buffer strip under Alternate 1 and a 4.5-foot buffer under Alternate 2.

Figure 9.
Memphis Light Standard



Figures 10 and 11 depict landscaping concepts for the narrow and wide buffer strips and the narrow and wide medians proposed under the various options. A palette of plants accompanies these concepts.

Figure 10. Landscaping Concept for Narrow and Wide Buffer Strips

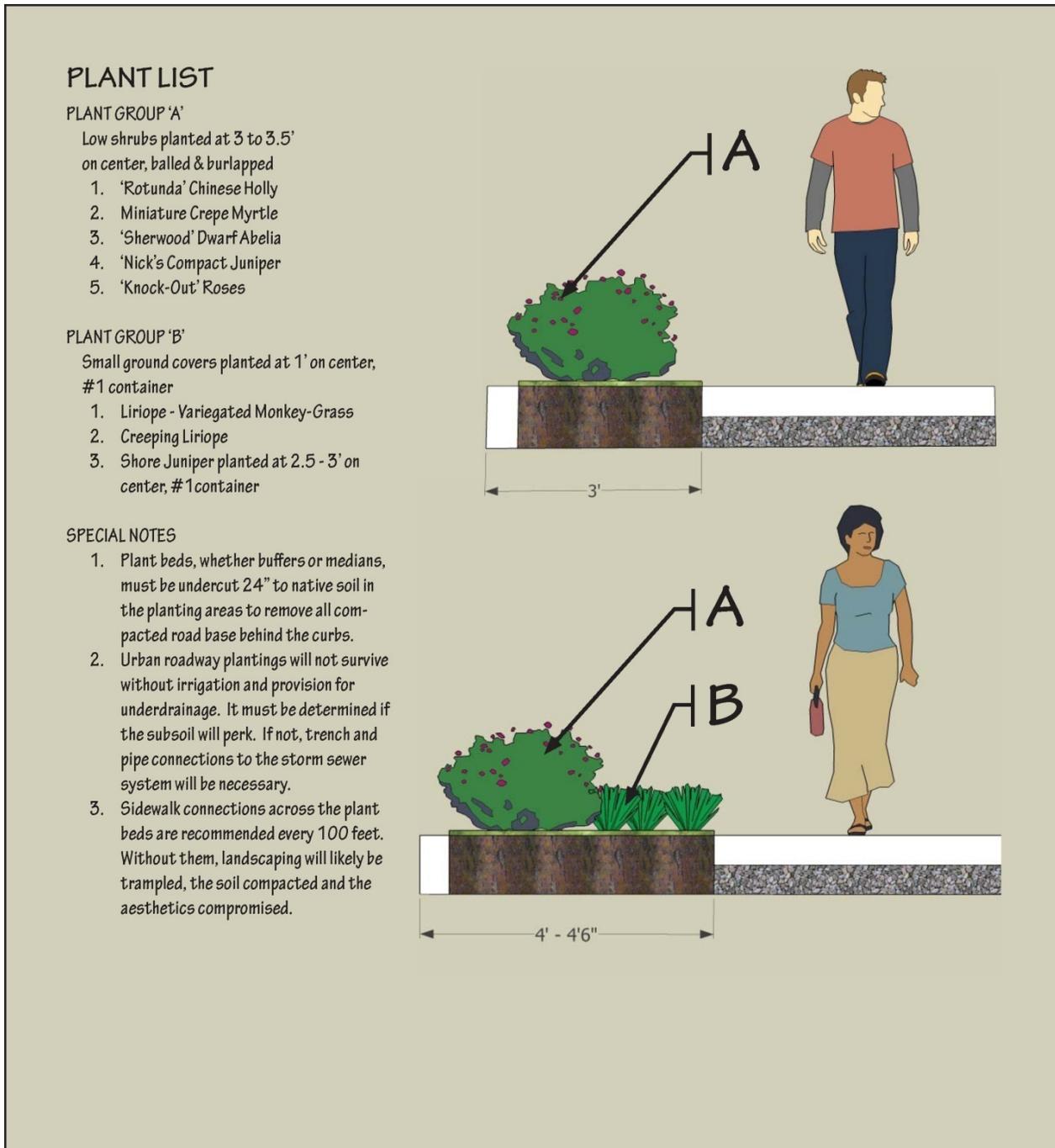
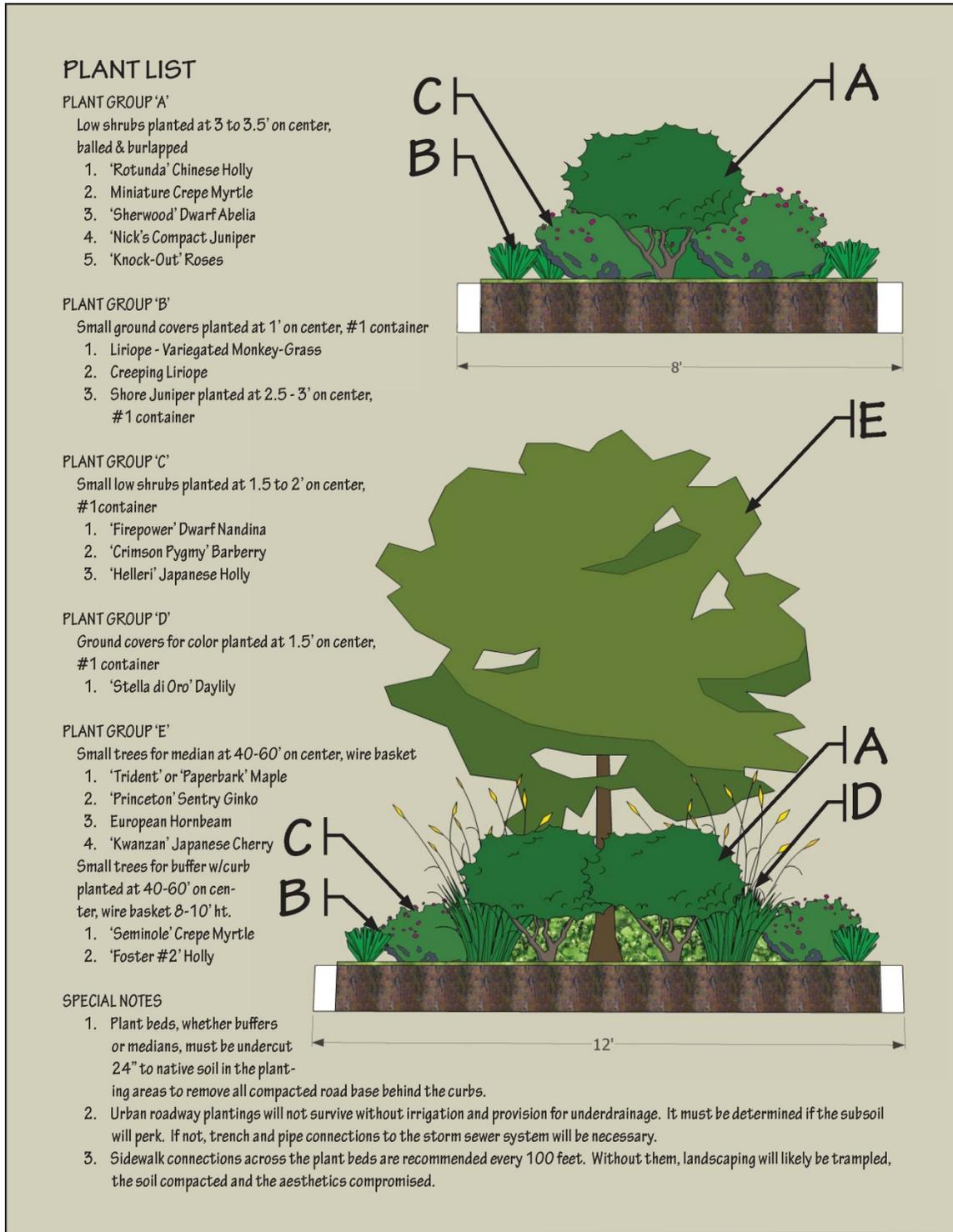


Figure 11. Landscaping Concept for Narrow and Wide Raised Medians



Segment 1—Shelby Drive to Craft Road

The two conceptual typical sections alternates for Segment 1 are described below.

Segment 1, Alternate 1—Minimal to No Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 12, involves the following features built primarily within the existing ROW:

- Four travel lanes; 2 inside lanes at 10 feet⁷ and 2 outside lanes at 14 feet (to accommodate a shared vehicle/bicycle lane);
- 12-foot center turn lane with special pavement treatment. Pavement treatment could be tinted concrete or a colored pavement overlay or stamping, but will not include brick or concrete pavers;
- 2-foot curb and gutter on each side;
- 5-foot sidewalks on both sides; and
- A 3-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting.

Segment 1, Alternate 2—Additional Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 13, involves the following features built within a minimum 107-foot ROW:

- Six travel lanes—two inside lanes at 11 feet and 2 outside lanes at 14 feet (to accommodate a shared vehicle/bicycle lane);
- 12-foot center turn lane with pavement treatment, which could be tinted concrete or a colored pavement overlay or stamping, but will not include brick or concrete pavers;
- 2-foot curb and gutter on each side;
- 5-foot sidewalks on both sides; and
- A 4.5-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting.

Differences between Alternates 1 and 2, Segment 1

The table below describes elements of the two alternates that differ.

Table 5. Differences in Typical Sections Between Alternates 1 and 2, Segment 1

FEATURE	ALTERNATE	
	1	2
Travel Lanes	4	6
Width of Travel Lanes	2 @ 10 feet 2 @ 14 feet	4 @ 11 feet 2 @ 14 feet
Buffer for landscaping and lighting	3 feet	4.5 feet

⁷ The design exception process will be followed as plans are developed.

Figure 12. Segment 1, Alternate 1—Minimal to No Right-of-Way Needed

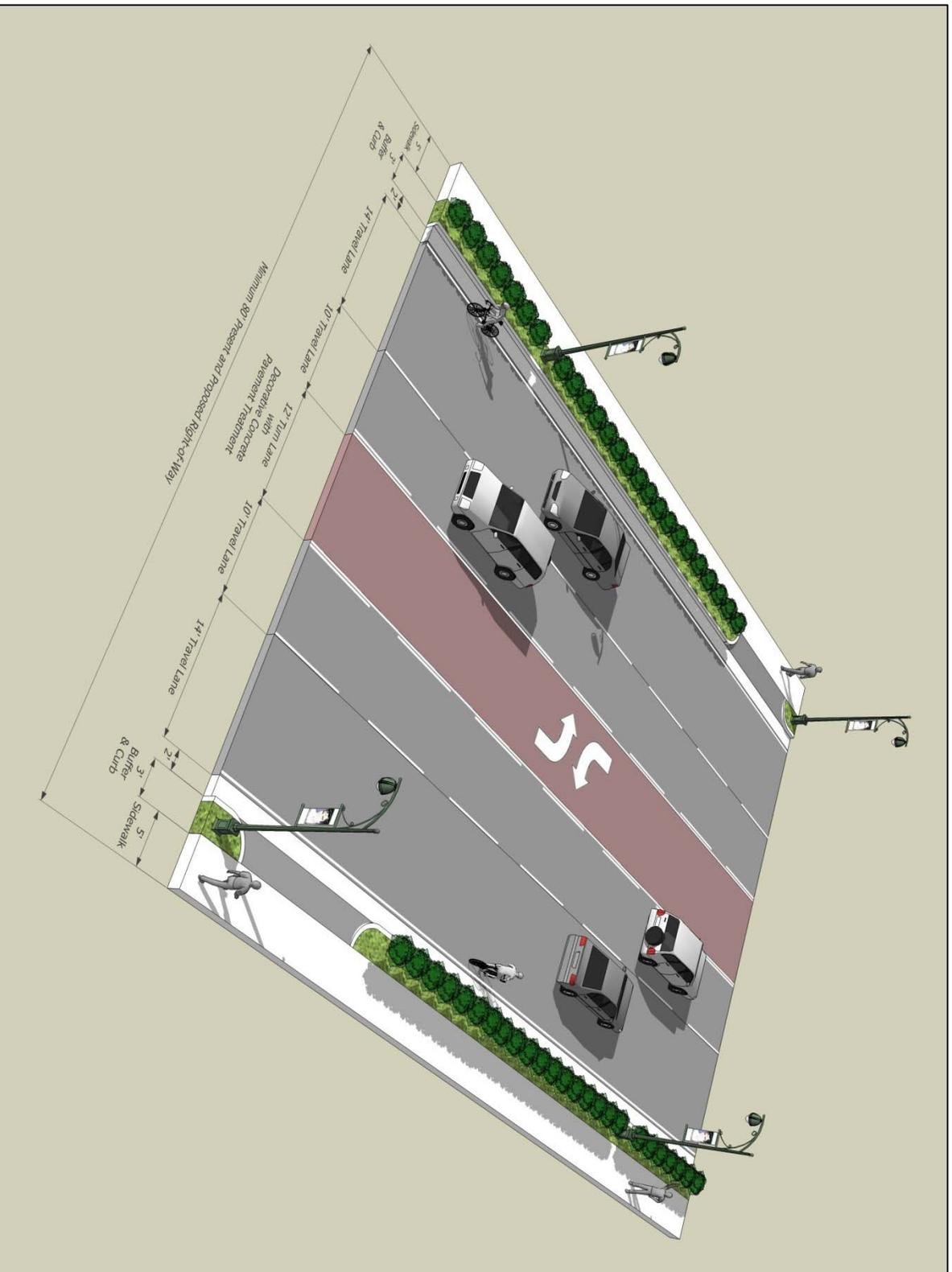
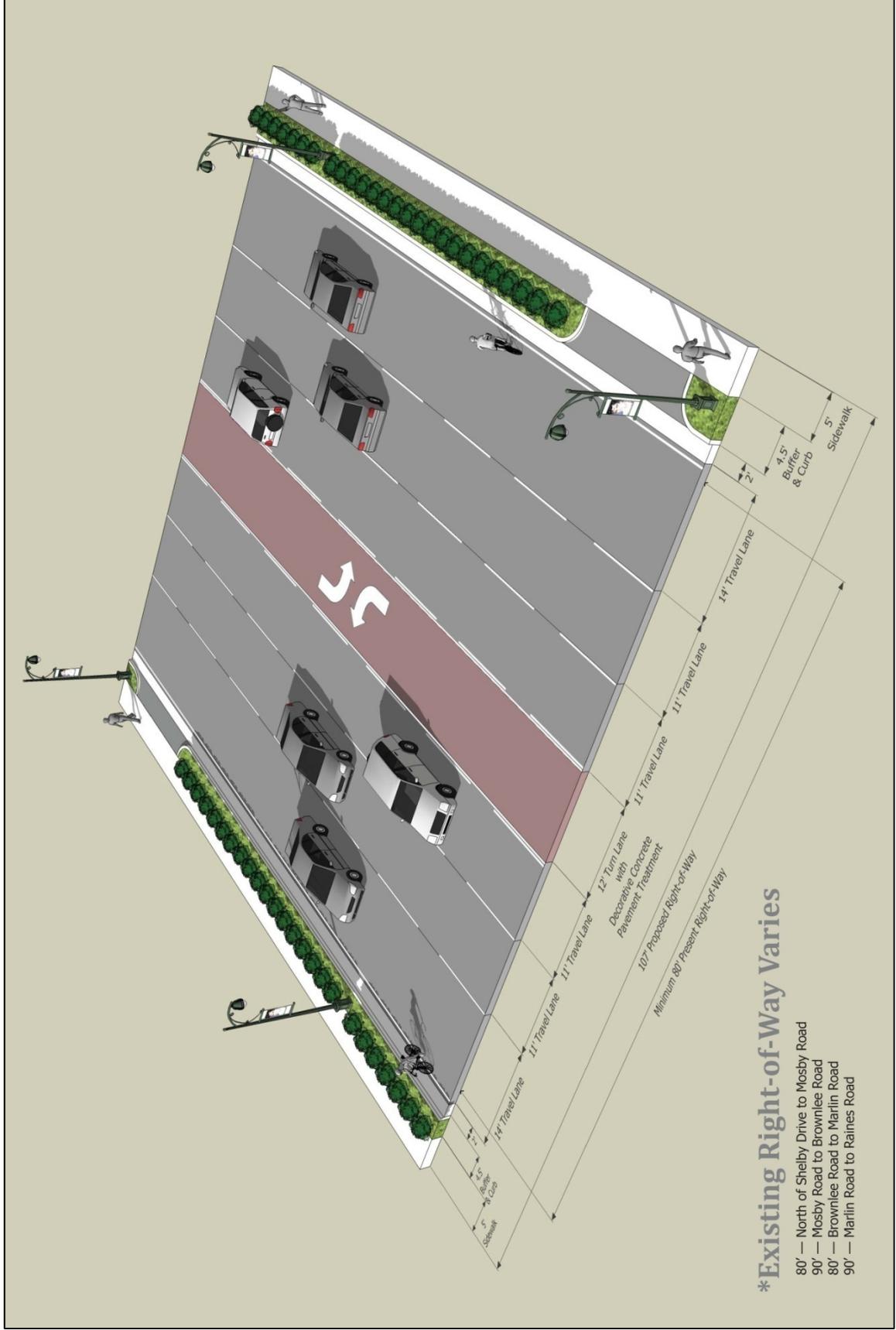


Figure 13. Segment 1, Alternate 2—Additional Right-of-Way Needed



Segment 2—Craft Road to Winchester Road

This segment is the priority segment for development by the City. It contains Graceland, the focus of tourist activity and the area wherein EPE has significant plans for redevelopment.

The two conceptual typical sections alternates are described and depicted below.

Segment 2, Alternate 1—Minimal to No Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 14, involves the following features built primarily within the existing 107-foot ROW:

- Six travel lanes at 11 feet;
- 12-foot center turn lane with raised median;
- 2-foot curb and gutter on each side;
- 8-foot sidewalks on both sides;
- A 4.5-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting and
- At the Graceland Observation pull-out where the right-of-way widens, there is a 5-foot landscaping zone adjacent to the roadway curb, 20 feet of pavement and then a 7.5-foot sidewalk with special pavement treatment (see Figure 15).

Segment 2, Alternate 2—Additional Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 16, involves the following features built within 121 feet of ROW:

- Six travel lanes—four inside lanes at 11 feet and 2 outside lanes at 14 feet (to accommodate a shared vehicle/bicycle lane);
- 12-16 foot median with center turn lanes as needed;
- 2-foot curb and gutter on each side;
- 10-foot sidewalks on both sides;
- A 4.5-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting; and
- At the Graceland Observation Pull-out, there is a 5-foot landscaping zone adjacent to the roadway curb, a 5-foot sidewalk, 20 feet of pavement and then a 7.5-foot sidewalk with special pavement treatment (See Figure 15).

Differences between Alternates 1 and 2, Segment 2

The table below describes elements of the two alternates that differ.

Table 6. Differences in Typical Sections Between Alternates 1 and 2, Segment 2

FEATURE	ALTERNATE	
	1	2
Width of Travel Lanes	6 @ 11 feet	4 @ 11 feet 2 @ 14 feet
Sidewalk	8 feet	10 feet
Graceland Pull-Out	No sidewalk adjacent to landscaping zone (but, outside sidewalk abutting Graceland fence)	Sidewalk adjacent to landscaping zone (outside sidewalk abutting Graceland fence)

Figure 14. Segment 2, Alternate 1—Minimal to No Right-of-Way Needed

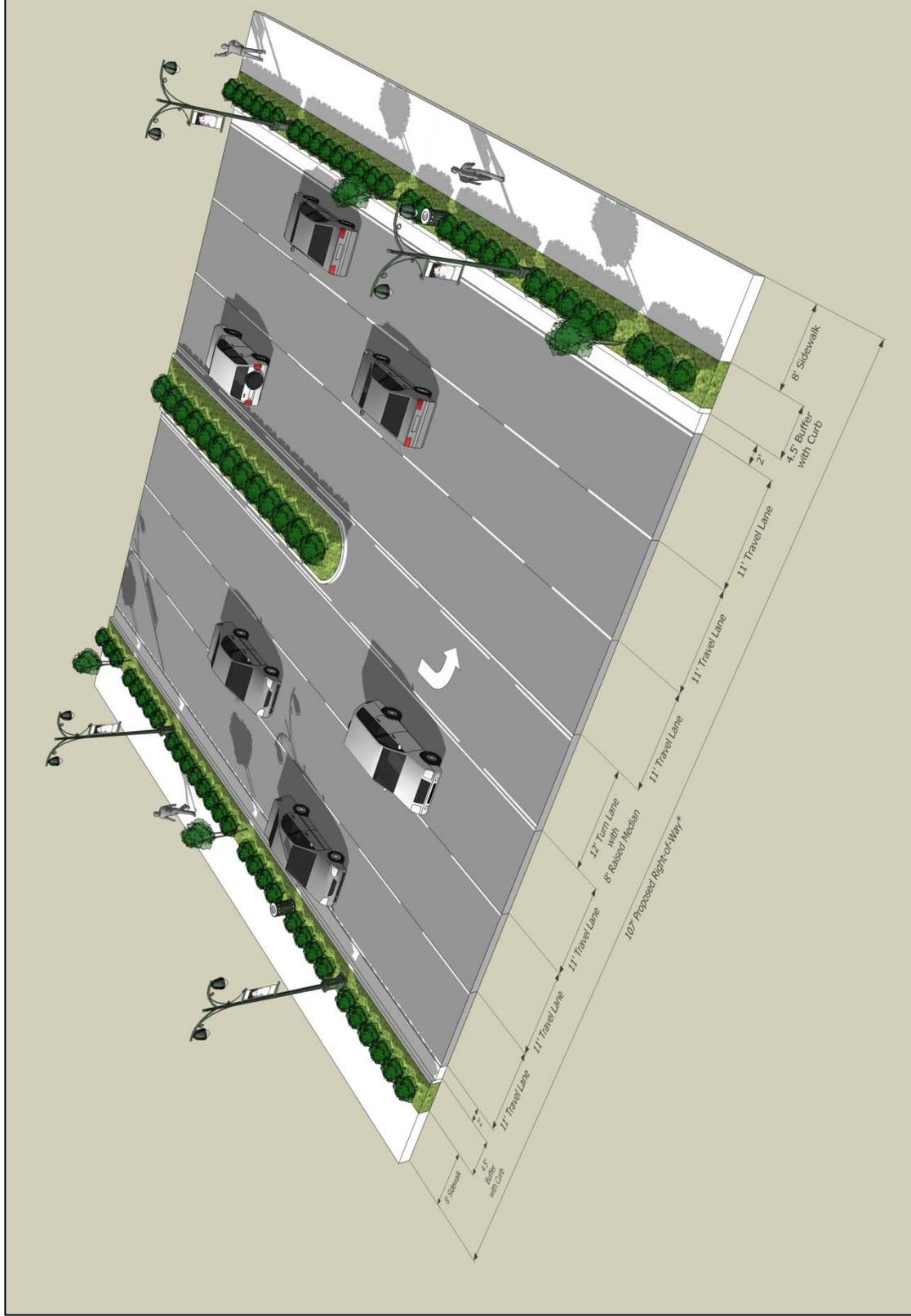
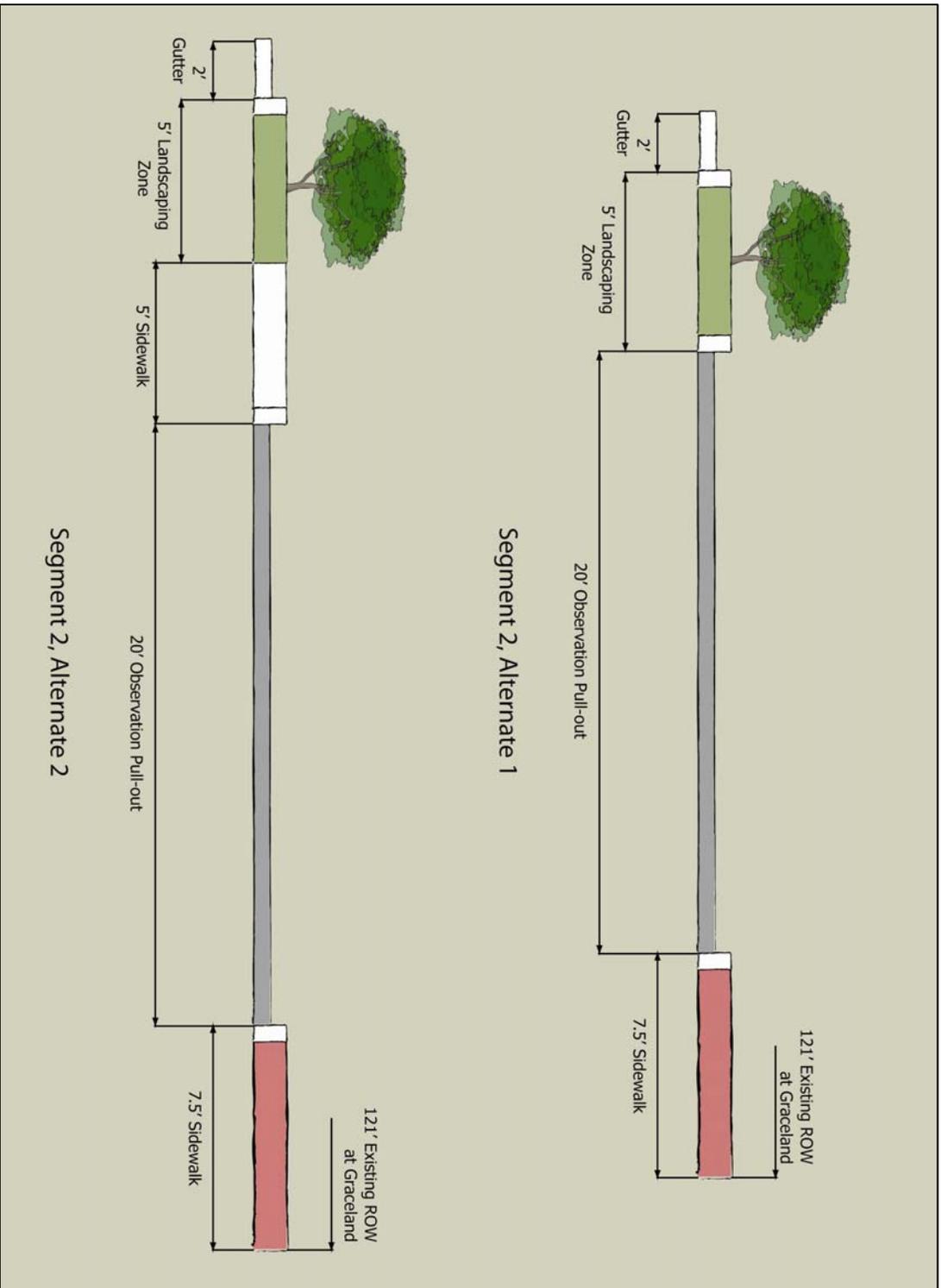


Figure 15. Segment 2, Alternates 1 and 2, Graceland Pull-Off



Segment 3—Winchester Road to I-55

The two conceptual typical sections alternates are described in the section below. Both alternates may include improved pavement directional marking at the ramps from southbound I-55 to Elvis Presley Blvd., as tourists have been confused as to what lane to get in to access Graceland.

Segment 3, Alternate 1—Minimal to No Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 17, involves the following features built primarily within the existing ROW:

- Six travel lanes at 11 feet;
- 12-foot center turn lane with special pavement treatment. Pavement treatment could be tinted concrete or a colored pavement overlay or stamping, but will not include brick or concrete pavers;
- 2-foot curb and gutter on each side;
- 5-foot sidewalks on both sides; and
- A 4-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting.

Segment 3, Alternate 2—Additional Right-of-Way Needed

The proposed typical section for this segment, shown in Figure 18, involves the following features built within a 107-foot ROW:

- Six travel lanes—four inside lanes at 11 feet and 2 outside lanes at 14 feet (to accommodate a shared vehicle/bicycle lane);
- 12-foot center turn lane with special pavement treatment. Pavement treatment could be tinted concrete or a colored pavement overlay or stamping, but will not include brick or concrete pavers;
- 2-foot curb and gutter on each side;
- 5-foot sidewalks on both sides; and
- A 4.5-foot buffer between curb and sidewalk, which can accommodate landscaping and lighting.

Differences between Alternates 1 and 2, Segment 3

The table below describes elements of the two alternates that differ.

Table 7. Differences in Typical Sections Between Alternates 1 and 2, Segment 3

FEATURE	ALTERNATE	
	1	2
Width of Travel Lanes	6 @ 11 feet	4 @ 11 feet 2 @ 14 feet
Buffer for landscaping and lighting	4 feet	4.5 feet

Figure 17. Segment 3, Alternate 1—Minimal to No Right-of-Way Needed

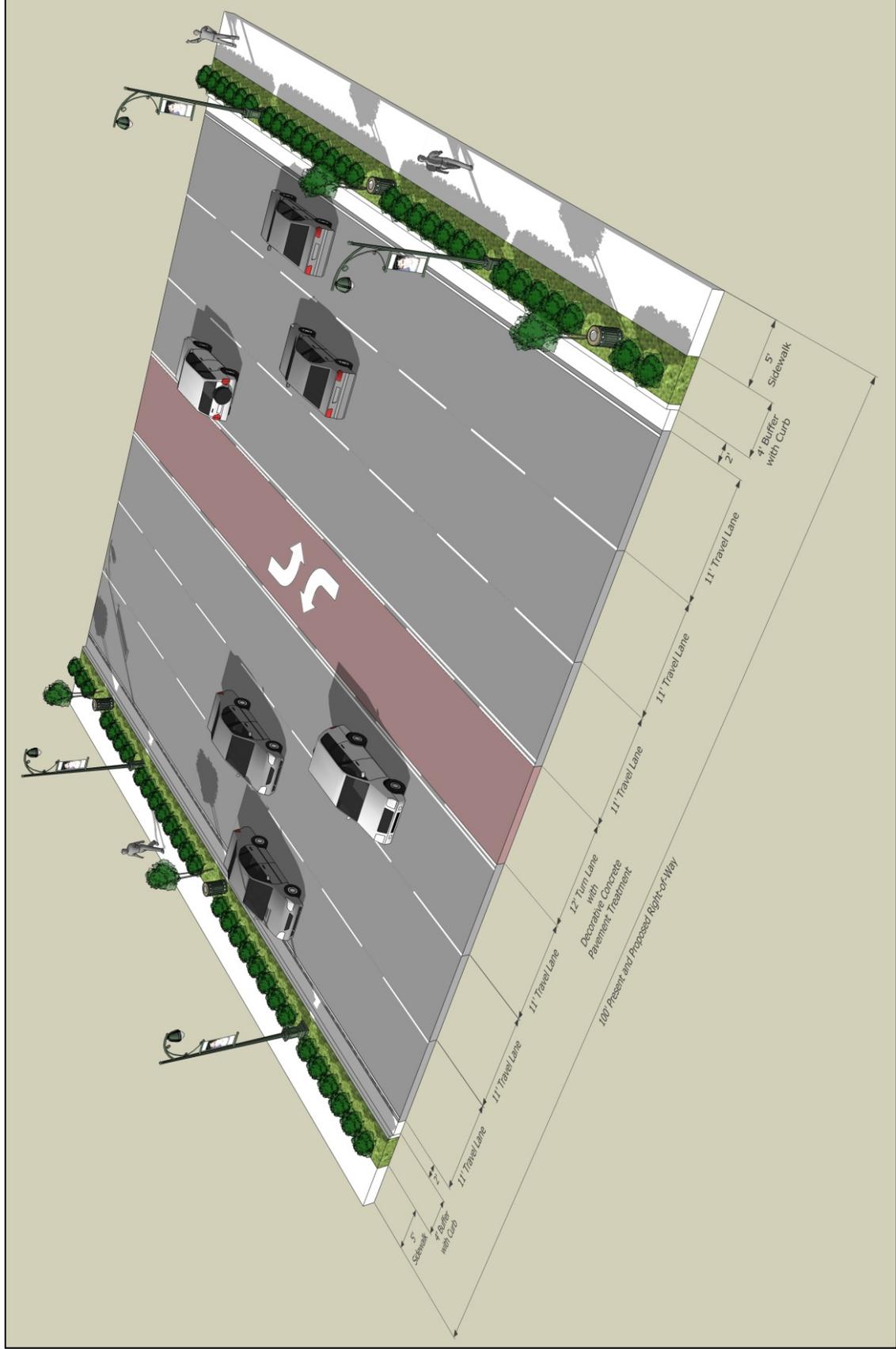
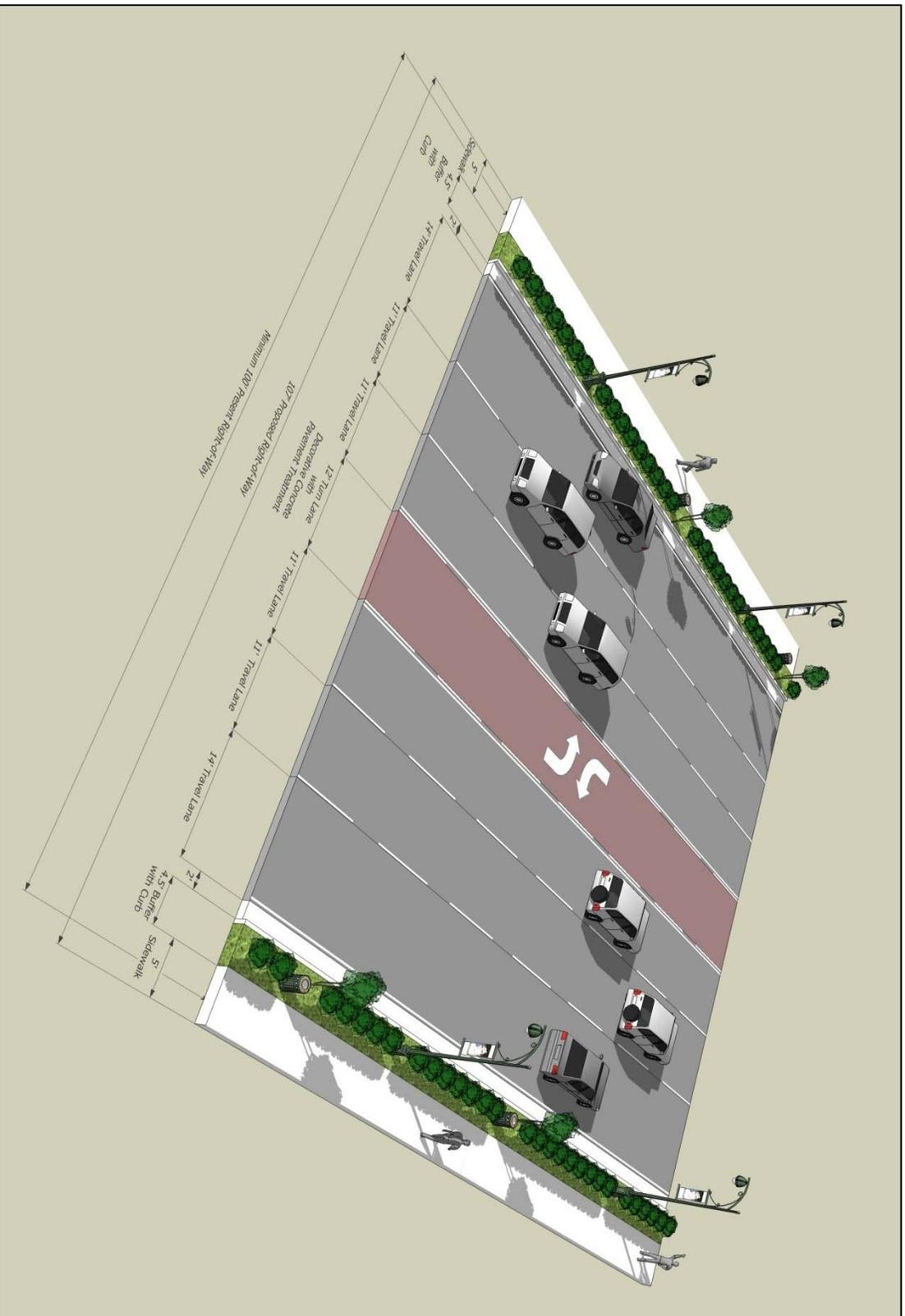


Figure 18. Segment 3, Alternate 2—Additional Right-of-Way Needed



6.2 Costs

Planning level cost estimates (in 2008 dollars) for two alternates in each of the three study segments have been developed and are summarized by segment in Tables 8 – 10. In order to account for variation in bid prices, both high and low totals are listed, resulting in a range of costs for each alternate. Inflation costs were applied to the total estimated construction and preliminary engineering costs at a rate of six percent over five years (as per TDOT TPR cost estimating guidance).

