APRIL
2006


# Bella Vista Bypass Toll Study Update

HNTB in association with
Wilbur Smith Associates
Citigroup

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# CHAPTER 1 – INTRODUCTION

## *Purpose of Study*

The purpose of the study is to update the July 2004 *Traffic, Revenue and Toll Feasibility Study* conducted for the US 71 Bella Vista Bypass Project. In the July 2004 *Traffic, Revenue and Toll Feasibility Study*, the Missouri Department of Transportation (MoDOT) and the Arkansas State Highway and Transportation Department (AHTD) considered the feasibility of constructing the US 71 Bella Vista Bypass, a highway corridor relocation project of the US 71 Corridor from just north of Bentonville, Arkansas to Pineville, Missouri, using toll financing. The study was conducted as an investment-grade toll study for the purpose of determining the potential toll financing feasibility of the US 71 Bella Vista Bypass Project.

Since the time of the 2004 study, the focus and delineation of the original investment-grade toll study has changed. In 2005, MoDOT was able to secure their share of the funding for the Project through the passage of the Amendment 3 ballot initiative, which provided MoDOT the opportunity to create the *Smoother Safer Sooner* program and allocate funding to construct the state's portion of the US 71 Bella Vista Bypass without using toll financing. As a result of these developments in Missouri, this update looks at tolling the Project for only the Arkansas portion of the project, from the Arkansas-Missouri state line to the US 71/US 71 Business interchange north of Bentonville, Arkansas. At the current time, funding is not available to complete the improvements planned for the US 71 Corridor in and around Bella Vista for the Arkansas portion of the Project. This has led to the consideration of using toll financing to fund the Project in Arkansas. This study assesses the feasibility of implementing tolls on the US 71 Bella Vista Bypass Project in Arkansas by estimating the revenue possibly available through toll revenue bond financing in comparison to the Project's construction and operations/maintenance costs.

## *US 71 Corridor (Future I-49)*

In 1991, Congress identified the existing US 71 Corridor, extending from Kansas City, Missouri to Shreveport, Louisiana, as a high-priority corridor. As listed in the Intermodal Surface Transportation Efficiency Act (ISTEA), this corridor, possibly called the I-49 Corridor, was identified as a high-priority north-south highway corridor from the Gulf of Mexico to the Midwest. Prior to ISTEA, the Federal-Aid Highway Act of 1987 also identified US 71 as a corridor of national significance. In response to the 1987 legislation, a multi-state corridor study (Kansas City, Missouri to Shreveport, Louisiana Highway Feasibility Corridor Study) was conducted by AHTD in cooperation with the FHWA and its neighboring states -- Missouri, Texas and Louisiana. This study concluded that the US 71 Corridor was essential to the economic growth of the central region of the country.

The US 71 Corridor continues to be identified as a high-priority corridor in the most recent Federal surface transportation program, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: Legacy for Users (SAFETEA-LU), as High-Priority Corridor 72. Since the 1987 study and in accordance with the federal legislation, AHTD has begun upgrading US 71 to a freeway facility, extending from the Arkansas/Louisiana state line south of Texarkana, Arkansas, to the Missouri/Arkansas state line north of Bella Vista. The total improvement of the US 71 Corridor within the state is at varying stages of development – preliminary engineering, construction or open to traffic. In general, these improvements include constructing a four-lane roadway to interstate standards on new location. Immediately south of Bella Vista, roadway facilities built to interstate standards have been constructed and are currently in operation for the communities of Bentonville, Rogers, Springdale and Fayetteville.

Similar to the AHTD, the Missouri Highway and Transportation Commission has made a commitment to upgrade the existing US 71 Corridor to a four-lane highway from the Missouri/Arkansas state line to Kansas City. South of the City of Joplin, where the US 71 Corridor intersects I-44, decisions regarding the location of the freeway facility have already been made. Construction of a new four-lane freeway facility has been completed south of the US 71/I-44 interchange to a point just south of Neosho. MoDOT has committed to complete the improvement of the US 71 Corridor to a four-lane highway, including the portion considered the US 71 Bella Vista Bypass Project from Pineville, Missouri to the Arkansas-Missouri state line. For the US 71 Bella Vista Bypass toll project to be successful, it is a requirement of this study that the Missouri toll-free portion of the US 71 Bella Vista Bypass be completed and open to traffic concurrent with the Arkansas Bella Vista Bypass toll project. MoDOT has committed to completing their portion of the bypass by 2010 and it is included in their 2006 to 2010 Statewide Transportation Improvement Program (STIP).

## *Description of US 71 in Study Area*

US 71 through Bella Vista, Arkansas, has continued to experience significant growth in traffic over the years and is one of the fastest growing areas in the State of Arkansas. In addition, increased through-trips and intra-Bella Vista trips have caused an increase in traffic crashes in the area. The growth in traffic and decrease in safety within the region, in addition to regional corridor commitments, have resulted in the need for improvements to US 71.

The US 71 Corridor is the primary north-south route providing mobility and access to and through the Northwest Arkansas and Southwest Missouri regions. Within these regions, several cities and economic activity centers are served by US 71, including Neosho, Joplin, and Carthage in Missouri and Bentonville, Rogers, Springdale, and Fayetteville in Arkansas. The village of Bella Vista, Arkansas, which is a retirement and recreation community, is also served by US 71. Other regionally significant activity centers that are indirectly served by US 71 include Springfield, Missouri via I-44, and Siloam Springs, Arkansas via US 412. Figure 1-1, US 71 Corridor, shows the general US 71 Corridor and regional transportation system. The figure also shows the general location of the US 71 Bella Vista Bypass Project.

Located within Benton County, Arkansas, the Study Area includes several municipalities. The town of Hiwasse, Arkansas and the northern city limits of Bentonville, Arkansas, cross into the Study Area. The majority of the unincorporated Bella Vista community comprises the Study Area in Arkansas.

**Figure 1-1**
**US 71 Corridor**

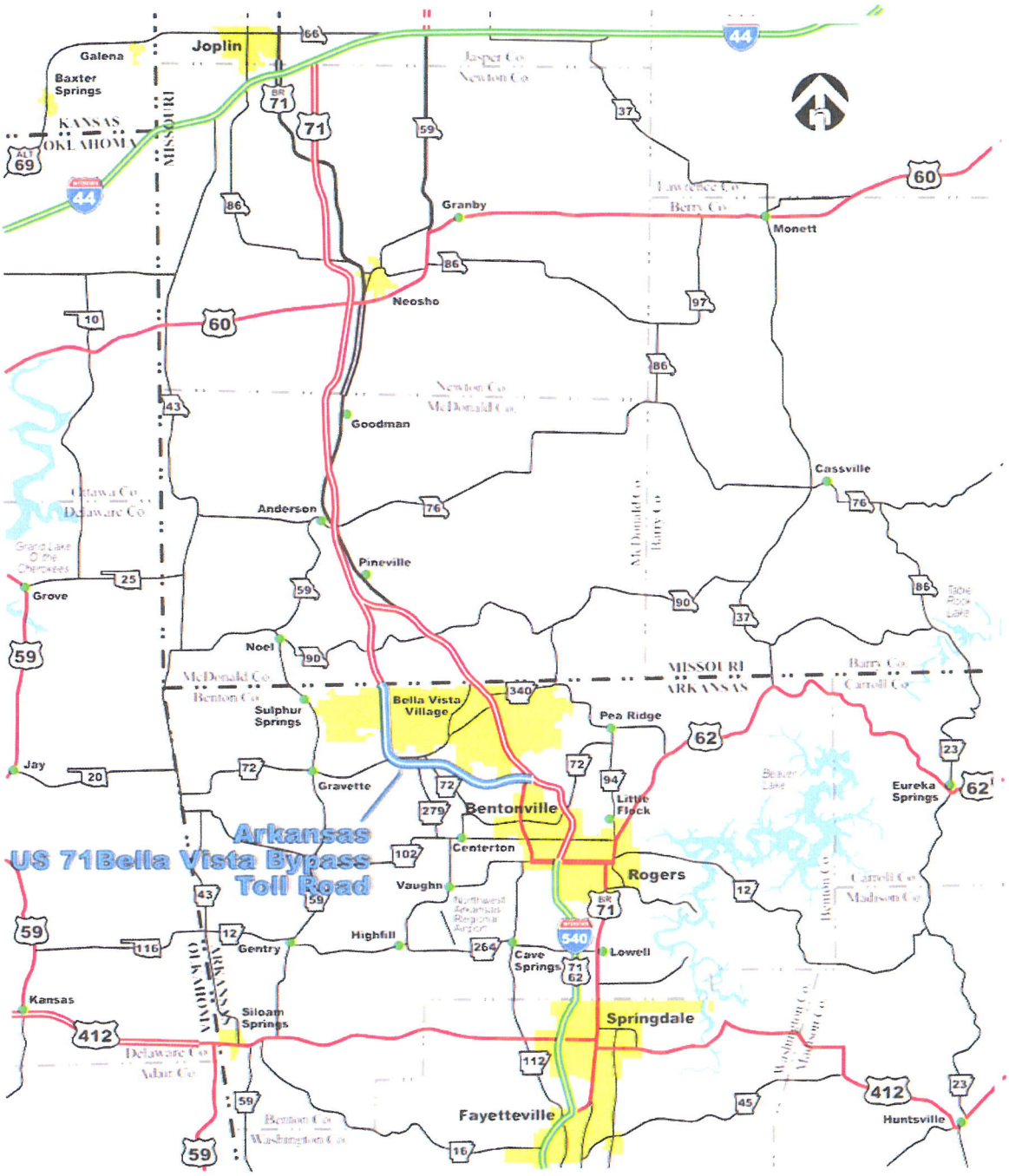



Figure 1-2 shows the study area for the Project. Extending north from I-44 to just north of Pineville, Missouri, the US 71 Corridor is a four-lane freeway section. The section of US 71 from Pineville to the Arkansas-Missouri state line is in the process of being designed and constructed as the Missouri toll-free portion of the US 71 Bella Vista Bypass. MoDOT has committed to completing their portion of the

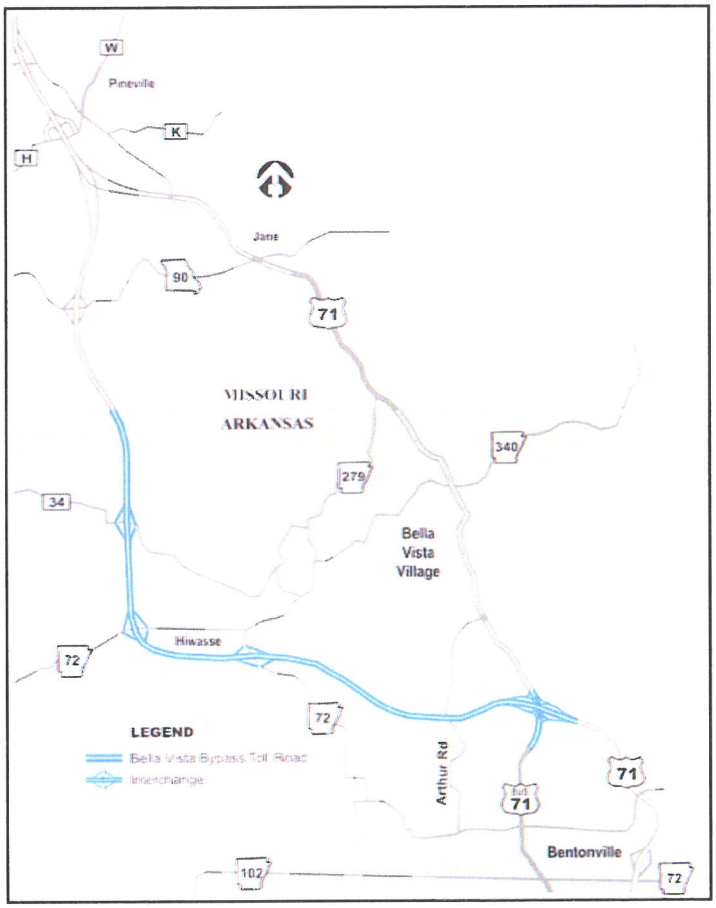
bypass by 2010 and it is included in their 2006 to 2010 STIP. When completed, this section will be a four-lane freeway and existing US 71 from Pineville, Missouri to a point just north of Route 90 will likely be re-designated Business Route 71.

From a point just north of Route H to just south of Jane, the US 71 Corridor is a four lane freeway, which transitions to a five-lane undivided arterial from south of Jane to the Arkansas-Missouri state line. This section from south of Jane to the state line operates as an arterial roadway with lower operating speeds and traffic signals.

Within the Study Area, beginning at the Arkansas-Missouri state line, the existing US 71 roadway section is a four-lane divided roadway. This roadway section is maintained through the community of Bella Vista to just south of the US 71/US 71 Business interchange. The four-lane section of in Arkansas includes a raised concrete median with stabilized outside shoulders. Access through Bella Vista on the existing US 71 Corridor is partially-controlled with a short segment of fully-controlled access at the US 71/Highway 340 interchange. Continuing south, fully controlled access is provided along US 71 at the US 71/US 71 Business interchange north of Bentonville. The freeway section around Bentonville consists of a four-lane roadway with a depressed grass median.

South of the Study Area, to Interstate 40 at Alma, the existing US 71 Corridor consists of a four-lane freeway facility.

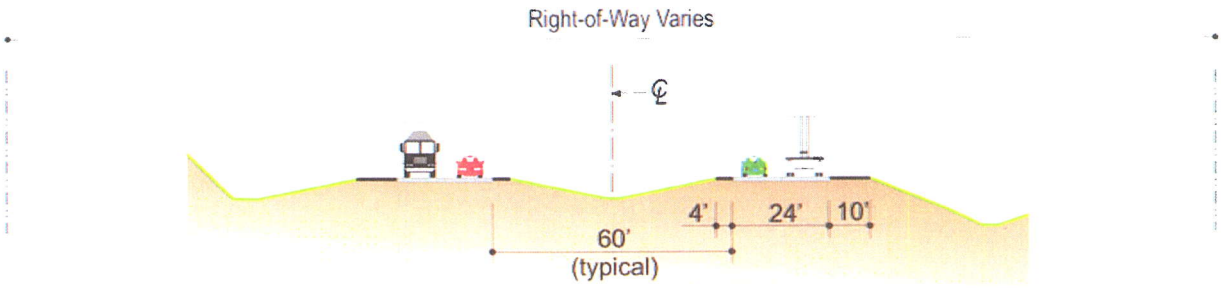
**Figure 1-2**
**Study Area Map**




## *Toll Road Project Description*

The proposed US 71 Bella Vista Bypass Project consists of constructing a new, four-lane, fully access controlled toll road with appropriate toll plaza facilities for the collection of tolls from the Arkansas-Missouri state line to the US 71/US 71 Business interchange. The relocation would be constructed to current interstate standards, and would consist of two traffic lanes in each direction generally separated by a 60-foot depressed median. Paved four-foot inside and 10-foot outside shoulders would be provided on each side of the traveled way (Figure 1-3). The roadway alignment would be efficiently adapted to the topography of the area to the extent allowed by the design criteria, in accordance with the general location shown on Figure 1-2. The length of the US 71 Bella Vista Bypass Project is 14.6 miles in Arkansas, measured from the Arkansas-Missouri state line to the US 71/US 71 Business interchange.

**Figure 1-3**
**Typical Section**




### Environmental Impact Statement

In 1999, AHTD, MoDOT and the Federal Highway Administration (FHWA) published an Environmental Impact Statement (EIS) for the US 71 Corridor from Bella Vista, Arkansas to Pineville, Missouri. In compliance with the appropriate provisions of the National Environmental Policy Act (NEPA), the EIS was prepared to aid in the decision-making process for the improvements to US 71.

The EIS considered the upgrade of US 71 to Interstate standards through or around the community of Bella Vista, Arkansas, connecting the existing US 71/US 71 Business interchange to the south with the planned four-lane improvements at or near the Missouri-Arkansas state line. The purpose and need for the Project within the EIS contained the following elements:

- Improved traffic safety.
- Elimination of roadway deficiencies.
- Efficient operations of the regional transportation system.
- Improved local access.
- Sufficient capacity for future traffic conditions.
- Improved access to nearby recreational facilities.

The Arkansas portion of the preferred alternative identified by the EIS, published December 22, 1999, provides the basis for the general alignment and configuration of the toll road project. Should the Project be constructed as a toll road for the Arkansas portion of the full US 71 Bella Vista Bypass, the EIS would need to be re-evaluated by the AHTD and approved by the FHWA prior to construction.

### Preliminary Toll Feasibility Study

In 2001, AHTD conducted a statewide preliminary toll feasibility study, entitled *Arkansas Statewide Preliminary Toll Road Feasibility Study*. The study considered tolling 13 improvement corridors in the state. The overall objective of the study was to develop a comprehensive innovative financing plan for major transportation corridors in Arkansas. The study was conducted as a planning-level feasibility assessment intended to facilitate and focus the discussion of using toll financing within the State of Arkansas on those projects that may be financially feasible. Those projects that covered total funding of the project construction costs through toll revenue bond financing or had an excess of funding were considered feasible for tolling.

The US 71 Bella Vista Bypass Project was included as one of the candidate improvement corridors within the study. The results of the planning-level assessment for the Project indicated that the Project was

feasible for tolling. The *Arkansas Statewide Preliminary Toll Road Feasibility Study* was an important first step in the overall toll implementation process and the results of the study lead to the 2004 *Traffic, Revenue and Toll Feasibility Study* and, subsequently, this updated investment-grade toll study for the Project.

### Roadway and Bridge Design

In 2001, based on the completed EIS, work began on the preliminary design for the US 71 Bella Vista Bypass Project. In 2004, the design activities for the Project were placed on hold while Missouri and Arkansas considered possible funding and implementation strategies for the project. The design work for the Project was reinitiated in the summer of 2005 and this toll study has been coordinated closely with the on-going design activities.

## *Current Toll Legislation*

Toll financing has emerged as an effective way to secure both public and private transportation investment in many states. Over the past few years, Arkansas has been considering the use of tolls to help finance improvements to its transportation system.

In 2003, the State of Arkansas enacted Act 296, which allowed the Arkansas Highway Commission to become a toll authority and issue bonds for construction of toll projects. Act 296 did not create any specific toll projects, but gave the Arkansas State Highway Commission the authority to establish toll roads. The bill abolished the 30-year-old Arkansas Turnpike Authority and transferred its powers to the Arkansas State Highway Commission. The Commission is given the responsibility of setting, revising and collecting tolls on turnpikes in Arkansas.

The toll legislation does not require that 100 percent of the construction cost be paid back by toll revenues; a percentage of the construction costs can come from other funding resources.

# CHAPTER 2 – TOLL COLLECTION DESCRIPTION

## *Toll Collection System*

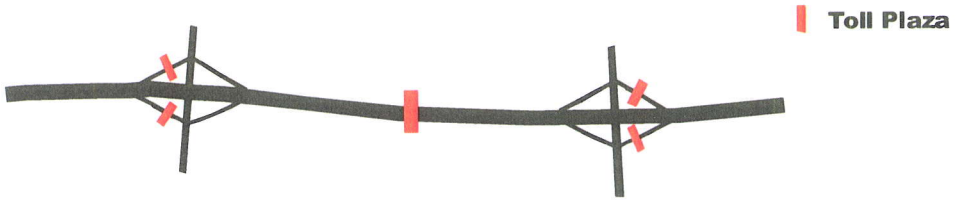
One of the primary factors in determining the location of a toll plaza is the type of toll collection system used on the turnpike facility. There are generally two types of toll systems – open-barrier systems and closed-barrier systems. An open-barrier toll system is where users pay a fixed toll fee at set mainline toll plaza locations, and ramp plazas are not located at each point of entry and exit from the toll system. This type of system does not account for how long a user has been traveling on the facility and does not capture all users and revenue on the turnpike.

Within the second type of toll system, a closed-barrier system, there are two types of toll collection methods – closed-ticket system and closed-cash system. A closed-ticket toll system has an entrance and exit booth for the toll system and captures all users and revenue of the system. Toll plazas are located at every interchange and typically, every ramp is tolled, preventing diversion around mainline toll plazas. Upon entering the toll system, the user receives a ticket. When exiting, the user gives the ticket to the toll collector and is charged a set fee based on the classification of the vehicle and the distance traveled on the toll system. Toll amounts on this type of toll system vary, depending on how long a user has been traveling on the toll facility. Users pay tolls that are directly related to the distance traveled on the system.

A closed-cash system is similar except that a cash toll is typically paid upon exiting and at strategically placed mainline or ramp toll plazas throughout the toll system. The user is charged a set fee which is also based on vehicle classification and distance traveled on the toll system.

The US 71 Bella Vista Bypass Project is assumed to be constructed as a closed-barrier, closed-cash toll system. Figure 2-1 shows a schematic of this type of system.

**Figure 2-1**
**Closed-Barrier, Closed-Cash Toll System**




Benefits of a closed-barrier toll system include the following:

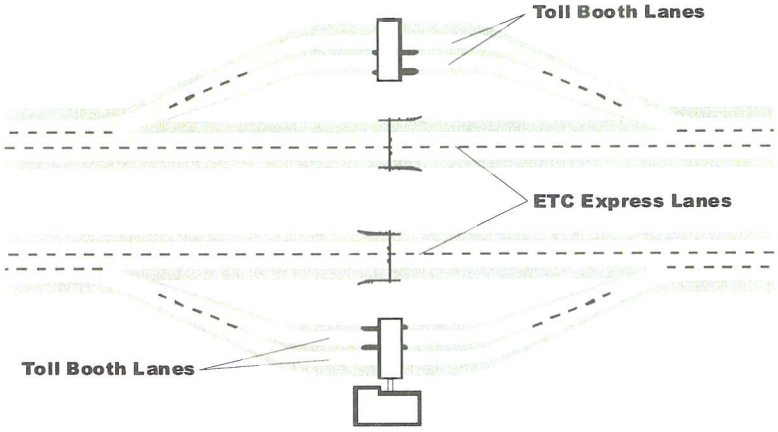
- Captures all toll facility users and, therefore, the entire revenue stream.
- Provides better enforcement for toll collection.
- Ensures users pay tolls that are more directly related to the distance traveled on the system.

## *Toll Plazas*

There are two basic types of toll plazas – mainline and ramp. A general mainline (barrier) toll plaza typically offers several toll booth lanes in each direction on the mainline of the transportation corridor. The tollbooths are typically staffed with toll collectors and involve manual cash collection. Often, toll plazas will also offer electronic toll collection (ETC) lanes with automated coin collection or special

electronic passes for frequent toll system users. Figure 2-2 illustrates a typical mainline (barrier) plaza with ETC express lanes. This Figure represents the toll collection layout assumed for the US 71 Bella Vista Bypass project.

**Figure 2-2**
**Toll Collection Layout**




Ramp toll plazas are typically provided on closed-barrier toll systems, often in conjunction with mainline barrier plazas. Ramp toll plazas consist of a toll plaza on an interchange ramp, which may have a tollbooth, and one or more freestanding lanes for ETC. They are used to capture the revenues of motorists exiting or entering the toll system.

Toll plaza configurations are determined by many factors, including the physical and environmental constraints of the site, the type and volume of traffic served by the plaza, the type of toll system and toll collection method, as well as the toll rate schedule. The number of manual, automatic and ETC toll collection lanes and the size of the toll island and toll canopy can vary depending on factors such as the traffic demand at the toll plaza location, the type of customer, available right-of-way, the proximity to nearby towns and cities, enforcement and environmental considerations.

For the US 71 Bella Vista Bypass Project, the mainline toll plaza assumed two multi-mode booth lanes in each direction (i.e., able to accept cash, automatic coin machine, and ETC toll transactions) and two ETC express lanes in each direction. The ramp plazas assumed one multi-mode booth lane and one ETC lane are included at each ramp toll plaza.

## *Toll Collection Description*

The 2004 Traffic, Revenue and Toll Feasibility study looked at the financial feasibility of several different tolling scenarios for the Project. For this study, the preferred scenario from the previous study was assumed, but modified to include tolling for the Arkansas portion of the Project only. The assumed tolling plan for the Project is shown in Figure 2-3. The plan includes one mainline toll plaza located in Arkansas, between the Highway 72 and US 71/US 71 Business interchanges, and ramp toll plazas at the CR 34, Highway 72 South and Highway 72 North interchanges. The site of the mainline toll plaza was located to capture the best possible number of toll facility users and toll revenue, discourage diversion and offer good horizontal and vertical sight distance. Table 2-1 shows the assumed toll road collection features for the Project.

**Figure 2-3**
**Toll Road Collection Plan**

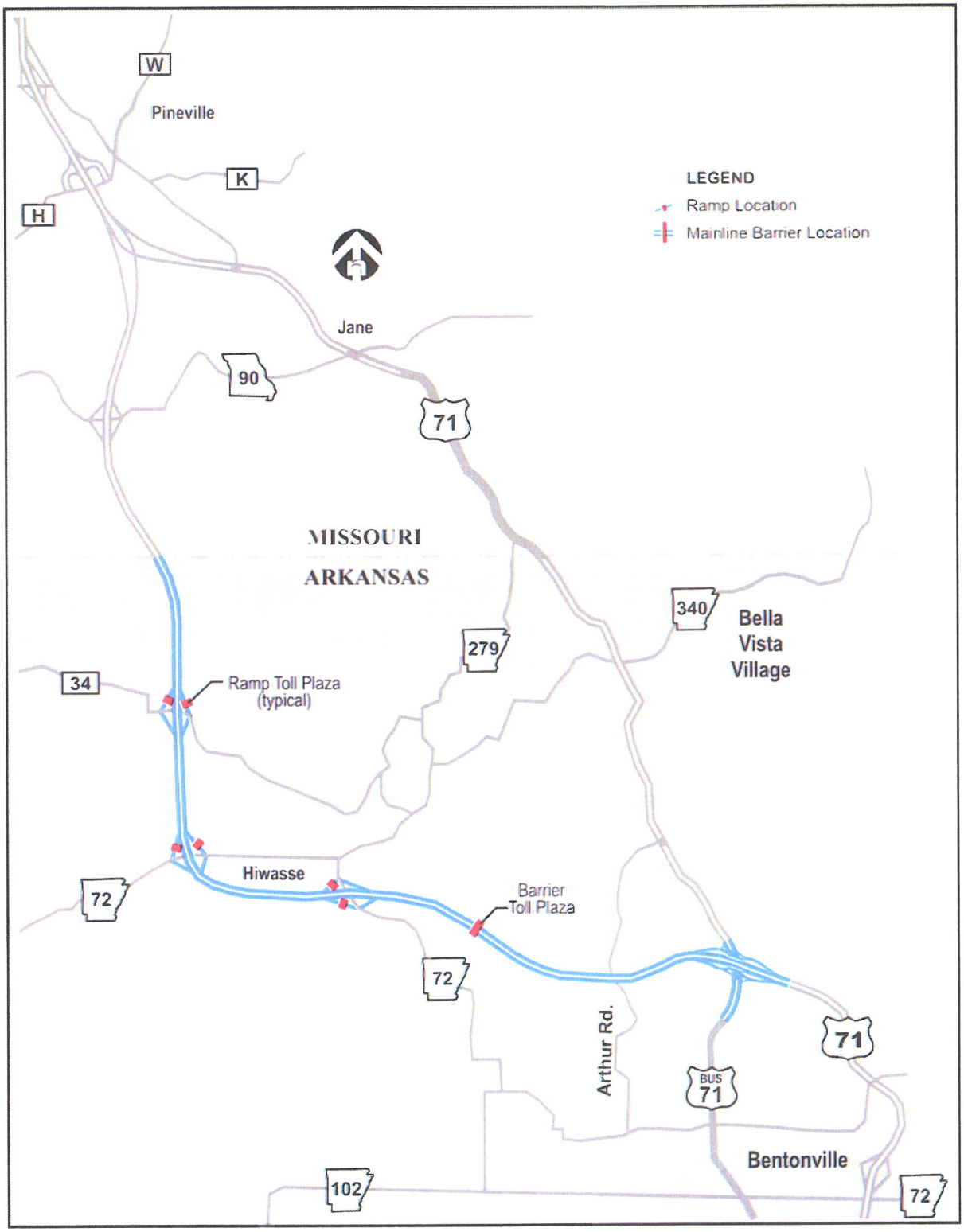


**Table 2-1**
**Toll Road Collection Features**

| Plaza Type | Number | Number of Manual (Booth) Lanes Per Plaza | Number of Electronic Toll Collection Lanes Per Plaza |
|---|---|---|---|
| Mainline Plaza | 1 | 4 | 4 |
| Ramp Plaza [1] | 6 | 1 | 1 |

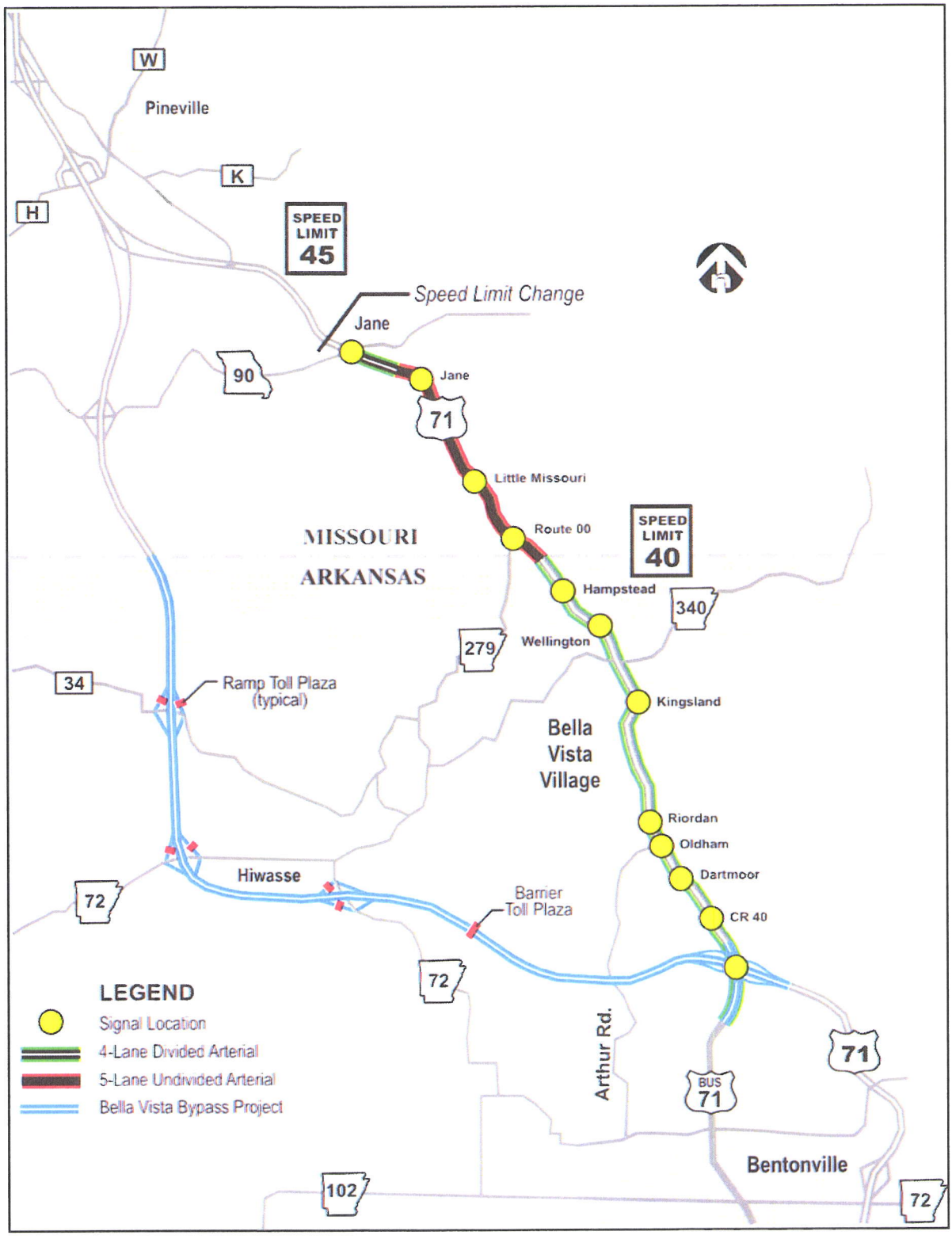
1: Two ramp plazas per Interchange.

In coordination with the Project, a corridor management plan for the existing US 71 Corridor was developed because once the US 71 Bella Vista Bypass Project is open to traffic, the existing US 71 Corridor will need to be redefined and re-characterized from a regional highway to a more localized arterial for the Bella Vista community. The existing corridor will likely be designated as US 71.

The corridor management plan was developed to address the need for safety improvements on the existing US 71 Corridor as well as because a significant amount of traffic would continue to use the existing corridor for local trips and some regional trips, even with the implementation of the US 71 Bella Vista Bypass Project. The plan includes traffic calming measures that would need to be taken to improve safety and traffic operations on existing US 71. Traffic calming measures would include the installation of additional traffic signals and the lowering of current speed limits. The US 71 Corridor Management Plan is shown on Figure 2-4. If it were determined that traffic calming measures on existing US 71 could not be implemented in the future due to unforeseen reasons, there would be impacts on the toll revenue projections and the results of the study would need to be revisited.

The finalized traffic and toll revenue, cost analysis and financial analysis for the US 71 Bella Vista Bypass Project were conducted using the toll collection plan shown in Figure 2-3 and the existing US 71 Corridor management plan shown in Figure 2-4 as the base toll collection scheme for the Project.

**Figure 2-4**
**Existing US 71 Corridor Management Plan**



# CHAPTER 3 – TRAFFIC AND TOLL REVENUE ANALYSIS

As previously described, the proposed US 71 Bella Vista Bypass will serve as an alternate route to existing US 71, which runs through the heart of the Bella Vista Community. In its entirety, the proposed highway from the US 71/US 71 Business interchange near Bentonville, Arkansas to the existing US 71 Corridor in Pineville, Missouri will be approximately 19.6 miles in length. The five mile segment in Missouri would operate as a toll-free facility, while the 14.6 miles in Arkansas would be tolled. As discussed below, the road would primarily be used by motorists making full-length, through trips. However, in the future, the Bypass can be expected to serve increased local trip-making as development occurs in areas west of the existing Bella Vista Village. This chapter provides the results of the traffic and revenue analysis, the primary objective of which was to update traffic and revenue estimates of the proposed US 71 Bella Vista Bypass prepared in early 2004.

The general methodology used in the 2004 *US 71 Bella Vista Bypass Traffic, Revenue and Toll Feasibility Study* was retained; however, certain traffic and socioeconomic/demographic data required updating and re-analysis due to the elapsed time since the earlier study, the availability of more current traffic data, the availability of updated future year forecasts of socioeconomic/demographic data in the project corridor, and changes to the project configuration.

In general, the traffic and revenue update included the following important elements:

- Update the traffic network and traffic analysis zones (TAZ) within the project corridor as required, to reflect any changes in project alignment, access locations, and/or other regional highway improvements constructed or programmed since the last study;
- Update the previous corridor growth assessment of the potential for future economic growth in the project corridor, as reflected in new forecasts of socioeconomic/demographic data;
- Update the traffic counts at the eight origin-destination survey locations included in the original study in order to re-factor the original survey data to Base Year 2005 levels;
- Using the re-factored survey data, calibrate the base year (2005) model against ground counts at the survey station locations;
- Update motorist's value of time and vehicle operating costs;
- Using the results of the updated corridor growth assessment, create trip tables for the proposed opening year (2011) and one additional future year (2025);
- Update the toll rate sensitivity analysis to determine optimum toll levels in 2005 dollars;
- Using the results of the toll sensitivity analysis, run 2011 and 2025 traffic assignments at the optimum toll level; and
- Prepare updated estimates of annual toll transactions and revenue.

Presented below are the results of the updated traffic and revenue analysis. The analysis is presented in three major sections – Corridor Growth Considerations, Traffic Trends and Characteristics, and Traffic and Revenue Analysis.

## *Corridor Growth Considerations*

Corridor growth considerations provide the foundation for the estimates of future year traffic volumes and toll revenue forecasts developed in the following sections. The corridor description includes identification of the TAZs, which provide the basis for estimating the corridor traffic demand. For this reason the population and employment projections have been disaggregated to the traffic analysis zone level.

Historical population and employment (by place-of-residence) data at the block level was obtained from the U.S. Bureau of the Census for the year 2000. Additional employment data by place-of-work data was obtained from Harris InfoSource. County level population and employment projections were obtained from existing local and national sources which included:

- University of Arkansas – Little Rock (UALR), Institute for Economic Advancement;
- University of Arkansas – Fayetteville, Center for Business and Economic Research (CBER);
- Woods & Poole (W&P);
- Northwest Arkansas Regional Planning Commission; and
- Beaver Water District.

The population projections from these five sources were compared (where available) to determine which would provide the most reasonable forecast for Benton and Washington Counties, as well as the entire Study Area. Population projections are presented by sources in Table 3-1, and shown graphically for Benton and Washington Counties in Figure 3-1. The W&P estimate for total statewide population in year 2020 (3,249,390) falls between the UALR estimate (3,139,334) and the CBER estimate (3,274,293). However, the W&P year 2020 estimate for Benton County (285,270) is 4.5% less than the UALR estimate (298,572) and 14.0% less than the CBER estimate (331,539). Similarly, the W&P year 2020 estimate for Washington County (225,490) is 7.3% less than the UALR estimate (243,126) and 9.0% less than the CBER estimate (247,806).

The Woods and Poole projections were used in this analysis because:

- Projections are extensive – through the year 2030, and most comprehensive – including population, employment, earnings and retail sales;

- Data available is the most exhaustive – every study county in Arkansas and Missouri, as well as counties in Northeast Oklahoma and metropolitan statistical areas (MSA); and

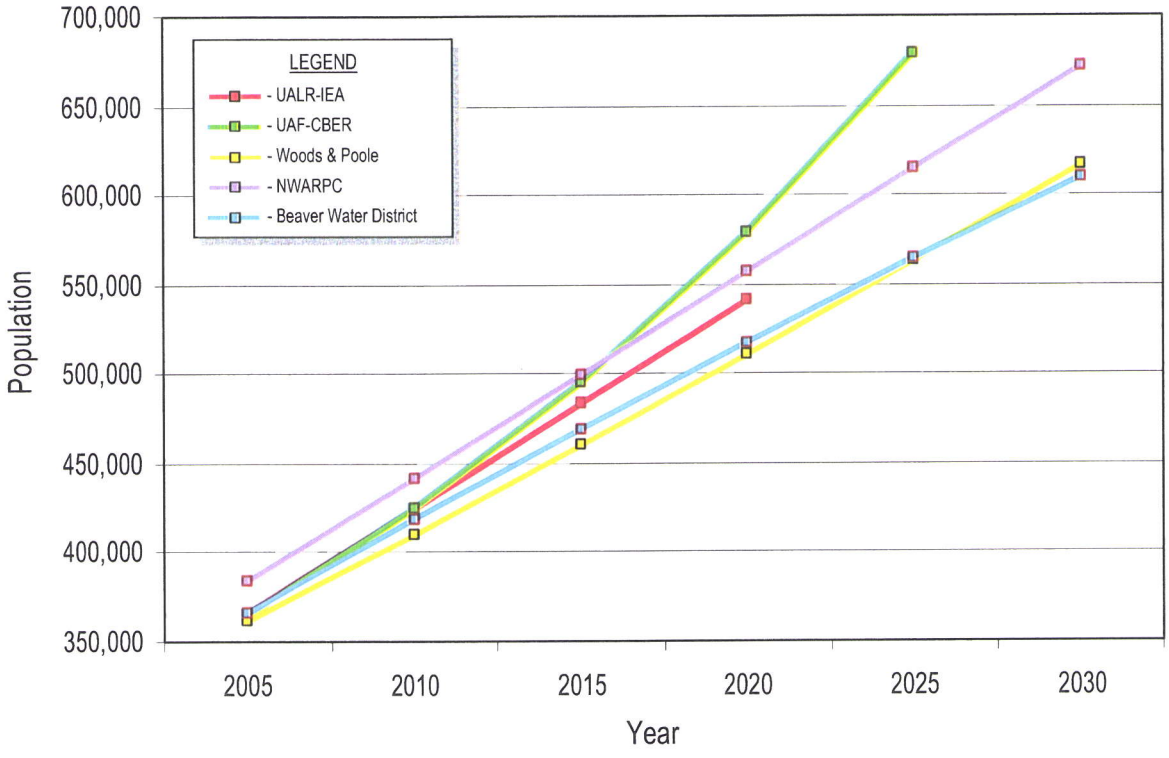
- Population projections for the state of Arkansas fall between the two University sources, and projections for the two central Study Area counties (Benton and Washington) are somewhat conservative compared to most other forecasts.

