

2005 FREEWAY STUDY

Texarkana Metropolitan Planning Organization

November 2005

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On March 10, 2004, the Arkansas State Highway and Transportation Department (AHTD) opened SH 245 between the Arkansas/Texas State Line and US Highway 71 and the Texas Department of Transportation (TxDOT) opened Loop 151 between the Arkansas/Texas State Line and SH 93 (Lake Drive). With the opening of these two freeway sections (called the southern loop for the purpose of this study), the loop around Texarkana was completed from IH-30 at SH 245 to IH-30 at US 59 (Jarvis Parkway). In order to measure the impact of the opening of the southern loop on the existing freeways within the Texarkana area, traffic counts were conducted in 2003, 2004 and 2005 by the Texarkana MPO staff.

Of particular interest to this study is assessing if the southern loop opening had an affect on congestion within the IH-30 corridor between SH 245 and US 59 (Jarvis Parkway). Looking at the impact on this section of IH-30 is important because it carries, by far, the greatest number of vehicles per day in the Texarkana area and is one of the few interstate entrances into Texas from the eastern United States.

Sites where traffic counts were conducted for this study are shown on Map 1. With the exception of site 13, traffic counts are classification counts with the results presented as number of vehicles. The one exception of not being a vehicular count is site 13 (US 71, north of County Road 10). Site 13 was a count of the number of axle strikes on the traffic counting tube divided by 2 and, therefore, is not a vehicular count.

Following is a description of the locations of each of the 13 sites:

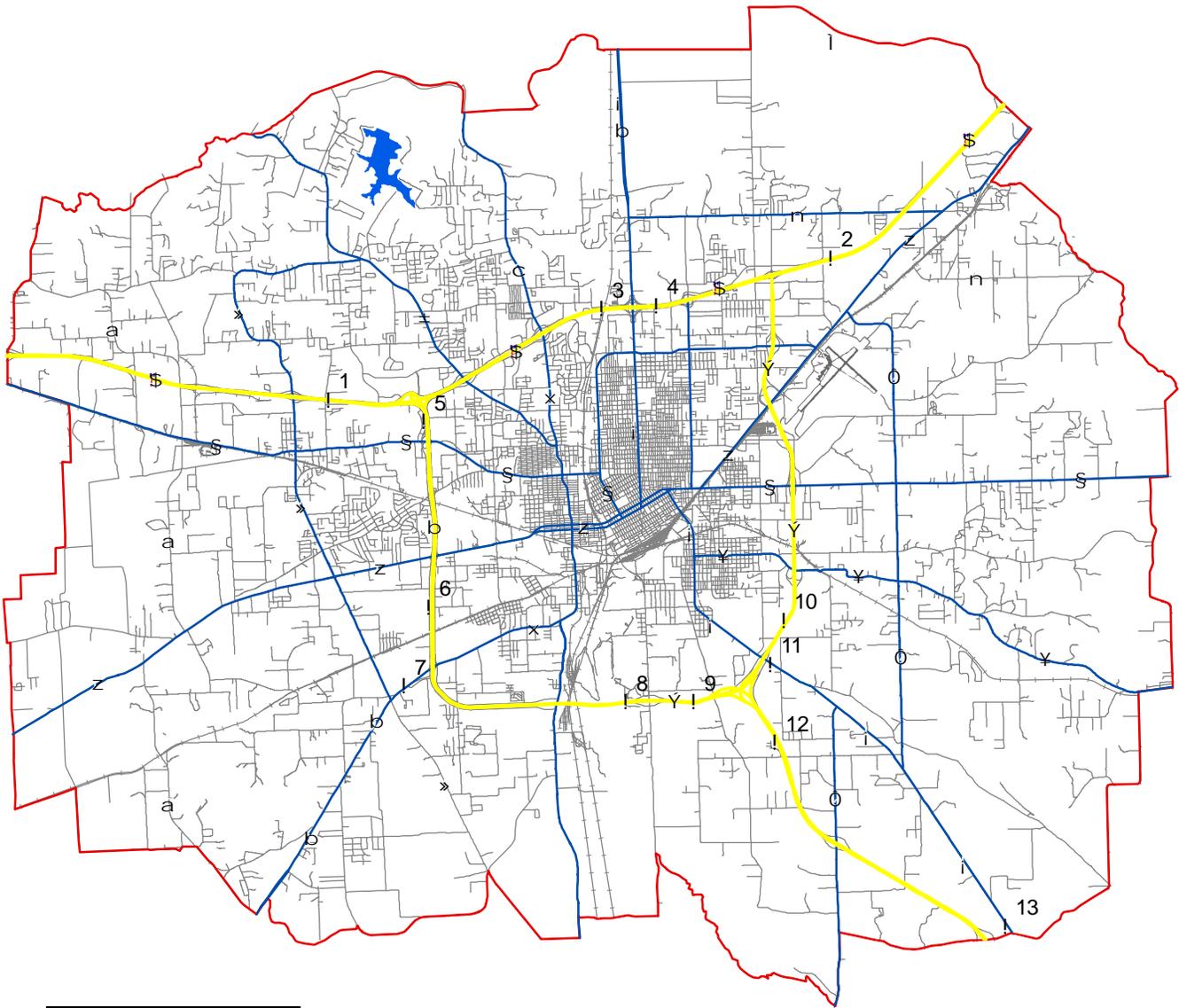
- Site 1 – IH-30, west of US 59 (Jarvis Parkway)
- Site 2 – IH-30, east of SH 245
- Site 3 – IH-30, west of US 59/US 71 (State Line Avenue)
- Site 4 – IH-30, east of US 59/US 71 (State Line Avenue)
- Site 5 – US 59 (Jarvis Parkway), south of IH-30
- Site 6 – US 59 (Jarvis Parkway), north of SH 93 (Lake Drive)
- Site 7 – US 59 (Lake Drive), north of FM 989 (Kings Highway)
- Site 8 – Loop 151, west of South State Line Avenue
- Site 9 – SH 245, east of South State Line Avenue
- Site 10 – SH 245, north of US 71 (East Street)
- Site 11 – US 71 (East Street), south of SH 245
- Site 12 – AR 549, south of SH 245
- Site 13 – US 71 (East Street), north of County Road 10