The utility work costs used for the cost estimates were based on the mid-2008 estimates provided by Memphis Light Gas & Water (MLG&W). The MLG&W costs were for conversion from overhead to underground utilities. For this TPR, these costs were increased by 25 percent to account for connections to individual properties due to relocating and moving the utilities underground.

The various elements of this project are eligible or ineligible for various funding sources. The City is currently investigating a variety of funding sources.

Planning level cost estimates indicate that of the proposed options for Segment 1 from Shelby Drive to Raines Road, Alternate 2 would be the more expensive proposed option, with costs per mile ranging from one to 1.2 million more than those estimated for Alternate 1.

The differences in estimated costs for Alternate 1 and Alternate 2 of Segment 2, from Raines Road to Winchester Road, are much smaller. Proposed Alternate 2, Segment 2 is estimated to cost approximately \$500,000 to \$600,000 more than Alternate 1. Segment 2 is the City's priority for development.

The cost differences between Alternate 1 and Alternate 2 for Segment 3 are minimal, with Alternate 2 estimated to cost approximately \$29,000 to \$31,000 more than Alternate 1.

A summary of the cost ranges⁸ for each alternate are as follows:

Segment 1, Alternate 1	\$19,123,000 – \$27,454,000
Segment 1, Alternate 2	\$20,789,000 – \$29,382,000
Segment 2, Alternate 1	\$15,649,000 – \$23,738,000
Segment 2, Alternate 2	\$16,152,000 – \$24,350,000
Segment 3, Alternate 1	\$13,140,000 – \$19,767,000
Segment 3, Alternate 2	\$13,170,000 – \$19,798,000

Detailed cost estimates are included in Appendix E.

⁸ Cost ranges are rounded to the nearest thousand.

**Table 8. Segment 1—Planning Level Cost Estimates*
Shelby Drive to Raines Road**

ITEM	Alternate 1		Alternate 2	
	Low Total	High Total	Low Total	High Total
Right-of-Way	\$44,850	\$59,800	\$646,500	\$862,000
Construction	\$4,594,174	\$5,256,001	\$5,541,076	\$6,357,073
Utilities ⁹	\$6,518,166	\$10,752,750	\$6,518,166	\$10,752,750
Mobilization	\$211,738	\$240,240	\$254,348	\$284,283
Contingency	\$1,666,851	\$2,401,313	\$1,808,886	\$2,566,474
Total Construction	\$12,990,929	\$18,650,303	\$14,122,477	\$19,960,580
Preliminary Engineering	\$1,299,093	\$1,865,030	\$1,412,248	\$1,966,058
BASE YEAR (2008) TOTAL	\$14,290,022	\$20,515,333	\$15,534,725	\$21,956,638
Inflation (6 % per year over 5 years)	\$4,832,885	\$6,938,286	\$5,253,844	\$7,425,735
TOTAL COSTS	\$19,122,907	\$27,453,619	\$20,788,569	\$29,382,373

* Detailed estimates are in Appendix E.

⁹ Utility costs shown include estimates provided by MLG&W in 2008 plus an additional 25 percent to provide connections to individual properties due to conversion of overhead utilities to underground.

**Table 9. Segment 2—Planning Level Cost Estimates*
Raines Road to Winchester Road**

Item	Alternate 1		Alternate 2	
	Low Total	High Total	Low Total	High Total
Right-of-Way	\$61,950	\$82,600	\$223,650	\$298,200
Construction	\$2,651,086	\$3,174,023	\$2,936,640	\$3,521,931
Utilities ¹⁰	\$6,485,416	\$10,720,000	\$6,485,416	\$10,720,000
Mobilization	\$124,299	\$147,831	\$137,149	\$163,487
Contingency	\$1,370,475	\$2,084,104	\$1,413,308	\$2,136,290
Total Construction	\$10,631,276	\$16,125,958	\$10,972,514	\$16,541,708
Preliminary Engineering	\$1,063,128	\$1,612,596	\$1,097,251	\$1,654,171
BASE YEAR (2008) TOTAL	\$11,694,404	\$17,738,554	\$12,069,765	\$18,195,878
Inflation (6 % per year over 5 years)	\$3,955,047	\$5,999,179	\$4,081,995	\$6,153,846
TOTAL COSTS	\$15,649,451	\$23,737,733	\$16,151,760	\$24,349,725

* Detailed estimates are in Appendix E.

¹⁰ Utility costs shown include estimates provided by MLG&W in 2008 plus an additional 25 percent to provide connections to individual properties due to conversion of overhead utilities to underground.

**Table 10. Segment 3—Planning Level Cost Estimates*
Winchester Road to North of East Brooks/I-55 Ramp**

Item	Alternate 1		Alternate 2	
	Low Total	High Total	Low Total	High Total
Right-of-Way	\$33,300	\$44,400	\$92,550	\$123,400
Construction	\$2,306,449	\$2,562,532	\$2,325,792	\$2,582,729
Utilities ¹¹	\$6,511,041	\$10,745,625	\$6,511,041	\$10,745,625
Mobilization	\$108,790	\$120,314	\$109,661	\$121,223
Contingency	\$1,322,624	\$1,996,223	\$1,325,525	\$1,999,253
Total Construction	\$8,926,280	\$13,428,471	\$8,946,494	\$13,449,576
Preliminary Engineering	\$892,628	\$1,342,847	\$894,649	\$1,344,958
BASE YEAR (2008) TOTAL	\$9,818,909	\$14,771,318	\$9,841,143	\$14,794,534
Inflation (6 % per year over 5 years)	\$3,320,755	\$4,995,660	\$3,328,275	\$5,003,511
TOTAL COSTS	\$13,139,663	\$19,766,977	\$13,169,418	\$19,798,045

* Detailed estimates are in Appendix E.

¹¹ Utility costs shown include estimates provided by ML&W in 2008 plus an additional 25 percent to provide connections to individual properties due to conversion of overhead utilities to underground.

7.0 POTENTIAL ENVIRONMENTAL IMPACTS

7.1 Wetlands and Floodplains

The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map was reviewed to identify known wetlands in the project area. Wetlands data shown on the NWI map indicated no wetlands along the project corridor. The nearest wetland identified in the project area, a 2.98-acre freshwater forested/shrub wetland, is more than 1,200 feet east of the project corridor. A digitized version of the NWI data created by the Tennessee Wildlife Resources Agency (TWRA) and made available on the Tennessee Spatial Data Server was also used to confirm the presence of wetlands in the project area. The identified wetlands adjacent to and outside the project area are shown on Map A-5, Appendix A.

The project corridor crosses two streams, the first at a bridge at the intersection of East Brooks Road and Elvis Presley Blvd., the second at a box culvert just south of the corridor's intersection with Winchester Road (the culvert was not visible during the field review).

According to Federal Emergency Management Association (FEMA) Flood Insurance Rate Maps (FIRM), an area with flooding effects associated with Nonconnah Creek is located to the north of (outside) the project corridor. FEMA maps depicting floodplains within the project area were digitized and are included in Appendix A, Map A-5. Storm water covering part of the road in Segment 3 at East Brooks Road (in the northeast quadrant of the intersection) was noted during a field review during a heavy rain event.



The northernmost portion of Segment 3 (at the intersection with East Brooks Road) is subject to water overflowing the road during heavy rain events.

7.2 Threatened and Endangered Species

The Tennessee Department of Environment and Conservation (TDEC) Division of Natural Areas maintains records of rare, threatened and endangered species located throughout the state. TDEC files were examined in an attempt to identify threatened and endangered species recorded in the general vicinity of the project. There are no records of observations of federally listed, threatened or endangered species along the project corridor.

The records check revealed no state threatened or endangered species within one mile of the project study area. The check revealed one state endangered species within a four-mile radius of the project study area. The state endangered Bewick's wren (*Thryomanes bewickii*) inhabits brushy areas, thickets and scrub in open country, and also inhabits open and riparian woodland. The species' population has declined as a result of habitat loss and succession east of the Mississippi River; it is considered critically imperiled in Tennessee. The Elvis Presley Blvd. project corridor is an urbanized area and does not contain habitat that will support the state endangered species.

7.3 Hazardous Materials

Project planners reviewed US Environmental Protection Agency (EPA) records and TDEC Division of Remediation and Division of Underground Storage Tank (UST) records to check for the presence of any hazardous materials sites in the proposed project area. The EPA’s Superfund Information Systems Database and TDEC’s Promulgated Site List of Inactive Hazardous Sites and USTs revealed the presence of several sites including dry cleaners, and the presence of several USTs along the Elvis Presley Blvd. project corridor.

There are no facilities included on the EPA’s National Priorities List (NPL) for cleanup located directly on the Elvis Presley Blvd. project corridor. The closest sites to the project corridor were identified well to the west of the corridor outside the immediate project area.

The area was also checked for State Promulgated Sites, Voluntary Oversight Assistance Program (VOAP) Sites, Defense State Memorandum of Agreement (DSMOA) Sites, Dry Cleaner Environmental Response Program (DCERP) Sites, EPA Lead Sites, Non-Promulgated State Sites, and Pending Sites. There were no State Promulgated or Non-Promulgated Sites along the project corridor, with two promulgated sites located well to the west, within two miles of the project corridor. There were also no VOAP Sites, DSMOA Sites, EPA Lead Sites, or Pending Sites located immediately along or in the vicinity of the project corridor. One State site, the East Brooks Road Dump (79-600) was located within the two-mile radius of the project corridor to the northwest of the project corridor. Three DCERP Sites were located on or immediately adjacent to the project corridor. Two other DCERP sites are located to the west of the project corridor on East Brooks Road and well to the east of the project corridor near the airport, within the two mile radius. The sites in the immediate project area are shown at Table 11 and in Appendix A, Map A-6.

Table 11. Dry Cleaner Environmental Response Program Sites

SITE NAME	ADDRESS	STATE ID#
Norge Village Dry Cleaning	3980 Elvis Presley Blvd	79-208
Whitehaven Plaza One Hour	4106 Elvis Presley Blvd	79-206
Former General Cleaners	1208 Winchester Rd	79-220
Tiger Cleaners	970 East Brooks Rd	79-175
Airport Cleaners	3460 Airways Blvd	79-219

Source: Tennessee Department of Environment and Conservation

A field review of the project area was also conducted to check for the presence of facilities such as gas and service stations that would have USTs. There are numerous such facilities located along Elvis Presley Blvd. project corridor. A preliminary list of these facilities is included in Table 12. The locations of these facilities are depicted in Appendix A, Map A-6. Confirmation of potential UST and other hazardous site locations and any associated environmental issues will occur during subsequent project phases (e.g., NEPA, design).

Table 12. Properties with Underground Storage Tanks on Elvis Presley Blvd.

FACILITY NAME	ADDRESS	STATE ID#	GIA NUMBER
Unocal Service Station	3205 Elvis Presley Blvd.	9790786	317/496
Schseffer Honda Corp	3254 Elvis Presley Blvd.	9790652/9790979	317252
Graceland C-p Inc.	3311 Elvis Presley Blvd.	9790371/8743	317091/308735
Pyramid Pontiac/Sandy Phillips	3400 Elvis Presley Blvd.	9790145/8198	316159/308191
O'Neal Ford	3403 Elvis Presley Blvd.	9790679	317169
Taylor's 66/Robert L. Taylor	3449 Elvis Presley Blvd.	9792067/9463	318626/309452
Exxon R/S #5-5542	3474 Elvis Presley Blvd.	9791302	317403
Bezuneh Tessema	3599 Elvis Presley Blvd.	8947	308939
Southland C/p	3674 Elvis Presley Blvd.	9790652	317979
Graceland Enterprises	3734 Elvis Presley Blvd.	8832	308824
Graceland	3764 Elvis Presley Blvd.	9792162/9633	309622
Kings Mart #74	3815 Elvis Presley Blvd.	9791566	317284
Elvis Presley BP	3885 Elvis Presley Blvd.	9791080	317564/317564
Savings Station – Dodge's Store	3923 Elvis Presley Blvd.	9790600	317781
Harbin Mix Co	3993 Elvis Presley Blvd.	9792192/9180	318101/309170
Brake-O	4029 Elvis Presley Blvd.	9792518	318122
Shevy Shack #2	4154 Elvis Presley Blvd.	9791925	318148
Exxon Retail Store #5-0492	4157 Elvis Presley Blvd.	9791266	317270
Mr. Pride Carwash	4211 Elvis Presley Blvd.	9791446	317888
Whitehaven Stores, Inc./ Lacey Mosby	4230 Elvis Presley Blvd.	9211/8515	309201/308507
Johnson Whitehaven Texaco/ Larry Johnson Jackson's Texaco Service/ Harvie R. Jackson Sr.	4360 Elvis Presley Blvd.	9790440/9791985/ 8300/9343	318378/308292/ 309332
Midas Muffler and Brake Shop	4440 Elvis Presley Blvd.	9792244	318232
Unocal Service Station	4461 Elvis Presley Blvd.	9790780	317440
Firestone Store	4561 Elvis Presley Blvd.	9791357	317635
Exxon Retail Store #5-5719	4679 Elvis Presley Blvd.	9791269	317273

Source: TDEC Underground Storage Tanks Owner/Facility Search Database

8.0 POTENTIAL CULTURAL IMPACTS

8.1 Historic Resources

A review of records at the Tennessee Historical Commission (THC) was conducted to check for the presence of historic resources within the project area. The records check revealed the presence of one National Historic Landmark, Graceland, within the project study area.

Graceland was designated as a National Historic Landmark on March 27, 2006. The property, shown on Map A-7, Appendix A, is about ten miles south of downtown Memphis and abuts the east side of Elvis Presley Blvd., north of the intersection of Elvis Presley Blvd. and Dolan Road. The 13.6-acre site contains a large house with later additions, a number of outbuildings, ancillary structures, and landscape features. Eighteen of the resources on the property (including 12 buildings, six structures and two sites) contribute to the character of the property. The remaining two resources, a bus stop shelter and an employee building, are non-contributing. Graceland's period of significance spans the 20-year period in which Elvis resided in the house (1957-1977).

The house is a two-story, five-bay residence constructed in the Classical Revival style. The home was built in 1939 and acquired by Elvis Presley in 1957. A kidney-shaped swimming pool and patio and Meditation Garden, including Elvis Presley's gravesite, are located to the east of an addition constructed in the 1960s. Other facilities on the property include a pool pump-house, a racquetball building, and a carport. Several facilities associated with the 1939 farm also remain on the site. Finally, three trailers are located on the property that served as housing for friends and employees during the period of Elvis' residence.



Graceland

The site is considered significant for its association with one of America's most famous entertainers. Elvis Presley is recognized as one of the most culturally significant individuals of the twentieth century. To this day, Elvis and Graceland are often considered synonymous, as the home is recognized as the site most closely associated with his life and achievements. Hundreds of thousands of fans continue to visit Graceland each year.

The Memphis Landmarks Commission recognizes landmarks with local value. Two potential historic conservation districts (the Dogwood Homes and Mosby neighborhoods), are under consideration for designation. Both districts are outside of the immediate study corridor, but are shown for context in Appendix A, Map A-7.

8.2 Community Resources

The project area is home to a number of community resources, which are illustrated in Appendix A, Map A-7.

Several churches are located on Elvis Presley Blvd. in the Segment 1 area of the corridor. They include:

- Cross of Calvary Lutheran Church, north of Mosby Street just west of Elvis Presley Blvd.;
- The future site of Blvd. Church of Christ, on Elvis Presley Blvd. south of Mosby Road;
- The Israel Church of God, north of Hale Road located on Elvis Presley Blvd.;
- The Whitehaven United Methodist Church, north of Hale Road on Elvis Presley Blvd.;
- Lighthouse Chapel International, across from the Israel Church of God to the east of the project corridor; and
- A vacant church site, just south of the Craft Road intersection.

Schools are located around the project corridor, with only one school located directly on Elvis Presley Blvd. within the project corridor: the Cross of Calvary Lutheran School, which is located between East Raines Road and SR 175/East Shelby Drive. Other nearby schools are shown in Appendix A, Map A-7. Whitehaven High School and Elementary School, just south of the southern project terminus at Shelby, generate a large amount of pedestrian traffic that should be considered during project planning. Local buses on MATA bus route 43 serve as school buses for local schools, primarily serving older students. The City of Memphis also operates school buses serving the schools in this area and school buses use the project corridor as a route. School bus stops on the corridor are shown on Map A-3 in Appendix A.

Other community facilities in the area include the Whitehaven Community Center east of Elvis Presley Blvd. on Graceland Drive. Several daycare facilities are also located along the corridor. The nearest park to the project corridor, Polly Williams Park, is about 0.25 mile east of Elvis Presley Blvd. The Shelby Residential and Vocational Services Center is co-located with the Whitehaven United Methodist Church south of Hale Road.

Several medical facilities are located within the project area. The Methodist South Hospital and Well Baby and Newborn Intensive Care Unit are located on Wesley Drive just east of the project area. The South Memphis Clinic and Memphis Children's Clinic are also located on either side of Elvis Presley Blvd. near its intersection with Hale Road. The locations of these facilities are shown on Map A-7 in Appendix A.

The nearest police station serving the South Precinct is located east of Elvis Presley Blvd. on East Raines Road. The closest fire station serving the project corridor, Fire Station 39, is located west of the project area on East Raines Road. Fire Station 42 is also located east of the project area off of Fontaine Road, just south of East Brooks Road. Emergency response vehicles utilize Elvis Presley Blvd. as an important route to access the Methodist South Hospital.

8.3 Environmental Justice

U.S. Census Data was reviewed for the project area to determine whether the proposed project will have disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Minority Populations

According to the Census data summarized in Table 13, minorities comprise 52.4 percent of Shelby County’s population. Minorities make up 65.5 percent of the City of Memphis’ population. Both of these averages are considerably higher than the statewide average of 19.8 percent.

Table 13. Percent Minority Population

	Tennessee	Shelby County	City of Memphis	Elvis Presley Blvd. Study Corridor
Percent Minority Population	19.8%	52.4%	65.5%	88.1%

In the 31 census blocks immediately adjacent to the project corridor, the minority population comprises 88.1 percent of the population, significantly higher than the minority population for both the state and city. The percentage of the population that identifies themselves as minority in the 31 census blocks immediately adjacent to the project corridor ranges from 54 to 100 percent of the total population of those blocks. Map A-8 in Appendix A shows the percentage of the population that identifies themselves as minorities in the census blocks surrounding the study corridor. Blocks with minority populations making up 90 percent or more of the population are highlighted.

One single family house and the Plaza View Apartment Complex are on Elvis Presley Blvd. in Segment 1. Again, neighborhoods with large minority populations surround the commercial corridor in this area. On Segment 2 are two single family homes and the Meadow Oaks Apartment complex. In addition to the housing located on the corridor, large neighborhoods with significant minority populations are to either side of the corridor. Segment 3 contains no single family or multi-family residential development on Elvis Presley Blvd, however, neighborhoods housing significant minority populations are located adjacent to the commercial corridor.

Low-Income Populations

Map A-9 in Appendix A illustrates the percent below poverty and median household income for the population living in the study corridor by census block group. There are 14 census block groups immediately adjacent to the study corridor. The average median household income for the census block groups immediately adjacent to the study corridor is \$39,357. This is comparable to the median household income for Shelby County (\$39,593) and the City of Memphis (\$32,285). Six of the 14 census block groups immediately adjacent to the Elvis Presley Blvd. project corridor contain a population with a median household income below the average for both the county and city.

According to Census 2000 data, 16.0 percent of the population of Shelby County was identified as living below the poverty level; roughly 20.6 percent of individuals in the City of Memphis were also identified as living below the poverty level. Within the census block groups immediately adjacent to the Elvis Presley Blvd. project corridor, 17.3 percent of the population was identified as living below the poverty level, roughly comparable to the county and city numbers.

9.0 ASSESSMENT OF OPTONS

TDOT has adopted seven guiding principles against which all transportation projects are to be evaluated. These guiding principles address concerns for system management, mobility, economic growth, safety, community, environmental stewardship, and fiscal responsibility. These guiding principles are discussed in the following paragraphs as they relate to the options for the proposed streetscape improvements on Elvis Presley Blvd.

Guiding Principle 1: Preserve and Manage the Existing Transportation System

When US 51, today Elvis Presley Blvd., was reconstructed for inclusion in the US Highway system in the late 1940s and early 1950s, it was built on the historic path of a 22-mile plank road originally constructed by the State of Mississippi in 1852, connecting the City of Memphis and the community of Nesbit, Mississippi. Today, Elvis Presley Blvd. is an urban principal arterial still serving as an important link between Memphis and Hernando, Mississippi; and serving local traffic from the Whitehaven Community, hundreds of thousands of tourists visiting Graceland, and regional traffic.

The proposed streetscaping concepts presented in this *TPR* are consistent with TDOT's goal of preserving the existing transportation system. The proposed project would make improvements to the existing road, consistent with recommendations from older city transportation planning documents, such as the *1997 Major Road Plan* for the City of Memphis and the *Memphis Urban Area 2030 Long Range Transportation Plan*, which call for the improvement of this important corridor.

Guiding Principle 2: Move a Growing, Diverse, and Active Population

The proposed improvements will support a diverse and active population by offering all citizens a safe roadway corridor that provides an acceptable level of service now and in the future.

Elvis Presley Blvd. is an important component of the regional transportation network, and serves as a regional mover of goods and services, serving many existing businesses in the area surrounding the Memphis International Airport. In addition, the roadway serves as the Whitehaven Community's retail and service hub.

The proposed improvements are intended to create a safer and more hospitable environment for pedestrian and vehicular traffic, including tourists, bicyclists, local residents and those using public transportation in the area. The improved sidewalks, pedestrian crossings, and other improvements are intended to make it easier and safer for both tourists and local residents to traverse the area. Several of the alternates include a 14-foot outside lane that can be shared by vehicular traffic and bicycles.

Guiding Principle 3: Support the State's Economy

According to an *Economic Impact Study* conducted by the Memphis Convention and Visitor's Bureau, tourism in Memphis and Shelby County resulted in \$122.9 million in local and state taxes and an \$11.9 billion payroll. The Bureau reports that Graceland is one of the most popular tourist destinations in the world, with over 600,000 visitors a year. Every visitor touring Graceland must access it via Elvis Presley Blvd., and opportunities abound for increasing the dollars spent in the area.

As discussed above, EPE, Inc. has plans to improve their 120-acre campus, adding hotels, entertainment and retail space to the project corridor. The Graceland improvements, which are expected to require a capital investment in excess of \$250 million and create hundreds of new jobs, are likely to spur additional development in the area. The proposed streetscape improvements will help to provide additional evidence of the city's commitment to reinvest in the project corridor, hopefully leading to a revitalization of the entire area. Already, those involved with other redevelopment efforts in the Whitehaven area, such as the Airport Area Development Corporation, are interested in working with EPE, Inc. and city leaders to develop plans to revitalize the entire area between Elvis Presley Blvd. and the airport. These improvements would help contribute to the regional and state economy.

Guiding Principle 4: Maximize Safety and Security

The proposed project will help address several different safety issues associated with the Elvis Presley Blvd. corridor. First, the project will make repairs to infrastructure that is deteriorating and does not meet current City standards. Many area sidewalks are deteriorated and may be unsafe; new sidewalks are intended to remedy this situation. The improvements will help to address safety issues illustrated by the number of crashes occurring along the project corridor, particularly crashes involving pedestrians. As indicated by local officials, a safety issue exists where tourists must travel across Elvis Presley Blvd. between the Graceland mansion on the east side of the street and tourist sites on the west side of the street. The proposed project is intended to result in improved pedestrian safety and mobility. Several of the alternates provide wide outside lanes that will accommodate vehicular traffic and bicycles. The improved sidewalks and crosswalks are intended to result in a safe, attractive and welcoming pedestrian environment for those traveling across the corridor.

The project may also help to address another safety issue in the area, crime. The streetscape improvements may assist in this endeavor by providing improved lighting for evening activities, improving the area visually, and encouraging revitalization and redevelopment of the area. A safer Elvis Presley Blvd. is intended to be more attractive to tourists and would provide a better pedestrian environment for both tourists and local residents.

**Guiding Principle 5:
Build Partnerships for Livable Communities**

Coordination with stakeholders to identify their concerns and objectives for the proposed project was undertaken early in project planning (see section 4.0 Stakeholder Meeting). The stakeholders indicated their goal to strengthen Elvis Presley Blvd. as the “backbone” of the Whitehaven Community, revitalizing the area and making it a more desirable place for local residents, as well as visitors, to frequent. The improvements associated with both this project, and others planned in the area, are intended to create a “sense of place” for the Whitehaven Community, and make it both a safer and more pleasant place to live, work and visit.

Many local stakeholders share an interest in improving the Elvis Presley Blvd. corridor. As a major tourist destination, Graceland’s presence in the corridor and EPE Inc.’s plans for improving the campus, create a major opportunity for investment in the Whitehaven area. Groups such as the Airport Area Development Corporation and the Memphis Regional Chamber of Commerce, through their Aerotropolis planning effort, hope to work with EPE, Inc. and the City of Memphis to help to revitalize the entire Whitehaven Community and the area surrounding the Memphis International Airport. These combined efforts, and the results of projects like the proposed corridor improvements, will help to bring investment dollars into a declining commercial area, bringing back services for area residents. The project may also help to reduce crime in the project area, creating a safer community for area residents.

In keeping with TDOT’s Public Involvement Plan, the provisions of NEPA, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and the Tennessee Environmental Streamlining Agreement (TESA), the project will be coordinated with the public and additional governmental agencies in the next project phase (NEPA) should this project move forward with federal funding assistance.

**Guiding Principle 6:
Promote Stewardship of the Environment**

Potential adverse environmental impacts have been considered in the development of the alternates included in this study. As this project is in an urban setting, impacts to the natural environment are not anticipated. Regarding impacts to the social environment, this project is anticipated to benefit the residents and businesses in the area.

Detailed studies are needed to fully address the impacts of each option considered in this report. Sections 7.0 and 8.0 of this report outline potential environmental and cultural impacts based on preliminary environmental screening. Should federal funding be obtained for the project as is anticipated, a NEPA document will be prepared in future phases of the project. The NEPA document will assess the project’s impacts on the natural, social and built environment. Early and continuous coordination will continue to take place with the appropriate federal, state and local agencies and the public. This coordination will assist with the identification of important resources early in the planning process and help ensure the proposed project promotes stewardship of the environment.

**Guiding Principle 7:
Promote Financial Responsibility**

This *TPR* was compiled as part of a comprehensive transportation planning process. This project is a high priority for the City of Memphis. Funds spent on the proposed improvements are anticipated to spur redevelopment of this area. The redevelopment should add jobs, increase the presence and time spent by tourists, and increase tax revenues for the City of Memphis.

10.0 SUMMARY

Elvis Presley Blvd. is an urban principal arterial carrying an average of nearly 31,000 vehicles per day. It is a primary commercial thoroughfare serving local traffic associated with the Whitehaven Community. It is also an important north-south US Highway and State Route providing a vital link between the City of Memphis and Hernando, Mississippi, and serving hundreds of businesses in the Whitehaven Community and in the vicinity of the Memphis International Airport. The road also provides access to Graceland, a major cultural and historic attraction that draws over 600,000 visitors per year.

A streetscape improvement project has been developed to address the following needs, which have been identified in cooperation with stakeholders:

1. Support Memphis' tourism goals;
2. Support planned economic development and enhance opportunities for redevelopment;
3. Address safety issues and roadway deficiencies along Elvis Presley Blvd.; and
4. Enhance multimodal travel in the Whitehaven area.

The project area has been divided into three study segments (1 – 3), with Segment 2, the location of Graceland, being the City's priority project for development. In each study segment, two typical section options comprise the alternates studied. Alternate 1 in each section involves improvements within the existing right-of-way, while Alternate 2 requires additional right-of-way.

Improvements include: new or upgraded sidewalks, landscaping, new lighting standards, new curb and gutter, a buffer strip that can accommodate landscaping between the curb and sidewalk, and new pavement. Some of the alternates also provide for landscaped medians, bike lanes, and special pavement treatment for center turn lanes (e.g., tinted concrete or stamping, but not brick or concrete pavers). Other amenities will be considered in the project design phases.

Laneage provided under the alternates is either five (four through lanes and a center turn lane) or seven (six through lanes and a center turn lane), and some alternates have a wide outer lane to accommodate a shared bicycle lane. One area designated for special treatment is the pull-off at the entrance to Graceland.

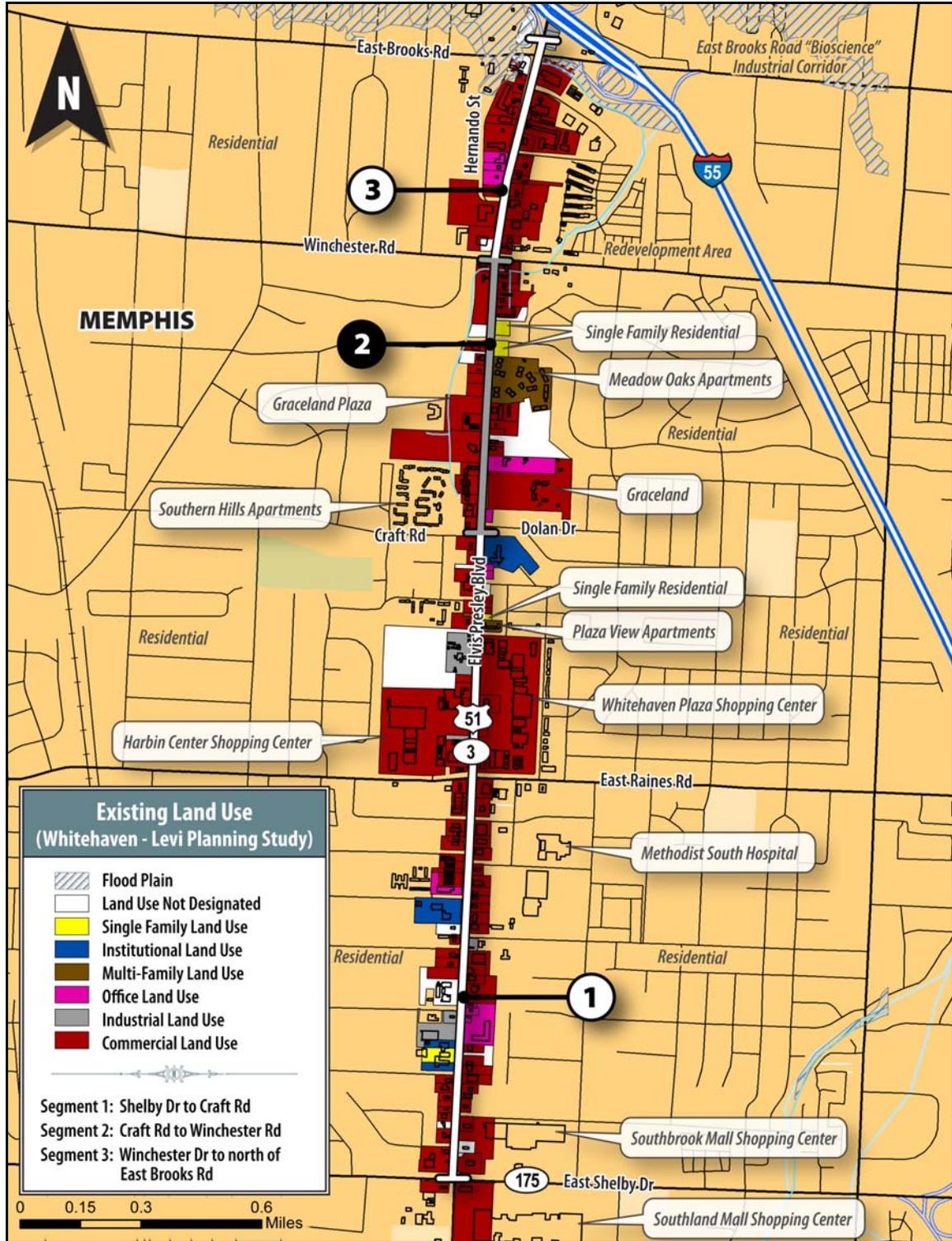
Issues identified in environmental screening are minimal as the project is to be undertaken within existing right-of-way or with a small amount of additional right-of-way, and improvements are intended to benefit the community by providing an attractive streetscape to support current economic development plans and enhance the surrounding community. No impacts to the natural environment are anticipated as the project is in an urban setting. Table 14 presents the results of environmental screening. However, if federal funding is identified for this project, a NEPA document will be undertaken. The NEPA document will fully address the impacts to the social and natural environment. In addition, the NEPA process will lead to the selection of an alternate for each segment of the project.

Table 14. Summary of Environmental Screening Results

Segment #	Alternate #	Wetlands Present	Floodplains Present	Threatened & Endangered Species Present	Hazardous Materials Present	NRHP/ Historic Resources Present	Community Resources Present	Environmental Justice (EJ) Issues
1	1	No	No	No	13 sites identified with USTs* along corridor. Two properties with a DCERPS* identified.	No	One school, 5 churches, a vacant church site, 2 medical clinics, and a vocational service center located adjacent to the project corridor. Hospital one block east, 2 schools immediately south of Shelby, outside project limits.	Census blocks adjacent to corridor have a minority population greater than the City average. Low income populations are also present. The project is intended to benefit such populations.
1	2	No	No	No	Same as above.	No	Same as above.	Same as above.
2	1	No	No	No	6 sites identified with USTs* along corridor.	Graceland	No community resources located adjacent to this corridor.	Census blocks adjacent to corridor have a minority population greater than the City average. Low income populations are also present. The project is intended to benefit such populations.
2	2	No	No	No	Same as above.	Same as above	Same as above.	Same as above.
3	1	No	No	No	Six sites identified with USTs* along corridor. One property with a DCERPS* identified.	No	No community resources located adjacent to this corridor.	Census blocks adjacent to the study corridor have a minority population percentage greater than the City average. Low income populations are also present. The project is intended to benefit such populations
3	2	No	No	No	Same as above.	No	Same as above.	Same as above.

