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MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Grid Street Design
DATE: August 16, 2022

At the Board's May meeting, the Board discussed the comprehensive plan policy that requires new subdivisions extending from the grid street system in "Old Howey" to continue the grid street design. A report was prepared for the meeting discussing the policy and rationale for the policy and presented an analysis of the impacts of extending the current grid system north to SR 19. (A copy of this report is attached for your reference.) At that meeting, the Planning Board asked for some additional information primarily related traffic impacts. This memo is provided in response to the Board's request.

The conclusions from the initial memo to the Planning Board and the large body or research that has been done on grid street patterns versus other street patterns include:

1. The comprehensive plan policy requiring the extension of a grid street network is clear unless the Town Council finds that an extension is inappropriate for some cause.

2. Grid street patterns effectively support a wide range of traffic because the grid pattern offers multiple route options. (For example, a grid consisting of two blocks by two blocks offers six different routes, a 3 x 3 grid has 20 different routes, and a 10 x 10 grid has over 184,000 different routes.)

3. The more linkages that are provided in connecting new development to an existing grid the less traffic impact occurs on any one street. (See the table of trip assignments by scenario included in the first memo.)

4. There are techniques that can be applied to a grid network that would serve as a disincentive for cut through traffic from outside the neighborhood. (Placement of stop signs that interrupt continuous flow is one example.)

5. Grid street systems encourage lower speeds due to the frequency of intersections and therefore support more pedestrian and bicycle activity.

6. There is some evidence that grid street systems yield higher average land values.

7. A primary goal of the current grid extension policy is to encourage development that occurs adjacent to Old Howey to be reflective of the design and character of the existing neighborhoods.

The initial report also examined a case study using the proposed Thompson Grove development area. Based on the currently allowed residential density, the case study demonstrated that hourly traffic increases on current local streets would range from four to eleven trips per hour depending on the number of actual street connections. The worst case assumed 100% of southbound trips would use neighborhood streets rather than SR 19. Assuming 50% of southbound trips use neighborhood streets, the number of trips per hour falls to two to six trips depending on the number of street connections. Anything less than a 50% trip assignment drops the added trips per hour to one or two trips. There is a table in the first memo to the Planning Board that lays out the specifics.

Not calculated in this analysis is the number of trips generated by the existing neighborhood using the new development to access SR 19 eastbound. Experience on the ground in other developments has shown that outbound trips could exceed inbound trips from the new development.

The Planning Board asked about the level of traffic impacts from development across SR 19 and how that might impact traffic entering the existing neighborhood. There is no way to estimate this impact short of a rather expensive traffic model run. However, typical driver behavior suggests that once a trip accesses an arterial or collector road, drivers tend to take that route rather than cross the arterial to use the local street network; especially if the local street network is designed to lower speeds and lengthen trip times. Having an extended grid to SR 19 does offer the opportunity for a detour for the existing neighborhood should SR 19 become completely blocked as recently happened following a serious traffic accident.

There are some alternatives to a strict grid system such as a modified grid or a fused grid system. These formats have fewer through streets and more non-continuous streets and cul-de-sacs. Either of these options are available as design alternatives within the current comprehensive plan policy. Each of these options would reduce the flexibility of a completely connected grid, but as our case study analysis shows, the overall traffic impact to the existing neighborhood is still modest.

As a final note, the code also has a requirement that any development of 50 lots or more have a minimum of two access points for safety and improved traffic distribution. Depending on the specific location and landform of a proposed project, one of the connections might have to link with an existing neighborhood.

Options For Consideration

The Planning Board has some options available in making a recommendation to the Town Council. These options include:

1. Recommend no change to the current policy on grid streets which would keep the requirement in place while allowing the Council to deviate from the requirement on a case-by-case basis.

2. Recommend the policy be deleted from the comprehensive plan, with the expectation that new development will be walled off from existing neighborhoods by allowing no or minimal interconnections.