Traffic Volumes Along I-30

Four sites were analyzed to assess the impact on traffic along IH-30 resulting from the opening of the southern loop. Sites 1 and 2 show the overall change in traffic volumes entering and exiting the Texarkana area along IH-30. Site 1 on IH-30, west of US 59 (Jarvis Parkway), is where traffic enters and exits to the west of Texarkana.

MAP 1

TRAFFIC COUNT SITES 2005 FREEWAY STUDY TEXARKANA MPO



TRAFFIC COUNT LOCATIONS

LEGEND

- ! Traffic Count Locations
- Freeways
- Major Roadways
- Texarkana MPO Boundary

Scale: 1 inch = 2.5 miles

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This map was prepared by the Texarkana Metropolitan Planning Organization (MPO)

Site 2 on IH-30, east of SH 245, is where traffic enters and exits to the east of Texarkana. Sites 3 and 4 were analyzed to determine the impact from the opening of the southern loop on traffic along IH-30 in the center of Texarkana at the IH-30 interchange with US 59/US 71 (State Line Avenue). Site 3 on IH-30 is west of the State Line Avenue interchange and site 4 is east of that interchange.

IH-30, west of US 59 (Jarvis Parkway)

Vehicles entering and exiting the Texarkana area west of the intersection of IH-30 and US 59 (Jarvis Parkway) (site 1) increased in number by 3.8% from January and February 2004 (traffic count of 31,008 vehicles) to May 2005 (traffic count of 32,186 vehicles). The fact that the eastbound traffic count was lower in 2005 than in 2003 may be attributed to the 2005 count only being a 2-day average for Tuesday and Wednesday while the 2004 count was a 3-day average from Tuesday through Thursday. Often, traffic counts are higher on Thursdays compared to Tuesdays and Wednesdays. The Thursday count was not included due to the traffic counting tube being cut. If the Thursday count had been included, the modest increase of 3.8% from 2004 to 2005 might have been slightly higher, perhaps in the vicinity of 5%.

	Eastbound IH-30, west of US 59		Numerical Change	Percent Change
DATES	January 27-29, 2004	May 24-25, 2005		
VEHICLES	15,755	15,528	- 227	- 1.4%

	Westbound IH-30, west of US 59		Numerical Change	Percent Change
DATES	February 3-5, 2004	May 31-June 2, 2005		
VEHICLES	15,253	16,658	1,405	9.2%

IH-30, east of SH 245

Vehicles entering and exiting the Texarkana area east of the intersection of IH-30 and SH 245 (site 2) had a 10.6% increase from 18,767 vehicles in January 2004 to 20,762 vehicles in May 2005. The traffic counts for IH-30 eastbound and westbound lanes are shown in the following 2 tables. Again the traffic counter failed to count vehicles on Thursday, May 5, 2005. This may account for the eastbound traffic increase of 9% being less than the 12.2% experienced on the westbound lanes. The 10.6% increase in traffic volume entering and exiting the Texarkana area from the Arkansas side of the Texarkana area was more than double the percentage increase in traffic entering from the Texas side of the area.