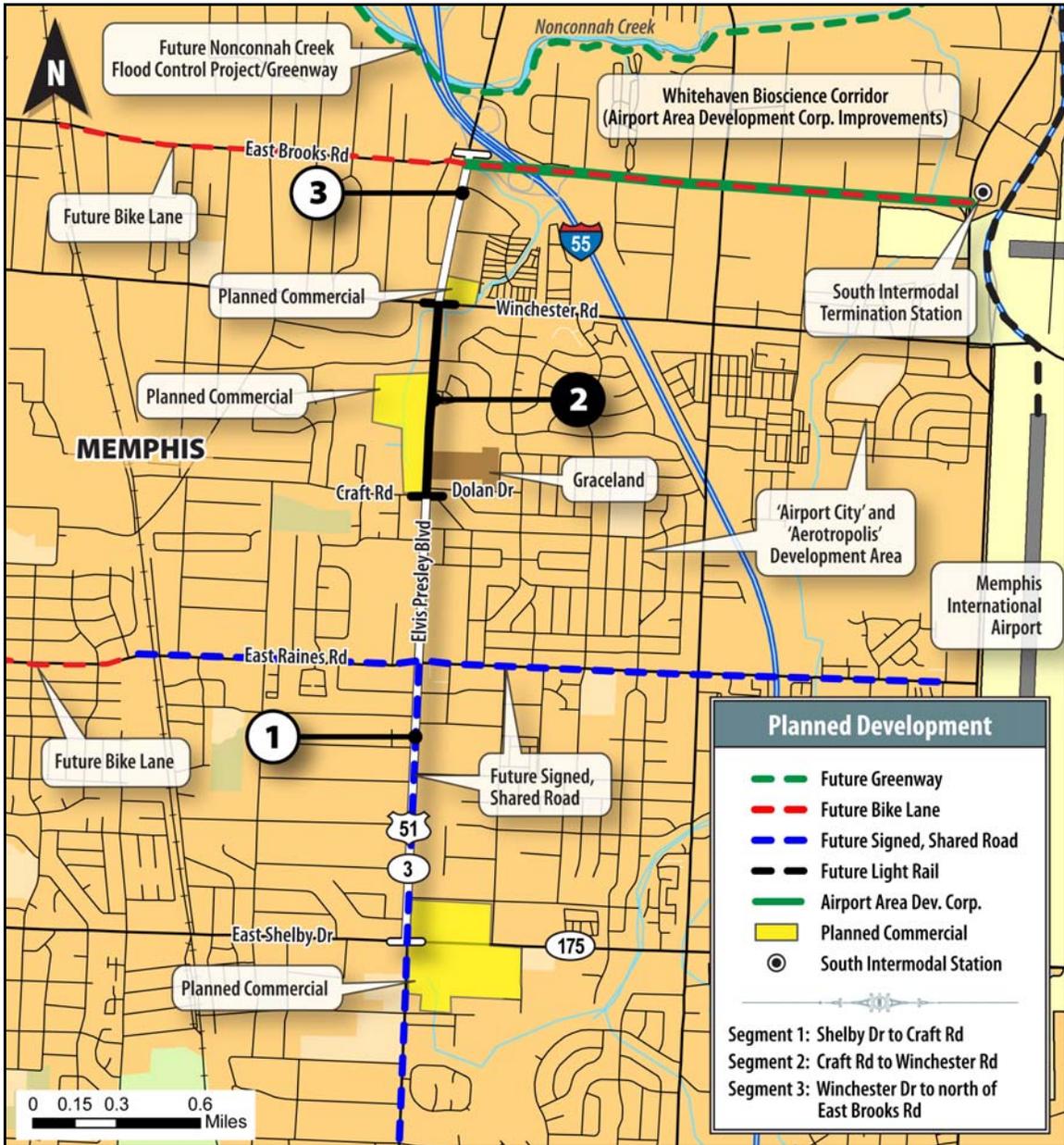
*UST = Underground Storage Tank DCERPS = Dry Cleaner Environmental Response Program Site

**APPENDIX A:
ENVIRONMENTAL SCREENING MAPS**



Source: Whitehaven-Levi Planning District Study and field review

A-1: Existing Land Uses In and Near the Project Area



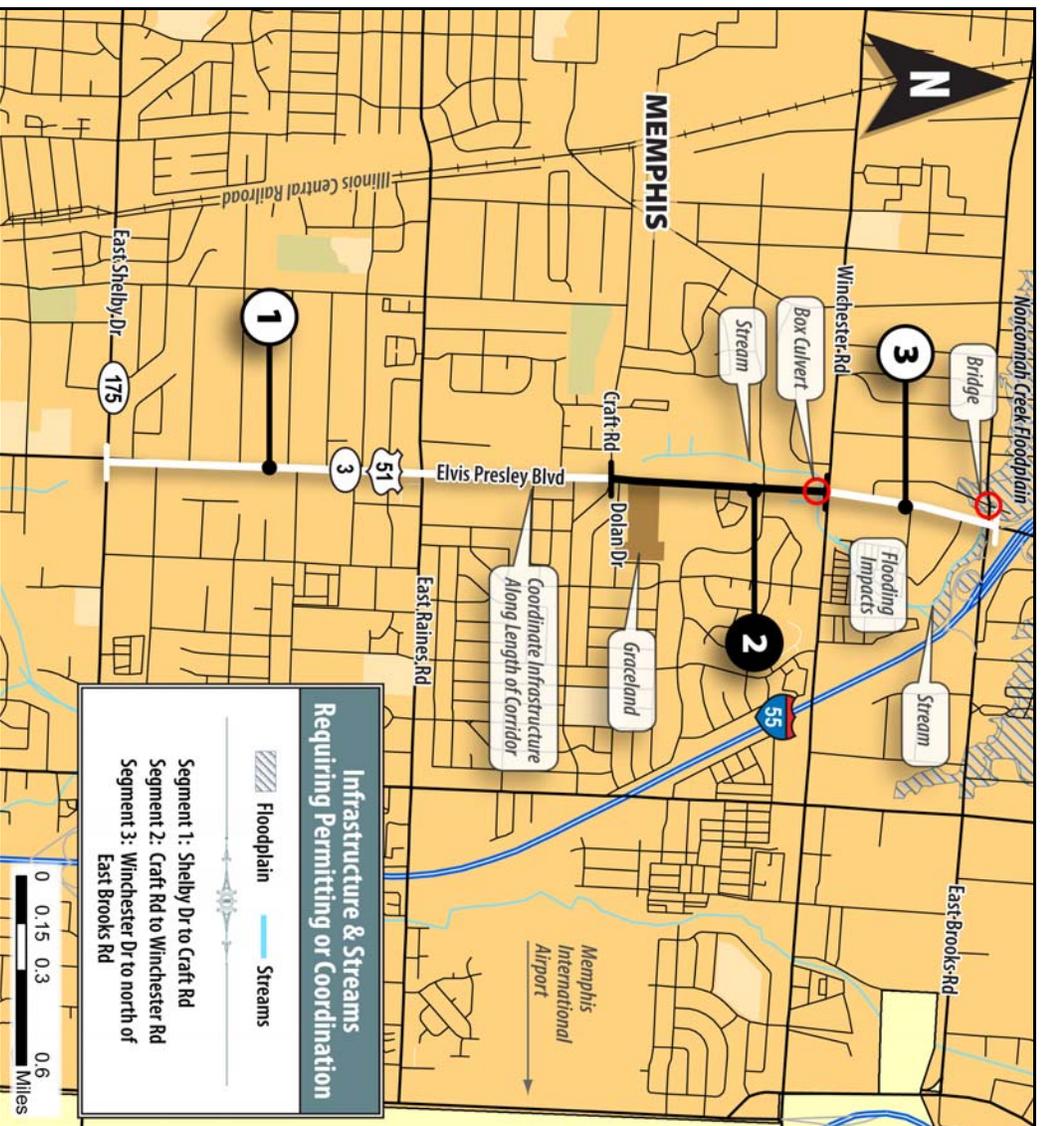
Source: Personal Interviews with City of Memphis Staff, Memphis Area Transportation Authority Staff, the Memphis Regional MPO Bicycle and Pedestrian Plan, Downtown Airport Transit Corridor Alternative Analysis and Environmental Screening Report, Whitehaven-Levi Planning District Study

A-2: Planned Developments in the Project Area



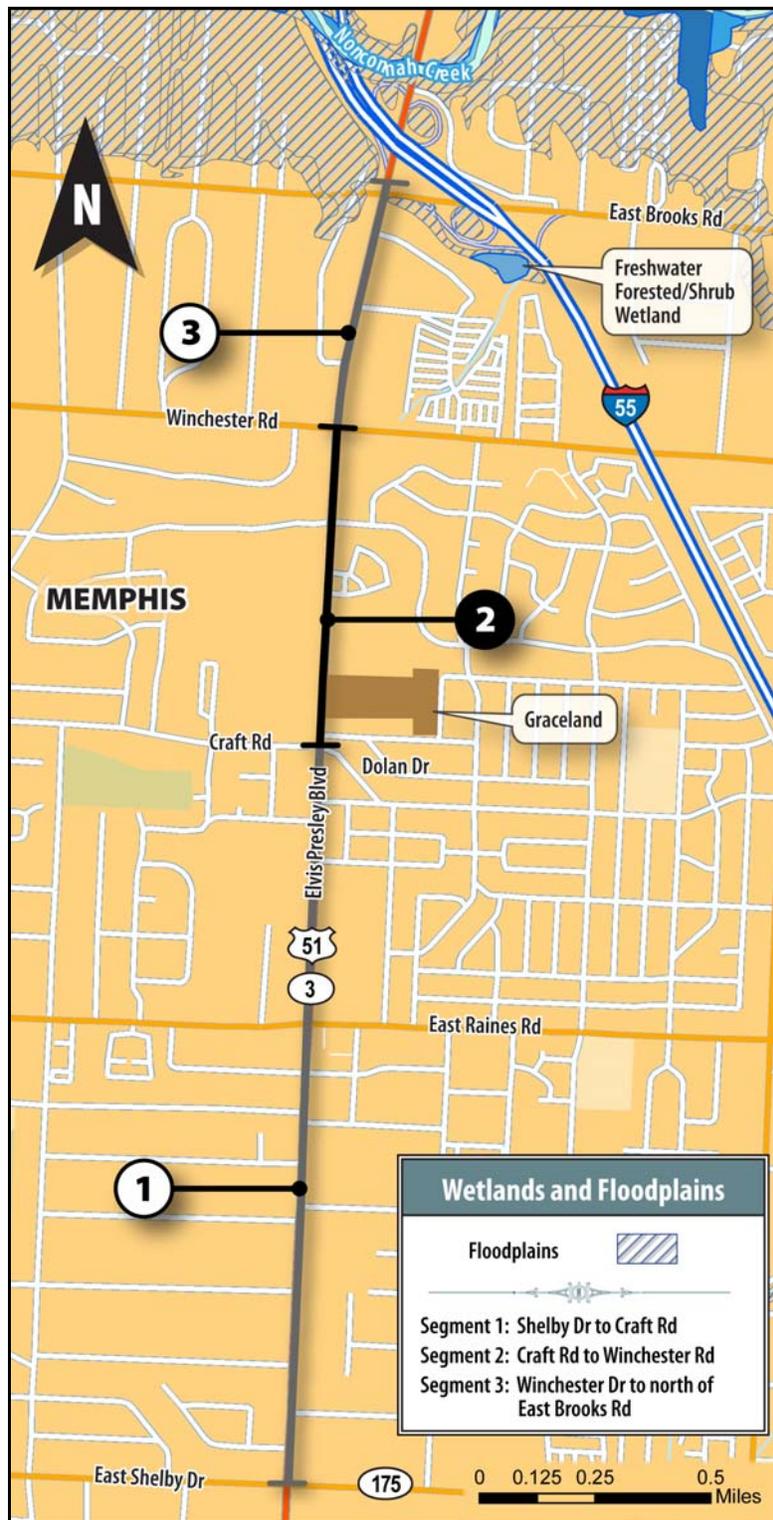
Source: Memphis Area Transportation Authority and Memphis City Schools

A-3: Bus Routes and Stops



Source: Stakeholder meeting and field review

A-4: Existing Infrastructure and Streams that May Require Coordination



Source: US Fish and Wildlife Service Wetlands Online Mapper, Flood Insurance Rate Map, Shelby County, TN, and City of Memphis

A-5: Wetlands and Floodplains



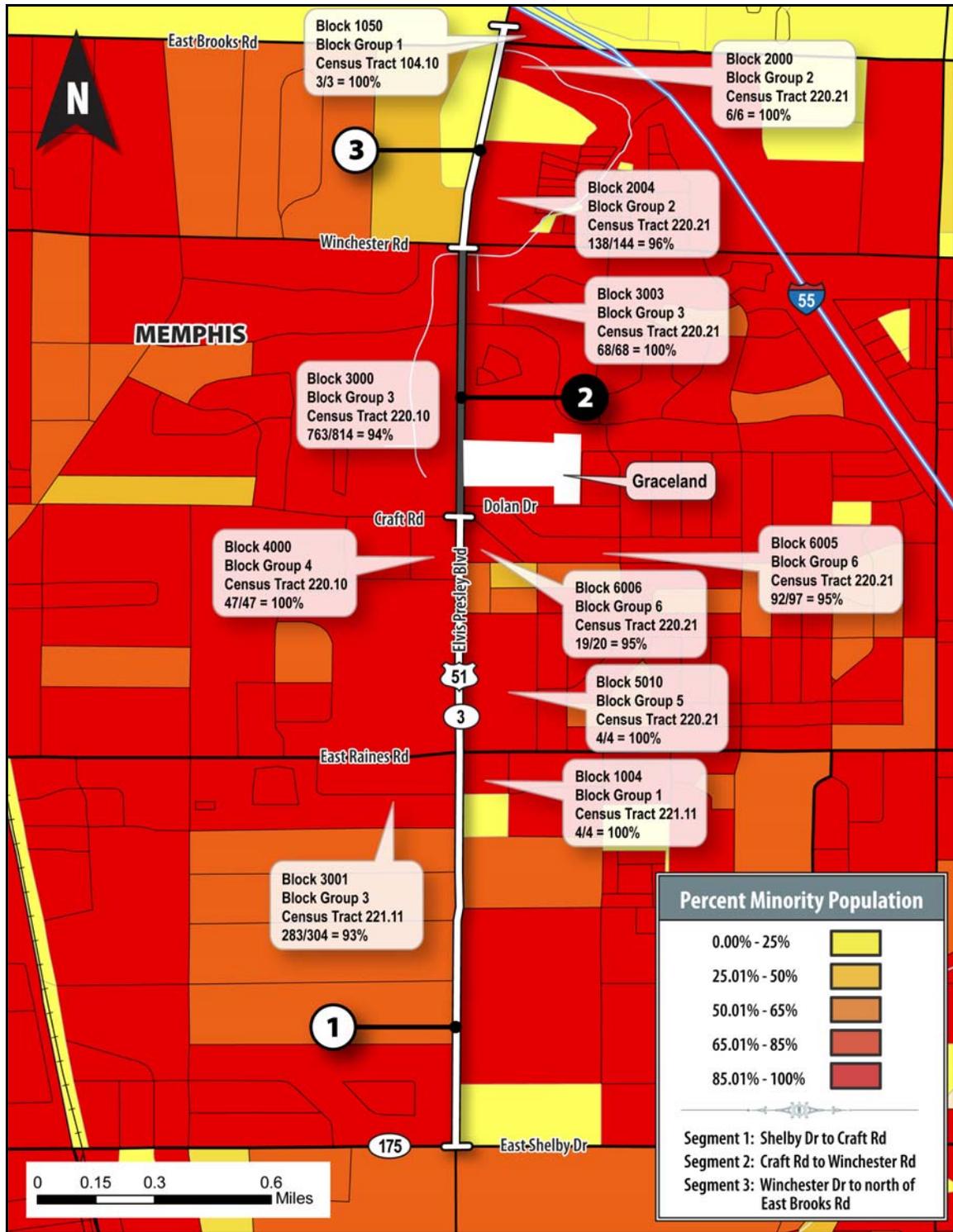
Source: TDEC Division of Remediation, Division of Underground Storage Tanks, and field review.

A-6: Potential Hazardous Materials Sites and Underground Storage Tanks



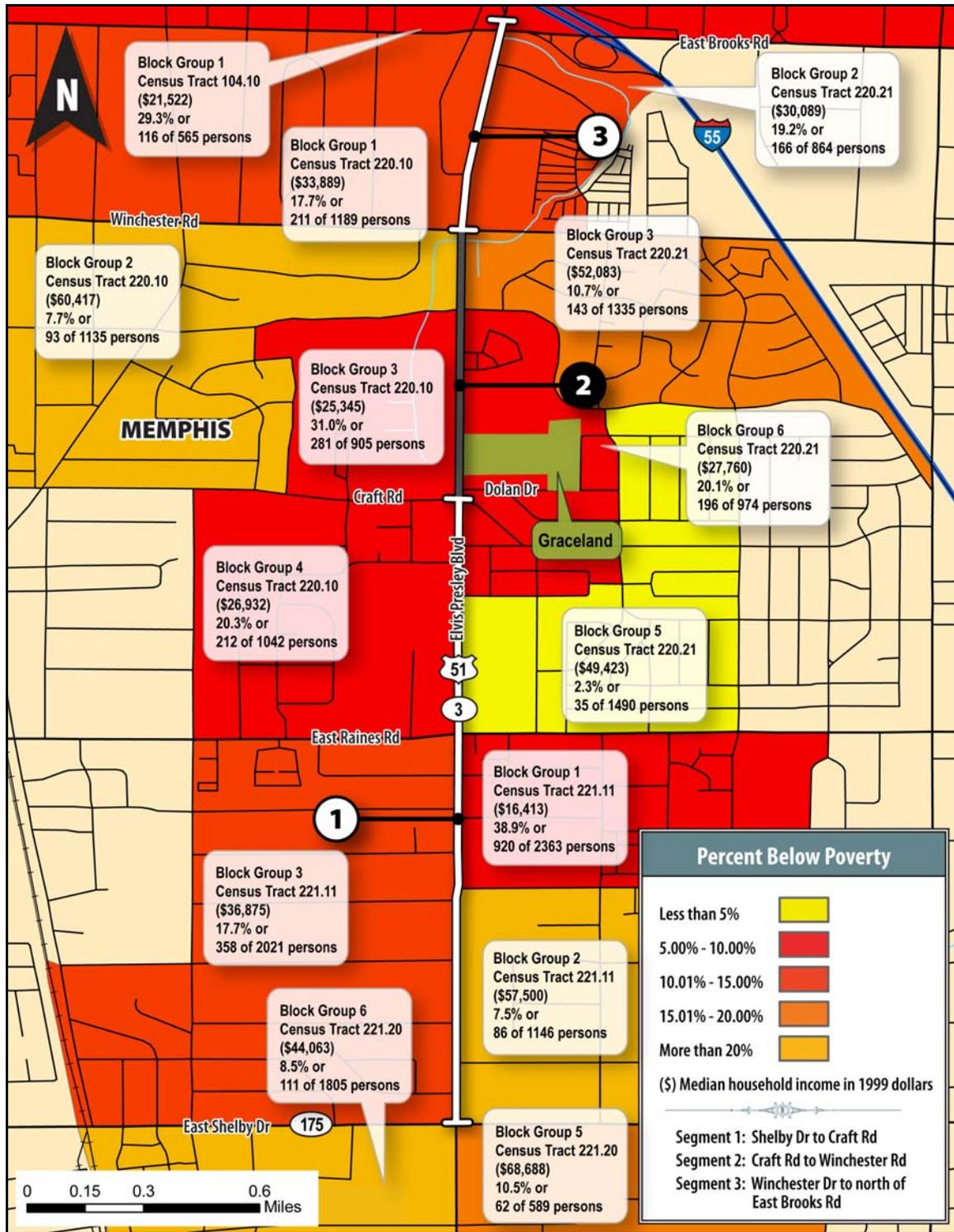
Source: Whitehaven-Levi Planning District Study and field review

A-7: Historic and Community Resources



Source: US Census 2000 Summary File 1

A-8: Percent Minority in the Study Area



Source: US Census 2000 Summary File 3

A-9: Median Household Income in the Study Area

**APPENDIX B:
TRAFFIC ANALYSIS**

Elvis Presley Boulevard Traffic Analysis 3/30/09)

Prepared by Dowell Hoskins Squier, PE, Gresham, Smith and Partners
 QC by Lori Lange, PE, Gresham Smith and Partners
 Submitted for TDOT Review: March 30, 2009

1.0 INTRODUCTION

The following is a summary of the traffic data collection and analysis conducted on Elvis Presley Boulevard in support of a Transportation Planning Report (TPR) for streetscape improvements. This study was conducted for Elvis Presley Boulevard from Brooks Road to Shelby Drive. This segment is on the south side of Memphis, west of I-55 and south of I-240. **Figure 1** shows the project location. The Elvis Presley Mansion is located between Winchester Road and Raines Road on the east side of Elvis Presley Boulevard.

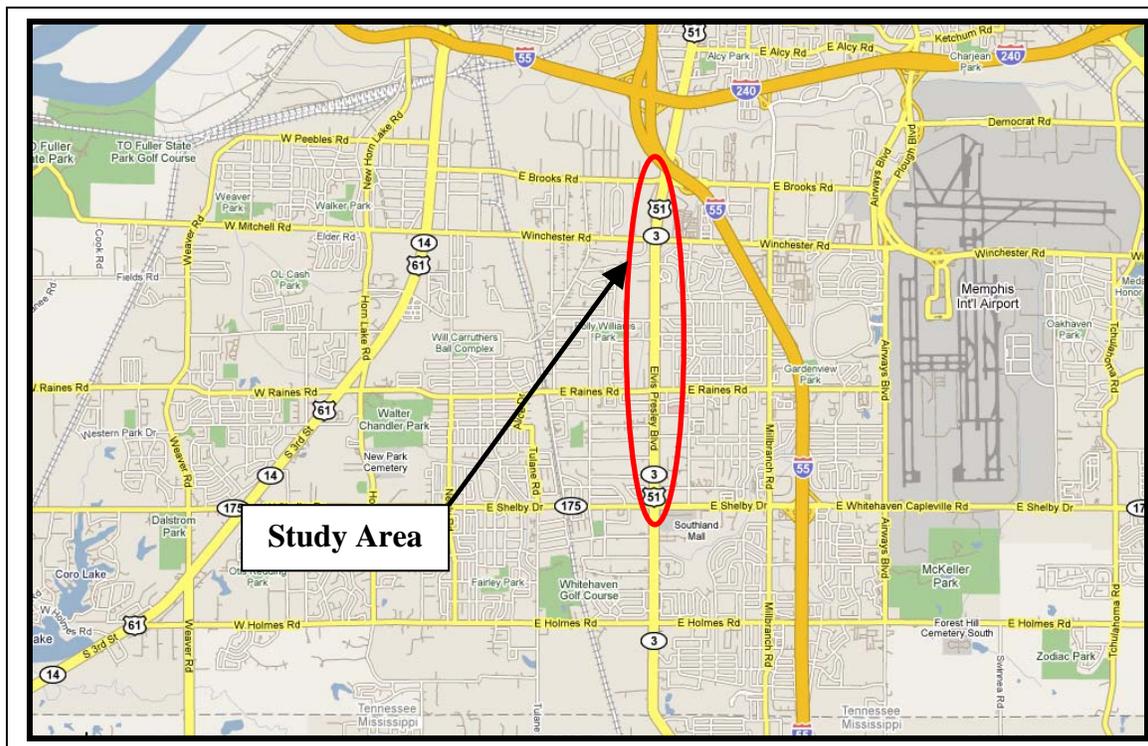


Figure 1 – Study Area

Updated traffic numbers (Annual Average Daily Traffic/AADT) were provided from the MPO travel demand model to Gresham, Smith and Partners on March 13, 2009. **Table 1** shows the projections of future traffic on four segments of Elvis Presley Boulevard. Historically, there has been minimal, if any, growth along the corridor. The 2020 and 2030 projections assume that future development will occur along the corridor, including the proposed Elvis Presley expansion and tourist attraction complex.

Table 1 – Annual Average Daily Traffic from Memphis MPO

From	To	2004	2020	2030
Shelby	Raines	19,000	32,000	37,400
Raines	Craft	21,500	37,300	42,400
Craft	Winchester	27,800	44,300	50,200
Winchester	Brooks	31,500	45,400	51,700

Elvis Presley Boulevard Traffic Analysis 3/30/09)

Traffic and capacity analysis was conducted for the following segments as shown in **Table 2** and depicted in **Figure 2** on the next page.

Table 2 – Definition of Traffic Analysis Segments

Segment	From	To
1a	Shelby	Raines
1b	Raines	Craft
2	Craft	Winchester
3	Winchester	Brooks

2.0 EXISTING CONDITIONS

The existing roadway configuration and number of lanes for each segment is summarized in **Table 3**.

Segments 1a and 1b (Shelby Drive to Craft Road) have right-of-way that ranges from 80 to 90 feet. Lanes includes four through lanes and a center two-way left turn lane (TWLTL) from Shelby Drive to Raines Road. North of Raines Road to Whitaker, there are five lanes (three southbound and two northbound). At Whitaker, the section reduces to four lanes with a TWLTL, widening out just north to five lanes (three southbound and two northbound).

In Segment 2 of the project (Craft Road to Winchester Road), the right-of-way ranges from 99 to 111 feet, except at Graceland where the right-of-way is 121 feet and accommodates a pull off in front of Graceland. Between Craft Road and north of Dolan Road to the north boundary of Graceland, there are five through lanes (three southbound and two northbound) with a median. From the northern edge of the Graceland mansion property to south of Bluebird Road, there are six lanes (three southbound and three northbound) and a raised median. From South of Bluebird Road to 600 feet south of Winchester Road Elvis Presley Boulevard has five through lanes (three southbound and two northbound) and a TWLTL. Just south of Winchester, the section transitions to six lanes with a TWLTL.

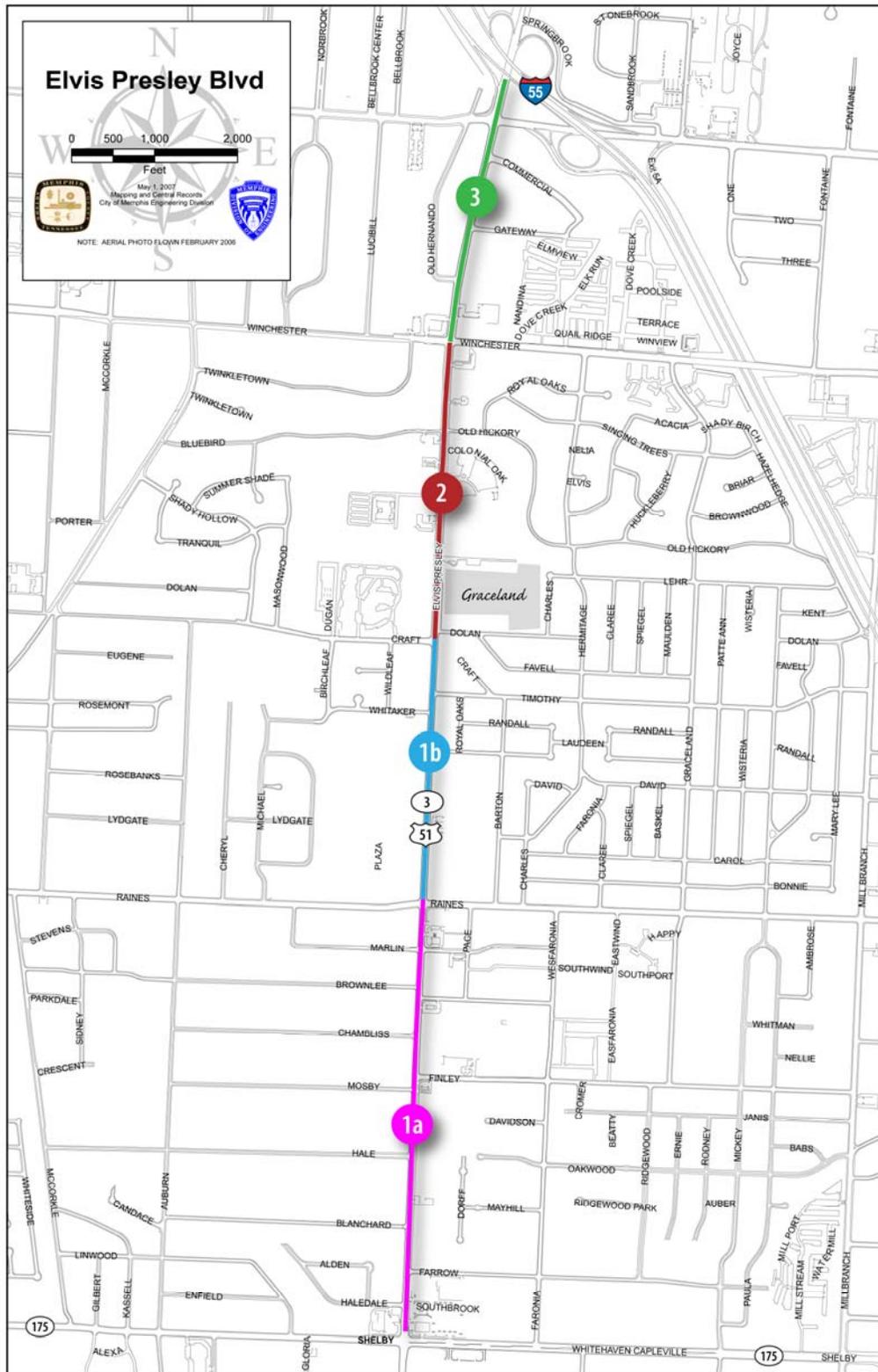
Segment 3 consists of a six lane section with a TWLTL, which continues to the northern project terminus.

Table 3 - Existing Lane Configuration

Segment	Description of Lane Configuration
1a	Varies from two to three lanes in each direction with a TWLTL
1b	Varies from two to three lanes in each direction with a TWLTL
2	Varies from two to three lanes in each direction with a median or TWLTL
3	Three through lanes each direction with a TWLTL

Elvis Presley Boulevard Traffic Analysis 3/30/09)

Figure 2 – Traffic Analysis Segments



Elvis Presley Boulevard Traffic Analysis 3/30/09)

3.0 FUTURE CONDITIONS

A 45-acre site on the west side of Elvis Presley Boulevard is likely to be redeveloped as an expansion to the tourist attraction complex. The traffic generated by this development was included in the MPO model; therefore, no additional traffic was generated.

Future traffic was developed for each segment by determining the growth rate using the MPO model projections and interpolating a traffic volume for the years 2012 and 2032. The growth rate was determined to be 3.3% between 2004 and 2020 and 1.6% between 2020 and 2030; therefore, a growth rate of 3.3% was used to grow the 2004 traffic to 2012 and a rate of 1.6% was used to grow the 2030 traffic to 2032. The year 2012 is assumed to be the opening year of the proposed Elvis Presley expansion project. **Table 4** shows a summary of the future traffic calculation for 2012 and 2032 rounded to the nearest hundred vehicles.

Table 4 – Projected AADT

Segment	2012	2032
1a	24,600	38,600
1b	27,900	43,800
2	36,000	51,800
3	41,000	53,400

The Design Hourly Volume (DHV) was determined by applying typical factors for peak hour percentage. The DHV by directional distribution was also calculated because the traffic analysis that follows is performed for each direction of travel along the corridor. **Table 5** shows the calculated values of DHV for each roadway segment for 2012 and 2032.

Table 5 – Design Hour Volume Traffic Calculation

Segment	Year	AADT	Design Hour %	DHV	DD %	DHV by DD %
1a	2012	24,600	10%	2,460	60%	1,480
1a	2032	38,600	10%	3,860	60%	2,320
1b	2012	27,900	10%	2,790	60%	1,680
1b	2032	43,800	10%	4,380	60%	2,630
2	2012	36,000	10%	3,600	60%	2,160
2	2032	51,800	10%	5,180	60%	3,110
3	2012	41,000	10%	4,100	60%	2,460
3	2032	53,400	10%	5,340	60%	3,200

Notes:

AADT = Annual Average Daily Traffic

DD% = Directional Distribution Percentage

DHV = Design Hourly Volume

Design Hour % = Amount of Daily Traffic Occurring in the Design Hour

**Elvis Presley Boulevard
Traffic Analysis 3/30/09)**

4.0 TRAFFIC ANALYSIS

Multilane highway operational analysis was performed on each of the roadway segments in the study area using the Highway Capacity Software (HCS+). Due to the fluctuating nature of the typical section throughout the corridor, each segment was evaluated as a 2-lane and 3-lane segment for each direction of travel. **Table 6** shows the results of the Level of Service analysis performed for each roadway segment.

Table 6 – Level of Service Analysis

Segment	Year	2-Lane	3-Lane
1a	2012	C	B
1a	2032	D	C
1b	2012	C	B
1b	2032	D	C
2	2012	D	C
2	2032	E	D
3	2012	D	C
3	2032	E	D

CONCLUSIONS AND RECOMMENDATIONS

As shown by the analysis Segments 2 and 3 will exceed capacity if only two lanes are available to handle the projected 2032 traffic and exhibit a LOS E. Segments 2 and 3 will handle the traffic at a level of service D or better with three lanes in each direction.

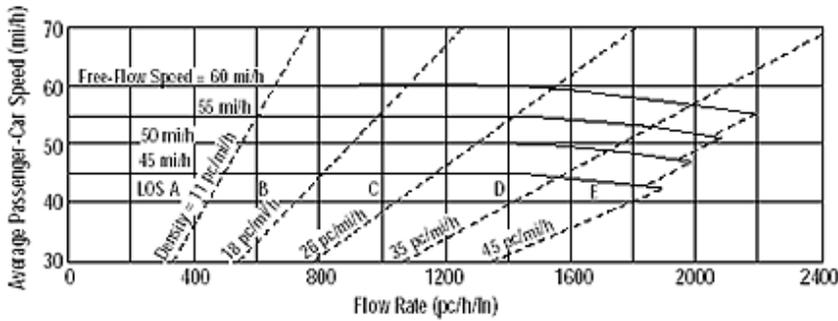
Typically, delay and back-ups are driven by intersection operation. More detailed analysis is recommended at each of the major intersections. Peak hour turning movement counts should be collected and used to determine future traffic patterns and levels of service at those intersections. At a minimum detailed intersection analysis is recommended at Brooks, Winchester, Raines and Shelby.

Once more detail on the Elvis Presley expansion project is known, further traffic analysis may be required to ensure that the projected traffic in the MPO model is an accurate representation of the traffic that may be generated by the development.

