

JACK MILLER THOROUGHFARE NEEDS ASSESSMENT

PREPARED FOR THE CITY OF CLARKSVILLE, TENNESSEE

JANUARY 3, 2007



GSP PROJECT NUMBER: 22824.02

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Purpose of Study

This is a needs assessment for the proposed Jack Miller Thoroughfare, which is planned from the present terminus of Jack Miller Boulevard at Tobacco Road to South Hampton Road and Wilma Rudolph Boulevard (see Figure 4). In October 2006, the City of Clarksville requested that Gresham, Smith and Partners (GS&P) examine the existing conditions and determine the feasibility of constructing a new west-east thoroughfare in the project area north of the Clarksville Central Business District (CBD). This report documents the need for the planned thoroughfare, offers alternative alignments, and outlines preliminary estimates for the preferred alignments. This study will help the City identify a corridor to be preserved as development occurs in the project area.

Needs Assessment

There are two core needs for the proposed project:

1. **There is a need for additional roadway infrastructure to serve the existing and future population in this rapidly growing area of Clarksville.**

The project area, which includes the Trenton, Airport, and Peachers Mill Planning Areas, is undergoing rapid population growth. According to census data, the population more than doubled in these neighborhoods in the 1990's. This growth is expected to continue. In the near term, two new subdivisions and a new school are being built in the project area (see Figure 4).

Due to its central location and its proximity to Fort Campbell and I-24, there is a strong market demand for commercial and resident development in the project area. This, coupled with available land and infrastructure, is expected to drive growth into the future. The existing roadway infrastructure in the area cannot adequately serve the current and future population.

2. **The area needs an additional east-west arterial connecting Fort Campbell Boulevard to Trenton Road, Wilma Rudolph Boulevard and Interstate 24 (I-24).**

The project area lies between two important parts of Clarksville: Fort Campbell to the west and Trenton Road, Wilma Rudolph Boulevard and I-24 to the east. Tiny Town Road and 101st Airborne Parkway are the only existing east-west connections between these two areas of town. As a result, all traffic traveling between these destinations are funneled onto Tiny Town Road, 101st Airborne Parkway or through downtown Clarksville, and these roads have reached their capacity. The 2005 Clarksville MPO Travel Demand Model (TDM) shows portions of these roadways functioning at a Level of Service (LOS) of D and E. While both Tiny Town Road and 101st Airborne Parkway are in the MPO's Transportation Improvement Plan to be widened, the additional capacity on these east-west connectors will not be enough to provide the future population with sufficient mobility. As the project area continues to grow, capacity issues will likely worsen. Preliminary results from the TDM indicate that significant portions of Tiny Town Road and 101st Airborne Parkway may be functioning at a LOS of F in the 2030 Horizon Year. An additional east-west arterial is needed to relieve the capacity issues on Tiny Town Road and 101st Airborne Parkway while providing connectivity for residents in the area.

When the TDM is run with the Jack Miller Thoroughfare included in the network, Jack Miller carries approximately 15,000 vehicles (ADT). It is important to note that this figure is based on a refined TDM, whose

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Proposed Alternatives

GS&P developed five potential alternative alignments in this corridor based on topography, land uses and other physical constraints in the project area. These alternatives are shown as Alternatives A, B, C, D and E in Figure 4.

Based on the analysis as presented to the City*, Alternatives "A" and "E" were chosen as the preferred alternatives. The pros and cons for each alternative are listed in *Table 1*.

Alternatives	Pros / Cons
Alternative "A" (approx 7.0 miles)	TVA transmission line proximity will be a big factor in location of alignment +/- 12 Relocations Steep topography east of Trenton Road and east of Needmore Road
Alternative "B"	+/- 20 Relocations Most inconvenient to population, serves fewer developments Steep topography east of Trenton Road
Alternative "C"	+/- 12 Relocations Steep topography west of Trenton Road and east of Needmore Road Longer route than A or B Alignment is located through a developing subdivision
Alternative "D"	+/- 28 Relocations Longer route than A, B and C Significant number of residential driveways are located along alignment
Alternative "E" (approx 7.6 miles)	4 Relocations Longest route There are developing subdivisions around this alignment that will require quick ROW dedication, plats for said subdivisions have already been developed

Table 1 – Alternative Pros / Cons

* Detailed analysis of the major factors included: alignments, bridges, flood plain impacts, East/West connectivity, accessibility to development, right-of-way impacts (including number of tracts and relocations), cost, and utility impacts (including the TVA easement).