	Eastbound IH-30, east of SH 245		Numerical Change	Percent Change
DATES	January 22-22, 2004	May 3-4, 2005		
VEHICLES	9,395	10,243	848	9.0%

	Westbound IH-30, east of SH 245		Numerical Change	Percent Change
DATES	January 22-22, 2004	April 26-28, 2005		
VEHICLES	9,372	10,519	1,147	12.2%

IH-30, west of US 59/71 (State Line Avenue)

In comparison to increases in traffic along IH-30, west of US 59 (Jarvis Parkway) and east of SH 245 (sites 1 and 2), the number of vehicles on IH-30 in the center of Texarkana to the east and west of the interchange of IH-30 and US 59/US 71 (State Line Avenue) (sites 3 and 4) decreased. Between February 2004 and May 2005, vehicles traveling along IH-30, west of State Line Avenue, decreased by 3.1% from 48,833 vehicles in 2004 to 47,323 vehicles in 2005. While vehicles entering and exiting Texarkana area along IH-30, west of US 59 (Jarvis Parkway), increased by 3.8% between 2004 and 2005, there was a decrease of 3.1% in traffic volume along IH-30, west of State Line Avenue. It is surmised that increased traffic west of Jarvis Parkway and decreased traffic west of State Line Avenue indicates traffic along IH-30 diverted to another route. Data presented in this study will point to the opening of the southern loop as cause for the vehicular decrease along IH-30 in the center of Texarkana.

	Eastbound IH-30, west of US 59/71		Numerical Change	Percent Change
DATES	February 17-19, 2004	May 3-5, 2005		
VEHICLES	24,848	23,695	-1,153	- 4.6%

	Westbound IH-30, west of US 59/71		Numerical Change	Percent Change
DATES	February 17-19, 2004	May 3-5, 2005		
VEHICLES	23,985	23,628	- 357	- 1.5%

IH-30, east of US 59/71 (State Line Avenue)

Likewise, from February 2004 to May 2005, vehicles traveling along IH-30, east of US 59/US71 (State Line Avenue) (site 4), decreased by 2.6% from 34,847 vehicles in 2004 to 33,955 vehicles in 2005. In comparison to the traffic volume increase of 10.6% entering and exiting Texarkana from the Arkansas side along IH-30, east of SH 245 (site 2), there was a 2.6% decrease in vehicles traveling on IH-30, east of State Line Avenue (site 4). Again, it can be reasoned that the decrease in traffic east of State Line Avenue and the significant increase east of SH 245 demonstrates that another route was utilized instead of drivers traveling IH-30 through the center of Texarkana. As stated previously, data presented later indicates the reason for the traffic volume decrease was the opening of the southern loop.

	Eastbound IH-30, east of US 59/71		Numerical Change	Percent Change
DATES	February 17-19, 2004	May 3-5, 2005		
VEHICLES	17,638	16,381	- 1,257	- 7.1%

	Westbound IH-30, east of US 59/71		Numerical Change	Percent Change
DATES	February 17-19, 2004	May 4-5, 2005		
VEHICLES	17,209	17,574	365	2.1%

Traffic Volumes Along US 59 (Jarvis Parkway)

One of the first areas that could be examined for impact from opening the southern loop is along US 59 (Jarvis Parkway), south of IH-30 (site 5). Drivers traveling from the

Dallas area and other areas west of Texarkana can now use the southern loop to get to US 71 to travel to and from southern Arkansas, Shreveport and to IH-49 through Louisiana. Prior to opening of the southern loop, these drivers would have traveled along IH-30, through the center of Texarkana, to travel south on SH 245 to get to US 71.

US 59 (Jarvis Parkway), south of IH-30

On March 9, 2004, the day before the southern loop opened, 26,709 vehicles traveled on US 59 (Jarvis Parkway), south of IH-30 (site 5). By the end of May and the beginning of June 2004, the number of vehicles at this location had increased by 11.4% to 29,747 vehicles. Numerically, the increase between 2004 and 2005 was 3,038 vehicles. While the overall number of vehicles traveling on IH-30, west of US 59 (Jarvis Parkway) (site 1), had increased by 1,178 vehicles between 2004 and 2005, there was nearly a three-fold increase in the number of vehicles traveling on US 59 (Jarvis Parkway), south of IH-30. This significant difference in the vehicular increase between these two sections of freeways can be explained largely by the decrease of 1,510 vehicles traveling IH-30, west of US 59/71 (State Line Avenue) (site 2) and the additional 1,178 vehicles traveling on IH-30, west of US 59 (Jarvis Parkway) in 2005 compared to 2004. The following tables show the increase of traffic along Jarvis Parkway, south of IH-30.

