Safety on FM 518

The following information applies to safety along FM 518. First, there are some caveats about the data:

1. The data H-GAC has analyzed is distributed by the Accident Records Bureau of the Department of Public Safety. This is the state agency vested with documenting crashes for the State. Currently, their reporting requirements are that all fatal crashes, all injury crashes, and all property damage only (PDO) crashes in which one or more vehicles were towed be reported. Thus, they do not include the typical 'fender bender' in which no one is injured and all vehicles are driven away from the crash scene. In other words, the data we have represent the more serious crashes.

2. We've geocoded the crashes. However, because the data are kept in a very old information system by DPS in which road names are represented either by five-digit codes, the first five letters of the road name, or control-section numbers (for rural state roads), there is inevitably some geocoding error. We were able to geocode about 82% of all crashes in the DPS data set with about 90% accuracy on average.

3. To date, we have geocoded crashes for 1998-2000. Thus, any conclusions about location are only applicable for these years.

4. Spatial accuracy is within 50-100 yards. One would need actual crash diagrams to have more accuracy.

5. Please cite the Accident Records Bureau of the Texas Department of Public Safety as the source for the crash data and cite the Houston-Galveston Area Council as the source for the crash analysis.

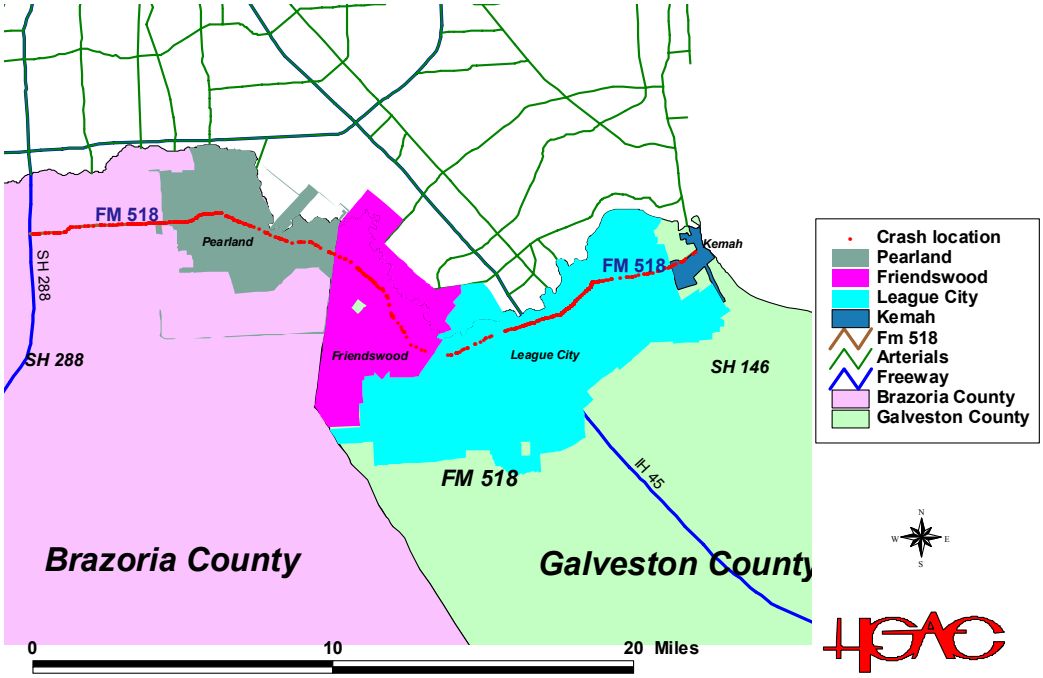
The results of the analysis on FM 518 were as follows:

1. From 1998 through 2000, there were 1,258 crashes on FM 518 between SH 288 and SH 146, an average of 419 a year. These included five fatal crashes, 71 incapacitating injury crashes (Type A), 276 non-incapacitating injury crashes (Type B), and 490 possible injury crashes (Type C). Figure 1 shows a map of these crashes.