Alternatives "A" and "E" both fulfill the needs assessment contained in this report. The proposed typical section is a rural 4 lane divided section with a 18' median, 12' of which is raised (*Figure 2*). The median will eventually become a turn lane. For the purpose of construction cost estimating in this report, a proposed right-of-way width of 98' will be used. Actual right-of-way width may vary.

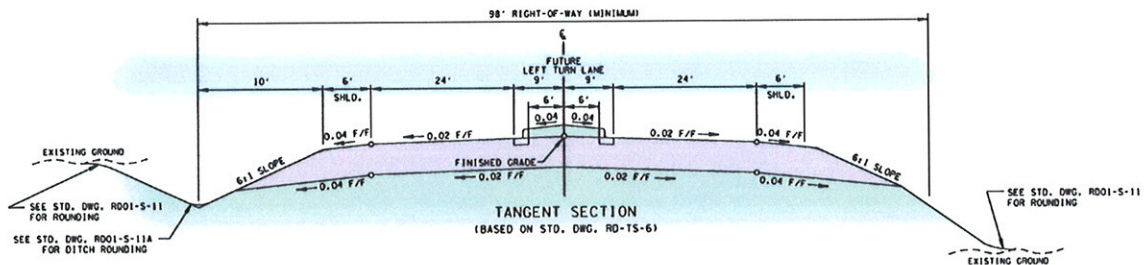
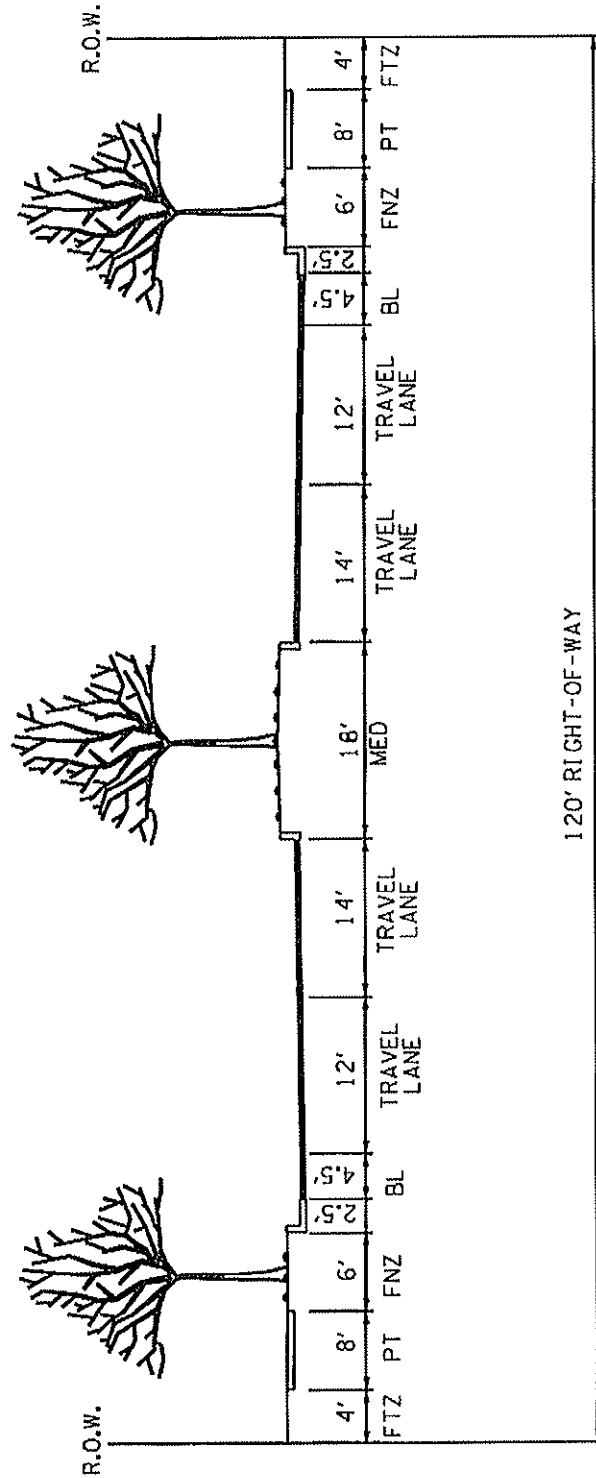