**Elvis Presley Boulevard
Traffic Analysis Summary (Revised – 3/30/09)**

Supporting Information

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1a
 From/To: Shelby / Raines
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 1a - Shelby to Raines

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1480	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 40
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

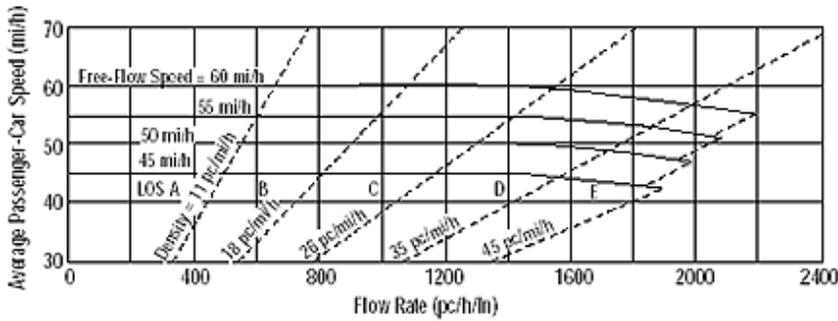
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 846
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 18.8
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1a
 From/To: Shelby / Raines
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 1a - Shelby to Raines

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1480	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 40
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

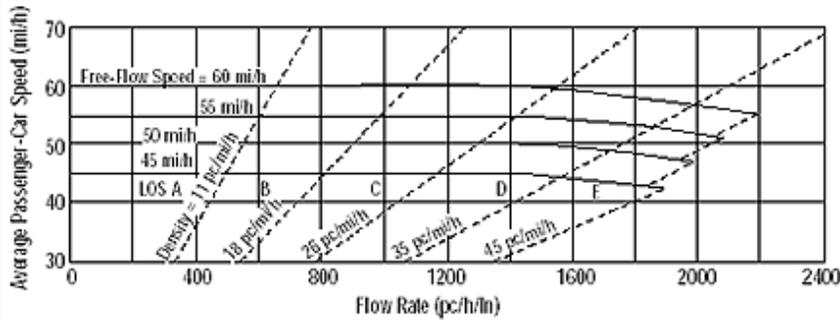
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 564
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 12.5
 LOS: B

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1b
 From/To: Raines / Craft
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 1b - Raines to Craft

Oper. (LOS) Des. (N) Plan. (v_p)

Flow Inputs

Volume, V (veh/h)	1680	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

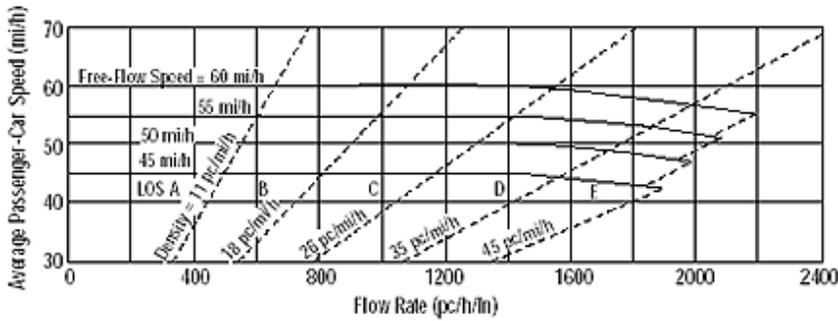
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 961
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 21.4
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1b
 From/To: Raines / Craft
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 1b - Raines to Craft

Oper. (LOS) Des. (N) Plan. (v_p)

Flow Inputs

Volume, V (veh/h)	1680	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

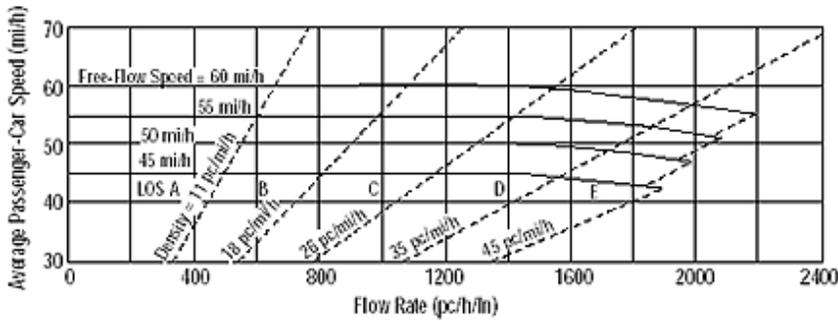
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 640
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 14.2
 LOS: B

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 2
 From/To: Craft / Winchester
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 2 - Craft to Winchester

Oper. (LOS) Des. (N) Plan. (v_p)

Flow Inputs

Volume, V (veh/h)	2160	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

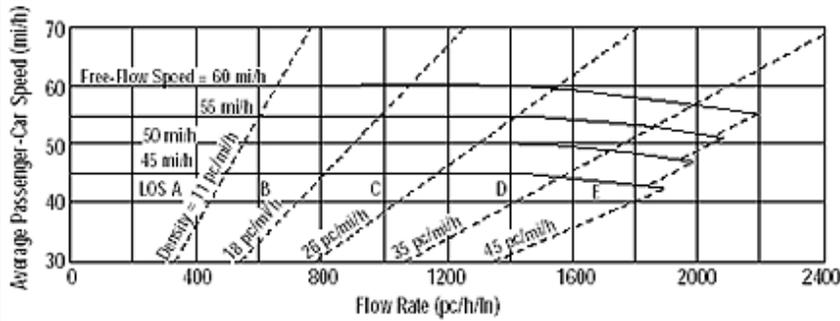
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1236
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 27.5
 LOS: D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 2
 From/To: Craft / Winchester
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 2 - Craft to Winchester

Oper. (LOS) Des. (N) Plan. (v_p)

Flow Inputs

Volume, V (veh/h)	2160	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

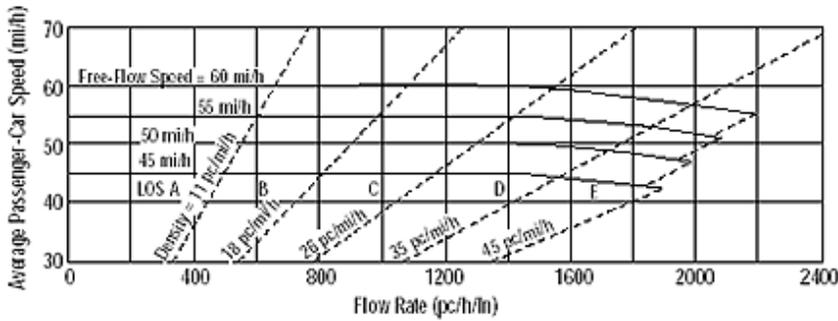
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 824
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 18.3
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 3
 From/To: Winchester / Brooks
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 3 - Winchester to Brooks

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2460	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	Length (mi)
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 31
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

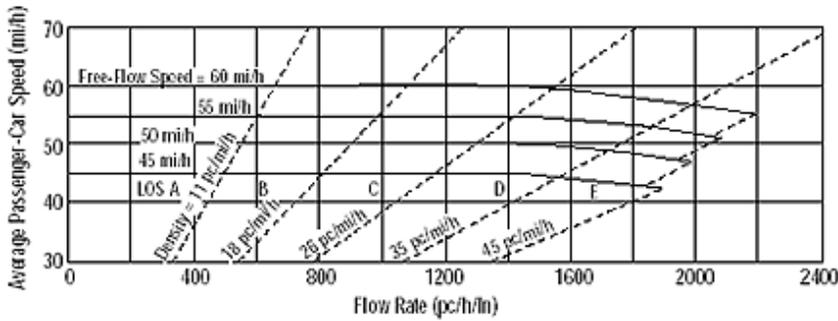
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1407
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 31.3
 LOS: D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 3
 From/To: Winchester / Brooks
 Jurisdiction: Shelby County
 Analysis Year: 2012

Project Description: 2012 - Elvis Presley Segment 3 - Winchester to Brooks

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2460	Peak-Hour Factor, PHF	0.90
AAADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AAADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	Length (mi)
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 31
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

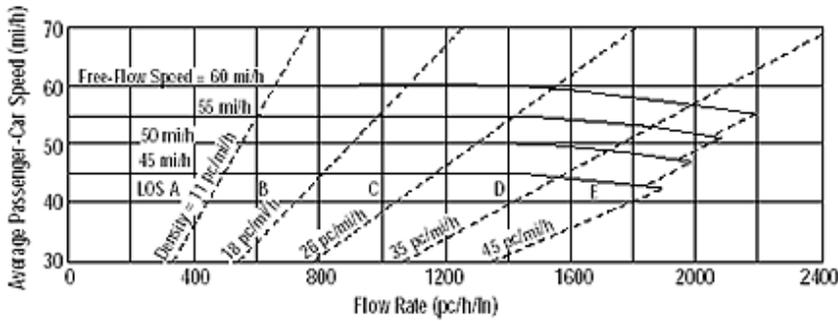
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 938
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 20.8
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1a
 From/To: Shelby / Raines
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 1a - Shelby to Raines

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2320	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	0.00
		Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 40
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

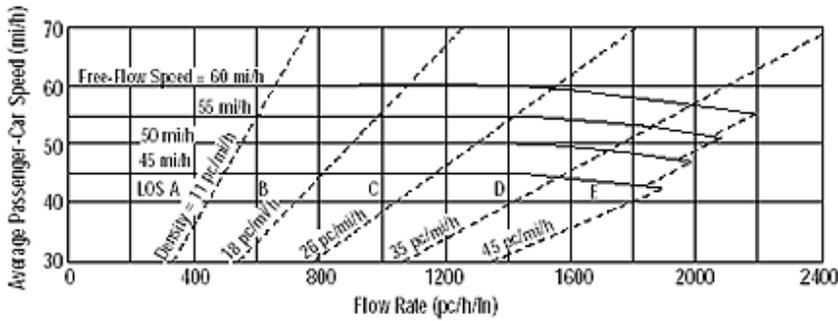
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1327
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 29.5
 LOS: D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1a
 From/To: Shelby / Raines
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 1a - Shelby to Raines

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2320	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 40
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

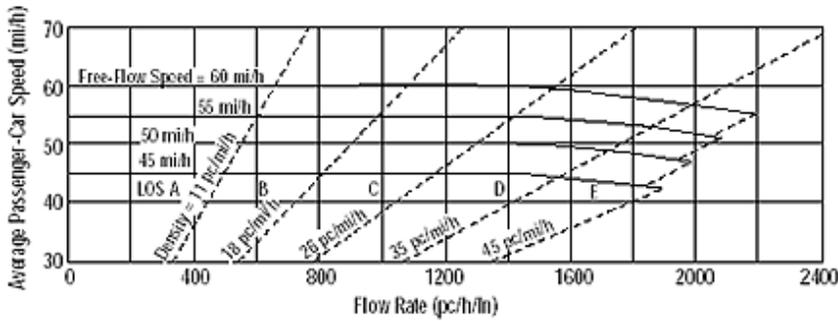
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 885
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 19.7
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst DHS
 Agency or Company GSP
 Date Performed 3/25/2009
 Analysis Time Period

Site Information

Highway/Direction to Travel Elvis Presley Segment 1b
 From/To Raines / Craft
 Jurisdiction Shelby County
 Analysis Year 2032

Project Description 2032 - Elvis Presley Segment 1b - Raines to Craft

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2630	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft) 12.0
 Total Lateral Clearance, LC (ft) 12.0
 Access Points, A (A/mi) 22
 Median Type, M
 FFS (measured) 45.0
 Base Free-Flow Speed, BFFS

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h) 45.0

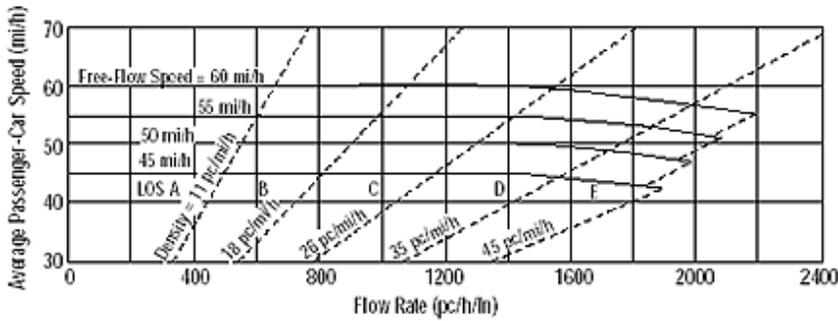
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln) 1504
 Speed, S (mi/h) 44.6
 D (pc/mi/ln) 33.7
 LOS D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 1b
 From/To: Raines / Craft
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 1b - Raines to Craft

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2630	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

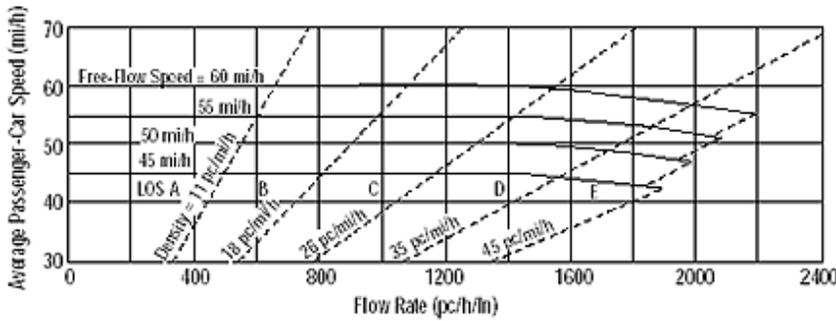
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1003
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 22.3
 LOS: C

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 2
 From/To: Craft / Winchester
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 2 - Craft to Winchester

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	3110	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	0.00
		Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

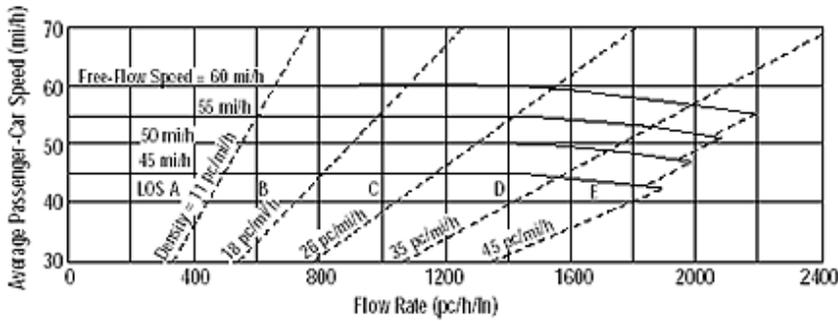
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1779
 Speed, S (mi/h): 43.1
 D (pc/mi/ln): 41.3
 LOS: E

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 2
 From/To: Craft / Winchester
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 2 - Craft to Winchester

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	3110	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 22
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

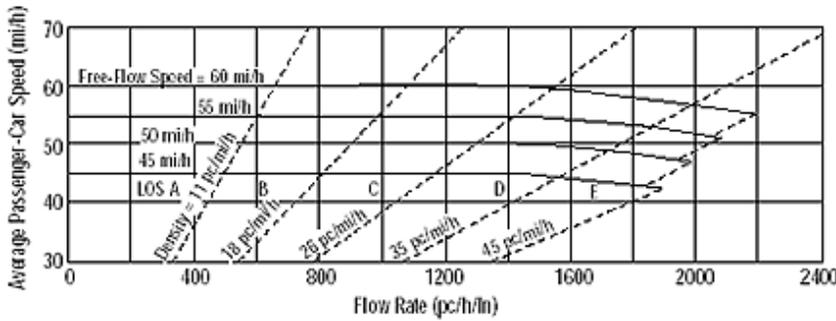
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1186
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 26.4
 LOS: D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 3
 From/To: Winchester / Brooks
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 3 - Winchester to Brooks

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	3200	Peak-Hour Factor, PHF	0.90
AAADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AAADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade	0.00
Driver Type Adjustment	1.00	Length (mi)	
		Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 31
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

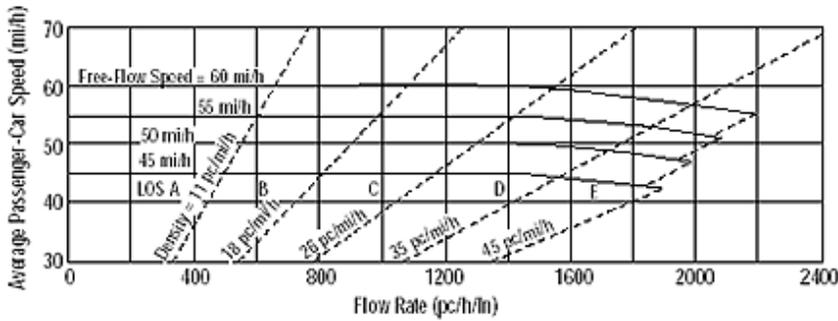
Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1831
 Speed, S (mi/h): 42.7
 D (pc/mi/ln): 42.9
 LOS: E

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DHS
 Agency or Company: GSP
 Date Performed: 3/25/2009
 Analysis Time Period:

Site Information

Highway/Direction to Travel: Elvis Presley Segment 3
 From/To: Winchester / Brooks
 Jurisdiction: Shelby County
 Analysis Year: 2032

Project Description: 2032 - Elvis Presley Segment 3 - Winchester to Brooks

Oper.(LOS) Des. (N) Plan. (vp)

Flow Inputs

Volume, V (veh/h)	3200	Peak-Hour Factor, PHF	0.90
AADT(veh/h)		%Trucks and Buses, P_T	6
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft): 12.0
 Total Lateral Clearance, LC (ft): 12.0
 Access Points, A (A/mi): 31
 Median Type, M:
 FFS (measured): 45.0
 Base Free-Flow Speed, BFFS:

Calc Speed Adj and FFS

f_{LW} (mi/h)
 f_{LC} (mi/h)
 f_A (mi/h)
 f_M (mi/h)
 FFS (mi/h): 45.0

Operations

Operational (LOS)
 Flow Rate, v_p (pc/h/ln): 1220
 Speed, S (mi/h): 45.0
 D (pc/mi/ln): 27.1
 LOS: D

Design

Design (N)
 Required Number of Lanes, N
 Flow Rate, v_p (pc/h)
 Max Service Flow Rate (pc/h/ln)
 Design LOS

**APPENDIX C:
STAKEHOLDER MEETING SUMMARY AND SIGN-IN SHEETS**

**DECEMBER 1, 2008 STAKEHOLDER MEETING SUMMARY
ELVIS PRESLEY BOULEVARD STREETScape IMPROVEMENTS
CITY OF MEMPHIS, TENNESSEE**

The City of Memphis conducted a stakeholder meeting for the Elvis Presley Boulevard streetscape improvements project on Monday, December 1, 2008 from 1:30 p.m. to 3:30 p.m. at the Memphis City Hall. The purpose of the meeting was to gather input that would assist the City and its subconsultant (Gresham Smith & Partners/GS&P) in the preparation of a Transportation Planning Report (TPR). The TPR is an early planning study that will:

- establish the need for the project;
- identify environmental and other constraints and issues; and
- develop and evaluate project concepts.

Stakeholder Meeting

Twenty five people attended the meeting (list attached). State Senator Reginald Tate and State Representative Karen Camper attended, as did City Councilman Harold Collins. Other attendees represented:

- City of Memphis;
- Memphis Area Transit Authority (MATA);
- Memphis Light, Gas and Water (MLGW);
- Tennessee Department of Transportation (TDOT);
- Elvis Presley Enterprises, Inc.; and
- GS&P.

Meeting attendees were invited to sign in and were given a handout, which included:

- A meeting agenda;
- An 11x17 map of the project corridor illustrating the three project phases is attached; and
- Traffic counts and crash data for the project corridor.

The meeting opened with a call to order by Wain Gaskins, the City Engineer for the City of Memphis. He discussed that there are exciting planned improvements proposed for Elvis Presley Boulevard and that those plans “bring ‘exciting’ price tags.” He mentioned that GS&P office, which has a Memphis office, was selected to provide consulting support for the project because of their past experience with developing TPRs and streetscaping plans and due to the company’s connections with TDOT.

Following Wain Gaskin’s introductory comments, the attendees introduced themselves.

Will Reid, GS&P project manager, next described what a TPR is, and explained that development of a TPR is the first step in qualifying for project funding. He described a TPR as similar to a feasibility study. Copies of the TPR for the City of Jackson’s US 45 Bypass project were passed around as an example of a TPR, with a note that Memphis’ document would be an “enhanced” TPR. Will mentioned that the project would be addressed in three project phases as shown on the handout map. Will emphasized that a stakeholder meeting was a requirement of a TPR.

Bill Moore of GS&P recognized the presence of the state representatives and other elected officials in attendance and then made a brief presentation. He highlighted the importance of

US Highway (US) 51 as a road extending from New Orleans to Lake Superior. He mentioned that 33 miles of US 51 are located in Shelby County; the Elvis Presley Boulevard project corridor is three miles long. He also discussed the history of improvements to US 51, that traffic has been decreasing in the corridor, and summarized the crashes that have occurred along the corridor, referencing the handout. He mentioned that he had met with Tennessee Commissioner of Transportation, Gerald F. Nicely, about the project. Commissioner Nicely is aware of the issues on Elvis Presley Boulevard, such as safety concerns, and the fact that the corridor is not attractive, in part because of aboveground utilities.

Following Bill Moore's presentation, Margaret Slater of GS&P led a discussion on project needs, and Will Reid and John Houghton of GS&P discussed ideas for project concepts, issues and constraints in the project area. Will Reid and Wain Gaskins then summarized the path forward for the project. These discussions are summarized below.

Purpose and Need:

Margaret Slater provided a summary of some of the project needs identified by GS&P, including pedestrian safety and the appearance of the project corridor (visual clutter, including utilities). She acknowledged that the City and others desire the area to be an inviting and attractive gateway to Graceland, a major tourist attraction. She also described other planning efforts in the area that have identified project needs, including the Whitehaven-Levi Planning District Study, and two grant applications for streetscape enhancements at the intersection of Elvis Presley Boulevard and East Brooks Road. Both grants have been awarded for improvements at the corner of Brooks and Elvis Presley Boulevard. The city agency responsible for implementing this grant will need to coordinate closely with the City and GS&P on the development of this project. Some of the goals for the existing plans are similar to goals identified for the Elvis Presley Boulevard project, including the idea of the importance of the Whitehaven area as a "bridge" to Graceland. Stakeholders were asked to provide input regarding why they think the project is needed. The responses below were recorded on an easel pad; additional detail is provided below:

- Improving the Whitehaven Neighborhood "spine";
- Strengthening area neighborhoods;
- Tie in to Aerotropolis Plan;
- Create an attractive gateway area for tourists;
- Spur reinvestment;
- Crossroads – spread out/expand redevelopment/reinvestment along the major cross streets intersecting with Elvis Presley Blvd;
- Need for improved sidewalks;
- Heavy transit use (need more transit shelters and amenities);
- Visual clutter due to utilities, etc.;
- Need improvements at I-55 interchange for wayfinding;
- Connection to Brooks Road -biomedical industry important (east of East Brooks Road/Elvis Presley Boulevard);
- No adverse impacts to neighborhoods and businesses – Keep them informed; and
- Address panhandling on medians.

The issue of commercial growth in the area of the I-55 interchange at the northern terminus of the project corridor was discussed. It was suggested that the project concept needs to

blend into the interchange in order to create a “crossroads” for traffic accessing the airport and the Whitehaven area.

City Councilman Harold Collins mentioned problems with the interchange traffic flow. He mentioned that some drivers accessing Elvis Presley Boulevard have problems knowing which lane to be in and sometimes find themselves in the East Brooks Road merge lane. He stated that signage in the area needs to be dignified and simplified.

The group discussed the fact that the Whitehaven neighborhood is the highest educated/earning community in Shelby County, and is a well preserved community. There was a concern about what type of encroachment would occur into surrounding neighborhoods. A major goal identified was a need to strengthen area neighborhoods and minimize adverse impacts.

The fact that the corridor was home to a heavily used bus transit route, Route 43, was discussed. A need for more transit shelters and amenities is evident. Utilities were also cited as being a safety hazard in the area.

During the discussion, Margaret Slater asked Jack Soden, CEO and President of Elvis Presley Enterprises, Inc., if he would like to make any comments about the project. He mentioned that the west side of Phase 1 is a very busy street, and a goal of the Elvis Presley Boulevard project is to make it easier for traffic to access the Graceland complex. The company has hopes that their planned development will act as a catalyst for other development. The City hopes that the development will rejuvenate area retail and bring in non-Graceland related traffic. With 3.5 to 4 visitors per car, the 150,000 cars visiting the area per year and the dollars spent by those visitors are likely to benefit the entire community. Soden added that attractive landscaping is a priority for the project area.

Concepts, Issues and Constraints:

Will Reid next introduced John Houghton of GS&P to discuss project concepts, issues and constraints identified by the stakeholders. Issues discussed are summarized below:

- A concept is to make Elvis Presley Boulevard a Great Place, a “back bone” for the Whitehaven community. This can include adding benches and trash receptacles, and overall, creating a “sense of place” in the community;
- The TPR should address conflicts between different types of traffic: through trucks, delivery trucks, local pedestrians, tourists, emergency vehicles, and bicyclists. Are bike lanes needed or required?;
- Senator Tate identified the Brooks Road interchange as having streets in poor condition due to heavy truck traffic. Replacement pavement needs to be durable;
- The example of Riverside Drive was cited as a good model for the project, with clearly marked crosswalks and adequate lighting for visitors. The group liked the idea of decorative posts to block off the Boulevard for special events for the Phase 1 portion of the corridor;
- The group discussed narrowing the 12-foot lanes to 11-foot lanes;
- Tom Wood of MLGW mentioned that the median in Phase 1 is beneficial as there isn’t as much through traffic in this area of the corridor. The sidewalk is also wider in Phase 1. MLGW has worked with GS&P in the past and knows that utility concerns will be addressed;
- Lighting and benches should include an “Elvis Theme,” and should be able to accommodate seasonal decorations;
- Lighting is essential to make the area inviting and safe. However, the lighting solution must be functional as well as attractive;

- Sidewalks must be Americans with Disabilities Act (ADA) accessible, intersections should be brought up to standards with pavement markings, crosswalks should be provided at signalized intersections, and controlled access should be considered for driveway ramps;
- Pedestrian activities should be consolidated to the east side of the street to reduce vehicular/pedestrian conflicts and to make it easier for vehicles to access parking and businesses. Improving access will help serve as a catalyst for more commercial development—identify where crosswalks are needed;
- Germantown Parkway was given as an example for what not to do with this project; although it is too large-scale of a project to compare to this project. Instead, evaluate the different areas of the project and develop appropriate cross sections throughout that will also help slow down traffic;
- There is excess capacity for traffic on portions of the project corridor today;
- A discussion ensued about whether the existing utility infrastructure can support the proposed development (e.g., sewer, water etc.). Soden mentioned that a large apartment complex in the area is being demolished, which will help account for the utility load. The city will review any plans for inputs to the sewer, drainage, gas/water, and electricity systems—usually they can find excess capacity within the existing system;
- The transit system serving the area needs to be accommodated; the bus route through the area is one of the most utilized in the city; transit shelters should be considered to serve those utilizing the transit system;
- In areas outside the Phase 1 area, particularly in the Phase 3 area, consider redirecting local traffic and separate residential from commercial traffic;
- Impacts to Whitehaven High School southwest of the southern project terminus on East Shelby Drive should be minimized—substantial pedestrian traffic in that area; and
- The needs of the fire department should be considered for issues of access, response time, and adequate water supply (fire stations are just west of Elvis Presley Boulevard on Raines Road and on East Brooks Road).

Tom Word of MLGW mentioned that during early project planning, the city had looked at relocating overhead lines. It is unlikely that the existing lines can go underground, due to cost. It is anticipated that moving them will cost \$25 million dollars for just the areas covered by Phases 1 and 2. The TPR should study options for addressing the utilities. Landscaping must be compatible with above and below-ground utilities.

GS&P was instructed to touch base with Burt Renner of OPD (376-4200)

Path Forward:

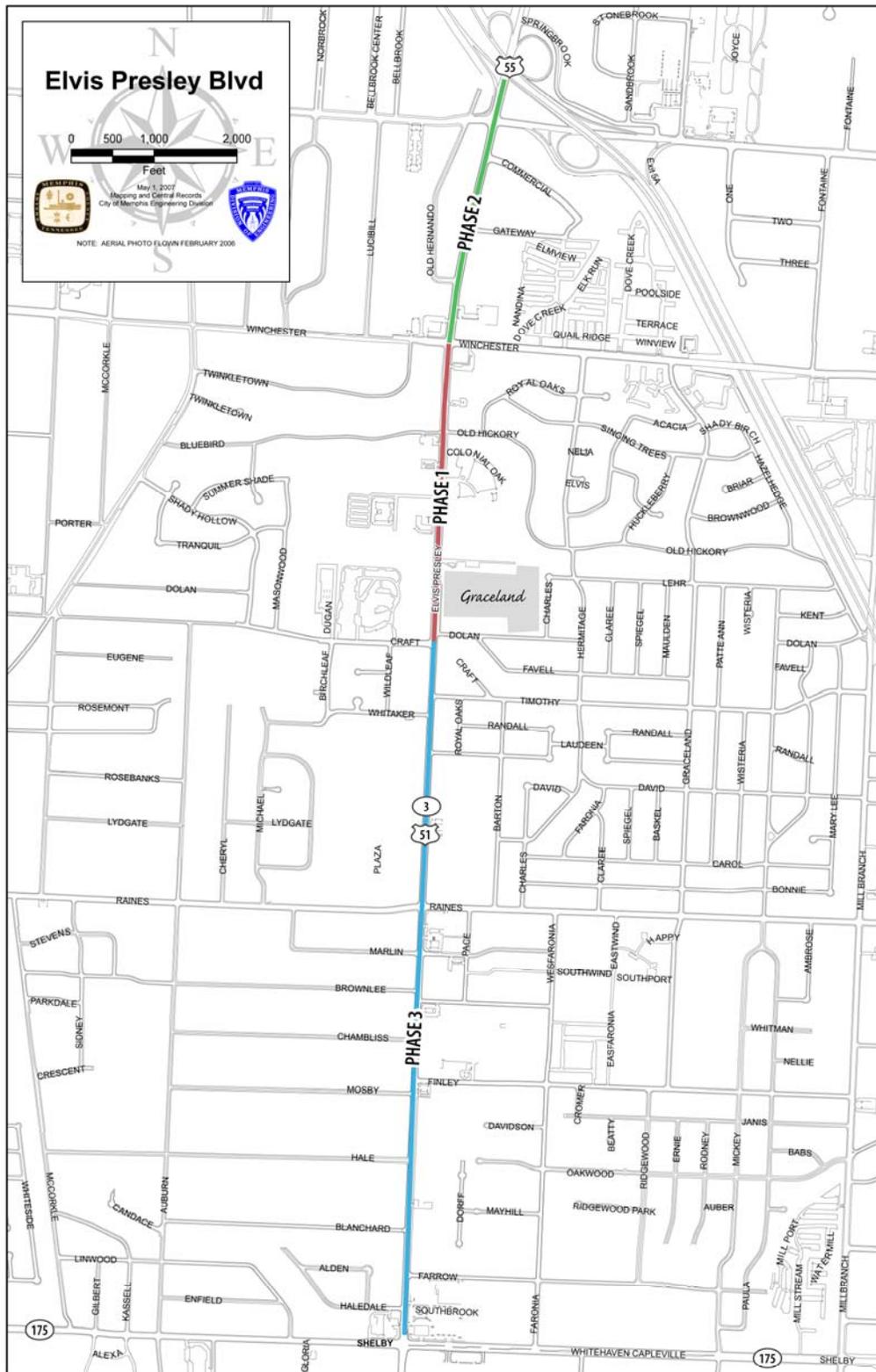
Will Reid and Wain Gaskins then discussed the way ahead for completion of the project.

- The draft TPR will be turned in by the first of March, with the final report turned in by the first of April. Concepts will be refined by the third week of February;
- Environmental screening is being covered in the report to identify social and environmental issues;
- Options for addressing the above ground utilities will be discussed. The proposal will be for pole street lighting and will include program level costs;
- Two typical sections will be prepared for each of the three segments;
- If the project is to receive Federal funding, National Environmental Policy Act (NEPA) requirements must be met. This will likely include public involvement;

- The city is funding the TPR document;
- All impacts to utilities will be coordinated with MLGW; and
- It is unknown whether additional right of way (ROW) will be acquired for the project. The goal is to not acquire ROW if possible. Any ROW acquired will be used to enhance the corridor.

The meeting was adjourned by Wain Gaskins.

Prepared by: Laura Yates and Margaret Slater, Gresham Smith and Partners, December 4, 2008



**SIGN IN SHEET FOR DECEMBER 1, 2008 STAKEHOLDER MEETING
 ELVIS PRESLEY BOULEVARD STREETScape IMPROVEMENTS**
 From I-55/East Brooks Road to East Shelby Drive,
 City of Memphis, Tennessee

Date/Time: December 1, 2008 / 10:30 p.m.
 Location: Memphis City Hall, Conference Room A, #403
 Purpose: Early Planning for Elvis Presley Boulevard Streetscape Improvements

Name	Organization/Affiliation	Contact Information: e-mail
Mauri Albertson	City of Memphis/HCD	mauri.albertson@memphis.tn.gov
Alvin Benson	MEMPHIS FIRE DEPT	alvin.benson@memphis.tn.gov
Jack Soden	Elvis Presley Enterprises, Inc.	jsoden@elvis.com
Brian E Fink	Miller & Martin	befink@mlmllaw.com
Tim Moreland	Memphis MPD	tim.moreland@shelbycountytgva.gov
John Lancaster	MATA	JLANCASTER@MATA-TN.COM
Alvin Carkins	City	
Harold Collins	City Council	
KAREN D. AMLER	State Representative	rep.karen.comparet@legis.tn.gov
Tyree C. Daniels	Morgan Keegan	tyree.daniels@morgankeegan.com

_____ of _____

**SIGN IN SHEET FOR DECEMBER 1, 2008 STAKEHOLDER MEETING
 ELVIS PRESLEY BOULEVARD STREETScape IMPROVEMENTS**
 From I-55/East Brooks Road to East Shelby Drive,
 City of Memphis, Tennessee

Date/Time: December 1, 2008 / 10:30 p.m.
 Location: Memphis City Hall, Conference Room A, #403
 Purpose: Early Planning for Elvis Presley Boulevard Streetscape Improvements

Name	Organization/Affiliation	Contact Information: e-mail
Amy Weaver	MCGW	aweaver@mgw.org
Margaret Slater	GSP	margaret-slater@gspnet.com
Philip Lim	MCLW	plim@mgw.org
Zoe Warren	TPOF	zoe.warren@state.tn.us
Jill Cameron	CITY OF MEMPHIS	JILL.CAMERON@MEMPHIS.TN.GOV
Tom Woods	MCGW	tw@mgw.org
Will Reid	GSP	will_reid@gspnet.com
High Teaford	City of Memphis	High.Teaford@memphistga.gov
Bret Harrison	MCGW	bret@mgw.org
Odell Johnson	MCGW	OJOHNSON@MCGW.ORG

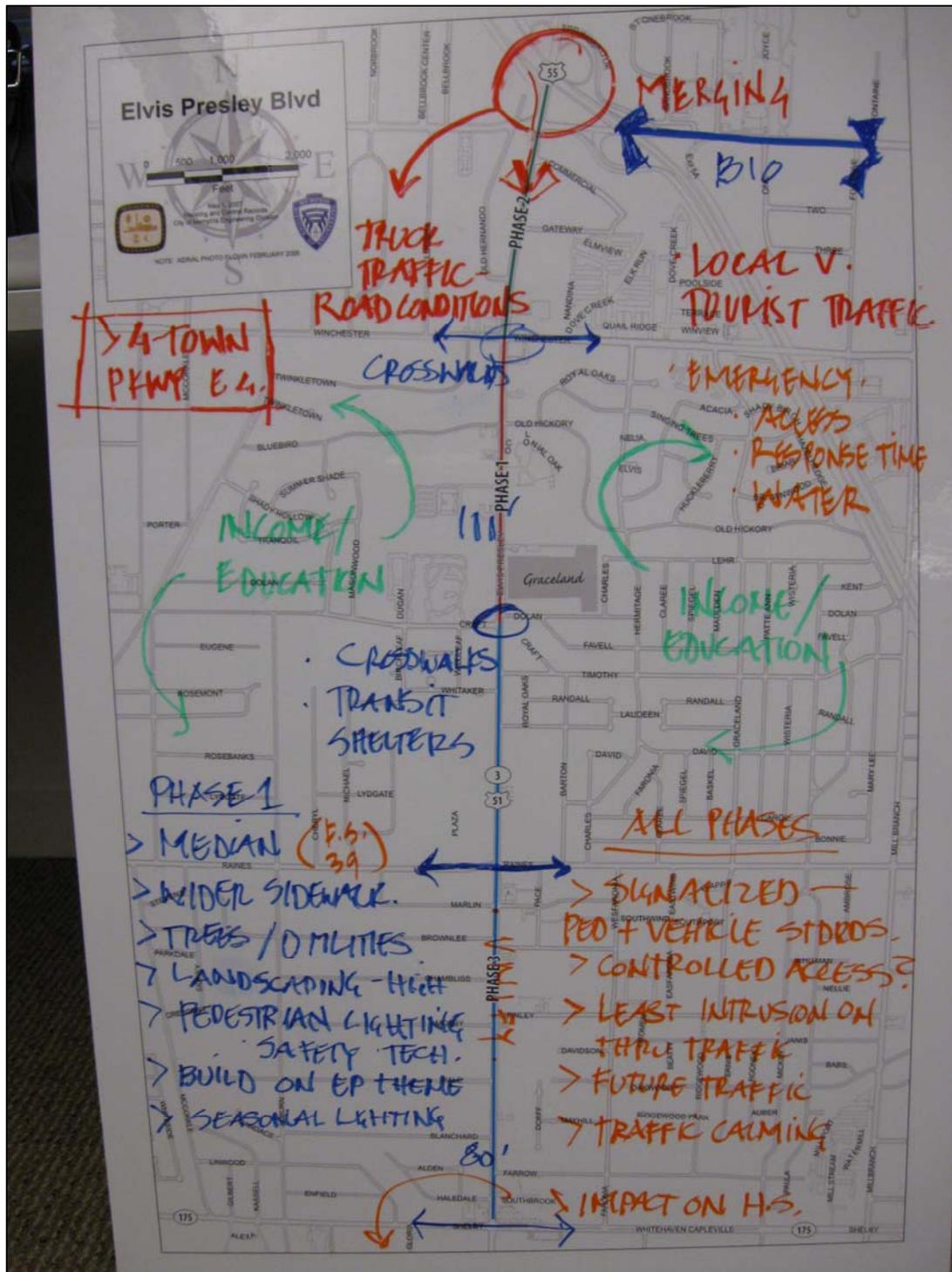
_____ of _____

**SIGN IN SHEET FOR DECEMBER 1, 2008 STAKEHOLDER MEETING
 ELVIS PRESLEY BOULEVARD STREETScape IMPROVEMENTS**
 From I-55/East Brooks Road to East Shelby Drive,
 City of Memphis, Tennessee

Date/Time: December 1, 2008 / 10:30 p.m.
 Location: Memphis City Hall, Conference Room A, #403
 Purpose: Early Planning for Elvis Presley Boulevard Streetscape Improvements

Name	Organization/Affiliation	Contact Information: e-mail
Maureen Sullivan	Digital Planning and Development	maureen.sullivan@memphwatn.gov
Bill Moore	GSEP	
Senator Reginald Tate	attended but did not sign in.	

