

# Memo

To: Plainfield Plan Commission  
From: Scott Singleton, Director of Transportation  
cc: Tim Belcher, Executive Director of Development Services  
Eric Berg, Senior Planner  
Date: November 30, 2018  
Re: CASE NO. RZ-18-007 and RZ-18-008

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This memo is being provided to the Plainfield Plan Commission to supplement materials provided to the Commission as part of the referenced Case No., including the Traffic Impact Study that was provided by the petitioner and is dated October 2018. The intent of the memo is to provide expanded insight as to how the traffic impacts of the proposed development relate to the Town's short and long term plans for roadway improvements.

As the Commission is fully aware, during the past 10+ years, Plainfield has experienced extraordinary residential growth along its western boundaries. From a traffic perspective, this growth has been largely supported through two key E/W corridors: Hadley Road and Main St.

While Main St. continues to increase in congestion levels, its status as a State highway and a 4-lane arterial make it more accommodating for the growth, though deteriorating levels of service are expected. The provided impact study indicates this by summarizing that the 2028 level of service for key intersections at Main St. and Center St. and Moon Road can be expected to drop from its current performance as a 'C' level down to a 'D' during certain peak hours. INDOT and professional transportation design guidelines generally follow that mitigation improvements should be considered once intersections reach a level of service (LOS) of 'E' or lower. So at this time, the Main St. corridor is largely expected to support the growth without requiring mitigation. That being said, INDOT does have plans to complete signal modernizations in the coming 1-2 years which will upgrade intersections to utilize more programmable signal heads that are expected to reduce traffic queuing and intersection delays.

Increases along Hadley Road are more of a concern for the Town at this time. Recent improvements made by the Town, including the addition of a median shared left turn lane, have served to provide expanded capacity on the roadways within the Town's jurisdictional boundary. An industry respected traffic engineer states that a 2-lane road with left-turn lanes can be expected to operate up to a capacity of 18,300 vehicles per day. Traffic counts taken by the Town in 2017 has daily volumes measuring from 12,942 vehicles just west of 267 to 9,879 vehicles once you move west of Center Street. So we are currently operating between 54-71% of Hadley's capacity. This helps to indicate that the overall roadway volumes may continue to be manageable for some time, but as the TIS indicates, there are existing intersection points that pose current and long term concerns that will only worsen with the additional traffic this development, or any new development in the area, is expected to create.

The details of the impacts are summarized in the TIS, but fully understanding those may be difficult to decipher without investing a fair amount of effort. In short, here are the three key intersections that were analyzed based upon known concerns:

- Hadley & Moon: Unchanged, this intersection would shift performance from a LOS C to an F during the PM peak given the additional traffic. For this location, the Town already has intersection improvements planned to be constructed in 2020 which are expected to address any short term concerns.
- Hadley & Center: With some proposed striping changes, this location is shown to maintain its overall performance with the added traffic, though certain approaches do suffer more than others. The Town has been considering making changes to this intersection as part of corridor improvements though I cannot offer a confirmed schedule at this time.
- Hadley & SR 267: This intersection is expected to operate well in the AM for quite some time, but the PM offers significant concerns. While the intersection operates at an acceptable LOS D today, two approaches are already performing at an E, indicating improvements are needed. The TIS shows a clear benefit an additional northbound left turn lane will provide, maintaining a D performance through 2028. This improvement has been discussed with INDOT (who has jurisdictional authority) but there are no plans for improvements at this time. In the short term, and without any additional improvements, this intersection will drop to ‘unacceptable’ levels for all approaches.

Lennar will have a traffic engineer present at Monday’s meeting to help answer and explain any technical questions the Commission may have about the traffic impacts. It is clear that improvements need to happen at the intersection of Hadley Road & 267, regardless of whether this development is approved or not. The Town will be continuing to push for these to occur through our relationship with INDOT.

In addition to the overall impacts the development is causing to the Hadley Road corridor, the TIS also provided recommended improvements to support the local drive connections the development is proposing. Though INDOT has not offered a formal approval of any plans by the developer, my discussions with them have indicated a preference toward approving a full access be constructed to serve the new connection. To serve this connection, the developer will be expected to construct a westbound left-turn lane and an eastbound right-turn lane.

The drive location on Hadley Road is presenting some challenges with accommodating the Town’s current Comprehensive Plan and thoroughfare planning. The plan anticipates not only an E/W Collector roadway through the development, which the developer has accommodated, but it also highlights a connection getting made to a new roadway corridor by extending CR 521 to the south. Given the development is only proposing a single connection to Hadley Road, which is classified as an arterial roadway for our system, it is important that the access location be planned carefully and that we do not create an offset that would create future concerns. Lining up the access from the development opposite CR 521 is sensible, but admittedly poses a number of both current and long term engineering concerns given its proximity to a low area and a waterway. In short, and at the time of this report, we have been unable to conclude the preferred point of access to Hadley Road. Through communications with the developer, they have indicated they will continue to work with



the Town as further analysis is done and will accommodate the preferred and final decision. Note that this developer commitment is proposed to be memorialized as a written condition if the Commission were to make a recommendation to approve the requested zoning change.

Considering the interior roadway layout for the neighborhood, you will notice that the existing parcel shapes have created some challenges. The narrow sections, particularly new US-40, bring some cross-parcel/future development concerns as well as it creates a long roadway that would be expected to invite higher than desirable speeds in a residential neighborhood. As a solution to address both of these issues, the developer has agreed to construct a roundabout as an entry feature to the neighborhood on the north end. This intersection could also be used to tie-in adjacent parcels in the future should they develop, while also providing a traffic calming measure as vehicles move off of US-40 and into a residential area. Additionally, further south, the developer has agreed to plat right-of-way that would allow for future sub-streets to intersect the N/S roadway. Again, this provides opportunity to have adjacent parcels develop in a way that can take advantage of some cross parcel access and help limit the reliance of future full access locations along US-40.

To help alleviate concerns about other long stretches of roadways that are being proposed, the developer has offered commitments to include 'bulb-out' designs at intersections that have the intended effect of slowing down traffic because of the street narrowing but also providing a shorter distance for pedestrians to cross. The curb bulb also helps delineate a location where curbside parking can start, helping to keep sight distance clear at intersections.



Finally, I would point out that this development has no plans to introduce a pedestrian connection to any existing sidewalks or paths. It will meet our requirements to include such improvements across its own property, but it is worth noting that residents in this neighborhood will have to use alternative means to access the Town's extensive network of trail and pedestrian facilities.