## Table 3-1
## Population Projections

| | Historical | Projections | | | | | Change 2005-2020 | |
|---|---|---|---|---|---|---|---|---|
| | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Total | AAPC[6] |
| **UALR-IEA[1]** | | | | | | | | |
| Benton | 187,182 | 224,312 | 261,442 | 298,572 | N.A. | N.A. | 59.5% | 3.2% |
| Carroll | 26,692 | 27,305 | 27,919 | 28,532 | N.A. | N.A. | 6.9% | 0.4% |
| Madison | 14,839 | 15,608 | 16,378 | 17,148 | N.A. | N.A. | 15.6% | 1.0% |
| Washington | 178,392 | 199,970 | 221,548 | 243,126 | N.A. | N.A. | 36.3% | 2.1% |
| Rest of State | 2,369,082 | 2,430,041 | 2,490,999 | 2,551,957 | N.A. | N.A. | 7.7% | 0.5% |
| State Total | 2,776,187 | 2,897,236 | 3,018,285 | 3,139,334 | N.A. | N.A. | 13.1% | 0.8% |
| **UAF-CBER[2]** | | | | | | | | |
| Benton | 186,540 | 225,957 | 273,703 | 331,539 | 401,635 | N.A. | 77.7% | 3.9% |
| Carroll | 27,272 | 29,246 | 31,360 | 33,631 | 36,062 | N.A. | 23.3% | 1.4% |
| Madison | 15,059 | 16,023 | 17,052 | 18,144 | 19,308 | N.A. | 20.5% | 1.3% |
| Washington | 177,709 | 198,531 | 221,793 | 247,806 | 276,841 | N.A. | 39.4% | 2.2% |
| Rest of State | 2,388,394 | 2,465,351 | 2,550,109 | 2,643,173 | 2,551,957 | N.A. | 10.7% | 0.7% |
| Arkansas | 2,794,974 | 2,935,108 | 3,094,017 | 3,274,293 | 3,479,048 | N.A. | 17.1% | 1.1% |
| **Woods & Poole[3]** | | | | | | | | |
| Benton | 185,090 | 217,930 | 251,340 | 285,270 | 319,990 | 356,040 | 54.1% | 2.9% |
| Carroll | 27,280 | 29,620 | 32,050 | 34,560 | 37,140 | 39,830 | 26.7% | 1.6% |
| Madison | 14,850 | 16,110 | 17,450 | 18,810 | 20,240 | 21,730 | 26.7% | 1.6% |
| Washington | 176,040 | 192,050 | 208,580 | 225,490 | 242,970 | 261,360 | 28.1% | 1.7% |
| Rest of State | 2,379,540 | 2,475,150 | 2,577,930 | 2,685,260 | 2,798,440 | 2,921,560 | 12.8% | 0.8% |
| State Total | 2,782,800 | 2,930,860 | 3,087,350 | 3,249,390 | 3,418,780 | 3,600,520 | 16.8% | 1.0% |
| **NWARPC[4]** | | | | | | | | |
| Benton | 191,397 | 222,696 | 253,996 | 285,295 | 316,594 | 347,894 | 49.1% | 2.7% |
| Washington | 192,435 | 218,777 | 245,119 | 271,461 | 297,803 | 324,145 | 41.1% | 2.3% |
| **Beaver Water District[5]** | | | | | | | | |
| Benton | 187,197 | 223,642 | 258,860 | 292,906 | 325,830 | 357,683 | 56.5% | 3.0% |
| Washington | 178,044 | 194,398 | 209,801 | 224,121 | 238,297 | 252,434 | 25.9% | 1.5% |

1: Institute of Economic Analysis, University of Arkansas – Little Rock, Arkansas
2: Center for Business & Economic Research, University of Arkansas – Fayetteville, Arkansas
3: Woodes & Poole, 2005
4: Northwest Arkansas Regional Planning Commission; 2nd Quarter, 2005
5: Beaver Water District Regional Growth Study; Technical Memorandum No. 1: Population Projections; September 2005
6: AAPC – Average Annual Percent Change.

**Figure 3-1**
**Population Projection Comparison**




The following section describes the corridor and summarizes socioeconomic trends and projections.

## Study Area

The tolled portion of the US 71 Bella Vista Bypass Project is located in Benton County, Arkansas. The toll-free portion of the bypass is located in McDonald County, Missouri. Washington County, Arkansas to the south is also viewed as a major traffic generator in the region. Other boundary counties closely analyzed, in terms of population and employment, include various counties in Arkansas, Missouri, and Oklahoma. Benton County, Arkansas is seen as the key traffic generator in the study region, followed by Washington County to the south. Although a portion of the bypass goes through McDonald County, its population and employment levels are dwarfed by Benton County's.

The Study Area was divided into 83 TAZs with 54 in Benton County, Arkansas and 23 in McDonald County, Missouri. Single TAZs were also used to represent trips to/from the cities of Springdale, Arkansas, Fayetteville, Arkansas and Joplin, Missouri. The other three TAZs represent trips from the Southwest and Southern U.S., the Northeast and the Northwest.

## Population Trends and Projections

County level population levels and projections were analyzed for the three primary counties in the Study Area and the neighboring areas. Population levels and projections were then broken out by TAZ and were analyzed for the years 2005, 2010, 2015, 2020, 2025, and 2030.

***County Population Levels and Projections*** – Between 1990 and 2000, Benton County grew extremely rapidly, 57.3%, from 97,499 to 153,406.[1] At an annual rate of 4.6%, Benton County's growth rate over the decade far surpassed that of the state (1.3%) and the nation (1.2%). In addition, Washington County, just south of Benton County, also experienced a high annual growth rate of 3.4% during the 1990s. Since then, 2000 to 2005, rapid growth has continued at an average annual growth rate of 3.8% in Benton County and 2.2% in Washington County. The historical and forecast population and growth rates in the Study Area counties are summarized in Appendix B, Table B-1.

Benton County's population growth is projected to continue at a very high but declining rate over the 2005 to 2030 study period. By the year 2030, Benton County's population is forecasted to grow 92.4% from 185,090 in 2005 to 356,040 by 2030, which is over three-times that of the 29.4% overall state population growth rate. The average annual population growth rate over the 25-year period is 2.7%.

Washington County's growth rate is also expected to continue growing at a high but declining rate. By the year 2030, Washington County's population is forecasted to grow nearly 48.5% from 176,040 in 2005 to 261,360, or at an average annual rate of 1.6% over the 25-year period.

McDonald County in Missouri is also forecasted to grow faster than the overall state reaching 32,440 residents in 2020, a 43.0% rise over year 2005 versus a 22.2% state increase. Still this is far less than the extremely rapid growth in Benton and Washington Counties to the south.

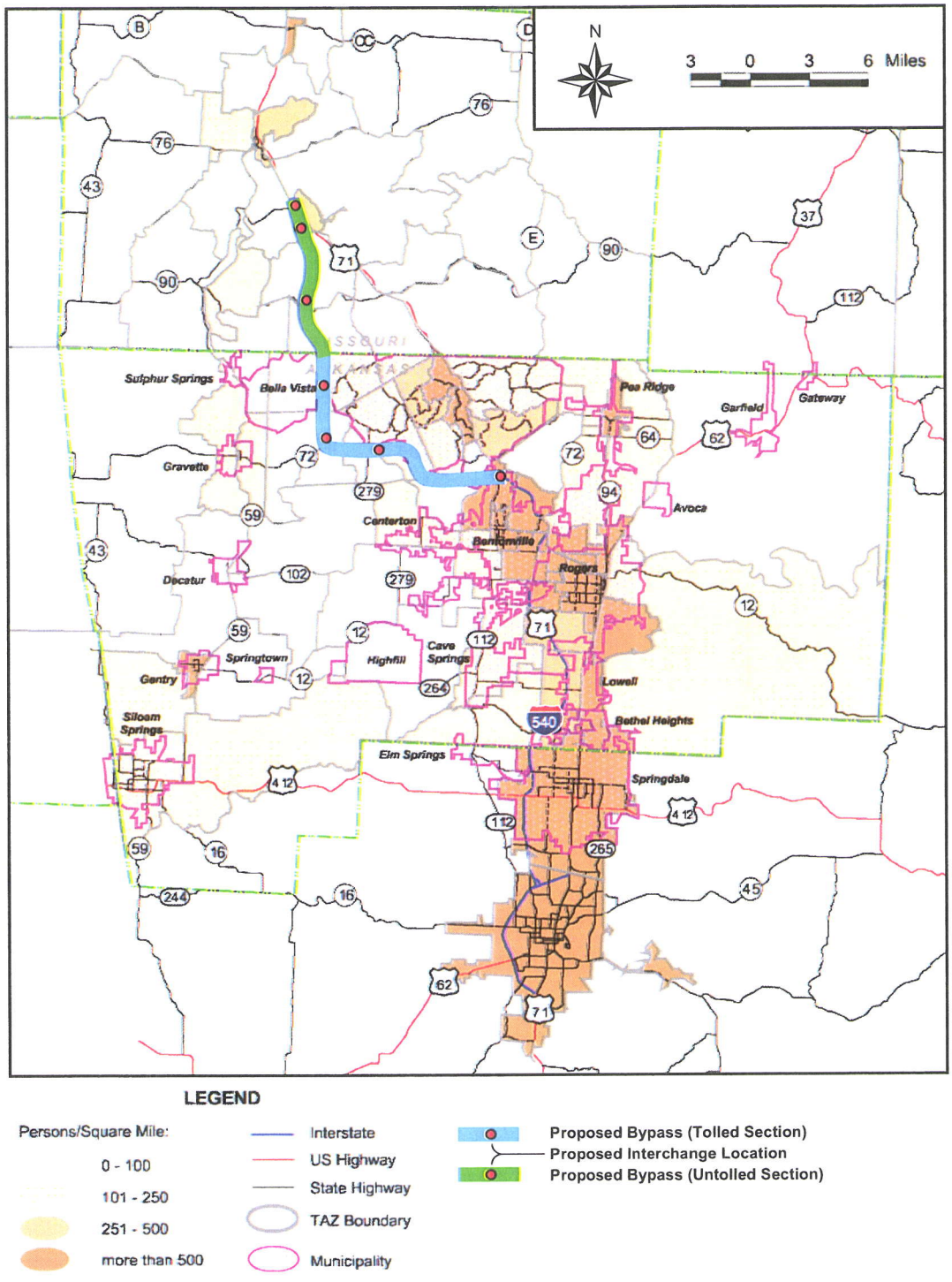
***TAZ Levels and Projections*** – The high relative population density of Benton and Washington Counties can be seen in Figure 3-2. The map shows the block level density with the TAZs outlined and the municipalities. The population by TAZ between 1990 and 2000 were derived using the U.S. Bureau of Census data.

The countywide population projections for years 2005, 2010, 2015, 2020, 2025, and 2030 were allocated by TAZ. To do this, meetings with local government and business leaders were conducted to collect available data and to gain an understanding of how the area was developing. Through these discussions and area reconnaissance, it was observed that the high growth area within Benton County is to the west of Bentonville, Rogers, Lowell and Springdale, oriented towards the Northwest Arkansas Regional Airport. Observations include the following:

- Recent annexations by many municipalities have occurred towards Highfill;
- Rapid residential development in the study area, especially in the Bentonville-Centerton area, where Centerton grew 165.9% (3,561 people) between the 2000 Census and the 2nd quarter 2005 estimate. This reflects the continued strong demand for residential housing close to Bentonville, which itself also grew 53.0% (10,458 people); and
- The Northwest Arkansas Regional Airport is one of the fastest-growing airports in the country with enplanements growing 57.7% over the past five years (from 355,589 in 2000 to 560,604 in 2005) despite the aviation industry's overall sluggish demand.

[1] U.S. Bureau of the Census, 2000

## Figure 3-2
## Population Density by TAZ



***TAZ Population Growth Level Projections*** – Population projections by TAZ were estimated based on the block-level historical data, county-wide projections and from discussions with public officials and business leaders. The historical and projected population levels and average annual growth rates for each of the 83 TAZs are shown in Appendix B, Table B-2. The combined population totals of all the TAZs in Benton County match those presented previously for the entire county, based on year 2000 Census data and Woods & Poole county growth rates. Also, note that since the Beaver District county projections were very similar to those of Woods & Poole, the Beaver District city projections were used for Springdale and Fayetteville because such projections were not available from Woods & Poole.

Several zones experienced tremendous growth over the 1990 to 2000 time period. While this rapid growth may continue in some zones, others may reach overall capacity (e.g., in the established urban areas of Benton County) or be constrained by less attractive sites. Nonetheless, notable population growth is anticipated for most all zones, with the developing bedroom communities in Benton County experiencing the highest growth rates.

## Employment Trends and Projections

County level employment projections are based on census historical data and Woods & Poole growth rates, and are provided for five-year increments through 2030. To understand employment by place of work at the TAZ level, a third data source, Harris InfoSource, was obtained.

***County Employment Levels and Projections*** – Employment in Benton County grew even more rapidly than population between 1990 and 2000: 59.6%, from 43,927 to 70,108. At an annual rate of 4.8%, Benton County's growth rate over the decade far surpassed that of the state (25.6%) and the nation (19.5%). Similarly, Washington County, just south of Benton County, also experienced a high average annual growth rate of 4.0% during the 1990s. Since then, 2000 to 2005, rapid growth has continued at an average annual growth rate of 4.6% in Benton County and 2.1% in Washington County. The historical and projected employment for the Study Area counties is summarized in Appendix B, Table B-3.

Benton County's employment growth is projected to continue at a very high but declining rate over the study period – 18.4% between 2005 to 2010, 15.6% between 2010 to 2015, etc. By the year 2030, Benton County's employment is forecasted to grow 92.3% from 87,610 in 2005 to 168,510, which is 2.4 times that of the state growth rate of 38.2%.

Washington County's employment growth rate is also expected to continue growing at a high but declining rate. By the year 2030, Washington County's employment is projected to grow 52.9% from 88,670 in 2005 to 135,580.

McDonald County's employment growth over the 25-year analysis period (from 10,620 to 15,630, 47.2%) will keep pace with population, but is not seen as a major independent employment center. Rather, its employment is primarily seen in the service sector with some spin-off employment occurring from the Benton County area.

***TAZ Level Employment by Place of Work*** – Whereas the Census provides historical employment data and Woods & Poole provides employment projections by county, these sources do not provide a complete employment picture since they concern place-of-residence. For traffic forecasting purposes, employment by place-of-work, in conjunction with population, provides a more accurate tool.

The Harris InfoSource database was used to estimate place-of-work employment by TAZ. The database provides employment for all manufacturing businesses and all other non-governmental service

establishments with 20+ employees by geographic location (latitude/longitude and street address). Employment for other businesses and public services not included in the database were then allocated proportionately by TAZ. Employment by major businesses and overall employment density by TAZ is shown in Figure 3-3.

***TAZ Employment Growth Level Projections*** – The countywide employment projections for project years 2005, 2010, 2015, 2020, 2025, and 2030 were allocated by TAZ. Meetings with local government and business leaders provided information and understanding of how the area was developing. Through these discussions and area reconnaissance it was learned that the high growth area within Benton County is along and to the west of the US 71 Corridor. The municipalities of Bentonville, Rogers, Lowell, Highfill and Springdale will continue to generate new jobs in both existing locations as well as in newly incorporated areas. Bounding the growth areas to the west are Gravette, Gentry and Siloam Springs.

Based on the existing employment location estimates and discussions with public officials and business leaders, countywide employment projections were broken down by TAZ. The historical and projected employment levels and average annual growth rates for each of the 83 TAZs is shown in Appendix B, Table B-4. The combined employment totals of all the TAZs in Benton County match those presented previously for the entire county, based on year 2000 Census data and Woods & Poole projections.

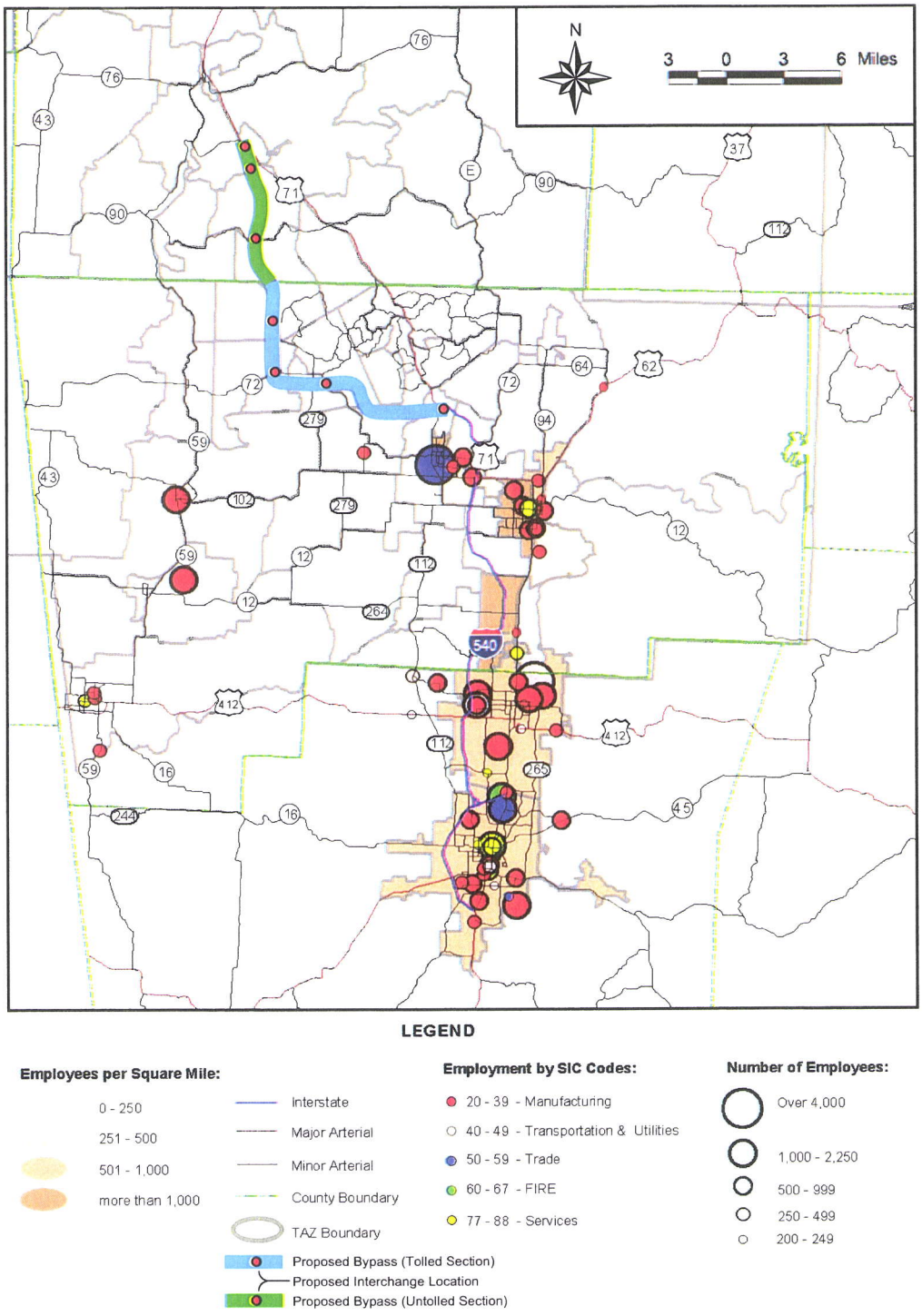
Similar to population, several zones experienced tremendous growth over the 1990 to 2000 time period. While this rapid employment growth may continue in some zones, others may reach capacity or be constrained by less attractive sites. Nonetheless, notable employment growth is anticipated for most all zones, with the newly incorporated areas in Benton County experiencing the highest growth.

## Earnings and Retail Sales Trends and Projections

Earnings and retail sales trends and projections from the W&P database were also analyzed from a county perspective and incorporated into the traffic forecasts. Earnings in Benton County grew 98.4% during the 1990s in constant prices (excluding inflation effects), and are anticipated to grow 138.6% over the year 2005 to 2030 period. Comparatively, earnings in Washington County grew 58.4% during the 1990s and are projected to grow 98.8% between the year 2005 and 2030. Historical and projected earnings for the various counties are shown in Appendix B, Table B-5.

Retail sales in Benton County grew 83.3% during the 1990s in constant prices (excluding inflation effects), and are anticipated to grow 138.6% over the year 2005 to 2030 period, in constant prices. Comparatively, earnings in Washington County grew 52.8% during the 1990s and are projected to grow 89.5% between the year 2005 and 2030. Historical and projected retail sales for the various counties are shown in Appendix B, Table B-6.

## Figure 3-3
## Major Employers and Employment Density by TAZ



## *Traffic Trends and Characteristics*

Traffic trends and characteristics within the Study Area were identified in terms of the existing highway network, traffic volumes, and travel patterns and characteristics. For this update analysis, traffic data was obtained from governmental agency sources and the travel pattern data collected in 2003.

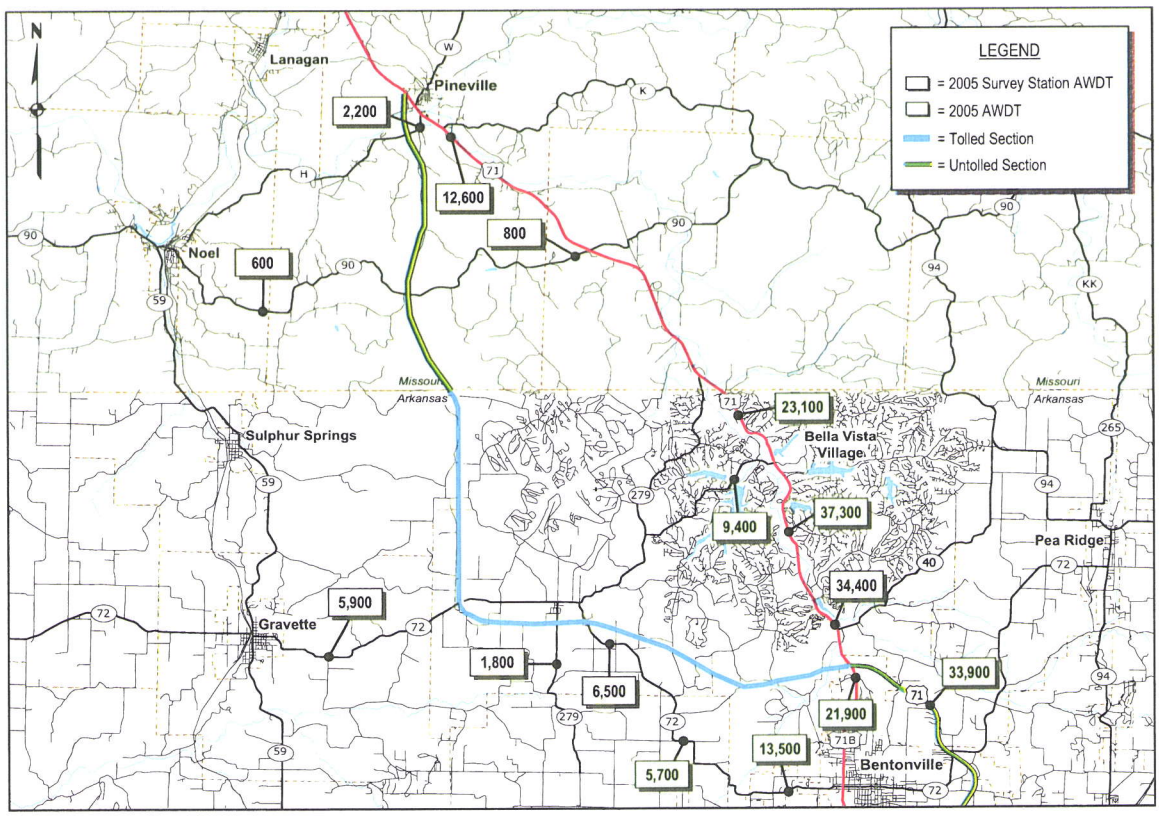
### Traffic Trends

Updated traffic trends at selected locations within the Study Area are presented in terms of annual average daily traffic and monthly traffic, as well as daily and hourly variations. Sources of data include MoDOT and AHTD.

***Annual Traffic Trends*** – Appendix B, Table B-7 provides a summary of annual traffic trends on major routes within the Study Area between 2000 and 2005. Also shown are the percent change on an annual basis (APC) and the average annual percent change (AAPC) for the five-year period, 2000 to 2005.

Figure 3-4 presents recent traffic volumes on selected major routes in the vicinity of the US 71 Bella Vista Bypass Project. The principal competing arterial, existing US 71, carried average weekday traffic of between 12,600 and 37,300 vehicles per day (vpd) between Pineville, Missouri and Bentonville, Arkansas. The heaviest volumes are shown on the portion of US 71 generally north of the US 71/US 71 Business interchange in Arkansas. Much of this traffic involves travel between the residential area of Bella Vista Village and the City of Bentonville, Arkansas.

**Figure 3-4**
**2005 Average Weekday Traffic (AWDT)**



***Monthly Traffic Variations*** – Monthly traffic variations for the study area are shown in Appendix B, Table B-8. The variations are based on calculations provided by AHTD for various highway functional classifications. Variations are measured in terms of a monthly index, which is the ratio of a particular month's ADT to the Annual Average Daily Traffic.

Presented in Appendix B, Table B-8, are monthly traffic variations for all functional classifications of roads in the State of Arkansas. US 71 in Arkansas (Survey Station 9) is classified as an urban principal arterial. For this class of road, the months of April, May and September closely reflect an average month, although no month is more than 6% higher or lower than the average. For this location, the peak month is June, which was 6% above average. February represents the lowest volume month, with a monthly index of 0.95. The monthly traffic variations may change slightly from area to area within the state.

***Daily Traffic Variations*** – Representative daily traffic variations on US 71 were determined at a point located just north of CR 40 in Arkansas. The results are shown in Appendix B, Table B-9. The peak traffic day occurs on a Thursday while the daily indices show lower distributions for weekend traffic, with Saturday being the lowest with an index of 0.77. The traffic variation between each of the weekdays is relatively small with indices ranging from 1.02 to 1.09.

The average weekend day is about 79% of the average weekday. However, actual experience on other urban toll facilities suggests that the share of traffic captured by the toll road on weekends typically is lower than that on weekdays. Hence, the relationship between weekday and weekend travel on the US 71 Bella Vista Bypass Project would be expected to be somewhat more pronounced.

***Hourly Traffic Variations*** – Hourly traffic variations at two selected US 71 locations are shown in Figure 3-5. The locations are positioned near the northerly and southerly ends of the Study Area. In general, the peak periods along US 71 occurred between 6:00 and 9:00 in the morning and 3:00 and 6:00 in the evening, reflecting a typical commuter pattern.

Each of the locations exhibited a morning peak in the southerly direction and the evening peak in the northerly direction. This indicates that the area of Bentonville, Arkansas, located at the southerly end of the Study Area, draws commuters from points located to the north.

**Figure 3-5**
**Hourly Traffic Variations**

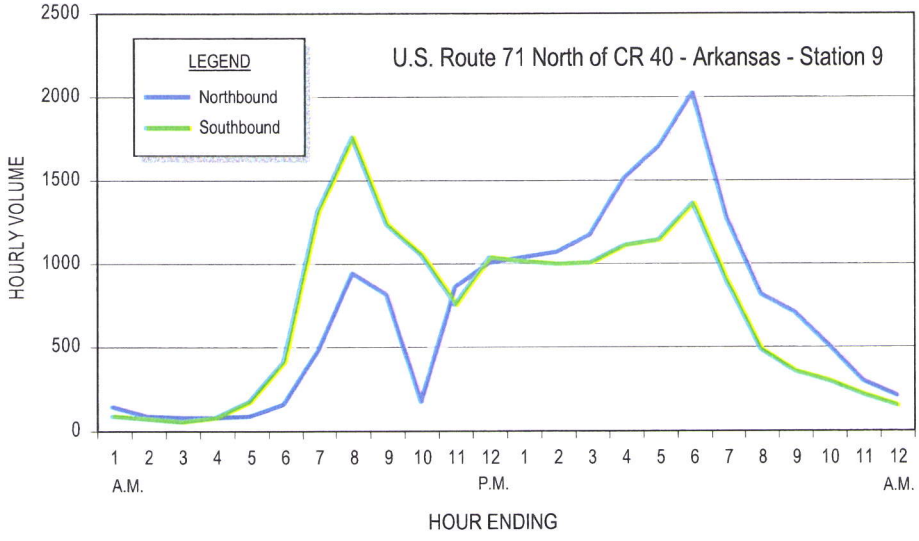
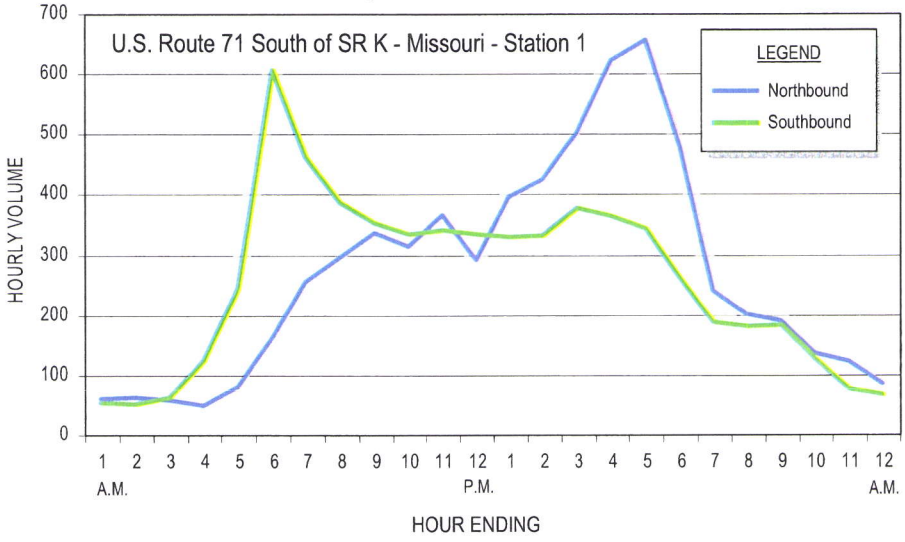


**Figure 3-5 Continued**
**Hourly Traffic Variations**




## Travel Pattern and Characteristic Surveys

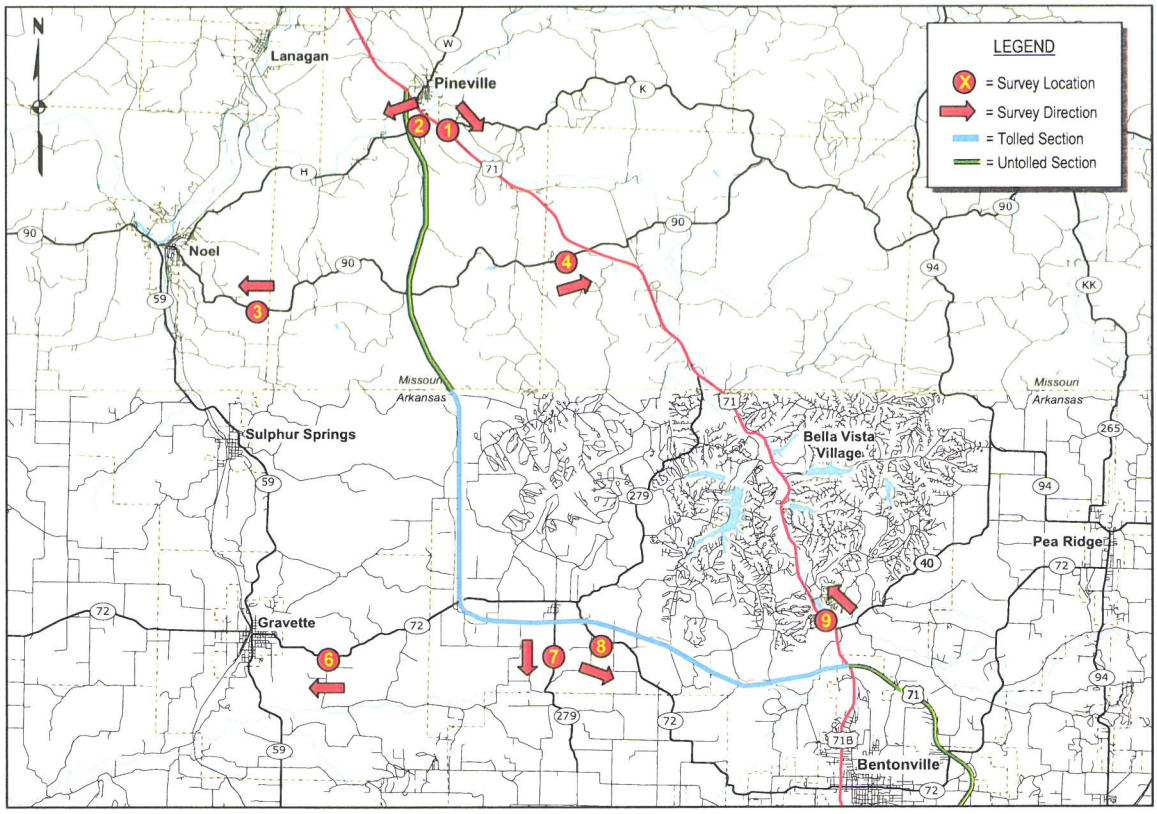
Travel pattern and characteristic surveys were conducted at eight locations in the general vicinity of the US 71 Bella Vista Bypass Project, with four located in both Missouri and Arkansas. These locations are shown graphically in Figure 3-6. The full set of surveys was conducted in late March 2003.

The survey included two locations on US 71, Stations 1 and 9, with one located at each end of the Study Area to capture the incoming corridor traffic. The remaining six stations were located on major or key routes that intersect the location of the US 71 Bella Vista Bypass Project. These include both directions on Route 90 (Stations 3 and 4) and Highway 72 (Stations 6 and 8), southbound on Highway 279 (Station 7), and westbound on Route H (Station 2).

Appendix B, Table B-10 provides a summary of survey responses at the eight survey locations as occurred in 2003. Overall, approximately 21,300 vehicles passed through the eight survey stations in the survey direction during the hours of operation. Of these, more than 15,500 motorists received survey questionnaires. About 27% of the survey questionnaires were returned, yielding more than 4,100 valid survey responses. The sample size as a percentage of passing traffic at five locations was near or above 20% while three locations were under 12%. The lowest percent samples were recorded at the Route 90 stations. The highest number of valid survey responses was 2,300 which were received at Station 9 on US 71.

Concurrent with the 2003 surveys, both machine and manual classification traffic counts were obtained. Appendix B, Table B-11 provides a summary of these updated vehicle classification counts at each location. For this update study, the AHTD and MoDOT performed vehicle classification counts by direction in November or December 2005 at each of the 2003 survey station locations. Station 1, located on US 71 south of Pineville, Missouri, recorded the largest percentage of truck traffic at approximately 32%. At a majority of the remaining seven stations, all but one station recorded percentages of truck traffic between 6% and 13%. The results of the vehicle classification indicate that US 71 carries a relatively significant amount of truck traffic.

**Figure 3-6**
**Survey Locations**




***Trip Purpose Distribution*** – As shown in Appendix B, Table B-12, 32% of trip purposes were for travel to and from work. This was found to be consistent between the two states. Company business added another 21.2%, while personal business represented 22.6%.

As shown in Figure 3-7, shopping trips represented about 12% of the total. The percentage of shopping trips in Arkansas was almost three times higher than the percentage of these same trips in Missouri. This demonstrates that within the Study Area, there is an appreciably greater amount of commercial activity located within Arkansas than Missouri.

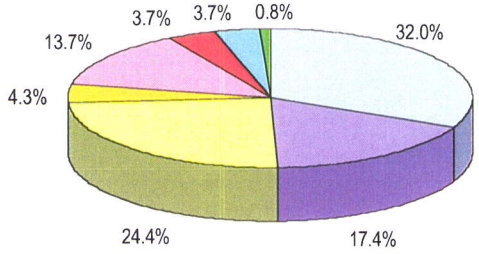
***Trip Frequency Distribution*** – The trip frequency distribution obtained in the survey is shown by station in Appendix B, Table B-13 and in summary form in Figure 3-7. In general, just less than 20% of the trips were made less than once per week. Approximately 42% of the trips were reported to be made five or more times per week. The frequency of trips made less than once per week were twice as high in Missouri when compared to Arkansas.

***Vehicle Occupancy Distribution*** – Vehicle occupancy distribution from the survey stations shown in Appendix B, Table B-14 are summarized graphically in Figure 3-8. As with most surveys, the majority of vehicles have only a single occupant, about 65% overall. Another 27% of vehicles had two occupants while about 8% of the vehicles had three or more occupants. Overall, this translates into average vehicle occupancy of about 1.50, somewhat higher than the national averages in urban areas.

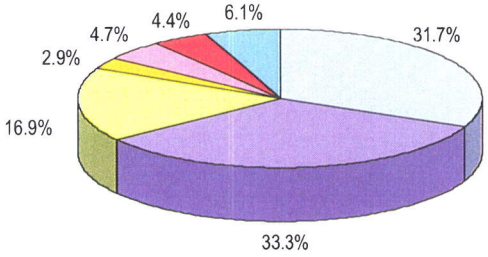
## Figure 3-7
## Trip Purpose and Trip Frequency Distribution

### Trip Purpose

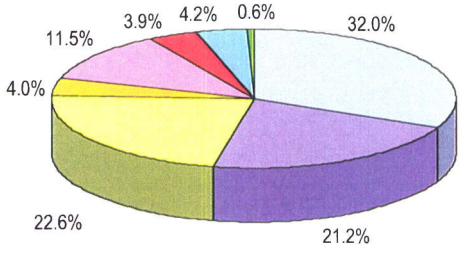
*Arkansas Stations*




*Missouri Stations*

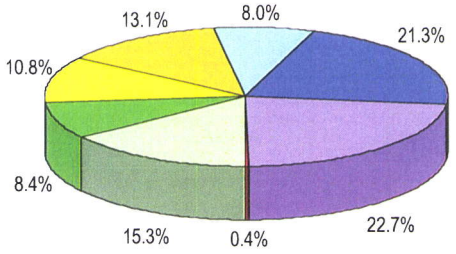



*Total Stations*

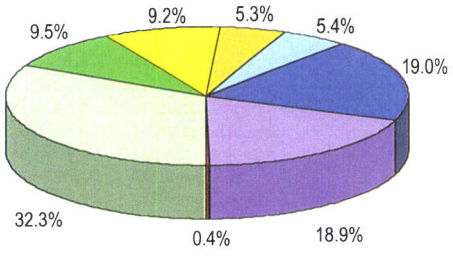



### Trip Frequency

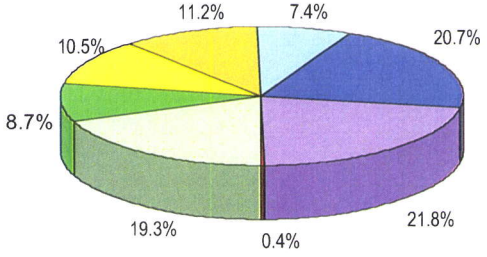
*Arkansas Stations*

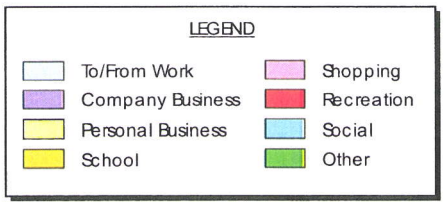


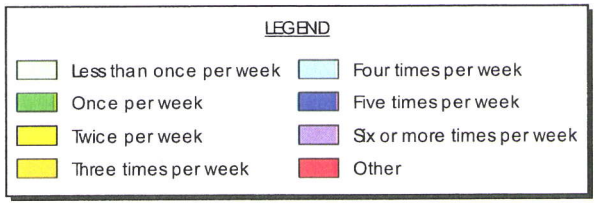

*Missouri Stations*




*Total Stations*



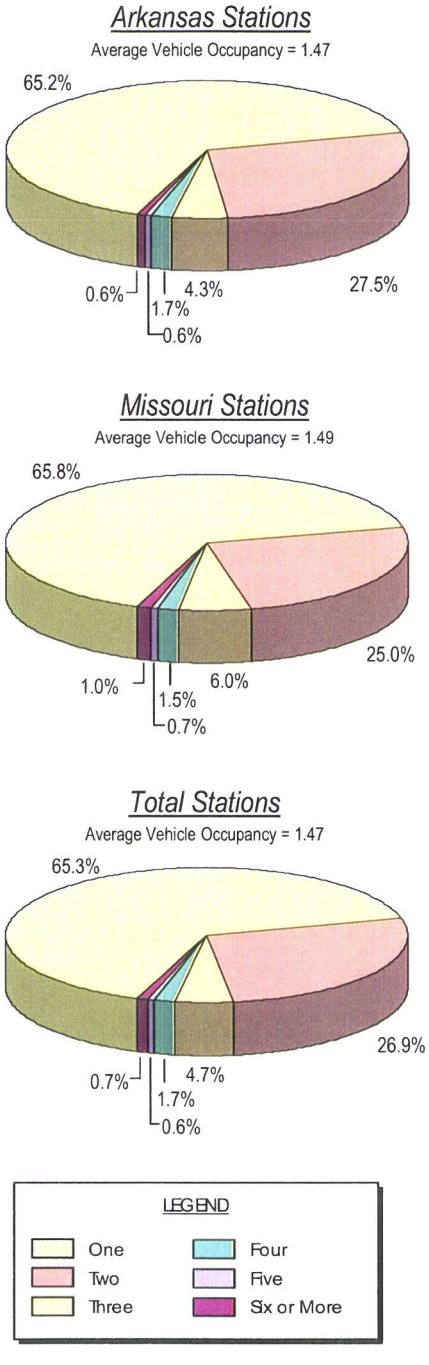



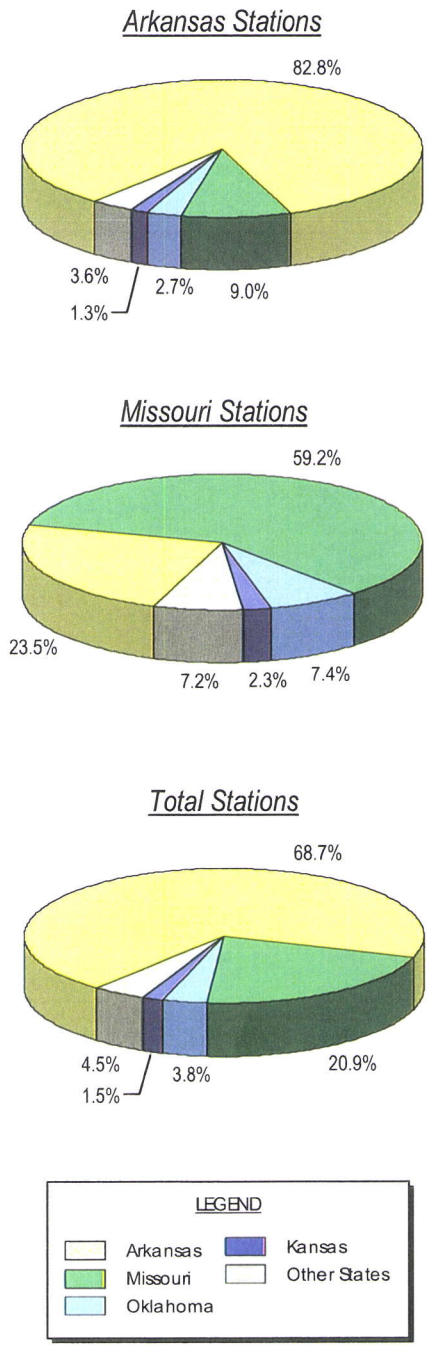

Source: AHTD and MoDOT November/December 2005 counts.

