

# TREANORHL

18 February 2020

Mr. Dakota Rusk  
Joplin City Hall  
602 Main Street  
Joplin, MO 64801

Re: Jasper County Courthouse, Pearl Avenue and Meridian Alley right-of-way vacation traffic analysis.  
Project No. JS0814.1901

Dear Mr. Rusk:

On behalf of our Client, Jasper County, Missouri, we, TreanorHL, Inc., respectfully submit this documentation in response to the traffic analysis request received 7 February 2020, after the submittal of the County's request for vacation of Pearl Street from 6<sup>th</sup> to 7<sup>th</sup> Street as well as a portion of Meridian Alley just north of 7<sup>th</sup> Street.

The vacation of right-of-way in this area as noted above is for the construction of a new Jasper County Courthouse to be sited along the northern side of 7<sup>th</sup> Street between Meridian and Mineral Alleys. All vehicular site access for the facility will be via 6<sup>th</sup> Street and the former Pearl Street intersection. A secondary access drive from Byers to Meridian Alley will also be constructed for Sheriff's Office use as well as limited overflow parking. All on-site parking will be north of the new building with staff parking to the west and visitor parking to the east. Visitors to the Courthouse must enter through the security check area on the northeast corner of the building adjacent to the main building plaza.

Per the City's request, a vehicular traffic analysis is included below, and in the attached calculations, for the new Jasper County Courthouse, in the downtown district of Joplin, Missouri. The project site is bound on the north by 6<sup>th</sup> Street, the south by 7<sup>th</sup> Street, to the east by Mineral Alley, and the west by Byers Avenue. The analysis includes several existing uses that have direct access to the Pearl Street right-of-way, including: Church (historical use; more recent- office/storage), Law Office, Jasper County Courts Building, and an Office building. Other uses shown in the calculations have access to Meridian Alley, located between Byers Avenue and Pearl Avenue, including: (2) single-family residences, and a used car sales lot.

Based upon the use changes occurring with the project, and the 10<sup>th</sup> Edition of the Trip Generation Manual, as prepared by the Institute of Transportation Engineers, we submit the following information for review:

The proposed weekday morning peak hour trips versus existing/recent uses are estimated to increase by 81 trips, weekday afternoon trips are estimated to increase by 64 trips.

The proposed weekend morning and afternoon peak hour trips versus existing/recent uses are estimated to decrease from 43 and 18 trips respectively, to 0.

Based upon this analysis, the weekday total AM and PM peak hours increase an estimated 145 total trips. The weekend total AM and PM peak hour trips decrease by an estimated 61 trips.

In addition to this trip information, some additional information was requested. A response to each of these items is as follows:



- a. *What are the effects of the increase of traffic moving to neighboring streets such as Wall Ave. and Byers Ave.?*

**RESPONSE:** Wall Avenue is classified as a Minor Arterial street, per the adopted JATSO 2036 Metropolitan Transportation Plan, and is a two-lane north-bound street operating in conjunction with Joplin Avenue to the east, which is also classified as a Minor Arterial street, and is a two-lane south-bound street. Byers Avenue is classified as a local street per the adopted JATSO 2036 Metropolitan Transportation Plan. Given the downtown grid system north of the site will remain unchanged and in-place, and access into the site from the north, we do not expect adverse effects on the adjacent streets. The overall square footage of buildings within the impacted area will decrease and trips are estimated to create only a slight morning and afternoon peak hour increase.

- b. *Will the signal at 7th St. & Pearl Ave. still be warranted once Pearl Ave. has been vacated?*

**RESPONSE:** The traffic signal on the south side of the 7<sup>th</sup> Street and Pearl Avenue intersection will no longer be needed for southbound traffic, once construction begins for the new Courthouse. The remaining signals at 7<sup>th</sup> & Pearl can remain in-place to provide controlled access to 7<sup>th</sup> Street for northbound traffic, as well as controlled access southbound onto Pearl Avenue.

- c. *Should the signal at 7th St. & Pearl Ave. be moved to Byers Ave. or further West?*

**RESPONSE:** In follow-up discussions with MoDOT, as 7<sup>th</sup> Street is state jurisdiction, a past signal study for this area is not available; however, future improvements to the intersection at 7<sup>th</sup> and Wall Avenue are under consideration. These improvements may include a left turn lane at Wall for east bound traffic; however, a final plan is not been confirmed at this time.

