April 12, 2016

Mr. Robert Rivera
Public Works Director
City of New Port Richey
6132 Pine Hill Road
Port Richey, FL 34668

RE: Old Main St. and Polk St. 4-Way Stop Warrant Analysis.

Dear Mr. Rivera:

As requested, Stroud Engineering Consultants and MCH Engineering has performed a review of the site, design guidelines, and traffic data in order to address the stop conditions at Old Main St. and Polk St., New Port Richey (NPR), Pasco County, Florida.

Photo 1 – Eastbound on Old Main St. Towards Polk St.

The City has been receiving complaints about traffic on Old Main St. making it difficult to back out of driveways. It appears that motorists are using Old Main St. to bypass the traffic signal at Congress St. and Main St.

MCH Engineering staff visited from 11:30am to 1:30pm during the lunch hour peak increase in traffic on Monday April 4th. The majority of vehicles witnessed traveling on Old Main St. between Congress St. and Main St. had no destination on Old Main St. Motorists used the road segment in both the eastbound and westbound directions to bypass the traffic signal at Main St. and Congress St.

Photo 2 – Westbound on Old Main St. Towards Polk St.

A review of the intersection of Main St. and Congress St. indicated why motorists are likely bypassing the intersection. The signal at the intersection has no dedicated left turn signals, causing motorists to back up in the left turn lanes until there are breaks in the through traffic to make the left-turn movement.

During approximately a half hour of observation, it was witnessed on two occasions on the eastbound movement along Main St. that the left turn movement could not be made by the vehicles queued. On both instances the first vehicle in the turn lane made the movement after the signal had turned red leaving the other vehicles to wait for the next cycle. This delay is avoided

15 SE 8th Street, Gainesville, FL 32601
Phone 352 359 6527

by by-passing the signal during eastbound travel and making a left onto Old Main St., then a left onto Congress St.

Also witnessed was the delay caused by the southbound traffic on Congress St. making the left-turn movement onto Main St. When three or more motorists are making a left turn they are stacking beyond the turn lane storage and blocking the ability of motorists to make the through movement or right-turn movement. This delay to the right-turn movement is avoided by making the right turn onto Old Main St. followed by a right turn onto Main St.

Photo 3 – Southbound on Congress St. Towards Main St. from Old Main St.

The current condition on Old Main Street has stop signs at Congress St. and at Main St., the intersection with Polk St. is a through movement with stop conditions on Polk St.

NPR Public Works performed a continuous traffic count on Old Main St. with associated travel speeds near the intersection of Polk St. on two occasions, from February 4th, 2016 through February 11th, 2016 and from February 26th, 2016 through March 4th, 2016. The counts were performed using a TRAX Apollyon Counter built by JAMAR Technologies, Inc.. The counts indicated that the 85th percentile of travel speeds range from 30 mph to 33 mph, 5 to 8 mph above the posted speed limit of 25 mph (the 85th percentile of the distribution of observed speeds is the most frequently used measure of operating speed.)

Various design standards were reviewed to determine the design criteria that would be appropriate for the intersection of Old Main St. and Polk St. The following design standards were reviewed for this analysis:

American Association of State Highway and Transportation Officials (AASHTO) ***A Policy on Geometric Design of Highways and Streets*** - the AASHTO "Greenbook" is the nationally recognized reference for roadway design.

Florida Department of Transportation's (FDOT) ***Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways*** **(Commonly known as the "Florida Greenbook")** - FDOT's "Florida Greenbook" is the accepted design reference for roadway design in the state of Florida.

The Federal Highway Administration's (FHWA) ***Manual on Uniform Traffic Control Devices*** **(MUTCD)**. The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel.

The Old Main St. and Polk St. area is residential with single family houses on both sides of the roadways and sidewalks along one side of each roadway. Both roadways would be classified as "local." The use of Old Main St. to bypass the signal at Main St. and Congress St. is in effect transforming Old Main St. into a "minor collector road." The introduction of a four-way stop condition may help reduce the additional non-destination traffic, and the increased rates of speed.

The MUTCD indicates that a four-way stop may be warranted at the intersection of Old Main St. and Polk St. based on:

Section 2B.07 Multi-Way Stop Applications:

> **D.** An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

Based on the traffic speeds, volumes and residential nature of the roadways it is my professional opinion that a four-way stop at this intersection would be appropriate to discourage its use as a cut through, and to slow motorists down to what is appropriate for a residential neighborhood.

Consideration should be given to re-striping the north leg of the intersection of Congress St. and Main St. to increase the storage capacity of the left turn movement, thus reducing the possibility of delays to the southbound right-turn and through movement. I would also recommend that any future planning of signal modifications at Congress St. and Main St. consider the addition of dedicated left turn signals.

Please feel free to contact me with any questions or comments regarding this analysis.

Sincerely,

Matthew C. Herrmann, P.E.
President
MCH Engineering LLC