## Figure 3-8
## Vehicle Occupancy and Vehicle Registration Distribution

### Vehicle Occupancy




### State of Registration




Source: AHTD and MODOT November/December 2005 counts.

***Vehicle Registration Distribution*** – As shown in Appendix B, Table B-15 and Figure 3-8, a majority, or approximately 69% of all the surveyed vehicles were registered in Arkansas. Within the Study Area, Arkansas and Missouri had 83% and 59%, respectively, of their own state's registrations. This indicates that the Arkansas portion of the Study Area has a greater influence on the overall area traffic trends and characteristics. Station 1, located on US 71 south of Pineville exhibited only 54% of vehicle registrations within Missouri while Station 9, also on US 71, north of Bentonville showed 79% of vehicle registrations within Arkansas.

***Overall Travel Pattern Distributions*** – The primary purpose for conducting these origin-destination surveys was to develop a real world measure of general travel patterns at survey locations. The survey data was coded to a detailed traffic zone system, which included the 83 TAZs.

The general distribution of trips is shown in Figures 3-9 and 3-10 in several "superzones" in the vicinity of the Project location. Figure 3-9 shows the general distribution of trips to and from Station 1, which is located on US 71 just south of Pineville, Arkansas. This station is located near the northerly terminus of the Project. Of the total trips oriented north of the station, about 82% of those trips were oriented to destinations north of Pineville via US 71. Approximately 12% and 6% of the trips were oriented west and east of Pineville, respectively. The trips oriented south of the station included 8% distributed to Route 90, 19% to the Bella Vista Community, 20% to Bentonville, 18% to Rogers, and 35% continuing through on I-540 south. These latter trips represent "long-distance" trips or trips that originate and terminate beyond the Study Area.

Figure 3-10 shows the general distribution of trips to and from Station 9, which is located on US 71 just north of the US 71/US 71 Business interchange. Of the total trips oriented north of the station, about 26% and 44% of those trips were oriented to destinations within the Bella Vista Community. The trips oriented south of the station included 49% distributed to US 71 Business South near Bentonville, 30% continuing on I-540 to Rogers, and 21% continuing through on I-540 south. These latter trips represent "long-distance" trips or trips that originate and terminate beyond the Study Area.

***Truck Travel Patterns*** – The general travel pattern distributions shown previously in Figure 3-9 and Figure 3-10 generally reflected "total vehicles," based on survey results. In practice, the majority of these vehicles were passenger cars.

Since trucks will likely represent an important component of demand on the US 71 Bella Vista Bypass Project, it is interesting to look separately at patterns for commercial vehicles. Figure 3-11 shows the approximate proportional distribution of truck trips passing through Station 1, on US 71. Of all the survey stations, this location had the highest percentage of truck traffic. This is not surprising since the station is located farther away from the larger commercial activity and residential areas located in northwest Arkansas.

As shown in Figure 3-11, 92% of the northerly oriented trips are located on US 71 with only 5% and 3% oriented west and east of Pineville. Of the southerly oriented trips, 7% were distributed to Route 90, 6% to the Bella Vista Community, 13% to Bentonville, 17% to Rogers, and 57% south on I-540 heading outside of the Study Area.

**Figure 3-9**
**Trip Patterns at Station 1 - US 71**

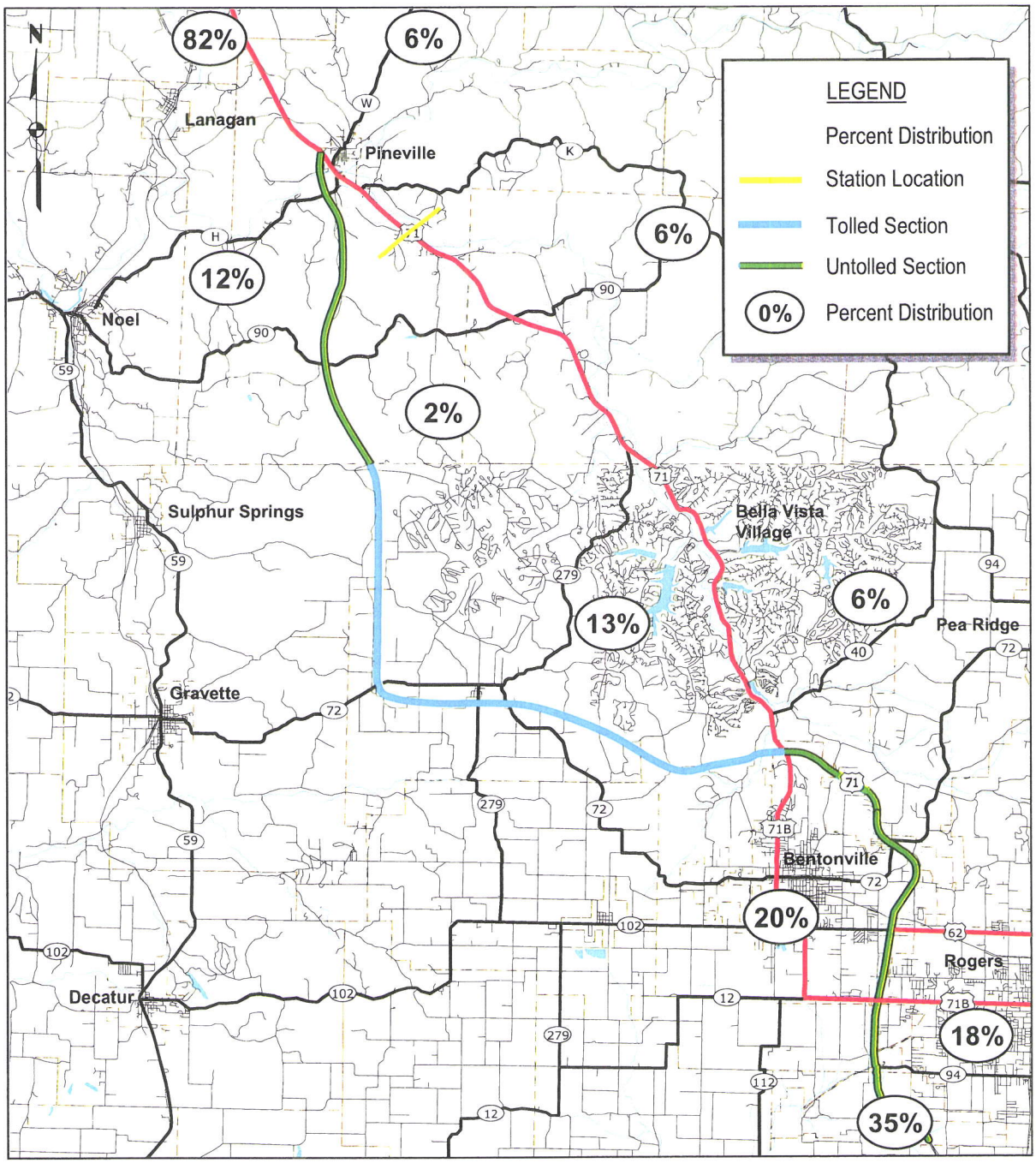


**Figure 3-10**
**Trip Patterns at Station 9 - US 71**

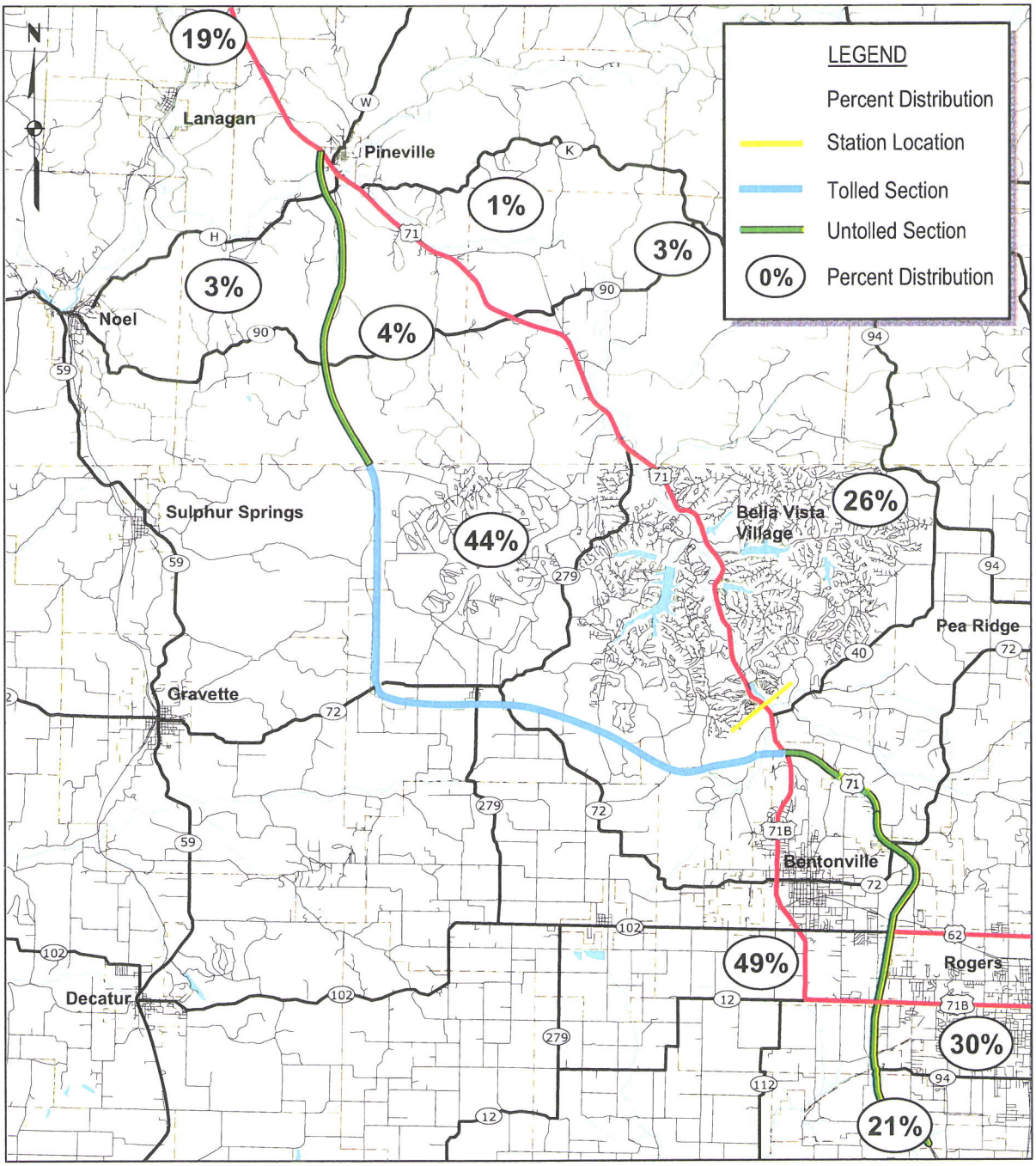


**Figure 3-11**
**Truck Trip Patterns at Station 1 - US 71**

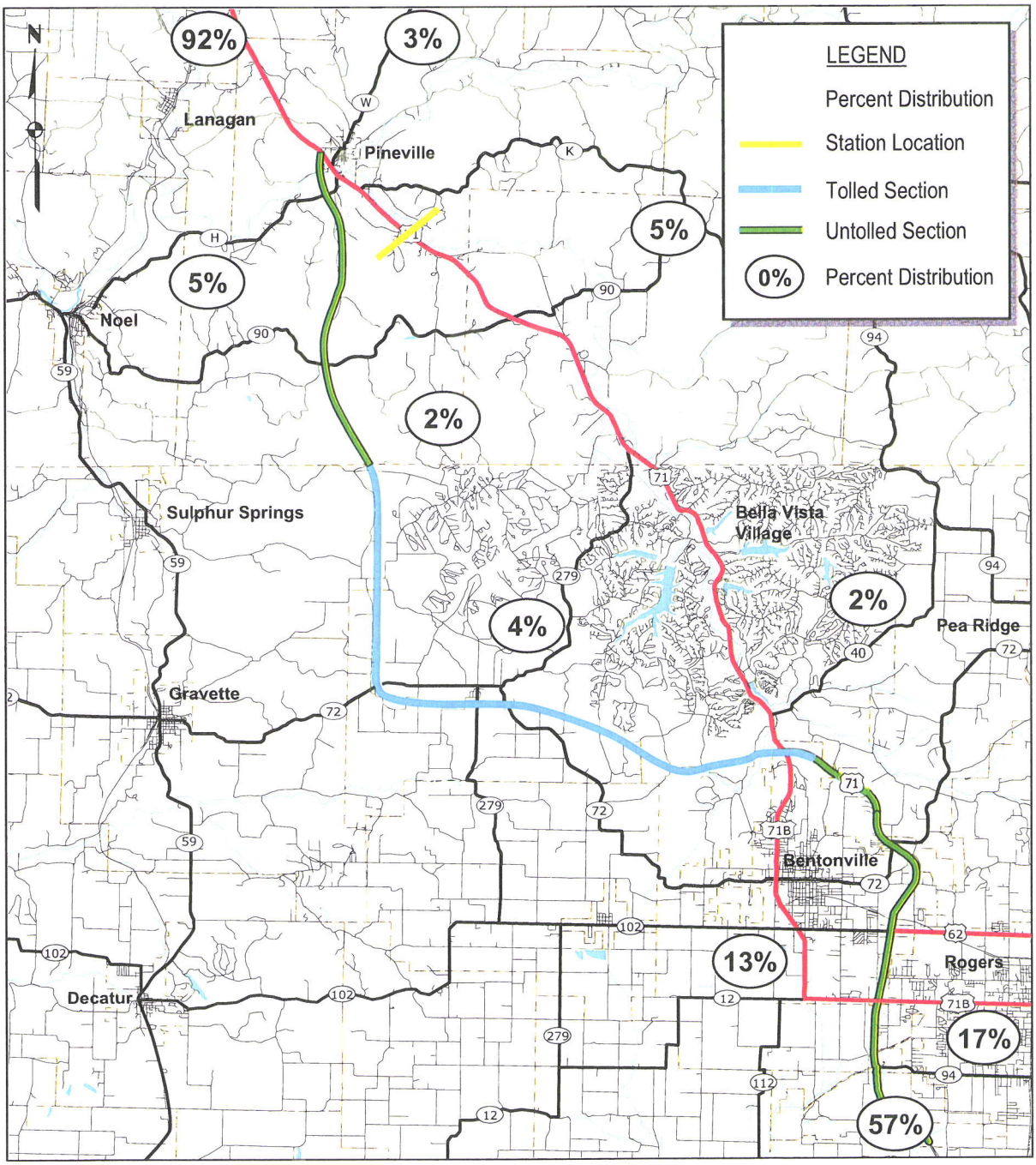


Figure 3-12 displays the truck trip patterns for Station 9. In the northerly orientation, 24% were distributed to the Bella Vista Community, 2% to Route 90, 5% outside of Pineville, Missouri and 69% north on US 71. In the southerly direction, 25% of the truck trips were oriented to Bentonville, 14% to Rogers, and 61% south on I-540.

The above distributions suggest that up to 87% of the truck trips passing through Station 1 in Missouri and up to 74% of the truck trips passing through Station 9 in Arkansas have the potential to use the US 71 Bella Vista Bypass. The remaining truck trips would likely not be good candidates to utilize the bypass since their trips begin and end inside the termini of the bypass study corridor.

Trucks, when compared to all vehicles, have a higher percentage of long distance trips. The majority of these long distance trips originate and terminate outside the limits of the study corridor. This indicates that a higher percentage of the truck traffic has the potential to utilize the bypass when compared to the percentage of passenger car traffic.

## *Traffic and Revenue Analysis*

One of the objectives of this study was to develop annual traffic and revenue forecasts for the proposed US 71 Bella Vista Bypass Project. In developing these estimates, traffic surveys, traffic counts, and the socioeconomic data for the area were combined with a computerized transportation network to determine optimum toll rates and develop annual traffic and revenue forecasts.

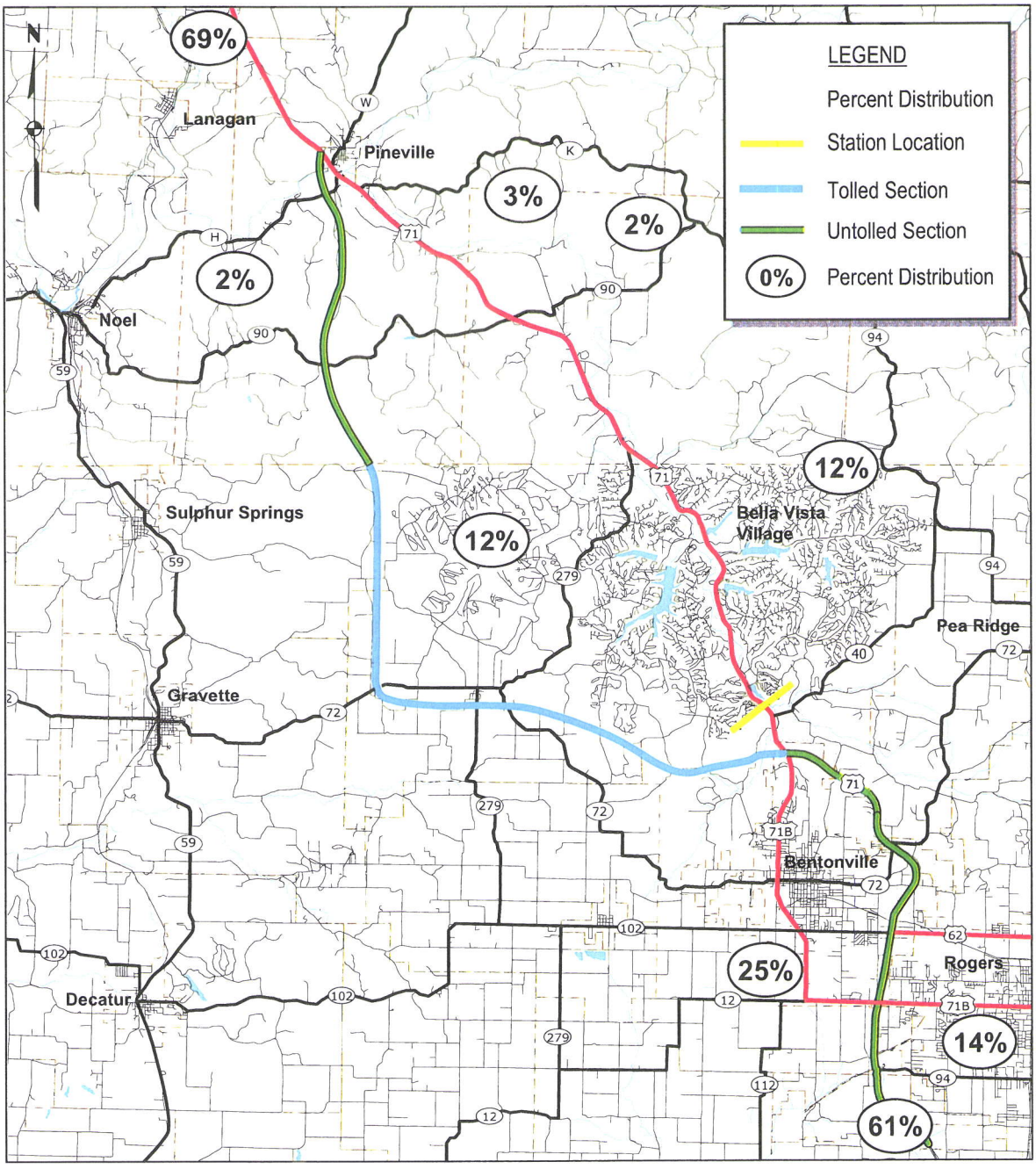
### Modeling Methodology

A computerized transportation model of the Study Area was created to estimate the traffic and toll revenue for the Project. The following overall approach was used:

- A computerized traffic network of the Study Area was created utilizing a traffic analysis zone system.
- Base year (2005) vehicle trip tables were created from the 2003 travel pattern surveys and were re-factored to 2005 traffic counts by passenger car, light truck, and heavy truck vehicle categories.
- A 2005 base year model was calibrated against 2005 ground counts at the survey locations.
- Future year trip tables (2011 and 2025) were created based on the socioeconomic data analysis of the Study Area.
- Future year build assignments were conducted using toll diversion logic.

***Highway Network Development*** – The highway network was developed by conducting an inventory of the roadway network in the Study Area. The highway network was then digitized resulting in a computerized representation of the highway system. All significant roads in the Study Area were identified, and characteristics such as distance, speed, and capacity of each roadway identified were recorded. An internal and external traffic zone system was then created for the Study Area.

**Figure 3-12**
**Truck Trip Patterns at Station 9 - US 71**



***Trip Table Development Process and Model Calibration*** – Traffic surveys were conducted at eight locations within the Study Area in order to capture any traffic that would potentially use the proposed toll road. Each returned valid survey card for each survey station was given an origin zone and destination zone from the zone system that was previously created. These travel patterns at each survey station were then factored to the updated 2005 traffic counts obtained at these same locations resulting in base year (2005) trip tables for passenger vehicles, light commercial vehicles, and heavy commercial vehicles. Light commercial vehicles are defined as buses and trucks with 2 or 3 axles and heavy commercial vehicles are defined as trucks with 3 or more axles.

Base year model calibration was performed using the highway network and trip tables. Slight changes in some roadway speeds and zone centroid connections were made in order to ensure model calibration.

***Value of Time and Operating Costs*** – Traffic and revenue on a toll facility is dependent on motorists' willingness to pay a toll for benefits received in using the toll facility. These benefits can include mileage savings, improved quality of travel and safety, and reduced congestion. The motorist's value of time (VOT), vehicle operating cost (VOC), and toll charges are the three key elements in determining the cost of making a particular trip and, therefore, the selection of a specific path to travel from the origin to the destination of the trip.

The value of time was derived from year 1999 median household income of the Study Area obtained from the year 2000 census. The median income was inflated to current year, 2005, dollars. An average of 2,339 household worker hours per year was calculated for the Study Area. The median household income was divided by the average household worker hours and 60 minutes/hour to calculate the VOT per minute. This cost per minute was multiplied by a factor that was calculated based on the trip purpose distribution of the surveys among work trips, company business trips, and other trips and a perception factor attributed to each of the three purposes. The year 2005 overall average VOT for the Study Area was calculated to be $0.163 per minute. The vehicle operating cost was calculated by adding the per mile costs of gasoline and oil, vehicle maintenance, and wear and tear of tires. This value was calculated to be $0.150 per mile.

***Overview of the Toll Diversion Assignment Process*** – In this study, TRANPLAN equilibrium software was used, which has been enhanced to include WSA market share traffic diversion routines specifically designed to emulate motorists' willingness to pay tolls at varying toll levels and congestion conditions. Trip tables for each assignment year and time period (a.m., p.m., and off peak) were assigned.

The trip assignment procedure utilizes a dual minimum path process that builds two sets of paths for each origin-destination zone pair; one using the toll facility (where appropriate) and the other using competing toll-free facilities. A proportion of the total trips moving between the zones are assigned to each network path based on the relative total cost between the paths including vehicle operating costs, travel time costs, and tolls.

The time cost is calculated for both the toll path and non-toll path between two zones and is equal to the time spent traveling multiplied by the VOT. The distance cost for each path is equal to the vehicle operating cost (VOC) multiplied by the distance traveled for each path. The only other added cost is the toll which is added to the time and distance cost for the Project path.

In estimating the share of total traffic between each zone pair, the total cost of toll road routing is compared with that of the toll-free routing. If the cost of the toll-free routing increases as compared to the toll routing, the share of traffic using the toll road increases; and vice versa. The respective shares of each traffic movement are then assigned to the toll road and alternate routes.

Diversion traffic assignments were made at alternative toll rates to aid in determining optimum toll levels. Using the multiple "trip purpose" feature of TRANPLAN Equilibrium Assignments, the process involved a simultaneous loading of the passenger vehicle, light truck, and heavy truck trip tables. Appropriate toll rates and toll structures were used for each of these three categories of vehicles. Separate market share estimates were prepared for the three components of total demand. All trip tables and traffic assignments made in this analysis represent typical weekday conditions. Weekend traffic estimates were manually developed as a proportion of the weekday traffic estimates.

## Basic Assumptions

Traffic and revenue estimates for the US 71 Bella Vista Bypass Project were predicated based on the following assumptions, all of which are considered reasonable for the purposes of this analysis:

1. The Project is assumed to provide two travel lanes in each direction, or a total of four lanes, over its entire length;

2. The Project is assumed to open to traffic by January, 2011;

3. The configuration of the Project, including the location of proposed interchanges, will be as described in this report;

4. Toll rates on the facility, in year 2005 dollars, will be as set forth in this report. Commercial vehicle rates will be proportionately higher than passenger cars;

5. Inflation has not been taken into consideration in the traffic and revenue analysis. Annual revenue estimates, and toll rates, should be assumed to be in year 2005 dollars; adjustments for inflation were considered in the financial analyses in Chapter 5.

6. ETC equipment will be provided and will be available to all motorists using the Project. ETC operations are assumed to be actively monitored and strictly enforced to minimize potential revenue losses due to toll evasion and/or system failure. No adjustments have been made to the revenue estimates included in this report for toll evasion, although it is possible that such evasion would occur;

7. Existing US 71 would have operating conditions which would favor the Project consistent with the corridor management plan set forth in this report;

8. The Project would be well-maintained, efficiently-operated, and effectively signed and promoted to encourage maximum usage. Effective promotion, both before and after opening of the road, is critical to minimizing the negative revenue impacts of "ramp up" during the early months of operation;

9. Motor fuel will continue to remain in adequate supply and the rate of price increase will not significantly exceed the overall rate of inflation; and

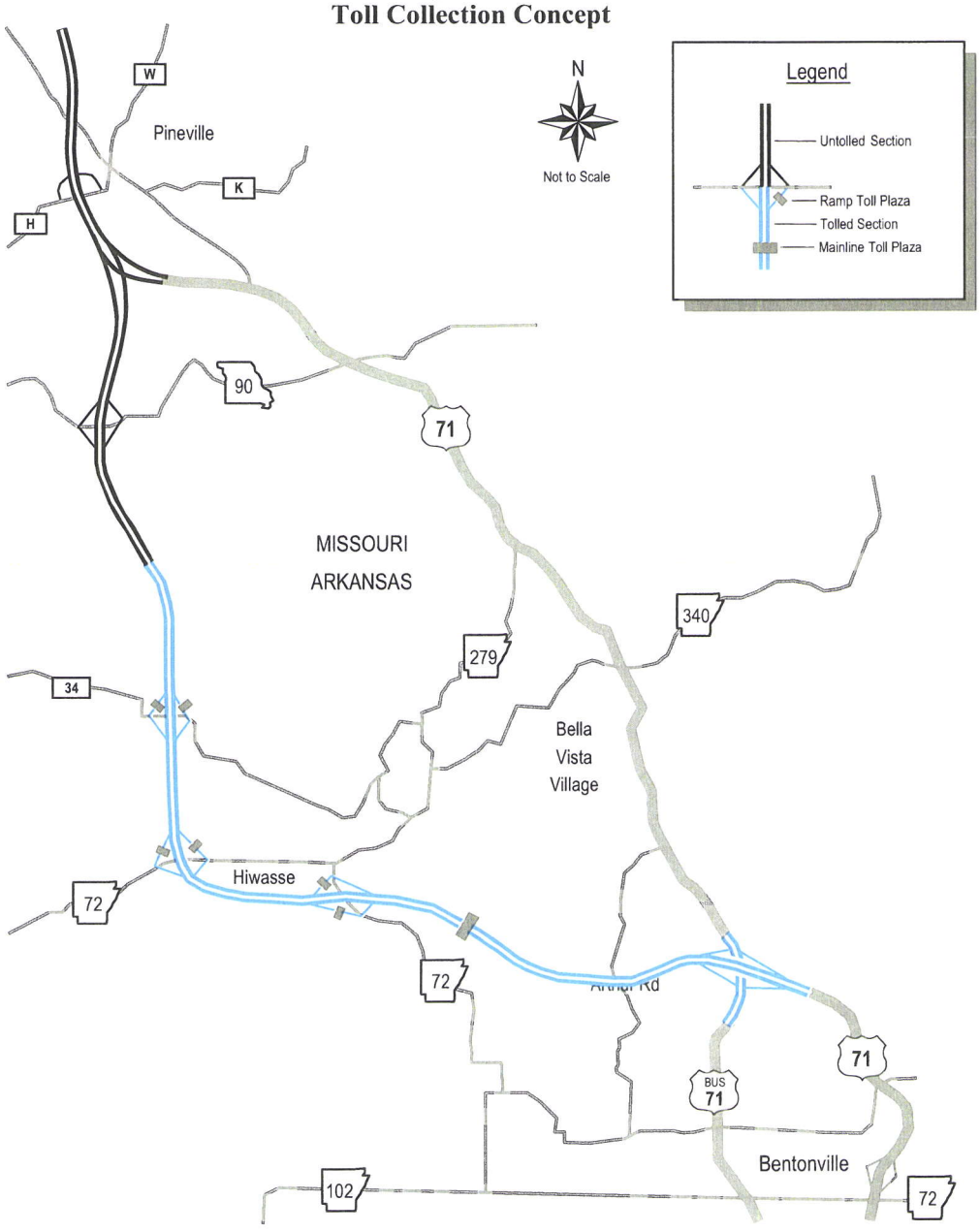
10. No local, regional or national emergency will arise which would abnormally restrict the use of motor vehicles, or substantially alter economic activity or freedom of mobility.

Any significant departure from the above basic assumptions could materially affect estimated traffic and revenue for the Project.

## Toll Rate Sensitivity Analysis

The toll collection concept for the Project is displayed in Figure 3-13. A mainline barrier toll plaza would be located at the south end of the Project between the Highway 72 South interchange and the US 71 Business interchange. Ramp toll plazas would be located at each interchange north of the mainline barrier on ramps oriented to and from the north.

**Figure 3-13**
**Toll Collection Concept**



Traffic assignments were made at multiple toll levels for this toll collection concept for the assumed opening year of 2011. As a result of this, toll sensitivity curves were prepared to determine optimum rates. The toll sensitivity curve for the opening year (2011) is shown in Figure 3-14. While the rate levels shown reflect passenger cars, and all rates should be considered to be in year 2005 dollars, proportionately higher rates would be charged for trucks. Rate levels are shown for the ramp plazas as well as for the mainline plaza.

As shown in Figure 3-14, toll rates would be relatively inelastic through a $1.25 mainline toll. Beyond this point, the rate of revenue increase begins to decrease. Beyond a $1.75 mainline toll rate, revenue potential is relatively flat; hence the slightly sub-optimum mainline passenger car-based toll rate of $1.50 was selected in order to provide some flexibility to increase the toll rate if necessary after the system is operational.

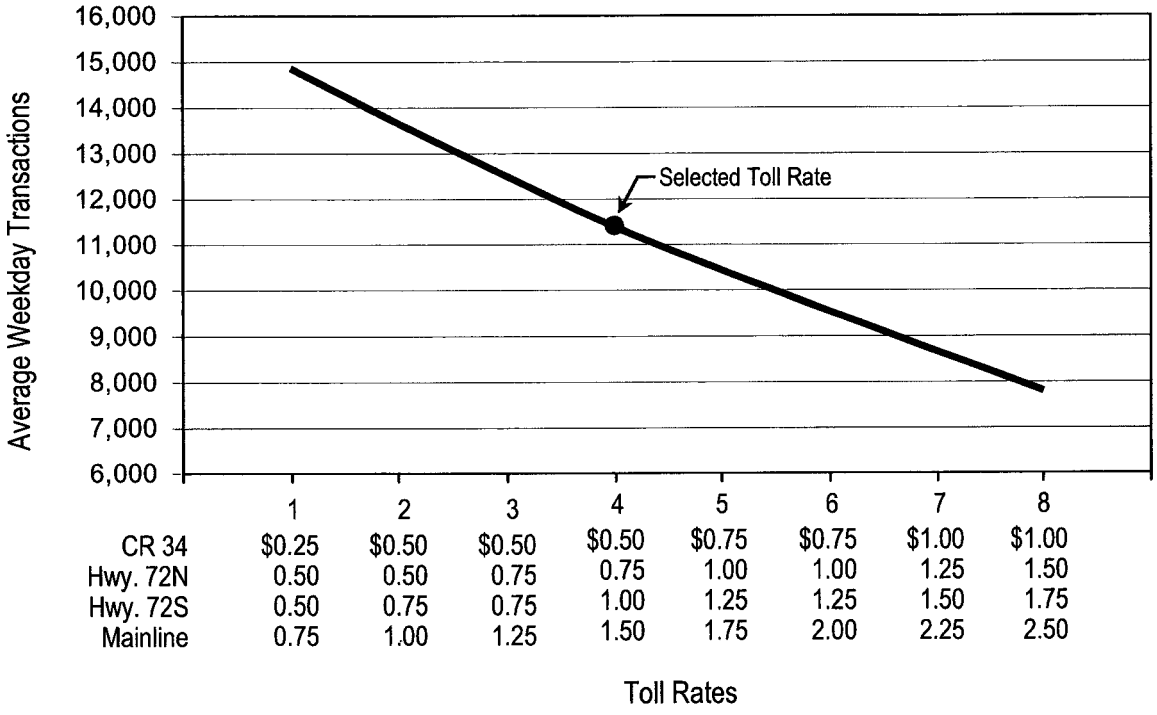
This traffic and revenue analysis assumed that tolls for light and heavy trucks would be double and four times that of passenger cars, respectively. The assumed toll rates for passenger vehicles, light trucks, and heavy trucks are shown in Table 3-2.

**Table 3-2**
**Assumed Toll Rates**

| Plaza | Toll Rates | | |
|---|---|---|---|
| | Passenger Vehicles | Commercial Vehicles | |
| | | Light[1] | Heavy[2] |
| CR 34 | $0.50 | $1.00 | $2.00 |
| Highway 72 North | $0.75 | $1.50 | $3.00 |
| Highway 72 South | $1.00 | $2.00 | $4.00 |
| Mainline | $1.50 | $3.00 | $6.00 |

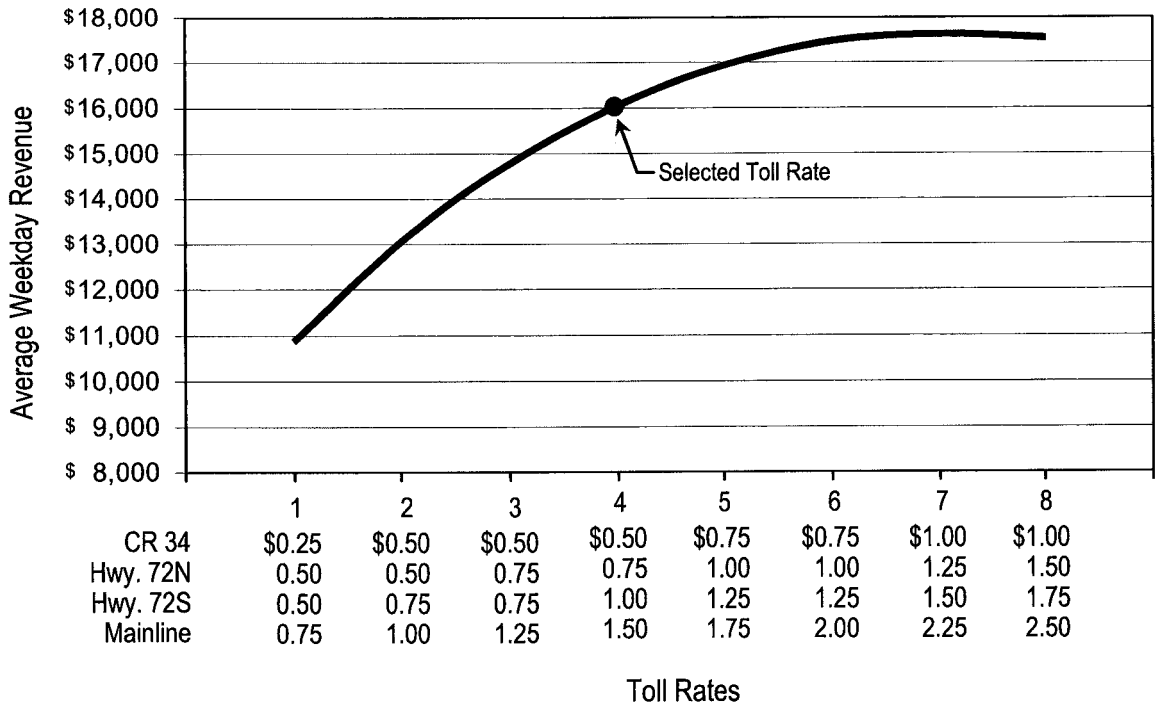
1: Light commercial vehicles are defined as buses and trucks with 2 or 3 axles.
2: Heavy commercial vehicles are defined as trucks with 3 or more axles.

**Figure 3-14**
**Toll Sensitivity Curves – Passenger Cars - 2011**




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| CR 34 | $0.25 | $0.50 | $0.50 | $0.50 | $0.75 | $0.75 | $1.00 | $1.00 |
| Hwy. 72N | 0.50 | 0.50 | 0.75 | 0.75 | 1.00 | 1.00 | 1.25 | 1.50 |
| Hwy. 72S | 0.50 | 0.75 | 0.75 | 1.00 | 1.25 | 1.25 | 1.50 | 1.75 |
| Mainline | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50 |

Toll Rates




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| CR 34 | $0.25 | $0.50 | $0.50 | $0.50 | $0.75 | $0.75 | $1.00 | $1.00 |
| Hwy. 72N | 0.50 | 0.50 | 0.75 | 0.75 | 1.00 | 1.00 | 1.25 | 1.50 |
| Hwy. 72S | 0.50 | 0.75 | 0.75 | 1.00 | 1.25 | 1.25 | 1.50 | 1.75 |
| Mainline | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50 |

Toll Rates

## Estimated Weekday Traffic

Actual traffic assignments were made simultaneously by passenger vehicle, light truck, and heavy truck modes. However, for purposes of simplicity in this presentation, total weekday traffic estimates are shown in Figures 3-15 and 3-16 for each of the modeled years.

Figure 3-15 shows estimated weekday traffic for the year 2011 – the assumed opening year of operation of the Project. The heaviest weekday traffic volumes are expected at the south end of the Project, estimated at 12,200 vehicles per day. A significant amount of this traffic is made up of through trips that would use the whole length of the facility to bypass existing US 71. The ramps to and from the south at the Highway 72 interchanges also contribute to the higher volume levels at the south end of the Project as these motorists would be traveling south into Bentonville and other locations south of the facility. At the north end of the Project, weekday traffic is estimated at 7,200. This traffic is primary made up of through traffic that would be continuing south into Bentonville and beyond, therefore bypassing existing US 71.

Figure 3-16 provides estimated weekday traffic at year 2025 levels. By that time, traffic at the south end of the US 71 Bella Vista Bypass Project is estimated to increase to 17,900 vpd while traffic at the north end is estimated at 9,700 vpd. It should also be noted that weekday traffic is likely to be somewhat higher than seven-day average annual traffic.

***Typical Time-Distance Relationships*** – Appendix B, Table B-16 provides a summary of typical time-distance relationships between the Project and the best alternative routing for four "typical" travel movements. These four movements involve different combinations of five typical points within the Project corridor. For each typical movement shown, the distance and approximate travel time is presented for both the Project routing and the best toll-free alternative routing that would be available for each particular movement. The net savings in both travel distance and travel time which might be expected to result from choosing the Project routing is shown. For these particular movements, use of the Project would actually involve a slight increase in travel distance. However, the Project would save travel time for all of the four movements shown; the most significant of which is for a trip along the entire project. In this instance, the Project would save an estimated 14 minutes over the next best toll-free alternative route.

***Corridor Share Analysis*** – A corridor share analysis was performed after completion of the modeling process and development of traffic estimates. The purpose of this assessment was to determine the general reasonableness of the proportion of total traffic which is estimated to use the Project. The corridor share assessment was made at four screenlines, as shown in Figure 3-17. Screenline A-A is located generally north of Route 90. Screenline B-B is located north of the state line in the central portion of the Project. Screenline C-C is located at the south end of the Project south of CR 40. Screenline D-D does not cover the Project directly but shows volumes on existing US 71 and US 71B which would feed the Project.

Appendix B, Table B-17 provides a summary of the corridor share analysis at 2011 and 2025 levels. The first three of the screenlines generally run from the Project east through existing US 71. Screenline A-A shows that in 2011 the Project would capture 55% of the passenger vehicle demand while 45% would use existing US 71. The Project would have a slightly higher percent share of commercial vehicle traffic. This relatively high corridor share for passenger and commercial vehicles is a result of the high percentage of through corridor trips that are present at the north end of the corridor.

