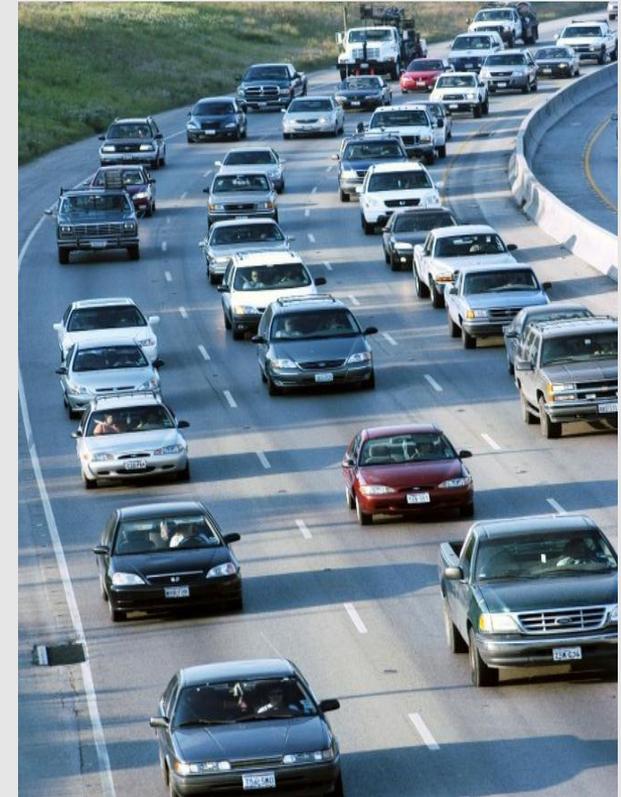




US 83/84 CORRIDOR SAFETY STUDY

Stakeholder Workshop



Existing Conditions

- Approximately six miles, from one mile north of FM 707 to the intersection of US 83 and US 84
 - 4-lane divided (controlled access) freeway and roadway
 - Full shoulders
 - 2-lane frontage roads: one-way and two-way
 - Signal at intersection of the frontage roads and FM 707
 - Portion of 2-lane with full shoulders and 4-lane undivided with 2-foot shoulders
- 70 mph speed limit from northern study limits to just north of Iberis Road
- 75 mph speed limit from Iberis Road to southern study limits

Corridor Safety Study conducted by TxDOT Traffic Operations Division, with assistance from the Design Division and Maintenance Division.

Traffic Data

Road segment	From	To	2013 AADT	2033 Estimated AADT	24-Hour Truck Percentage
US 83/US 84	FM 707	Bell Plains Rd	10,569	14,790	13.3
US 83/US 84	Bell Plains Rd	CR 154	9,808	13,730	13.1
US 83/US 84	CR 154	Y-Intersection	8,616	12,060	13.1
US 83	Y-Intersection	South Study Limits	4,536	6,350	17.1
US 84	Y-Intersection	South Study Limits	4,142	5,790	13.3

AADT: Annual average daily traffic

20-year estimated projections represent a growth rate of around 2 percent.

Crash Data

Road segment	From	To	2011	2012	2013
US 83/US 84	1 mile north of FM 707	1 mile south of US 84	62.93	83.82	131.68
Statewide Average	Rural US Highway		56.78	64.86	68.95
Statewide Average	4 or more lanes, divided		44.11	51.41	58.39

Traffic crashes per 100 million vehicle miles.

Road segment	Fatal and serious injury crash rate, 2011-13
US 83 study area	32.66
Statewide Average, Rural US Highway	19.80
Statewide Average, 4 or more lanes, divided	14.42
Abilene District Average, Rural US Highway	25.90
Abilene District Average, 4 or more lanes, divided	12.99

Three-year average fatal and serious injury crash rate per 100 million miles.

Possible Crossover Closures Due to Geometry and Site Conditions

- Crossover closures due to geometry and site conditions, and potential improvements in operational mobility and safety
 - Consider closing the following crossovers:
 - Y-Intersection
 - 1,000 feet north of Y-Intersection
 - 550 feet north of Divide Avenue
 - 920 feet south of CR 149
 - 575 feet south of CR 149
 - 160 feet south of Deer Valley Drive
 - 2,480 feet north of Bell Plains Road
 - 240 feet north of Stallion Road
 - 2,200 feet south of CR 154
 - 1,450 feet north of CR 154
 - 3,000 feet north of CR 154
 - 1,800 feet south of CR 150
 - 2,400 feet south of Divide Avenue
 - 930 feet south of Divide Avenue
 - 3,600 feet north of CR 149
 - 4,320 feet south of Mesa Rim Drive
 - 2,790 feet south of Mesa Rim Drive

Observations and Recommendations

- Bar B Trail
 - Install left turn deceleration lanes for northbound and southbound US 83
- Stallion Road
 - Close crossover and install a new median crossover that aligns with Stallion Road
 - Install left turn deceleration lanes on northbound and southbound US 83
- FM 204
 - Intersection is inconspicuous and does not have the appearance of a major intersection
 - Shoulder drop off along east side of northbound 83 is indicative of trucks using the shoulder as acceleration lane
 - During the PM peak hour, heavy vehicle turns from southbound US 83 to eastbound FM 204. During the AM peak hour, heavy vehicle turns from westbound FM 204 to northbound US 83
 - Consider lengthening the existing deceleration lanes on US 83 and installing an acceleration lane for westbound FM 204 to northbound US 83

Observations and Recommendations

■ Bell Plains Road

- High percentage of right turn movements from southbound US 83 to westbound Bell Plains Road during PM peak hour and eastbound Bell Plains Road to northbound US 83 during AM peak hour
- Lengthen the existing deceleration lane for northbound US 83 and install a left turn deceleration lane southbound US 83
- Also, install a right turn deceleration lane for southbound US 83 to westbound Bell Plains Road. In order to install a right turn deceleration lane, there is an existing culvert that will need to be extended to meet clear zone requirements
- Install safety lighting at this intersection

■ Deer Valley Drive

- Not an existing direct crossover
- Close dirt path crossover and install a new median crossover that aligns with Deer Valley Drive
- Install left turn deceleration lanes on northbound and southbound US 83

Observations and Recommendations

■ County Road 149

- Existing vertical curve on northbound US 83 just south of CR 149 causes some sight distance concerns
- Close two crossovers and lengthen the existing left turn deceleration lanes for the third crossover

■ Divide Avenue

- There is not a northbound left turn deceleration lane for this crossover
- Install a left turn deceleration lane on northbound US 83
- Lengthen the existing left turn deceleration on southbound US 83

■ Y-intersection

- Consider installing a merging lane to create one thru lane for westbound US 84 prior to the Y-intersection to create a natural free acceleration lane for northbound US 83. This would eliminate the merging conflict on US 83 that is currently present.

Observations and Recommendations

- 1 mile north of FM 707 to ¼-mile south of Mesa Rim Drive
 - 4-lane divided controlled access freeway with one-way frontage roads
- ¼-mile south of Mesa Rim Drive to north of Y-intersection
 - 4-lane divided roadway
 - All median crossovers to include, at minimum, left turn deceleration lanes that serve both directions
- Y-intersection
 - US 84 thru traffic has all free movements
 - Flyover for eastbound US 84 over northbound US 83 to eliminate a primary conflict point in the Y-intersection.

Carol T. Rawson, P.E.
Traffic Operations Division
Carol.Rawson@txdot.gov