

INFORMAL STAFF REPORT TO MAYOR AND CITY COUNCIL

SUBJECT:

This report provides an analysis of vehicle crashes in the Downtown area from January 2009 – June 2013 and staff recommendations regarding changes to improve vehicle and pedestrian safety in the Downtown area.

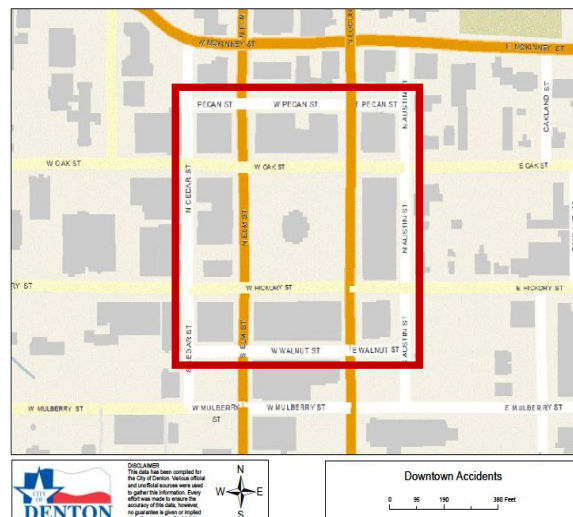
BACKGROUND:

On July 1, 2013, Council member Roden requested information on potential traffic calming measures that could be considered for the downtown area. Mr. Roden cited several recent vehicle crashes and a serious-injury pedestrian hit and run incident. He asked that staff examine potential measures and report on the feasibility of several specific options.

DISCUSSION:

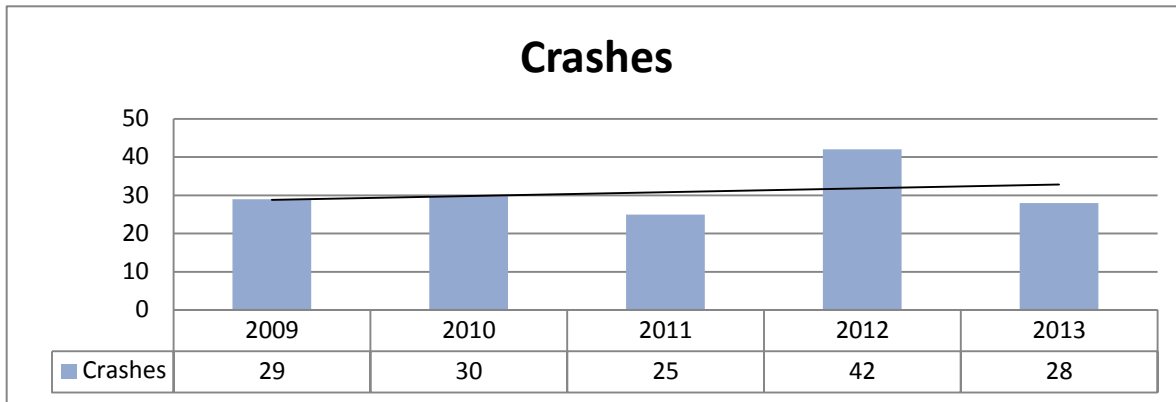
Synopsis

This analysis examined vehicle crashes in the roughly nine block area that encompasses the Downtown Square and the adjacent ring of streets surrounding the Square. Between January 1, 2009 and June 30, 2013 there were 140 vehicle crashes reported and investigated by the Denton Police Department in the study area. The analysis of the crash reports indicated that three causative factors accounted for 65% of the total crashes. Alcohol was listed as a factor in 11% of the crashes, and there were reported injuries in 21% of the crashes. There were no vehicle-bicycle crashes reported, and there were 2 vehicle-pedestrian crashes.



