

EXECUTIVE SUMMARY

SH105

ACCESS MANAGEMENT **STUDY**



Consultant Team:

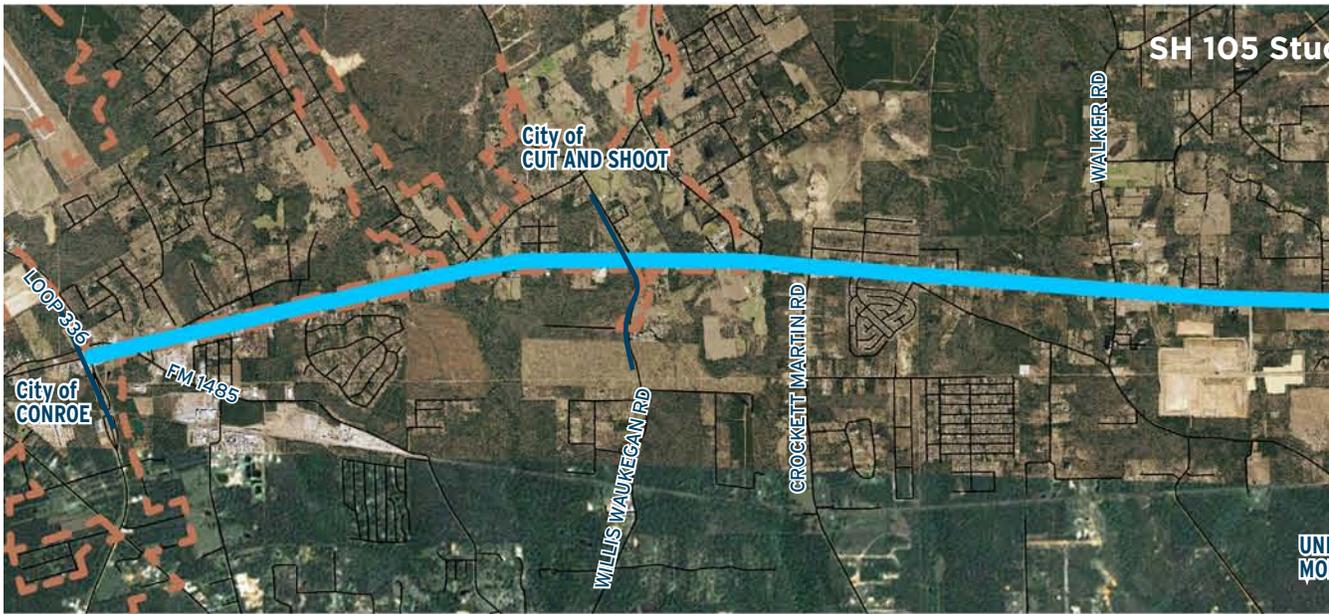


HNTB
THE LENTZ GROUP
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January 2012

SH105

ACCESS MANAGEMENT STUDY



STUDY PURPOSE

The purpose of this access management study was to develop a set of recommendations to improve safety, mobility, and quality of life along SH 105 between Loop 336 in Conroe to US 59 in Cleveland. Recommendations were developed to address mobility and safety for all road users, including pedestrians and bicycles.

EXISTING CONDITIONS

The 18.7-mile SH 105 corridor traverses the counties of Montgomery, San Jacinto, and Liberty, as well as the cities of Conroe, Cut and Shoot, and Cleveland. There are a variety of land uses along the corridor, including residential, commercial, light industrial, institutional, and undeveloped land. Unique to this corridor are the various flea markets that operate primarily on weekends and attract patrons from as far away as Louisiana.

Traffic

Existing (2011) traffic volumes along the study corridor range from a high of 25,200 vehicles per day (vpd) west of FM 1485 near Cut and Shoot, to 10,300 vpd just west of FM 1725 in Cleveland. Overall, the rural sections of the SH 105 corridor currently experience noticeable traffic congestion; the urban areas on the west and east ends of the study area experience traffic operating conditions that range from congested to severely congested.

