

Office of the City Engineer

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DATE: June 27, 2014

TO: John Rooney, Assistant Commissioner of Public Works / City Engineer

FROM: Ara Molitor, Traffic Engineer

RE: Traffic Study – 6th. & Memorial

Purpose: Pedestrian Safety around the intersection.

Method: Field observation, Traffic Analysis, Accident Reports

ANALYSIS:

Existing Conditions

- Both 6th and Memorial are four lane, bi-directional concrete roadways
- The Width of both road ways or all four legs of the intersection are 55 feet, including two lanes in each direction and a center left turn bay.
- Both 6th Street and Memorial Drive are posted at 30 MPH.
- Parking is restricted near the intersection to allow full use of all four lanes in all directions
- All four directions have left turn bays
 - North Approach has 100 foot left turn bay
 - East Approach has 150 foot left turn bay
 - South Approach has 100 foot left turn bay
 - West Approach has 70 foot left turn bay
- Right turn Designation (volumes added to conflicting traffic if applicable)
 - North Approach has no right turn bay and geometric constraints
 - East Approach has a right turn lane with island delineation
 - South Approach has a “defacto” turn lane with some geometric constraints
 - West Approach has a right turn lane with island delineation
- Both the East Approach and North Approach have protected and permitted left turn phases. These are the only left turn bays with detection present.
- AM Peak occurs between 7:15 to 8:15
- PM Peak occurs between 3:30 to 4:30 associated with school traffic. The traffic is still heavy until 5:30 with traditional peak hour traffic.
- There are no pedestrian crossing push buttons, so all pedestrian crossings are pre-timed.
 - Normal Pedestrian Timing: 7 seconds of “Walk” then 17 seconds of flashing “Don’t Walk” for both directions.
 - During an actuated left turn phases both parallel pedestrian crossings are showing “Don’t Walk” until the Left Turn phase clears, then an abbreviated “Walk”. – Non Standard

Field Observations

- During field observation, pedestrians rarely waited for “Walk” signals and rarely walked within designated cross walks.
- Most pedestrian traffic was headed toward convenient store on the southwest corner.
- We observed field conditions during morning off-peak times and also during afternoon school peak time.
- The weather was cool and light rain which may have deterred some pedestrian traffic.
- The observation time was not used for the pedestrian counts.

Traffic Count Analysis

- The vehicle traffic is quite heavy in all through directions during both the AM peak hours and PM peak hours, most turn volumes are relatively light by comparison.
- Pedestrian traffic is very light throughout the day, never more than single digit counts in any 15 minute period in any direction.

Accident Report Analysis

- In 2012 there were 7 reported accidents at the intersection, 3 involved injuries – 3 injuries total, of which 1 involved a pedestrian. All accidents were summarized as inattentive driving.
 - The Pedestrian accident was a pedestrian in a crosswalk from the sidewalk to the island in the NE corner of the intersection; the driver was traveling WB turning NB. – Inattentive driving.
- In 2013 there were 13 reported accidents at the intersection, 6 involved injuries – 9 injuries total, of which 1 involved a pedestrian. All accidents were summarized as inattentive driving.
 - The Pedestrian accident was a pedestrian in a crosswalk walking north in the east crosswalk from the SE corner to the NE corner. The driver was turning left SB to EB – no arrow. – Inattentive driving.
- So far in 2014 there are 3 reported accidents at the intersection, 1 involved injuries – 2 injuries total. None involve pedestrians.

CONCLUSIONS:

- Nothing observed or reported justifies the changing of the current geometry of the intersection.
- Nothing observed or reported justifies the reprogramming of the intersection signalization.
- The existing controller for the intersection is an older EPIC Controller so the intersection is already on the “short list” for an intersection upgrade. At the time the intersection is improved with the latest traffic signal equipment - pedestrian push buttons will be added and more detection will be added for the intersection. All of that will improve the operation of the intersection for vehicle and pedestrian traffic.
- We cannot design for inattentive driving.

Recommendation: Leave intersection phase design “as-is”.