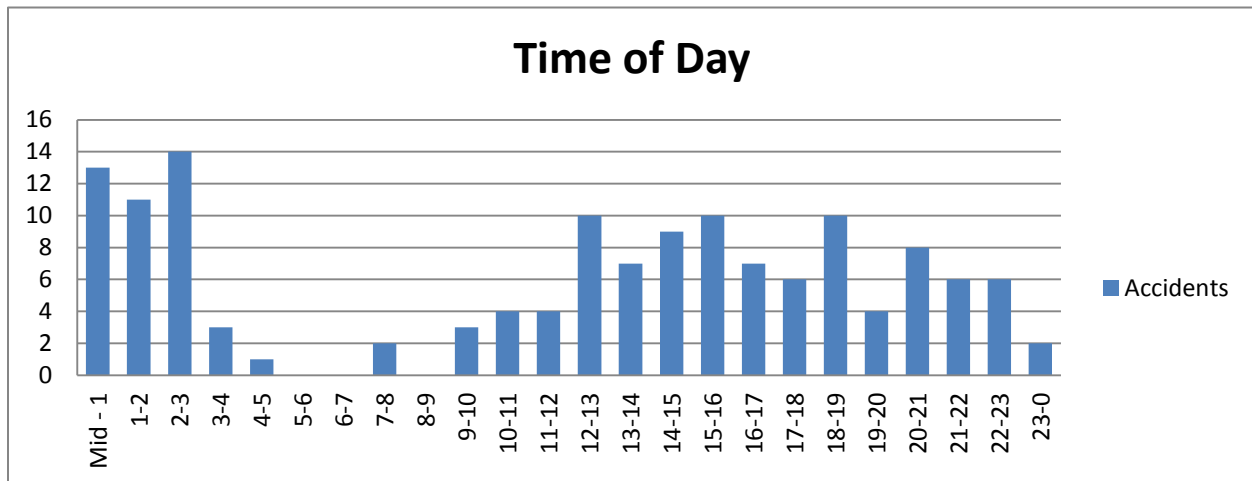
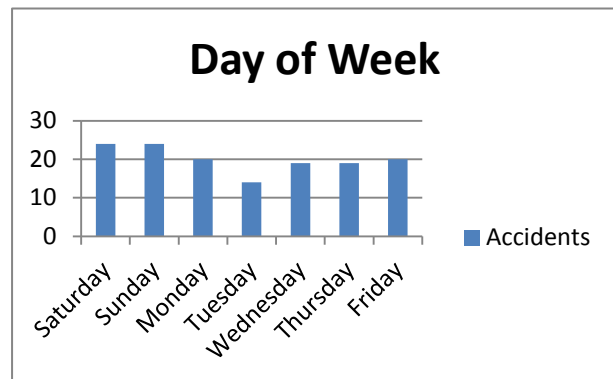
Crash Data

The total crashes over the time period of the study equals to an average of 2.6 crashes per month in a fifty-four month period. There is a marked increase in vehicle crashes in 2012, but no significant change in the percentage of causative factors, time of day, day of week, or alcohol involvement compared to other years in the study. After projecting crash data for the final 6 months of 2013, the overall trend line for crashes in the study is slightly elevated. This is primarily based on the 2012 data and doesn't appear to be indicative of an actual anticipated increase in future crashes in the area.



Time of Day/Day of Week

The analysis showed no statistically significant difference in crashes by day of the week. While there was no specific hour of the day that had a statistically significant rate of crashes, there was an increased level of crashes from midnight to 3am when compared to other 3-hour windows.