_____ of _____



**APPENDIX D:
STREETSCAPE CONCEPT PLANS**

**APPENDIX E:
PLANNING LEVEL COST ESTIMATES**

**APPENDIX E:
COSTS ALTERNATE 1 (SEGMENTS 1, 2, 3)**

SEGMENT 1, ALTERNATE 1
Elvis Presley Boulevard from Shelby Drive to Craft Road Approx. 1.6 miles
2-14' Outside Lanes, & 2-10' Inside Lanes with 12' Turn Lane, Curb and Gutter, Buffer Strip and 5' Sidewalks

SEGMENT 1, ALTERNATE 1 RIGHT-OF-WAY COSTS		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST - LAND	ACRES	0.299	\$150,000.00	\$200,000.00	\$44,850	\$59,800
			SUB-TOTAL			\$44,850	\$59,800

SEGMENT 1, ALTERNATE 1 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1	\$68,000.00	\$78,100.00	\$68,000	\$78,100
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	14217	\$7.40	\$8.10	\$105,206	\$115,158
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	7583	\$2.60	\$31.00	\$19,716	\$235,073
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	1264	\$4.00	\$4.00	\$5,056	\$5,056
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	632	\$4.80	\$9.90	\$3,034	\$6,257
203-06	WATER	M.G.	792	\$6.40	\$9.50	\$5,069	\$7,524
209-05	SEDIMENT REMOVAL	C.Y.	160	\$5.50	\$7.10	\$880	\$1,136
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	5000	\$4.60	\$5.30	\$23,000	\$26,500
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	10000	\$1.60	\$2.10	\$16,000	\$21,000
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4	\$400.00	\$400.00	\$1,600	\$1,600
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	31	\$203.00	\$203.00	\$6,293	\$6,293
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	8538	\$15.30	\$19.00	\$130,631	\$162,222
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	55	\$68.00	\$60.00	\$3,740	\$3,300
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	1309	\$69.00	\$79.00	\$90,321	\$103,411
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S MIX	TON	34	\$763.00	\$42.00	\$25,942	\$30,906
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	991	\$37.00	\$42.00	\$36,667	\$41,622
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	857	\$72.00	\$83.00	\$61,704	\$71,131
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	13	\$492.00	\$562.00	\$6,396	\$7,306
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	49	\$24.00	\$28.00	\$1,176	\$1,372
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	6	\$414.00	\$475.00	\$2,484	\$2,850
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	17060	\$2.00	\$3.20	\$34,120	\$54,592
411-01.10	ACS MIX (PG64-22) GRADING D	TON	37	\$76.00	\$86.00	\$2,812	\$3,182
411-02.10	ACS MIX (PG70-22) GRADING D	TON	3408	\$76.00	\$79.00	\$259,008	\$269,232
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	5397	\$13.00	\$16.00	\$70,161	\$86,352
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	86616	\$6.50	\$8.00	\$563,004	\$692,928
607-02.02	15" CONCRETE PIPE CULVERT (CLASS III)	L.F.	16	\$53.00	\$54.00	\$848	\$864
611-01.20	ADJUSTMENT OF EXISTING MANHOLE	EACH	13	\$466.00	\$650.00	\$6,058	\$8,450
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	31	\$522.00	\$952.00	\$16,182	\$29,512
611-09.03	CAPPING EXISTING CATCH BASINS	EACH	2	\$249.00	\$870.00	\$498	\$1,740
701-12.01	CATCH BASINS, TYPE 12, > 0' - 4' DEPTH	EACH	4	\$1,971.00	\$2,500.00	\$7,884	\$10,000
701-01.01	CONCRETE SIDEWALK (4")	S.F.	78844	\$3.40	\$3.50	\$268,070	\$275,954
701-02	CONCRETE DRIVEWAY	S.F.	3000	\$5.40	\$7.00	\$16,200	\$21,000
701-02.03	CONCRETE HANDICAP RAMP	S.F.	3456	\$11.00	\$12.00	\$38,016	\$41,472

SEGMENT 1, ALTERNATE 1 UTILITY COST						
UTILITY COST						
DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
UTILITY RELOCATION						
*MLGW	LS	1	\$5,000,000.00	\$8,333,333.00	\$5,000,000	\$8,333,333
*COMCAST	LS	1			\$0	\$0
*AT&T	LS	1	\$188,333.00	\$242,667.00	\$188,333	\$242,667
*ZAYO BANDWIDTH	LS	1	\$26,200.00	\$26,200.00	\$26,200	\$26,200
SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)	LS	1	\$1,303,633.25	\$2,150,550.00	\$1,303,633	\$2,150,550
* Utility Estimate provided by utility companies						
MOBILIZATION						
Low = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION						
High = \$230,000 + 4% OF TOTAL CONST. EST. OVER \$5 MILLION EXC. MOBILIZATION						
CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)						
TOTAL CONSTRUCTION COST						
PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)						
TOTAL (WITHOUT INFLATION)						
INFLATION (6% PER YEAR OVER 5 YEARS)						
TOTAL CONSTRUCTION COSTS SEGMENT 1, ALTERNATE 1						

SEGMENT 1, ALTERNATE 1

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	142
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	42
712-05.03	WARNING LIGHTS (TYPE C)	EACH	142
712-06	SIGNS (CONSTRUCTION)	S.F.	1202
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	8.0
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	8000

SEGMENT 1, ALTERNATE 1

TRAFFIC CONTROL QUANTITIES							
SIGN NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
1A	ROAD WORK 1 MILE	16	7	112	48"X 48"	W20-1	
1	ROAD WORK 1/2 MILE	16	7	112	48"X 48"	W20-1	
2	ROAD WORK 1000 FT	16	7	112	48"X 48"	W20-1	
3	ROAD WORK 500 FT	16	0	0	48"X 48"	W20-1	
4	ROAD WORK AHEAD	16	14	224	48"X 48"	W20-1	

SEGMENT 1, ALTERNATE 1

TRAFFIC CONTROL QUANTITIES (continued)

SIGN NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
5	ROAD WORK NEXT 2 MILES	10	0	0	64"X 24"	G20-1	
6	END ROAD WORK	8	21	168	48"X 24"	G20-2A	
7	RIGHT LANE CLOSED 1000 FT.	16	1	16	48"X 48"	W20-5R	(1)
8	RIGHT LANE CLOSED 500 FT.	16	1	16	48"X 48"	W20-5R	(1)
9	MERGE LEFT	16	1	16	48"X 48"	W4-2L	(1)
10	LEFT LANE CLOSED 1000 FT.	16	1	16	48"X 48"	W20-5L	(1)
11	LEFT LANE CLOSED 500 FT.	16	1	16	48"X 48"	W20-5L	(1)
12	MERGE RIGHT	16	1	16	48"X 48"	W4-2R	(1)
13	LANE SHIFT 1000 FT.	16	2	32	48"X 48"	W20-5	(1)
14	LANE SHIFT 500 FT.	16	2	32	48"X 48"	W20-5	(1)
15	REVERSE CURVE LEFT (ONE LANE)	16	2	32	36"X 36"	W1-4L	(1)
16	REVERSE CURVE RIGHT (ONE LANE)	16	2	32	36"X 36"	W1-4R	(1)
17	REVERSE CURVE LEFT (TWO LANE)	16	2	32	48"X 48"	W1-4BL	(1)
18	REVERSE CURVE RIGHT (TWO LANE)	16	2	32	48"X 48"	W1-4BR	(1)
19	RIGHT SHOULDER CLOSED 1000 FT.	16	0	0	48"X 48"	W20-5R	(1)
20	RIGHT SHOULDER CLOSED	16	0	0	48"X 48"	W20-5R	(1)
21	FLAGGER	9	1	9	36"X 36"	W20-7A	(4)
22	RIGHT LANE MUST TURN RIGHT	6.25	0	0	30"X 30"	R3-7R	
23	THRU TRAFFIC MERGE LEFT	9	0	0	36"X 36"	W4-1A	
24	ROAD CLOSED TO THRU TRAFFIC	12.5	0	0	60" X 30"	R11-2	
25	ROAD CLOSED	10	0	0	48" X 30"	R11-4	
26							
27							
28							
29							
30	UNEVEN LANES	9	5	45	36"X 36"	W8-11M	(2)
	W/ SUPPLEMENT SIGN	3	5	15	14" X 18"		
31	LOW SHOULDER	9	5	45	36"X 36"	W8-9AM	(2)
	W/ SUPPLEMENT SIGN	3	5	15	14" X 18"		
32	STOP	6.25	0	0	30"X 30"	R1-1	(3)
33	STOP AHEAD	9	0	0	36"X 36"	W3-1A	(4)

SEGMENT 1, ALTERNATE 1

SIGN AND STRIP QUANTITIES												
ITEM NO.	DESCRIPTION	SHT 4	SHT 5	SHT 6	SHT 7	SHT 8	SHT 9	SHT 10	SHT 11	ENDS	TOTAL	UNIT
712-09.01	REMOVABLE PAVEMENT MARKING LINE											L.F.
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)											L.F.
712-09.05	REMOVABLE PAVEMENT MARKING (ARROW)											EACH
713-11.01	"U" SECTION STEEL POSTS											LB.
713-11.02	PERFORATED/KNOCKOUT SQUARE TUBE POST											LB.
713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)											S.F.
713-13.03	FLAT SHEET ALUMINUM SIGNS (0.100" THICK)											S.F.
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	0.5	1.1	1.1	1.0	1.0	1.2	1.1	0.1	1.5	9	L.M.
716-02.04	PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)											S.Y.
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	50	40	40	156	308		48	36		678	L.F.
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	2	6	4	3	4	6	4	1		30	EACH
716-02.09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	110			210	640		50	70		1080	L.F.
716-03.01	PLASTIC PAVEMENT MARKING (ONLY)	2			1	4		1			8	EACH
716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)										0	EACH
716-04.03	PLASTIC PAVEMENT MARKING (4" DOTTED LINE)										0	L.F.
716-04.11	PLASTIC PAVEMENT MARKING (BICYCLE SYMBOL W/RIDER)										0	EACH
716-02.02	PLASTIC PAVEMENT MARKING (8" BARRIER LINE)										0	L.F.
716-02.08	PLASTIC PAVEMENT MARKING (8" DOTTED LINE)										0	L.F.
716-04.05	PLASTIC PAVEMENT MARKING (STRAIGHT ARROW)										0	EACH

FOOTNOTES

SEGMENT 2, ALTERNATE 1
Elvis Presley Boulevard from Craft Road to Winchester Road Approx. 0.7 miles
6-11' Lanes with 12' Turn Lane or 12' Median

SEGMENT 2, ALTERNATE 1 RIGHT-OF-WAY COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST						
	LAND	ACRES	0.413	\$150,000.00	\$200,000.00	\$61,950	\$82,600
				SUB-TOTAL		\$61,950	\$82,600
SEGMENT 2, ALTERNATE 1 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1	\$39,000	\$47,000	\$39,000	\$47,000
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	6095	\$7.40	\$8.10	\$45,103	\$49,370
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	4894	\$2.60	\$31.00	\$12,725	\$151,721
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	622	\$4.00	\$4.00	\$2,487	\$2,487
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	311	\$4.80	\$9.90	\$1,492	\$3,077
203-06	WATER	M.G.	351	\$6.40	\$9.50	\$2,246	\$3,335
209-05	SEDIMENT REMOVAL	C.Y.	75	\$5.50	\$7.10	\$413	\$533
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	2500	\$4.60	\$5.30	\$11,500	\$13,250
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	5000	\$1.60	\$2.10	\$8,000	\$10,500
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	3	\$400.00	\$400.00	\$1,200	\$1,200
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	17	\$203.00	\$203.00	\$3,451	\$3,451
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	3688	\$15.30	\$19.00	\$56,426	\$70,072
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	17	\$68.00	\$60.00	\$1,156	\$1,020
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	603	\$69.00	\$79.00	\$41,607	\$47,637
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S	TON	16	\$763.00	\$909.00	\$12,208	\$14,544
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	456	\$37.00	\$42.00	\$16,872	\$19,152
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	395	\$72.00	\$83.00	\$28,440	\$32,785
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	6	\$492.00	\$562.00	\$2,952	\$3,372
402-02	AGGREGATE FOR COVER MATERIAL (TC)	TON	22	\$24.00	\$28.00	\$528	\$616
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TO)	TON	3	\$414.00	\$475.00	\$1,242	\$1,425
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	11043	\$2.00	\$3.20	\$22,086	\$35,338
411-01.10	ACS MIX(PG64-22) GRADING D	TON	12	\$76.00	\$86.00	\$912	\$1,032
411-02.10	ACS MIX(PG70-22) GRADING D	TON	1795	\$76.00	\$79.00	\$136,420	\$141,805
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	2272	\$13.00	\$16.00	\$29,536	\$36,352
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	21150	\$6.50	\$8.00	\$137,475	\$169,200
604-02.01	CLASS A CONCRETE (BOX BRIDGE)	C.Y.	12	\$353.00	\$650.00	\$4,236	\$7,800
604-02.02	STEEL BAR REINFORCEMENT (BOX BRIDGE)	LB.	1928	\$0.90	\$1.10	\$1,735	\$2,121
607-02.02	15" CONCRETE PIPE CULVERT (CLASS III)	L.F.	12	\$53.00	\$54.00	\$636	\$648
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	17	\$522.00	\$952.00	\$8,874	\$16,184
611-12.01	CATCH BASINS, TYPE 12, > 0' - 4' DEPTH	EACH	3	\$1,971.00	\$2,500.00	\$5,913	\$7,500
701-01.01	CONCRETE SIDEWALK (4")	S.F.	55904	\$3.40	\$3.50	\$190,074	\$195,664
701-02	CONCRETE DRIVEWAY	S.F.	1500	\$5.40	\$7.00	\$8,100	\$10,500
701-02.03	CONCRETE HANDICAP RAMP	S.F.	864	\$11.00	\$12.00	\$9,504	\$10,368
702-01	CONCRETE CURB	C.Y.	157	\$336.00	\$400.00	\$52,752	\$62,800

SEGMENT 2, ALTERNATE 1
CONSTRUCTION COST (continued)

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
702-03	CONCRETE COMBINED CURB & GUTTER	C.Y.	519	\$286.00	\$304.00	\$148,434	\$157,776
707-08.10	TEMPORARY CONSTRUCTION FENCE	L.F.	125	\$15.00	\$15.00	\$1,875	\$1,875
710-02	AGGREGATE UNDERDRAINS (WITH PIPE)	L.F.	7314	\$2.90	\$3.10	\$21,211	\$22,673
712-01	TRAFFIC CONTROL	LS	1	\$26,000.00	\$31,500.00	\$26,000	\$31,500
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	64	\$35.00	\$34.00	\$2,240	\$2,176
712-05.01	WARNING LIGHTS (TYPE A)	EACH	16	\$36.00	\$40.00	\$576	\$640
712-05.03	WARNING LIGHTS (TYPE C)	EACH	64	\$33.00	\$30.00	\$2,112	\$1,920
712-06	SIGNS (CONSTRUCTION)	S.F.	794	\$9.00	\$9.00	\$7,146	\$7,146
712-07.03	TEMP. BARRICADES (TYPE III)	L.F.	60	\$14.00	\$14.00	\$840	\$840
712-08.03	ARROW BOARD (TYPE C)	EACH	2	\$1,357.00	\$1,400.00	\$2,714	\$2,800
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8000	\$1.90	\$1.75	\$15,200	\$14,000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2	\$6,749.00	\$7,000.00	\$13,498	\$14,000
713-16.20	SIGNS (STREET NAME SIGNS)	EACH	5	\$217.00	\$270.00	\$1,085	\$1,350
713-16.24	SIGNS (STOP)	EACH	3	\$260.00	\$260.00	\$780	\$780
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	5.3	\$3,033.00	\$3,246.00	\$16,075	\$17,204
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	300	\$13.00	\$16.00	\$3,900	\$4,800
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	10	\$150.00	\$173.00	\$1,500	\$1,730
716-02.09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	L.F.	340	\$29.00	\$37.00	\$9,860	\$12,580
716-03.01	PLASTIC WORD PAVEMENT MARKING (ONLY)	EACH	4	\$180.00	\$207.00	\$720	\$828
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	3.6	\$808.00	\$1,042.00	\$2,909	\$3,751
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	8000	\$0.70	\$0.80	\$5,600	\$6,400
801-03	WATER (SEEDING & SODDING)	M.G.	142	\$11.00	\$30.00	\$1,562	\$4,260
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	31	\$25.00	\$30.00	\$775	\$930
803-01	SODDING (NEW SOD)	S.Y.	13844	\$2.20	\$2.90	\$30,457	\$40,148
SP-2	4.5' PLANTING STRIPS	LS	1	\$373,000.00	\$447,600.00	\$373,000	\$447,600
SP-3	LAMP FIXTURES/POSTS INSTALLATION	EACH	76	\$10,000.00	\$11,000.00	\$760,000	\$836,000
SP-4	8' MEDIAN PLANTING	LS	1	\$164,472.00	\$197,366.00	\$164,472	\$197,366
SP-5	IRRIGATION	L.F.	9283	\$15.00	\$18.00	\$139,245	\$167,094
				SUB-TOTAL	\$2,651,086		\$3,174,023

* Construction Cost Assumes Use of Existing Drainage System

SEGMENT 2, ALTERNATE 1
UTILITY COST

DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
UTILITY RELOCATION						
*MLGW	LS	1	\$5,000,000.00	\$8,333,333.00	\$5,000,000	\$8,333,333
*COMCAST	LS	1			\$0	\$0
*AT&T	LS	1	\$188,333.00	\$242,667.00	\$188,333	\$242,667
*ZAYO BANDWIDTH	LS	1			\$0	\$0
SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)	LS	1	\$1,297,083.25	\$2,144,000.00	\$1,297,083	\$2,144,000
				SUB-TOTAL	\$6,485,416	\$10,720,000

*Utility Cost Provided by Utility Companies

SEGMENT 2, ALTERNATE 1		
UTILITY COST		
MOBILIZATION	\$124,299	\$147,831
Low & High = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION		
CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)	\$1,370,475	\$2,084,104
TOTAL CONSTRUCTION COST	\$10,631,276	\$16,125,958
PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)	\$1,063,128	\$1,612,596
TOTAL (WITHOUT INFLATION)	\$11,694,404	\$17,738,554
INFLATION (6% PER YEAR OVER 5 YEARS)	\$3,955,047	\$5,999,179
TOTAL CONSTRUCTION COSTS SEGMENT 2, ALTERNATE 1	\$15,649,451	\$23,737,733

SEGMENT 2, ALTERNATE 1

		PAVEMENT QUANTITIES																
LOCATION	303-01 STONE BASE (TON)	307-01-08 B-M2 PG64-22 (TON)	307-02-01 A PG70-22 (TON)	307-02-02 A-S PG70-22 (TON)	307-02-03 A-S PG70-22 (TON)	307-02-08 B-M2 PG70-22 (TON)	411-01-10 D PG64-22 (TON)	411-02-10 D PG70-22 (TON)	402-01 COLD PLAN PG70-22 (TON)	402-02 PC PG70-22 (TON)	403-01 TC PG70-22 (TON)	XXX-XX-XX STAINED CONC. 4" DEEP (SF)	701-01-01 S/W 4" DEEP (SF)	803-01 SOD 7" LF & RT & ISLANDS (SY)	701-02 CONC D/W (SF)	701-02-03 H/C RAMP (SF)	702-01 Curb TYPE "A" (CY)	702-03 C&G 8" DEPTH (CY)
Mainline & Side Rds	3431.0							1795.0	1776.0		2.3		55904.0	13844.0	1500.0	864.0	156.1	516.2
Mainline Concrete & Pave C&G								489.5			0.6							
Mainline widening			602.0	15.3	455.8	394.4				5.3								
DRIVEWAYS	6.3	16.5				11.1					0.0							
TRAFFIC CONTROL	230.0									0.3								
TOTALS	3687.3	16.5	602.0	15.3	455.8	394.4	11.1	1795.0	2271.5	5.5	3.0	21150.0	55904.0	13844.0	1500.0	864.0	156.1	516.2

FOOTNOTE
(1) THE PAVEMENT SECTION MAINLINE EXTENDS TO THE BACK OF RADIUS ON SIDE ROADS.

SY

27094
3490
167

SEGMENT 2, ALTERNATE 1

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	64
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	16
712-05.03	WARNING LIGHTS (TYPE C)	EACH	64
712-06	SIGNS (CONSTRUCTION)	S.F.	794
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	3.6
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	8000

SEGMENT 3, ALTERNATE 1
Elvis Presley Boulevard from Winchester Road to Brooks Road Approx. 0.51 miles
6 - 11' Lanes with a 12' Turn Lane

SEGMENT 3, ALTERNATE 1 RIGHT-OF-WAY COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST						
	LAND	ACRES	0.222	\$150,000.00	\$200,000.00	\$33,300	\$44,400
				SUB-TOTAL		\$33,300	\$44,400
SEGMENT 3, ALTERNATE 1 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1	\$33,900	\$37,900	\$33,900	\$37,900
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	4515	\$7.40	\$8.10	\$33,411	\$36,572
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	2408	\$2.60	\$31.00	\$6,261	\$74,648
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	402	\$4.00	\$4.00	\$1,608	\$1,608
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	201	\$4.80	\$9.90	\$965	\$1,990
203-06	WATER	M.G.	276	\$6.40	\$9.50	\$1,766	\$2,622
209-05	SEDIMENT REMOVAL	C.Y.	50	\$5.50	\$7.10	\$275	\$355
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	1700	\$4.60	\$5.30	\$7,820	\$9,010
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	3400	\$1.60	\$2.10	\$5,440	\$7,140
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4	\$400.00	\$400.00	\$1,600	\$1,600
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	10	\$203.00	\$203.00	\$2,030	\$2,030
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	2867	\$15.30	\$19.00	\$43,865	\$54,473
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	55	\$68.00	\$60.00	\$3,740	\$3,300
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	416	\$69.00	\$79.00	\$28,704	\$32,864
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S	TON	11	\$763.00	\$909.00	\$8,393	\$9,999
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	315	\$37.00	\$42.00	\$11,655	\$13,230
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	273	\$72.00	\$83.00	\$19,656	\$22,659
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	5	\$492.00	\$562.00	\$2,460	\$2,810
402-02	AGGREGATE FOR COVER MATERIAL (TC)	TON	18	\$24.00	\$28.00	\$432	\$504
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TO)	TON	3	\$414.00	\$475.00	\$1,242	\$1,425
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	5418	\$2.00	\$3.20	\$10,836	\$17,338
411-01.10	ACS MIX (PG64-22) GRADING D	TON	37	\$76.00	\$86.00	\$2,812	\$3,182
411-02.10	ACS MIX (PG70-22) GRADING D	TON	1412	\$76.00	\$79.00	\$107,312	\$111,548
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	2041	\$13.00	\$16.00	\$26,533	\$32,656
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	27504	\$6.50	\$8.00	\$178,776	\$220,032
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	14	\$522.00	\$952.00	\$7,178	\$13,090
701-01.01	CONCRETE SIDEWALK (4")	S.F.	24978	\$3.40	\$3.50	\$84,925	\$87,423
701-02	CONCRETE DRIVEWAY	S.F.	960	\$5.40	\$7.00	\$5,184	\$6,720
701-02.03	CONCRETE HANDICAP RAMP	S.F.	1152	\$11.00	\$12.00	\$12,672	\$13,824
702-01	CONCRETE CURB	C.Y.	6	\$336.00	\$400.00	\$2,016	\$2,400
702-03	CONCRETE COMBINED CURB & GUTTER	C.Y.	384	\$286.00	\$304.00	\$109,824	\$116,736
707-08.10	TEMPORARY CONSTRUCTION FENCE	L.F.	120	\$15.00	\$15.00	\$1,800	\$1,800
710-02	AGGREGATE UNDERDRAINS (WITH PIPE)	L.F.	5418	\$2.90	\$3.10	\$15,712	\$16,796
712-01	TRAFFIC CONTROL	LS	1	\$22,900.00	\$25,400.00	\$22,900	\$25,400

SEGMENT 3, ALTERNATE 1						
UTILITY COST						
	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	HIGH COST EST.
	UTILITY RELOCATION	LS	1	\$5,000,000.00	\$8,333,333.00	\$8,333,333
	*MLGW	LS	1		\$0	\$0
	*COMCAST	LS	1	\$188,333.00	\$242,667.00	\$242,667
	*AT&T	LS	1	\$20,500.00	\$20,500.00	\$20,500
	*ZAYO BANDWIDTH	LS	1	\$1,302,208.25	\$2,149,125.00	\$2,149,125
	SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)					
	*Utility Cost Provided by Utility Companies					
	MOBILIZATION					
	Low & High = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION					
	CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)					
	TOTAL CONSTRUCTION COST					
	PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)					
	TOTAL (WITHOUT INFLATION)					
	INFLATION (6% PER YEAR OVER 5 YEARS)					
	TOTAL CONSTRUCTION COSTS SEGMENT 3, ALTERNATE 1					

SEGMENT 1, ALTERNATE 3

		PAVEMENT QUANTITIES																
LOCATION	300-01 STONE 0.037592593 BASE (TON)	307-01-08 B-M2 0.098875 PG64-22 (TON)	307-02-01 A 0.1725 PG70-22 (TON)	307-02-02 A-S 0.0043875 PG70-22 (TON)	307-02-03 A-S 0.1306125 PG70-22 (TON)	307-02-08 B-M2 0.113 PG70-22 (TON)	411-01-10 D 0.06625 PG64-22 (TON)	411-02-10 D 0.06625 PG70-22 (TON)	415-01-01 COLD PLAN 0.065625 0.21 (TON)	402-01 PC 0.001515152 (TON)	402-02 PC 0.006 (TON)	403-01 TC 8.65801E-05 (TON)	XXX-XX-XX STAINED CONC. 4" DEEP (SF)	701-01-01 SIW 4" DEEP (SF)	803-01 SOD 6" LF & RT (CY)	701-02 CONC DW (SF)	701-02-03 H/C RAMP (SF)	702-03 C&G 8" DEPTH 0.07085 (CY)
Mainline & Side Rbs	2546.0							1399.3	1399.3			1.8		24978.0	4214.0	960.0	1152.0	383.9
Mainline Center Lane							641.8	641.8		3.6	14.4	0.4	27504.00					
Mainline widening			415.4	10.6	314.5	272.1												
DRIVEWAYS	20.9	55.0					36.8		0.8	0.8	3.3	0.0						
TRAFFIC CONTROL	300.0																	
TOTALS	2866.9	55.0	415.4	10.6	314.5	272.1	36.8	1411.7	2040.1	4.5	17.8	2.3	27504.0	24978.0	4214.0	960.0	1152.0	383.9

FOOTNOTE

- (1) THE PAVEMENT SECTION MAINLINE EXTENDS TO THE BACK OF RADIUS ON SIDE ROADS.
- (2) CENTER LAND COLD PLANE DEPTH EQUALS 4".

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SEGMENT 3, ALTERNATE 1

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	44
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	21
712-05.03	WARNING LIGHTS (TYPE C)	EACH	44
712-06	SIGNS (CONSTRUCTION)	S.F.	810
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	4000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	2.7
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	4000

**APPENDIX E:
COSTS ALTERNATE 2 (SEGMENTS 1, 2, 3)**

SEGMENT 1, ALTERNATE 2
Elvis Presley Boulevard from Shelby Drive to Craft Road Approx. 1.6 miles
2-14' Outside Lanes, & 2-11' Inside Lanes with 12' Turn Lane, Curb and Gutter, Buffer Strip and 5' Sidewalks

SEGMENT 1, ALTERNATE 2 RIGHT-OF-WAY COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST						
	LAND	ACRES	4.310	\$150,000.00	\$200,000.00	\$646,500	\$862,000
					SUB-TOTAL	\$646,500	\$862,000
SEGMENT 1, ALTERNATE 2 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1	\$77,400.00	\$88,650.00	\$77,400	\$88,650
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	14217	\$7.40	\$8.10	\$105,206	\$115,158
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	7583	\$2.60	\$31.00	\$19,716	\$235,073
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	7267	\$4.00	\$4.00	\$29,068	\$29,068
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	3634	\$4.80	\$9.90	\$17,441	\$35,972
203-06	WATER	M.G.	1459	\$6.40	\$9.50	\$9,338	\$13,861
209-05	SEDIMENT REMOVAL	C.Y.	160	\$5.50	\$7.10	\$880	\$1,136
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	5000	\$4.60	\$5.30	\$23,000	\$26,500
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	10000	\$1.60	\$2.10	\$16,000	\$21,000
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4	\$400.00	\$400.00	\$1,600	\$1,600
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	31	\$203.00	\$203.00	\$6,293	\$6,293
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	14721	\$15.30	\$19.00	\$225,231	\$279,699
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	55	\$68.00	\$60.00	\$3,740	\$3,300
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	3434	\$69.00	\$79.00	\$236,946	\$271,286
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S	TON	88	\$763.00	\$909.00	\$67,144	\$79,992
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	2600	\$37.00	\$42.00	\$96,200	\$109,200
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	2,250	\$72.00	\$83.00	\$162,000	\$186,750
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	31	\$492.00	\$562.00	\$15,252	\$17,422
402-02	AGGREGATE FOR COVER MATERIAL (TC)	TON	123	\$24.00	\$28.00	\$2,952	\$3,444
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TO)	TON	10	\$414.00	\$475.00	\$4,140	\$4,750
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	17060	\$2.00	\$3.20	\$34,120	\$54,592
411-01.10	ACS MIX(PG64-22) GRADING D	TON	37	\$76.00	\$86.00	\$2,812	\$3,182
411-02.10	ACS MIX(PG70-22) GRADING D	TON	4846	\$76.00	\$79.00	\$368,296	\$382,834
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	5515	\$13.00	\$16.00	\$71,695	\$88,240
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	86616	\$6.50	\$8.00	\$563,004	\$692,928
607-02.02	15" CONCRETE PIPE CULVERT (CLASS III)	L.F.	528	\$53.00	\$54.00	\$27,984	\$28,512
611-01.20	ADJUSTMENT OF EXISTING MANHOLE	EACH	13	\$466.00	\$650.00	\$6,058	\$8,450
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	2	\$522.00	\$952.00	\$1,044	\$1,904
611-09.03	CAPPING EXISTING CATCH BASINS	EACH	2	\$249.00	\$870.00	\$498	\$1,740
611-12.01	CATCH BASINS, TYPE 12, > 0' - 4' DEPTH	EACH	33	\$1,971.00	\$2,500.00	\$65,043	\$82,500
701-01.01	CONCRETE SIDEWALK (4")	S.F.	78844	\$3.40	\$3.50	\$268,070	\$275,954
701-02	CONCRETE DRIVEWAY	S.F.	3000	\$5.40	\$7.00	\$16,200	\$21,000
701-02.03	CONCRETE HANDICAP RAMP	S.F.	3456	\$11.00	\$12.00	\$38,016	\$41,472
702-01	CONCRETE CURB	C.Y.	10	\$336.00	\$400.00	\$3,360	\$4,000

SEGMENT 1, ALTERNATE 2						
UTILITY COST						
	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	HIGH COST EST.
	UTILITY RELOCATION	LS	1	\$5,000,000.00	\$8,333,333.00	\$8,333,333
	*MLGW	LS	1	\$0	\$0	\$0
	*COMCAST	LS	1	\$188,333.00	\$242,667.00	\$242,667
	*AT&T	LS	1	\$26,200.00	\$26,200.00	\$26,200
	*ZAYO BANDWIDTH	LS	1	\$1,303,633.25	\$2,150,550.00	\$2,150,550
	SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)	LS	1			
	* Utility Estimate provided by utility companies					
	MOBILIZATION					\$284,283
	Low = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION					
	High = \$230,000 + 4% OF TOTAL CONST. EST. OVER \$5 MILLION EXC. MOBILIZATION					
	CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)					\$2,566,474
	TOTAL CONSTRUCTION COST					\$19,960,580
	PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)					\$1,996,058
	TOTAL (WITHOUT INFLATION)					\$21,956,638
	INFLATION (6% PER YEAR OVER 5 YEARS)					\$7,425,735
	TOTAL CONSTRUCTION COSTS SEGMENT 1, ALTERNATE 2					\$29,382,373

SEGMENT 1, ALTERNATE 2

		PAVEMENT QUANTITIES																	
LOCATION	303-01 STONE 0.037592693 BASE (TON)	307-01108 B-M2 0.098875 PG64-22 (TON)	307-0201 A 0.1725 PG70-22 (TON)	307-0202 A-S 0.0043875 PG70-22 (TON)	307-0203 A-S 0.1306125 PG70-22 (TON)	307-0208 B-M2 0.113 PG70-22 (TON)	411-0110 D 0.06625 PG64-22 (TON)	411-0210 D 0.06625 PG70-22 (TON)	415-0101 COLD PLAN 0.065625 0.21 (TON)	402-01 PC 0.001515162 (TON)	402-02 PC 0.006 (TON)	403-01 TC 8.65801E+05 (TON)	XXX-XX-XX STAINED CONC 4" DEEP (SF)	701-01,01 SIW 4" DEEP (SF)	803-01 SOD 4' LF & RT (CY)	701-02 CONC DW (SF)	701-0203 H/C RAMP (SF)	702-03 C&G 8" DEPTH 0.037665 (CY)	
Mainline & Side FcIs	14200.0							3493.7				6.3		78644.0	7582.2	3000.0	3456.0	1208.7	
Mainline Centerline								2027.0											
Mainline widening			3433.3	87.3	2599.6	2249.0			30.2	119.4		3.4							
DRIVEWAYS	20.9	55.0				36.8			0.8	3.3		0.0							
TRAFFIC CONTROL	500.0																		
TOTALS	14720.9	55.0	3433.3	87.3	2599.6	2249.0	36.8	4845.6	31.0	122.8	9.8	86616.0	86616.0	78644.0	7582.2	3000.0	3456.0	1208.7	

FOOTNOTE

(1) THE PAVEMENT SECTION MAINLINE EXTENDS TO THE BACK OF RADIUS ON SIDE ROADS.