**Figure 3-15**
**Average Weekday Traffic (2011)**

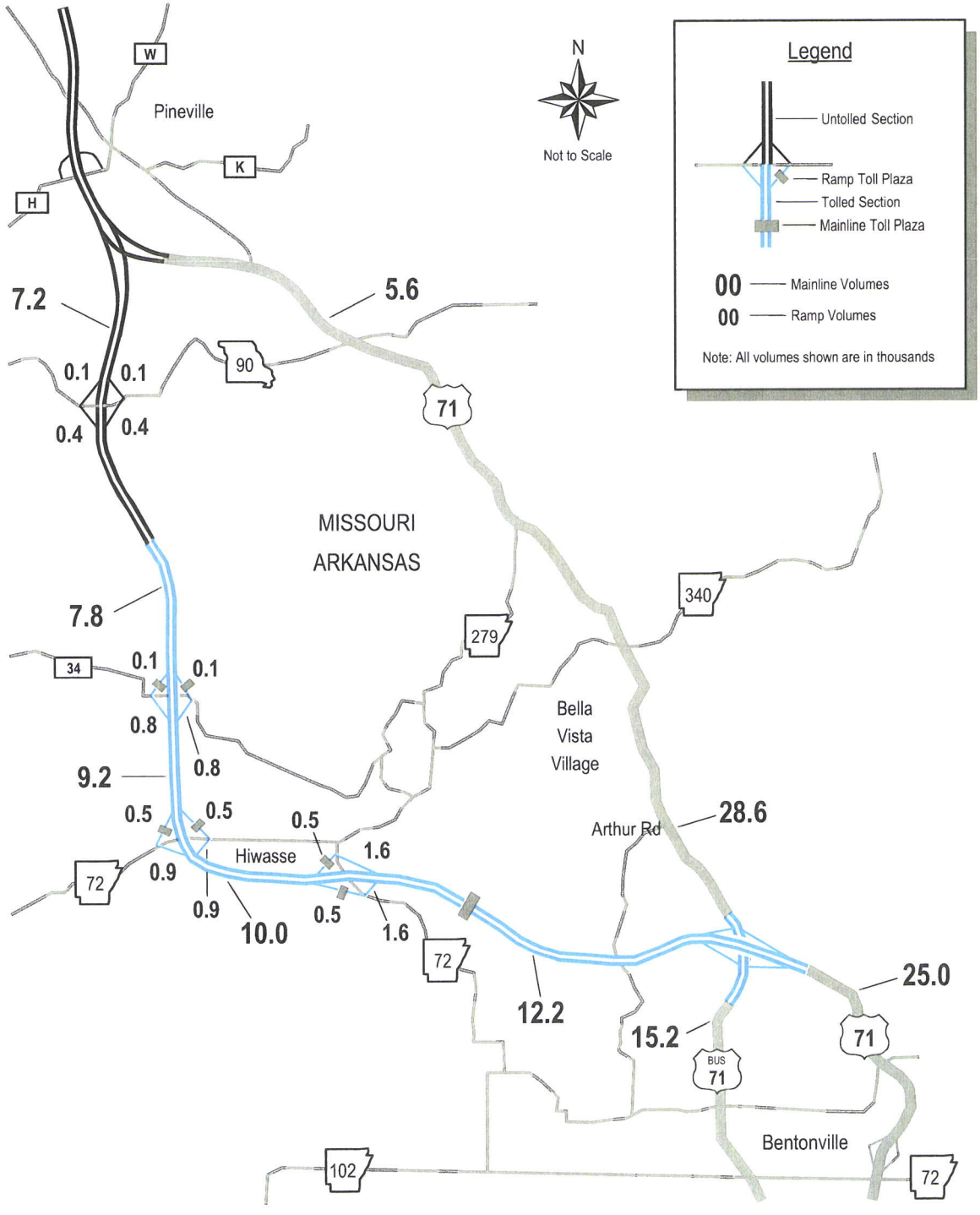


**Figure 3-16**
**Average Weekday Traffic (2025)**

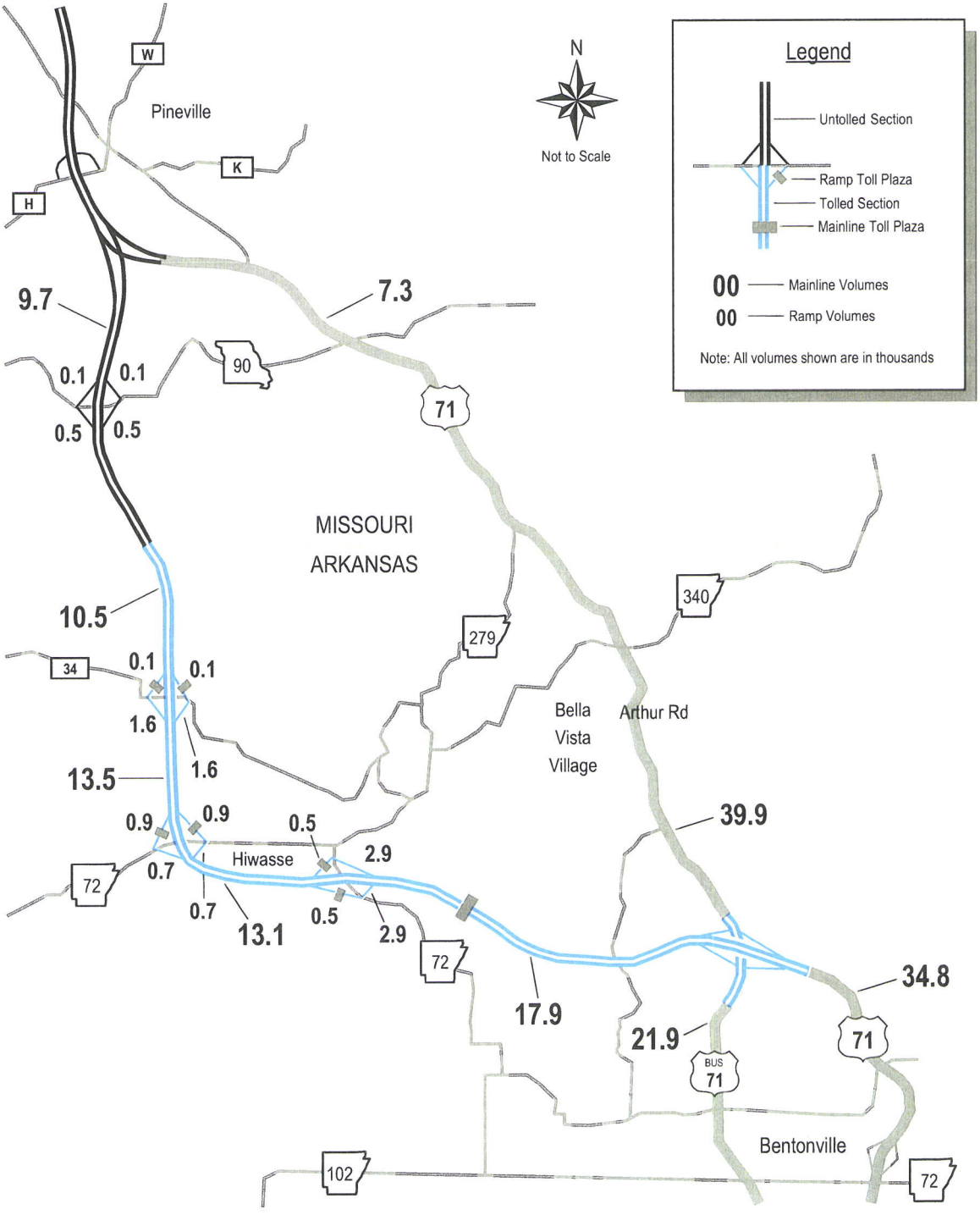
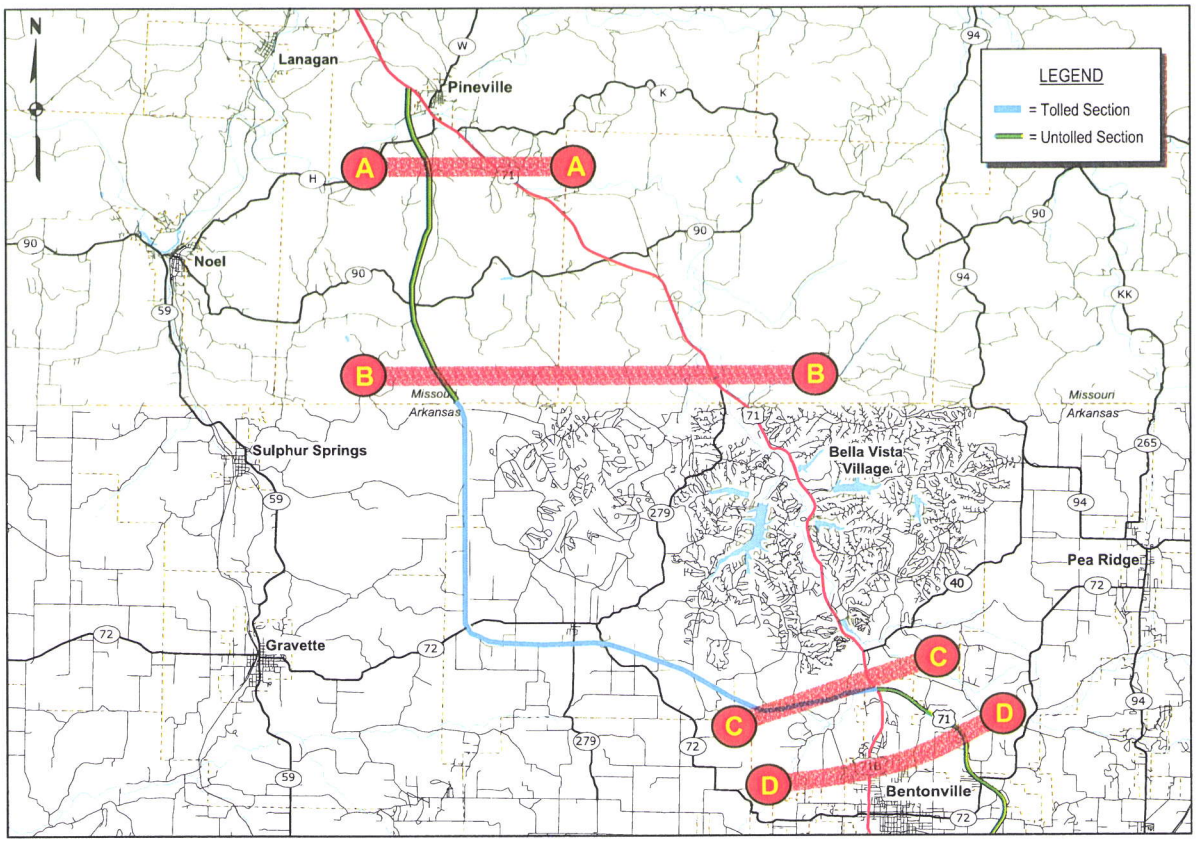


**Figure 3-17**
**Screenline Locations**




The passenger vehicle share on the Project drops to 26.9% at the south end of the corridor, as shown in Screenline C-C. This is a result of the presence of significantly more local traffic at the southern end of the facility, where much of the traffic on existing US 71 has one leg of their trip ending in the Bella Vista Village area and would gain little advantage by using the Project. However, the commercial share on the Project remains relatively high at 52.1%, since much of the truck traffic is through traffic and would benefit most by avoiding existing US 71 altogether.

## *Estimated Annual Transactions and Revenue*

Appendix B, Table B-18 shows the worksheet used to calculate transactions and revenue at 2011 and 2025 levels. Estimated average weekday transactions are shown for each toll plaza. The average toll amounts shown are weighted averages reflecting the mix of passenger vehicles and commercial vehicles assigned to the Project and the rate differential between the passenger vehicles and commercial vehicles. For example, the mainline plaza passenger vehicle toll rate used in the analysis was $1.50. When factoring in commercial vehicle percentages, the average toll rate per vehicle is increased to $2.19. This significant difference between the average toll rate and the passenger vehicle toll rate is due to the 20% trucks estimated to be using the Project through the mainline plaza. Furthermore, the majority of trucks in the corridor are of heavy designation requiring a $6.00 toll rate.

Annual weekday toll revenue is calculated by multiplying the average weekday transactions times the average toll times 250 weekdays. The 250 average weekdays were used rather than 260 to account for an

average of 10 holidays throughout the year which can be viewed as having traffic conditions comparable to weekend days. Annual weekend day toll revenue was calculated using 76% of the weekday transactions times a lower average toll rate times 115 days. The lower average number of transactions on an average weekend day versus an average weekday is due to the lower traffic volumes present during the weekend. The lower average toll is due to the lower truck percentages that are present during the weekend versus the weekday. Annual toll revenue is then the result of adding annual weekday toll revenue with the annual weekend day toll revenue.

Estimated annual transactions and revenue are shown in Appendix B, Table B-19. Estimated annual transactions are expected to increase from 3.6 million (4.9 million without the 25% ramp-up impact) in 2011 to 7.0 million by 2025 for an average growth of 4.9% per year. Annual toll revenue at year 2011 is estimated at about $9.6 million without ramp-up and $7.2 million with an estimated 25% negative impact due to ramp-up. By 2025, revenue is expected to increase to $13.4 million.

Note that all revenue figures shown are in year 2005 dollars. Inflation is not recognized in these forecasts; adjustments for inflation were considered in the financial analyses in Chapter 5.

The annual values were developed from modeling at 2011 and 2025 levels. Intermediate year values were developed through the growth schedule shown in Appendix B, Table B-20. Trip tables were not available subsequent to 2025. Beyond that time, nominal traffic growth assumptions were made as follows:

- 2026-2030 – 1.5% per year; and
- 2031-2041 – 1.0% per year.

Current accepted professional practices and procedures were used in the development of these traffic and revenue estimates. However, as with any forecast of the future, it should be assumed that there will be differences between forecast and actual results caused by events and circumstances beyond the control of the forecasters. These differences could be significant. It also should be recognized that traffic and toll revenue forecasts in this document are intended to reflect the overall estimated long-term trend. Actual experience in any given year may vary due to economic conditions or other factors. Finally, ultimate utilization of the Project will be significantly influenced by signing and other promotional activities. This is also largely outside the control of the forecasters.

# CHAPTER 4 – COST ANALYSIS

This section describes the approach used to estimate capital costs, operations and maintenance costs and the reserve maintenance fund deposit for the US 71 Bella Vista Bypass Project. All cost analyses were completed under the assumption of a closed-barrier, closed-cash toll system and were estimated in current 2006 dollars.

## *Design Standards and Criteria*

One of the primary purposes of the Project is to develop the US 71 Bella Vista Bypass corridor using current Interstate standards. Some of the major design elements used in the study for an interstate type facility are shown in Table 4-1.

**Table 4-1**
**Geometric Design Criteria**

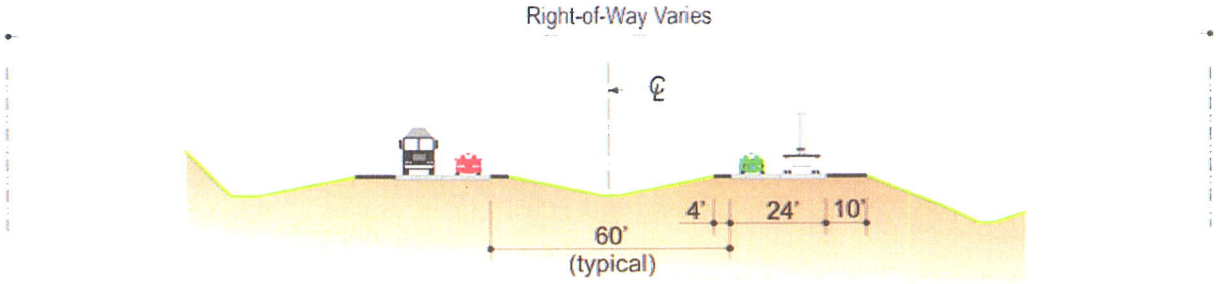
| Location | Design Speed (mph) | Design ADT (2020) | Clear Zone | | Horizontal Alignment Max. Degree of Curvature | Vertical Alignment | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Max. Grade (%) | Crest Curve | | Sag Curve |
| | | | (Feet) | (Slope) | | | K (Design) | SSD (ft) | K (Design) |
| US 71 Bella Vista Bypass Mainline | 70 | N/A * | 30 | 6:1 | 3°00' | 4 | 247 | 730 | 181 |
| Ramps | 50 | N/A* | 30 | 6:1 | 8°15' | 5 | 84 | 425 | 96 |
| Arterial Roads – US 71 Business | 60 | N/A* | RDG** | 6:1 | 5°15' | 4 | 151 | 570 | 136 |
| Collector Roads, AR Highway 72, AR Highway 279 | 50 | <1700 | RDG** | 4:1 | 8°15' | 7 | 84 | 425 | 96 |
| Local Roads - County Roads | 40 | <1700 | 10 | 4:1 | 13°15' | 10 | 44 | 305 | 64 |

* Design criteria for these facilities are not directly controlled by a specific design average daily traffic (ADT) number; however ADTs projected for the design year 2020 are a factor in determining the overall design configuration of the facility.
** RDG indicates use AASHTO Roadside Design Guide

These criteria have been developed to provide a summary of the methodologies and standards used in design of the Project. Roadway and roadside design standards used in this study were primarily based on AHTD policies and standard drawings gathered from the *Arkansas Standard Roadway Drawing*, and AHTD *Standard Specifications for Highway Construction,* as well as the American Association of State Highway and Transportation Officials (AASHTO) 2004 publications, *A Policy on Geometric Design of Highways and Streets,* and *Roadside Design Guide.*

Figure 4-1 shows the design standards for the typical roadway section for the US 71 Bella Vista Bypass Project. The Project will be designed as a four-lane roadway with a 60-foot median and paved 4-foot inside shoulders and 10-foot outside shoulders. The section assumes a minimum of four lanes, based on providing a level-of-service C for the 2030 projected traffic demands. Full access control would be provided and, where needed, frontage roads would be provided to maintain local access. More detailed typical sections and plan plates for the Project are shown in Appendix A.

**Figure 4-1**
**US 71 Bella Vista Bypass Typical Section**




## *Right-of-Way Requirements*

Right-of-way will need to be purchased in order to construct the US 71 Bella Vista Bypass Project. The width of the right-of-way required for the Project varies depending on the location along the corridor. Right-of-way was estimated to cost approximately $27,400,000 in Arkansas.

Property that is required for the construction of the Project would be subject to the provisions of Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Several residences and businesses would be displaced by the Project.

Some subsequent refinements in the alignment could affect the current right-of-way estimate. If the alignment were to be modified, additional displacements may be required for the US 71 Bella Vista Bypass Project and the right-of-way total may need to be adjusted. It is not anticipated that the alignment modifications would be significant enough to change the assumptions used for the tolling analyses and the financial feasibility of the toll Project.

## *Estimated Capital Costs*

Construction cost estimates for the Project were based upon recent contractor bid prices on similar MoDOT and AHTD roadway projects. The Project was assumed to be a four-lane interstate type toll road bypass, approximately 14.6 miles in length. A value engineering study was undertaken as a part of the design process to ensure that the design for the Project had considered all reasonable options for minimizing project costs while still meeting all standards necessary for an interstate facility. The value engineering study resulted in design revisions and cost reductions for the Project. The typical sections in Appendix A provide further information on the "value" design typical section for the Project.

The construction cost estimate for the Project is shown in Table 4-2. The capital cost estimate includes construction costs, right-of-way, design, and construction administration.

Also included in the capital cost estimate is the cost for toll collection equipment and installation. The unit costs for toll collection equipment and installation were based on recent bid tabulations from other comparable or neighboring turnpikes, as well as previous team experience on other toll projects.

The mainline toll plaza assumed two multi-mode booth lanes in each direction (i.e., able to accept cash, coin machines and ETC toll transactions) and two electronic toll collection (ETC) express lanes in each direction. Each ramp toll plaza included one multi-mode booth lane and one ETC lane. An example toll collection layout can be seen in Figure 2-2 in Chapter 2. Start-up toll system costs for ETC and the

information systems for the toll road were also included in the toll cost estimate. The ETC and information systems software was assumed to be a pre-packaged, off-the-shelf product.

**Table 4-2**
**US 71 Bella Vista Bypass Cost Estimate (2006)**

| Roadway/Bridge Construction | Arkansas |
|---|---|
| Grading/Drainage | $42,170,000 |
| Pavement | $34,827,000 |
| Bridges | $40,115,000 |
| Misc. | $10,410,000 |
| Subtotal | $127,522,000 |
| 3.0% Contingency | $3,826,000 |
| **Subtotal** | $131,348,000 |
| **Toll Plaza Construction** | $12,955,000 |
| **Right-of-way** | $29,300,000 |
| **Design** [1] | $4,660,000 |
| **Construction Admin.** | $9,833,000 |
| **Total** | **$188,096,000** |

1: Roadway and bridge design has already been programmed and has been initiated. Some additional design would be required, beyond what has already been initiated for toll plaza design and the value engineering study.

## *Estimated Annual Operation and Maintenance Costs*

Annual operations and maintenance (O&M) costs were developed for the Project. The derivation was, in part, based on the experiences of other turnpike systems currently in operation in neighboring states as well as team experience on other similar toll studies. O&M costs refer to the perpetual costs associated with the operations and upkeep of the turnpike system. These costs represent the annual revenue necessary to responsibly operate and maintain the toll road in a manner similar with customary practice. The annual O&M costs for the Project included cost estimates for the following cost categories:

- **Administration** – The annual costs associated with toll authority staff and activities, public relations, communications, salaries, and materials/supplies.
- **Insurance** – The annual costs to insure the toll facility including facility, liability and business interruption insurance.
- **Highway Patrol** – The annual costs to employ highway patrol for the toll facility for enforcement and safety.
- **Toll Collection** – Toll collection costs are those costs directly incurred through the fare collection process, including toll collector salaries and related expenses. Toll collection costs are directly proportional to the toll collection staffing labor requirements. As a measure of the total toll collection requirements, the number of manual toll booth lanes and the number of ETC lanes

were estimated for the toll system. The number of manned lanes for each system depends on the traffic volumes and the extent of automatic coin machine and ETC utilization.

Toll collection staff was assumed to include one manager, one supervisor per each shift, four toll collectors at the mainline toll plaza and one at each ramp plaza (two ramps tolled per interchange). Two shifts were assumed for the mainline toll plaza and one shift for each ramp plaza (the ramps were assumed to be unmanned at night). An annual cost for cash pickup for the toll facility (e.g., Brinks) was also included in the toll collection costs.

- **Roadway Maintenance** – Roadway maintenance costs are those costs associated with the upkeep of the turnpike pavement and roadside, including snow removal, mowing, sign and guardrail repair, minor bridge repair, and pavement resurfacing. The annual costs to maintain the entire length of the four-lane facility were developed as an annual cost per lane-mile.

- **Toll Facility and Toll Collection System Maintenance** – Toll facility maintenance is the annual cost to maintain the buildings associated with the toll system and was based on a unit cost per square footage of facility buildings. Toll collection system maintenance includes annual maintenance for the manual and ETC equipment and is estimated on a per lane basis for both manual booth lanes and ETC lanes.

- **Utilities** – The annual costs associated with the utilities for the toll system lanes, including both the manual booth lanes and ETC lanes.

- **Engineering/Traffic Consulting** – The annual costs associated with retaining an independent engineering and traffic consultant for the toll system.

- **Customer Care Center** – The annual costs associated with activities for a Customer Care Center where customers of the toll facility can go to purchase ETC transponders and maintain their user accounts. ETC software and hardware needs for the Customer Care Center are covered within the capital costs.

The 2006 annual O&M costs for the Project are shown in Table 4-3.

**Table 4-3**
**Annual O&M and Reserve Maintenance Fund**
**Cost Summary**
**(2006)**

| Annual Cost Category | Arkansas |
|---|---|
| Annual Operations and Maintenance | $3,100,000 |
| Annual Reserve Maintenance Fund | $270,000 |

## *Reserve Maintenance Fund*

Included in the annual costs of a turnpike system are replacement reserve fund considerations. On an annual basis, the Reserve Maintenance Fund (RMF) needs to be deposited for the replacement of the system's infrastructure to replace or refurbish the system at the end of its useful service life, assumed to be 30 years. The depreciation of the system's value is a function of the system's use and the extent that annual maintenance activities are able to defer major system reconstruction. It is assumed that upon reaching maturity, the system's driving surface, including the pavement and bridge decks, will require

reconstruction in its original configuration. The remaining value of these elements, consisting of the pavement base and the bridge substructure, would depend on the rate of the system's deterioration due to use and weathering. Upgrades of the system for increased capacity demands or new design standards would not be included. The RMF deposits would likely have to be supplemented by potential bond refinancing or sale of additional debt if the costs to reconstruct exceed available monies in this fund. Other considerations such as toll increases and major maintenance bond issues are considerations for additional funds, of course, assuming the Project toll revenues could support this process. The annual deposit into the reserve maintenance fund is also shown in Table 4-3.

# CHAPTER 5 – FINANCIAL ANALYSIS

## *Methodologies and Assumptions*

### Summary of Toll Road Financing Analysis

The financial analysis is intended to provide an indication of the amount of capital funding that could be provided from toll financing for the US 71 Bella Vista Bypass Project. The financial analysis was performed for three various options for the Project, assuming both a Net and a Gross Pledge of the Project's toll revenues. In a Net Pledge, the Project's toll revenues are first used to fund costs of toll collection and road operation and maintenance (O&M) and then are used to fund debt service. A Gross Pledge permits toll revenues to first fund debt service and reserves and then can be used to repay AHTD's funding of the Project's annual O&M costs.

The assumed tolling plan for the Project is shown in Chapter 2, Figure 2-3. The plan includes one mainline toll plaza located in Arkansas, between the Highway 72 South and the US 71/US 71 Business interchanges, and ramp toll plazas at the CR 34, Highway 72 South and Highway 72 North interchanges. The site of the mainline toll plaza was located to capture the best possible number of toll facility users and toll revenue, discourage diversion and offer good horizontal and vertical sight distance. The recommended toll collection plan also included a corridor management plan for the existing US 71 Corridor to help improve safety and traffic operations. The details of the corridor management plan for existing US 71 is described in greater detail in Chapter 2, Toll Collection Description.

In performing the financial analysis, estimates were made of projected toll revenues, O&M costs, reserve maintenance funds, and overall design, construction and right-of-way costs. These estimates were then applied to develop a financing plan for each option to assess the feasibility as a toll revenue project with either a Net Pledge or a Gross Pledge. Each financing scenario estimates the amount of any capital shortfall and any required AHTD capital contribution necessary to fully fund the construction of the project.

The Project was analyzed independently on a stand-alone basis (i.e., not as part of a toll system). For the purposes of estimating the financing capacity of the Project from toll revenues, it has been assumed that the following flow of funds would be used for toll revenues:

- Annual operating and maintenance costs of the Project (for Net Pledge option).
- Scheduled annual debt service on Toll Revenue Bonds related to the Project.
- Scheduled annual repayment of a TIFIA Loan related to the Project.
- Deposit to Reserve Maintenance Fund for the Project.
- Annual operating and maintenance costs of the Project (for Gross Pledge option).

Any revenues not used for the above purposes could be made available for other legal purposes. Those surplus revenues could then be used for early repayment of debt and/or other project or toll system related uses (such as other toll facilities or reserves for future toll projects) that are permitted by the authorizing statutes, federal requirements, bond resolutions or indentures, and AHTD policies.

## Financing Assumptions

The following specific assumptions relating to the Project's construction, operation and funding were used in estimating the financing capacity for the Project.

| | |
|---|---|
| Financial and Debt Structure: | Publicly-owned toll road that may be managed by a private operator under a Qualified Management Agreement. Capital structure is composed of tax-exempt fixed-rate Senior Toll Revenue Bonds and a subordinate TIFIA Loan. Tax-exempt subordinate Bond Anticipation Notes ("BANs") are issued upfront and are refinanced by drawing on the committed TIFIA Loan. Senior Toll Revenue Bonds are structured to achieve investment grade ratings. |
| Funding Options: | Targeted debt service coverage (see below) is provided by either projected revenues (Gross Pledge Option) or projected revenues net of operating and maintenance costs (Net Pledge Option). |
| Issuance Date for Bonds and BANs: | January 1, 2007 |
| Completion of Construction: | December 31, 2010 |
| First Year of Operation of Toll Road: | 2011 |
| First Bond and TIFIA Loan Principal Payment Date: | January 1, 2014 |
| Final Maturity of Bonds: | January 1, 2047 (40 years from issuance) |
| Final Maturity of TIFIA Loan: | January 1, 2046 (35 years from Project opening) |
| Bond Insurance: | Assumed bond insurance premium at 1.25% of total scheduled debt service. |
| Capitalized Interest: | Interest on the Bonds and the BANs is net capitalized through and including January 1, 2012. This is 12 months after the estimated completion of construction to mitigate the risk of delayed construction completion. |
| Bond All-In Issuance Costs: | $15 per bond |
| BAN All-In Issuance Costs: | $5 per bond plus $1,500,000, including costs relating to the TIFIA Loan. |

| | |
|---|---|
| Net Funding: | Construction Costs and Capitalized Interest are net funded at the lower of the bond yield and a two-year taxable yield. While the bond proceeds in the Construction Fund and Capitalized Interest Fund could be invested as high as the arbitrage yield for the bond issue, the market rates for investment of the bond proceeds for these accounts at the time of this study are in the 4.72% range. We have assumed that this reinvestment rate is available when the financing is closed. |
| Interest Rates: | "AAA"-insured Bond interest rates as of March 17, 2006 plus 25 basis points of "market cushion" to take into account potential future higher long-term interest rates. Capital Appreciation Bonds have yields that are 50 basis points higher than Current Interest Bonds. TIFIA Loan interest rate is the 30-year Treasury yield as of March 17, 2006 plus 5 basis points administrative fee plus 25 basis points of "market cushion". BAN interest rate is estimated yield as of March 17, 2006 on "AA-" rated note due January 1, 2012 plus 25 basis points of "market cushion". |
| Debt Service Reserve Fund: | Fully funded at issuance of the Bonds at the lesser of: (1) 10% of par, (2) maximum annual debt service, or (3) 125% of average annual debt service. Earnings from the reserve fund are available for debt service. Assumed to earn 4.5% per annum. |
| Debt Service Coverage: | Projected gross or net revenues (depending on Pledge option) available for debt service provide a minimum targeted 175% coverage of Bond scheduled debt service to achieve investment grade ratings and bond insurance. Aggregate debt service (on Bonds and TIFIA Loan) has minimum targeted 115% projected coverage. |
| Project Capital Cost: | Estimated by HNTB in 2006 dollars. Escalated by 4.0% per annum (compounded) from 2006 to the projected mid-year of the construction period (2009). Assumed expended in 48 equal monthly draws. |
| AHTD Capital Funds: | All financing options assume AHTD contributes its SAFETEA-LU earmarks (including State match). As provided by AHTD, these are |

| | |
|---|---|
| | assumed to be $22,790,000 on 1/1/07, $9,030,000 on 1/1/08, and $7,955,000 on 1/1/09, for a total of $39,775,000. Any additional AHTD capital contribution is made on 1/1/09. |
| MoDOT Project Participation: | Assumes the Missouri section of the US 71 Bella Vista Bypass is toll free and is funded and completed by MoDOT on or before the projected opening date. MoDOT is also assumed to maintain the Missouri section of the bypass. |
| Toll Revenues: | Estimated by WSA in 2005 dollars. The WSA forecast is used for 2011 through 2015. WSA's projected annual toll revenues (in unadjusted 2005 dollars) are increased in 2016 and every five years thereafter to reflect periodic toll rate increases, assuming 2.5% annually compounded growth (*i.e.,* a 13.1% increase in nominal toll rates in 2016 and again in 2021, 2026, 2031, 2036, 2041 and 2046). |
| Toll Collection, Operations, and Maintenance Costs: | Estimated by HNTB in 2006 dollars. This amount is grown annually (compounded) at 3.5%. Under the Gross Pledge Option, O&M costs are assumed to be paid by AHTD. Under the Net Pledge Option, O&M costs are assumed to be paid with gross toll revenues. |
| Reserve Maintenance Fund: | Annual deposit estimated by HNTB as needed to maintain the asset in a state of good repair. |
| Present Value ("PV") Calculations: | A 4.0% discount rate is applied to projected annual cash flows. |

## *Financial Analysis*

This summary discusses the results of the financial analysis for the US 71 Bella Vista Bypass Project in which Toll Revenue Bond and TIFIA Loan proceeds along with Federal SAFETEA-LU Earmarks and associated State match can produce sufficient proceeds to fund the estimated construction and right-of-way costs. Dependent upon future interest rates, construction escalation, and the AHTD's desired debt structure, additional capital contributions from AHTD may be necessary during the construction period to fund the Project. Only the revenues and investment income from the Project will support the Toll Revenue Bonds and TIFIA Loan, if used.

The financial analysis evaluated a Net Pledge Option with TIFIA funding as well as two Gross Pledge Options illustrating the project financing with and without a TIFIA Loan. The results of the financing analysis as both a Net and Gross Pledge are tabulated in Table 5-1.

## Table 5-1
## Net and Gross Pledge Financial Analysis Results

| | Option 1<br>Net Pledge<br>Max TIFIA & CABS<br>No AHTD O&M Pledge | Option 2<br>Gross Pledge<br>Max TIFIA<br>AHTD O&M Pledge | Option 3<br>Gross Pledge<br>No TIFIA<br>AHTD O&M Pledge |
|---|---|---|---|
| **Sources Summary** | | | |
| Debt Summary | | | |
| Senior Lien CIBs | $78,910,000 | $123,800,000 | $125,790,000 |
| Senior Lien CABs | $40,088,134 | $15,427,917 | $55,725,234 |
| TIFIA | $39,270,000 | $62,395,000 | - |
| Premium/(Discount) | $2,208,591 | $3,486,567 | $1,794,819 |
| *Total Debt* | $160,476,725 | $205,109,484 | $183,310,053 |
| SAFETEA-LU Earmarks | $39,775,000 | $39,775,000 | $39,775,000 |
| AHTD Additional Contribution | $35,660,579 | - | $15,890,123 |
| Interest Earnings | $13,896,568 | $17,073,697 | $15,657,776 |
| ***Total Sources*** | **$249,808,872** | **$261,958,181** | **$254,632,952** |
| **Uses Summary** | | | |
| Project Cost | $211,586,918 | $211,586,918 | $211,586,918 |
| Capitalized Interest Deposits | $21,886,125 | $34,506,929 | $21,089,405 |
| Debt Service Reserve Fund Deposit | $8,877,179 | $8,659,652 | $13,303,991 |
| Municipal Bond Insurance Premium | $3,977,328 | $3,301,988 | $5,929,909 |
| All-In Issuance Costs | $3,481,322 | $3,902,695 | $2,722,729 |
| ***Total Uses*** | **$249,808,872** | **$261,958,181** | **$254,632,952** |
| Percent of Project Cost Funded by TIFIA | 19% | 29% | 0% |
| **Present Value Impact of AHTD Contributions** | | | |
| Present Value of Projected Excess Revenues | $48,973,467 | $48,462,595 | $33,277,287 |
| Less: AHTD Additional Contribution | ($35,660,579) | - | ($15,890,123) |
| Less: Present Value of O&M Deficiency Payments by AHTD | - | ($19,167,272) | - |
| Net Present Value of Projected Excess Revenues | $13,312,888 | $29,295,323 | $17,387,164 |

The Net Pledge Option (Option 1) maximizes both the Senior Bonds and TIFIA Loan and then estimates the amount of additional AHTD capital contribution that would be required to fund all costs of the Project.

The first Gross Pledge Option (Option 2) maximizes the Senior Current Interest Bonds (CIBs) and TIFIA Loan while utilizing Senior Capital Appreciation Bonds (CABs) to fund the remaining amount of Project costs. Option 2 does not require any additional AHTD capital contribution to construct the Project.

The other Gross Pledge Option (Option 3) does not utilize a TIFIA Loan and instead maximizes the Senior Bonds and then solves for the amount of additional AHTD capital contribution that would be required to fund all costs of the Project.

Since both Gross Pledge Options require AHTD to guarantee annual O&M payments, AHTD would be required to contribute additional money to cover any funding shortfall in the event that excess revenues are not sufficient to pay the O&M costs.

## *Key Findings*

The US 71 Bella Vista Bypass Project has an estimated capital cost of approximately $211.6 million. The projected revenue stream presented in this analysis is sufficient to fund the proposed debt service in each of the financing options. However, in the Net Pledge Option 1 and the Gross Pledge without TIFIA Option 3, an additional AHTD contribution is necessary on January 1, 2009 to construct the project.

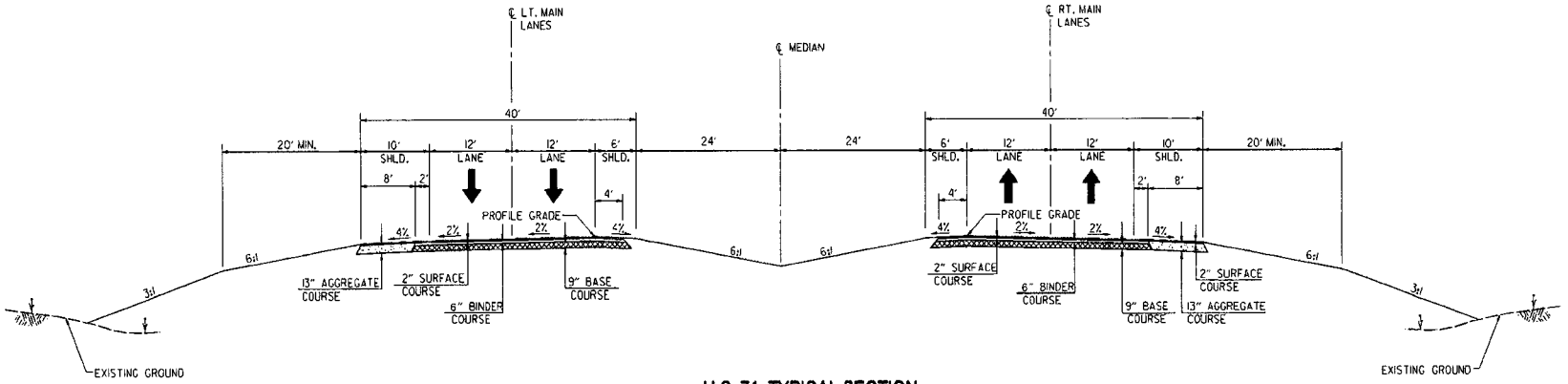
- **Option 1:** Under the Net Pledge Option 1, anticipated revenues from the toll charges are projected to pay for O&M costs and debt service on the Bonds and the TIFIA Loan; however, it is estimated that AHTD will need to contribute an additional $35.7 million to fund the construction of the Project. Although the Net Pledge Option requires significantly more financial support during construction from AHTD, no additional AHTD financial support would be needed over the 40-year life of the Bonds.

- **Option 2:** As Option 2 illustrates, the Gross Pledge Option with a TIFIA Loan is projected to fully fund the construction of the US 71 Bella Vista Bypass Project. In this Option, the toll charges are projected to pay for all debt service on the Bonds and the TIFIA Loan; however, the excess revenues would not always be sufficient to fully fund the O&M costs in the early years. The O&M deficiency payments required from AHTD are projected to total $19.2 million over the life of the bonds on a present value basis. However, when all excess revenues are taken into account, the projected $29.3 million net present value of excess revenues provides the AHTD with the highest net present value.

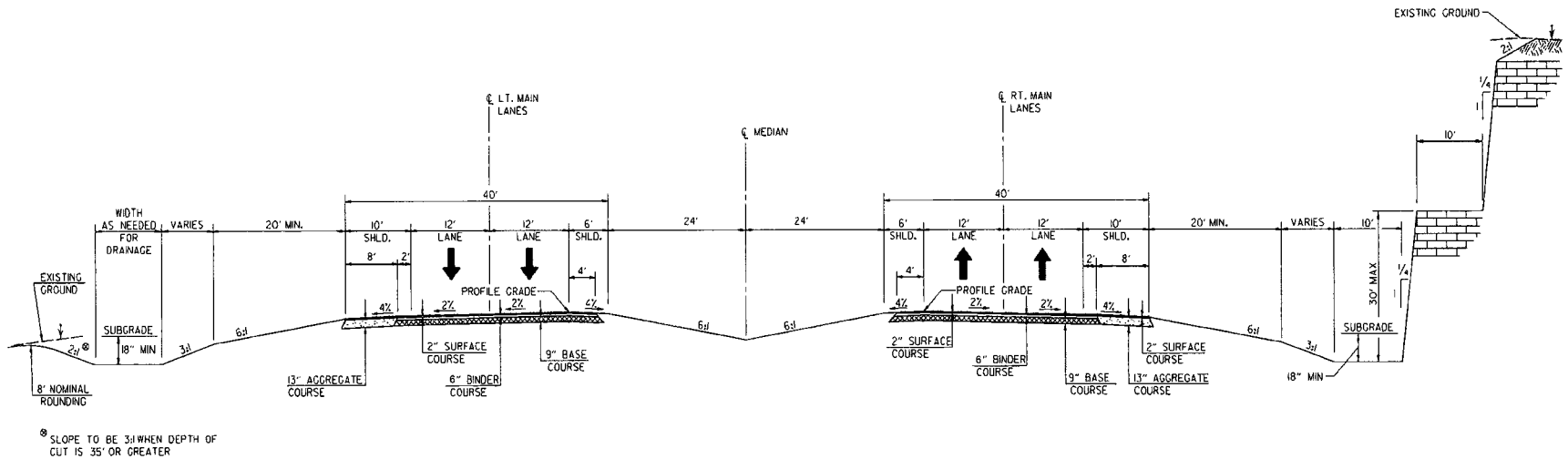
- **Option 3:** Option 3 analyzes a Gross Pledge financing structure that does not pursue a TIFIA Loan, which requires a formal submission process and approval from the United States Department of Transportation (USDOT). In this Option, the toll charges are projected to pay for all debt service on the Bonds. Although this structure requires a projected additional AHTD contribution of $15.9 million during construction, the excess revenues are projected to be sufficient to cover the annual O&M costs.

The results illustrate that Option 2 is the most efficient option for the Project. While it does require a commitment by AHTD for the O&M costs, it does fully fund the costs for construction of the Project with no additional funds necessary. In addition, Option 2 has the highest net present value when all excess revenues are taken into account.