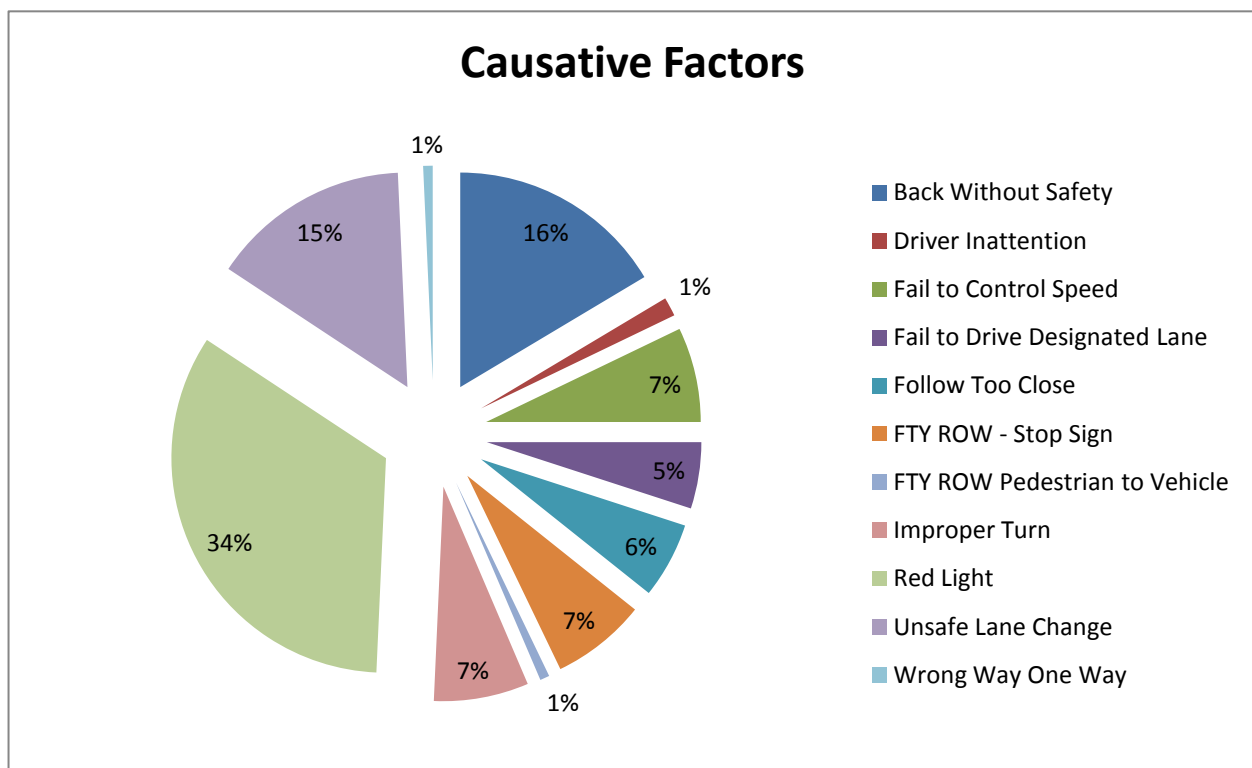


Causative Factors

For the 140 total crashes analyzed in the study, there were 11 distinct causative factors that appeared on the crash reports. As depicted in the chart below, three factors were clearly more prominent than the rest. Red Light Violations (34%), Backed Without Safety (16%), and Unsafe Lane Change (15%) accounted for 65% of the crashes. Of particular note, 62% of the red light-

related crashes involved flashing red lights where they intersect with streets that face a flashing yellow light.

The analysis of the crash reports does not indicate that excessive speed was an issue in the crashes. Those listed as “Fail to Control Speed” were rear-end collisions that typically included a reference to some type of distracted driving. Those crashes involving vehicles backing out of parking spaces included scenarios where these vehicles were struck by other cars in traffic lanes and those where the drivers backed into other parked vehicles. The vast majority of the crashes involving an unsafe lane change were related to drivers attempting to cross a lane of traffic to reach an open parking space.



CONCLUSION:

Staff members from the Police Department, Traffic Engineering, and Economic Development reviewed the crash data and developed several potential action items that could help to reduce the potential for vehicle crashes and improve actual and perceived pedestrian safety in the greater downtown area.

Signal Timing

The single highest causative factor in vehicular crashes is tied to the flashing red/flashing amber intersection signalization at the four primary intersections of the Square. The signals currently change to this flashing format at midnight. The crash analysis indicates that delaying this change until 3:00am should help to mitigate the number of crashes. In addition, pedestrian safety while

crossing at intersections should be enhanced as pedestrians can better time and anticipate traffic movement through the regular signal changes. This change is in progress currently and should be completed in the near future.

Enforcement

Additional enforcement focused on impaired drivers in the study area should have a dual effect on impaired driving crashes and on general traffic law compliance. Coupled with some added emphasis on pedestrian compliance with using crosswalks, the overall enforcement effort should have a positive impact on safety for both vehicular and pedestrian traffic in the area. The Police Department currently assigns officers in vehicles and on bicycle patrol to address pedestrian traffic and impaired-driving enforcement. Additional personnel will be deployed to the area during evening and night hours beginning in August.

Intersection Markings

The streets, sidewalks, and pedestrian crossings around the Square have undergone significant renovations over the years. Despite the unique brick paver crosswalks, there may be an opportunity to add a high-visibility marking around the crosswalks that make them more visible to approaching vehicles. Further, painted stop bars at the intersections on and around the Square can be re-painted to add visibility for motorists. The Street Department is already preparing to re-paint existing stop bars in the area. The cost and feasibility of the additional crosswalk markings is being researched.

Rumble Strips

The addition of slightly-elevated rumble strips on the major roads just before the Square proper could serve as a warning device for drivers to be aware of their speed and to slow down for an area that features both a significant number of pedestrians and vehicles that are likely to back out of parking spaces or stop suddenly while seeking available parking. The costs associated with adding this feature is being researched.

Other Options Considered

Two-way Streets around the Square

The change of traffic flow for the streets around the Downtown Square is not feasible at this time. Such a change would have considerable impact on Hickory, Oak, Locust, and Elm for several blocks outside of the Square. Because many of the streets are one-way for some distance outside of Downtown, this change would either require major traffic changes beyond the Square, or the creation of significantly more confusion for drivers near the Square. This change would also have an impact on parking which would likely affect traffic flow as well. Beyond the traffic flow issue, the costs involved in making these changes are substantial.

Reduced Speed Limits in Downtown Area

The reduction of speed on the Square could be accomplished through a City Ordinance. The crash data examined for this report does not indicate that speed was a factor in many of the vehicular crashes. The design of the Square provides significant limitations on the Police Department's ability to monitor and enforce speed on the Square.

Prohibition on Left Turns on Red around the Square

The ability to make a left-on-red turn only applies from a one-way street onto an adjoining one-way street. The elimination of this could be accomplished by City Ordinance. Eliminating this legal turn would not have any impact on the crashes examined for this report. It would not serve to improve pedestrian safety. Limiting these turns would have a negative impact on traffic flow by causing traffic lanes to stack up longer cues. This added congestion would complicate an already difficult task of backing out of parking spaces on the Square into traffic lanes.

ATTACHMENT(S):

None

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