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SEGMENT 1, ALTERNATE 2

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	142
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	42
712-05.03	WARNING LIGHTS (TYPE C)	EACH	142
712-06	SIGNS (CONSTRUCTION)	S.F.	1202
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	8.9
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	8000

SEGMENT 1, ALTERNATE 2

SIGN AND STRIP QUANTITIES												
ITEM NO.	DESCRIPTION	SHT 4	SHT 5	SHT 6	SHT 7	SHT 8	SHT 9	SHT 10	SHT 11	ENDS	TOTAL	UNIT
712-09.01	REMOVABLE PAVEMENT MARKING LINE											L.F.
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)											L.F.
712-09.05	REMOVABLE PAVEMENT MARKING (ARROW)											EACH
713-11.01	"U" SECTION STEEL POSTS											LB.
713-11.02	PERFORATED/KNOCKOUT SQUARE TUBE POST											LB.
713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)											S.F.
713-13.03	FLAT SHEET ALUMINUM SIGNS (0.100" THICK)											S.F.
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	0.5	1.2	1.2	1.1	1.1	1.4	1.2	0.1	1.5	9	L.M.
716-02.04	PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)											S.Y.
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	62	40	40	180	356		48	60		786	L.F.
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	2	6	4	3	4	6	4	1		30	EACH
716-02.09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	122			234	688		50	182		1276	L.F.
716-03.01	PLASTIC PAVEMENT MARKING (ONLY)	2			1	4		1			8	EACH
716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)										0	EACH
716-04.03	PLASTIC PAVEMENT MARKING (4" DOTTED LINE)										0	L.F.
716-04.11	PLASTIC PAVEMENT MARKING (BICYCLE SYMBOL W/RIDER)										0	EACH
716-02.02	PLASTIC PAVEMENT MARKING (8" BARRIER LINE)										0	L.F.
716-02.08	PLASTIC PAVEMENT MARKING (8" DOTTED LINE)										0	L.F.
716-04.05	PLASTIC PAVEMENT MARKING (STRAIGHT ARROW)										0	EACH

FOOTNOTES

SEGMENT 2, ALTERNATE 2
Elvis Presley Boulevard from Craft Road to Winchester Road Approx. 0.7 miles
6-11' Lanes with 12' Turn Lane or 12' Median

RIGHT-OF-WAY COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST						
	LAND	ACRES	1.491	\$150,000.00	\$200,000.00	\$223,650	\$298,200
					SUB-TOTAL	\$223,650	\$298,200
SEGMENT 2, ALTERNATE 2 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1	\$42,300	\$50,900	\$42,300	\$50,900
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	6095	\$7.40	\$8.10	\$45,103	\$49,370
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	5702	\$2.60	\$31.00	\$14,824	\$176,748
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	3196	\$4.00	\$4.00	\$12,783	\$12,783
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	1598	\$4.80	\$9.90	\$7,670	\$15,818
203-06	WATER	M.G.	595	\$6.40	\$9.50	\$3,808	\$5,653
209-05	SEDIMENT REMOVAL	C.Y.	75	\$5.50	\$7.10	\$413	\$533
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	2500	\$4.60	\$5.30	\$11,500	\$13,250
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	5000	\$1.60	\$2.10	\$8,000	\$10,500
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	3	\$400.00	\$400.00	\$1,200	\$1,200
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	17	\$203.00	\$203.00	\$3,451	\$3,451
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	5219	\$15.30	\$19.00	\$79,851	\$99,161
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	17	\$68.00	\$60.00	\$1,156	\$1,020
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	1071	\$69.00	\$79.00	\$73,899	\$84,609
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S	TON	28	\$763.00	\$909.00	\$21,364	\$25,452
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	811	\$37.00	\$42.00	\$30,007	\$34,062
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	702	\$72.00	\$83.00	\$50,544	\$58,266
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	10	\$492.00	\$562.00	\$4,920	\$5,620
402-02	AGGREGATE FOR COVER MATERIAL (TC)	TON	39	\$24.00	\$28.00	\$936	\$1,092
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TO)	TON	4	\$414.00	\$475.00	\$1,656	\$1,900
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	11043	\$2.00	\$3.20	\$22,086	\$35,338
411-01.10	ACS MIX(PG64-22) GRADING D	TON	12	\$76.00	\$86.00	\$912	\$1,032
411-02.10	ACS MIX(PG70-22) GRADING D	TON	2173	\$76.00	\$79.00	\$165,148	\$171,667
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	2351	\$13.00	\$16.00	\$30,563	\$37,616
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	25947	\$6.50	\$8.00	\$168,656	\$207,576
604-02.01	CLASS A CONCRETE (BOX BRIDGE)	C.Y.	12	\$353.00	\$650.00	\$4,236	\$7,800
604-02.02	STEEL BAR REINFORCEMENT (BOX BRIDGE)	LB.	1928	\$0.90	\$1.10	\$1,735	\$2,121
607-02.02	15" CONCRETE PIPE CULVERT (CLASS III)	L.F.	192	\$53.00	\$54.00	\$10,176	\$10,368
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	8	\$522.00	\$952.00	\$4,176	\$7,616
611-12.01	CATCH BASINS, TYPE 12, > 0' - 4' DEPTH	EACH	12	\$1,971.00	\$2,500.00	\$23,652	\$30,000
701-01.01	CONCRETE SIDEWALK (4")	S.F.	69566	\$3.40	\$3.50	\$236,524	\$243,481
701-02	CONCRETE DRIVEWAY	S.F.	1500	\$5.40	\$7.00	\$8,100	\$10,500
701-02.03	CONCRETE HANDICAP RAMP	S.F.	864	\$11.00	\$12.00	\$9,504	\$10,368
702-01	CONCRETE CURB	C.Y.	157	\$336.00	\$400.00	\$52,752	\$62,800

SEGMENT 2, ALTERNATE 2						
UTILITY COST	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	HIGH COST EST.
	UTILITY RELOCATION	LS	1	\$5,000,000.00	\$8,333,333.00	\$8,333,333
	*MLGW	LS	1	\$0	\$0	\$0
	*COMCAST	LS	1	\$188,333.00	\$242,667.00	\$242,667
	*AT&T	LS	1	\$0	\$0	\$0
	*ZAYO BANDWIDTH	LS	1	\$1,297,083.25	\$2,144,000.00	\$2,144,000
	SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)	LS	1	\$1,297,083.25	\$2,144,000.00	\$2,144,000
	*Utility Cost Provided by Utility Companies					
	MOBILIZATION					
	Low & High = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION					
	CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)					
	TOTAL CONSTRUCTION COST					
	PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)					
	TOTAL (WITHOUT INFLATION)					
	INFLATION (6% PER YEAR OVER 5 YEARS)					
	TOTAL CONSTRUCTION COSTS SEGMENT 2, ALTERNATE 2					

SEGMENT 2, ALTERNATE 2

		PAVEMENT QUANTITIES																	
LOCATION	303-01 STONE BASE (TON)	307-01-08 B-M2 PG64-22 (TON)	307-02-01 A PG70-22 (TON)	307-02-02 A-S PG70-22 (TON)	307-02-03 A-S PG70-22 (TON)	307-02-08 B-M2 PG70-22 (TON)	411-01-10 D PG64-22 (TON)	411-02-10 D PG70-22 (TON)	415-01-01 COLD PLAN PG70-22 (TON)	402-01 PC (TON)	402-02 PC (TON)	403-01 TC (TON)	XX-X-XX-XX STAINED CONC. 4" DEEP (SF)	701-01-01 S/W 4" DEEP (SF)	803-01 SOD 4.5' LF & RT & ISLANDS (ST)	701-02 CONC DW (SF)	701-02-03 H/C RAMP (SF)	702-01 Curb TYPE "A" (CY)	702-03 CSG 8" DEPTH (CY)
Mainline & Side R/s	4962.0							1744.8				2.8		69566.0	7093.0	1500.0	864.0	156.5	516.2
Mainline Centerline & Pull Out			1070.5	27.2	810.6	701.3		695.4			37.2	1.1	25947.0						
Mainline widening									9.4										
DRIVEWAYS	6.3	16.5					11.1		0.3	1.0	0.0								
TRAFFIC CONTROL	250.0																		
TOTALS	5218.3	16.5	1070.5	27.2	810.6	701.3	11.1	2550.2	9.7	38.2	3.9	25947.0	69566.0	7093.0	1500.0	864.0	156.5	516.2	

FOOTNOTE
(1) THE PAVEMENT SECTION MAINLINE EXTENDS TO THE BACK OF RADIUS ON SIDE ROADS.

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SEGMENT 2, ALTERNATE 2

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	64
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	16
712-05.03	WARNING LIGHTS (TYPE C)	EACH	64
712-06	SIGNS (CONSTRUCTION)	S.F.	794
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	3.6
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	8000

SEGMENT 3, ALTERNATE 2
Elvis Presley Boulevard from Winchester Road to Brooks Road Approx. 0.51 miles
2-14' Outside Lanes, & 2-11' Inside Lanes with 12' Turn Lane, Curb and Gutter, Buffer Strip and 5' Sidewalks

SEGMENT 3, ALTERNATE 2 RIGHT-OF-WAY COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
	RIGHT-OF-WAY COST						
	LAND	ACRES	0.617	\$150,000.00	\$200,000.00	\$92,550	\$123,400
				SUB-TOTAL		\$92,550	\$123,400
SEGMENT 3, ALTERNATE 2 CONSTRUCTION COST		UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1	\$34,100	\$37,800	\$34,100	\$37,800
202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK (INC. C & G AND CONC. PAV.)	S.Y.	4515	\$7.40	\$8.10	\$33,411	\$36,572
202-03.01	REMOVAL OF ASPHALT PAVEMENT	S.Y.	2408	\$2.60	\$31.00	\$6,261	\$74,648
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	1004	\$4.00	\$4.00	\$4,016	\$4,016
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	502	\$4.80	\$9.90	\$2,410	\$4,970
203-06	WATER	M.G.	351	\$6.40	\$9.50	\$2,246	\$3,335
209-05	SEDIMENT REMOVAL	C.Y.	50	\$5.50	\$7.10	\$275	\$355
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	1700	\$4.60	\$5.30	\$7,820	\$9,010
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	3400	\$1.60	\$2.10	\$5,440	\$7,140
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4	\$400.00	\$400.00	\$1,600	\$1,600
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	10	\$203.00	\$203.00	\$2,030	\$2,030
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	2867	\$15.30	\$19.00	\$43,865	\$54,473
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	55	\$68.00	\$60.00	\$3,740	\$3,300
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	416	\$69.00	\$79.00	\$28,704	\$32,864
307-02.02	ASPHALT CEMENT (P70-22) (BPMB-HM) GRADING A-S	TON	11	\$763.00	\$909.00	\$8,393	\$9,999
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	315	\$37.00	\$42.00	\$11,655	\$13,230
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	273	\$72.00	\$83.00	\$19,656	\$22,659
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	5	\$492.00	\$562.00	\$2,460	\$2,810
402-02	AGGREGATE FOR COVER MATERIAL (TC)	TON	18	\$24.00	\$28.00	\$432	\$504
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TO)	TON	3	\$414.00	\$475.00	\$1,242	\$1,425
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	5418	\$2.00	\$3.20	\$10,836	\$17,338
411-01.10	ACS MIX(PG64-22) GRADING D	TON	37	\$76.00	\$86.00	\$2,812	\$3,182
411-02.10	ACS MIX(PG70-22) GRADING D	TON	1518	\$76.00	\$79.00	\$115,368	\$119,922
415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	1988	\$13.00	\$16.00	\$25,844	\$31,808
SP-1	STAINED CONCRETE PAVEMENT (4" THICK)	S.F.	27504	\$6.50	\$8.00	\$178,776	\$220,032
607-02.02	15" CONCRETE PIPE CULVERT (CLASS III)	L.F.	28	\$53.00	\$54.00	\$1,484	\$1,512
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	7	\$522.00	\$952.00	\$3,654	\$6,664
611-12.01	CATCH BASINS, TYPE 12, > 0' - 4' DEPTH	EACH	7	\$1,971.00	\$2,500.00	\$13,797	\$17,500
701-01.01	CONCRETE SIDEWALK (4")	S.F.	24978	\$3.40	\$3.50	\$84,925	\$87,423
701-02	CONCRETE DRIVEWAY	S.F.	960	\$5.40	\$7.00	\$5,184	\$6,720
701-02.03	CONCRETE HANDICAP RAMP	S.F.	1152	\$11.00	\$12.00	\$12,672	\$13,824
702-01	CONCRETE CURB	C.Y.	6	\$336.00	\$400.00	\$2,016	\$2,400
702-03	CONCRETE COMBINED CURB & GUTTER	C.Y.	384	\$286.00	\$304.00	\$109,824	\$116,736
707-08.10	TEMPORARY CONSTRUCTION FENCE	L.F.	120	\$15.00	\$15.00	\$1,800	\$1,800

SEGMENT 3, ALTERNATE 2 CONSTRUCTION COST (continued)						
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	HIGH COST EST.
710-02	AGGREGATE UNDERDRAINS (WITH PIPE)	L.F.	5418	\$2.90	\$3.10	\$16,796
712-01	TRAFFIC CONTROL	LS	1	\$22,700.00	\$25,200.00	\$25,200
712-04-01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	44	\$35.00	\$34.00	\$1,496
712-05-01	WARNING LIGHTS (TYPE A)	EACH	21	\$36.00	\$40.00	\$840
712-05-03	WARNING LIGHTS (TYPE C)	EACH	44	\$33.00	\$30.00	\$1,320
712-06	SIGNS (CONSTRUCTION)	S.F.	810	\$9.00	\$9.00	\$7,290
712-07-03	TEMP. BARRICADES (TYPE III)	L.F.	60	\$14.00	\$14.00	\$840
712-08-03	ARROW BOARD (TYPE C)	EACH	2	\$1,357.00	\$1,400.00	\$2,800
712-09-01	REMOVABLE PAVEMENT MARKING LINE	L.F.	4000	\$1.90	\$1.75	\$7,000
713-16-01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2	\$6,749.00	\$7,000.00	\$14,000
713-16-20	SIGNS (STREET NAME SIGNS)	EACH	5	\$217.00	\$270.00	\$1,350
713-16-24	SIGNS (STOP)	EACH	3	\$260.00	\$260.00	\$780
716-02-01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	3.6	\$3,033.00	\$3,246.00	\$11,686
716-02-05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	234	\$13.00	\$16.00	\$3,744
716-02-06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	21	\$150.00	\$173.00	\$3,633
716-02-09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	L.F.	279	\$29.00	\$37.00	\$10,323
716-03-01	PLASTIC WORD PAVEMENT MARKING (ONLY)	EACH	3	\$180.00	\$207.00	\$621
716-05-01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	2.8	\$808.00	\$1,042.00	\$2,918
716-08-01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	4000	\$0.70	\$0.80	\$3,200
801-03	WATER (SEEDING & SODDING)	M.G.	25	\$11.00	\$30.00	\$750
801-01-07	TEMPORARY SEEDING (WITH MULCH)	UNIT	6	\$25.00	\$30.00	\$180
803-01	SODDING (NEW SOD)	S.Y.	2408	\$2.20	\$2.90	\$6,983
SP-2	4' PLANTING STRIPS	LS	1	\$243,400.00	\$292,000.00	\$292,000
SP-3	LAMP FIXTURES/POSTS INSTALLATION	EACH	110	\$10,000.00	\$10,000.00	\$1,100,000
SP-4	IRRIGATION	L.F.	5410	\$15.00	\$18.00	\$97,380
					SUB-TOTAL	\$2,325,792

*Construction Cost Assumes Use of Existing Drainage System

SEGMENT 3, ALTERNATE 2 UTILITY COST						
DESCRIPTION	UNIT	QUANTITY	AVG. UNIT PRICE	HIGH UNIT PRICE	AVG. COST EST.	HIGH COST EST.
UTILITY RELOCATION						
*MLGW	LS	1	\$5,000,000.00	\$8,333,333.00	\$5,000,000	\$8,333,333
*COMCAST	LS	1			\$0	\$0
*AT&T	LS	1	\$188,333.00	\$242,667.00	\$188,333	\$242,667
*ZAYO BANDWIDTH	LS	1	\$20,500.00	\$20,500.00	\$20,500	\$20,500
SERVICE CONNECTIONS (ESTIMATED TO BE 25% OF TOTAL UTILITY COST)	LS	1	\$1,302,208.25	\$2,149,125.00	\$1,302,208	\$2,149,125
			SUB-TOTAL		\$6,511,041	\$10,745,625
MOBILIZATION						
Low & High = \$50,000 + 4.5% OF TOTAL CONST. EST. OVER \$1 MILLION EXC. MOBILIZATION						
					\$109,661	\$121,223
CONTINGENCY (15% OF CONSTRUCTION COST + UTILITIES)						
					\$1,325,525	\$1,999,253
TOTAL CONSTRUCTION COST						
					\$8,946,494	\$13,449,576
PRELIMINARY ENGINEERING (10% OF TOTAL CONST. COST)						
					\$894,649	\$1,344,958
TOTAL (WITHOUT INFLATION)						
					\$9,841,143	\$14,794,534
INFLATION (6% PER YEAR OVER 5 YEARS)						
					\$3,328,275	\$5,003,511
TOTAL CONSTRUCTION COSTS SEGMENT 3, ALTERNATE 2						
					\$13,169,418	\$19,798,045

SEGMENT 3, ALTERNATE 2

		PAVEMENT QUANTITIES																	
LOCATION	303-01 STONE 0.037592693	307-0108 B-M2 0.098875	307-0201 A 0.1725	307-0202 A-S 0.0043875	307-0203 A-S 0.1306125	307-0208 B-M2 0.113	411-0110 D 0.06625	411-0110 D 0.06625	411-0210 D 0.06625	415-0101 COLD PLAN 0.065625	402-01 PC 0.001515162	402-02 PC 0.006	403-01 TC 8.65801E+05	XXX-XX-XX STAINED CONC 4" DEEP	701-01,01 SIW 4" DEEP	803-01 SOD 4' LF & RT	701-02 CONC DW	701-02,03 HIC RAMP	702-03 C&G 8" DEPTH
	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(TON)	(SF)	(SF)	(CY)	(SF)	(SF)	(CY)
(1) Mainline & Side FcIs	2546.0								1345.5				2.0		24978.0	2406.0	960.0	1152.0	383.9
(2) Mainline Center Lane			415.4	10.6	314.5	272.1		641.8		3.6	14.4	0.4							
2408 Mainline widening										0.8	3.3	0.0							
556 DRIVEWAYS	20.9	55.0				36.8													
TRAFFIC CONTROL	300.0																		
TOTALS	2866.9	55.0	415.4	10.6	314.5	272.1	36.8	1517.9	1987.3	4.5	17.8	2.4	27504.0	24978.0	2406.0	960.0	1152.0	383.9	

FOOTNOTE

- (1) THE PAVEMENT SECTION MAINLINE EXTENDS TO THE BACK OF RADIUS ON SIDE ROADS.
- (2) CENTER LAND COLD PLANE DEPTH EQUALS 4".

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SEGMENT 3, ALTERNATE 2

TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
705-08.51	PORT. IMPACT ATTENUATOR NCHRP350 TL-3	EACH	
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	44
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	
712-05.01	WARNING LIGHTS (TYPE A)	EACH	21
712-05.03	WARNING LIGHTS (TYPE C)	EACH	44
712-06	SIGNS (CONSTRUCTION)	S.F.	810
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	60
712-08.03	ARROW BOARD (TYPE C)	EACH	2
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	4000
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	2.7
716-05.02	PAINTED PAVEMENT MARKING (8" BAR. LINE)	L.F.	
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	4000

SEGMENT 3, ALTERNATE 2

SIGN AND STRIP QUANTITIES									
ITEM NO.	DESCRIPTION	SHT 13	SHT 14	SHT 15	ENDS	TOTAL	UNIT		
712-09.01	REMOVABLE PAVEMENT MARKING LINE						L.F.		
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)						L.F.		
712-09.05	REMOVABLE PAVEMENT MARKING (ARROW)						EACH		
713-11.01	"U" SECTION STEEL POSTS						LB.		
713-11.02	PERFORATED/KNOCKOUT SQUARE TUBE POST						LB.		
713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)						S.F.		
713-13.03	FLAT SHEET ALUMINUM SIGNS (0.100" THICK)						S.F.		
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	0.1	1.4	1.4	0.8	4	L.M.		
716-02.04	PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)						S.Y.		
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	52	30	152		234	L.F.		
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	7	6	8		21	EACH		
716-02.09	PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	127		152		279	L.F.		
716-03.01	PLASTIC PAVEMENT MARKING (ONLY)	1		2		3	EACH		
716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)					0	EACH		
716-04.03	PLASTIC PAVEMENT MARKING (4" DOTTED LINE)					0	L.F.		
716-04.11	PLASTIC PAVEMENT MARKING (BICYCLE SYMBOL W/RIDER)					0	EACH		
716-02.02	PLASTIC PAVEMENT MARKING (8" BARRIER LINE)					0	L.F.		
716-02.08	PLASTIC PAVEMENT MARKING (8" DOTTED LINE)					0	L.F.		
716-04.05	PLASTIC PAVEMENT MARKING (STRAIGHT ARROW)					0	EACH		

FOOTNOTES

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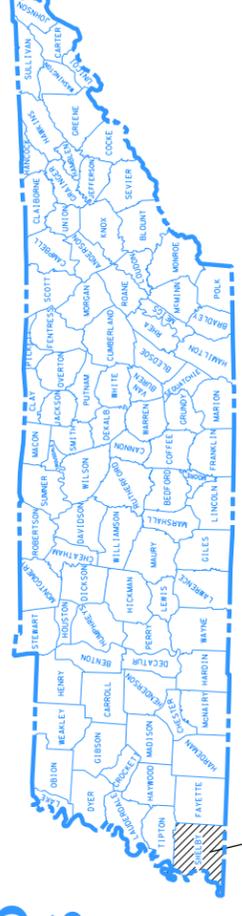
DESCRIPTION	SHEET NO.
TITLE SHEET	1
TYPICAL SECTIONS	2,3
CONCEPTUAL LAYOUT ALTERNATIVE 1	4,16
CONCEPTUAL LAYOUT ALTERNATIVE 2	17,29
PROJECT LIMITS ON USGS MAP	30

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

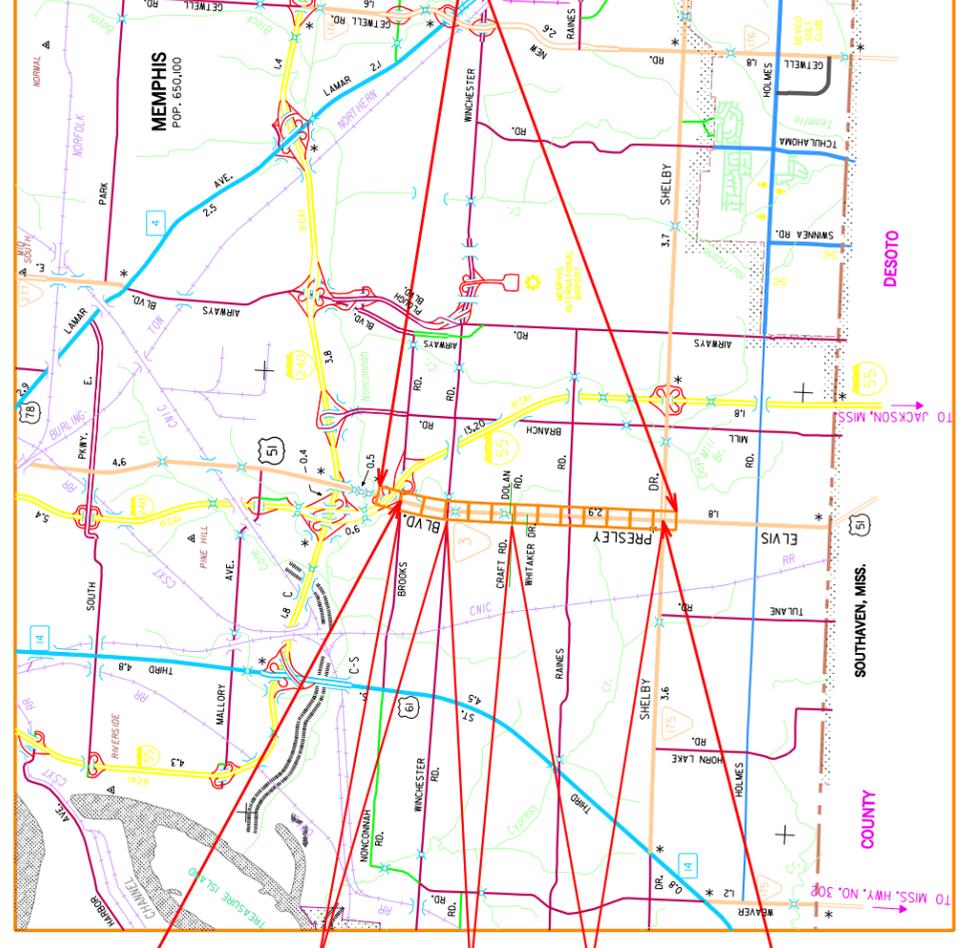
CONCEPTUAL ELVIS PRESLEY BOULEVARD
FROM SHELBY DRIVE TO INTERSTATE 55
SHELBY COUNTY, TENNESSEE

STATE HIGHWAY NO. _____ F.A.H.S. NO. _____

SHELBY COUNTY
PROJECT NO. _____



TENN.	YEAR	SHEET NO.
	2009	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		



END PROJECT STA. 260+92.49

**SEGMENT 3
WINCHESTER RD.
TO BROOKS RD.**

**SEGMENT 2
CRAFT RD. TO
WINCHESTER RD.**

**SEGMENT 1
SHELBY DR. TO
CRAFT RD.**

**CONCEPT 1 SHEET 4-16
CONCEPT 2 SHEET 17-29**

BEGIN PROJECT STA. 113+04.53

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TOOT ROAD SP. SV. 2 _____ CHECKED BY _____
 DESIGNER _____
 P.E. NO. _____
 PIN NO. _____

SCALE: 1" = 2 MILE

PROJECT LENGTH

APPROVED: Paul D. Berger CHIEF ENGINEER

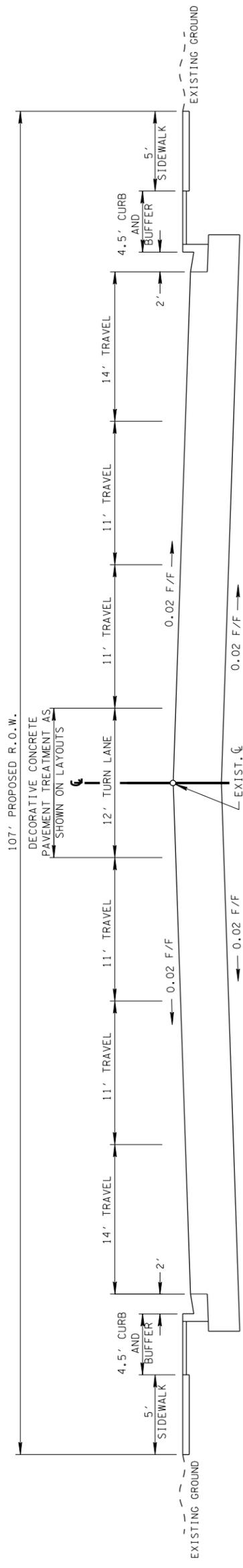
DATE:

APPROVED: David F. Kelly COMMISSIONER

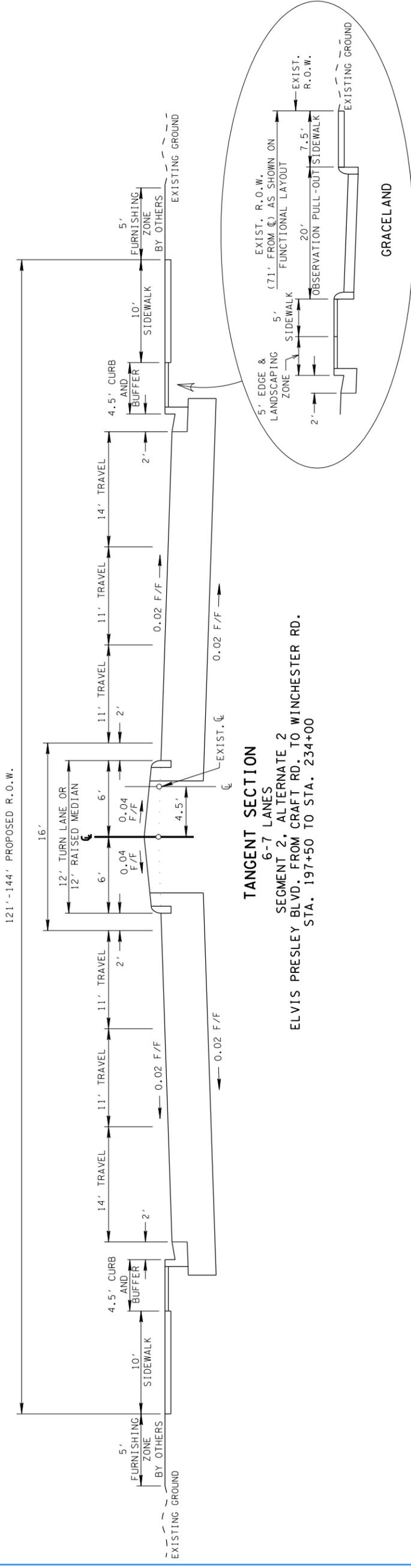
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DATE _____
 DIVISION ADMINISTRATOR

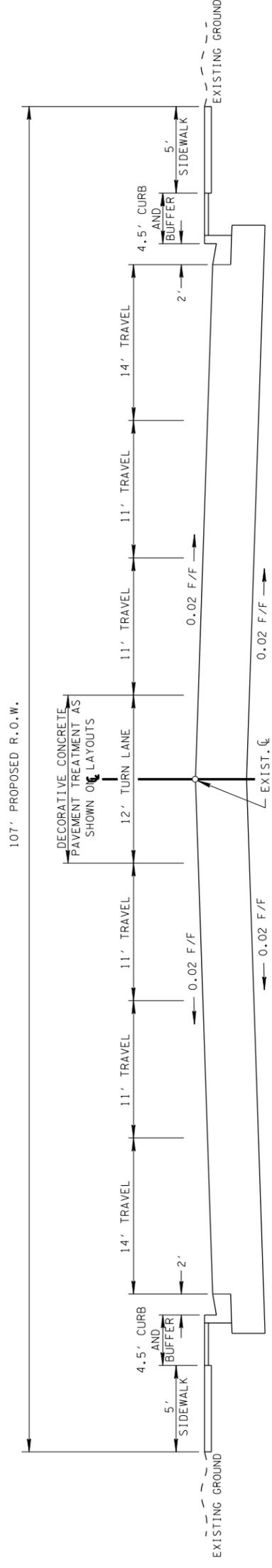
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		3



TANGENT SECTION
7 LANES
SEGMENT 1, ALTERNATE 2
ELVIS PRESLEY BLVD. FROM SHELBY DR. TO CRAFT RD.
STA. 113+00 TO STA. 197+50



TANGENT SECTION
6-7 LANES
SEGMENT 2, ALTERNATE 2
ELVIS PRESLEY BLVD. FROM CRAFT RD. TO WINCHESTER RD.
STA. 197+50 TO STA. 234+00



TANGENT SECTION
7 LANES
SEGMENT 3, ALTERNATE 2
ELVIS PRESLEY BLVD. FROM WINCHESTER RD. TO BROOKS RD.
STA. 234+50 TO STA. 260+50

FILE NO.

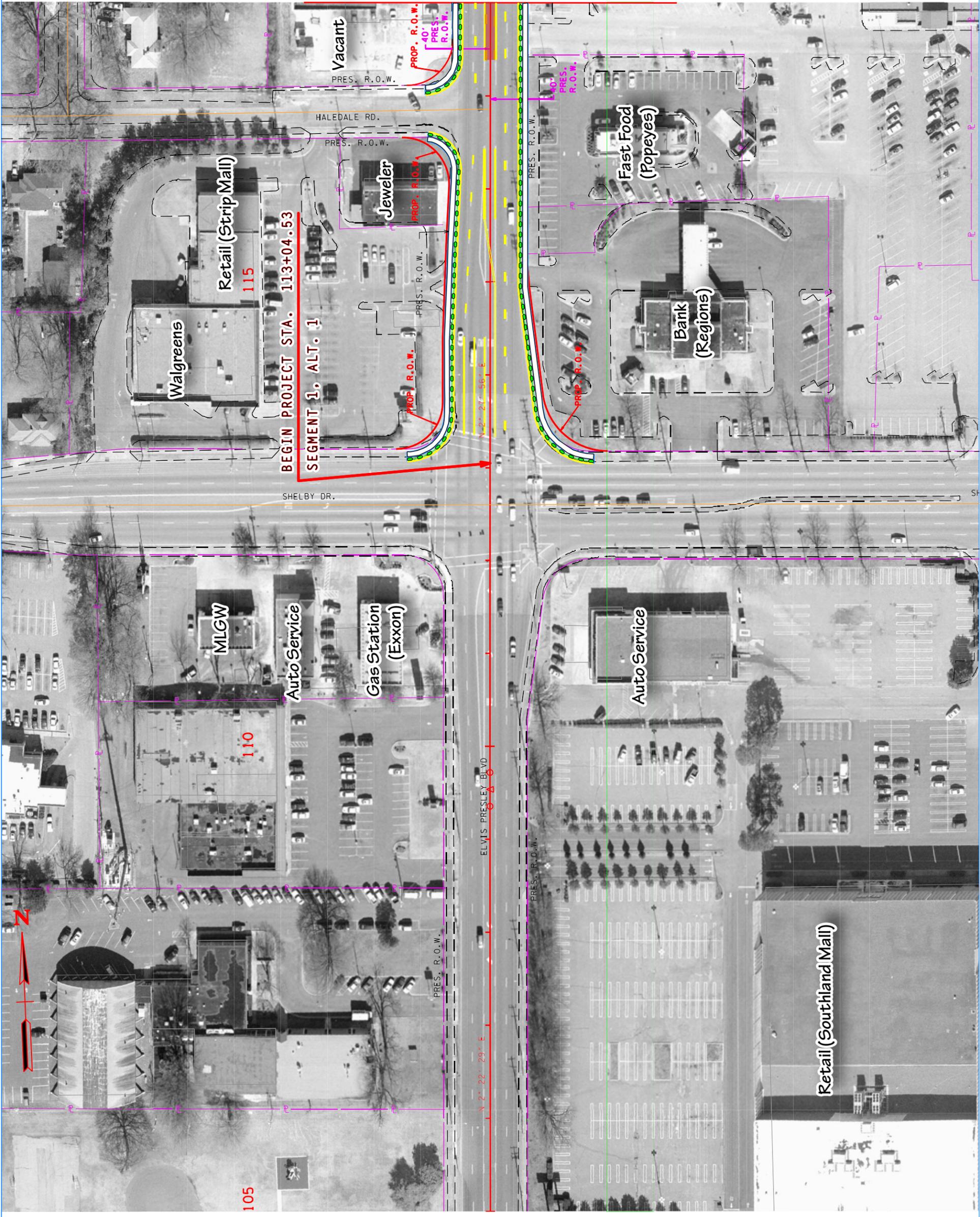
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TENNESSEE D.O.T.

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2/16/2009

SHEET NO.	PROJECT NO.	YEAR	TYPE
4		2009	T.P.R.



MATCHLINE STA. 118+00 SEE SHEET NO. 5

FILE NO.

DESIGN DIVISION

TENNESSEE D.O.T.