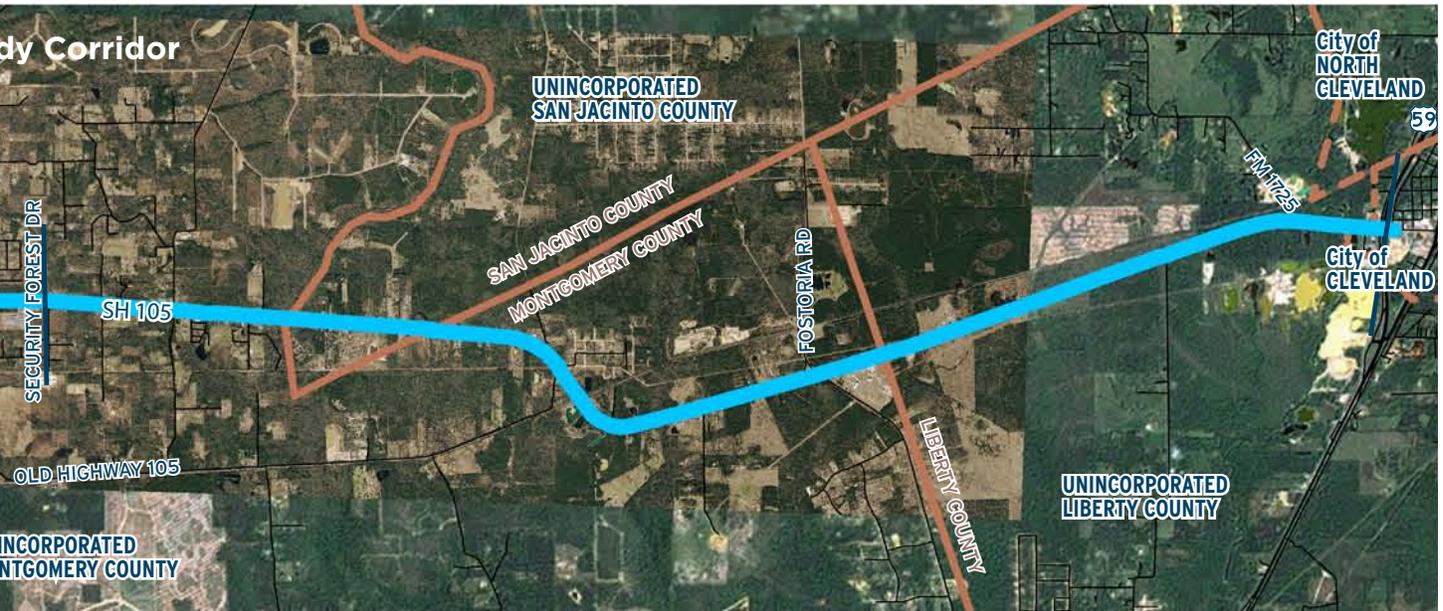


Summary of Total Crashes

Year	Section		Total Crashes
	From	To	
2007	Loop 336	Whipporwill Road	76
	Whipporwill Road	Willis Waukegan Rd	13
	Willis Waukegan Rd	Duck Creek Road	49
	Duck Creek Road	Lee Turner Road	3
	Lee Turner Road	US 59	17
	Loop 336	US 59	158
2008	Loop 336	Whipporwill Road	79
	Whipporwill Road	Willis Waukegan Rd	21
	Willis Waukegan Rd	Duck Creek Road	47
	Duck Creek Road	Lee Turner Road	3
	Lee Turner Road	US 59	28
	Loop 336	US 59	178
2009	Loop 336	Whipporwill Road	81
	Whipporwill Road	Willis Waukegan Rd	22
	Willis Waukegan Rd	Duck Creek Road	69
	Duck Creek Rd	Lee Turner Road	7
	Lee Turner Rd	US 59	23
	Loop 336	US 59	202

Safety

From 2007 to 2009, there was a total of almost 540 crashes, as a result of which 378 people were injured and 16 lives were lost. High crash locations include Loop 336 which had 65 crashes over that period, FM 1484 which had 50 crashes, and FM 1485 which had 33 crashes. A roadway is considered to have a significant crash problem when the crash rate is at least double the statewide average for that particular facility type. The SH 105 segment between Willis Waukegan Road and Duck Creek Road has a crash rate more than double the statewide average for comparable roads. The segment between Loop 336 and Whipporwill Road has a crash rate that is more than four times the statewide average. The trends in crash rates, injuries, and fatalities indicate that there is a significant safety issue on SH 105 that needs to be improved.



RECOMMENDED TRANSPORTATION IMPROVEMENTS

Recommended improvements were classified as short-term (5 years), medium-term (6-15 years), or long-term (>15 years) depending on cost and project development time.

