

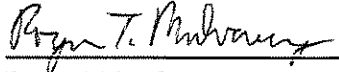
Lexington-Fayette Urban County Government
DEPARTMENT OF ENVIRONMENTAL QUALITY & PUBLIC WORKS

Jim Gray
Mayor

David L. Holmes
Commissioner

**DIVISION OF TRAFFIC ENGINEERING
MEMORANDUM**

TO: Mr. Chris Ford, 1st District Councilmember
Ms. Shevawn Akers, 2nd District Councilmember
Ms. Diane Lawless, 3rd District Councilmember

FROM: 
Roger T. Mulvaney, P.E., Traffic Engineer

DATE: October 9, 2014

SUBJECT: West Second Street Speed Limit Analysis

A speed limit study was completed for West Second Street between North Limestone and Newtown Pike. Traffic speed data was collected in both lanes on this one way street at three locations along West Second Street. Collection points for westbound West Second Street were located between Market Street and North Mill Street, between Saunier Street and Bruce Street, and between Jefferson Street and Old Georgetown Street.

The Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)* Section 2B.13 addresses speed limits by stating "When a speed limit is to be posted, it should be within 5 mph of the 85th percentile speed of free-flowing traffic. Other factors that may be considered when establishing speed limits are the following:

- A. Road surface characteristics, shoulder conditions, grade, alignment, and sight distance;
- B. The pace speed;
- C. Roadside development and environment;
- D. Parking practices and pedestrian activity; and
- E. Reported crash experience for at least a 12-month period."

The findings of the speed analysis on West Second Street between North Limestone and Newtown Pike are as follows:

- A. The posted speed limit on West Second Street is 35 mph between North Limestone and Newtown Pike. West Second Street is classified as a collector street in the study area. Other than the small block of two way traffic between Newtown Pike and Old Georgetown Street, West Second Street is a one way street in the westbound direction. The width of West Second Street varies from 28 feet wide to 31 feet wide in the study area. On Street parking is generally permitted along West Second Street on the even numbered address side of the road. White lane line dashes are present along West Second Street between North Limestone and Old Georgetown Street. A double yellow centerline is present on West Second Street between Old Georgetown Street and Newtown Pike. West Second Street has sidewalks on both sides of the street in the study area. Street lighting is also present on West Second Street.
- B. The following table is a summary of the data collected along West Second Street:

West Second Street Location	Lane	Average Daily Traffic	Speed Range for 1/2 of the Vehicles	Posted Speed Limit	Average Speed	Percent Exceeding Posted Speed Limit	85 th Percentile Speed
Between Market St & N. Mill St	Right	405	20 – 25 mph	35 mph	24 mph	0.74	29.75 mph
Between Market St & N. Mill St	Left	836	15 – 20 mph	35 mph	22 mph	1.17	28.61 mph
Between Saunier St & Bruce St	Right	821	25 – 30 mph	35 mph	28 mph	2.68	34.50 mph
Between Saunier St & Bruce St	Left	791	25 – 30 mph	35 mph	23 mph	2.42	32.04 mph
Between Jefferson St & Old Georgetown St	Right	810	30 – 35 mph	35 mph	30 mph	3.39	34.96 mph
Between Jefferson St & Old Georgetown St	Left	294	20 – 25 mph	35 mph	26 mph	3.26	33.53 mph

The pace speed is the 10 mph range that contains the highest number of the observed speeds. The high end of that range is usually very close to the 85th percentile speed. Our equipment does not calculate the pace speed. The 85th percentile speeds along West Second Street were found to be in the range of 28.61 mph between Market Street and N. Mill Street to 34.96 mph in between Jefferson Street & Old Georgetown Street. The 85th percentile speed, or the speed at which 85% of the vehicles are traveling at or below, is based on the theory that a large majority of drivers are reasonable and prudent, do not want to have a crash, and want to reach their destination in the shortest amount of time possible. The average speeds were in the 22 to 30 mph range.

- C. Many of the properties along West Second Street have driveways that access this street. Most of West Second Street is residential, but there are many commercial properties along this street closer to the North Limestone end.
- D. Parking is only permitted in front of the even numbered addresses on West Second Street in the study area.

E. Between the intersections of West Second Street & North Limestone and West Second Street & Newtown Pike, there were twenty-seven recorded collisions reported on West Second Street in the last three years. The details of the crash analysis are provided below.

Of the total number of reported crashes:

- Eleven (11) crashes took place at the signalized intersections on West Second Street with North Upper Street, North Broadway, Jefferson Street, and Newtown Pike. Nine (9) of these collisions were angle collisions. One collision was a sideswipe collision and the other collision was a rear-end collision.
- Four (4) crashes occurred at unsignalized intersections at Old Georgetown Street (3 angle collisions) and Bruce Street (1 pedestrian collision).
- Twelve (12) collisions took place at midblock locations along West Second Street.
 - i. Four (4) crashes were sideswipe crashes.
 - ii. Three (3) crashes were angle crashes.
 - iii. Three (3) crashes were fixed object/ran off road crashes
 - iv. One (1) crashes was a vehicle backing crash
 - v. One (1) crashes was a rear end crash
- Four (4) crashes were injury collisions. There were no fatal crashes on West Second Street during the study period.
- Four (4) crashes occurred when the pavement conditions were wet, icy or snowy.

The following table is a summary of the crash type breakdown by pavement conditions and severity on West Second Street.

West Second Street Crash Summary Table

Crash Type	Number of crashes by type	Wet/snowy/icy pavement condition crashes	Injury crashes	Fatal crashes
Angle (intersection)	12	1	2	0
Angle (non-intersection)	4	1	1	0
Backing	1	0	0	0
Fixed object	3	1	0	0
Pedestrian Struck	1	0	1	0
Rear end	2	0	0	0
Sideswipe collision	4	1	0	0
TOTALS	27	4	4	0



Aerial of West Second Street Vicinity

Conclusion: Based on the speed data collected, crash history, on street parking, and roadway geometry of this street, the Division of Traffic Engineering recommends reducing the existing speed limit on West Second Street from 35 mph to 25 mph. The Division of Traffic Engineering will install new 25 mph speed limit signs where needed pending Urban County Council approval.

If you have any questions, please contact me at anytime. My email address is rmulvaney@lexingtonky.gov.

RTM

Roger T. Mulvaney, P.E.
Division of Traffic Engineering

cc: Tim Mellin, Citizen
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