Figure 2 – Typical Section

ARTERIAL BLVD
(4 LANES WITH MEDIAN)
(120' R.O.W.)



- NOTES : 1) ALL UTILITIES LOCATED OUTSIDE ROW IF FEASIBLE
2) PT = PEDESTRIAN TRAVELWAY
3) FNZ = FRONTAGE ZONE
4) FTZ = FRONTAGE ZONE/UTILITIES
5) BL = BIKE LANE



FIGURE 2- TYPICAL SECTION

TYPICAL CROSS SECTIONS
JACK MILLER THOROUGHFARE
CLARKSVILLE-MONTGOMERY COUNTY

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Environmental Concerns

A preliminary environmental screening was conducted for the two preferred alternatives so that potential environmental concerns are identified early in the planning process. It should be stressed that this screening only includes a basic records check for the resources described below. This screening does not include the identification of potential hazardous materials sites, ecologically sensitive sites or archeological sites. A more comprehensive analysis of the potential environmental constraints in the area should be conducted once a preferred alignment is determined.

Floodplains: The Federal Emergency Management Agency's (FEMA) flood zones are shown in Figure 4. A review of these maps shows that Alternatives A and E both cross two 100-year flood zones. Alterations to streams or other aquatic sites designated as waters of the State or waters of the United States require Aquatic Resource Alteration Permits (ARAP) from the State of Tennessee and permits from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act.

Wetlands: The National Wetlands Inventory (NWI) maps were reviewed for known wetlands on Alternatives A and E. According to the NWI maps, both alignments cross known wetlands within the FEMA 100 year-flood zones. Outside the flood zones, the proposed alignments can easily avoid the known wetlands. All wetland impacts require confirmation by, and coordination with, permitting agencies. They require ARAPs from the State of Tennessee. Almost all require permits from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. Other agencies, such as the U.S. Fish and Wildlife Service and the Environmental Protection Agency may be involved in the permitting process.

Historic Resources: The State Historic Preservation Office records were reviewed to determine if any historic resources are located in the project area. The Allen House, an approximately 3.9 acre listing on the National Register of Historic Places (NRHP), is the only property within the project area. The location of the Allen House is shown in Figure 3. The property was considered in the proposed alignments, and the current alignments have no effect on the Allen House. If Alignment A is chosen, the location of the Allen House should continue to be considered in the project development process.