Short-Term Improvements

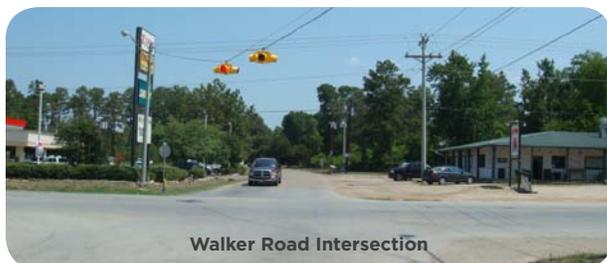
- Passing lanes (already funded by TxDOT)
- Two-way left-turn lanes (some already funded by TxDOT)
- Signal and turn lane improvements
- Raised median
- Short section of additional travel lanes
- Roadway realignment
- Sidewalks and crosswalks

Medium-Term Improvements

- Additional raised medians
- Additional travel lanes
- Roadway realignment
- Driveway consolidation

Long-Term Improvements

- SH 105 reconstruction and widening to 4-lane and 6-lane divided sections
- Sidewalks in urban sections
- Shoulders in rural sections
- Extension of Jefferson Chemical Road



ESTIMATED COSTS OF TRANSPORTATION IMPROVEMENTS

Estimated costs of identified transportation improvements are provided in the table on the back. Within the short-term category, those identified as funded projects are those for which TxDOT has already dedicated funds and is in the process of preparing detailed designs for anticipated construction in Spring 2012. Cost estimate details are provided in the SH 105 Access Management Study Final Report (January 2012).

LAND USE MANAGEMENT STRATEGIES

The way land development projects are conceived and executed strongly influences how frequently and in what manner the right-of-way is accessed. Land use management strategies can be combined with access management measures to positively impact the SH 105 corridor. Greater uniformity and coordination in access control and site design for the SH 105 corridor would help reduce congestion, improve safety, create a more predictable and user-friendly environment for both motorized and non-motorized travel, and help provide a more organized and stable environment for economic development.

Cost Estimate Summary

SH 105 from Loop 336 to US 59 (Length = 18.7 Miles)

Improvement		Cost (x\$1,000)
Short Term	New Traffic Signal (Crystal Forest Intersection)	\$200
	Upgrade Signal Equipment (Loop 336 to FM 1485)	\$41
	Optimize Traffic Signal Timing	\$45
	Intersection Turn Lanes	\$1,647
	SH 105 Pavement and Bridge Widening (Loop 336 to Douget)	\$3,731
	Raised Median (Loop 336 to Douget)	\$256
	Driveway Modifications	\$46
	Add Pedestrian Crosswalks	\$33
	Sidewalks	\$927
	Roadway Widening and Realignment (Douget Road)	\$165
	Passing Lanes, Center Left Turn Lane and Asphalt Overlay (Funded TxDOT Projects)	\$7,000
	TOTAL FOR SHORT TERM IMPROVEMENTS	\$14,091
Medium Term	Upgrade Signal Equipment (Whipporwill to Crystal Forest)	\$21
	SH 105 Pavement and Bridge Widening (Douget to Crystal Forest)	\$1,732
	Raised Median (Douget to Whipporwill)	\$244
	Driveway Modifications	\$23
	Intersection Turn Lanes	\$157
	Roadway Realignment (Old SH 105)	\$148
	TOTAL FOR MEDIUM TERM IMPROVEMENTS	\$2,325
Long Term	Reconstruct and Widen SH 105 (including bridges, median, and sidewalks)	\$104,658
	Extend Butler Street (Loop 336 to Jefferson Chemical)	\$1,044
	TOTAL FOR LONG TERM IMPROVEMENTS	\$105,703
GRAND TOTAL		\$122,119

Development Principles

Corridor development principles were identified for SH 105 and include optimal location of driveways, driveway delineation and spacing, visual continuity, cross-access easements, an inter-connected street system, and provision for bicycle and pedestrian mobility and safety. The intensity and physical character of development varies along the SH 105 study corridor. Development principles specific to the various distinct areas along the SH 105 were therefore also developed. These included integration of mixed use developments in some urban areas, shared access and signage, minimum lot frontage standards, parking standards, protecting the rural landscape, and encouraging nature preserves.

Development Prototype near FM 1485



- **A** Provide separate storage for vehicle repair land uses
- **B** Provide organized access to SH 105
- **C** Establish paved parking with appropriate setbacks from the right-of-way
- **D** Consolidate access points serving other land uses