# APPENDIX A




U.S. 71 TYPICAL SECTION
WITH DEPRESSED MEDIAN
FILL SECTION



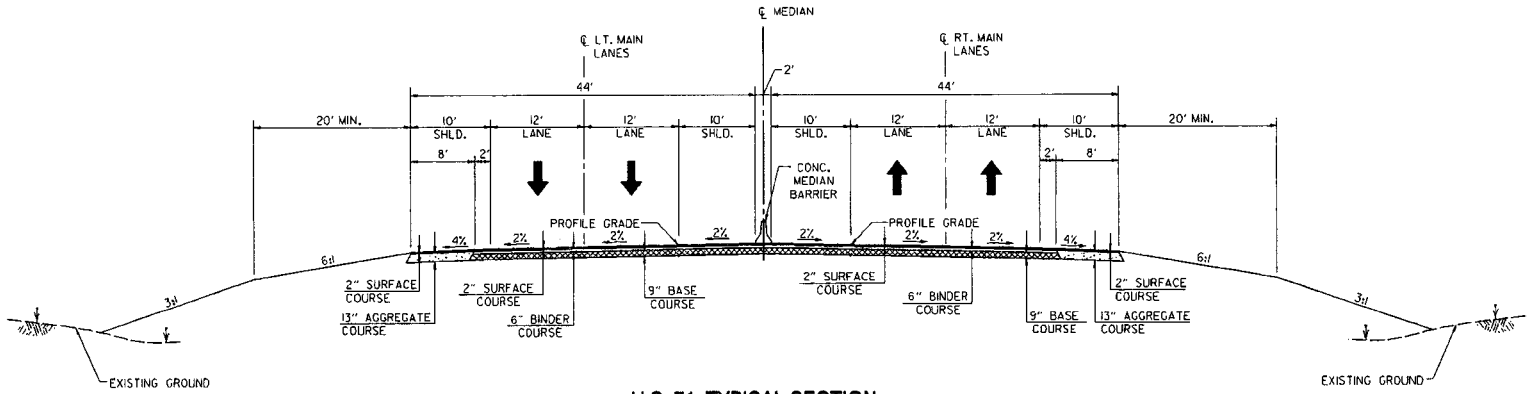

U.S. 71 TYPICAL SECTION
WITH DEPRESSED MEDIAN
CUT SECTION

**Preliminary -- Subject to Revision**

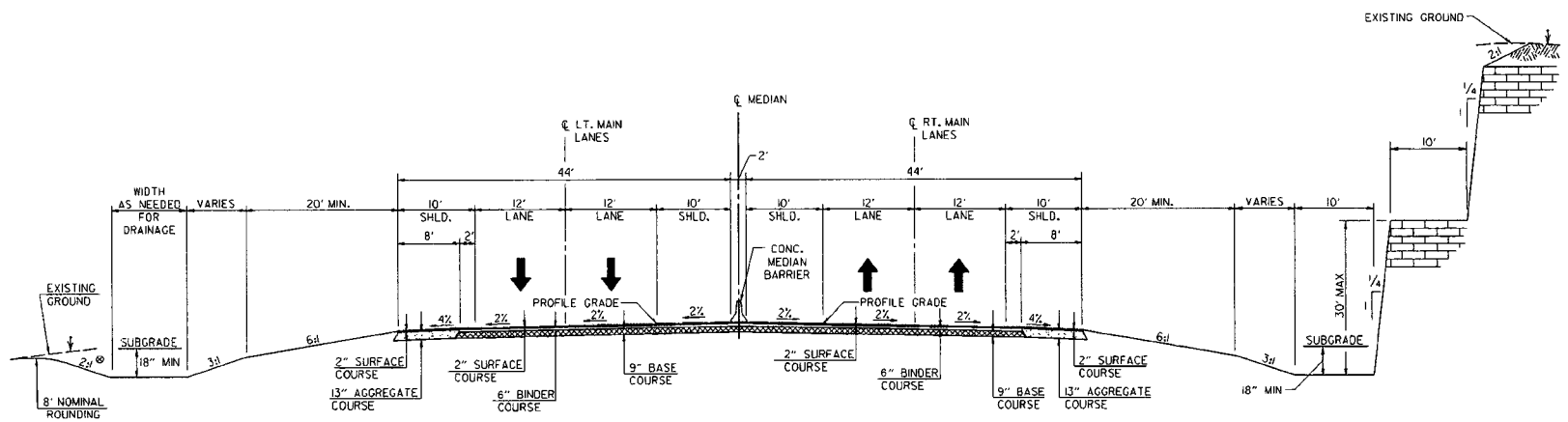
TS 1

# Typical Sections
# Open Median

US 71
*Bella Vista to Pineville*




**U.S. 71 TYPICAL SECTION**
**WITH CONCRETE MEDIAN BARRIER**
**FILL SECTION**




⊗ SLOPE TO BE 3:1 WHEN DEPTH OF CUT IS 35' OR GREATER

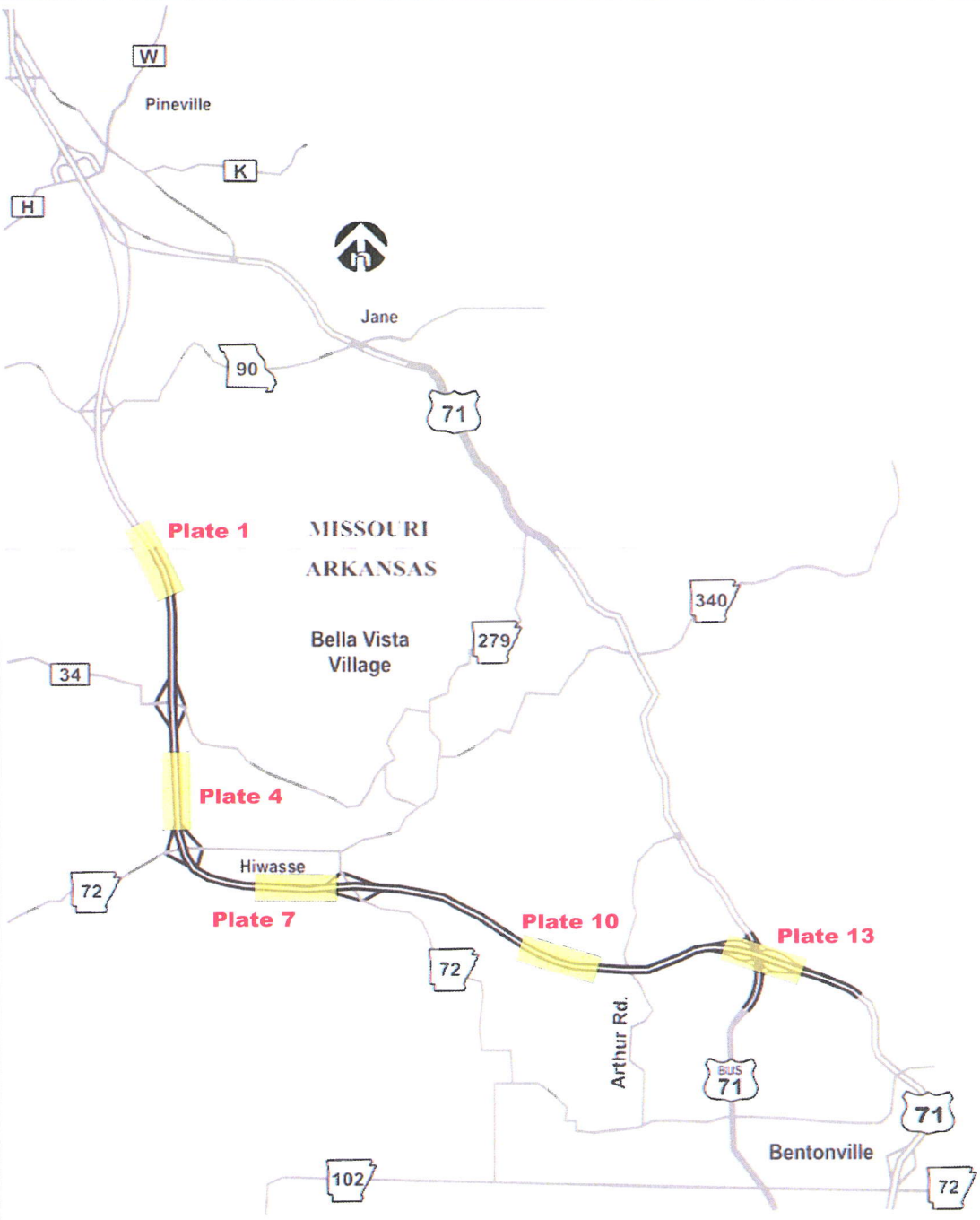
**U.S. 71 TYPICAL SECTION**
**WITH CONCRETE MEDIAN BARRIER**
**CUT SECTION**

**Preliminary -- Subject to Revision**

TS 2

# Typical Sections Closed Median

US 71
*Bella Vista to Pineville*

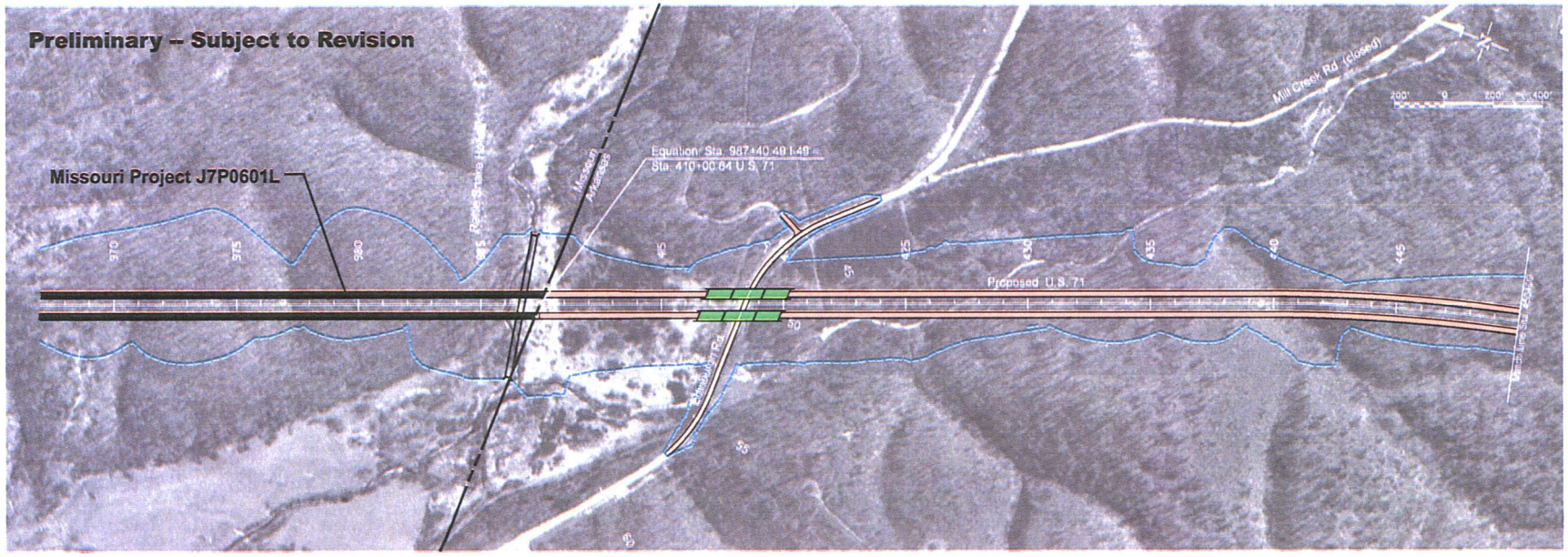


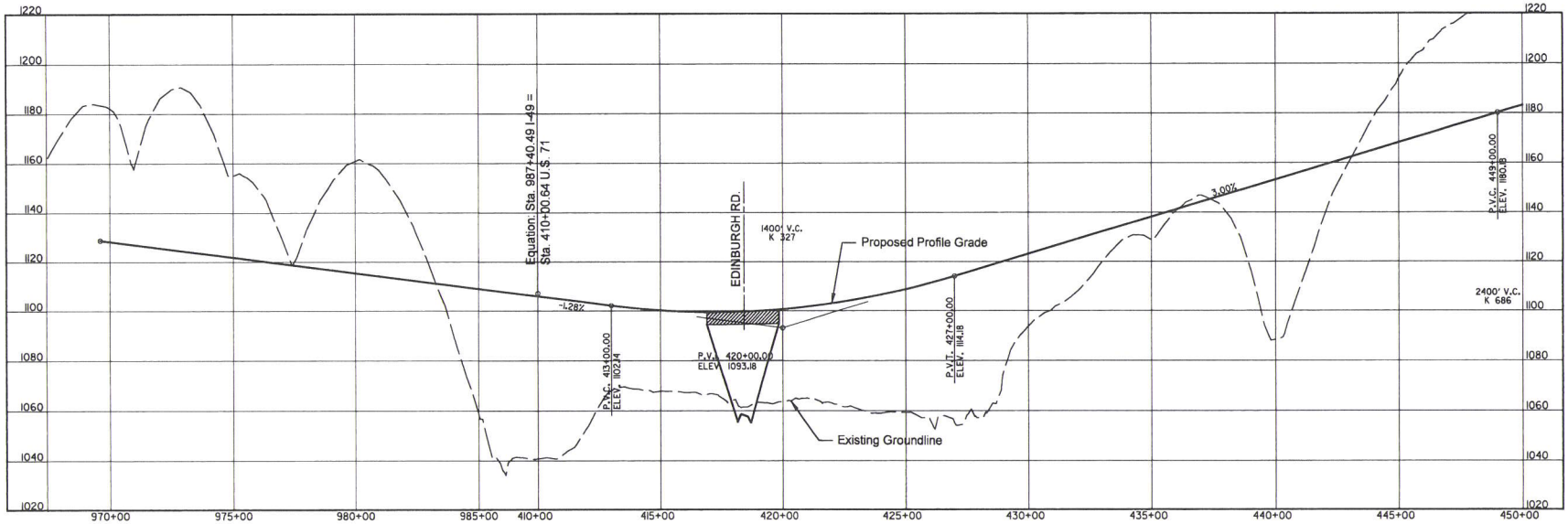

**Plan Legend:**


US 71
*Bella Vista to Pineville*

# Plan & Profile
# Plate Index

**Index**



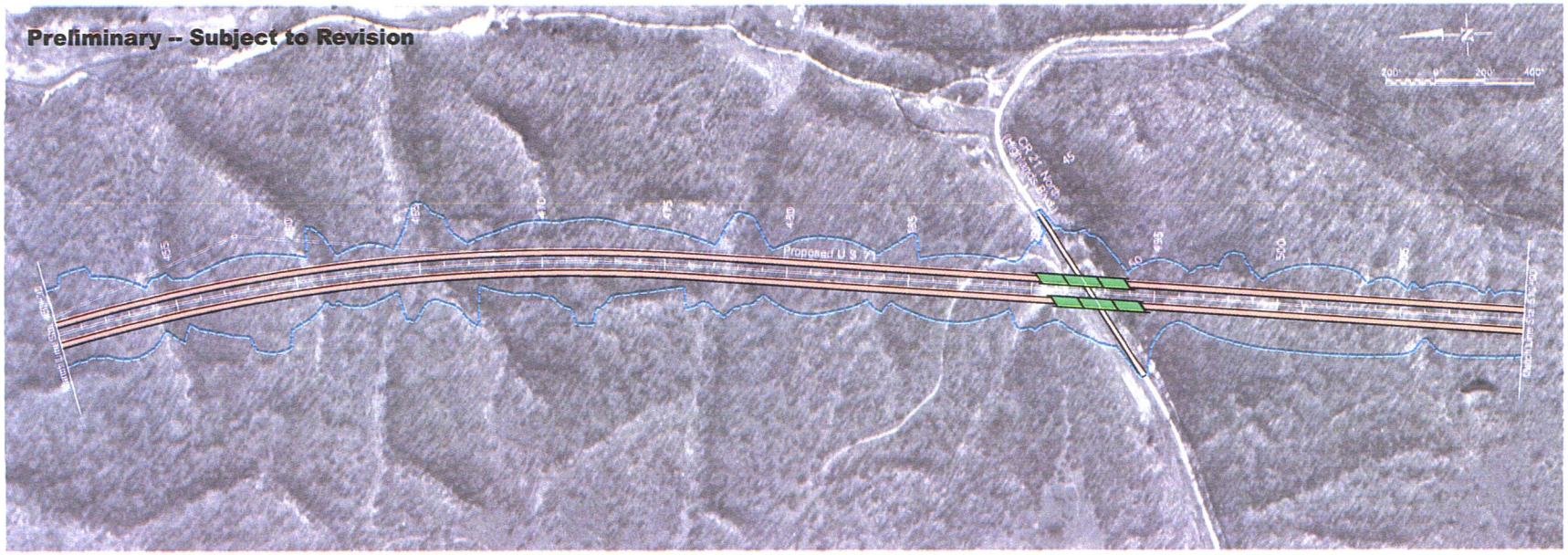

US 71
*Bella Vista to Pineville*

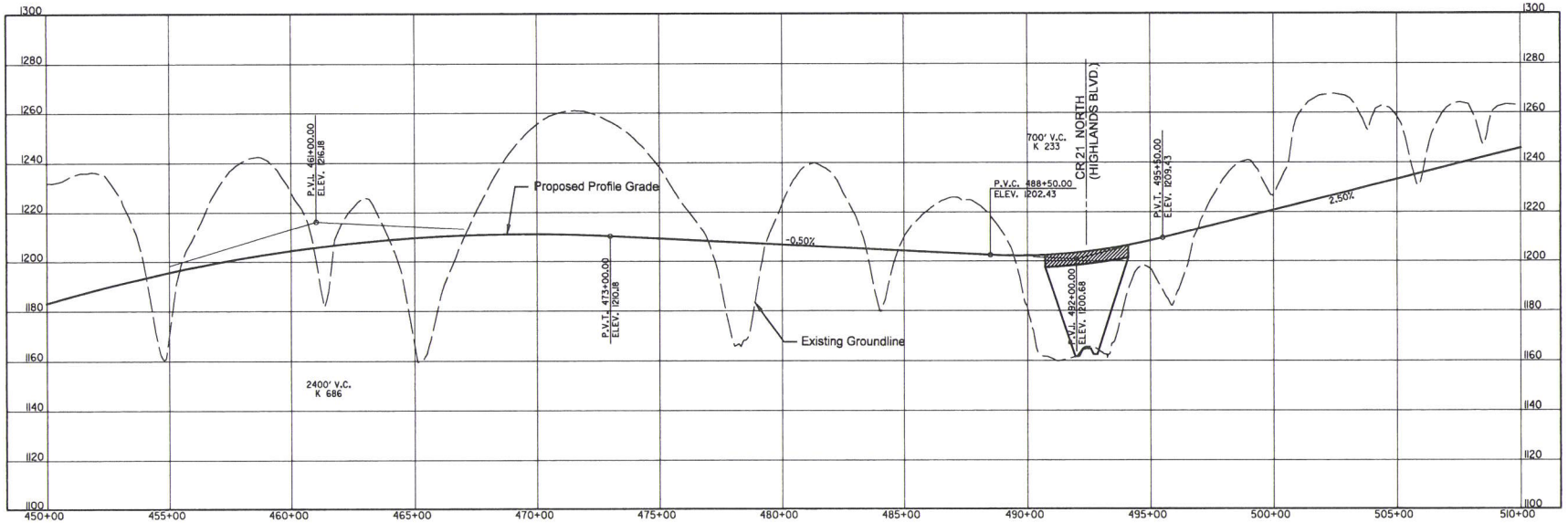
MoDOT

AHTD

# Plan & Profile

**Plate 1**

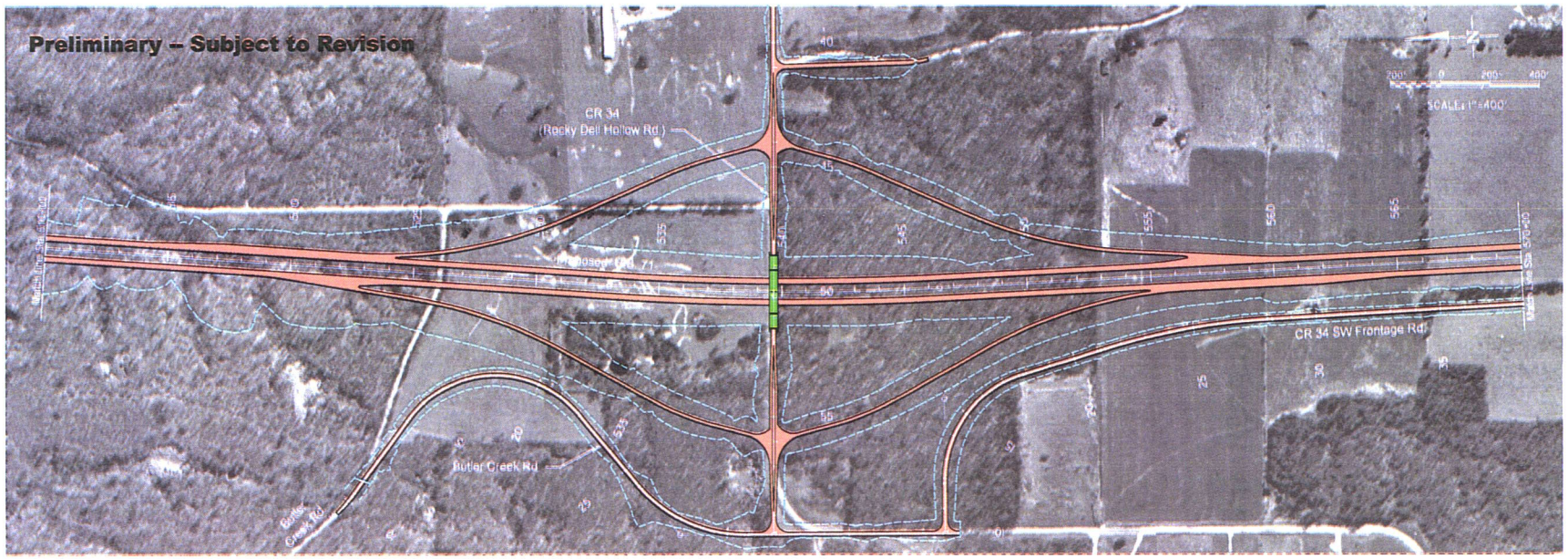


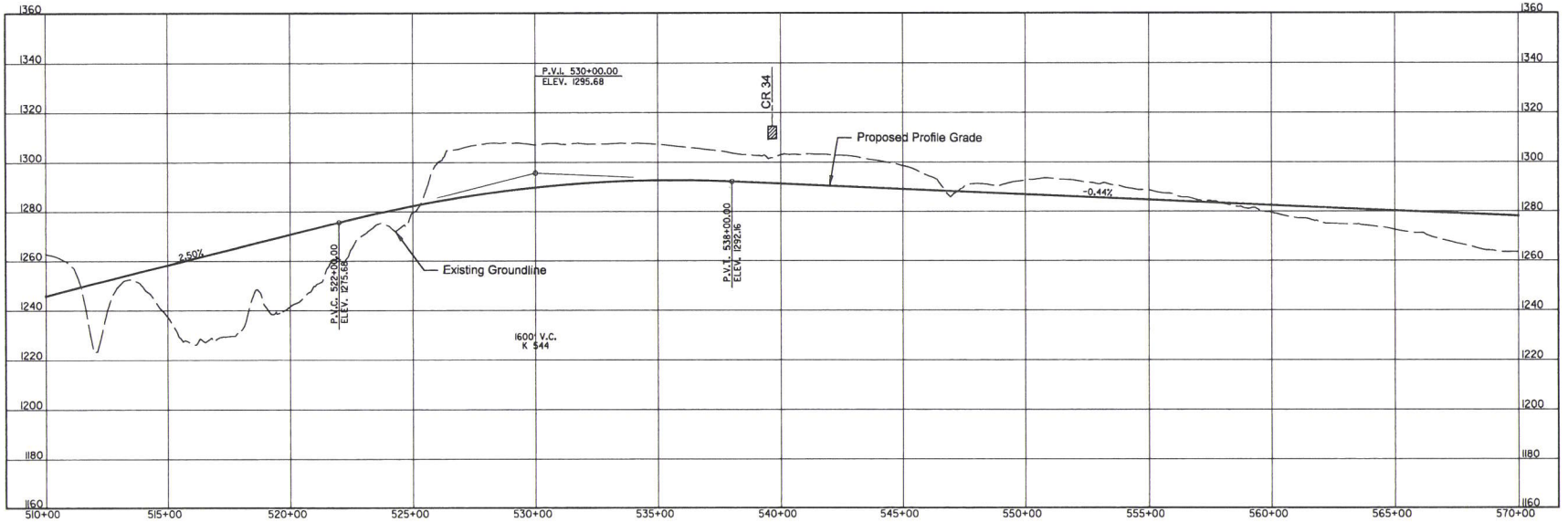




US71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 2**

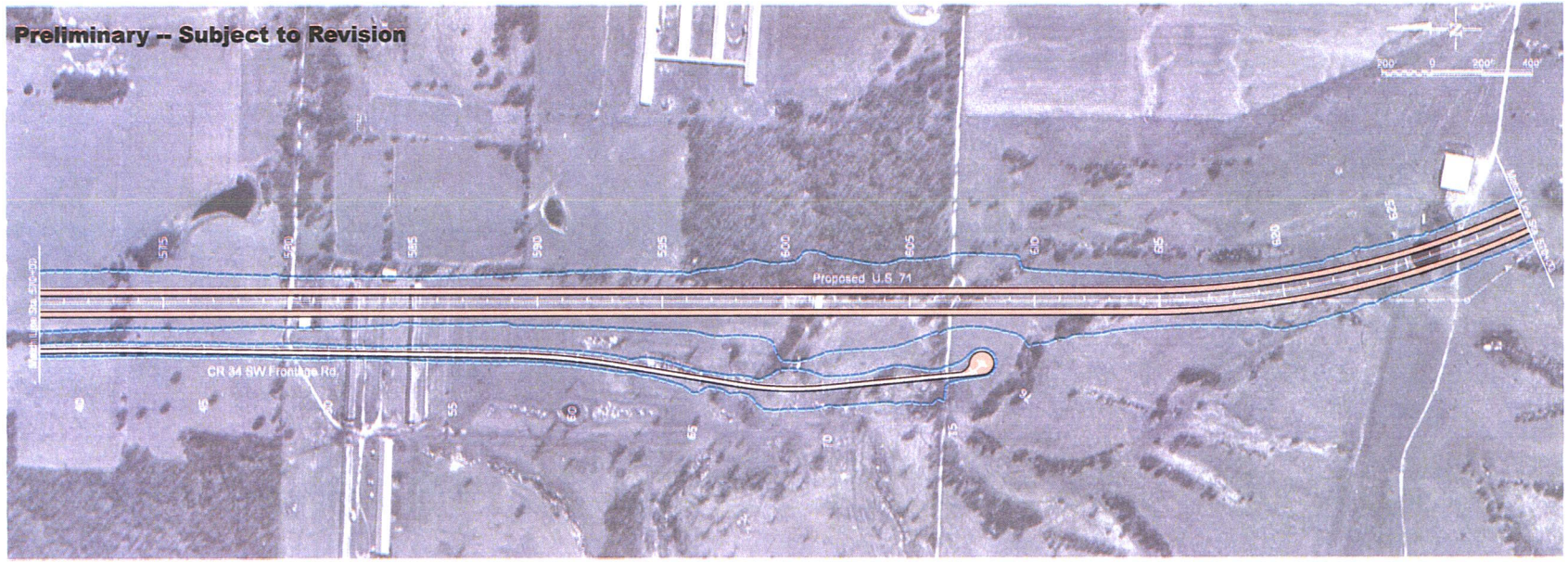


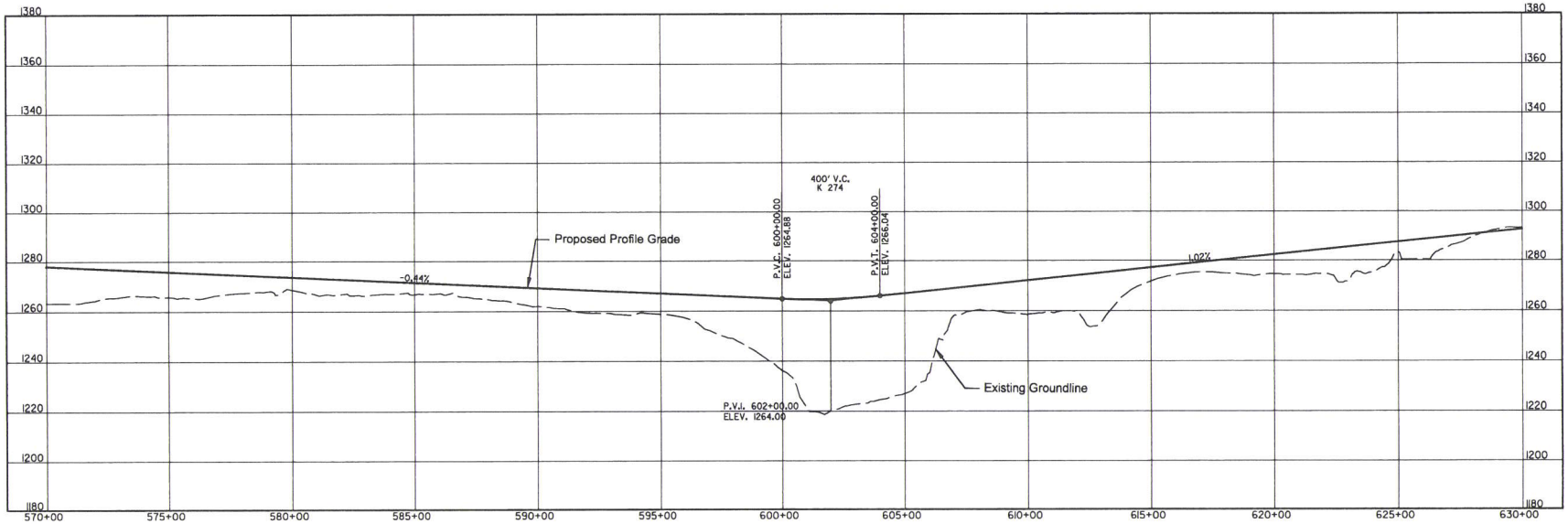




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 3**

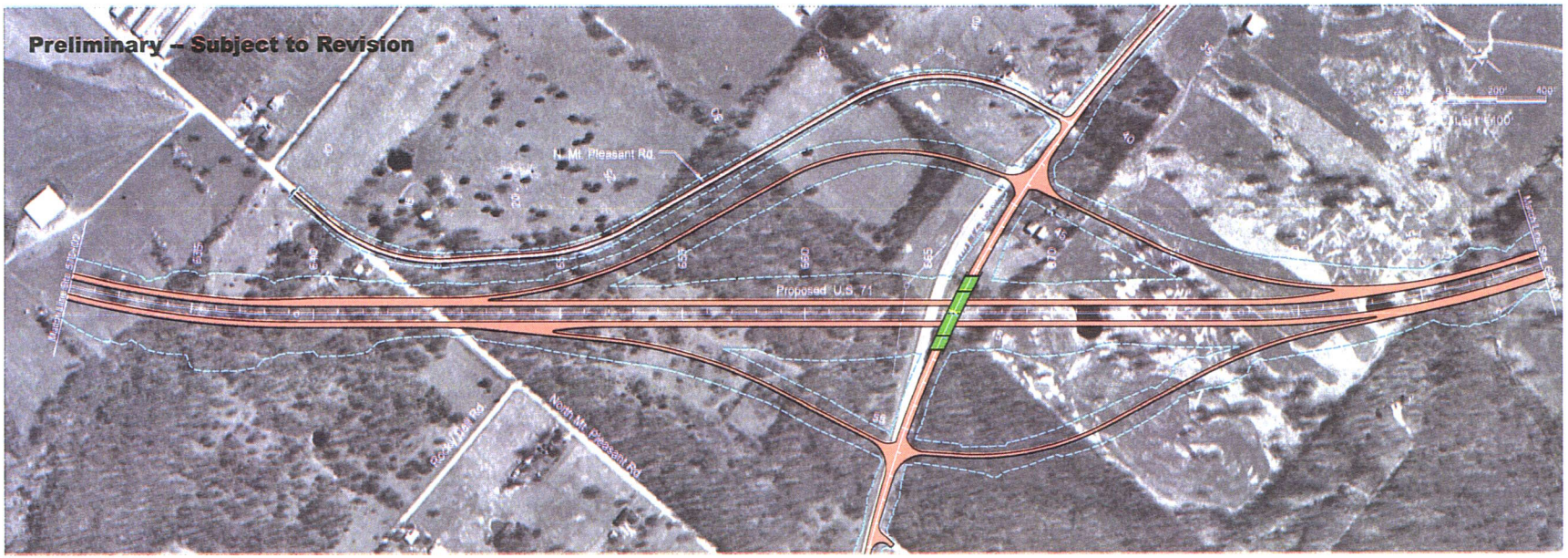


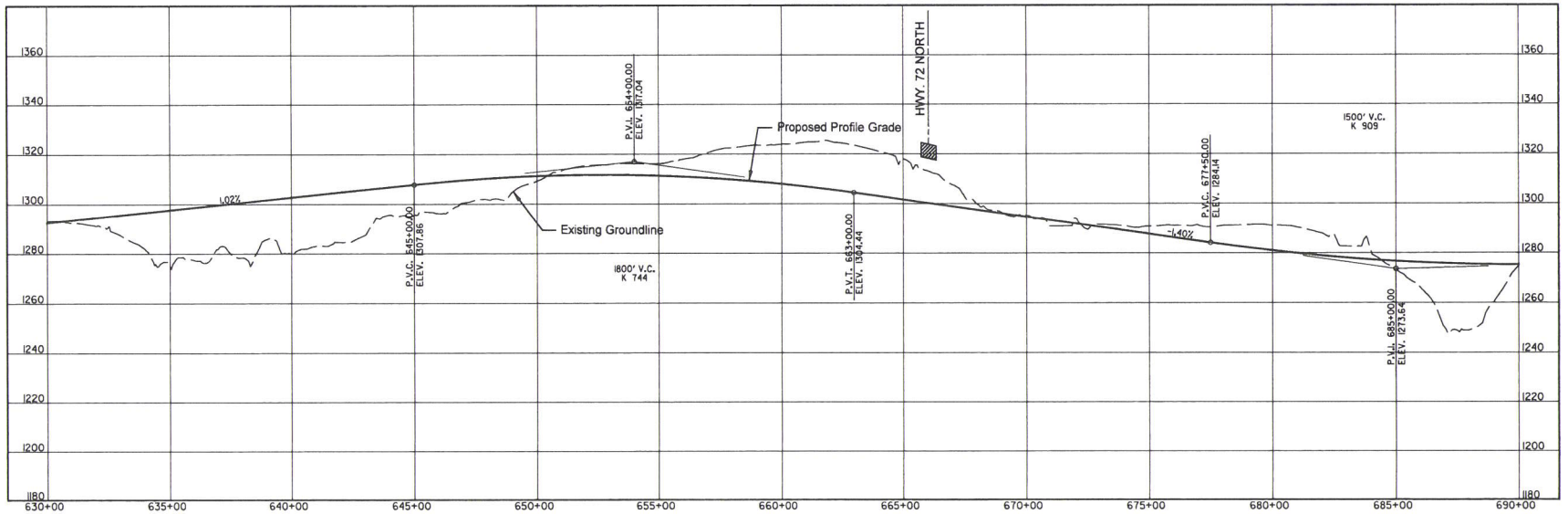




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 4**

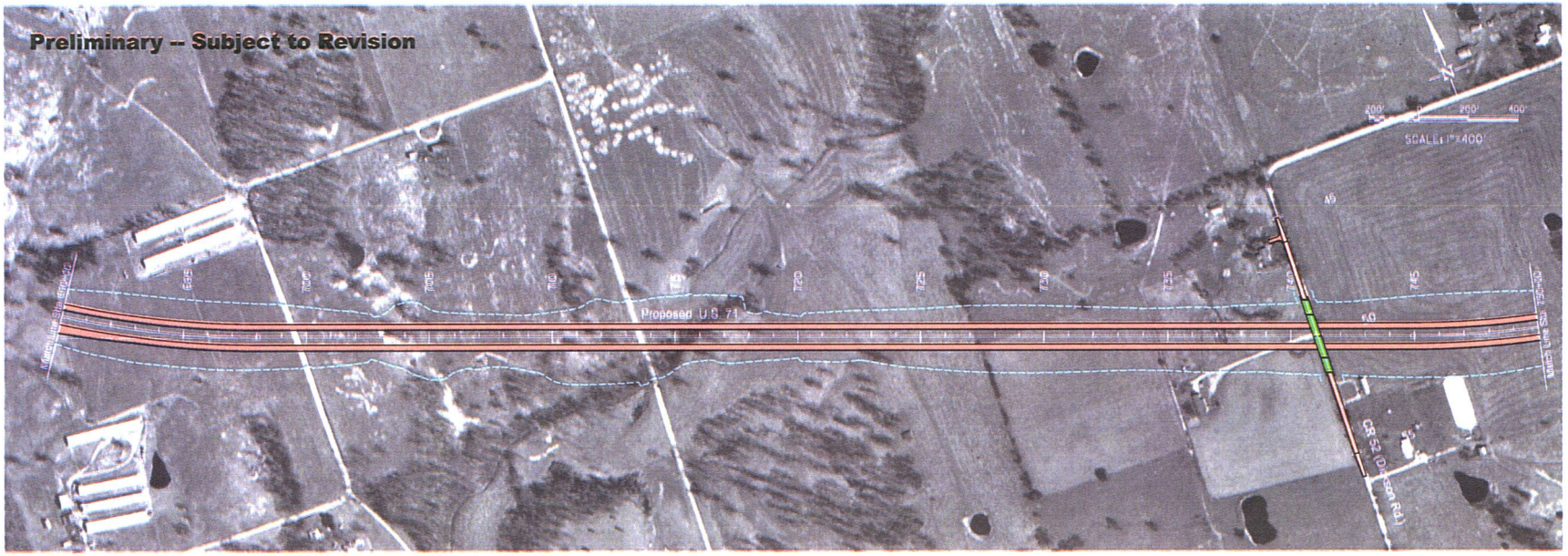


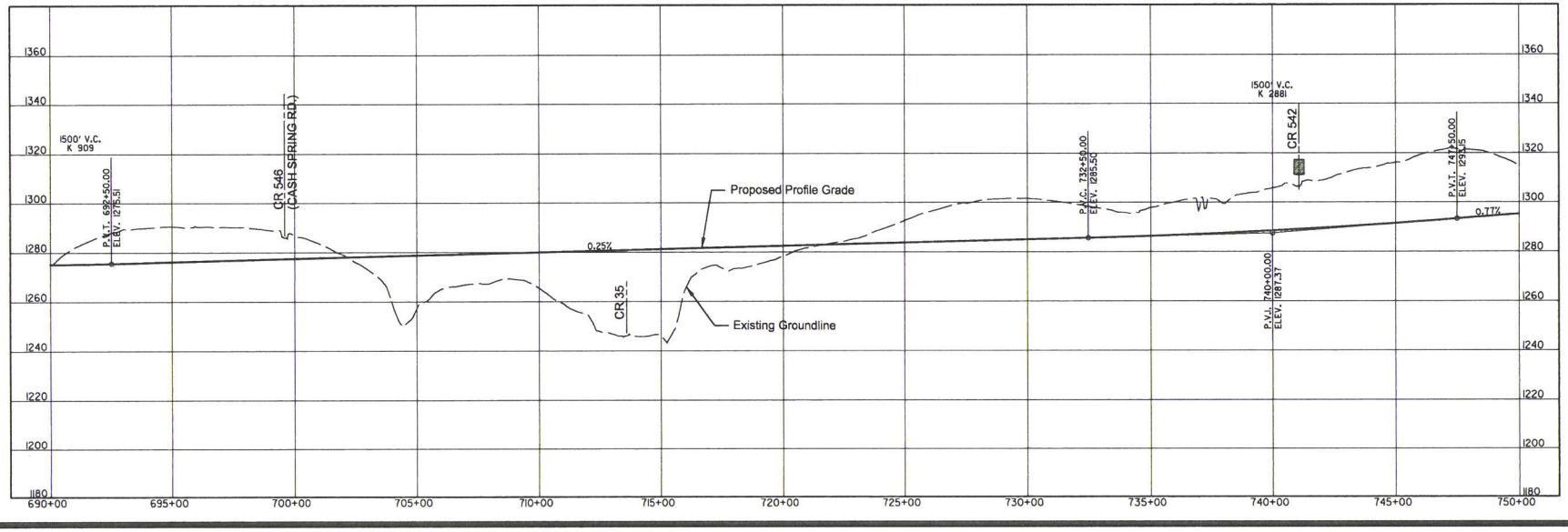




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 5**




US 71
*Bella Vista to Pineville*

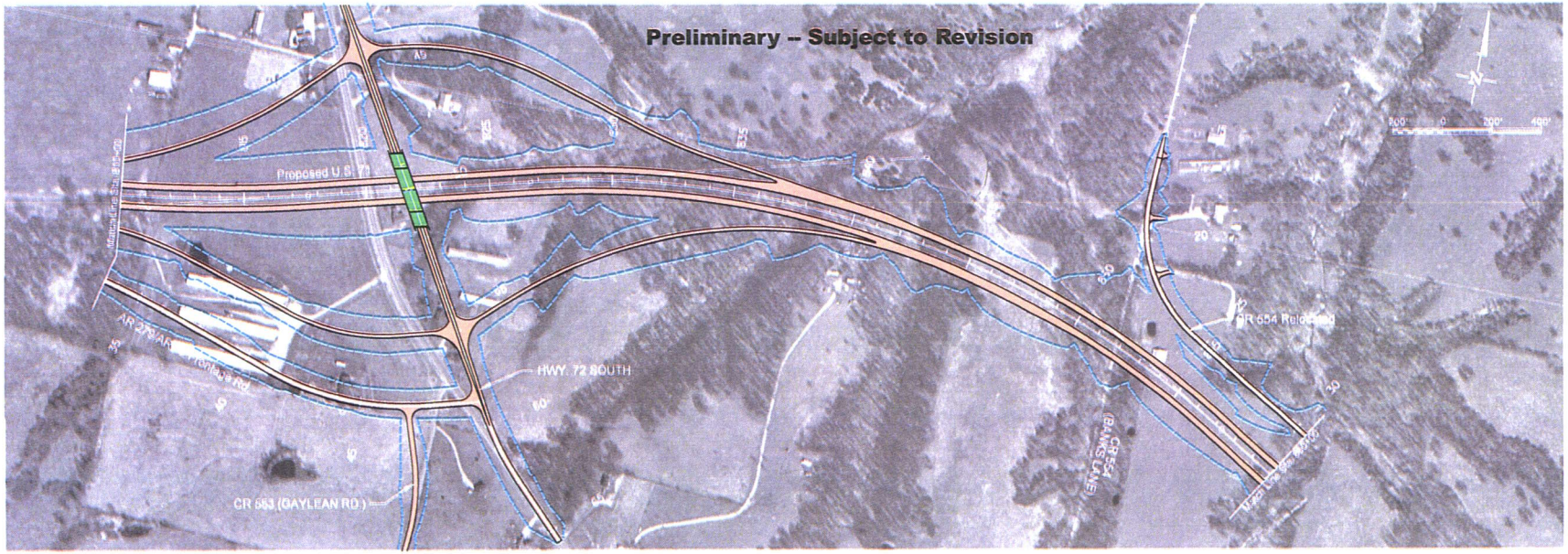
# Plan & Profile

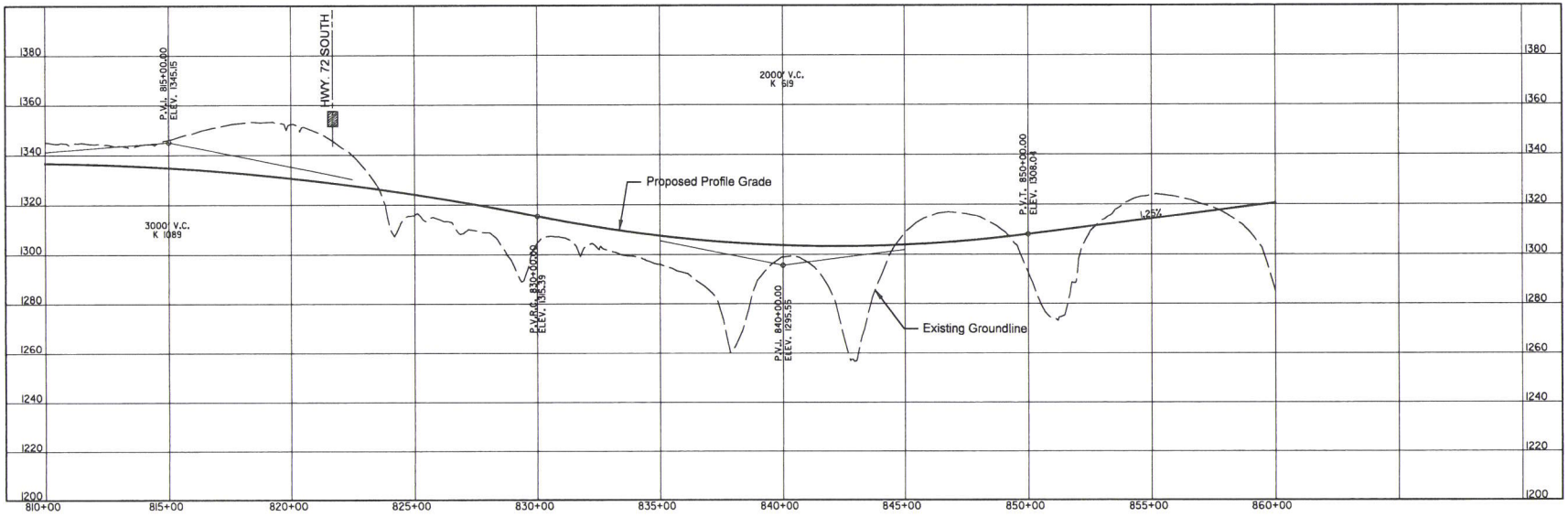
**Plate 6**


US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 7**

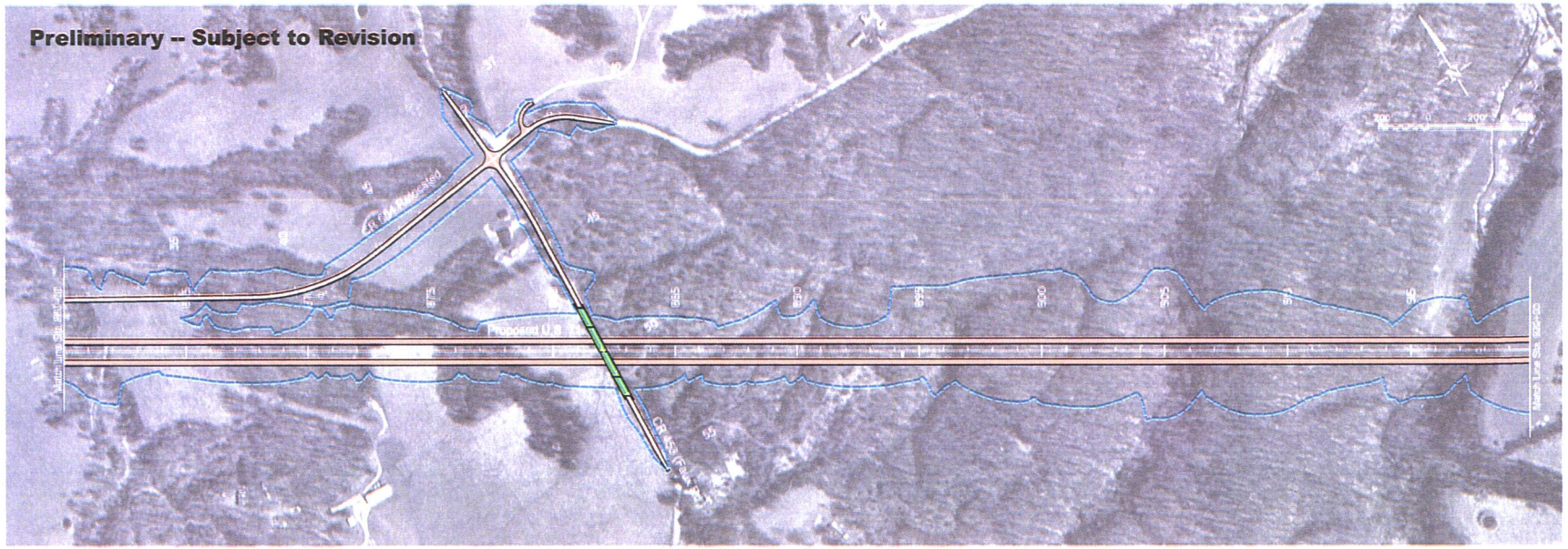


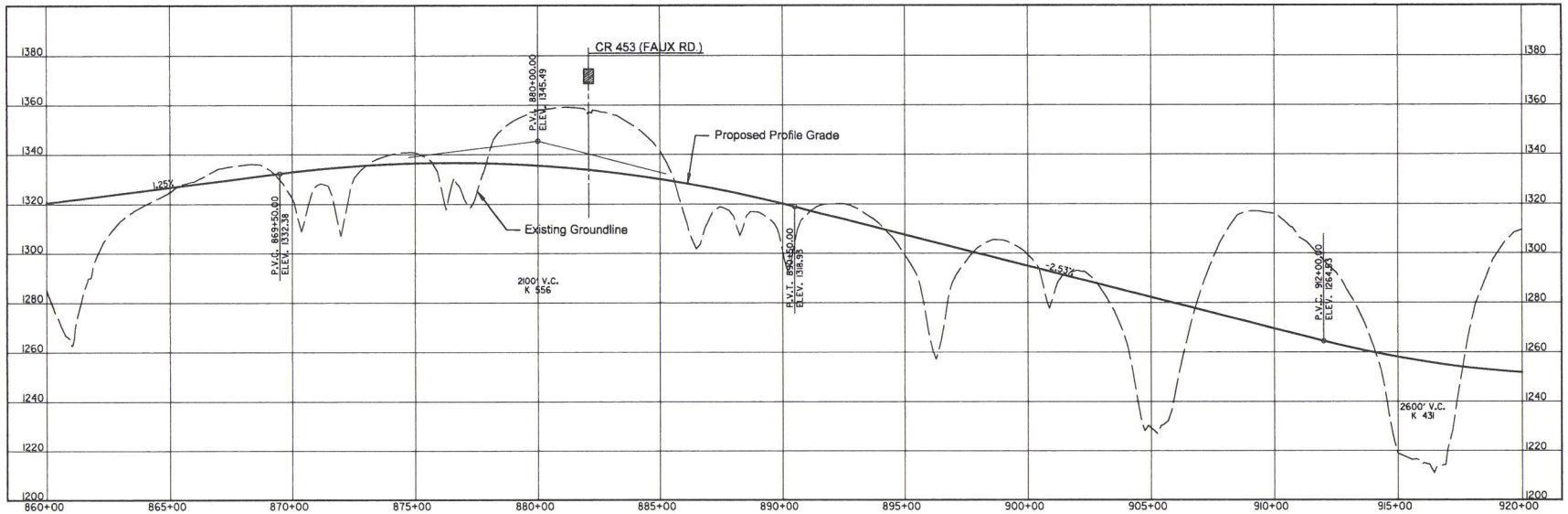




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 8**

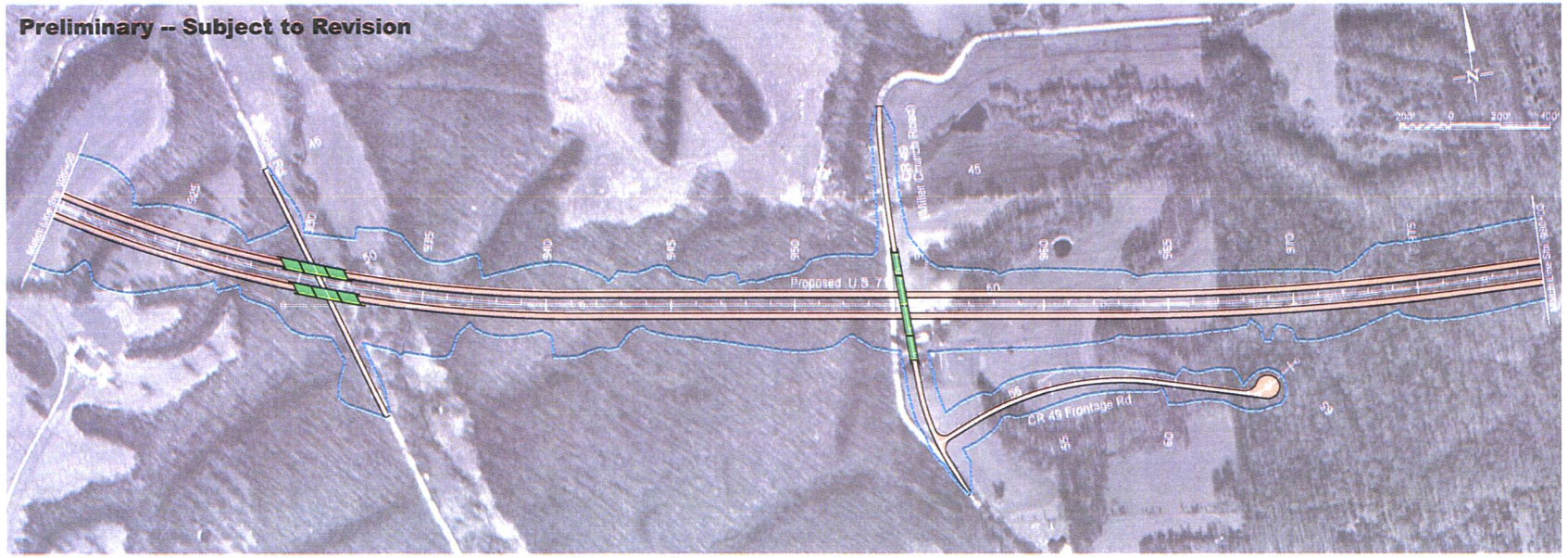


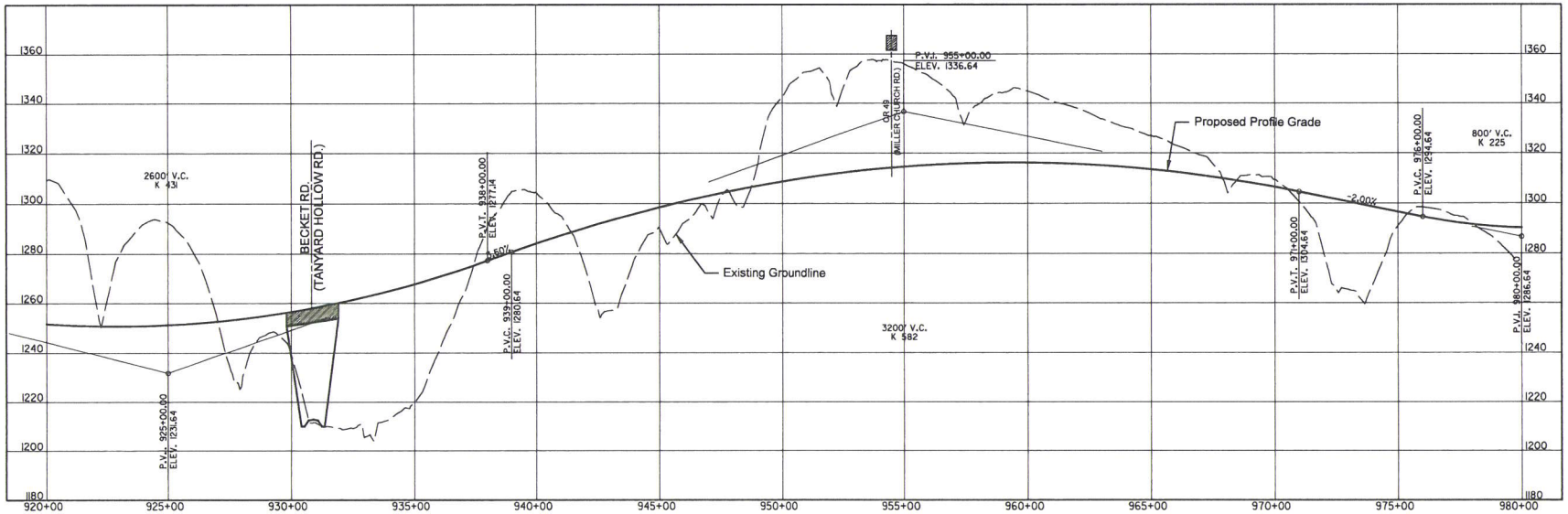

US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 9**



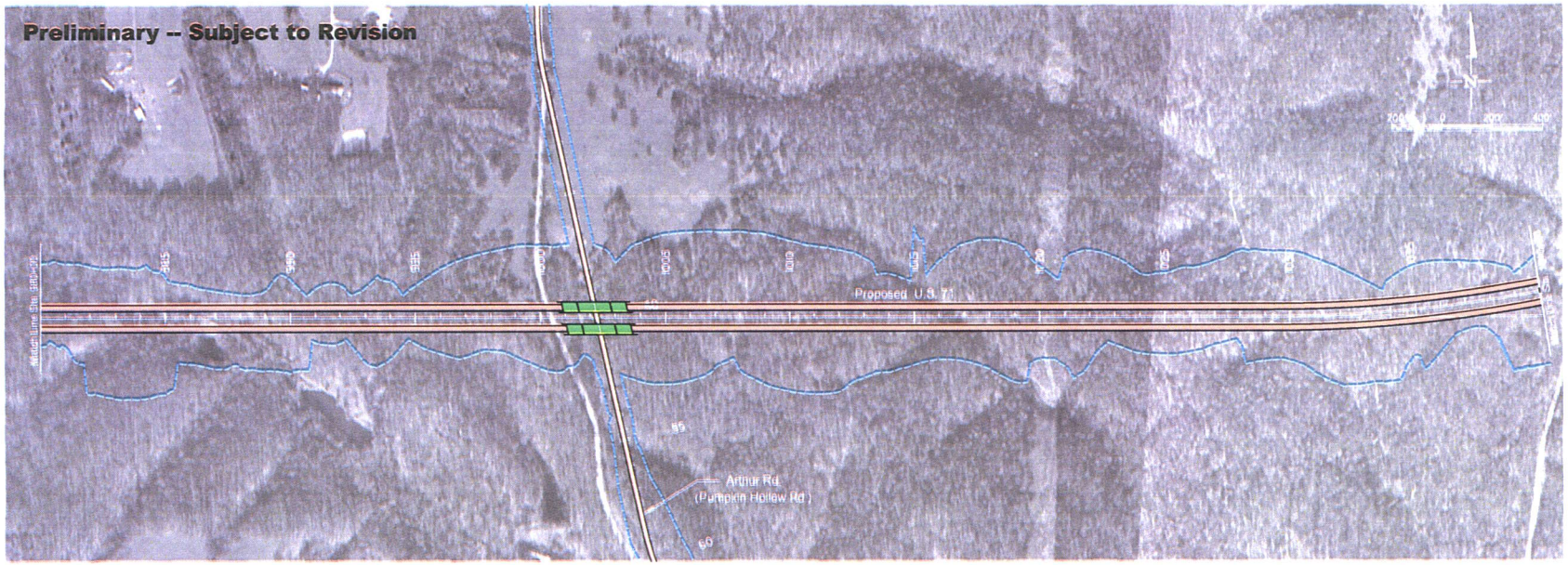

**NOTE:** Toll Plazas are not shown on the design plan plates. Please see the toll road collection scenario on Exhibit 2-2.

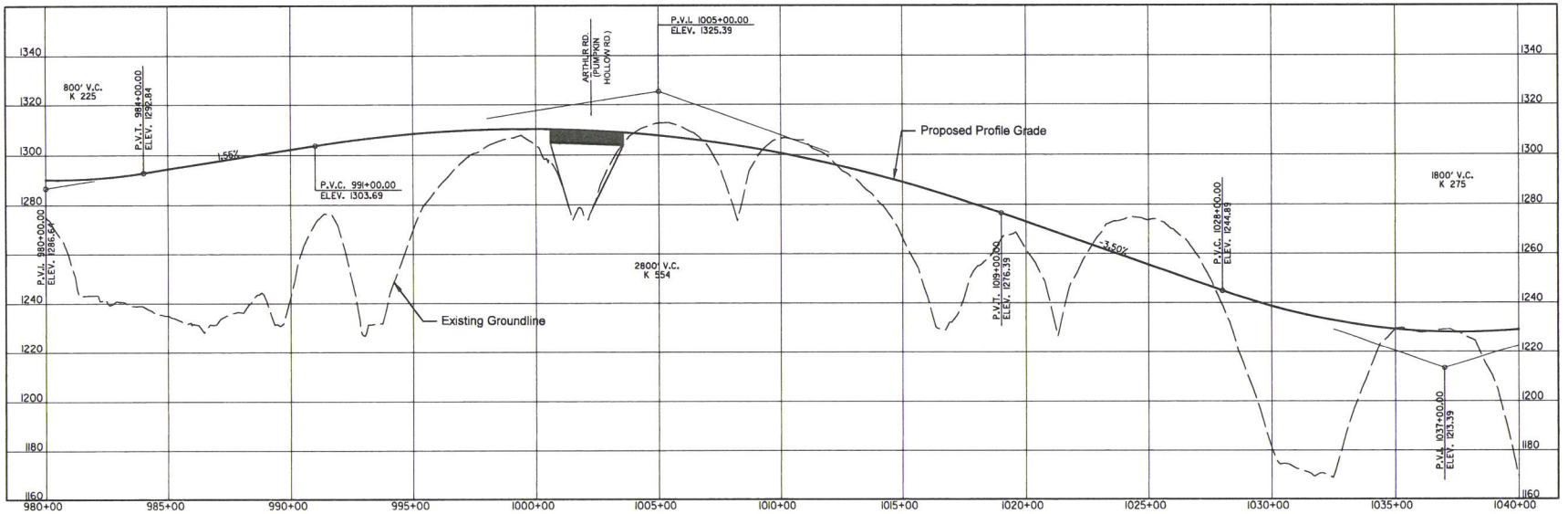



US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 10**

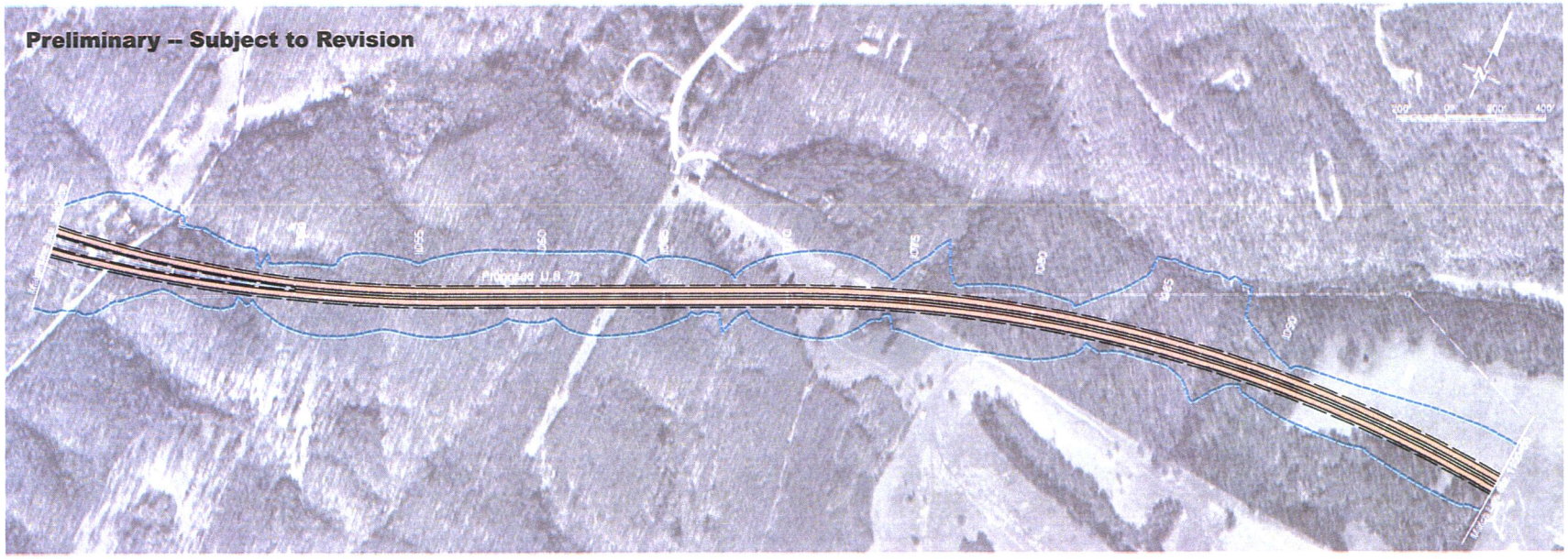


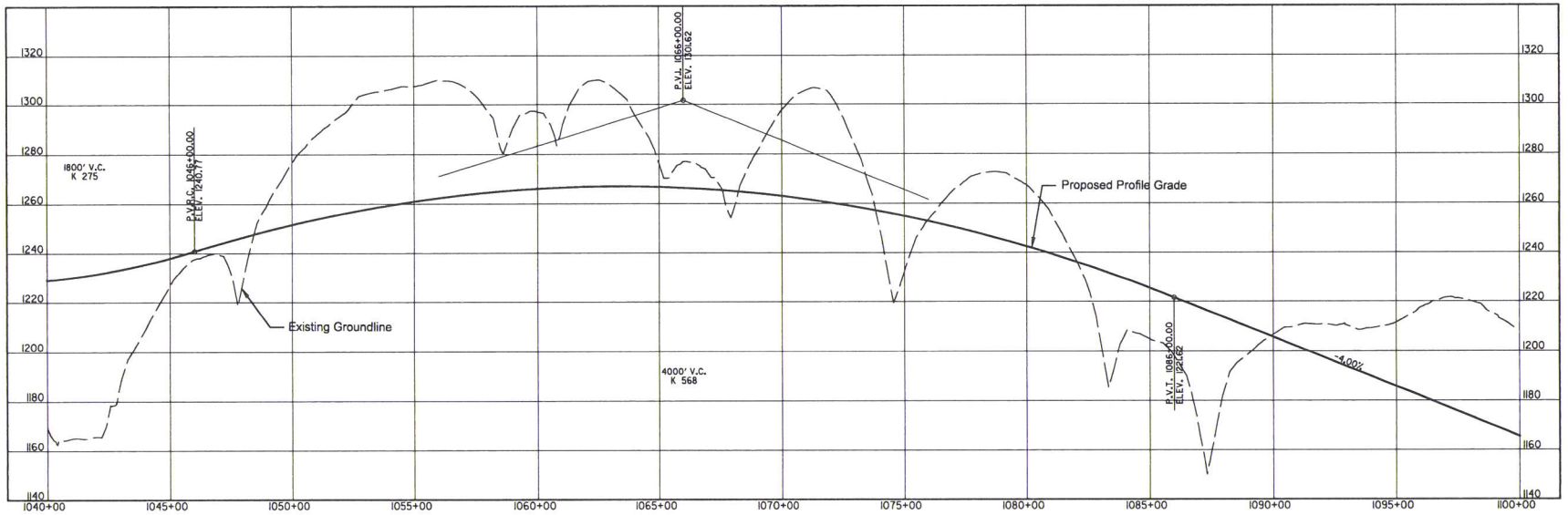




US 71
Bella Vista to Pineville

# Plan & Profile

**Plate 11**

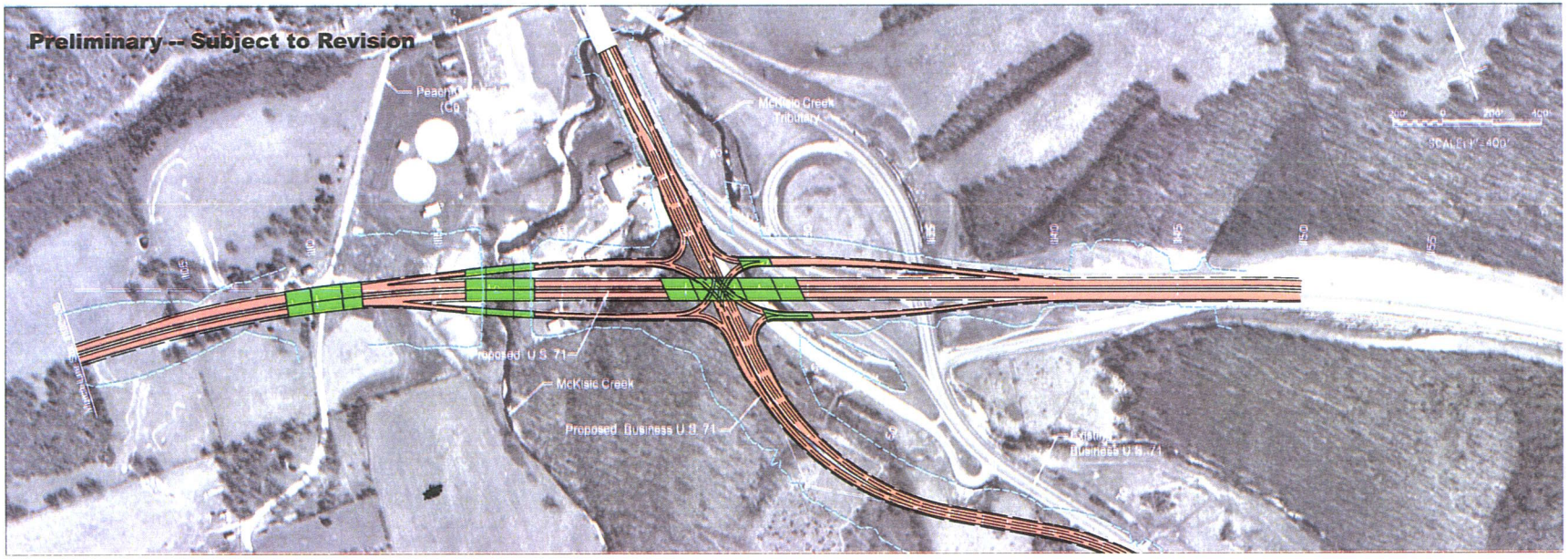


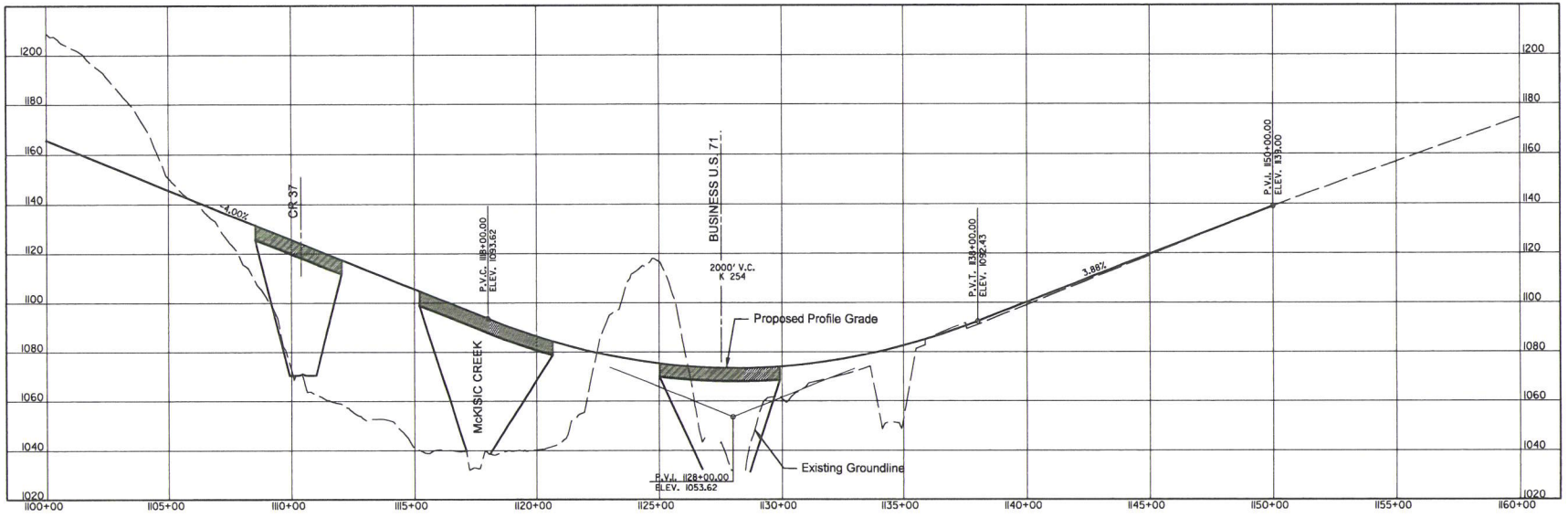




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 12**




US 71
*Bella Vista to Pineville*

# Plan & Profile

**Plate 13**

# APPENDIX B

**Bella Vista Bypass Toll Study Update**

## Table B-1
## Population Summary - Historical and Projected
**by State and County**

| | Historical[1] | | Projections-W&P[2] | | | | | | Change | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | '90-00 | | '00-'05 | | '05-'10 | | '10-'15 | | '15-20 | | '20-'25 | | '25-30 | |
| | 1990 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC |
| **Arkansas** | | | | | | | | | | | | | | | | | | | | | | |
| Benton | 97,499 | 153,406 | 185,090 | 217,930 | 251,340 | 285,270 | 319,990 | 356,040 | 57.3% | 4.6% | 20.7% | 3.8% | 17.7% | 3.3% | 15.3% | 2.9% | 13.5% | 2.6% | 12.2% | 2.3% | 11.3% | 2.2% |