2. Of the 1,258 crashes, 5 were with pedestrians, 7 were with bicyclists, one was with a railroad train, 2 were with parked cars, 73 were with fixed objects, 1 was with an animal,

Figure 1:

Safety on FM 518: 1998-2000
Location of Crashes



3. Five locations on FM 518 had 25 or more crashes in the three year period. These were near the:

   A. Between County Club and Smith in Pearland (32 crashes)

   B. Between Texas and Alabama in League City (31 crashes)

   C. At the intersection with Reed-Manvel in Brazoria County (31 crashes)

   D. Near the junction with County Road 94 in Brazoria County (30 crashes)

   E. Between Royal Dr and Lafayette Lane in League City (29 crashes).

4. Crash hot spots are small areas where there is a concentration of crashes. They are a better indicator of hazard than a single location since the

number of crashes at a particular location depends on spatial accuracy and precision. Using the *CrimeStat* program, twenty-four first-order hot spots were identified and two second-order hot spots (the clustering of the first-order hot spots). Figure 2 shows a map of these hot spots. The three most serious are:

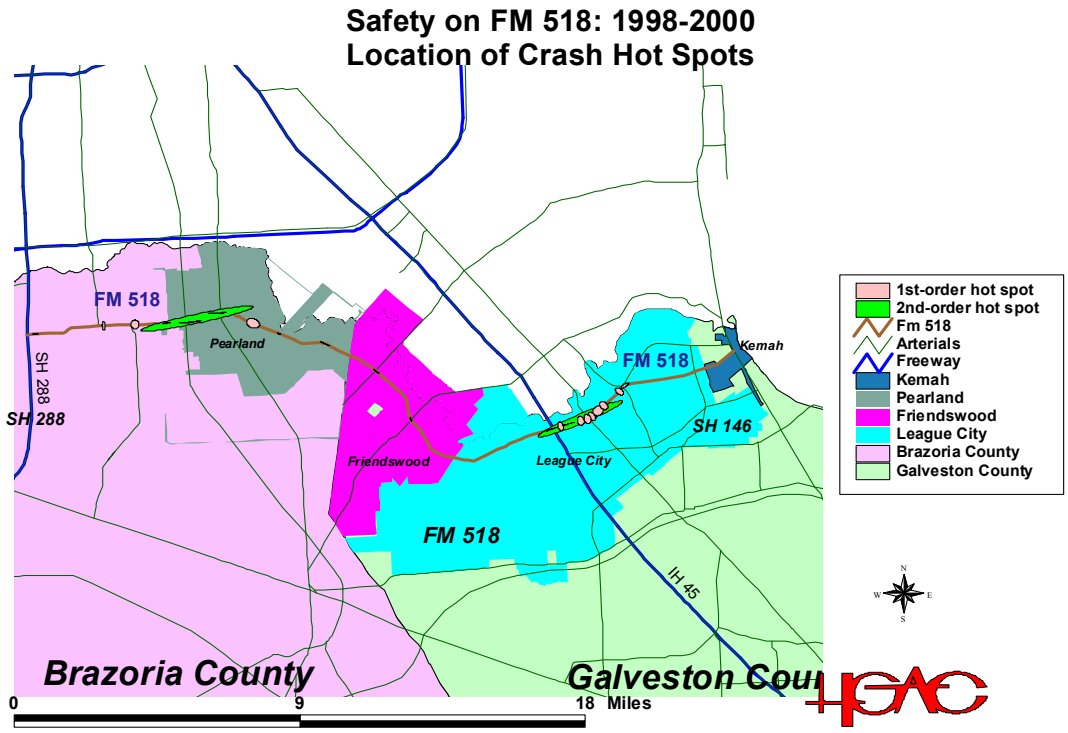
A. A section of FM 518 from SH 3 for about a half mile east in which there were 33 crashes

B. A half mile stretch on FM 518 on both sides of the junction with FM 270 and FM 2094 in which there were 42 crashes

C. A two-thirds mile stretch of FM 518 on both sides of IH 45 in which there were 37 crashes.

5. Based on the estimate of VMT from our modeling group*, crash risk* was calculated. This is the number of crashes per 100 million vehicle miles traveled (VMT). From 1998 through 2000, crash risk on FM 518 was 235.3 crashes per 100 million VMT. This is higher than the regional average of 195.8 crashes per 100 million VMT for the same period. Compared to the region as a whole, crash risk is high. Further, our region is the worst in the State of Texas and is one of the worst in the country. Consequently, the crash risk on FM 518 has to be considered bad.

Figure 2:


Safety on FM 518: 1998-2000
Location of Crash Hot Spots
FM 518
Pearland
SH 288
SH 288
Friendswood
League City
FM 518
FM 518
Kemah
SH 146
IH 45
Brazoria County
Galveston Coun
0
9
18 Miles
1st-order hot spot
2nd-order hot spot
Fm 518
Arterials
Freeway
Kemah
Pearland
Friendswood
League City
Brazoria County
Galveston County
N
W
E
S