	Northbound US 59, south of IH-30		Numerical Change	Percent Change
DATES	March 9, 2004	May 27, 2004		
VEHICLES	14,324	16,600	2,276	15.9%

	Southbound US 59, south of IH-30		Numerical Change	Percent Change
DATES	March 9, 2004	June 1-3, 2004		
VEHICLES	12,385	13,147	762	6.2%

US 59 (Jarvis Parkway), north of SH 93 (Lake Drive)

Further south along US 59, at a point north of SH 93 (Lake Drive), the number of vehicles traveling this freeway had increased substantially by 25.9% between October 2003 and May 2005. In October 2003, 19,689 vehicles traveled this section of US 59 and by May 2005 the vehicular count had increased by 5,090 vehicles to 24,779 vehicles. The impact on this section of US 59 by opening of the southern loop will be apparent when these vehicular counts are analyzed in tandem with the traffic counts along Lake Drive as shown in the following section.

	Northbound US 59, north of SH 93		Numerical Change	Percent Change
DATES	October 21-23, 2003	May 10-12, 2005		
VEHICLES	9,812	12,272	2,460	25.1%

	Southbound US 59, north of SH 93		Numerical Change	Percent Change
DATES	October 21-23, 2003	May 10-12, 2005		
VEHICLES	9,877	12,507	2,630	26.6%

US 59 (Lake Drive), north of FM 989 (Kings Highway)

At SH 93, US 59 diverts from the loop (Jarvis Parkway) and goes southwest leaving the Texarkana area as US 59 (Lake Drive). The loop continues to the east as Loop 151 before entering Arkansas, at which point, its designation changes to SH 245. Traffic counts were conducted in October 2003 and May 2005 along US 59 (Lake Drive), north of FM 989 (site 7). Between October 2003 and May 2005, the traffic count at this location increased by 1,086 vehicles from 19,818 vehicles to 20,904 vehicles, an increase of 5.5%.

	Eastbound US 59 (Lake Drive), north of FM 989		Numerical Change	Percent Change
DATES	October 21-23, 2003	May 17-19, 2005		
VEHICLES	9,897	10,562	665	6.7%

	Westbound US 59 (Lake Drive), north of FM 989		Numerical Change	Percent Change
DATES	October 21-23, 2003	May 11-12, 2005		
VEHICLES	9,921	10,342	421	4.2%

While there was only an increase of 1,086 vehicles on US 59 (Lake Drive) between 2003 and 2005, there was an increase of 5,090 vehicles on US 59 (Jarvis Parkway), north of SH 93 (site 6), between 2003 and 2005. Only 21.3% of the increase on US 59 (Jarvis Parkway), north of SH 93, went to US 59 (Lake Drive) while 78.7% of the increase went to Loop 151 (Texas portion of southern loop). The statistics again document the impact on the volume of traffic utilizing the southern loop after it opened in 2004.

Southern Loop – Loop 151

To reiterate, the southern loop consists of Loop 151 in Texas extending from SH 93 (Lake Drive) to the Arkansas State Line and SH 245 in Arkansas extending from the Texas State Line to US 71 (East Street). These roadways were opened to traffic on March 10, 2004. Traffic counts on the southern loop were conducted in May 2004 and May 2005. Between May 2004 and May 2005, the traffic count along Loop 151, west of South State Line Avenue (site 8), increased by 52.5% from 6,784 to 10,344 vehicles.

	Eastbound Loop 151, west of State Line Ave.		Numerical Change	Percent Change
DATES	May 11-13, 2004	May 10-12, 2005		
VEHICLES	3,036	5,365	2,329	76.7%

	Westbound Loop 151, west of State Line Ave.		Numerical Change	Percent Change
DATES	May 11-13, 2004	May 10-12, 2005		
VEHICLES	3,748	4,979	1,231	32.8%

Southern Loop – SH 245

The traffic count on SH 245, east of South State Line Avenue (site 9), increased from 6,808 vehicles in May 2004 to 9,620 vehicles in April 2005, an increase of 41.3% and an increase of 2,812 vehicles.