| Carroll | 18,654 | 25,357 | 27,280 | 29,620 | 32,050 | 34,560 | 37,140 | 39,830 | 35.9% | 3.1% | 7.6% | 1.5% | 8.6% | 1.7% | 8.2% | 1.6% | 7.8% | 1.5% | 7.5% | 1.5% | 7.2% | 1.4% |
| Madison | 11,618 | 14,243 | 14,850 | 16,110 | 17,450 | 18,810 | 20,240 | 21,730 | 22.6% | 2.1% | 4.3% | 0.8% | 8.5% | 1.6% | 8.3% | 1.6% | 7.8% | 1.5% | 7.6% | 1.5% | 7.4% | 1.4% |
| Washington | 113,409 | 157,715 | 176,040 | 192,050 | 208,580 | 225,490 | 242,970 | 261,360 | 39.1% | 3.4% | 11.6% | 2.2% | 9.1% | 1.8% | 8.6% | 1.7% | 8.1% | 1.6% | 7.8% | 1.5% | 7.6% | 1.5% |
| Rest of State | 2,109,545 | 2,322,679 | 2,379,540 | 2,475,150 | 2,577,930 | 2,685,260 | 2,798,440 | 2,921,560 | 10.1% | 1.0% | 2.4% | 0.5% | 4.0% | 0.8% | 4.2% | 0.8% | 4.2% | 0.8% | 4.2% | 0.8% | 4.4% | 0.9% |
| State Total | 2,350,725 | 2,673,400 | 2,782,800 | 2,930,860 | 3,087,350 | 3,249,390 | 3,418,780 | 3,600,520 | 13.7% | 1.3% | 4.1% | 0.8% | 5.3% | 1.0% | 5.3% | 1.0% | 5.2% | 1.0% | 5.2% | 1.0% | 5.3% | 1.0% |
| **Missouri** | | | | | | | | | | | | | | | | | | | | | | |
| Barry | 27,547 | 34,010 | 35,590 | 38,060 | 40,640 | 43,330 | 46,090 | 49,010 | 23.5% | 2.1% | 4.6% | 0.9% | 6.9% | 1.4% | 6.8% | 1.3% | 6.6% | 1.3% | 6.4% | 1.2% | 6.3% | 1.2% |
| Greene | 207,949 | 240,391 | 252,080 | 268,140 | 284,930 | 302,240 | 320,260 | 339,420 | 15.6% | 1.5% | 4.9% | 1.0% | 6.4% | 1.2% | 6.3% | 1.2% | 6.1% | 1.2% | 6.0% | 1.2% | 6.0% | 1.2% |
| Jasper | 90,530 | 104,970 | 110,840 | 117,840 | 125,150 | 132,680 | 140,530 | 148,870 | 16.0% | 1.5% | 5.6% | 1.1% | 6.3% | 1.2% | 6.2% | 1.2% | 6.0% | 1.2% | 5.9% | 1.2% | 5.9% | 1.2% |
| McDonald | 16,938 | 21,681 | 22,680 | 24,510 | 26,380 | 28,310 | 30,310 | 32,440 | 28.0% | 2.5% | 4.6% | 0.9% | 8.1% | 1.6% | 7.6% | 1.5% | 7.3% | 1.4% | 7.1% | 1.4% | 7.0% | 1.4% |
| Newton | 44,445 | 52,636 | 55,520 | 59,420 | 63,550 | 67,650 | 71,980 | 76,600 | 18.4% | 1.7% | 5.5% | 1.1% | 7.0% | 1.4% | 7.0% | 1.4% | 6.5% | 1.3% | 6.4% | 1.2% | 6.4% | 1.3% |
| Rest of State | 4,729,664 | 5,141,523 | 5,314,060 | 5,508,300 | 5,719,040 | 5,940,140 | 6,174,120 | 6,429,010 | 8.7% | 0.8% | 3.4% | 0.7% | 3.7% | 0.7% | 3.8% | 0.8% | 3.9% | 0.8% | 3.9% | 0.8% | 4.1% | 0.8% |
| State Total | 5,117,073 | 5,595,211 | 5,790,770 | 6,016,270 | 6,259,690 | 6,514,350 | 6,783,290 | 7,075,350 | 9.3% | 0.9% | 3.5% | 0.7% | 3.9% | 0.8% | 4.0% | 0.8% | 4.1% | 0.8% | 4.1% | 0.8% | 4.3% | 0.8% |
| **Oklahoma** | | | | | | | | | | | | | | | | | | | | | | |
| Delaware | 28,070 | 37,077 | 40,540 | 45,260 | 50,080 | 55,100 | 60,050 | 65,340 | 32.1% | 2.8% | 9.3% | 1.8% | 11.6% | 2.2% | 10.6% | 2.0% | 10.0% | 1.9% | 9.0% | 1.7% | 8.8% | 1.7% |
| Ottawa | 30,561 | 33,194 | 32,860 | 33,190 | 33,630 | 34,100 | 34,680 | 35,340 | 8.6% | 0.8% | -1.0% | -0.2% | 1.0% | 0.2% | 1.3% | 0.3% | 1.4% | 0.3% | 1.7% | 0.3% | 1.9% | 0.4% |
| Rest of State | 3,086,954 | 3,380,383 | 3,492,050 | 3,627,570 | 3,773,510 | 3,926,160 | 4,087,740 | 4,263,080 | 9.5% | 0.9% | 3.3% | 0.7% | 3.9% | 0.8% | 4.0% | 0.8% | 4.0% | 0.8% | 4.1% | 0.8% | 4.3% | 0.8% |
| State Total | 3,145,585 | 3,450,654 | 3,565,450 | 3,706,020 | 3,857,220 | 4,015,360 | 4,182,470 | 4,363,760 | 9.7% | 0.9% | 3.3% | 0.7% | 3.9% | 0.8% | 4.1% | 0.8% | 4.1% | 0.8% | 4.2% | 0.8% | 4.3% | 0.9% |
| **U.S.** | 248,709,873 | 281,422,000 | 296,468,310 | 311,034,640 | 326,491,560 | 342,544,200 | 359,383,450 | 377,478,700 | 13.2% | 1.2% | 5.3% | 1.0% | 4.9% | 1.0% | 5.0% | 1.0% | 4.9% | 1.0% | 4.9% | 1.0% | 5.0% | 1.0% |