- d. *Will there be a need for pedestrian signals at Pearl Ave. and 7th St. due to an increase in foot traffic after the courthouse has been completed.*

**RESPONSE:** We do not foresee any additional pedestrian traffic generated by the Courthouse on the south side of the project site, given all public and staff parking for the facility will be to the north. Some additional pedestrian access from the east may result with the completion of the Arts Center, as additional public parking would be located at this site. Pedestrian signals are currently in-place at Wall Avenue and 7<sup>th</sup> Street, in the event that the project parking is used as overflow for the new Art Center.

If additional traffic analysis above the information presented herein is required, please contact us so that we schedule a time for a follow-up call to review.

Thank you for your expeditious review of this submittal. Any questions, please advise via voice or e-mail: 785.727.2407 (direct dial) or mmurphy@treanorHL.com.

Respectfully,  
TreanorHL, INC

Matthew L. Murphy, PE  
**PRINCIPAL**

Enclosures

Cc: Eric Theis, Jasper County



JASPER COUNTY COURTHOUSE  
TRAFFIC COUNTS

Traffic estimation for existing and historical uses on Pearl Avenue between 6th and 7th Streets

| <u>Existing/historical Uses</u> | <u>Address</u> | <u>ITE Use classification</u>    | <u>Building Gross Floor Area (s.f.)</u> | <u>Weekday AM peak hour trips</u> | <u>Weekday PM peak hour trips</u> | <u>Weekend AM peak hour trips</u> | <u>Weekend PM peak hour trips</u> |
|---------------------------------|----------------|----------------------------------|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Church                          | 633 Pearl Ave. | Church (560)                     | 49,900                                  | 32                                | 40                                | 1379                              | 499                               |
| Edwards Law Office              | 606 Pearl Ave. | General Office Building (710)    | 15,000                                  | 22                                | 21                                | 33                                | 8                                 |
| Jasper County Courts Building   | 601 Pearl Ave. | Government Office Building (730) | 38,400                                  | 142                               | 122                               | n/a                               | n/a                               |
| Office Building                 | 602 Pearl Ave. | Single Tennant Office Bldg (715) | 3,720                                   | 7                                 | 6                                 | n/a                               | n/a                               |
| Total                           |                |                                  | 107,020                                 | 203                               | 190                               | 1,412                             | 506                               |

Traffic estimation for existing and recent uses on Pearl Avenue between 6th and 7th Streets

| <u>Existing/recent Uses</u>              | <u>Address</u> | <u>ITE Use classification</u>    | <u>Building Gross Floor Area (s.f.)</u> | <u>Weekday AM peak hour trips</u> | <u>Weekday PM peak hour trips</u> | <u>Weekend AM peak hour trips</u> | <u>Weekend PM peak hour trips</u> |
|--|----------------|----------------------------------|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Jasper County Offices (in former Church) | 633 Pearl Ave. | Government Office Building (730) | 17,800                                  | 66                                | 57                                | n/a                               | n/a                               |
| Jasper County Storage (in former Church) |                | Mini-Warehouse (151)             | 32,100                                  | 3                                 | 5                                 | 10                                | 10                                |
| Edwards Law Office                       | 606 Pearl Ave. | General Office Building (710)    | 15,000                                  | 22                                | 21                                | 33                                | 8                                 |
| Jasper County Courts Building            | 601 Pearl Ave. | Government Office Building (730) | 38,400                                  | 142                               | 122                               | n/a                               | n/a                               |
| Office Building                          | 602 Pearl Ave. | Single Tennant Office Bldg (715) | 3,720                                   | 7                                 | 6                                 | n/a                               | n/a                               |
| Total                                    |                |                                  | 107,020                                 | 239                               | 212                               | 43                                | 18                                |

Traffic estimation for new Courthouse

| <u>Proposed Use</u>                          | <u>Address</u> | <u>ITE Use classification</u>    | <u>Building Gross Floor Area (s.f.)</u> | <u>Weekday AM peak hour trips</u> | <u>Weekday PM peak hour trips</u> | <u>Weekend AM peak hour trips</u> | <u>Weekend PM peak hour trips</u> |
|--|----------------|----------------------------------|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Courthouse                                   | TBD            | Government Office Building (730) | 86,700                                  | 320                               | 277                               | n/a                               | n/a                               |
| Total  |                |                                  | 86,700                                  | 320                               | 277                               |                                   |                                   |
| Trip difference vs. historical/existing uses |                |                                  |   | 117                               | 86                                | -1,336                            | -481                              |
| Trip difference vs. recent/existing uses     |                |                                  |   | 81                                | 64                                | -43                               | -18                               |