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2/12/2009

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**CONCEPTUAL
LAYOUT**

SEGMENT 1, ALT. 1

B.O.P. TO STA. 118+00
SCALE: 1"=100'

SHEET NO.	5
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

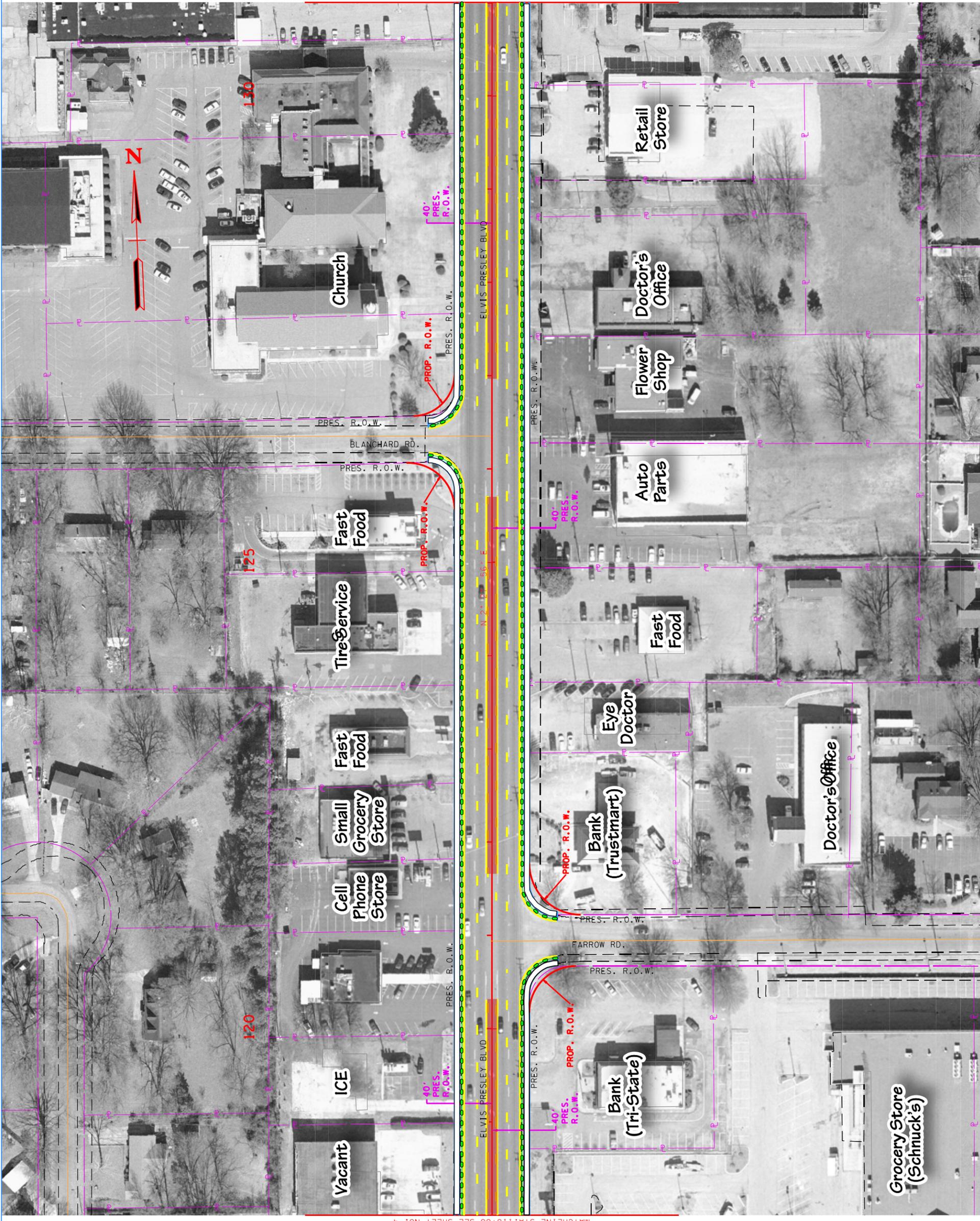
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT

SEGMENT 1, ALT. 1

STA. 118+00 TO STA. 131+00

SCALE: 1"=100'



FILE NO.	
DESIGN DIVISION	
TENNESSEE D.O.T.	

2/12/2009
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MATCHLINE STA. 131+00 SEE SHEET NO. 6

MATCHLINE STA. 118+00 SEE SHEET NO. 4



SHEET NO.	6
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 1, ALT. 1

STA. 131+00 TO STA. 144+00
SCALE: 1"=100'

SHEET NO.	7
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

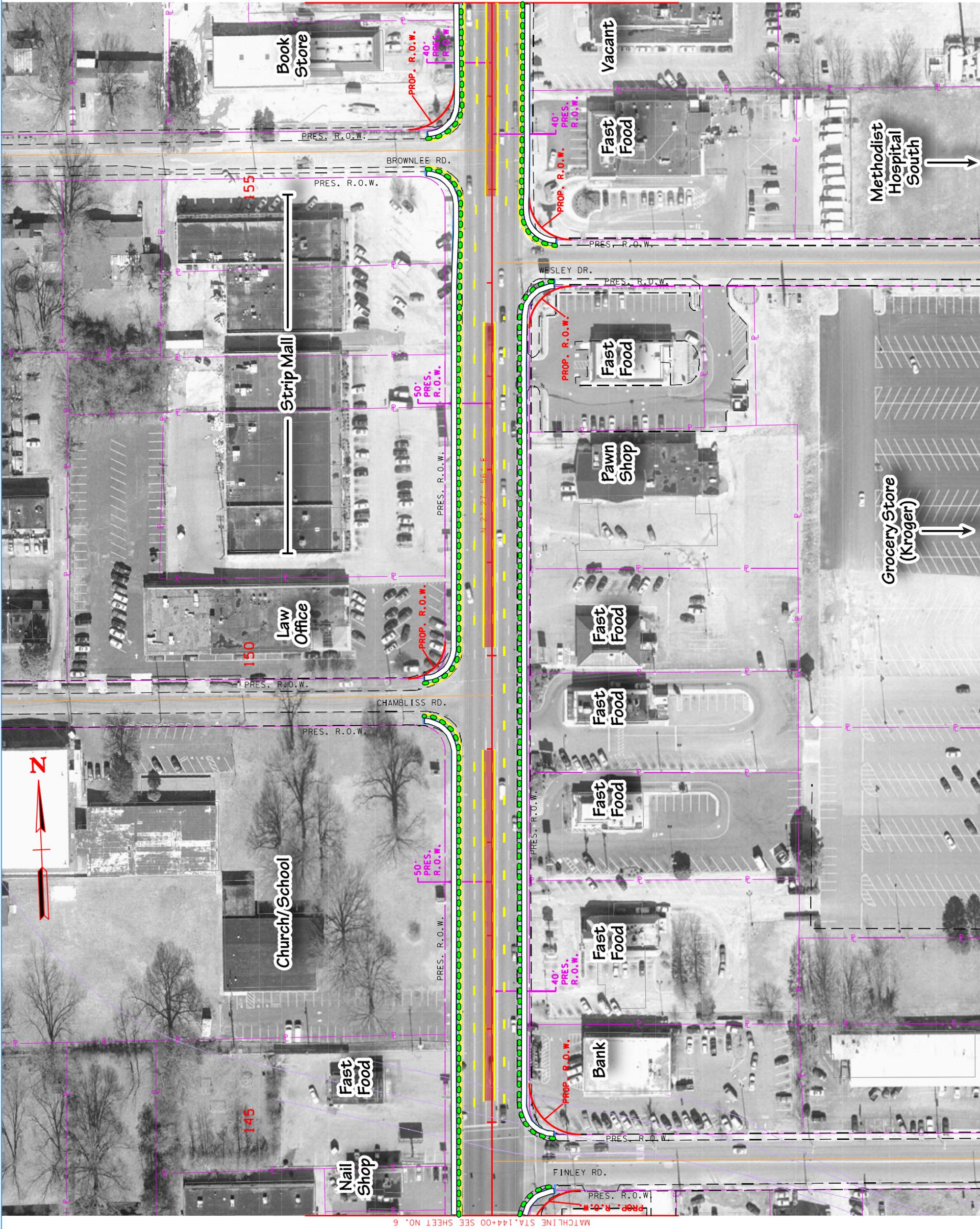
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT

SEGMENT 1, ALT. 1

STA. 144+00 TO STA. 157+00

SCALE: 1" = 100'



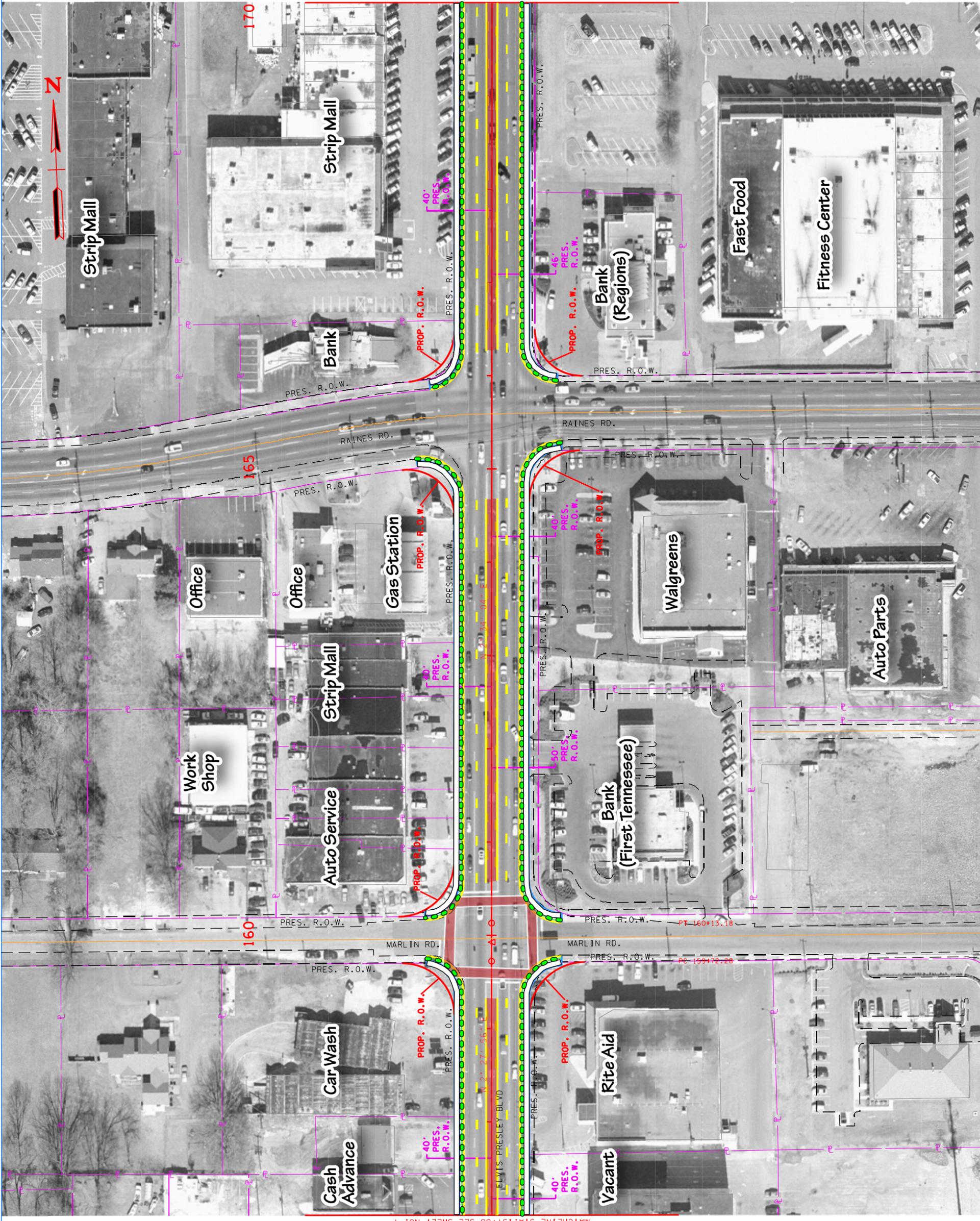
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TENNESSEE D.O.T.	

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2/12/2009

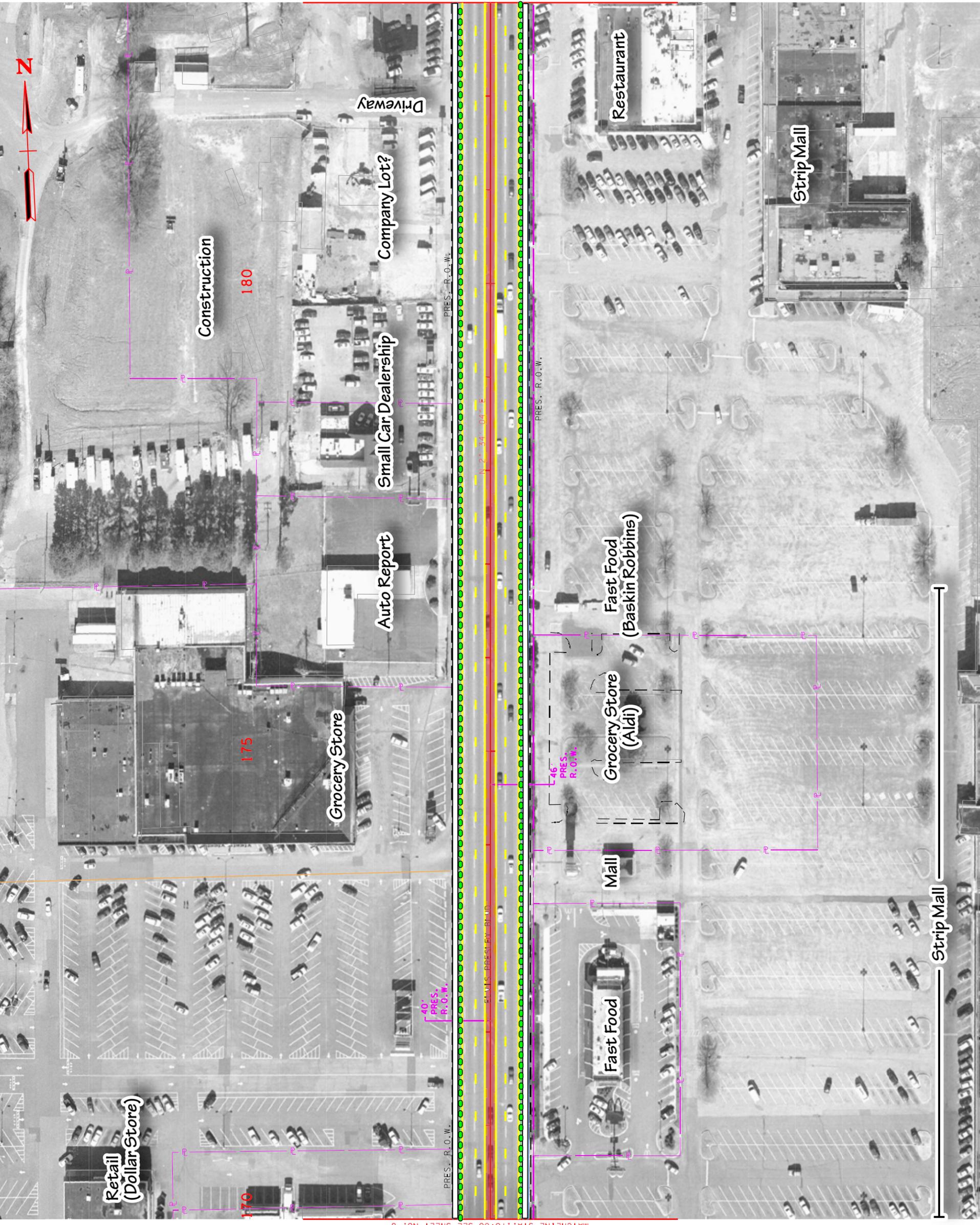
MATCHLINE STA. 157+00 SEE SHEET NO. 8

MATCHLINE STA. 144+00 SEE SHEET NO. 6

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		8



TENNESSEE D.O.T.	DESIGN DIVISION	FILE NO.
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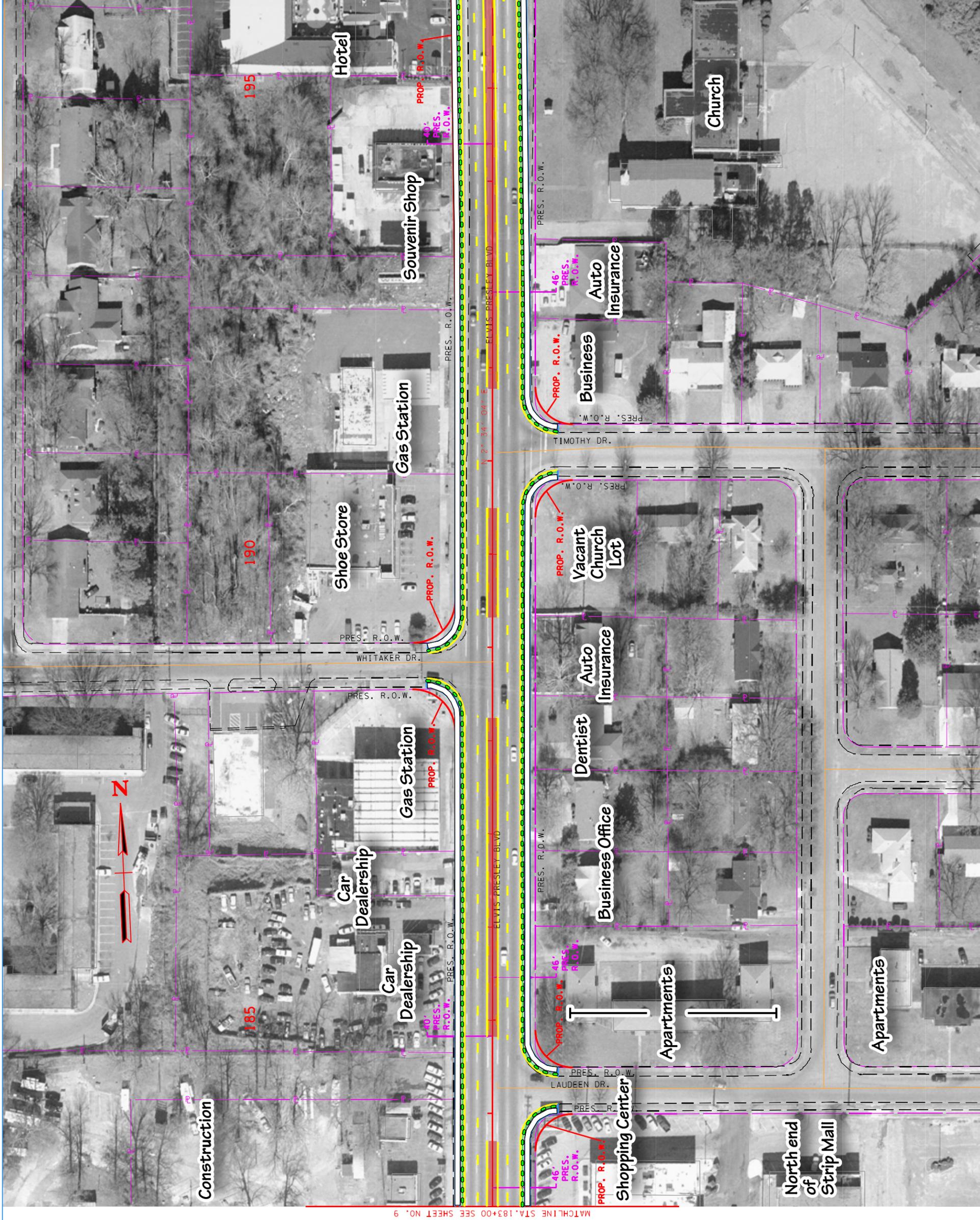


TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		10

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 1, ALT. 1

STA. 183+00 TO STA. 196+00
SCALE: 1"=100'



MATCHLINE STA. 183+00 SEE SHEET NO. 9

MATCHLINE STA. 196+00 SEE SHEET NO. 11

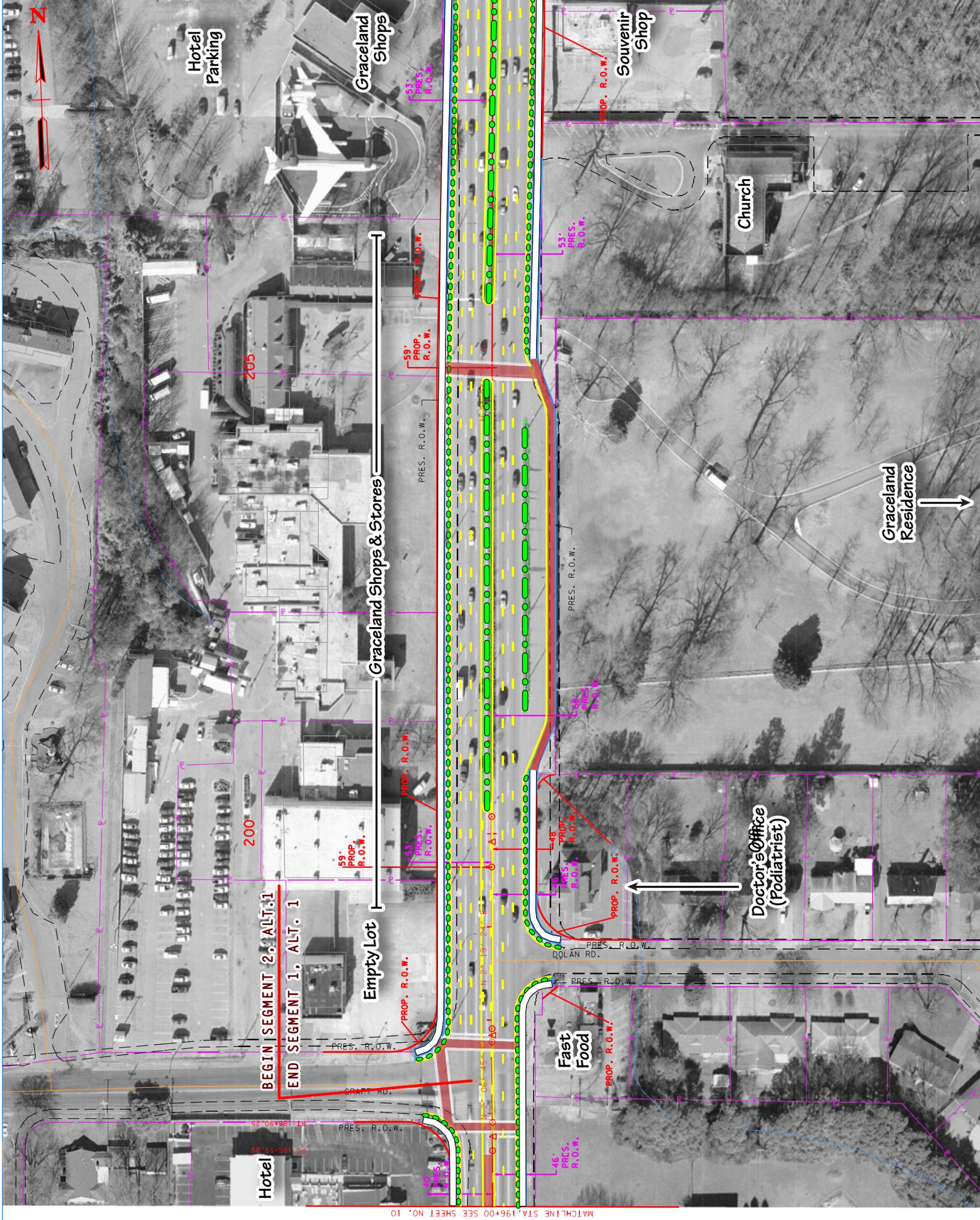
FILE NO.
DESIGN DIVISION
TENNESSEE D.O.T.

SHEET NO.	11
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 2, ALT. 1

STA. 196+00 TO STA. 209+00
SCALE: 1" = 100'



FILE NO.	
DESIGN DIVISION	
TENNESSEE D.O.T.	

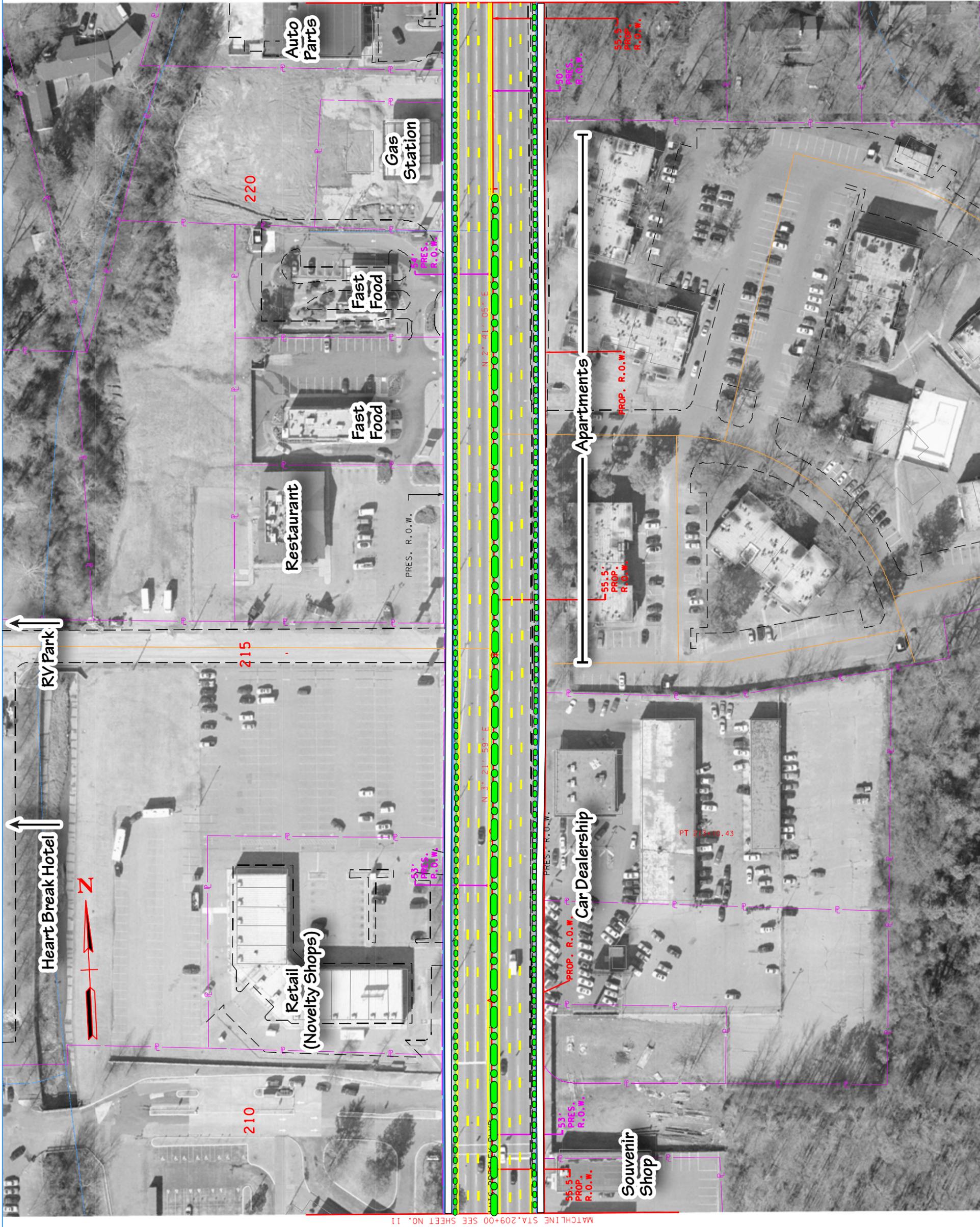
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2/12/2009

SHEET NO.	12
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 2, ALT. 1

STA. 209+00 TO STA. 222+00
SCALE: 1"=100'



FILE NO.	
DESIGN DIVISION	
TENNESSEE D.O.T.	

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2/12/2009

MATCHLINE STA.222+00 SEE SHEET NO. 13

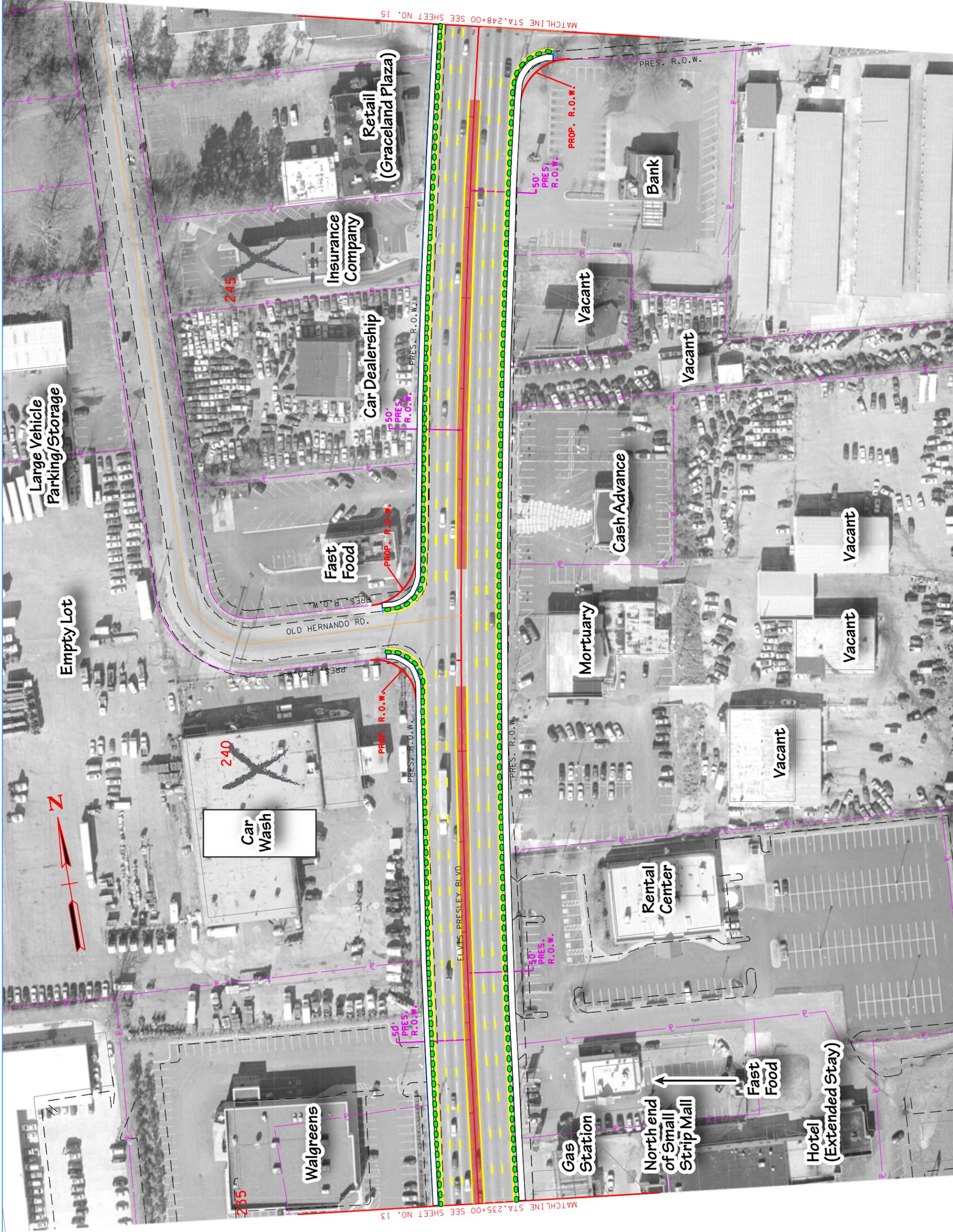
MATCHLINE STA.209+00 SEE SHEET NO. 11

SHEET NO.	PROJECT NO.	YEAR	TYPE
13		2009	T.P.R.



FILE NO.
DESIGN DIVISION
TENNESSEE D.O.T.

SHEET NO.	PROJECT NO.	YEAR	TYPE
14		2009	T.P.R.

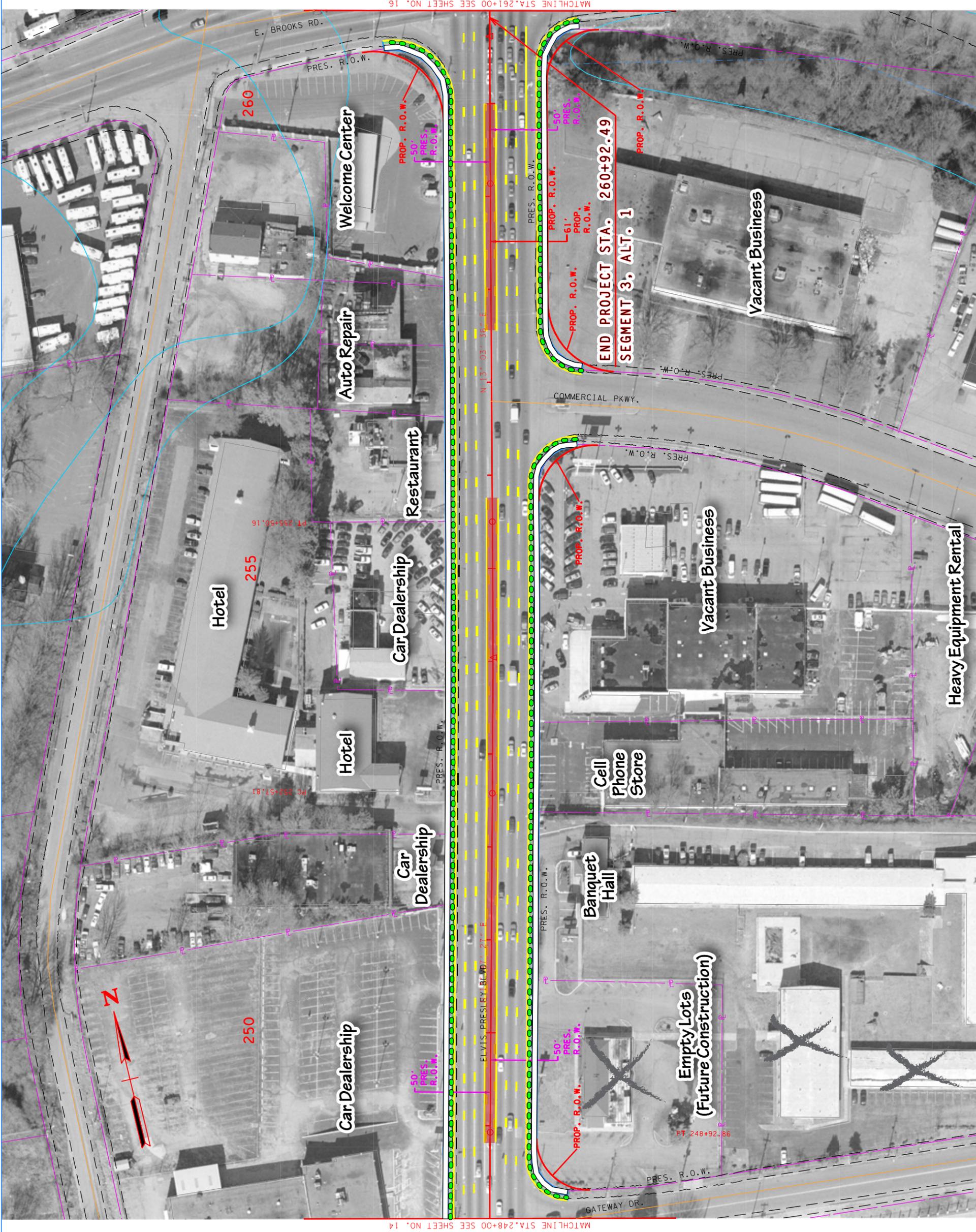


FILE NO.
DESIGN DIVISION
TENNESSEE D.O.T.

SHEET NO.	PROJECT NO.	YEAR	TYPE
15		2009	T.P.R.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 3, ALT. 1
STA. 248+00 TO STA. 261+00
SCALE: 1"=100'



FILE NO.
DESIGN DIVISION
TENNESSEE D.O.T.