[1] US Bureau of Censuss

[2] Woods & Poole growth rates applied to Census 2000 estimates

## Table B-2
## Population Forecast by Traffic Analysis Zone

| | | Area | Actual | | Projections | | | | | | Average Annual Percent Change (AAPC) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| County/State | Zone | (sq.mi.) | 1990 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | '90-00 | '00-'05 | '05-'10 | '10-'15 | '15-20 | '20-25 | '25-30 |
| Benton, AR | 6 | 24.8 | 2,377 | 3,777 | 4,522 | 5,308 | 6,157 | 7,020 | 7,878 | 8,733 | 4.7% | 3.7% | 3.3% | 3.0% | 2.7% | 2.3% | 2.1% |
| Benton, AR | 7 | 117.3 | 4,119 | 6,724 | 8,012 | 9,269 | 10,492 | 11,674 | 12,784 | 13,829 | 5.0% | 3.6% | 3.0% | 2.5% | 2.2% | 1.8% | 1.6% |
| Benton, AR | 8 | 115.5 | 9,807 | 13,817 | 15,914 | 17,965 | 20,138 | 22,188 | 24,061 | 25,774 | 3.5% | 2.9% | 2.5% | 2.3% | 2.0% | 1.6% | 1.4% |
| Benton, AR | 12 | 16.2 | 1,567 | 1,947 | 2,167 | 2,423 | 2,689 | 2,919 | 3,119 | 3,292 | 2.2% | 2.2% | 2.3% | 2.1% | 1.7% | 1.3% | 1.1% |
| Benton, AR | 13 | 61.4 | 10,629 | 13,967 | 16,243 | 18,338 | 20,455 | 22,316 | 23,962 | 25,416 | 2.8% | 3.1% | 2.5% | 2.2% | 1.8% | 1.4% | 1.2% |
| Benton, AR | 14 | 16.7 | 1,374 | 2,007 | 2,345 | 2,660 | 2,983 | 3,302 | 3,597 | 3,871 | 3.9% | 3.2% | 2.6% | 2.3% | 2.1% | 1.7% | 1.5% |
| Benton, AR | 15 | 224.7 | 1,950 | 2,909 | 3,369 | 3,819 | 4,262 | 4,668 | 5,032 | 5,358 | 4.1% | 3.0% | 2.5% | 2.2% | 1.8% | 1.5% | 1.3% |
| Benton, AR | 35 | 5.0 | 232 | 237 | 241 | 248 | 255 | 262 | 265 | 265 | 0.2% | 0.3% | 0.6% | 0.6% | 0.5% | 0.2% | 0.0% |
| Benton, AR | 36 | 8.9 | 402 | 544 | 608 | 670 | 730 | 784 | 829 | 866 | 3.1% | 2.2% | 2.0% | 1.7% | 1.4% | 1.1% | 0.9% |
| Benton, AR | 37 | 6.4 | 453 | 1,161 | 1,641 | 2,193 | 2,802 | 3,487 | 4,271 | 5,168 | 9.9% | 7.2% | 6.0% | 5.0% | 4.5% | 4.1% | 3.9% |
| Benton, AR | 38 | 2.3 | 168 | 405 | 559 | 729 | 918 | 1,122 | 1,350 | 1,605 | 9.2% | 6.7% | 5.5% | 4.7% | 4.1% | 3.8% | 3.5% |
| Benton, AR | 39 | 4.8 | 339 | 981 | 1,453 | 1,988 | 2,602 | 3,284 | 4,079 | 5,005 | 11.2% | 8.2% | 6.5% | 5.5% | 4.8% | 4.4% | 4.2% |
| Benton, AR | 40 | 2.6 | 1,911 | 2,345 | 2,534 | 2,723 | 2,905 | 3,077 | 3,208 | 3,304 | 2.1% | 1.6% | 1.4% | 1.3% | 1.2% | 0.8% | 0.6% |
| Benton, AR | 41 | 15.0 | 2,209 | 3,557 | 4,342 | 5,172 | 5,970 | 6,875 | 7,792 | 8,724 | 4.9% | 4.1% | 3.6% | 2.9% | 2.9% | 2.5% | 2.3% |
| Benton, AR | 42 | 7.1 | 723 | 1,549 | 2,090 | 2,650 | 3,227 | 3,826 | 4,465 | 5,147 | 7.9% | 6.2% | 4.9% | 4.0% | 3.5% | 3.1% | 2.9% |
| Benton, AR | 43 | 2.6 | 1,541 | 1,265 | 1,275 | 1,304 | 1,337 | 1,367 | 1,376 | 1,368 | -2.0% | 0.2% | 0.5% | 0.5% | 0.4% | 0.1% | -0.1% |
| Benton, AR | 44 | 4.9 | 353 | 976 | 1,412 | 1,914 | 2,481 | 3,103 | 3,820 | 4,645 | 10.7% | 7.7% | 6.3% | 5.3% | 4.6% | 4.2% | 4.0% |
| Benton, AR | 45 | 12.2 | 883 | 2,109 | 2,912 | 3,800 | 4,786 | 5,871 | 7,088 | 8,453 | 9.1% | 6.7% | 5.5% | 4.7% | 4.2% | 3.8% | 3.6% |
| Benton, AR | 46 | 11.3 | 514 | 716 | 808 | 899 | 988 | 1,072 | 1,145 | 1,208 | 3.4% | 2.4% | 2.2% | 1.9% | 1.6% | 1.3% | 1.1% |
| Benton, AR | 47 | 13.6 | 1,447 | 1,917 | 2,165 | 2,408 | 2,660 | 2,902 | 3,116 | 3,305 | 2.9% | 2.5% | 2.2% | 2.0% | 1.8% | 1.4% | 1.2% |
| Benton, AR | 48 | 6.6 | 304 | 348 | 369 | 391 | 413 | 433 | 447 | 456 | 1.4% | 1.2% | 1.2% | 1.1% | 1.0% | 0.6% | 0.4% |
| Benton, AR | 49 | 6.5 | 230 | 312 | 349 | 385 | 419 | 451 | 478 | 500 | 3.1% | 2.3% | 2.0% | 1.7% | 1.5% | 1.2% | 0.9% |
| Benton, AR | 50 | 4.8 | 453 | 758 | 912 | 1,065 | 1,206 | 1,356 | 1,501 | 1,641 | 5.3% | 3.8% | 3.2% | 2.5% | 2.4% | 2.1% | 1.8% |
| Benton, AR | 51 | 2.4 | 476 | 1,138 | 1,549 | 1,983 | 2,438 | 2,905 | 3,407 | 3,947 | 9.1% | 6.4% | 5.1% | 4.2% | 3.6% | 3.2% | 3.0% |
| Benton, AR | 52 | 8.8 | 862 | 1,966 | 2,653 | 3,461 | 4,297 | 5,169 | 6,120 | 7,158 | 8.6% | 6.2% | 5.5% | 4.4% | 3.8% | 3.4% | 3.2% |
| Benton, AR | 53 | 12.3 | 1,316 | 2,025 | 2,424 | 2,831 | 3,284 | 3,745 | 4,203 | 4,660 | 4.4% | 3.7% | 3.2% | 3.0% | 2.7% | 2.3% | 2.1% |
| Benton, AR | 54 | 5.1 | 1,334 | 2,957 | 3,934 | 4,941 | 5,959 | 6,996 | 8,084 | 9,227 | 8.3% | 5.9% | 4.7% | 3.8% | 3.3% | 2.9% | 2.7% |
| Benton, AR | 55 | 2.6 | 5,997 | 6,637 | 6,758 | 6,944 | 7,120 | 7,282 | 7,330 | 7,288 | 1.0% | 0.4% | 0.5% | 0.5% | 0.5% | 0.1% | -0.1% |
| Benton, AR | 56 | 5.9 | 1,803 | 4,662 | 6,530 | 8,522 | 10,631 | 12,851 | 15,290 | 17,970 | 10.0% | 7.0% | 5.5% | 4.5% | 3.9% | 3.5% | 3.3% |
| Benton, AR | 57 | 5.5 | 398 | 987 | 1,383 | 1,830 | 2,372 | 2,966 | 3,650 | 4,437 | 9.5% | 7.0% | 5.8% | 5.3% | 4.6% | 4.2% | 4.0% |
| Benton, AR | 58 | 9.8 | 933 | 1,564 | 1,919 | 2,274 | 2,677 | 3,054 | 3,429 | 3,803 | 5.3% | 4.2% | 3.5% | 3.3% | 2.7% | 2.3% | 2.1% |
| Benton, AR | 59 | 24.7 | 873 | 1,195 | 1,343 | 1,487 | 1,626 | 1,756 | 1,866 | 1,959 | 3.2% | 2.4% | 2.1% | 1.8% | 1.6% | 1.2% | 1.0% |
| Benton, AR | 60 | 15.3 | 864 | 1,208 | 1,364 | 1,518 | 1,668 | 1,811 | 1,935 | 2,042 | 3.4% | 2.5% | 2.2% | 1.9% | 1.7% | 1.3% | 1.1% |
| Benton, AR | 61 | 19.6 | 1,410 | 1,675 | 1,802 | 1,956 | 2,118 | 2,277 | 2,409 | 2,518 | 1.7% | 1.5% | 1.7% | 1.6% | 1.5% | 1.1% | 0.9% |
| Benton, AR | 62 | 24.9 | 1,307 | 1,686 | 1,858 | 2,027 | 2,184 | 2,324 | 2,434 | 2,518 | 2.6% | 2.0% | 1.8% | 1.5% | 1.3% | 0.9% | 0.7% |
| Benton, AR | 63 | 2.2 | 1,452 | 2,014 | 2,274 | 2,530 | 2,781 | 3,019 | 3,226 | 3,405 | 3.3% | 2.5% | 2.2% | 1.9% | 1.7% | 1.3% | 1.1% |
| Benton, AR | 64 | 25.9 | 1,361 | 2,176 | 2,580 | 2,970 | 3,346 | 3,705 | 4,038 | 4,347 | 4.8% | 3.5% | 2.9% | 2.4% | 2.1% | 1.7% | 1.5% |
| Benton, AR | 65 | 31.8 | 1,225 | 1,223 | 1,233 | 1,261 | 1,293 | 1,322 | 1,330 | 1,322 | 0.0% | 0.2% | 0.5% | 0.5% | 0.4% | 0.1% | -0.1% |
| Benton, AR | 66 | 8.1 | 1,033 | 2,039 | 2,623 | 3,247 | 3,841 | 4,445 | 5,063 | 5,697 | 7.0% | 5.2% | 4.4% | 3.4% | 3.0% | 2.6% | 2.4% |
| Benton, AR | 67 | 13.7 | 1,295 | 2,500 | 3,263 | 4,060 | 4,873 | 5,721 | 6,611 | 7,546 | 6.8% | 5.5% | 4.5% | 3.7% | 3.3% | 2.9% | 2.7% |
| Benton, AR | 68 | 8.7 | 1,262 | 4,358 | 6,760 | 9,515 | 12,570 | 15,945 | 19,907 | 24,551 | 13.2% | 9.2% | 7.1% | 5.7% | 4.9% | 4.5% | 4.3% |
| Benton, AR | 69 | 4.9 | 884 | 2,989 | 4,593 | 6,435 | 8,501 | 10,782 | 13,459 | 16,596 | 13.0% | 9.0% | 7.0% | 5.7% | 4.9% | 4.5% | 4.3% |
| Benton, AR | 70 | 6.3 | 1,531 | 2,902 | 3,733 | 4,599 | 5,388 | 6,174 | 6,963 | 7,757 | 6.6% | 5.2% | 4.3% | 3.2% | 2.8% | 2.4% | 2.2% |
| Benton, AR | 71 | 7.9 | 2,482 | 6,318 | 8,809 | 11,442 | 14,205 | 17,089 | 20,234 | 23,666 | 9.8% | 6.9% | 5.4% | 4.4% | 3.8% | 3.4% | 3.2% |
| Benton, AR | 72 | 0.9 | 947 | 922 | 929 | 950 | 974 | 996 | 1,002 | 996 | -0.3% | 0.2% | 0.4% | 0.5% | 0.4% | 0.1% | -0.1% |
| Benton, AR | 73 | 2.7 | 1,110 | 2,499 | 3,339 | 4,215 | 5,107 | 6,027 | 7,001 | 8,033 | 8.5% | 6.0% | 4.8% | 3.9% | 3.4% | 3.0% | 2.8% |
| Benton, AR | 74 | 2.3 | 891 | 2,613 | 3,526 | 4,302 | 4,823 | 5,313 | 5,760 | 6,169 | 11.4% | 6.2% | 4.1% | 2.3% | 2.0% | 1.6% | 1.4% |
| Benton, AR | 75 | 3.6 | 1,945 | 3,634 | 4,457 | 5,181 | 5,779 | 6,368 | 6,906 | 7,398 | 6.5% | 4.2% | 3.1% | 2.2% | 2.0% | 1.6% | 1.4% |
| Benton, AR | 76 | 0.6 | 758 | 1,454 | 1,741 | 1,965 | 2,117 | 2,254 | 2,362 | 2,445 | 6.7% | 3.7% | 2.5% | 1.5% | 1.3% | 0.9% | 0.7% |
| Benton, AR | 77 | 2.4 | 1,602 | 2,120 | 2,360 | 2,599 | 2,829 | 3,041 | 3,217 | 3,362 | 2.8% | 2.2% | 1.9% | 1.7% | 1.5% | 1.1% | 0.9% |
| Benton, AR | 78 | 0.4 | 514 | 1,431 | 1,593 | 1,712 | 1,801 | 1,869 | 1,909 | 1,926 | 10.8% | 2.2% | 1.5% | 1.0% | 0.7% | 0.4% | 0.2% |
| Benton, AR | 79 | 1.2 | 1,358 | 2,385 | 2,721 | 2,953 | 3,135 | 3,287 | 3,392 | 3,458 | 5.8% | 2.7% | 1.6% | 1.2% | 1.0% | 0.6% | 0.4% |
| Benton, AR | 80 | 5.8 | 13,106 | 16,177 | 16,970 | 17,879 | 18,515 | 19,030 | 19,251 | 19,237 | 2.1% | 1.0% | 1.0% | 0.7% | 0.6% | 0.2% | 0.0% |
| Benton, AR | 83 | 2.8 | 1,185 | 1,624 | 1,825 | 2,020 | 2,210 | 2,387 | 2,539 | 2,669 | 3.2% | 2.4% | 2.1% | 1.8% | 1.6% | 1.2% | 1.0% |
| **County Total** | -- | **960** | **97,499** | **153,406** | **185,088** | **217,930** | **251,337** | **285,269** | **319,990** | **356,040** | **4.64%** | **3.83%** | **3.32%** | **2.89%** | **2.57%** | **2.32%** | **2.16%** |
| Springdale, AR | 3 | 37.0 | 30,814 | 46,472 | 56,230 | 63,404 | 70,255 | 77,023 | 83,769 | 90,509 | 4.2% | 3.9% | 2.4% | 2.1% | 1.9% | 1.7% | 1.6% |
| Fayetteville, AR | 11 | 43.7 | 42,268 | 58,285 | 65,726 | 71,792 | 78,990 | 85,060 | 91,712 | 98,226 | 3.3% | 2.4% | 1.8% | 1.9% | 1.5% | 1.5% | 1.4% |
| McDonald, MO | 1 | 47.6 | 1,206 | 1,354 | 1,363 | 1,411 | 1,453 | 1,495 | 1,533 | 1,569 | 1.2% | 0.1% | 0.7% | 0.6% | 0.6% | 0.5% | 0.5% |
| McDonald, MO | 4 | 292.9 | 1,149 | 1,160 | 1,145 | 1,156 | 1,166 | 1,176 | 1,182 | 1,186 | 0.1% | -0.3% | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% |
| McDonald, MO | 5 | 37.7 | 579 | 1,021 | 1,135 | 1,309 | 1,502 | 1,714 | 1,949 | 2,212 | 5.8% | 2.1% | 2.9% | 2.8% | 2.7% | 2.6% | 2.6% |
| McDonald, MO | 10 | 69.7 | 946 | 1,249 | 1,302 | 1,402 | 1,497 | 1,595 | 1,693 | 1,794 | 2.8% | 0.8% | 1.5% | 1.3% | 1.3% | 1.2% | 1.2% |
| McDonald, MO | 18 | 170.8 | 2,287 | 2,824 | 2,914 | 3,096 | 3,267 | 3,445 | 3,619 | 3,795 | 2.1% | 0.6% | 1.2% | 1.1% | 1.1% | 1.0% | 1.0% |
| McDonald, MO | 19 | 19.1 | 481 | 657 | 688 | 744 | 797 | 850 | 903 | 958 | 3.2% | 0.9% | 1.6% | 1.4% | 1.3% | 1.2% | 1.2% |
| McDonald, MO | 20 | 5.0 | 1,039 | 1,282 | 1,317 | 1,390 | 1,460 | 1,532 | 1,602 | 1,672 | 2.1% | 0.5% | 1.1% | 1.0% | 1.0% | 0.9% | 0.9% |
| McDonald, MO | 21 | 6.5 | 715 | 1,097 | 1,183 | 1,321 | 1,465 | 1,615 | 1,774 | 1,945 | 4.4% | 1.5% | 2.2% | 2.1% | 2.0% | 1.9% | 1.9% |
| McDonald, MO | 22 | 11.6 | 1,027 | 889 | 877 | 886 | 894 | 901 | 905 | 907 | -1.4% | -0.3% | 0.2% | 0.2% | 0.2% | 0.1% | 0.0% |
| McDonald, MO | 23 | 10.1 | 256 | 351 | 371 | 406 | 440 | 477 | 515 | 555 | 3.2% | 1.1% | 1.8% | 1.6% | 1.6% | 1.5% | 1.5% |
| McDonald, MO | 24 | 2.0 | 631 | 807 | 841 | 904 | 963 | 1,021 | 1,079 | 1,138 | 2.5% | 0.8% | 1.5% | 1.3% | 1.2% | 1.1% | 1.1% |
| McDonald, MO | 25 | 37.0 | 918 | 1,277 | 1,351 | 1,476 | 1,604 | 1,734 | 1,868 | 2,009 | 3.4% | 1.1% | 1.8% | 1.7% | 1.6% | 1.5% | 1.5% |
| McDonald, MO | 26 | 13.1 | 267 | 306 | 311 | 325 | 338 | 351 | 363 | 375 | 1.4% | 0.3% | 0.9% | 0.8% | 0.8% | 0.7% | 0.7% |
| McDonald, MO | 27 | 9.5 | 864 | 1,265 | 1,351 | 1,492 | 1,638 | 1,789 | 1,947 | 2,115 | 3.9% | 1.3% | 2.0% | 1.9% | 1.8% | 1.7% | 1.7% |
| McDonald, MO | 28 | 28.5 | 1,191 | 2,103 | 2,339 | 2,698 | 3,096 | 3,515 | 3,976 | 4,490 | 5.9% | 2.1% | 2.9% | 2.8% | 2.6% | 2.5% | 2.5% |
| McDonald, MO | 29 | 9.8 | 219 | 293 | 307 | 332 | 355 | 378 | 401 | 425 | 3.0% | 0.9% | 1.6% | 1.3% | 1.3% | 1.2% | 1.2% |
| McDonald, MO | 30 | 21.6 | 473 | 655 | 693 | 757 | 824 | 890 | 958 | 1,029 | 3.3% | 1.1% | 1.8% | 1.7% | 1.6% | 1.5% | 1.4% |
| McDonald, MO | 31 | 25.5 | 570 | 767 | 807 | 877 | 944 | 1,011 | 1,079 | 1,150 | 3.0% | 1.0% | 1.7% | 1.5% | 1.4% | 1.3% | 1.3% |
| McDonald, MO | 32 | 10.0 | 224 | 311 | 329 | 359 | 390 | 422 | 455 | 490 | 3.3% | 1.1% | 1.8% | 1.7% | 1.6% | 1.5% | 1.5% |
| McDonald, MO | 33 | 9.1 | 183 | 205 | 206 | 214 | 221 | 229 | 236 | 243 | 1.1% | 0.1% | 0.8% | 0.6% | 0.7% | 0.6% | 0.6% |
| McDonald, MO | 34 | 7.4 | 353 | 175 | 173 | 174 | 176 | 177 | 177 | 177 | -6.8% | -0.2% | 0.1% | 0.2% | 0.1% | 0.0% | 0.0% |
| McDonald, MO | 81 | 8.4 | 608 | 866 | 919 | 1,012 | 1,106 | 1,202 | 1,302 | 1,408 | 3.6% | 1.2% | 1.9% | 1.8% | 1.7% | 1.6% | 1.6% |
| McDonald, MO | 82 | 1.1 | 752 | 767 | 758 | 771 | 784 | 791 | 794 | 795 | 0.2% | -0.2% | 0.3% | 0.3% | 0.2% | 0.1% | 0.0% |
| **County Total** | -- | **853.9** | **16,938** | **21,681** | **22,680** | **24,512** | **26,380** | **28,310** | **30,310** | **32,437** | **2.5%** | **0.9%** | **1.6%** | **1.5%** | **1.4%** | **1.4%** | **1.4%** |
| Joplin MSA, MO | 2 | -- | 60,158 | 66,972 | 70,577 | 74,165 | 77,824 | 81,514 | 85,379 | 89,427 | 1.1% | 1.1% | 1.0% | 1.0% | 0.9% | 0.9% | 0.9% |
| Southern U.S | 9 | -- | 102,496,684 | 121,227,803 | 129,309,800 | 137,549,000 | 146,170,000 | 155,082,900 | 164,370,000 | 174,041,200 | 1.7% | 1.3% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% |
| Northeast U.S. | 16 | -- | 122,730,737 | 131,682,549 | 135,513,100 | 139,533,400 | 143,945,700 | 148,636,800 | 153,607,000 | 158,901,200 | 0.7% | 0.6% | 0.6% | 0.6% | 0.6% | 0.7% | 0.7% |
| Northwest U.S. | 17 | -- | 21,578,255 | 26,334,862 | 28,266,007 | 30,230,100 | 32,275,500 | 34,386,700 | 36,590,300 | 38,896,600 | 2.0% | 1.4% | 1.4% | 1.3% | 1.3% | 1.3% | 1.2% |

**Bella Vista Bypass Toll Study Update**

## Table B-3
## Employment Summary - Historical and Projected
**by State, County, City and MSA**

| | Historical[1] | | Projections-W&P[2] | | | | | | Change | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | '90-00 | | '00-'05 | | '05-'10 | | '10-'15 | | '15-20 | | '20-'25 | | '25-30 | |
| | 1990 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC |
| **Arkansas** | | | | | | | | | | | | | | | | | | | | | | |
| Benton | 43,927 | 70,108 | 87,610 | 103,760 | 119,920 | 136,100 | 152,300 | 168,510 | 59.6% | 4.8% | 25.0% | 4.6% | 18.4% | 3.4% | 15.6% | 2.9% | 13.5% | 2.6% | 11.9% | 2.3% | 10.6% | 2.0% |
| Carroll | 7,312 | 9,857 | 10,580 | 11,410 | 12,280 | 13,200 | 14,160 | 15,180 | 34.8% | 3.0% | 7.4% | 1.4% | 7.9% | 1.5% | 7.6% | 1.5% | 7.5% | 1.5% | 7.3% | 1.4% | 7.2% | 1.4% |
| Madison | 2,056 | 2,661 | 2,960 | 3,230 | 3,500 | 3,780 | 4,050 | 4,330 | 29.4% | 2.6% | 11.3% | 2.2% | 9.3% | 1.8% | 8.5% | 1.6% | 8.0% | 1.5% | 7.2% | 1.4% | 6.9% | 1.3% |
| Washington | 54,157 | 80,045 | 88,670 | 98,070 | 107,450 | 116,820 | 126,200 | 135,580 | 47.8% | 4.0% | 10.8% | 2.1% | 10.6% | 2.0% | 9.6% | 1.8% | 8.7% | 1.7% | 8.0% | 1.6% | 7.4% | 1.4% |
| Rest of State | 792,991 | 968,220 | 992,240 | 1,055,870 | 1,119,470 | 1,183,000 | 1,246,480 | 1,309,900 | 22.1% | 2.0% | 2.5% | 0.5% | 6.4% | 1.3% | 6.0% | 1.2% | 5.7% | 1.1% | 5.4% | 1.1% | 5.1% | 1.0% |
| State Total | 900,443 | 1,130,891 | 1,182,060 | 1,272,340 | 1,362,620 | 1,452,900 | 1,543,190 | 1,633,500 | 25.6% | 2.3% | 4.5% | 0.9% | | | | | | | | | | |
| **Missouri** | | | | | | | | | | | | | | | | | | | | | | |
| Barry | 16,814 | 21,940 | 22,870 | 24,690 | 26,500 | 28,310 | 30,100 | 31,880 | 30.5% | 2.7% | 4.2% | 0.8% | 8.0% | 1.5% | 7.3% | 1.4% | 6.8% | 1.3% | 6.3% | 1.2% | 5.9% | 1.2% |
| Greene | 142,179 | 184,762 | 194,940 | 209,750 | 224,490 | 239,160 | 253,740 | 268,210 | 30.0% | 2.7% | 5.5% | 1.1% | 7.6% | 1.5% | 7.0% | 1.4% | 6.5% | 1.3% | 6.1% | 1.2% | 5.7% | 1.1% |
| Jasper | 58,224 | 75,387 | 77,570 | 83,840 | 90,080 | 96,300 | 102,490 | 108,660 | 29.5% | 2.6% | 2.9% | 0.6% | 8.1% | 1.6% | 7.4% | 1.4% | 6.9% | 1.3% | 6.4% | 1.3% | 6.0% | 1.2% |
| McDonald | 7,250 | 9,484 | 10,620 | 11,630 | 12,630 | 13,630 | 14,630 | 15,630 | 30.8% | 2.7% | 12.0% | 2.3% | 9.5% | 1.8% | 8.6% | 1.7% | 7.9% | 1.5% | 7.3% | 1.4% | 6.8% | 1.3% |
| Newton | 19,902 | 27,382 | 28,650 | 31,050 | 33,430 | 35,800 | 38,170 | 40,540 | 37.6% | 3.2% | 4.6% | 0.9% | 8.4% | 1.6% | 7.7% | 1.5% | 7.1% | 1.4% | 6.6% | 1.3% | 6.2% | 1.2% |
| Rest of State | 2,033,294 | 2,358,155 | 2,428,430 | 2,569,810 | 2,711,810 | 2,854,570 | 2,998,120 | 3,142,540 | 16.0% | 1.5% | 3.0% | 0.6% | 5.8% | 1.1% | 5.5% | 1.1% | 5.3% | 1.0% | 5.0% | 1.0% | 4.8% | 0.9% |
| State Total | 2,277,663 | 2,677,110 | 2,763,080 | 2,930,770 | 3,098,940 | 3,267,770 | 3,437,250 | 3,607,460 | 17.5% | 1.6% | 3.2% | 0.6% | 6.0% | 1.2% | 5.7% | 1.1% | 5.4% | 1.1% | 5.1% | 1.0% | 4.9% | 1.0% |
| **Oklahoma** | | | | | | | | | | | | | | | | | | | | | | |
| Delaware | 4,381 | 7,478 | 8,330 | 9,350 | 10,360 | 11,360 | 12,340 | 13,310 | 70.7% | 5.5% | 11.4% | 2.2% | 12.2% | 2.3% | 10.8% | 2.1% | 9.7% | 1.9% | 8.7% | 1.7% | 7.9% | 1.5% |
| Ottawa | 8,743 | 10,436 | 10,190 | 10,600 | 11,050 | 11,520 | 12,020 | 12,540 | 19.4% | 1.8% | -2.3% | -0.5% | 4.0% | 0.8% | 4.2% | 0.8% | 4.3% | 0.8% | 4.4% | 0.9% | 4.3% | 0.9% |
| Rest of State | 1,156,421 | 1,434,252 | 1,489,510 | 1,585,700 | 1,681,830 | 1,777,890 | 1,873,890 | 1,969,800 | 24.0% | 2.2% | 3.9% | 0.8% | 6.5% | 1.3% | 6.1% | 1.2% | 5.7% | 1.1% | 5.4% | 1.1% | 5.1% | 1.0% |
| State Total | 1,169,545 | 1,452,166 | 1,508,030 | 1,605,650 | 1,703,240 | 1,800,770 | 1,898,250 | 1,995,650 | 24.2% | 2.2% | 3.9% | 0.8% | 6.5% | 1.3% | 6.1% | 1.2% | 5.7% | 1.1% | 5.4% | 1.1% | 5.1% | 1.0% |
| **U.S.** | 108,657,200 | 129,877,063 | 138,156,933 | 146,929,593 | 156,182,013 | 165,935,161 | 175,756,640 | 237,389,280 | 19.5% | 1.8% | 4.7% | 0.9% | 7.2% | 1.4% | 6.7% | 1.3% | 6.3% | 1.2% | 5.9% | 1.2% | 5.6% | 1.1% |

[1] US Bureau of Censuss

[2] Woods & Poole growth rates applied to Census 2000 estimates

## Table B-4
## Employment Forecast by Traffic Analysis Zone

| County/State | Zone | Area (sq.mi.) | Actual 1990 | Actual 2000 | Projections 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Average Annual Percent Change (AAPC) '90-00 | '00-'05 | '05-'10 | '10-'15 | '15-20 | '20-25 | '25-30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benton, AR | 6 | 24.8 | NA | 78 | 97 | 114 | 131 | 149 | 165 | 180 | NA | 4.6% | 3.3% | 2.9% | 2.5% | 2.1% | 1.8% |
| Benton, AR | 7 | 117.3 | NA | 227 | 283 | 335 | 387 | 439 | 489 | 536 | NA | 4.6% | 3.4% | 2.9% | 2.5% | 2.2% | 1.9% |
| Benton, AR | 8 | 115.5 | NA | 2,160 | 2,699 | 3,197 | 3,694 | 4,193 | 4,675 | 5,134 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 12 | 16.2 | NA | 69 | 107 | 160 | 232 | 334 | 472 | 658 | NA | 9.4% | 8.3% | 7.6% | 7.6% | 7.2% | 6.9% |
| Benton, AR | 13 | 61.4 | NA | 7,180 | 9,353 | 11,548 | 13,750 | 16,102 | 18,528 | 20,995 | NA | 5.4% | 4.3% | 3.6% | 3.2% | 2.8% | 2.5% |
| Benton, AR | 14 | 16.7 | NA | 120 | 150 | 178 | 206 | 234 | 262 | 289 | NA | 4.5% | 3.5% | 2.9% | 2.6% | 2.3% | 2.0% |
| Benton, AR | 15 | 224.7 | NA | 47 | 59 | 70 | 81 | 92 | 104 | 115 | NA | 4.6% | 3.6% | 3.1% | 2.7% | 2.4% | 2.0% |
| Benton, AR | 35 | 5.0 | NA | 19 | 23 | 28 | 32 | 36 | 40 | 43 | NA | 4.4% | 3.4% | 2.9% | 2.6% | 2.0% | 1.5% |
| Benton, AR | 36 | 8.9 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 37 | 6.4 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 38 | 2.3 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 39 | 4.8 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 40 | 2.6 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 41 | 15.0 | NA | 72 | 89 | 106 | 122 | 138 | 153 | 167 | NA | 4.6% | 3.5% | 2.8% | 2.5% | 2.1% | 1.8% |
| Benton, AR | 42 | 7.1 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 43 | 2.6 | NA | 190 | 214 | 233 | 254 | 273 | 288 | 300 | NA | 2.4% | 1.8% | 1.7% | 1.5% | 1.1% | 0.8% |
| Benton, AR | 44 | 4.9 | NA | 6 | 7 | 9 | 10 | 12 | 13 | 14 | NA | 4.6% | 3.5% | 3.0% | 2.6% | 2.1% | 1.5% |
| Benton, AR | 45 | 12.2 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 46 | 11.3 | NA | 119 | 149 | 176 | 203 | 231 | 257 | 282 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 47 | 13.6 | NA | 528 | 659 | 780 | 901 | 1,022 | 1,139 | 1,250 | NA | 4.5% | 3.4% | 2.9% | 2.5% | 2.2% | 1.9% |
| Benton, AR | 48 | 6.6 | NA | 233 | 291 | 344 | 397 | 451 | 502 | 551 | NA | 4.6% | 3.4% | 2.9% | 2.5% | 2.2% | 1.9% |
| Benton, AR | 49 | 6.5 | NA | 75 | 93 | 110 | 127 | 144 | 161 | 177 | NA | 4.4% | 3.4% | 3.0% | 2.6% | 2.3% | 1.9% |
| Benton, AR | 50 | 4.8 | NA | 186 | 233 | 277 | 320 | 363 | 405 | 445 | NA | 4.6% | 3.5% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 51 | 2.4 | NA | - | 0 | 0 | 0 | 0 | 0 | 0 | NA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Benton, AR | 52 | 8.8 | NA | 13 | 16 | 19 | 22 | 25 | 27 | 29 | NA | 4.3% | 3.3% | 2.9% | 2.5% | 1.9% | 1.4% |
| Benton, AR | 53 | 12.3 | NA | 131 | 164 | 195 | 225 | 255 | 284 | 311 | NA | 4.6% | 3.5% | 2.9% | 2.6% | 2.2% | 1.8% |
| Benton, AR | 54 | 5.1 | NA | 135 | 169 | 200 | 231 | 261 | 290 | 317 | NA | 4.6% | 3.4% | 2.9% | 2.5% | 2.1% | 1.8% |
| Benton, AR | 55 | 2.6 | NA | 13,114 | 16,278 | 18,684 | 20,773 | 22,379 | 23,687 | 24,691 | NA | 4.4% | 2.8% | 2.1% | 1.5% | 1.1% | 0.8% |
| Benton, AR | 56 | 5.9 | NA | 344 | 430 | 509 | 588 | 668 | 746 | 820 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 57 | 5.5 | NA | 64 | 80 | 94 | 108 | 123 | 137 | 150 | NA | 4.6% | 3.3% | 2.9% | 2.5% | 2.2% | 1.8% |
| Benton, AR | 58 | 9.8 | NA | 990 | 1,343 | 1,691 | 2,033 | 2,381 | 2,740 | 3,105 | NA | 6.3% | 4.7% | 3.8% | 3.2% | 2.9% | 2.5% |
| Benton, AR | 59 | 24.7 | NA | 139 | 173 | 206 | 238 | 269 | 300 | 329 | NA | 4.5% | 3.5% | 2.9% | 2.5% | 2.2% | 1.9% |
| Benton, AR | 60 | 15.3 | NA | 316 | 395 | 468 | 541 | 615 | 685 | 752 | NA | 4.6% | 3.5% | 3.0% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 61 | 19.6 | NA | 2,987 | 3,733 | 4,420 | 5,109 | 5,799 | 6,466 | 7,101 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 62 | 24.9 | NA | 1,858 | 2,321 | 2,748 | 3,177 | 3,606 | 4,022 | 4,417 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 63 | 2.2 | NA | 92 | 115 | 136 | 158 | 179 | 200 | 220 | NA | 4.5% | 3.4% | 3.0% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 64 | 25.9 | NA | 186 | 307 | 466 | 668 | 929 | 1,270 | 1,709 | NA | 10.5% | 8.7% | 7.5% | 6.8% | 6.4% | 6.1% |
| Benton, AR | 65 | 31.8 | NA | 176 | 289 | 440 | 631 | 879 | 1,202 | 1,619 | NA | 10.5% | 8.8% | 7.5% | 6.8% | 6.5% | 6.1% |
| Benton, AR | 66 | 8.1 | NA | 740 | 1,060 | 1,441 | 1,898 | 2,436 | 3,072 | 3,815 | NA | 7.5% | 6.3% | 5.7% | 5.1% | 4.8% | 4.4% |
| Benton, AR | 67 | 13.7 | NA | 2,493 | 3,115 | 3,689 | 4,264 | 4,840 | 5,398 | 5,929 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 68 | 8.7 | NA | 13,558 | 16,029 | 18,215 | 20,251 | 22,027 | 23,541 | 24,776 | NA | 3.4% | 2.6% | 2.1% | 1.7% | 1.3% | 1.0% |
| Benton, AR | 69 | 4.9 | NA | 304 | 386 | 466 | 544 | 617 | 688 | 756 | NA | 4.9% | 3.8% | 3.1% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 70 | 6.3 | NA | 442 | 552 | 654 | 756 | 858 | 957 | 1,051 | NA | 4.5% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 71 | 7.9 | NA | 2,506 | 3,131 | 3,708 | 4,286 | 4,865 | 5,425 | 5,958 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 72 | 0.9 | NA | 3,175 | 3,968 | 4,699 | 5,431 | 6,164 | 6,873 | 7,547 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 73 | 2.7 | NA | 1,386 | 1,732 | 2,050 | 2,370 | 2,690 | 3,000 | 3,295 | NA | 4.6% | 3.4% | 2.9% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 74 | 2.3 | NA | 61 | 85 | 111 | 132 | 157 | 182 | 208 | NA | 7.0% | 5.4% | 3.7% | 3.4% | 3.0% | 2.7% |
| Benton, AR | 75 | 3.6 | NA | 1,040 | 1,525 | 2,112 | 2,849 | 3,727 | 4,790 | 6,063 | NA | 8.0% | 6.7% | 6.2% | 5.5% | 5.1% | 4.8% |
| Benton, AR | 76 | 0.6 | NA | 103 | 129 | 153 | 176 | 199 | 221 | 242 | NA | 4.5% | 3.5% | 2.9% | 2.5% | 2.1% | 1.8% |
| Benton, AR | 77 | 2.4 | NA | 481 | 601 | 713 | 824 | 936 | 1,045 | 1,148 | NA | 4.6% | 3.5% | 3.0% | 2.6% | 2.2% | 1.9% |
| Benton, AR | 78 | 0.4 | NA | 66 | 82 | 97 | 113 | 129 | 144 | 159 | NA | 4.6% | 3.5% | 3.0% | 2.6% | 2.3% | 2.0% |
| Benton, AR | 79 | 1.2 | NA | 562 | 883 | 1,312 | 1,899 | 2,730 | 3,855 | 5,362 | NA | 9.5% | 8.2% | 7.7% | 7.5% | 7.1% | 6.8% |
| Benton, AR | 80 | 5.8 | NA | 11,301 | 13,960 | 16,339 | 18,710 | 21,070 | 23,314 | 25,401 | NA | 4.3% | 3.2% | 2.7% | 2.4% | 2.0% | 1.7% |
| Benton, AR | 83 | 2.8 | NA | 41 | 51 | 60 | 69 | 77 | 86 | 94 | NA | 4.6% | 3.2% | 2.8% | 2.4% | 2.2% | 1.8% |
| **County Total** | -- | **960** | **43,928** | **70,108** | **87,610** | **103,760** | **119,920** | **136,100** | **152,300** | **168,510** | **4.8%** | **4.6%** | **3.4%** | **2.9%** | **2.6%** | **2.3%** | **2.0%** |
| Springdale, AR | 3 | 37.0 | 15,802 | 23,230 | 25,644 | 28,265 | 30,861 | 33,435 | 35,994 | 38,533 | 3.9% | 2.0% | 2.0% | 1.8% | 1.6% | 1.5% | 1.4% |
| Fayetteville, AR | 11 | 43.7 | 21,479 | 28,498 | 31,037 | 33,739 | 36,321 | 38,787 | 41,144 | 43,389 | 2.9% | 1.7% | 1.7% | 1.5% | 1.3% | 1.2% | 1.1% |
| McDonald, MO | 1 | 47.6 | 546 | 513 | 532 | 547 | 564 | 583 | 599 | 612 | -0.6% | 0.7% | 0.6% | 0.6% | 0.7% | 0.6% | 0.4% |
| McDonald, MO | 4 | 292.9 | 374 | 535 | 609 | 674 | 735 | 797 | 860 | 923 | 3.7% | 2.6% | 2.0% | 1.8% | 1.6% | 1.5% | 1.4% |
| McDonald, MO | 5 | 37.7 | 280 | 505 | 600 | 687 | 775 | 863 | 956 | 1,053 | 6.1% | 3.5% | 2.7% | 2.4% | 2.2% | 2.1% | 2.0% |
| McDonald, MO | 10 | 69.7 | 355 | 513 | 585 | 648 | 704 | 763 | 824 | 885 | 3.8% | 2.7% | 2.1% | 1.7% | 1.6% | 1.5% | 1.4% |
| McDonald, MO | 18 | 170.8 | 981 | 1,201 | 1,320 | 1,421 | 1,518 | 1,606 | 1,689 | 1,767 | 2.0% | 1.9% | 1.5% | 1.3% | 1.1% | 1.0% | 0.9% |
| McDonald, MO | 19 | 19.1 | 262 | 435 | 504 | 562 | 626 | 691 | 759 | 829 | 5.2% | 3.0% | 2.2% | 2.2% | 2.0% | 1.9% | 1.8% |
| McDonald, MO | 20 | 5.0 | 382 | 525 | 591 | 649 | 704 | 759 | 814 | 868 | 3.2% | 2.4% | 1.9% | 1.6% | 1.5% | 1.4% | 1.3% |
| McDonald, MO | 21 | 6.5 | 468 | 453 | 472 | 488 | 504 | 523 | 538 | 551 | -0.3% | 0.9% | 0.7% | 0.6% | 0.7% | 0.6% | 0.5% |
| McDonald, MO | 22 | 11.6 | 352 | 340 | 354 | 365 | 378 | 391 | 402 | 411 | -0.4% | 0.8% | 0.6% | 0.7% | 0.7% | 0.6% | 0.4% |
| McDonald, MO | 23 | 10.1 | 151 | 198 | 221 | 241 | 260 | 279 | 298 | 316 | 2.8% | 2.2% | 1.8% | 1.5% | 1.4% | 1.3% | 1.2% |
| McDonald, MO | 24 | 2.0 | 259 | 331 | 368 | 399 | 429 | 459 | 488 | 516 | 2.5% | 2.1% | 1.7% | 1.4% | 1.4% | 1.2% | 1.1% |
| McDonald, MO | 25 | 37.0 | 301 | 417 | 471 | 519 | 564 | 609 | 654 | 699 | 3.3% | 2.5% | 1.9% | 1.7% | 1.6% | 1.4% | 1.3% |
| McDonald, MO | 26 | 13.1 | 203 | 198 | 207 | 215 | 222 | 230 | 237 | 243 | -0.3% | 0.9% | 0.7% | 0.7% | 0.7% | 0.6% | 0.5% |
| McDonald, MO | 27 | 9.5 | 408 | 589 | 671 | 743 | 812 | 881 | 950 | 1,019 | 3.7% | 2.6% | 2.1% | 1.8% | 1.6% | 1.5% | 1.4% |
| McDonald, MO | 28 | 28.5 | 557 | 1,019 | 1,222 | 1,415 | 1,614 | 1,795 | 1,985 | 2,183 | 6.2% | 3.7% | 3.0% | 2.7% | 2.2% | 2.0% | 1.9% |
| McDonald, MO | 29 | 9.8 | 92 | 115 | 128 | 138 | 153 | 169 | 185 | 202 | 2.3% | 2.1% | 1.6% | 2.0% | 2.0% | 1.9% | 1.8% |
| McDonald, MO | 30 | 21.6 | 143 | 198 | 220 | 241 | 262 | 283 | 303 | 323 | 3.3% | 2.2% | 1.9% | 1.7% | 1.5% | 1.4% | 1.3% |
| McDonald, MO | 31 | 25.5 | 316 | 481 | 554 | 619 | 690 | 763 | 840 | 919 | 4.3% | 2.9% | 2.3% | 2.2% | 2.1% | 1.9% | 1.8% |
| McDonald, MO | 32 | 10.0 | 77 | 112 | 128 | 141 | 157 | 174 | 192 | 211 | 3.8% | 2.6% | 2.1% | 2.1% | 2.1% | 2.0% | 1.9% |
| McDonald, MO | 33 | 9.1 | 58 | 48 | 50 | 52 | 53 | 55 | 56 | 57 | -1.7% | 0.8% | 0.5% | 0.6% | 0.6% | 0.4% | 0.4% |
| McDonald, MO | 34 | 7.4 | 58 | 63 | 67 | 71 | 75 | 79 | 82 | 85 | 0.9% | 1.3% | 1.1% | 1.1% | 0.9% | 0.8% | 0.7% |
| McDonald, MO | 81 | 8.4 | 341 | 384 | 412 | 441 | 465 | 491 | 515 | 538 | 1.2% | 1.4% | 1.3% | 1.1% | 1.1% | 1.0% | 0.9% |
| McDonald, MO | 82 | 1.1 | 286 | 311 | 333 | 351 | 368 | 387 | 404 | 420 | 0.8% | 1.4% | 1.1% | 1.0% | 1.0% | 0.9% | 0.8% |
| **County Total** | -- | **853.9** | **7,250** | **9,484** | **10,620** | **11,630** | **12,630** | **13,630** | **14,630** | **15,630** | **2.7%** | 2.3% | 1.8% | 1.7% | 1.5% | 1.4% | 1.3% |
| Joplin MSA, MO | 2 | -- | 28,478 | 31,704 | 33,508 | 35,268 | 37,024 | 38,771 | 40,600 | 42,515 | 1.1% | 1.1% | 1.0% | 1.0% | 0.9% | 0.9% | 0.9% |
| Southern U.S | 9 | -- | 43,357,500 | 54,099,200 | 57,778,100 | 61,984,000 | 66,420,300 | 71,109,800 | 76,130,400 | 81,505,500 | 2.2% | 1.3% | 1.4% | 1.4% | 1.4% | 1.4% | 1.4% |
| Northeast U.S. | 16 | -- | 54,631,800 | 62,245,000 | 64,948,200 | 67,956,500 | 71,256,700 | 74,865,500 | 78,813,000 | 83,091,900 | 1.3% | 0.9% | 0.9% | 1.0% | 1.0% | 1.0% | 1.1% |
| Northwest U.S. | 17 | -- | 10,096,800 | 13,331,400 | 14,384,700 | 15,517,100 | 16,695,900 | 17,923,200 | 19,202,800 | 20,543,300 | 2.8% | 1.5% | 1.5% | 1.5% | 1.4% | 1.4% | 1.4% |