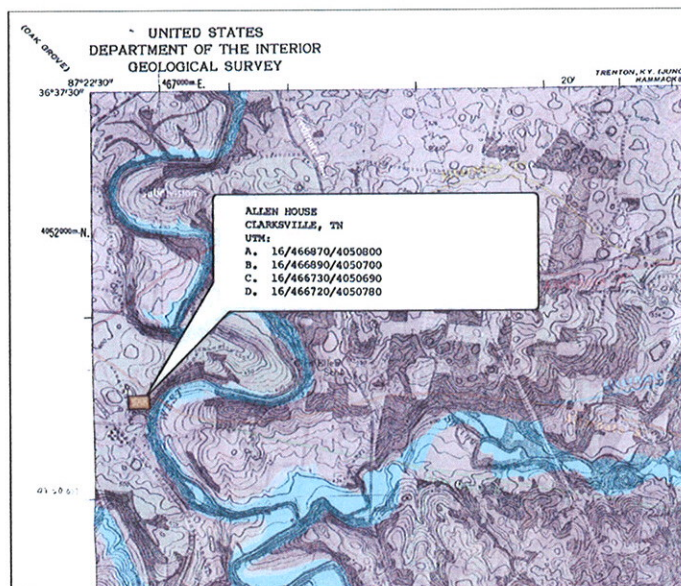


Figure 3 – Allen House Historic Property

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Construction Cost Estimates

COST DATA SHEET		(Itemized Cost Estimates)		1/8/2007	
Jack Miller Extension - Alternative "A"					
<u>Right-of-Way</u>		Number	Rate	2005 Costs	
	Land, Improvements, and Damages	Acres=	67	\$25,000	\$1,675,000
	Relocation Payments	Residences=	12	\$150,000	\$1,800,000
		Businesses=	0		\$0
		Non-Profits=	0		\$0
	Contingences	Additional 20%			\$695,000
		Total Right-of-Way Costs			\$4,170,000
<u>Construction</u>					
	Clear and Grubbing			\$	50,000
	Earthwork			\$	405,133
	Drainage (Includes Erosion Control)			\$	278,280
	Structures			\$	7,840,000
	Paving			\$	7,983,360
	Maintenance of Traffic			\$	35,000
	Topsoil			\$	471,610
	Seeding			\$	31,933
	Sodding			\$	73,920
	Signing			\$	14,000
	Signalization			\$	300,000
	Other Construction Items (10%)			\$	1,748,324
	Mobilization			\$	871,000
	Total Construction Cost			\$	20,102,559
	Engineering (10%)			\$	2,010,256
	Contingencies (10%)			\$	2,010,256
TOTAL PROJECT COST				\$	28,293,071

PHASE BREAKDOWN AS IT RELATES TO PROJECT COST			
Phase 1	From Wilma Rudolph Blvd to Trenton Road	\$	6,197,285
Phase 2	From Trenton Road to Needmore Road	\$	5,714,326
Phase 3	From Needmore Road to Peachers Mill Road	\$	11,154,869
Phase 4	From Peachers Mill Road to Jack Miller Blvd Terminus	\$	5,226,592

JACK MILLER THOROUGHFARE NEEDS ASSESSMENT

COST DATA SHEET

(Itemized Cost Estimates)

1/8/2007

Jack Miller Extension - Alternative "E"

Right-of-Way		Number	Rate	2005 Costs
	Land, Improvements, and Damages	Acres= 75	\$25,000	\$1,875,000
	Relocation Payments	Residences= 4	\$150,000	\$600,000
		Businesses= 0		\$0
		Non-Profits= 0		\$0
	Contingences	Additional 20%		\$495,000
		Total Right-of-Way Costs		\$2,970,000
Construction				
	Clear and Grubbing			\$ 50,000
	Earthwork			\$ 445,646
	Drainage (Includes Erosion Control)			\$ 298,608
	Structures			\$ 4,760,000
	Paving			\$ 8,781,696
	Maintenance of Traffic			\$ 38,500
	Topsoil			\$ 518,771
	Seeding			\$ 35,127
	Sodding			\$ 81,312
	Signing			\$ 15,400
	Signalization			\$ 300,000
	Other Construction Items (10%)			\$ 899,000
	Mobilization			\$ 736,000
	Total Construction Cost			\$ 16,960,060
	Engineering (10%)			\$ 1,696,006
	Contingencies (10%)			\$ 1,696,006
TOTAL PROJECT COST				\$ 23,322,072

PHASE BREAKDOWN AS IT RELATES TO PROJECT COST

Phase 1	From Wilma Rudolph Blvd to Trenton Road	\$ 7,278,854
Phase 2	From Trenton Road to Needmore Road	\$ 5,685,366
Phase 3	From Needmore Road to Peachers Mill Road	\$ 5,692,379
Phase 4	From Peachers Mill Road to Jack Miller Blvd Terminus	\$ 4,665,473

Summary

This study presents two alternatives that fulfill the need along the corridor between Jack Mill Boulevard and Wilma Rudolph Boulevard. Alternative "A" runs parallel between Tiny Town Road and 101st Airborne Division Parkway through primarily undeveloped property; however more relocations are necessary with Alternative "A". Alternative "E" utilizes existing portions of Hazelwood Road and is approximately 0.7 miles longer than Alternative "A", but due to only 4 relocations, the estimated cost is lower.