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2/2/2009

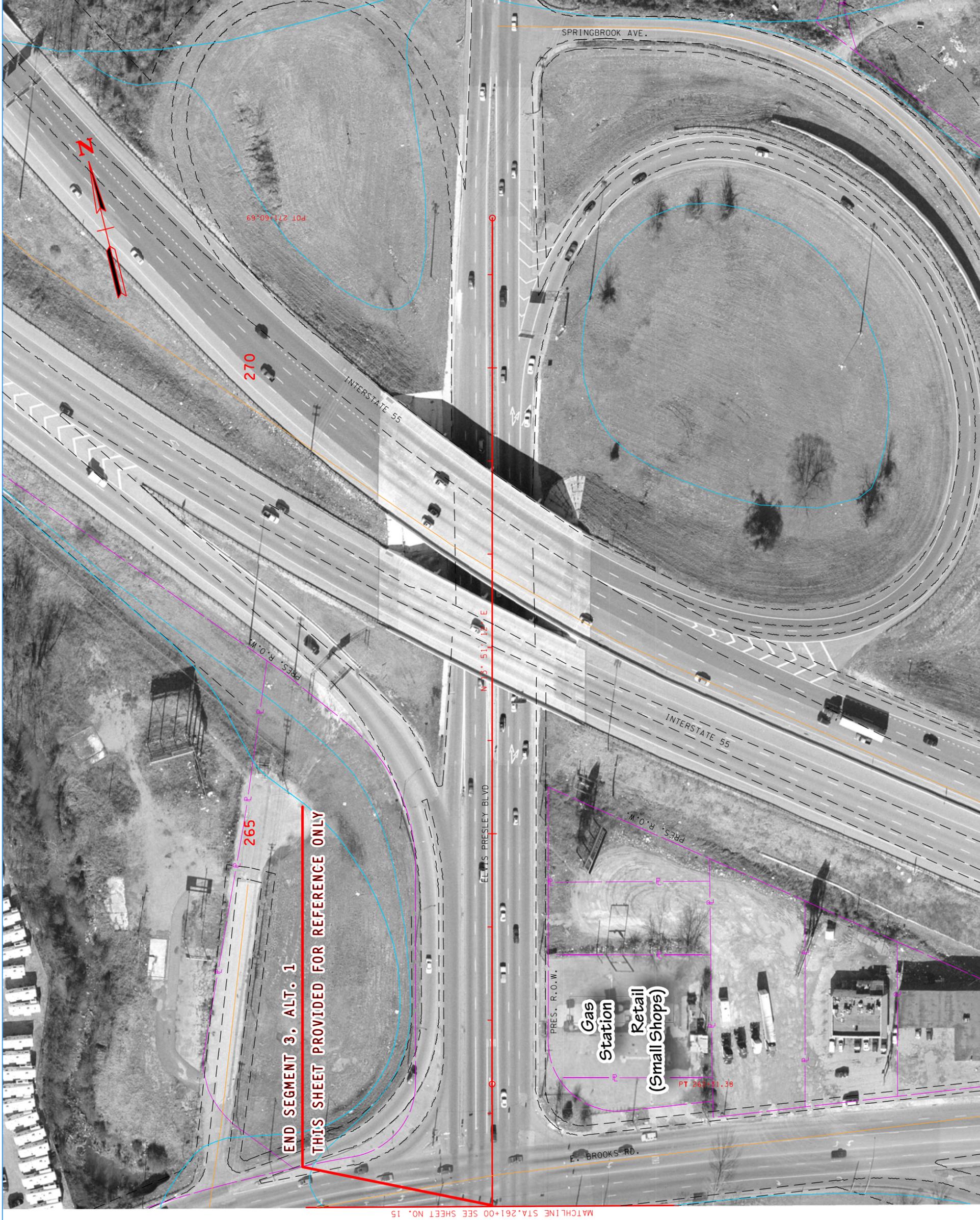
MATCHLINE STA.261+00 SEE SHEET NO. 16

MATCHLINE STA.248+00 SEE SHEET NO. 14

SHEET NO.	16
PROJECT NO.	
YEAR	2009
TYPE	T.P.R.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

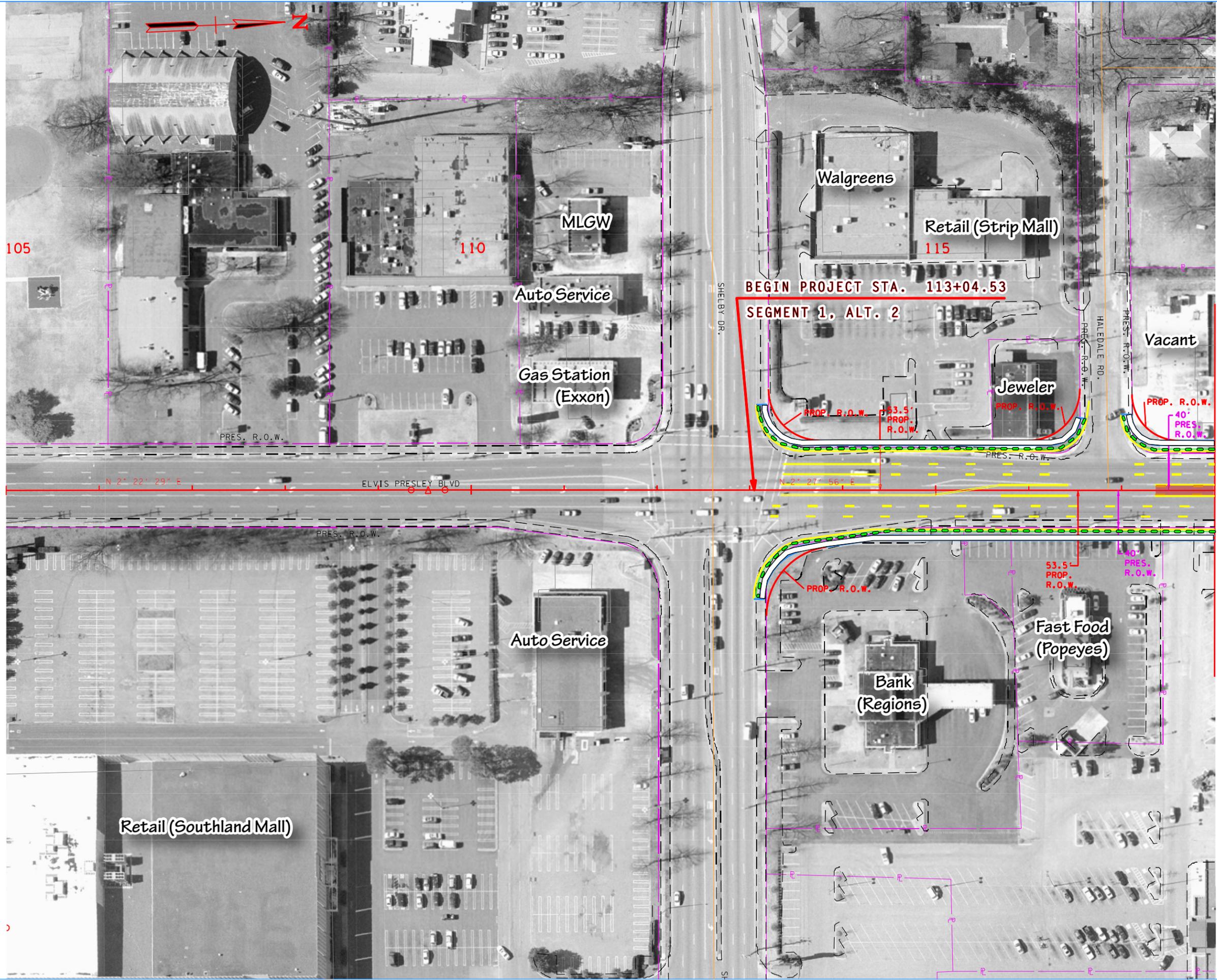
CONCEPTUAL LAYOUT
SEGMENT 3, ALT. 1
STA. 261+00 TO E.O.P.
SCALE: 1" = 50'



END SEGMENT 3, ALT. 1
THIS SHEET PROVIDED FOR REFERENCE ONLY

FILE NO.	
DESIGN DIVISION	
TENNESSEE D.O.T.	

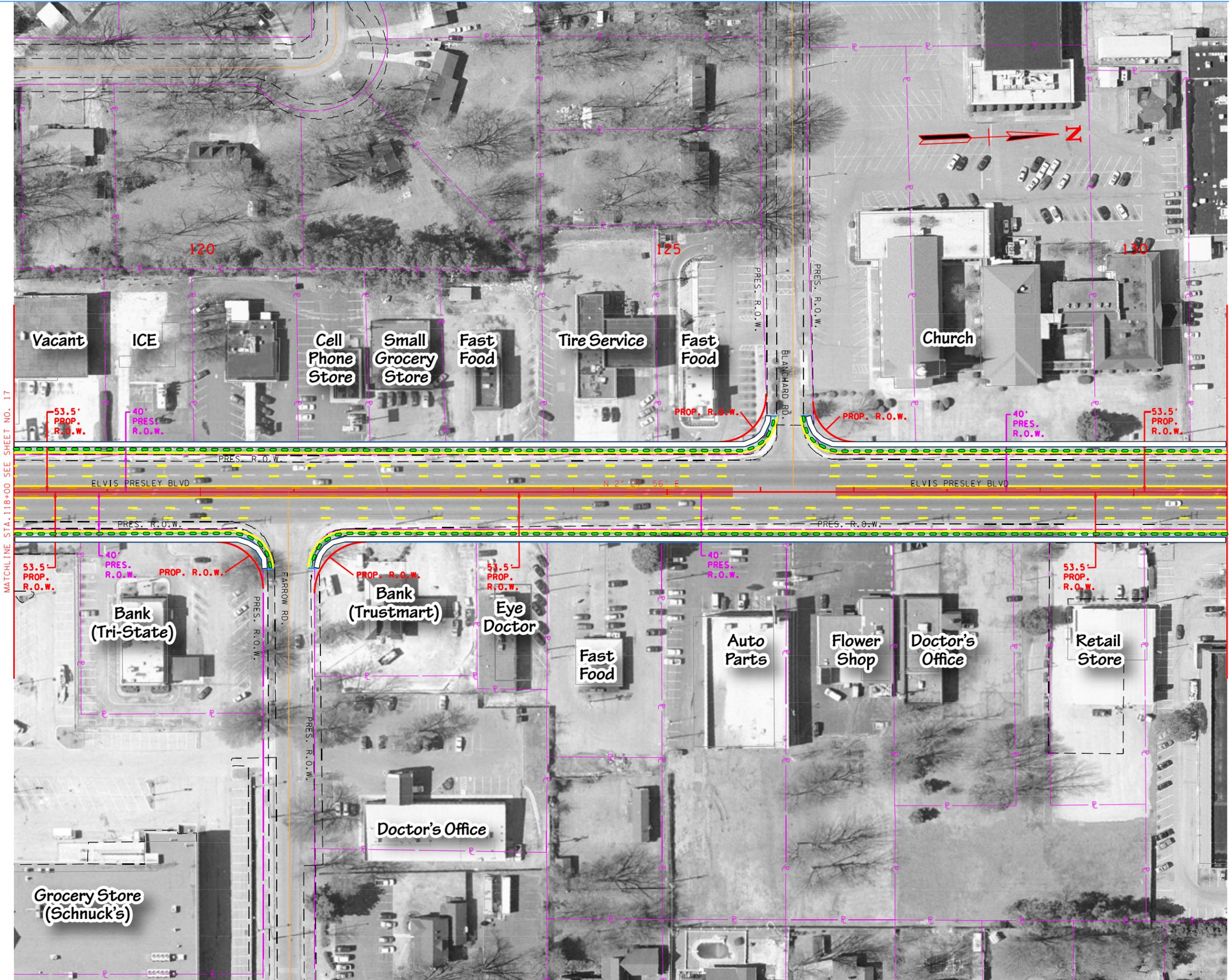
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		17



MATCHLINE STA. 118+00 SEE SHEET NO. 18

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
CONCEPTUAL LAYOUT
 SEGMENT 1, ALT. 2
 B.O.P. TO STA. 118+00
 SCALE: 1" = 100'

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		18



MATCHLINE STA. 118+00 SEE SHEET NO. 17

MATCHLINE STA. 131+00 SEE SHEET NO. 19

2/13/2009
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
SEGMENT 1, ALT. 2
STA. 118+00 TO STA. 131+00
SCALE: 1" = 100'

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		19



MATCHLINE STA. 131+00 SEE SHEET NO. 18

MATCHLINE STA. 144+00 SEE SHEET NO. 20

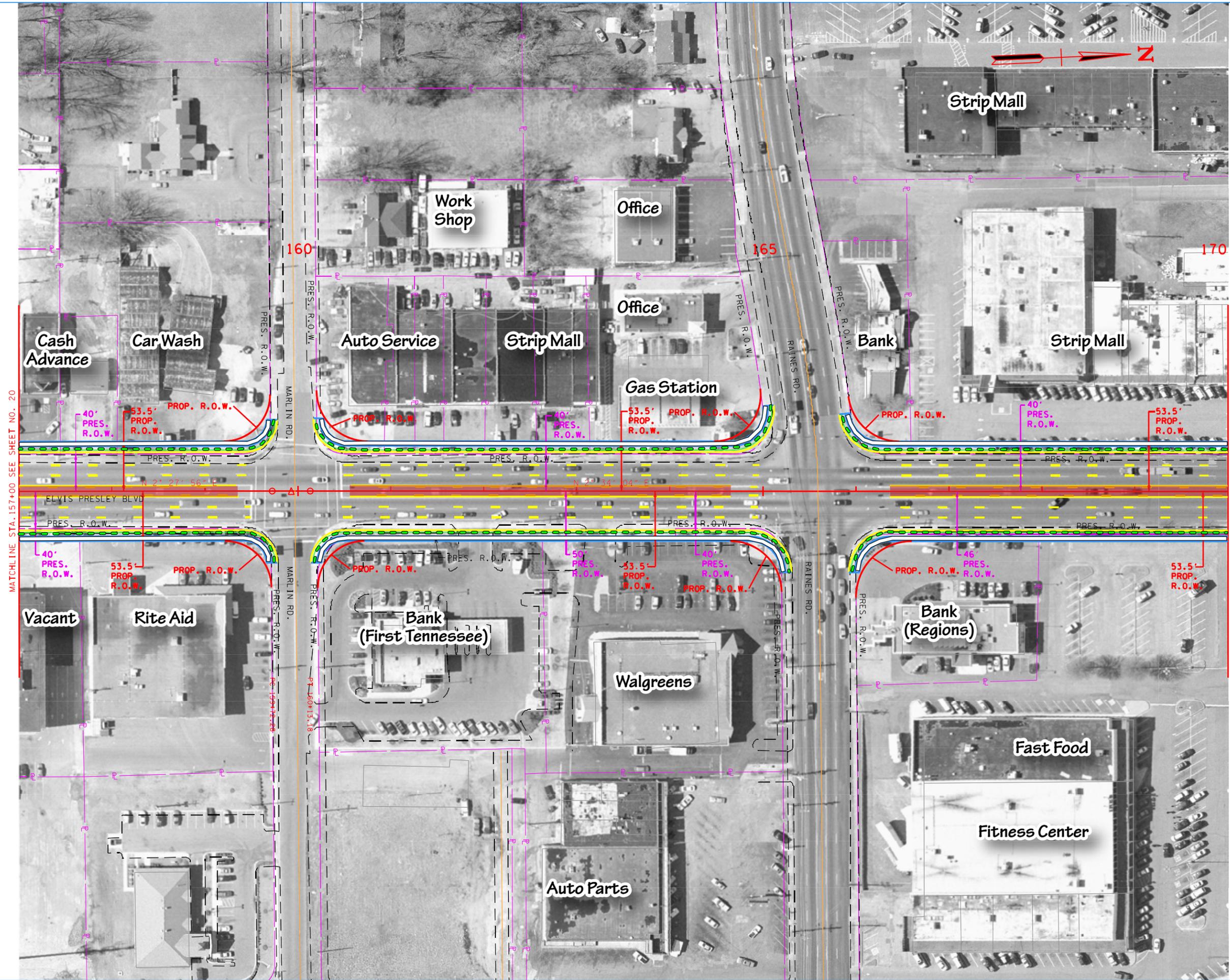
2/13/2009
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TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		20



2/13/2009
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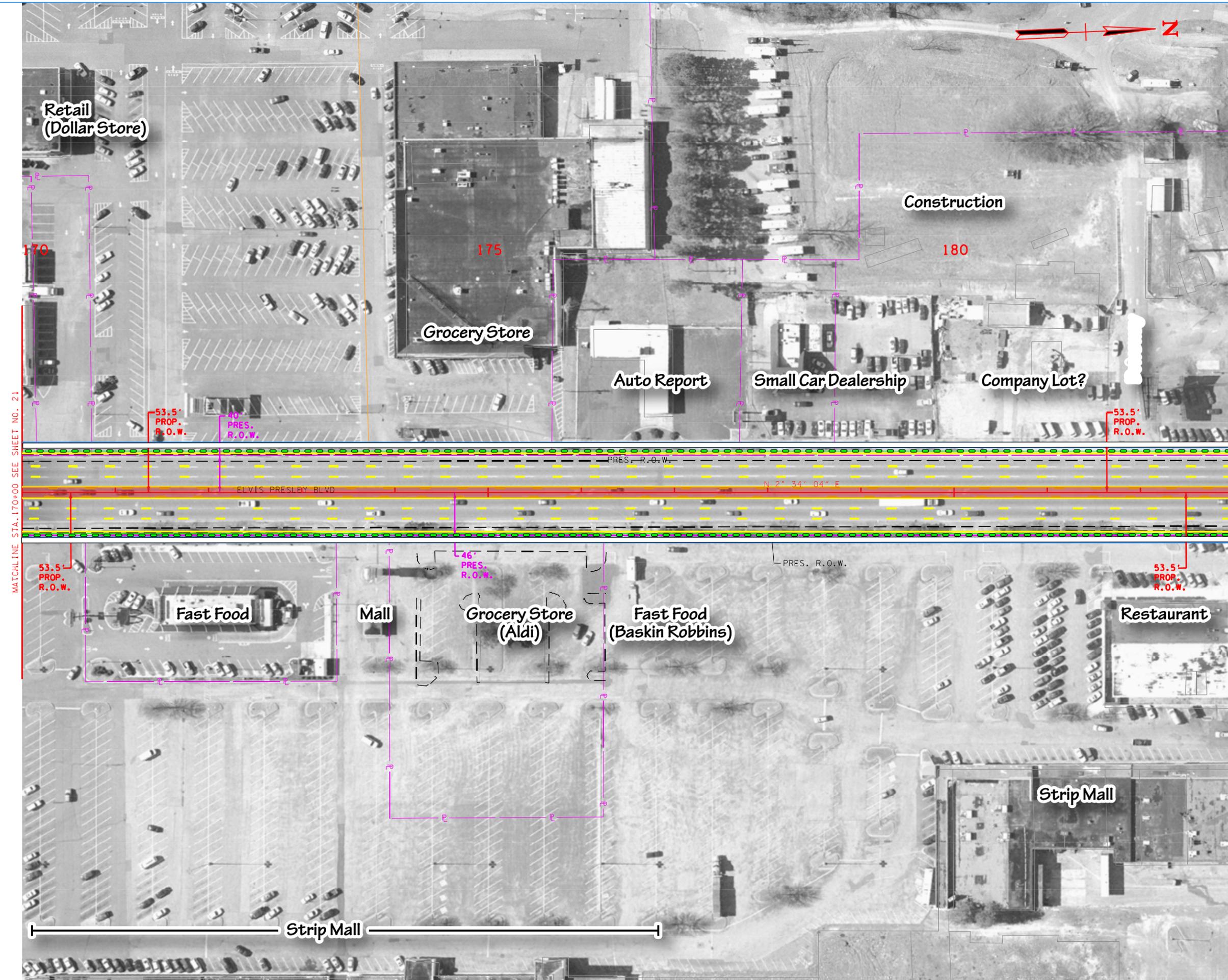
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		21



MATCHLINE STA. 157+00 SEE SHEET NO. 20

MATCHLINE STA. 170+00 SEE SHEET NO. 22

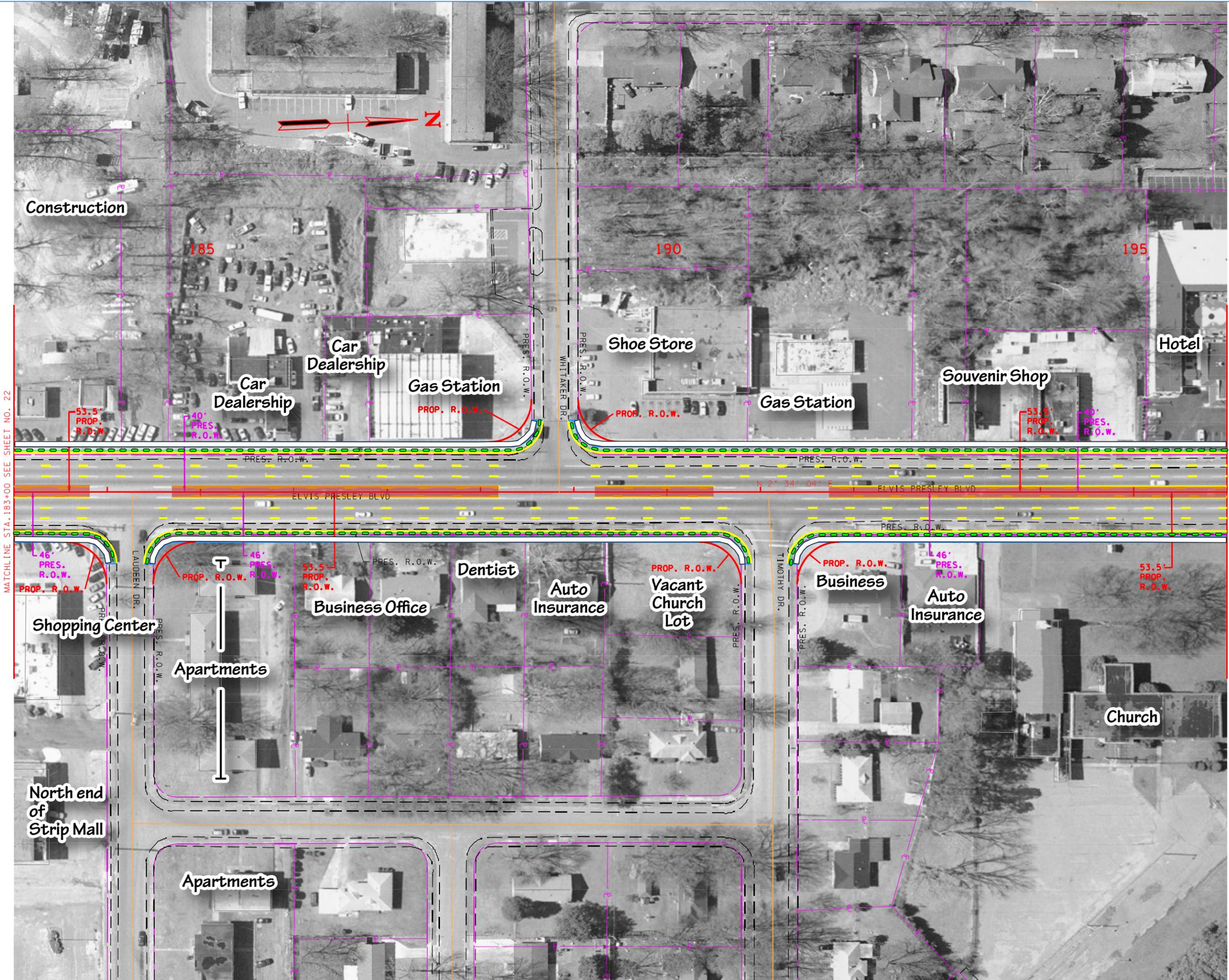
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		22



MATCHLINE STA. 170+00 SEE SHEET NO. 21

MATCHLINE STA. 183+00 SEE SHEET NO. 23

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		23



MATCHLINE STA. 183+00 SEE SHEET NO. 22

MATCHLINE STA. 196+00 SEE SHEET NO. 24

2/13/2009
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TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		24



MATCHLINE STA. 196+00 SEE SHEET NO. 23

MATCHLINE STA. 209+00 SEE SHEET NO. 25

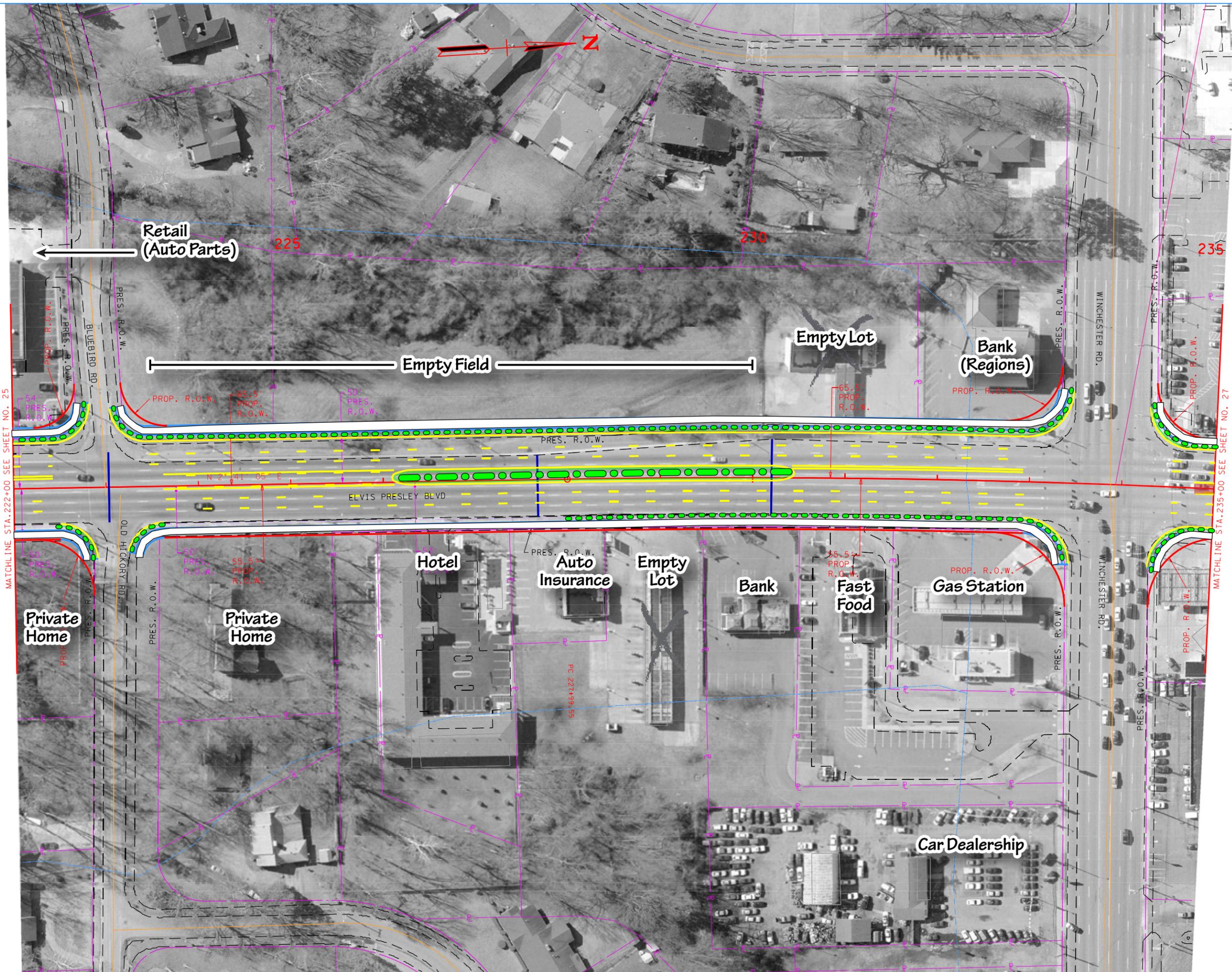
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		25



MATCHLINE STA. 209+00 SEE SHEET NO. 24

MATCHLINE STA. 222+00 SEE SHEET NO. 26

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		26



MATCHLINE STA. 222+00 SEE SHEET NO. 25

MATCHLINE STA. 235+00 SEE SHEET NO. 27

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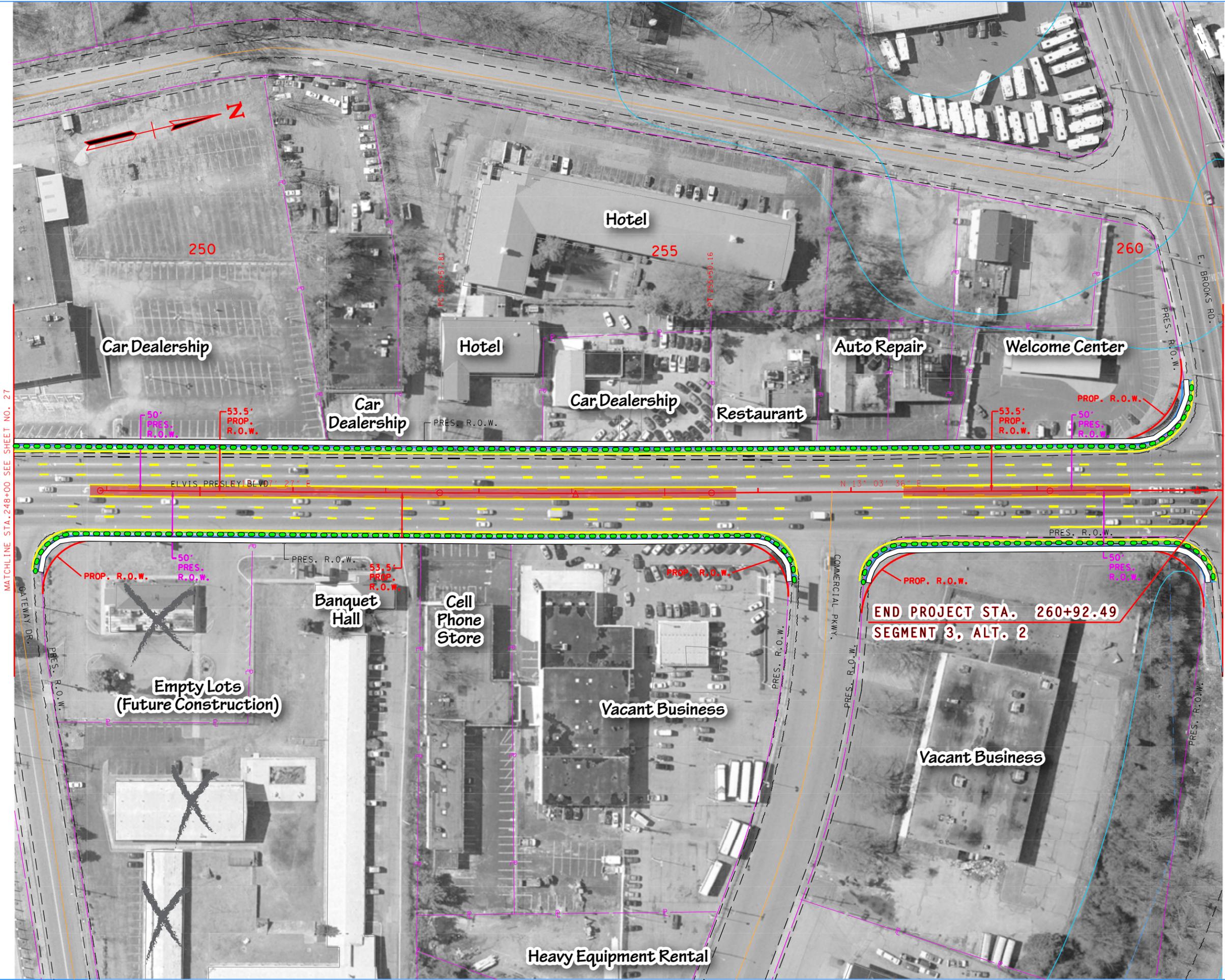
TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		27



MATCHLINE STA. 235+00 SEE SHEET NO. 26

MATCHLINE STA. 248+00 SEE SHEET NO. 28

TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		28

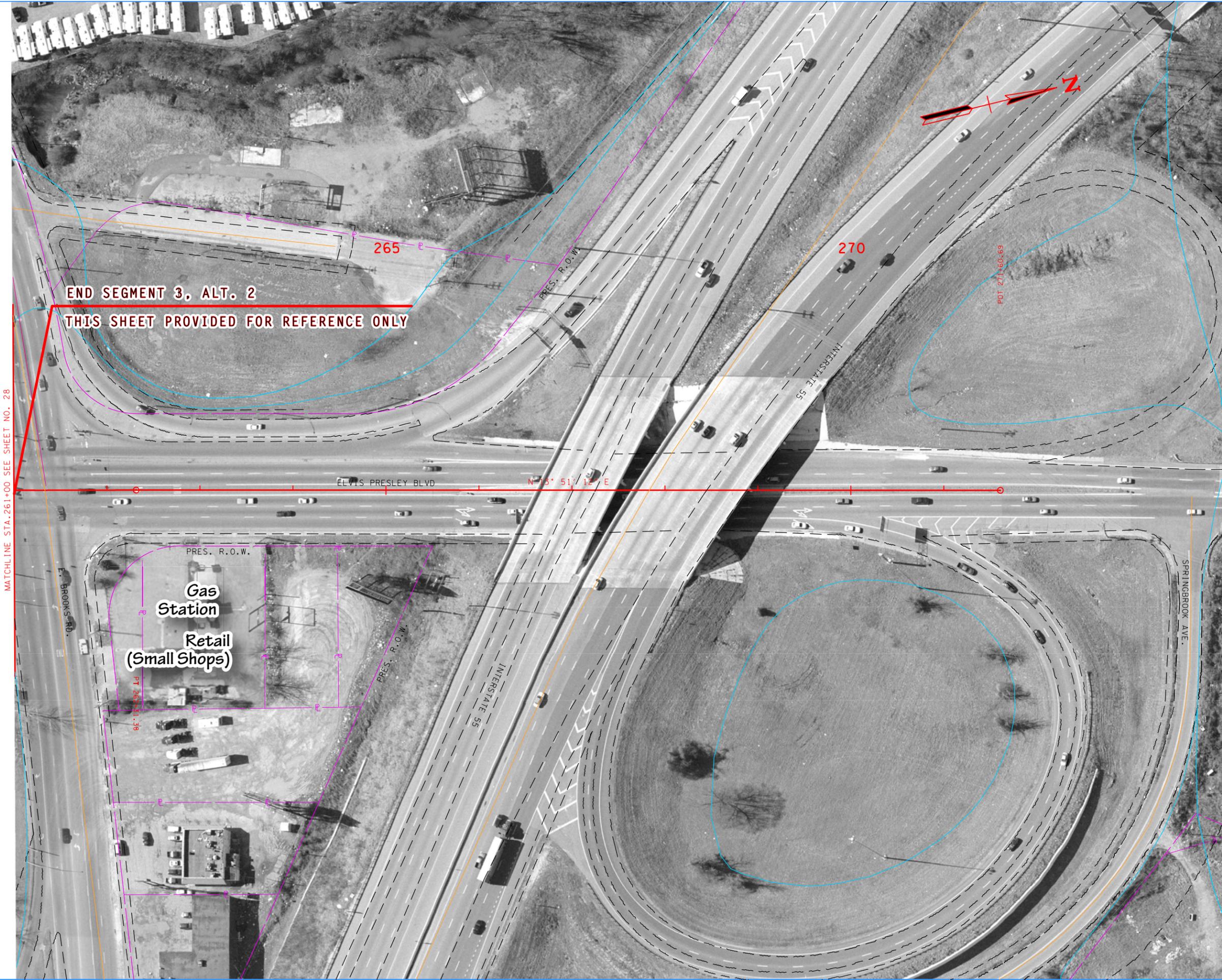


MATCHLINE STA. 248+00 SEE SHEET NO. 27

MATCHLINE STA. 261+00 SEE SHEET NO. 29

2/13/2009
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TYPE	YEAR	PROJECT NO.	SHEET NO.
T.P.R.	2009		29



2/13/2009
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

CONCEPTUAL LAYOUT
 SEGMENT 3, ALT. 2
 STA. 261+00 TO E.O.P.
 SCALE: 1" = 100'