	Eastbound SH 245, east of State Line Ave.		Numerical Change	Percent Change
DATES	May 18-20, 2004	April 19-21, 2005		
VEHICLES	3,423	4,931	1,508	44.1%

	Westbound SH 245, east of State Line Ave.		Numerical Change	Percent Change
DATES	May 18-19, 2004	April 19-21, 2005		
VEHICLES	3,385	4,689	1,304	38.5%

SH 245

In the area of SH 245, north of US 71 (East Street) (site 10), there was a dramatic increase in traffic along this freeway section between November 2003 and April 2005. In November 2003, the traffic volume was 7,750 vehicles prior to the southern loop opening in March 2004. In April 2005, the traffic volume had increased by 4,036 vehicles, an increase of 52.1%, to 11,786 vehicles. The majority of this increase in traffic was caused by opening of the southern loop. There was an increase of nearly 2,000 vehicles entering and exiting the Texarkana area along IH-30, east of SH 245. At the same time, there was a decrease of nearly 900 vehicles traveling along IH-30, east of US 59/71 (State Line Avenue) (site 4). Nearly 2,900 vehicles traveled on SH 245 instead of traveling on IH-30 through the center of Texarkana.

	Northbound SH 245, north of US 71		Numerical Change	Percent Change
DATES	November 4-6, 2003	April 19-21, 2005		
VEHICLES	3,784	6,001	2,217	58.6%

	Southbound SH 245, north of US 71		Numerical Change	Percent Change
DATES	November 4-6, 2003	April 19-21, 2005		
VEHICLES	3,966	5,785	1,819	45.9%

AR 549 and US 71

On December 16, 2004, AR 549 opened from SH 245 to Fouke, Arkansas, running parallel to US 71. Viewing traffic counts along US 71 prior to and after the opening of AR 549 dramatically shows the impact on travel patterns after the opening of a freeway. In November 2003, 14,151 vehicles traveled on US 71, south of SH 245 (site 11), but the number of vehicles along this section of US 71 in April 2005 fell by 49.2% to 7,194 vehicles. Without doubt, this shows the preference for drivers to use freeways compared to roadways that do not have full control of access.

	Northbound US 71, south of SH 245		Numerical Change	Percent Change
DATES	November 4-6, 2003	April 19-21, 2005		
VEHICLES	7,091	3,651	- 3,440	- 48.5%

	Southbound US 71, south of SH 245		Numerical Change	Percent Change
DATES	November 4-6, 2003	April 19-21, 2005		
VEHICLES	7,060	3,543	- 3,517	- 49.8%

In April 2005, 7,869 vehicles traveled on AR 549 (site 12). With the opening of this new freeway, nearly one-half of the drivers who previously traveled US 71 entering or exiting the Texarkana area switched to utilizing AR 549 as their primary means of ingress and egress to this area. The traffic counts along US 71 and AR 549 were both conducted at points south of SH 245.

	Northbound AR 549, south of SH 245	Southbound AR 549, south of SH 245
DATES	April 19-21, 2005	April 19-21, 2005
VEHICLES	3,915	3,954

An even more dramatic reduction of 61.1% in traffic volume (number of axle strikes divided by 2 as opposed to a vehicle count) along US 71 at County Road 10 (site 13) was documented between February 2002 and February 2005. This again documents the impact on travel patterns where drivers prefer interstates and freeways with full control of access compared to highways and roadways without full control of access.

	US 71, north of County Road 10		Numerical Change	Percent Change
DATES	February 26-28, 2002	April 19-21, 2005		
½ AXLE COUNT	9,878	3,841	- 6,037	- 61.1%

Conclusions

The two main conclusions drawn from the analysis of traffic counts along IH-30, US 59, Loop 151, SH 245, US 71 and AR 549 are:

1. Completion and opening of Loop 151 and SH 245 from SH 93 (Lake Drive) on the Texas side to US 71 on the Arkansas side caused a decrease in traffic traveling through the center of Texarkana along IH-30 at a time when there was a modest percentage increase (3.8%) in traffic entering and exiting the area along IH-30, west of US 59 (Jarvis Parkway), and a higher percentage increase (10.6%) of vehicles entering and exiting along IH-30, east of SH 245. It is evident by the traffic count figures that several thousand drivers each day use the loop (US 59, Loop 151 and SH 245) to travel between IH-30 and US 59 (Lake Drive) to travel to and from southwest of Texarkana and AR 549 to travel to and from southeast of Texarkana.
2. With the opening of AR 549 in December 2004, the significant decrease of 49.2% in the vehicular count along US 71 (East Street) between November 2003 and April 2005 dramatically shows the dramatic affect of drivers preference for driving on interstate ways and freeways compared to highways such as US 71 that do not full control of access.