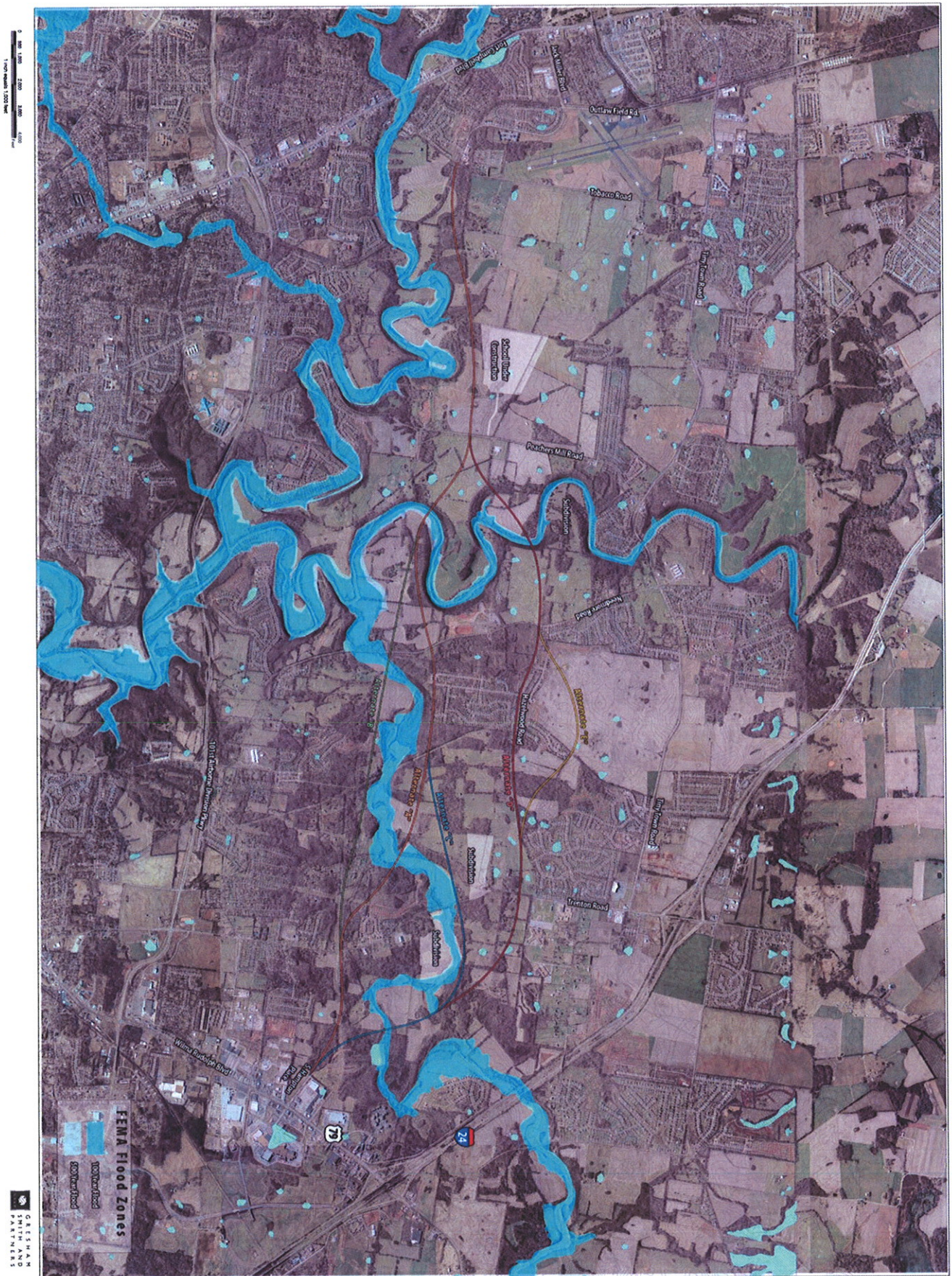


Figure 4 - Proposed Alternatives