**Bella Vista Bypass Toll Study Update**

**Table B-5**
**Earnings Summary - Historical and Projected (Millions-1996$)**
**by State, County, City and MSA**

| | Historical[1] | | Projections-W&P[1] | | | | | | Change | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | '90-00 | | '00-'05 | | '05-'10 | | '10-'15 | | '15-20 | | '20-'25 | | '25-30 | |
| | 1990 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC |
| **Arkansas** | | | | | | | | | | | | | | | | | | | | | | |
| Benton | 1,312 | 2,604 | 3,862 | 4,755 | 5,718 | 6,761 | 7,894 | 9,127 | 98.4% | 7.1% | 48.3% | 8.2% | 23.1% | 4.2% | 20.3% | 3.8% | 18.2% | 3.4% | 16.8% | 3.1% | 15.6% | 2.9% |
| Carroll | 196 | 287 | 321 | 361 | 405 | 452 | 505 | 564 | 46.4% | 3.9% | 11.8% | 2.3% | 12.3% | 2.4% | 12.1% | 2.3% | 11.9% | 2.3% | 11.7% | 2.2% | 11.5% | 2.2% |
| Madison | 85 | 111 | 137 | 157 | 179 | 203 | 229 | 258 | 31.0% | 2.7% | 23.3% | 4.3% | 15.0% | 2.8% | 14.1% | 2.7% | 13.4% | 2.6% | 12.8% | 2.4% | 12.3% | 2.3% |
| Washington | 1,643 | 2,604 | 3,430 | 3,981 | 4,588 | 5,259 | 6,001 | 6,820 | 58.4% | 4.7% | 31.7% | 5.7% | 16.1% | 3.0% | 15.3% | 2.9% | 14.6% | 2.8% | 14.1% | 2.7% | 13.7% | 2.6% |
| Rest of State | 24,057 | 32,278 | 37,236 | 41,070 | 45,233 | 49,765 | 54,704 | 60,093 | 34.2% | 3.0% | 15.4% | 2.9% | 10.3% | 2.0% | 10.1% | 1.9% | 10.0% | 1.9% | 9.9% | 1.9% | 9.9% | 1.9% |
| State Total | 27,294 | 37,884 | 44,986 | 50,324 | 56,122 | 62,441 | 69,334 | 76,861 | 38.8% | 3.3% | 18.7% | 3.5% | 11.9% | 2.3% | 11.5% | 2.2% | 11.3% | 2.2% | 11.0% | 2.1% | 10.9% | 2.1% |
| **Missouri** | | | | | | | | | | | | | | | | | | | | | | |
| Barry | 296 | 421 | 540 | 610 | 685 | 766 | 853 | 946 | 42.4% | 3.6% | 28.2% | 5.1% | 12.9% | 2.5% | 12.3% | 2.3% | 11.8% | 2.3% | 11.4% | 2.2% | 11.0% | 2.1% |
| Greene | 3,263 | 4,919 | 6,114 | 6,824 | 7,596 | 8,440 | 9,366 | 10,382 | 50.7% | 4.2% | 24.3% | 4.4% | 11.6% | 2.2% | 11.3% | 2.2% | 11.1% | 2.1% | 11.0% | 2.1% | 10.9% | 2.1% |
| Jasper | 1,276 | 1,781 | 2,055 | 2,282 | 2,525 | 2,786 | 3,068 | 3,372 | 39.6% | 3.4% | 15.3% | 2.9% | 11.1% | 2.1% | 10.7% | 2.0% | 10.3% | 2.0% | 10.1% | 1.9% | 9.9% | 1.9% |
| McDonald | 114 | 167 | 206 | 236 | 268 | 301 | 337 | 374 | 46.3% | 3.9% | 23.5% | 4.3% | 14.8% | 2.8% | 13.6% | 2.6% | 12.2% | 2.3% | 12.0% | 2.3% | 10.9% | 2.1% |
| Newton | 376 | 634 | 716 | 811 | 915 | 1,029 | 1,155 | 1,293 | 68.6% | 5.4% | 12.9% | 2.5% | 13.3% | 2.5% | 12.8% | 2.4% | 12.4% | 2.4% | 12.2% | 2.3% | 12.0% | 2.3% |
| Rest of State | 72,137 | 94,019 | 108,938 | 119,029 | 130,119 | 142,352 | 155,846 | 170,745 | 30.3% | 2.7% | 15.9% | 3.0% | 9.3% | 1.8% | 9.3% | 1.8% | 9.4% | 1.8% | 9.5% | 1.8% | 9.6% | 1.8% |
| State Total | 77,462 | 101,941 | 118,569 | 129,792 | 142,108 | 155,674 | 170,623 | 187,112 | 31.6% | 2.8% | 16.3% | 3.1% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.6% | 1.9% | 9.7% | 1.9% |
| **Oklahoma** | | | | | | | | | | | | | | | | | | | | | | |
| Delaware | 147 | 240 | 281 | 329 | 382 | 440 | 503 | 570 | 63.3% | 5.0% | 17.0% | 3.2% | 17.1% | 3.2% | 16.1% | 3.0% | 15.1% | 2.9% | 14.3% | 2.7% | 13.5% | 2.6% |
| Ottawa | 254 | 295 | 319 | 344 | 373 | 407 | 447 | 491 | 16.1% | 1.5% | 8.1% | 1.6% | 7.9% | 1.5% | 8.6% | 1.7% | 9.2% | 1.8% | 9.6% | 1.9% | 10.0% | 1.9% |
| Rest of State | 41,168 | 51,456 | 61,876 | 67,750 | 74,155 | 81,172 | 88,869 | 97,334 | 25.0% | 2.3% | 20.3% | 3.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% |
| State Total | 41,569 | 51,991 | 62,476 | 68,423 | 74,910 | 82,019 | 89,818 | 98,396 | 25.1% | 2.3% | 20.2% | 3.7% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.5% | 1.8% | 9.6% | 1.8% |
| **U.S.** | 4,097,139 | 5,512,007 | 6,560,510 | 7,280,030 | 8,071,700 | 8,946,970 | 9,915,860 | 10,989,870 | 34.5% | 3.0% | 19.0% | 3.5% | 11.0% | 2.1% | 10.9% | 2.1% | 10.8% | 2.1% | 10.8% | 2.1% | 10.8% | 2.1% |

[1] Woods & Poole estimates, historical and forecast

## Table B-6
## Retail Sales Summary - Historical and Projected (Millions-1996$)
**by State, County, City and MSA**

| | Historical[1] | | Projections-W&P[1] | | | | | | Change | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | '90-00 | | '00-'05 | | '05-'10 | | '10-'15 | | '15-20 | | '20-'25 | | '25-30 | |
| | 1990 | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC | Total | AAPC |
| **Arkansas** | | | | | | | | | | | | | | | | | | | | | | |
| Benton | 701 | 1,285 | 1,613 | 1,990 | 2,396 | 2,838 | 3,320 | 3,849 | 83.3% | 6.2% | 25.5% | 4.7% | 23.3% | 4.3% | 20.4% | 3.8% | 18.4% | 3.4% | 17.0% | 3.2% | 15.9% | 3.0% |
| Carroll | 137 | 216 | 241 | 274 | 310 | 348 | 390 | 436 | 57.4% | 4.6% | 11.5% | 2.2% | 13.7% | 2.6% | 13.0% | 2.5% | 12.3% | 2.4% | 12.2% | 2.3% | 11.8% | 2.3% |
| Madison | 34 | 54 | 59 | 67 | 76 | 86 | 96 | 107 | 59.1% | 4.8% | 10.3% | 2.0% | 13.8% | 2.6% | 13.0% | 2.5% | 12.5% | 2.4% | 12.1% | 2.3% | 11.8% | 2.3% |
| Washington | 1,145 | 1,750 | 1,976 | 2,212 | 2,467 | 2,741 | 3,342 | 3,745 | 52.8% | 4.3% | 12.9% | 2.5% | 12.0% | 2.3% | 11.5% | 2.2% | 11.1% | 2.1% | 21.9% | 4.0% | 12.1% | 2.3% |
| Rest of State | 14,906 | 21,620 | 23,391 | 25,522 | 27,803 | 30,267 | 32,642 | 35,497 | 45.0% | 3.8% | 8.2% | 1.6% | 9.1% | 1.8% | 8.9% | 1.7% | 8.9% | 1.7% | 7.8% | 1.5% | 8.7% | 1.7% |
| State Total | 16,923 | 24,925 | 27,280 | 30,065 | 33,052 | 36,280 | 39,790 | 43,634 | 47.3% | 3.9% | 9.4% | 1.8% | 10.2% | 2.0% | 9.9% | 1.9% | 9.8% | 1.9% | 9.7% | 1.9% | 9.7% | 1.9% |
| **Missouri** | | | | | | | | | | | | | | | | | | | | | | |
| Barry | 159 | 288 | 314 | 352 | 393 | 437 | 485 | 537 | 81.5% | 6.1% | 9.1% | 1.8% | 12.0% | 2.3% | 11.6% | 2.2% | 11.2% | 2.1% | 11.0% | 2.1% | 10.8% | 2.1% |
| Greene | 2,482 | 3,751 | 4,120 | 4,591 | 5,096 | 5,642 | 6,236 | 6,886 | 51.1% | 4.2% | 9.9% | 1.9% | 11.4% | 2.2% | 11.0% | 2.1% | 10.7% | 2.1% | 10.5% | 2.0% | 10.4% | 2.0% |
| Jasper | 981 | 1,334 | 1,480 | 1,648 | 1,828 | 2,023 | 2,235 | 2,468 | 36.0% | 3.1% | 11.0% | 2.1% | 11.3% | 2.2% | 10.9% | 2.1% | 10.7% | 2.0% | 10.5% | 2.0% | 10.4% | 2.0% |
| McDonald | 70 | 96 | 105 | 119 | 133 | 149 | 167 | 186 | 36.2% | 3.1% | 9.2% | 1.8% | 13.1% | 2.5% | 12.5% | 2.4% | 12.0% | 2.3% | 11.7% | 2.2% | 11.4% | 2.2% |
| Newton | 224 | 351 | 389 | 436 | 487 | 541 | 601 | 666 | 57.1% | 4.6% | 10.9% | 2.1% | 12.0% | 2.3% | 11.6% | 2.2% | 11.2% | 2.2% | 11.0% | 2.1% | 10.8% | 2.1% |
| Rest of State | 37,991 | 52,937 | 57,543 | 62,389 | 67,570 | 73,157 | 79,224 | 85,866 | 39.3% | 3.4% | 8.7% | 1.7% | 8.4% | 1.6% | 8.3% | 1.6% | 8.3% | 1.6% | 8.3% | 1.6% | 8.4% | 1.6% |
| State Total | 41,907 | 58,757 | 63,952 | 69,535 | 75,507 | 81,949 | 88,947 | 96,608 | 40.2% | 3.4% | 8.8% | 1.7% | 8.7% | 1.7% | 8.6% | 1.7% | 8.5% | 1.7% | 8.5% | 1.7% | 8.6% | 1.7% |
| **Oklahoma** | | | | | | | | | | | | | | | | | | | | | | |
| Delaware | 116 | 189 | 216 | 252 | 291 | 334 | 380 | 430 | 63.5% | 5.0% | 14.2% | 2.7% | 16.8% | 3.2% | 15.5% | 2.9% | 14.5% | 2.8% | 13.8% | 2.6% | 13.3% | 2.5% |
| Ottawa | 175 | 212 | 222 | 235 | 248 | 262 | 278 | 295 | 20.9% | 1.9% | 4.7% | 0.9% | 5.7% | 1.1% | 5.7% | 1.1% | 5.8% | 1.1% | 6.0% | 1.2% | 6.1% | 1.2% |
| Rest of State | 22,360 | 31,647 | 34,392 | 37,398 | 40,614 | 44,083 | 47,852 | 51,979 | 41.5% | 3.5% | 8.7% | 1.7% | 8.7% | 1.7% | 8.6% | 1.7% | 8.5% | 1.7% | 8.6% | 1.7% | 8.6% | 1.7% |
| State Total | 22,651 | 32,048 | 34,829 | 37,884 | 41,153 | 44,679 | 48,510 | 52,704 | 41.5% | 3.5% | 8.7% | 1.7% | 8.8% | 1.7% | 8.6% | 1.7% | 8.6% | 1.7% | 8.6% | 1.7% | 8.6% | 1.7% |
| **U.S.** | 2,089,724 | 2,913,002 | 3,226,110 | 3,544,350 | 3,885,530 | 4,254,050 | 4,654,690 | 5,093,400 | 39.4% | 3.4% | 10.7% | 2.1% | 9.9% | 1.9% | 9.6% | 1.9% | 9.5% | 1.8% | 9.4% | 1.8% | 9.4% | 1.8% |

[1] Woods & Poole estimates, historical and forecast

## Bella Vista Bypass Toll Study Update

### Table B-7
### Annual Average Daily Traffic Trends

| Location | Year 2000 | APC | 2001 | APC | 2002 | APC | 2003 | APC | 2004 | APC | 2005 | AAPC 2000-05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U.S. Route 71 (I-540), 0.2 mile north of Old Dump Road | 22,000 | 0.0 | 22,000 | 4.5 | 23,000 | 8.7 | 25,000 | 17.2 | 29,300 | 15.7 | 33,900 | 9.0 |
| U.S. Route 71, 0.3 mile south of Kingsland Road | 31,000 | 12.9 | 35,000 | (2.9) | 34,000 | 0.0 | 34,000 | 10.3 | 37,500 | (0.5) | 37,300 | 3.8 |
| U.S. Route 71, 0.1 mile north of Hampstead Road | 15,000 | 6.7 | 16,000 | 6.3 | 17,000 | 0.0 | 17,000 | 3.5 | 17,600 | 31.3 | 23,100 | 9.0 |
| AR Highway 72, 1.1 miles west of U.S. Route 71B | 6,600 | 3.0 | 6,800 | 17.6 | 8,000 | 6.3 | 8,500 | 28.2 | 10,900 | 23.9 | 13,500 | 15.4 |
| AR Highway 72, 0.7 mile north of AR Highway 102 Spur | 4,000 | 7.5 | 4,300 | n.a. | n.a. | n.a. | 4,800 | 10.4 | 5,300 | 7.5 | 5,700 | 7.3 |
| U.S. Route 71B, 0.4 mile south of U.S. Route 71 | 17,000 | (5.9) | 16,000 | 0.0 | 16,000 | (6.3) | 15,000 | 28.0 | 19,200 | 14.1 | 21,900 | 5.2 |
| AR Highway 279, 0.3 mile north of Persimmon | 1,900 | 15.8 | 2,200 | 0.0 | 2,200 | 0.0 | 2,200 | 27.3 | 2,800 | 17.9 | 3,300 | 11.7 |
| AR Highway 340 0.15 mile north of Cannock Lane | 9,600 | (6.3) | 9,000 | 7.8 | 9,700 | (10.3) | 8,700 | 13.8 | 9,900 | (5.1) | 9,400 | (0.4) |
| U.S. Route 71 0.5 mile south of MO RT B | n.a. | n.a. | 11,952 | 3.3 | 12,346 | 0.5 | 12,407 | (0.3) | 12,371 | n.a. | n.a. | 1.2 [1] |

[1] Represents the three year AAPC from 2001 through 2004.
AAPC = Average Annual Percent Change
APC = Annual Percent Change
n.a. - not available
Source: AHTD and MoDOT

## Bella Vista Bypass Toll Study Update

### Table B-8
### Index of Monthly Traffic Variations

| | Rural Functional Classification Indices [1] | | | | |
|---|---|---|---|---|---|
| **Month** | Interstate | Principal Arterial | Minor Arterial | Collector | Local |
| January | 0.88 | 0.89 | 0.94 | 0.89 | 1.00 |
| February | 0.90 | 0.90 | 0.94 | 0.91 | 1.00 |
| March | 1.00 | 0.99 | 1.00 | 1.01 | 1.00 |
| April | 0.96 | 1.00 | 1.03 | 1.05 | 1.00 |
| May | 1.02 | 1.00 | 1.02 | 1.06 | 1.00 |
| June | 1.06 | 1.09 | 1.05 | 1.08 | 1.00 |
| July | 1.08 | 1.09 | 1.04 | 1.04 | 1.00 |
| August | 1.05 | 1.04 | 1.02 | 1.02 | 1.00 |
| September | 1.02 | 1.03 | 1.02 | 0.99 | 1.00 |
| October | 1.02 | 1.01 | 1.00 | 1.02 | 1.00 |
| November | 1.02 | 1.01 | 1.04 | 0.98 | 1.00 |
| December | 0.98 | 0.95 | 0.93 | 0.97 | 1.00 |

| | Urban Functional Classification Indices [1] | | | | |
|---|---|---|---|---|---|
| **Month** | Interstate | Other Freeway & Expressway | Principal Arterial | Minor Arterial & Collector | Local |
| January | 0.93 | 0.91 | 0.97 | 0.97 | 1.00 |
| February | 0.95 | 0.92 | 0.95 | 0.95 | 1.00 |
| March | 1.00 | 1.01 | 0.97 | 0.97 | 1.00 |
| April | 1.00 | 1.04 | 0.99 | 0.99 | 1.00 |
| May | 1.03 | 1.01 | 1.00 | 1.00 | 1.00 |
| June | 1.01 | 0.98 | 1.06 | 1.06 | 1.00 |
| July | 1.01 | 1.05 | 1.02 | 1.02 | 1.00 |
| August | 1.02 | 1.02 | 1.03 | 1.03 | 1.00 |
| September | 0.98 | 1.02 | 0.99 | 0.99 | 1.00 |
| October | 1.08 | 1.05 | 1.02 | 1.02 | 1.00 |
| November | 0.99 | 0.98 | 0.97 | 0.97 | 1.00 |
| December | 0.99 | 0.99 | 1.03 | 1.03 | 1.00 |

[1] Monthly Index = Average monthly traffic volume/ average annual daily traffic volume.

Note: Local roads use no adjustment factors for volumes less than 500 vehicles per day.
Higher volumes are adjusted by using the factors for the next higher functional classification.

Source: AHTD, March 3, 2005.

## Bella Vista Bypass Toll Study Update

### Table B-9
### Daily Traffic Variations

| Day | U.S. Route 71 Arkansas North of AR CR 40 | |
|---|---|---|
| | Volume | Index [1] |
| Monday | 32,854 | 1.05 |
| Tuesday | 33,651 | 1.07 |
| Wednesday | 33,985 | 1.08 |
| Thursday | 34,327 | 1.09 |
| Friday | 31,949 | 1.02 |
| Saturday | 24,122 | 0.77 |
| Sunday | 28,743 | 0.92 |
| Average Day | 31,376 | 1.00 |

[1] Daily Index = Ratio of individual day's traffic to average daily traffic for the week.

Source: WSA counts in March 2003

## Bella Vista Bypass Toll Study Update

### Table B-10
### Summary of Survey Responses

| Survey Station | Location | Passing Traffic | Surveys Distributed | Valid Survey Responses | Percent Sample [1] | Percent Response [2] |
|---|---|---|---|---|---|---|
| 1 | SB U.S. Route 71 south of MO Highway K | 4,123 | 3,810 | 798 | 19.4 | 20.9 |
| 2 | WB MO Highway H west of U.S. Route 71 | 681 | 589 | 80 | 11.7 | 13.6 |
| 3 | WB MO Highway 90 west of Mill Creek Bridge | 162 | 119 | 10 | 6.2 | 8.4 |
| 4 | EB MO Highway 90 west of U.S. Route 71 | 247 | 171 | 19 | 7.7 | 11.1 |
| 6 | WB AR Highway 72 west of Stage Coach Road | 1,937 | 1,730 | 421 | 21.7 | 24.3 |
| 7 | SB AR Highway 279 south of AR Highway 72 | 489 | 450 | 124 | 25.4 | 27.6 |
| 8 | EB AR Highway 72 east of Camille Road | 1,613 | 1,499 | 385 | 23.9 | 25.7 |
| 9 | NB U.S. Route 71 north of AR CR 40 | 11,966 | 7,144 | 2,284 | 19.1 | 32.0 |
| Total | | 21,218 | 15,512 | 4,121 | 19.4 | 26.6 |
| 1-4 | Missouri Stations | 5,213 | 4,689 | 907 | 17.4 | 19.3 |
| 6-9 | Arkansas Stations | 16,005 | 10,823 | 3,214 | 20.1 | 29.7 |

[1] Valid responses as a percent of passing traffic.

[2] Valid responses as a percent of surveys distributed.

## Table B-11
## Vehicle Classification Counts
**(Percent)**

| Survey Station | Location | Passenger Cars | | | Light CVs | | | Heavy CVs | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M/C | Car | P.U. | Bus | 2 Ax SU | 3 Ax SU | 4 Ax SU | 3-4 A TT | 5 Ax TT | 6 Ax TT | 5 Ax DB | 6 Ax DB | 7 Ax MT | Total |
| 1 | U.S. Route 71 south of MO Highway K | 0.9 | 46.5 | 20.7 | 0.9 | 3.6 | 1.5 | 0.2 | 2.7 | 20.0 | 1.8 | 0.5 | 0.1 | 0.7 | 100.0 |
| 2 | MO Highway H west of U.S. Route 71 | 0.0 | 61.0 | 29.3 | 0.6 | 4.9 | 1.6 | 0.1 | 0.8 | 1.5 | 0.2 | 0.0 | 0.0 | 0.0 | 100.0 |
| 3 | MO Highway 90 west of Mill Creek Bridge | 0.0 | 59.2 | 31.9 | 0.6 | 4.7 | 0.6 | 0.0 | 0.7 | 2.2 | 0.1 | 0.0 | 0.0 | 0.0 | 100.0 |
| 4 | MO Highway 90 west of U.S. Route 71 | 0.1 | 53.7 | 33.1 | 0.8 | 8.2 | 1.1 | 0.1 | 1.2 | 1.6 | 0.1 | 0.0 | 0.0 | 0.0 | 100.0 |
| 6 | AR Highway 72 west of Stage Coach Road | 0.6 | 62.1 | 28.6 | 0.3 | 1.3 | 2.2 | 1.4 | 1.0 | 2.4 | 0.0 | 0.0 | 0.1 | 0.0 | 100.0 |
| 7 | AR Highway 279 south of AR Highway 72 | 0.3 | 55.2 | 32.2 | 0.5 | 2.2 | 3.5 | 0.9 | 3.0 | 2.1 | 0.1 | 0.0 | 0.0 | 0.0 | 100.0 |
| 8 | AR Highway 72 east of Camille Road | 0.3 | 62.5 | 31.9 | 0.2 | 1.6 | 1.4 | 0.6 | 0.8 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 9 | U.S. Route 71 north of AR CR 40 | 0.4 | 65.5 | 21.8 | 0.1 | 0.8 | 1.1 | 0.3 | 1.9 | 7.6 | 0.0 | 0.2 | 0.1 | 0.0 # | 100.0 |

Source: AHTD and MODOT counts in November / December 2005

## Table B-12
## Trip Purpose Distribution
(Percent)

| Survey Station | Location | Trip Purpose | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | To/From Work | Company Business | Personal Business | School | Shopping | Recreation | Social | No Response | Total |
| 1 | SB U.S. Route 71 south of MO Highway K | 27.9 | 35.8 | 17.6 | 2.3 | 3.5 | 5.2 | 7.7 | 0.0 | 100.0 |
| 2 | WB MO Highway H west of U.S. Route 71 | 43.6 | 17.1 | 19.7 | 8.5 | 5.3 | 3.7 | 2.1 | 0.0 | 100.0 |
| 3 | WB MO Highway 90 west of Mill Creek Bridge | 53.5 | 34.8 | 5.9 | 0.0 | 5.8 | 0.0 | 0.0 | 0.0 | 100.0 |
| 4 | EB MO Highway 90 west of U.S. Route 71 | 36.2 | 37.8 | 9.8 | 0.0 | 16.2 | 0.0 | 0.0 | 0.0 | 100.0 |
| 6 | WB AR Highway 72 west of Stage Coach Road | 37.8 | 16.6 | 21.2 | 10.4 | 7.6 | 1.4 | 3.1 | 1.9 | 100.0 |
| 7 | SB AR Highway 279 south of AR Highway 72 | 33.8 | 24.5 | 26.0 | 2.7 | 5.9 | 3.5 | 3.6 | 0.0 | 100.0 |
| 8 | EB AR Highway 72 east of Camille Road | 40.6 | 11.0 | 20.9 | 3.2 | 17.9 | 2.6 | 3.8 | 0.0 | 100.0 |
| 9 | NB U.S. Route 71 north of AR CR 40 | 29.6 | 18.3 | 25.5 | 3.6 | 14.2 | 4.3 | 3.7 | 0.8 | 100.0 |
| Total | | 32.0 | 21.2 | 22.6 | 4.0 | 11.5 | 3.9 | 4.2 | 0.6 | 100.0 |
| 1-4 | Missouri Stations | 31.7 | 33.3 | 16.9 | 2.9 | 4.7 | 4.4 | 6.1 | 0.0 | 100.0 |
| 6-9 | Arkansas Stations | 32.0 | 17.4 | 24.4 | 4.3 | 13.7 | 3.7 | 3.7 | 0.8 | 100.0 |

Source: WSA surveys in March 2003.

## Table B-13
## Trip Frequency Distribution
(Percent)

| Survey Station | Location | Trip Frequency: Less Than Once Per Week | Once Per Week | Twice Per Week | Three Times Per Week | Four Times Per Week | Five Times Per Week | Six or More Times Per Week | No Response | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SB U.S. Route 71 south of MO Highway K | 35.6 | 9.9 | 10.2 | 4.4 | 5.0 | 16.9 | 17.5 | 0.5 | 100.0 |
| 2 | WB MO Highway H west of U.S. Route 71 | 20.5 | 6.5 | 6.6 | 7.7 | 5.9 | 25.0 | 27.8 | 0.0 | 100.0 |
| 3 | WB MO Highway 90 west of Mill Creek Bridge | 44.2 | 11.6 | 0.0 | 11.7 | 0.0 | 5.8 | 26.7 | 0.0 | 100.0 |
| 4 | EB MO Highway 90 west of U.S. Route 71 | 12.5 | 10.8 | 9.8 | 5.4 | 12.5 | 38.2 | 10.8 | 0.0 | 100.0 |
| 6 | WB AR Highway 72 west of Stage Coach Road | 15.9 | 7.5 | 9.9 | 8.2 | 5.8 | 21.1 | 31.6 | 0.0 | 100.0 |
| 7 | SB AR Highway 279 south of AR Highway 72 | 12.6 | 14.9 | 7.2 | 13.0 | 10.6 | 19.3 | 22.4 | 0.0 | 100.0 |
| 8 | EB AR Highway 72 east of Camille Road | 9.3 | 6.4 | 13.4 | 14.1 | 7.4 | 26.4 | 23.0 | 0.0 | 100.0 |
| 9 | NB U.S. Route 71 north of AR CR 40 | 16.4 | 8.6 | 10.7 | 13.7 | 8.3 | 20.5 | 21.3 | 0.5 | 100.0 |
| Total | | 19.3 | 8.7 | 10.5 | 11.2 | 7.4 | 20.7 | 21.8 | 0.4 | 100.0 |
| 1-4 | Missouri Stations | 32.3 | 9.5 | 9.2 | 5.3 | 5.4 | 19.0 | 18.9 | 0.4 | 100.0 |
| 6-9 | Arkansas Stations | 15.3 | 8.4 | 10.8 | 13.1 | 8.0 | 21.3 | 22.7 | 0.4 | 100.0 |

Source: WSA surveys in March 2003

## Table B-14
## Vehicle Occupancy Distribution
**(Percent)**

| Survey Station | Location | Vehicle Occupancy | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | One | Two | Three | Four | Five | Six or More | No Response | Total |
| 1 | SB U.S. Route 71 south of MO Highway K | 65.2 | 26.2 | 5.5 | 2.0 | 0.7 | 0.4 | 0.0 | 100.0 |
| 2 | WB MO Highway H west of U.S. Route 71 | 64.6 | 21.6 | 7.2 | 0.0 | 1.5 | 5.1 | 0.0 | 100.0 |
| 3 | WB MO Highway 90 west of Mill Creek Bridge | 67.4 | 20.9 | 11.7 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 4 | EB MO Highway 90 west of U.S. Route 71 | 74.0 | 20.6 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 6 | WB AR Highway 72 west of Stage Coach Road | 60.2 | 27.9 | 5.6 | 2.1 | 1.6 | 2.6 | 0.0 | 100.0 |
| 7 | SB AR Highway 279 south of AR Highway 72 | 60.1 | 31.5 | 5.6 | 1.4 | 1.4 | 0.0 | 0.0 | 100.0 |
| 8 | EB AR Highway 72 east of Camille Road | 61.1 | 33.1 | 3.2 | 1.1 | 1.1 | 0.0 | 0.4 | 100.0 |
| 9 | NB U.S. Route 71 north of AR CR 40 | 66.9 | 26.4 | 4.3 | 1.8 | 0.2 | 0.4 | 0.0 | 100.0 |
| Total | | 65.3 | 26.9 | 4.7 | 1.7 | 0.6 | 0.7 | 0.1 | 100.0 |
| 1-4 | Missouri Stations | 65.8 | 25.0 | 6.0 | 1.5 | 0.7 | 1.0 | 0.0 | 100.0 |
| 6-9 | Arkansas Stations | 65.2 | 27.5 | 4.3 | 1.7 | 0.6 | 0.6 | 0.1 | 100.0 |

Source: WSA surveys in March 2003.

## Table B-15
## Vehicle Registration Distribution
**(Percent)**

| Survey Station | Location | Arkansas | Missouri | Oklahoma | Kansas | Other | No Response | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | SB U.S. Route 71 south of MO Highway K | 25.4 | 53.9 | 8.3 | 3.1 | 9.0 | 0.3 | 100.0 |
| 2 | WB MO Highway H west of U.S. Route 71 | 12.6 | 82.2 | 1.1 | 0.0 | 3.1 | 1.0 | 100.0 |
| 3 | WB MO Highway 90 west of Mill Creek Bridge | 29.0 | 71.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 4 | EB MO Highway 90 west of U.S. Route 71 | 20.6 | 63.8 | 15.6 | 0.0 | 0.0 | 0.0 | 100.0 |
| 6 | WB AR Highway 72 west of Stage Coach Road | 91.6 | 3.5 | 2.6 | 0.4 | 0.2 | 1.7 | 100.0 |
| 7 | SB AR Highway 279 south of AR Highway 72 | 90.1 | 4.9 | 0.8 | 1.1 | 3.1 | 0.0 | 100.0 |
| 8 | EB AR Highway 72 east of Camille Road | 92.9 | 2.7 | 2.7 | 0.0 | 1.7 | 0.0 | 100.0 |
| 9 | NB U.S. Route 71 north of AR CR 40 | 79.3 | 11.1 | 2.8 | 1.7 | 4.5 | 0.6 | 100.0 |
| Total | | 68.7 | 20.9 | 3.8 | 1.5 | 4.5 | 0.6 | 100.0 |
| 1-4 | Missouri Stations | 23.5 | 59.2 | 7.4 | 2.3 | 7.2 | 0.4 | 100.0 |
| 6-9 | Arkansas Stations | 82.8 | 9.0 | 2.7 | 1.3 | 3.6 | 0.6 | 100.0 |

Source: WSA suveys in March 2003.

**Table B-16**
**Typical Time-Distance Relationships with Corridor Managagement Plan**

| Movement | Routing | Distance | | Time | | Average Speed |
|---|---|---|---|---|---|---|
| | | Miles | Savings (miles) | Minutes | Savings (min.) | (mph) |
| A - B | Bypass | 15.0 | (0.5) | 16.1 | 5.9 | 55.9 |
| | Alternate | 14.5 | | 22.0 | | 39.6 |
| A - C | Bypass | 15.8 | (0.6) | 15.0 | 7.3 | 63.4 |
| | Alternate | 15.2 | | 22.3 | | 41.0 |
| A - D | Bypass | 23.9 | (1.5) | 22.6 | 14.2 | 63.5 |
| | Alternate | 22.4 | | 36.8 | | 36.5 |
| A - E | Bypass | 25.8 | (2.8) | 24.4 | 14.1 | 63.4 |
| | Alternate | 23.0 | | 38.5 | | 35.8 |

A - Intersection of US 71 and Highway 102 in Bentonville
B - Intersection of Highway 279 and Highway 340 in Bella Vista Village
C - Highway 72 West of Proposed Highway 72 North Interchange for Bella Vista Bypass
D - Highway 90 West of Proposed Highway 90 Interchange for Bella Vista Bypass
E - Highway H at US 71 Interchange

## Table B-17
## Corridor Share Analysis

| Screenline/Route | 2011 Estimated Average Weekday Traffic | | | | | | 2025 Estimated Average Weekday Traffic | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Passenger Vehicles | Percent of Screenline | Commercial Vehicles | Percent of Screenline | Total Vehicles | Percent of Screenline | Passenger Vehicles | Percent of Screenline | Commercial Vehicles | Percent of Screenline | Total Vehicles | Percent of Screenline |
| *Screenline A-A* | | | | | | | | | | | | |
| **North of SR 90** | | | | | | | | | | | | |
| U.S. 71 | 3,600 | 45.0 | 2,000 | 41.7 | 5,600 | 43.8 | 4,700 | 44.8 | 2,600 | 40.0 | 7,300 | 42.9 |
| Bypass | 4,400 | 55.0 | 2,800 | 58.3 | 7,200 | 56.3 | 5,800 | 55.2 | 3,900 | 60.0 | 9,700 | 57.1 |
| Total | 8,000 | 100.0 | 4,800 | 100.0 | 12,800 | 100.0 | 10,500 | 100.0 | 6,500 | 100.0 | 17,000 | 100.0 |
| *Screenline B-B* | | | | | | | | | | | | |
| **North of State Line** | | | | | | | | | | | | |
| U.S. 71 | 5,700 | 52.8 | 2,200 | 44.9 | 7,900 | 50.3 | 7,500 | 52.8 | 2,900 | 43.3 | 10,400 | 49.8 |
| Bypass | 5,100 | 47.2 | 2,700 | 55.1 | 7,800 | 49.7 | 6,700 | 47.2 | 3,800 | 56.7 | 10,500 | 50.2 |
| Total | 10,800 | 100.0 | 4,900 | 100.0 | 15,700 | 100.0 | 14,200 | 100.0 | 6,700 | 100.0 | 20,900 | 100.0 |
| *Screenline C-C* | | | | | | | | | | | | |
| **South of CR 40** | | | | | | | | | | | | |
| U.S. 71 | 26,300 | 73.1 | 2,300 | 47.9 | 28,600 | 70.1 | 36,600 | 71.6 | 3,300 | 49.3 | 39,900 | 69.0 |
| Bypass | 9,700 | 26.9 | 2,500 | 52.1 | 12,200 | 29.9 | 14,500 | 28.4 | 3,400 | 50.7 | 17,900 | 31.0 |
| Total | 36,000 | 100.0 | 4,800 | 100.0 | 40,800 | 100.0 | 51,100 | 100.0 | 6,700 | 100.0 | 57,800 | 100.0 |
| *Screenline D-D* | | | | | | | | | | | | |
| **South of U.S. 71B** | | | | | | | | | | | | |
| U.S. 71 | 20,900 | 59.0 | 4,100 | 85.4 | 25,000 | 62.2 | 29,300 | 58.4 | 5,500 | 84.6 | 34,800 | 61.4 |
| U.S. 71B | 14,500 | 41.0 | 700 | 14.6 | 15,200 | 37.8 | 20,900 | 41.6 | 1,000 | 15.4 | 21,900 | 38.6 |
| Total | 35,400 | 100.0 | 4,800 | 100.0 | 40,200 | 100.0 | 50,200 | 100.0 | 6,500 | 100.0 | 56,700 | 100.0 |

## Table B-18
## Estimated Average Weekday Transactions and Annual Toll Revenue
### US 71 With Corridor Management Plan

| Toll Plaza | 2011 Average Weekday Transactions | 2011 Average Toll [1] | 2011 Annual Weekday Toll Revenue [1] | 2025 Average Weekday Transactions | 2025 Average Toll [1] | 2025 Annual Weekday Toll Revenue [1] |
|---|---|---|---|---|---|---|
| CR 34 | 200 | $ 0.500 | $ 25,000 | 200 | $ 0.500 | $ 25,000 |
| Highway 72 North | 1,000 | 1.243 | 311,000 | 1,800 | 1.327 | 597,000 |
| Highway 72 South | 1,000 | 1.431 | 358,000 | 1,000 | 1.211 | 303,000 |
| Mainline | 12,200 | 2.193 | 6,689,000 | 17,900 | 2.138 | 9,568,000 |
| Total | 14,400 | | $ 7,383,000 | 20,900 | | $ 10,493,000 |
| Annual Weekday Toll Revenue Adjusted to Annual Levels | | | | | | |
| -Without Ramp-Up | | | $ 9,629,000 | | | $ 13,422,000 |
| -With Ramp-Up | | | $ 7,222,000 | | | n.a. |

[1] Toll rates and toll revenue are in year 2005 dollars.
n.a. - not applicable

# Bella Vista Bypass Toll Study Update

## Table B-19
## Estimated Annual Transactions and Toll Revenue

| Year | | Estimated Annual Transactions | Estimated Annual Revenue [1] |
|---|---|---|---|
| 2011 | [2] [3] | 3,641,000 | $ 7,222,000 |
| 2012 | [3] | 4,741,000 | 9,385,000 |
| 2013 | | 5,327,000 | 10,515,000 |
| 2014 | | 5,530,000 | 10,862,000 |
| 2015 | | 5,712,000 | 11,166,000 |
| 2016 | | 5,872,000 | 11,434,000 |
| 2017 | | 6,007,000 | 11,674,000 |
| 2018 | | 6,133,000 | 11,908,000 |
| 2019 | | 6,256,000 | 12,134,000 |
| 2020 | | 6,378,000 | 12,358,000 |
| 2021 | | 6,499,000 | 12,581,000 |
| 2022 | | 6,616,000 | 12,795,000 |
| 2023 | | 6,732,000 | 13,006,000 |
| 2024 | | 6,846,000 | 13,214,000 |
| 2025 | | 6,958,000 | 13,422,000 |
| 2026 | | 7,062,000 | 13,623,000 |
| 2027 | | 7,168,000 | 13,827,000 |
| 2028 | | 7,276,000 | 14,034,000 |
| 2029 | | 7,385,000 | 14,245,000 |
| 2030 | | 7,496,000 | 14,459,000 |
| 2031 | | 7,571,000 | 14,604,000 |
| 2032 | | 7,647,000 | 14,750,000 |
| 2033 | | 7,723,000 | 14,898,000 |
| 2034 | | 7,800,000 | 15,047,000 |
| 2035 | | 7,878,000 | 15,197,000 |
| 2036 | | 7,957,000 | 15,349,000 |
| 2037 | | 8,037,000 | 15,502,000 |
| 2038 | | 8,117,000 | 15,657,000 |
| 2039 | | 8,198,000 | 15,814,000 |
| 2040 | | 8,280,000 | 15,972,000 |
| 2041 | | 8,363,000 | 16,132,000 |
| 2042 | | 8,447,000 | 16,293,000 |

[1] Revenue is in 2005 dollars.

[2] Bella Vista Bypass is assumed to open to traffic on January 1, 2011.

[3] Includes a ramp-up impact of -25.0 percent in 2011 and -7.0 percent in 2012.

## Table B-20
## Transactions and Toll Revenue Growth Schedule

| Year | | Estimated Annual Growth (percent) Transactions | Revenue |
|---|---|---|---|
| 2011 | (1) (2) | n.a. | n.a. |
| 2012 | (2) | 4.5 | 4.8 |
| 2013 | | 3.8 | 4.2 |
| 2014 | | 3.3 | 3.3 |
| 2015 | | 2.8 | 2.8 |
| 2016 | | 2.3 | 2.4 |
| 2017 | | 2.1 | 2.1 |
| 2018 | | 2.0 | 2.0 |
| 2019 | | 2.0 | 1.9 |
| 2020 | | 1.9 | 1.9 |
| 2021 | | 1.8 | 1.8 |
| 2022 | | 1.8 | 1.7 |
| 2023 | | 1.7 | 1.7 |
| 2024 | | 1.6 | 1.6 |
| 2025 | | 1.5 | 1.6 |
| 2026 | | 1.5 | 1.5 |
| 2027 | | 1.5 | 1.5 |
| 2028 | | 1.5 | 1.5 |
| 2029 | | 1.5 | 1.5 |
| 2030 | | 1.0 | 1.5 |
| 2031 | | 1.0 | 1.0 |
| 2032 | | 1.0 | 1.0 |
| 2033 | | 1.0 | 1.0 |
| 2034 | | 1.0 | 1.0 |
| 2035 | | 1.0 | 1.0 |
| 2036 | | 1.0 | 1.0 |
| 2037 | | 1.0 | 1.0 |
| 2038 | | 1.0 | 1.0 |
| 2039 | | 1.0 | 1.0 |
| 2040 | | 1.0 | 1.0 |
| 2041 | | 1.0 | 1.0 |
| 2042 | | | 1.0 |

(1) Bella Vista Bypass is assumed to open to traffic on January 1, 2011.

(2) Excludes a ramp-up impact of -25.0 percent in 2011 and -7.0 percent in 2012.